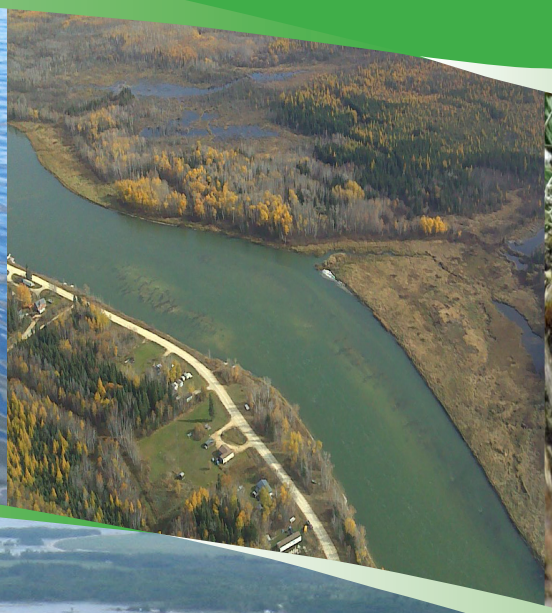
LAKE MANITOBA AND LAKE ST. MARTIN OUTLET CHANNELS PROJECT EIS

Manitoba






VOLUME 1:
Project Description, Justification, Engagement and EA Approach

1.0 - Introduction and Overview
2.0 - Project Justification and Alternatives Considered
3.0 - Project Description
4.0 - Environmental Assessment Approach
5.0 - Public and Indigenous Engagement

March 2020

Table of Contents

VOLUME 1: PROJECT DESCRIPTION, JUSTIFICATION, ENGAGEMENT AND EA APPROACH

ACRONYMS

GLOSSARY

CONCORDANCE TABLE

1.0 INTRODUCTION AND OVERVIEW 1.1
1.1 GENERAL 1.1
1.2 THE PROPONENT – MANITOBA INFRASTRUCTURE 1.2
1.2.1 Overview 1.2
1.2.2 Corporate and Management Structures 1.3
1.2.3 Key Personnel 1.4
1.3 PROJECT OVERVIEW 1.5
1.3.1 Project Purpose 1.5
1.3.2 Project Components and Activities 1.6
1.4 PROJECT LOCATION 1.6
1.5 REGULATORY FRAMEWORK AND THE ROLE OF GOVERNMENT 1.9
1.5.1 Federal Regulatory Requirements 1.9
1.5.2 Provincial Regulatory Requirements 1.10
1.5.3 Indigenous Peoples 1.10
1.5.4 Land Use and Community Planning and Zoning 1.11
1.6 ORGANIZATION OF THE ENVIRONMENTAL IMPACT STATEMENT DOCUMENT 1.11
1.7 REFERENCES 1.13
1.7.1 Literature Cited 1.13
1.7.2 Personal Communication 1.13

2.0 PROJECT JUSTIFICATION AND ALTERNATIVES CONSIDERED 2.1
2.1 OVERVIEW OF CHAPTER 2.1
2.2 PURPOSE OF THE PROJECT 2.2
2.3 BACKGROUND 2.4
2.3.1 Historical Flooding and Flood Control Infrastructure 2.4
2.3.1.1 Historic Flood Events 2.4
2.3.1.2 Historic Flood Mitigation Initiatives and Infrastructure 2.6
2.3.2 Need for the Project 2.9
2.3.2.1 Flooding Vulnerability and Mitigation Studies 2.9
2.3.2.2 Environmental and Social Costs and Benefits 2.13
2.4 ALTERNATIVE MEANS OF CARRYING OUT THE PROJECT 2.14
2.4.1 Alternative Flood Protection Infrastructure Considered 2.14
2.4.2 Alternative Means of Carrying Out the Project 2.16
2.4.2.1 Lake Manitoba Outlet Channel Routing 2.16
2.4.2.2 Lake St. Martin Outlet Channel Routing 2.18

2.4.2.3 Water Control Structures 2.20
2.4.2.4 Bridges 2.21
2.4.2.5 Provincial Road 239 Realignment 2.21
2.4.2.6 Power Distribution Line 2.22
2.4.2.7 Quarry and Borrow Areas 2.22
2.4.2.8 Consideration of Environmental Effects of Alternative Means of Carrying Out the Project 2.23
2.4.3 Mitigation Measures for Environmental Effects of the Proposed Project 2.23
2.5 PREFERRED PROJECT 2.27
2.6 REFERENCES 2.28

3.0 PROJECT DESCRIPTION 3.1
3.1 INTRODUCTION 3.1
3.2 SCOPE OF THE PROJECT 3.2
3.3 PROJECT PHASES 3.3
3.3.1 Site Preparation and Construction 3.3
3.3.2 Operation and Maintenance 3.5
3.3.3 Decommissioning and Abandonment 3.5
3.4 PROJECT COMPONENTS 3.6
3.4.1 Overview 3.6
3.4.2 Lake Manitoba Outlet Channel (LMOC) 3.7
3.4.2.1 Outlet Channel 3.7
3.4.2.2 Channel Inlet and Outlet 3.8
3.4.2.3 Water Control Structure 3.8
3.4.2.4 Permanent Bridge Structures 3.9
3.4.2.5 PR 239 and Municipal Road Realignments 3.9
3.4.2.6 Rock Quarries and Borrow Material Areas 3.9
3.4.2.7 Temporary Construction Camps and Staging Areas 3.10
3.4.2.8 Power Supply 3.10
3.4.2.9 Temporary Access and Crossings 3.11
3.4.2.10 Drainage Realignment 3.11
3.4.2.11 Facilities for the Storage of Explosives 3.12
3.4.3 Lake St. Martin Outlet Channel 3.12
3.4.3.1 Outlet Channel 3.12
3.4.3.2 Channel Inlet and Outlet 3.13
3.4.3.3 Water Control Structure 3.14
3.4.3.4 Drop Structures 3.14
3.4.3.5 Rock Quarries and Material Borrow Areas 3.15
3.4.3.6 Temporary Construction Camps and Staging Areas 3.16
3.4.3.7 Power Supply 3.16
3.4.3.8 Temporary Access and Crossings 3.17
3.4.3.9 Drainage Realignment 3.17
3.4.3.10 Facilities for the Storage of Explosives 3.18
3.5 PROJECT ACTIVITIES 3.18
3.5.1 Introduction 3.18

3.5.2 Site Preparation and Construction 3.18
3.5.2.1 Clearing 3.18
3.5.2.2 Excavation 3.19
3.5.2.3 Blasting 3.20
3.5.2.4 Access Roads and Detours 3.21
3.5.2.5 Bridges 3.21
3.5.2.6 Water Control Structures 3.21
3.5.2.7 Road Realignment 3.23
3.5.2.8 Drop Structures 3.23
3.5.2.9 Equipment Requirements 3.24
3.5.2.10 Temporary Construction Camps and Staging Areas 3.24
3.5.2.11 Water Management 3.24
3.5.2.12 Erosion and Sediment Control 3.26
3.5.2.13 Revegetation 3.27
3.5.2.14 Fuel and Waste Storage 3.27
3.5.2.15 Power Supply 3.28
3.5.2.16 Workforce 3.28
3.5.2.17 Fuel and Waste Management 3.28
3.5.3 Operation and Maintenance 3.29
3.5.3.1 Operation Criteria 3.29
3.5.3.2 Equipment Requirements 3.29
3.5.3.3 Vegetation Management 3.30
3.5.3.4 Water Management 3.30
3.5.3.5 Ice Management 3.31
3.5.3.6 Fuel and Waste Management 3.31
3.5.3.7 Workforce 3.31
3.5.3.8 Maintenance Requirements 3.32
3.5.4 Decommissioning and Abandonment 3.32
3.5.4.1 Permanent Facilities 3.32
3.5.4.2 Temporary Components 3.32
3.5.4.3 Ownership and Responsibility 3.33
3.6 SCHEDULE 3.33
3.7 ENVIRONMENTAL MANAGEMENT PROGRAM 3.33
3.7.1 Overview 3.33
3.7.2 Construction Environmental Management Program 3.34
3.7.3 Operation Environmental Management Program 3.39
3.8 REFERENCES 3.40

4.0 ENVIRONMENTAL ASSESSMENT APPROACH 4.1
4.1 INTRODUCTION 4.1
4.2 REGULATORY REQUIREMENTS 4.2
4.2.1 Canadian Environmental Assessment Act, 2012 (Canada) 4.2
4.2.2 The Environment Act (Manitoba) 4.2
4.2.3 Other Regulatory Requirements 4.2
4.3 OVERVIEW OF ENVIRONMENTAL ASSESSMENT APPROACH 4.3
4.4 STEPS 1 TO 4: SCOPING THE ASSESSMENT 4.5
4.4.1 Step 1: Selection of Valued Components 4.5

4.4.2 Step 2: Identification of Interactions between Valued Components and the Project 4.12
4.4.3 Step 3: Identification of Assessment Boundaries 4.15
4.4.3.1 Spatial Boundaries 4.15
4.4.3.2 Temporal Boundaries 4.16
4.4.4 Step 4: Characterization of Residual Environmental Effects and Defining Thresholds for Significance 4.16
4.4.4.1 Characterization of Residual Environmental Effects 4.16
4.4.4.2 Thresholds for Determining Significance of Residual Environmental Effects 4.17
4.4.5 Step 5: Existing Conditions 4.17
4.4.5.1 Data Collection and Analysis 4.17
4.4.5.2 Overview of Existing Conditions 4.17
4.5 STEPS 6 TO 10: EFFECTS ASSESSMENT 4.18
4.5.1 Step 6: Assessment of Environmental Effects 4.18
4.5.1.1 Assessment Cases 4.18
4.5.1.2 Identification of Potential Effects and Effects Pathways 4.18
4.5.1.3 Mitigation of Environmental Effects 4.18
4.5.1.4 Characterization of Residual Effects 4.18
4.5.2 Step 7: Assessment of Cumulative Environmental Effects 4.19
4.5.2.1 Identification of Other Projects or Activities 4.20
4.5.2.2 Cumulative Environmental Effects Pathways 4.20
4.5.2.3 Mitigation of Cumulative Environmental Effects 4.21
4.5.2.4 Characterization of Residual Cumulative Environmental Effects 4.21
4.5.3 Step 8: Significance Determination and Prediction Confidence 4.21
4.5.3.1 Determination of Significance of Residual Project Environmental Effects 4.21
4.5.3.2 Determination of Significance of Residual Cumulative Environmental Effects 4.22
4.5.3.3 Prediction Confidence 4.22
4.5.4 Step 9: Follow Up 4.22
4.5.5 Step 10: Summary 4.22
4.6 STEP 11: ASSESSMENT OF POTENTIAL ACCIDENTS AND MALFUNCTIONS 4.22
4.7 STEP 12: ASSESSMENT OF EFFECTS OF THE ENVIRONMENT ON THE PROJECT 4.23
4.8 REFERENCES 4.23

5.0 PUBLIC AND INDIGENOUS ENGAGEMENT 5.1
5.1 OVERVIEW OF CHAPTER 5.1
5.2 PUBLIC ENGAGEMENT 5.2
5.2.1 Goals and Objectives 5.2
5.2.2 Preliminary Engagement 5.3
5.2.3 Public Engagement Process 5.6
5.2.3.1 Stakeholder Group Identification 5.7
5.2.3.2 Engagement Methods 5.9
5.2.3.3 Public Open Houses 5.11

5.2.4 Public Engagement Results 5.15
5.2.4.1 Overview 5.15
5.2.4.2 Round 1 ..... 5.16
5.2.4.3 Round 2 ..... 5.17
5.2.4.4 Round 3 ..... 5.18
5.2.4.5 Round 4 ..... 5.20
5.2.4.6 Issues and Concerns Identified During Public Engagement (2017-2019) 5.22
5.2.5 Ongoing Public Engagement – Next Steps 5.25
5.3 INDIGENOUS ENGAGEMENT AND CONSULTATION 5.26
5.3.1 Goals and Objectives 5.26
5.3.1.1 Overview 5.26
5.3.1.2 Current Status of Consultation 5.26
5.3.1.3 Crown-Aboriginal Consultation Process 5.26
5.3.1.4 Consultation Process for the Project 5.27
5.3.2 Pre-Project Engagement 5.28
5.3.3 Engagement Planning Process 5.29
5.3.3.1 Guidance 5.29
5.3.3.2 Selection and Identification of Communities 5.30
5.3.3.3 Engagement Methods 5.32
5.3.4 Engagement and Consultation Results 5.34
5.3.4.1 Overview 5.34
5.3.4.2 Summary by Communities included in EIS Guidelines (CEAA2018) 5.35
5.3.4.3 Northern Affairs Communities 5.53
5.3.4.4 Other Indigenous Groups Engaged by MI 5.60
5.3.4.5 Summary of Engagement Results 5.62
5.3.5 Ongoing Indigenous Engagement – Next Steps 5.64
5.4 REFERENCES 5.65

VOLUME 2: PHYSICAL ENVIRONMENT EFFECTS ASSESSMENT

6.0 ASSESSMENT OF POTENTIAL EFFECTS ON PHYSICAL ENVIRONMENT 6.1
6.1 OVERVIEW OF CHAPTER 6.1
6.2 ATMOSPHERIC ENVIRONMENT 6.2
6.2.1 Scope of the Assessment 6.2
6.2.1.1 Regulatory and Policy Setting 6.2
6.2.1.2 Engagement and Key Concerns 6.9
6.2.1.3 Potential Effects, Pathways and Measurable Parameters 6.10
6.2.1.4 Boundaries 6.11
6.2.1.5 Residual Effects Characterization 6.12
6.2.1.6 Significance Definition 6.15
6.2.2 Existing Conditions for Atmospheric Environment 6.15
6.2.2.1 Atmospheric Methods 6.15
6.2.2.2 Overview of Atmospheric Environment 6.18
6.2.3 Project Interactions with Atmospheric Environment 6.33

6.2.4 Assessment of Residual Environmental Effects on Atmospheric Environment 6.35
6.2.4.1 Analytical Assessment Techniques 6.35
6.2.4.2 Change in Ambient Air Quality 6.40
6.2.4.3 Greenhouse Gases 6.52
6.2.4.4 Change in Acoustic Environment 6.54
6.2.4.5 Change in Ambient Light 6.60
6.2.4.6 Summary of Project Residual Effects 6.62
6.2.5 Potential Atmospheric Environment Effects on Federal Lands 6.64
6.2.6 Prediction Confidence 6.64
6.2.6.1 Ambient Air Quality and Greenhouse Gases 6.64
6.2.6.2 Acoustic Environment 6.65
6.2.6.3 Lighting 6.65
6.2.7 Follow-Up and Monitoring 6.66
6.2.8 Conclusions for Atmospheric Environment 6.66
6.2.8.1 Change in Ambient Air Quality 6.66
6.2.8.2 Greenhouse Gases 6.66
6.2.8.3 Change in Acoustic Environment 6.66
6.2.8.4 Change in Ambient Light 6.67
6.3 GEOLOGY AND SOILS 6.67
6.3.1 Scope of the Assessment 6.67
6.3.1.1 Regulatory and Policy Setting 6.68
6.3.1.2 Engagement and Key Concerns 6.69
6.3.1.3 Potential Effects, Pathways and Measurable Parameters 6.70
6.3.1.4 Boundaries 6.71
6.3.1.5 Residual Effects Characterization 6.73
6.3.1.6 Significance Definition 6.76
6.3.2 Existing Conditions for Geology and Soils 6.76
6.3.2.1 Geology Methods 6.76
6.3.2.2 Geology Overview 6.77
6.3.2.3 Soils and Terrain Methods 6.84
6.3.2.4 Soils and Terrain Overview 6.89
6.3.3 Project Interactions with Geology and Soils 6.107
6.3.4 Assessment of Residual Environmental Effects on Geology and Soils 6.109
6.3.4.1 Analytical Assessment Techniques 6.109
6.3.4.2 Change in Terrain Conditions 6.110
6.3.4.3 Change in Soil Quantity and Quality 6.113
6.3.4.4 Summary of Project Residual Effects 6.123
6.3.5 Potential Geology and Soils Effects to Federal Lands 6.125
6.3.6 Prediction Confidence 6.126
6.3.7 Follow-Up and Monitoring 6.126
6.3.8 Conclusions for Geology and Soils 6.127
6.3.8.1 Geology 6.127
6.3.8.2 Change in Terrain Conditions 6.127
6.3.8.3 Change in Soil Quantity and Quality 6.127

6.4 GROUNDWATER AND SURFACE WATER 6.128
6.4.1 Scope of the Assessment 6.128
6.4.1.1 Regulatory and Policy Setting 6.129
6.4.1.2 Engagement and Key Concerns 6.131
6.4.1.3 Potential Effects, Pathways and Measurable Parameters 6.138
6.4.1.4 Boundaries 6.142
6.4.1.5 Residual Effects Characterization 6.144
6.4.1.6 Significance Definition 6.148
6.4.2 Existing Conditions for Groundwater 6.149
6.4.2.1 Groundwater Methods 6.149
6.4.2.2 Groundwater Overview 6.149
6.4.3 Project Interactions with Groundwater 6.155
6.4.4 Assessment of Residual Environmental Effects on Groundwater 6.157
6.4.4.1 Analytical Assessment Techniques for Groundwater 6.157
6.4.4.2 Changes in Local Groundwater Flows, Levels and Quality 6.157
6.4.4.3 Changes in Local Groundwater/Surface Water interactions 6.162
6.4.5 Existing Conditions for Surface Water 6.167
6.4.5.1 Surface Water Methods 6.167
6.4.5.2 Surface Water Overview 6.168
6.4.6 Project Interactions with Surface Water Environment 6.173
6.4.7 Assessment of Residual Environmental Effects on Surface Water 6.177
6.4.7.1 Analytical Assessment Techniques for Surface Water 6.177
6.4.7.2 Changes in Regional Flow and Water Levels 6.179
6.4.7.3 Changes in Regional and/or Local Fluvial Geomorphology and Shoreline Geomorphology 6.191
6.4.7.4 Changes in Local Drainage Areas and Local Drainage Patterns 6.196
6.4.7.5 Changes in Regional and/or Local Sediment and Debris Transport 6.201
6.4.7.6 Changes in Regional and Local Ice Processes 6.205
6.4.7.7 Changes in Regional and/or Local Surface Water Quality 6.207
6.4.8 Summary of Project Residual Effects 6.211
6.4.8.1 Groundwater 6.211
6.4.8.2 Surface Water 6.213
6.4.9 Potential Effects to Federal Lands 6.215
6.4.10 Prediction Confidence 6.215
6.4.10.1 Groundwater 6.215
6.4.10.2 Surface Water 6.215
6.4.11 Follow-Up and Monitoring 6.216
6.4.11.1 Groundwater 6.216
6.4.11.2 Surface Water 6.216
6.4.12 Conclusions for Groundwater and Surface Water 6.217
6.4.12.1 Changes in Local Groundwater Flows, Levels and Quality 6.217
6.4.12.2 Changes in Local Groundwater/Surface Water interactions 6.217
6.4.12.3 Changes in Regional Flows and Water Levels 6.218
6.4.12.4 Changes in Regional and/or Local Fluvial Geomorphology and Shoreline Geomorphology 6.218
6.4.12.5 Changes in Local Drainage Areas and Local Drainage Patterns 6.218
6.4.12.6 Changes in Regional and/or Local Sediment and Debris Transport 6.218

6.4.12.7 Changes in Regional and/or Local Ice Processes 6.218
6.4.12.8 Changes in Regional and/or Local Surface Water Quality 6.218
6.5 REFERENCES 6.219
6.5.1 Atmospheric Environment 6.219
6.5.2 Geology and Soil 6.221
6.5.3 Groundwater and Surface Water 6.226

VOLUME 3: BIO-PHYSICAL EFFECTS ASSESSMENT

7.0 ASSESSMENT OF POTENTIAL EFFECTS ON AQUATIC ENVIRONMENT 7.1
7.1 OVERVIEW OF CHAPTER 7.1
7.2 FISH AND FISH HABITAT 7.1
7.2.1 Scope of the Assessment 7.1
7.2.1.1 Regulatory and Policy Setting 7.3
7.2.1.2 Influence of Engagement on the Identification of Issues and the Assessment Process 7.5
7.2.1.3 Consideration of Indigenous Information and Traditional Knowledge 7.8
7.2.1.4 Potential Effects, Pathways and Measurable Parameters 7.11
7.2.1.5 Boundaries 7.13
7.2.1.6 Residual Effects Characterization 7.15
7.2.1.7 Significance Definition 7.17
7.2.2 Existing Conditions for Fish and Fish Habitat 7.17
7.2.2.1 Methods 7.17
7.2.2.2 Overview of Fish and Fish Habitat 7.19
7.2.3 Project Interactions with Fish and Fish Habitat 7.48
7.2.4 Assessment of Residual Environmental Effects on Fish and Fish Habitat 7.49
7.2.4.1 Analytical Assessment Techniques 7.49
7.2.4.2 Permanent Alteration or Destruction of Fish Habitat 7.50
7.2.4.3 Change in Fish Passage 7.68
7.2.4.4 Change in Fish Health and Mortality 7.74
7.2.4.5 Summary of Project Residual Effects 7.82
7.2.5 Determination of Significance 7.84
7.2.5.1 Significance of Residual Environmental Effects from the Project 7.84
7.2.6 Potential Effects on Federal Lands 7.85
7.2.7 Prediction Confidence 7.85
7.2.8 Follow-Up and Monitoring 7.86
7.2.9 Conclusions 7.87
7.2.9.1 Permanent Alteration or Destruction of Fish Habitat 7.87
7.2.9.2 Change in Fish Passage 7.88
7.2.9.3 Change in Fish Health and Mortality 7.88
7.2.10 References 7.89
7.2.10.1 Literature Cited 7.89
7.2.10.2 Personal Communication 7.94

8.0 ASSESSMENT OF POTENTIAL EFFECTS ON TERRESTRIAL ENVIRONMENT 8.1
8.1 OVERVIEW OF CHAPTER 8.1
8.2 VEGETATION 8.2
8.2.1 Scope of the Assessment 8.2
8.2.1.1 Regulatory and Policy Setting 8.3
8.2.1.2 Influence of Engagement on the Identification of Issues and the Assessment Process 8.6
8.2.1.3 Potential Effects, Pathways and Measurable Parameters 8.7
8.2.1.4 Boundaries 8.9
8.2.1.5 Residual Effects Characterization 8.10
8.2.1.6 Significance Definition 8.12
8.2.2 Existing Conditions for Vegetation 8.12
8.2.2.1 Methods 8.12
8.2.2.2 Overview 8.17
8.2.3 Project Interactions with Vegetation 8.32
8.2.4 Assessment of Residual Environmental Effects on Vegetation 8.35
8.2.4.1 Analytical Assessment Techniques 8.35
8.2.4.2 Change in Landscape Diversity 8.36
8.2.4.3 Change in Community Diversity 8.39
8.2.4.4 Change in Species Diversity 8.49
8.2.4.5 Change in Wetland Functions 8.55
8.2.4.6 Summary of Project Residual Effects 8.62
8.2.5 Determination of Significance 8.63
8.2.5.1 Significance of Residual Environmental Effects from the Project 8.63
8.2.6 Potential Effects on Federal Lands 8.64
8.2.7 Prediction Confidence 8.64
8.2.8 Follow-Up and Monitoring 8.64
8.2.9 Conclusions 8.65
8.2.9.1 Change in Landscape Diversity 8.65
8.2.9.2 Change in Community Diversity 8.65
8.2.9.3 Change in Species Diversity 8.65
8.2.9.4 Change in Wetland Functions 8.65
8.3 WILDLIFE 8.66
8.3.1 Scope of the Assessment 8.66
8.3.1.1 Regulatory and Policy Setting 8.68
8.3.1.2 Engagement and Key Concerns 8.69
8.3.1.3 Potential Effects, Pathways and Measurable Parameters 8.71
8.3.1.4 Boundaries 8.73
8.3.1.5 Residual Effects Characterization 8.74
8.3.1.6 Significance Definition 8.76
8.3.2 Existing Conditions for Wildlife 8.76
8.3.2.1 Methods 8.76
8.3.2.2 Overview 8.78
8.3.3 Migratory Birds 8.86
8.3.3.1 Wetlands 8.86
8.3.3.2 Grasslands 8.88

8.3.3.3 Forests 8.88
8.3.4 Species at Risk and Species of Conservation Concern 8.89
8.3.4.1 Mammals 8.89
8.3.4.2 Birds 8.90
8.3.4.3 Amphibians and Reptiles 8.95
8.3.4.4 Invertebrates 8.96
8.3.5 Project Interactions with Wildlife 8.96
8.3.6 Assessment of Residual Environmental Effects on Wildlife 8.97
8.3.6.1 Analytical Assessment Techniques 8.97
8.3.6.2 Change in Habitat 8.98
8.3.6.3 Change in Mortality Risk 8.109
8.3.6.4 Change in Movement 8.115
8.3.6.5 Summary of Project Residual Effects 8.121
8.3.7 Determination of Significance 8.121
8.3.7.1 Significance of Residual Environmental Effects from the Project 8.121
8.3.8 Potential Effects on Federal Lands 8.122
8.3.9 Prediction Confidence 8.122
8.3.10 Follow-Up and Monitoring 8.122
8.3.11 Conclusions 8.123
8.3.11.1 Change in Habitat 8.123
8.3.11.2 Change in Mortality Risk 8.124
8.3.11.3 Change in Movement 8.124
8.3.12 References 8.124
8.3.12.1 Vegetation 8.124
8.3.12.2 Wildlife 8.131

VOLUME 4: SOCIO-ECONOMIC EFFECTS ASSESSMENT

9.0 ASSESSMENT OF POTENTIAL EFFECTS ON HUMAN ENVIRONMENT 9.1
9.1 OVERVIEW OF CHAPTER 9.1
9.2 LAND AND RESOURCE USE 9.2
9.2.1 Scope of the Assessment 9.2
9.2.1.1 Regulatory and Policy Setting 9.3
9.2.1.2 Engagement and Key Concerns 9.7
9.2.1.3 Potential Effects, Pathways and Measurable Parameters 9.12
9.2.1.4 Boundaries 9.14
9.2.1.5 Residual Effects Characterization 9.17
9.2.1.6 Significance Definition 9.18
9.2.2 Existing Conditions for Land and Resource Use 9.19
9.2.2.1 Methods 9.19
9.2.2.2 Overview 9.23
9.2.3 Project Interactions with Land and Resource Use 9.50
9.2.4 Assessment of Residual Environmental Effects on Land and Resource Use 9.53
9.2.4.1 Analytical Assessment Techniques 9.53
9.2.4.2 Change in Land Use 9.56
9.2.4.3 Change in Agricultural Land Use 9.66

9.2.4.4 Change in Parks, Recreation and Tourism 9.84
9.2.4.5 Change in Resource Use 9.91
9.2.4.6 Summary of Project Residual Effects 9.109
9.2.5 Determination of Significance 9.110
9.2.5.1 Significance of Residual Environmental Effects from the Project 9.110
9.2.6 Potential Land and Resource Use Effects on Federal Lands 9.111
9.2.7 Prediction Confidence 9.112
9.2.8 Follow-Up and Monitoring 9.112
9.2.9 Conclusions for Land and Resource Use 9.113
9.2.9.1 Change in Land Use 9.113
9.2.9.2 Change in Agricultural Land Use 9.113
9.2.9.3 Change in Parks, Recreation and Tourism 9.113
9.2.9.4 Change in Resource Use 9.114
9.3 INFRASTRUCTURE AND SERVICES 9.114
9.3.1 Scope of the Assessment 9.114
9.3.1.1 Regulatory and Policy Setting 9.114
9.3.1.2 Engagement and Key Concerns 9.115
9.3.1.3 Potential Effects, Pathways and Measurable Parameters 9.117
9.3.1.4 Boundaries 9.118
9.3.1.5 Residual Effects Characterization 9.119
9.3.1.6 Significance Definition 9.121
9.3.2 Existing Conditions for Infrastructure and Services 9.121
9.3.2.1 Methods 9.121
9.3.2.2 Overview 9.121
9.3.2.3 Population 9.122
9.3.2.4 Temporary Accommodations 9.124
9.3.2.5 Community Infrastructure and Services 9.124
9.3.2.6 Flood Damages 9.136
9.3.3 Project Interactions with Infrastructure and Services 9.136
9.3.4 Assessment of Residual Environmental Effects on Infrastructure and Services 9.138
9.3.4.1 Analytical Assessment Techniques 9.138
9.3.4.2 Change in Accommodations 9.139
9.3.4.3 Change in Community Infrastructure and Services 9.140
9.3.4.4 Change in Road Traffic and Road Network 9.142
9.3.4.5 Change in Utility Infrastructure 9.145
9.3.4.6 Summary of Project Residual Effects. 9.146
9.3.5 Determination of Significance 9.147
9.3.5.1 Significance of Residual Environmental Effects from the Project 9.147
9.3.6 Potential Effects on Federal Lands 9.148
9.3.7 Prediction Confidence 9.148
9.3.8 Follow-Up and Monitoring 9.149
9.3.9 Conclusions 9.149
9.3.9.1 Change in Accommodations 9.149
9.3.9.2 Change in Infrastructure and Services 9.149
9.3.9.3 Change in Road and Road Networks 9.150
9.3.9.4 Change in Utilities 9.150

9.4 ECONOMY 9.150
9.4.1 Scope of the Assessment 9.150
9.4.1.1 Regulatory and Policy Setting 9.151
9.4.1.2 Engagement and Key Concerns 9.151
9.4.1.3 Potential Effects, Pathways and Measurable Parameters 9.153
9.4.1.4 Boundaries 9.154
9.4.1.5 Residual Effects Characterization 9.155
9.4.1.6 Significance Definition 9.157
9.4.2 Existing Conditions for Economy 9.157
9.4.2.1 Methods 9.157
9.4.2.2 Overview 9.158
9.4.2.3 Labour Force 9.158
9.4.2.4 Labour Force Employment by Industry 9.159
9.4.2.5 Labour Force Employment by Occupation 9.161
9.4.2.6 Individual Income 9.162
9.4.2.7 Education Attainment 9.163
9.4.2.8 Local and Regional Businesses 9.164
9.4.2.1 2011 Flooding 9.166
9.4.2.2 Provincial Economy 9.166
9.4.3 Project Interactions with Economy 9.166
9.4.4 Assessment of Effects on Economy 9.168
9.4.4.1 Analytical Assessment Techniques 9.168
9.4.4.2 Change in Provincial Economy 9.172
9.4.4.3 Change in Regional Economy 9.176
9.4.4.4 Change in Regional Labour Force 9.179
9.4.4.5 Change in Goods and Services 9.182
9.4.4.6 Summary of Project Residual Effects 9.184
9.4.5 Determination of Significance 9.185
9.4.5.1 Significance of Residual Environmental Effects from the Project 9.185
9.4.6 Potential Effects on Federal Lands 9.185
9.4.7 Prediction Confidence 9.186
9.4.8 Follow-Up and Monitoring 9.186
9.4.9 Conclusions 9.186
9.4.9.1 Change in the Provincial Economy 9.186
9.4.9.2 Change in the Regional Economy 9.186
9.4.9.3 Change in Labour 9.187
9.4.9.4 Change in Goods and Services 9.187
9.5 HUMAN HEALTH 9.188
9.5.1 Scope of the Assessment 9.188
9.5.1.1 Regulatory and Policy Setting 9.188
9.5.1.2 Engagement and Key Concerns 9.189
9.5.1.3 Potential Effects, Pathways and Measurable Parameters 9.191
9.5.1.4 Boundaries 9.192
9.5.1.5 Residual Effects Characterization 9.193
9.5.1.6 Significance Definition 9.195
9.5.2 Existing Conditions for Human Health 9.195
9.5.2.1 Methods 9.195

9.5.2.2 Overview 9.196
9.5.3 Project Interactions with Human Health 9.198
9.5.4 Assessment of Residual Environmental Effects on Human Health 9.200
9.5.4.1 Analytical Assessment Techniques 9.200
9.5.4.2 Change in Human Health 9.202
9.5.4.3 Summary of Project Residual Effects 9.208
9.5.5 Determination of Significance 9.209
9.5.5.1 Significance of Residual Environmental Effects from the Project 9.209
9.5.5.2 Significance of Residual Cumulative Environmental Effects 9.210
9.5.6 Potential Effects on Federal Lands 9.210
9.5.7 Prediction Confidence 9.210
9.5.8 Follow-Up and Monitoring 9.210
9.5.9 Conclusions 9.211
9.5.9.1 Change in Human Health, Air Quality 9.211
9.5.9.2 Change in Human Health, Noise Levels 9.211
9.6 HERITAGE RESOURCES 9.211
9.6.1 Scope of the Assessment 9.211
9.6.1.1 Regulatory and Policy Setting 9.212
9.6.1.2 Engagement and Key Concerns 9.214
9.6.1.3 Potential Effects, Pathways and Measurable Parameters 9.216
9.6.1.4 Boundaries 9.216
9.6.1.5 Residual Effects Characterization 9.217
9.6.1.6 Significance Definition 9.219
9.6.2 Existing Conditions for Heritage Resources 9.219
9.6.2.1 Methods 9.219
9.6.2.2 Overview of Heritage Resources Context 9.221
9.6.3 Project Interactions with Heritage Resources 9.224
9.6.4 Assessment of Residual Environmental Effects on Heritage Resources 9.225
9.6.4.1 Analytical Assessment Techniques 9.225
9.6.4.2 Change in Cemeteries 9.228
9.6.4.3 Summary of Project Residual Effects 9.230
9.6.5 Determination of Significance 9.231
9.6.5.1 Significance of Residual Environmental Effects from the Project 9.231
9.6.6 Potential Effects on Federal Lands 9.231
9.6.7 Prediction Confidence 9.231
9.6.8 Follow-Up and Monitoring 9.231
9.6.9 Conclusions 9.232
9.6.9.1 Change in Heritage Resources 9.232
9.6.9.2 Change in Cemeteries 9.232
9.6.9.3 Cumulative Effects 9.232
9.7 REFERENCES 9.232
9.7.1 Land and Resource Use 9.232
9.7.1.1 Personal Communication 9.239
9.7.2 Infrastructure and Services 9.240
9.7.3 Economy 9.242
9.7.4 Health 9.243

9.7.5 Heritage Resources 9.245

10.0 INDIGENOUS PEOPLES 10.1
10.1 OVERVIEW OF CHAPTER 10.1
10.2 ASSESSMENT OF POTENTIAL EFFECTS ON TRADITIONAL LAND AND RESOURCE USE 10.2
10.2.1 Scope of the Indigenous Peoples Assessment 10.2
10.2.1.1 Regulatory and Policy Setting 10.3
10.2.1.2 Indigenous Engagement and Consultation Process 10.4
10.2.1.3 Potential Effects, Pathways and Measurable Parameters 10.9
10.2.1.4 Boundaries 10.11
10.2.1.5 Residual Effects Characterization 10.13
10.2.1.6 Significance Definition 10.15
10.2.2 Existing Conditions for Traditional Land and Resource Use 10.15
10.2.2.3 Methods 10.15
10.2.2.4 Existing Conditions by Indigenous Group 10.16
10.2.3 Project Interactions with TLRU 10.46
10.2.4 Assessment of Residual Environmental Effects on TLRU 10.48
10.2.4.3 Analytical Assessment Techniques 10.48
10.2.4.4 Change in Availability of Traditional Resources for Current Use 10.49
10.2.4.5 Change in Access to Traditional Resources and Areas for Current Use 10.59
10.2.4.6 Change to Cultural and Spiritual Sites or Areas 10.64
10.2.4.7 Changes to the Cultural Value or Importance Associated with Current Use 10.66
10.2.4.8 Summary of Project Residual Effects 10.70
10.2.5 Determination of Significance 10.71
10.2.6 Prediction Confidence 10.72
10.2.7 Follow-Up and Monitoring 10.72
10.2.8 Conclusions 10.73
10.2.8.3 Change in Availability of Traditional Resources for Current Use 10.73
10.2.8.4 Change in Access to Traditional Resources and Areas for Current Use 10.73
10.2.8.5 Change to Cultural and Spiritual Sites or Areas 10.73
10.2.8.6 Changes to the Cultural Value or Importance Associated with Current Use 10.73
10.3 INDIGENOUS HEALTH AND SOCIO-ECONOMIC CONDITIONS 10.74
10.3.1 Scope of the Assessment 10.74
10.3.1.1 Regulatory and Policy Setting 10.75
10.3.1.2 Indigenous Engagement and Consultation Process 10.75
10.3.1.3 Identification of VCs and Effect Pathways Related to Indigenous health and socio-economic conditions 10.77
10.3.1.4 Boundaries 10.80
10.3.1.5 Residual Effects Characterization 10.81
10.3.1.6 Significance Definition 10.84

10.3.2 Existing Conditions for Indigenous health and Indigenous Socio-Economic Conditions 10.85
10.3.2.1 Methods 10.86
10.3.2.2 Overview 10.86
10.3.3 Assessment of Residual Environmental Effects on Indigenous Health Conditions 10.90
10.3.3.1 Change in Indigenous Health Conditions 10.90
10.3.3.2 Assessment of Residual Environmental Effects on Indigenous Socio-Economic Conditions 10.94
10.3.3.3 Effects on Sub-populations within Indigenous Groups 10.102
10.3.3.4 Summary of Project Residual Effects 10.103
10.3.4 Determination of Significance 10.105
10.3.4.1 Significance of Residual Environmental Effects from the Project 10.105
10.3.5 Potential Effects on Federal Lands 10.106
10.3.6 Prediction Confidence 10.107
10.3.7 Follow-up and Monitoring 10.107
10.3.8 Conclusions 10.107
10.3.8.1 Change in Indigenous health conditions 10.107
10.3.8.2 Change in Indigenous Socio-economic Conditions 10.108
10.4 ABORIGINAL AND TREATY RIGHTS 10.108
10.4.1 Scope of the Assessment 10.108
10.4.1.3 Regulatory and Policy Setting 10.109
10.4.1.4 Indigenous Engagement and Consultation Process 10.112
10.4.1.5 Methods 10.113
10.4.2 Existing Conditions for Aboriginal and Treaty Rights 10.114
10.4.2.3 Aboriginal Rights 10.114
10.4.2.4 Treaty 1 ..... 10.114
10.4.2.5 Treaty 2 ..... 10.115
10.4.2.6 Treaty 5 ..... 10.115
10.4.2.7 Agreements 10.116
10.4.3 Assessment of Effects on Aboriginal and Treaty Rights 10.116
10.5 REFERENCES 10.119
10.5.1 Literature Cited 10.119
10.5.2 Personal Communications 10.130

VOLUME 5: CONCLUSIONS AND OTHER ASSESSMENTS

11.0 CUMULATIVE EFFECTS 11.1
11.1 OVERVIEW OF CHAPTER 11.1
11.1.1 Basis of Assessment 11.1
11.1.2 Assessment Approach and Methods 11.1
11.1.2.1 Selection of VCs 11.3
11.1.2.2 Project Inclusion List 11.4
11.1.2.3 Regional Context 11.9
11.1.2.4 Future with and without Project 11.9
11.1.2.5 Mitigation and Follow-up 11.10

11.2 ATMOSPHERIC ENVIRONMENT 11.11
11.2.1 Project Residual Effects Likely to Act Cumulatively 11.11
11.2.2 Cumulative Effects Assessment for Change in Air Quality 11.12
11.2.2.1 Cumulative Effect Pathways for Change in Air Quality 11.12
11.2.2.2 Mitigation for Cumulative Effects on Change in Air Quality 11.13
11.2.2.3 Residual Cumulative Effects on Change in Air Quality 11.13
11.2.3 Cumulative Effects Assessment for Greenhouse Gases 11.14
11.2.3.1 Cumulative Effect Pathways for Greenhouse Gases 11.14
11.2.3.2 Mitigation for Cumulative Effects on Greenhouse Gases 11.14
11.2.3.3 Residual Cumulative Effects on Greenhouse Gases 11.14
11.2.4 Cumulative Effects Assessment for Change in Acoustic Environment 11.14
11.2.4.1 Cumulative Effect Pathways for Change in Acoustic Environment 11.14
11.2.4.2 Mitigation for Cumulative Effects on Change in Acoustic Environment 11.15
11.2.4.3 Residual Cumulative Effects on Change in Acoustic Environment 11.15
11.2.5 Cumulative Effects Assessment for Changes in Ambient Light 11.15
11.2.5.1 Cumulative Effect Pathways for Changes in Ambient Light 11.15
11.2.5.2 Mitigation for Cumulative Effects on Changes in Ambient Light 11.16
11.2.5.3 Residual Cumulative Effects on Change in Ambient Light 11.16
11.2.5.4 Summary of Cumulative Effects on the Atmospheric Environment 11.16
11.3 GEOLOGY AND SOILS 11.18
11.3.1 Project Residual Effects Likely to Act Cumulatively 11.18
11.3.2 Cumulative Effects Assessment for Changes in Terrain Conditions 11.19
11.3.2.1 Cumulative Effect Pathways for Changes in Terrain Conditions 11.19
11.3.2.2 Mitigation for Cumulative Effects on Changes in Terrain Conditions 11.19
11.3.2.3 Residual Cumulative Effects on Changes in Terrain Conditions 11.20
11.3.3 Cumulative Effects Assessment for Changes in Soil Quantity and Quality 11.21
11.3.3.1 Cumulative Effect Pathways for Changes in Soil Quantity and Quality 11.21
11.3.3.2 Mitigation for Cumulative Effects on Changes in Soil Quantity and Quality 11.22
11.3.3.3 Residual Cumulative Effects on Changes in Soil Quantity and Quality 11.22
11.3.4 Summary of Cumulative Effects on Geology and Soils 11.22
11.4 GROUNDWATER AND SURFACE WATER 11.24
11.4.1 Groundwater 11.24
11.4.1.1 Identification of Projects Likely to Interact Cumulatively on Groundwater 11.24
11.4.1.2 Cumulative Effects Assessment for Changes in Local Groundwater Flows Levels and Quality 11.25
11.4.1.3 Cumulative Effects Assessment for Changes in Local Groundwater–Surface Water Interactions 11.25
11.4.1.4 Summary of Cumulative Effects on Groundwater 11.26

11.4.2 Surface Water 11.27
11.4.2.1 Identification of Projects Likely to Interact Cumulatively on Surface Water 11.27
11.4.2.2 Cumulative Effects Assessment for Changes in Local Drainage Areas and Local Drainage Patterns 11.29
11.4.2.3 Summary of Cumulative Effects on Surface Water 11.29
11.5 FISH AND FISH HABITAT 11.30
11.5.1 Project Residual Effects Likely to Act Cumulatively 11.30
11.5.2 Cumulative Effects Assessment for Permanent Alteration or Destruction of Fish Habitat 11.32
11.5.2.1 Cumulative Effect Pathways for Permanent Alteration or Destruction of Fish Habitat 11.32
11.5.2.2 Mitigation for Cumulative Effects on Permanent Alteration or Destruction of Fish Habitat 11.32
11.5.2.3 Residual Cumulative Effects on Permanent Alteration or Destruction of Fish Habitat 11.33
11.5.3 Cumulative Effects Assessment for Change in Fish Passage 11.33
11.5.3.1 Cumulative Effect Pathways for Change in Fish Passage 11.33
11.5.3.2 Mitigation for Cumulative Effects on Change in Fish Passage 11.33
11.5.3.3 Residual Cumulative Effects on Change in Fish Passage 11.34
11.5.4 Cumulative Effects Assessment for Change in Fish Health and Mortality 11.34
11.5.4.1 Cumulative Effect Pathways for Change in Fish Health and Mortality 11.34
11.5.4.2 Mitigation for Cumulative Effects on Change in Fish Health and Mortality 11.34
11.5.4.3 Residual Cumulative Effects on Change in Fish Health and Mortality 11.35
11.5.5 Summary of Cumulative Effects on Fish and Fish Habitat 11.35
11.5.6 Significance of Residual Cumulative Environmental Effects 11.37
11.6 VEGETATION 11.37
11.6.1 Project Residual Effects Likely to Act Cumulatively 11.37
11.6.2 Cumulative Effects Assessment for Change in Landscape Diversity 11.38
11.6.2.1 Cumulative Effect Pathways for Change in Landscape Diversity 11.38
11.6.2.2 Mitigation for Cumulative Effects on Change in Landscape Diversity 11.39
11.6.2.3 Residual Cumulative Effects on Change in Landscape Diversity 11.39
11.6.3 Cumulative Effects Assessment for Change in Community Diversity 11.40
11.6.3.1 Cumulative Effect Pathways for Change in Community Diversity 11.40
11.6.3.2 Mitigation for Cumulative Effects on Change in Community Diversity 11.40
11.6.3.3 Residual Cumulative Effects on Change in Community Diversity 11.40
11.6.4 Cumulative Effects Assessment for Change in Species Diversity 11.43
11.6.4.1 Cumulative Effect Pathways for Change in Species Diversity 11.43
11.6.4.2 Mitigation for Cumulative Effects on Change in Species Diversity 11.44
11.6.4.3 Residual Cumulative Effects on Change in Species Diversity 11.44

11.6.5 Cumulative Effects Assessment for Change in Wetland Functions 11.45
11.6.5.1 Cumulative Effect Pathways for Change in Wetland Functions 11.45
11.6.5.2 Mitigation for Cumulative Effects on Change in Wetland Functions ... 11.45
11.6.5.3 Residual Cumulative Effects on Change in Wetland Functions 11.45
11.6.6 Summary of Cumulative Effects on Vegetation 11.46
11.6.7 Significance of Residual Cumulative Environmental Effects 11.48
11.7 WILDLIFE 11.48
11.7.1 Project Residual Effects Likely to Act Cumulatively 11.48
11.7.2 Cumulative Effects Assessment for Change in Habitat 11.49
11.7.2.1 Cumulative Effect Pathways for Change in Habitat 11.49
11.7.2.2 Mitigation for Cumulative Effects on Change in Habitat 11.50
11.7.2.3 Residual Cumulative Effects on Change in Habitat 11.50
11.7.3 Cumulative Effects Assessment for Change in Mortality Risk 11.51
11.7.3.1 Cumulative Effect Pathways for Change in Mortality Risk 11.51
11.7.3.2 Mitigation for Cumulative Effects on Change in Mortality Risk 11.52
11.7.3.3 Residual Cumulative Effects on Change in Mortality Risk 11.52
11.7.4 Cumulative Effects Assessment for Change in Movement 11.52
11.7.4.1 Cumulative Effect Pathways for Change in Movement 11.52
11.7.4.2 Mitigation for Cumulative Effects on Change in Movement 11.52
11.7.4.3 Residual Cumulative Effects on Change in Movement 11.53
11.7.5 Summary of Cumulative Effects on Wildlife 11.53
11.7.6 Significance of Residual Cumulative Environmental Effects 11.55
11.8 LAND AND RESOURCE USE 11.55
11.8.1 Project Residual Effects Likely to Act Cumulatively 11.55
11.8.2 Cumulative Effects Assessment for Change in Land Use 11.56
11.8.2.1 Cumulative Effect Pathways for Change in Land Use 11.56
11.8.2.2 Mitigation for Cumulative Effects on Change in Land Use 11.56
11.8.2.3 Residual Cumulative Effects on Change in Land Use 11.57
11.8.3 Cumulative Effects Assessment for Change in Agricultural Land Use 11.57
11.8.3.1 Cumulative Effect Pathways for Change in Agricultural Land Use 11.57
11.8.3.2 Mitigation for Cumulative Effects on Change in Agricultural Land Use 11.57
11.8.3.3 Residual Cumulative Effects on Change in Agricultural Land Use 11.58
11.8.4 Cumulative Effects Assessment for Change in Parks, Recreation and Tourism 11.59
11.8.4.1 Cumulative Effect Pathways for Change in Parks, Recreation and Tourism 11.59
11.8.4.2 Mitigation for Cumulative Effects on Change in Parks, Recreation and Tourism 11.59
11.8.4.3 Residual Cumulative Effects on Change in Parks, Recreation and Tourism 11.59
11.8.5 Cumulative Effects Assessment for Change in Resource Use 11.60
11.8.5.1 Cumulative Effect Pathways for Change in Resource Use 11.60
11.8.5.2 Mitigation for Cumulative Effects on Change in Resource Use 11.61
11.8.5.3 Residual Cumulative Effects on Change in Resource Use 11.61
11.8.6 Summary of Cumulative Effects on Land and Resource Use 11.63
11.8.7 Significance of Residual Cumulative Environmental Effects 11.65

11.9 INFRASTRUCTURE AND SERVICES 11.65
11.9.1 Project Residual Effects Likely to Act Cumulatively 11.65
11.9.2 Cumulative Effects Assessment for Change in Infrastructure and Services 11.66
11.9.2.1 Cumulative Effect Pathways for Change in Infrastructure and Services 11.66
11.9.2.2 Mitigation for Cumulative Effects on Change in Infrastructure and Services 11.67
11.9.2.3 Residual Cumulative Effects on Change in Infrastructure and Services 11.67
11.9.3 Summary of Cumulative Effects on Infrastructure and Services 11.67
11.9.4 Significance of Residual Cumulative Environmental Effects 11.69
11.10 ECONOMY 11.70
11.10.1 Project Residual Effects Likely to Act Cumulatively 11.70
11.10.2 Cumulative Effects Assessment for Changes in Regional Economy 11.71
11.10.2.1 Cumulative Effect Pathways for Changes in Regional Economy 11.71
11.10.2.2 Mitigation for Cumulative Effects on Changes in Regional Economy 11.71
11.10.2.3 Residual Cumulative Effects on Changes in Regional Economy 11.71
11.10.3 Cumulative Effects Assessment for Changes in Labour 11.71
11.10.3.1 Cumulative Effect Pathways for Changes in Labour 11.71
11.10.3.2 Mitigation for Cumulative Effects on Changes in Labour 11.72
11.10.3.3 Residual Cumulative Effects on Changes in Labour 11.72
11.10.4 Cumulative Effects Assessment for Changes in Goods and Services 11.72
11.10.4.1 Cumulative Effect Pathways for Changes in Goods and Services 11.72
11.10.4.2 Mitigation for Cumulative Effects on Changes in Goods and Services 11.72
11.10.4.3 Residual Cumulative Effects on Changes in Goods and Services 11.72
11.10.5 Summary of Cumulative Effects on Economy 11.72
11.10.6 Significance of Residual Cumulative Environmental Effects 11.74
11.11 HUMAN HEALTH 11.74
11.11.1 Project Residual Effects Likely to Act Cumulatively 11.74
11.11.2 Cumulative Effects Assessment for Changes in Human Health - Air Quality 11.75
11.11.2.1 Cumulative Effect Pathways for Changes in Human Health – Air Quality 11.75
11.11.2.2 Mitigation for Cumulative Effects on Changes in Human Health – Air Quality 11.76
11.11.2.3 Residual Cumulative Effects on Changes in Human Health – Air Quality 11.76
11.11.3 Cumulative Effects Assessment for Change to Human Health - Noise Levels 11.76
11.11.3.1 Cumulative Effect Pathways for Change to Human Health - Noise Levels 11.76
11.11.3.2 Mitigation for Cumulative Effects on Change to Noise Levels 11.76
11.11.3.3 Residual Cumulative Effects on Change to Noise Levels 11.77
11.11.4 Summary of Cumulative Effects on Human Health 11.77

11.11.5 Significance of Residual Cumulative Environmental Effects 11.78
11.12 TRADITIONAL LAND AND RESOURCE USE 11.78
11.12.1 Project Residual Effects Likely to Act Cumulatively 11.78
11.12.2 Cumulative Effects Assessment for Change in Availability of Lands and Resources Currently Used for Traditional Purposes 11.80
11.12.2.1 Cumulative Effect Pathways for Change in Availability of Lands and Resources Currently Used for Traditional Purposes 11.80
11.12.2.2 Mitigation for Cumulative Effects on Availability of Lands and Resources Currently Used for Traditional Purposes 11.80
11.12.2.3 Residual Cumulative Effects on Availability of Lands and Resources Currently Used for Traditional Purposes 11.80
11.12.3 Cumulative Effects Assessment for Change in Access to Lands and Resources Currently Used for Traditional Purposes 11.81
11.12.3.1 Cumulative Effect Pathways for Change in Access to Lands and Resources Currently Used for Traditional Purposes 11.81
11.12.3.2 Mitigation for Cumulative Effects on Change in Access to Lands and Resources Currently Used for Traditional Purposes 11.82
11.12.3.3 Residual Cumulative Effects on Change in Access to Lands and Resources Currently Used for Traditional Purposes 11.82
11.12.4 Cumulative Effects Assessment for Changes to Cultural and Spiritual Sites or Areas 11.83
11.12.4.1 Cumulative Effect Pathways for Changes to Cultural and Spiritual Sites or Areas 11.83
11.12.4.2 Mitigation for Cumulative Effects on Changes to Cultural and Spiritual Sites or Areas 11.83
11.12.4.3 Residual Cumulative Effects on Changes to Cultural and Spiritual Sites or Areas 11.83
11.12.5 Cumulative Effects Assessment for Changes to the Cultural Value or Importance Associated with Current Use 11.84
11.12.5.1 Cumulative Effect Pathways for Changes to the Cultural Value or Importance Associated with Current Use 11.84
11.12.5.2 Mitigation for Cumulative Effects on Changes to the Cultural Value or Importance Associated with Current Use 11.84
11.12.5.3 Residual Cumulative Effects on Changes to the Cultural Value or Importance Associated with Current Use 11.84
11.12.6 Summary of Cumulative Effects on Traditional Land and Resource Use 11.85
11.12.7 Significance of Residual Cumulative Environmental Effects 11.86
11.13 INDIGENOUS HEALTH AND SOCIO-ECONOMIC CONDITIONS 11.87
11.13.1 Cumulative Effects on Indigenous Health and Socio-economic Conditions 11.87
11.13.2 Summary of Cumulative Effects on Indigenous health and socio-economic conditions 11.87
11.13.3 Significance of Residual Cumulative Environmental Effects 11.88
11.14 ABORIGINAL AND TREATY RIGHTS 11.90
11.15 CUMULATIVE EFFECTS OF ACCIDENTS AND MALFUNCTIONS 11.90
11.16 CONCLUSIONS 11.91

11.17 REFERENCES 11.91

12.0 FOLLOW-UP AND MONITORING PROGRAM 12.1
12.1 OVERVIEW 12.1
12.2 ATMOSPHERIC ENVIRONMENT 12.2
12.3 GEOLOGY AND SOILS 12.3
12.3.1 Purpose and Objectives 12.3
12.3.2 Approach 12.3
12.4 GROUNDWATER AND SURFACE WATER 12.3
12.4.1 Purpose and Objectives 12.3
12.4.1.1 Groundwater 12.3
12.4.1.2 Surface Water Hydrology 12.4
12.4.1.3 Surface Water Quality 12.5
12.4.2 Approach 12.5
12.4.2.1 Groundwater 12.5
12.4.2.2 Surface Water Hydrology 12.6
12.4.2.3 Surface Water Quality 12.6
12.5 FISH AND FISH HABITAT 12.7
12.5.1 Purpose and Objectives 12.7
12.5.2 Approach 12.7
12.6 VEGETATION 12.8
12.6.1 Purpose and Objectives 12.8
12.6.2 Approach 12.8
12.7 WILDLIFE 12.9
12.7.1 Purpose and Objectives 12.9
12.7.2 Approach 12.9
12.8 LAND AND RESOURCE USE 12.10
12.8.1 Purpose and Objectives 12.10
12.8.2 Approach 12.10
12.9 INFRASTRUCTURE AND SERVICES 12.10
12.10 ECONOMY 12.10
12.11 HUMAN HEALTH 12.10
12.11.1 Purpose and Objectives 12.11
12.11.2 Approach 12.11
12.12 HERITAGE RESOURCES 12.11
12.12.1 Purpose and Objectives 12.11
12.12.2 Approach 12.11
12.13 TRADITIONAL LAND AND RESOURCE USE 12.12
12.14 INDIGENOUS HEALTH AND SOCIO-ECONOMIC CONDITIONS 12.12
12.15 ABORIGINAL AND TREATY RIGHTS 12.12

13.0 PROJECT SUSTAINABILITY 13.1
13.1 OVERVIEW OF CHAPTER 13.1
13.2 REGULATORY CONTEXT 13.1
13.3 PROJECT CONTRIBUTION TO SUSTAINABILITY 13.4
13.3.1 Overview 13.4

13.3.2 Application of the Principles of Sustainable Development 13.4
13.3.2.1 Air Quality and Climate 13.4
13.3.2.2 Water 13.5
13.3.2.3 Nature 13.6
13.3.2.4 Jobs and Human Influence 13.7
13.4 SUMMARY 13.8
13.5 REFERENCES 13.8

14.0 ACCIDENTS AND MALFUNCTIONS 14.1
14.1 OVERVIEW OF CHAPTER 14.1
14.2 OUTLET CHANNEL BREACH/CONTROL STRUCTURE FAILURE 14.3
14.2.1 Causes 14.3
14.2.2 Incident Prevention 14.4
14.2.3 Effects Pathways 14.6
14.2.4 Incident Response and Mitigation 14.7
14.2.5 Worst-Case Scenario 14.8
14.2.6 Summary of Residual Effects 14.9
14.3 SPILLS OF HAZARDOUS MATERIALS 14.9
14.3.1 Causes 14.9
14.3.1.1 Spills during Construction 14.10
14.3.1.2 Spills of Herbicides during Vegetation Management 14.10
14.3.2 Incident Prevention 14.11
14.3.3 Effects Pathways 14.13
14.3.4 Incident Response and Mitigation 14.15
14.3.5 Worst-Case Scenario 14.16
14.3.6 Summary of Residual Effects 14.17
14.4 FIRE 14.17
14.4.1 Causes 14.17
14.4.2 Incident Prevention 14.18
14.4.3 Effects Pathways 14.19
14.4.4 Incident Response and Mitigation 14.20
14.4.5 Worst-Case Scenario 14.20
14.4.6 Summary of Residual Effects 14.21
14.5 COLLISIONS 14.21
14.5.1 Causes 14.21
14.5.2 Incident Prevention 14.22
14.5.3 Effects Pathways 14.22
14.5.4 Incident Response and Mitigation 14.22
14.5.5 Worst-Case Scenario 14.23
14.5.6 Summary of Residual Effects 14.23
14.6 SUMMARY OF RESIDUAL EFFECTS 14.23
14.7 REFERENCES 14.25

15.0 EFFECT OF THE ENVIRONMENT ON THE PROJECT 15.1
15.1 OVERVIEW OF CHAPTER 15.1
15.1.1 Types of Effects on Project 15.1
15.1.2 Effects on VCs 15.2

15.1.3 Mitigation of Effects 15.2
15.2 SIGNIFICANCE THRESHOLDS FOR EFFECTS OF THE ENVIRONMENT ON THE PROJECT 15.4
15.3 EFFECT OF EXTREME WEATHER AND CLIMATE CONDITIONS ON THE PROJECT 15.4
15.3.1 Existing Conditions 15.4
15.3.2 Effects Analysis and Mitigation 15.5
15.3.3 Residual Effect Characterization 15.8
15.4 EFFECT OF EXTREME HYDROLOGICAL CONDITIONS ON THE PROJECT 15.9
15.4.1 Existing Conditions 15.9
15.4.2 Effects Analysis and Mitigation 15.9
15.4.3 Residual Effect Characterization 15.10
15.5 EFFECT OF LONG-TERM CLIMATE CHANGE ON THE PROJECT 15.10
15.5.1 Climate Scenarios 15.10
15.5.2 Effects Analysis and Mitigation 15.12
15.5.3 Residual Effect Characterization 15.13
15.6 EFFECT OF GEOPHYSICAL AND GEOTECHNICAL HAZARDS ON THE PROJECT 15.13
15.6.1 Existing Conditions 15.13
15.6.2 Effects Analysis and Mitigation 15.13
15.6.3 Residual Effect Characterization 15.14
15.7 EFFECT OF FIRE HAZARDS ON THE PROJECT 15.14
15.7.1 Existing Conditions 15.14
15.7.2 Effects Analysis and Mitigation 15.15
15.7.3 Residual Effect Characterization 15.15
15.8 SUMMARY OF THE EFFECTS OF THE ENVIRONMENT ON THE PROJECT 15.16
15.9 REFERENCES 15.16

16.0 CONCLUSIONS 16.1
16.1 OVERVIEW OF CHAPTER 16.1
16.2 SUMMARY OF ENVIRONMENTAL EFFECTS 16.2
16.3 KEY MITIGATION MEASURES AND COMMITMENTS 16.41
16.4 SUMMARY OF POTENTIAL EFFECTS AND MITIGATION ON ABORIGINAL OR TREATY RIGHTS 16.61

List of Tables

VOLUME 1: PROJECT DESCRIPTION, JUSTIFICATION, ENGAGEMENT AND EA APPROACH

Table 1.2-1 Water and Water Crossing Assets Managed by Manitoba Infrastructure in 2018 ..... 1.2
Table 1.4-1 Township and Ranges Intersected by LMOC and LSMOC 1.7
Table 1.4-2 Proposed Project Component Coordinates (NAD 83, UTM) 1.7
Table 3.5-1 LMOC Preliminary Estimate of Numbers of Construction Equipment 3.24
Table 3.5-2 LMOC Preliminary Estimate of Construction Workforce 3.28
Table 4.4-1 Rationale for Valued Components Selected 4.7
Table 4.4-2 Interactions between Valued Components and the Project 4.13
Table 4.5-1 Summary of Project Residual Effects on (Name of VC) 4.19
Table 5.2-1 Project Stakeholder Groups Engaged on the Project 5.7
Table 5.2-2 Summary of Feedback from Open Houses Categorized by VC 5.22
Table 5.3-1 Summary of Indigenous Engagement by VC 5.62

VOLUME 2: PHYSICAL ENVIRONMENT EFFECTS ASSESSMENT

Table 6.2-1 Provincial (Manitoba) and National Ambient Air Quality Criteria 6.3
Table 6.2-2 Calculating Suggested Mitigation Noise Level for Construction Noise (Based on US EPA 1974) 6.5
Table 6.2-3 Manitoba Environmental Management Division Guideline for Sound Pollution - Sound Level Objectives in Residential Areas 6.6
Table 6.2-4 Ambient Light Environmental Zones 6.8
Table 6.2-5 Recommended Maximum Values of Light Trespass (Illumination) per Environmental Zones 6.8
Table 6.2-6 Recommended Maximum Values for Glare (Intensity of Luminaires) in Designated Directions 6.8
Table 6.2-7 Reference Levels of Sky Glow 6.8
Table 6.2-8 Potential Effects, Effects Pathways and Measurable Parameters for Air Quality, Greenhouse Gases, Acoustics, and Ambient Light 6.10
Table 6.2-9 Characterization of Residual Effects on Atmospheric Environment 6.13
Table 6.2-10 Monitoring Stations Used in the Assessment 6.15
Table 6.2-11 Parameters Measured at Continuous Air Monitoring Stations 6.16
Table 6.2-12 Dauphin Station Climate Parameters (1981 to 2010) 6.19
Table 6.2-13 Coordinates of Extracted WRF Model Data Locations 6.20
Table 6.2-14 2017 Provincial and National GHG Emissions 6.30
Table 6.2-15 Project-Environment Interactions with Atmospheric Environment During Construction and Operations and Maintenance 6.33
Table 6.2-16 Summary of Project Noise Thresholds 6.37
Table 6.2-17 Noise Modelling Parameters 6.38
Table 6.2-18 Summary of LMOC Construction Emissions 6.43
Table 6.2-19 Summary of LSMOC Construction Emissions 6.46
Table 6.2-20 Summary of Annual LMOC and Construction Emissions 6.49
Table 6.2-21 Summary of Regional Emissions within the RAA 6.51
Table 6.2-22 Contribution of the Project Emissions to the RAA 6.52

Table 6.2-23 Contribution of the Project Emissions to the 2017 Provincial (Manitoba) Emissions 6.52
Table 6.2-24 Estimated GHG Emissions from Construction 6.53
Table 6.2-25 Comparison of Construction GHG Emissions to Provincial and National Totals 6.54
Table 6.2-26 Noise Modelling Results and Noise Effects at the Receptors 6.55
Table 6.2-27 Predicted Distances of Noise Influence Areas (Noise Buffers) 6.58
Table 6.2-28 Summary of Project Residual Effects on Atmospheric Environment 6.63
Table 6.3-1 Potential Effects, Effect Pathways and Measurable Parameters for Geology and Soils 6.70
Table 6.3-2 Characterization of Residual Effects on Geology and Soils 6.74
Table 6.3-3 Summary of Bedrock Geology in Project Component Locations 6.79
Table 6.3-4 Summary of Surficial Geology in Project Component Locations 6.80
Table 6.3-5 Summary of Earthquakes in Manitoba from 1985 to 2018 ..... 6.83
Table 6.3-6 Slope Classes in the Project LAA and PDA 6.91
Table 6.3-7 Parent Material Mode of Deposition in the LAA and PDA 6.92
Table 6.3-8 Parent Material Texture in the LAA and PDA 6.93
Table 6.3-9 Soil Series in the LAA and PDA 6.95
Table 6.3-10 Surface Soil Texture in the LAA and PDA 6.97
Table 6.3-11 Drainage Class in the LAA and PDA 6.98
Table 6.3-12 Wind Erosion Risk in the LAA and PDA 6.101
Table 6.3-13 Water Erosion Risk in the LAA and PDA 6.101
Table 6.3-14 Compaction Risk in the LAA and PDA 6.102
Table 6.3-15 Agricultural Capability in the LAA and PDA 6.103
Table 6.3-16 Reclamation Suitability in the LAA and PDA 6.105
Table 6.3-17 Sensitive Soil and Terrain Sites in the LAA and PDA 6.106
Table 6.3-18 Project-Environment Interactions with Geology and Soils During Construction and Operations 6.107
Table 6.3-19 Change in Agricultural Capability Classes in the LAA 6.119
Table 6.3-20 Change in Reclamation Suitability Classes 6.121
Table 6.3-21 Summary of Project Residual Effects on Geology and Soil 6.125
Table 6.4-1 Issues of Concern Identified in Traditional Knowledge 6.132
Table 6.4-2 Issues of Concern Identified in Traditional Knowledge 6.135
Table 6.4-3 Potential Effects, Effect Pathways and Measurable Parameters for Groundwater 6.139
Table 6.4-4 Potential Effects, Effect Pathways and Measurable Parameters for Surface Water 6.141
Table 6.4-5 Characterization of Residual Effects on Groundwater 6.144
Table 6.4-6 Characterization of Residual Effects on Surface Water 6.146
Table 6.4-7 Historical Groundwater Quality Data from October 2016 to May 2018 –of the LMOC PDA (KGS 2018) 6.152
Table 6.4-8 Project-Environment Interactions with Groundwater During Construction and Operations 6.155
Table 6.4-9 Summary of Surface Water Quality Parameters for Regional and Local Waterways 6.169
Table 6.4-10 Range of Water Levels on Lake Manitoba and Lake St. Martin 6.171
Table 6.4-11 Range of Flows on the Fairford and Dauphin Rivers 6.171

Table 6.4-12 Project-Environment Interactions with Surface Water During Construction and Operations 6.174
Table 6.4-13 Summary of Percent Changes in Lake Manitoba Levels 6.180
Table 6.4-14 Summary of Average Decrease in Lake Manitoba Peak Water Levels with the Project 6.181
Table 6.4-15 Percent Changes in Fairford River Flows with and without the Project 6.182
Table 6.4-16 Summary of Percent Changes in Lake St. Martin Levels 6.185
Table 6.4-17 Summary of Average Decrease in Lake St. Martin Peak Water Levels with the Project 6.186
Table 6.4-18 Changes in Dauphin River Flows 6.187
Table 6.4-19 Summary of Expected Changes in Drainage Area in the Birch Creek and Watchorn Creek Drainage Basins 6.197
Table 6.4-20 Summary of Project Residual Effects on Groundwater 6.212
Table 6.4-21 Summary of Project Residual Effects on Surface Water 6.214

VOLUME 3: BIO-PHYSICAL EFFECTS ASSESSMENT

Table 7.2-1 Issues of Concern Identified in Traditional Knowledge 7.9
Table 7.2-2 Potential Effects, Effect Pathways and Measurable Parameters for Fish and Fish Habitat Valued Component 7.12
Table 7.2-3 Characterization of Residual Effects on Fish and Fish Habitat 7.15
Table 7.2-4 Distribution of Fish Species in the RAA 7.24
Table 7.2-5 Potential Project Interactions with Fish and Fish Habitat During Construction and Operations 7.48
Table 7.2-6 Measures to Avoid or Mitigate Potential Permanent Alteration or Destruction of Fish Habitat 7.59
Table 7.2-7 Measures to Avoid or Mitigate Potential Change in Fish Passage 7.70
Table 7.2-8 Measures to Avoid or Mitigate Potential Change in Fish Health and Mortality 7.77
Table 7.2-9 Summary of Project Residual Effects on Fish and Fish Habitat 7.82
Table 8.2-1 Potential Effects, Effect Pathways and Measurable Parameters for Vegetation 8.8
Table 8.2-2 Characterization of Residual Effects on Vegetation 8.10
Table 8.2-3 Native Vegetation Patch Metrics for the RAA 8.18
Table 8.2-4 Land Cover Classes in the PDA, LAA, and RAA based on the Desktop Mapping and LCC Data 8.20
Table 8.2-5 Land Cover Classes in the PDA, LAA, and RAA based on the LCC Data 8.22
Table 8.2-6 Average Age in Years of Forested Cover Classes in the PDA, LAA, and RAA 8.23
Table 8.2-7 Plant SOCC within the PDA, LAA and RAA 8.28
Table 8.2-8 Non-Native Invasive Species within the PDA, LAA, and RAA 8.29
Table 8.2-9 Project-Environment Interactions with Vegetation During Construction and Operations 8.33
Table 8.2-10 Change in Native Upland Vegetation Cover Classes in the LAA 8.43
Table 8.2-11 Change in Area of Forest Age Classes 8.47
Table 8.2-12 Area of Native Upland Vegetation Communities Affected by the 2011 Flood and Change with the Project 8.48

Table 8.2-13 Change in Wetland Abundance in the RAA following Project Construction 8.59
Table 8.2-14 Summary of Project Residual Effects on Vegetation 8.62
Table 8.3-1 Potential Effects, Effect Pathways and Measurable Parameters for Wildlife 8.72
Table 8.3-2 Characterization of Residual Effects on Wildlife 8.74
Table 8.3-3 Furbearers with Potential to Occur in RAA[1] 8.83
Table 8.3-4 Project-Environment Interactions with Wildlife During Construction and Operation 8.96
Table 8.3-5 Summary of Project Residual Effects on Wildlife 8.121

VOLUME 4: SOCIO-ECONOMIC EFFECTS ASSESSMENT

Table 9.2-1 Potential Effects, Effect Pathways and Measurable Parameters for Land and Resource Use 9.13
Table-9.2-2 Characterization of Residual Effects on Land and Resource Use 9.17
Table 9.2-3 Desktop Data Sources 9.19
Table 9.2-4 GIS Analysis 9.22
Table 9.2-5 Occupied Private Dwellings in the RMs of Grahamdale and West Interlake, 2006 to 2016 ..... 9.25
Table 9.2-6 Agricultural Capability Classification 9.30
Table 9.2-7 Agricultural Capability in the RAA 9.31
Table 9.2-8 Agricultural Capability in the LMOC and Lake St. Martin Shoreline Portions of the LAA 9.33
Table 9.2-9 Agricultural Operation Type in 2016 in the RAA 9.35
Table 9.2-10 Farm Areas by Crop Type in 2016 in the RAA 9.36
Table 9.2-11 Livestock Operation Types in 2016 in the RAA 9.36
Table 9.2-12 Crop Type Distribution in the LMOC and Lake St. Martin Portions of the LAA 9.39
Table 9.2-13 Game Hunting Licences and Seasons in RAA GHAs 9.42
Table 9.2-14 Groundwater Well Use in the LAA and RAA 9.50
Table 9.2-15 Project-Environment Interactions with Land and Resource Use During Construction and Operations 9.50
Table 9.2-16 Percent and Total Land Area Occupied by PDA in the LAA and RAA 9.60
Table 9.2-17 Number of Buildings in the PDA and Within 1 km 9.61
Table 9.2-18 Summary of Project Residual Effects on Land and Resource Use 9.109
Table 9.3-1 Potential Effects, Effect Pathways and Measurable Parameters for Infrastructure and Services 9.117
Table 9.3-2 Characterization of Residual Effects on Infrastructure and Services 9.119
Table 9.3-3 Population and Population Change in RMs in the RAA and Manitoba, 2016 and 2011 ..... 9.122
Table 9.3-4 Population Demographics for the RM of Grahamdale 2016 ..... 9.122
Table 9.3-5 Population Demographics for the RM of West Interlake 2016 ..... 9.123
Table 9.3-6 Population of First Nations in the RAA, 2019 ..... 9.123
Table 9.3-7 Incident-Based Crime Statistics for the Gypsumville RCMP Detachment and Manitoba, 2016 and 2017[1] 9.125
Table 9.3-8 Rates of Health Care Utilization in the Interlake-Eastern RHA and Manitoba, 2011/12 and 2017/18 ..... 9.129

Table 9.3-9 Maximum Response Times for Emergency Medical Services in Communities in the RAA, October 1 – December 31, 2018 ..... 9.131
Table 9.3-10 Annual Average Daily Traffic at PTH 6 and Provincial Roads in RAA 9.134
Table 9.3-11 Level of Service Descriptions 9.135
Table 9.3-12 Traffic Collisions on Key Provincial Highways in the RAA, 2013 - 2017[1] 9.135
Table 9.3-13 Project-Environment Interactions with Infrastructure and Services During Construction and Operations and Maintenance 9.137
Table 9.4-1 Potential Effects, Effect Pathways and Measurable Parameters for Economy 9.153
Table 9.4-2 Characterization of Residual Effects on Economy 9.156
Table 9.4-3 2016 Labour Force (15 Years and Older), LAA and Manitoba 9.159
Table 9.4-4 2016 Labour Force by Industry (15 Years and Older), LAA 9.160
Table 9.4-5 2016 Labour Force by Occupation (15 Years and Older), LAA 9.161
Table 9.4-6 2015 Individual Income, LAA 9.162
Table 9.4-7 2016 Educational Attainment (15 Years and Older), LAA 9.163
Table 9.4-8 Selected Resource-based Companies in LAA 9.164
Table 9.4-9 Project-Environment Interactions with Economy During Construction and Operations 9.167
Table 9.4-10 Adjustment Factors, Indirect and Induced 9.171
Table 9.4-11 Estimated Construction Spending in Manitoba and Canada 9.173
Table 9.4-12 Estimated Construction Spending Breakdown 9.173
Table 9.4-13 Gross Domestic Product, Manitoba and Canada 9.174
Table 9.4-14 Estimated Construction Employment, Manitoba and Canada 9.175
Table 9.4-15 Estimated Labour Income, Manitoba and Canada 9.175
Table 9.4-16 Estimated CAPEX of Goods and Services, LAA 9.178
Table 9.4-17 Project Construction Employment Effects, LAA 9.181
Table 9.4-18 Summary of Project Residual Effects on Economy 9.184
Table 9.5-1 Potential Effects, Effect Pathways and Measurable Parameters for Human Health 9.191
Table 9.5-2 Characterization of Residual Effects on Human Health 9.193
Table 9.5-3 Project-Environment Interactions with Human Health During Construction, and Operations and Maintenance 9.199
Table 9.5-4 Summary of Project Residual Effects on Human Health 9.209
Table 9.6-1 Potential Effects, Effect Pathways and Measurable Parameters for Heritage Resources 9.216
Table 9.6-2 Characterization of Residual Effects on Heritage Resources 9.218
Table 9.6-3 Recorded Archaeological and Paleontological Sites in the LAA and RAA 9.221
Table 9.6-4 Historic Features in the PDA and LAA 9.223
Table 9.6-5 Project-Environment Interactions with Heritage Resources During Construction and Operations 9.224
Table 9.6-6 Summary of Project Residual Effects on Heritage Resources 9.230
Table 10.2-1 Summary of Issues Identified Through Engagement 10.7
Table 10.2-2 Potential Effects, Effect Pathways and Measurable Parameters for TLRU 10.10
Table 10.2-3 Characterization of Residual Effects on Traditional Land and Resource Use 10.13
Table 10.2-4 Project-Environment Interactions with TLRU During Construction and Operations and Maintenance 10.46

Table 10.2-5 Summary of Project Residual Effects on TLRU 10.70
Table 10.3-1 Summary of Issues Identified Through Engagement 10.75
Table 10.3-2 VCs and Residual Effects Relevant for Indigenous Health Conditions 10.79
Table 10.3-3 VCs and Residual Effects Relevant for Indigenous Socio-economic Conditions 10.79
Table 10.3-4 Characterization of Residual Effects on Indigenous health and Indigenous Socio-economic Conditions 10.82
Table 10.3-5 Summary of Project Residual Effects on Indigenous health and Socio-economic Conditions 10.103

VOLUME 5: CONCLUSIONS AND OTHER ASSESSMENTS

Table 11.1-1 Other Projects and Physical Activities for Consideration of Cumulative Environmental Effects 11.7
Table 11.2-1 Interactions with the Potential to Contribute to Cumulative Effects on Atmospheric Environment 11.12
Table 11.2-2 Summary of Cumulative Environmental Effects on the Atmospheric Environment 11.16
Table 11.3-1 Interactions with the Potential to Contribute to Cumulative Effects on Geology and Soils 11.18
Table 11.3-2 Summary of Cumulative Environmental Effects on Geology and Soils 11.23
Table 11.4-1 Interactions with the Potential to Contribute to Cumulative Effects on Groundwater 11.24
Table 11.4-2 Summary of Cumulative Environmental Effects on Groundwater 11.26
Table 11.4-3 Interactions with the Potential to Contribute to Cumulative Effects on Surface Water 11.28
Table 11.4-4 Summary of Cumulative Environmental Effects on Surface Water 11.30
Table 11.5-1 Interactions with the Potential to Contribute to Cumulative Effects on Fish and Fish Habitat 11.31
Table 11.5-2 Summary of Cumulative Environmental Effects on Fish and Fish Habitat 11.36
Table 11.6-1 Interactions with the Potential to Contribute to Cumulative Effects on Vegetation 11.38
Table 11.6-2 Change in Land Cover Types in the RAA 11.41
Table 11.6-3 Summary of Cumulative Environmental Effects on Vegetation 11.46
Table 11.7-1 Interactions with the Potential to Contribute to Cumulative Effects on Wildlife 11.49
Table 11.7-2 Summary of Cumulative Environmental Effects on Wildlife 11.53
Table 11.8-1 Interactions with the Potential to Contribute to Cumulative Effects on Land and Resource Use 11.55
Table 11.8-2 Summary of Cumulative Environmental Effects on Land and Resource Use 11.63
Table 11.9-1 Interactions with the Potential to Contribute to Cumulative Effects on Infrastructure and Services 11.66
Table 11.9-2 Summary of Cumulative Environmental Effects on Infrastructure and Services 11.68
Table 11.10-1 Interactions with the Potential to Contribute to Cumulative Effects on Economy 11.70

Table 11.10-2 Summary of Cumulative Environmental Effects on Economy 11.73
Table 11.11-1 Interactions with the Potential to Contribute to Cumulative Effects on Human Health 11.74
Table 11.11-2 Summary of Cumulative Environmental Effects on Human Health 11.77
Table 11.12-1 Interactions with the Potential to Contribute to Cumulative Effects on Traditional Land and Resource Use 11.79
Table 11.12-2 Summary of Cumulative Environmental Effects on Traditional Land and Resource Use 11.85
Table 11.13-1 Summary of Project Residual Effects and Cumulative Effects on Indigenous Health and Socio-economic Conditions 11.88
Table 13.2-1 Summary of Environmental Concerns 13.3
Table 14.1-1 VC Interactions with Accidents and Malfunctions 14.2
Table 14.6-1 Characterization of the Magnitude of Accidents and Malfunctions 14.24
Table 15.7-1 Manitoba Historic Forest Fire Data (2003 to 2013) 15.15
Table 16.2-1 Summary of Environmental Effects 16.3
Table 16.3-1 List of Mitigation Measures and Commitments for the Project 16.45
Table 16.4-1 Summary of Potential Project Effects and Mitigation on Aboriginal and Treaty Rights 16.63

List of Figures

VOLUME 1: PROJECT DESCRIPTION, JUSTIFICATION, ENGAGEMENT AND EA APPROACH

N/A

VOLUME 2: PHYSICAL ENVIRONMENT EFFECTS ASSESSMENT

Figure 6.2-1 WRF Predicted Wind Roses at Four Sites along the LMOC (2012-2016)..... 6.21
Figure 6.2-2 WRF Predicted Wind Roses at Four Sites along the LSMOC (2012-2016) 6.22
Figure 6.2-3 WRF-predicted Monthly Average Temperatures at Four Sites along the LMOC and LSMOC (2012-2016)..... 6.23
Figure 6.2-4 Distribution of Artificial Light Surrounding the LMOC and LSMOC PDAs 6.32
Figure 6.4-1 Schematic of Typical Cross-Section Showing Possible Dewatering Effects During Construction on Wells..... 6.159
Figure 6.4-2 Schematic of Typical Cross-Section Showing Potential Effects on Wetlands 6.164
Figure 6.4-3 Lake Manitoba Duration Curve Showing Lake Levels with and without the Project 6.180
Figure 6.4-4 Fairford River Median Flows (50%) with and without the Project..... 6.183
Figure 6.4-5 Fairford River High Flows (5% of flows greater than) with and without the Project 6.184
Figure 6.4-6 Lake St. Martin Duration Curve Showing Lake Levels with and without the Project 6.185
Figure 6.4-7 Dauphin River Median Flows (50%) with and without the Project..... 6.188
Figure 6.4-8 Dauphin River High Flows (5% of flows greater than) With and Without the Project 6.189

VOLUME 3: BIO-PHYSICAL EFFECTS ASSESSMENT

Figure 8.2-1 Changes in Area of Forest Age Classes 8.46

VOLUME 4: SOCIO-ECONOMIC EFFECTS ASSESSMENT

Figure 9.2-1 Number of Farms by Farm Area in 2016 in the RAA..... 9.35
Figure 9.4-1 LMOC and LSMOC Average Annual Workforce 9.180
Figure 10.3-1 Valued Components Related to Indigenous Health and Indigenous Socio-economic Conditions 10.78

VOLUME 5: CONCLUSIONS AND OTHER ASSESSMENTS

Figure 11.1-1 Future Projects and Physical Activities..... 11.6

List of Appendices

VOLUME 1: PROJECT DESCRIPTION, JUSTIFICATION, ENGAGEMENT AND EA APPROACH

APPENDIX 1A RELEVANT FEDERAL AND PROVINCIAL LEGISLATION 1A.1

APPENDIX 1B FIGURES 1B.1

APPENDIX 1C STANDARDS AND GUIDELINES USED IN THE ASSESSMENT OF VALUED COMPONENTS 1C.1

1C.1 Water 1C.1
1C.2 Aquatics 1C.1
1C.3 Terrestrial 1C.2
1C.4 Indigenous People and Human Environment 1C.3

APPENDIX 2A FIGURES 2A.1

APPENDIX 3A TABLES 3A.1

APPENDIX 3B FIGURES 3B.1

APPENDIX 3C PHOTOS AND LSMOC AND LMOC MAP BOOK 3C.1

APPENDIX 3D OPERATIONAL GUIDELINES 3D.1

APPENDIX 3E MIT NATIVE REVEGETATION PROGRAM, GUIDANCE DOCUMENT 3E.1

APPENDIX 3F PROJECT ENVIRONMENTAL REQUIREMENTS 3F.1

APPENDIX 4A TABLES 4A.1

APPENDIX 4B FIGURES 4B.1

APPENDIX 5A TABLES 5A.1

APPENDIX 5B OPEN HOUSE MATERIALS 5B.1

APPENDIX 5C INDIGENOUS CONSULTATION APPROACH AND CURRENT STATUS REPORT 5C.1

VOLUME 2: PHYSICAL ENVIRONMENT EFFECTS ASSESSMENT

APPENDIX 6A TABLES 6A.1

6A.1 Atmospheric Environment – Air Quality Tables 6A.1
6A.2 Soil And Terrain Technical Information Tables 6A.1

APPENDIX 6B FIGURES 6B.1
6B.1 Atmospheric Environment – Air Quality Figures 6B.1
6B.2 Geology and Soils Figures 6B.1
6B.3 Groundwater and Surface Water Figures 6B.1

APPENDIX 6C GEOLOGY DOCUMENTS 6C.1

APPENDIX 6D EXISTING CONDITIONS FOR SURFACE WATER 6D.1

APPENDIX 6E REGIONAL FLOW AND LAKE LEVEL DATA 6E.1

APPENDIX 6F BATHYMETRY 6F.1

APPENDIX 6G FLOOD EXTENT MAPS 6G.1

APPENDIX 6H BIRCH CREEK AND WATCHORN CREEK DRAINAGE AREA DATA 6H.1

APPENDIX 6I IMPACTS OF LAKE MANITOBA AND LAKE ST. MARTIN OUTLET CHANNELS PROJECT ON DOWNSTREAM WATER LEVELS (MANITOBA HYDRO 2019) 6I.1

APPENDIX 6J DEVELOPMENT OF OPERATING RULES FOR LAKE MANITOBA AND LAKE ST. MARTIN OUTLET CHANNELS WITH RECOMMENDED REVISIONS (MANITOBA INFRASTRUCTURE 2019A) 6J.1

APPENDIX 6K LAKE MANITOBA AND LAKE ST. MARTIN OUTLET CHANNELS IMPACTS ON LAKE MANITOBA AND LAKE ST. MARTIN (MANITOBA INFRASTRUCTURE 2019B) 6K.1

VOLUME 3: BIO-PHYSICAL EFFECTS ASSESSMENT

APPENDIX 7A TABLES 7A.1

APPENDIX 7B FIGURES 7B.1

APPENDIX 7C PHOTOS 7C.1

APPENDIX 8A TABLES 8A.1

APPENDIX 8B FIGURES 8B.1

APPENDIX 8C PHOTOS 8C.1

APPENDIX 8D SUMMARY OF FIELD STUDIES 8D.1

VOLUME 4: SOCIO-ECONOMIC EFFECTS ASSESSMENT

APPENDIX 9A FIGURES 9A.1

APPENDIX 10A TABLES 10A.1

APPENDIX 10B FIGURES 10B.1

VOLUME 5: CONCLUSIONS AND OTHER ASSESSMENTS

N/A

ACRONYMS

%HA	Percent highly annoyed
AADT	annual average daily traffic
AAFC	Agriculture and Agri-food Canada
AEMP	Aquatic Effects Monitoring Plan
AIS	aquatic invasive species
Alluvium	material (usually sand, silt, or gravel) that is deposited by running water
AMCP	Association of Manitoba Community Pastures
ANFO	Ammonium-nitrate-fuel-oil
AO	aesthetic objective
APEI	Canada's Air Pollutant Emission Inventory
AQHI	Air Quality Health Index
ASDT	annual summer daily traffic
ASI	area of special interest
ATV	all-terrain vehicle
CAAQS	Canada Ambient Air Quality Standards
CAC	criteria air contaminant
CAMP	Coordinated Aquatic Monitoring Program
CAPEX	capital expenditure
CBC	Canadian Broadcast Corporation
CCME	Canadian Council of Ministers of the Environment
CEAA	*Canadian Environmental Assessment Act*
CEMP	construction environmental management plan
CFIA	Canadian Food Inspection Agency
CIE	Commission Internationale de L'Éclairage (CIE)
COCC	communities of conservation concern
COSEWIC	Committee on the Status of Endangered Wildlife In Canada
CPUE	catch-per-unit-effort
CRA	Commercial, recreational, or Aboriginal (as in fisheries)
dam^3	cubic decametres
dB	decibel
DFO	Department of Fisheries and Oceans Canada

DO	dissolved oxygen
EAP	Environment Act Proposal
ECCC	Environment and Climate Change Canada
EDDMapS	Early Detection and Distribution Mapping System
EFNs	Entitlement First Nations
EIS	environmental impact statement
EMP	Environmental management plan
EOC	Lake St. Martin Emergency Outlet Channel
EPP	environmental protection plan
FAL	freshwater aquatic life
FDAV	forest damage appraisal and valuation
FLIR	forward looking infra-red
FN	First Nation
FLI	forest land inventory
FMU	forest management unit
FRI	forest resource inventory
FRWCS	Fairford River Water Control Structure
FS	forest section
GBHZ	game bird hunting zone
GDP	gross domestic product
GHA	game hunting area
GHG	greenhouse gas
GIS	geographic information system
GOC	Government of Canada
GSC	Geological Survey of Canada
GUDI	groundwater under the direct influence of surface water
GWDrill	Provincial Well Record Database
GWMP	groundwater management plan
HC-CDWQG	Health Canada – Canadian Drinking Water Quality Guidelines
HVdc	high voltage direct current
IDA	Dark Sky Association
IES	Illuminating Engineering Society (IES)
IISD	International Institute of Sustainable Development
INAC	Indigenous and Northern Affairs Canada

INR	Indigenous and Northern Relations
IOIC	Input-output industry classification
IPEP	Indigenous and public engagement process
IPM	Integrated Pest Management
IRTC	Interlake Reserves Tribal Council
ISO	International Organization for Standardization
KPIs	key person interviews
LAA	local assessment area
LCC	land cover classification
Ld	daytime sound level
Ldn	day-night 24 hour average A-weighted sound level with a 10 decibel penalty added to night-time level
Leq(1)	one-hour continuous equivalent A-weighted sound level
LiDAR	light detection and ranging
LM&LSMRRC	Lake Manitoba and Lake St. Martin Regulation Review
LMOC	Lake Manitoba Outlet Channel
Ln	nighttime sound level
LSMOC	Lake St. Martin Outlet Channel
LUD	local urban district
LWR	Lake Winnipeg Regulation
m asl	metres above sea level
m bgl	metres below ground level
m ags	metres above ground surface
M bgs	meters below ground surface
MAAQC	Manitoba Ambient Air Quality Criteria
MAC	maximum acceptable concentration
MASC	Manitoba Agricultural Services Corporation
MBCDC	Manitoba Conservation Data Centre
MBESEA	*Manitoba Endangered Species and Ecosystems Act*
MBS	Manitoba Bureau of Statistics
MC	Manitoba Conservation
MCWS	Manitoba Conservation and Water Stewardship
MEMD	Manitoba Environmental Management Division
MFA	Manitoba Framework Agreement

MHHC	Manitoba Habitat Heritage Corporation
MMF	Manitoba Metis Federation
MNL	mitigation noise level
MPN	most probable number
MRTA	Manitoba Resources Transfer Agreement [Act]
MMF	Manitoba Metis Federation
MSD	Manitoba Sustainable Development
MWQSOG	Manitoba Water Quality Standards, Objectives, and Guidelines
NAC	Northern Affairs Communities
NAICS	North American Industry Classification System
NAPS	National Air Pollution Surveillance Program
NPA	navigation protection act (RSC 1985, c. N-22)
NPRI	National Pollutant Release Inventory
ON MoE	Ontario Ministry of the Environment
OEMP	operation environmental management plan
OTA	open trapping area
PAI	Protected Areas Initiative
PD	Portage Diversion
PDA	Project development area
PDC	Peguis Development Corporation
PER	Project Environmental Requirements
PLUP	provincial land use policies
PM	particulate matter
PR	provincial road
PSL	permissible sound levels
PTH	provincial trunk highway
PY	person-years
RAA	regional assessment area
RCMP	Royal Canadian Mounted Police
Reg.	regulation
RHA	regional health authority
RM	rural municipality
ROW	right-of-way
RQD	rock quality designation

RTL	registered trapline
SAR	species at risk
SARA	*Species at Risk Act*
SCIPIOM	Statistics Canada Interprovincial Input-Output Model
SERDC	South East Resource Development Corporation
SOCC	species of conservation concern
SPT	standard penetration tests
STARS	Shock Trauma Rescue Society
TAC	Technical Advisory Committee
TAG	Technical Advisory Group
TC	Transport Canada
TDS	total dissolved solids
TEA	Treaty Entitlement Agreement
TK	traditional knowledge
TLE	Treaty Land Entitlement
TLRU	traditional land and resource use
TN	total nitrogen
TP	total phosphorus
TSA	timber supply area
TSP	total suspended particulate
TSS	total suspended solids
TUS	Traditional Use Study
UNFCCC	United Nations Framework Convention on Climate Change
U.S. EPA	United States Environmental Protection Agency
USgpd/ft	US gallons per day per foot
VC	Valued Component
VOC	volatile organic compounds
WCS	water control structure
WIPD	Western Interlake Planning District
WMA	wildlife management area
WNO	Wabanong Nakaygum Okimawin
WRF	weather research and forecasting
WRI	World Resource Institute
ZOC	zone of contribution

GLOSSARY TERMS

Accretion	The process of growth or increase, typically by the gradual accumulation of additional layers or matter.
Acute toxicity	Acute toxicity describes the adverse effects of a substance that results either from a single exposure or from multiple exposures in a short period of time (usually less than 24 hours).
Aggradation	Aggradation (or alluviation) is the term used in geology for the increase in land elevation, typically in a river system, due to the deposition of sediment. Aggradation occurs in areas in which the supply of sediment is greater than the amount of material that the system is able to transport.
Alkalinity (alkaline = basic)	A pH value of greater than 7.0 (pH is a way to measure the acidity or alkalinity of a solution).
Allelic	Variants of a gene that have the same relative position on a chromosome and are responsible for alternative characteristics.
Allelic frequency	Allele frequency, or gene frequency, is the relative frequency of an allele (variant of a gene) at a particular locus in a population, expressed as a fraction or percentage; it is the fraction of all chromosomes in the population that carry that allele.
Allochthonous	In limnology, allochthonous sources of carbon or nutrients come from outside the aquatic system (such as plant and soil material). In streams and small lakes, allochthonous sources of carbon are dominant, while in large lakes and the ocean, autochthonous sources are dominant.
Alluvial	Refer to depositional environment stream
Alluvium	Material (usually sand, silt, or gravel) that is deposited by running water.
Alvar	Sparse plant community growing on limestone or dolomite bedrock with 10 cm or less soil cover.
Anoxic	Depletion of oxygen to a level that cannot sustain aerobic life forms.
Aphanitic	Adjective applied to certain igneous rocks that are so fine-grained that their component mineral crystals are not detectable by the unaided eye.
Aquatic biota	Organisms temporarily or permanently living or found in water.
Aquatic ecosystem	All living organisms in an area of a lake, river, wetland or other waters and the non-living components of the environment upon which

	they depend, as well as all their interactions, both among living and non-living components.
Aquatic food chain	Sequence of aquatic biota in which each uses the next lower member of the sequence as a food source and is eaten by the one above.
Aquatic food web	A pattern of interconnecting food chains.
Aquatic vegetation	Submerged, floating-leaved and floating plants that only grow on or beneath the water surface. Submerged plants may be rooted in soils or free-floating (Cronk and Fennessy 2001).
Aquiclude	A saturated but low-permeability geologic material that does not yield water freely to a well or spring. See Aquitard.
Aquifer	A body of rock or sediment that is sufficiently porous and permeable to store, transmit, and yield significant or economic quantities of groundwater to wells and springs.
Aquitard	A confining bed and/or formation composed of rock or sediment that retards but does not prevent the flow of water to or from an adjacent aquifer. It does not readily yield water to wells or springs, but stores groundwater.
Artesian	A well bored perpendicularly into water-bearing strata lying at an angle, so that natural pressure produces a constant supply of water with little or no pumping.
Artesian aquifer (pressure, well)	A body of rock or sediment containing groundwater that is under greater than hydrostatic pressure: that is a confined aquifer. When an artesian aquifer is penetrated by a well, the water level will rise above the top of the aquifer; a flowing artesian well is when the water level will rise above ground surface.
Attraction flume	A narrow channel made for carrying water to create (fast) current conditions attractive for migratory fish; may be used to attract fish to a fishway entrance.
Autochthonous	In limnology, carbon sources from within the system such as algae and the microbial breakdown of aquatic particulate organic carbon, are autochthonous. In streams and small lakes, allochthonous sources of carbon are dominant, while in large lakes and the ocean, autochthonous sources are dominant.
Baffles	A set of devices used to restrain the flow of water; commonly used in fishways.
Bait fish	Small fish caught for use as bait to attract large predatory fish, particularly game fish.

Baseflow	The portion of the streamflow that is sustained between precipitation events, fed to streams by delayed pathways.
Baseline	Initial environmental conditions, prior to construction or anthropogenic actions.
Bathymetry	The area and water depth of a lake or river (usually depicted as contour lines).
Bed load	The part of the sediment in a water body that moves by rolling or sliding along the bottom.
Bedrock	The solid rock that lies beneath the soil and other loose material on the Earth's surface.
Benthic invertebrates	Animals lacking a backbone that mostly live on or in the bottom sediments of a waterbody (e.g., aquatic earthworms, clams, insect larvae, crayfish).
Bioaccumulation	The accumulation of a substance (e.g., methylmercury) in an organism, or part of an organism; bioaccumulation occurs when a substance is absorbed by an organism at a greater rate than it is lost.
Biodegradable	A substance or object capable of being decomposed by bacteria or other living organisms.
Biostromal	A biostrome is a bedded, blanketlike sedimentary deposit of organic origin built by marine organisms and including shell beds, flat reefs, and corals.
Brachiopod	Marine invertebrate fossil that comprises lamp shells.
Brackish	A mixture of fresh and sea water.
Calcarenitic	Refers to calcarenite. A calcarenite is a type of limestone that is composed predominantly of detrital sand-size (0.0625 to 2 mm in diameter) carbonate grains.
Carbonate aquifer	See Aquifer; see Carbonates Refers to an aquifer comprised of a carbonate bedrock.
Carbonates	A rock made up primarily of carbonate minerals (minerals containing the CO3 anionic structure). Examples: limestone, dolostone, and marble (metamorphosed limestone or dolomite) are the most commonly encountered carbonate rocks.
Casual Quarry Permit	An annual permit issued for the production of a specified quantity of Crown quarry mineral (Quarry Minerals Regulation 1992).
Catostomid	A fish belonging to the family Catostomidae.

Chlorophyll a	A group of green pigments present in plants cells that are essential in the trapping of light energy during photosynthesis.
Cephalopod	Marine animals characterized by bilateral body symmetry, a prominent head, and a set of arms or tentacles (e.g., squid, octopus, nautilus).
Chronic toxicity	The development of adverse effects as the result of long-term exposure to a toxicant or other stressor; it can manifest as direct lethality but more commonly refers to sublethal endpoints such as decreased growth, reduced reproduction, or behavioral changes such as impacted swimming performance.
Clear span	An architectural term to describe the distance between the two inside surfaces of the span supports; the distance that is unsupported.
Cofferdam	An enclosure, usually only partially obstructing a river, from which water is pumped to expose the bottom to permit construction.
Commercial forest zone	The geographic area, defined by the Forestry and Peatland Management Branch, that is capable of producing trees large enough for commercial harvesting (also referred to as the Productive Forest Zone).
Conductivity	A measure of the ability of a solution to conduct electrical flow; units are microSiemens per centimetre.
Confined aquifer	An aquifer that is bounded above and below by formations of distinctly lower permeability than that of the aquifer itself. An aquifer containing confined ground water. See artesian well (artesian aquifer).
Confluence	The meeting (flowing together) of two streams.
Coregonine	A fish belonging to the subfamily Coregoninae of the family Salmonidae.
Crinoid	Part of the Phyllum Echinodermata. It is an echinoderm usually having a somewhat cup-shaped body with five or more feathery arms (e.g., sea lily).
Critical habitat	The resources and environmental conditions required for persistence of local populations of listed wildlife species throughout their current distribution in Canada.
Cyprinid	A fish belonging to the family Cyprinidae.

Degradation	Degradation refers to the lowering of a fluvial surface, such as a stream bed or floodplain, through erosional processes. Degradation is the opposite of aggradation.
Deleterious substance	a substance which, if administered, would likely cause bodily injury. In terms of the *Fisheries Act*: "Any substance that, if added to any water, would degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water, or (b) any water that contains a substance in such quantity or concentration, or that has been so treated processed or changed, by heat or other means, from a natural state that it would, if added to any other water, degrade or alter or form part of a process of degradation or alteration of the quality of that water so that it is rendered or is likely to be rendered deleterious to fish or fish habitat or to the use by man of fish that frequent that water"
Denil fishway	A type of upstream passage facility used to assist migrating fish past a dam or obstruction; consists of a rectangular chute with closely spaced baffles or vanes located along the sides and bottom.
Depressurization (active/passive)	Action of decreasing hydrostatic pressure. Active depressurization involves the use of pumps. Passive depressurization does not involve the use of pump, but rather uses a relation between hydrostatic pressure elevation and topographic elevation.
Detritus	Particulate organic matter that is produced by the decomposition of plant and animal matter.
Dewatering	Removal or draining groundwater or surface water from a riverbed, construction site, caisson, or mine shaft, by pumping or evaporation
Discharge	Rate of outflow; volume of water flowing down a river, from a lake outlet, or man-made structure.
Diamicton	Terrigenous sediment (a sediment resulting from dry-land erosion) that is unsorted to poorly sorted and contains particles ranging in size from clay to boulders, suspended in a matrix of mud or sand.
Dissolved oxygen	Oxygen molecules (O_2) dissolved in water.
Dolomite	A sedimentary rock composed mostly of dolomite ($CaMg(CO_3)_2$) which often forms from limestone as the calcium is partly replaced by magnesium, usually as water solutions move through the limestone.

Dolomite	Carbonate mineral composed of calcium magnesium carbonate. The term is also used for a sedimentary carbonate rock composed mostly of the mineral dolomite.
Domestic/private/residential well	A water well used to supply water for the domestic needs of an individual residence or systems of four or fewer service connections.
Drfit net	Net designed to capture larval fish, invertebrates, or suspended plankton that move with the current of a stream.
Druzy	Refers to a coating of fine crystals on a rock fracture surface, vein or within a vug or geode.
Egg mat	Mat of specific material(s) designed to passively collect/retain fish eggs deposited within the area of deployment; usually placed into streams.
Egress	The act of going out of or leaving a place.
Electrofishing	A sampling technique whereby an electric current is sent through the water causing any fish (and amphibians and some invertebrates) caught in the resulting field to be momentarily immobilized, thereby moving toward the system's anode; backpack and boat mounted systems are most common.
Embayment	A recess in a coastline or an indentation of a shoreline that forms a bay.
Emergent vegetation	Plants rooted in shallow water and having most of their vegetative growth above water.
Entrainment	Fish (larval or adult) that are carried on a current and cannot escape; at weirs or hydroelectric dams often refers to entrainment over or through the man-made structure (e.g., powerhouse flow).
Eutrophication	Nutrient (and mineral) enrichment of a waterbody which often induces heavy growth of algae; occurs also naturally during the ageing of most lake ecosystems.
Eutrophic	A water rich in nutrients (phosphates, nitrates) that promote a proliferation of plant life, especially algae.
Exogenous	Growing or originating from outside an organism.
Extirpation	The complete removal of certain organisms/a population/a species from an area.
Fish community	All fish species living in a particular area.
Fish population	A group of inter-breeding individuals of the same species that occupy a particular area or space.

Fish productivity	Rate of formation of organic matter over a defined period; this can include fish growth and the production of offspring.
Fording	Crossing (of a stream) at a shallow place.
Flowing well	A well that has a static water level above the gradient ground surface (where water pressure in an aquifer causes water level to rise above the ground surface).
Game bird hunting zone	Designated areas in Manitoba in which game bird hunting is regulated by species, means, seasons.
Game hunting area	Designated areas in Manitoba in which game hunting is regulated by species, license type, means, seasons.
Gasterosteids	A fish belonging to the family Gasterosteidae.
Glaciofluvial	Descriptive of material moved by glaciers and subsequently sorted and deposited by streams flowing from the melting ice. The deposits are stratified and may occur in the form of outwash plains, deltas, kame eskers and kame terraces.
Glaciolacustrine	Pertaining to, derived from, or deposited in glacial lakes; especially said of the deposits and landforms composed of suspended material brought by meltwater streams flowing into lakes bordering the glacier, such as deltas, kame deltas, and varved sediments.
Gneiss	A coarse-grained, foliated rock produced by regional metamorphism. The mineral grains within gneiss are elongated due to pressure, and the rock has a compositional banding due to chemical activity.
Groin	A rigid structure built at an angle, usually perpendicular, to the shore which promotes sediment deposition to prevent erosion of shorelines in lakes or reservoirs.
Groundwater	Water that occurs beneath the land surface and fills the pore spaces of soil or rock below saturated zone.
Groundwater quality	Refers to the chemical composition of groundwater and its suitability for various uses and also varies widely depending upon the local geologic setting, hydrogeological conditions, and past/current land use practices that may contribute anthropogenic effects.
Groundwater quantity	Refers to the availability of groundwater at a given rate for production and use, and it varies widely depending upon the local geologic setting, hydrogeological conditions and past/current groundwater use.

Groundwater recharge	The natural or intentional infiltration of surface water into the zone of saturation. Groundwater recharge occurs either naturally as the net gain from precipitation, or artificially as the result of human influence.
GUDI	Groundwater Under the Direct Influence of surface water. This posing a risk to groundwater used as drinking water could be contaminated by pathogens in surface water.
Gypsum	Soft sulphate mineral composed of hydrated calcium sulphate. Gypsum is widely mined and is used as a fertilizer and as the main constituent in many forms of plaster, blackboard/sidewalk chalk, and drywall.
Headwater	The section of a river or stream with the highest elevation above sea level.
High value forest sites	Consists of enhanced silviculture sites, research and monitoring sites, plantations, regeneration sites, private woodlots, and personal permit areas.
Hoopnetting	Using a sampling device consisting of a cylindrical net opened with a series of hoops which is used to monitor the directional movement of fish in rivers and streams.
Hydraulic conditions	1) of or relating to liquid in motion; and, 2) of or relating to the pressure created by forcing a liquid through a relatively small orifice, pipe, or other small channel.
Hydraulic Conductivity	Symbolically represented as *K*, is a property of vascular plants, soils and rocks, that describes the ease with which a fluid (usually water) can move through pore spaces or fractures. It depends on the intrinsic permeability of the material, the degree of saturation, and on the density and viscosity of the fluid.
Hydraulic jump	The sudden rise in the water (or any liquid) surface when water discharges at high velocity into a zone of lower velocity; the rapidly flowing water is abruptly slowed and increases in height, converting some of the flow's initial kinetic energy into an increase in potential energy; a hydraulic jump is frequently observed in open channel flow such as rivers and spillways.
Hydrocarbon	A group of chemicals made up of carbon, hydrogen, and oxygen, including gasoline and oil.
Hydrogeology	The study of the interrelationships of geologic materials and processes with water, especially groundwater.
Hydrostratigraphic unit	See Stratigraphy

	Refers to horizons with specific hydrogeologic characteristics
Instream flow	Instream flows are waters that are retained in the river, rather than diverted, (often) for the protection of fish and fish habitat.
Instream vegetation	Aquatic vegetation growing within the main river channel (compare to riparian vegetation).
Intermittent	Not happening regularly or continuously; stopping and starting repeatedly or with periods in between.
Invasive plant species	Plants that are growing outside the country or region of origin and outcompeting or replacing native plant species.
Invert (channel-)	The stream bed or floor within a structure or channel.
Jetty	A landing stage or small pier at which boats can dock or be moored.
Karst (epi-; paleo-)	A landscape that is characterized by the features of solution weathering and erosion in the subsurface. These features include caves, sinkholes, disappearing streams and subsurface drainage. Epi- means upper part Paleo- means ancient
Kettled	Terrain consisting of bowl-shaped depressions formed as a result of detached pieces of ice from a receding glacier melting and leaving a hole where the ice lay.
Lacustrine	Of, or pertaining to lakes; used in reference to soils deposited as sediments in a lake.
Large-bodied fish (working definition; exceptions exist)	Fish species which reach an adult body size larger than that of ‘minnows’ (approximately >20 0 mm fork length).
Life history	A history of the changes through which an organism passes in its development from the primary stage to its natural death.
Lithology	See Stratigraphy Study of the general physical characteristics of rocks; usually include colour, texture, grain size and composition.
Lower trophic community	Animal and plant community or communities at the base to mid-range of the food chain; term often used to distinguish from the fish community.
Meso-trophic	The state of a waterbody with a moderate level of nutrients.
Mesotrophic	A body of water (or other ecosystems) having a moderate amount of dissolved nutrients.

Methylmercury	An organic form of mercury that bioaccumulates and that is a known neurotoxicant for vertebrates, including humans; the developing brain is the most sensitive receptor.
Micritic	Refers to micrite. Micrite is a limestone constituent formed of calcareous particles ranging in diameter up to 4

Periphyton	Small organisms that live attached to submerged structures, including plants.
Phylla	Plural of Phyllum, which is a level of classification or taxonomic rank. Examples of the most common Phylla are: Porifera: sponges Coelenterata: jellyfish, corals, anemones Mollusca: snails, mussels, octopus Annelida: worms Arthropoda: insects, spiders, crustaceans Echinodermata: urchins, star fish Chordata: vertebrates
Piezometric head/ Potentiometric head	A measurement at a discrete location expressing the potentiometric surface which is an imaginary surface representing the total head of groundwater in an aquifer that is defined by the level to which water will rise in a well.
Piscivorous	Fish-eating; organisms that eat fish.
Plankton	Small, floating or weakly swimming aquatic plants (phytoplankton) and animals (zooplankton).
Planktivorous	Organisms that feed on plankton.
Plume	A column of one fluid moving through another (e.g., effluent in a stream or lake, freshwater entering an estuary).
Polycyclic aromatic hydrocarbon	Hydrocarbons formed during the incomplete burning of fossil fuels. Insoluble in water. Exposure to some PAHs can cause irritation of the eyes and breathing passages and has been linked to cancer.
Pool	A deep, slow-moving area of a stream; an artificially confined body of water above a dam or weir.
Porosity (vuggy)	Porosity is a measure of the void (i.e., "empty") spaces in a material. It also refers to the voids itself. A vuggy porosity is secondary porosity generated by dissolution of large features in carbonate rocks leaving large holes, vugs, or even caves.
Precambrian	Of or relating to the earliest era of geological time from the formation of the earth to the first forms of life; ended with the Cambrian period ~540 million years ago.
Precambrian bedrock	Extremely stable bedrock composed of ancient crystalline rocks whose complex structure attests to a long history of uplift and

	depression, mountain building and erosion. This bedrock was formed in the Precambrian ear, which began with the consolidation of the earth's crust and ended approximately 4 billion years ago.
Primary productivity	The production of organic compounds from atmospheric or aquatic carbon dioxide, principally through the process of photosynthesis by plants, with chemosynthesis being much less important.
Private quarry permit	Refers to a permit for private aggregate or quarry operations in Manitoba.
Productive forestland	Consists of all forest land capable of producing merchantable wood regardless of its existing stage of productivity, including commercial forest area and timber sale areas.
Protected area	Prohibits through legal means logging, mining (including aggregate extraction), and oil, petroleum, natural gas or hydro-electric development.
Quarry	An open excavation or pit from which stone, gravel or sand is obtained by digging, cutting or blasting.
Quarry lease	Refers to a 10-year lease granted by the Crown with the exclusive rights to excavate quarry minerals (e.g. sand, gravel, clay, shale, gypsum, peat, salt, rock or stone).
Ramping rates	Term used in power generation to express how quickly a power plant's power output is changing, either ramping up (increasing) or ramping down (decreasing); is expressed in units of power over time (e.g., MW per minute).
Recharge	Water added to an aquifer or the process of adding water to an aquifer.
Riffle	A shallow area where the water flows swiftly over partially or completely submerged materials to produce surface agitation; generally of lower slope and velocity than rapid.
Riparian vegetation	Vegetation growing along the banks of rivers and streams, at the interface between water and land.
Rip-rap	A lightweight stone covering used to protect soil or surface bedrock from erosion by water or the elements.
Riverine	Of, pertaining to, or inhabiting rivers.
Runoff	The flow of flood waters out of a drainage basin.
S1	Subnational rank 1 for rare species: very rare throughout its range or in the province (five or fewer occurrences, or very few remaining individuals); may be especially vulnerable to extirpation.

S2	Subnational rank 2 for rare species: rare throughout its range or in the province (six to twenty occurrences); may be vulnerable to extirpation.
S3	Subnational rank 3 for rare plant species; uncommon throughout its range or in the province (21 to 100 occurrences).
S4	Subnational rank 4 for rare plant species; widespread, abundant and apparently secure throughout its range or in the province; with many occurrences, but the element is of long-term concern (>100 occurrences).
S5	Subnational rank 5 for rare plant species; demonstrably widespread, abundant and secure throughout its range or in the province, and essentially impossible to eradicate under present conditions.
Salinity	A measurement of the sale concentration in a solution.
Sanitary survey	To verify the physical condition of the drinking water system as applicable, including water intake (source), well, well head, pump, treatment system (including chemical feed equipment, if present), plumbing, and surrounding area.
Shale	A clastic sedimentary rock that is made up of clay-size weathering debris. It typically breaks into thin flat pieces.
Shoreline morphology	The outward appearance (shape, structure, color, pattern, size) of the narrow strip of land in immediate contact with the sea, lake or river.
Silt curtain	Curtain designed to that prevents silt (mineral particles smaller than a very fine grain of sand and larger than coarse clay; usually having a diameter of 0.002 to 0.06 mm) to infiltrate and clog sediments of larger particle size.
Silviculture	The growing and cultivation of trees.
Sinkhole	A localized depression in the land surface that results from the collapse or slow settlement of underground voids produced by solution weathering. The rock being dissolved is normally limestone but can also be salt, gypsum or dolostone.
Small-bodied fish (working definition; exceptions exist)	Fish species which do not reach an adult body size larger than that of ‘minnows’ (approximately >20 0 mm fork length).
Species of conservation concern	Species that are either federally or provincially tracked by SARA, COSEWIC, or the MBCDC and are considered rare or at risk of extinction.

Storativity	The volume of water released from storage per unit decline in hydraulic head in the aquifer, per unit area of the aquifer.
Stratigraphy	The science of rocks: it is concerned with the original succession and age relations of rock strata and their form, distribution, lithologic composition, fossil content, geophysical and geochemical properties-all characters and attributes of rocks as strata-and their interpretation in terms of environment and mode of origin and geologic history. Generic term referring to the sequential stacking of sediments / rocks in a region.
Stromatoporoid Stromatoporiodal Stromatolitic	Terms referring to stromatolites. A Stromatolite is a mound-shaped fossil that forms from the repetitious layering of algal mat covered by trapped sediment particles.
Subsidence	A lowering of the land surface in response to subsurface weathering, collapse or slow settlement of underground mines, or the production of subsurface fluids such as groundwater or oil.
Suspended sediment	Particulate matter that is held in the water column due to movement of the water.
Taxa	A rank in the (taxonomic) hierarchical system of classification of organisms (e.g., order, family, genus, species; taxa are assigned based on shared characteristics or relationships inferred from the fossil record or established by genetic analysis.
Thalweg	The deepest part of the channel of a river or stream.
Thermal stratification	The division of a waterbody into distinguishable layers of different densities related to temperature.
Till	An unstratified, unconsolidated mass of boulders, pebbles, sand and mud deposited by the movement or melting of a glacier.
Transmissivity	The rate of flow under a unit hydraulic gradient through a unit width of aquifer of thickness.
Trilobite	Extinct marine arthropod with a characteristic exoskeleton. The trilobite is the ancestor of the contemporary horseshoe crab.
Tributary	A river or stream flowing into a lake or a larger river or stream.
Trophic	Pertaining to food and nourishment and levels or positions within the food web.

Turbate	Turbate structures form where large clasts are able to rotate through angles of up to, or greater than 360°, entraining the adjacent finer grained matrix.
Turbidity	A measure of the relative clarity of water.
Turbulent	Disturbed or agitated flow.
Unconfined aquifer	An aquifer which is not bounded on top by an aquitard. The upper surface of an unconfined aquifer is the water table.
Upwelling	A phenomenon that occurs when deep water rises to the surface in a water body.
Viligers	The larval form of an aquatic snail or bivalve (mussel).
Vulnerability assessment	Study of the intrinsic characteristics which determine the sensitivity of various parts of an aquifer to being adversely affected by an imposed contaminant load.
Water table	The upper surface of the zone of saturation in an unconfined aquifer.
Wetland	Land that is saturated with water long enough to promote wetland or aquatic processes as indicated by the formation of water altered soils, growth of water tolerant vegetation, and various kinds of biological activity that are adapted to wet environments (National Wetlands Working Group 1988).
Wetted width	The width of a stream fully covered by water.
Winterkill	A common type of fish kill that occurs when fish suffocate due to lack of oxygen during winter; winterkill typically occurs during long, cold winters when snow and thick ice prevent light necessary for photosynthesis and dissolved oxygen levels decline past tolerable limits.
Zone of contribution	The area surrounding a pumping well that encompasses all areas or features that supply ground-water recharge to the well.
Zooplankton	Floating or weakly swimming animals that live in the water column.

Manitoba

LAKE MANITOBA AND LAKE ST. MARTIN OUTLET CHANNELS PROJECT
Environmental Impact Statement

CONCORDANCE TABLES

March 2020

Concordance Table
March 2020

Table of Contents

LIST OF TABLES

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement 2
Table 2 Manitoba Infrastructure Environmental Assessment Scoping Document 48
Table 3 Manitoba Sustainable Development Portion of Environmental Impact Statement Guidelines 60

CONCORDANCE TABLES

This section outlines the concordance between the Environmental Impact Statement and the Guidelines from the Canadian Environmental Assessment Agency (dated May 15, 2018; Table 1), the Manitoba Infrastructure Environmental Assessment Scoping Document (dated March 2018; Table 2), and the Manitoba Sustainable Development Environmental Impact Statement Guidelines (dated March 7, 2019; Table 3).

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
Part 1 – Key Considerations			
2.2	Public Participation	The proponent is required to provide current information about the project to the public and other stakeholders including the communities likely to be most affected by the project.	2.3.2.1, 3.4.2.4, 3.4.2.5, 3.5.1, 4.2, Table 4.4-1, 5.2, Table 5.2-1, 5.2.4, 5.2.5.
2.3	Engagement with Indigenous Groups	The proponent is expected to engage with potentially affected Indigenous groups starting as early as possible in the planning process to: fulfill the statutory obligations of CEAA 2012 and to assist the agency fulfilling the Crown's constitutional obligations to consult with potentially impacted Indigenous groups on potential impacts to potential or established Aboriginal and Treaty rights. The proponent is expected to work with potentially affected Indigenous groups to establish an engagement approach and make reasonable efforts to integrate Indigenous knowledge into the assessment of environmental effects. The EIS will document these efforts and the validation process with affected Indigenous groups regarding reasonable efforts to integrate Indigenous knowledge.	Appendix 5A, Appendix 5C, 5.3.1.2, 5.3.4.2, 5.3.4.3, 10.4.2, 10.4.3, 10.4.5. Table 10.2-1, Table 10.3-1.
3.2.3	Spatial and temporal boundaries	For valued components (VCs), describe how community knowledge and Indigenous knowledge, current or traditional land and resource use by Indigenous groups, and social and cultural considerations were taken into consideration when defining the spatial and temporal boundaries.	4.4.3, 6.2.1.2, 6.3.1.2, 6.4.1.2, 7.2.1.3, 8.2.1.2, 8.3.1.2,9.2.1.2, 9.3.1.2, 9.4.1.2, 9.5.1.2, 9.6.1.2, 10.2.1.2, 10.3.1.2, 10.4.1.2 6.2.1.4, 6.3.1.4, 6.4.1.4, 7.2.1.5, 8.2.1.4, 8.3.1.4, 9.2.1.4, 9.3.1.4, 9.4.1.4, 9.5.1.4, 9.6.1.4, 10.2.1.4, 10.3.1.4

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
4.2.2	Community knowledge and Indigenous knowledge	The proponent will incorporate into the EIS the community knowledge and Indigenous knowledge to which it has access or that is acquired through public participation and engagement with Indigenous groups, in keeping with appropriate ethical standards and obligations of confidentiality. The proponent will integrate Indigenous knowledge into all aspects of its assessment including both methodology (e.g. establishing spatial and temporal boundaries, defining significance criteria) and analysis (e.g. baseline characterization, effects prediction, development of mitigation measures) and will clearly describe this integration.	Appendix 5C, Table 10.2-1, 10.2.2.4
4.3	Study Strategy and Methodology	The proponent will provide Indigenous groups the opportunity to review and provide comments on the information used for describing and assessing effects on Aboriginal peoples	Appendix 5C, 5.3.1.2
4.5	Summary of the environmental impact statement	Summary of engagement activities and the integration of information obtained	4.0; 5.0
		the overview of mitigation and accommodation measures associated with potential impacts to Aboriginal or Treaty rights	Appendix 3F; 7.2.8; 8.2.8; 8.3.10; 10.2.4.4; 10.2.4.5; 10.2.4.6; 10.3.3.1; 12.5; 12.6; 12.7
		conclusions on the residual environmental effects after mitigation	Summary sections: 6.1.3, 6.2.2.3, 6.3.2.3, 6.4.2.3, 6.5.4, 6.6.2.3, 6.7.1.6. 6.8.2.3, 6.9.2.3, 6.10.2.3, 6.11.2.3, 6.12.2.3, 6.13.2.3, 6.13.3.3
		project description details such as how surface and ground water will be managed and location of key project components	Summary sections: 2.1, 2.2, 2.4.3
		Provide further information and/or update the concordance table to identify where information regarding environmental management planning and water management planning currently exists in the EIS. The objectives and/or how	2.3.10, 3.5.3

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		the plans would address the noted information requirements must be described.	
Part 2 – Content of the Environmental Impact Statement			
1 Introduction and Overview			
1.1	The Proponent	*In the EIS, the proponent will:*	
		Provide contact information (e.g. name, address, phone, fax, email)	1.2.3
		Identify itself and the name of the legal entity(ies) that would develop, manage and operate the project	1.2.1
		Describe corporate and management structures	1.2.2
		Specify the mechanism used to ensure that corporate policies will be implemented and respected for the project	1.2.2
		Identify key personnel, contractors, and/or sub-contractors responsible for preparing the EIS	1.2.3
1.2	Project Overview	The EIS will describe the project, key project components and associated activities, scheduling details, the timing of each phase of the project and other key features. If the project is part of a larger sequence of projects, the EIS will outline the larger context. The overview is to identify the key components of the project, rather than providing a detailed description, which will follow in CEAA Guidelines Section 3 of this table.	1.3; 3.0
1.3	Project Location	*The EIS will contain a description of the geographical setting in which the project will take place. This description will focus on those aspects of the project and its setting that are important in order to understand the potential environmental effects of the project. The following information will be included:*	
		Universal Transverse Mercator (UTM) projection coordinates of the main project site	1.4

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		Current land use in the area	1.4
		Distance of the project facilities and components to any federal lands	1.4, Summary 2.1
		The environmental significance and value of the geographical setting in which the project will take place and the surrounding area	1.4
		Environmentally sensitive areas, such as national, provincial and regional parks, ecological reserves, wetlands, estuaries, and habitats of federally or provincially listed species at risk and other sensitive areas	1.4, 9.2.2.2, 8.2.2, 8.3.4, Summary Sections 6.5.1.4, 6.6.1.2 and 6.7.1.3
		Description of local communities	1.4
		Traditional territories and/or consultation areas, treaty lands, Indian Reserve lands, Métis harvesting regions (asserted and recognized) and/or seasonal or permanent settlements and communities, and areas of interest in ongoing land claims (e.g. Black Island)	1.4
1.4	Regulatory framework and the role of government	*The EIS will identify:*	
		Any federal power, duty or function that may be exercised that would permit the carrying out (in whole or in part) of the project or associated activities	1.5.1
		Legislation and other regulatory approvals that are applicable to the project at the federal, provincial, regional and municipal levels	1.5.1, 1.5.2, 1.5.3, 1.5.4, Appendix 1A
		Government policies, resource management plans, planning or study initiatives pertinent to the project and/or EA and their implications	1.5.1, 1.5.2, 1.5.3, 1.5.4, 9.2.2, 9.2.2.2
		Any treaty, self-government or other agreements between federal or provincial governments and Indigenous groups that are pertinent to the project and/or EA	1.5.3
		Any relevant land use plans, land zoning, or community plans	1.5.4, 9.2.2.2

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		Regional, provincial and/or national objectives, standards or guidelines that have been used by the proponent to assist in the evaluation of any predicted environmental effects	1.5.1, 1.5.2, 1.5.3, 1.5.4
2 Project Justification and Alternatives Considered			
2.1	Purpose of the project	The EIS will describe the purpose of the project by providing the rationale for the project, explaining the background, the problems or opportunities that the project is intended to satisfy and the stated objectives from the perspective of the proponent. If the objectives of the project are related to broader private or public sector policies, plans or programs, this information will also be included. The water regulation and flood management context of the Project will be described such that the need for and justification of the Project as proposed is explained. The interaction of the project with Manitoba's integrated water control and flood mitigation network will be described. The EIS will also describe the predicted environmental, economic and social costs and benefits of the project, and the distribution of costs and benefits amongst potentially affected communities. This information will be considered in assessing the justifiability of any significant adverse residual environmental effects as defined in section 5 of CEAA 2012, if such effects are identified.	2.2, 2.3, 6.4.7.2 9.4.2, 9.4.4, 9.4.5, 10.2.1, 10.3.2 2.3.2.2, 10.2.2, 10.2.4, 10.2.4.4, 10.2.8.4, 10.4.5 Appendix 5C, 5.3.1.2
2.2	Alternative means of carrying out the project	The EIS will identify and consider the environmental effects of alternative means of carrying out the project that are technically and economically feasible. The proponent will complete the assessment of alternative means in accordance with the Agency's Operational Policy Statement entitled "Addressing "Purpose of" and "Alternative Means" under the Canadian Environmental Assessment Act, 2012". In the alternative means analysis, the proponent will: − Identify the alternative means to carry out the Project; − Identify the effects of each technically and economically feasible alternative means; − Select the approach for the analysis of alternative means (i.e., identify a	2.4, 2.4.3, 3.5, Appendix 3D

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		preferred means or bring forward alternative means); and − Assess the environmental effects of the alternative means. In its alternative means analysis, the proponent will address, at a minimum, the project components identified in the scope of the designated project as per Part 1, Section 3.1 of these Guidelines, including: − location of project components; − size, design, and capacity of the project and key project components; − construction methods for project components; − project design components related to environmental effects mitigation, such as sediment control, fish movement, and water quality monitoring; − energy sources to power the project site; and − fill types and borrow sites; The analysis of alternative means of carrying out the project will also consider project operation and parameters for the regulation of flows. The Proponent will identify whether and how Indigenous groups have been engaged in project design and in the analysis and identification of preferred means of carrying out the project from the alternative means. The Agency recognizes that projects may be in the early planning stages when the EIS is being prepared. Where the proponent has not made final decisions concerning the placement of project infrastructure, the technologies to be used, or that several options may exist for various project components, the proponent shall conduct an environmental effects analysis at the same level of detail for each of the various options available (alternative means) within the EIS.	
3 Project Description			
3.1	Project Components	*The EIS will describe the project, by presenting the project components (as identified in Part 1, Section 3.1), associated and ancillary works, and other characteristics that will assist in understanding the environmental effects. This will include*	

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		maps, at an appropriate scale, of the project location, the project components, boundaries of the proposed site with UTM coordinates, the major existing infrastructure, adjacent land uses and any important environmental features	Figure 1B-1; Figure 1B-3; Figure 1B-4; Figure 2A-6; Appendix 3B; Figure 3B-1; Figure 3B-2; Figure 3B-3; Appendix 7B; Figures 7.2B-3 to Figures 7.2B-7; Appendix 8B Figure 8.2B-2; Figure 8.2B-6; Figure 8.2B-13, Figure 8.3B-5; Figure 8.3B-6, Figure 8.3B-7, Figure 8.3B-8, Figure 8.3B-9, Figure 8.3B-10, Figure 8.3B-11; Appendix 9A; Figure 9.3A-1; Figure 9.3A-2; Appendix 9.2A; Figure 9.2A-1 to Figure 9.2A-20; 3.4
		permanent and temporary linear infrastructures (road, railroad, pipelines, power supply), identifying the route of each of these linear infrastructures, the location and types of structure used for stream crossings	3.4.1; 3.4.2; 3.4.3
		storage areas for fuels, explosives and wastes including wastewater, solid waste, and hazardous wastes	3.4.3.10; 3.5.2.17 and 3.5.3.6
		energy supply (source, quantity)	3.5.2.15
		waste disposal (types of waste, methods of disposal, quantity)	3.5.2.17 and 3.5.3.6

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
3.2	Project Activities	The EIS will include descriptions of the construction, operation and maintenance, decommissioning, and abandonment associated with the proposed project. This will include descriptions of the activities to be carried out during each phase, the location of each activity, expected outputs and an indication of the activity's magnitude and scale. Emphasis should be on activities with greatest potential to have environmental effects. Highlight activities that involve periods of increased environmental disturbance or the release of materials into the environment.	3.3; 3.3.1; 3.3.2; 3.3.3; 3.4.2.3; 3.4.2.6; 3.4.2.7; 3.4.3.3; 3.4.3.5; 3.4.3.6; 3.5; Table 3.5-1; 3.5.2.3; 3.5.2.11; 3.5.3.2; 3.7; 3.7.2; 3.7.2.3; 3.7.3; Figure 3B-16, Figure 3B-17; Appendix 3A; Table 3A-2
		The EIS will include a summary of the changes that have been made to the project since originally proposed, including the benefits of these changes to the environment, Indigenous groups, and the public	2.4
		The EIS will include a schedule including time of year, frequency, and duration for all project activities	3.6
3.2.1	Site Preparation and Construction	*The information will include a description of:*	
		site clearing and excavation, and disposal of cleared and excavated materials	3.5.2.1 and 3.5.2.2
		if blasting, list frequency and methods, types of explosive used, the location and description of facilities used for the storage of explosives, and whether or not any manufacturing/preparation of explosives is planned to occur on site	3.5.2.3
		construction of access roads	3.5.2.4
		borrow materials requirement (source and quantity)	3.4.2.6, 3.4.3.5, 3.7.2
		water management, including water diversions, dewatering or deposition activities required (location, methods, timing)	3.5.2.11
		equipment requirements (type, quantity)	3.5.2.9; Table 3.5-1; Appendix 3A, Table 3A-2

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		administrative buildings, garages, other ancillary facilities	3.4.2.3
		construction camp (location, capacity, wastewater treatment)	3.4.2.7, 3.4.3.6, and 3.5.2.10
		storage and management of hazardous materials, fuels and residues	3.5.2.14
		contributions to atmospheric emissions, including emissions profile (type, rate, and source)	6.2.4.2
		number of employees and transportation of employees and associated traffic on municipal and/or provincial roads	3.5.2.16; Table 3-2
		characterization and management of workforce, including transportation and associated traffic on municipal and/or provincial roads, work schedules, and lodging	3.5.2.16; Table 3-2
		waste management and recycling	3.5.2.17
3.2.2	Operation	equipment requirements	3.5.3.2; Appendix 3A, Table A-2
		criteria used to determine the start, stop, and nature of operations	3.5.3.1
		water management through each project component, including a detailed water management plan	3.5.3.4, 3.7.1, 3.7.2, 3.7.3
		ice management	3.5.3.5
		contributions to atmospheric emissions, including emissions profile (type, rate, and source)	6.2.4.2
		waste management and recycling	3.5.3.6
		characterization and management of workforce, including transportation, work schedules, and lodging	3.5.3.7
		maintenance requirements, ongoing and related to the start and stop of operations	3.5.3.8

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
3.2.3	Decommissioning and abandonment	the preliminary outline of a decommissioning and reclamation plan for any components associated with the project	3.5.4.1
		the ownership, transfer and control of the different project components	3.5.4.3
		the responsibility for monitoring and maintaining the integrity of the remaining structures and hydrological function of the surrounding environment	3.5.4.3
		for permanent facilities, a conceptual discussion on how decommissioning and abandonment could occur	3.5.4.1
4 Public Participation and Concerns			
4	Public Participation and Concerns	The EIS will describe the ongoing and proposed public participation activities that the proponent will undertake or that it has already conducted on the project	5.2.1, 5.2.2, 5.3.1, 5.3.2, 5.3.3, 5.2.5
		The EIS will provide a description of efforts made to distribute project information and provide a description of information and materials that were distributed during the consultation process.	5.2.2.3, 5.2.2.4, 5.3.3.3, Appendix 5B
		The EIS will indicate the methods used, where the consultation was held, the persons and organizations consulted, the concerns voiced and the extent to which this information was incorporated in the design of the project as well as in the EIS	5.2.2.3, 5.2.2.4, 5.3.3.4, 2.3.2.1, 3.4.2.4, 3.4.2.5, 3.5.1, 4.2, Table 4.4-1, 8.3.1.2, Appendix 5A, Appendix 5C
		The EIS will provide a summary of key issues raised related to the project and its potential effects to the environment as well as describe any outstanding issues and ways to address them	5.2.3, 5.3.4.5, Appendix 5A, 5.2.4
5 Engagement with Indigenous Groups and Concerns Raised			
5	Engagement with Indigenous Groups and Concerns Raised	*With respect to engagement activities, the EIS document will describe:*	
		the engagement activities undertaken with each group prior to the submission of the EIS, including the date and means of engagement (e.g. meeting, mail, telephone)	5.3.1.2, 5.3.4.2, 5.3.4.3, 5.3.4.4

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		document the main issues and comments raised during the engagement activities by each group and the proponent's responses (effort should be made to collating like issues together along valued components identified in the EIS)	5.3.1.2, 5.3.4.5, Appendix 5A, Appendix 5C
		any future planned engagement activities	5.3.5, 5.3.1.2
		where and how Indigenous groups' perspectives were integrated into and/or contributed to decisions regarding the project, design, construction, operation, decommissioning, abandonment, maintenance, follow-up and monitoring and associated potential effects and the associated mitigation utilized to manage those effects. The effects and mitigation measures should be clearly linked to valued components in the EIS as well as to specific project components or activities	2.4; 5.3.2; Appendix 5C
		how engagement activities by the proponent allowed groups to understand the project and evaluate its impacts on the environment and on their communities, activities, potential or established Aboriginal or Treaty rights. Where impacts are identified, provide a discussion of how those would be managed or mitigated (and provide this information for each Indigenous group separately)	5.3.4.5, Appendix 5A, Appendix 5C
6 Impacts to Potential or Established Aboriginal or Treaty Rights			
6	Impacts to potential or established aboriginal or treaty rights	*With respect to potential adverse impacts of the project on potential or established Aboriginal or Treaty rights, the EIS will document for each group identified:*	
		potential or established Aboriginal or Treaty rights, when this information is directly provided by a group to the proponent, the Agency or is available through public records, including but not limited to: location of the right being exercised; context in which the right is exercised (including information about which groups of an Indigenous group practice the right (women, elders, youth), how the right was practiced historically); how the Indigenous group's cultural traditions, laws and governance systems inform the manner in which	10.4.2, 5.3.1.2, Appendix 5C,

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		they exercise their rights (the who, what, when, how, where and why); the Indigenous group's perspectives on the importance of the land on which the Project is located and how it intersects with any land management uses and/or plans they may have; how often the right is practiced or exercised and timing or seasonality of the practice or exercise of the right; maps and data sets	
		potential adverse impacts of each of the project components and physical activities, in all phases, on potential or established Aboriginal or Treaty rights, including those raised by Indigenous groups	10.4.3, Appendix 5C
		measures identified to accommodate potential adverse impacts of the project on the potential or established Aboriginal or Treaty rights. These measures will clearly describe how the proponent intends to implement them and may go beyond mitigation measures that are developed to address potential adverse environmental effects. Include perspectives and specific suggestions raised of potentially impacted Indigenous groups; as well as any views of Indigenous groups on the effectiveness of mitigation measures	10.4.3, Appendix 5C
		potential adverse impacts on potential or established Aboriginal or Treaty rights that have not been fully mitigated or accommodated as part of the EA and associated engagement with Indigenous groups. Include perspective of potentially impacted Indigenous groups	10.4.3, Appendix 5C
		potential adverse impacts that may result from the residual and cumulative environmental effects. Include the perspectives of potentially impacted Indigenous groups	10.4.3
7 Effects Assessment			
7.1	Project Setting and baseline conditions	*Based on the scope of the project described in Section 3 (Part 1), the EIS will present baseline information in sufficient detail to enable the identification of how the project could affect the VCs and an analysis of those effects. Should other VCs be identified during the conduct of the EA, the baseline condition for these components will also be described in the EIS. To determine the appropriate spatial boundaries to describe the baseline information, refer to*	

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		Section 3.2.3 (Part 1) of the guidelines. Where applicable and available, present baseline data pre- and post-2011 floods in the Interlake Region.	
7.1.1	Atmospheric Environment	a baseline survey of ambient air quality in the project areas and in the airshed likely to be affected by the project, by identifying and quantifying emission sources for, but not limited to, the following contaminants: total suspended particulates, fine particulates smaller than 2.5 microns (PM2.5), respirable particulates of less than 10 microns (PM10), diesel particulate matter, carbon monoxide (CO), sulphur oxides (SOx), nitrogen oxides (NOx), volatile organic compounds (VOCs). Present contaminant information in concentrations comparable to guidelines (i.e., µg/m^3)	6.2.2 (6.2.2.1, 6.2.2.2); Appendix 6A.1 (Tables 6.2A-1 to 6.2A-16); Appendix 6B (Figures 6.2B-6 to 6.2B-19)
		identify and quantify existing greenhouse gas emissions by individual pollutant measured as kilotonnes of CO2 equivalent per year in the project study areas	6.2.2
		direct and indirect sources of air emissions	6.2.2
		current provincial/territorial/federal limits for greenhouse gas emission targets	6.2.2
		current ambient noise levels at key receptor points (e.g. Indigenous communities), including the results of a baseline ambient noise survey. Information on typical sound sources, geographic extent and temporal variations will be included	6.2.2
		existing ambient night-time light levels at the project site and at any other areas where project activities could have an effect on light levels. The EIS will describe night-time illumination levels during different weather conditions and seasons	6.2.2
		historical records of relevant meteorological information (e.g. total precipitation (rain and snow); mean, maximum and minimum temperatures; and typical wind speed and direction)	6.2.2

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
7.1.2	Geology and Geochemistry	the bedrock and host rock geology of the deposit, including a table of geologic descriptions, geological maps and cross-sections of appropriate scale	6.3.2
		the geomorphology, topography and geotechnical characteristics of areas proposed for construction of major project components	6.3.2
		the geochemical characterization of blast and excavated materials such as waste rock and/or soils, and potential construction materials (e.g. borrow materials) to in order to predict and mitigate metal leaching and acid rock drainage	6.3.2
		geological hazards that exist in the areas planned for the project facilities and infrastructure, including history of seismic activity in the area; isostatic rise or subsidence; slope erosion and the potential for ground and rock instability, and subsidence during and following project activities	6.3.2
		baseline concentrations of contaminants of concern within the local, regional and downstream receiving environments	6.3.2
		sites that may be of paleontological and paleobotanical interest	6.3.2
		a description of regional and local geological structures, including major and local features, their formation, and general distribution	6.3.2
7.1.3	Topography and Soil	baseline mapping and description of landforms and soils within the local and regional project areas	6.3.2; Appendix 6A (6A.2)
		soil maps depicting soil type distribution and diversity and properties (soil pH, organic matter, depths of horizon)	6.3.2; Appendix 6A (6A.2)
		potential for soil instability and erosion	6.3.2
		suitability of topsoil and overburden for use in the rehabilitation of disturbed areas	6.3.2; Appendix 6A (6A.2)

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
7.1.4	Groundwater and Surface Water	*Local and regional hydrogeology, including:*	
		hydrogeological context (e.g., hydrostratigraphy with aquifers and aquitards, major faults, etc.), including the delineation of key stratigraphic and hydrogeologic boundaries	6.4.2
		physical properties of the hydrogeological units (e.g. hydraulic conductivity, transmissivity, saturated thickness, storativity, porosity, specific yield)	6.4.2
		groundwater flow patterns and rates	6.4.2
		a discussion of the hydrogeologic, hydrologic, geomorphic, climatic and anthropogenic controls on groundwater flow	6.4.2
		temporal changes in groundwater flow (e.g. seasonal and long term changes in water levels)	6.4.2
		a delineation and characterization of groundwater - surface water interactions including temperature and the locations of groundwater discharge to surface water and surface water recharge to groundwater	6.4.2
		temperature changes in surface water as a result of groundwater-surface water interactions	6.4.7
		changes to surface water quality, including seasonal changes in runoff entering watercourses	6.4.7
		any local and regional groundwater resource use, including potable water and agricultural water uses, and a description of their current use and potential for future use	6.4.2
		all groundwater monitoring wells that may provide data relevant to the project, including their locations	6.4.2

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		any monitoring protocols in place for collection of existing groundwater data	6.4.2
		an appropriate hydrogeologic model for the project areas that discusses hydrogeological systems, flow regimes, analyses sensitivity to climactic variations (e.g. seasonal recharge) and hydrogeologic parameters (e.g. hydraulic conductivity) and a discussion of model assumptions	6.4.2
		groundwater quality, including lab analytical results for metals, major ions and physical parameters, including temperature, with the interpretation of results for any anomalous values and for contaminants of concern	6.4.2
		hydrology and water quality of the local watershed(s), including:	
		the delineation of drainage basins, at appropriate scales (water bodies and watercourses), including intermittent streams, flood risk areas and wetlands, boundaries of the watershed and subwatersheds, overlaid by key project components	6.4.5; Appendix 6.D, G
		regional and local hydrology, including maps and relevant diagrams	6.4.5; Appendix 6.D, E, G
		historic hydrology conditions, including a description of flood patterns that discusses flood extent and periodicity	6.4.5; Appendix 6.D, E
		for each affected water body and watercourse, the total surface area, bathymetry, maximum and mean depths, water level fluctuations, type of substrate (sediments), discharge data at monthly, seasonal and annual flow rates and sediment transport characteristics	6.4.5; Appendix 6.D, E, F
		any seasonal water quality data (e.g. water temperature, turbidity, pH, dissolved oxygen, total suspended solids (TSS), chemistry, nutrients, metals, methyl mercury, dissolved/total organic carbon, biochemical oxygen demand (BOD)/carbonaceous biochemical oxygen demand (CBOD), pesticides, aquatic indicators, sediment quality) and analytical interpretation at several representative local stream and water body monitoring stations established throughout the project site	6.4.5; Appendix 6.D

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		seasonal and interannual variation of baseline surface water quality	6.4.5; Appendix 6.D
		sediment quality and quantity	6.4.5.2; *6.4.7.5,*
		comparison of baseline datasets against applicable guidelines and standards, including the identification of exceedances and trends	*6.4.5.2;* Appendix 6.D
		any local and regional potable surface water resource	6.4.5; Appendix 6.D, 9.2.2.2, Figure 9.2A-19
		ice formation and break up processes	6.4.5; 6.4.7.6, Appendix 6.D
7.1.5	Fish and Fish Habitat	*For potentially affected surface waters:*	
		a characterization of fish populations on the basis of species and life stage, including information on the surveys carried out and the source of data available (e.g. location of sampling stations, catch methods, date of catches, species, catch-per-unit effort)	7.2.1.6; 7.2.2.1; 7.2.2.2; 7.2.4.3, 7.2.9.2; 7.2.10.1; Appendix 7.2A; 7.2.4
		a description of primary and secondary productivity in affected water bodies with a characterization of season variability	7.2.2.2
		a list of any fish or invertebrate species at risk that are known to be present	7.2.2.2; Appendix 7A
		a description of the habitat by homogeneous section, including the length of the section, width of the channel from the high-water mark (bankful width), water depths, type of substrate (sediments), aquatic and riparian vegetation, and photos	7.2.2.2; Appendix 7B; Appendix 7C; Appendix 8B
		a description of natural obstacles (e.g. falls, beaver dams) or existing structures (e.g. water crossings) that hinder the free passage of fish	7.2.2.2
		maps, at a suitable scale, indicating the surface area of potential or confirmed fish habitat for spawning, rearing, nursery, feeding, overwintering, migration routes, etc. Where appropriate, this information should be linked to water depths (bathymetry) to identify the extent of a water body's littoral zone	7.2.2.2; Appendix 7B; Appendix 6F

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		the description and location of suitable habitats for fish species at risk that appear on federal and provincial lists and that are found or are likely to be found in the study area	7.2.2.2; Appendix 7A
		the description and location of suitable habitats for fish species of cultural and/or commercial importance to Indigenous peoples that are found or are likely to be found in the study area	7.2.2.2
7.1.6	Aquatic Invasive Species	*Given the potential of the proposed project to result in adverse environmental effects associated with the introduction and/or spread of aquatic invasive species, provide the following baseline to support the assessment of associated changes to the environment, mitigation, and effects to VCs:*	
		a list of all potential or known federally or provincially listed aquatic invasive species that may interact with the project (fauna and flora), using existing data and literature as well as surveys to provide current field data. This should include species currently present and those that are considered a threat or have increased risk of spread due to the project	7.2.2.2; Appendix 7A
		a description of all direct connections between waterbodies that may provide conduits for transport and increase the risk of spreading aquatic invasive species	7.2.2.2; 7.2.4.2
		any published studies that describe the regional presence, abundance and distribution of aquatic invasive species including mitigation strategies or plans. The existing data must be supplemented by surveys, if required	7.2.2.2; 7.2.4.2
		residences, seasonal movements, movement corridors, habitat requirements, key habitat areas, and general life history of aquatic invasive species that may occur in the project area, or be affected by the project	7.2.2.2; Appendix 7A
7.1.7	Riparian, Wetland, and Terrestrial Environments	characterization of soils in the excavation areas in terrestrial and riparian environments, with a description of their past use	6.3.2.4
		topography, drainage, geology and hydrogeology, and the physicochemical characteristics of potential on-land sediment or soil disposal sites	6.3.2.2; 6.3.2.4; 6.4.2.2

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		characterization of the shoreline, banks, current and future flood risk areas, seasonally flooded areas, and wetlands (fens, marshes, peatlands, mudflats and eelgrass beds, etc.), including the location and extent of wetlands likely to be affected by project activities according to their size, type (class and form), and the description of the ecological function (ecological, hydrological, wildlife, socioeconomic, etc.) and species composition of each of the riparian and wetland environments	8.2.2.2
		plant and animal species (abundance, distribution and diversity) and their habitats, with a focus on species at risk or with special status that are of social, economic, cultural or scientific significance, as well as invasive alien species	8.2.2.2; , 8.3.1.2, Appendix 8A, 8.3.2.2. 8.3.3, 8.3.4, 5.3.1.2, Appendix 5C
7.1.8	Migratory birds and their habitat	birds and their habitats that are found or are likely to be found in the study area. This description may be based on existing sources, but supporting evidence is required to demonstrate that the data used are representative of the avifauna and habitats found in the study area. The existing data must be supplemented by surveys, if required	8.3.3
		abundance, distribution, and life stages of migratory and non-migratory birds (including waterfowl, raptors, shorebirds, marsh birds and other land birds) likely to be affected in the project area based on existing information, or surveys, as appropriate, to provide current field data	8.3.3
		characterization of various ecosystems found in the project area, likely to be affected, based on existing information (land cover types, vegetation)	8.2.2.2; 8.3.2.2
		year-round migratory bird use of the area (e.g. winter, spring migration, breeding season, fall migration), based on preliminary data from existing sources and surveys to provide current field data if appropriate	8.3.3
7.1.9	Species at Risk	a list of all potential or known federally listed species at risk that may be affected by the project (fauna and flora), using existing data and literature as well as surveys to provide current field data	7.2.2.2; Appendix 7A; 8.2.2.2; 8.3.4

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		a list of all federal species designated by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) for listing on Schedule 1 of the Species at Risk Act. This will include those species in the risk categories of extirpated, endangered, threatened and of special concern	7.2.2.2; Appendix 7A; 8.2.2.2; 8.3.4
		any published studies that describe the regional importance, abundance and distribution of species at risk including recovery strategies or plans. The existing data must be supplemented by surveys, if required	7.2.2.2; Appendix 7A; 8.2.2.2; 8.3.4
		residences, seasonal movements, movement corridors, habitat requirements, key habitat areas, identified critical habitat and/or recovery habitat (where applicable) and general life history of species at risk that may occur in the project area, or be affected by the project	7.2.2.2; Appendix 7A; 8.2.2.2; 8.3.4
7.1.10	Indigenous Peoples	*With respect to potential effects on Indigenous peoples and the related VCs, baseline information will be provided for each Indigenous group identified in Section 5 (Part 2) of these guidelines (and any groups identified after these guidelines are finalized). Baseline information will:*	
		describe and characterize the elements in paragraph 5(1)(c) of CEAA 2012 based on the spatial and temporal scope selected for the EA according to the factors outlined in Part 1, Section 3.3.3 of the guidelines	10.3.1
		characterize the regional context of each of the elements of paragraph 5(1)(c) of CEAA 2012 to support the assessment of project related effects, including consideration of the differences of experiences by sub-populations within an Indigenous group, as appropriate (for example, women, youth, elders, families) and cumulative effects	10.3.1, 5.3.1.2, Appendix 5C
		be sufficient to provide a comprehensive understanding of the current state of each VC related to effects of changes to the environment on Aboriginal peoples. Each of the VCs for effects of changes to the environment on Aboriginal peoples is interrelated and therefore baseline information will often overlap	10.2.4

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		Baseline information for current use of lands and resources for traditional purposes will focus on the traditional activity (e.g. hunting, fishing, trapping, plant gathering) and include a characterization of all attributes of the activity that can be affected by environmental, social, and/or cultural change. This includes understanding of the baseline conditions of the quality and quantity of resources (e.g. preferred species and perception of quality, cultural connections to species), access to resources (e.g. physical access, timing, seasonality, distance from community) and overall quality of the experience of the practice (e.g. noise, air quality, visual landscape and presence of others). Historic, current, and future uses will be identified and considered. Specific aspects that will be considered include, but are not limited to:	
		location of traditional territory (including maps where available)	10.2.1.4, Appendix 5C
		traditional uses currently practiced or practiced in recent history	10.2.2, Appendix 5A, Appendix 5C
		location of reserves and communities	10.2.1.4
		location of hunting, trapping, and fishing camps, cabins and traditional gathering or teaching grounds	10.2.1.4, Appendix 5C
		fish, wildlife, birds, plants or other natural resources of importance for traditional use	10.2.2, Appendix 5A, Appendix 5C, Appendix 8A
		places where fish, wildlife, birds, plants or other natural resources are harvested, including places that are preferred	10.2.2, Appendix 5C
		access and travel routes for conducting traditional practices	10.2.2, Appendix 5C
		frequency, duration or timing of traditional practices	10.2.2, Appendix 5C
		cultural values associated with the area affected by the project and the traditional uses identified	10.2.2, 10.2.4.7, Appendix 5A, Appendix 5C
		areas of concentration of migratory animals, such as spawning, breeding, denning and/or wintering areas	10.2.2, Appendix 5A, Appendix 5C

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		ungulates, furbearers, amphibians, small mammals, and their habitat	10.2.2, Appendix 5A, Appendix 5C
		how input, including Indigenous knowledge, from groups was used in establishing the baseline conditions	10.2.2, 5.3.1.2, Appendix 5C
		existing or proposed protected areas, special management areas, and conservation areas in the regional study area	10.2.2, Appendix 5C
		Baseline information is required for health and socio-economic conditions. For health this includes the state of physical, mental and social well-being. For socio-economic conditions, as well as the economic and social activities of an individual Indigenous group, the baseline will include contextual information regarding their practices. Specific aspects that will be considered include:	
		general information about Indigenous populations and sub-populations	10.2.2, Appendix 5C
		sites or areas that are used by Indigenous people either for permanent residences or on a seasonal/temporary basis and the number of people that use each site or area identified	10.3.2, 5.3.1.2, Appendix 5C
		drinking water sources (permanent, seasonal, periodic, or temporary)	10.3.2, Appendix 5A, 5.3.1.2, Appendix 5C
		consumption of country foods (also known as traditional foods) including food that is trapped, fished, hunted, harvested or grown for subsistence or medicinal purposes, outside of the commercial food chain	10.3.2, 5.3.1.2, Appendix 5C
		which country foods are consumed by which groups, how frequently, and where these country foods are harvested	10.3.2, 5.3.1.2, Appendix 5C
		commercial activities (e.g. fishing, trapping, hunting, forestry, outfitting)	10.3.2, 5.3.1.2, Appendix 5C
		how input, including Indigenous knowledge, from groups was used in establishing the baseline conditions	10.3.2, 5.3.1.2, Appendix 5C
		recreational uses	10.3.2

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		Baseline information for physical and cultural heritage (including any site, structure or thing of archaeological, paleontological, historical or architectural significance) will consider all elements of cultural and historical importance to groups in the area and is not restricted to physical artifacts or artifacts considered under provincial heritage legislative requirements. Specific aspects that will be considered include, but are not limited to:	
		burial sites	9.6.2.2, 9.6.4.2, 10.2.2
		cultural landscapes	10.2.2
		sacred, ceremonial or culturally important places, objects or things	10.2.2, Appendix 5A
		archaeological potential and/or artifact places	9.6.2, 10.2.2
		language use and transmission	10.2.2, 5.3.1.2, Appendix 5C
		intergenerational knowledge transmission	10.2.2, 5.3.1.2, Appendix 5C
		any aspects of culture identified through cultural impact assessment	10.2.2, 5.3.1.2, Appendix 5C
		how input, including Indigenous knowledge, from groups was used in establishing the baseline conditions	9.6.1.2, 10.2.2, 5.3.1.2, Appendix 5C
		Any other baseline information that supports the analysis of predicted effects on Indigenous peoples will be included as necessary	9.6.1.2, 10.2.2, Appendix 5C
7.1.11	Other changes to the environment arising as a result of a federal decision or due to changes on federal lands, in another province, or outside of Canada	Should there be the potential for a change to the environment arising as a result of a federal decision(s), or changes to the environment on federal lands, lands in another province or lands outside Canada, the EIS will include baseline information on the environmental component likely to be affected (if this information is not already covered in other subsections of these guidelines). For example, if an authorization provided under the Fisheries Act was to result in the flooding of key wildlife habitat, baseline information should be provided on the wildlife species likely to be affected.	Conditional Guideline, 1.5.2; Appendix 1A; 4.4.1; 3.4.2.4; 7.2.1; 7.2.4; 7.2.8; 7.2.1.1; 8.2.1.1; 8.2.4.5; 8.2.6; 8.2.8; 8.3.1.1; 8.3.6.2, 8.3.10; 9.6.4

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
7.1.12	Human Environment	the rural and urban settings likely to be affected by the project	9.2; 9.2.2; 9.2.3; 9.2.4; 9.2.5
		any federal lands, lands located outside the province or Canada that may be affected by the project	9.2; 9.2.6 6.2.5; 6.3.5; 6.4.9; 7.2.6; 8.2.6; 8.3.8; 9.2.6; 9.3.6; 9.4.6; 9.5.6; 9.6.6; 10.3.5
		the current use of land in the study area, including a description of agriculture, hunting, recreational and commercial fishing, trapping, gathering, outdoor recreation, use of seasonal cabins, outfitters	9.2; 9.2.2; 9.2.3; 9.2.4; 9.2.5
		current use of all waterways and water bodies that will be directly affected by the project, including recreational uses, where available	9.2; 9.2.2; 9.2.3; 9.2.4; 9.2.5
		location of and proximity of any permanent, seasonal or temporary residences or camps	9.2; 9.2.2. 9.2.3; 9.2.4; 9.2.5
		health and socio-economic conditions, including the functioning and health of the socio-economic environment, encompassing a broad range of matters that affect communities in the study area in a way that recognizes interrelationships, system functions and vulnerabilities	9.5; 10.3; 10.3.2; 10.3.3
		sectors and economies that support the local and regional communities, including agriculture, tourism, and fishing	9.4; 9.4.2
		access to and delivery of goods and services for and to the local communities, including essential goods (e.g. food) and emergency services	9.3; 9.3.4; 9.4; 9.4.2; 9.4.4
		physical and cultural heritage, including structures, sites or things of historical, archaeological, paleontological or architectural significance	9.6; 9.6.2; 9.6.4
		any other potential human receptor sites, including seasonal and temporary locations, and potentially affected population size	9.5; 9.5.2; 9.5.4

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
7.2	Predicted changes to the Physical Environment	*The EA will include a consideration of the predicted changes to the environment as a result of the project being carried out or as a result of any powers, duties or functions that are to be exercised by the federal government in relation to the project. These predicted changes to the environment are to be considered in relation to each phase of the project (construction, operation, decommissioning, and abandonment) and are to be described in terms of the magnitude, geographic extent, duration and frequency, and whether the environmental changes are reversible or irreversible. As changes to various parts of the physical environment, listed below, may be inter-related as part of an ecosystem, the EIS will explain and describe the connections between the changes described.*	
7.2.1	Changes to the atmospheric environment	changes in air quality, including an estimate of direct air pollutant emissions including, but not limited to, total suspended particulates, fine particulates smaller than 2.5 microns (PM2.5), respirable particulates of less than 10 microns (PM10), diesel particulate matter, carbon monoxide (CO), sulphur oxides (SOx), nitrogen oxides (NOx), and volatile organic compounds (VOCs)	6.2.4
		an estimate of the direct greenhouse gas emissions associated with all phases of the project as well as any mitigation measures proposed to minimize greenhouse gas emissions. This information is to be presented by individual pollutant and should also be summarized in CO2 equivalent per year (justify all estimates and emission factors used in the analysis; provide the methods and calculations used for the analysis; compare and assess the level of estimated emissions of greenhouse gases to the regional, provincial and federal emission targets)	6.2.4
		changes in ambient noise levels	6.2.4
		changes in night-time light levels	6.2.4

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
7.2.2	Changes to groundwater, surface water, and fluvial morphology	the proponent will carry out modelling as required to present and substantiate anticipated changes to groundwater and surface water quality and quantity in all project phases and in all operational scenarios	6.4.1
		changes to total suspended solids (TSS), total dissolved solids, turbidity, oxygen level, water temperature, pH, dissolved oxygen, water quality including metals, methyl mercury, nutrients, algae blooms, dissolved/total organic carbon, biochemical oxygen demand (BOD)/carbonaceous biochemical oxygen demand (CBOD), pesticides, aquatic indicators, sediment quality	6.4.7
		changes to the hydrological and hydraulic conditions of all affected waterbodies including but not limited to: changes to the frequency, duration, and extent of flooding on all affected waterbodies; changes to flow rates and currents; changes to the velocity profiles in other connecting channels and water courses during operations of the diversion channels)	6.4.7
		changes to groundwater recharge/discharge areas and any changes to groundwater infiltration areas	6.4.4
		temperature changes in surface water as a result of water diversion and retention	6.4.7
		changes to ice regime	6.4.7
		changes to the quality and quantity of drinking water sources	6.4.4
		changes to water quality and quantity and sediment quality and quantity during all phases of the Project associated with project-related: drainage areas, flow paths, and seepage of groundwater into surface water; erosion and sedimentation; excavation, blasting, and stock-piling of materials and wasterock; wastes, wastewater, fuels, chemicals, hazardous materials, contaminated soils, including run off from agricultural lands; spills and releases; mercury methylation; metal leaching and acid rock drainage)	6.4.7
		changes to lakebed and river morphology (including the Dauphin River)	6.4.7

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		a discussion of how changes in the presence, abundance, and distribution of aquatic invasive species may affect water quality	6.4.7
7.2.3	Changes to riparian, wetland, and terrestrial environments	overall description of changes related to landscape disturbance	8.2.2.2
		changes to the habitat of migratory and non-migratory birds, with a distinction made between the two birds category, including losses, structural changes and fragmentation of riparian habitat of terrestrial environments and wetlands frequented by birds (types of cover, ecological unit of the area in terms of quality, quantity, diversity, distribution and functions)	8.3.6.2
		changes to critical habitat for federally listed species at risk	7.2.2.2; 8.3.4; 8.3.6
		changes to key habitat, movement corridors, and population numbers for species important to current use of lands and resources for traditional purposes	8.3.6.2
		changes to habitat connectivity	8.2.4; 8.3.6.2
		changes to shorelines and riparian areas (e.g. due to erosion; vegetation changes; etc.)	8.2.4
7.2.4	Aquatic Invasive Species	*Given that changes to the environment associated with the introduction and/or spread of aquatic invasive species may result in adverse environmental effects to VCs, identify:*	
		changes to direct connections between waterbodies may provide conduits for transport and increase the risk of spreading aquatic invasive species	7.2.4.2
		changes to the presence, abundance and distribution of aquatic invasive species	7.2.4.2
		changes to infrastructure, including project components, from aquatic invasive species	7.2.4.2

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		changes resulting from the application of mitigation measures associated with the spreading of aquatic invasive species (e.g. decontamination protocols)	7.2.4.2
		changes to presence, abundance, and distribution of listed Species at Risk from aquatic invasive species	7.2.2.2; 7.2.4.2; Appendix 7A
		changes to water quality due to aquatic invasive species	6.4.7
7.3	Predicted Effects on Valued Components	*Based on the predicted changes to the environment identified in section 6.2, the proponent is to assess the environmental effects of the project on the following VCs. All interconnections between VCs and between changes to multiple VCs will be described.*	
7.3.1	Fish and Fish Habitat	*the identification of any potential adverse effects to fish and fish habitat as defined in subsection 2(1) of the Fisheries Act, including the calculations of any potential habitat loss (temporary or permanent) in terms of surface areas (e.g. spawning grounds, fry-rearing areas, feeding), and in relation to watershed availability and significance. The assessment will include a consideration of:*	
		the geomorphological changes and their effects on hydrodynamic conditions and fish habitats (e.g. modification of substrates, dynamic imbalance, silting of spawning beds)	7.2.4.2
		the modifications of hydrological and hydrometric conditions on fish habitat and on the fish species' life cycle activities (e.g. reproduction, fry-rearing, movements)	7.2.4.2
		potential effects on riparian areas that could affect aquatic biological resources and productivity taking into account any anticipated modifications to fish habitat	7.2.4.2
		any potential imbalances in the food web in relation to baseline conditions	7.2.4.2

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		the potential risk of production, increase, interaction, and accumulation of contaminants, including methylmercury, in fish habitat and fish	7.2.4.4
		water quality and sediment quality changes as a result of storing water in, and releasing water from one lake to another and from the channels	6.4.7
		the identification of any potential adverse effects to fish and fish habitat resulting in the death of fish as described in section 35 of the Fisheries Act. The assessment will include a consideration of:	
		the potential for direct fish mortality, including due to entrainment through physical works	7.2.4.4
		the potential for fish mortality due to stranding in the channels during or after operation	7.2.4.4
		the potential for eggs or larvae to be swept into the channels	7.2.4.3
		the effects of changes to the aquatic environment on fish and their habitat, including:	
		the anticipated changes in the composition and characteristics of the populations of various fish species, including shellfish and forage fish	7.2.4.4; 7.2.9.3
		any modifications in migration or local movements (upstream and downstream migration, and lateral movements) following the construction and operation of works (physical and hydraulic barriers)	7..2.4.3; 7.2.9.2
		any reduction in fish populations as a result of potential overfishing due to increased access to the project area	7.2.4.4; 7.2.9.3
		any modifications and use of habitats by federally or provincially listed fish species	7.2.4.2; 7.2.9.1
		a discussion of how project construction timing correlates to key fisheries windows for freshwater and anadromous species, and any potential effects resulting from overlapping periods	7.2.4.2; 7.2.4.4

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		a discussion of how vibration caused by blasting or other construction activities may affect fish behaviour, such as spawning or migrations	7.2.4.3
		Identification of any modification in migration or local movements, including upstream and downstream migration and lateral movements, following the construction and operation of physical and hydraulic barriers associated with the Project	7.2.4.3; 7.2.9.2
		a discussion of how changes with regards to aquatic invasive species identified above in the presence, abundance, and distribution of aquatic invasive species may affect fish and fish habitat	7.2.4.2
7.3.2	Migratory Birds	*the identification of any potential direct and indirect adverse effects to migratory birds or their habitat, including staging and nesting areas, foraging grounds, and landing sites. The assessment will include a consideration of:*	
		any potential for direct migratory bird mortality, morbidity, or nest destruction	8.3.6.3
		changes to the environment that may affect migration patterns, flyways, local movement, and seasonal habitat use	8.3.6.2; 8.3.6.4
		any direct habitat loss, including a discussion of ecosystem availability and ecological context	8.3.6.2
		water quality and risk of exposure to contaminants	8.3.6.3
		the potential for habitat fragmentation, loss of connectivity or other change causing a reduction of habitat quality	8.3.6.2
		changes to predator/prey relationships (including non-migratory predators) and species composition balance and how that may affect bird population	8.3.6.2
		indirect effects caused by increased disturbance (e.g. noise, light, presence of workers), relative abundance movements, and losses or changes in migratory bird habitat, considering the critical breeding and migration periods for the birds	8.3.6.2; 8.3.6.4

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
7.3.3	Indigenous Peoples	**Current Use of Lands for Traditional Purposes:** With respect to Indigenous peoples, provide a description and analysis, for each Indigenous group, of how changes to the environment caused by the project will affect the health and socio-economic conditions, physical and cultural heritage including any structure, site or thing of historical, archaeological or paleontological importance, and current use of lands and resources for traditional purposes.	9.6.4.2, 10.2.4; 10.3.3, 7.2.4.4, 8.3.6.2, 8.3.6.3, 8.3.6.4, 6.4.7.2, 5.3.1.2, Appendix 5C
		This assessment will characterize the effects (including cumulative effects) on the use or activity (e.g. hunting, fishing, trapping, plant gathering, and cultural practices) as a result of the underlying changes to the environment (i.e. how will the activity change if the project proceeds), using the approach described in the Agency's guide entitled Technical Guidance for Assessing the Current Use of Lands and Resources for Traditional Purposes under CEAA 2012. This assessment should consider changes caused by the Project through changes to the environment, can cause effects to the practice of a current use or activity through the following interactions with:	
		Resources used, such as changes to the quantity, quality, and availability of resources and habitat, as well as to the sufficiency of resources required to conduct an activity or practice, including perception of effects, avoidance, and consideration of the seasonal round any changes to resources	10.2.2, 9.6.4.2, 10.2.4, 10.2.4.7, 10.3.3, 5.3.1.2, Appendix 5C
		Access to areas and resources without difficulty or additional cost used to conduct an activity or practice, as well as the opening up of areas to non-Indigenous populations for access and use, and consideration of preferred areas, timing of harvest, and options of traveling there in preferred manner. This will include any changes or alterations to access into the areas used for traditional purposes associated with development of new roads, deactivation or reclamation of access roads, changes to waterways that affect navigation, changes to access to crown lands, and changes to shorelines used for access and camps	10.2.2 - 10.2.4, 5.3.1.2, Appendix 5C

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		Experience by Indigenous peoples, including changes that affect the spiritual and cultural experiences of the activity or practice, as well as sense of place and wellbeing, and the applicability and transmission of Indigenous knowledge, laws, customs and traditions	10.2.4.6, 5.3.1.2, Appendix 5C
		Using the interactions listed in the above, the proponent should also consider the following in their assessments:	
		the cultural value or importance associated with traditional uses or areas affected by the project (e.g. values or attributes of the area that make it important as a place for inter-generational teaching of language or traditional practices, communal gatherings, integrity of preferred traditional practice areas)	10.2.4.7
		how timing of project activities (e.g. construction, blasting, discharges) have the potential to interact with the timing of traditional practices, and any potential effects resulting from overlapping periods	10.2.4
		how environmental effects to lands and resources could affect the use and associated activities	10.2.4
		consideration of the regional context for traditional use, and the value of the project area in that regional context, including alienation of lands from traditional use	10.2.4
		an assessment of the potential to return affected areas to pre-project conditions and to pre-2011 flood conditions to support traditional practices	10.2.4
		any changes to socio-economic and/or cultural conditions that may affect the participation of Indigenous peoples in the current use of lands for traditional purposes	10.2.4
		***Health and Socio-Economic Conditions**: Baseline information gathered as part of the assessment of effects described in 5(1)(c) of CEAA 2012, as well as general information about Indigenous populations and sub-populations could inform the assessment of human health.*	

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		The assessment of impacts to human health will be based on effects of changes to the environment on Aboriginal peoples' human health, focusing on effects on health outcomes or risks in consideration of, but not limited to: potential changes in air quality, noise exposure and effects of vibration from blasting, current and future availability of country foods, and water quality (drinking, recreational and cultural uses)	9.5; 9.5.4.2
		When risks to human health due to changes in one or more of these components are predicted, the proponent is expected to complete a Human Health Risk Assessment (HHRA) examining all exposure pathways for pollutants of concern to adequately characterize potential risks to human health	9.5; 9.5.4.1
		The proponent must provide a justification if it determines that an assessment of the potential for contamination of country foods (or other exposure pathways, such as inhalation) is not required or if some contaminants are excluded from the assessment	9.5; 9.5.4.1; 9.5.4.2
		Consider effects to mental and social well-being of Indigenous peoples. Where adverse health effects are predicted, any incidental effects such as effects on current use of lands and resources for traditional purposes should also be assessed	10.3.3
		Consider and document how effects of changes to the environment could be different for particular sub-populations within an Indigenous group (for example, women, youth, elders, specific families)	10.3.3, 5.3.1.2, Appendix 5C

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		This assessment of impacts to human health will assess effects of changes to the environment on Aboriginal peoples' socio-economic conditions, including, but not limited to: the use of navigable waters; forestry and logging operations; commercial fishing, hunting, trapping, and gathering activities; commercial outfitters; commercial farming activities; recreational use; access to goods and services; foods security; income inequity; changes at the community level that affect socio-economic conditions for Indigenous peoples as result of increased populations, economic activity, cost of living, among other factors and non-commercial/trade economy	10.3.3, 5.3.1.2, Appendix 5C
		Physical and Cultural Heritage*: This assessment will assess effects of changes to the environment on Aboriginal peoples' physical and cultural heritage, and structures, sites or things of historical, archaeological, paleontological or architectural significance to groups, including, but not limited to:*	
		the loss or destruction of physical and cultural heritage, including but not limited to changes in access to physical and cultural heritage associated with changes to shorelines	9.6.4.2, 10.2.4
		changes to access to physical and cultural heritage	10.2.4
		changes to the cultural value or importance associated with physical and cultural heritage	10.2.4
		changes to sacred, ceremonial or culturally important places, objects, or things	9.6.4.2, 10.2.4
		changes to visual aesthetics over the life of the Project	10.2.4
		Other effects of changes to the environment on Indigenous groups should be reflected as necessary	10.2.4
		The proponent is expected to provide mitigation measures for effects of changes to the environment on Aboriginal peoples pursuant to section 5 (1)(c) of CEAA, 2012 (see Part 2, Section 7.4 of the guidelines)	10.2.4

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
7.3.4	Other valued components that may be affected as a result of a federal decision or due to effects on federal lands, another province or outside Canada	*Based on the changes to the environment that have been identified in section 6.2, additional VCs are to be selected based on the following:*	
		Effects to federal lands	1.5.2; Appendix 1A; 4.4.1; 6.2.5; 6.3.5; 6.4.9; 7.2.6; 8.2.6; 8.3.8; 9.2.6; 9.3.6; 9.4.6; 9.5.6; 9.6.6; 10.3.5
		Federal decisions made under the Navigation Protection Act and the Fisheries Act	Conditional guideline
		Federal funding for the design and construction of the Project	1.3.1
		VCs selected will include a description and analysis of how changes to the environment caused by the project will affect the following:	
		health and socioeconomic conditions, including: sectors and economies that support the local and regional communities (including agriculture, tourism and fishing); recreation (including use of Watchorn Provincial Park); drinking water quality and quantity; and access to and delivery of goods and services;	9.5
		physical and cultural heritage	9.6; 10.2
		structures, sites or things of historical, archaeological, paleontological or architectural significance	9.6; 10.2
7.3.5	Species at Risk	the potential effects of the project on federally listed species at risk and those species listed by the Committee on the Status of Endangered Wildlife in Canada classified as extirpated, endangered, threatened or of special concern (flora and fauna) and their critical habitat, including the direct and indirect effects on the survival or recovery of federally listed species (list species).	7.2.2.2; 8.2.4.4; 8.3.6.2; 8.3.6.3; 8.3.6.4
		discussion of how changes in the presence, abundance, and distribution of aquatic invasive species may affect Species at Risk	7.2.2.2

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
7.4	Mitigation Measures	*Every EA conducted under CEAA 2012 will consider measures that are technically and economically feasible and that would mitigate any significant adverse environmental effects of the project. Measures will be specific, achievable, measurable and verifiable, and described in a manner that avoids ambiguity in intent, interpretation and implementation.*	
		The EIS will describe the standard mitigation practices, policies and commitments that constitute technically and economically feasible mitigation measures and that will be applied as part of standard practice regardless of location.	3.7; Appendix 3F
		The EIS will then describe the project's environmental protection plan and its environmental management system, through which the proponent will deliver this plan. The plan will provide an overall perspective on how potentially adverse effects would be minimized and managed over time.	3.7; Appendix 3F
		The EIS will further discuss the mechanisms the proponent would use to require its contractors and sub-contractors to comply with these commitments and policies and with auditing and enforcement programs.	3.7; Appendix 3F
		The EIS will then describe mitigation measures that are specific to each environmental effect identified. Mitigation measures will be written as specific commitments that clearly describe how the proponent intends to implement them and the environmental outcome the mitigation measure is designed to address. The EIS will describe mitigation measures in relation to species and/or critical habitat listed under the Species at Risk Act. These measures will be consistent with any applicable recovery strategy and action plans	6.2.4.2; 6.2.4.3; 6.2.4.4; 6.2.4.5; 6.3.4.2; 6.3.4.3; 6.4.4.2; 6.4.4.3; 6.4.7.2; 6.4.7.3; 6.4.7.4; 6.4.7.5; 6.4.7.6; 6.4.7.7; 7.2.4.3; 7.2.4.4; 8.2.4.2; 8.2.4.3; 8.2.4.4; 8.2.4.5; 8.3.6.2; 8.3.6.3; 8.3.6.4; 9.3.4.2; 9.2.4.2; 9.2.4.3; 9.2.4.4; 9.2.4.5; 9.3.4.3; 9.3.4.4; 9.3.4.5; 9.4.4.2; 9.4.4.3; 9.4.4.4; 9.4.4.5; 9.5.4.2; 9.6.4.2; 10.2.4.4; 10.2.4.5; 10.2.4.6; 10.2.4.7; 10.3.3.3

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		The EIS will specify the actions, works, minimal disturbance footprint techniques, best available technology, corrective measures or additions planned during the project's various phases to eliminate or reduce the significance of adverse effects.	6.2.4.2; 6.2.4.3; 6.2.4.4; 6.2.4.5; 6.3.4.2; 6.3.4.3; 6.4.4.2; 6.4.4.3; 6.4.7.2; 6.4.7.3; 6.4.7.4; 6.4.7.5; 6.4.7.6; 6.4.7.7; 7.2.4.3; 7.2.4.4; 8.2.4.2; 8.2.4.3; 8.2.4.4; 8.2.4.5; 8.3.6.2; 8.3.6.3; 8.3.6.4; 9.3.4.2; 9.2.4.2; 9.2.4.3; 9.2.4.4; 9.2.4.5; 9.3.4.3; 9.3.4.4; 9.3.4.5; 9.4.4.2; 9.4.4.3; 9.4.4.4; 9.4.4.5; 9.5.4.2; 9.6.4.2; 10.2.4.4; 10.2.4.5; 10.2.4.6; 10.2.4.7; 10.3.3.3
		The EIS will also present an assessment of the effectiveness of the proposed technically and economically feasible mitigation measures. The reasons for determining if the mitigation measure reduces the significance of an adverse effect will be made explicit. The proponent is also encouraged to identify mitigation measures for effects that are adverse although not significant	6.2.4.2; 6.2.4.3; 6.2.4.4; 6.2.4.5; 6.3.4.2; 6.3.4.3; 6.4.4.2; 6.4.4.3; 6.4.7.2; 6.4.7.3; 6.4.7.4; 6.4.7.5; 6.4.7.6; 6.4.7.7; 7.2.4.3; 7.2.4.4; 8.2.4.2; 8.2.4.3; 8.2.4.4; 8.2.4.5; 8.3.6.2; 8.3.6.3; 8.3.6.4; 9.3.4.2; 9.2.4.2; 9.2.4.3; 9.2.4.4; 9.2.4.5; 9.3.4.3; 9.3.4.4; 9.3.4.5; 9.4.4.2; 9.4.4.3; 9.4.4.4; 9.4.4.5; 9.5.4.2; 9.6.4.2; 10.2.4.4; 10.2.4.5; 10.2.4.6; 10.2.4.7; 10.3.3.3

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		The EIS will indicate what other technically and economically feasible mitigation measures were considered, and explain why they were rejected. Trade-offs between cost savings and effectiveness of the various forms of mitigation measures will be justified.	2.4
		The EIS will identify who is responsible for the implementation of these measures and the system of accountability	Table 16.3-1
		Where mitigation measures are proposed to be implemented for which there is little experience or for which there is some question as to their effectiveness, the potential risks and effects to the environment should those measures not be effective will be clearly and concisely described.	N/A mitigation measures considered effective
		In addition, the EIS will identify the extent to which technological innovations will help mitigate environmental effects. Where possible, it will provide detailed information on the nature of these measures, their implementation, management and the requirements of the follow-up program.	6.2.4.2; 6.2.4.3; 6.2.4.4; 6.2.4.5; 6.3.4.2; 6.3.4.3; 6.4.4.2; 6.4.4.3; 6.4.7.2; 6.4.7.3; 6.4.7.4; 6.4.7.5; 6.4.7.6; 6.4.7.7; 7.2.4.3; 7.2.4.4; 8.2.4.2; 8.2.4.3; 8.2.4.4; 8.2.4.5; 8.3.6.2; 8.3.6.3; 8.3.6.4; 9.3.4.2; 9.2.4.2; 9.2.4.3; 9.2.4.4; 9.2.4.5; 9.3.4.3; 9.3.4.4; 9.3.4.5; 9.4.4.2; 9.4.4.3; 9.4.4.4; 9.4.4.5; 9.5.4.2; 9.6.4.2; 10.2.4.4; 10.2.4.5; 10.2.4.6; 10.2.4.7; 10.3.3.3

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		The EIS will document specific suggestions raise by each Indigenous group for mitigating the effects of changes to the environment on Aboriginal peoples (section 5(1)(c) of CEAA 2012. For those mitigation measures intended to address effects of changes to the environment on Aboriginal peoples, the proponent must discuss the residual effects with the Indigenous groups identified in Part 2, Section 5 of the guidelines prior to submitting the EIS	10.2.4
		Adaptive management is not considered as a mitigation measure, but if the follow-up program (refer to Section 8 below) indicates that corrective action is required, the proposed approach for managing the action should be identified.	
7.5	Significance of residual effects	After having established the technically and economically feasible mitigation measures, the EIS will present any residual environmental effects of the project on the VCs identified in Section 6.3 above. For those VCs related to effects of changes to the environment on Aboriginal peoples, the proponent must discuss the residual effects with the Indigenous groups identified in Part 2, Section 7 of the guidelines prior to submitting the EIS. The residual effects, even if very small or deemed insignificant will be described	6.2.4; 6.3.4; 6.4.4; 6.4.7; 7.2.4; 8.2.4; 8.3.6; 9.2.4; 9.3.4; 9.4.4; 9.5.4; 9.6.4; 10.2.4; 10.3.2; 10.4.4
		The EIS will provide a detailed analysis of the significance of the residual environmental effects that are considered adverse following the implementation of mitigation measures, using guidance described in Section 4 of the Agency's Operational Policy Statement, Determining Whether a Designated Project is Likely to Cause Significant Adverse Environmental Effects under CEAA 2012	7.2.5; 8.2.5; 8.3.7; 9.2.5; 9.3.5; 9.4.5; 9.5.5; 9.6.5; 10.2.5; 10.3.4

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		The EIS will identify the criteria used to assign significance ratings to any predicted adverse effects. It will contain clear and sufficient information to enable the Agency or review panel, technical and regulatory agencies, Indigenous groups, and the public to review the proponent's analysis of the significance of effects. For those predicted adverse effects that relate to effects of the changes to the environment on Aboriginal peoples, the proponent will consider the views of the Indigenous groups in the determination of the definitions of the significance criteria. The EIS will document the terms used to describe the level of significance	7.2.5; 8.2.5; 8.3.7; 9.2.5; 9.3.5; 9.4.5; 9.5.5; 9.6.5; 10.2.5; 10.3.4
		The following criteria should be used in determining the significance of residual effects: magnitude, geographic extent, timing, duration, frequency, reversibility, ecological and social context, existence of environmental standards, guidelines or objectives for assessing the effect	7.2.4.5; 8.2.4.6; 8.3.6.5; 9.2.4.6; 9.3.4.6; 9.4.4.6; 9.5.4.3; 9.6.4.3; 10.2.4.8; 10.3.3.3
		In assessing significance against these criteria the proponent will, where possible, use relevant existing regulatory documents, environmental standards, guidelines, or objectives such as prescribed maximum levels of emissions or discharges of specific hazardous agents into the environment. The EIS will contain a section which explains the assumptions, definitions and limits to the criteria mentioned above in order to maintain consistency between the effects on each VC	7.2.4.5; 8.2.4.6; 8.3.6.5; 9.2.4.6; 9.3.4.6; 9.4.4.6; 9.5.4.3; 9.6.4.3; 10.2.4.8; 10.3.3.3
		Where significant adverse effects are identified, the EIS will set out the probability (likelihood) that they will occur, and describe the degree of scientific uncertainty related to the data and methods used within the framework of this environmental analysis	7.2.4.5; 8.2.4.6; 8.3.6.5; 9.2.4.6; 9.3.4.6; 9.4.4.6; 9.5.4.3; 9.6.4.3; 10.2.4.8; 10.3.3.3
7.6	Other Effects to consider	*See all subsections of Section 7.6*	

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
7.6.1	Effects of potential accidents or malfunctions	The proponent will conduct an analysis of the risks of accidents and malfunctions, determine their effects, and present a preliminary emergency response measures.	14.2 to 14.6
		Taking into account the lifespan of different project components, the proponent will identify the probability of potential accidents and malfunctions related to the project, including an explanation of how those events were identified, potential consequences (including the environmental effects as defined in section 5 of CEAA 2012 and potential impacts to Aboriginal or Treaty rights), the plausible worst case scenarios and the effects of these scenarios	14.2 to 14.6
		This assessment will include an identification of the magnitude of an accident and/or malfunction, including the quantity, mechanism, rate, form and characteristics of the contaminants and other materials likely to be released into the environment during the accident and malfunction events and would potentially result in an adverse environmental effect as defined in section 5 of CEAA 2012. The assessment should consider all seasons of the year and take into account site-specific sensitivities and potential pathways of effects	14.2 to 14.6
		The EIS will describe the safeguards that have been established to protect against such occurrences and the contingency and emergency response procedures that would be put in place if such events do occur	14.2 to 14.6

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
7.6.2	Effects of the environment on the project	The EIS will take into account how local conditions and natural hazards, such as severe and/or extreme weather conditions and external events (e.g. flooding, drought, ice jams and frazil ice, landslides, avalanches, erosion, subsidence, fire, outflow conditions and seismic events), could adversely affect the project and how this in turn could result in effects to the environment (e.g. extreme environmental conditions result in malfunctions and accidental events). These events will be considered in different probability patterns (e.g. 5-year flood vs. 100-year flood), under a range of future climate states. The potential impact of climate change on these probability patterns will be considered over the lifetime of the project and the discussion will include a description of climate data and projections used.	15.3 to 15.8 3.4.3.9; 3.5.3.4; 3.5.2.11; ; 3.7.2; 3.7.3; Appendix 3F 3.5.3.5; 3.7.3 3.5.2.12; 3.5.2.13; 3.5.3.3; 3.5.4.2; Appendix 3E, Appendix 3F
		The assessment of effects of the environment on the project will take into account both natural events and human management of the existing environment	15.3 to 15.8
		The EIS will provide details of planning, design and construction strategies intended to minimize the potential environmental effects of the environment on the project	15.3 to 15.8
7.6.3	Cumulative Effects Assessment	identify and assess the project's cumulative effects using the approach described in the Agency's Operational Policy Statement entitled Addressing Cumulative Environmental Effects under the Canadian Environmental Assessment Act, 2012 and the guide entitled Technical Guidance for Assessing Cumulative Environmental Effects under the Canadian Environmental Assessment Act, 2012	11.1.1; 11.1.2

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		identify and provide a rationale for the VCs that will constitute the focus of the cumulative effects assessment, focusing the cumulative effects assessment on the VCs most likely to be affected by the project and other projects and activities. To this end, the proponent must consider, without limiting itself thereto, the following components likely to be affected by the project: fish and fish habitat, including sturgeon, trout, whitefish, pickerel, pike and other valued fish species; migratory birds; species at risk; surface and ground water quality and quantity; Indigenous peoples and Aboriginal or Treaty rights; any VCs associated with subsection 5(2) of CEAA 2012	11.1.2.1, Chapter 11 (pp. 11-1 to 11-89); 11.12; 11.4.1; 11.4.2
		identify and justify the spatial and temporal boundaries for the cumulative effect assessment for each VC selected. The boundaries for the cumulative effects assessments will generally be different for each VC considered. These cumulative effects boundaries will also generally be larger than the boundaries for the corresponding project effects. At a minimum, cumulative effects for each applicable VC should be considered for Lake Manitoba, Lake St. Martin, and Lake Winnipeg respectively	11.2.1, 11.3.1, 11.4.1.1, 11.4.2.1, 11.5.1, 11.6.1, 11.7.1, 11.8.1, 11.9.1, 11.10.1, 11.11.1, 11.12.1, 11.13.1
		identify the sources of potential cumulative effects. Specify other projects or activities that have been or that are likely to be carried out that could cause effects on each selected VC within the boundaries defined, and whose effects would act in combination with the residual effects of the project. Water management systems and natural and/or controlled flood events, including flooding that occurred in the Interlakes Region in 2011, should be considered as projects or activities that are sources of potential cumulative effects. This assessment may consider the results of any relevant study conducted by a committee established under section 73 or 74 of CEAA 2012	11.1.2.2

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		assess the cumulative effects on each VC selected by comparing the future scenario with the project and without the project. Effects of past activities (activities that have been carried out) will be used to contextualize the current state of the VC. In assessing the cumulative effects on current use of lands and resources for traditional purposes, the assessment will focus on the cumulative effects on the relevant activity (e.g. hunting, fishing, trapping, plant harvesting)	11.2 to 11.15
		describe the mitigation measures that are technically and economically feasible. The proponent shall assess the effectiveness of the measures applied to mitigate the cumulative effects. In cases where measures exist that are beyond the scope of the proponent's responsibility that could be effectively applied to mitigate these effects, the proponent will identify these effects and the parties that have the authority to act. In such cases, the EIS will summarize the discussions that took place with the other parties in order to implement the necessary measures over the long term	11.2 to 11.15
		determine the significance of the cumulative effects	11.2 to 11.15
		develop a follow-up program to verify the accuracy of the assessment or to dispel the uncertainty concerning the effectiveness of mitigation measures for certain cumulative effects	12.2 to 12.15
8 Summary of Environmental Effects Assessment			
8	Summary of Environmental Effects Assessment	*The EIS will contain a table summarizing the following key information:*	
		potential environmental effects on valued components	16.0; Table 16.2-1
		proposed mitigation measures to address the effects identified above	16.0; Table 16.2-1
		potential residual effects and the significance of the residual environmental effects	16.0; Table 16.2-1
		The summary table will be used in the EA Report prepared by the Agency or will be considered by the review panel.	

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		In a second table, the EIS will summarize all key mitigation measures and commitments made by the proponent which will more specifically mitigate any significant adverse effects of the project on VCs (i.e. those measures that are essential to ensure that the project will not result in significant adverse environmental effects)	16.0; Table 16.3.-1
		In a separate table, the EIS will contain a summary of potential impacts to Aboriginal or Treaty rights, proposed mitigation to address these impacts, and proposed accommodation to unmitigated impacts to Aboriginal and Treaty rights	16.0; Table 16.4-1
9 Follow-up and Monitoring Programs			
9.1	Follow-up Program	*The duration of the follow-up program shall be as long as required to evaluate the effectiveness of the mitigation measures. The EIS shall present a preliminary follow-up program and shall include:*	
		objectives of the follow-up program and the VCs targeted by the program	12.1
		list of elements requiring follow-up	12.2 to 12.15
		number of follow-up studies planned as well as their main characteristics (list of the parameters to be measured, planned implementation timetable, etc.)	12.2 to 12.15
		intervention mechanism used in the event that an unexpected deterioration of the environment is observed	12.2 to 12.15
		mechanism to disseminate follow-up results among the concerned populations	12.2 to 12.15
		accessibility and sharing of data for the general population	12.2 to 12.15
		opportunity for the proponent to include the participation of Indigenous groups and stakeholders on the affected territory, during the development and implementation of the program	12.2 to 12.15, 5.3.1.2, Appendix 5C

Table 1 CEAA 2012 – Guidelines for the Preparation of an Environmental Impact Statement

CEAA Guidelines Section Number	CEAA Guidelines Section Name	EIS Content Requirement	EIS Section
		involvement of local and regional organizations in the design, implementation and evaluation of the follow-up results as well as any updates, including a communication mechanism between these organizations and the proponent	12.2 to 12.15
9.2	Monitoring	*The proponent will prepare an environmental monitoring program for all phases of the project. Specifically, the environmental impact statement shall present an outline of the preliminary environmental monitoring program, including the:*	
		identification of the interventions that pose risks to one or more of the environmental and/or valued components and the measures and means planned to protect the environment	12.2 to 12.15
		identification of regulatory instruments that include a monitoring program requirement for the valued components	12.2 to 12.15
		description of the characteristics of the monitoring program where foreseeable (e.g., location of interventions, planned protocols, list of measured parameters, analytical methods employed, schedule, human and financial resources required)	12.2 to 12.15, 10.4.3
		description of the proponent's intervention mechanisms in the event of the observation of non-compliance with the legal and environmental requirements or with the obligations imposed on contractors by the environmental provisions of their contracts	12.2 to 12.15, 3.7, Appendix 3F, Appendix 5C
		guidelines for preparing monitoring reports (number, content, frequency, format) that will be sent to the authorities concerned	12.2 to 12.15, Appendix 5C
		plans to prepare maps to identify and compare substrate, vegetation and fish habitat availability before and after the construction of the channels	12.2 to 12.15, 5.3.1.2, Appendix 5C
		plans to engage Indigenous groups in monitoring, where appropriate	12.2 to 12.15, 5.3.1.2, Appendix 5C, 10.4.3,

Table 2 Manitoba Infrastructure Environmental Assessment Scoping Document

MSD Scoping Document Section Number	MSD Scoping Document Section Name	EIS Content Requirement	EIS Section
1 Introduction			
1.3.3	Other Regulatory Requirements	The EIS will outline other regulatory approvals required for Project implementation	1.5
2 Scope of Project			
2.1	Project Description and Components	*The EIS will also include the following:*	
		Project funding sources	1.3.1
		Results of the IPEP undertaken in conjunction with Project planning	5.2.3; 5.3.4
		Description of the activities related to construction, operation, maintenance and non-operation of the proposed Project	3.3
		The EIS will include a commitment to comply with legislative and licensing requirements in the future when upgrading or rehabilitating structures to extend their life	3.5.4.3
2.2	Project Location	*The EIS will describe the Project using appropriate figures, diagrams, maps and/or orthophotos,* *and will, at minimum, include the following additional information:*	
		Location of the Project components and associated works, as described above	Appendix 3B
		Legal description of land upon which the proposed Project will be constructed	1.4
		Land ownership information, including ownership of mineral rights	9.2.2.2
		Land acquisition plans for Project construction, operation and maintenance	9.2.2.2, 9.2.4.2
		Existing land use and land use designations currently in place	9.2.2.2
2.3	Project Schedule	The EIS will describe the Project's construction schedule, and will describe the construction, operation and maintenance phases of the Project	3.6

Table 2 Manitoba Infrastructure Environmental Assessment Scoping Document

MSD Scoping Document Section Number	MSD Scoping Document Section Name	EIS Content Requirement	EIS Section
2.4	Scope of the Assessment	*The following factors will be considered in the EA:*	
		Need and purpose of the proposed Project	2.2, 2.3
		Alternative means of carrying out the proposed Project that are technically and economically feasible	2.4
		Environmental effects of the proposed Project, including the environmental effects of malfunctions or accidents that may occur	6.2.4; 6.3.4; 6.4.4; 6.4.7; 7.2.4; 8.2.4; 8.3.6; 9.2.4; 9.3.4; 9.4.4; 9.5.4; 9.6.4; 10.2.4; 10.3.2; 10.4.4; 14.2; 14.3; 14.4; 14.5
		Changes to the proposed Project that may be caused by the environment	15.1 to 15.7
		Comments received from Indigenous people, local communities, and other stakeholders through the IPEP	5.3.4.5 and Appendix A to Chapter 5
		Technically and economically feasible measures to avoid, minimize or mitigate adverse environmental effects	6.2.4.2; 6.2.4.3; 6.2.4.4; 6.2.4.5; 6.3.4.2; 6.3.4.3; 6.4.4.2; 6.4.4.3; 6.4.7.2; 6.4.7.3; 6.4.7.4; 6.4.7.5; 6.4.7.6; 6.4.7.7; 7.2.4.3; 7.2.4.4; 8.2.4.2; 8.2.4.3; 8.2.4.4; 8.2.4.5; 8.3.6.2; 8.3.6.3; 8.3.6.4; 9.2.4.2; 9.2.4.3; 9.2.4.4; 9.2.4.5; 9.3.4.2; 9.3.4.3; 9.3.4.4; 9.3.4.5; 9.4.4.2; 9.4.4.3; 9.4.4.4; 9.4.4.5; 9.5.4.2; 9.6.4.2; 10.2.4.4; 10.2.4.5; 10.2.4.6; 10.2.4.7; 10.3.3.3

Table 2 Manitoba Infrastructure Environmental Assessment Scoping Document

MSD Scoping Document Section Number	MSD Scoping Document Section Name	EIS Content Requirement	EIS Section
		The significance of the residual environmental effects	7.2.5; 8.2.5; 8.3.7; 9.2.5; 9.3.5; 9.4.5; 9.5.5; 9.6.5; 10.2.5; 10.3.4
		Cumulative environmental effects that are likely to result from the proposed Project in combination with the effects of other known projects and activities that have been or will be carried out for the reasonably foreseeable future	11.1 to 11.17
		Requirements for follow-up and monitoring	12.1
3 Environmental Setting			
3.1	Physical Environment	*The EIS will describe the following attributes as they pertain to the Project:*	
3.1.1	Atmospheric Environment	Prevailing climate and meteorological conditions including historical and seasonal averages and extremes in monthly temperatures and dates of freeze and thaw; and monthly precipitation and snow cover	6.2.2
		Local air quality including, parameters related to climate change and existing greenhouse gas and other emissions sources and production	6.2.2
3.1.2	Geology and Geochemistry	The EIS will describe the geology and surficial materials, including geological deposits or resources that may be used for or otherwise potentially affected by the proposed Project	6.3.2; 6.3.2.2; 6.3.3; 6.3.4; 6.3.5
3.1.3	Topography and soil	The EIS will describe soil and landform features within the project area	6.3.2; 6.3.2.4; 6.3.3; 6.3.4; 6.3.5
3.1.4	Groundwater and surface water	The EIS will describe the following attributes as they pertain to the Project: watersheds (including lakes and streams); regional surface water flow and drainage; regional surface water quality; groundwater quantity, and groundwater quality	6.4.2.2; 6.4.5.2
3.2	Aquatic Environment	*The EIS will describe the following attributes as they pertain to the proposed Project:*	

Table 2 Manitoba Infrastructure Environmental Assessment Scoping Document

MSD Scoping Document Section Number	MSD Scoping Document Section Name	EIS Content Requirement	EIS Section
3.2.1	Fish and Fish Habitat	Fish populations on the basis of species, life stage, abundance, distribution, and movements, including information on the surveys carried out and the sources of data, (e.g. location of sampling stations, catch methods, date of catches, species)	7.2.2.1; 7.2.2.2; 7.2.10.1; 7.2.4; Appendix 7A
		Habitat preferences and requirements for fish species in Lake Manitoba, Lake St. Martin and its tributaries, and Lake Winnipeg	7.2.2.2
		Primary and secondary production in terms of phytoplankton, aquatic plants, zooplankton and benthic invertebrates	7.2.2.2
		Fish/Aquatic Habitat based on water depth, velocity, substratum, presence of cover (e.g., aquatic macrophytes, riparian vegetation), and function (including photos of representative habitats). Maps will be provided at a suitable scale indicating the surface area of potential or confirmed fish habitat for spawning, nursery, feeding, overwintering, migration routes	7.2.2.2
		Obstacles (e.g. beaver dams) or structures (e.g., water crossings, DAMS) that hinder the free passage of fish	7.2.2.2
		Species of interest identified by local and/or Indigenous people through TK studies and the IPEP	7.2.1.2; 7.2.2.2; 7.2.4
3.2.2	Aquatic Invasive Species	The EIS will also consider aquatic species identified as being of conservation concern at a national, provincial, regional or local level within the Project region with a focus on The Endangered Species and Ecosystems Act (Manitoba), Species at Risk Act, Committee on the Status of Endangered Wildlife in Canada (COSEWIC), and S1 to S2 Manitoba Conservation Data Centre Provincial ranked species	7.2.2.2
3.3	Terrestrial Environment	*The EIS will describe the following attributes as they pertain to the Project:*	
		Ecological land classification using ecological stratification	8.2.2.2
		Identification and quantification of broad vegetation classes	8.2.2.2

Table 2 Manitoba Infrastructure Environmental Assessment Scoping Document

MSD Scoping Document Section Number	MSD Scoping Document Section Name	EIS Content Requirement	EIS Section
		Description of vegetation communities based on species composition, site conditions, and topography	8.2.2.2
		Description of natural disturbance cycles, including fire and flooding, and their influence on ecosystems and vegetation	8.2.2.2; 8.2.4.3
		Invasive species	8.2.2.2
		Species of interest identified by local and/or Indigenous peoples through TK studies and the IPEP	8.2.2.2; 10.2
3.3.2	Ecosystems and Vegetative Species at Risk	The EA will also consider ecosystems and vegetative species identified as being of conservation concern at a national, provincial, regional or local level within the Project region, with a focus on The Endangered Species and Ecosystems Act (Manitoba), Species at Risk Act, COSEWIC, and S1 to S2 Manitoba Conservation Data Centre Provincial ranked species	8.2.2.2
3.3.3	Wildlife and Wildlife Habitat	*The EIS will describe the following attributes as they pertain to the Project:*	
	Amphibians and Reptiles	General information on amphibian and reptile (herptile) species known or expected to inhabit the area, including habitat and other life cycle requirements	8.3.2.2
		Information generated through desktop investigations, discussions with local and Indigenous people, and field investigations	8.3.2.1; 8.3.2.2;
		Other information sources relevant to herptiles in the region, such as the Manitoba Herps Atlas and Manitoba Conservation Data Centre (MBCDC)	8.3.2.2; 8.3.4
	Birds	General information on bird species known or expected to inhabit the area, including habitat and other life cycle requirements	8.3.3
		Identification of important areas, including nesting sites for colonial waterbirds and raptors	8.3.3
		Migratory birds and their habitats	8.3.3

Table 2 Manitoba Infrastructure Environmental Assessment Scoping Document

MSD Scoping Document Section Number	MSD Scoping Document Section Name	EIS Content Requirement	EIS Section
		Species of interest identified by local and/or Indigenous peoples through TK studies	8.3.2.2
		Information generated through desktop investigations, discussions with local and Indigenous people, and field investigations	8.3.2.1; 8.3.3
		Other information sources relevant to birds in the region, such as the Manitoba Breeding Bird Atlas and MBCDC information	8.3.4
	Mammals	General information on mammal species known or expected to inhabit the area, including habitat and other life cycle requirements	8.3.2.2
		Species of interest identified by local and/or Indigenous peoples through TK studies	8.3.2.2
		Information generated through desktop investigations, discussions with local and Indigenous people, and field investigations	8.3.2.2
		Other information sources relevant to mammals in the region, such as the MBCDC or MSD survey data	8.3.2.2; 8.3.4
	Terrestrial Species At Risk	The EIS will also consider terrestrial species identified as being of conservation concern at a national, provincial, regional or local level within the Project region, with a focus on The Endangered Species and Ecosystems Act (Manitoba), Species at Risk Act, COSEWIC, and S1 to S2 Manitoba Conservation Data Centre Provincial ranked species	8.3.4
3.4	Socio-Economic Environment	*The EIS will describe the following attributes as they pertain to the Project:*	
		Land and resource use	9.2; 9.2.2; 9.2.3; 9.2.4; 9.2.6; 11.8
		Parks and Designated Protected Areas	9.2; 9.2.2; 9.2.3; 9.2.4; 9.2.6; 11.8
		Tourism and recreation	9.2; 9.2.2; 9.2.3; 9.2.4; 9.2.6; 11.8

Table 2 Manitoba Infrastructure Environmental Assessment Scoping Document

MSD Scoping Document Section Number	MSD Scoping Document Section Name	EIS Content Requirement	EIS Section
		Human health and safety	9.5; 9.5.2; 9.5.3; 9.5.4; 9.5.6; 11.11
		Infrastructure and services	9.3; 9.3.2; 9.3.3; 9.3.4; 9.3.6; 11.9
3.4.1	Indigenous Peoples	*Through the IPEP, TK, prior studies and existing information, the EIS will provide information on the following with respect to Indigenous communities:*	
		Community information such as population and services	10.2.2.4
		Resource use including hunting, fishing, trapping and gathering	10.2.2.4
		Other economic activities	10.2.2.4
		Traditional and cultural activities	10.2.2.4
		Heritage and cultural resources	9.6.2, 10.2.2.4
3.4.2	Human Environment	*The EIS will provide information on the following with respect to non-Indigenous communities:*	
		Community information such as population and services	9.2; 9.2.2; 9.3; 9.3.2
		Resource use including hunting, fishing and trapping	9.2; 9.2.2
		Economic activities such as agriculture and other businesses	9.2; 9.2.2; 9.4; 9.4.4
		Heritage and cultural resources	9.6; 9.6.2
4 Indigenous and Public Engagement Program (IPEP)			
4	Indigenous and Public Engagement Program (IPEP)	Comments, questions and responses provided through the IPEP will be summarized by community and organization and documented in the EIS.	5.3.4.5 and Appendix 5A

Table 2 Manitoba Infrastructure Environmental Assessment Scoping Document

MSD Scoping Document Section Number	MSD Scoping Document Section Name	EIS Content Requirement	EIS Section
5 Environmental Assessment Approach			
5.2	Valued Components	*The VCs will be selected to help focus the EA, assess potential effects and, where necessary, measure the effectiveness of mitigation measures. Scoping of and justification for the VCs to be selected, and the resulting assessment of effects before and after the implementation of mitigation measures, will be provided in the EIS. VC selection will consider one or more of the following factors:*	
		The EIS will contain detailed rationale for the selection of VCs used for EA	4.4.1
5.3	Spatial and Temporal Boundaries	*Spatial and temporal boundaries will be scoped, justified and used for the EA. Spatial boundaries will delineate the geographic confines for assessment of potential effects to VCs and, as such, may vary in size for the following spatial extents:*	
		Project Footprint (PF) – Physical space or directly affected area within which Project components/activities are located and the immediately adjacent area. Permanent and temporary facilities (e.g., quarries and borrows) within which effects are likely to be measurable are included	3.1, Appendix 3B; Figure 3B-1, Figure 3B-2, Figure 3B-3
		Local Assessment Area (LAA) – Area within which Project effects are measurable and extending beyond the Project Footprint. This area will vary by VC	6.2.1.4; 6.3.1.4; 6.4.1.4; 7.2.1.5; 8.2.1.4; 8.3.1.4; 9.2.1.4; 9.3.1.4; 9.4.1.4; 9.5.1.4; 9.6.1.4; 10.2.1.6; 10.3.1.4
		Regional Assessment Area (RAA) – Area beyond the LAA within which most potential indirect and cumulative effects would occur	6.2.1.4; 6.3.1.4; 6.4.1.4; 7.2.1.5; 8.2.1.4; 8.3.1.4; 9.2.1.4; 9.3.1.4; 9.4.1.4; 9.5.1.4; 9.6.1.4; 10.2.1.6; 10.3.1.4

Table 2 Manitoba Infrastructure Environmental Assessment Scoping Document

MSD Scoping Document Section Number	MSD Scoping Document Section Name	EIS Content Requirement	EIS Section
		Temporal boundaries for the Project will consider the duration of construction (anticipated to be 5 years between 2019 and 2023) and operation	6.2.1.4; 6.3.1.4; 6.4.1.4; 7.2.1.5; 8.2.1.4; 8.3.1.4; 9.2.1.4; 9.3.1.4; 9.4.1.4; 9.5.1.4; 9.6.1.4; 10.2.1.6; 10.3.1.4
		The components of the existing physical, biophysical, Indigenous, and socioeconomic environments will be described for the Project's designated temporal and spatial assessment boundaries to provide context for an understanding of the potential effects of the proposed Project	6.2.2; 6.3.2; 6.4.2; 6.4.5; 7.2.2; 8.2.2; 8.3.2; 9.2.2; 9.3.2; 9.4.2; 9.5.2; 9.6.2; 10.2.2; 10.3.2; 10.4.4
5.4	Potential Effects and Mitigation	*Potential effects that will be taken into account and addressed in the EIS will include those identified in Section 5 of CEAA 2012, as well as those identified in the Environment Act Proposal Report Guidelines (Manitoba Sustainable Development 2017). Positive effects resulting from the Project will also be identified and discussed in the EIS*	
		The methods by which potential effects of the Project are predicted and assessed will be detailed in the EIS	6.2.1.3; 6.3.1.3; 6.4.1.3; 7.2.1.4; 8.2.1.3; 9.2.1.3; 9.3.1.3; 9.4.1.3; 9.5.1.3; 9.6.1.4; 10.2.1.5; 10.3.1.3
5.4.1	Effects Assessment Criteria	*The EIS will characterize and define all potential interactions between the Project and VCs by use of the following criteria:*	
		Magnitude of the effect	6.2.4.6; 6.3.4.4; 6.4.8; 7.2.4.5; 8.2.4.6; 8.3.6.5; 9.2.4.6; 9.3.4.6; 9.4.4.6; 9.5.4.3; 9.6.4.3; 10.2.4.8; 10.3.3.3
		Geographic extent of the effect	6.2.4.6; 6.3.4.4; 6.4.8; 7.2.4.5; 8.2.4.6; 8.3.6.5; 9.2.4.6; 9.3.4.6; 9.4.4.6; 9.5.4.3; 9.6.4.3; 10.2.4.8; 10.3.3.3

Table 2 Manitoba Infrastructure Environmental Assessment Scoping Document

MSD Scoping Document Section Number	MSD Scoping Document Section Name	EIS Content Requirement	EIS Section
		Timing of the effect	6.2.4.6; 6.3.4.4; 6.4.8; 7.2.4.5; 8.2.4.6; 8.3.6.5; 9.2.4.6; 9.3.4.6; 9.4.4.6; 9.5.4.3; 9.6.4.3; 10.2.4.8; 10.3.3.3
		Duration of the effect	6.2.4.6; 6.3.4.4; 6.4.8; 7.2.4.5; 8.2.4.6; 8.3.6.5; 9.2.4.6; 9.3.4.6; 9.4.4.6; 9.5.4.3; 9.6.4.3; 10.2.4.8; 10.3.3.3
		Frequency of the effect	6.2.4.6; 6.3.4.4; 6.4.8; 7.2.4.5; 8.2.4.6; 8.3.6.5; 9.2.4.6; 9.3.4.6; 9.4.4.6; 9.5.4.3; 9.6.4.3; 10.2.4.8; 10.3.3.3
		Reversibility of the effect	6.2.4.6; 6.3.4.4; 6.4.8; 7.2.4.5; 8.2.4.6; 8.3.6.5; 9.2.4.6; 9.3.4.6; 9.4.4.6; 9.5.4.3; 9.6.4.3; 10.2.4.8; 10.3.3.3
		Ecological and social context of the effect	6.2.4.6; 6.3.4.4; 6.4.8; 7.2.4.5; 8.2.4.6; 8.3.6.5; 9.2.4.6; 9.3.4.6; 9.4.4.6; 9.5.4.3; 9.6.4.3; 10.2.4.8; 10.3.3.3
		Existence of environmental standards, guidelines or objectives for assessing the effect	6.2.4.6; 6.3.4.4; 6.4.8; 7.2.4.5; 8.2.4.6; 8.3.6.5; 9.2.4.6; 9.3.4.6; 9.4.4.6; 9.5.4.3; 9.6.4.3; 10.2.4.8; 10.3.3.3
5.4.2	Mitigation	The EIS will identify, describe and propose technically and economically feasible mitigation or effect management measures to avoid, prevent or minimize potential effects at all Project phases. Mitigations measures will target specific Project-related effects and may include design changes, environmental protection policies, procedures and plans or Best	6.2.4.2; 6.2.4.3; 6.2.4.4; 6.2.4.5; 6.3.4.2; 6.3.4.3; 6.4.4.2; 6.4.4.3; 6.4.7.2; 6.4.7.3; 6.4.7.4; 6.4.7.5; 6.4.7.6; 6.4.7.7; 7.2.4.3;

Table 2 Manitoba Infrastructure Environmental Assessment Scoping Document

MSD Scoping Document Section Number	MSD Scoping Document Section Name	EIS Content Requirement	EIS Section
		Management Practices (BMPs). Positive effects will not require mitigation, but may be enhanced where feasible	7.2.4.4; 8.2.4.2; 8.2.4.3; 8.2.4.4; 8.2.4.5; 8.3.6.2; 8.3.6.3; 8.3.6.4; 9.2.4.2; 9.2.4.3; 9.2.4.4; 9.2.4.5; 9.3.4.2; 9.3.4.3; 9.3.4.4; 9.3.4.5; 9.4.4.2; 9.4.4.3; 9.4.4.4; 9.4.4.5; 9.5.4.2; 9.6.4.2; 10.2.4.4; 10.2.4.5; 10.2.4.6; 10.2.4.7; 10.3.3.3; 16.0; Table 16.2-1
5.5	Residual Effects	If residual effects are identified, they will be characterized by use of the effects assessment criteria (see Section 5.4.1), demonstrating how the effect has diminished or persisted through mitigation	6.2.4.6; 6.3.4.4; 6.4.8; 7.2.4.5; 8.2.4.6; 8.3.6.5; 9.2.4.6; 9.3.4.6; 9.4.4.6; 9.5.4.3; 9.6.4.3; 10.2.4.8; 10.3.3.3
		The determination of the significance of residual environmental effects will involve consideration and evaluation of specific assessment criteria based on the degree of potential Project effects	7.2.5; 8.2.5; 8.3.7; 9.2.5; 9.3.5; 9.4.5; 9.5.5; 9.6.5; 10.2.5; 10.3.4
		Characterization of the significance of the residual adverse effects will consider scientific study and analysis, TK, local knowledge and professional judgement, and will relate to all phases of the Project	7.2.5; 8.2.5; 8.3.7; 9.2.5; 9.3.5; 9.4.5; 9.5.5; 9.6.5; 10.2.5; 10.3.4
		The EIS will contain a conclusion on significance of residual environmental effects supported by scientific rationale and EA results, including the IPEP	7.2.9; 8.2.9; 8.3.11; 9.2.9; 9.3.9; 9.4.9; 9.5.9; 9.6.9; 10.2.8; 10.3.8
5.6	Accidents and Malfunctions	Project-related accidents and malfunctions relative to VCs will also be considered and described in the EIS, including accidental spills or releases of hazardous products during construction and structural failure of channels during and after operation	14.2 to 14.6

Table 2 Manitoba Infrastructure Environmental Assessment Scoping Document

MSD Scoping Document Section Number	MSD Scoping Document Section Name	EIS Content Requirement	EIS Section
5.7	Effects of the Environment on the Project	The potential for local conditions and natural hazards (e.g., severe weather conditions) to adversely affect the Project will be described in the EIS. Further consideration will also be given to how this, in turn, could result in effects to the environment	15.3 to 15.8
5.8	Cumulative Effects Assessment	The EIS will include an assessment of potential cumulative effects (i.e., the potential for Project effects to act in combination with the effects of other past, present and/or reasonably foreseeable future projects in the area)	11.1 to 11.17
		The EIS will outline the approach and methods used and will include a description and rationale for the spatial and temporal boundaries used in the cumulative effects assessment	11.1.2
6 Monitoring and Follow-up			
6	Monitoring and Follow-up	The EIS will summarize proposed monitoring and follow-up actions where appropriate, including monitoring, inspection and reporting to be implemented during construction, operation and maintenance of the proposed Project	12.2 to 12.15
		Monitoring and follow-up will focus on areas of key potential effects on VCs and will consider various methods such as the implementation of contract specifications, environmental management plans and emergency response plans, as well as specific environmental surveys and analysis	12.2 to 12.15

Table 3 Manitoba Sustainable Development Portion of Environmental Impact Statement Guidelines

EIS Content Requirement	EIS Section
Overview of provincial regulatory requirements	4.2.2; 4.2.3; Appendix 1A
Summary of rules of operation for the two proposed channels, as well as the existing Fairford Control Structure	Appendix 3D
Discussion of the effects of the present and potential future Assiniboine River Diversion on Lake Manitoba and Lake St. Martin	2.3.1.1; 2.3.1.2; 2.4.1

Manitoba

LAKE MANITOBA AND LAKE ST. MARTIN OUTLET CHANNELS PROJECT
Environmental Impact Statement

CHAPTER 1

INTRODUCTION AND OVERVIEW

March 2020

Table of Contents

1.0 INTRODUCTION AND OVERVIEW 1.1
1.1 GENERAL 1.1
1.2 THE PROPONENT – MANITOBA INFRASTRUCTURE 1.2
1.2.1 Overview 1.2
1.2.2 Corporate and Management Structures 1.3
1.2.3 Key Personnel 1.4
1.3 PROJECT OVERVIEW 1.5
1.3.1 Project Purpose 1.5
1.3.2 Project Components and Activities 1.6
1.4 PROJECT LOCATION 1.6
1.5 REGULATORY FRAMEWORK AND THE ROLE OF GOVERNMENT 1.9
1.5.1 Federal Regulatory Requirements 1.9
1.5.2 Provincial Regulatory Requirements 1.10
1.5.3 Indigenous Peoples 1.10
1.5.4 Land Use and Community Planning and Zoning 1.11
1.6 ORGANIZATION OF THE ENVIRONMENTAL IMPACT STATEMENT DOCUMENT 1.11
1.7 REFERENCES 1.13
1.7.1 Literature Cited 1.13
1.7.2 Personal Communication 1.13

LIST OF TABLES

Table 1.2-1 Water and Water Crossing Assets Managed by Manitoba Infrastructure in 2018 ..... 1.2
Table 1.4-1 Township and Ranges Intersected by LMOC and LSMOC 1.7
Table 1.4-2 Proposed Project Component Coordinates (NAD 83, UTM) 1.7

LIST OF APPENDICES

APPENDIX 1A RELEVANT FEDERAL AND PROVINCIAL LEGISLATION 1A.1

APPENDIX 1B FIGURES 1B.1

APPENDIX 1C STANDARDS AND GUIDELINES USED IN THE ASSESSMENT OF VALUED COMPONENTS 1C.1
1C.1 Water 1C.1
1C.2 Aquatics 1C.1
1C.3 Terrestrial 1C.2
1C.4 Indigenous People and Human Environment 1C.3

1.0 INTRODUCTION AND OVERVIEW

1.1 GENERAL

This Environmental Impact Statement (EIS) describes and evaluates the Lake Manitoba and Lake St. Martin Permanent Outlet Channels Project (the "Project") proposed to be developed between Lake Manitoba and Lake Winnipeg in Manitoba, Canada (Appendix 1B, Figure 1B-1). The EIS is being submitted to the Canadian Environmental Assessment Agency (Agency), pursuant to the *Canadian Environmental Assessment Act, 2012,* and to Manitoba Sustainable Development (MSD) as an Environment Act Proposal (EAP), pursuant to requirements of *The Environment Act* (Manitoba).

The purpose of the Project is to develop a permanent flood control management system for Lake Manitoba and Lake St. Martin for alleviating flooding in the Lake St. Martin region. This will be accomplished through construction of a new outlet channel from Lake Manitoba to Lake St. Martin (Lake Manitoba Outlet Channel) and a new outlet channel from Lake St. Martin to Lake Winnipeg (Lake St. Martin Outlet Channel). These new channels will facilitate better management and control of the floodwater on these lakes by providing additional capacity to move floodwater from Lake Manitoba through Lake St. Martin into Lake Winnipeg. The Project will reduce or completely avoid overland inundation during high water events such as the 2011 flood.

Widespread flooding across much of southern Manitoba in 2011 resulted in unprecedented inflows into Lake Manitoba and Lake St. Martin, overwhelming the capacity of existing waterways in the region and resulting in overland flooding that affected Indigenous communities such as the Lake St. Martin First Nation (FN), Dauphin River FN, Pinaymootang FN, Little Saskatchewan FN and Dauphin River Northern Affairs Community (NAC), as well as landowners, cottagers and many other communities in the region. Effects included damaged property, and in some cases displacement and evacuation from the community for several years.

The 2011 flood event led to the construction of the Lake St. Martin Emergency Outlet Channel (EOC), Reach 1 and Reach 3 (Appendix 1B, Figure 1B-2). EOC, Reach 1 was operated immediately following its construction from 2011 to 2012 and then again in 2014 following large spring rain events and large snow melts, further illustrating the need for long-term flood control measures in the region (note that Reach 3 was never fully constructed). After the 2011 and 2014 flood events, the Government of Manitoba commissioned several reviews, studies, and public engagement sessions on the issue of flooding in the region. These included the 2011 Flood Review Task Force, the Lake Manitoba and Lake St. Martin Regulation Review, and the Assiniboine River and Lake Manitoba Basins Flood Mitigation Study (KGS 2016, 2017, 2018). The output of this process identified future flooding vulnerabilities, prioritized opportunities to improve or construct new flood protection infrastructure throughout the province and identified several potential flood protection projects. While the proposed Project was selected as the preferred option, decommissioning of EOC (Reach1) is not presently proposed.

1.2 THE PROPONENT – MANITOBA INFRASTRUCTURE

1.2.1 Overview

Manitoba Infrastructure (MI) is the proponent for the proposed Project and after the receipt of the required regulatory approvals, it will develop, manage and operate the Project. MI is currently responsible for water and highway assets throughout Manitoba (Table 1.2-1); collectively, this infrastructure has an asset value of approximately $16 billion (as estimated in 2018).

Table 1.2-1 Water and Water Crossing Assets Managed by Manitoba Infrastructure in 2018

Manitoba Infrastructure Assets 2018	Number or Length
Water-Based Assets	
Dams	90
Community Ring Dikes	19
Linear River Diking	425 km
Diversions	8
Provincial Waterways	4,750 km
Pumping Stations	41
Reservoirs	61
Crossings over Drains	3,350
Thru-Dike Culverts	13,000
Other Water Control Structures	345
Highway Structures Assets	
Highway Structures and Overpasses	1,150
Bridge Sized Culverts	1,100
Overhead Sign Structures	183
Agricultural Drainage Network	
Agricultural Drainage Bridges	650
Bridge Sized Culverts	580
Source: (Manitoba Infrastructure 2018)	

1.2.2 Corporate and Management Structures

MI's vision, mission, values and priorities are as follows:

- *Vision:*
  - *Connect and protect Manitoba.*
- *Mission:*
  - *To ensure safe, reliable and sustainable infrastructure and services for Manitoba and its communities.*
- *Values:*
  - *Trustworthy, accountable, innovative, committed and caring.*
- *Priorities:*
  - *Strategic Infrastructure Investment:*
    - *Sustain cost effective and efficient program delivery.*
    - *Ensure MI's infrastructure investment plan is strategic and meets long term goals.*
  - *Safety and Protection:*
    - *Ensure the safety and protection of MI employees while at work.*
    - *Increase the resilience of Manitoba by focusing on the ability of Manitobans to prepare for and respond to the hazards and risks they face.*
    - *Ensure the safety of the travelling public while moving throughout Manitoba.*
  - *Fostering Relationships:*
    - *Build sustainable relationships through trust, communication and common understanding.*
  - *Building Capacity:*
    - *Develop a knowledgeable workforce that is flexible, dynamic and capable of meeting the challenges we face today and tomorrow.*
    - *Be efficient in the delivery of our services, products and programs.*

The various infrastructure projects and activities within Manitoba are delivered by one or a combination of the following divisions within Manitoba Infrastructure:

- Corporate Services
- Emergency Management and Public Safety
- Engineering and Operations
- Water Management and Structures

Each of the divisions is composed of various branches. The Lake Manitoba and Lake St. Martin Permanent Outlet Channels Project is a “Special Project” that is managed under the Water Management and Structures Division of MI. Appropriate resources required to effectively design and assess the Project are drawn from other branches, where appropriate.

1.2.3 Key Personnel

The Deputy Minister for Manitoba Infrastructure is:

Mr. Tareq Al-Zabet
Deputy Minister of Manitoba Infrastructure

The principal contact persons for the project are:

Ms. Ruth Eden
Acting Assistant Deputy Minister
Water Management and Structures
215 Garry Street
Winnipeg, MB, R3C 1S4

Ms. Christine Baljko
Project Director, Environment and Consultation
Water Management and Structures
215 Garry Street
Winnipeg, MB, R3C 1S4

This EIS was prepared on behalf of MI by Stantec Consulting Ltd. and a supporting team, including the following:

- AgriEarth Consulting Ltd.
- E. Hicks & Associates Ltd.
- Finlay Heritage Consultants
- M. Forster Enterprises
- North/South Consultants Inc.

Technical information used in preparing this EIS was generated by and/or reviewed by MI and their staff directly involved in the planning and design of the outlet channels and the Provincial Road (PR) 239 realignment. MI also developed the Project operating guidelines, hydrographs of water level changes, and projections for Lake Manitoba, Lake St. Martin and Lake Winnipeg. The assessment is based on information provided by Manitoba Infrastructure with support provided by their engineering service providers (KGS Group, Hatch Ltd. and their subconsultants). Manitoba Hydro provided input on Lake Winnipeg water level fluctuations.

1.3 PROJECT OVERVIEW

1.3.1 Project Purpose

As mentioned in Section 1.1, the purpose of the Project is to develop a permanent flood control management system for Lake Manitoba and Lake St. Martin. In spring 2011, widespread flooding occurred across much of southern Manitoba, resulting in unprecedented flows into Lake Manitoba and Lake St. Martin. Continued high flows extended well into the summer and overwhelmed the capacity of existing flood infrastructure, natural waterbodies, and watercourses. Lake Manitoba and Lake St. Martin levels peaked well above their desirable operating ranges in 2011 (1.4 m and 1.7 m [4.6 and 5.6 ft], respectively). The flooding on both lakes resulted in the long-term evacuation of surrounding communities, and the decision to construct the EOC, which was constructed in 2011 and consists of two discontinuous diversion channels known as Reach 1 and Reach 3 (Appendix 1B, Figure 1B-2). Reach 1 extends from Lake St. Martin into the Big Buffalo Lake wetland area. Reach 3 was not fully constructed and has never been operated (KGS 2014) and was intended to extend eastward to Lake Winnipeg from the approximate mid-point of Big Buffalo Creek. Reach 2 is the land between these two reaches. The susceptibility of the Lake St. Martin region to flooding was illustrated through the need to operate the EOC, Reach 1 in 2011 and again in 2014.

Planning and design for the Project began with the identification of the preferred Project in 2016 (KGS 2016) that included identifying preferred route alignments for each outlet channel, engineering studies and analyses, environmental data collection, and Indigenous and Public Engagement Processes. MI is proposing the development of a permanent, more effective, non-emergency flood management system, the purpose of which is to reduce the effects of future flood events in the Lake Manitoba and Lake St. Martin areas. It will consist of a new diversion channel from Lake Manitoba to Lake St. Martin (Lake Manitoba Outlet Channel, or LMOC) and a new diversion channel from Lake St. Martin to Lake Winnipeg (Lake St. Martin Outlet Channel, or LSMOC) (Appendix 1B, Figure 1B-1); the LSMOC includes a portion of the existing EOC Reach 3 (only partially constructed). During high water events, the LMOC and LSMOC will allow for better flood protection on Lake Manitoba and Lake St. Martin than EOC, Reach 1, by providing additional capacity to divert water from Lake Manitoba through Lake St. Martin and into Lake Winnipeg.

The LMOC will work in concert with the FRWCS to reduce potential flooding effects on Lake Manitoba. Generally, the channels will be operated when the lake levels exceed the operating range for Lake Manitoba (247.5 m asl, or 812.0 ft) and Lake St. Martin (243.8 m asl, or 799.9 ft), as outlined in MI's operating guidelines (Chapter 3, Appendix 3D).

The total estimated cost of the Project, from planning to development, is $540 M. The cost for the design and construction of the Project will be shared by the Province of Manitoba and Government of Canada. Canada has committed to cost sharing the Project, to a total of $247.5 M through the New Building Canada Fund – Provincial Territorial Infrastructure Component – National Regional Projects. Once an agreement between Canada and Manitoba to cost share is signed, the Project will become eligible for provincial funding.

1.3.2 Project Components and Activities

The proposed Project will comprise the following Main Works (described in detail in Chapter 3, Section 3.3):

- LMOC (Appendix 1B, Figure 1B-3):
  - a 24.1 km long, 100 m wide diversion channel in a 400 m right-of-way (ROW)
  - a combined bridge and water control structure
  - realignment and/or construction of PR 239 and related municipal roads
  - three road bridge structures
- LSMOC (Appendix 1B, Figure 1B-4):
  - a 23.8 km long, 120 m wide diversion channel in a 400 m ROW
  - a combined bridge and water control structure
  - several drop structures

Associated Works of the Project include quarries, work camps, staging areas and an electrical power distribution line that will be constructed and operated by Manitoba Hydro.

The Project is organized into three phases: site preparation and construction; operation and maintenance; and decommissioning and abandonment. In addition to the above list of components, the construction phase for the Project includes preparation of equipment marshalling areas, construction camps and staging areas as well as transporting equipment, machinery, vehicles, construction materials and supplies to the Project construction and staging areas. Construction is currently anticipated to occur over a three to five-year period and is contingent on receiving the necessary environmental licenses and approvals. The operations and maintenance phase includes the periods when the control structures are managing flood and non-flood conditions, as well as any required maintenance. There are no plans to decommission or abandon the proposed Project, as it will provide flood relief to communities and landowners in the Lake Manitoba and Lake St. Martin areas in perpetuity. The sequencing of phases and activities within the above-noted stages is described in more detail in Chapter 3.

1.4 PROJECT LOCATION

The Project is located within the Interlake Plain Ecoregion of the Boreal Plains Ecozone in central Manitoba (Smith et. al 1998). It is located in Manitoba's Interlake Region and within Treaty No. 2 lands. The LMOC would extend from Lake Manitoba northeast to Lake St. Martin (Appendix 1B, Figure 1B-3); this area is generally located north of the community of Ashern and south of Pinaymootang First Nation. The LSMOC is located between the northeastern most extent of Lake St. Martin and Sturgeon Bay on Lake Winnipeg (Appendix 1B, Figure 1B-4).

Coordinates are identified in Table 1.4-1 for major Project components that are illustrated on the Map of the Project region in Appendix 1B, Figure 1B-1. The township and ranges, as well as UTM coordinates, for the main Project components are listed in Tables 1-4-1 and 1.4-2.

Table 1.4-1 Township and Ranges Intersected by LMOC and LSMOC

Project Feature	Township			
Lake Manitoba Outlet Channel	26-8-W1	27-8-W1	28-8-W1	29-8-W1
Lake St. Martin Outlet Channel	32-5-W1	32-6-W1	33-5-W1	34-4-W1

Table 1.4-2 Proposed Project Component Coordinates (NAD 83, UTM)

Project Component			Zone	Easting	Northing
LMOC	Inlet		14 U	529841	5681518
	Outlet		14 U	534074	5704032
	Water Control Structure		14 U	532294	5701501
	Municipal Bridges	Iverson Road	14 U	532294	5701501
		Township Line Road	14 U	530796	5683620
		PTH 6	14 U	532037	5699259
		PR 239	14 U	530392	5693387
LSMOC	Inlet		14 U	557122	5738284
	Outlet		14 U	572725	5751400
	Water Control Structure		14 U	557122	5738284

Use and development varies widely throughout the Project region, some highlights are included in this subsection, further details are included in the EIS, specifically in Chapter 9. The LMOC is primarily located on private agricultural lands that will be purchased for the Project. Most agricultural activities are therefore related to cattle production, with some areas used for pastures and forage crops where the land is suitable for these practices. There are more than 60 residences within 3.0 km of the LMOC, the nearest of which is approximately 0.5 km from the channel.. Pinaymootang FN is the closest federal land to the nearest point of the LMOC at a distance of approximately 8.2 km and a distance of 13.7 km from the nearest point of the PR 239 realignment. The community of Moosehorn (not a First Nation Community) is located approximately 10.9 km from the nearest point of the LMOC.

The LSMOC is located entirely on Provincial Crown land; this area is currently considered semi-remote as road access is seasonal, with the nearest permanent residence (in Dauphin River FN) located approximately 6.1 km from the channel. Dauphin River FN and Lake St. Martin FN reserve boundaries are located approximately 4.6 km and 12.0 km respectively, from the LSMOC. Dauphin River FN is the closest federal reserve land to the LSMOC, located approximately 4.4 km from the nearest point of the LSMOC.

The only federal lands in the Project region are First Nation Reserve Lands. While the Project does not occupy federal lands, the proposed Project crosses lands used for traditional purposes by Lake St. Martin FN, Little Saskatchewan FN, Dauphin River FN, Pinaymootang FN and Peguis FN. With the exception of Peguis FN, the FNs in the Project region are signatories to Treaty No. 2, which was signed in August 1871 at Manitoba House. Peguis FN is a signatory to Treaty No. 1, which was signed in August 1871 at Lower Fort Garry in the present-day RM of St. Andrews. Peguis FN's Reserve lands were originally located north of East Selkirk, Manitoba but, in 1907, the Reserve was relinquished to the Government of Canada (Carter 1989) and their Reserve Lands were relocated into Treaty No. 2 territory. Peguis FN has an outstanding Treaty Land Entitlement (TLE) and Indigenous residents of the Dauphin River NAC also use the Project region for traditional purposes.

Métis people in the Province of Manitoba have constitutional rights to hunt for food for domestic use. In 2012, the Government of Manitoba and the Manitoba Metis Federation (MMF) signed a Métis Harvesting Agreement, which designated a Métis Natural Resource Harvesting Zone that includes Game Hunting Areas (GHAs) 16, 20 and 25, which are in the Project region.

The Interlake region acts as a key transportation corridor between the capital region of Manitoba and northern communities such as Thompson. Provincial Trunk Highway (PTH) 6 is a major road in the region and one of the main traffic arteries used to transport people and goods between northern and southern Manitoba (Appendix 1B, Figure 1B-1). There is one decommissioned rail line in the region that parallels PTH 6 until the turnoff of PR 513. There are five waste disposal grounds located proximate to the communities of Ashern, Dauphin River, Faulkner, Moosehorn and Pineimuta. Wastewater treatment lagoons are in place in these communities as well as in the Lake St. Martin FN, Little Saskatchewan FN, and Pinymootang FN (Dorward 2018, pers. comm.). Electrical services are provided to communities in the region by Manitoba Hydro.

The LMOC portion of the Project region includes industrial and commercial land uses. The Graymont Western Canada Inc. limestone and gypsum quarries and processing plant is located on PR 239 between the communities of Steep Rock and Faulkner (Appendix 1B, Figure 1B-1). There are many active quarries in the region, including quarry leases, private quarry permits, mining claims and casual quarry permits. There is no current quarry and mining activity that would be intersected by either the LMOC or the LSMOC. There are two forestry quota holders in the Project region.

There are two Provincial Parks located within the Project region, the Sturgeon Bay Provincial Park and the Watchorn Provincial Park (Appendix 1B, Figure 1B-1). Watchorn Provincial Park is a recreation park located on the eastern shore of Lake Manitoba, approximately 1 km southeast of the LMOC inlet. Watchorn Provincial Park provides facilities including a campground, beach, playground, picnic area and boat launch. Sturgeon Bay Provincial Park is a wilderness park that preserves physical features and biological communities that are representative of the Mid-Boreal lowland Ecoregion. It provides opportunity for a range of outdoor recreational experiences with no road access or facilities. The park is located approximately 4 km east of the LSMOC on the shore of Sturgeon Bay. Steep Rock Beach Park is located off PR 239 on the northeast shore of Lake Manitoba. It is a non-profit family campground located about 13 km west of the proposed PR 239 re-alignment (Appendix 1B, Figure 1B-3).

There are six Areas of Special Interest (ASIs) in the Project region: Lynx Bay ASI, Sturgeon Bay ASI, Mantagao Lake WMA, Reykjavik BGR Proposed WMA ASI, Gypsum Lake ASI and Idylwild ASI. The Sturgeon Bay ASI is composed of three parcels. There are nine Wildlife Management Areas (WMAs) in the region: Grahamdale WMA, located northeast of Grahamdale; Hilbre WMA, located west of Hilbre; Little Birch WMA, located southeast of Ashern; Mantagao Lake WMA, located east of Spearhill; Moosehorn WMA, located southwest of Moosehorn; and Peonan Point WMA, located northwest of Steep Rock. Protected areas in the region include: Dog Lake WMA (IUCN Category III), Hilbre WMA (IUCN Category IV) and the Reindeer Island Ecological Reserve, located north of Sturgeon Bay Provincial Park (IUCN Category II). Reykjavik Game Bird Refuge (GBR) is located across from Watchorn Bay along the shores of Lake Manitoba.

Resource use in the Project region consists mainly of hunting, trapping, fishing, camping, and recreation activities, e.g., snowmobiling. There are at least eight Resource Tourism Operators in the Project region. The nearest cottage developments to the Project are located in Steeprock, to the north of Portage Bay, as well as two developments on the north shore of Watchorn Bay on either side of the inlet of Rendall's Creek.

The Project is in GHAs 16, 21, 20, 19B and 25 and hunting of ungulates and birds occurs within the Project region. The region lies within the Interlake Registered Trapline (RTL, Open Trapping Zone 7) district and intersects a small portion of the Waterhen RTL sections on the west side of the region and a portion of the Gypsumville RTL section in the northwest area of the region. Commercial, subsistence and recreational fishing occurs on Lake Manitoba, Lake Winnipeg, Lake St. Martin, Dauphin River, Mantagao River, Sturgeon Bay and some tributaries.

The lakes and large rivers in the region are used by residents and tourists for several water-related activities such as recreational boating, windsurfing, sailing, canoeing, kayaking, swimming and the use of jet skis. During the winter months, the frozen lakes provide access for snowmobiles and other vehicles. There are many recreational and snowmobile trails located within the region.

1.5 REGULATORY FRAMEWORK AND THE ROLE OF GOVERNMENT

This EIS will be reviewed by both the federal and provincial governments. Sections 1.5.1 and 1.5.2 describe federal and provincial regulatory requirements. Additional details can be found in Section 4.2.

1.5.1 Federal Regulatory Requirements

The proposed Project is a designated project under the *Canadian Environmental Assessment Act, 2012*, and therefore requires an Environmental Assessment (EA). Pursuant to Section 15(d) of the CEAA, 2012, the Canadian Environmental Assessment Agency (the Agency) is the authority responsible for federal review of the proposed Project. The Agency issued Guidelines for the Preparation of an EIS for the Project to MI on May 15, 2018. Appendix 1A lists federal legislation relevant to the proposed Project.

In addition to the above, Chapter 13 of this EIS describes and evaluates Project-related principles and guidelines pertaining to sustainable development as outlined in the 2008 *Federal Sustainable Development Act.* Furthermore, the Agency's Operational Policy Statements (OPS), technical guidance and reference documents under CEAA, 2012 also guided the EA for the proposed Project as did procedural guides and *Species at Risk Act* Policies and Guidelines (see Chapter 4, Section 4.3).

1.5.2 Provincial Regulatory Requirements

The proposed Project is a 'Class 3' development under the Classes of Development Regulation (164/88) of *The Environment Act* (Manitoba) and therefore requires an Environment Act Licence. Appendix 1A lists provincial legislation relevant to the proposed Project.

Provincial work permits required under *The Crown Lands Act* for construction, and camp development on provincial Crown lands will be secured prior to construction of the proposed Project. Casual quarry permits required under Subsection 133(1) of *The Mines and Minerals Act* will be acquired by contractors prior to quarry development, if required. Burning permits required under Section 19(1) of *The Wildfires Act* will be secured as needed. Permits for petroleum storage tanks over 5,000 L on Crown land are required under *The Dangerous Goods Handling and Transportation Act* (Storage and Handling of Petroleum Products and Allied Products Regulation) and will also be secured as needed. Water for use during construction activities will likely be sourced from surface or groundwater sources adjacent to Project infrastructure in accordance with applicable regulatory guidelines and requirements.

As noted above, the EA considers the principles and guidelines of sustainable development related to the environment, including those listed in the Provincial *Climate and Green Plan Implementation Act* (Chapter 13). Numerous standards and guidelines may also apply to the Project and are listed in Appendix 1C. Specific standards and guidelines applicable to the various valued components will be identified in the applicable assessment chapters.

1.5.3 Indigenous Peoples

The Indigenous communities of Dauphin River FN, Dauphin River Northern Affairs Community (NAC), Lake St. Martin FN, Pinaymootang FN and Little Saskatchewan FN are located in the Project region and are directly affected by the proposed Project. In addition, Peguis FN uses lands in proximity to the Project and has a Community Interest Zone (CIZ) just outside of the region. Other Indigenous groups potentially affected by the proposed Project are discussed in Chapter 5.

Dauphin River FN, Lake St. Martin FN, Pinaymootang FN, Little Saskatchewan FN and Pequis FN exercise their treaty rights in the Project region and are members of the Interlake Reserves Tribal Council (IRTC). Dauphin River FN elects its Chief and Council through a Custom Electoral System. Lake St. Martin, Pinaymootang, Little Saskatchewan and Pequis FNs elect their Chiefs and Councils pursuant to the *Indian Act*. Dauphin River NAC was recognized as a NAC in March 1970 and is represented by a Mayor and Council under *The Northern Affairs Act*:

1.5.4 Land Use and Community Planning and Zoning

Regional Municipality (RM) boundaries in the Project region (as generally portrayed in Appendix 1B, Figure 1B-1) are shown in Appendix 1B, Figure 1B-3 and Figure 1B-4. The Project is primarily located in the Regional Municipality (RM) of Grahamdale. The RM of Grahamdale has a Development Plan (By-law No. 936/2005, RM of Grahamdale 2005) and a Zoning By-Law (No. 937/2005, RM of Grahamdale, 2005b). The Project region also includes a small portion of the RM of West Interlake. The RM has a development plan (RM of West Interlake Development Plan 2/04). The FNs in the Project region currently do not have any land use or community plans in place.

1.6 ORGANIZATION OF THE ENVIRONMENTAL IMPACT STATEMENT DOCUMENT

This EIS for the proposed Project is organized as follows:

- The Concordance Table identifies wherein the EIS Guideline requirements for this Project are met.
- The Table of Contents is a listing of chapters, sections of chapters and lists of tables, figures, photographs, and appendices.
- Chapter 1: Introduction and Overview provides background information about MI, an overview of the proposed Project and its location, its purpose and cost, the regulatory framework under which the Project will be reviewed, and an overview of the EIS including its organization.
- Chapter 2: Project Justification and Alternatives Considered describes the need for and purpose of the proposed Project, as well as alternative means of carrying out the proposed Project.
- Chapter 3: Project Description describes the scope of the proposed Project, phases of the Project, Project components and activities, as well as the Project schedule.
- Chapter 4: Environmental Assessment Approach presents an overview of the EA approach, the scope of the EA, sources of information used to identify potential changes to the environment and identified valued components (VCs), effects assessment criteria, and the manner to which the following are evaluated: accidents or malfunctions, cumulative effects, the effects of the environment on the Project, follow-up and monitoring plans.
- Chapter 5: Indigenous and Public Engagement describes community meetings, workshops, open houses and discussions with regulators and other stakeholders.
- Chapter 6: Physical Environment provides a description of the Project setting and baseline conditions for the physical environment. It describes predicted changes resulting from each phase and Project component, and the resulting potential effects on VCs, and identification of any residual effects that may remain following the implementation of mitigation measures.

- Chapter 7: Aquatic Environment Effects Assessment provides a description of the Project setting and baseline conditions for aquatic environment. It describes predicted changes resulting from each phase and Project component, and the resulting potential effects on VCs, with a determination of significance and identification of any residual effects that may remain following the implementation of mitigation measures.
- Chapter 8 Terrestrial Environment Effects Assessment provides a description of the Project setting and baseline conditions for the terrestrial environment. It describes predicted changes resulting from each phase and Project component, and the resulting potential effects on VCs, with a determination of significance and identification of any residual effects that may remain following the implementation of mitigation measures.
- Chapter 9 Human Environment Effects Assessment provides a description of the Project setting and baseline conditions for the human environment. It describes predicted changes resulting from each phase and Project component, and the resulting potential effects on VCs, with a determination of significance and identification of any residual effects that may remain following the implementation of mitigation measures.
- Chapter 10 Indigenous Peoples provides a description of the Project setting and baseline conditions for Indigenous people. It describes predicted changes resulting from each phase and Project component, including a discussion of the Project impacts in relation to Aboriginal and Treaty Rights.
- Chapter 11: Cumulative Effects addresses the cumulative effects on each VC selected by examining effects of past activities to contextualize the current state of the VC and then comparing the future scenario with the project and without the project.
- Chapter 12: Follow-up and Monitoring Program describes the programs proposed to verify the accuracy of the effects assessment and the effectiveness of recommended measures to mitigate potential adverse effects of the Project.
- Chapter 13: Project Sustainability summarizes applicable environmental best practices and appropriate mitigation measures to be implemented during construction, operation and maintenance of the proposed Project, as well as MI's commitment to Sustainable Development.
- Chapter 14: Accidents and Malfunctions identifies the risks (likelihood and magnitude) of potential accidents and malfunctions related to the Project and the measures established to protect against occurrences, including contingency and emergency response procedures.
- Chapter 15: Effects of the Environment on the Project describes how local conditions and natural hazards could adversely affect the project and result in effects to the environment, and the measures to minimize the potential adverse environmental effects.
- Chapter 16: Summary and Conclusions summarizes the key findings of the EIS.
- References presents literature sources and personal communications cited and contacts made during the development of the EIS. A references section will be provided at the end of each chapter.

- Appendices includes a glossary of terms used in the EIS including lists of acronyms, units and abbreviations as well as other appendices that support the information provided in specific chapters. Applicable appendices will be provided at the end of each chapter.
- Technical reports and studies referred to, but not included in the EIS have been provided separately to the Impact Assessment Agency of Canada.

1.7 REFERENCES

1.7.1 Literature Cited

Carter, Sarah. 1989. Site Review: St. Peter's and the Interpretation of the Agriculture of Manitoba's Aboriginal People. Manitoba History, Number 18, Autumn 1989, St. John's College, University of Manitoba.

KGS Group Consulting Engineers. 2014. Assiniboine River & Lake Manitoba Basins Flood Mitigation Study. Lake Manitoba & Lake St. Martin Outlet Channels Conceptual Design – Stage 1 – Deliverable No: LMB-01. 12-0300-011. February 2014.

KGS Group Consulting Engineers. 2016. Assiniboine River & Lake Manitoba Basins Flood Mitigation Study. Final Report. 12-0300-011. January 2016.

KGS Group Consulting Engineers. 2017. Investigations and preliminary engineer for LMB Outlet Channels Options C and D: Deliverable D3. Annual Monitoring Report to July 2017. Final – Rev 0. KGS Group 16-0300-006. July 2017.

KGS Group Consulting Engineers. 2018. Investigations and preliminary engineer for LMB Outlet Channels Options C and D: Deliverable D2. Annual Monitoring Report to July 2018. Final – Rev 0. KGS Group 16-0300-006. August 2018.

Manitoba Infrastructure. 2018. Water and Water Crossing Assets Managed by Manitoba Infrastructure.

Smith, R.E., Veldhuis, H., Mills, G.F., Eilers, R.G., Fraser, W.R., Lelyk, G.W. 1998. Terrestrial ecozones, ecoregions, and ecodistricts of Manitoba: an ecological stratification of Manitoba's natural landscape. Land Resource Unit, Brandon Research Centre, Research Branch, Agriculture and Agri-Food Canada.

1.7.2 Personal Communication

Dorward, K. 2018. Environment Officer, Manitoba Sustainable Development, Environmental Compliance & Enforcement Division. Data provided to Maureen Forester, M Forster Enterprises, Winnipeg, MB, 2018.

Appendix 1A RELEVANT FEDERAL AND PROVINCIAL LEGISLATION

LIST OF TABLES

Table 1A-1 Applicable Federal Legislation 1A.2
Table 1A-2 Provincial Legislation 1A.4

Table 1A-1 Applicable Federal Legislation

Act[1]	Regulations/Policy with Potential Project Implications	Regulatory Objectives, Project Linkages and Permits
Canadian Environmental Assessment Act, 2012, SC 2012, c 19, s 52	• Regulations Designating Physical Activities, SOR/2012-147 • Prescribed Information for the Description of a Designated Project Regulations, SOR/2012-148	• Identifies and defines activities that are subject to an environmental assessment. • Identifies requirements and provides guidance for environmental assessments of designated projects. • Project requires environmental assessment and approval.
Canadian Environmental Protection Act, 1999 (S.C. 1999, c. 33, s 64, sched 1)	• Provides a series of regulations for contaminants/toxic substances	• Guidance in managing toxic/hazardous materials. • The potential risks of environmental pollutants and toxic substances are evaluated under this Act that also addresses pollution prevention and the protection of the environment (Environment Canada) and human health (Health Canada).
The Hazardous Products Act, RS 1985 c H-3	• Hazardous Products Reg, SOR/2015-17	• Prohibitions for the manufacturing, importing, selling, advertising, packaging, and labelling of consumer products, including those that are a danger to human health and safety. • Guidance on use of hazardous products
Canada Water Act, RSC 1985, c C-11	• Provides guidelines for Canadian drinking water quality	• Protection of water resources, including water quality.
Explosives Act, RSC 1985, c E-17	• Explosives Regulations, 2013 SOR/2013-211	• Legislates and regulates the manufacturing, testing, acquisition, possession, sale, storage, transportation, import and export of explosives. • Blasting activities, explosives storage and transport will be licensed.
Federal Sustainable Development Act, S.C. 2008, c. 33	• Requires the Minister to develop, implement and update a Federal Sustainable Development Strategy with the development of goals and targets with respect to sustainable development in Canada.	• Guidance on sustainable development.

Table 1A-1 Applicable Federal Legislation

Act[1]	Regulations/Policy with Potential Project Implications	Regulatory Objectives, Project Linkages and Permits
*Fisheries Act, RSC 1985, c F-14** **Amended on August 28, 2019*	• Applications for Authorization under Paragraph 35(2)(b) of the *Fisheries Act* Regulations, SRO/2013-191. • Paragraph 36(3) prohibits deposition of a deleterious substance of any type in water frequented by fish or in any place where the deleterious substance may enter the water, except those authorized by regulation. • Aquatic Invasive Species Regulation SOR/2015-121.	• Protects fish (as defined by the Act) from serious harm. • Identifies general prohibitions, fisheries protections and pollution prevention, as well as requirements for authorization of works which may cause serious harm to fish prior to construction. • Protects against introductions of pollutants or high levels of sediment that could be deleterious to fish. • Lists invasive species that are prohibited and controlled. Identifies activities and regulatory tools to prevent the introduction of aquatic invasive species into Canadian waters and to control and manage their establishment and spread, once introduced.
Migratory Birds Convention Act, 1994, SC 1994, c 22	• Migratory Birds Regulations, CRC, c 1035	• To protect and conserve designated migratory birds and their nests. • Activities that have the potential to potentially destroy or harass migratory birds and/or their nests. • Permit required to kill, capture, take, buy, sell, exchange, or possess migratory birds, or remove or eliminate birds or nests.
*Navigation Protection Act, RSC 1985, c N-22** **Amended and renamed as the* Canadian Navigable Waters Act *on August 28, 2019*	• Navigable Waters Bridges Regulations. CRC, c 1231 • Navigable Waters Works Regulations. CRC, c 1232	• Protection of the right to navigation on navigable and scheduled waterways. • Identifies prohibitions for the construction, placement, alteration, repair, reconstruction, removal or decommissioning of works in, on, over, under, through or across scheduled navigable water. • Identifies requirements for authorization of works, and the potential for opting in for works at non-scheduled waters prior to construction.

Table 1A-1 Applicable Federal Legislation

Act[1]	Regulations/Policy with Potential Project Implications	Regulatory Objectives, Project Linkages and Permits
Species at Risk Act, SC 2002, c 29	• Various regulations listing wildlife species at risk	• Prohibits killing, harming or harassing endangered or threatened species at risk. • Provides for plans and strategies to enable the recovery and management of endangered, threatened or extirpated species • Prohibits destruction of critical habitat • Allows for the management of species of special concern to prevent them from becoming endangered or threatened. • Permit required for activities affecting a wildlife species at risk or any part of its critical habitat if it is scientific research and/or benefits the species or its critical habitat, or affecting the species is incidental to carrying out the activity
Transportation of Dangerous Goods Act, 1992, SC 1992, c 34	• Transportation of Dangerous Goods Regulations, SOR/2008-34	• Defines methods for handling, containment and transportation of substances that could cause damage to personal safety or the environment.

Table 1A-2 Provincial Legislation

Act	Regulations/Policy with Potential Project Implications	Regulatory Objectives, Project Linkages and Permits
The Environment Act, C.C.S.M. c. E125	• Classes of Development Regulation 164/88	• Classifies developments and identifies requirements for provincial licensing and environmental assessment.
	• Environment Act Fees Regulation 168/96	• Defines applicable environment act proposal application fees.
	• Licensing Procedures Regulation 163/88	• Defines information required to apply for licensing under *The Environment Act*.
	• Notice and Reporting Regulation 126/2010	• Defines requirements regarding the notice of a licensing decision and reporting of releases to the environment.
	• Onsite Wastewater Management Systems Regulation 83/2003	• Defines proper construction and permitting for onsite water management systems.

Table 1A-2 Provincial Legislation

Act	Regulations/Policy with Potential Project Implications	Regulatory Objectives, Project Linkages and Permits
The Crown Lands Act, C.C.S.M. c. C340	• Agricultural Crown Lands Leases and Permits Regulation 152/2017 • Crown Lands Fees Regulation 130/91 • Land Administration Fees Regulation 216/89 • Vehicle Use on Crown Lands Resource Roads Regulation 145/91	• Identifies requirement for and issuance of leases, permits, easements and rights-of-way for specified works on provincial Crown lands. • Work permits will be required.
The Dangerous Goods Handling and Transportation Act, C.C.S.M. c. D12	• Dangerous Goods Handling and Transportation Fees Regulation 164/2001 • Dangerous Goods Handling and Transportation Regulation 55/2003 • Environmental Accident Reporting Regulation 439/87 • Hazardous Waste Regulation 195/2015 • Storage and Handling of Petroleum Products and Allied Products Regulation188/2001	• Identifies requirements for handling, containment and transportation of substances that could cause damage to personal safety or the environment • Outlines reporting requirements in the case of an accidental spill. • Defines categories of hazardous wastes and registration of generators of hazardous waste. • Outlines requirements of storage systems for petroleum products.
The Endangered Species and Ecosystems Act, C.C.S.M. c. E111	• Threatened, Endangered and Extirpated Species Regulation 25/98	• Lists threatened, endangered and extirpated species and ecosystems. • Ensures protection of species that are threatened, endangered or of special concern in Manitoba. • Conserves and protects threatened and endangered ecosystems in Manitoba and promotes their recovery. • Permit needed to kill, take, collect or capture an endangered species.
The Fires Prevention and Emergency Response Act C.C.S.M. c. F80	• Regulation 46(1) regarding fire protection devices, incident management, training, etc.	• Provides for control of activities regarding the prevention, detection and extinguishment of fires. • Work camp occupancy permit required.
The Forest Act C.C.S.M c. F150	• Various regulations	• Provides for the regulation and administration of forests within Crown lands and provincial forests. • Permit required to enter forest land to cut or remove timber.

Table 1A-2 Provincial Legislation

Act	Regulations/Policy with Potential Project Implications	Regulatory Objectives, Project Linkages and Permits
The Groundwater and Water Well Act *C.C.S.M. c. G110*	• Groundwater and Water Well (General Matters) Regulation 214/2015 • Well Standards Regulation. 215/2015	• Well drilling and potential contamination from spills. • Licence required for the operator to engage in the business of drilling wells.
The Heritage Resources Act, C.C.S.M. c. H39.1	• Heritage Resources Forms Regulation 99/86 • Heritage Objects Designation Regulation 160/89 • Heritage Sites Designation Regulation. 122/88R	• Designates heritage sites and identifies protections for heritage resources and heritage resource sites, including the requirement to conduct a Heritage Resource Impact Assessment (HRIA). • A permit is required for the HRIA.
The Highway Traffic Act, SM 1985-86, c. 3	• Designated Construction Zones Regulation 145/2014	• Provides guidelines and requirements for vehicles and driving on Manitoba highways.
The Mines and Minerals Act, C.C.S.M. c. M162	• Quarry Minerals Regulation 1992, Regulation 65/92 • Drilling Regulation 1992 • Regulation 63/92	• Identifies and outlines requirements for sustainable development of mineral product exploration and production, including quarrying, in Manitoba. • Quarry permits will be required.
The Noxious Weeds Act, C.C.S.M. c. N110	• Noxious Weeds Regulation 42/2017	• Identifies noxious weeds that may adversely impact Manitoba's environment or economy • Outlines responsibilities to control or destroy such weeds and prohibits their spread during construction works.
The Ozone Depleting Substances Act, O 80 1990	• Ozone Depleting Substances and Other Halocarbons Regulation 103/94	• Provides for the prevention, reduction, and eventual elimination of ozone-depleting substances. • Guidance on dealing with ozone depleting substances.
The Pesticides and fertilizers Control Act, P 40	• Regulations Section 8, regarding equipment, products, application methods, etc.	• Potential use of pesticides for vegetation control. • Application licence and Pesticide Use Permit required.
The Public Health Act, P210	• Regulation Part 12, relates to the preservation of health including conditions that may contaminate or pollute air, food or water, etc.	• Food handling permit is required for construction camps if they have kitchen facilities.

Table 1A-2 Provincial Legislation

Act	Regulations/Policy with Potential Project Implications	Regulatory Objectives, Project Linkages and Permits
The Climate and Green Plan Act, CCSM c C134	• Requires the Minister to develop a plan to reduce greenhouse gas emissions and address the effects of climate change, promote sustainable development, improve the management and protection of Manitoba's water resources, and preserve and protect Manitoba's natural habitat and biodiversity	• Guidance on sustainable development.
The Waste Reduction and Prevention Act, W 40	• Various regulations addressing types of wastes	• Guidance on managing solid waste
The Water Protection Act, C.C.S.M. c. W65	• Aquatic Invasive Species Regulation 173/2015 • Nutrient Management Regulation 62/2008 • Manitoba Water Quality Standards, Objectives and Guidelines Regulation 196/2011	• Provides protection and stewardship of Manitoba's water resources and aquatic ecosystems. • Identifies aquatic invasive species and precautions to prevent their spread. • Outlines water quality guidelines.
The Water Resources Administration Act, C.C.S.M. c. W70	• Regulations Section 26(1) designating areas subject to flooding, land use within designated areas, compensation, etc.	• Outlines a framework for the use and administration of water control works, including requirements and processes for approval of operating guidelines.
The Water Resources Conservation Act *C.C.S.M. c. W72*	• Water Resources Conservation Regulation 179/2010	• Provides for the conservation and protection of Manitoba's water resources, and of the ecosystems associated with, and reliant upon, those water resources
The Water Rights Act, C.C.S.M. c. W80	• Water Rights Regulation 126/87	• Identifies rights and use of water in Manitoba and prohibitions against diversion of water or operation of water works and sets requirements for permitting and protection of aquatic ecosystems. • Permits may be required for drainage works and groundwater depressurization. • Includes provisions for compensation for impacted wetlands.

Table 1A-2 Provincial Legislation

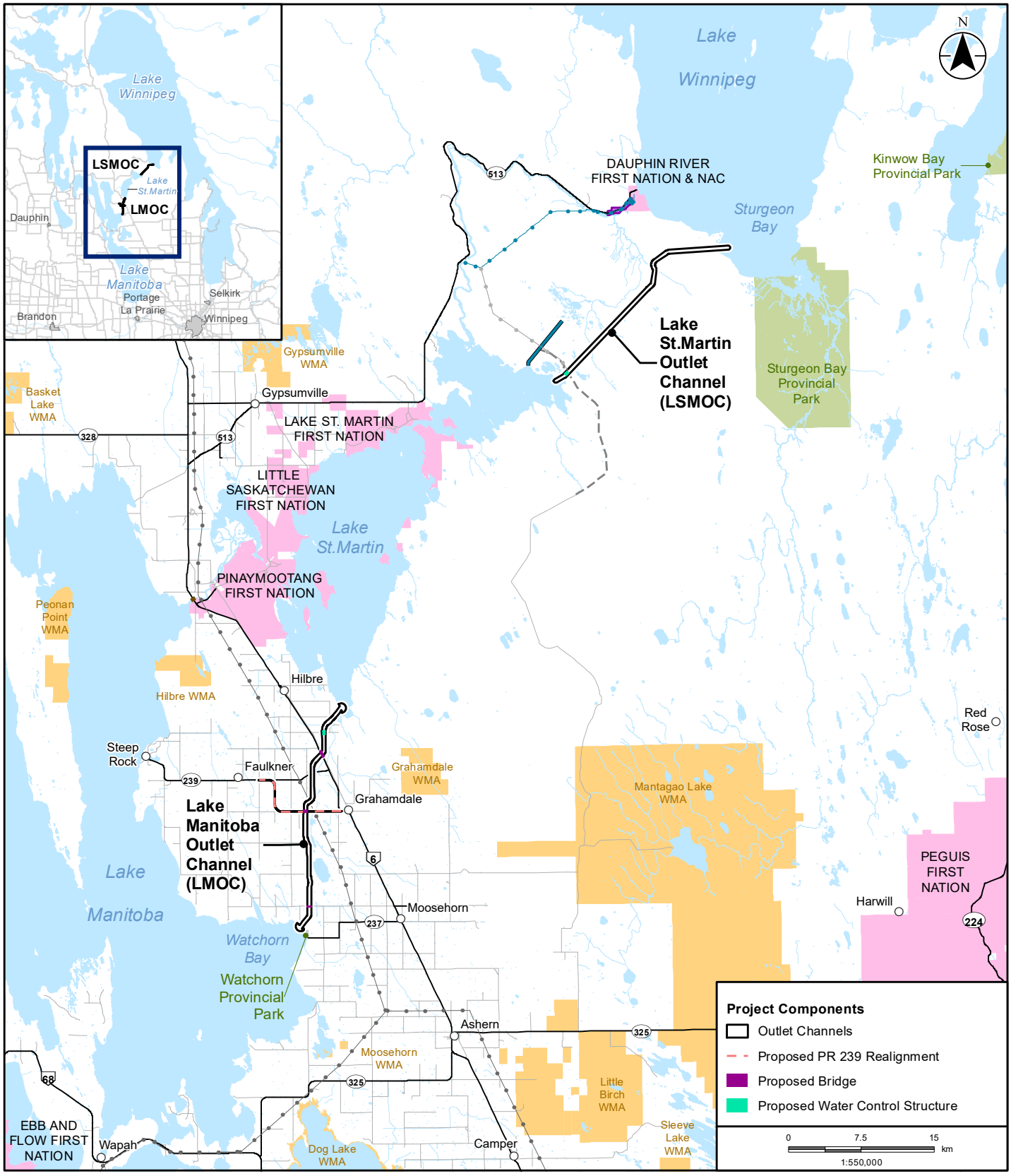
Act	Regulations/Policy with Potential Project Implications	Regulatory Objectives, Project Linkages and Permits
The Wildlife Act, C.C.S.M. c. W130	• General Hunting Regulation 351/87 • Hunting Areas and Zones Regulation. 220/86 • Trapping Area and Zones Regulation Reg. 149/2001 • Wildlife Protection Regulation 85/2003	• Designates provincial wildlife lands. • Regulates licensed harvest of wildlife • Identifies various other protections for wildlife in Manitoba.
The Wildfires Act, C.C.S.M. c. W128	• Ministerial Regulations Part 14 regarding permit issuance, disposal of slash/debris, etc. • Burning Permit Areas Regulation 242/97	• Provides for the avoidance of wildfires in areas throughout Manitoba other than cities, towns, villages, or national parks. • Outlines wildfire controls, duties and prohibitions. • A permit is required to burn clearing debris.
The Workplace Safety and Health Act, C.C.S.M. c. W210	• Workplace Safety and Health Regulation 217/2006	• Outlines safety related duties in the workplace and identifies measures to ensure that safe work practices are being followed to protect health and safety of workers.

[1]Listed Legislation represents Acts which were in force at the time of the initial filing for the Lake Manitoba and Lake St. Martin Outlet Channel Environmental Impact Statement (August 2019).

Appendix 1B FIGURES

LIST OF FIGURES

Figure 1B-1 Project Region 1B.2
Figure 1B-2 Location of Lake St. Martin Emergency Outlet Channel in Relation to the Proposed Permanent Outlet Channel..... 1B.3
Figure 1B-3 Proposed Route for the LMOC..... 1B.4
Figure 1B-4 Proposed Route for the LSMOC 1B.5



Legend

- Fairford Water Control Structure
- Lake St.Martin Emergency Outlet Channel (Reach 1)
- Lake St.Martin Access Road
- Existing Transmission Line
- Existing Distribution Line
- Planned Distribution Line
- Provincial Highway (PTH/PR)
- Municipal Road
- Northern Affairs Community (NAC)
- First Nation
- Wildlife Management
- Provincial Park

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/23/2019 10:43:01 AM

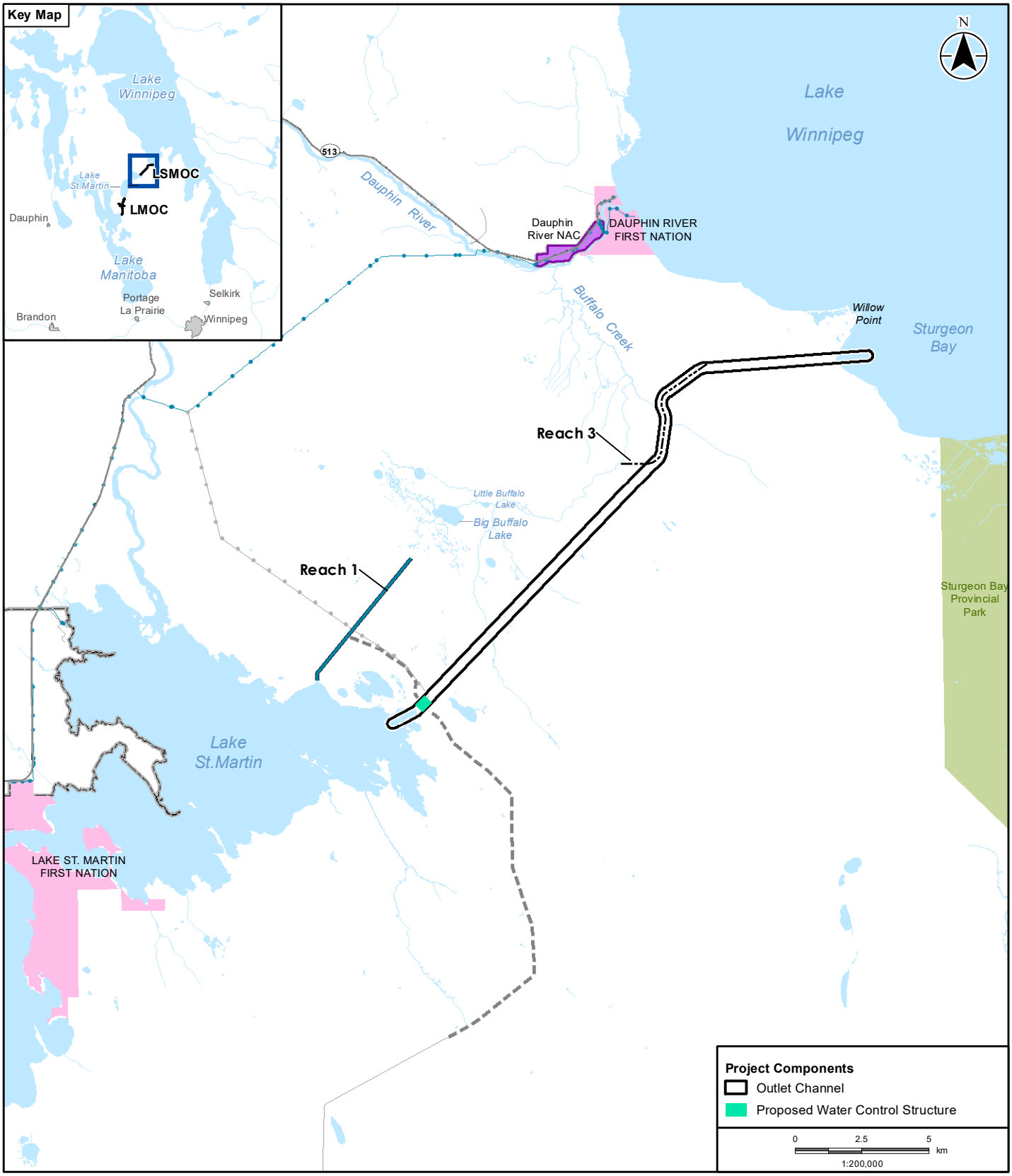
Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

Project Region

Figure 1B-1

G:\ GIS_Project_Folder\114715100\figures\Ch1 Intro\Final\Fig 1B-1 INTRO Project Region.mxd



Legend

- Lake St.Martin Emergency Outlet Channel (Reach 1)
- Lake St.Martin Emergency Outlet Channel (Reach 3)
- Lake St.Martin Access Road
- Existing Distribution Line
- Planned Distribution Line
- Provincial Highway (PTH/PR)
- Municipal Road
- Rural Municipality
- Northern Affairs Community (NAC)
- First Nation
- Provincial Park

Notes

1. Coordinate System: WGS 1984 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/21/2019 1:41:26 PM

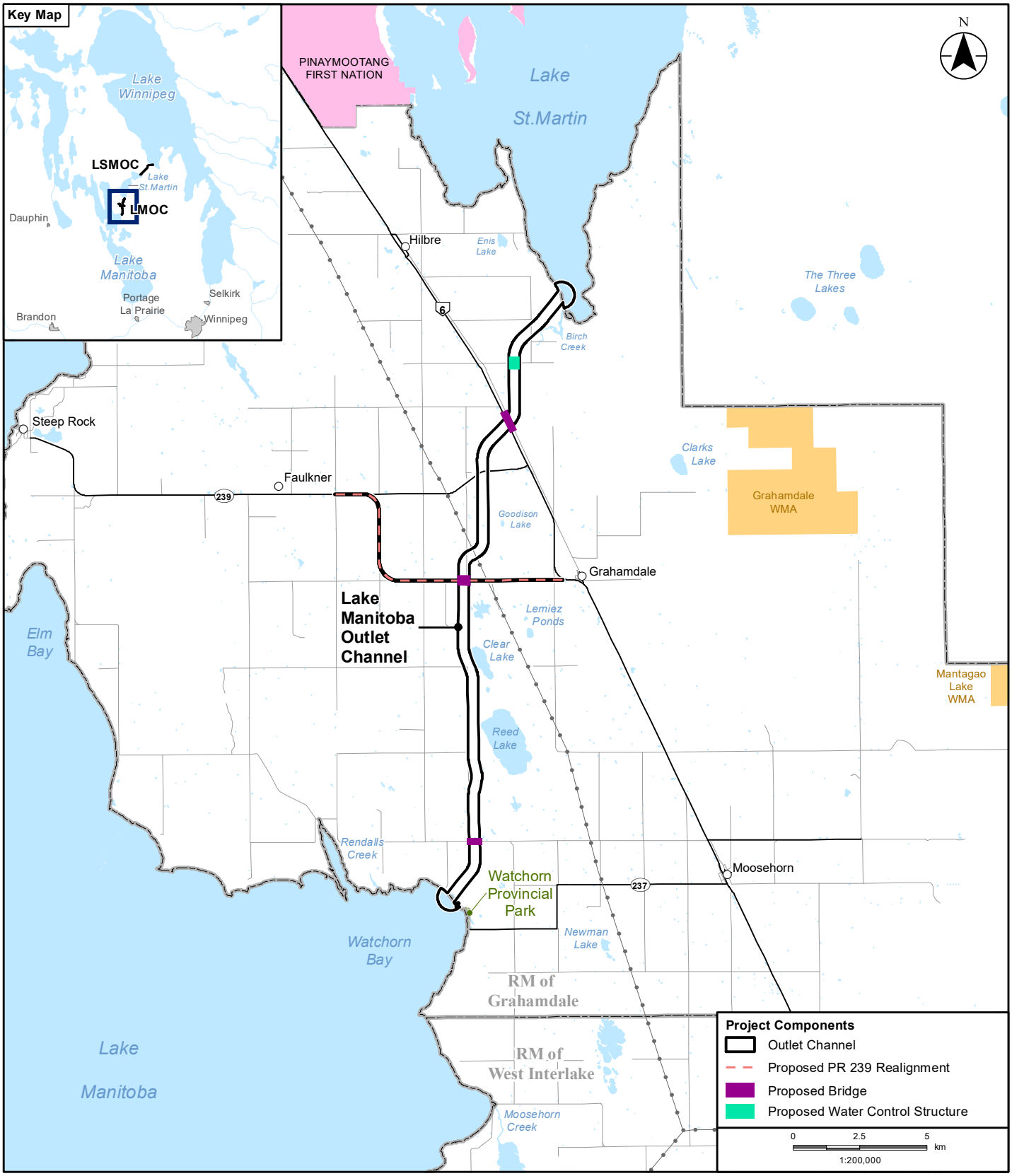
Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

Location of Lake St.Martin Emergency Outlet Channel in Relation to the Proposed Permanent Outlet Channel

Figure 1B-2

G:\ GIS Project Folder\11475\20\figures\Ch1 Intro\Final\Fig 1B-2 INTRO Location of LSMEOC in Relation to Proposed Project.mxd



Legend

- Existing Transmission Line
- Provincial Highway (PTH/PR)
- Municipal Road
- Rural Municipality
- First Nation
- Wildlife Management Area
- Provincial Park

Notes

1. Coordinate System: WGS 1984 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/21/2019 1:42:55 PM

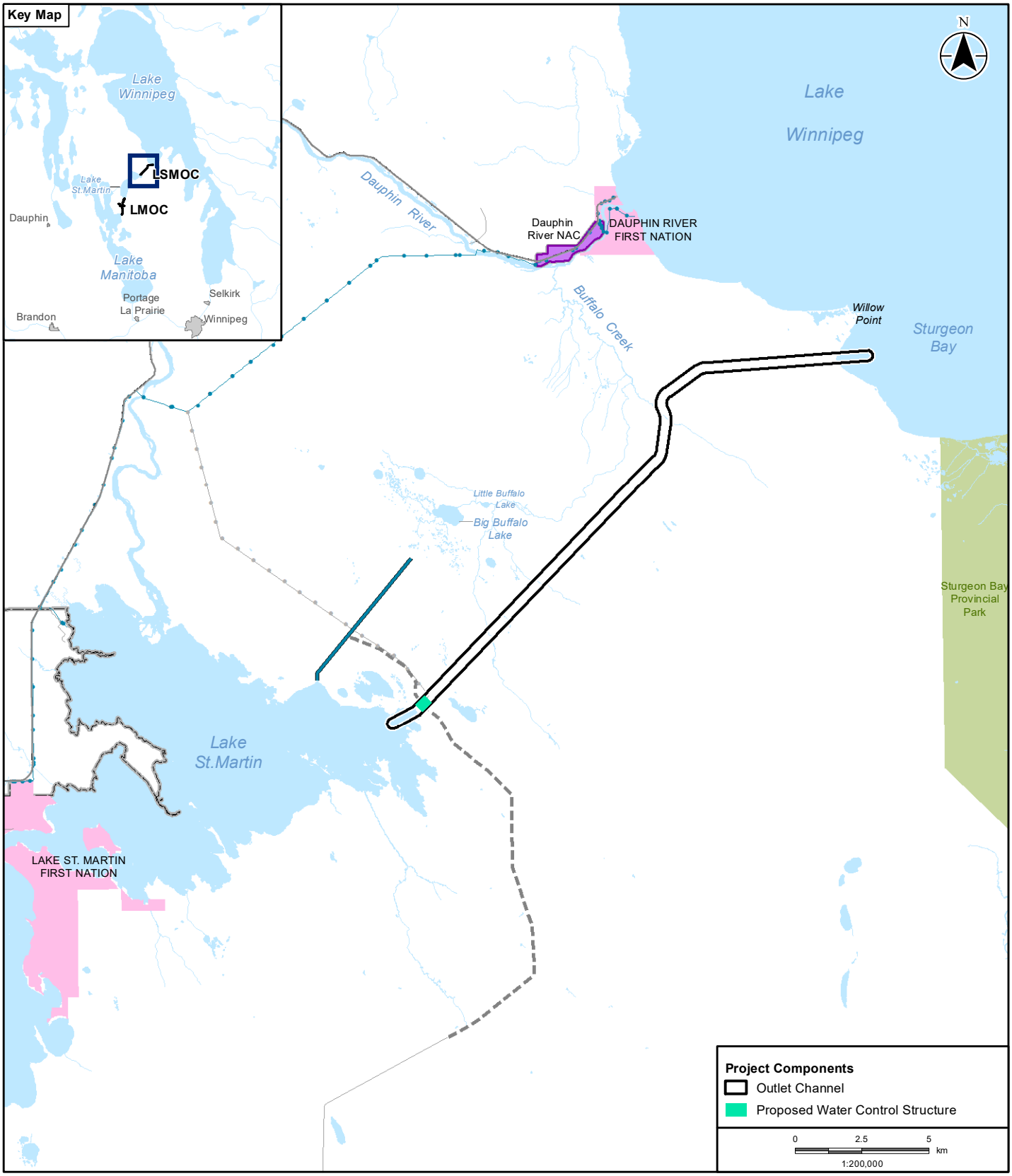
Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

Proposed Route for the LMOC

Figure 1B-3

G:\ GIS Project Folder\11473120\figures\Ch1 Intro\Final\Fig 1B-3 INTRO Proposed Route for LMOC.mxd



Legend

- Lake St.Martin Emergency Outlet Channel (Reach 1)
- Lake St.Martin Access Road
- Existing Distribution Line
- Planned Distribution Line
- Provincial Highway (PTH/PR)
- Municipal Road
- Rural Municipality
- Northern Affairs Community (NAC)
- First Nation
- Provincial Park

Notes

1. Coordinate System: WGS 1984 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/21/2019 1:43:44 PM

Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

Proposed Route for the LSMOC

Figure 1B-4

G:\ GIS_Project_Folder\11475120\Figures\Ch1 Intro\Final\Fig 1B-4 INTRO Proposed Route for LSMOC.mxd

Appendix 1C STANDARDS AND GUIDELINES USED IN THE ASSESSMENT OF VALUED COMPONENTS

1C.1 WATER

Canadian Council of Ministers of the Environment (CCME). 2017. Groundwater Sustainability Assessment Approach: Guidance for Application. https://www.ccme.ca/en/resources/water/groundwater.html

Canadian Council of Ministers of the Environment (CCME). Canadian Environmental Quality Guidelines. http://ceqg-rcqe.ccme.ca/en/index.html

Health Canada. 2017. The Guidelines for Canadian Drinking Water Quality. Federal-Provincial-Territorial Committee on Drinking Water of the Federal-Provincial-Territorial Committee on Health and the Environment. https://www.canada.ca/en/health-canada/services/environmental-workplace-health/water-quality/drinking-water/canadian-drinking-water-guidelines.html

Health Canada. 2012. Guidelines for Canadian Recreational Water Quality. Federal-Provincial-Territorial Committee on Recreational Water Quality of the Federal-Provincial-Territorial Committee on Health and the Environment. https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidelines-canadian-recreational-water-quality-third-edition/guidelines-canadian-recreational-water-quality-third-edition-page-5.html

Manitoba Sustainable Development. Applying Manitoba's Water Policies. http://gov.mb.ca/waterstewardship/licensing/mb_water_policies.pdf

Manitoba Surface Water Standards, Objectives and Guidelines. 2011. Manitoba Water Stewardship Report. https://gov.mb.ca/waterstewardship/water_quality/quality/pdf/mb_water_quality_standard_final.pdf

1C.2 AQUATICS

Canadian Council of Ministers of the Environment (CCME). Canadian Environmental Quality Guidelines. http://ceqg-rcqe.ccme.ca/en/index.html

Department of Fisheries and Oceans. 1995. Freshwater Intact End-of-Pipe Fish Screen Guideline. Ottawa, Ontario.

Department of Fisheries and Oceans. 2013. Fisheries Protection Policy Statement Catalogue Number: Fs23-595/2013E-PDF ISBN: 978-1-100-22885-3 DFO/13-1904 Ottawa, Ontario.

Department of Fisheries and Oceans Canada and Manitoba Natural Resources. 1996. Manitoba Stream Crossing Guidelines for Protection of Fish and Fish Habitat. Winnipeg, Manitoba.

Wright, D.G., and G.E. Hopky. 1998. Guidelines for the use of explosives in or near Canadian fisheries waters. Can. Tech. Rep. Fish. Aquat. Sci. 2107: iv + 34p. http://www.dfo-mpo.gc.ca/Library/232046.pdf

Mackie, G., Morris, T.J., and Ming, D. 2008. Protocol for the detection and relocation of freshwater mussel species at risk in Ontario-Great Lakes Area (OGLA). Can. Manuscr. Rep. Fish. Aquat. Sci. 2790: vi +50 p. http://www.dfo-mpo.gc.ca/Library/332071.pdf

Manitoba Surface Water Standards, Objectives and Guidelines. 2011. Manitoba Water Stewardship Report.
https://gov.mb.ca/waterstewardship/water_quality/quality/pdf/mb_water_quality_standard_final.pdf

1C.3 TERRESTRIAL

Canadian Council of Ministers of the Environment (CCME). Canadian Environmental Quality Guidelines. https://ceqg-rcqe.ccme.ca/en/index.html

Canadian Food Inspection Agency. 2008. Invasive Alien Plants in Canada. Ottawa, ON. 72pp.

Canadian Wildlife Service. Environment Canada. First Edition. February 2004. Environmental Assessment Best Practice Guideline for Wildlife at Risk in Canada.
http://www.renaud.ca/public/Environmental-Regulations/EA_Best_Practices_Wildlife_2004_e.pdf

Committee on the Status of Endangered Wildlife in Canada. COSEWIC Status Reports.
https://www.canada.ca/en/environment-climate-change/services/committee-status-endangered-wildlife/status-reports.html

Environment Canada. 1999. Invasive Plants of Natural Habitats in Canada. An Integrated Review of Wetland and Upland Species and Legislation Governing their Control. Wildlife Habitat Conversation, Canadian Wildlife Service. URL: https://www.ec.gc.ca/eee-ias/78D62AA2-55A4-4E2F-AA08-538E1051A893/invasives.pdf (Accessed 2018)

Environment Canada. 2004. An Invasive Species Strategy for Canada.
https://www.canada.ca/en/environment-climate-change/services/biodiversity/invasive-alien-species-strategy.html

Manitoba Sustainable Development. 2017. Forest Management Guidelines for Terrestrial Buffers (First Edition 2010). Winnipeg, Manitoba.

Government of Manitoba. 2016. Manitoba Endangered Species and Ecosystems Act. URL: web2.gov.mb.ca/laws/statutes/ccsm/e111e.php. Accessed 2018.

Invasive Species Council of Manitoba. 2016. URL: http://invasivespeciesmanitoba.com

1C.4 INDIGENOUS PEOPLE AND HUMAN ENVIRONMENT

Canadian Council of Ministers of the Environment (CCME). 2018. Canadian Ambient Air Quality Standards (CAAQS). http://airquality-qualitedelair.ccme.ca/en/

Canadian Council of Ministers of the Environment (CCME). 2017. Groundwater Sustainability Assessment Approach: Guidance for Application. https://www.ccme.ca/en/resources/water/groundwater.html

Canadian Council of Ministers of the Environment (CCME). Canadian Environmental Quality Guidelines. http://ceqg-rcqe.ccme.ca/en/index.html

Government of Canada. Social and Economic Influences on Health. https://www.canada.ca/en/public-health/services/health-promotion/population-health/what-determines-health.html

Health Canada 2018. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Country Foods. https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-evaluating-human-health-impacts-country-foods.html

Health Canada. 2017. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise. https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-evaluating-human-health-impacts-noise.html

Health Canada. 2017. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Water Quality. https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-evaluating-human-health-impacts-water-quality.html

Health Canada. 2017. Guidance for Evaluating Human Health Impacts in Environmental Assessment: Air Quality. https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidance-evaluating-human-health-impacts-air-quality.html

Health Canada. 2017. The Guidelines for Canadian Drinking Water Quality. Federal-Provincial-Territorial Committee on Drinking Water of the Federal-Provincial-Territorial Committee on Health and the Environment. https://www.canada.ca/en/health-canada/services/environmental-workplace-health/water-quality/drinking-water/canadian-drinking-water-guidelines.html

Health Canada. 2012. Guidelines for Canadian Recreational Water Quality. Federal-Provincial-Territorial Committee on Recreational Water Quality of the Federal-Provincial-Territorial Committee on Health and the Environment. https://www.canada.ca/en/health-canada/services/publications/healthy-living/guidelines-canadian-recreational-water-quality-third-edition/guidelines-canadian-recreational-water-quality-third-edition-page-5.html

MCWS (Manitoba Conservation and Water Stewardship). 1992. Guidelines for Sound Pollution. Environmental Approvals Branch. Winnipeg, Manitoba.

Manitoba Sustainable Development. Applying Manitoba's Water Policies. http://gov.mb.ca/waterstewardship/licensing/mb_water_policies.pdf

Manitoba Surface Water Standards, Objectives and Guidelines. 2011. Manitoba Water Stewardship Report. https://gov.mb.ca/waterstewardship/water_quality/quality/pdf/mb_water_quality_standard_final.pdf

LAKE MANITOBA AND LAKE ST. MARTIN OUTLET CHANNELS PROJECT
Environmental Impact Statement

CHAPTER 2

PROJECT JUSTIFICATION AND ALTERNATIVES CONSIDERED

March 2020

Table of Contents

2.0 PROJECT JUSTIFICATION AND ALTERNATIVES CONSIDERED 2.1
2.1 OVERVIEW OF CHAPTER 2.1
2.2 PURPOSE OF THE PROJECT 2.2
2.3 BACKGROUND 2.4
2.3.1 Historical Flooding and Flood Control Infrastructure 2.4
2.3.1.1 Historic Flood Events 2.4
2.3.1.2 Historic Flood Mitigation Initiatives and Infrastructure 2.6
2.3.2 Need for the Project 2.9
2.3.2.1 Flooding Vulnerability and Mitigation Studies 2.9
2.3.2.2 Environmental and Social Costs and Benefits 2.13
2.4 ALTERNATIVE MEANS OF CARRYING OUT THE PROJECT 2.14
2.4.1 Alternative Flood Protection Infrastructure Considered 2.14
2.4.2 Alternative Means of Carrying Out the Project 2.16
2.4.2.1 Lake Manitoba Outlet Channel Routing 2.16
2.4.2.2 Lake St. Martin Outlet Channel Routing 2.18
2.4.2.3 Water Control Structures 2.20
2.4.2.4 Bridges 2.21
2.4.2.5 Provincial Road 239 Realignment 2.21
2.4.2.6 Power Distribution Line 2.22
2.4.2.7 Quarry and Borrow Areas 2.22
2.4.2.8 Consideration of Environmental Effects of Alternative Means of Carrying Out the Project 2.23
2.4.3 Mitigation Measures for Environmental Effects of the Proposed Project 2.23
2.5 PREFERRED PROJECT 2.27
2.6 REFERENCES 2.28

LIST OF APPENDICES

APPENDIX 2A FIGURES 2A.1

2.0 PROJECT JUSTIFICATION AND ALTERNATIVES CONSIDERED

2.1 OVERVIEW OF CHAPTER

This chapter presents the Project justification and the various alternatives considered in selecting the preferred configuration of Project infrastructure components. The requirements for this process are discussed in both the Canadian Environmental Assessment Agency Environmental Impact Statement (EIS) Guidelines for the Project (CEAA 2018) and in the Environmental Assessment Scoping Document for the Project (Manitoba Infrastructure 2018) submitted to Manitoba Sustainable Development. Concordance tables, demonstrating where EIS Guidelines are addressed, are provided at the beginning of this EIS.

Section 2.1 of Part 2 of the EIS Guidelines indicates that the EIS will describe the purpose of the Project, including the rationale, background, and problems that the Project is intended to satisfy, as well as its objectives, costs and benefits, and its interaction with Manitoba's existing integrated water control and flood mitigation network. Section 2.2 of Part 2 of the EIS Guidelines indicates that the EIS will examine the various alternative means of carrying out the project that are technically and economically feasible, in accordance with the Agency's Operational Policy Statement entitled *"Addressing 'Purpose of' and 'Alternative Means' under the Canadian Environmental Assessment Act, 2012".* This is to include the Project components, their location, size, design, and capacity, the construction methods, and the design components related to various environmental effects mitigation. It is to include consideration of the Project operation and parameters for the regulation of flows in order to adjust lake levels and the contributions from engagement from Indigenous groups in the selection of the preferred alternative.

Section 2.2 of Part 2 of the EIS Guidelines notes that the Agency recognizes that the Project may be in the early planning stages when the EIS is being prepared, and that final decisions concerning the placement of Project infrastructure, or the technologies to be used have not been made in some instances. It adds that the same type of analysis should be applied in the decision-making process.

Section 2.4 of the Scoping Document indicates that the EIS will include an assessment of the need and purpose of the proposed Project, and alternative means of carrying out the proposed Project that are technically and economically feasible.

In order to address the needs of the EIS Guidelines and the Scoping Document, this chapter is organized by introducing the Project purpose (Section 2.2), providing an overview of historic flooding in the region and the existing water control and flood mitigation network, identifying the remaining vulnerabilities (section 2.3), the process to examine alternative means of addressing the issue (Section 2.4), and a summary of the preferred project that is described in Chapter 3 (Section 2.5).

2.2 PURPOSE OF THE PROJECT

The purpose of the Project is to develop a permanent flood control management system for Lake Manitoba and Lake St. Martin by constructing new outlet channels from Lake Manitoba to Lake St. Martin (Lake Manitoba Outlet Channel) and from Lake St. Martin to Lake Winnipeg (Lake St. Martin Outlet Channel). These new channels will facilitate reduced overland flooding via better management and control of lake levels by providing additional capacity to move floodwater from Lake Manitoba through Lake St. Martin into Lake Winnipeg. Recent flood events, such as 2011 and 2014, are examples of the long-standing flooding issue on Lake Manitoba and Lake St. Martin.

In relation to Lake Winnipeg during a flood event, when the outlet channels would be typically be operated, the total volume of water passed from Lake Manitoba to Lake Winnipeg would not be altered or changed in any way. The presence and operation of the Outlets Channels may change the timing and location of outflows in Sturgeon Bay.

In the absence of the Project, the Lake Manitoba flows would move through the Fairford River, Lake St. Martin and the Dauphin River to Sturgeon Bay on Lake Winnipeg. The addition of the Project provides an additional outlet into Sturgeon Bay and the ability to alter the timing of peak flow arrival. An analysis by Manitoba Hydro is referenced in the EIS in Section 6.4.7.2 (subsection Sturgeon Bay and Lake Winnipeg North Basin). Details of the analysis are provided in Appendix 6I (Manitoba Hydro 2019) that examined the differences in water levels on Lake Winnipeg and waterways downstream of Lake Winnipeg in relation to the changes in flows due to the Project. This analysis concluded that any potential changes in water levels are not expected to be discernible in the context of existing water level variations. As a result, potential flooding effects on Lake Winnipeg were not considered further.

Lake Manitoba is the third largest lake in Manitoba, the thirteenth largest lake in North America and the 33rd largest lake in the world. It covers a surface area of approximately 4,700 km^2 and has approximately 915 km of shoreline. The lake is approximately 225 km long from north to south and is naturally divided into north and south basins at the Lake Manitoba Narrows which is roughly the midpoint of the lake. The south basin is broad and shallow with a silty lake bottom and with gently sloping shorelines which are primarily sand and clay. In contrast, the north basin shoreline is more irregular and exposed bedrock is prominent both along the shore and on the lake bed (The Lake Manitoba Regulation Review Advisory Committee, 2003). The Lake Manitoba watershed of approximately 79,000 km^2 covers a large portion of western Manitoba and extends into eastern Saskatchewan (see Appendix 2A, Figure 2A-1). Most of the watershed drains first into Lake Winnipegosis, and then into the Waterhen River, the largest source of inflow into Lake Manitoba. The only other significant tributary of Lake Manitoba is the Whitemud River which drains the lands east and southeast of Riding Mountain and flows into the southwest corner of Lake Manitoba. The sole point of outflow from Lake Manitoba, under recorded water levels, is the Fairford River. From the lake, flows on the Fairford River reach Lake Pineimuta, then Lake St. Martin. The construction and operation of the Fairford River Water Control Structure has served to regulate the water levels on Lake Manitoba since 1961, narrowing the range of high and low water events.

As described above, Lake St. Martin is located downstream of Lake Manitoba and receives the bulk of its inflow from the Fairford River. The lake has a total surface area of approximately 345 km^2 with about 260 km of shoreline. The shoreline around Lake St. Martin is generally low, except for a gravel ridge located along the east shore of the south bay (LMRRAC 2003). Early explorers in the area also noted that the area around Lake St. Martin and on Dauphin River was “flat and swampy country” (Hind 1860). The lake is made up of two shallow basins, the larger basin is located upstream and receives inflow from the Fairford River; the smaller basin is located to the northeast and connected by a narrow portion of the lake. The Dauphin River, which originates at the northeast corner of Lake St. Martin, is the sole natural outlet from Lake St. Martin. The Dauphin River flows downstream to enter Lake Winnipeg in Sturgeon Bay. There is an elevation change of 12 feet (3.65 m) between Lake Manitoba and Lake St Martin, and a further 85-foot (25.9 m) difference between Lake St. Martin and Lake Winnipeg. Dauphin River has a limited outflow capacity, which is often further reduced during the winter as the river is prone to developing frazil ice. The frazil ice can cause hanging ice dams which further restricts flows and increases potential for overland flooding.

It is important to note that the surface area and volume of water on Lake St. Martin is significantly less than that of Lake Manitoba, meaning that high inflows from Lake Manitoba result in large increases in water level on Lake St. Martin. The greater fluctuations in water levels combined with the low and swampy shorelines around Lake St. Martin has resulted in more frequent overland flooding during periods of high-water levels from Lake St. Martin since regulation of Lake Manitoba began.

In 2011, floodwater flowing through the Lake Manitoba and Dauphin River sub-basins (Appendix 2A, Figure 2A-1) caused catastrophic consequences to people and infrastructure in the area. Natural watercourses were overwhelmed, and entire communities, including Lake St. Martin First Nation, Little Saskatchewan First Nation, Dauphin River First Nation and Dauphin River, were displaced by flooding and suffered damages to homes, schools, and infrastructure. To deal with this urgent issue the Lake St. Martin Emergency Outlet Channel (EOC) was constructed in 2011 to provide additional outlet capacity for Lake St. Martin, where water levels rose to record heights (805.6 feet asl), more than two feet higher than previous recorded maximum levels (Manitoba 2013). The EOC also indirectly mitigated flooding on Lake Manitoba by allowing the existing Fairford Water Control Structure, which controls outflows of Lake Manitoba, to operate at full capacity; outflows are normally reduced over winter to help reduce the risk of frazil ice formation downstream. The EOC continued to operate until 2012 when water levels finally began to recede. Overall, the economic effects of the 2011 flood event exceeded $1.2 billion for the province of Manitoba, including infrastructure repair and disaster payments as well as flood response costs (MFRTF 2013).

The need for the Project was further underscored in 2014, when a summer flood occurred in Southern Manitoba due to a severe and extensive rainfall. This increased inflows to Lake Manitoba (raising Lake Manitoba to 814.6 feet asl compared to its normal operating range of 810.5 to 812.5 feet asl), thereby increasing flows to Lake St. Martin via the Fairford River Control Structure. This flood event necessitated use of the EOC for the second time since its initial operation in November 2011.

To address escalating risks associated with flooding in Manitoba the Province carried out several studies and initiated discussions with affected people to examine ways to address this issue for parts of the province that remain vulnerable. The result of this process was a decision to construct new flood protection infrastructure to mitigate remaining flooding vulnerabilities around Lake Manitoba and Lake St. Martin, namely the Lake Manitoba and Lake St. Martin Outlet Channels Project.

2.3 BACKGROUND

2.3.1 Historical Flooding and Flood Control Infrastructure

2.3.1.1 Historic Flood Events

Like the other prairie provinces, some areas of Manitoba have some topography (such as the rolling hills to the west) but most of the southern portion of the province is relatively flat. Manitoba's natural landscape is composed of several large river basins and sub-basins which move water over large areas through the province's many rivers and large lakes before ultimately emptying into Hudson Bay (Appendix 2A, Figure 2A-1). Given the flat topography in much of Manitoba, the province is susceptible to flooding; especially in the spring, when surface water flows are typically at their peak.

Land development in the prairie provinces has increased over the past century, including clearing and draining lands to make way for urban areas and agricultural development. These practices have generally resulted in quicker drainage and increased flows to receiving water bodies, creating conditions where flooding events have resulted in increasing impacts to people, the economy, and infrastructure. In Manitoba, the conversion of native prairie to agricultural lands has altered rates of runoff, infiltration and evapotranspiration across much of the landscape (Manitoba 2013a). More significant, has been changes to drainage, including the construction of ditches, drains, loss of wetlands and in-field drainage improvements (Manitoba 2013a) These changes have played critical roles in the settlement and development of Manitoba, however, they have also resulted in higher runoff volumes and peak flows (Manitoba 2013a).

As the settlement and development of Manitoba continued, the financial consequences of significant flood events increased, impacting people's ability to use the land, their livelihoods, their properties and private or public infrastructure. Manitoba has responded by increasing its flood protection infrastructure, often in response to devastating flood events, and to minimize or prevent future occurrences or damages.

Over the last hundred years there have been at least six major floods that have caused damage in the region around the Assiniboine River; the most recent being in 1976, 1995, 2011 and 2014. Serious floods on Lake Manitoba have been less frequent, with major flood events before 2014 and 2011 occurring in 1954-1956. Although recent flooding is often central to flood protection planning, historic accounts and records regarding flooding on Lake Manitoba date back as far as 1826 and are described in detail in the 2011 Flood: Technical Review of Water Levels report (Manitoba 2013a). Fewer recorded accounts exist for historic flood events on Lake St. Martin; however, it too has a long history of flooding. Historically,

water levels on Lake Manitoba and Lake St. Martin would have experienced a positive relationship, rising and falling in tandem (Manitoba 2013a).

Of all historic flood events, the flood of 2011 in southwestern Manitoba was substantial for several reasons, the most important of which was that virtually every Assiniboine River and Souris River tributary carried near record peak flows and volumes of runoff at the same time. This was created by the combination of higher than normal soil moisture at freeze-up and higher snowpack than normal, followed by higher than normal spring and summer precipitation events (Manitoba 2013b). This combination of conditions could not be effectively managed by the existing flood management infrastructure (described in Section 2.3.1.2).

The available capacity of the Lake of the Prairies (Shellmouth Reservoir) to attenuate the flow to the upper Assiniboine River was used and ultimately reduced peak flows downstream. Nonetheless, flows in the Assiniboine River and Souris Rivers were still extremely high. As a result, the Assiniboine River inflows to the Portage Diversion were substantially greater than what it was designed to convey. While the Portage Diversion can contribute significant volumes of water to Lake Manitoba in some years, there is also substantial evidence of pre-settlement overflows from the Assiniboine River into Lake Manitoba. For more information on this phenomenon and the relationship between the Assiniboine River and Lake Manitoba more generally, it is recommended to consult the report 2011 Flood: Technical Review of Water Levels report (Manitoba 2013a).

Very high flows were also recorded on almost all streams and rivers in the Lake Manitoba basin. The inflows into Lake Manitoba from these sources and other natural channels (i.e., the Waterhen River and Whitemud River) resulted in a peak level of 817.2 feet asl in 2011, 4.7 ft higher than the desirable range. This level exceeded the capacity of the Fairford River Water Control Structure to moderate the levels on Lake Manitoba by conveying flows to Lake St. Martin. Lake St. Martin levels were thereby also increased (peaking at 805.5 feet asl in 2011, 5.5 ft higher than the desirable range) as the capacity of the Dauphin River to convey the extra water on to Lake Winnipeg was exceeded, flooding residences and communities around both lakes (MFRTF 2013). As described above, the 2011 flood caused extensive damage. At the height of flooding in 2011, there were more than 7,100 people evacuated from their homes, most of which were from First Nations communities (MFRTF 2013).

The Province of Manitoba commissioned a study to urgently explore options to bring the levels of Lake St. Martin and Lake Manitoba down to desirable ranges (KGS Group and AECOM 2011) on an emergency basis. The results of this investigation identified Dauphin River as the hydraulic restriction in the system (KGS Group and AECOM 2011). During the summer of 2011 it was recognized that frazil ice and other ice-related constrictions could form in the Dauphin River and restrict the outflow from Lake St. Martin over the winter of 2011/12, potentially raising flood levels and prolonging flood conditions. To alleviate this problem the Lake St. Martin Emergency Outlet Channel (EOC) was constructed from the northeast end of Lake St. Martin to the lower Dauphin River and put into emergency operation on November 1, 2011.

With the EOC in place, there was no need for a severe winter flow curtailment at the FRWCS, and water levels on Lake Manitoba continued to be drawn down over the winter in anticipation of high inflows in 2012 from at least Lake Winnipegosis and potentially other tributaries. This effort contributed to a 1.3 ft reduction in 2012 summer water levels on Lake Manitoba and a 1.6 ft reduction on Lake St. Martin. While the capacity of the EOC is insufficient to provide substantial relief in the short-term during events like 2011, it may have some positive effects for less severe floods (MFRTF 2013). It should be noted that the EOC is not licensed for non-emergency operation but did meet the Province's objective of lowering both lakes close to the top end of their operating ranges by the end of summer 2012.

Heavy rains in the summer of 2014 resulted in yet another substantial flood event within the Assiniboine River and Lake Manitoba Basins. The flood differed from the 2011 flood event in that it occurred after the spring freshet had already passed and was largely a product of summer precipitation creating record high flows on many tributaries. On the Assiniboine River and many of its tributaries peak flows were near, or exceeded, those of the 2011 flood event although the duration of flooding and the volume of flood water in 2014 was significantly less than in 2011.

2.3.1.2 Historic Flood Mitigation Initiatives and Infrastructure

For more than 100 years, efforts have been made to mitigate flooding in southern Manitoba through the development of a system of independently operated major flood control structures, hundreds of kilometers of dikes, community ring dikes and flood protection for homes that raise them to safe flood protection levels. The ability for each of the structures to operate independently provides flexibility in the responses to the widely varying nature of flood magnitudes and timing at any given time. Further, given Manitoba's location downstream of several large watersheds and varying terrain (ranging from rolling hills in the west to very flat areas in the south), it needs a variety of flood control works that can function under different conditions in different areas of the province. These flood control works have been developed to address risks to Manitoba by progressively addressing areas of remaining vulnerability. According to a 2015 report to the Minister of Manitoba Infrastructure and Transportation by the Manitoba Provincial Flood Control Infrastructure Operation Review Panel (MPCIROG, Manitoba 2015) "Manitoba's flood protection system is still a work in progress." A brief summary of the major flood control structures used in the 2011 and/or 2014 flood events are provided below and shown later on Appendix 2A, Figure 2A-2.

Fairford River Water Control Structure

The Fairford River flows from the northeast corner of Lake Manitoba to Lake St. Martin via Lake Pineimuta. The Fairford River Water Control Structure (FRWCS) was one of the first flood control structures developed in Manitoba, arising from attempts to reduce flooding and manage water levels on Lake Manitoba through control of outflows on the Fairford River. Attempts at controlling flows on the Fairford River have been occurring for more than 100 years, but early attempts were generally less successful than desired.

Initial efforts to address flooding issues on Lake Manitoba involved dredging a channel at the outlet of Lake Manitoba into the Fairford River in 1899 followed by channel improvements in 1904. As a result of

several dry years in the 1920s and 1930s, a concrete control dam built was built across the Fairford River in 1933 and was located immediately downstream of the excavated channel (MFRTF 2013). The current FRWCS was constructed in 1961, based on feasibility studies regarding options for controlling water levels on Lake Manitoba, and objectives for Fairford River flows and Lake St. Martin levels (Province of Manitoba 1961). Until the floods of 2011 and 2014, major flooding has not occurred around Lake Manitoba since the FRWCS was completed in 1961.

Water Regulation Review

Based on concerns about the range of regulated Lake Manitoba levels based on the FRWCS, a Lake Manitoba Regulation Review Advisory Committee was formed in 2003 (LMRRAC 2003). While several previous studies of Lake Manitoba undertaken by the Manitoba Water Commission between 1968 and 1973 had recommended *status quo* as the best option (MFRTF 2013), further study by the Lake Manitoba Regulation Review Advisory Committee in 2003 recommended that the lake be allowed to fluctuate more naturally to benefit aquatic habitat along the lakeshore. As a result, desired lake levels were identified for Lake Manitoba and Lake St. Martin and are used to guide the operation of flood mitigation and water control infrastructure. Specific to the proposed Project, these desired lake levels are used to guide operation of the FRWCS via operating guidelines.

Shellmouth Dam

The Shellmouth Dam was constructed in 1969 to provide storage for downstream flood control and to supply water to areas along the upper reaches of the Assiniboine River. Its construction resulted in the creation of the Lake of the Prairies reservoir, with most of the inflow coming from the upper Assiniboine River basin in Saskatchewan and from the Big Boggy Creek and Shell River basins in Manitoba. Water levels in the reservoir are managed by a gated low-level outlet and an ungated spillway. Although the Shellmouth Dam mitigates flooding to a limited extent on the Assiniboine River system, it does not necessarily directly minimize large flooding risks on Lake Manitoba and Lake St. Martin, because these systems remain vulnerable to flows from Lake Winnipegosis and the Waterhen River to the north.

Portage Diversion

Construction of the Portage Diversion was completed in 1970 to divert excess Assiniboine River flows into Lake Manitoba in order to reduce the risk of overtopping the Assiniboine River dikes downstream to Winnipeg, and to reduce the inflows to the Red River at the City of Winnipeg (LM&LSMRRC 2013). The diversion includes a gated diversion structure constructed on the Assiniboine River near Portage la Prairie, to regulate flows down the lower Assiniboine River and to create a head pond from which water can be drawn off into the 29 km diversion channel to Lake Manitoba. The diversion channel includes three drop structures to dissipate energy as well as an emergency overflow section part way along the channel into low lying land as a failsafe to maintain the integrity of the outlet structure at Lake Manitoba and prevent overtopping of the dike along the diversion channel during ice jam conditions. The specific objectives for the diversion include maximizing flood control benefits to the City of Winnipeg, minimizing ice jams forming along the Assiniboine River downstream of Portage la Prairie, and limiting increases to

water levels in Lake Manitoba to the maximum regulated level. More specific objectives are developed to address specific locations in Winnipeg (LM&LSMRRC 2013; MFRTF 2013).

Lake St. Martin Emergency Outlet Channel

The Lake St. Martin Emergency Outlet Channel (EOC) was constructed from July to November 2011 as a 6.5 km long, 45 m wide channel from the east end of Lake St. Martin to Big Buffalo Lake. It was first put into operation on November 1, 2011, to reduce water levels on Lake St. Martin by supplementing the Dauphin River discharge capacity from Lake St. Martin to Lake Winnipeg. The EOC, Reach 1 provided an emergency conduit for Lake St. Martin flows towards Big Buffalo Lake, from which flow could follow natural channels to Buffalo Creek and on to the Dauphin River just upstream of Lake Winnipeg. The EOC is not licensed and is restricted to use in emergency conditions only.

The EOC consisted of three conceptual reaches (with Reach 1 constructed and used, Reach 2 not formally constructed, and Reach 3 partially constructed but not used) as follows:

- Reach 1 is the functional portion of the EOC, comprising a constructed channel that directs water from the east end of Lake St. Martin into a bog area around Big Buffalo Lake. From that point flows proceed into Buffalo Creek, finally discharging into the lower Dauphin River upstream of Sturgeon Bay (Lake Winnipeg).

- Reach 2 was conceived from a concern that a hydraulic restriction at the upstream end of Buffalo Creek could result in extensive flooding of the bog area during operation of the EOC Reach 1 and this flooding could potentially spillover and move overland towards Dauphin River and lower portions of Buffalo Creek. To eliminate this potential flow restriction, an option was considered that involved excavating a natural segment of the upstream end of Buffalo Creek (Reach 2); however, it was later determined that the natural creek section could convey the peak flow in 2011 without requiring any modifications (KGS Group 2016a).

- Reach 3 is a channel from Buffalo Creek eastward towards Lake Winnipeg, constructed to address concerns that potential water levels at the mouth of the Dauphin River presented a substantial risk of major flooding of the Dauphin River communities in the spring of 2012 due to ice jam formations (KGS Group 2016a). This was largely due to the unprecedented winter flows with the FRWCS running at full capacity all winter 2011. Therefore, it was determined that construction of the Reach 3 Channel would be required to divert flows away from the Dauphin River prior to spring break up. The Reach 3 Channel was partially constructed between January and March 2012; however, with extremely mild winter conditions, ice jams on the Dauphin River did not develop as predicted. This ultimately precluded the need for Reach 3 to be completed. The Reach 3 Emergency Channel currently remains in an incomplete, unused condition although a portion of it is proposed to be repurposed as part of the Project.

"Operation Return Home" and Negotiation of Comprehensive Settlement Agreements

Operation of the FRWCS has at times worsened flooding on Lake St. Martin, which has affected the reserve land on Pinaymootang (PFN), Little Saskatchewan (LSFN) and Lake St. Martin (LSMFN) First Nations (FN). Downstream of Lake St. Martin, higher than natural flows on the Dauphin River have sometimes resulted in a loss of road access to Dauphin River FN (DRFN). Negotiations with the affected FNs have taken place in an on-again/off-again manner at various times since construction of the FRWCS. The affected FNs have filed claims against the Crowns. During the 2011 flood (largest on record), Lake St. Martin peaked at approximately 805.5 feet, approximately 2.5 feet higher than what natural water levels would have been. The FN communities were evacuated and experienced significant damages.

The four First Nations and the federal and provincial Crowns have been negotiating to reach settlement of this these longstanding flood claims. While negotiations are ongoing, the Crowns and the First Nations collaborated to deliver Operation: Return Home, a joint initiative to rebuild the flood affected First nation communities on higher land, safe from flooding, such that evacuees from the 2011 flood could return home. Operation: Return Home is being delivered in advance of reaching a settlement agreement to address the evacuations and the critical needs of the communities.

The comprehensive settlement agreements will include fair compensation for the First Nations, including additional land, and resolve all litigation between the parties. The settlement agreements are also expected to include a flood easement granted to Manitoba to allow for some inundation of reserve land in the course of operating flood control infrastructure in the public interest. Of note, completion of the Lake Manitoba and Lake St. Martin Outlet Channels Project is expected to reduce future flood levels and may allow for the easements on reserve land to be reduced in the future.

Flood Protection of Individual Properties

Following the devastating flood of 2011, the Province of Manitoba initiated the Individual Flood Protection Initiative (IFPI) and Financial Assistance for Cottage Owners (FACO) Programs. These grant programs were available to property owners surrounding Lake Manitoba and Lake St. Martin to assist with the cost of permanent flood protection measures for their homes, cottages, farms or businesses, and allowed for measures such as construction of dikes or raising of structures. A number of properties around Lake Manitoba and Lake St. Martin were protected under these programs; however, it is notable that the number of projects completed is significantly smaller than the original applications received. This indicates that there are still a very large number of properties around the lake which remain vulnerable to future flood events.

2.3.2 Need for the Project

2.3.2.1 Flooding Vulnerability and Mitigation Studies

As described above, Manitoba has developed an extensive flood protection system, and its integrated management strategy has avoided significant impacts to the lives of local residents and businesses and associated billions of dollars in damages. However, even with the flood protection system in place, the

2011 flood costs were estimated at $1.2 billion, of which over $105 million ($2014) had been administered via the Lake Manitoba Financial Assistance Program by 2013. Further, total estimated Lake Manitoba damages for the 2011 flood were estimated at $269,900,000 ($2014; KGS Group, 2016). These costs highlight the vulnerabilities in the flood control systems; such shortcomings of the system were only emphasized again in 2014 (MFRTF 2013).

Several initiatives were launched by the Province of Manitoba in response to the 2011 flood event. This included the Manitoba 2011 Flood Review Task Force involving engineering and government specialists and members from flood affected communities and First Nations (MFRTF 2013). In addition, the Lake Manitoba and Lake St. Martin Regulation Review Committee was formed, also involving engineers, academic researchers and members from municipal government, landowners and First Nation communities (LM&LSMRRC 2013). Studies by the 2011 Flood Review Task Force and the Lake Manitoba and Lake St. Martin Regulation Review provided broad perspectives on the 2011 unprecedented flood event and offered a variety of opinions and recommendations on possible improvements that could reduce damages in the future Both the 2011 Flood Review Task Force and the Lake Manitoba and Lake St. Martin Regulation Review (2013) reports recommended providing for additional outlet capacity from Lake Manitoba and Lake St. Martin.

The Province of Manitoba also commissioned an engineering analysis of flood vulnerabilities as well as measures that could mitigate floods of a similar magnitude to 2011 and larger. The Assiniboine River and Lake Manitoba Basins Flood Mitigation Study was tasked with identifying and assessing potential vulnerabilities and options to reduce flood risk for communities and major infrastructure along the Assiniboine River, Souris River, Qu'Appelle River, Dauphin Lake, Lake Manitoba, Fairford River, Lake St. Martin, Dauphin River and Shoal Lakes. More than 100 vulnerabilities were identified and classified as part of the study.

The Assiniboine River and Lake Manitoba Basins Flood Mitigation Study process involved steering and technical committees comprising staff from MI, Manitoba Sustainable Development (MSD), University of Manitoba, and Manitoba Agriculture, Food and Rural Development (MAFRD). It also included input (workshops and meetings) from a Study Liaison Committee (SLC) that had a broader perspective than the engineering focus of the steering and technical committees. In addition to the representation previously identified, the SLC also included representatives from various key towns, cities and municipalities (e.g., Winnipeg and Brandon), as well as from other organizations and local citizen groups (e.g., the Emergency Measures Organization, Southern Chiefs Organization, Manitoba Keewatinowi Okimakanaki, Manitoba Métis Federation, Ducks Unlimited, Association of Lake Manitoba Stakeholders, etc.) (KGS Group 2016a).

The process also included a technical workshop held at the initiation of the study, which was attended by almost all flood protection experts in the province, and including representatives from municipal, provincial and federal government departments, as well as from the Study Liaison Committee, consulting community and the major universities in Manitoba. The process also included a series of three public open houses held specifically to explain the objectives of the study to the public and to gather input from the stakeholders who have been directly affected by the floods.

Details of the public engagement are available in Appendix Q of the Assiniboine River and Lake Manitoba Basins Flood Mitigation Study (KGS Group 2016a). Despite frustration with the flooding situation for many regional participants, most were appreciative of the effort made to share the information and receive input from stakeholders. Stakeholders were interested in learning about and sharing their perspectives about the mitigation options being presented. While stakeholders shared different perspectives on the design options and many common themes emerged throughout these discussions, the general consensus was a desire to start implementing projects as soon as possible to deal with the flooding issue.

Vulnerabilities with the existing flood protection system were confirmed and discussed at a technical workshop that was held as part of the Assiniboine River and Lake Manitoba Basins Flood Mitigation Study (KGS Group 2016a). The workshop included approximately 75 technical people from various government and non-government sectors with diverse experience in Manitoba floods. In addition to the broad area vulnerabilities and general level of protection assessed (Appendix 2A, Figure 2A-3, which includes consideration of the outlet channel construction), a comprehensive list of all vulnerabilities and potential inadequacies of the existing flood protection system in the Assiniboine River and Lake Manitoba Basins Study was developed using the following protection criteria (KGS Group 2016a):

1. The 1:200 year event was recommended by the Lake Manitoba and Lake St. Martin Regulation Review Committee and the 2011 Flood Review Task Force.

2. The highest flood on record was recommended, if greater than the 1:200 year event.

3. A greater flood event was recommended that could be justified in an economic analysis that considered costs and benefits.

Overall, more than 70 mitigation options were evaluated for more than 100 vulnerabilities in subsequent analyses for the overall study area. Specific to Lake Manitoba, mitigation needs were identified by a frequency analysis that indicated that, prior to 2014, the 2011 flood was the highest flood on record (equivalent to a 310 year return period) and economic analyses indicated that annual benefits provided by an outlet from Lake Manitoba, in terms of avoided damages, would be in the order of $13.6 million/year or more (KGS Group, 2016) for Lake Manitoba. Chronic flooding of Lake Pineimuta and Lake St. Martin were also identified as one of the top three most important vulnerabilities examined in the study, but the benefits were not quantified as the consultant was asked to assume that the benefits of the EOC were included. Although financial benefits of permanent outlet channel for flood protection on Lake St. Martin was not quantified in the study, the federal and provincial Crowns and the four First Nations on Lake St. Martin and the Dauphin River are in the midst of negotiating Comprehensive Settlement Agreements, which are estimated to include compensation from Crowns in excess of $500 million. As such, the study recommended constructing new Lake Manitoba and Lake St. Martin Outlet Channels to increase flood protection.

Mitigation options identified in the Assiniboine River and Lake Manitoba Basins Study which are specific to Lake Manitoba included six channel alternatives (Options A-F) from Lake Manitoba to Lake St. Martin at a design discharge of 212 m^3/s (7,500 cfs) to mitigate flooding from increased Lake Manitoba levels. An additional channel alternative (Option G) was put forth via public engagement feedback and also

evaluated as an option that routed the channel through a less populated area. Lake St. Martin mitigation considered two outlet alternatives for a channel from Lake St Martin to Lake Winnipeg with a design discharge of 326 m^3/s (11,500 cfs). These alternatives are described in further detail in Section 2.4.2.

For a repeat of the 2011 flood event, the estimated peak water levels with the channels in place would be 815.5 feet asl on Lake Manitoba and 802.9 feet asl on Lake St. Martin. These levels are a reduction of approximately 1.55 ft and 2.7 ft compared to what occurred in 2011 on Lake Manitoba and Lake St. Martin, respectively.

In addition to addressing flood vulnerabilities at specific locations, there is a need to strengthen the resilience of the systems to address aspects such as climate change and changes in land use over time. As discussed in Chapter 15, scientific evidence is increasingly suggesting that global warming and climate change could lead to greater variability in the weather and possibly higher potential for random extreme drought and flood events in the future (MFRTF 2013; Warren and Lemmen 2014). A recent such example of an extreme event is the 2014 flood; unlike most other floods in Manitoba, this event was not caused by excessive spring runoff, but was the direct result of an extreme precipitation event over much of the Lake Manitoba and Assiniboine River basins.

Concurrent to the flood review and mitigation studies described above, the Province of Manitoba also investigated the influence or impact of existing flood protection infrastructure on vulnerable waterbodies such as Lake Manitoba and Lake St. Martin. Specifically, the 2011 Flood: Technical Review of Lake Manitoba, Lake St. Martin and Assiniboine River Water Levels report (Manitoba 2013a) investigated whether “artificial” flooding occurred on Lake Manitoba and Lake St. Martin as a result of diverted Assiniboine River floodwater from the Portage Diversion or from operation of the FRWCS (i.e., whether the lakes would have flooded if the event occurred under unregulated or natural circumstances).

Findings of these investigations show that a negligible amount of artificial flooding did occur on Lake Manitoba but that most of the southern basin of the lake experienced even higher water levels during a windstorm event earlier in the season. The hydrodynamic modelling undertaken as part of this study also showed that under natural conditions (i.e., in the absence of flood control infrastructure) the Assiniboine River would have naturally spilled its banks and a portion of the outflow floodwater would have reached Lake Manitoba, similar to what has been described in historical accounts of the 1881-1882 flood (LM&LSMRRC 2013). Similarly, investigation of flooding on Lake St. Martin did find that the lake suffers artificially high or low water levels depending on conditions experienced on Lake Manitoba and operation of the FRWCS (LM&LSMRRC 2013). High inflows from Lake Manitoba, and naturally limited outflows along the Dauphin River have left Lake St. Martin vulnerable to flood events.

Additional flood protection for Lake Manitoba and Lake St. Martin is not only beneficial to the Province and citizens of Manitoba, but also to the government of Canada. As described above, the area has experienced a long history of flooding, with some of the most significant damages occurring to the First Nations communities in the area. In recognition of the potential Project benefits, Canada has agreed (in principle) to jointly fund the Project.

Considerable public engagement activities also occurred leading up to the identification and selection of the Project and including the Project. Engagement with the general public, government agencies, and other stakeholders with respect to the Project has largely been completed and integrated in the. Ongoing engagement will include continued discussion to understand interests and concerns of people and communities potentially affected by the proposed Project, as well as working towards addressing identified concerns and potential effects. For example, there are ongoing and future meetings planned with the RM of Grahamdale, including proposed public open house, meetings with local stakeholders (e.g. Association of Lake Manitoba Stakeholders) and a website that contains both information and links for communication; Manitoba Infrastructure will collate information obtained through future public engagement to the Agency.

Engagement with the public and other stakeholders has been integrated in the planning and ongoing communication strategy in that it led to:

- Confirmation of the need for permanent infrastructure to mitigate the effects of the potential for future floods, leading to the selection of the preferred project (Project EIS Chapter 2, e.g., Section 2.3.2.1).
- The definition of the project description (Chapter 3, e.g., Sections 3.4.2.4, 3.4.2.5., 3.5.1).
- The rationale for overall approach to the evaluation, such as the selection of valued components (VCs) and the area of investigations (Chapter 4, e.g., Section 4.2, Table 4.4-1).
- A review of existing information and conclusions such as potential effects and mitigation measures were provided through a series of meetings, open houses and other forms of communication (e.g., letters, emails, website, brochures), with opportunity to provide feedback (Chapter 5).

2.3.2.2 Environmental and Social Costs and Benefits

As noted in Section 2.2 and Section 2.3.2.1 of the EIS, overall, the economic effects of the 2011 flood event exceeded $1.2 billion for the province of Manitoba, including infrastructure repair and disaster payments as well as flood response funding to deal with the environmental and social costs. For example, more than $105 million was administered via the Lake Manitoba Financial Assistance Program in 2014. As described in the EIS, environmental and social effects included displacement of people from their communities (Sections 9.4.2.1 and 10.3.2.2), damage to homes and property (Section 10.2.4.4), impacts to the quality of some agricultural land, as well as the generation of debris that damaged and/or affected fishing (Sections 10.2.1.4 and 10.2.2.4). The overall benefit provided by the Project, and its primary purpose, is to mitigate costs and damages caused by flooding.

During construction of the channels, economic benefits to the local communities will include increased demand for local goods and services such as accommodation, restaurants, fuel, and staples (i.e., food) and the associated indirect economic benefits, which include greater disposable income in the community. The local communities will also experience direct and indirect benefits from locals who are hired during construction. Section 9.4.4 of the EIS included an estimate of the Project expenditures and resulting changes in output, GDP, employment and labour income associated with the Project on a

regional and provincial basis for the Economy, Labour, and Goods and Services during construction as well as the operations-and-maintenance phases of the Project. Section 9.4.5 includes a discussion of the significance of the Project's effect on the provincial and regional economy as well as relative general effects on indigenous communities.

During operation, the channels will bifurcate some property that is used for agricultural purposes, including the movement of livestock, which may result in additional time and costs to landowners. As noted below in the referenced sections of the EIS, Indigenous peoples and communities raised several concerns regarding potential effects (including potential social and environmental costs). These included:

- That the channels could introduce invasive species when water moves through them (10.2.4.4).
- That fish could be stranded in a channel during changes in water levels (10.2.4.4).
- That fish habitat could be altered (10.2.4.4).
- That wildlife movement and their habitat will be disturbed (10.2.4.4).
- Changes to access to trapping and gathering plants and berries for cultural, spiritual and medicinal purposes (10.2.8.4).
- Changes to water quality and the potential for silt to be introduced down the channel (10.2.4.4).
- Changes to water levels in lakes and ultimately in the communities, affect access to hunting and fishing areas (10.4.5).

Manitoba Infrastructure continues to seek input on potential social and environmental costs while providing information on the benefits of the Project and developing mitigation measures appropriate to the concerns raised as part of the Indigenous Consultation Approach. Relevant information obtained via implementation of the approach will be gathered and incorporated into the EIS as supporting information for the assessment. Further information regarding Manitoba Infrastructure's proposed consultation approach can be found in the Indigenous Consultation Approach and Current Status report (Appendix 5C).

2.4 ALTERNATIVE MEANS OF CARRYING OUT THE PROJECT

2.4.1 Alternative Flood Protection Infrastructure Considered

In the summer of 2011, Manitoba commissioned a study of options to reduce water levels on Lake Manitoba and Lake St. Martin on an emergency basis (AECOM and KGS 2011). The purpose of the study was to quickly evaluate a wide range of alternatives to address the 2011 flood and limit its forecasted duration on the two lakes. Options that were considered ranged from the construction of various Lake Manitoba and Lake St. Martin channels in various lengths, locations, and sizes, to dams on the Assiniboine River and increasing the capacity of the Assiniboine River channel, to a diversion from the Assiniboine River to the La Salle River. Of the options evaluated, the construction of an additional Lake

St. Martin channel (to become the EOC) and full use of the FRWCS was considered to be the most timely, effective, and economical option for lowering Lake Manitoba and Lake St. Martin at that time.

Building on the emergency study analyses, the Lake Manitoba/Lake St. Martin Regulation Review Committee (the Committee) and a task force (the Manitoba 2011 Flood Review Task Force) were commissioned by Manitoba to make recommendations on outlet channels for Lake Manitoba and Lake St. Martin (including consideration of the status of the EOC). The task force applied a method of review for the 2011 Flood that investigated many different social, political and technical issues that arose from the many components of the flood. It also reviewed flood forecasting and preparedness, public communication, and flooding on First Nations land as well. The Committee made recommendations on the range of regulations for the lakes and the need for a new outlet from Lake Manitoba to Lake St. Martin.

Presentations to the Committee, comments from the public, and survey responses indicated “an overwhelming interest and demand for an additional outlet from Lake Manitoba”. As a consequence, the Committee recommended that “a second channel be constructed between Lake Manitoba and Lake St. Martin to provide the total outlet capacity required to meet the original design criteria for the FRWCS” (KGS Group 2016a). As further support, the task force recommendations included adopting the recommendations of the Lake Manitoba and Lake St. Martin Regulation Review Committee regarding additional outlet capacity requirements for Lake Manitoba and Lake St. Martin.

The Assiniboine River and Lake Manitoba Basins Flood Mitigation Study (the Study) (KGS Group 2016a) was commissioned to identify and evaluate a wide variety of potential flood protection measures for the basins (to protection levels as summarized in Appendix 2A, Figure 2A-3). More than 180 reports of previous work and studies were reviewed for the Study. Hydraulic, geotechnical, and GIS data were assessed with more than 70 mitigation options being evaluated based on benefit/cost ratios and environmental considerations (KGS Group 2016a). The options (summarized in Appendix 2A, Figure 2A-3) included standard measures such as dikes, reservoirs, diversion channels, channel improvements, modifications to land use, as well as the purchase of vulnerable properties where protection measures were not practical across the basins. The Study concluded that an “Increase in the discharge capacity from Lake Manitoba and Lake St. Martin is a viable and direct means to limit rises in flood conditions on both lakes” (KGS Group 2016). However, alternative options also included controls to outflows from Lake Winnipegosis, which contributes a large portion of the total inflows to Lake Manitoba (KGS 2016b). Many of the options for controlling outflows from Lake Winnipegosis would have been feasible, and effective, but would come at significant financial and environmental cost and were therefore dismissed (KGS 2016).

Based on the results of the Study initiatives the Province decided to proceed with plans to design and construct Lake Manitoba and Lake St. Martin Outlet Channels because they would provide a “large scale positive effect by helping to alleviate flooding in the region” (KGS Group 2016a). These channels are the most downstream of the options considered in the basin; flood protection projects typically start by providing protection at the downstream end to minimize potential effects from any future development further upstream (e.g., upgrading the Portage Diversion).

2.4.2 Alternative Means of Carrying Out the Project

Work was commissioned by MI to develop a two-stage process to advance the Lake Manitoba and Lake St. Martin Outlet Channels Conceptual Design Study. The fundamental scope of the Stage 1 study was to identify alternative outlet options for the Lake Manitoba Outlet Channel (LMOC) and the Lake St. Martin Outlet Channel (LSMOC), analyze the options, conduct public engagement, and reduce the number of preferred alternatives for more detailed study in Stage 2 (KGS Group 2014a). A summary of the development and evaluation of various alternative options for each channel is provided in the sub-sections that follow.

2.4.2.1 Lake Manitoba Outlet Channel Routing

Stage 1

Six Lake Manitoba outlet options were identified in Stage 1 as follows and shown on Appendix 2A, Figure 2A-4:

- Option A is the twinning the Fairford River.
- Option B is a channel south of Pinaymootang First Nation.
- Option C is a channel slightly less south of Pinaymootang First Nation.
- Option D is a channel following Birch Creek.
- Option E is a bypass channel north of the Fairford River Water Control Structure (FRWCS).
- Option F is an expansion of the Fairford River and FRWCS.

The assessment of options included evaluation of additional channel capacities that were not previously considered, with a cost estimate prepared for each of the alternatives (KGS Group 2016a). Each option was evaluated in terms of hydraulics, water levels, and cost. The Lake Manitoba Outlet Channel with the lowest estimated cost was Option E, with a capacity of 106 m^3/s (3,750 cfs). However, the hydraulic capacity of this option was limited, and it would increase downstream water levels locally. Costs were higher for the Lake Manitoba Outlet Channel that considered greater hydraulic capacities.

The general environmental concerns were described for each option in terms of relative effects on surface water quality, groundwater, terrestrial environment, fish habitat, fish resources, and social environment. A relative ranking of each option was generated based on the environmental effects for all six of the Lake Manitoba channel options (KGS Group 2016a). The combined biophysical and social environment rankings were the lowest (worst) for Option A and the highest (best) for Option C. It was concluded that Options A and F should not be considered further due to the substantial environmental

and social concerns. Furthermore, the Lake Manitoba Outlet Channel Options C and D were preferred due to their cost effectiveness and the positive relative environmental rankings.

Based on screening criteria and economic analyses (among other tasks) completed for each of the six Lake Manitoba options identified within the Stage 1 study (detailed review of preferred alternatives), Options C, D, and E were recommended for further evaluation in Stage 2 (Appendix 2A, Figure 2A-4) (KGS Group 2014a).

Stage 2

In the fall of 2014, the Province of Manitoba announced that it was proceeding with the Stage 2 conceptual design of the preferred Lake Manitoba Outlet Channel alternatives (Options C and D) with a design capacity of 212 m^3/s (7,500 cfs) (KGS Group 2017a). Option E was not preferred due to limited hydraulic capacity.

A risk assessment was conducted in “Investigations and Preliminary Engineering for Lake Manitoba Outlet Channel Options C and D” (KGS Group 2017a) to identify the engineering and environmental risks associated with Options C and D of the LMOC. The assessment focused on potential groundwater, surface water and geotechnical concerns and impacts, and identified technically and economically feasible measures to mitigate the associated risks. The severity and probability of each individual risk item was rated on a scale of low, medium, and high using professional judgement and objective metrics. The costs of the mitigation measures were estimated, and the residual risks assessed to more rigorously facilitate a comparison of the two outlet channel options. The results of this assessment were used to evaluate the options at a technical workshop (with input from Manitoba Infrastructure, KGS Group staff, and external experts) and to identify the preferred option recommended to proceed to the next stage of design.

As part of the workshop process, weighting factors were established for each category selected to evaluate the channel options (constructability, operation and maintenance, groundwater impacts, surface water impacts, physical/biological environmental impacts, socioeconomic considerations, cost and risk). A rating system considered both the suitability of the options in meeting the objectives of the project, and the performance of one option relative to the other based on a priority scale from 1 (poor) to 5 (superior). A score was then calculated for each category by multiplying together the category’s weight and rating. The total score was then calculated, and Option D was identified as the preferred option because it had the highest total score. A detailed documentation of the risk assessment and results are provided in KGS Group (2017a) and summarized as follows.

The groundwater impacts and risk were the major factors that contributed to Option D being the preferred option compared to Option C (KGS Group 2017a). Option C rated poorly for groundwater impacts due to the concerns associated with GUDI (groundwater under direct influence of surface water) conditions, aquifer drawdown, and the large number of well users near the channel. Pinaymootang First Nation is located immediately adjacent to Route C and obtains most of its water supply from wells as well as a community water treatment/bottling plant. The potential groundwater effects along Option C could affect the water quality and quantity of numerous groundwater users in the region, including Pinaymootang First

Nation, resulting in substantial socio-economic implications. The potential impacts to water quality were also likely to require the construction of a new water treatment facility. When assessed with these additional and substantial risk items, Option C incurred a substantial residual risk cost, and became the more expensive option. On this basis, Lake Manitoba Outlet Channel Option D was recommended as the preferred alternative to be advanced to Preliminary design.

Meetings with landowners potentially affected by Option D, resulted in the nomination of an additional alternative route option (referred to as Option G), located in a sparsely populated area several km south of Option C. Option G would have the LMOC entering Lake St. Martin near HIlbre, Manitoba (KGS Group 2017c). This option was evaluated and compared using the same criteria as the comparison between Options C and D, namely bedrock surface interaction, aquifer risk, hydraulic design implications, and cost. The evaluation indicated that Option D remained the preferred Option based on:

- Option G presents a risk to aquifer water quality, including concerns for local well users near Hilbre and on Pinaymootang First Nation. This would require likely provision of regional groundwater treatment, similar to Option C.
- No other option evaluated (including Options B, C, or G) would pose less risk to the aquifer system than Option D.
- Excavation quantities (and estimated costs) for Option G would be higher than for Option C and D.

2.4.2.2 Lake St. Martin Outlet Channel Routing

Stage 1

As described in Section 2.2.1.2, the EOC was constructed in 2011 as an emergency response to severe flooding. Options considered for a permanent LSMOC first assumed use of the existing/planned reaches because sections of the EOC were already constructed (Reach 1 and part of Reach 3). Utilization of the lower portion of Buffalo Creek, as was done when Reach 1 was active in 2011-2012, would potentially have substantial environmental impacts and increased potential for flooding of the Dauphin River communities. Opposition to this route from stakeholders was expected to be strong based on comments from First Nation communities during the 2011 operation, therefore use of the lower Buffalo Creek as part of the LSMOC options was not pursued.

Reach 2 extends approximately 8.6 km from Big Buffalo Lake (the outlet of Reach 1) to the inlet of Reach 3. The first half of Reach 2 is located within the bog area that surrounds Big Buffalo Lake, which becomes inundated with operation of the EOC. Water then follows the natural drainage path into Buffalo Creek up to its diversion point into Reach 3.

Excavation of a channel within Reach 2 was contemplated as part of the emergency measures in 2011. However, it was determined that excavation would not be required in Reach 2 to obtain a capacity equal to the capacity of the Reach 1 Emergency Outlet Channel and no construction work was undertaken on Reach 2. The need for channel improvements in Reach 2 was re-examined during the Stage 1 studies,

including a combination of dike construction and the widening and deepening of a natural segment of the upstream end of Buffalo Creek for design discharges of 255 m^3/s (9,000 cfs) or more.

In the Stage 1 study the potential LSMOC route options assumed use of Reach 1 and Reach 2 with a Reach 3 variation that accessed Lake Winnipeg at one of two different locations (Johnson Beach or Willow Point), identified as follows (Appendix 2A, Figure 2A-5; KGS Group 2016a):

- Option JB comprises Reach 1, Reach 2 and Reach 3 to Johnson Beach.
- Option WP comprises Reach 1, Reach 2 and Reach 3 east of Willow Point.

The Stage 1 study included evaluating expansion of Reach 1 and Reach 2 by describing their general characteristics (cost, biophysical environment, social environment, hydraulic capacity), and developing a relative ranking of the two LSMOC options (Option JB and Option WP). The combined biophysical and social environment rankings were essentially equivalent for both options and therefore both were recommended for further evaluation as part of the Stage 2 study (KGS Group 2014a). However, due to the social environment concerns with having the Reach 3 outlet located at Johnson Beach, the Willow Point option of the LSMOC was identified as the preferred alternative to be further analyzed in the Stage 2 study (KGS Group 2016a).

Based on the results of the Stage 1 study, the Province of Manitoba announced in the fall of 2014 that it was proceeding with the Stage 2 Conceptual Design of the LSMOC with a design flow of 326 m^3/s (11,500 cfs).

Stage 2

The Stage 2 study included the conceptual design for the expansion of the Reach 1 and Reach 3 emergency channels, extending Reach 3 to Lake Winnipeg (Willow Point option), and construction of the Reach 2 segment (diking system) between Reach 1 and Reach 3 (Appendix 2A, Figure 2A-5; KGS Group 2016b).

It was assumed that flow over the bog in Reach 2 would occur without substantial problems as it did during the 2011/2012 and 2014/2015 emergency operations. However, the potential risk that portions of the peat bog could detach and plug the entrance of Buffalo Creek under higher flow conditions or during an unusually long period of operation forced consideration of excavation of the bog in Reach 2 (KGS Group 2016b). The effect of a bog release plugging the entrance of Buffalo Creek would be to increase water levels within the bog area, backwater into Reach 1, and reduce the LSMOC capacity. Additional hydraulic analyses were conducted that reduced the proposed concept for Reach 2 to include the construction of dikes only, without the need for deepening or widening the existing natural channel (KGS Group 2016b).

After completing the Stage 2 Conceptual Design, MI requested generation and evaluation of additional concept alternatives for Reach 2. Four conceptual options for Reach 2 were developed (Appendix 2A, Figure 2A-5), building on the Stage 1 and 2 work previously completed, as follows (KGS Group 2017b):

- Option 1 is based on the original concept developed during the previous Stage 1 and 2 studies (Reach 1, Reach 2 and Reach 3 east of Willow Point).
- Option 2 is similar to Option 1 but involved excavation of a 200 m wide channel through the peatland along Buffalo Creek to ensure that the discharge capability of Reach 2 was not compromised by floating peat.
- Option 3 would carry flows from the downstream end of the existing Reach 1 Channel, following a new alignment around the peatland and Big Buffalo Lake to enter the upstream end of Reach 3. Dikes would be constructed on both sides of the channel to avoid flooding of adjacent land.
- Option 4 is conceived as an alternative to Option 3 to reduce the combined Reach 1 and Reach 2 channel length and overall excavation quantities. Option 4 included a new channel inlet approximately 3.8 km east of Reach 1 and following a northerly direction to Reach 3. The downstream 6 km segment of the channel would be essentially the same as Option 3.

Evaluation of the options culminated in a technical workshop with a panel of selected experts from the study team, Manitoba Infrastructure and other outside experts. The technical workshop included reviewing the conceptual design of the channel alternatives, developing a set of evaluation criteria for comparing the options and applying those criteria by rating the performance and suitability of the options to determine the preferred alternative. A total of 31 sub-criteria were defined and separated into eight main categories. Each of the categories and sub-criteria were discussed in detail so that the panel understood the implications of each sub-criteria. Weighting factors were established for each category and sub-criteria. A sub-total score was then calculated for each category by multiplying together the weight and rating of the sub-criteria (KGS Group 2017b). Upon completion of the technical workshop it was recommended that Option 4 be advanced to the next phase of design (KGS Group 2017b).

2.4.2.3 Water Control Structures

Flow in the outlet channels will need to be controlled; gated control structures were selected as the best option. Overflow weirs were also considered for the LMOC and LSMOC, but were not incorporated as the base case for the following reasons (KGS Group 2016b):

- An overflow weir would operate in an uncontrolled manner as lake levels fluctuate. On Lake Manitoba this is not desirable as it interferes with the function of the Fairford River Water Control Structure, which regulates water levels on both Lake Manitoba and Lake St. Martin.
- An overflow weir would need to be constructed at an elevation within the limits of the lake's desirable operating range because a lower weir elevation would draw down the lake levels. To achieve the required discharge capacity, the overflow weirs would have to be substantially wider than the outlet channels. Even with a wider inlet, the capacity of the overflow weirs would be substantially less at low lake levels compared to a control structure with its gates fully open.

Unlike overflow weirs, control structures allow for greater flexibility in operating the outlet channels in response to flood events. The location of the LMOC control structure was selected near the downstream end to minimize the required size of the control structure, eliminate the need for a secondary drop or outlet structure, and to reduce impacts on groundwater and adjacent wetlands. In comparison, the location of the LSMOC control structure was selected at the inlet on Lake St. Martin to limit outflow at times of low lake levels as recommended by the Regulation Review Committee.

2.4.2.4 Bridges

The LMOC Option D intersects PR 239, PTH 6 and several municipal roads (Iverson Road, Carne Ridge Road, and Township Line Road) that will require bridge crossings to maintain connectivity. The Iverson Road LMOC crossing will be a combination bridge/water control structure. Likewise, a bridge will be required in combination with the water control structure for the LSMOC to provide access to and across the channel for maintenance of the LSMOC as well as the existing EOC. To minimize construction cost and improve channel hydraulic efficiency the number of crossing structures along the LMOC was minimized and locations selected that best allow right angle crossings.

2.4.2.5 Provincial Road 239 Realignment

Maintaining the existing alignment of PR 239 would require construction of a relatively expensive bridge. As such, more than 10 realignment design options for PR 239 were assessed and the preferred alignment selected (Appendix 2A, Figure 2A-6), with consideration of the following:

- minimize construction cost and improve channel hydraulic efficiency
- minimize road user costs by distributing crossing opportunities evenly and move the PR 239 intersection with PTH 6 to the south of the current location. Traffic along PR 239 is predominantly north-south.
- avoid disrupting the traffic flow along Wooddale line, which is the only north south connector road west of the proposed channel
- reduce/minimize environmental effects by avoiding wetlands and undeveloped areas by using existing municipal road alignments as much as possible
- avoid conflicts with the existing Manitoba Hydro bi-pole lines and other major regional main distribution lines
- improve road user safety through improved design standards and safer reconfigured roadway intersections
- minimize socio-economic effects by avoiding residences and livestock operations, reducing the loss of agricultural land and providing improved access to the Steep Rock Community from PTH 6

2.4.2.6 Power Distribution Line

Electrical power will be required for construction activities (e.g., construction camps, concrete batch plant) and operation of the water control structures (e.g., gate operation, heating and lighting). The LMOC will be located in a developed rural area. Electrical distribution lines are already present and powering agricultural operations, residences and businesses, and power for the LMOC is expected to be sourced from the nearest viable distribution line although on-site generation during construction may be implemented on a case-by-case basis depending on contractor needs.

The LSMOC, in comparison, is located in a semi-remote area. The nearest electrical power source is a distribution line that powers the Dauphin River communities, at the mouth of the Dauphin River on Lake Winnipeg. An existing corridor exists between the proposed LSMOC and the existing distribution line to the northwest. The preferred alignment for a new distribution line to power the LSMOC water control structure would likely follow this existing corridor, and alternative alignments for the distribution line may be considered by Manitoba Hydro as part of their service provision evaluations and detailed design. However, alternative alignments that would route power from the south may require longer routes, at distances of 40 km or more.

In both the case of the LMOC and LSMOC power requirements during construction and operations and maintenance, Manitoba Hydro will undertake the design, permitting, construction and maintenance of the required distribution lines to each location in accordance with provincial acts and regulations. Manitoba Hydro, as the provincial crown corporation responsible for power supply in Manitoba, retains the ability to evaluate alternative routes and means to provide the necessary power as determined necessary.

2.4.2.7 Quarry and Borrow Areas

As indicated in Section 3.3.1, aggregate and riprap will be required for constructing some elements of the LMOC (see Section 3.4.2.6) and LSMOC (see Section 3.4.3.5). A priority will be placed on using existing licensed and permitted quarry and borrow areas for this material to minimize environmental effects; however, there may be a need to establish new sites. As noted in Section 3.4.2.6 and 3.4.3.5, several potential rock and borrow sources exist in the general Project region, which may be used by Project contractors. As discussed in Section 3.7.2, the Construction Environmental Management Plan will describe the approach required and provide guidelines to assess alternative locations, including detailed mapping and descriptions in an Environmental Protection Plan that identifies environmentally sensitive sites to avoid. Furthermore, the Project Environmental Requirements included in EIS Appendix 3F outline specific requirements, for quarry site selection and development, in terms of required setbacks from sensitive habitats, directives to obtain appropriate quarry permits or leases via provincial departments, and to comply with all legislation, licenses, authorizations and permits. Quarry development will not proceed prior to approval of work permit applications (if required) from Manitoba Sustainable Development (now Manitoba Conservation and Climate). These permit applications will include details on site plans including access road construction, clearing and grubbing, blasting, and gravel crushing and stockpiling of aggregate. The process will be part of formalizing the construction site plan that will be provided to Manitoba Infrastructure for review and approval prior to construction.

2.4.2.8 Consideration of Environmental Effects of Alternative Means of Carrying Out the Project

The proposed Project is a flood control management system. As such, engineering design focused on Project effectiveness in the movement of water to mitigate flood effects. Analysis of effects to hydrology was fundamental to this design process, which for the purposes of alternative means is realized through routing options. Comparative analysis of such options (and of associated infrastructure) also included other environmental effects.

The development of the Project design was based on several years of analysis of Project alternatives, as described previously. This process gradually narrowed the scope from more than 70 alternatives to the proposed Project, to a short list of alternative means of carrying out the Project in Section 2.4.2. The process involved the development of criteria to determine the technical and economic feasibility of the alternative means, the various elements of each alternative means that could produce environmental effects, and the criteria to characterize the potential environmental effects. These elements evolved to become the VCs that were later used for the more formal environmental assessment.

Alternative means of carrying out the Project were analyzed in terms of routing alternatives for each channel, water control structures, bridges, the realignment of PR239 and the power distribution line. Routing alternatives for the channels used a variety of criteria to assess effects. Technical/economic criteria included constructability, operation and maintenance (hydraulics, water levels), and cost (which also included mitigation costs). Environmental criteria included surface water quality, groundwater, terrestrial environment (vegetation/wetlands, wildlife and wildlife habitat), fish habitat, fish resources, and social environment (safety, access, groundwater quality/quantity, Indigenous issues, and existing land use). The social environment aspects considered feedback from the early rounds of engagement with non-Indigenous and Indigenous communities.

Alternatives were ranked based on potential environmental effects using ranking/weighting systems including, for example, relative effects on surface water quality, groundwater, terrestrial environment, fish habitat, fish resources, and social environment. A relative ranking of each option was generated based on the environmental effects for all six of the Lake Manitoba channel options (KGS Group 2016a).

The location of the channels dictated the type and location of most other components of the Project, but where feasible/relevant, the selection of the preferred configuration integrated an analysis of criteria such as cost, channel hydraulics, traffic flow/safety, wetland avoidance, and potential conflicts with utilities, residences and livestock. Additional details are found in KGS Group 2014, KGS Group 2016a, KGS Group 2017a, and KGS Group 2017b.

2.4.3 Mitigation Measures for Environmental Effects of the Proposed Project

Mitigation measures for environmental effects, and monitoring and follow up programs for each VC are described in the EIS, including, but not limited to, those for sediment control, fish movement, and heritage resources, as well as traditional land and resource use, among others. Manitoba Infrastructure is also developing an Environmental Management Program for the Project (see Chapter 3), consisting of

numerous monitoring and management plans and a communication/reporting/accountability protocol and will be seeking community and indigenous input to help inform these as described in Appendix 5C.

Project-specific mitigation measures and associated proponent commitments are described in the EIS associated with project design and potential effects. The primary mechanism for addressing potential adverse effects was first applied during the planning and design phase through careful routing of the channels to avoid areas of concern. This process involved both technical studies and engagement (including with potentially affected Indigenous groups), and trade-offs between cost savings and effectiveness of various options.

Once the location and Project configuration was confirmed, the emphasis was on developing effective mitigation, monitoring and follow up procedures to address potential adverse effects on VCs, monitor their effectiveness, and apply adjustments once implemented to facilitate compliance with commitments outlined in the Environmental Impact Statement (EIS). Among the commitments are those described in the Environmental Management Program (EMP) outlined in Section 3.7; associated with the EMP are numerous management and monitoring plans and associated with Project construction and operation – as well as a communication/reporting/accountability protocol. Additionally, some VCs have an associated regulatory approval process that will assure the application of any further mitigation, e.g., see Heritage Resources text below with regard to the finding of heritage resources. Many of the mitigation and restoration measures currently described are industry-standard that have been successfully applied in other projects, resulting in approaches that are both technically and economically feasible. VC-specific monitoring and follow-up plans that are currently being developed will be measurable and verifiable.

Further to the EMP, VC-specific details on mitigation are provided within each VC assessment section, specifically:

Atmospheric Environment

Mitigation measures proposed for Project-related effects on the Atmospheric Environment are described in Sections 6.3.4.2., 6.2.4.3, 6.2.4.4 and 6.2.4.5. Follow-up and monitoring for Atmospheric Environment is as described in Sections 6.2.7 and 12.2.

Geology and Soils

Mitigation measures proposed for Project-related effects on the Geology and Soil are described in Section 6.3.4. Follow-up and monitoring for geology and soils are as described in Sections 6.3.7 and 12.3.

Groundwater and Surface Water

Mitigation measures proposed for Project-related effects on Groundwater are described in Section 6.4.4. Follow-up and monitoring for groundwater and surface water is as described in Sections 6.4.11 and 12.4.

Fish and Fish Habitat

Mitigation measures proposed for Project-related effects on Fish and Fish Habitat are described in Sections 7.2.4.2 and 7.2.4.4. Follow-up and monitoring for Fish and Fish Habitat is as described in Sections 7.2.8 and 12.5.

Vegetation

Mitigation measures proposed for Project-related effects on the Vegetation VC are described in Section 8.2.4. Follow-up and monitoring for vegetation are as described in Sections 8.2.8 and 12.6.

Wildlife

Mitigation measures proposed for Project-related effects on the Wildlife VC are described in Section 8.3.6. Project-specific wildlife mitigation measures will be monitored as part of the Wildlife Monitoring Plan described in Sections 8.3.10 and 12.7.

Land and Resource Use

Mitigation measures proposed for Project-related effects on the Land and Resource Use VC are described in Sections 9.2.4.2, 9.2.4.3, 9.2.4.4, and 9.2.4.5. Monitoring and follow-up for land and resource use is as described in Sections 9.2.8 and 12.8.

Infrastructure and Services

Mitigation measures proposed for Project-related effects on the Infrastructure and Services VC are described in Sections 9.3.4.2, 9.3.4.3, 9.3.4.4, and 9.3.4.5. No follow-up monitoring plans for the Project's effects on infrastructure and services have been identified.

Economy

Mitigation measures proposed for Project-related effects on the Economy VC are described in Sections 9.4.4.3 and 9.4.4.5. No follow-up monitoring plans for the Project's effects on the economy have been identified.

Human Health

Mitigation measures proposed for Project-related effects on the Human Health VC are described in Section 9.5.4.2. Follow-up and monitoring for human health are typically based on the outputs of physical environment monitoring, such as water quality.

Heritage Resources

Mitigation measures proposed for Project-related effects on the Heritage Resources VC are described in Sections 9.6.4.1 and 9.6.4.2. Monitoring and follow-up are described in Sections 9.6.8 and 12.12.

Mitigation measures for Project related effects on Heritage Resources require a pre-construction Heritage Resource Impact Assessment (HRIA) of those portions of the Project Development Area (PDA) identified by the Historic Resources Branch of Manitoba Sport, Culture and Heritage (HRB) as having the potential to contain archaeological sites, features, or objects. Once complete, the HRIA will identify heritage resources within the PDA and recommend mitigations appropriate to the significance and integrity of each resource. Mitigations typically include avoidance by project design, salvage excavation, construction monitoring, or as-found recording in advance of disturbance. Once mitigations are complete and HRB approves the permit report for the HRIA, no residual effects on heritage resources remain.

Traditional Land and Resource Use

Manitoba Infrastructure recognizes that the ability to undertake traditional use activities depends on the health and abundance of traditionally harvested species and the continued availability of and access to traditional use sites and areas. Mitigation measures to avoid or reduce effects on current use take into account recommendations made by Indigenous groups as well as proven and effective mitigation measures identified by related VCs. As noted in Section 10.2.4.4, mitigation measures that serve to avoid or reduce potential adverse effects on the aquatic environment and terrestrial environment will also serve to avoid or reduce effects on the availability of traditional resources. As noted in Section 10.2.4.5, the current Project design and routing of the channels was influenced by the Indigenous engagement process (described in Chapter 5). In addition to measures proposed in the Construction Environmental Management Program (CEMP) and Project Environmental Requirements (Chapter 3), Indigenous groups will be engaged regarding restricted access periods and suitable access following construction which will serve to avoid or reduce effects to access to traditional resources or areas. As noted in Section 10.2.4.6, Indigenous groups will be engaged to identify, map and record spiritual and cultural sites that may be intersected by the Project and identify potential mitigation strategies. Indigenous groups will be provided an opportunity to conduct ceremonies at the site prior to construction. Key mitigation measures proposed are considered to be applicable and effective.

As described in Sections 7.2.8, 8.2.8, 8.3.10 and 12.5, 12.6 and 12.7, follow up and monitoring programs for the aquatic environment and terrestrial environment will serve to confirm the effectiveness of proposed mitigation for the availability of traditional resources. Manitoba Infrastructure is committed to ongoing engagement with Indigenous groups and will seek to implement follow up and monitoring programs that involve Indigenous groups in confirming the effectiveness of proposed mitigation for current use. More information will be incorporated as it becomes available with the implementation of the approach outlined in Appendix 5C Indigenous Consultation Approach and Current Status .

Indigenous Health and Socioeconomic Conditions

Mitigation measures to avoid or reduce effects on Indigenous Health and Socioeconomic Conditions take into account recommendations made by Indigenous groups as well as proven and effective mitigation measures identified by related VCs. As indicated in Section 10.3.3.1, Manitoba Infrastructure will provide opportunities for Indigenous groups engaged on the Project to collect traditionally harvested plants in advance of construction and will continue to engage with Indigenous groups to better understand the use and importance of trails which may be affected by Project activities. As noted in Section 10.3.3.2, Manitoba Infrastructure will work with First Peoples Development Inc. to identify and explore opportunities for working with Indigenous groups on Manitoba Infrastructure projects. A Traffic Management Plan will be implemented to reduce travel delays, and an Access Management Plan, intended to address concerns of stakeholders including Indigenous groups, will be prepared. Key mitigation measures proposed are considered to be applicable and effective.

Aboriginal and Treaty Rights

Mitigation measures identified in the Traditional Land and Resource use assessment (discussed above), and in the Aquatic Environment and Terrestrial Environment assessments will serve to reduce or avoid effects on resources relied upon to exercise Aboriginal and Treaty rights and reduce or avoid effects on conditions that may prohibit or deter the exercise of Aboriginal and Treaty rights. No mitigation has been proposed for effects on Aboriginal and Treaty rights related to an Indigenous groups' ability to carry out land use planning objectives due to changes in water levels because no discernable changes in water levels on Lake Winnipeg and downstream waterways are expected. Indigenous groups have proposed mitigation measures for Project effects on Aboriginal and Treaty rights due to the conversion of unoccupied Crown land to land set aside for Project infrastructure and Manitoba Infrastructure will continue to engage Indigenous groups on these.

2.5 PREFERRED PROJECT

Based on the evaluation of flood control options assessed in the Assiniboine River and Lake Manitoba Basins Flood Mitigation Study (KGS Group 2016a), the subsequent Stage 2 Conceptual Design (KGS Group 2016b) and the recommendations provided in the investigations and preliminary design (KGS Group 2017a; 2017b) the Province is advancing the Project with preferred components (Appendix 2A, Figure 2A-6) consisting of:

- constructing an approximately 24.1 km long LMOC, with the inlet at Watchorn Bay on Lake Manitoba and outlet at Lake St. Martin (Option D), and a design flow of 212 m^3/s (7,500 cfs)
- constructing an approximately 23.8 km long LSMOC, with the inlet positioned at the east end of Lake St. Martin and outlet at Willow Point on Sturgeon Bay of Lake Winnipeg (Option 4) and a design flow of 326 m^3/s (11,500 cfs)

2.6 REFERENCES

Blann, K. A., Anderson, J. L., Sands, G. R., and Vondracek, B. 2009. Effects of Agricultural Drainage on Aquatic Ecosystems: A Review, University of Minnesota, St. Paul, Minnesota, USA.

Canadian Environmental Assessment Agency (CEAA). 2018. Guidelines for the preparation of an environmental impact statement pursuant to the *Canadian Environmental Assessment Act*, 2012. Lake Manitoba and Lake St. Martin Outlet Channels Project proposed by Manitoba Infrastructure. Version 1: May 15, 2018.

Hind. H.Y. 1860. Assinniboine and Saskatchewan Exploring Expedition (1858), Geology, Indians of North America. London: Longman, Green, Longman, and Roberts. 524 p.

KGS Group and AECOM. 2011. Analysis of Options for Emergency Reduction of Lake Manitoba and Lake St. Martin Levels, Prepared for Manitoba Infrastructure and Transportation.

KGS Group. 2010. Shoal Lakes Watershed Study.

KGS Group. 2014. Assiniboine River & Lake Manitoba Basins Flood Mitigation Study; Lake Manitoba & Lake St. Martin Outlet Channels Conceptual Design – Stage 1

KGS Group. 2016a. Assiniboine River & Lake Manitoba Basins Flood Mitigation Study. Final Report

KGS Group. 2016b. Assiniboine River & Lake Manitoba Basins Flood Mitigation Study; Lake Manitoba & Lake St. Martin Outlet Channels Conceptual Design – Stage 2.

KGS Group. 2017a. Investigations and Preliminary Engineering for LMB Outlet Channels Options C and D Summary Report.

KGS Group. 2017b. Preliminary Design for Reach 2 of the Lake St. Martin Outlet Channel Report.

KGS Group. 2017c. Letter Report Re: Groundwater and Surface water and Geotechnical Investigations & Preliminary Engineering for Lake Manitoba Outlet Channels Option C&D – Route G Letter Report - Final

Lake Manitoba and Lake St. Martin Regulation Review Committee (LM&LSMRRC). 2013. Finding the Right Balance: A Report to the Minister of Infrastructure and Transportation. Volume 1: Main Report.

Lake Manitoba Regulation Review Advisory Committee (LMRRAC). 2003. Regulation of Water Levels on Lake Manitoba and along the Fairford River, Pineimuta Lake, Lake St. Martin, and Dauphin River and Related Issues.

Manitoba 2011 Flood Review Task Force (MFRTF). 2013. Manitoba 2011 Flood Review Task Force Report.

Manitoba 2013a, 2011 Flood: Technical Review of Lake Manitoba, Lake St. Martin and Assiniboine River Water Levels, Summary Report

Manitoba 2013b, 2011 Flood: Technical Review of Lake Manitoba, Lake St. Martin and Assiniboine River Water Levels.

Manitoba. 2015. Provincial Flood Control Infrastructure Review of Operating Guidelines, A Report to the Minister of Manitoba Infrastructure and Transportation, August 2015. Manitoba Provincial Flood Control Infrastructure Operation Review Panel.

Manitoba Infrastructure. 2018a. Lake Manitoba and Lake St. Martin Outlet Channels Project Environmental Assessment Scoping Document. Prepared for Environmental Approvals Branch, Manitoba Sustainable Development. Submitted by Manitoba Infrastructure. 20 pp.

Pomeroy, J., Westbrook, C., Fang, X., Minke, A. and Guo, X. 2010. Prairie Hydrological Model Study Final Report. University of Saskatchewan, Centre for Hydrology Report No. 7. Available from http://www.usask.ca/hydrology/Reports.php

Pomeroy, J., Shook, K., Fang, X., Dumanski, S., Westbrook, C. and Brown, T. 2014. Improving and Testing the Prairie Hydrological Model at Smith Creek Research Basin. University of Saskatchewan, Centre for Hydrology Report No. 14. Available from http://www.usask.ca/hydrology/reports/CHRpt14_PHM_SCRB.pdf

Province of Manitoba. 1961. Lake Manitoba Regulation Operating Rules of the Fairford River Dam.

Schottler, S.P., Ulrich, J., Belmont, P., Moore, R., Lauer, J.W, Engstrom, D.R. and Almendinger, J.E. 2013. Twentieth Century Agricultural Drainage Creates More Erosive Rivers, Hydrological Processes. Available from http://www.lakepepinlegacyalliance.org/wordpress/wp-content/uploads/2013/01/HP-Schottler-et-al-1.pdf

Souris River Basin Board (SRBB). 1978. Detailed Evaluation of Selected Flood Damage Reduction Options along the Manitoba Portion of the Souris River.

Sugg, Z. 2007. Assessing U.S. Farm Drainage: Can GIS Lead to Better Estimates of Subsurface Drainage Extent, World Resources Institute, Washington D.C.

Warren, F.J. and Lemmen, D.S. (Editors). 2014. Canada in a Changing Climate: Sector Perspectives on Impacts and Adaptation; Government of Canada, Ottawa, ON, 286p. Available from https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/earthsciences/pdf/assess/2014/pdf/Full-Report_Eng.pdf

Appendix 2A FIGURES

LIST OF FIGURES

Figure 2A-1 Assiniboine River and Lake Manitoba Basins within Manitoba (Source Manitoba Infrastructure 2017) 2A.2
Figure 2A-2 Flood Mitigation Option Locations 2A.3
Figure 2A-3 Level of Protection at Key Locations of the Assiniboine River and Lake Manitoba Basins 2A.4
Figure 2A-4 Location Plan of Lake Manitoba Outlet Channel Options 2A.5
Figure 2A-5 Location Plan of Lake St. Martin Outlet Channel Options 2A.6
Figure 2A-6 Preferred Project 2A.7

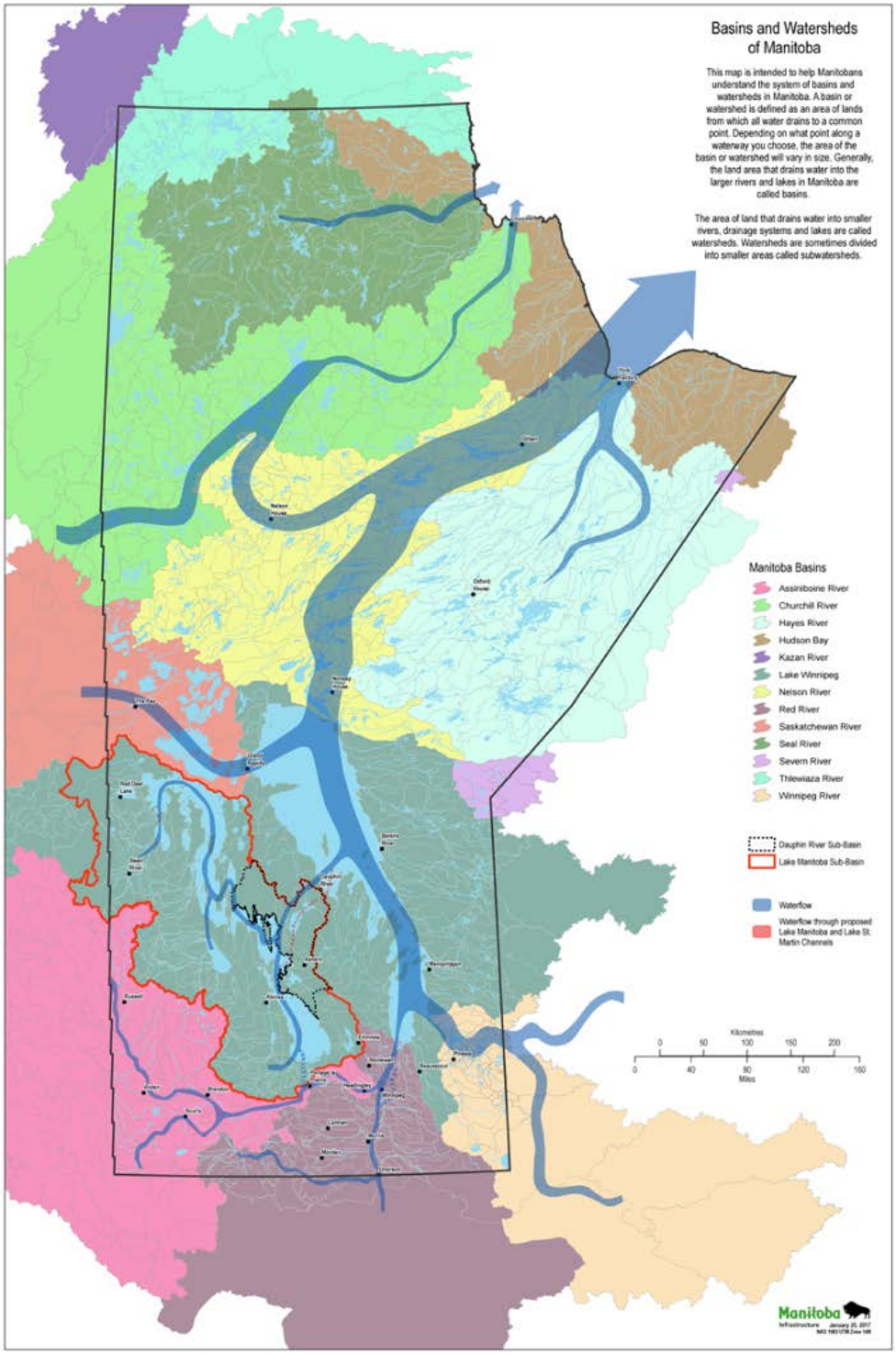


Figure 2A-1 **Assiniboine River and Lake Manitoba Basins within Manitoba (Source Manitoba Infrastructure 2017)**

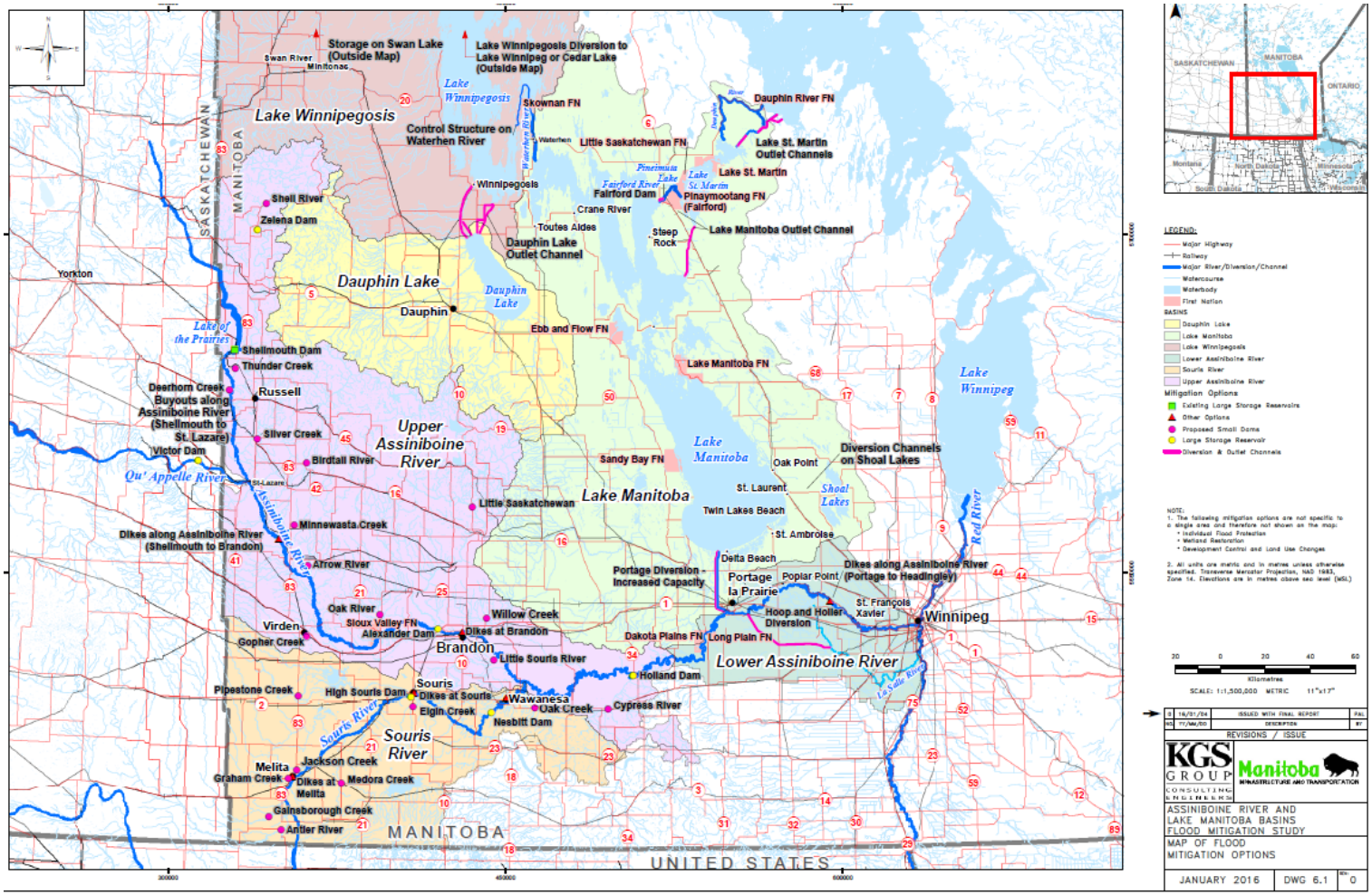


Figure 2A-2 Flood Mitigation Option Locations

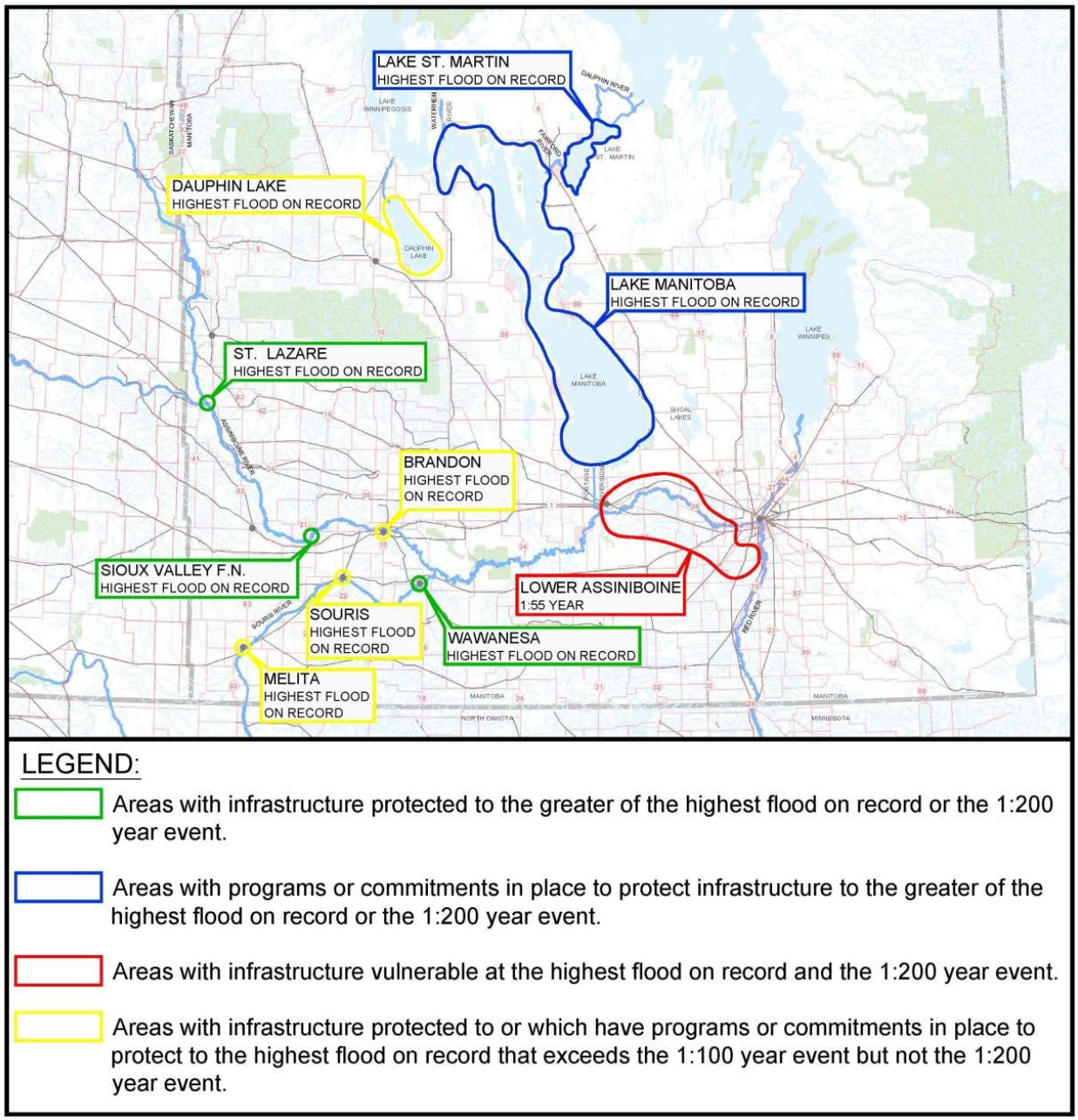
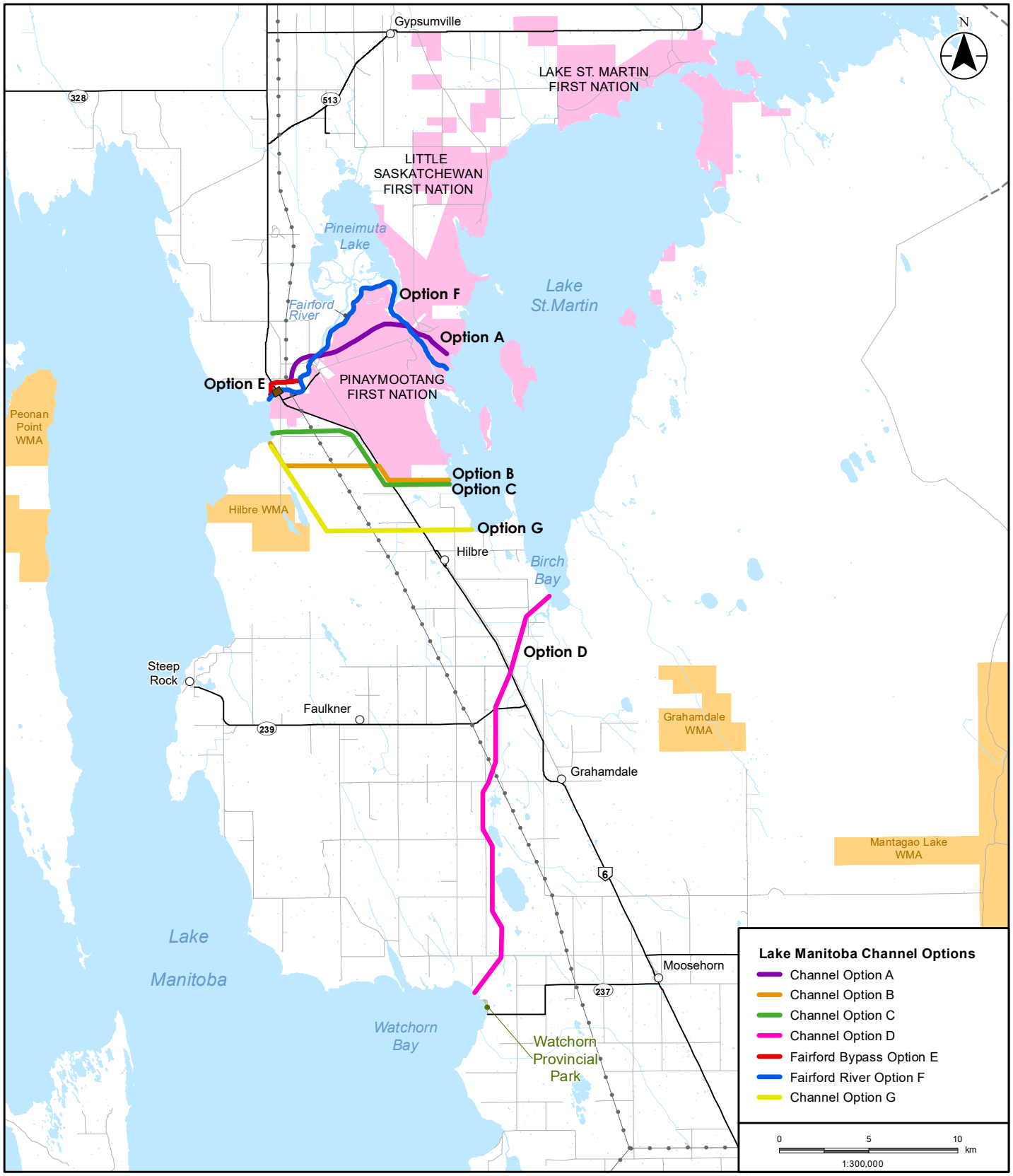


Figure 2A-3 **Level of Protection at Key Locations of the Assiniboine River and Lake Manitoba Basins**



Legend

- Fairford Water Control Structure
- Lake St. Martin Access Road
- Existing Transmission Line
- Provincial Highway (PTH/PR)
- Municipal Road
- First Nation
- Wildlife Management Area
- Provincial Park

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/16/2019 1:41:24 PM

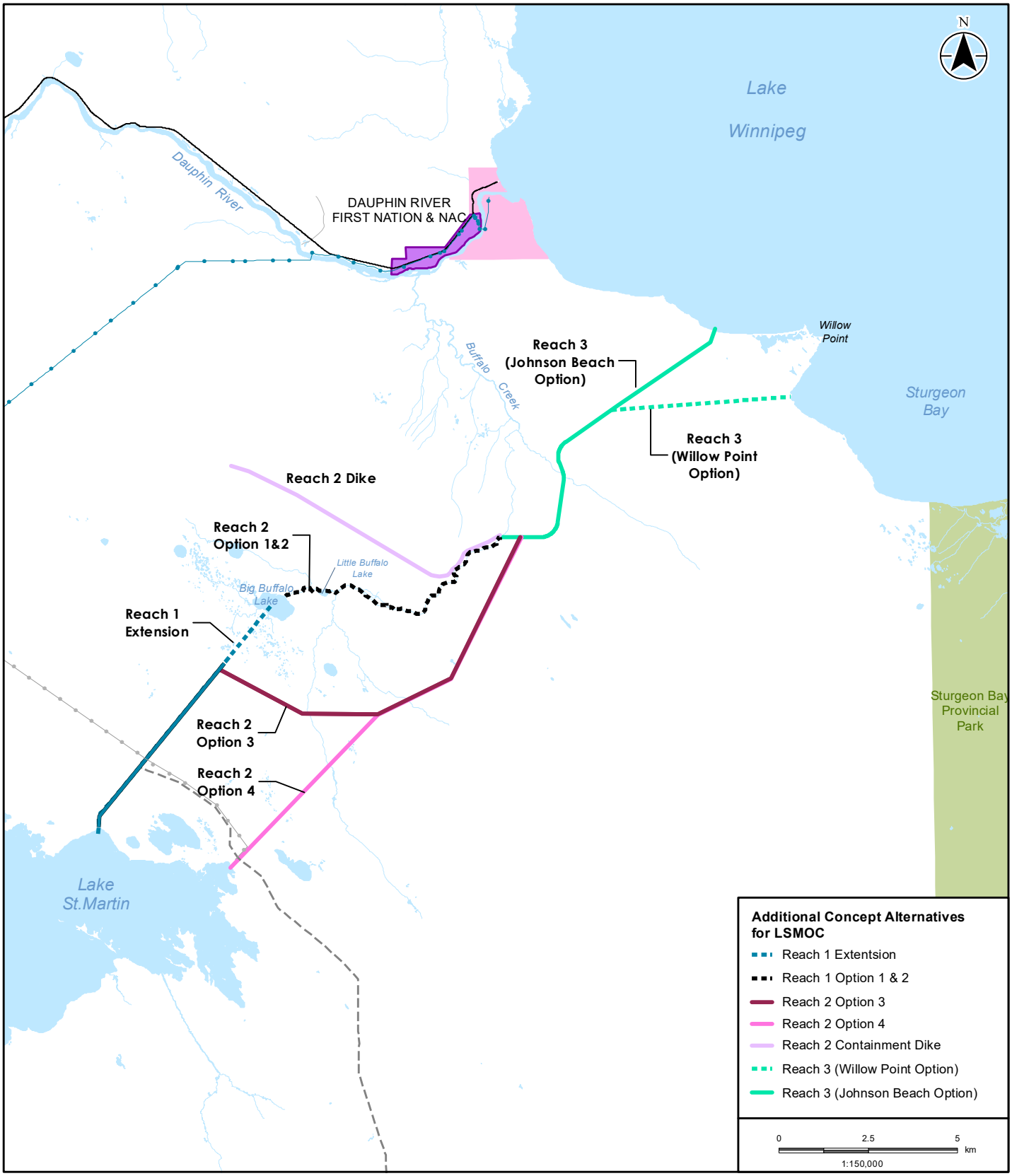
Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

Location Plan of Lake Manitoba Outlet Channel Options

Figure 2A-4

G:\ GIS Project Folder\11475120\figures\Ch2 Project Justification Alternatives\Final\Figure 2A-4 Location Plan of LMOC Options.mxd



Legend

- Lake St.Martin Emergency Outlet Channel (Reach 1)
- Lake St. Martin Access Road
- Existing Distribution Line
- Planned Distribution Line
- Provincial Highway (PTH/PR)
- Municipal Road
- Northern Affairs Community (NAC)
- First Nation
- Provincial Park

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/16/2019 12:09:58 PM

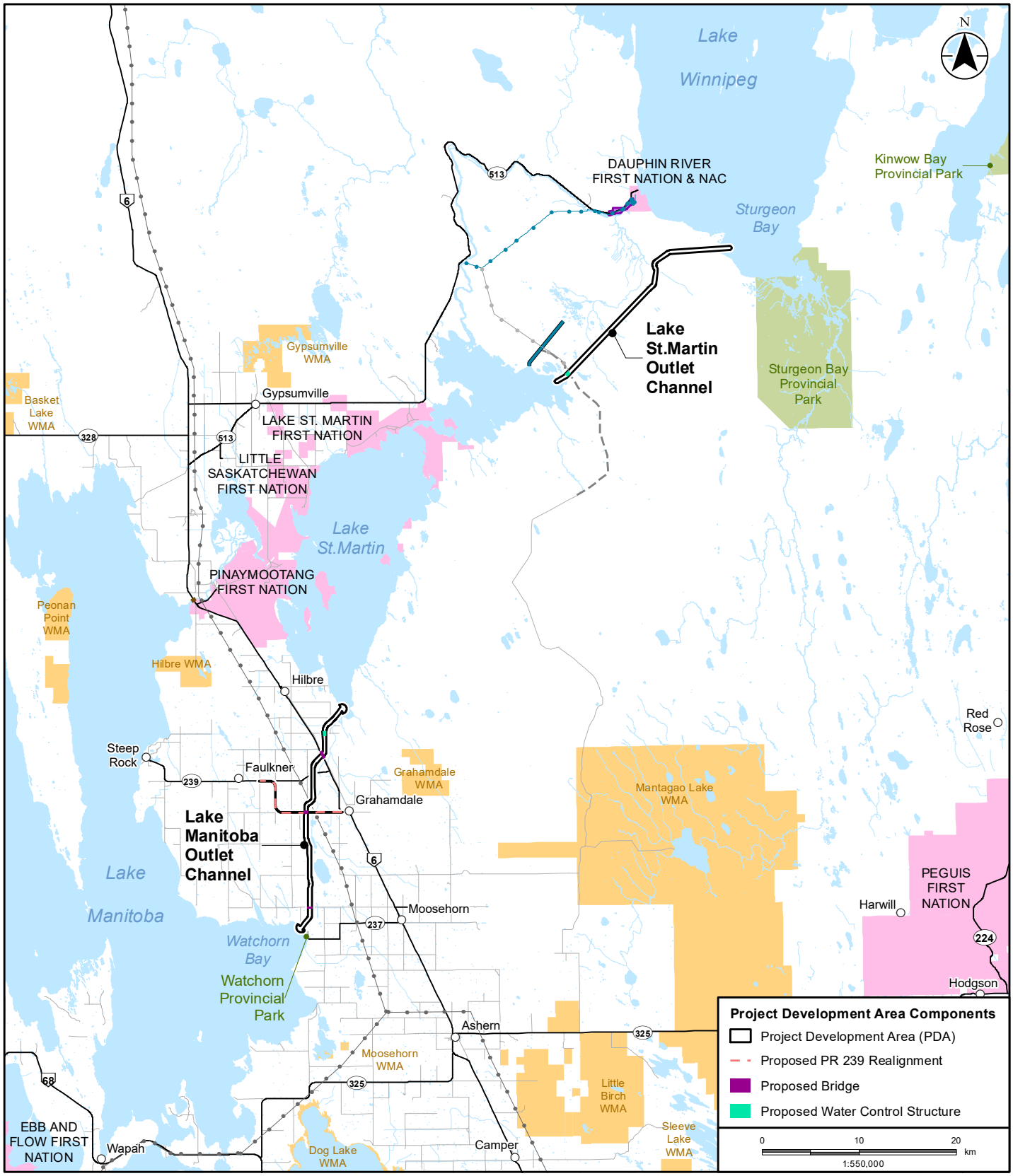
Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

Location Plan of Lake St.Martin Outlet Channel Options

Figure 2A-5

G:\ GIS_Project_Folder\11473120\Figures\Ch2 Project Justification_Alternatives\Final\Figure 2A-5 Location Plan of LSMOC Options.mxd



Legend

- Fairford Water Control Structure
- Lake St.Martin Emergency Outlet Channel (Reach 1)
- Lake St. Martin Access Road
- Existing Transmission Line
- Existing Distribution Line
- Planned Distribution Line
- Provincial Highway (PTH/PR)
- Municipal Road
- Northern Affairs Community (NAC)
- First Nation
- Wildlife Management Area
- Provincial Park

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/23/2019 10:42:05 AM

Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

Preferred Project

Figure 2A-6

G:\ GIS_Project_Folder\114715100\figures\Ch2 Project Justification_Alternatives\Final\Figure 2A-6 Preferred Project.mxd

Manitoba

LAKE MANITOBA AND LAKE ST. MARTIN OUTLET CHANNELS PROJECT
Environmental Impact Statement

CHAPTER 3

PROJECT DESCRIPTION

March 2020

Table of Contents

3.0 PROJECT DESCRIPTION 3.1
3.1 INTRODUCTION 3.1
3.2 SCOPE OF THE PROJECT 3.2
3.3 PROJECT PHASES 3.3
3.3.1 Site Preparation and Construction 3.3
3.3.2 Operation and Maintenance 3.5
3.3.3 Decommissioning and Abandonment 3.5
3.4 PROJECT COMPONENTS 3.6
3.4.1 Overview 3.6
3.4.2 Lake Manitoba Outlet Channel (LMOC) 3.7
3.4.2.1 Outlet Channel 3.7
3.4.2.2 Channel Inlet and Outlet 3.8
3.4.2.3 Water Control Structure 3.8
3.4.2.4 Permanent Bridge Structures 3.9
3.4.2.5 PR 239 and Municipal Road Realignments 3.9
3.4.2.6 Rock Quarries and Borrow Material Areas 3.9
3.4.2.7 Temporary Construction Camps and Staging Areas 3.10
3.4.2.8 Power Supply 3.10
3.4.2.9 Temporary Access and Crossings 3.11
3.4.2.10 Drainage Realignment 3.11
3.4.2.11 Facilities for the Storage of Explosives 3.12
3.4.3 Lake St. Martin Outlet Channel 3.12
3.4.3.1 Outlet Channel 3.12
3.4.3.2 Channel Inlet and Outlet 3.13
3.4.3.3 Water Control Structure 3.14
3.4.3.4 Drop Structures 3.14
3.4.3.5 Rock Quarries and Material Borrow Areas 3.15
3.4.3.6 Temporary Construction Camps and Staging Areas 3.16
3.4.3.7 Power Supply 3.16
3.4.3.8 Temporary Access and Crossings 3.17
3.4.3.9 Drainage Realignment 3.17
3.4.3.10 Facilities for the Storage of Explosives 3.18
3.5 PROJECT ACTIVITIES 3.18
3.5.1 Introduction 3.18
3.5.2 Site Preparation and Construction 3.18
3.5.2.1 Clearing 3.18
3.5.2.2 Excavation 3.19
3.5.2.3 Blasting 3.20
3.5.2.4 Access Roads and Detours 3.21
3.5.2.5 Bridges 3.21
3.5.2.6 Water Control Structures 3.21
3.5.2.7 Road Realignment 3.23
3.5.2.8 Drop Structures 3.23
3.5.2.9 Equipment Requirements 3.24

3.5.2.10 Temporary Construction Camps and Staging Areas 3.24
3.5.2.11 Water Management 3.24
3.5.2.12 Erosion and Sediment Control 3.26
3.5.2.13 Revegetation 3.27
3.5.2.14 Fuel and Waste Storage 3.27
3.5.2.15 Power Supply 3.28
3.5.2.16 Workforce 3.28
3.5.2.17 Fuel and Waste Management 3.28
3.5.3 Operation and Maintenance 3.29
3.5.3.1 Operation Criteria 3.29
3.5.3.2 Equipment Requirements 3.29
3.5.3.3 Vegetation Management 3.30
3.5.3.4 Water Management 3.30
3.5.3.5 Ice Management 3.31
3.5.3.6 Fuel and Waste Management 3.31
3.5.3.7 Workforce 3.31
3.5.3.8 Maintenance Requirements 3.32
3.5.4 Decommissioning and Abandonment 3.32
3.5.4.1 Permanent Facilities 3.32
3.5.4.2 Temporary Components 3.32
3.5.4.3 Ownership and Responsibility 3.33
3.6 SCHEDULE 3.33
3.7 ENVIRONMENTAL MANAGEMENT PROGRAM 3.33
3.7.1 Overview 3.33
3.7.2 Construction Environmental Management Program 3.34
3.7.3 Operation Environmental Management Program 3.39
3.8 REFERENCES 3.40

LIST OF TABLES

Table 3.5-1 LMOC Preliminary Estimate of Numbers of Construction Equipment 3.24
Table 3.5-2 LMOC Preliminary Estimate of Construction Workforce 3.28

LIST OF APPENDICES

APPENDIX 3A TABLES 3A.1

APPENDIX 3B FIGURES 3B.1

APPENDIX 3C PHOTOS AND LSMOC AND LMOC MAP BOOK 3C.1

APPENDIX 3D OPERATIONAL GUIDELINES 3D.1

APPENDIX 3E MIT NATIVE REVEGETATION PROGRAM, GUIDANCE DOCUMENT 3E.1

APPENDIX 3F PROJECT ENVIRONMENTAL REQUIREMENTS 3F.1

3.0 PROJECT DESCRIPTION

3.1 INTRODUCTION

As stated in the Chapter 1, this EIS describes and evaluates the Lake Manitoba and Lake St. Martin Permanent Outlet Channels Project (the "Project") proposed to be developed between Lake Manitoba and Lake Winnipeg in Manitoba. The purpose of the Project is to develop a permanent flood control management system for Lake Manitoba and Lake St. Martin. Construction of a new diversion channel from Lake Manitoba to Lake St. Martin (Lake Manitoba Outlet Channel) and a new diversion channel from Lake St. Martin to Lake Winnipeg (Lake St. Martin Outlet Channel) will facilitate better management and control of the water levels on these lakes by providing additional capacity to divert water from Lake Manitoba through Lake St. Martin into Lake Winnipeg.

The Project consists of the design, construction, and operation and maintenance of new permanent flood protection infrastructure: the Lake Manitoba Outlet Channel (LMOC) and Lake St. Martin Outlet Channel (LSMOC), and associated works such as control structures (Appendix 3B, Figures 3B-1, 3B-2 and 3B-3). Maps which identify the Project components in relation to other major existing infrastructure, adjacent land uses and important environmental features are provided in the sections that describe and assess those features (see Appendix 7B, 8B, and 9A). It will be owned by the Government of Manitoba and operated by Manitoba Infrastructure as the provincial department responsible for Project operation as well as monitoring and maintaining the integrity of the Project structures.

Although the proposed Project will work collaboratively with existing flood protection infrastructure throughout the Assiniboine River and Lake Manitoba drainage basins, its objective relies on independent operation to relieve flooding in areas that remain vulnerable. As such, the Project is not considered to be an extension or expansion of other flood control measures constructed in Manitoba.

This chapter is organized into the following sections:

- scope of the Project
- Project phases
- Project components
- Project activities
- schedule
- environmental management plans

Large tables and figures are included in Appendices 3A and 3B, respectively.

The information provided in this chapter has been provided by, or derived from, Manitoba Infrastructure-provided information sources and/or their engineering service providers Hatch Ltd. and KGS Group Consulting Engineers.

3.2 SCOPE OF THE PROJECT

The CEAA Guidelines define the Project scope to include the construction, operation, decommissioning, and abandonment of the following Project components that will be described in this chapter:

- Main Works
  - diversion (outlet) channels
  - channel inlets and outlets
  - drop structures (to facilitate water flow over steep sections of the channel)
  - water control structures (WCSs)
  - bridges, including combined bridges and WCSs
  - road works including, re-alignment and/or construction of provincial highways and roads and municipal roads that are incidental to the Project
  - repurposing of a portion of Reach 3 of the existing Lake St. Martin Emergency Outlet Channel
- Associated Works and Activities
  - site clearing, earthmoving, leveling, excavation – including in-lake excavation and dredging - and blasting activities
  - rock quarries and borrow areas
  - explosives storage, manufacturing, and handling
  - installation and subsequent removal of temporary structures used to divert water during construction to facilitate construction of instream works in the dry
  - construction activities and accommodations, including temporary construction camps, waste disposal, temporary work areas, laydowns, and other ancillary infrastructure such as access roads
  - power source (source, quantity)
  - works for erosion and sediment control
  - waste disposal for all waste streams

- works for dust control

3.3 PROJECT PHASES

As requested by the CEAA Guidelines, the EIS discusses the following three phases:

1. site preparation and construction (construction)
2. operation and maintenance (operations)
3. decommissioning and abandonment

Various planning and design activities were undertaken as input to defining the various Project components and activities. This initial work included identifying preferred route alignments for each outlet channel, preliminary and conceptual engineering studies and analysis, environmental baseline data collection and environmental assessment. This initial pre-construction phase also included the initiation of Indigenous and Public Engagement Processes, described in Chapter 5. The planning and design process will continue, with refinements made based on input from the review of this EIS that will contribute to completion of the preliminary and detailed design for the Project prior to construction. As such, the specific design and exact locations of infrastructure such as bridges and WCSs will be finalized later in the design process. The detailed design will incorporate pertinent output from environmental studies, engagement and EIS review process, including refinement of mitigation measures and formal regulatory approvals conditions. The contract tendering process and construction-related environmental management program (EMP, Section 3.7) will be completed prior to construction and will incorporate the inputs from this process.

3.3.1 Site Preparation and Construction

The site preparation and construction (construction) phase for the Project includes transporting equipment, machinery, vehicles, construction materials and supplies to the Project site, as well as preparation of equipment marshalling areas, construction camps and staging areas. Specific components include construction of the outlet channels, inlet and outlet works, WCSs, road realignment, and bridges. Dewatering and realignment of existing drainage works is also required to manage surface water and groundwater flows during construction and operations.

Site preparation for the Project will require vegetation clearing and grubbing of the final alignment right-of-way (ROW) and excavating the channel to designed depths along the proposed preferred alignments. Clearing consists of the removal of all trees, shrubs and fallen timber. Grubbing is the removal of stumps and root masses, and stripping is the removal of topsoil and peat soils. Once cleared, excavation of the outlet channels within the ROWs may proceed year-round. Topsoil will be temporarily stockpiled to later be spread over the earthen dikes as a seed bed. Clay and till material will be excavated and placed adjacent to the channel as spoil banks and/or containment dikes. Outlet channels will be isolated as necessary and excavated in the dry. Cofferdams will be constructed, if required, to facilitate shoreline

excavation of the inlet and outlet for each of the LMOC and LSMOC. Design of the cofferdams will be part of detailed design and specific to the conditions at each location.

WCSs will be concrete and span the full width of the outlet channels with gates that can be operated to control the flow of water. WCSs will be constructed in the dry and will only be exposed to water when the control gates are in place and the structures can safely be exposed to flows. Since WCSs are to be built in the dry and are located inland, scheduling of much of the work relative to fish spawning windows will not be required and construction may take place year-round. The exception would be in-water works such as coffer dam and jetty installation and shoreline excavation related to the inlet and outlets of each channel. Execution of in-water works will be undertaken in accordance with approvals obtained via a separate process with Fisheries and Oceans Canada based on the specifics of the engineering design to address *Fisheries Act* requirements.

Bridges will consist of multiple spans across the full width of the outlet channels. While detailed design for bridge structures is not yet complete, they will include steel or concrete girders, concrete decking, and concrete abutments. Crossing locations (including bridge piers) and WCSs will be armored with riprap where required. Construction is expected to follow a standardized sequence, with abutments and piers completed first, followed by the decking. As with the channel and WCSs, bridges will be built in the dry with year-round construction possible. Since control and crossing structures are to be built in the dry, scheduling of work will not be required for avoiding fish spawning windows.

Realignment of Provincial Road 239 (PR 239) and municipal roads will be undertaken to accommodate the LMOC while still allowing for safe, economically feasible, and hydraulically efficient structures crossing the channel. Realignment of PR 239 will provide opportunities to minimize the number of bridge crossings over the channel. Similarly, sections of municipal roads will be reconstructed, realigned or extended to maintain reasonable access across the channel.

Power will be provided to each WCS by a distribution line to be permitted, designed, constructed and operated by Manitoba Hydro, the organization responsible for electrical utilities in the province of Manitoba. As Manitoba Hydro will permit, design, own and operate these lines, these Project components are defined as the service connection points between the lines and the structures; the lines themselves are assessed based on general design information available from Manitoba Hydro as associated work.

Associated works and activities such as quarries, construction staging areas and temporary construction camp locations will be located, surveyed and flagged as part of the onset of construction. Efforts will be made to locate laydown areas and camps within the ROW, where feasible. Existing licensed and permitted quarry and borrow areas will be used if appropriate and would remain after Project construction. Temporary facilities and work areas, including laydown areas and construction camps, that will not be needed for future maintenance activities will be decommissioned and reclaimed at the end of the construction phase. The principles related to construction decommissioning, defined as the closure and/or de-construction of infrastructure or work sites, are outlined in the Project Environmental Requirements (Appendix 3F).

3.3.2 Operation and Maintenance

The operation and maintenance phase refers to the periods when the outlet channels are conveying flow to address flood conditions, once construction is completed, including maintenance and follow-up monitoring. Operational guidelines for the WCSs are defined relative to water levels in Lake Manitoba and Lake St. Martin for operation of the LMOC and LSMOC respectively (Appendix 3D). The Operating Guidelines will be administered via *Manitoba's Water Resources Administration Act*. The act includes provisions related to Operating Guidelines and enables the Minister to assemble advisory committees for water control works.

During the operations and maintenance phase of the Project, the LMOC and LSMOC will be operated by adjusting the gates on the respective WCSs, in response to monitoring and flood forecasting according to the operating guidelines. This results in essentially two modes for WCS gate operation:

- open gates, to reduce levels on Lake Manitoba by increasing outflows from Lake Manitoba and Lake St. Martin during flood conditions
- closed gates, where only minimal base flows are conveyed through the LSMOC channel; lake levels and river flows are maintained or only marginally decreased

Operations and maintenance will adhere to Canadian Dam Safety Guidelines (CDA 2013), including its Operating, Maintenance and Surveillance Manual. A Project-specific Operation and Maintenance Manual (O&M Manual) will be developed for the Project structures to detail maintenance needs for the Project during the operation and maintenance phase. Maintenance requirements will generally differ according to open vs. closed operations of the WCS gates. The O&M Manual will include roles and responsibilities (e.g., legislated responsibilities, regulatory approvals/conditions, Manitoba Infrastructure and operator), records and logs (e.g., flow and water level monitoring), coordination with agencies (e.g., municipalities), emergency operations, operating guidelines, operating procedures (e.g., gate system, pre-operating inspection, notifications, monitoring, etc.), maintenance manuals, and maintenance procedures (e.g., vendor contracts, gate system, routine inspection/servicing).

3.3.3 Decommissioning and Abandonment

The purpose of the Project is to develop a permanent flood control management system for Lake Manitoba and Lake St. Martin. Decommissioning of the Project is not anticipated; however, should portions of the Project require decommissioning in the future, these activities will be undertaken in accordance with applicable guidelines and regulations at that time. Upgrading or rehabilitation to extend the life of the structures will take place as part of major maintenance projects and would depend on structural/historic attributes of the facility as well as economic and financial considerations at the time. The Project scope does not include decommissioning of the existing EOC Reach 1.

3.4 PROJECT COMPONENTS

3.4.1 Overview

The Project includes the LMOC and LSMOC (Appendix 3C, Map Book) which have several associated components, listed and described below. The size and design flows related to operations are discussed in Sections 3.4.2 and 3.4.3. The Project main works are as follows:

- LMOC
  - a diversion channel, approximately 24.1 km long
  - a channel inlet positioned at Watchorn Bay on Lake Manitoba and outlet at Birch Bay on Lake St. Martin
  - a WCS (combined with a road bridge)
  - three road bridges, one of which is combined with the WCS
  - realignment and/or new construction of PR 239 and affected municipal roads
- LSMOC
  - a diversion channel, approximately 23.8 km long
  - a channel inlet positioned at the east end of Lake St. Martin and outlet near Willow Point in Sturgeon Bay of Lake Winnipeg
  - a combined bridge and WCS
  - several drop structures
- Associated Works and Activities (both channels)
  - power supply
  - temporary construction camps and staging areas (within the channel right-of-way, where feasible)
  - temporary access routes (via existing roads)
  - realignment of existing drainage infrastructure (diversion of surface water and groundwater)
  - measures to divert surface water and groundwater during construction and operation
  - erosion and sediment control
  - fuel and waste storage

- facilities for storage of explosives, if required

No other facilities, buildings or garages, other than those listed as part of the Project components described in this section, and in further detail in the sections which follow, are required for the Project.

The various phases of the Project will include supporting activities that will be wholly undertaken by others (i.e., contractors) for the provision of construction materials, power, fuel, waste management and disposal and other Project needs. Such items would include the following:

- Rock and borrow materials will be provided from licensed and approved sources. The selection and use of specific sources are not defined and will be determined by the successful contractor(s) providing the construction support on the Project.
- Power lines to the WCSs will be provided by Manitoba Hydro. If applicable, temporary camps may also be powered by existing local Manitoba Hydro services as determined by the contractor.
- Waste disposal grounds, solid wastes generated as a result of Project-related construction, and operation and maintenance phases will be transferred to appropriately permitted/licensed facilities for recycling and/or disposal.
- Wastewater generated as a result of the Project construction and operation will be stored and transferred for disposal at existing licensed facilities by qualified carriers.

3.4.2 Lake Manitoba Outlet Channel (LMOC)

3.4.2.1 Outlet Channel

The LMOC will run northwards from Watchorn Bay on Lake Manitoba to Birch Bay on Lake St. Martin as shown on Appendix 3B, Figure 3B-2. This alignment generally follows low-lying terrain between Lake Manitoba and Lake St. Martin. Appendix 3B, Figure 3B-4 shows the channel profile and elevations on both sides (east prairie and west prairie). Based on existing information, the channel will be excavated primarily in till deposits (KGS Group 2014), reducing potential effects on/from groundwater, which was a key consideration in the selection of the preferred alignment (as described in Chapter 2, Section 2.4.2.1). The channel is approximately 24.1 km long, with a base width varying between 8 m and 13 m and side slopes between 5H:1V and 6H:1V depending on bank slope stability requirements (Appendix 3B, Figure 3B-5).

The proposed channel will have a bottom elevation of approximately 242 m above sea level (m asl) at Lake Manitoba and about 239 m asl at Lake St. Martin (Appendix 3B, Figure 3B-4). The depth of the earthen channel will vary between 6 m and 12 m below grade, and since the invert of the channel will be lower than water levels in the lakes (248.1 m for Lake Manitoba and 244.2 m for Lake St. Martin), there will be water in the channel on both sides of the WCS during operations, both with the gates open and closed. The channel structure will be excavated below grade with spoil piles placed along both sides of the channel.

The current conceptual design is based on a channel capacity of 212 m^3/s when operated at a Lake Manitoba water level of 248.1 m (814 ft) and a Lake St. Martin level of 244.2 m (801 ft.) (KGS Group 2016). Average velocities in the LMOC are expected to range between approximately 0.9 m/s and 1.3 m/s, with locally higher velocities occurring in the vicinity of the bridges and the WCS when the gates are open (13% to 30% of the time depending on the month). Expected flow sources include discharge from Lake Manitoba and local surface water runoff.

With the excavation of the LMOC, the potential exists for local groundwater pressures to exceed the pressure of the overlying material. Staged construction sequencing combined with aquifer depressurization measures will be employed to prevent blowout/basal heave of the channel during the construction phase. The type, location and duration of these aquifer depressurization measures (such as pumping and drains) will be identified during detailed design of the channel.

3.4.2.2 Channel Inlet and Outlet

The hydraulic profile of the channel will require the lake bottoms to be excavated at the channel inlet and outlet to match proposed channel invert elevations (Appendix 3B, Figure 3B-6). The excavations will be tapered over a distance of 500 m or less from shoreline to meet existing lakebed elevations. Coffer dams may be required to construct the inlet and outlet in the dry, although alternative measures may be implemented based on detailed design and *Fisheries Act* approvals processes.

The design selected is expected to protect the channel and its capacity by reducing the potential for erosion and sediment transport. The concepts of rock groins or other engineered structures may be considered as part of the design to reduce changes in shoreline morphology.

3.4.2.3 Water Control Structure

A WCS is required to control flows through the LMOC in accordance with the operating guidelines (Appendix 3D) to provide flood mitigation for Lake Manitoba. The operations are intended to be consistent with the water management plan that is further described in Section 3.7.2.3. The WCS planned for the LMOC will be constructed as a bridge at the Iverson Road channel crossing location (Appendix 3B, Figure 3B-2). Locating the WCS in the northern third of the route will help reduce the potential for groundwater blowout within the channel and reduce potential groundwater effects.

The current conceptual arrangement of the WCS has three, 9 m wide sluice bays, guides and sill beams for upstream stoplogs, vertical lift gates and downstream stoplogs. A conceptual drawing of a typical WCS is provided in Appendix 3B, Figure 3B-7. Revision and optimization of the WCS design will continue during detailed design to provide a channel capacity of 212 m^3/s at a Lake Manitoba water level of 248.1 m (814 ft) and a Lake St. Martin level of 244.2 m (801 ft.). When the WCS gates are closed, the water level in the channel on the upstream side will be the same as the water level on Lake Manitoba and on the downstream side of structure the water level will be the water level on Lake St. Martin.

An ancillary building will likely be constructed near or attached to the WCS to house mechanical and electrical service. The WCS will require permanent electrical power to raise and lower the gates, as well

as to heat the structure and gates to maintain winter operation capability (KGS Group 2016). A diesel fueled generator will be installed to provide a backup to the permanent power supply from Manitoba Hydro for the WCS.

3.4.2.4 Permanent Bridge Structures

The LMOC will intersect municipal roads and provincial highways. As such, new bridges will be required to maintain connectivity and access. A total of four new bridges are planned to span the LMOC, of which, one will be combined with the WCS described in Section 3.4.2.3. The other three will be dedicated multi-span bridges, constructed to maintain connectivity along the Township Line Road, realigned PR 239 and Provincial Trunk Highway (PTH) 6 (Appendix 3B, Figure 3B-2). Ongoing alignment optimization planning, financial considerations, environmental considerations, and continued discussions with local landowners, stakeholders and RMs will influence the exact locations and design. A typical conceptual bridge design is presented as Appendix 3B, Figure 3B-8.

Detailed design of the channel and bridges will be conducted synchronously as bridge configuration and channel optimization are interrelated and influence hydraulic efficiencies. Bridge structures will be built to accommodate and withstand water flows, ice flows, and safe passage of traffic volumes and vehicle types, including agricultural equipment. The LMOC will not be deemed navigable and will not be designed to meet clearance requirements for passage of motorboats, sailboats and other powered vessels.

3.4.2.5 PR 239 and Municipal Road Realignments

Realignment of PR 239 and municipal roads is required in order to accommodate the LMOC while still allowing for safe, economically feasible, and hydraulically efficient structures across the channel. The current preferred option for realignment of these roadways is shown in Appendix 3B, Figure 3B-2. A typical cross section including the 50 m ROW for the PR 239 realignment is shown as Appendix 3B, Figure 3B-9. Realignment of PR 239 will reduce the number of bridge crossings over the channel. Similarly, sections of municipal road will be reconstructed, realigned or extended for purposes of agricultural activities and residential access. A small segment of new municipal road may be required to provide access to a residential property where the existing access may be cut off as a result of the LMOC alignment.

Ongoing alignment optimization planning, financial considerations, environmental considerations, and continued discussions with local landowners, stakeholders and RMs will influence how and where provincial and municipal roads are realigned.

3.4.2.6 Rock Quarries and Borrow Material Areas

High quality limestone rock will be required for the riprap to control erosion at several points along the channel. Aggregate produced from quarries will also be used in realigning PR 239. Several potential rock and borrow sources exist in the general Project region, which may be used by Project contractors. There

are existing permitted/licensed sources for the Project. Estimated quantities, volumes or sources of aggregate (rock) or borrow will be developed as Project design progresses.

As detailed in the Project Environmental Requirements (Appendix 3F, Section 2.12), requirements for the development and operation of quarry and borrow areas used for the Project are outlined, including requirements for submission of plans and details to MI prior to the commencement of activities. These requirements, as well as other applicable components of the Construction Environmental Program (see Section 3.7.2) and Operation Environmental Management Program (see Section 3.7.3) will be applied throughout the Project lifecycle, as required.

3.4.2.7 Temporary Construction Camps and Staging Areas

It is expected that a portion of the LMOC construction workforce may be housed within existing accommodations in the region; however, contractors will use construction camps to supplement accommodations when the LMOC Project workforce exceeds available capacity. A preliminary estimate of the number of workers employed on the LMOC portion of the Project includes a peak workforce of approximately 325 workers. Contractor staging areas will be used to store materials, maintain and assemble equipment, and administer work on the proposed Project. Staging areas will be located on the ROW wherever feasible and the exact location, number, size and details of the contractors' work areas will be verified during detailed design. A preliminary estimate of workforce numbers for the Project is provided in Section 3.5.2.16.

Although the exact location for temporary construction camps and staging areas are not known at this time, MI has developed a process for proposal and review of locations prior to their establishment. As stated in the Project Environmental Requirements (Appendix 3F), designated areas, including temporary work camps, equipment servicing areas, parking areas, and staging areas, shall be identified by the Contractor. The Contractor shall submit plans and details for designated areas, including proposed location for review by Manitoba Infrastructure.

3.4.2.8 Power Supply

Permanent electrical service is required for power at the WCS to electrically raise and lower the gates, as well as to heat an appropriate number of gates to maintain winter operation capability. Manitoba Hydro will install an overhead distribution line to a pad-mount transformer that will be installed at the WCS location. Maintenance of the distribution line and associated ROW will fall under Manitoba Hydro's standard operating procedures. Manitoba Hydro will be responsible for obtaining and adhering to any distribution line permit and/or regulatory approvals conditions.

A stand-by diesel-fueled generator (including fuel tanks) will be installed as part of the Project to provide emergency back-up power for the WCS should there be a power failure at the site. A 750-kW generator and a 1,000 L fuel tank are estimated to be required to provide sufficient power; these details will be confirmed as part of detailed design.

During construction, additional electrical power will likely be required beyond the capacity of the distribution line. Power may be required for a concrete batch plant, rock crushing facilities and general construction needs. Construction power requirements will be determined as part of detailed design and may involve tying into the existing Manitoba Hydro distribution system. Additional power will be provided by using diesel generators. Channel dewatering requirements during construction are expected to be handled with on-site diesel generation.

3.4.2.9 Temporary Access and Crossings

Temporary access routes may be required for access to the channel location, quarries and borrow areas, laydown areas and any other areas required for the LMOC. These may range from rough trails where vegetation may be removed or snow compacted, to service roads that are cleared, grubbed, graded, compacted and graveled to support heavy construction vehicle movement.

Construction-related traffic will be restricted to the Project ROW and associated temporary access routes required during Project construction and maintenance. Existing trails and other travel routes will not be altered adjacent to the Project footprint area other than as required for Project construction and maintenance purposes. Where temporary access routes are accessible by the public, access will be blocked when not in use.

After Project construction, access routes not required for on-going maintenance of the LMOC will be decommissioned by contouring, de-compacting and trimming to encourage natural revegetation and will be seeded and/or planted as required.

Temporary detours will be used to maintain access through the area where the LMOC intersects existing provincial and municipal roads. Detours will be established prior or simultaneous to channel excavation and bridge construction, so as not to interrupt vehicle traffic.

3.4.2.10 Drainage Realignment

Local land drainage in the area of the LMOC generally is from the west to the east towards the wetlands and small lakes, which include Goodison Lake, Reed Lake. Water Lake and Clear Lake. These lakes and wetlands in turn discharge into Birch Creek which flows northerly towards Lake St. Martin (Appendix 3B, Figure 3B-2). Only a relatively small area near the channel inlet drains towards Lake Manitoba (Watchorn Creek). The alignment of the LMOC bisects several sub-drainage basins that feed these wetlands and small lakes resulting in the need to address surface water drainage on the west side of the outlet channel. Surface water management is discussed in Section 3.5.3.4.

Surface water management plans will be developed for both the open and closed WCS gate scenarios as part of the detailed design of the Project. An outside drain will be constructed along the west side of the LMOC, likely along its entire length to capture the drainage from the west that flows across the LMOC location. The majority of the flow is expected to be re-directed into the LMOC upstream of PTH 6. The outside drain design criteria is predicted to be between the 1 in 10-year and the 1 in 100-year flood event. A typical cross section of the proposed LMOC outside drain is provided in Appendix 3B, Figure 3B-10.

Outside drains are not expected to be required along the east side of the outlet channel because the surface runoff slopes away from the channel on that side. However, mitigation measures may be required to address the reduction in contributing area to the wetlands and Birch Creek.

3.4.2.11 Facilities for the Storage of Explosives

Based on conceptual design information, blasting is not anticipated for the construction of the LMOC; therefore, no explosive storage facilities are planned. However, if conditions encountered on the site warrant blasting, explosives and initiation systems to be used for blasting activities during the construction phase will be stored in temporary, independent magazines. The contractor will be responsible for obtaining any required permits/licensing. Magazines used for the storage of explosives will meet the federal standards and licensing requirements as specified in the *Explosives Regulation* of the federal *Explosives Act*. Siting of magazines will meet the provincial standards and licensing requirements as specified in the Operation of Mines Regulation of *The Workplace Safety and Health Act* of Manitoba.

3.4.3 Lake St. Martin Outlet Channel

3.4.3.1 Outlet Channel

The LSMOC will run northeast from the east end of Lake St. Martin towards Sturgeon Bay on Lake Winnipeg. It will pass through a wetland area, eventually connecting to an existing partially completed, but non-functioning portion of the EOC (Reach 3) located east of the approximate midpoint of Buffalo Creek. A length of approximately 1 km of Reach 3 (at the upstream end near Buffalo Creek) will not be included as part of the LSMOC. The outlet channel will discharge to Sturgeon Bay in Lake Winnipeg, south of Willow Point (Appendix 3B, Figure 3B-3). The functioning EOC, Reach 1 (connected to Lake St. Martin) will not be incorporated as part of the Project, nor are there plans to decommission Reach 1 as part of the Project.

The length of the channel will be approximately 23.8 km with a base width of about 44 m based on a uniform trapezoid shape with a flat base and 4H:1V side slopes. The channel will have a bottom elevation of approximately 239.5 m asl (785.8 ft) at Lake St. Martin and 213 m asl (698.8 ft) at Lake Winnipeg (Appendix 3B, Figure 3B-11). The earthen channel will be excavated and augmented with above-grade earthen containment dikes to achieve a capacity of 326 m^3/s (11,500 cfs) at a Lake St. Martin water elevation of 244.15 m asl (801 ft) and a Lake Winnipeg water elevation of 217.6 m asl (713.9 ft) when the WCS gates are open. The range of depths and flows in the LSMOC channel, on a monthly basis, when the gates are open is presented in Appendix 3A, Table 3A-1. These values are based on the period of record, operating guidelines (Appendix 3D) and the current status of the design. The results are for the channel only and exclude the inlet, WCS, drop structures, and the outlet. The values presented during winter months assume open water conditions in the channel with reduced flow rates at the inlet. If considering potential ice effects in the channel, a larger range of potential water levels and velocities are likely to occur than those presented in the table.

During non-flood operations, when the WCS gates are closed (70% to 87% of the time, depending on the month), there will be an approximately 1 m to 2.5 m depth of water in the channel, as a minimum, with average velocities typically less than 0.1 m/s depending on base flow. The deepest areas will be located immediately upstream of drop structures. There will be a base flow in the channel when not in operation, concentrated in the channel centre based on slope design. Expected flow sources include, but are not limited to the following:

- a known area of groundwater discharge that will occur in locations where the channel invert intercepts bedrock
- surface water runoff within the local drainage basin intercepted by the channel that will be discharged into the outlet channel at multiple locations
- a limited discharge from Lake St. Martin may be conveyed through the WCS to maintain adequate water quality in the channel when it is not in operation for flood management and to sustain fish habitat

In areas where the LSMOC invert intersects or approaches bedrock, the potential exists for local groundwater pressures to exceed the pressure of the overlying material. Aquifer depressurization measures (such as groundwater pumping or drainage) may be required to prevent blowout and basal heave of the channel during construction and post-construction phases. The type, location and duration of these aquifer depressurization measures will be identified during detailed design of the outlet channel.

3.4.3.2 Channel Inlet and Outlet

The hydraulic profile of the channel will require the lake bottoms to be excavated at the channel inlet and outlets to match proposed channel invert elevations.

The inlet will include excavation into Lake St. Martin starting approximately 800 m from shore to allow a smooth transition from the lakebed to the start of the channel. The width of excavation will flare gradually from a width of approximately 400 m in the lake to 100 m at the channel entrance near the shoreline. Rock-filled jetties will likely be required for a short distance from the shoreline and will extend into the lake parallel to the channel excavation to protect the channel entrance from erosion. Efforts will be made to minimize the overall footprint of excavation at the inlet during detailed design process. A preliminary drawing of the conceptual inlet design is provided in Appendix 3B, Figure 3B-12.

The current design concept of the outlet presented is expected to be reduced in size during detailed design. Ultimately, the extents of the works will depend on the magnitude and frequency of erosion and sedimentation in the lakebed, as well as the magnitude of shoreline geomorphology changes. Based on the current design concept, the outlet will include excavation from the shoreline to a distance located approximately 400 m into Sturgeon Bay on Lake Winnipeg. The excavated area will flare gradually from a width of approximately 80 m near the shoreline to a width of approximately 180 m in the lake. Rock-filled jetties will likely be required and will extend into the lake parallel to most of the excavation area to prevent

excessive sediment deposition in the outlet and protect the channel outlet from erosion. A preliminary drawing of the conceptual outlet is provided in Appendix 3B, Figure 3B-13.

3.4.3.3 Water Control Structure

A WCS is required to control flows through the LSMOC while facilitating the maintenance of Lake St. Martin water levels within their planned range. The operations are intended to be consistent with the water management plan (further described in Section 3.7.2). A control structure will be constructed near the inlet of the LSMOC, although alternative locations as far as 5 km downstream are being considered. The WCS will also act as a bridge to provide access between both sides of the channel. The WCS is expected to have two, 9 m wide sluice bays, guides and sill beams for upstream stoplogs, vertical lift gates and downstream stoplogs (example drawing provided as Appendix 3B, Figure 3B-7). The WCS will require permanent electrical power to raise and lower the gates and backup power will be provided by a diesel-fueled generator.

3.4.3.4 Drop Structures

The LSMOC will require drop structures to minimize channel velocity in areas of steep sloping terrain. The drop structures are proposed to be constructed of rockfill, with a sheet pile cutoff at the upstream crest. A typical plan and profile of a representative drop structure is shown in Appendix 3B, Figure 3B-14. Ongoing channel optimization planning, environmental and financial considerations will influence the final number and placement of the drop structures.

The proposed design currently includes eight drop structures typically with a 76 m wide and 2.7 m high crest (to be refined during the detailed design process). The channel elevation drop at each structure ranges between 2.1 m to 3.8 m. A sheet pile wall would be incorporated across the full width of the structure at the crest and would include a notch at the center approximately 0.7 m deep to concentrate base flows when the WCS gates are closed. The structure is estimated to consist of an average 400 mm diameter size riprap; however, this would depend on the rock availability in the region. The chute length would extend approximately 100 m.

The final drop structure dimensions may change as the design progresses and each structure will likely have a slightly different design, depending on site conditions. Alternate options are also being considered, such as a vertical concrete drop structure; however, if concrete drop structures are selected over rockfill structures, the structure width, height, number and location would remain similar to the rockfill structure option.

The high velocities and elevation difference through the drop structures will prevent the movement of fish in the upstream direction from Sturgeon Bay in Lake Winnipeg to Lake St. Martin. However, since fish may be able to move downstream into the LSMOC from Lake St. Martin when the WCS gates are open during flood conditions, the drop structure design criteria considers that fish must be able to escape from the LSMOC as much as practical post-flooding when the control structure gates are closed.

Considerations regarding fish passage included in the design of the LSMOC to achieve the proposed design criteria are listed below:

- during non-flood periods with the WCS gates closed in the LSMOC control structure:
  - Fish will not be able to move upstream past the LSMOC WCS (i.e., the closed gates impede the movement of fish).
  - The design must accommodate the movement of fish downstream past any of the drop structures. This will minimize the potential for fish stranding after flood operations end in any particular year when the LSMOC is used.
- during flood periods with the LSMOC control structure gates open:
  - Under almost all gate opening conditions, fish are unlikely to be able to pass upstream through the control structure due to excessive velocities.
  - Fish may be able to move downstream past the drop structures but may not be able to move upstream at these structures due to the high velocities and large differential in water levels.

Several design considerations have been incorporated in the preliminary drop structure design to minimize potential impacts to the aquatic habitat. For example, a level of base flow and inclusion of a notch at the top of each drop structure will provide downstream passage for fish during non-flood conditions to reduce the risk of fish stranding within the channels. Provision of adequate base flow and a deep pool upstream of the drop structures also reduces the potential risk of mortality for fish that may overwinter in the channel.

3.4.3.5 Rock Quarries and Material Borrow Areas

Quarried rock will be required for drop structures and riprap for the purpose of erosion protection at various points along the channel. Potential sources exist in the region; contractors will be required to use existing permitted sources or obtain proper permits prior to development of new sources of rock for the Project**.** Permitting, operation and decommissioning of rock sources will be conducted by contractors if required. Estimated quantities, volumes or sources of aggregate (rock) or borrow will be developed as Project design progresses.

As detailed in the Project Environmental Requirements (Appendix 3F, Section 2.12), requirements for the development and operation of quarry and borrow areas used for the Project are outlined, including requirements for submission of plans and details to MI prior to the commencement of activities. These requirements, as well as other applicable components of the Construction Environmental Program (see Section 3.7.2) and Operation Environmental Management Program (see Section 3.7.3) will be applied throughout the Project lifecycle, as required.

3.4.3.6 Temporary Construction Camps and Staging Areas

Temporary construction camps and staging areas will be located in existing disturbed areas and existing facilities wherever possible. Construction camps are expected to be required to accommodate approximately 250 workers at the site. This estimate consists of approximately 100 for construction of the WCS and 150 for major earthworks and drop structures along the channel length. It is envisioned that a primary camp will be established for the WCS works and that the workforce related to earthworks will be divided into smaller camps associated with multiple contracts. However, this will be dependent on the final allocation of contracts that will be developed later in the design process. A summary of the overall workforce estimate for the Project is included in Section 3.5.2.16.

Construction camps of this size typically include dormitories with washroom and laundry facilities, kitchen and dining facility, office space, water and sewage storage units, parking spaces, and electrical generator units. Camp-specific communications services will also be required. Numerous potential camp locations have been identified; however, final locations and sizes will be verified during detailed design.

Contractor staging areas will be used to store materials, maintain and assemble equipment and administer work on the proposed Project. Numerous potential locations of potential staging areas are possible; however, the exact location, number, size and details of the contractors' work will be verified during detailed design.

Although the exact location for temporary construction camps and staging areas are not known at this time, MI has developed a process for proposal and review of locations prior to their establishment. As stated in the Project Environmental Requirements (Appendix 3F), designated areas, including temporary work camps, equipment servicing areas, parking areas, and staging areas, shall be identified by the Contractor. The Contractor shall submit plans and details for designated areas, including proposed location for review by Manitoba Infrastructure.

3.4.3.7 Power Supply

Permanent electrical service is required at the WCS to electrically raise and lower the gates, as well as to heat an appropriate number of gates to maintain winter operation capability. The permanent power loads of the WCS are estimated between 300 kW and 400 kW. A stand-by diesel generator (including fuel tanks) will be required for emergency back-up power for the WCSs should there be a power failure at the site. A 500 kW to 750 kW generator and a 1,000 L fuel tank are estimated to be required to provide sufficient power; however, ongoing optimization will continue until detailed design is finalized.

Manitoba Hydro will design, permit, and install an overhead distribution line to a pad-mount transformer that will be installed at the WCS location. The distribution line is expected to extend approximately 15 km from an existing line along PR 513 northwest of the outlet channel (Appendix 3B, Figure 3B-3) to a pad-mount transformer at the WCS location. The distribution line alignment will likely require a 30 m wide ROW to accommodate conductors strung on wooden poles that would typically be 12 m high (Appendix 3B, Figure 3B-15).

During construction, additional electrical power will likely be required beyond the capacity of the distribution line. Power may be required for a construction camps, a concrete batch plant, and general construction needs. A preliminary estimate of the total construction power requirements is approximately 2,000 kVA to 3,000 kVA. Manitoba Hydro has advised that an estimated 1,500 kVA should be available to the WCS location by the 24 kV distribution line if it is constructed in advance of major construction activities. The remaining power demand would be serviced by temporary diesel generation (multiple generators) including at the WCS and along the channel length to support such construction demands as channel dewatering. Should the distribution line not be in-place in advance of major construction activities, all construction power would be serviced by diesel generation. It is envisioned that this would include two 1,000 kW generators for the WCS construction activities and camp (includes some redundancy) during construction, and the remaining power requirement would be supplied by multiple smaller generators related to the earthworks contractor camps and construction activities. Manitoba Infrastructure will continue to define and optimize the power requirements through detailed design.

Maintenance of the distribution line and associated ROW will fall under Manitoba Hydro's standard operating procedures. Manitoba Hydro will be responsible for obtaining and adhering to any distribution line permit and/or regulatory approvals conditions.

3.4.3.8 Temporary Access and Crossings

Construction-related traffic will be restricted to the Project ROW with access via the Lake St. Martin access road (formerly a 19.5 km winter road) that extends northward from the existing forestry road (Idylwild Road) to the LSMOC channel inlet and the EOC (Reach 1), currently proposed by Manitoba Infrastructure as a separate project (Appendix 3B, Figure 13B). Where access routes are accessible by the public, signage will be erected restricting access to authorized personnel. The only channel crossing currently planned for the Lake St. Martin access road is the WCS.

3.4.3.9 Drainage Realignment

A drainage ditch will be constructed on the east side of the channel to collect existing drainage flowing from the east. A drainage ditch is not likely required on the west side due to topography and existing drainage being away from the channel to the west. The ditch is expected to have a minimum 4 m wide base with 4:1 side slope. The design flow depth in the ditch is expected to be in the range of 1 m to 1.5 m, based on the concept level design completed to date. The velocities at the design flow are predicted to be less than 1 m/s and concentrated in the channel centre during low flows due to channel design. The seasonal flow in the drain will vary depending on inflow from the perched groundwater system and surface water runoff. The local drainage basin intercepted by the channel will first be collected by the drain prior to being discharged into the outlet channel with drainage control structures.

Drainage control structures will be required along the channel in locations where the channel alignment intersects runoff from local drainage. The structures will likely consist of culverts and a gate system that will allow the discharge of surface runoff from the southeast side of the LSMOC into the channel through the earthen dike while minimizing backwater from the channel into the adjacent land during "open WCS

gate" periods of operation. The design criteria for the capacity of the outside drains and drainage control structures will be determined as part of detailed design and is predicted be within the 1 in 10-year and the 1 in 100-year flood event. Flows that exceed the design criteria are planned to flow over the surface of the channel dike into the LSMOC using a rock-lined overflow section.

3.4.3.10 Facilities for the Storage of Explosives

Explosives and initiation systems to be used for blasting activities during the construction phase will be stored in temporary, independent magazines. The contractor will be responsible for obtaining any required licensing. Magazines used for the storage of explosives will meet the federal standards and licensing requirements as specified in the *Explosives Regulation* of the federal *Explosives Act*. Siting of magazines will meet the provincial standards and licensing requirements as specified in the Operation of Mines Regulation of *The Workplace Safety and Health Act* of Manitoba.

3.5 PROJECT ACTIVITIES

3.5.1 Introduction

This section focuses on the construction and operation and maintenance activities associated with Project development. As indicated, the Project is currently in the preliminary design phase, and as such, channel and structure optimization, financial considerations, environmental considerations, and continued discussions with local landowners, First Nations, stakeholders and RMs may result in adjustments to Project components and associated activities.

3.5.2 Site Preparation and Construction

The construction stage for all Project components includes general preparation such as equipment marshalling, construction camps and staging areas, and rock and quarry area clearing. Requirements for specific construction activities and/or Project components are described in more detail below. Project components such as construction staging areas and construction camps and the 400 m wide ROW will be surveyed and flagged to mark the extent of clearing after the locations are confirmed during detailed design.

3.5.2.1 Clearing

Construction of the Project will require vegetation clearing and grubbing of the final alignment ROW and excavating the channel to designed depths along the proposed channel alignments. ROW clearing will generally be 400 m wide and will be conducted in accordance with regulatory requirements and applicable forest management guidelines (Government of Manitoba 2017). ROW clearing will consist of the removal and disposal of trees, shrubs, fallen timber and surface litter from the ROW and temporary access roads, prior to grading.

Clearing and grubbing for the Project is planned to occur between September 1 and March 31, which is outside the breeding bird window. Typical equipment used for clearing and grubbing is described in Section 3.5.2.9. Once cleared, excavation of the permanent outlet channels within the ROW may proceed year-round and will primarily be excavated in the dry. Details for the LMOC are still being finalized, but there will likely be similarities in methods for the two channels. Details are provided for the LSMOC.

For the LSMOC, based on an approximate 23.8 km channel length (excluding in-water works at the inlet and outlet) and 400 m wide ROW, approximately 880 ha of vegetation clearing will be required, less the approximately 72 ha that were previously cleared during initial construction of EOC, Reach 3. The current plan to address clearing material is as follows:

- Timber from which forest products can be manufactured (merchantable timber) will be cleared of limbs and neatly stockpiled piled within the work limits.
- Disposal of cleared trees and brush will be conducted in a manner approved by Manitoba Infrastructure. Disposal may involve burning, compacting, piling, burying, windrowing and compacting, limbing and chipping. Disposal methods may be restricted or prohibited in certain locations if they are deemed to result in future issues such as fire hazards.

3.5.2.2 Excavation

The inlet and outlet excavations may proceed in the wet, dependent on the selected construction methods as outlined in Section 3.4.2.2 (LMOC) and Section 3.4.3.2 (LSMOC). Rock-filled jetties will likely be required and will extend into the lake parallel to most of the excavation area to prevent excessive sediment deposition in the outlet and protect the channel outlet from erosion.

Cofferdams may be constructed to allow dewatering and excavation of the inlet and outlet under dry conditions. The cofferdams would likely be constructed using a combination of imported rockfill and clay or clay till material sourced locally from the channel excavation. The cofferdams would include rockfill riprap (as required) to mitigate potential erosion related to wind and wave action. The alignment of the cofferdams is expected to surround the limits of excavation and tie-in to high ground elevations where possible.

The selected cofferdam configuration will be refined based on existing lake bottom elevations and substrate conditions, which are being evaluated as part of detailed design. Alternatively, temporary access groins could be constructed within the lake along the edge of the proposed excavation area using rockfill material and/or spoils from the excavation to support excavation in the wet. A combination of backhoes and dragline excavators would then work from the access groins to excavate the inlet/outlet area underwater. As construction progresses in the wet, portions of the temporary access groins or cofferdam would be removed and installed in a new location until the entire inlet/outlet is excavated to the design elevation. In both wet and dry excavation cases, the work area would be isolated with turbidity curtains and warning buoys will be installed for navigation. Spoiled material will be transported to a pre-defined inland location away from shore.

Total estimated volumes of excavated materials for the LMOC and LSMOC channels (including topsoil and bedrock) are approximately 11 million m^3 and 8 million m^3, respectively. Topsoil will be temporarily stockpiled to later be spread over dikes as a seed bed. Till material will be excavated and placed adjacent to the channel as spoil banks and/or containment dikes.

For the LSMOC, construction will likely consist of clearing the ROW and installing drainage works, then advancing progressively from Lake Winnipeg upgradient to Lake St. Martin. Construction staging and sequencing will be coordinated to maximize excavation while minimizing the time of exposure of newly excavated slopes. LMOC excavation is planned to start at both lakes and work inwards, isolating the channel excavation into sections to mitigate groundwater effects and provide better control of dewatering efforts.

For the LSMOC, final material at the inlets and outlets (or the cofferdams if selected as the preferred construction methodology) will only be removed once channel works are complete, with the final material being released in controlled fashion to prevent excess sedimentation or scour. This release will also be scheduled with consideration of fish spawning windows for in-water works. For the LMOC, breaches will be created of the various earth plugs separating each excavation section upon completion to allow flooding of the areas with lake water and reducing the amount of pumping/groundwater depressurization. The final sequencing of material removal and inundation will be further developed in detailed design.

3.5.2.3 Blasting

Blasting may not be required for the LMOC or LSMOC. Bedrock excavation will occur as required (near the downstream end of the channel alignment in the vicinity of the existing EOC, Reach 3, where the bedrock surface is at or above the design channel invert). Previous bedrock excavation was completed using D8 dozers equipped with ripping teeth. A similar approach is envisioned for widening of the existing Reach 3 as part of the Project and, therefore, it is not anticipated that blasting will be required. However, should deepening of the channel prove to be cost-effective during channel optimization, limited blasting may be required because bedrock is anticipated to become more competent with depth. As a conservative assumption, blasting is assumed to be used in all instances where bedrock is encountered.

Should blasting be required, contractors will be required to store, handle and transport explosives in compliance with relevant provincial and federal legislation, best practices and guidelines for safety and environmental protection as outlined in the Project Environmental Requirement (PER) document (Appendix 3F) which will accompany the tender(s) for construction. The PER outlines the requirements for blasting, including steps to take if blasting occurs near a waterbody, or in proximity to sensitive wildlife habitat during critical lifecycle periods. To the extent possible, the timing of blasting activities will consider area-specific environmental sensitivities, such as minimizing disturbance to stakeholders, avoiding disturbance to rare species and sensitive time periods, and to minimize potential effects on wildlife populations used by First Nations for hunting. As described in section 3.7.2, site-specific measures will be stipulated in applicable Environmental Protection Plans.

In addition to requirements stipulated in the PERs, the Quarry Management Plan (QMP; Section 3.7.2) will also include requirements for the Contractor to submit a blast plan prior to preparatory work for each blast. This plan would, among other things, provide advanced details and notice regarding the Contractors intention to produce aggregate material and would include accompanying details such as:

- The location, depth and area of each blast
- Diameter, depth, pattern and inclination of blast holes
- The type, strength, amount, column load and distribution of explosives to be used per hole, per delay and per blast, and
- The sequence and pattern of delays and the description and purposes of any special methods to be adopted.

3.5.2.4 Access Roads and Detours

Construction traffic is not expected to substantially affect existing use of the road network and traffic. The LSMOC is located away from existing roads (and will primarily make use of the Lake St. Martin access road). The LMOC intersects existing provincial and municipal roads, however construction will not interrupt vehicle traffic. Temporary detours will be used to maintain access through the area and will be established prior or simultaneous to channel excavation and bridge construction. Detours are being incorporated into the LMOC design primarily to reduce/avoid potential effects on access interruption and maintain access to emergency medical services.

3.5.2.5 Bridges

Four bridges will span the full width of the LMOC, whereas the only crossing of the LSMOC will be part of the WCS. Design of bridge structures is ongoing, but they will follow Manitoba Infrastructure's design and construction standards and be composed of steel or concrete girders, concrete decking, and concrete abutments. Piers are likely to be required due to the length of span and will be armored with riprap. Construction is likely to follow a standardized sequence, with abutments and piers completed first, followed by the decking. As with channel and WCSs, bridges will be built in the dry. It is expected that construction will take place year-round. Because bridges are to be built in the dry, scheduling of work relative to fish spawning windows will not be required.

3.5.2.6 Water Control Structures

WCSs will be concrete structures spanning the full width of the outlet channels with gates that can be operated to control the flow of water. WCS locations will be excavated into and founded on the underlying till to provide a secure footing. Deep foundations extending into bedrock are not currently expected. WCSs will be constructed in the dry and will only be exposed to water once the control gates are in place and a satisfactory level of construction has been achieved to safely allow exposure to flows. Since WCSs are to be built in the dry, scheduling of work relative to fish spawning windows will not be required.

Initiation of in water work (at channel inlets and outlets) will be completed outside of fish spawning windows. Once coffer dams are installed, work can proceed all year round. It is expected that construction will take place year-round once clearing is completed.

The construction activities for the WCSs are currently anticipated to start in 2021 and will continue through 2023. The exact timing and sequencing of these activities is not yet finalized and will be refined as the design process is advanced. The following describes the typical sequence of activities related to the construction of a WCS:

1. camp development (in the case of LSMOC) will include separate camps for earthworks (including initial clearing) as well as for the workforce related to WCS construction
2. clearing in the winter months and is likely to be completed concurrent with development of temporary drainage works and temporary access along the LSMOC channel alignment
3. excavation of the channel
4. groundwater depressurization and dewatering (if and as required throughout construction)
5. base slab construction (placing reinforcing, formwork and other related works, concrete placement, and curing period)
6. pier construction (placing reinforcing, formwork and other related works, concrete placement, and curing period)
7. bridge construction and installation of gates guides/sill beam and secondary concrete
8. tower construction, gate installation, hoist bridge and hoist housing installation
9. monorail, walkway, stoplog structure installation
10. electrical installation
11. backfill
12. commissioning

At this time, it is envisioned that Items 1 to 4 would span a fall and winter season to facilitate primary WCS construction outside of freezing temperatures. Items 5 and 6 would ideally be completed in non-winter conditions to reduce costs related to heating and hoarding for concrete placement. Subsequently, items 7 to 10 could be completed into winter months, as required. Item 11 would be best suited for summer conditions to facilitate placement and compaction of engineered backfill materials.

Temporary measures may be required during construction to maintain dry working conditions due to groundwater discharge and/or surface water runoff within the construction areas.

3.5.2.7 Road Realignment

The LSMOC will not require any road realignments. Realignment of PR 239 for LMOC construction will follow Manitoba Infrastructure standard performance-based construction specifications (https://www.gov.mb.ca/mit/contracts/manual.html). Existing municipal roads will be assessed to determine the existing sub-grade composition and to evaluate drainage. Site preparation may include addition of sub-grade material, contouring, levelling, and compaction. Materials, including rock fill aggregate and composite material, will be loaded, hauled, dumped, spread, graded and compacted, and trimmed and shaped before the surface asphalt layer is applied. Other activities will include placement of geotextile fabric, riprap, roadway signs, erosion and sedimentation control and seeding of ditches. Intersections will be designed to adhere to Manitoba Infrastructure standards.

Any new municipal roads to be constructed to access any residences cut off from LMOC channel construction will conform to appropriate Manitoba Infrastructure construction specifications. In addition to the steps listed above for PR 239, this will include vegetation clearing and stripping of surface organic materials to be stockpiled for later use on road shoulders or for site reclamation. The roadbed surface is expected to be gravel.

3.5.2.8 Drop Structures

Drop structures are not required as part of the LMOC due to the low slope of the existing topography. For the LSMOC, drop structure construction includes installation of the sheet pile cutoff wall and building a sloped rock bed by backfilling the area immediately upstream and downstream of the sheet pile crest with rock. The preliminary design includes gradually widening the channel base width from 44 m to 76 m upstream of the sheet pile cutoff wall over a distance of approximately 80 m and gradually narrowing back to the outlet channel base width of 44 m over a distance of approximately 200 m. Drop structures are constructed within the dry channel reach once the channel has been excavated. Water management measures for channel construction are described in Section 3.4.3.9.

Typical equipment that will be used to construct the drop structures is described in Section 3.5.2.9. Construction of the drop structures is likely to occur concurrent with channel excavation works and would be completed within the scheduled timeline. Some components of the earthworks may need to be completed under summer conditions, such as placement of engineered fill that requires moisture conditioning and compaction. The timing and duration of specific activities associated with the drop structures will vary dependent on the type of drop structure that is selected at each location along the channel.

Alternative drop structure configurations may be evaluated, including use of a concrete structure. One or a combination of these types may be required based on the variability in foundation conditions and/or the estimated costs for each type of structure.

3.5.2.9 Equipment Requirements

The expected equipment requirements by Project component are summarized in Appendix 3A, Table 3A-2. The total number of vehicles required will be estimated during preliminary and detailed design phases and pre-construction planning. A preliminary estimate of the equipment required to complete construction of the LMOC portion of the Project is provided in Table 3.5-1. Anticipated equipment types are listed in Appendix 3A, Table 3A-2.

Table 3.5-1 LMOC Preliminary Estimate of Numbers of Construction Equipment

Construction Year	Year 0	Year 0.5	Year 1	Year 1.5	Year 2	Year 2.5	Year 3	Year 3.5 to 5
Peak Equipment Use[1]	75	100	175	175	200	175	175	50

[1] Peak Equipment Use refers to the upper limit estimate for equipment requirements for each respective construction year.

3.5.2.10 Temporary Construction Camps and Staging Areas

Construction activities may need to be accommodated by temporary staging areas and construction camps that would be required throughout the construction period. The construction schedule is discussed further in Section 3.6. Construction staging areas will likely include mobile construction trailer facilities for use as administration buildings and equipment maintenance. Construction camps are likely to be composed of mobile construction trailer facilities organized in a manner to provide sleeping quarters, living quarters, dining areas and work spaces for construction crews.

An estimate of the required workforce is provided in Section 3.5.2.16. Depending on the final size and occupancy of the camps and staging areas, trailers will most likely be equipped with self-contained holding tanks for potable water and septic waste. Drinking water could potentially be sourced from wells (existing permitted/licensed sources or otherwise to be permitted or licensed by contractors with approvals obtained in accordance with provincial acts and regulations) or delivered by truck from the nearest water treatment facility. Sewage holding tanks will be used to temporarily hold generated wastewater; these would be pumped out at regular intervals and disposed of at permitted or licensed facilities or lagoons. The remote camps will be equipped with diesel fueled generators to power the facilities. However, if located near an existing distribution line, electricity may be supplied from the existing distribution system.

3.5.2.11 Water Management

The management of surface and groundwater is a critical element of the design, construction and operation of the Project. As described below, detailed plans will be developed to address how surface water and groundwater will be managed during construction and over the life of the Project. A detailed Surface Water Management Plan (part of the Water Management Plan in the EMP described in

Section 3.7) will be developed to address potential impacts related to surface water movement, to manage the risk of erosion, and will consider reduction of inflows into Birch Creek and Buffalo Creek as a result of the LMOC and LSMOC construction. Key items to be addressed in the Surface Water Management Plan include the following:

- control of surface water sources within or in close proximity to the Project Region that may be impacted during construction, including surface water in adjacent water courses and water bodies, surface water from construction dewatering activities due to seepage, depressurizing systems, surface water from rainfall and/or snow melt runoff
- management and accommodation for surface water during construction staging and sequencing with consideration for ditching requirements, alignments and risks associated with runoff and flooding; this includes, but is not necessarily limited to, dewatering or deposition
- management and accommodation of surface water runoff during long-term operation with consideration given to ditching requirements, preliminary sizing of the drains and required structures
- management of sediment and erosion

The LSMOC drainage design will incorporate outside drains and drainage outlet structures, as appropriate (Section 3.4.3.9). Temporary drainage measures will be required during construction and will form an interim step towards the final drainage plans for the region. Site specific treatments (i.e., engineered temporary sediment basins, dikes, etc.) will be identified on an as needed basis during detailed design.

Groundwater conditions within the vicinity of the LSMOC and LMOC are complex, and critical to the functioning of the regional groundwater aquifer system in the Interlake region of Manitoba. A detailed Groundwater Management Plan will be developed following the detailed design phase of the Project to address temporary groundwater management measures required during construction of the Project. Key items to be addressed in the Groundwater Management Plan (part of the Water Management Plan) related to the construction phase of the Project will include the following:

- confined aquifer artesian pressures (to flowing artesian conditions) in the region of the LSMOC and LMOC.
- groundwater seepage into and/or out of the channel
- impact of channel construction on groundwater wells
- impact of groundwater on the channel design, construction and operation
- potential effect of channel construction on wetlands

3.5.2.12 Erosion and Sediment Control

Erosion and sediment control will be factored into all aspects of construction, operation and maintenance. Placement of erosion control management such as silt fence and erosion control blankets will be specified in engineered drawings and in place for the duration of site-specific construction works. While in place, erosion and sediment control products will be inspected repaired and replaced as required. Erosion and sediment control will be used in vulnerable areas during construction and, in some cases for a period afterwards, to provide protection to erosion-prone sites and prevent/limit the mobility of materials during and after construction. The Environmental Protection Plan (EPP) for the outlet channels will describe the erosion and sediment control and application/maintenance methods for different construction sites along the channels.

Detailed erosion and sediment control monitoring programs and best management practices will be developed as a part of detailed design, construction plans and EPPs. Guidelines for hydraulic design of flood control channels were incorporated into the conceptual Project design (USACE 1991). Specifications for the supply and installation of erosion and sediment control products will be followed including those identified in DFO (1996).

An erosion and sediment control plan (Sediment Management Plan) will be developed that will identify temporary and permanent measures to be incorporated during construction until vegetation has been established on disturbed areas. The measures will consider the short- and long-term drainage plan to facilitate their intended purpose to minimize and mitigate the transport and deposition of sediment beyond construction areas and into off-site receiving water bodies. The Sediment Management Plan will consider revegetation, construction management practices, water quality monitoring and follow-up, adaptive management strategies and contingency and response measures described generally as follows:

- Construction Management Practices:
  - Various methods and techniques on the installation, monitoring, and management of erosion and sediment control measures may be employed, such as drainage ditches, check dams, silt fences, sediment ponds and temporary slope stabilization.
- Water Quality Monitoring and Follow-up Requirements:
  - A water quality monitoring program will be developed to assess any changes that may result from channel construction activities and the effectiveness of proposed mitigation, and of the Erosion and Sediment Control Plan.
- Adaptive Management Strategies:
  - Adaptive management is designed to create opportunity to use the initial designs while managing the risk, to learn from field performance and to incorporate new knowledge into subsequent management steps.

- Contingency and Emergency Response Planning and Controls:
  - Contingency and emergency response measures are deployed if the predefined erosion and sediment control measures do not achieve the water quality objectives or if the prescribed measures are overwhelmed during a severe runoff event greater than the design.

3.5.2.13 Revegetation

Revegetation is required to mitigate the potential for surface water erosion and the potential colonization of the channel by weeds. Revegetation will be among the final phases of site-specific construction activities for all Project components but will require planning and site preparation for successful re-establishment of vegetation. Planning includes selection of species likely to be tolerant of site-specific conditions. Site preparation includes proper soil shaping, placement and compaction, soil conditioning by use of drag or disk harrows or other equipment as required, erosion protection, and timing to maximize germination and plant establishment.

Temporary and permanent re-vegetation activities will begin as soon as possible after finished grades are established. Revegetation will be conducted using a staged approach and start as soon as practical after construction starts in general accordance with the Native Revegetation Program Guidance Document (Appendix 3E), and the Project-specific revegetation plan to be developed as part of detailed design. Additional mitigation measures may also be required to address the risk of poor vegetation growth on portions of the channel side slopes that will experience alternating periods of submergence and exposure as a result of long-term operation during flood and non-flood conditions. Revegetation test plots using varying soil thickness and soil amendments are being installed in the Project region and monitored over the summer of 2019 in order to optimize vegetation growth on the channel slopes.

3.5.2.14 Fuel and Waste Storage

Solid, liquid and hazardous wastes from the Project will be collected, stored, transported, disposed of and/or treated in accordance with relevant legislation (see Appendix 1A) such as Manitoba's *The Environment Act* (Waste Disposal Grounds Regulation) and *The Dangerous Goods Handling and Transportation Act* (Dangerous Goods Handling and Transportation Regulation, Environmental Accident Reporting Regulation and Storage and Handling of Petroleum Products and Allied Products Regulation). If contaminated soil is discovered during Project activities; the affected site will be assessed and managed in accordance with provincial regulations.

During construction, fuel handling and storage areas will be a minimum of 100 m from a waterbody. Fuel storage areas will incorporate secondary containment to reduce or avoid the potential for contamination in the event of an unexpected spill or container leak. Materials and equipment for the containment and recovery of accidental hazardous material spills will be available at all construction sites.

During operation, fuel handling and storage will be in accordance with appropriate provincial and federal regulations and guidelines. Fuels and hazardous materials expected are summarized in Appendix 3A,

Table 3A-3. Additional detail pertaining to fuel and waste storage requirements will be developed as part of the Environmental Management Program.

3.5.2.15 Power Supply

Overhead distribution lines will be constructed to provide service to each of the WCSs. The lines will be designed, constructed, and operated by Manitoba Hydro; the Crown Corporation responsible for electrical utilities in the province of Manitoba. All activities will be done in accordance to Manitoba Hydro's environmental management practices. Maintenance of the distribution line and associated ROW will follow Manitoba Hydro's standard operating procedures.

3.5.2.16 Workforce

Detailed construction phase workforce requirements (including number of employees, characterization and management of workforce, transportation of employees, associated traffic on municipal and/or provincial roads, work schedules, and lodging) will be estimated following completion of detailed design. The LSMOC construction camps are expected to be required to accommodate 250 workers at the site. This estimate consists of approximately 100 for construction of the WCS and 150 for major earthworks and drop structures along the channel length.

The LMOC portion of the Project may not require construction camps (although contractors may decide to establish camp(s) as part of their bids). A preliminary estimate of the number of staff employed on the LMOC portion of the Project includes a peak workforce of approximately 325 workers, as summarized in Table 3.5-2.

Table 3.5-2 LMOC Preliminary Estimate of Construction Workforce

Construction Year	Year 0	Year 0.5	Year 1	Year 1.5	Year 2	Year 2.5	Year 3	Year 3.5 to 5
Peak Construction Personnel	125	150	300	300	325	275	275	75

3.5.2.17 Fuel and Waste Management

There will likely be multiple fuel storage areas either near construction camps or within staging areas with the volume of fuel storage determined by the contractor. The contractor(s) will also be responsible for managing wastes associated with construction and/or maintenance contracts and will be required to provide a waste management plan at the beginning of the contract.

Small quantities of domestic solid waste will be collected in appropriate on-site containment for transport to the closest appropriate permitted/licensed landfill. Wastewater (sewage and grey water) from work camps and construction sites will be collected in approved holding tanks and will be hauled to an appropriately licensed or permitted facility for disposal and treatment. A detailed estimate of wastewater generation has not been completed. A conceptual estimate based on a typical 300 L of wastewater per

capita per day would be 172,500 L per day for a workforce of 575 (total work force for both LMOC and LSMOC construction). Waste petroleum products (e.g., lubricants, oils, greases) from construction vehicles and equipment will be collected and stored in designated areas and containers until they can be removed from site for recycling or disposal through a licensed waste disposal/treatment company.

3.5.3 Operation and Maintenance

This section focuses on the operation and maintenance activities associated with the Project. The outlet channels will supplement Manitoba's existing flood management infrastructure and are not expected to produce regular annual flow rates. They are expected to achieve design flows of more than approximately 200 m^3/s. If operated continually and at full capacity, the LMOC and LSMOC could divert over 17 billion m^3 per year. Given that the distance between Lake Manitoba and Lake Winnipeg is over 80 km, the Project would protect an area more than 15 km wide (1,200 km^2).

3.5.3.1 Operation Criteria

Operation of the LMOC and LSMOC will be tied to water levels and projected near-term water flows in the local area and region. Regional floodwater is currently managed by use of the existing Fairford River Water Control Structure (FRWCS). Constructed in 1961 and located on Fairford River at PTH 6, the FRWCS is currently the only water control structure used to regulate outflows from Lake Manitoba. The LMOC will provide a secondary mechanism by which outflows from Lake Manitoba into Lake St. Martin can be regulated. Dauphin River is currently the only natural outflow from Lake St. Martin. While the EOC (Reach 1) has provided additional outflow capacity for Lake St. Martin in the past under emergency conditions, the LSMOC would provide a permanent mechanism for regulating outflows from Lake St. Martin.

Manitoba Infrastructure will operate the LMOC and LSMOC by adjusting the gates on the WCSs. Through an extensive review process Manitoba Infrastructure has developed operational guidelines for the LMOC and LSMOC based on defined high-water events and forecasted conditions, as outlined in Appendix 3D. It is assumed that the EOC would only be used in future under exceptional declared emergency conditions, but it would not form part of the operational Project regime.

3.5.3.2 Equipment Requirements

Equipment requirements will be minimal during the operation and maintenance phase and limited to vehicles transporting staff to maintain and inspect the channels and WCSs, and to activities associated with the management of vegetation growth on channel side slopes and within permanent drainage ditches. The equipment types required for operation and maintenance will be similar to those listed in Appendix 3A, Table A-2. Additional equipment requirements will be identified once the O&M Manual described in Section 3.3.2 has been developed. Preparation of manuals and drawings for the inlet, outlet, and channel works and specifically, an O&M Manual for the WCSs is scheduled to be completed after construction.

3.5.3.3 Vegetation Management

For the Project, realistic performance measures for the establishment of permanent vegetative cover will be developed as the naturalization and revegetation design advances through to detailed design. During the initial maintenance phase of the Project (immediately post-construction), services will be provided to track revegetation progress, monitor for environmental compliance and to identify deficiencies and requirements for remedial planting work. Additionally, long-term vegetation monitoring and management requirements will be developed as part of the O&M Manual. Maintaining vegetative cover on the channel base, slopes, embankments and adjacent perimeter drainage ditches will mitigate against erosion damages from flooding and heavy precipitation as well as prevents growth of invasive weedy species. A Revegetation Plan (see Section 3.7) will be developed to describe the implementation schedule of inspections and the potential resulting channel and embankments vegetation management including re-seeding, mowing and weed control, as required.

3.5.3.4 Water Management

Plans will be developed to address how surface water and groundwater will be managed during construction and operations. Key items to be addressed in the Surface Water Management Plan during the operation and maintenance phase of the Project include the following:

- Surface water runoff during long-term operation will be managed and accommodated, with consideration given to ditching requirements, preliminary sizing of the drains, and required structures.
- There is a potential for sedimentation to occur in the channel at the outlets due to shoreline geomorphology processes. Depending on water levels in the receiving lakes, opening the WCS gates could mobilize sediments to the lakes. Low lake levels in combination with high flows in the channels could also create conditions that would erode the lake beds at the outlet. Commitments for long-term sediment/erosion monitoring will be developed by Manitoba Infrastructure and incorporated into the Project O&M Manual as required. In addition, erosion and sedimentation control measures are also being considered in the design process. Some examples include; slopes of the banks, selective use of rip-rap and revegetating of slopes
- For the LSMOC, debris floating along the shoreline of Lake Winnipeg could accumulate in the outlet and wash away when the WCS gates are opened.

Key items to be addressed in the Groundwater Management Plan related to post-construction of the Project include the following:

- confined aquifer artesian pressures (to flowing artesian conditions) in the Project region
- groundwater seepage into and/or out of the channel
- impact of channel on groundwater wells
- impact of groundwater on the channel operation

- potential impact of channel on wetlands

3.5.3.5 Ice Management

Under winter conditions when the WCS gates are closed, a solid cover of ice will form within both channels. Seepage from the surrounding groundwater system in the LSMOC may result in additional thickening of ice within the channels. Channel geometry has been selected to be as deep and narrow as practical, with wide rockfill weirs (drop structures) that will minimize the variation in water level and allow a stationary lake-type ice cover to form without freezing to the channel bottom. This will avoid the potential for excessively thick ice that could develop in the shallow depths of a wide, shallow channel. Other Project components such as WCSs and bridges on both channels will be designed to a design standard for withstanding ice conditions.

Initial operation of the WCS will be avoided during the period in which there is solid ice cover in the channel (typically from December 1 – April 30). However, operation may be considered if severe flooding is forecasted for the following spring. Risks associated with operation of the channels in winter conditions will be mitigated through design, as best as possible, and addressed in the O&M manual as required.

The WCS gates are predicted to be open approximately 20% of the time, as a preventative measure prior to spring flows. For the LSMOC, a range of potential ice conditions could occur which could temporarily reduce the capacity of the channel. It may also be required to cut back flows at the WCS to permit safe passage of flows during winter. This will be refined in during the ongoing design process. For the LMOC, water downstream of the WCS would remain open, and ice is not expected to advance upstream sufficiently to impede the capacity of the outlet channel.

3.5.3.6 Fuel and Waste Management

The WCSs for both the LMOC and LSMOC will require standby diesel generators to supply emergency back-up power in the case of power outages. Based on preliminary load estimates, a 1,000 L fuel tank would be required to supply four hours of runtime at full load. Fuel storage tanks will incorporate secondary containment to minimize the potential for contamination in the event of an unexpected spill or leak. Materials and equipment for the containment and recovery of accidental hazardous material spills will be available on site. Suitable protection, such as bollards, will be placed around fuel tanks to minimize potential for vehicle collision with tanks. Waste generation is expected to be negligible during post-construction.

3.5.3.7 Workforce

The number and transportation of employees required during maintenance (including inspection) is expected to be 1 to 2 employees and 1 truck/vehicle for routine inspections during non-flood conditions. Additional employees/labor may be required seasonally to assist in management of vegetation growth on channel side slopes, or for additional monitoring/maintenance when the WCS gates are open, with staffing and equipment provided commensurate with the work to be undertaken.

3.5.3.8 Maintenance Requirements

The WCSs include operable gates and hoists for which maintenance will be required. An O&M Manual will be developed for WCSs, as noted in Section 3.3.2, to detail post-construction maintenance needs for the Project under both open and closed gate conditions. The O&M Manual will include roles and responsibilities (e.g., legislated responsibilities, regulatory approvals conditions, Manitoba Infrastructure and operator), records and logs (e.g., flow and water level monitoring), coordination with agencies (e.g., municipalities), emergency operations, operating guidelines, operating procedures (e.g., gate system, pre-operating inspection, notifications, monitoring, etc.), maintenance manuals, and maintenance procedures (e.g. vendor contracts, gate system, routine inspection/servicing). Preparation of manuals and drawings for the inlets, outlets, and channel works and specifically, an O&M Manual for each WCS is scheduled to be completed as part of the operation and maintenance activities.

3.5.4 Decommissioning and Abandonment

3.5.4.1 Permanent Facilities

Manitoba Infrastructure does not plan to decommission the Project at any time in the future. Upgrading or rehabilitating activities to extend the life of the structures will take place as part of major maintenance projects and would depend on structural/historic attributes of the facility as well as economic and financial considerations at the time. If decommissioning of the Project were required at some future date, a decommissioning plan consistent with the environmental conditions and regulatory requirements at that time would be developed for Federal and Provincial review prior to implementation. Decommissioning of the EOC, Reach 1 (if it is determined to be required) will be addressed in future under a separate appropriate regulatory process.

3.5.4.2 Temporary Components

Facilities and work areas including temporary access routes, laydown areas and construction camps that will not be needed for future maintenance activities will be decommissioned following construction. Closure of temporary construction work areas will typically consist of the following:

- Organic materials stripped from the areas will be redistributed to encourage natural vegetation regeneration of the area.
- Seeding, following the Native Revegetation Program for boreal areas (Appendix 3E), will be done as required on disturbed lands such as in areas vulnerable to erosion.

Decommissioning measures associated with temporary components are outlined further in the Project Environmental Requirement document (Appendix 3F) and will be further described in the Construction Decommissioning Plan (see Section 3.7.2) that will be developed as a component of construction works, where applicable.

3.5.4.3 Ownership and Responsibility

The Project is solely owned and operated by the Province of Manitoba. The Province is responsible for monitoring and maintaining the integrity of the Project structures, the hydrological function of the surrounding environment, and operation of the facilities. There is no intention to change the ownership structure or transfer the control and/or operation of any component of the Project to any other entity.

3.6 SCHEDULE

A detailed construction staging and sequencing plan is being developed as part of the ongoing preliminary and detailed design and considers the proposed Project schedule and adopted contracting strategy. Construction is tentatively expected to occur over a period of approximately 2.5 to 3 years with approximately 1-2 years for post construction-related works, such as site clean-up, survey, and environmental offset works. The proposed Project schedule includes the following major phases:

1. Construction will occur in the fall 2020 to spring/summer 2023

2. Operation and maintenance will start in the 2023 and continue indefinitely

The overall schedule is contingent largely on receipt of the final regulatory approvals in 2020. It is currently assumed that there will be no findings during the construction phase that would substantially affect the proposed in-service date of spring/summer 2023. At that time, the Project would be ready for flood operations on an as-required basis. Maintenance will be an ongoing activity.

3.7 ENVIRONMENTAL MANAGEMENT PROGRAM

3.7.1 Overview

The Environmental Management Program (EMP) describes the environmental management processes that will be followed during construction and operation. One of the primary functions of the EMP is to demonstrate compliance with the various federal and provincial environmental regulatory requirements, including the verification that all environmental commitments are executed, monitored, evaluated for effectiveness, and that information is reported back in a timely manner to the Project management team for adjustment if required. The EMP describes the roles and responsibilities of the parties involved in implementing the Project. It is a living document that will be reviewed and updated by Manitoba Infrastructure on a regular basis, with continuous improvement being made so that the Project is constructed, operated and maintained in an environmentally responsible manner.

The EMP includes various environmental protection measures derived from Manitoba Infrastructure's corporate, environmental and safety policies, which will be incorporated into relevant contract documents and inspection processes. The plans comprising the EMP will be finalized after the regulatory review process is complete and the necessary approvals and associated conditions are received.

To effectively address the specific issues involved, the EMP is organized into a Construction Environmental Management Program (CEMP) and an Operational Environmental Management Program (OEMP), which will be finalized prior to Project construction and operation, respectively. Their finalization will benefit from the regulatory review process, as well as the ongoing Indigenous and public engagement process. They are summarized in the following sections.

3.7.2 Construction Environmental Management Program

Appendix 3B, Figure 3B-16 summarizes the framework for the Construction Environmental Management Program (CEMP). Its purpose is to guide how environmental issues will be addressed during construction and how adverse effects of activities will be mitigated.

The CEMP is supported by several specific or targeted plans that will guide Manitoba Infrastructure's development of the Project's contract documents and subsequently, the contractor(s) activities, in constructing the Project in an environmentally responsible manner.

Development of the CEMP will proceed concurrently with Project design, and is anticipated to be drafted as preliminary design for the Project and project components advances. The CEMP and the environmental plans which comprise it will be developed to a Draft stage, but purposely not finalized until input is obtained from potentially affected Indigenous groups. As demonstrated in the Indigenous Consultation Approach and Current Status report (Appendix 5C) , discussion regarding the contents and implementation of the CEMP and its environmental plans will be discussed in detail with potentially affected Indigenous groups so as to provide them with an opportunity to provide input and feedback. Only once appropriate feedback has been received (if any) will the CEMP and its environmental plans be finalized. Once finalized, the CEMP will form part of the contract documents used by contractors and will act as guidance and/or requirements to implement, and enforce environmental best management practices as well as precautionary avoidance and/or mitigation measures.

As stated above, the environmental plans that will be developed and will be available for review by regulatory agencies, Indigenous groups and public in advance of Project construction will likely include, but not necessarily be limited to:

- Environmental Protection Plan(s) (EPPs) describe the suite of environmental protection measures for key individual environmental areas. This document will guide the contractor(s) and are supplemented with standard specifications included in each construction contract's Project Environmental Requirements and other plans.
    - Contractors will be required to provide details relating to explosive storage facilities. The number and area of construction laydown areas, and their respective size, to be established at various locations along the right-of-ways for the outlet channels will list the material that will be stored including construction vehicles, machinery, construction materials, geotextile roles, explosives, erosion control supplies and other construction materials for the Project.

  - As blasting is currently not anticipated for the outlet channels (Sections 3.4.2.11 and 3.4.3.10), no explosive storage facilities are currently planned; if required, they will be stored in independent magazines.
  - Sources and quantities of borrow material as well as location and spatial extent of construction camps and associated facilities to be identified.

- Project Environmental Requirements (PER) are environmentally focused requirements and commitments for construction contracts that are fundamental to Manitoba Infrastructure's regulatory compliance, and they are applicable to all construction and maintenance operations for the Project. A copy of the PER is provided in Appendix 3F.

- Access Management Plan (AMP) identifies specific measures that will be undertaken to manage access to the Project site during the construction phase. The AMP will address access-related issues of concern expressed by stakeholders, the public, and Indigenous groups` during the Indigenous and Public engagement process; it also integrates any technical access-related effects on the environment. The AMP will outline how the following goals will be achieved:
  - provide safe passage through the Project work area zone for the general public
  - provide safe, coordinated access to the Project for workers
  - support sustainable use through the protection of the area's natural resources

- Sediment Management Plan (SMP) describes measures to minimize the impacts of in-stream sediment from construction activities. The management and monitoring of total suspended solids (TSS) inputs into the waterway that may occur as a result of in-channel and construction, river management, shoreline erosion, and commissioning of the LMOC and LSMOC.

- Water Management Plan comprises a Surface Water Management Plan (SWMP) and a separate Groundwater Management Plan (GWMP):
  - SWMP describes measures and methods to be used for the temporary diversions of surface water (including but not limited to ditches and drains, dewatering or deposition), management of water resulting from precipitation events (e.g., winter snow accumulation in excavated channel or heavy rainfall event), and management of natural watershed flows during construction. Measures identified in this plan shall minimize impacts to the environment (e.g., fisheries) and people (e.g., consideration given to avoid localized flooding due to surface water management activities).
  - GWMP describes measures to take to avoid or minimize adverse effects on the groundwater quality and quantity in the vicinity of the Project. It will outline measures to manage groundwater which is brought to the surface as a result of depressurization activities, as well as measures to prevent/mitigate groundwater impacts to local well users. It will identify adaptive measures to take if the outlined monitoring reveals the need for additional steps.

- Revegetation Plan identifies the locations and methods of providing new or restoring existing vegetation cover through the process of describing:
  - areas affected by construction of the Project
  - areas designated for revegetation treatments, such as sites along the side slopes of the Lake Manitoba and Lake St. Martin
  - the approach for determining rehabilitation treatments for specific, disturbed areas
  - the rehabilitation treatment options for regenerating vegetation in disturbed areas, including methods for site preparation that will contribute to revegetation success
  - how the rehabilitation will be implemented
  - how the rehabilitated areas will be monitored, the process for how improvements, if required, will be made, and how and to whom the results will be reported
- Biosecurity Management Plan identifies biosecurity issues and risk sites and risk types as well as specific mitigation requirements such as landowner communication, notification, and equipment cleaning and disinfection requirements.
- Wildlife Management Plan identifies wildlife management strategies to mitigate effects on wildlife based on the wildlife monitoring plan. It will provide details on methods and schedule for all mammal, bird, and amphibian survey and monitoring programs.
- Dust Control Plan describes the products to use and the methods of their application on PR 239 and other access roads used during the construction of the Project.
- Waste Management Plan describes how solid and non-hazardous liquid waste will be managed and disposed of.
- Quarry Management Plan describes how quarries will be developed, operated and decommissioned (where applicable). This plan will build upon the requirements listed in the Project Environmental Requirements (Appendix 3F) to ensure that quarrying activities are conducted in accordance with all applicable permitting requirements and commitments made in the Project's Environmental Impact Statement. This will also include details on the transport and storage of explosives and measures to ensure advanced planning and notice for blasting activities, such as requirements for contractor submissions.
- Hazardous Materials Management Plan describes safe practices for managing hazardous materials to protect the health and safety of employees, the public and the environment. It will, at minimum, include:
  - spill response guidelines

  - hazardous waste management guidelines
  - managing specific hazardous materials

- Emergency Response Plan identifies how the contractor(s) will build the Project in a manner that protects people and the environment. The emergency response plans will, at minimum, include:
  - a response plan for spills of fuels and fluids associated with construction
  - a response plan for medical incidents that includes provision for 24-hour emergency transport to hospital
  - a plan for fire response and evacuation
  - a security plan
  - an emergency contact list and emergency notification plan for government and response agencies and communities adjacent to the right-of-way and/or impacted work sites
- Construction Decommissioning Plan describes the process and environmental requirements for closure and reclamation of temporary construction facilities and borrow pits.

The objectives of the abovementioned plans will be to use the best operating procedures to avoid or minimize potential effects, e.g., the Emergency Response Plan will describe steps to reduce the potential for fires at water control structures along with a plan to address fires in the unanticipated scenario where they arise. Manitoba Infrastructure will be responsible for incorporating the appropriate environmental protection measures, including best management practices, into the design of Project components. Worksite-specific environmental contract documents will be prepared and added to Manitoba Infrastructure's standard specifications. The environmental plans and other plans (e.g., Health and Safety Plan) that are pertinent to the clearing and construction of the Project will be identified in the tender documents to be provided to the contractor(s); some of these plans, such as the Waste Management Plan, are incorporated into the Project Environmental Requirements as documentation to be provided by the contractor(s). Construction contract specifications will detail the technical design as well as Project-specific restrictions respecting how the work is to be completed. All relevant plans, such as the PERs, will be among the information that will accompany the tender document(s) to be provided to prospective contractor(s).

The CEMP will address many of the site-specific requirements of the contractor(s) and those that are conducting inspections to facilitate compliance with Manitoba Infrastructure's Project-specific commitments. The plans associated with the CEMP will guide the contractor(s) work in a manner that promotes best management practices for environmental protection for the Project components being developed.

The CEMP will address each phase of work and incorporate specific environmental protection measures during construction at the individual work sites. The contractor will also be responsible to provide site-

specific planning (e.g., location of laydown areas); this information will be described in detail and thereby augment the EPP and other plans (e.g., PERs) that collectively describe how to build the Project, with information on sites to avoid or provide specific measures. Manitoba Infrastructure will be responsible for ensuring that the proposed steps outlined by the contractor are appropriate and environmentally responsible. For example, the CEMP will not provide site-specific information on where the stockpile areas or the equipment laydown and staging sites will be located; there will, however, be general guidance in the PERs to assist the contractor in selecting appropriate sites (such as stockpile locations) during the process of formalizing the construction site plan that will be provided to Manitoba Infrastructure for review and approval prior to construction; this will likely accompany detailed mapping and descriptions in an EPP that identifies environmentally sensitive sites to avoid.

As indicated, the CEMP will integrate all relevant environmental regulatory approvals conditions to accompany contract documents. In other cases, Manitoba Infrastructure requires contractors to obtain relevant permits in order to conduct their work (e.g., Crown Lands work permits, quarry permits, etc.). Environmental permits or approvals obtained by the contractor and any amendments will be identified and submitted to Manitoba Infrastructure for compliance and record keeping purposes.

Manitoba Infrastructure will be responsible to conduct site inspections to confirm construction contract compliance with environmental specifications and legislated health and safety requirements. Manitoba Infrastructure will also conduct an environmental audit of the construction work being done. The results of these inspections will be documented and, along with other pertinent information, contain regular progress reports to be provided to the designated regulator(s) throughout the construction phase.

Manitoba Infrastructure will frequently meet with the contractor(s) and require that regular updates be provided regarding progress on the environmental components of the work. Early and ongoing communication between Manitoba Infrastructure and the contractor is expected. In cases where a contractor suggests methods to achieve a particular goal or objective that differ from their original site plan (i.e., component of the work such as managing erosion and sedimentation), approval will first be obtained through Manitoba Infrastructure before any modification is allowed, based on discussions with regulators, as appropriate.

The environmental protection measures also incorporate best practices for compliance monitoring – the step that verifies whether the plans (including the PERs) are being followed during construction and whether required mitigation measures are being effectively implemented. Manitoba Infrastructure will ensure effective environmental oversight of Project development through a compliance monitoring process; Manitoba Infrastructure will provide ongoing oversight of the Project during the construction phase and coordinate with the contractor.

The CEMP provides the framework for the follow-up and monitoring program, described in Chapter 12. As described in that chapter, this program will verify the accuracy of the environmental assessment and determine the effectiveness of any measures taken to mitigate the adverse environmental effects of the Project, through the following:

- verify predictions of environmental effects identified in the environmental assessment

- determine the effectiveness of mitigation measures in order to modify or implement new measures where required
- support the implementation of adaptive management measures to address unanticipated adverse environmental effects
- provide information on environmental effects and mitigation that can be used to improve and/or support future environmental assessments including cumulative effects assessments
- support environmental management systems used to manage the environmental effects of projects

3.7.3 Operation Environmental Management Program

An Operation Environmental Management Program (OEMP) will be developed for the Project prior to completion of the construction phase. The OEMP will describe the long-term operation and maintenance procedures and environmental protection measures to be implemented after construction is complete. As detailed for the CEMP, the OEMP and the environmental plans which comprise it will be developed to a Draft stage, but purposely not finalized until input is obtained from potentially affected Indigenous groups. As demonstrated in the Indigenous Consultation Approach and Current Status report (Appendix 5C), discussion regarding the contents and implementation of the OEMP and its environmental plans will be discussed in detail with potentially affected Indigenous groups so as to provide them with an opportunity to provide input and feedback. Only once appropriate feedback has been received (if any) will the OEMP and its environmental plans be finalized.

Appendix 3B, Figure 3B-17 shows the framework for this program. During the operations phase, standard operating procedures and environmental best management practices will be implemented to promote the protection of environmental values potentially affected by the Project. Additional Project operation-specific plans may also be developed for implementation during the operations phase.

As shown in Appendix 3B, Figure 3B-17, the OEMP will likely include the same plans developed to manage issues during construction, but prior to construction completion they would be revised and adapted to suit the specific needs during the operation phase. The objectives of those plans will be similar to those described in Section 3.7.2 with respect to construction activities, with a focus on operational conditions. For example, the Sediment Management Plan would focus on minimizing the impacts of in-stream sediment from operation of the LMOC and LSMOC, particularly after a flood. The Water Management Plan would focus on any material (e.g., debris, ice, etc.) that may affect safe travel and navigation on waterbodies that may be affected by the LMOC and LSMOC during operations; any reference to an ice management or debris management plan relates to those components of the overall Water Management Plan. If necessary, a stand-alone Debris Management Plan may be developed to address any material entering, within or exiting the LMOC and LSMOC, including floating or submerged (e.g., driftwood, plants), suspended sediment or bed load moved by flowing water. If necessary, a stand-alone Debris Management Plan may be developed to address any material entering, within or exiting the LMOC and LSMOC, including floating or submerged (e.g., driftwood, plants), suspended sediment or bed load moved by flowing water. It is currently anticipated that a separate OEMP is not required for

development of the PR 239 realignment. The road will be operated and maintained in a manner consistent with Manitoba Infrastructure's practice for the current PR 239 and other public roads throughout the Province of Manitoba.

As with the CEMP, the OEMP will outline the recommended best practices for compliance monitoring (inspections). Ongoing monitoring regarding the functionality of the outlet channels and associated infrastructure will occur regularly during non-flood periods. The frequency and type of compliance monitoring is expected to increase immediately before, during and after the flood operation of control structures in the LMOC and LSMOC. As such, Manitoba Infrastructure will have a role in ongoing environmental inspections of the Project infrastructure and components. Manitoba Infrastructure will generate documentation related to the findings of these investigations, including Project functionality.

As with the CEMP, the OEMP would provide the framework for the follow-up and monitoring program during the operation phase, as described in Chapter 12. This would include continued monitoring to verify key predictions of the EIS, with a focus on the effectiveness of key mitigation measures that will be proposed to be implemented. Reports generated through this process will be made available to regulators for review as required.

3.8 REFERENCES

CDA 2013. Dam Safety Guidelines 2007 (2013 Edition). Canadian Dam Association. ISBN 978-0-9936319-0-0. www.cda.ca.

DFO 1996. Fisheries and Oceans Canada, Manitoba Natural Resources. 1996. Manitoba Stream Crossing Guidelines for the Protection of Fish and Fish Habitat. May 1996.

Government of Manitoba. 2017. Forestry Branch, Forest Practices Guidelines. Retrieved from: http://www.gov.mb.ca/sd/forestry/practices/guidelines.html.

KGS Group. 2014. Assiniboine River & Lake Manitoba Basins Flood Mitigation Study Lake Manitoba & Lake St. Martin Outlet Channels Conceptual Design - Stage 1 - Deliverable No: LMB-01. Prepared for Manitoba Infrastructure and Transportation. KGS Group Report 12-0300-011. February 2014.

KGS Group. 2016. Assiniboine River & Lake Manitoba Basins Flood Mitigation Study: Lake Manitoba & Lake St. Martin Outlet Channels Conceptual Design – Stage 2 – Final Report. Prepared for Manitoba Infrastructure and Transportation. KGS Group Report 12-0300-011. January 2016.

KGS Group. 2017A. Investigations and Preliminary Engineering for LMB Outlet Channels Options C and D Summary Report – Final – Rev 0. May 2017.

KGS Group. 2017B. Preliminary Design for Reach 2 of the Lake St. Martin Outlet Channel – Final – Rev 0. June 2017.USACE. 1991. Hydraulic Design of Flood Control Channels. US Army Corps of Engineers. EM 1110-2-1601. July 1991

Appendix 3A TABLES

LIST OF TABLES

Table 3A-1 Monthly Depths, Flows and Velocity in the LSMOC Channel 3A.2
Table 3A-2 Expected Construction Equipment and Vehicles Used for Project Components 3A.3
Table 3A-3 Typical Fuels and Hazardous Materials 3A.4

Table 3A-1 Monthly Depths, Flows and Velocity in the LSMOC Channel

Month	Percentage of Time in Operation	10th Percentile of Flow Data When in Opertation			50th Percentile of Flow Data When in Opertation			90th Percentile of Flow Data When in Opertation		
		Flow (cms)	Velocity (m/s)	Water Depth (m)	Flow (cms)	Velocity (m/s)	Water Depth (m)	Flow (cms)	Velocity (m/s)	Water Depth (m)
January	16%	23	0.1 - 0.3	2.6 - 3.3	63	0.3 - 0.6	3.0 - 3.5	111	0.5 - 0.8	3.3 - 3.8
February	15%	23	0.1 - 0.3	2.6 - 3.3	59	0.3 - 0.6	3.0 - 3.5	107	0.5 - 0.8	3.3 - 3.8
March	14%	11	0.1 - 0.2	2.6 - 3.2	68	0.3 - 0.6	3.0 - 3.6	105	0.5 - 0.7	3.2 - 3.7
April	13%	50	0.3 - 0.5	2.9 - 3.5	98	0.5 - 0.7	3.2 - 3.7	124	0.5 - 0.8	3.4 - 3.8
May	21%	162	0.7 - 0.9	3.6 - 4.0	179	0.7 - 0.9	3.8 - 4.1	189	0.8 - 1.0	3.8 - 4.1
June	28%	162	0.7 - 0.9	3.6 - 4.0	176	0.7 - 0.9	3.8 - 4.1	186	0.8 - 1.0	3.8 - 4.1
July	30%	157	0.7 - 0.9	3.6 - 4.0	168	0.7 - 0.9	3.7 - 4.0	182	0.7 - 0.9	3.8 - 4.1
August	27%	52	0.3 - 0.5	2.9 - 3.5	161	0.7 - 0.9	3.6 - 4.0	173	0.7 - 0.9	3.7 - 4.0
September	25%	52	0.3 - 0.5	2.9 - 3.5	148	0.6 - 0.9	3.6 - 4.0	165	0.7 - 0.9	3.7 - 4.0
October	23%	57	0.3 - 0.6	3.0 - 3.5	131	0.6 - 0.8	3.4 - 3.9	172	0.7 - 0.9	3.7 - 4.0
November	22%	42	0.2 - 0.5	2.8 - 3.4	141	0.6 - 0.8	3.5 - 3.9	167	0.7 - 0.9	3.7 - 4.0
December	19%	27	0.2 - 0.4	2.7 - 3.3	67	0.3 - 0.6	3.0 - 3.6	106	0.5 - 0.8	3.3 - 3.8

Source: KGS Group Consulting Engineers

Table 3A-2 Expected Construction Equipment and Vehicles Used for Project Components

Project Components	Equipment / Vehicle		
Diversion Channels	Flatbed trucks	Loaders	Packers
	Skidsteer	Graders	Fuel truck/trailers
	Cranes	Dozers	Pick-up trucks
	Drill rigs	Backhoe	Hand tools
	Blast trucks	Rock/Dump trucks	Tree feller bunchers
	Excavators	Hydro-axe	Scrapers
	Semi-trucks		
Channel Inlets and Outlets at Lakes	Flatbed trucks	Loaders	Fuel truck/trailers
	Cranes	Graders	Pick-up trucks
	Drill rigs	Dozers	Hand tools
	Blast trucks	Backhoe	Boats
	Excavators	Rock/Dump trucks	
	Pile Drivers	Skidsteer	
	Semi-trucks		
Drop Structures, Combined Bridge and Water Control Structures	Flatbed trucks	Loaders	Fuel truck/trailers
	Cranes	Graders	Concrete batch plants
	Drill rigs	Dozers	Concrete trucks
	Blast trucks	Backhoe	Pick-up trucks
	Excavators	Rock/Dump trucks	Hand tools
	Pile Drivers	Skidsteer	Scrapers
	Semi-trucks		
Re-alignment and/or Construction of PR 239 and Municipal Roads	Tree feller bunchers	Excavators	Hand tools
	Logging trucks	Packers	Snow-clearing equipment
	Dozers	Pick-up trucks	Graders
	Flatbed trucks	Fuel trucks/trailers	Sprayers
	Rock/Dump Trucks	Loaders	
Drainage realignment, Culvert Stream Crossings, Equalization Culverts	Excavators	Rock/Dump trucks	Graders
	Pick-up trucks	Flatbed trucks	Loaders
	Dozer		
Temporary Crossings over Watercourses	Flatbed trucks	Dozers	Pick-up trucks
	Excavators	Graders	Hand tools
	Loaders	Rock/Dump trucks	Cranes
Temporary Construction Camps, Staging Areas, Access Roads	Semi-trailers	All-terrain vehicles	Tree feller bunchers
	Excavators	Dozers	Pick-up trucks
	Flatbed trucks	Graders	Hand tools
	Fuel trucks	Rock/Dump trucks	Generators
	Loaders		

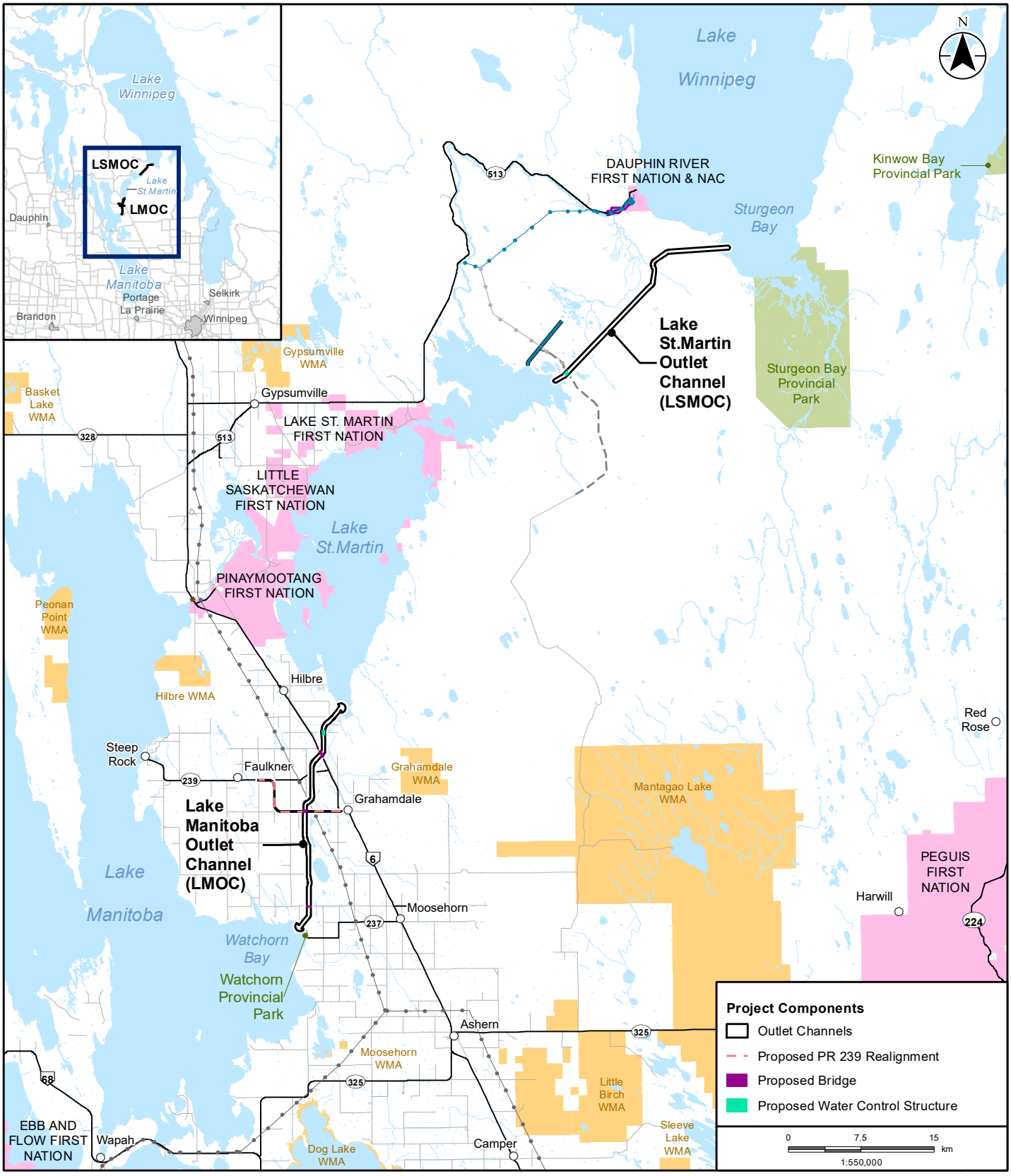
Table 3A-3 Typical Fuels and Hazardous Materials

Material	Purpose
Diesel	Construction equipment/vehicle fuel
Gasoline	Construction equipment/vehicle fuel
Propane	Construction equipment/vehicle fuel Heating trailers/structures Heating under hoarding
Oil	Construction equipment/vehicle motor lube
Hydraulic fluid	Construction equipment
Acetylene	Cutting steel
ANFO (Explosives)	Blasting rock to facilitate abutment installation (likely LSMOC only)
Uncured concrete	Constructing project structures
De-icing fluids	De-icing structures and equipment
Concrete Sealer	Penetrating sealer applied to exposed concrete surfaces on bridge structure
Asphalt Damp Proofing	Provide damp proofing in contact with backfill materials
Concrete Primer	Applied to concrete surface prior to Asphalt Damp Proofing
Concrete Curing Compound	Clear pigmented curing compound applied following 7-day wet cure to aid in attaining desired strength within reasonable timeframe
Hot Poured Rubberised Asphalt Waterproofing	Provide waterproofing to bridge deck surfaces, limit the wearing effects of water on concrete surface
Tack Coat (RS-1 emulsion or RC-0 liquid asphalt)	Adhesive coating applied to concrete surface prior to asphalt placement
Fine aggregates	Fines from backfill materials and or drill cuttings if pile foundations for structures are cored into bedrock
Sewage	Camp washroom facilities (holding tanks).

Appendix 3B FIGURES

LIST OF FIGURES

Figure 3B-1 Project and Associated Works 3B.2
Figure 3B-2 Components of LMOC 3B.3
Figure 3B-3 Components of LSMOC 3B.4
Figure 3B-4 Conceptual LMOC Profile 3B.5
Figure 3B-5 Proposed LMOC Channel Geometry 3B.6
Figure 3B-6 Inlet Structure (Left) and Outlet Structure (Right) Concepts 3B.7
Figure 3B-7 Typical Water Control Structure 3B.8
Figure 3B-8 Typical Conceptual Bridge Plan and Profile, LMOC 3B.9
Figure 3B-9 Typical Cross Section of PR 239 ..... 3B.10
Figure 3B-10 Typical Cross Section of the LMOC Outside Drain 3B.11
Figure 3B-11 LSMOC Profile 3B.12
Figure 3B-12 LSMOC Inlet 3B.13
Figure 3B-13 LSMOC Outlet 3B.14
Figure 3B-14 LSMOC Typical Drop Structure 3B.15
Figure 3B-15 Distribution Line Wood Pole Structure 3B.16
Figure 3B-16 Construction Environmental Management Program Framework 3B.17
Figure 3B-17 Operation Environmental Management Program Framework 3B.18



Legend

- Fairford Water Control Structure
- Lake St.Martin Emergency Outlet Channel (Reach 1)
- Lake St.Martin Access Road
- Existing Transmission Line
- Existing Distribution Line
- Planned Distribution Line
- Provincial Highway (PTH/PR)
- Municipal Road
- Northern Affairs Community (NAC)
- First Nation
- Wildlife Management Area
- Provincial Park

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/23/2019 10:54:55 AM

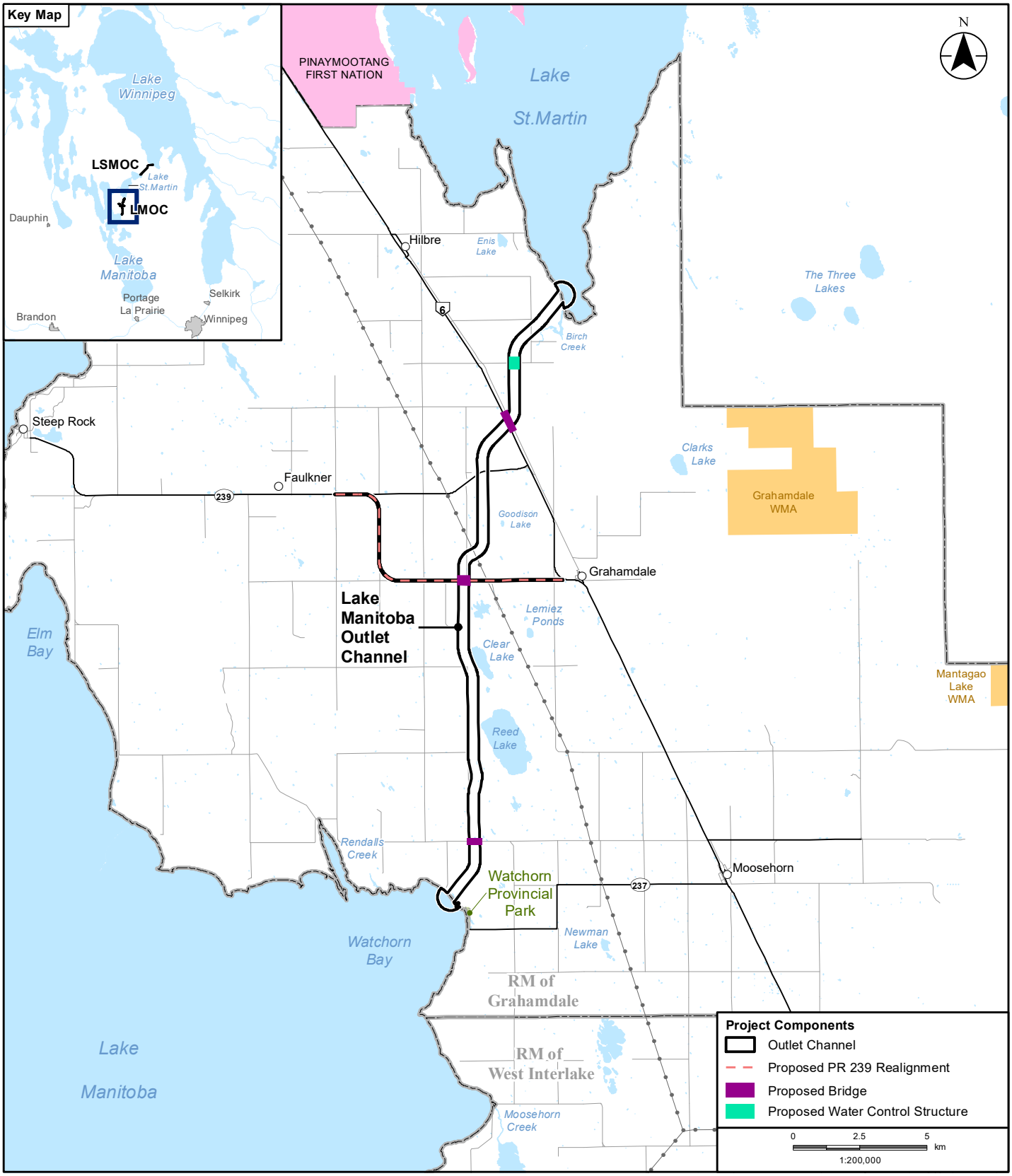
Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

Project and Associated Works

Figure 3B-1

G:\ GIS Project Folder\11475120\Figures\Ch3 Project Description\Final\Fig 3B-1 PD Project and Associated Works.mxd



Legend

- Existing Transmission Line
- Provincial Highway (PTH/PR)
- Municipal Road
- First Nation
- Wildlife Management Area
- Provincial Park
- Rural Municipality

Manitoba

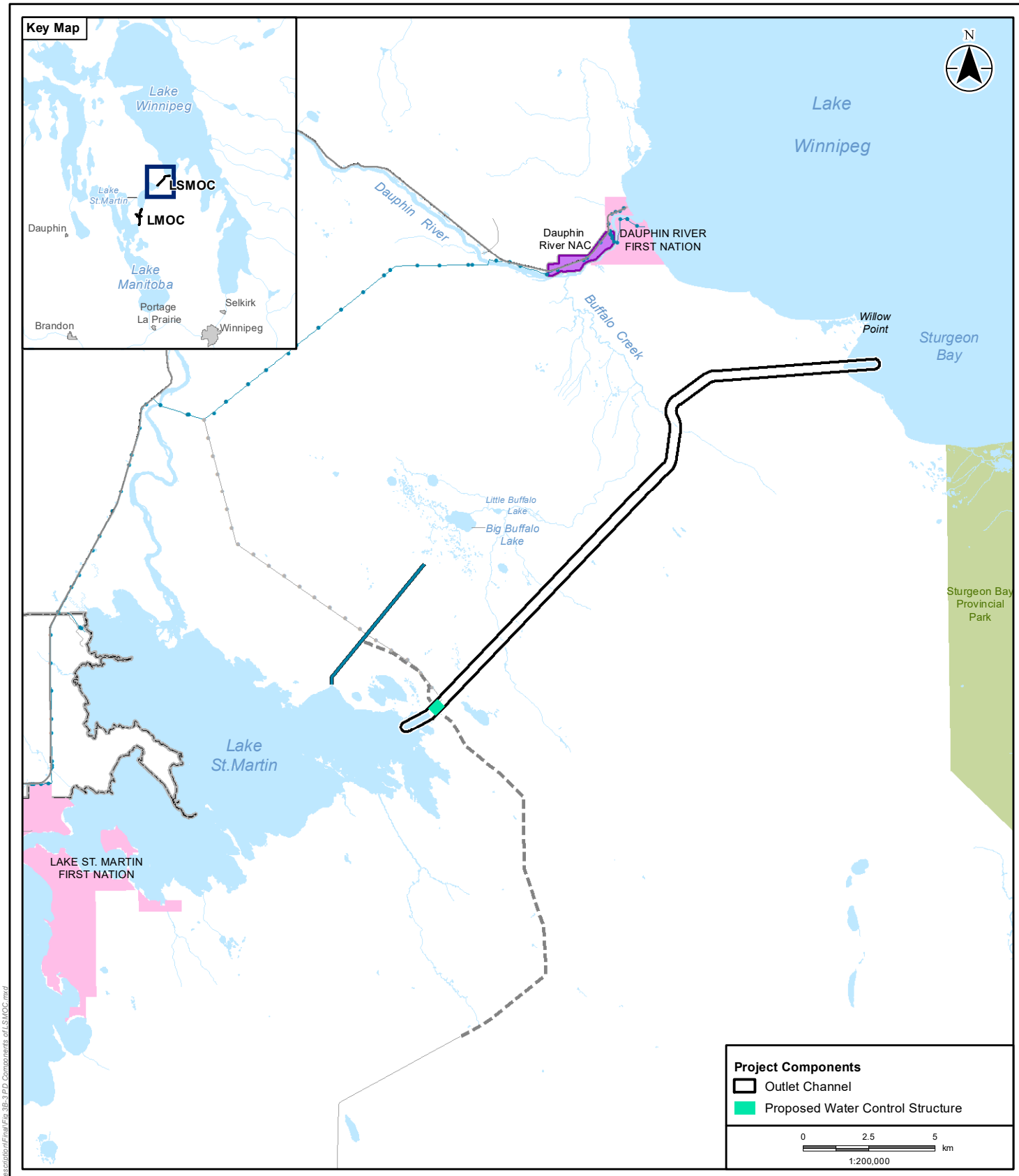
MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

Components of LMOC

Figure 3B-2

Notes
1. Coordinate System: WGS 1984 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/13/2019 9:06:11 AM

G:\ GIS Project Folder\11473120\figures\Ch3 Project Description\Final\Fig 3B-2 PD Components of LMOC.mxd



Legend

- Lake St.Martin Emergency Outlet Channel (Reach 1)
- Lake St.Martin Access Road
- Existing Distribution Line
- Planned Distribution Line
- Provincial Highway (PTH/PR)
- Municipal Road
- Rural Municipality
- Northern Affairs Community (NAC)
- First Nation
- Provincial Park

Notes

1. Coordinate System: WGS 1984 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/13/2019 9:09:56 AM

Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

Components of LSMOC

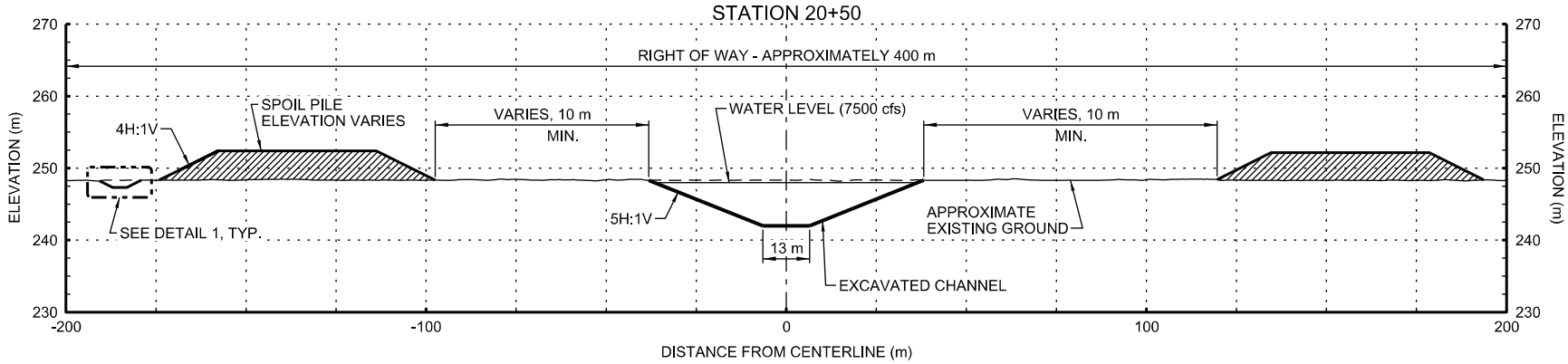
Figure 3B-3

G:\ GIS Project Folder\11147510\figures\Ch3 Project Description\Final\Fig 3B-3 PD Components of LSMOC.mxd

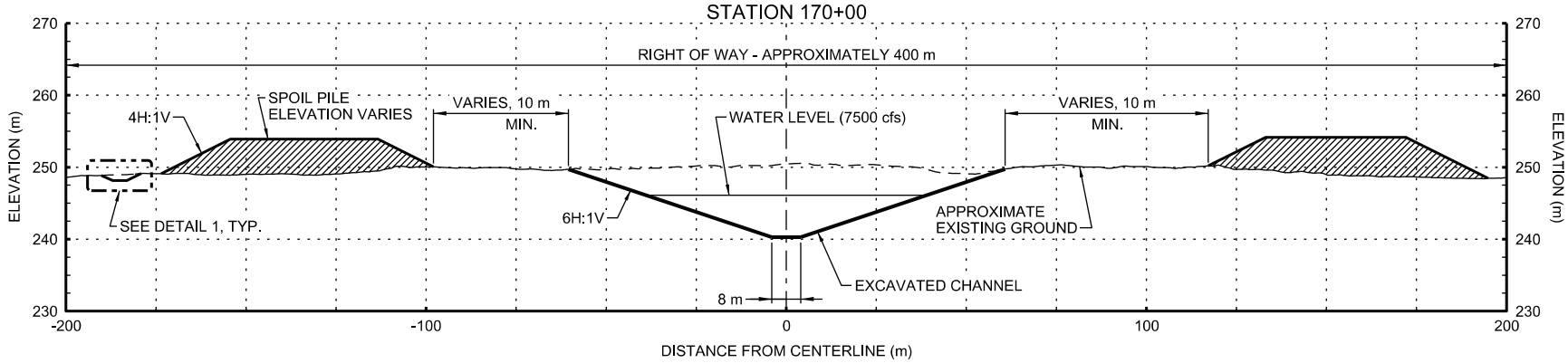


Figure 3B-4 Conceptual LMOC Profile

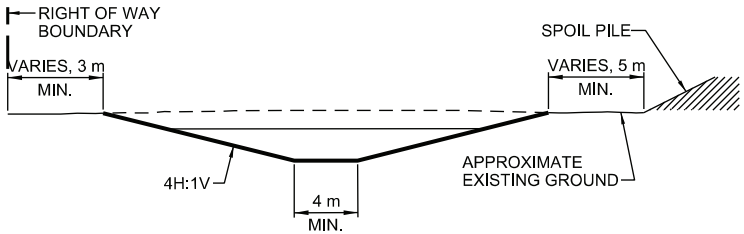
Source: Hatch Ltd. Consultants



CROSS SECTION FOR CHANNEL EXCAVATION 8 m - LOOKING DOWNSTREAM



CROSS SECTION FOR CHANNEL EXCAVATION > 8 m - LOOKING DOWNSTREAM



DETAIL 1
TYPICAL OUTSIDE DRAIN
SCALE = NTS

Figure 3B-5 Proposed LMOC Channel Geometry

Source: Hatch Ltd. Consultants

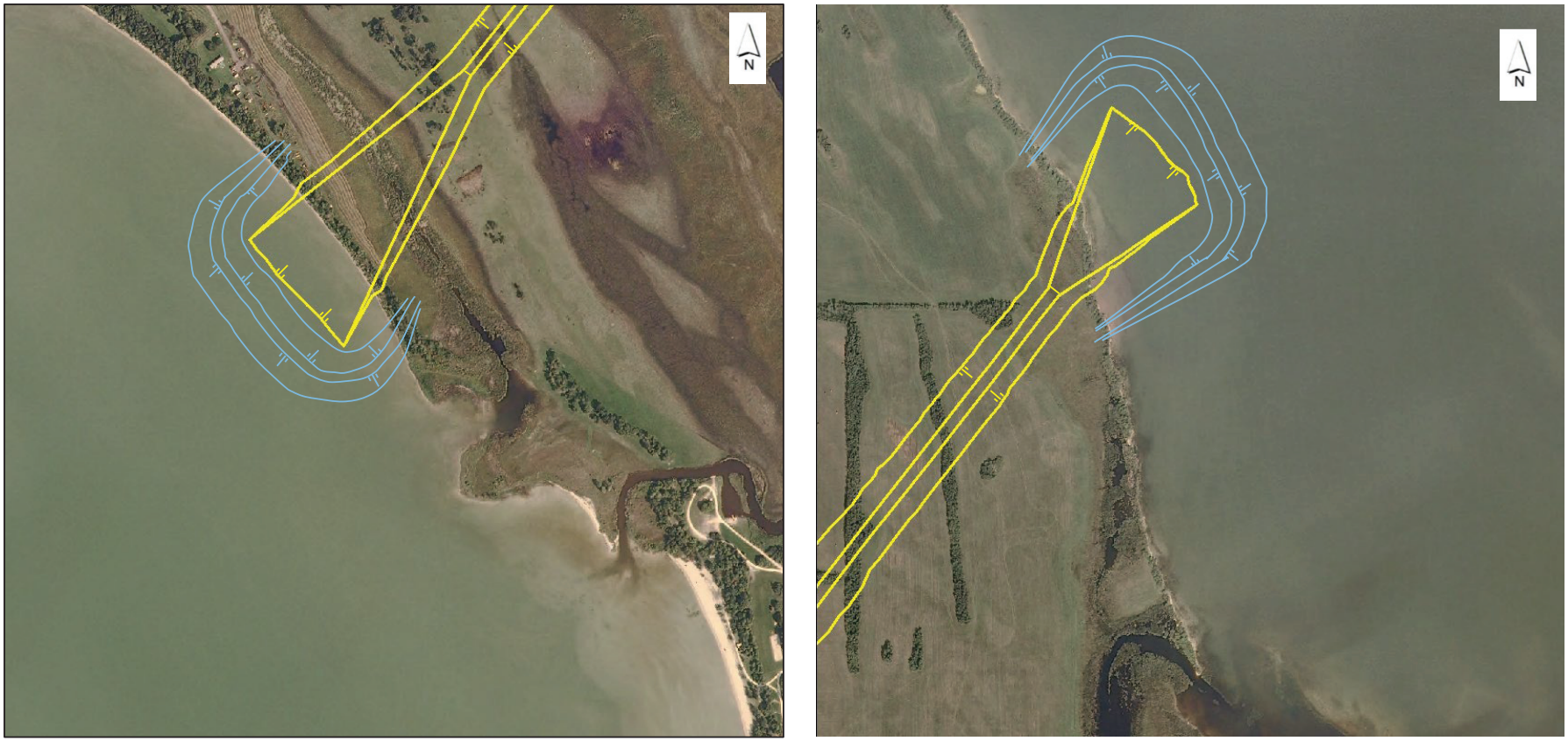


Figure 3B-6 Inlet Structure (Left) and Outlet Structure (Right) Concepts

Source: Hatch Ltd. Consultants

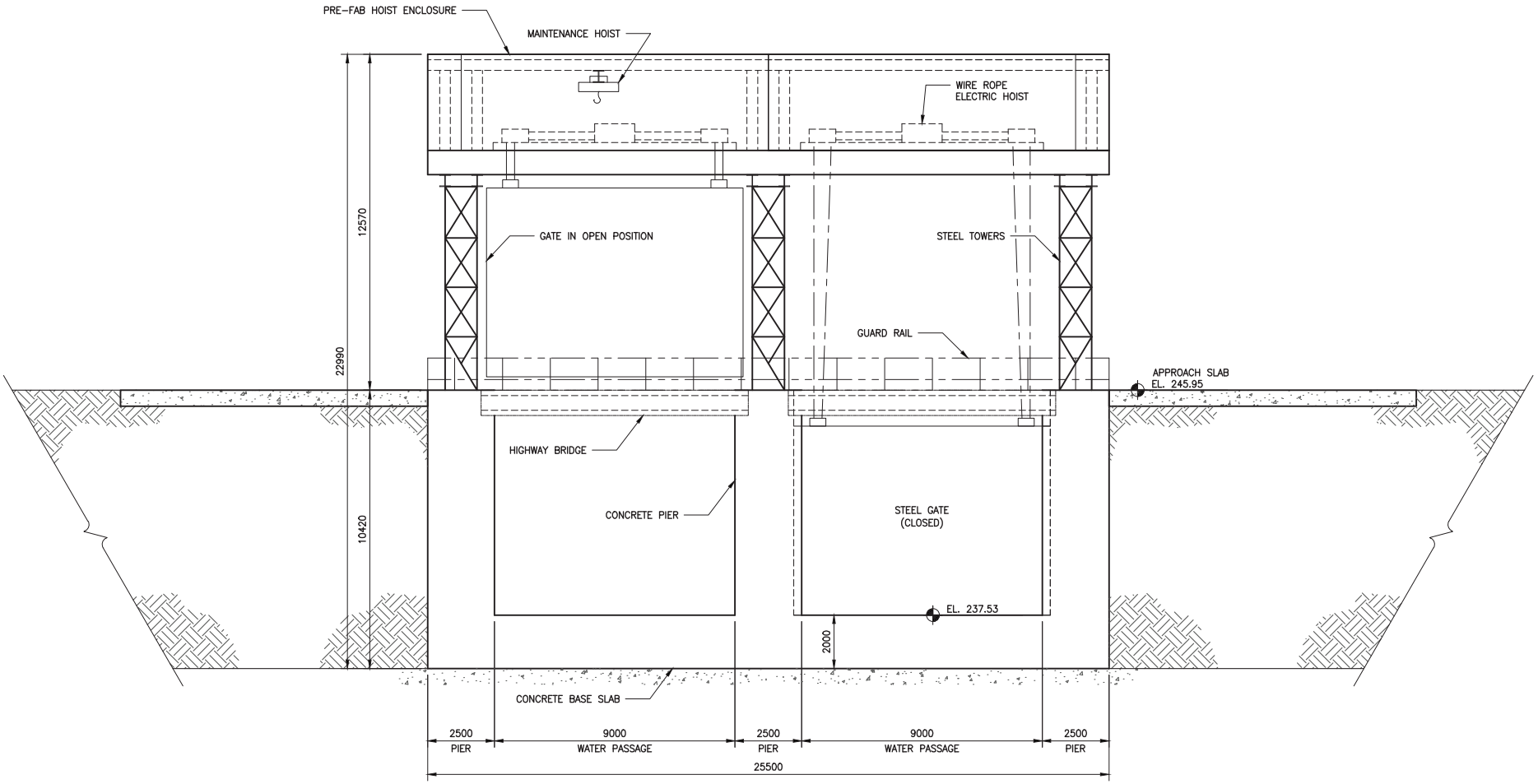


Figure 3B-7 Typical Water Control Structure

Source: KGS Group Consulting Engineers

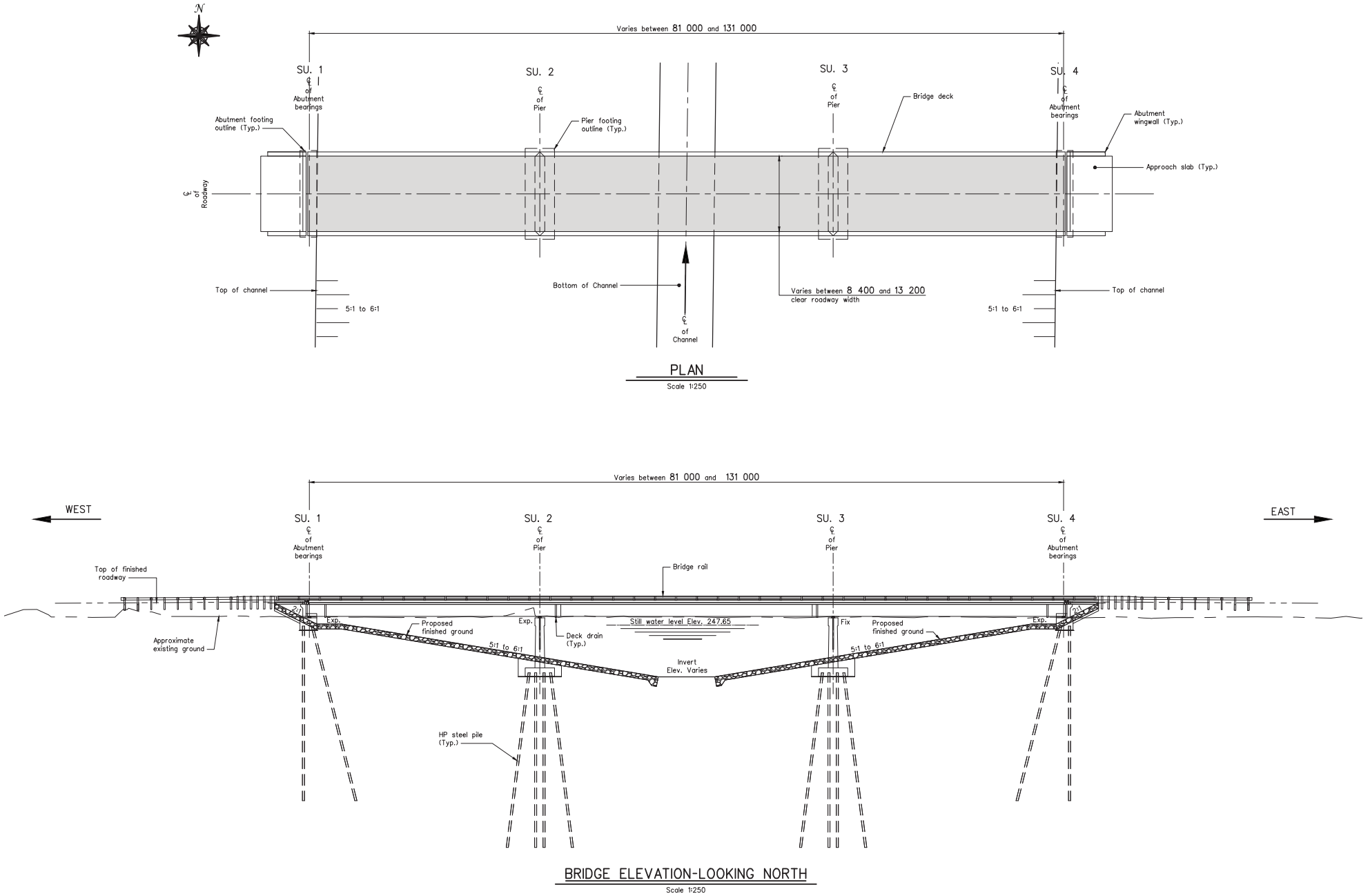
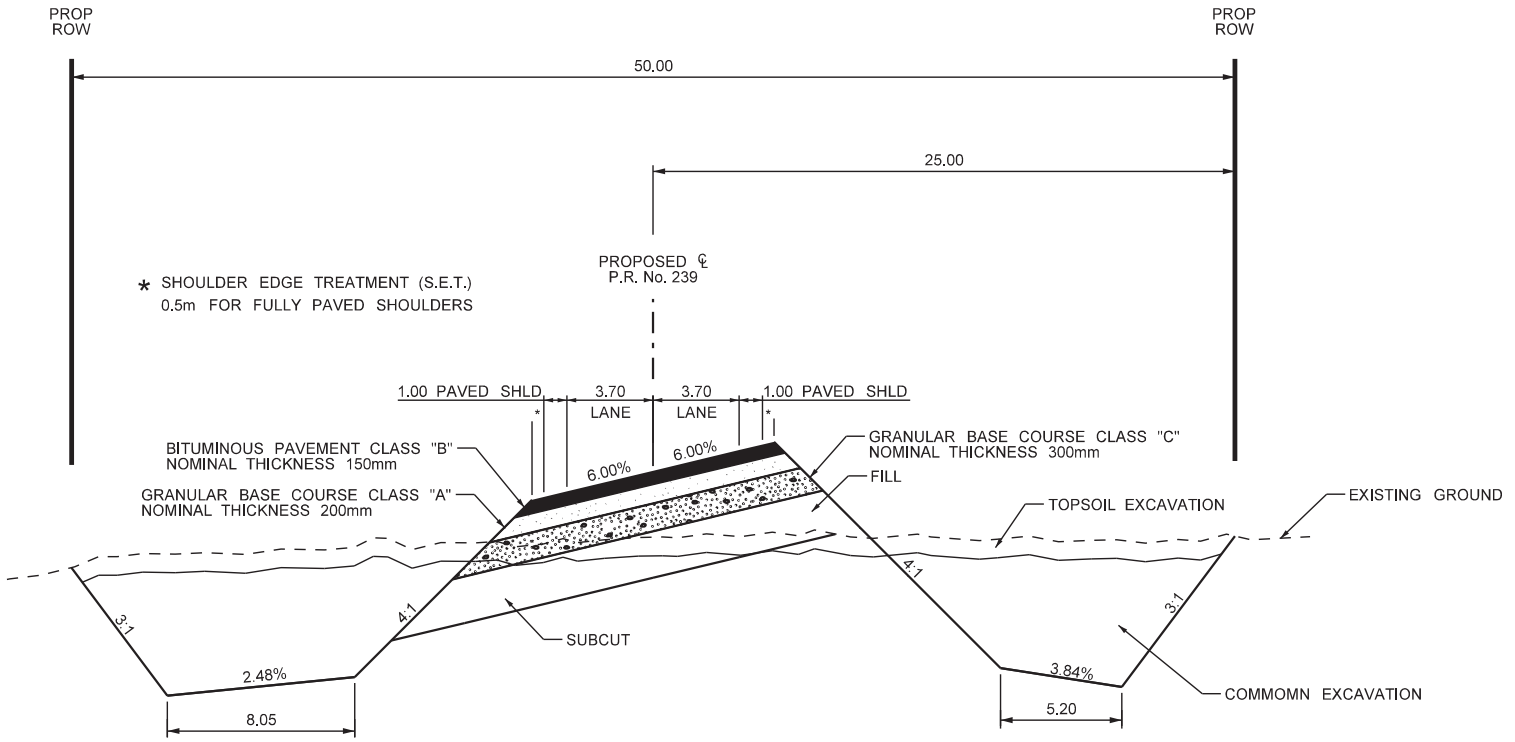


Figure 3B-8 Typical conceptual Bridge Plan and Profile, LMOC

Source: Hatch Ltd. Consultants



Manitoba Infrastructure

CROSS SECTION

BITUMINOUS PAVEMENT (GRADING)

MANITOBA INFRASTRUCTURE

P.T.H. No. 6 & P.R. No. 239
RELOCATION
(VICINITY OF GRAHAMDALE)

PREPARED BY	DATE DRAWN	SHEET	SCALE
REGION No. 04	SEPTEMBER, 2018	2 OF 2	NOT TO SCALE

Figure 3B-9 Typical Cross Section of PR 239

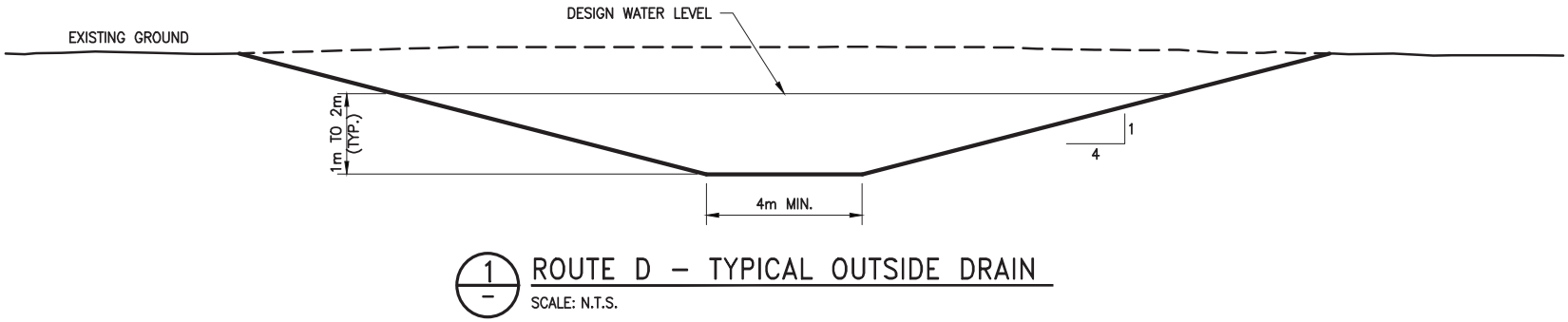


Figure 3B-10 Typical Cross Section of the LMOC Outside Drain

Source: KGS Group Consulting Engineers

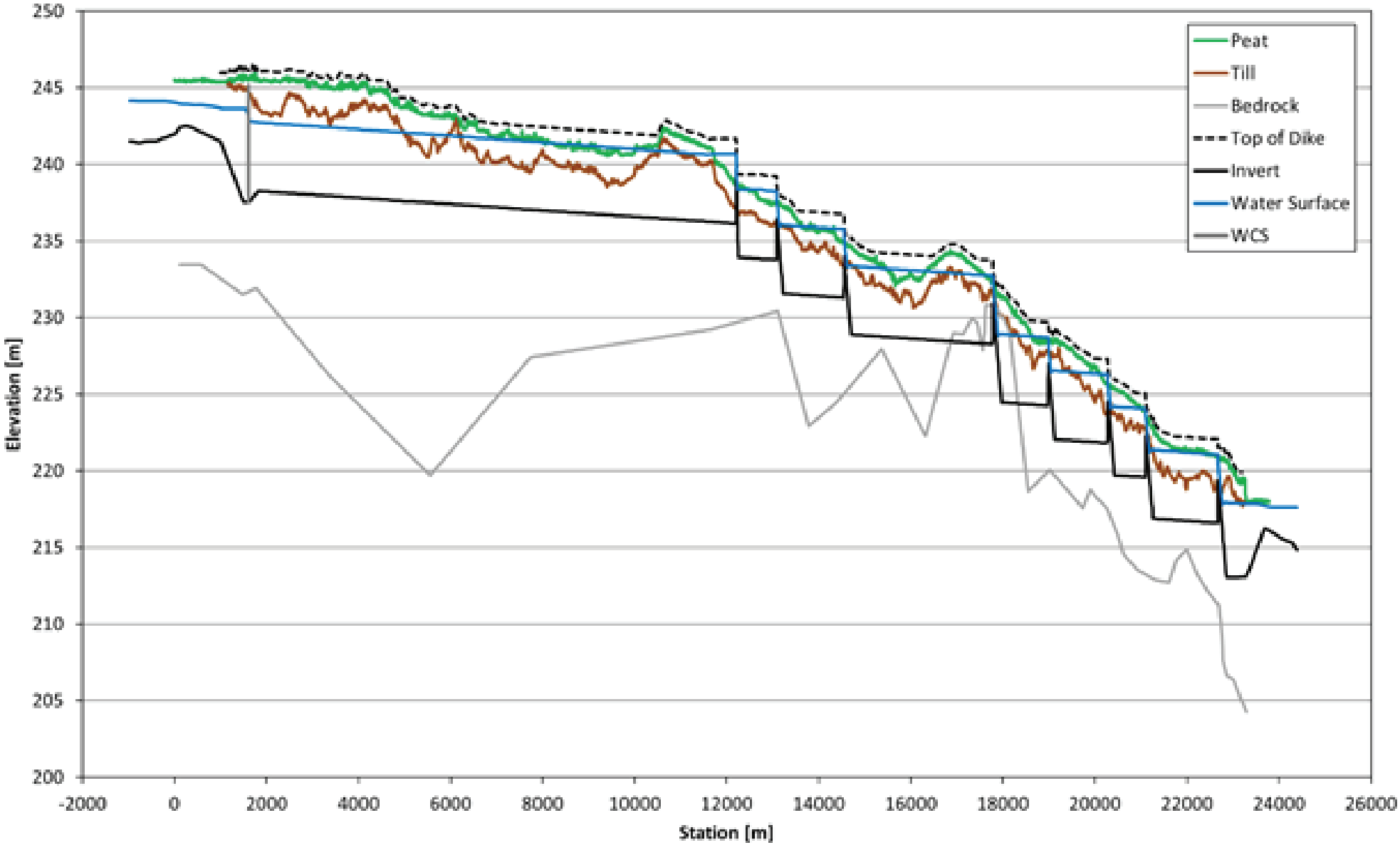
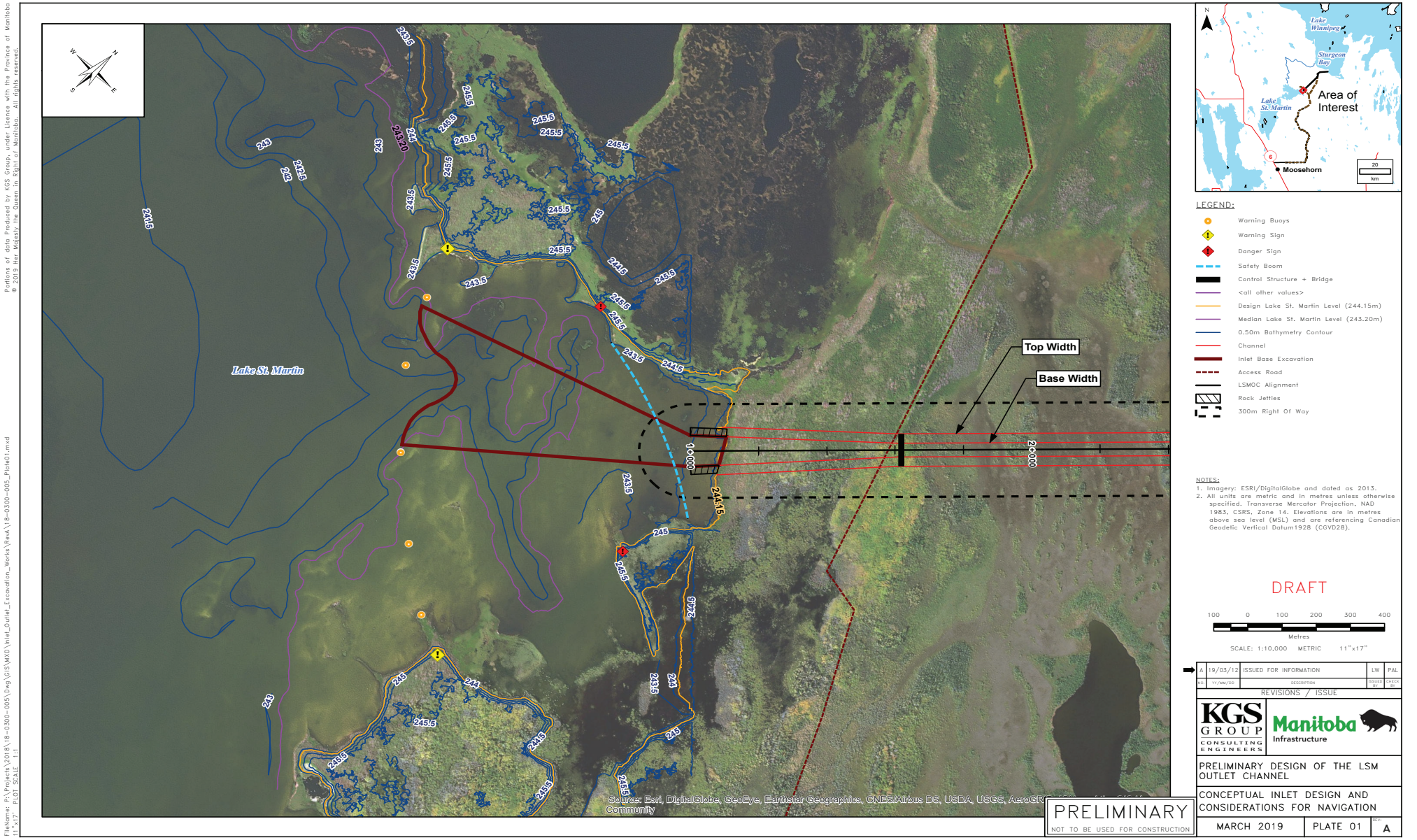


Figure 3B-11 LSMOC Profile

Source: KGS Group Consulting Engineers



Portions of data Produced by KGS Group, under Licence with the Province of Manitoba
© 2019 Her Majesty the Queen in Right of Manitoba. All rights reserved.

FileName: P:\Projects\2018\18-0300-005\Dwg\GIS\MXD\Inlet_Outlet_Excavation_Works\RevA\18-0300-005_Plate01.mxd
11"x17" PLOT SCALE 1:1

Figure 3B-12 LSMOC Inlet

Source: KGS Group Consulting Engineers

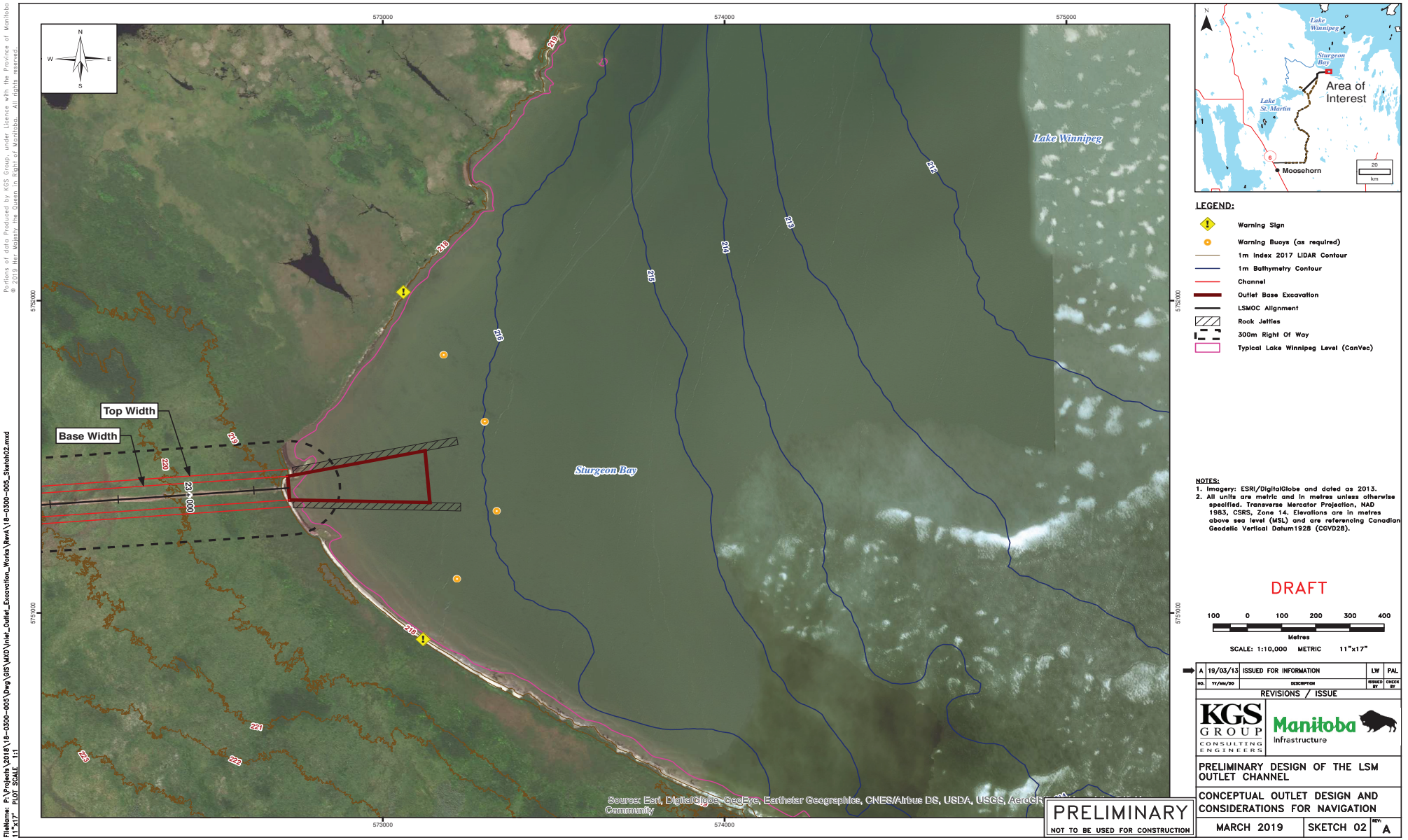
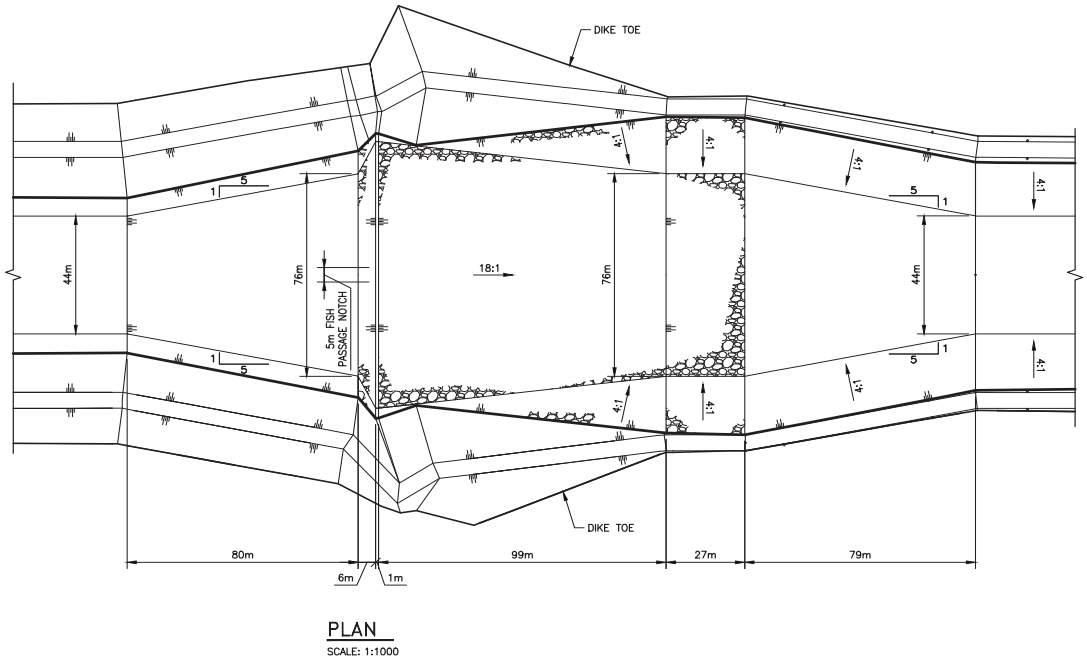


Figure 3B-13 LSMOC Outlet

Source: KGS Group Consulting Engineers



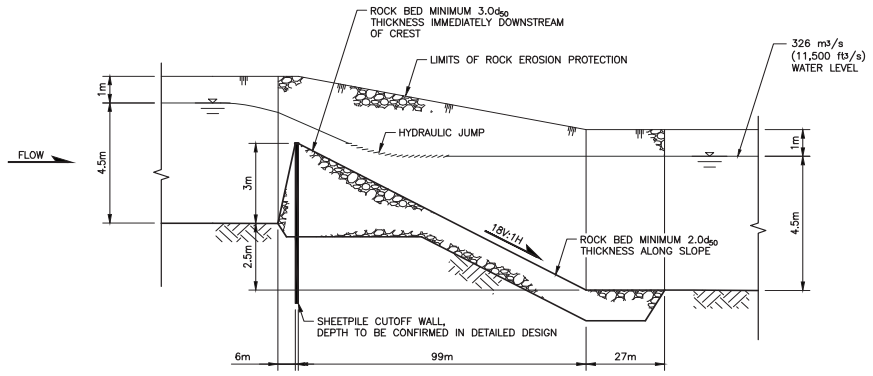


Figure 3B-14 Typical drop Structure

Source: KGS Group Consulting Engineers

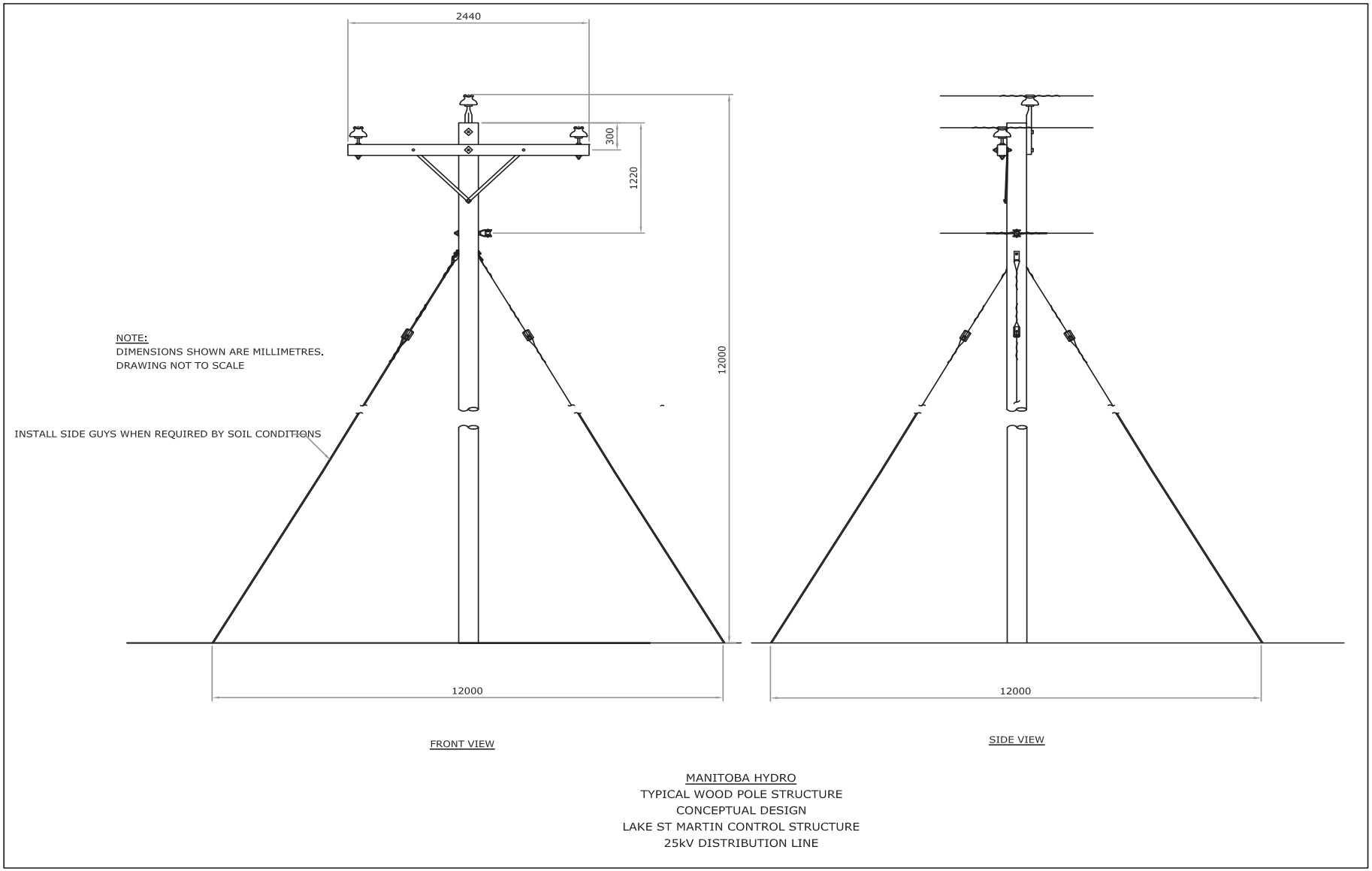


Figure 3B-15 Distribution Line Wood Pole Structure

Source: KGS Group Consulting Engineers

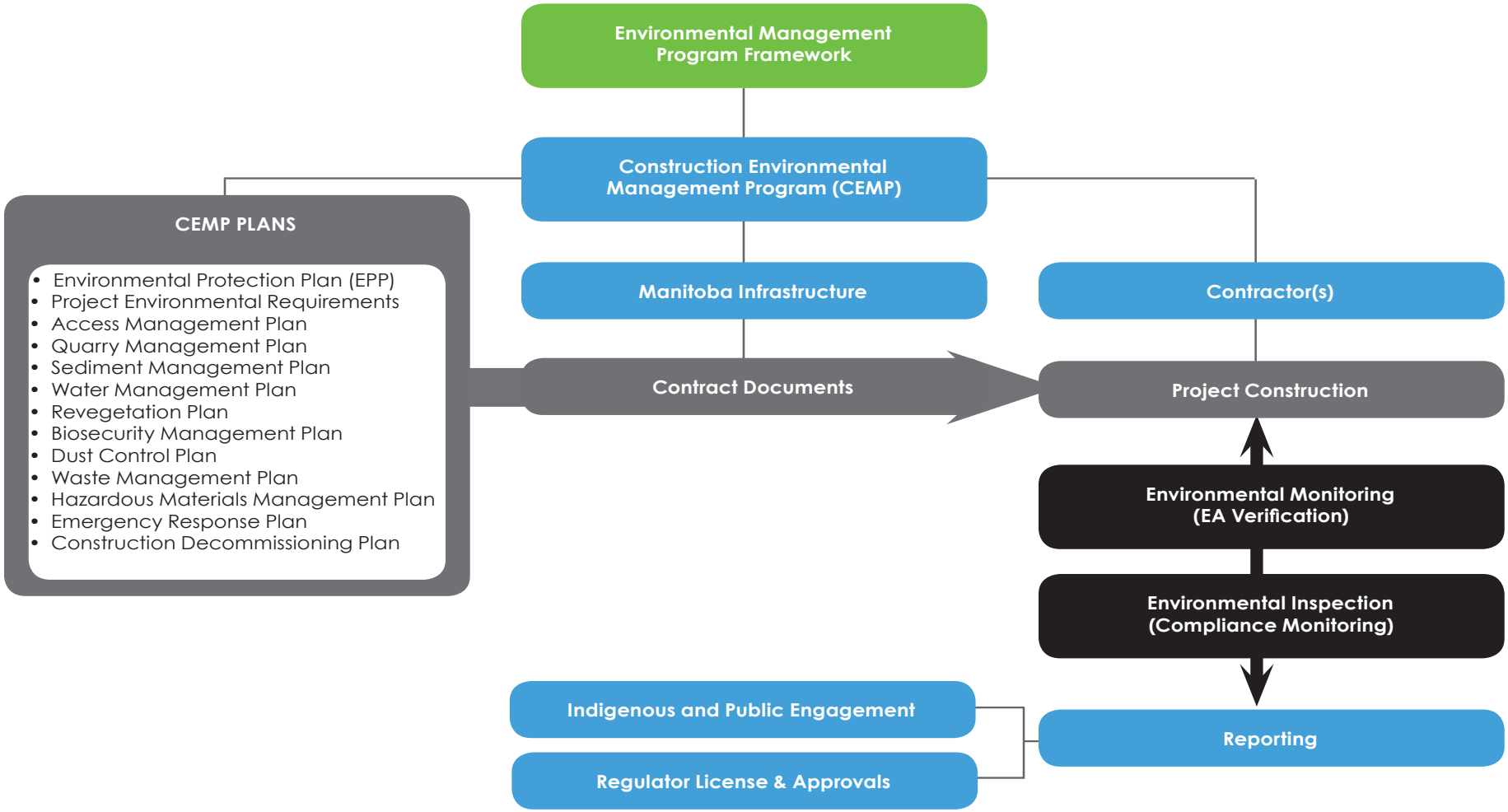


Figure 3B-16 Construction Environmental Management Program Framework

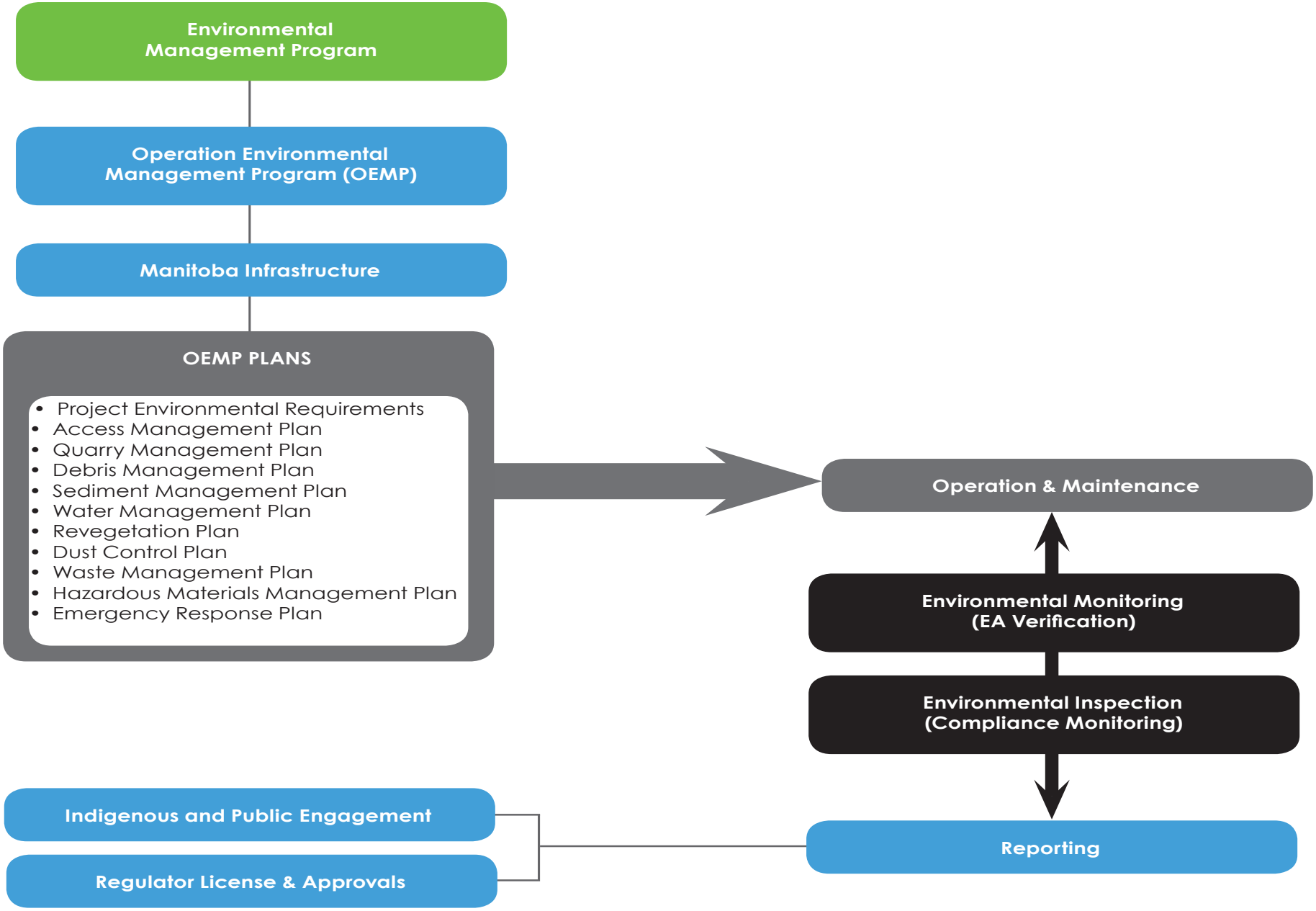


Figure 3B-17 Operation Environmental Management Program Framework

Appendix 3C PHOTOS AND LSMOC AND LMOC MAP BOOK



Photo 3C-1 **Approximate location of the Inlet of the Lake Manitoba Outlet Channel, looking southwest from approximately 14 U 530218 E 5681941 N**



Photo 3C-2 Approximate location of the Inlet of the Lake Manitoba Outlet Channel, looking west from approximately 14 U 530072 E 5681843 N



Photo 3C-3 **Approximate location of the Lake Manitoba Outlet Channel, looking south from approximately 14 U 530797 E 5687962 N**

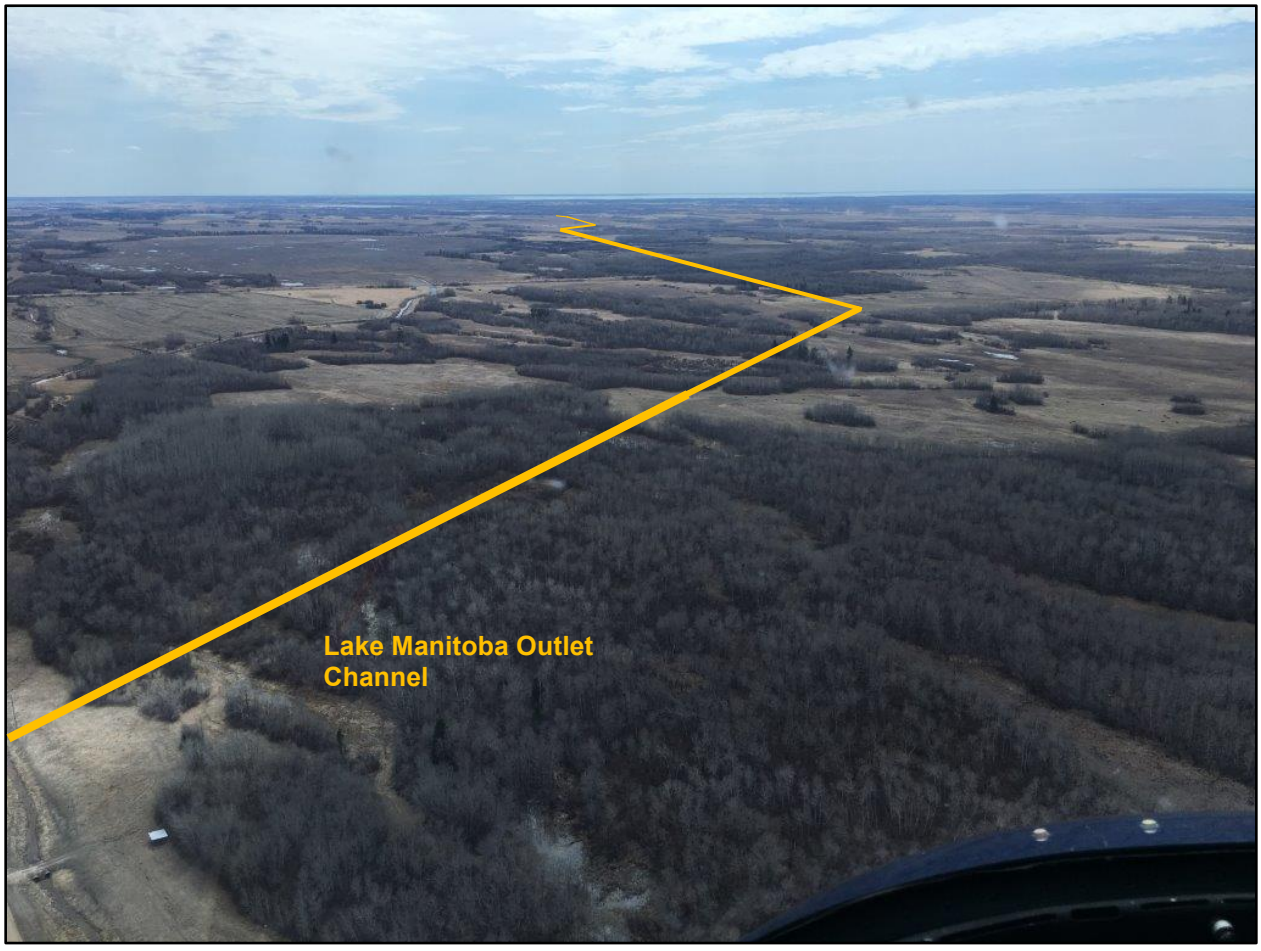


Photo 3C-4 **Approximate location of the Lake Manitoba Outlet Channel, looking south from Provincial Trunk Highway 6 at approximately 14 U 531751 E 5699140 N**



Photo 3C-5 **Approximate location of the Outlet for the Lake Manitoba Outlet Channel, looking southwest from approximately 14 U 533672 E 5703641 N [DN: alignment needs to be revised based on most current planning]**

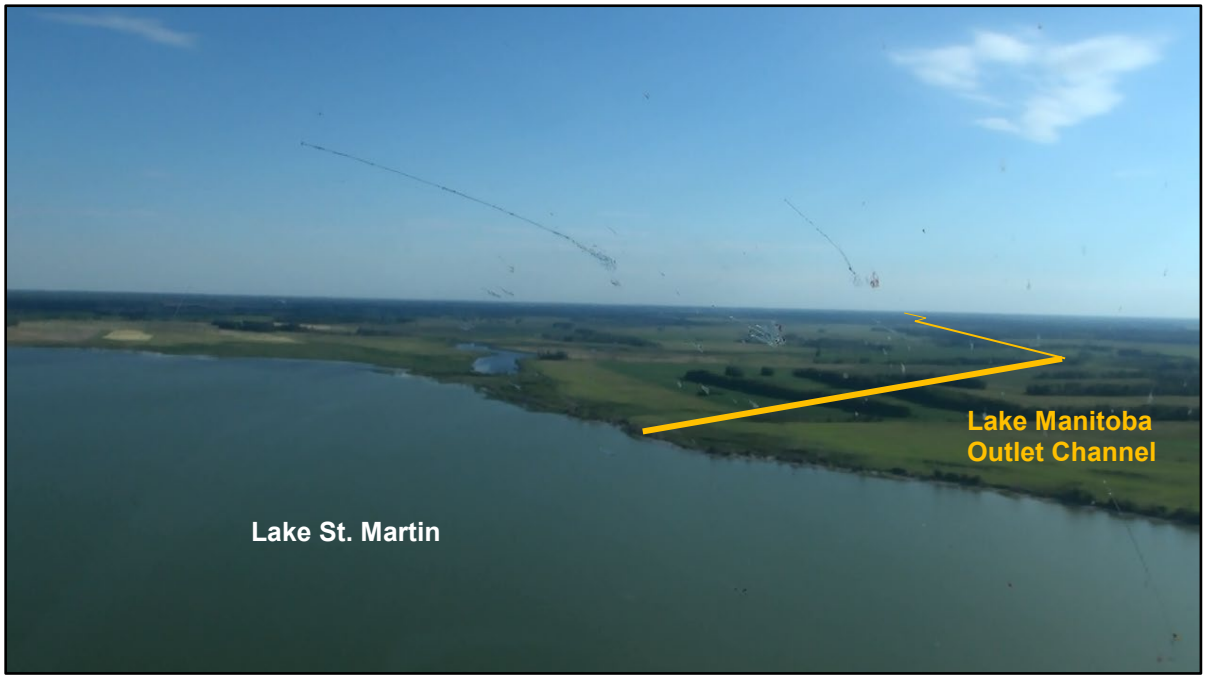


Photo 3C-6 **Approximate location of the Outlet for the Lake Manitoba Outlet Channel, looking south southwest from approximately 14 U**



Photo 3C-7 Approximate location of the Lake St. Martin Outlet Channel, looking south from approximately 14 U 558599 E 5739741 N

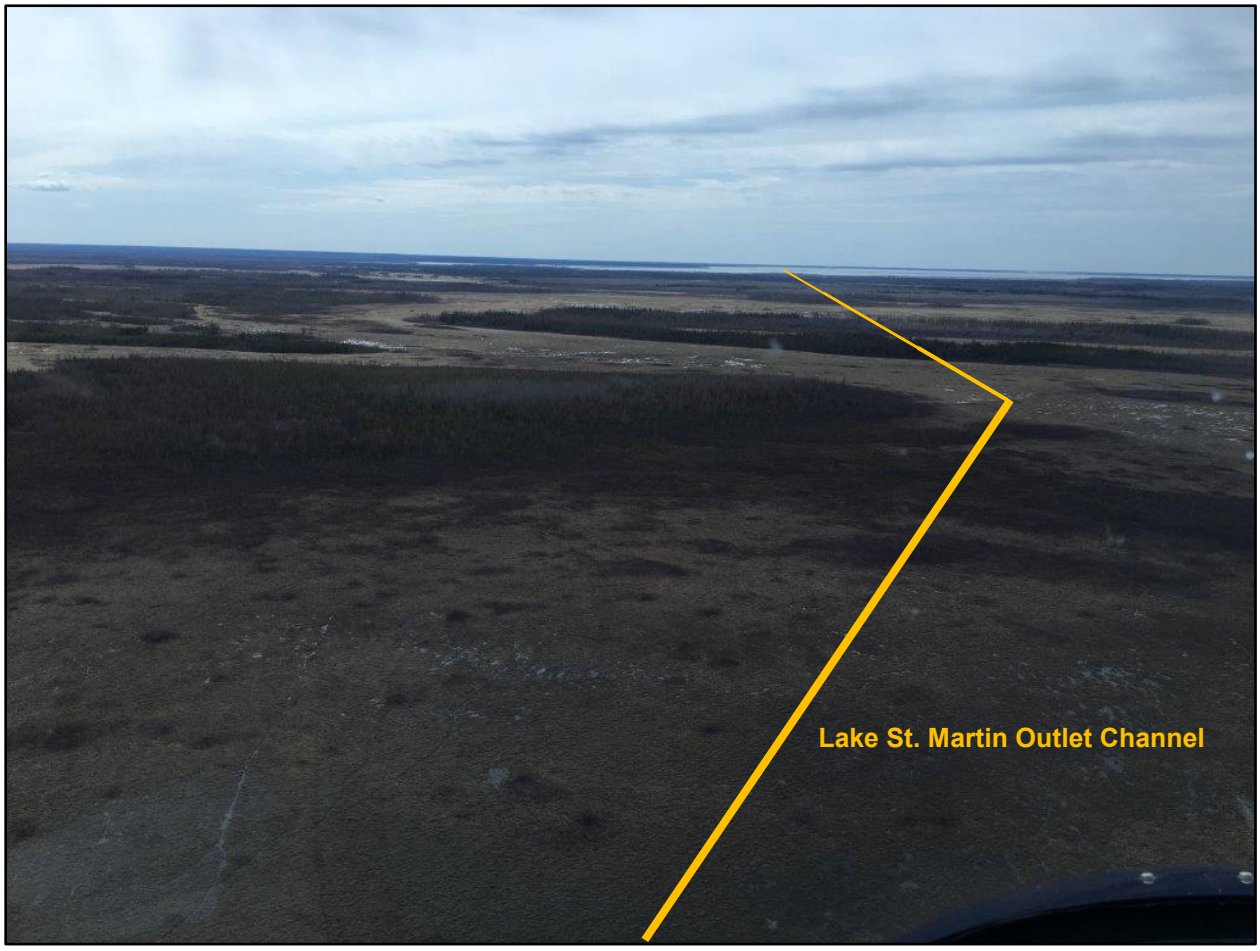


Photo 3C-8 Approximate location of the Lake St. Martin Outlet Channel, looking south from approximately 14 U 561910 E 5742837 N



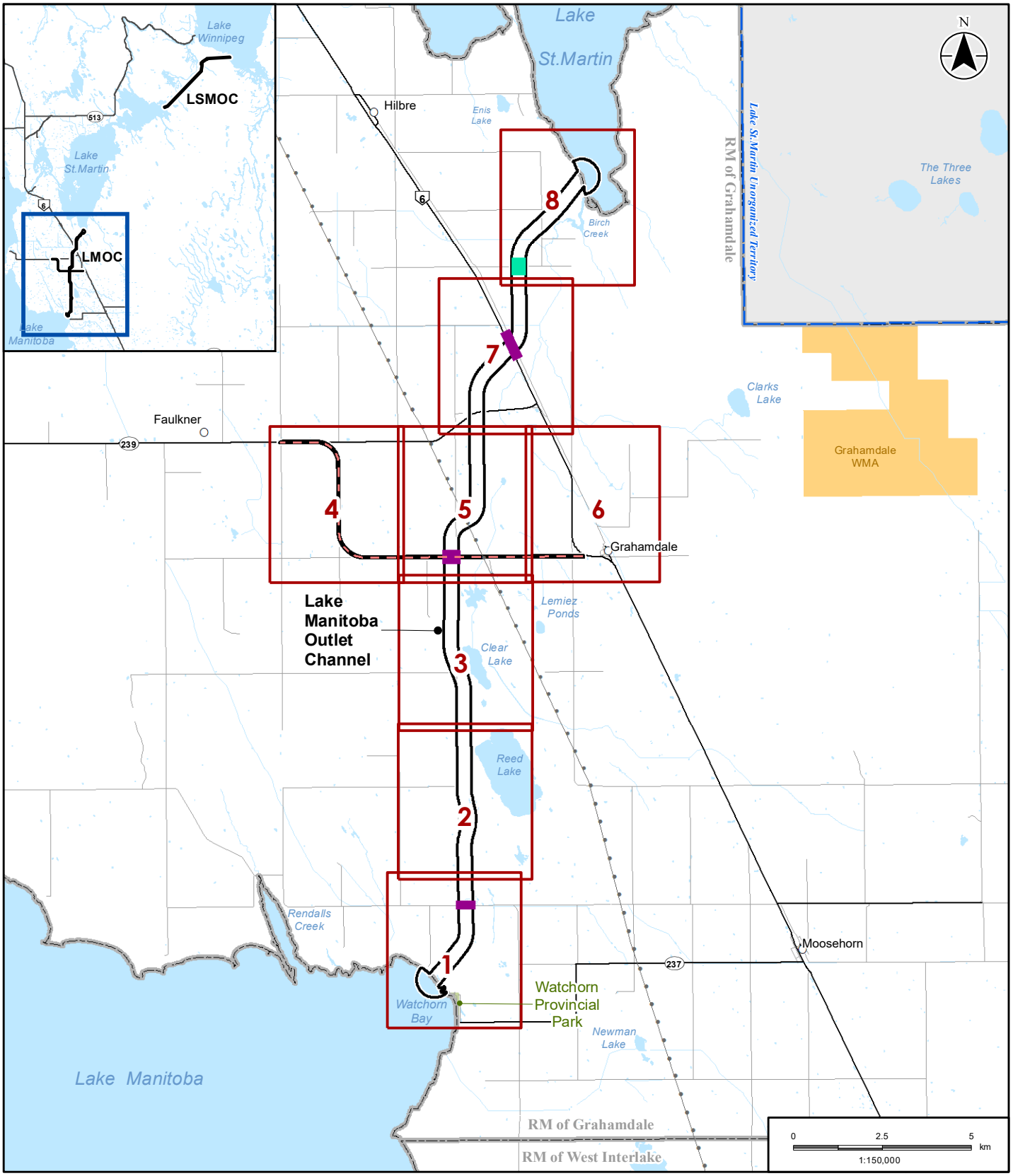
Photo 3C-9 **Approximate location of the Outlet for the Lake St. Martin Outlet Channel south of Willow Point, looking east northeast from approximately 14 U 569942 E 5753735 N**



Photo 3C-10 Approximate location of the Outlet for the Lake St. Martin Outlet Channel south of Willow Point, looking northwest from approximately 14 U 572786 E 5751591 N

3C MAP BOOK

LAKE ST.MARTIN OUTLET CHANNEL AND LAKE MANITOBA OUTLET CHANNEL MAP BOOK



Legend

Project Development Area Components

- Project Development Area (PDA)
- Proposed PR 239 Realignment
- Proposed Bridge
- Proposed Water Control Structure
- 1:20k Map Index Grid
- Existing Transmission Line
- Provincial Highway (PTH/PR)
- Municipal Road
- Rural Municipality
- Lake St. Martin Unorganized Territory
- Wildlife Management Area
- Provincial Park

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/16/2019 9:46:30 AM

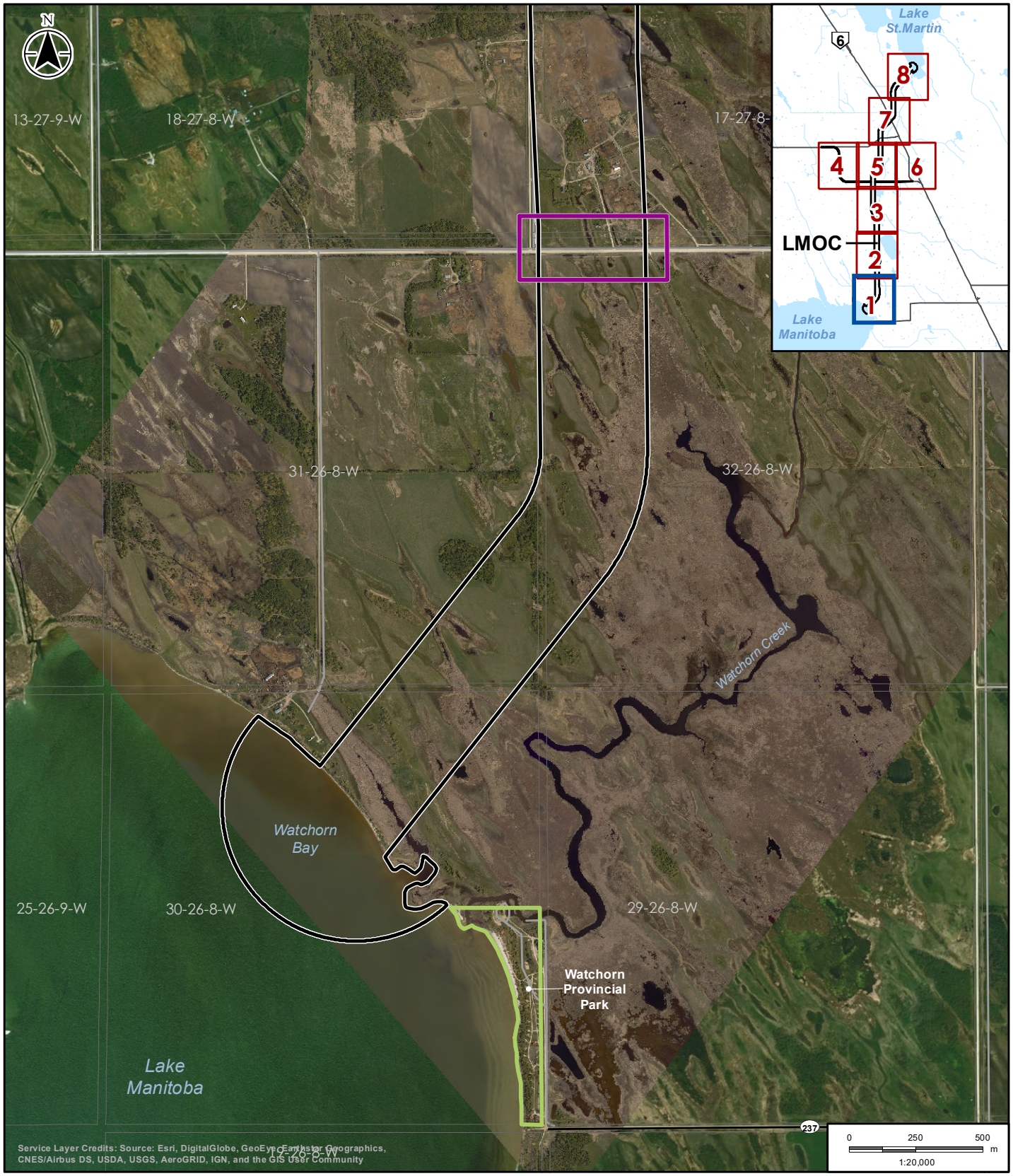
Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

Lake Manitoba Outlet Channel PDA Mapbook Index

Map 3C-1

G:\ GIS Project Folder\11475120\figures\Ch3 Project Description\MI EA LMOC PDA Mapbook Index 20190816.mxd



Legend

Project Development Components

- Lake Manitoba Outlet Channel (LMOC) Project Development Area (PDA)
- Proposed Bridge
- Municipal Road
- Section Boundary
- Provincial Park

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/23/2019 11:07:13 AM

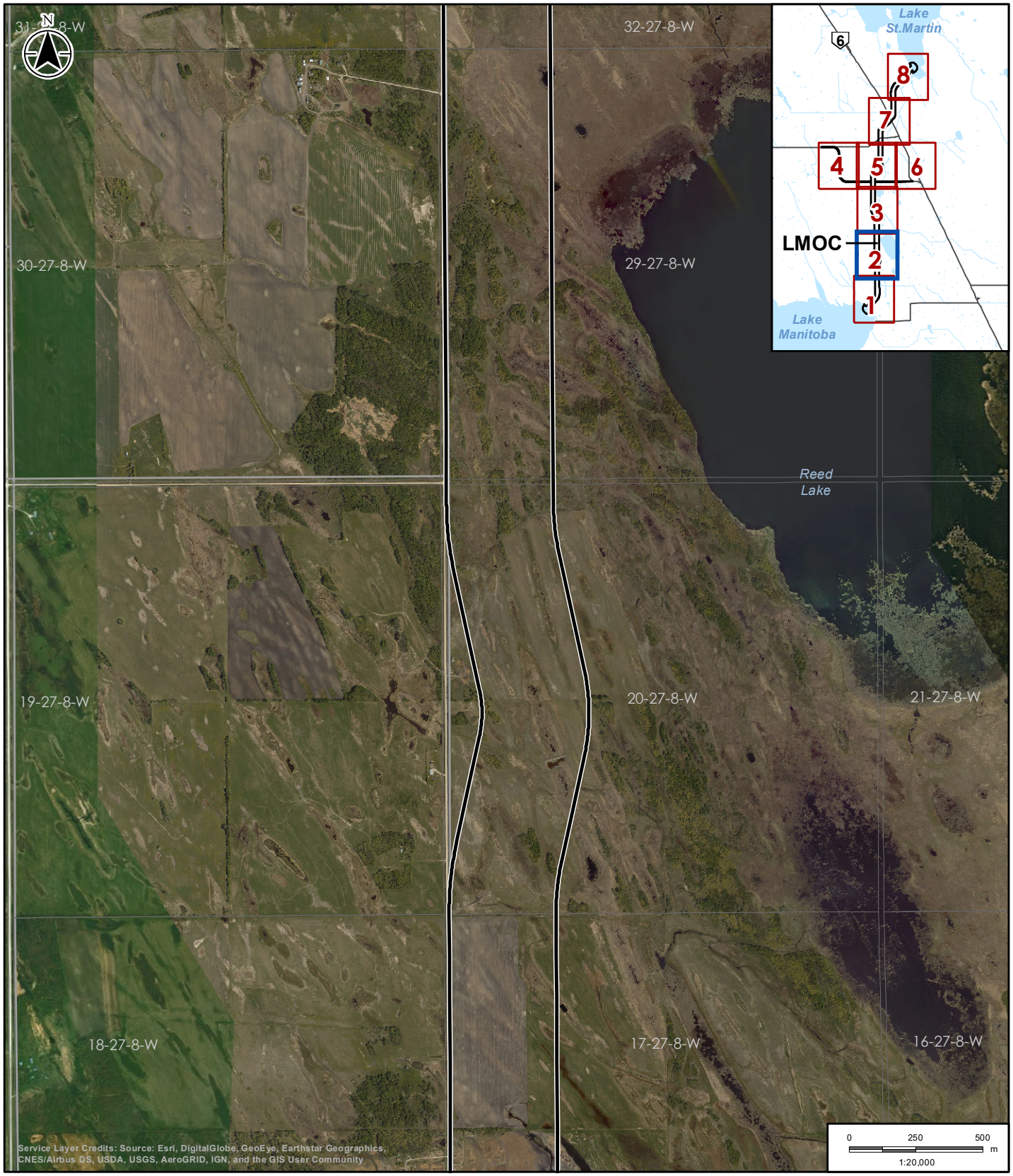
Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

Lake Manitoba Outlet Channel PDA Mapbook

Map 3C-1.1

G:\ GIS Project Folder\11475120\figures\Ch3 Project Description\Final\MI_EA_LMOC_PDA_Mapbook_20190823.mxd



Legend

Project Development Components

- Lake Manitoba Outlet Channel (LMOC) Project Development Area (PDA)
- Municipal Road
- Section Boundary

Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

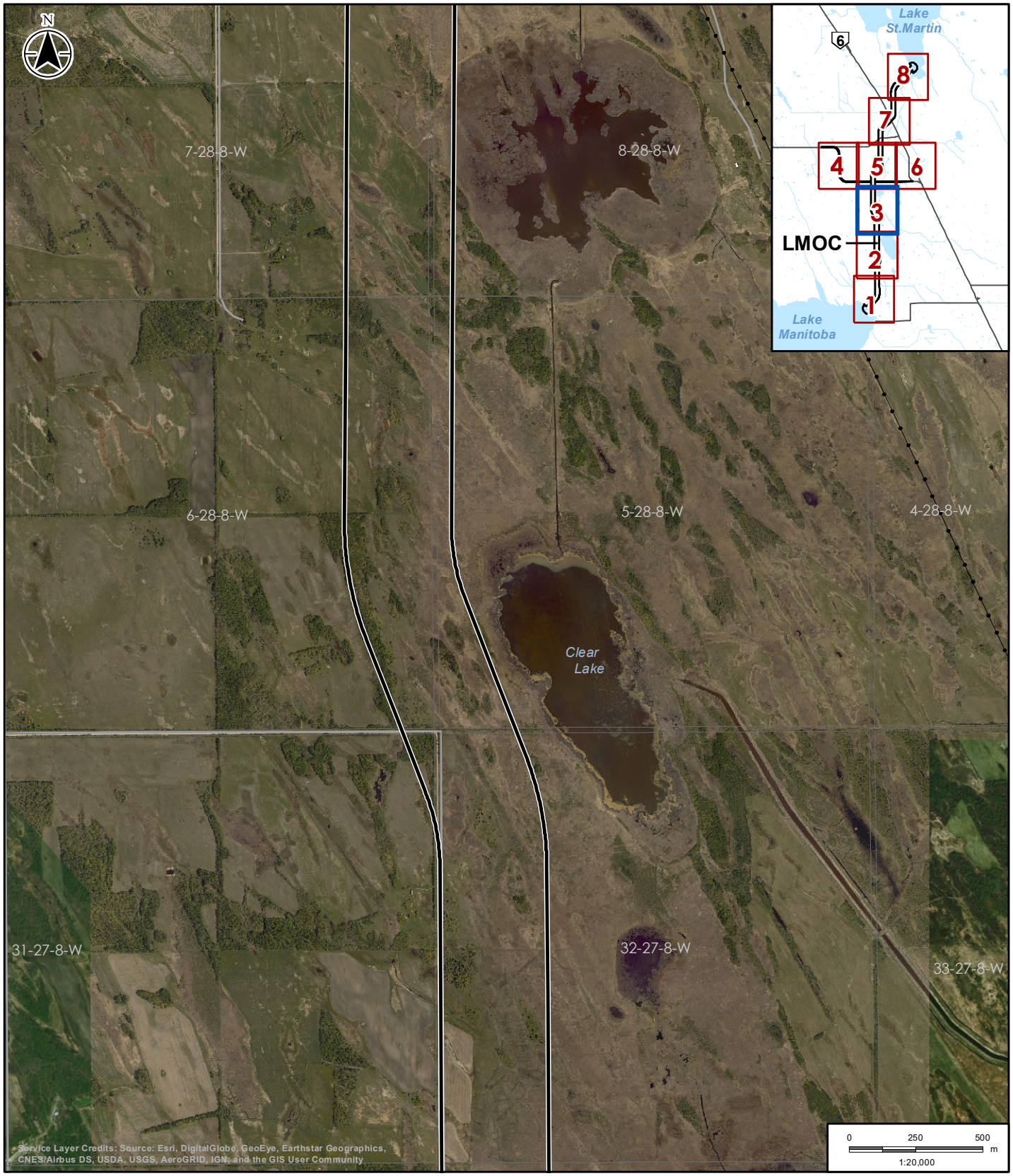
Lake Manitoba Outlet Channel PDA Mapbook

Map 3C-1.2

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/23/2019 11:07:13 AM

G:\ GIS Project Folder\11473\20\figures\Ch3 Project Description\Final\MI_EA_LMOC_PDA_Mapbook_20190823.mxd



Legend

Project Development Components

- Lake Manitoba Outlet Channel (LMOC) Project Development Area (PDA)
- Municipal Road
- Section Boundary

Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

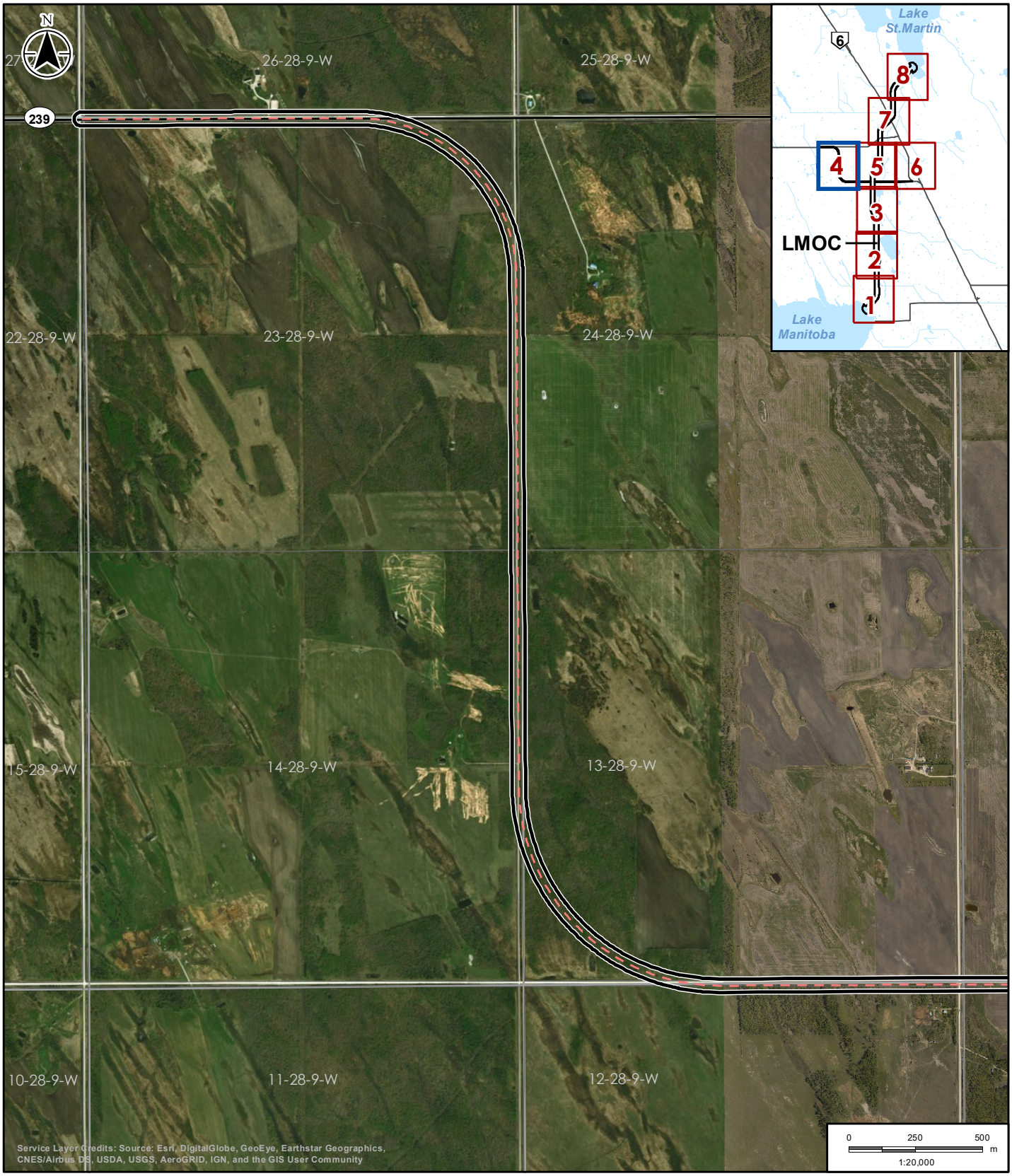
Lake Manitoba Outlet Channel PDA Mapbook

Map 3C-1.3

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/23/2019 11:07:13 AM

G:\ GIS Project Folder\11473\20\figures\Ch3 Project Description\Final\MI_EA_LMOC_PDA_Mapbook_20190823.mxd



Legend

Project Development Components

- Lake Manitoba Outlet Channel (LMOC) Project Development Area (PDA)
- Proposed PR 239 Realignment
- Municipal Road
- Section Boundary

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/23/2019 11:07:13 AM

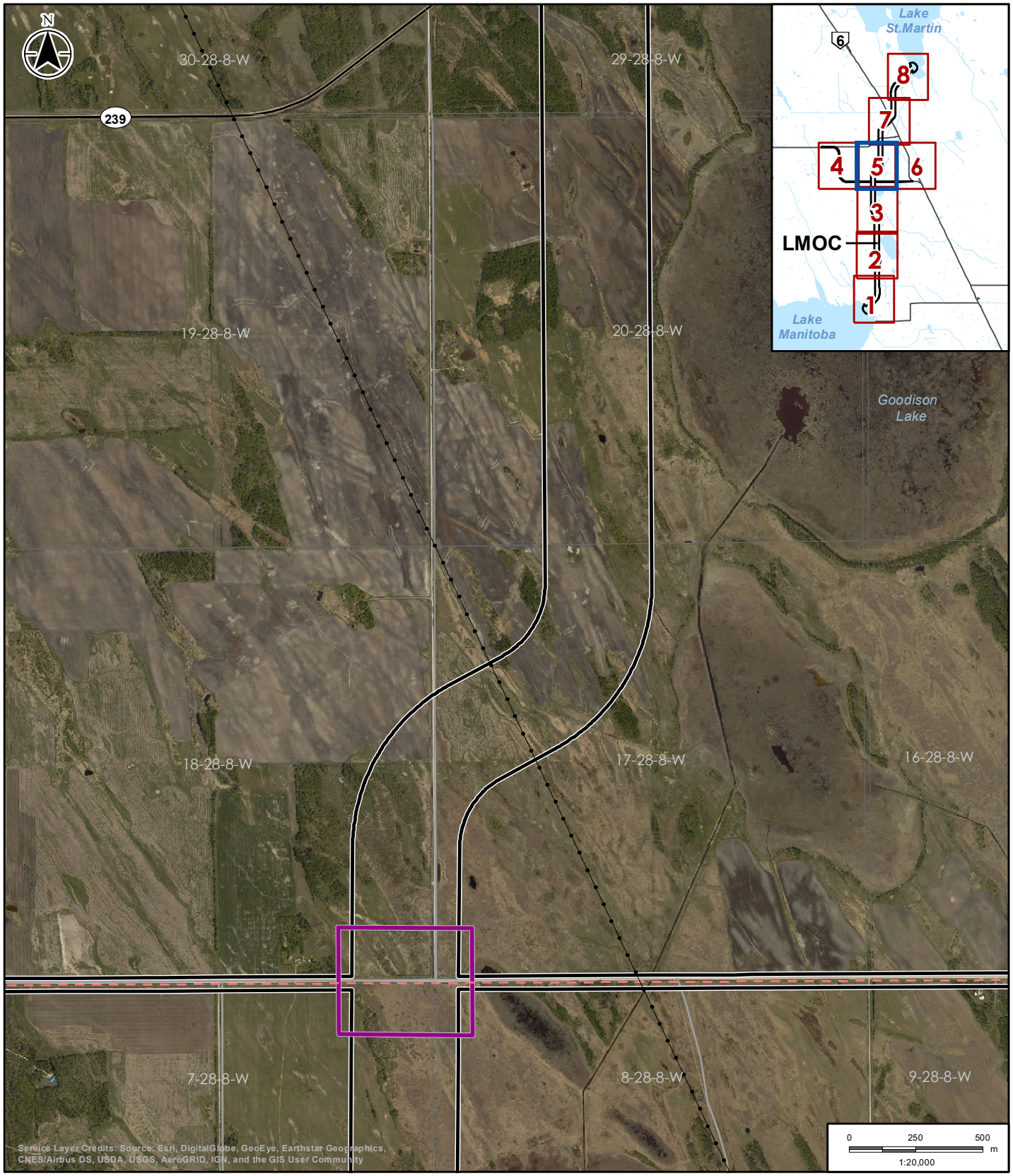
Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

Lake Manitoba Outlet Channel PDA Mapbook

Map 3C-1.4

G:\ GIS Project Folder\11473\20\figures\Ch3 Project Description\Final\MI_EA_LMOC_PDA_Mapbook_20190823.mxd



Legend

Project Development Components

- Lake Manitoba Outlet Channel (LMOC) Project Development Area (PDA)
- Proposed PR 239 Realignment
- Proposed Bridge
- Municipal Road
- Section Boundary

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/23/2019 11:07:13 AM

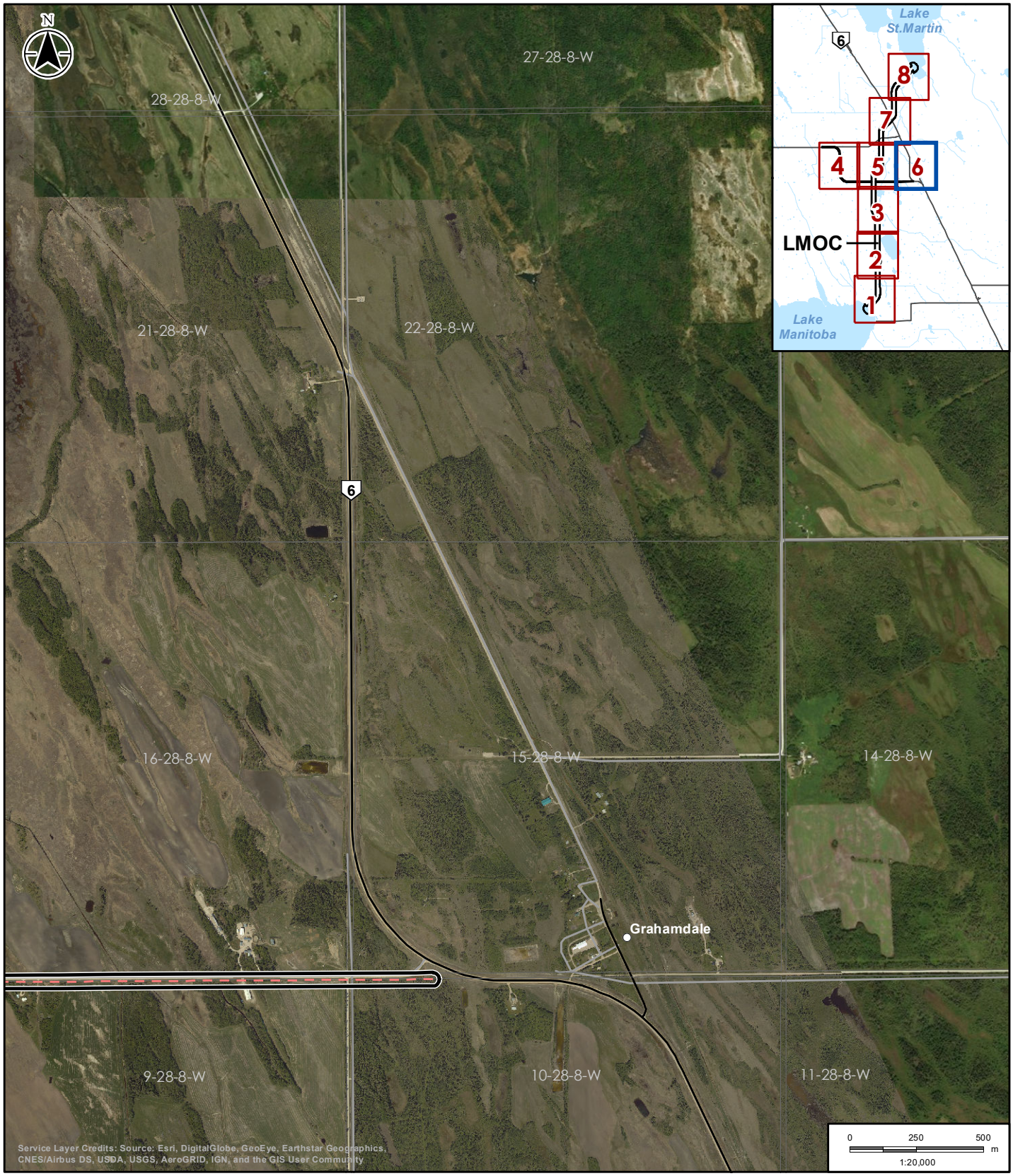
Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

Lake Manitoba Outlet Channel PDA Mapbook

Map 3C-1.5

G:_GIS_Project_Folder\11473120\figures\Ch3_Project_Description\Final\MI_EA_LMOC_PDA_Mapbook_20190823.mxd



Legend

Project Development Components

- Lake Manitoba Outlet Channel (LMOC) Project Development Area (PDA)
- Proposed PR 239 Realignment
- Municipal Road
- Section Boundary

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/23/2019 11:07:13 AM

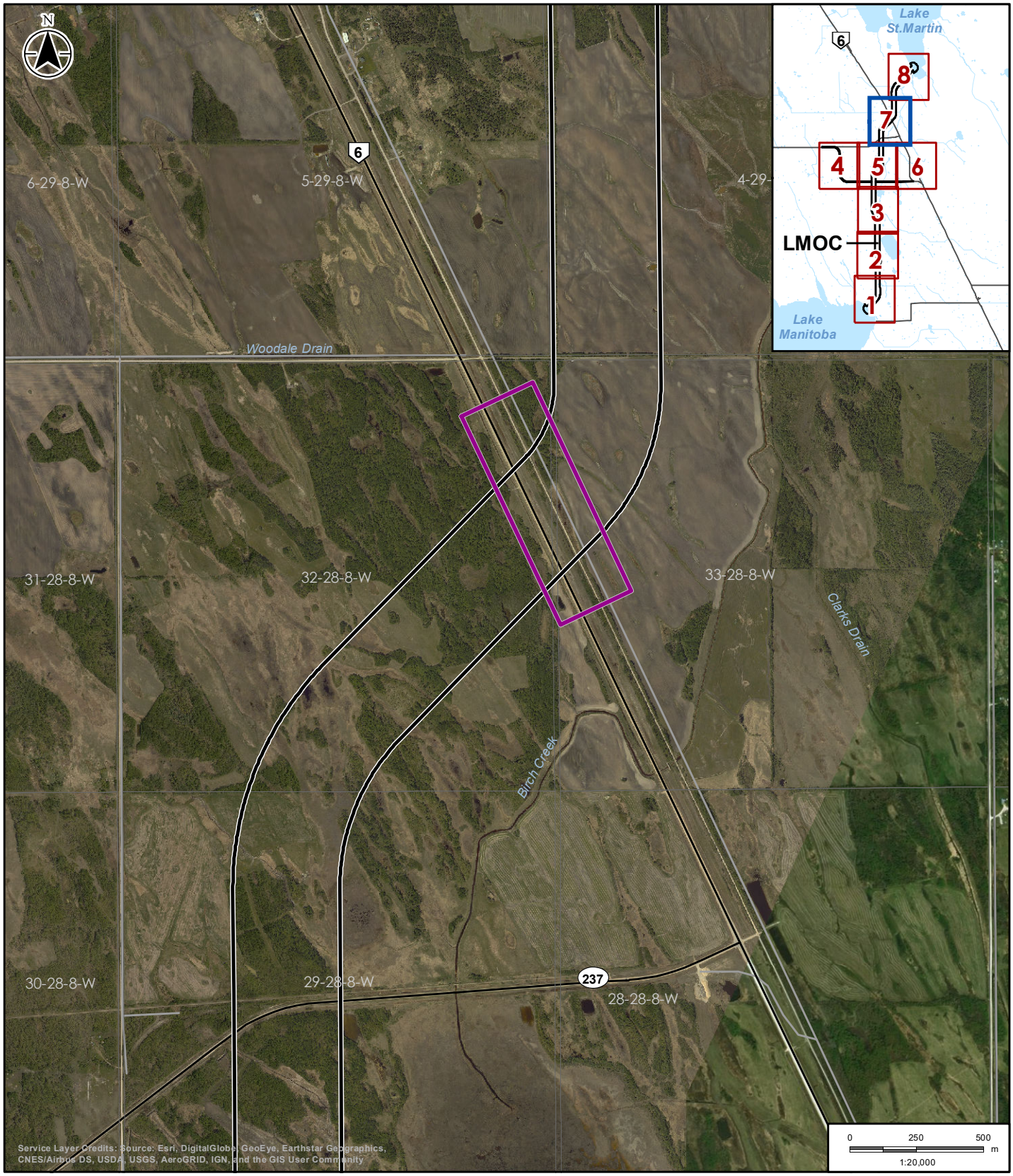
Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

Lake Manitoba Outlet Channel PDA Mapbook

Map 3C-1.6

G:_GIS_Project_Folder\114731201\figures\Ch3_Project_Description\Final\MI_EA_LMOC_PDA_Mapbook_20190823.mxd



Legend

Project Development Components

- Lake Manitoba Outlet Channel (LMOC) Project Development Area (PDA)
- Proposed Bridge
- Municipal Road
- Section Boundary

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/23/2019 11:07:13 AM

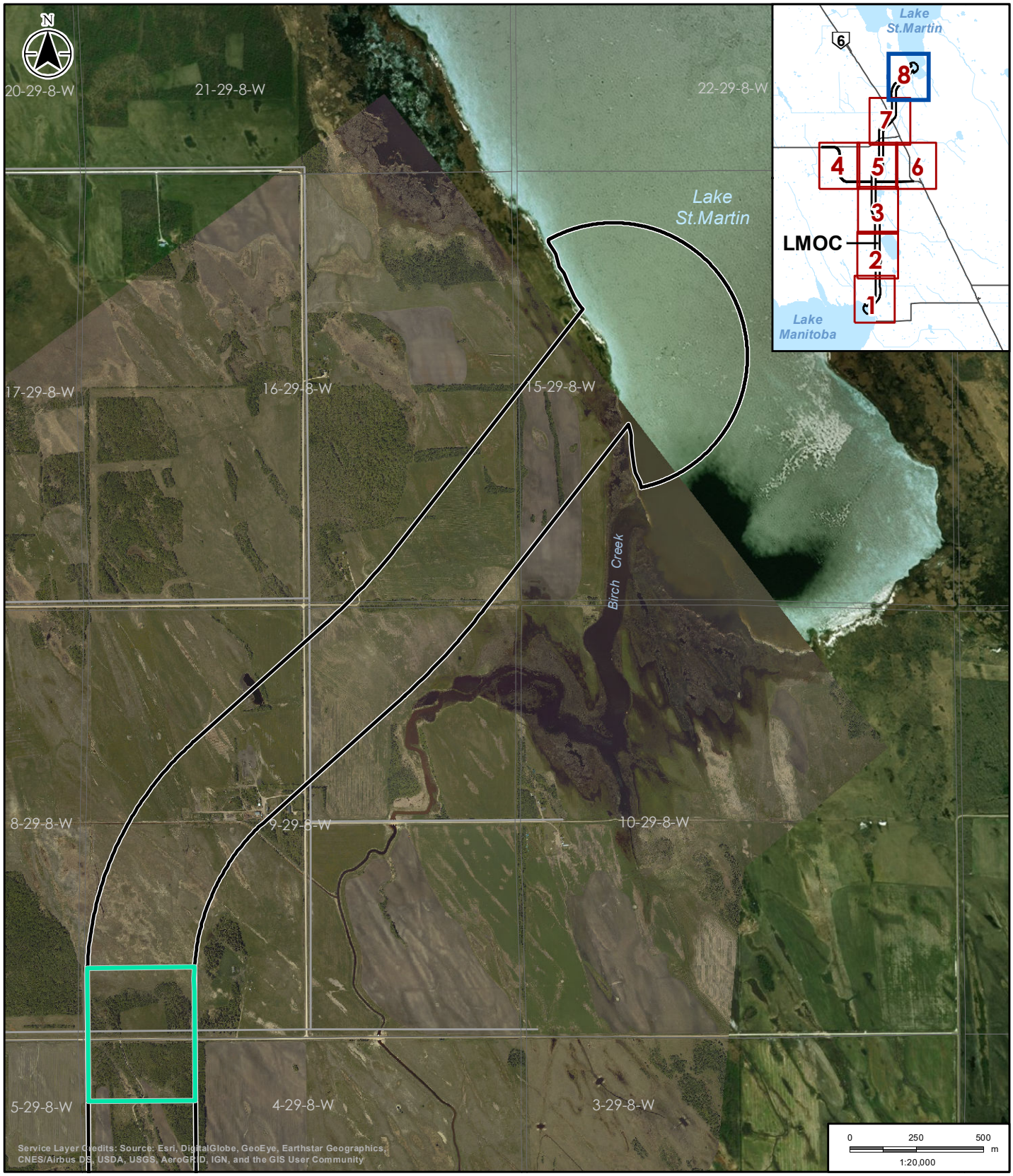
Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

Lake Manitoba Outlet Channel PDA Mapbook

Map 3C-1.7

G:\ GIS Project Folder\11475120\figures\Ch3 Project Description\Final\MI_EA_LMOC_PDA_Mapbook_20190823.mxd



Legend

Project Development Components

- Lake Manitoba Outlet Channel (LMOC) Project Development Area (PDA)
- Proposed Water Control Structure
- Municipal Road
- Section Boundary

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/23/2019 11:07:13 AM

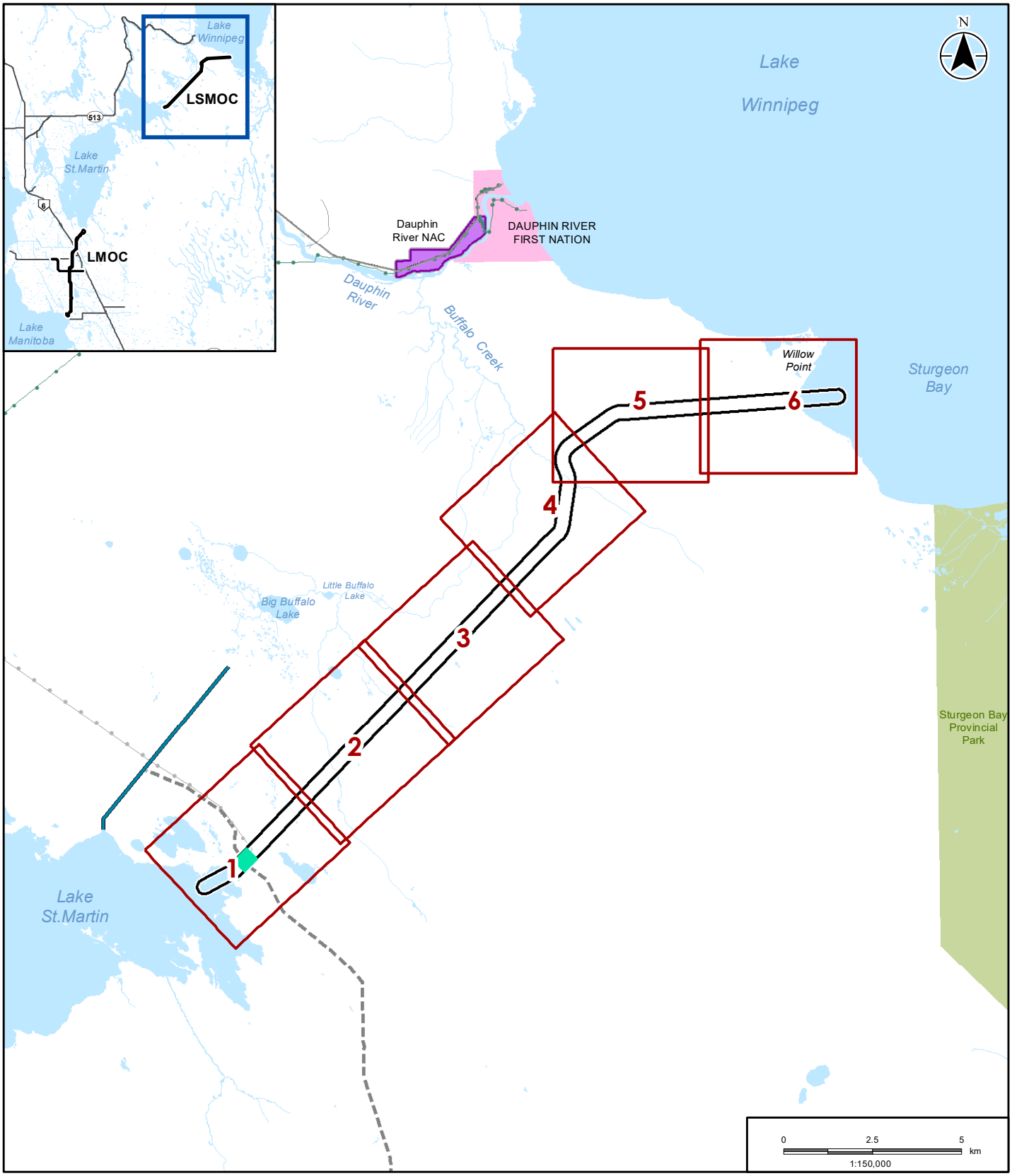
Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

Lake Manitoba Outlet Channel PDA Mapbook

Map 3C-1.8

G:\ GIS Project Folder\11473\20\figures\Ch3 Project Description\Final\MI_EA_LMOC_PDA_Mapbook_20190823.mxd



Legend

Project Development Area Components

- Project Development Area (PDA)
- Proposed Water Control Structure
- 1:20k Map Index Grid
- Lake St.Martin Emergency Outlet Channel (Reach 1)
- Lake St.Martin Access Road
- Existing Distribution Line
- Planned Distribution Line
- Provincial Highway (PTH/PR)
- Municipal Road
- Northern Affairs Community (NAC)
- First Nation
- Provincial Park

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/16/2019 9:23:01 AM

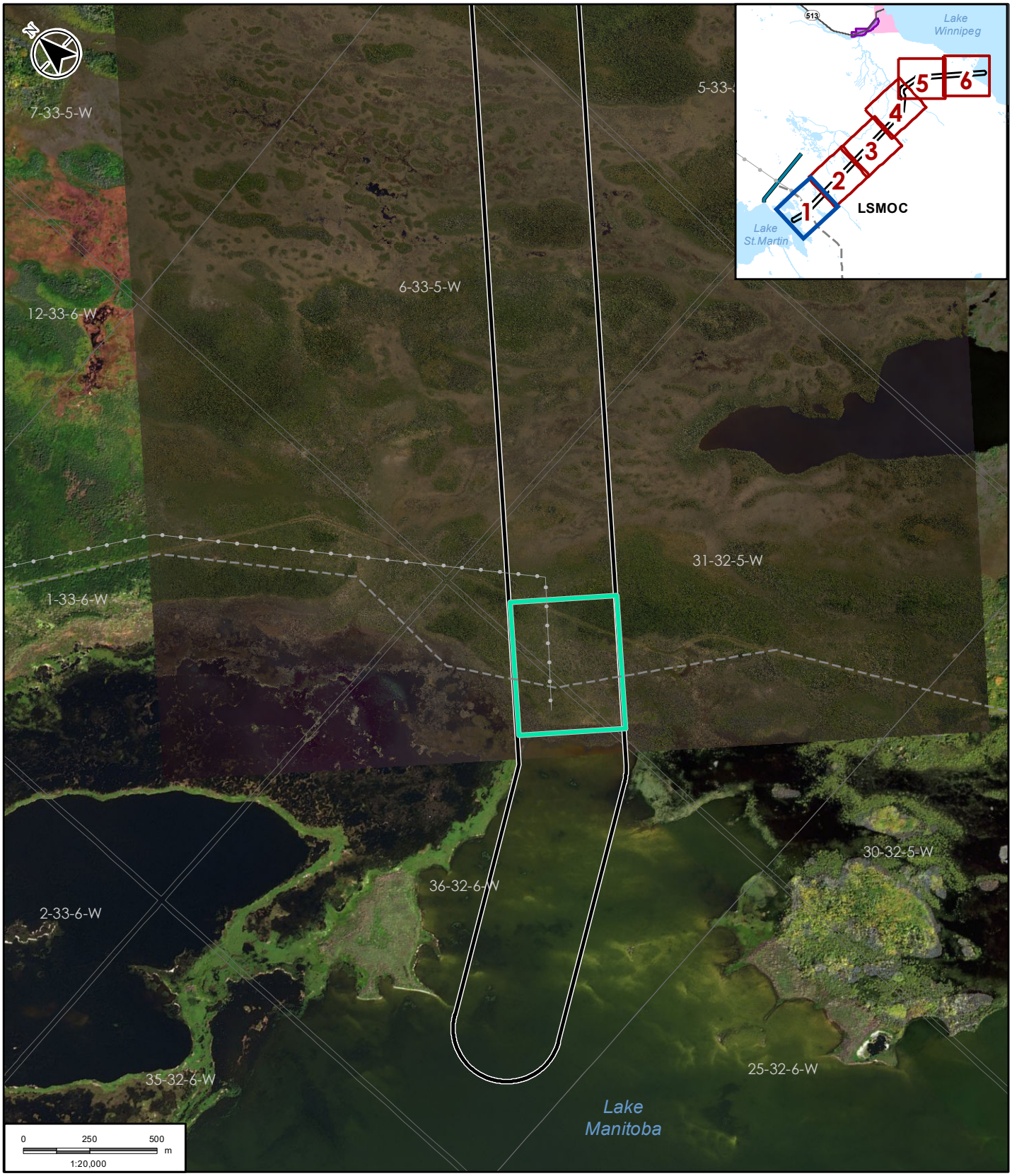
Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

Lake St.Martin Outlet Channel PDA Mapbook Index

Map 3C-2

G:\ GIS Project Folder\11475120\figures\Ch3 Project Description\MI EA LSMOC PDA Mapbook Index 20190816.mxd



Legend

Project Development Components

- Lake Manitoba Outlet Channel (LMOC) Project Development Area (PDA)
- Proposed Water Control Structure
- Lake St. Martin Access Road
- Planned Distribution Line
- Section Boundary

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/16/2019 10:41:59 AM

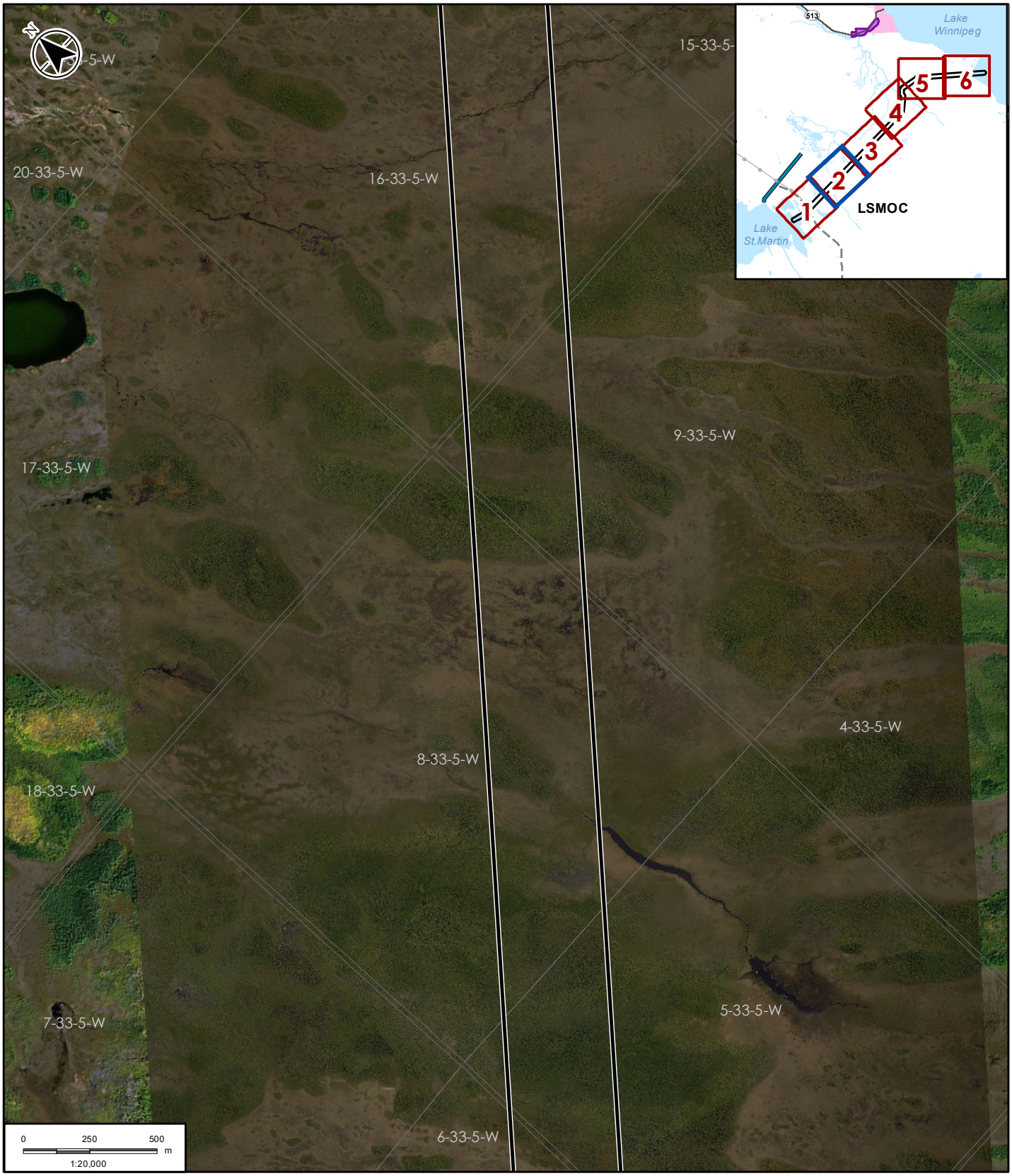
Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

Lake Manitoba Outlet Channel PDA Map Index

Map 3C-2.1

G:\ GIS Project Folder\11475120\figures\Ch3 Project Description\MI EA LSMOC PDA Mapbook 20190816.mxd



Legend

Project Development Components

Lake Manitoba Outlet Channel (LMOC) Project Development Area (PDA)

Section Boundary

Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

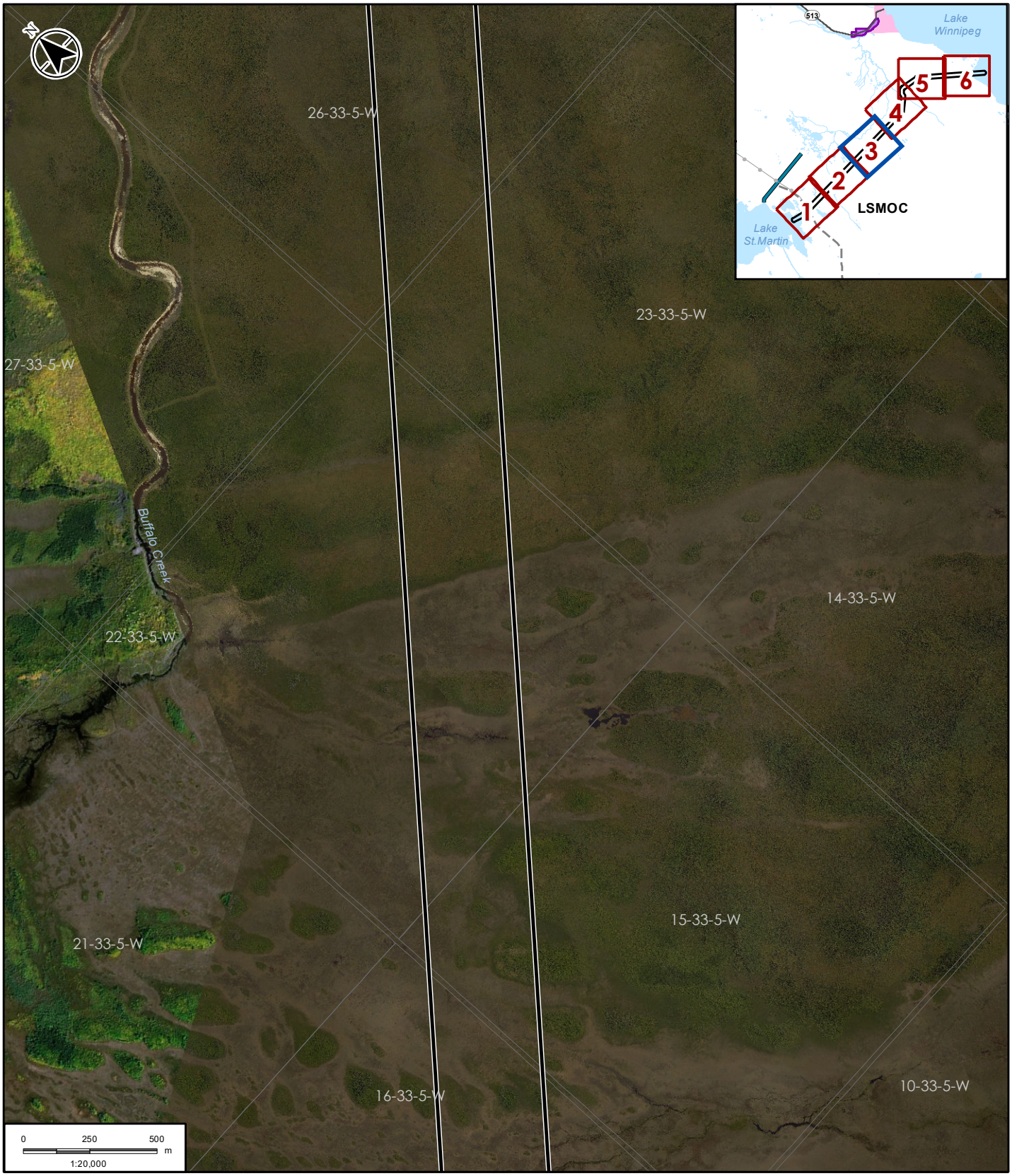
Lake Manitoba Outlet Channel PDA Map Index

Map 3C-2.2

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/16/2019 9:21:19 AM

G:\ GIS Project Folder\11475120\figures\Ch3 Project Description\MI EA LSMOC PDA Mapbook 20190816.mxd



Legend

Project Development Components

Lake Manitoba Outlet Channel (LMOC) Project Development Area (PDA)

Section Boundary

Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

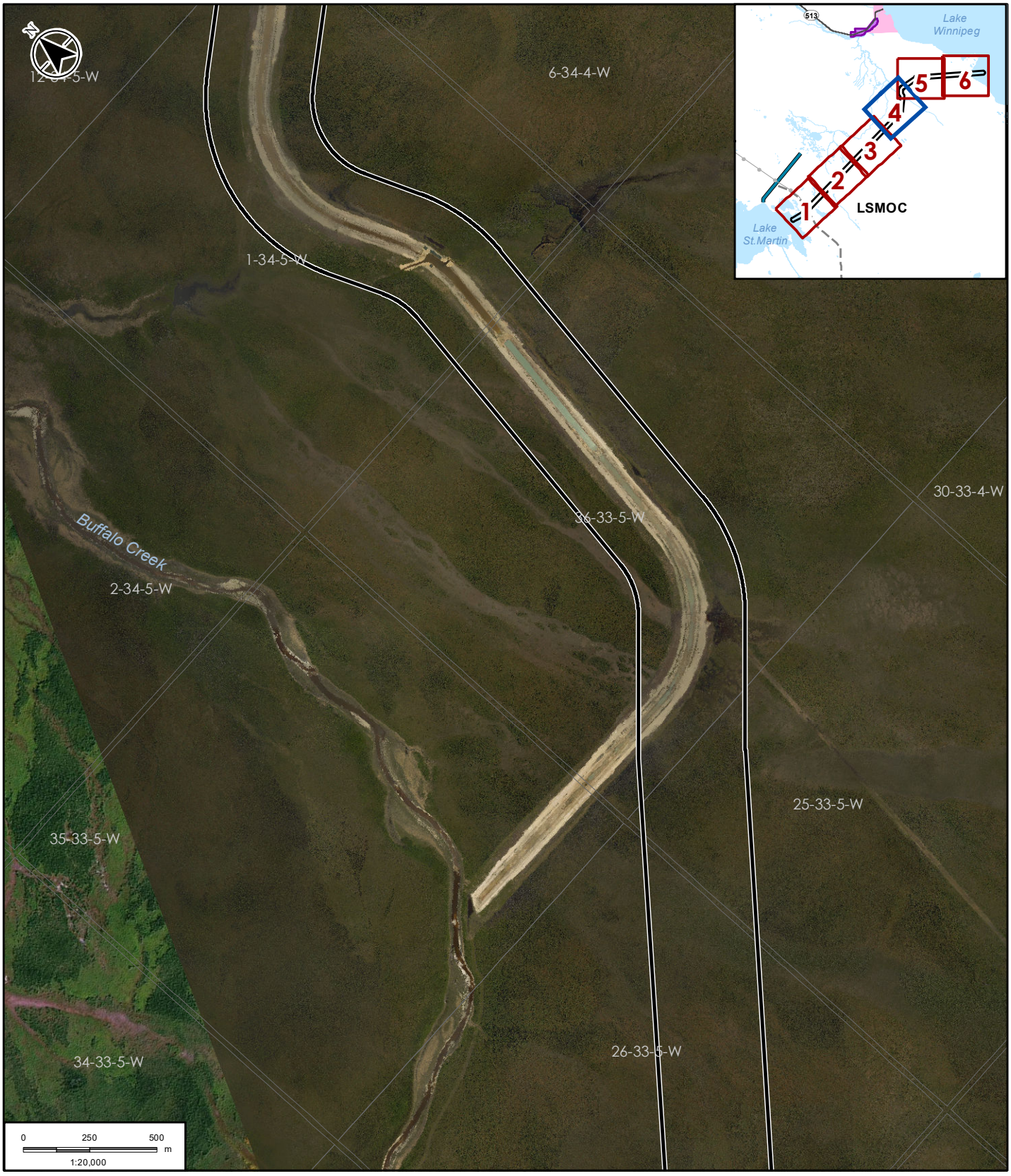
Lake Manitoba Outlet Channel PDA Map Index

Map 3C-2.3

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/16/2019 9:21:19 AM

G:\ GIS Project Folder\11475120\figures\Ch3 Project Description\MI EA LSMOC PDA Mapbook 20190816.mxd



Legend

Project Development Components

Lake Manitoba Outlet Channel (LMOC) Project Development Area (PDA)

Section Boundary

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/16/2019 9:21:19 AM

Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

Lake Manitoba Outlet Channel PDA Map Index

Map 3C-2.4

G:\ GIS Project Folder\11475120\figures\Ch3 Project Description\MI EA LSMOC PDA Mapbook 20190816.mxd



Legend

Project Development Components

Lake Manitoba Outlet Channel (LMOC) Project Development Area (PDA)

Section Boundary

Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

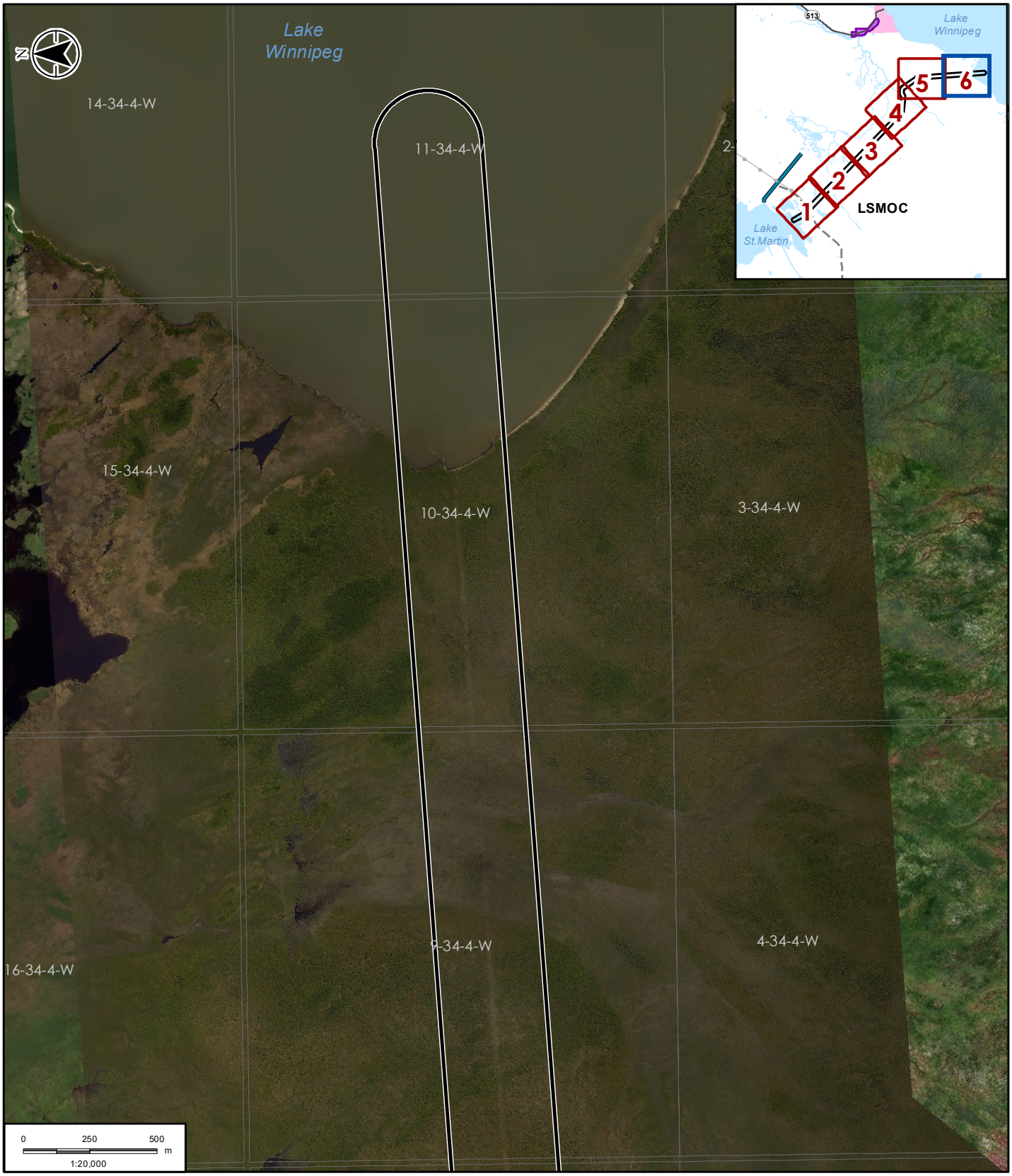
Lake Manitoba Outlet Channel PDA Map Index

Map 3C-2.5

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/16/2019 9:21:19 AM

G:\ GIS Project Folder\11475120\figures\Ch3 Project Description\MI EA LSMOC PDA Mapbook 20190816.mxd



Legend

Project Development Components

Lake Manitoba Outlet Channel (LMOC)
Project Development Area (PDA)

Section Boundary

Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

Lake Manitoba Outlet Channel
PDA Map Index

Map 3C-2.6

Notes
1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/16/2019 9:21:19 AM

G:\ GIS Project Folder\11475120\figures\Ch3 Project Description\MI EA LSMOC PDA Mapbook 20190816.mxd

Appendix 3D OPERATIONAL GUIDELINES

Manitoba

Memorandum

DATE: February 4th, 2019

TO: Eugene Kozera
Director
Hydrologic Forecasting & Water Management
Manitoba Infrastructure

FROM: Chris Propp, P.Eng.
Hydrologic Services Engineer
Hydrologic Operations
Manitoba Infrastructure

SUBJECT: Development of Operating Rules for Lake Manitoba and Lake St. Martin Outlet Channels with Recommended Revisions

This memorandum summarizes the recommendations made by the Lake Manitoba and Lake St. Martin Outlet Channels Operating Guidelines Technical Committee. The Committee was formed to develop the operating guidelines for the proposed Lake Manitoba and Lake St. Martin Outlet Channels in 2016. The Committee was composed of Chris Propp (MI), Eugene Kozera (MI), Ron Richardson (MI), Rick Bowering (MI), Eric Blais (AECOM), and Rick Carson (KGS). The proposed operating guidelines developed by the Committee for the Lake Manitoba and Lake St. Martin Outlet Channels are summarized in Appendix A.

At the onset of the project the Committee decided that the principles of Lake Manitoba and Lake St. Martin regulation laid out by the 2003 Lake Manitoba Regulation Review Advisory Committee and the 2013 Lake Manitoba, Lake St. Martin Regulation Review Committee would be used as the starting point for the development of the operating rules for the proposed Outlet Channels. The Committee agreed that the lake regulation ranges recommended by the 2003 and 2013 committees should not be changed and agreed with the recommendation to minimize outflow adjustments once the lakes are within their respective regulation ranges.

Included in this memo are recommended revisions to the operating guidelines based on further review of the hydrologic modelling and recent discussions with the Engineering Service Providers responsible for the preliminary design of the Outlet Channels. These revisions are highlighted in bold and are noted as revisions. The revisions to the operating guidelines have minimal impact to the hydrologic regime when compared to the impact of the guidelines developed in 2016.

Guidelines and Regulation Ranges Recommended by 2003 and 2013 Committees

The regulation ranges of 810.5 ft – 812.5 ft for Lake Manitoba and 797 ft – 800 ft for Lake St. Martin proposed by the 2003 review committee were accepted for the proposed operating guidelines. The Lake Manitoba regulation range was based on input from cottagers, residents, ranchers, and wildlife interests around Lake Manitoba. The residents and cottagers at Twin Lakes Beach and Delta Beach and the ranchers around the lake identified 811.5 ft as the desirable water level. Residents and cottagers north of Twin Lake and Delta Beach prefer a target range of 812.2 ft. Wildlife interests stated that the narrow range of regulation from 1961-2003 had degraded the marshland around the lake. They stated that a 3 feet fluctuation in lake level would likely restore the health of the marshes over time.

The regulation range and operating guidelines recommended by the 2003 committee for Lake

Manitoba were also intended to reduce negative impacts on Lake St. Martin. Attempts to maintain Lake Manitoba within a narrow range from 1961-2003 increased the frequency and severity of flood and drought periods on Lake St. Martin. First Nations communities around Lake St. Martin stated that the desirable range on Lake St. Martin is 797 ft – 800 ft and that the minimum flows in the Fairford and Dauphin Rivers should be 1100 cfs.

In response to the majority of the interested parties, the 2003 Committee recommended operating guidelines that would have Lake Manitoba water levels managed so that the levels at the high end of the range would be similar to those reached during the period of regulation and low water levels similar to those reached under natural conditions before regulation. The recommended guidelines would also reduce the wide fluctuations in flow and water level that had been transferred to downstream water bodies, which had created severe problems for First Nations, downstream wildlife, fisheries, and tourist operators.

The Lake Manitoba and Lake St. Martin regulation guidelines for the Fairford River Water Control Structure that were recommended by the 2003 Committee and later amended by the 2013 Committee are as follows:

a) The desired regulation range on Lake Manitoba is 812.5 ft to 810.5 ft. The desired regulation range on Lake St. Martin is 797.0 ft to 800.0 ft.

b) During recovery from flood conditions on Lake Manitoba, the Fairford River Water Control Structure is kept wide open until Lake Manitoba recedes to the middle of the desired regulation range after which it should be cut back to achieve normal (natural) outflow (50-60% capacity)

c) During recovery from drought, the Fairford River Water Control Structure is kept at 800 cfs until Lake Manitoba levels increase to middle of the desired regulation range after which point the structure will be operated to achieve normal outflow (50-60% capacity)

d) Under normal operating conditions, once outflow reaches normal, there are no further stop-log adjustments, as long as Lake Manitoba remains within the desired regulation range.

e) Any variances in the lake levels outside of the desired regulation range shall be shared between Lake Manitoba and Lake St. Martin insofar as this may be reasonably possible.

f) The minimum flow on the Fairford River should be 800 cfs with a desirable minimum flow of 1,000 cfs as often as possible.

These guidelines are the currently accepted operating guidelines for the Fairford River Water Control Structure.

Water Level Simulation

A Lake Manitoba/Lake St. Martin Water Balance Model developed in MS Excel by Mr. Rick Bowering was used to evaluate the impacts of the proposed operating guidelines for the outlet channels. Historical daily inflows to Lake Manitoba were estimated for a 103 year period (1915-2017) based on recorded flow and water level data, a stage-storage curve for Lake Manitoba, and precipitation and evaporation data from Environment Canada. The inflows were then routed through the model using the Continuity Equation to simulate levels and outflows on Lake Manitoba and Lake St. Martin for the period of 1915-2017 under different operating regimes.

The stage-discharge rating curves for the Outlet Channels in the model were taken from the KGS Assiniboine River & Lake Manitoba Basins Flood Mitigation Study finalized in 2016 (will be referred to as the ARLM study). It was also assumed that the fish ladder would be removed from the Fairford River Water Control Structure to increase outflow capacity.

The daily inflows form the Portage Diversion had to be simulated under the assumption of a consistent operating regime for the entire analysis period (1915-2017). It was assumed that the Portage Diversion would be operated according to the rules proposed in the Provincial Flood Control Infrastructure Review of Operating Guidelines Report - August 2015 (Appendix B) and that the capacity of the Assiniboine River dikes would be 18,000 cfs. The simulated flows were developed by applying the operating rules to historical daily Assiniboine River flows using algorithms to consider maximum allowable flow on the Assiniboine River, James Avenue water levels, volume of water to be diverted to Lake Manitoba, and Lake Manitoba forecasted peak water level. Manual adjustments were made in some years to capture how the province would actually operate in certain situations rather than rigidly applying the operating guidelines. Examples of this would be timing of operation for ice break-up and not operating if a target threshold is only going to be exceeded by a small amount.

Hydrographs showing simulated water levels and flows are attached in Appendix C.

Proposed Operating Guidelines

As stated previously, the guidelines developed by the 2003 and 2013 Committees for Lake Manitoba and Lake St. Martin regulation were used as the starting point for the development of the operating guidelines for the proposed Outlet Channels. Numerous iterations of operating regimes for the Outlet Channels were simulated to develop an optimal operating regime that would maximize flood protection while staying true to the principles laid out by the 2003 and 2013 review committees; namely, the desired regulation range, minimization of operations when within the desired regulation range, and maintaining a desired minimum flow on the Fairford River.

Consideration was also given to the impact of outlet channel operation during the winter on the stability of ice. Ice stability is an important factor for safe working conditions for the commercial fishery and for avoiding damage and scouring along the outlet channels.

The proposed operating guidelines are summarized in Appendix A. The following is a discussion of the rationale behind the proposed guidelines.

Fairford River Water Control Structure

The Technical Committee agreed that the current operating guidelines for the Fairford River Water Control Structure should not be changed. These operating guidelines were recommended by the 2003 Lake Manitoba Regulation Review Advisory Committee and the 2013 Lake Manitoba, Lake St. Martin Regulation Review Committee and are the result of extensive analyses and consultations.

Lake Manitoba Outlet Channel

1. *The Lake Manitoba Outlet Channel will be opened to maximum capacity when Lake Manitoba is above the top of the regulation range (812.5 ft),*

This operating guideline conforms with the principle of minimizing operations within the desired regulation range (810.5 ft – 812.5 ft)

2. ***The Lake Manitoba Outlet Channel may be opened pro-actively (when the water level is below 812.5 ft) if the water level on Lake Manitoba is forecasted to be above 813 ft in the same season (REV 1).***

REV 1 (2019-01-24) – This allows for pro-active operation for larger floods but also maintains the spirit of the operating guidelines recommended by the 2003 and 2013 Committees (i.e., water levels are generally maintained between 810.5 to 812.5 ft with the expectation that water levels will occasionally reach 810.0 ft or lower on the low side, and 813.0 ft or higher on the high side). Modelling of the 103 years with data indicated that Operating Guideline #2 has minimal impact on reducing the peak water level when compared to no pro-active operation (i.e., outlet only open when water level is above 812.5 ft). However, it will likely be widely supported over a reactive approach based on perceived effectiveness.

3. *The outflow from the Lake Manitoba Outlet Channel will be reduced when the water level on Lake Manitoba recedes to the middle of the regulation range (811.5 ft), so that the combined flow through the Fairford River Water Control Structure and in the Lake Manitoba Outlet Channel, insofar as practicable, matches the inflow into Lake Manitoba.*

This operating guideline is consistent with the Fairford River Water Control Structure operating guidelines with respect to the lake level of 811.5 ft. However, it differs in its requirement that the total lake outflow has to match total Inflows when at the middle of the regulation range. The initial version of this guideline specified that the Lake Manitoba Outlet Channel would be shut off when the Lake Manitoba water level receded below 811.5 ft; however, this created an undesirable effect in certain years where peak water levels from the Lake Manitoba Outlet Channel simulation were higher than the simulated peak water levels without the new Outlet Channel. This is because in some simulation years the operation of the Lake Manitoba Outlet Channel decreased the water level to the middle of the regulation range whereas lake regulation without the Lake Manitoba outlet channel would not have. Consequently, the Fairford River Water Control Structure is reduced to 60% capacity in the simulation with the Lake Manitoba Outlet Channel while the Fairford River Water Control Structure is left at 100% in the simulation without the Lake Manitoba Outlet Channel resulting in higher lake levels the following year in the simulation with the Lake Manitoba Outlet Channel.

Figure 1 shows peak level increases comparing the simulated peaks under the assumption that the Lake Manitoba Outlet is closed when the lake level reaches 811.5 ft, to the simulated peaks under the current operating regime. As shown in the figure, the effect of shutting off the Lake Manitoba Outlet Channel at 811.5 ft results in an increase in peak water level of 0.1 ft or more 19 times. Sixteen of the nineteen instances of peak increase result in levels above the regulation range (812.5 ft). Figure 2 highlights the effects of using the Lake Manitoba Outlet to match inflows into Lake Manitoba once Lake Manitoba reaches 811.5 ft. As can been seen, this adjustment to the operating regime reduces the number of times that peak water levels under the proposed operating regime is higher than 0.1 ft above the peak for the current operating regime from 19 to 4. In three of the four instances, the Lake Manitoba peak level is above 812.5 ft; however, the highest peak in these four instances is only 812.67 ft.

Figure 1

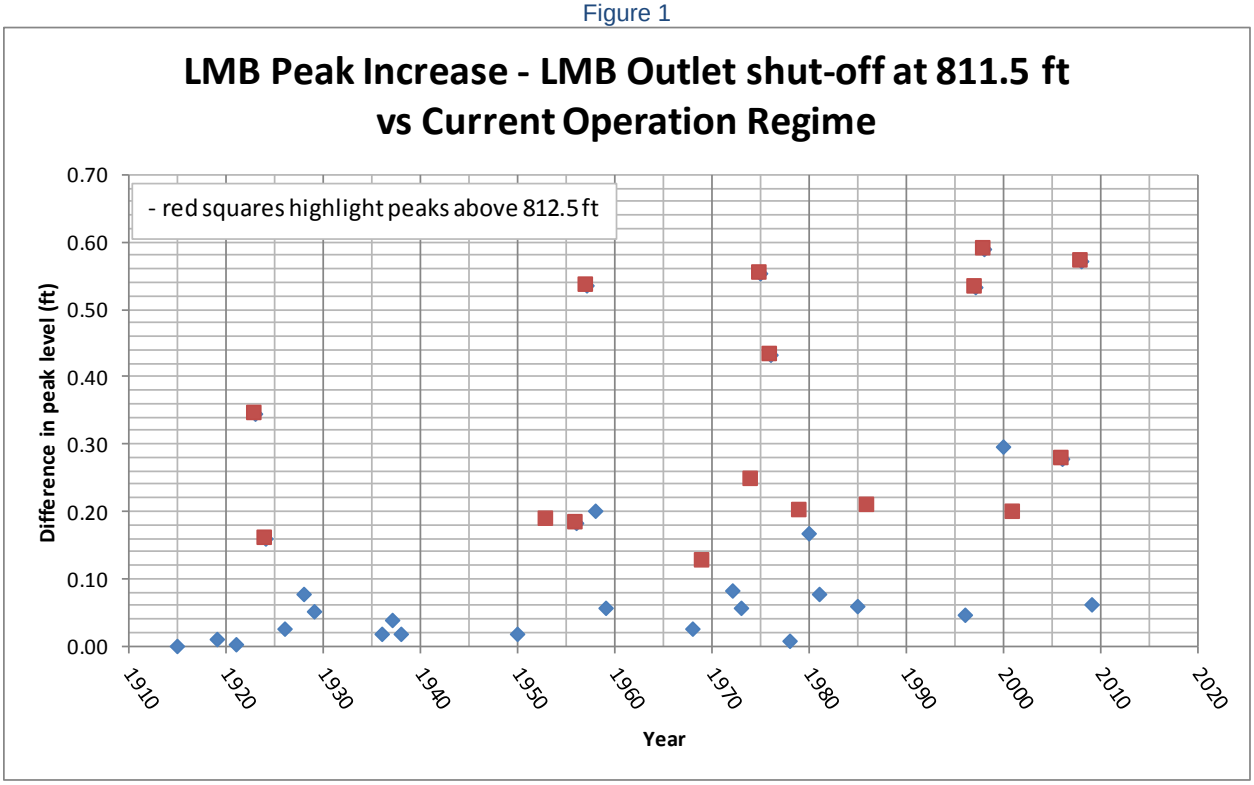
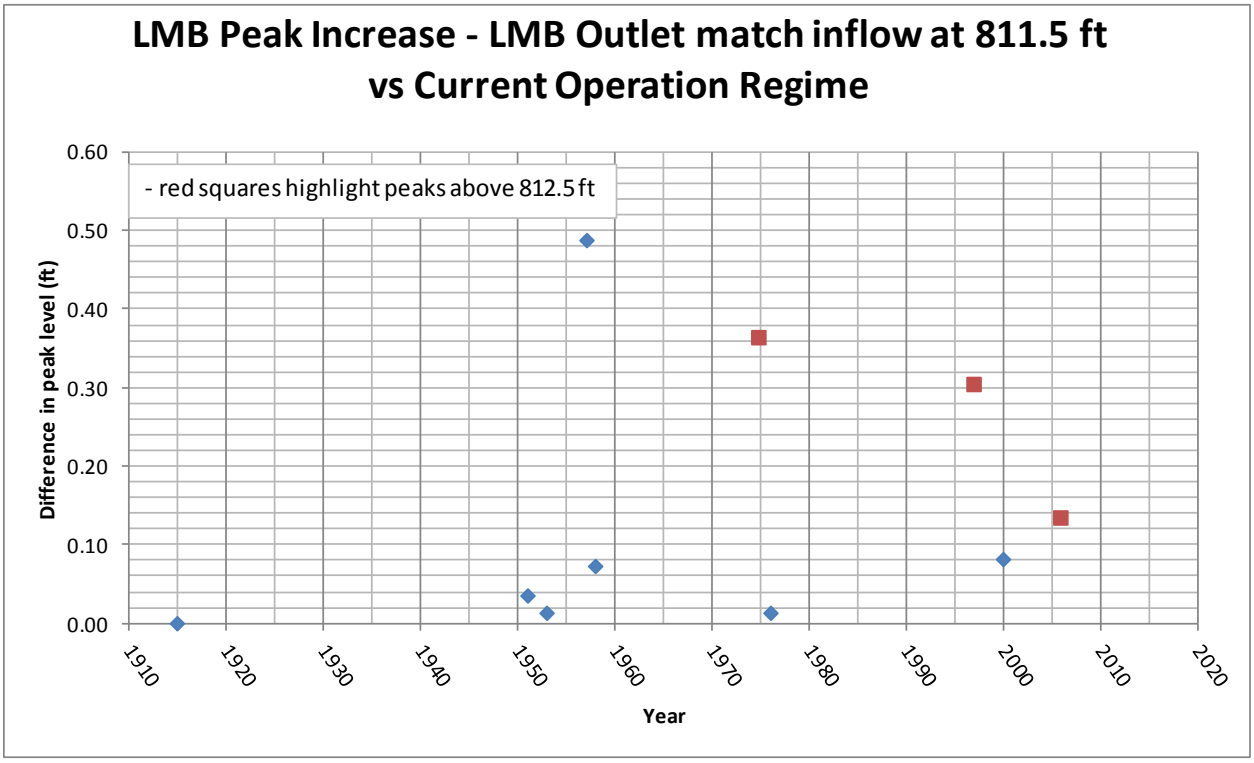


Figure 2



It should be noted that the implementation of proposed guideline #3 increases the number of operating days for the Lake Manitoba Outlet Channel by almost two-fold over the simulation

period when compared to simply shutting off the Lake Manitoba Outlet at the middle of the regulation range.

4. *The Lake Manitoba Outlet Channel will be closed once the Lake Manitoba water level recedes below 811.5 ft and the flow through the Fairford River Water Control Structure is greater than the total inflow into Lake Manitoba.* ***During Outlet Channel shutdown, consideration will be given to ensuring that the drawdown rate within the Outlet Channel does not compromise channel embankment stability (REV 1).***

The first part of this guideline is the extension of Guideline #3. **REV 1 (2019-02-07) – The second part of the guideline ensures that flow is not reduced too rapidly, in order to maintain embankment stability.**

5. *Initial operation of the outlet control structure will not be initiated during the period in which there is solid ice cover in the channel (typically from Dec 1 – April 30th**). However, operation may be considered if severe flooding is forecasted for the following spring (REV 1).***

This guideline was developed to prevent break-up of solid ice pans in the Lake Manitoba Outlet Channel during winter. The movement of ice pans could potentially result in scouring of the Outlet Channel banks and could cause ice stability issues on Lake St. Martin for the commercial ice fishermen. **REV 1 (2019-02-07) – Includes an exception for when severe flooding is forecasted.**

<u>Lake St. Martin Outlet Channel</u>

1. *The target regulation range for Lake St. Martin is 797-800 ft*

Consistent with the recommendations of the 2003 and 2013 Regulation Review Committees.

2. *The Lake St. Martin Outlet Channel will be operated to full capacity:*

    a. *when the Lake St. Martin water level rises above 800 ft*

    or

    b. *when the Lake Manitoba Outlet is opened for initial operation, Lake St. Martin is above 797 ft, and* ***Lake St. Martin is forecasted to go above 800 ft without operation of the Lake St. Martin Outlet Channel (REV 1).***

    Consideration may be given to opening the Lake St. Martin Outlet Channel to less than full capacity if Lake St. Martin is forecasted to go only slightly above 800 ft (REV1).

Part “a” of this guideline is consistent with the recommended regulation range. Part “b” of this guideline is required to avoid major water level spikes on Lake St. Martin as Lake St. Martin rises rapidly when the Lake Manitoba Outlet Channel is open. **REV 1 (2019-02-07) – Includes wording to ensure that the Outlet Channel is only open when Lake St. Martin is**

forecasted to go above 800 ft. Also provides some leeway for operating to less than full capacity should Lake St. Martin only go slightly above 800 ft.

3. *The outflow from the Lake St. Martin Outlet Channel will be reduced when the lake level decreases below 800 ft, to the greater of the following:*

    a. ***25% (REV 1)** of channel capacity,*

    b. *the outflow required to ensure the combined flows in the Dauphin River and the Lake St. Martin Outlet Channel matches the total inflow into Lake St. Martin*

This guideline is in line with Guideline #2 for the Lake Manitoba Outlet Channel and allows for more stability in Lake St. Martin water levels when within regulation range. **REV 1 (2019-02-07) – The original minimum channel capacity setting was set to 50% by the Technical Committee. It is recommended that this be reduced to 25% as the 50% minimum results in drawing down the lake too quickly.**

4. ***The flow in the Lake St. Martin Outlet Channel will be further reduced when the water level on Lake St. Martin recedes below 798 ft, so that the combined flows in the Dauphin River and in the Lake St. Martin Outlet Channel, insofar as practicable, matches the inflow into Lake St. Martin (REV 1)***

REV 1 (2019-01-02) – It is recommended that this guideline be included to eliminate rapid water level rises that were observed to occur upon closure of the Lake St. Martin Outlet Channel in some of the simulation years.

5. *The Lake St. Martin Outlet Channel will be closed fully when Lake St. Martin drops below 798 ft **and the outflow from the Dauphin River is equal to or greater than the total inflow into Lake St. Martin from the (REV 1)** during the period from when ice cover has cleared out of the channel in the spring to October 31st. **During channel shutdown consideration will be given to ensuring that the drawdown rate within the Outlet Channel does not compromise channel embankment stability (REV 1).***

Setting the shut-off trigger below 797 ft was considered; however, it caused the lake to drop below 797 ft (lower than the desired regulation range) in too many years. **REV 1 (2019-02-07) – The additional clause of waiting until outflows to Dauphin River match inflows is recommended to conform with Lake St. Martin Channel guideline #4. The second part of the guideline ensures that flow is not cut back too rapidly for embankment stability.**

6. *If the Lake Manitoba Outlet is in operation in November, the Lake St. Martin Outlet Channel should be operated throughout the winter so that the combined flows in the Dauphin River and in the Lake St. Martin Outlet Channel, insofar as practicable, matches the inflow into Lake St. Martin.*

This guideline is intended to maintain a stable water level on Lake St. Martin over the winter to promote ice stability for the commercial fishery. Shutting down the Lake St. Martin Outlet

Channel over winter results in a rapid increase in water levels on Lake St. Martin when the Lake Manitoba Outlet Channel is still in operation.

7. *Notwithstanding the above guidelines, the Lake St. Martin Outlet Channel will be operated during the spring freshet if the Lake Manitoba Outlet Channel has been in operation over the winter and will continue to be operated into the spring, so that the combined flows in the Dauphin River and the Lake St. Martin Outlet Channel, insofar as practicable, matches the inflow into Lake St. Martin.*

This guideline captures the transition from winter to spring in situations where Lake St. Martin Outlet Channel was not in operation during the winter but the Lake Manitoba Outlet Channel was in operation. Waiting for Lake St. Martin to rise to 800 ft before opening the outlet channel in this situation causes a very rapid spike in Lake St. Martin.

8. *Initial operation of the outlet control structure will not be initiated during the period in which there is solid ice cover in the channel (typically from Dec 1 – April 30th). However, operation* ***may be considered if severe flooding is forecasted for the following spring (REV 1).***

This guideline was developed to prevent break-up of solid ice pans in the Lake St. Martin Outlet Channel during winter. The movement of ice pans could potentially result in scouring of the Outlet Channel banks and could cause ice stability issues on Lake Winnipeg for the commercial ice fishermen. **REV 1 (2019-02-07) – Includes an exception for when severe flooding is forecasted.**

It is assumed that Lake Manitoba and Lake St. Martin Outlet Channel gate settings will be adjusted when required on a weekly or biweekly basis rather than on a daily basis. This means that gate settings made to match inflows and outflows may not perfectly balance inflows and outflows for the whole period between gate operations.

<Original signed by>

Chris Propp, P.Eng.

Cc: E. Kozera
C. Fourie
C. Baljko
P. Johnston

Appendix A:

Proposed Lake Manitoba and Lake St. Martin Operating Guidelines

Lake Manitoba and Lake St. Martin Outlet Operating Guidelines

Any variances in the lake levels outside of the target regulation ranges specified below shall be shared between Lake Manitoba and Lake St. Martin insofar as this may be reasonably practicable.

It is assumed that Lake Manitoba and Lake St. Martin Outlet Channel gate settings will be adjusted when required on a weekly or biweekly basis rather than on a daily basis. This means that gate settings made to match inflows and outflows may not perfectly balance inflows and outflows for the whole period between gate operations.

Lake Manitoba

Fairford River Water Control Structure

1. The target regulation range on Lake Manitoba is 812.5 ft to 810.5 ft.
2. During recovery from flood conditions on Lake Manitoba, the Fairford River Water Control Structure is kept wide open until Lake Manitoba recedes to the middle of the range after which is should be cut back to a normal setting (50-60% capacity).
3. During recovery from drought, the Fairford River Water Control Structure is kept at 800 cfs until Lake Manitoba levels increase to middle of the range after which point the structure will be operated to achieve normal outflow (50-60% capacity).
4. Under normal operating conditions, once outflow reaches normal, there are no further stop-log adjustments, as long as Lake Manitoba remains within the range.
5. The minimum flow on the Fairford River should be 800 cfs with a desirable flow of 1,000 cfs as often as practicable.

Lake Manitoba Outlet Channel

1. The Lake Manitoba Outlet Channel will be opened to maximum capacity when Lake Manitoba is above the top of the regulation range (812.5 ft*),*
2. **The Lake Manitoba Outlet Channel may be opened pro-actively (when the water level is below 812.5 ft) if the water level on Lake Manitoba is forecasted to be above 813 ft in the same season (REV 1).**
3. The outflow from the Lake Manitoba Outlet Channel will be reduced when the water level on Lake Manitoba recedes to the middle of the regulation range (811.5 ft), so that the combined flow through the Fairford River Water Control Structure and in the Lake Manitoba Outlet Channel, insofar as practicable, matches the inflow into Lake Manitoba.

4. The Lake Manitoba Outlet Channel will be closed once the Lake Manitoba water level recedes below 811.5 ft and the flow through the Fairford River Water Control Structure is greater than the total inflow into Lake Manitoba. **During Outlet Channel shutdown, consideration will be given to ensuring that the drawdown rate within the Outlet Channel does not compromise channel embankment stability (REV 1).**
5. Initial operation of the outlet control structure will not be initiated during the period in which there is solid ice cover in the channel (typically from Dec 1 – April 30th). **However, operation may be considered if severe flooding is forecasted for the following spring (REV 1).**

Lake St. Martin

Lake St. Martin Outlet Channel

1. The target regulation range for Lake St. Martin is 797-800 ft
2. The Lake St. Martin Outlet Channel will be operated to full capacity:
   a. when the Lake St. Martin water level rises above 800 ft

      or

   b. when the Lake Manitoba Outlet is opened for initial operation, Lake St. Martin is above 797 ft, and **Lake St. Martin is forecasted to go above 800 ft without operation of the Lake St. Martin Outlet Channel (REV 1).**

   Consideration may be given to opening the Lake St. Martin Outlet Channel to less than full capacity if Lake St. Martin is forecasted to go only slightly above 800 ft (REV1).

3. The outflow from the Lake St. Martin Outlet Channel will be reduced when the lake level decreases below 800 ft, to the greater of the following:
   a. **25% (REV 1)** of channel capacity,
   b. the outflow required to ensure the combined flows in the Dauphin River and the Lake St. Martin Outlet Channel matches the total inflow into Lake St. Martin
4. **The flow in the Lake St. Martin Outlet Channel will be further reduced when the water level on Lake St. Martin recedes below 798 ft, so that the combined flows in the Dauphin River and in the Lake St. Martin Outlet Channel, insofar as practicable, matches the inflow into Lake St. Martin (REV 1)**

5. The Lake St. Martin Outlet Channel will be closed fully when Lake St. Martin drops below 798 ft **and the outflow from the Dauphin River is equal to or greater than the total inflow into Lake St. Martin from the (REV 1)** during the period from when ice cover has cleared out of the channel in the spring to October 31st. **During channel shutdown consideration will be given to ensuring that the drawdown rate within the Outlet Channel does not compromise channel embankment stability (REV 1).**
6. If the Lake Manitoba Outlet is in operation in November, the Lake St. Martin Outlet Channel should be operated throughout the winter so that the combined flows in the Dauphin River and in the Lake St. Martin Outlet Channel, insofar as practicable, matches the inflow into Lake St. Martin.
7. Notwithstanding the above guidelines, the Lake St. Martin Outlet Channel will be operated during the spring freshet if the Lake Manitoba Outlet Channel has been in operation over the winter and will continue to be operated into the spring, so that the combined flows in the Dauphin River and the Lake St. Martin Outlet Channel, insofar as practicable, matches the inflow into Lake St. Martin.
8. Initial operation of the outlet control structure will not be initiated during the period in which there is solid ice cover in the channel (typically from Dec 1 – April 30th). However, operation **may be considered if severe flooding is forecasted for the following spring (REV 1).**

Appendix B:

Portage Diversion Operation Guidelines Recommended by Provincial Flood Control Infrastructure Review Panel (2015)

Portage Diversion Operation Guidelines Recommended by Provincial Flood Control Infrastructure Review Panel (2015)

Pre-Spring Break-up Operation

1. While there is ice on the Assiniboine River downstream of Portage la Prairie, it is desirable tolimit flows to approximately 5,000 cfs in the river if there is a potential for ice jamming.
2. During the period that there is ice on the reservoir, the water level of the reservoir must not be allowed to exceed 865.0 feet to provide room for releases from breaching of upstream ice jams.
3. If flow forecasts indicate that the Portage Diversion will likely be put into operation, the Diversion should be put into use as soon as practical to flush out snow blockages and in-situ ice.

Spring Run-off Operation

4. During the spring run-off, after the ice has gone from the Assiniboine River downstream of Portage la Prairie:
    a. if the Lake Manitoba level is forecast to peak below 813 feet, maintain a maximum flow in the lower Assiniboine River of 10,000 cfs, reduced as necessary to keep the river level in Winnipeg below 19 feet James Avenue Datum if possible. Even when there is no risk of flooding on Lake Manitoba maintain a target flow of 10,000 cfs in the lower Assiniboine River to minimize the environmental impact of diversion flows on Lake Manitoba.
    b. if the Lake Manitoba level is forecast to peak above 813 feet, and the projected volume of water from the Portage Diversion into Lake Manitoba will be less than 590,000 ac-ft, maintain a flow in the lower Assiniboine River of 12,000 cfs, reduced as necessary to keep the river level in Winnipeg below 20 feet James Avenue Datum.
    c. if the Lake Manitoba level is forecast to peak above 813 feet, and the projected volume of water from the Portage Diversion into Lake Manitoba will be greater than 590,000 ac-ft, increase flows on the Assiniboine River above 12,000 cfs so as to balance impacts between the Lower Assiniboine River and Lake Manitoba, reduced as necessary to keep the river level in Winnipeg below 21 feet James Avenue Datum.

Growing Season Operation

5. On or after May 25th, if Lake Manitoba levels are below 813 feet the lower Assiniboine flow may be limited to 10,000 cfs if the forecast indicates that Lake Manitoba will not go above 813 feet or that the projected volume of water from the Portage Diversion (from May 25th on) will be less than 236,000 ac-ft. Otherwise operate the Portage Diversion so as to balance impacts between the lower Assiniboine River and Lake Manitoba.

6. In years that the spring thaw occurs early (ice clear from the Lower Assiniboine River prior to April 15), flows on the Assiniboine River can be limited to 10,000 cfs at an earlier date than May 25th, conditional on guideline 5.

General

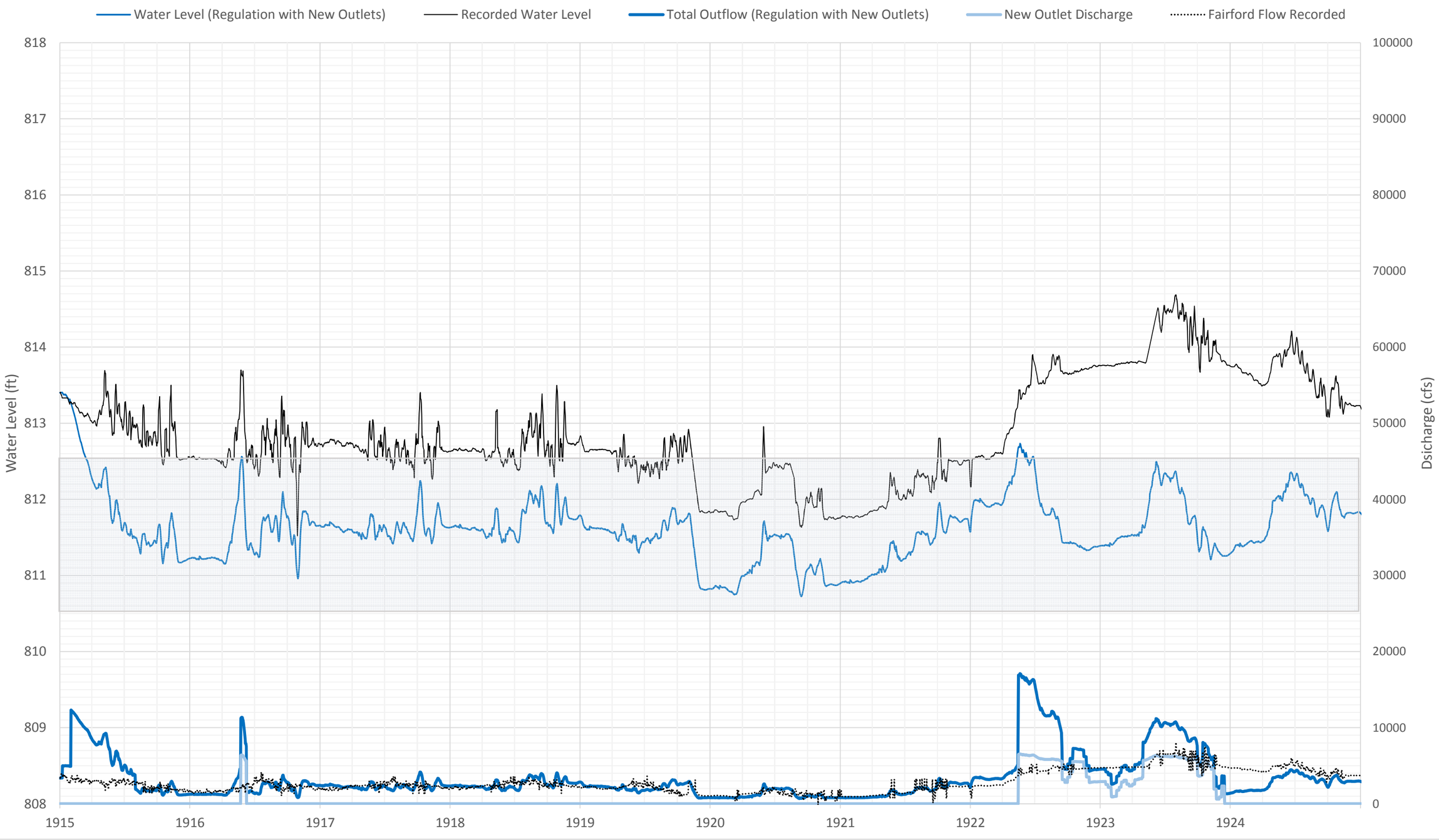
7. The conduit of the spillway structure should be closed while there is water going over thebascule gates.

There may be circumstances in which adhering to the guidelines is determined to be impractical or unbeneficial. In such circumstances the Province shall provide a timely explanation for deviating from the guidelines.

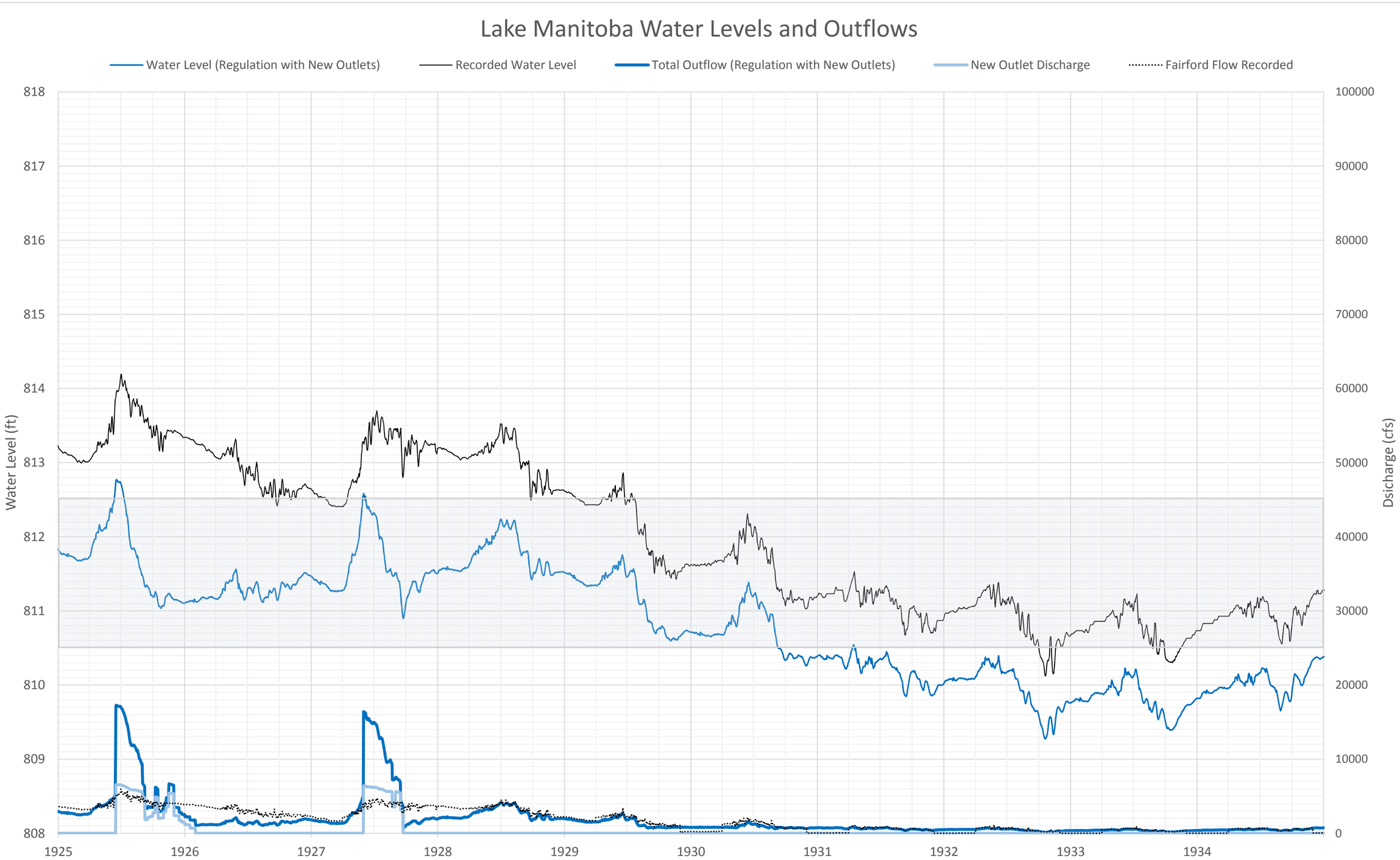
Appendix C:

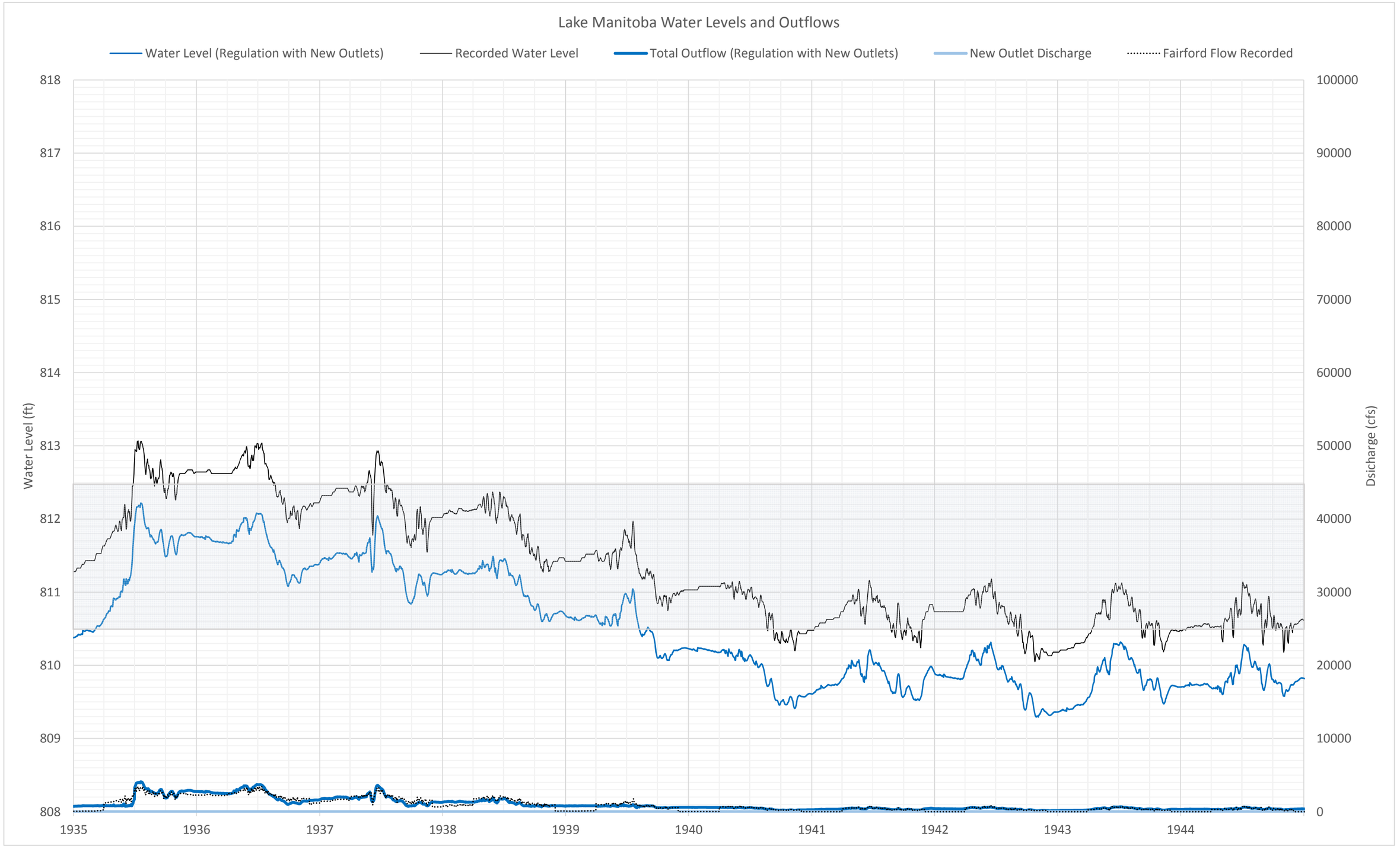
Simulated Hydrographs for Lake Manitoba and Lake St. Martin

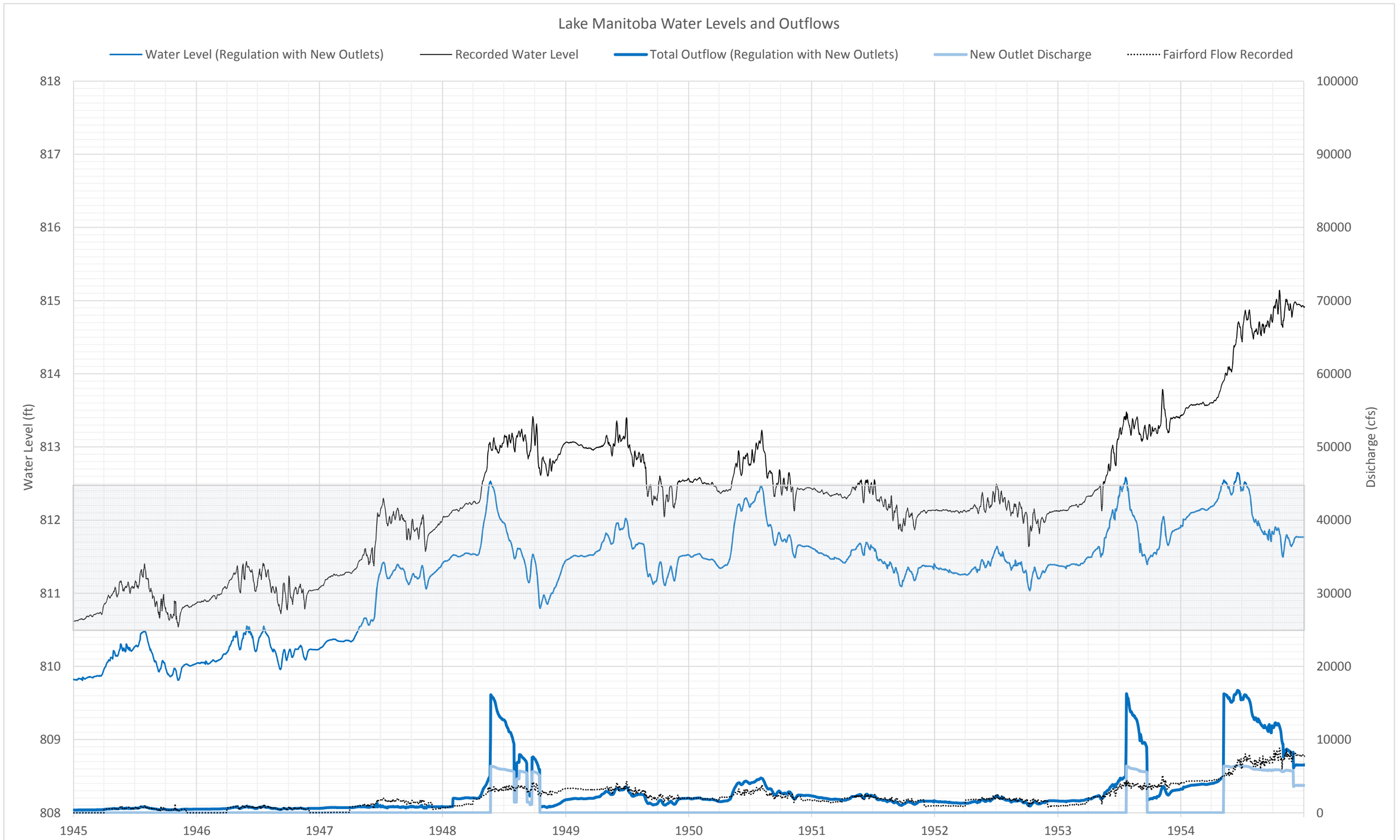
Lake Manitoba Water Levels and Outflows

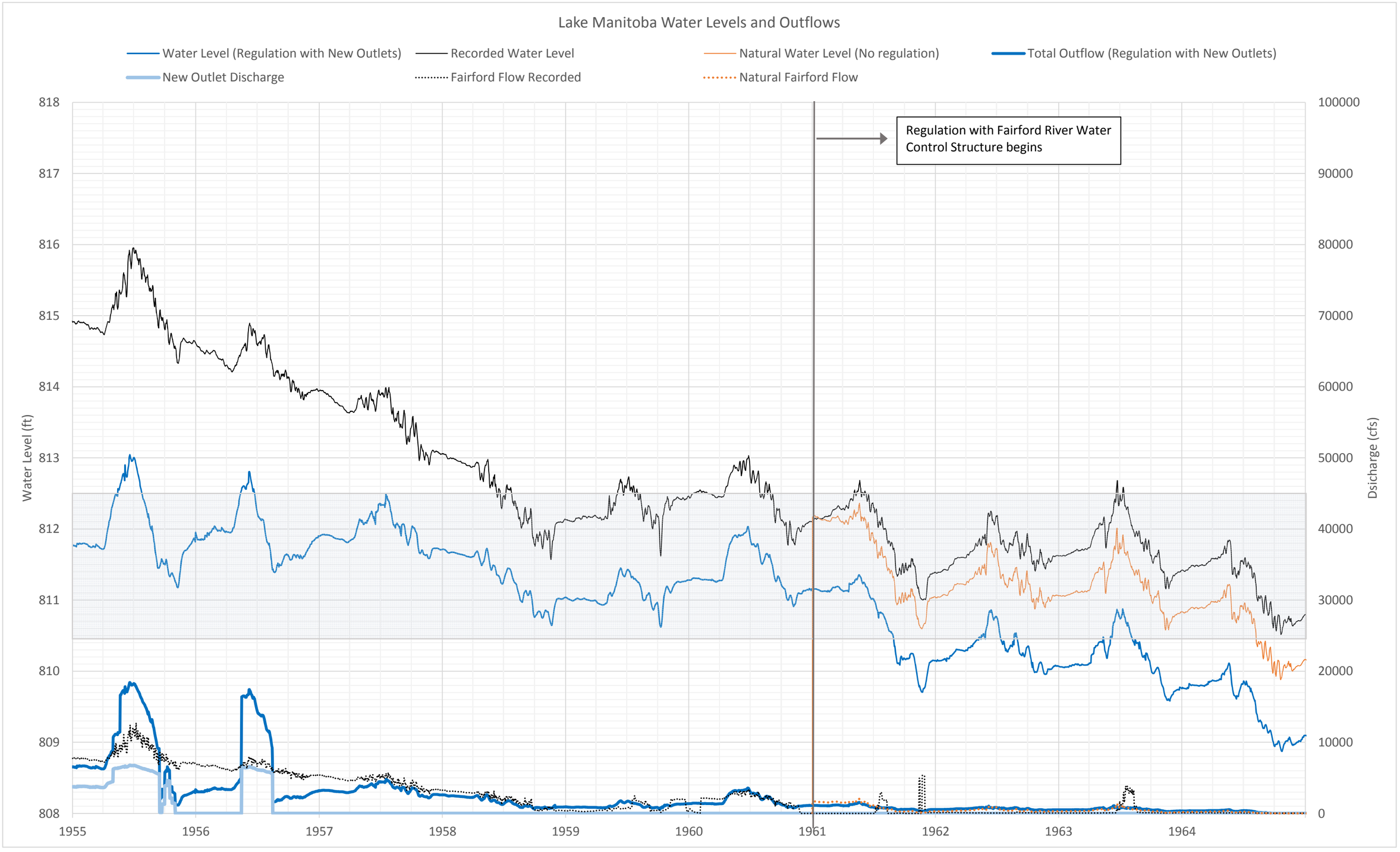


Lake Manitoba Water Levels and Outflows

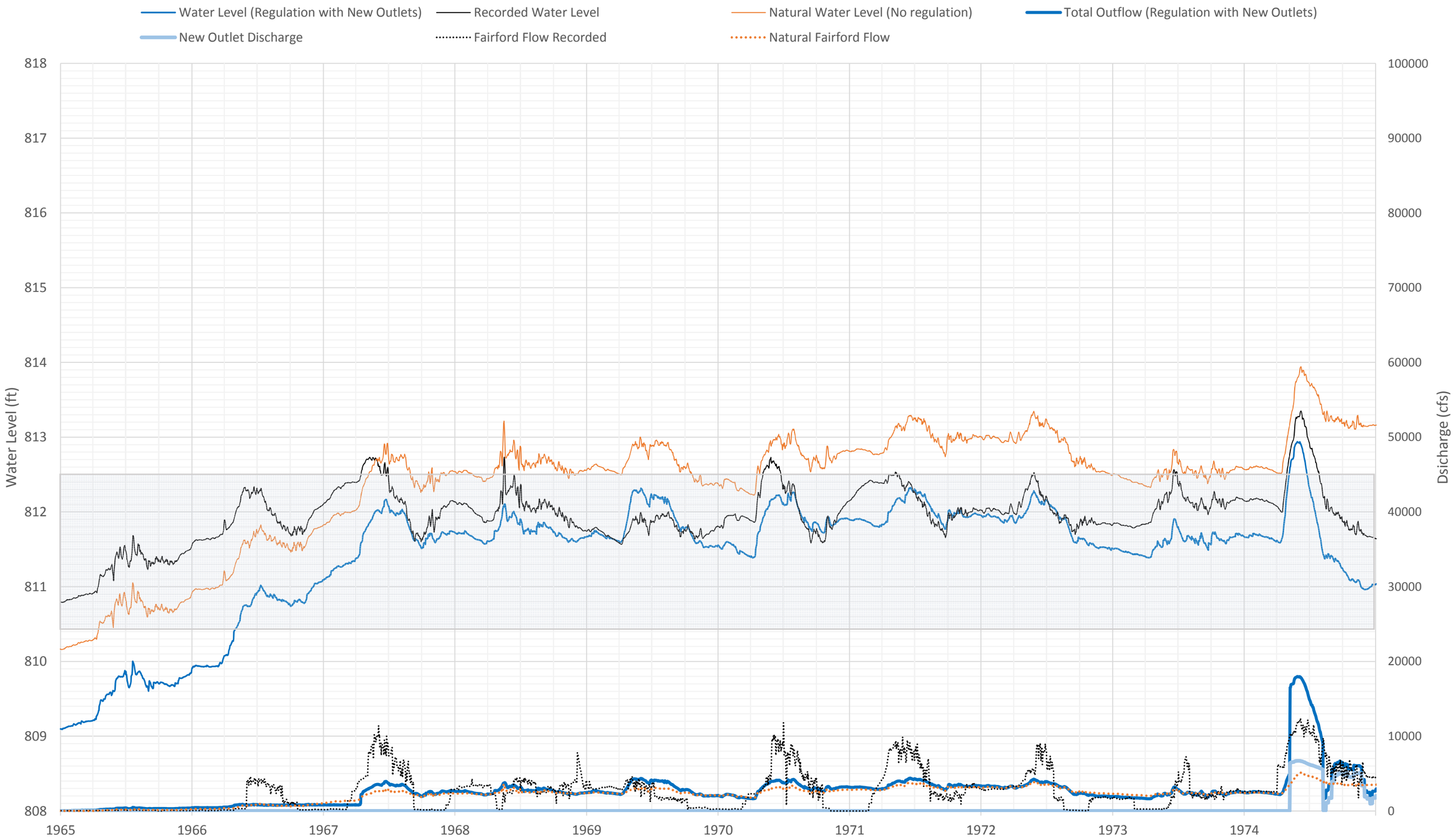



Lake Manitoba Water Levels and Outflows
Water Level (Regulation with New Outlets)
Recorded Water Level
Total Outflow (Regulation with New Outlets)
New Outlet Discharge
Fairford Flow Recorded
Water Level (ft)
Dsicharge (cfs)
818
817
816
815
814
813
812
811
810
809
808
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
1935
1936
1937
1938
1939
1940
1941
1942
1943
1944

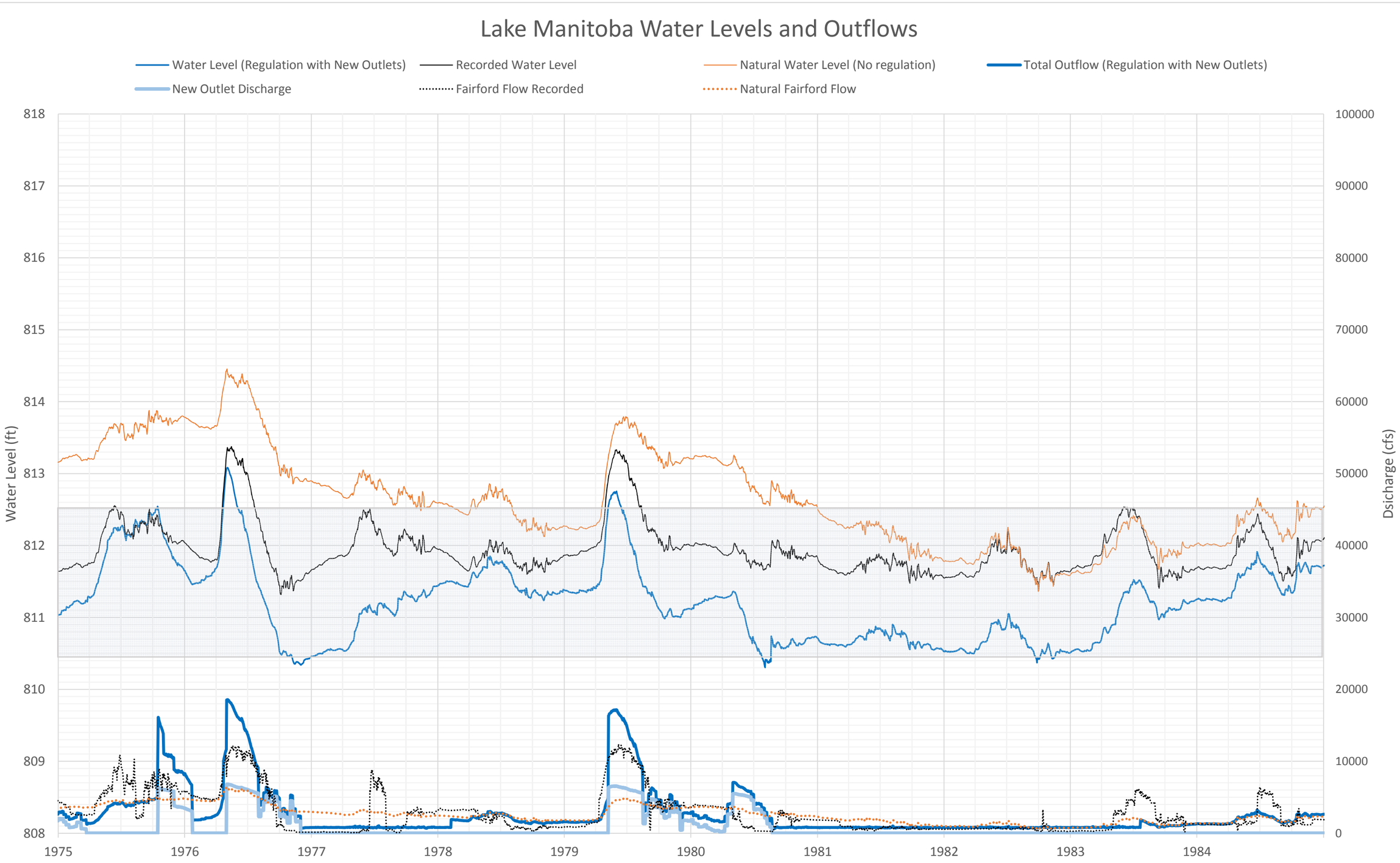

Lake Manitoba Water Levels and Outflows
Water Level (Regulation with New Outlets)
Recorded Water Level
Total Outflow (Regulation with New Outlets)
New Outlet Discharge
Fairford Flow Recorded
Water Level (ft)
Dsicharge (cfs)
818
817
816
815
814
813
812
811
810
809
808
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
1945
1946
1947
1948
1949
1950
1951
1952
1953
1954


Lake Manitoba Water Levels and Outflows
Water Level (Regulation with New Outlets)
Recorded Water Level
Natural Water Level (No regulation)
Total Outflow (Regulation with New Outlets)
New Outlet Discharge
Fairford Flow Recorded
Natural Fairford Flow
Regulation with Fairford River Water Control Structure begins
Water Level (ft)
Dsicharge (cfs)
818
817
816
815
814
813
812
811
810
809
808
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
1955
1956
1957
1958
1959
1960
1961
1962
1963
1964

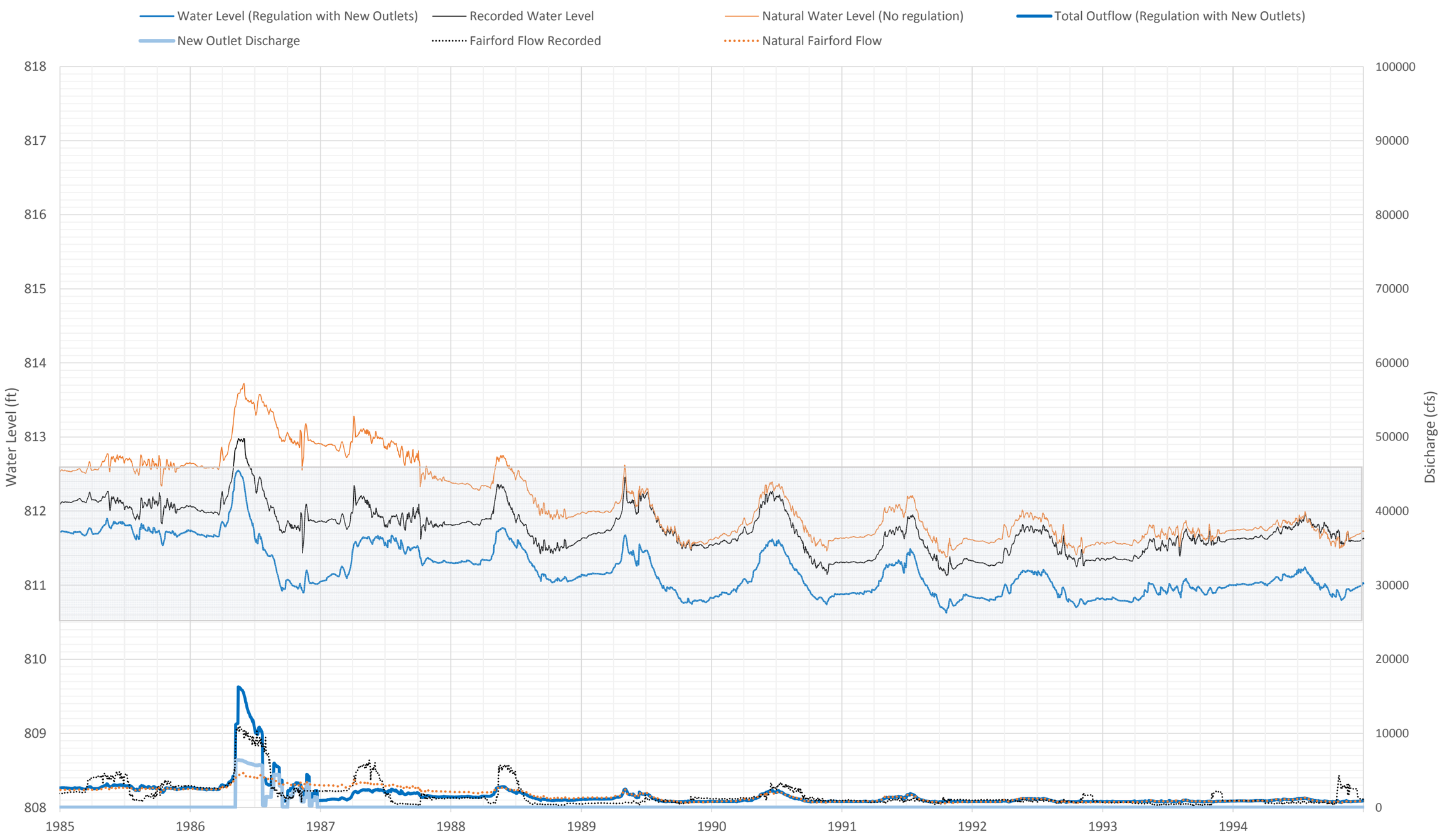
Lake Manitoba Water Levels and Outflows



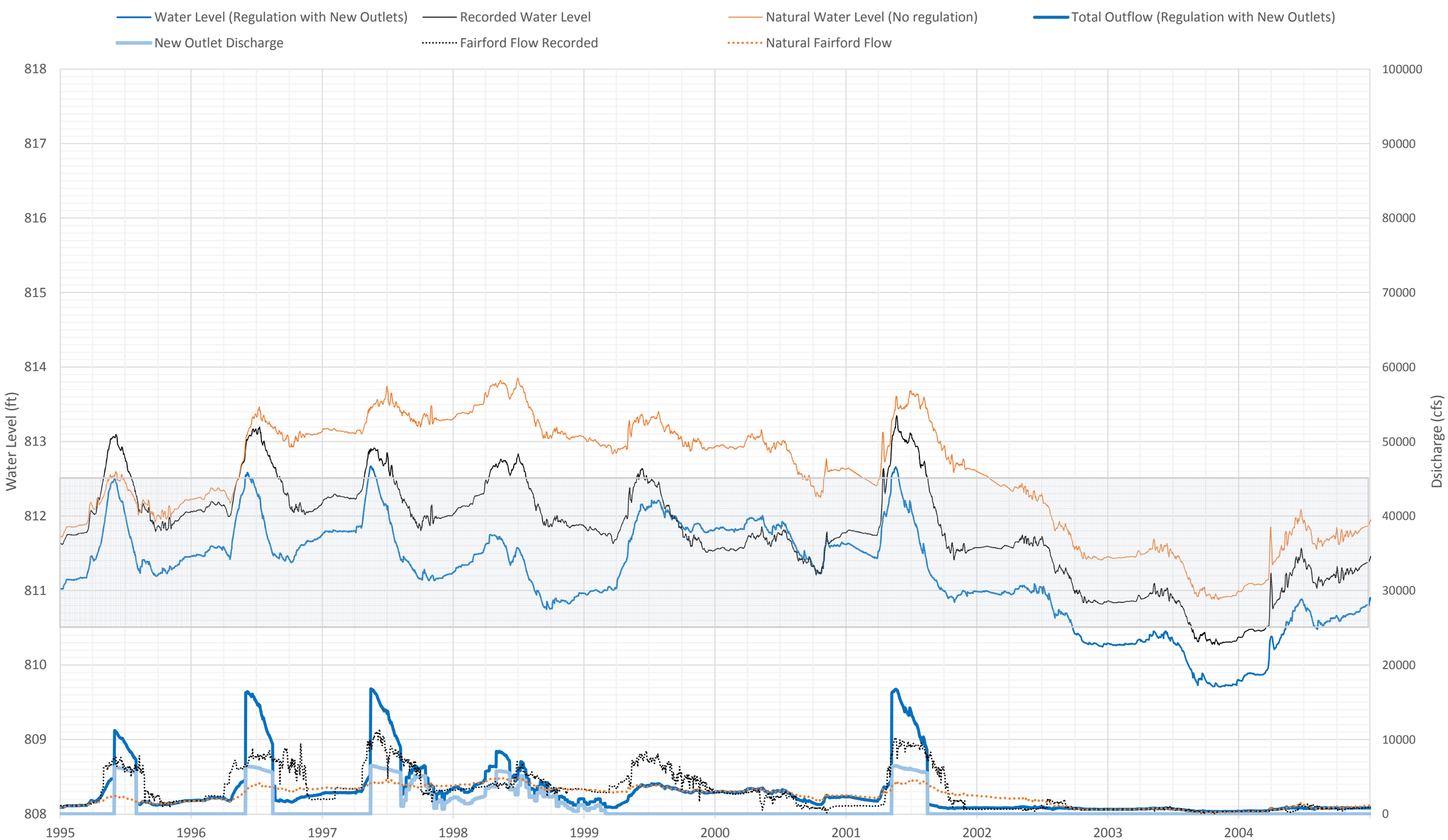
Lake Manitoba Water Levels and Outflows



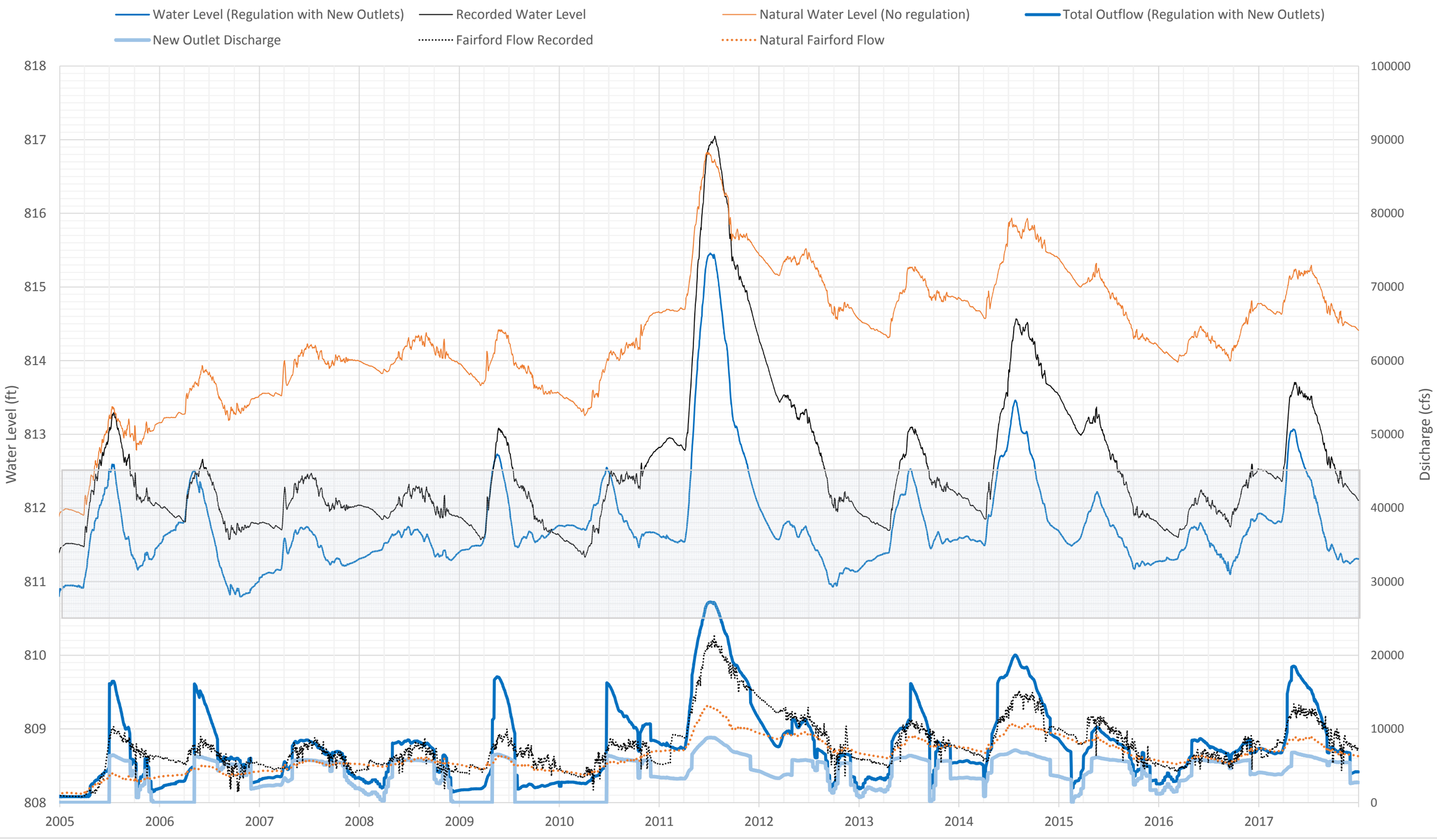
Lake Manitoba Water Levels and Outflows



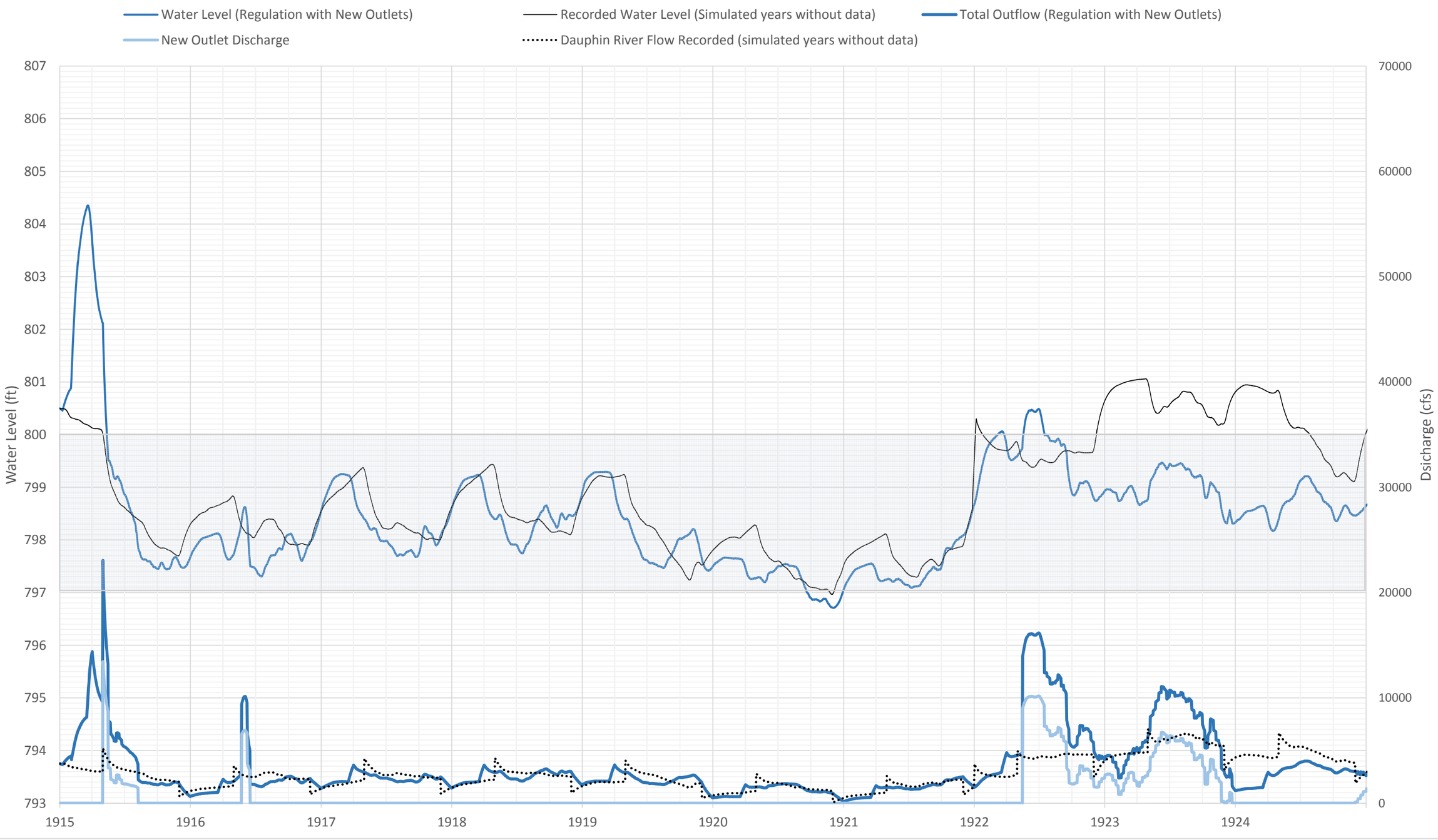
Lake Manitoba Water Levels and Outflows



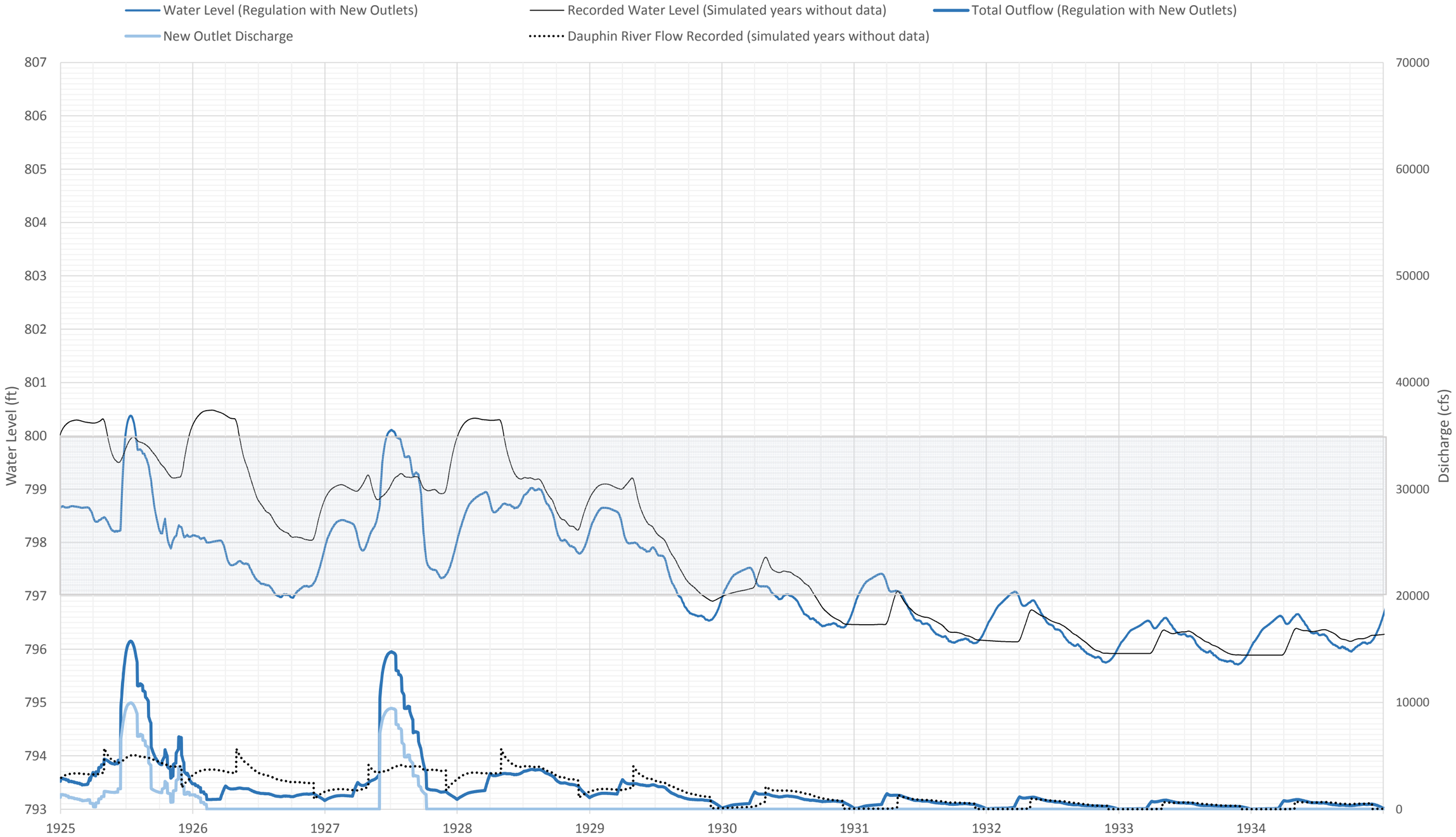
Lake Manitoba Water Levels and Outflows



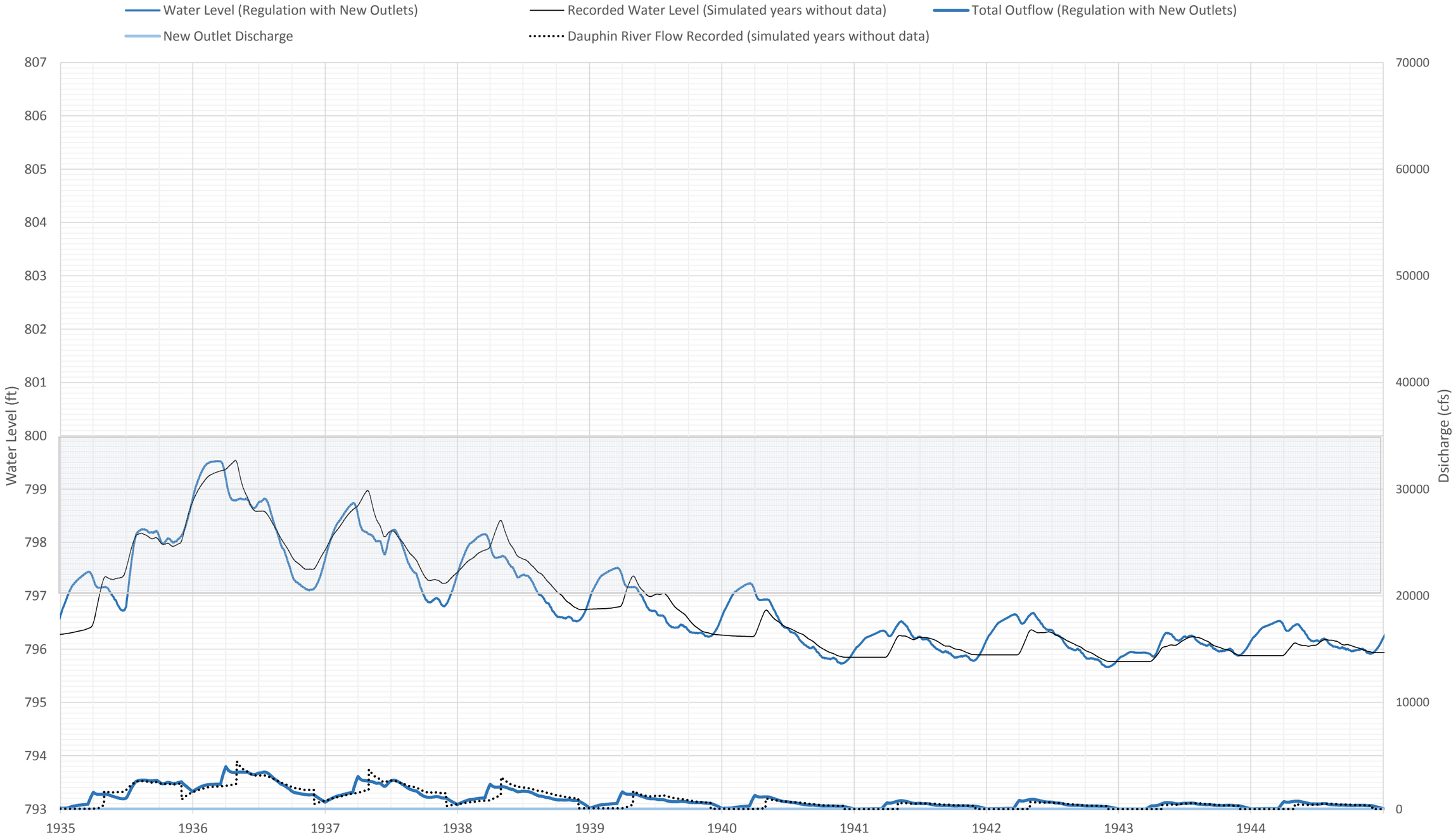
Lake St. Martin Water Levels and Outflows



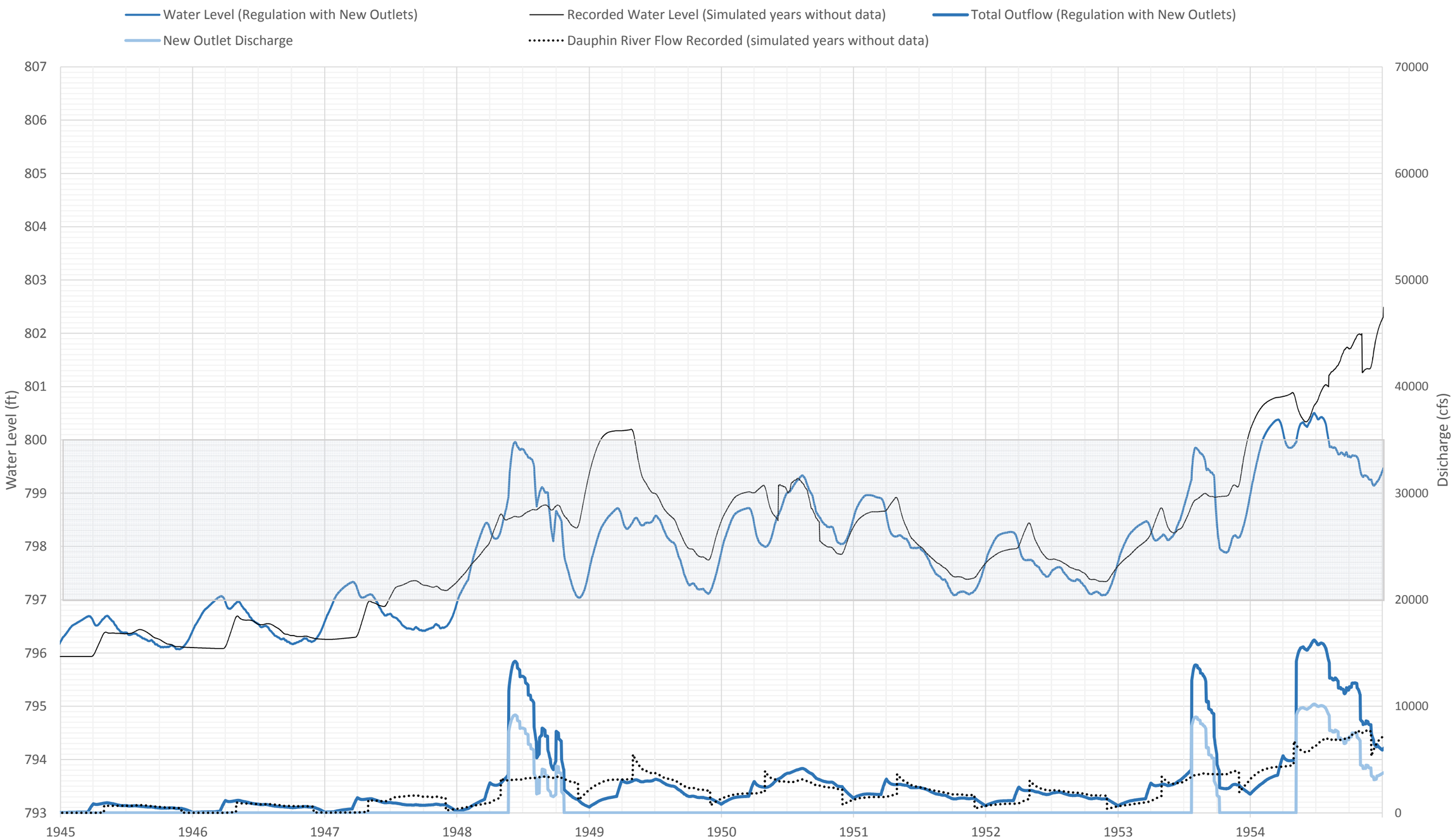
Lake St. Martin Water Levels and Outflows

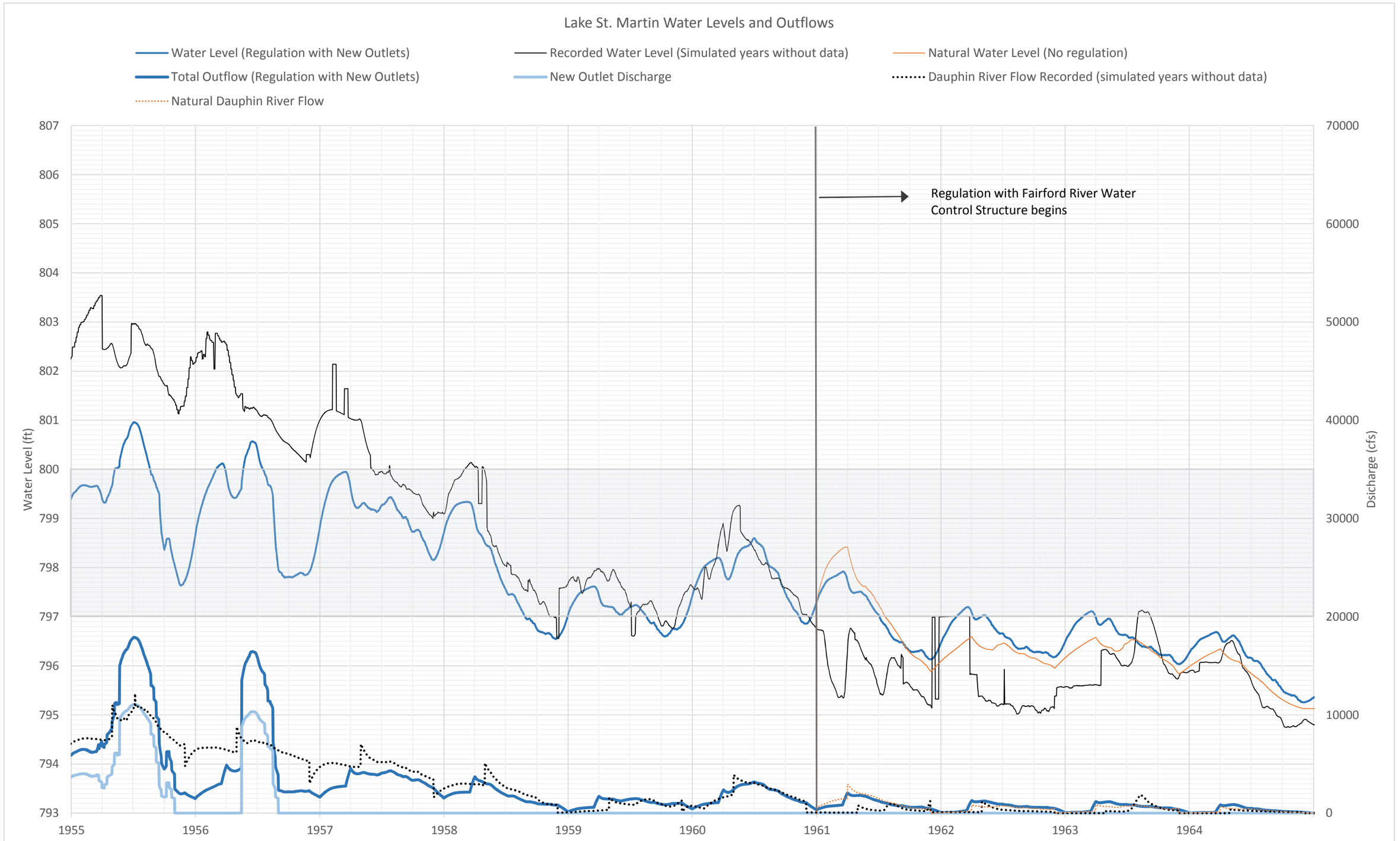


Lake St. Martin Water Levels and Outflows

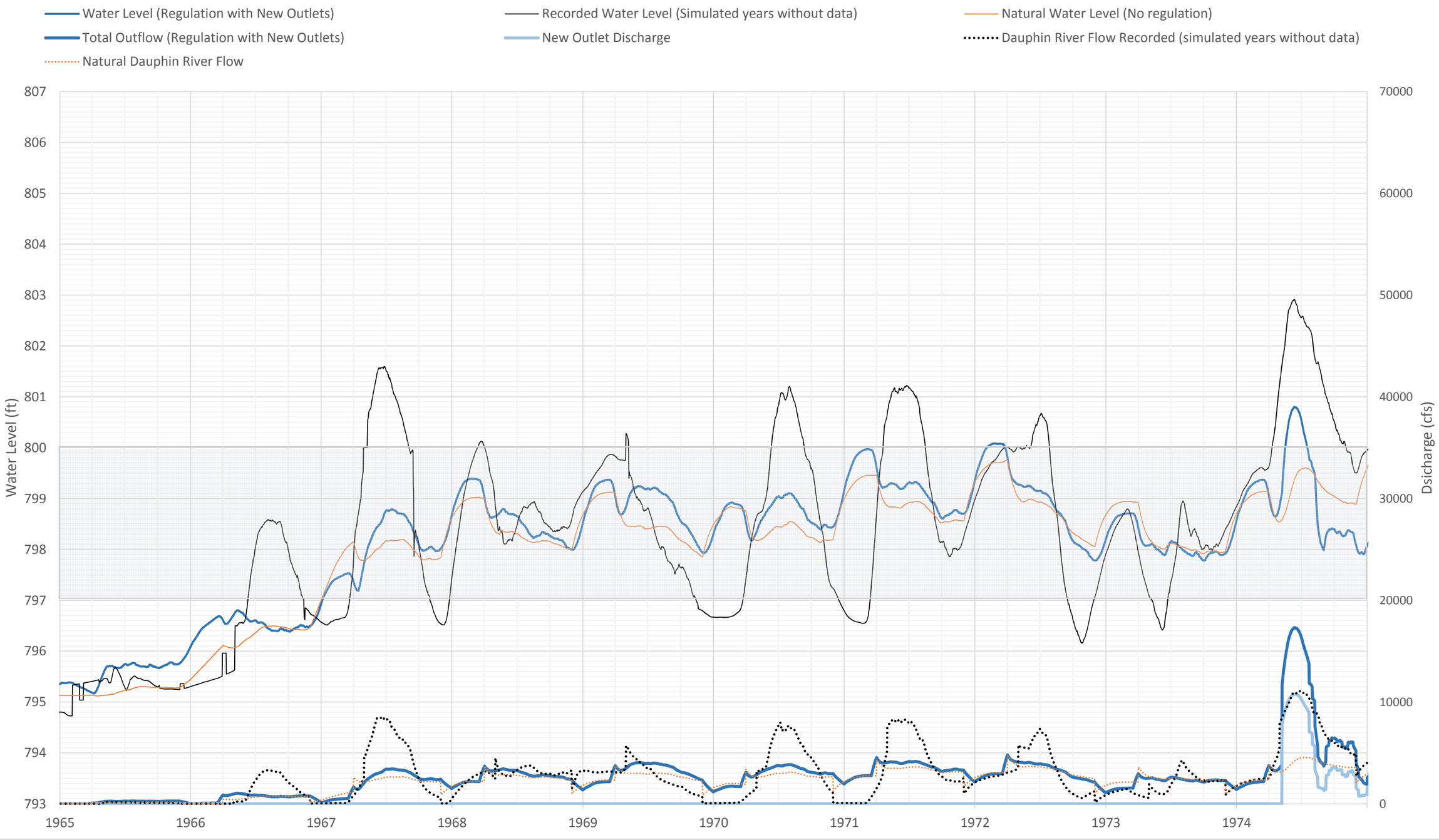


Lake St. Martin Water Levels and Outflows

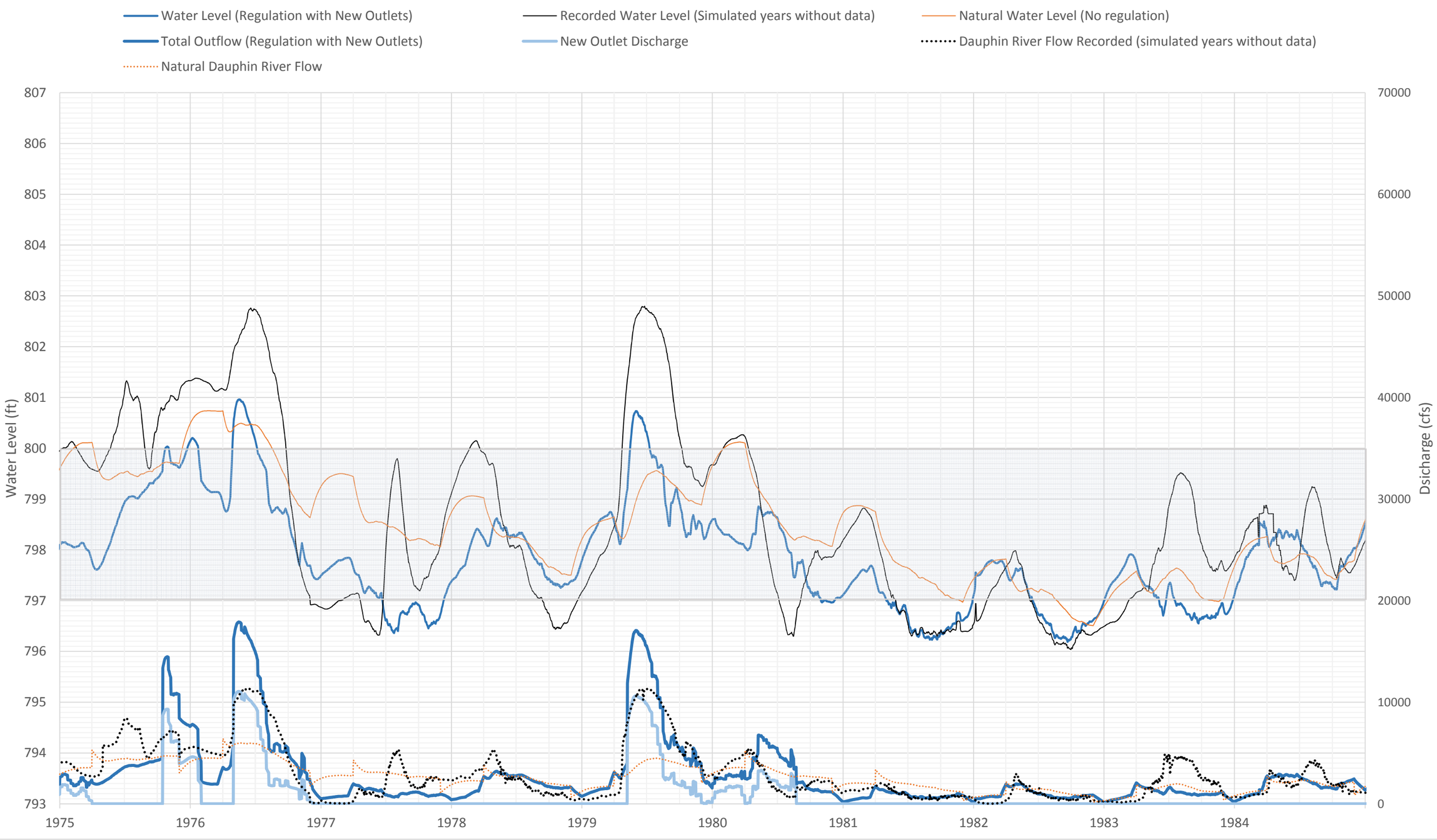



Lake St. Martin Water Levels and Outflows
Water Level (Regulation with New Outlets)
Recorded Water Level (Simulated years without data)
Natural Water Level (No regulation)
Total Outflow (Regulation with New Outlets)
New Outlet Discharge
Dauphin River Flow Recorded (simulated years without data)
Natural Dauphin River Flow
Regulation with Fairford River Water Control Structure begins
Water Level (ft)
Dsicharge (cfs)
807
806
805
804
803
802
801
800
799
798
797
796
795
794
793
70000
60000
50000
40000
30000
20000
10000
0
1955
1956
1957
1958
1959
1960
1961
1962
1963
1964

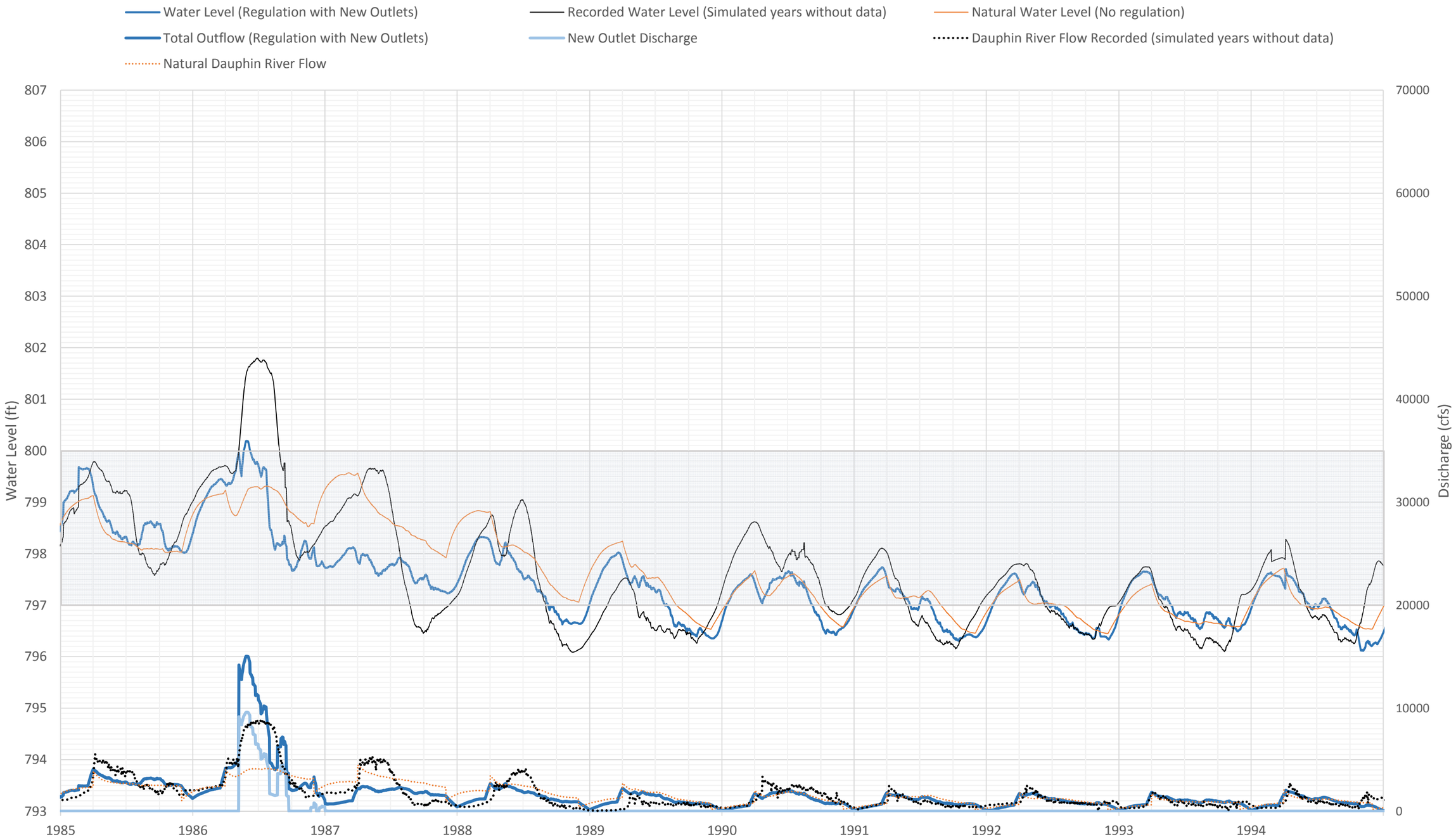
Lake St. Martin Water Levels and Outflows



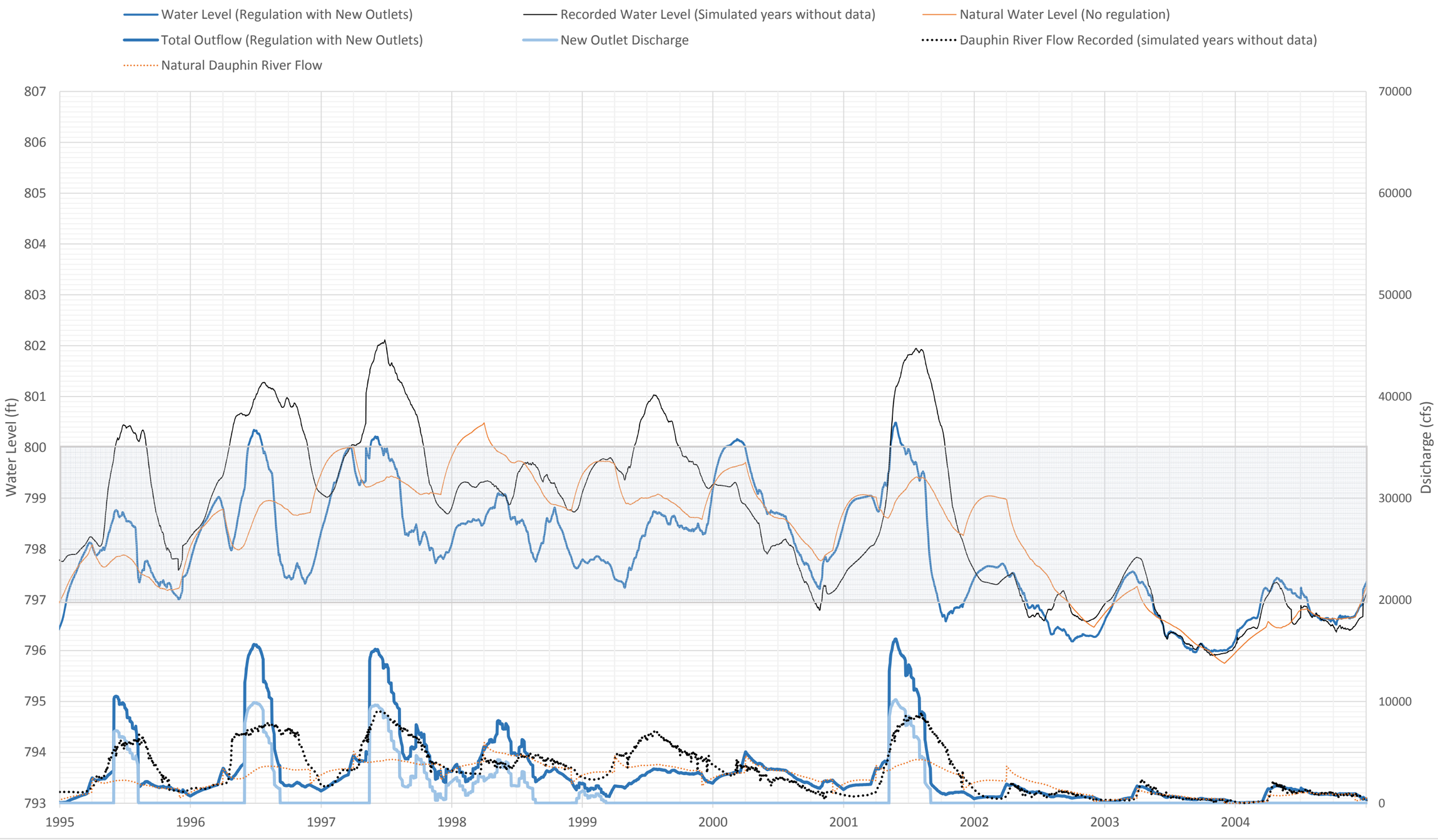
Lake St. Martin Water Levels and Outflows



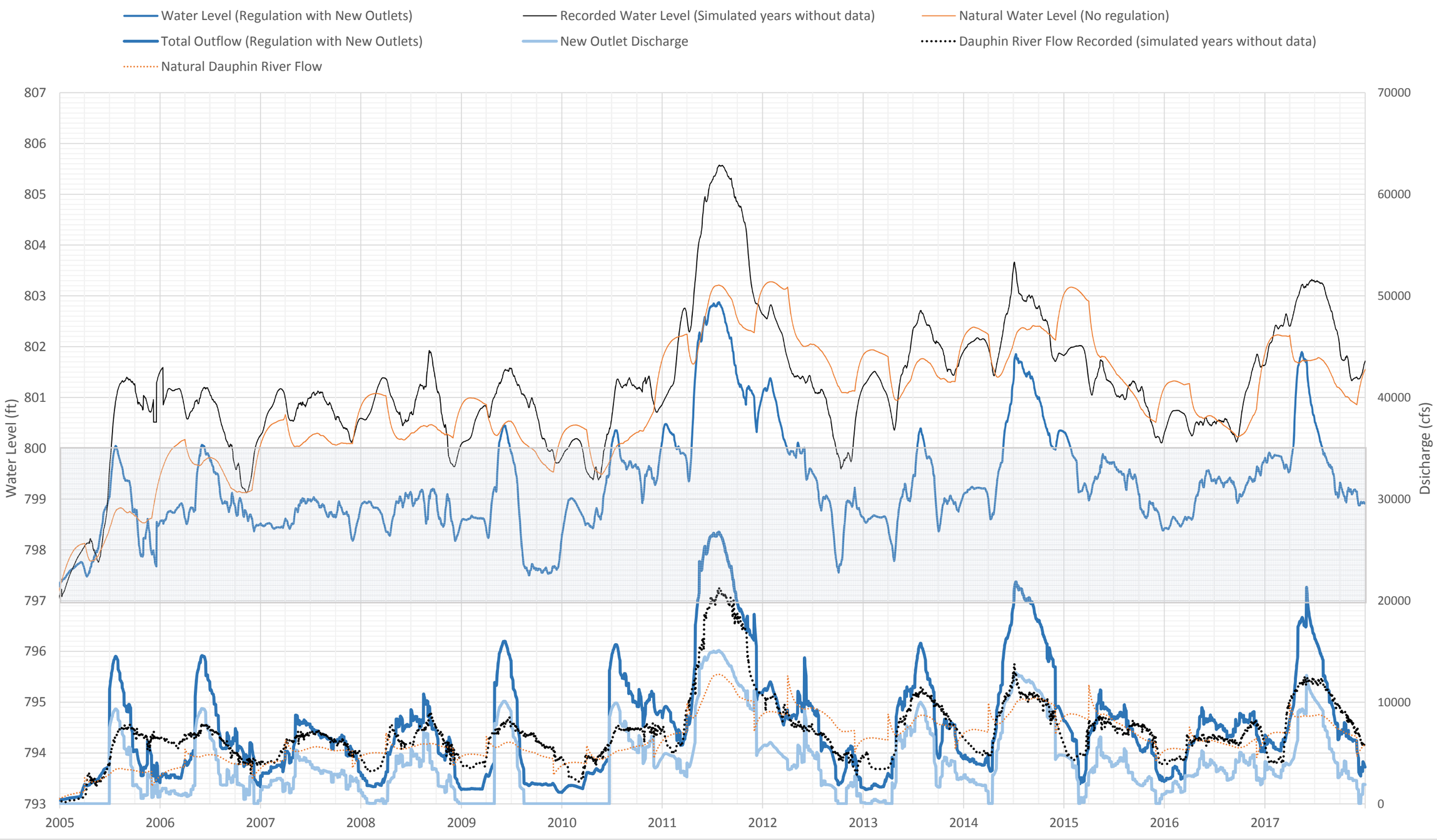
Lake St. Martin Water Levels and Outflows



Lake St. Martin Water Levels and Outflows



Lake St. Martin Water Levels and Outflows



Stantec

APPENDIX 3-D SUMMARY OF OPERATIONAL GUIDELINES

Operating rules for Lake Manitoba and Lake St. Martin Outlet Channels were developed in February 2019 by the Lake Manitoba and Lake St. Martin Outlet Channels Operating Guidelines Technical Committee, which was composed of members from Manitoba Infrastructure, AECOM, and KGS Group. The committee produced a memorandum detailing their recommendations for the operating guidelines of the proposed Outlet Channels and the rationale for their selection as the optimal operating regime to maximize flood protection (Propp, 2019). These guidelines (listed below) were developed from those previously laid out by the 2003 and 2013 Committees for Lake Manitoba and Lake St. Martin regulation, with revisions resulting from hydrologic modelling and discussions with Engineering Service Providers responsible for preliminary design of the Outlet Channels.

PROPOSED LAKE MANITOBA AND LAKE ST. MARTIN OPERATING GUIDELINES

Lake Manitoba

Fairford River Water Control Structure

1. The target regulation range on Lake Manitoba is 812.5 ft to 810.5 ft.

2. During recovery from flood conditions on Lake Manitoba, the Fairford River Water Control Structure is kept wide open until Lake Manitoba recedes to the middle of the range after which is should be cut back to a normal setting (50-60% capacity).

3. During recovery from drought, the Fairford River Water Control Structure is kept at 800 cfs until Lake Manitoba levels increase to middle of the range after which point the structure will be operated to achieve normal outflow (50-60% capacity).

4. Under normal operating conditions, once outflow reaches normal, there are no further stop-log adjustments, as long as Lake Manitoba remains within the range.

5. The minimum flow on the Fairford River should be 800 cfs with a desirable flow of 1,000 cfs as often as practicable.

Lake Manitoba Outlet Channel

1. The Lake Manitoba Outlet Channel will be opened to maximum capacity when Lake Manitoba is above the top of the regulation range (812.5 ft),

2. **The Lake Manitoba Outlet Channel may be opened pro-actively (when the water level is below 812.5 ft) if the water level on Lake Manitoba is forecasted to be above 813 ft in the same season (REV 1).**

3. The outflow from the Lake Manitoba Outlet Channel will be reduced when the water level on Lake Manitoba recedes to the middle of the regulation range (811.5 ft), so that the combined flow through the Fairford River Water Control Structure and in the Lake Manitoba Outlet Channel, insofar as practicable, matches the inflow into Lake Manitoba.

4. The Lake Manitoba Outlet Channel will be closed once the Lake Manitoba water level recedes below 811.5 ft and the flow through the Fairford River Water Control Structure is greater than the total inflow into Lake Manitoba. **During Outlet Channel shutdown, consideration will be given to ensuring**

that the drawdown rate within the Outlet Channel does not compromise channel embankment stability (REV 1).

5. Initial operation of the outlet control structure will not be initiated during the period in which there is solid ice cover in the channel (typically from Dec 1 – April 30th). **However, operation may be considered if severe flooding is forecasted for the following spring (REV 1).**

Lake St. Martin

Lake St. Martin Outlet Channel

1. The target regulation range for Lake St. Martin is 797-800 ft
2. The Lake St. Martin Outlet Channel will be operated to full capacity:
    a. when the Lake St. Martin water level rises above 800 ft

    or

    b. when the Lake Manitoba Outlet is opened for initial operation, Lake St. Martin is above 797 ft, **and Lake St. Martin is forecasted to go above 800 ft without operation of the Lake St. Martin Outlet Channel (REV 1).**

    Consideration may be given to opening the Lake St. Martin Outlet Channel to less than full capacity if Lake St. Martin is forecasted to go only slightly above 800 ft (REV1).
3. The outflow from the Lake St. Martin Outlet Channel will be reduced when the lake level decreases below 800 ft, to the greater of the following:
    a. **25% (REV 1)** of channel capacity,

    b. the outflow required to ensure the combined flows in the Dauphin River and the Lake St. Martin Outlet Channel matches the total inflow into Lake St. Martin
4. **The flow in the Lake St. Martin Outlet Channel will be further reduced when the water level on Lake St. Martin recedes below 798 ft, so that the combined flows in the Dauphin River and in the Lake St. Martin Outlet Channel, insofar as practicable, matches the inflow into Lake St. Martin (REV 1)**

REFERENCES

Propp, C. (2019). Development of Operating Rules for Lake Manitoba and Lake St. Martin Outlet Channels. A memorandum to Eugene Kozera, Director of Hydrologic Forecasting and Water Management, Manitoba Infrastructure.

Appendix 3E MIT NATIVE REVEGETATION PROGRAM, GUIDANCE DOCUMENT

MIT Native Revegetation Program
Guidance Document
June, 2015

PURPOSE

To protect disturbed soils from erosion and weed growth, reduce mowing requirements, and enhance the ecological integrity of Manitoba's roadside environment.

PRACTICE

Seeding

Seed the highway right-of-way (ROW) or other location using a combination of the recommended species in the attached *Manitoba Recommended Seed Mixes* document. The seeds listed have been selected for commercial availability, as well as suitability to the relevant soil zones and surrounding land uses.

Common Oats can be added to the seed mixture in erosion prone areas to provide a cover crop until native seeds establish. Due to its rapid germination, oats may help reduce erosion and trap moisture for the emerging native species. However, oats also compete with native species for moisture, light, and nutrients, and may lengthen establishment times. If used as a cover crop, oats should be seeded at a rate of 2.2 to 5.6 kg/ha (i.e. 2 to 5 lb/acre).

Fall rye and winter wheat are not desirable as cover crops as they inhibit the growth of other plants.

Topsoil

In the case of seeding newly graded ROWs, existing grade slope topsoil should be salvaged and re-used onsite. Additional topsoil may not always be required or desirable. In cases where the local topsoil is known to be particularly infested with weed seeds, it may be advisable to seed directly into the subsoil, or amend the soil with a mixture of 50% clean sand to 50% peat moss, or use a commercial growth medium. These alternate options will not introduce additional weed seeds, as imported topsoil will.

In native Boreal Forest areas, topsoil (i.e. the organic layer) that is salvaged for re-use may contain native seeds and may not require re-seeding. The existing seed bed will

generally regrow if the existing topsoil is replaced. In southern areas (i.e. Fescue, Mixed Grass, and Tall Grass/Interlake Zones), the existing topsoil will not contain any, or enough, native seeds to regenerate native vegetation.

Seeding Rate

Seed grass at the rate recommended by the MIT *Seeding Calculator*, your Regional Biologist, or commercial seed supplier.

The MIT *Seeding Calculator* will be available, along with this document, on the MIT Environmental Services Section intranet site.

Seeding Timing

The best times for successful seeding are:

- May to early July
- Mid-October to freeze-up.

Mid-summer and early fall seeding can also work, but are riskier. Summer can be too dry for successful germination and plants that do germinate in late summer or early fall may be too tender to survive a killing frost.

Site Management

Sites that erode after seeding should be repaired and re-seeded. Areas where the seed does not 'catch' may need to have the soil amended with a mixture of 50% clean sand to 50% peat moss and re-seeded. Note that native grasses may take 2-3 years to fully grow in, but during this time will be developing extensive root systems.

Weeds may be an issue the first years after seeding to natives, but will eventually be out-competed by the native grasses. Mowing annual weeds to prevent seed-set and spot spraying perennial weeds in the first and second years will greatly increase native seeding success.

SEED MIXTURES

Seed Mix Selection (Native vs Tame)

For MIT's purposes, the province has been divided into four native seed mix zones (see attached *Manitoba Native Seed*

Mix Zones map). Native grass mixes are provided for each zone in the *Manitoba Recommended Seed Mixes* list. Tame grass mixtures and wildflower mixtures are also provided.

Native seed mixes will work best in areas adjacent to annual crop land, native pasture, or native grassland where there is no competition from invasive species or perennial weeds. At sites adjacent to tame hayfields or tame pastures, or sites with significant weed infestations, a 'Tame' mix of non-invasive agronomic grass species may be used.

In areas where adjacent vegetation type is unknown, or varies along the length of the project area, consult with your MIT Biologist to determine the appropriate seed mix.

Wildflowers

Wildflowers are a natural and important part of ecosystems and should ideally be included in all native mixes. They are considerably more expensive than native grasses, but even very small quantities are beneficial to pollinating insects and the area's ecosystem. If a site is regularly sprayed with broadleaf herbicides, be aware that wildflowers will be damaged or destroyed by spraying.

Using the Recommended Seed Mixes Table

The province has been divided into four planting zones (Figure 1):

- Tallgrass and Interlake Prairie
- Mixed Grass Prairie
- Fescue Prairie
- Boreal

The *MIT Recommended Seed Mixes* lists a variety of native grass species for each zone. It is possible to choose the least expensive or most readily available species from each category in the list. As a general guideline, use an equal proportion of each grass seed species in the final mix, recognizing that price and availability may force adjustments. The proportion of nitrogen-fixer seeds should be about 5 to 10% of the total mix.

If you use the MIT *Seeding Calculator* to create your native seed mix, the proportions of each species will be automatically adjusted for you.

Tame grass and wildflower mixtures are also provided. Select any combination of species from these lists.

Do Not Plant

The following species should **never** be used in any seed mix as they act invasively.

- Smooth Brome
- Kentucky Bluegrass
- Crested Wheatgrass
- Reed Canary Grass
- Birdsfoot Trefoil
- Yellow Sweet Clover
- White Sweet Clover
- Alfalfa
- Creeping Red Fescue
- Alsike Clover
- Downy Brome
- Dutch Clover
- Meadow Foxtail
- Tall Fescue
- Tufted Vetch (aka Cow Vetch or Bird Vetch)

MIT Recommended Seed Mixes

Native Seed Mixes:

Use a native seed mixture for areas next to annual cropland, native pastures, native grasslands and urban areas.

Directions: Select Zone from map. Create seed mix by selecting 4 or 5 species from the Dry Areas list, 1 species from the Wet Areas list, and 1 of the Nitrogen-Fixers. The mix should ideally result in a plant community that consists of 90-95% dry/wet species and 5-10% nitrogen-fixer species. Use the seed calculator to determine the kg/ha seeding rate for each species in the mix.

Native Seed Mix by Zone	Dry Areas (Select 4-5)	Wet Areas (Select 1)	Nitrogen-Fixer (Select 1)
Tall Grass/Interlake Prairie Zone	Canada Wild Rye	Marsh Reed Grass	Purple Prairie Clover
	June Grass	Northern Reed Grass	White Prairie Clover
	Big Bluestem	Slough Grass	Canada Milkvetch
	Little Bluestem	Tufted Hair Grass	
	Awned Wheatgrass	Prairie Cord Grass	
	Indian Grass		
Mixed Grass Prairie Zone	Blue Grama	Marsh Reed Grass	Purple Prairie Clover
	Canada Wild Rye	Northern Reed Grass	White Prairie Clover
	June Grass	Slough Grass	Canada Milkvetch
	Big Bluestem	Prairie Cord Grass	
	Little Bluestem		
	Awned Wheatgrass		
	Slender Wheatgrass		
Fescue Prairie Zone	Big Bluestem	Marsh Reed Grass	Purple Prairie Clover
	Little Bluestem	Northern Reed Grass	White Prairie Clover
	Awned Wheatgrass	Slough Grass	Canada Milkvetch
	Canada Wild Rye		
	June Grass		
	Rocky Mountain Fescue		
	Rough Fescue		
	Northern Wheatgrass		
Boreal Zone	Hair Grass	Tufted Hair Grass	Canada Milkvetch
	June Grass	Fowl Bluegrass	Northern Hedysarum
	Nodding Brome	Slough Grass	Alpine Hedysarum
	Rocky Mountain Fescue		
	Canada Wild Rye		
	Hairy Wild Rye		
	Northern Wheatgrass		
	White-grained Mountain Rice Grass		
	Slender Wheatgrass		

Native Wildflowers:

The use of wildflowers (or forbs) is not compulsory. Use along with native grasses for greater ecological diversity. As with native grasses, native wildlfowers do best next to annual cropland, native pastures, or native grasslands.

Wildflower Seed Mixture	Choose Any Combination Of
Wildflowers	Canada Goldenrod
	Stiff Goldenrod
	Showy Goldenrod
	Narrow-leaved Sunflower
	Beautiful Sunflower
	Many Flowered (Heath) Aster
	Smooth Aster
	Rough False Sunflower
	Black-eyed Susan
	Yellow Coneflower
	Gaillardia

Tame Seed Mixes:

Use an agronomic or tame seed mixture for areas next to tame pastureland or hayfields, or areas with heavy weed infestations. Non-native species can be used if they do not spread invasively.

Cover crops can be used for temporary erosion control while waiting for native or tame grasses to establish.

Tame Seed Mixes	Choose Any Combination Of
Tame Mix	Intermediate Wheatgrass
	Tall Wheatgrass
	Russian Wild Rye
	Sheep Fescue
	Timothy
	Any introduced species recommended by your supplier, as long as it is not on the **Do Not Plant List**.
Cover Crops	Common Oats

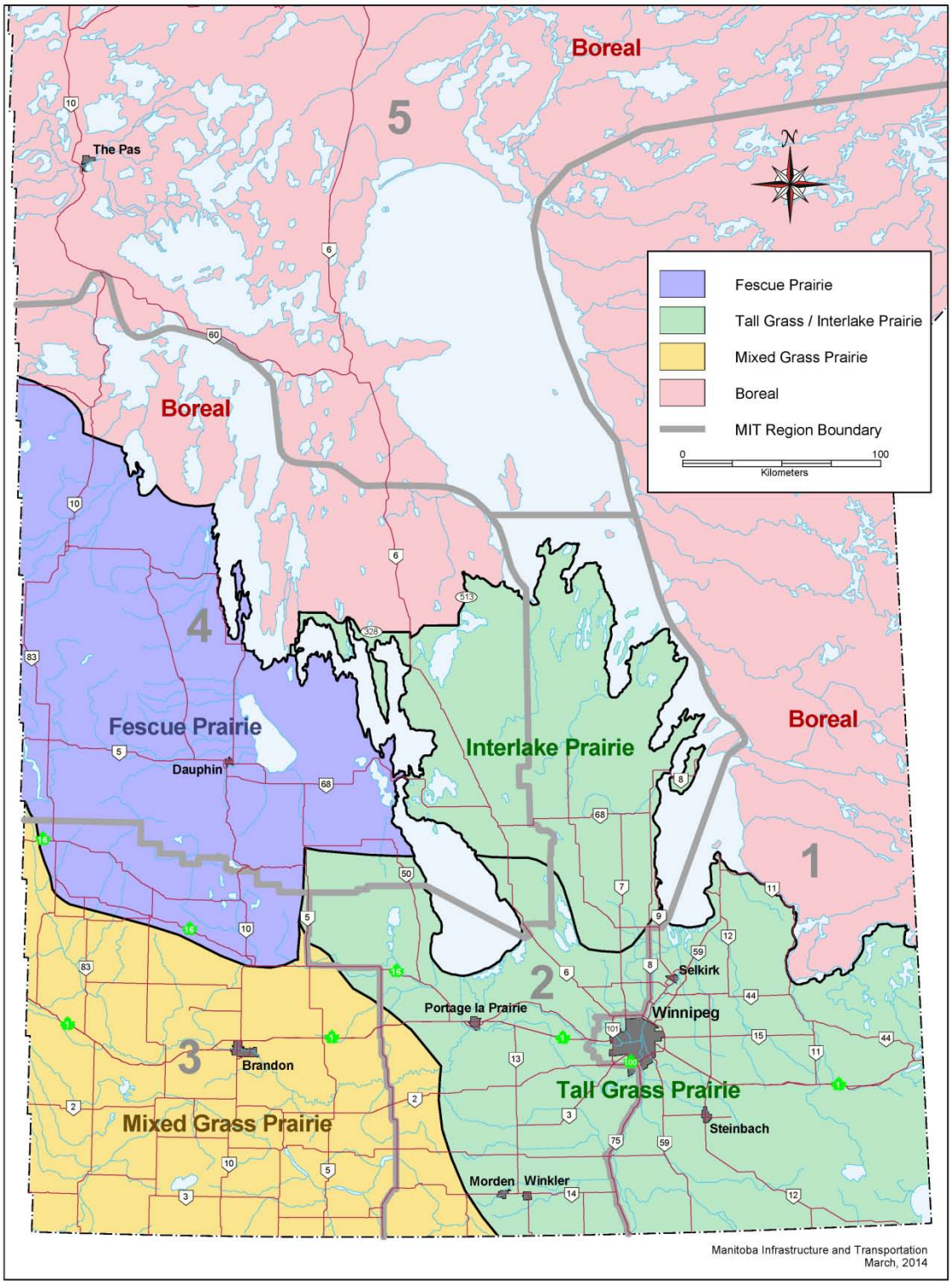


Figure 1. Manitoba Native Grass Seed Mix Zones

MIT Do Not Plant List

Invasive / Undesirable Plants for Right of Ways

Undesirable - Instead of:

- Smooth Brome (*Bromus inermis*)
- Downy Brome (*Bromus tectorum*)
- Crested Wheatgrass (*Agropyron cristatum*)
- Reed Canary Grass (*Phalaris arundinacea*)
- Creeping Red Fescue (*Festuca rubra*)
- Kentucky Bluegrass (*Poa pratensis*)
- Birdsfoot Trefoil (*Lotus corniculatis*)
- Yellow Sweet Clover (*Melilotus officinalis*)
- White Sweet Clover (*Melilotus alba*)
- Dutch Clover (*Trifolium repens*)
- Alsike Clover (*Trifolium hybridum*)
- Alfalfa (*Medicago sativa*)
- Meadow Foxtail (*Alopecurus pratensis*)
- Tall Fescue (*Festuca arundinacea*)
- Tufted Vetch (aka Cow Vetch or Bird Vetch) (*Vicia cracca*)

Plant Natives &/or Acceptable Non-natives:

- Natives - See *MIT Recommended Native Seed Mixes by Zone*
- Acceptable Non-Natives - See *MIT Tame Seed Mix*
  {NOTE: Acceptable non-natives do not spread aggressively or take over existing native vegetation.}

Appendix 3F PROJECT ENVIRONMENTAL REQUIREMENTS

Lake Manitoba and Lake St. Martin Outlet Channels

Project Environmental Requirements

DRAFT

Table of Contents

1.0 Overview and Guiding Principles 1

1.1 Project Environmental Requirements Overview 2

1.2 Construction Environmental Management Plans 2

1.3 Pre-Construction Activities (Submittals) 3

1.4 Environmental Approvals and Authorizations 3

1.5 Record Keeping 4

1.6 Compliance Inspections and Enforcement 4

1.7 Staff Training and Awareness 5

2.0 Project Environmental Requirements 6

2.1 Designated Areas and Access 7

2.2 Clearing, Grubbing and Brush Disposal 9

2.3 Erosion and Sediment Control 11

2.4 Working Within or Near Water 12

2.5 Machinery, Fuel Storage, Materials Handling and Storage, Spill Response and Remediation 20

2.6 Dust Suppression 27

2.7 Concrete and Asphalt 28

2.8 Noise and Noise Limitations 29

2.9 Wildlife 30

2.10 Wildfires 32

2.11 Heritage Resources 33

2.12 Quarries and Borrow 34

2.13 Site Decommissioning 36

2.14 Revegetation and Vegetation Maintenance 37

2.15 Planned and Unplanned Shutdowns 38

3.0 Glossary – Definitions and Terms 39

DRAFT

1.0 Overview and Guiding Principles

DRAFT

1.1 Project Environmental Requirements Overview

The Lake Manitoba and Lake St. Martin Outlet Channels Project Environmental Requirements (PER) outlined in this document are specific to work and activities conducted under the authority of any and all licences, permits, authorizations or approvals obtained for the Permanent Outlet Channels (POC or the Project) formally known as Lake Manitoba and Lake St. Martin Outlet Channels. Requirements listed herein are not mutually exclusive of one another and must be adhered to for all activities pertaining to **construction**, **post-construction**, **maintenance** and **decommissioning** activities for the POC Project.

The PER represent requirements and commitments that are fundamental to Manitoba Infrastructure's (**MI**) regulatory compliance as well as Project approvals, permits, licences and authorizations. **MI** personnel or representatives, at their discretion, may inspect work sites to ensure and verify that any and all requirements are adhered to. Failure to comply with PERs, Project approvals, permits, licences and authorizations may result in stop work orders, improvement orders, contract termination, financial penalties and/or suspension or termination of approvals, permits, licences and authorizations to conduct the work.

The PERs are considered incidental to all Project-related works or activities and will not be measured for payment unless indicated otherwise by **the Engineer**.

1.1.1 Review and Updates

MI will review and update the PER's every 3 years from the date of issuance of the Project's Manitoba Environment Act Licence to ensure that requirements reflect best practices, and comply with changing regulation and legislation. PER updates may occur more frequently in circumstances where legislative changes occur in advance of the PER review schedule.

Upon award of a contract the contractor must ensure they have the most current version of the PER's.

1.2 Construction Environmental Management Plans

Environmental protection and regulatory compliance during construction will be ensured through the use of a *Construction Environmental Management Plan (CEMP).* The CEMP shall be prepared by the contractor and provided at the tendering stage or it may be specified as a required Submittal in the contract Special Provisions. In either case, the Contractor(s) will adhere to the plan as a condition of the contract.

MI will make available a *Guideline for the Preparation of Construction Environmental Management Plans* as well as a compendium of Best Management Practices (BMPs) to assist in the preparation and ensure consistency of CEMPs.

DRAFT

1.3 Pre-Construction Activities (Submittals)

The Contractor shall submit the following for review and acceptance by **the Engineer** no less than 14 business days in advance of the start of work:

.1 Environmental Emergency Plan for Spill Response and Remediation;
.2 Material Safety Data Sheets;
.3 A Water Quality and Fish Protection Plan including but not limited to:

- Construction Phase Erosion and Sediment Control measures;
- In-water works;
- Water quality monitoring;
- Isolation plan;
- Fish salvage; and,
- Mussel salvage.

.4 Monthly reports providing the records as specified in section 1.5;
.5 Waste Management Plan;
.6 Material Management Plan in the event of an Unplanned Shutdown;
.7 Problem Wildlife Management Plan;
.8 Cement Washout Plan;
.9 Petroleum Storage and Equipment Fuelling and Servicing Plan;
.10 Evacuation and Emergency Preparedness Plan in the Event of a Wildfire;
.11 Copies of all required approvals, clearances, permits, licences, and certificates issued to the contractor, or their sub-contractors, including but not limited to:

- Batch Plant Environment Act Licence;
- Fish collection permits;
- Septic permits; and,
- Crown Lands Well permit.

.12 Other submittals as required.

1.4 Environmental Approvals and Authorizations

The Project is being constructed, operated and maintained under authorization from the Canadian Environmental Assessment Agency (CEAA), and under Licence issued by Manitoba under the *Environment Act*. Additional permits, licences, approvals or authorizations may apply to single or multiple Project components.

No work or activity is to begin without having obtained applicable permits or authorizations for the work. **The Contractor** shall adhere to conditions specified in any and all permits, authorizations, licences, approvals and letters of advice or directive issued for the work. Where **MI** applies for permits, authorizations, licences, approvals and letters of advice or directive to any regulatory body to facilitate **the Contractor's** work plan, there shall be no award for damages, delay claims or other costs by **the Contractor** on MI as a result of delays in issuance or rejections of applications.

DRAFT

1.5 Record Keeping

The Contractor shall maintain a record file at the site in which all relevant information relating to materials handling, spills, leaks, releases, and the implementation and adjustment of the environmental protection measures is documented. **The Contractor** shall maintain a copy of these records for a minimum of 5 years after contract closeout. Relevant information and/or significant events are to be documented and provided to **the Engineer** in a timely fashion. Records may include, but are not limited to:

.1 all accidents, spills, leaks, and releases and the reporting and clean-up procedures used;

.2 any reviews, improvements and adjustments to the environmental protection measures;

.3 details of all environmental training sessions, including the schedule of these sessions and the names of participants;

.4 a full inventory of dangerous goods brought onto the site;

.5 a full inventory of all hazardous wastes encountered on the site;

.6 records of all waste hauled from the site for disposal, including the location, name and description of the disposal facility and waybills/manifests;

.7 records of all material hauled from the site for recycling, including the location, name and description of the person or facility the material was delivered to;

.8 records of all fuel transported and stored at the site;

.9 records of equipment inspections and maintenance;

.10 records of all public complaints;

.11 records of actions taken to remove deleterious substances and debris from waterbodies;

.12 records of annual use of pesticides; and,

.13 wildlife encounters and/or management measures employed.

As a general requirement, all work shall be photo-documented and notification of the work will be provided to the MI on a monthly basis for record keeping purposes. All construction shall be governed by the *Standard Construction Specification, Special Provisions* and the *Project Environmental Requirements* set out in the contract.

1.6 Compliance Inspections and Enforcement

The PER represent requirements and commitments that are fundamental to regulatory compliance as well as Project approvals, permits, licences and authorizations. Manitoba Infrastructure (**MI**) personnel or representatives, at their discretion, may inspect work sites to ensure and verify that any and all requirements are adhered to. Failure to comply with PERs, Project approvals, permits, licences and authorizations may result in stop work orders, improvement orders, contract termination, financial

DRAFT

penalties and/or suspension or termination of approvals, permits, licences and authorizations to conduct the work.

In addition to any penalties or orders issued by **MI**, **the Contractor** will accept all liability and responsibility for issues of non compliance and for any penalties issued by federal or provincial regulators. **The Contractor** is responsible for ensuring compliance with all applicable contract specifications, environmental legislation and regulation, Project approvals, permits, licences and/or authorizations.

1.7 Staff Training and Awareness

The Contractor shall provide mandatory training and awareness sessions for their entire workforce prior to the start of construction, and to new personnel before they begin work, to ensure all personnel working on the contract are aware of and understand the environmental provisions of the contract documents including relevant drawings, specifications and contractor submittals and updates. All training and orientation sessions shall be documented.

The Contractor shall submit the planned frequency and records of these meetings. **The Contractor** shall maintain access to all environmental provisions of the contract documents including relevant drawings, specifications and Contractor submittals and updates, in a location and manner accessible to all employees, subcontractors, and agents

DRAFT

2.0 Project Environmental Requirements

DRAFT

2.1 Designated Areas and Access

Designated areas and proposed access shall be identified for approval by **the Engineer** prior to development and the start of work. Designated areas shall include, but are not necessarily limited to: camps, quarries, borrow, equipment maintenance, fuel and other material storage and other purposes as required. The development, maintenance and decommissioning of such sites shall be conducted in a manner which complies with all applicable legislation, regulations, permits, approvals, authorizations or licences.

2.1.1 General

.1 **The Contractor** shall submit details for proposed **Designated Areas** for review and acceptance by **the Engineer** in accordance with general conditions and contract documents. Submittals shall include marked up drawings, and coordinates of the proposed **Designated Areas** including access, and shall provide sufficient detail to demonstrate full compliance with these specifications. **Designated Areas** requiring submittals include, but are not necessarily limited to:

a. laydown and staging area(s);
b. waste storage area(s);
c. fuel storage and refuelling area(s);
d. equipment servicing area(s);
e. work camp(s);
f. parking area(s);
g. cement batch plant(s);
h. cement washout area(s); and
i. others as required by **the Engineer**.

.2 **The Contractor** shall construct and maintain **designated areas** for their intended purpose and in a manner which provides for inspection including the regular clearance of snow.

.3 The **designated areas** shall be contained within the designated work limits unless otherwise authorized by **the Engineer**.

.4 The topsoil in **designated areas** shall be stripped and stockpiled for later reuse in site restoration. Granular material or other surface preparation, as approved by **the Engineer**, shall be placed to ensure all weather accessibility.

.5 Locations within **Designated Areas** where equipment, hazardous material and/or wastes will be stored or maintained shall be underlain with at least 30 cm of impermeable soil or approved equal and lined with an impermeable groundsheet to contain spills and minimize cleanup costs. Hazardous materials must also comply with the additional requirements outlined in section 2.5.

.6 **Designated Areas** shall be located a minimum of 100 metres from **waterbody** or as approved by **the Engineer**

.7 The Contractor shall restore the **Designated Areas** and access roads not required for on-going maintenance to their original condition.

.8 There shall be no entry of personnel or equipment, or work conducted on private property without proper authority.

2.2 Clearing, Grubbing and Brush Disposal

Clearing and grubbing of vegetation includes the removal of vegetation (clearing) or root mass and organic material (grubbing) for site preparation or as part of specific works, but does not include mowing activities. Clearing and grubbing shall be conducted in accordance with contract documents, or as instructed by **the Engineer**.

2.2.1 General

.1 Clearing shall not occur between April 1st and August 30th of any year unless otherwise authorized by **the Engineer** in order to avoid disturbance to nesting birds and other wildlife.

.2 Clearing and grubbing shall be limited to the construction or contract limits unless otherwise approved by **the Engineer**.

.3 Prior to clearing or grubbing, the work area shall be clearly staked or marked and approved by **the Engineer** so as to prevent over-clearing.

.4 Existing roads, road allowances, trails, portages and other travel ways shall not be blocked or altered as a result of clearing and grubbing activities so as not to interfere with other users.

.5 All grubbed organic and topsoil layers with leaf litter and root mass shall be stockpiled in appropriate locations and retained for reclamation efforts.

.6 **The Contractor** shall take all precautions against damage to other trees, traffic structures, pole lines or property. **The Contractor** is liable for any damages occurring in the performance of this work.

.7 Clearing, grubbing and burning operations shall be conducted in accordance with the applicable Provincial and Municipal regulations and Acts.

2.2.2 Clearing

.1 Clearing within 30 meters of a **waterbody** shall be done by hand.

.2 Unless otherwise authorized by **the Engineer**, all brush and trees, except those designated to be saved shall be cut level with the ground. All surface debris, excluding **merchantable timber** but including fallen timber, slash limbs, brush, grass and weeds shall be disposed of in an appropriate manner.

.3 There shall be no bulldozing of trees or woody debris into standing timber.

.4 Removal of riparian vegetation shall be kept to a minimum to help maintain the stability of waterbody banks. The area over which vegetation in riparian vegetation areas is removed shall affect no more than one third (1/3) of the total woody vegetation in the right-of-way within 30 meters of the **ordinary high-water mark** of a waterbody. Vegetative root masses found within the waterbody banks shall remain undisturbed unless specified in the Contract Documents.

.5 Trees shall be felled towards the center of the area to be cleared. Any brush falling outside the area to be cleared shall be moved back into the work area immediately and disposed of.

.6 Cleared trees and vegetation shall not obstruct waterways during any season, and shall be kept above the **ordinary high-water mark**. Stockpiles or windrows of any material are to be kept a minimum of 100 meters from any waterbody's **ordinary high-water mark**.

2.2.3 Grubbing

.1 Grubbing shall not occur within 2 meters (2.5 yards) of standing timber in order to prevent damaging root systems of adjacent standing trees and to reduce the potential of future blow down.

2.2.4 Brush Disposal

.1 Timber from which forest products can be manufactured (**merchantable timber**) shall be cleared of limbs and neatly stockpiled piled within the work limits as directed or permitted by **the Engineer**.

.2 All stockpiled material located on Crown Land shall be removed or disposed of by April 30 following clearing activities.

.3 Disposal of cleared trees and brush must be conducted in a manner approved by **the Engineer**. Disposal may involve burning, compacting, piling, burying, windrowing and compacting, limbing and chipping. Disposal methods may be restricted or prohibited in certain locations if they are deemed to result in future issues.

.4 All cleared vegetation, grubbed material, and debris that is to be left in place shall be piled and compacted in windrows. Windrows shall be compacted to lie as close to the ground as possible (maximum height of 0.6 of a meter) and shall be no closer than 1 meter to the bush line. Windrows are required to have a 15 meter break every 100m in length.

.5 Wood and brush piled for burning must be located at least 15m from other wood and brush piles or standing timber. If piles are windrowed for burning a 15m break in the windrow should occur for every 100m of length.

.6 Slash shall be piled in a manner that allows for clean, efficient burning of all material. Avoid mixing soil into the slash

.7 Where applicable, **The Contractor** shall obtain a burning permit for open fires between April 1 and November 15, and must adhere to all permit conditions. Burn permits may not be issued in dry conditions. Burning between November 16 and March 31 does not require a burning permit; however, the supervising officer shall be advised prior to any burning. All fires shall be completely extinguished by March 31.

.8 All occurrences of fire spreading beyond burn piles shall be reported to **the Engineer** and Manitoba Sustainable Development.

2.3 Erosion and Sediment Control

Erosion and Sediment Control includes long-term, temporary or emergency stabilization of any and all soil types to prevent undesirable soil movement or soil releases and discharges to a waterbody. Erosion and Sediment Control may also include efforts to minimize substrate disturbance and sediment uplift or suspension during in-water work.

2.3.1 General

.1 Vegetation cover within the work limits shall be preserved for as long as possible, or left undisturbed if it does not inhibit work. All vegetated areas that are to be preserved or left untouched shall be well staked and identified.

.2 Effective erosion and sediment control measures shall be properly installed before starting any work to prevent undesirable soil movement or the entry of sediment into any waterbody or wetland.

.3 The installation of erosion and sediment control measures shall be completed in accordance with the Contract Documents, or as approved by **the Engineer**. Final erosion protection measures shall be installed progressively during all phases of the project.

.4 Erosion and sediment control measures shall be inspected and maintained by **the Contractor** on a daily basis, as well as during and after every major rain, runoff or spring melt event. Any necessary repairs and adjustments shall be made immediately to ensure that measures are effective in controlling erosion and sedimentation.

.5 Erosion and sediment control measures shall be maintained in all disturbed sites until soils have stabilized and complete **revegetation** of all disturbed areas is achieved.

.6 If Erosion Control Blanket (ECB) is used the product shall be 100% biodegradable, composed of natural fibers including netting, filling and thread.

.7 Efforts shall be made to minimize the duration of soil exposure and run-off shall be diverted away from exposed soils.

.8 Construction and maintenance activities shall be halted during heavy rains with the exception of those works pertaining to erosion and sediment control.

.9 Spoil piles, overburden and topsoil shall not be placed within 100 meters of any waterbody's **ordinary high-water mark**. Spoil piles shall be positioned and maintained in a manner that prevents direct or indirect sediment releases into a waterbody.

2.4 Working Within or Near Water

In water work includes any and all activities occurring within the **ordinary high-water mark** of a waterbody. Requirements in this section apply to work in or near **fish-bearing** and non-fish bearing waterbodies, **fish passage**, **fish and mussel salvage**, dewatering, temporary diversions, temporary crossings and access pads, stream crossings (bridges and culverts), blasting near a waterbody, debris and sedimentation removal, and water quality monitoring.

2.4.1 General

.1 **The Contractor** shall schedule, plan, and carry out works such that in-water work is kept to a minimum. Whenever possible, in-water work shall be staged to occur as a single event.

.2 Disturbance to the stream bed and banks shall be minimized. Use existing trails, roads or cut lines to access the site where possible to avoid disturbance to riparian vegetation.

.3 Construction activities shall not occur within 100 meters of a **waterbody** with the exception of construction of a **waterbody** crossing or other authorized in-water works, or unless directed by **the Engineer**.

- .1 If a 100 meter distance is not possible, allow a buffer zone of undisturbed vegetation between the work and the waterway. Using a buffer zone width of approximately 10 meters plus 1.5 times the slope gradient or 30 m, whichever is greater.

.4 There shall be no fueling, equipment maintenance, repair or washing within 100 meters of the **ordinary high-water mark**. Ensure runoff and water used for equipment cleaning does not enter any water body.

.5 All construction activities shall be suspended during adverse weather conditions (i.e., heavy rains).

.6 Soils shall be spread or graded in a direction away from the **waterbody** and never into the stream itself.

.7 Flow shall not be constricted by more than one third of the original stream width.

.8 Immediately after disturbance or upon completion of the work in or around waterbodies, waterbody banks, and riparian vegetation areas, the disturbed areas shall be restored to the original contour and gradient and cover treatment applied.

.9 If an area cannot be restored to its original contour and gradient due to instability or other reasons, a stable gradient shall be constructed and cover treatment applied.

.10 Machinery fording shall be limited to a one-time event (over and back) and shall occur only if an existing crossing at another location is not available or practical to use. Fording shall only be conducted in a manner approved by **the Engineer**.

.11 If minor rutting is likely to occur, waterbody bank and bed protection methods (e.g., swamp mats or rig mats) shall be used provided they do not constrict flows, block fish passage or cause sediment release into the waterbody.

.12 If rock is used to stabilize waterbody banks, it shall meet appropriate specifications, be clean and free of fine materials, and of sufficient size to resist displacement during peak flood events.

.13 The waterbody banks shall be stabilized, restored to their original shape, adequately protected from erosion and re-vegetated with native species.

.14 Any water intakes or outlet pipes in fish bearing waters shall have screens to prevent entrainment or impingement of fish and follow the measures as outlined in Fisheries and Oceans *Freshwater Intake End-of-Pipe Fish Screen Guideline*.

2.4.2 Authorizations and Approvals

.1 Construction within 30 meters of a waterway requires authorization by Manitoba Sustainable Development except construction of waterbody crossing approaches.

.2 Fisheries and Oceans Canada Authorization(s) may be required prior to the commencement of any in-water or near water work. MI shall obtain these permits as required. **The Contractor** is required to provide **MI** with all project specific information required for these submissions a minimum 90 calendar days prior to the undertaking of in-water and/or near water works, with the understanding that Fisheries and Oceans Canada may request additional information. **MI** shall not be responsible for delays associated with Fisheries and Oceans Canada Authorization(s). All conditions specified in Fisheries and Oceans Canada Authorizations, Letters of Advice and/or other Fisheries and Oceans Canada directives apply to the work.

.3 Transport Canada (TC) Navigation Protection Approval(s) may be required for the construction of permanent or temporary waterbody crossings and/or other in-water structures. **MI** shall obtain these permits as required. **The Contractor** is required to provide **MI** with all project specific information required for these submissions a minimum 90 calendar days prior to the need to undertake the works with the understanding that TC may request additional information. **MI** shall not be responsible for delays associated with TC Navigation Protection Approval(s). All conditions specified in TC Navigation Protection Approval(s) and other directives apply to the work.

.4 For all temporary work and construction activities required for in-water works **MI** will apply for required authorizations, permits, and approvals. **The Contractor** must supply detailed schedules and work plans to facilitate these applications and cooperate with additional information requests from regulatory bodies. It may take up to 90 or more business days to process applicable authorizations, permits required. The contractor is bound by all conditions specified in regulatory directives applicable to the work. **MI** shall not be held responsible for any delays related to approvals.

2.4.3 Timing of Work

.1 In-water work shall be restricted to low flow periods and shall be scheduled during a period when the waterbody is seasonally dry or frozen to the bottom whenever possible.

.2 South of 53rd parallel, **the Contractor** shall not undertake any in-water activities in **fish bearing** waters or potentially fish bearing waters between September 15 and June 30 of the following

year, during periods of high stream flow or identified spawning periods, unless otherwise authorized by Fisheries and Oceans Canada and Manitoba Sustainable Development.

2.4.4 Site Isolation and Dewatering

.1 All work requiring site isolation and dewatering shall be conducted in accordance with contract documents, applicable permits, approvals, licences or authorizations, or as directed by **the Engineer**.

.2 Isolation structures must not constrict more than one-third of a **fish-bearing** waterbody.

.3 Sediment control measures (e.g. turbidity curtains) shall be used where appropriate prior to the installation and/or removal of any isolated structures.

.4 Isolated structures must be constructed and sized to prevent overtopping or failure.

.5 A fish and/or mussel salvage must be performed prior to dewatering isolated sites in fish-bearing waterways.

.6 Sediment laden dewatering discharge shall be pumped to a settling basin, filtering system or through dense terrestrial vegetation of sufficient distance from the waterbody to allow sediment deposition prior to re-entry downstream of the construction area, or as directed by **the Engineer**.

.7 All pump discharge points shall be lined with clean rock or other acceptable flow dissipating applications in order to prevent erosion and the release of suspended sediments.

.8 Accumulated sediment and excess material shall be removed from the isolated area before removing the isolation structure.

.9 Where a cofferdam shall be installed:

a. Cofferdams shall be designed to accommodate any expected high flows during the construction period.
b. All spoil material and debris shall be removed from the isolated area prior to the removal of the cofferdam.
c. All cofferdam materials shall be removed upon the completion of work.

2.4.5 Fish Salvage

.1 A fish salvage operation must be conducted where site isolation and/or dewatering within a fish-bearing waterbody is required.

.2 Fish salvages shall be conducted by **qualified professionals** possessing a live fish handling permit. All fish shall be handled as little as possible and in a manner that minimizes stress and prevents fish injury or death.

.3 Fish salvage shall be conducted immediately after an area within a waterbody has been isolated. Partial dewatering is permissible to decrease wetted area and increase efficiency of fish capture, however, the fish salvage must be completed prior to complete dewatering of the isolated area.

.4 If a fish or mussel salvage is required, a Fish Salvage Plan shall be submitted by a professional certified to conduct such works and approved or modified by the MI Biologist.

.5 All captured fish shall be cataloged by species. The length and weight of a representative proportion of captured fish species shall be recorded.

.6 The following information shall be collected and recorded:

.1 Date,

.2 Location (waterbody name and geographic coordinates),

.3 Description of project/construction works,

.4 Physical habitat parameters – channel width, wetted width, size (area) and depth of salvage area, water temperature,

.5 Fish capture method (e.g. Seine net, dip net, gill net, backpack electrofishing) ,

.6 Effort (e.g. two passes with a seine net; two people dip netting for 0.5 hours; backpack electrofishing for 350 seconds),

.7 Number of fish collected, by species, and

.8 Length and weight of a representative proportion of captured fish species.

2.4.6 Mussel Salvage

.1 Where required, mussel salvages shall be conducted to remove mussels from the in-water footprint(s) of project components.

.2 Mussel salvage and relocation work shall be conducted by a **qualified professional** under and in accordance with a live fish handling permit.

.3 Where a species at risk (SAR), as listed under Schedule 1 of the Species at Risk Act is known to occur, or is found in the waterbed, work shall also be conducted under and in accordance with a species at risk (SAR) permit obtained from Department of Fisheries and Oceans (DFO). If a species at risk is found in a new area, the contractor shall stop work, inform DFO and obtain a species at risk permit prior to continuing work.

.4 Mussels captured during the survey and salvage will be identified and transported while submerged to a designated location with similar habitat an appropriate distance upstream from the construction work site. (minimum 250 m)

.5 Applicable measure in *Protocol for detection and relocation of freshwater mussel species at risk in Ontario Great Lakes Area (OGLA) (Mackie et al. 2008) shall be used.*

.6 Mussel surveys, salvage and relocation activities and results shall be documented in a report generated by the **qualified fish biologist** and submitted to **MI** for review and approval. The report shall contain detailed descriptions, photos, and drawings of site conditions including:

.1 Location, habitat profile, description of methodology (including names of collectors) contact information, organization, and schedule of activities.

.2 Results including photos of collected species and sites, depths, locations, and substrate in which each animal was found, numbers and the types of species found.

.3 For mussel surveys conducted under SAR permit, the qualified fish biologist shall also submit a fish and mussel data collection table. **MI** will supply the template prepared by DFO to the qualified **fish biologist**.

.7 Any death of a listed species at risk Mussel during salvage operations or associated construction must be reported immediately to **MI**. MI will be responsible for communicating with and the DFO Species at Risk Biologist.

2.4.7 Temporary Stream Diversions, Fish Passage and Base Flows

.1 **The Contractor** is responsible for maintaining base flows for the duration of construction activities in waterbody's requiring in-water and near water work, including those works which may require the installation of cofferdams and related structures, unless otherwise approved.

.2 Flow shall be maintained at all times to permit the safe and unimpeded passage of fish. A temporary diversion channel to direct flows and fish passage around the work site shall be constructed if flows are to be constricted by more than one third of the original stream width in fish bearing waters. In non-fish, bearing waters a pumped diversion may be used to maintain flows downstream.

.3 Temporary stream diversions shall be designed to provide fish passage, even during low flow conditions.

.4 Instream diversion structures shall be constructed using erosion resistant materials.

.5 Temporary diversion channels shall be constructed in the dry. Gradient controls shall be used to ensure that diversion channel slopes correspond to the existing channel gradients.

.6 Temporary diversion channels shall be designed to accommodate expected waterbody flow from storm, runoff or spring melt events.

.7 Temporary diversion channels shall be routinely inspected to identify areas of incipient erosion. Eroded areas shall be repaired promptly.

.8 Existing waterbodies shall not be disturbed until temporary diversion channels have been constructed.

.9 Diversion channels shall be opened from the downstream end first. Stabilize the connection of the diversion channel to the main waterbody. Pump flows around work site, if possible during construction of the channel connection.

.10 Pumping system for pumped diversions shall be sized to accommodate any high flows of the waterbody during the construction period. Pumps shall be monitored at all times, and back-up pumps shall be readily available on-site in the event of pump failure.

.11 The original flows through the site shall be restored as soon as work is completed.

2.4.8 Beaver Dam Removal

.1 Work plans for beaver dam removal shall be provided to **the Engineer** for review and approval no less than 14 business days prior to the start of dam removal.

.2 Beaver dam removal shall be scheduled to comply with in water work timing windows, and shall not affect a fishery, or recreational property uses that depend on the dams existence, both upstream and downstream.

.3 The Manitoba Sustainable Development District Office shall be contacted before proceeding with the beaver dam removal. Dam removal permits or wild animal kill permits shall be

obtained, as or if required, prior to removal of beaver dams. Consultation with users' identified by Manitoba Sustainable Development may be necessary before removal of a dam can proceed. Identify any safety concerns or flag potential downstream infrastructure or stakeholders who should be consulted

.4 Removal activities shall be restricted to removal or breaching of the dam itself and shall not involve channel or shoreline modification downstream of the dam.

.5 When a series of dams is to be removed this shall typically be done starting from the most downstream dam and working upstream

.6 The beaver dam shall be removed gradually (20 cm at a time), allowing water to release slowly and preventing sediment at the bottom of the pond from being released downstream.

.7 Wherever possible, remove beaver dams by using hand tools. Where removal by hand tools is not possible then machinery may be used.

.8 The width of the breach opening of the beaver dam shall not exceed the width of the original stream channel to prevent bank erosion and flooding adjacent properties.

2.4.9 Stream Crossings

.1 Where possible, existing stream crossings shall be utilized to traverse waterbodies.

.2 All stream crossings shall be constructed in accordance with *The Manitoba Stream Crossing Guidelines for the Protection of Fish Habitat – May 1996*.

.3 If there is no existing crossing and the waterbody must be crossed, **the Engineer** may approve the construction of a temporary crossing to keep all vehicles and equipment out of the waterbody.

.4 Stream crossings shall be located at straight stream sections, perpendicular to the bank. In particular, meandering bends, braided streams, alluvial fans and other unstable areas shall be avoided.

.5 When feasible, the construction of stream crossings shall be scheduled for the period of lowest steam flow and should be a single event.

.6 The natural alignment of the stream shall be maintained.

.7 A minimum vegetated buffer strip of 30 meters shall be maintained between the worksite and waterbody except at the actual crossing location.

.8 The number of temporary stream crossings constructed shall be minimized.

.9 Temporary stream crossings shall be removed as soon as possible following completion of the work or when it is no longer required, whichever is sooner.

.12 Natural debris removal shall be limited to that which is necessary to protect bridge piers or abutments or to that which is blocking culverts.

2.4.10 Water Quality Monitoring

.1 Water quality monitoring shall be required when directed by **the Enginee**r or for in-water work in **fish-bearing** waterbodies and may be required when working near fish bearing waterbodies or tributaries to fish bearing waterbodies to demonstrate that deleterious substances are not

entering into the waterbody. Water quality monitoring shall also occur when working upstream and within 5km of a water treatment plant intake.

.2 Where water quality monitoring is being coordinated by others, **the Contractor** must cooperate and coordinate with **MI** and its agents. All water quality monitoring activities must be conducted or overseen by a **qualified fisheries biologist** or a suitable equivalent at the discretion of **the Engineer.**

.3 **The Contractor** must advise **the Engineer** no less than 30 business days in advance of work where water quality monitoring is or may be required. The monitoring shall be conducted prior, during and after construction activities. **The Contractor** shall reconfirm the schedule 7 business days and 48 hours in advance of the start of work. Any alteration to the schedule which results in direct or indirect costs to **the Engineer**, **MI** or its agent shall be at **the Contractor's** expense.

.4 Where monitoring results demonstrate changes above the *Manitoba Water Quality Standards, Objectives and Guidelines* (or other authorized or directed threshold), the activity shall cease until effective mitigative measures are taken.

2.4.11 Culvert Installation, Maintenance and Replacement

.1 Old culverts are not to remain on site and should be disposed at an appropriate disposal or recycling facility.

.2 Material and structures shall not be kept within 100 meters of a waterbody.

.3 Utilize culvert removal techniques that result in the least amount of impacts to the waterbody and riparian area.

.4 **The Contractor** shall maintain a culvert gradient as close to the natural stream grade as possible.

.5 **The Contractor** shall embed culverts a minimum of 30 cm or 10% of the total culvert diameter (whichever is greater) below the normal stream bed.

.6 **The Contractor** shall avoid using frozen backfill to ensure proper compaction. Backfill shall be compacted to avoid settling, hydrostatic uplifting or side movements of the culvert that may lead to blockage of fish passage or washouts.

2.4.12 Blasting Near a Waterbody

.1 The use of ammonium nitrate-fuel oil mixtures in or near water frequented by fish shall be avoided to prevent the deposit of toxic by-products (ammonia).

.2 **The Contractor** shall plan and time blasting activities to adhere to legislated and regulated restrictions to respect key life cycle events to critical life functions of fish and wildlife.

.3 **The Contractor** shall possess all required blasting permits and certificates. Advanced notification shall be given to affected parties including site employees and the local general public prior to each blasting event.

.4 Blasting near **fish-bearing** waterbodies shall adhere to set back and weight of explosive charge guidelines as referenced in Fisheries and Oceans Canada document *Guidelines for the Use of Explosives in or Near Canadian Fisheries Waters 1998*. Where these guidelines cannot be met, blasting plans shall be submitted to **the Engineer** for application to Fisheries and Oceans Canada to obtain necessary approvals prior to commencement of blasting in areas that could affect fish habitat.

2.4.13 Debris and Sedimentation Removal

.1 Debris and other materials shall be removed gradually. Whenever possible, remove debris and other materials by hand.

.2 Removal of debris (i.e., branches, stumps, other woody materials, garbage, etc.) shall be limited to the area within the culvert, immediately upstream of the culvert and to that which is necessary to maintain proper culvert function and safe fish passage.

.3 Accumulated debris shall be removed slowly to allow clean water to pass, to prevent downstream flooding and reduce the amount of sediment-laden water going downstream. Gradually reintroducing flow will also reduce the potential for stranding fish in upstream areas.

.4 Accumulated sediment removal shall be limited to within the culvert and to the level of the waterbody bed, to maintain embedment of the culvert.

.5 Sediment shall be removed in a manner that prevents it from moving downstream.

.6 Emergency debris removal using hand tools or machinery (e.g. backhoe) may be carried out at any time of year. Emergencies include situations where there is imminent risk of damage to property or the environment, or is in the interest of public health or safety. DFO is to be notified of emergency situations immediately.

2.5 Machinery, Fuel Storage, Materials Handling and Storage, Spill Response and Remediation

Improper machinery maintenance, fuel storage, materials handling and storage can create hazards to people, property and the environment. The following requirements apply to all works during all Project phases.

2.5.1 General

.1 **The Contractor** is responsible for ensuring compliance with all applicable legislation, regulation, permits, approvals, licences and/or authorizations.

.2 Machinery shall arrive on site in a clean condition and shall be kept in good working order and free of fuel, oil or fluid leaks. Machinery that is found to be leaking any fuel, oil or other fluids shall be moved off the work site immediately for repaired.

.3 All fuel handling and storage shall comply *with Storage and Handling of Petroleum Products and Allied Products Regulation 188/2001* under *The Dangerous Goods Handling and Transportation Act C.C.S.M. c. D12*.

.4 Storage of fuel stored in drums or containers of 230 L or less shall comply with the requirements of the *Manitoba Fire Code*.

.5 **Designated Area(s)** shall be established for fuel storage, materials handling and storage, equipment cleaning, refueling and servicing. Any **Designated Area** shall be located at least 100m away from any waterbody or wetland and shall be kept clear of snow and/or miscellaneous materials to allow for clear access and routine inspection and leak detection.

- .1 Machinery and equipment shall be washed, refueled and serviced in such a manner that wash water shall not contaminate surface water or be discharged into a waterbody.
- .2 In the event that a piece of equipment must be refueled or serviced outside a **Designated Area**, the fuel shall be transported in approved containers. Absorbent pads or other precautions, such as drip trays or a high density polyethylene (HDPE) groundsheet, shall be used as secondary catchment or containment in the event of spillage.
- .3 All mobile equipment that is not in use shall be parked within a **Designated Area(s)** where possible. Equipment exhibiting signs of leaks or spills shall be parked over secondary containment to prevent soil contamination.

.6 All **Designated Areas** used for petroleum storage shall be a minimum distance of 3 meters from a property line or building and 15 meters horizontally from hydroelectric poles and lines.

.7 Tank vehicles used to deliver fuel to the work site and/or used to move fuel around the work site shall meet the requirements for highway tanks for the shipment of dangerous goods by road set out in CSA Standard B620-14, Highway Tanks and TC Portable Tanks for the Transportation of Dangerous Goods.

.8 All fuel storage containers and tank vehicles shall be inspected daily for leaks and spillage. Damaged or leaking fuel storage containers shall be promptly removed from site. All used

petroleum products and other regulated hazardous wastes shall be collected and disposed of at a licensed facility in accordance with applicable legislative requirements.

.9 Equipment shall not be refueled from a watercraft.

.10 All **designated sites**, including but not necessarily limited to refueling, fuel storage and equipment servicing sites are to be fully remediated (i.e. returned to pre-existing condition, or below CCME guideline) once they are no longer required or decommissioned.

.1 **The Contractor** will be liable and responsible for any required remediation and disposal of contaminated material from all applicable work sites and **designated areas** to an appropriate licenced facility. It is in **the Contractors** best interested to identify any pre-existing contamination prior to the start of work.

.2 Documented proof of contamination inspection(s) and site remediation of all applicable work sites and **designated areas** shall be provided to **the Engineer** prior to contract closeout.

.11 Petroleum products shall be transported in accordance with the Manitoba *Dangerous Goods Handling and Transportation Act*.

.12 Construction, installation and removal of petroleum storage tank systems shall occur under the supervision of a registered licenced petroleum technician.

.13 Prior to use or filling, all petroleum storage tanks shall be registered and properly permitted, as required, with the province of Manitoba or the government of Canada (on federal lands). All permits are to be kept current.

.14 Petroleum storage tanks shall be grounded and the dispensing tank shall be attached with a bonding cable to an appropriate location on the receiving tank prior to commencing fueling.

.15 Dedicated petroleum storage areas shall provide additional spill containment and facilitate clean up through measures such as:

.1 Maximum separation from environmentally sensitive features;

.2 Clear identification of the materials present;

.3 Access restricted to authorized vehicles and employees;

.4 Impervious bermed storage areas; and

.5 Dedicated spill response equipment.

.16 Only above ground storage tanks shall be used for the storage of bulk petroleum products. The tanks shall be equipped with overfill protection and spill containment consisting of perimeter dikes or secondary containment in the tank design.

.17 All **Designated Areas** used for petroleum product storage shall be a minimum distance of 100 meters from any water body and shall have the top soil stripped and be underlain with at least 30 cm of impermeable soil or approved alternate and diked in such a manner as to contain any leakage or spillage. The dikes shall be designed, constructed and maintained to retain not less than 100% of the capacity of the total number containers or 110% of the largest container, whichever is greatest. If dikes are used, the containment areas shall be dewatered after a rainfall event and the containment water disposed of as approved by the Engineer and clean top soil shall be stored and used in the restoration of the site.

.18 Concrete barriers shall be installed around all petroleum storage tanks to prevent collisions (as per Technical Bulletin PSF-004, March 2015: Impact Protection Requirements for Above Ground Storage Tanks Systems).

.19 All mobile equipment that is not in use shall be parked within a **Designated Area**.

.20 All employees involved in the handling and storage of fuels shall have WHMIS and spill response training.

.21 All internal-combustion engines (regardless of fuel type) shall be shutdown during fueling.

.22 There shall be no smoking and no open flames at the petroleum storage area at any time.

.23 Fueling procedures shall be posted where fueling occurs.

.24 Storage sites for petroleum products shall be secured and signs including but not limited to; hazard warnings, who to contact in case of a spill, access restrictions and under whose authority the access is restricted shall be posted.

.25 All petroleum storage tanks with a capacity greater than 5000 litres shall be registered with Manitoba Sustainable Development. New tanks shall be registered before installation. Tanks shall be designed, installed, and operated in accordance with the Manitoba *Dangerous Goods Handling and Transportation Act* and the Federal *Transportation of Dangerous Goods Act*. Smaller stationary tanks shall adhere to requirements of the Manitoba Fire Code. A copy of the petroleum license shall be posted at the fuelling site.

.26 Bulk waste oil shall be stored in aboveground oil tanks, which shall have secondary containment and a weatherproof cover. Waste oil shall be recycled by a reputable recycling agency.

.27 Used oil filters shall be drained, placed into suitable storage containers and disposed of at approved facilities. The oil drained out of the used filters shall be collected and handled in the same manner as used oil.

.28 **The Contractor** shall prevent fuel, lubricants or compounds from being released. All empty containers from equipment refueling and servicing shall be removed to a licenced disposal site. **The Contractor** shall be thoroughly familiar with provincial/federal spill response compliance procedures.

.29 Materials required for spill containment and clean up shall be available at all work sites and **designated areas**. All vehicles shall carry materials and equipment for emergency spill containment.

.30 All petroleum product storage sites and mobile transportation units shall, at all times, be equipped with appropriate categories of equipment and volumes of fire suppression products

2.5.2 Spill Response and Remediation

.1 Due care and caution shall be taken to prevent spills, leaks and releases of hazardous products at all times.

.2 An up-to-date list of key contacts and telephone numbers for reporting spills shall be kept on-site at all times.

.3 A Workplace Hazardous Materials Information System (WHMIS) file shall be maintained on-site for all hazardous materials at the work area.

.4 Prior to commencement of the Work, Material Safety Data Sheets (MSDS) shall be available on-site for all hazardous materials to be used. An updated spill response and containment plan for each dangerous good/hazardous waste shall be maintained in the work area at all times.

.5 **The Contractor** shall contact Manitoba Sustainable Development within 24 hours of any reportable spills (Table 1) by contacting the Emergency Response Program Reporting Line at (204) 944-4888 pursuant to Manitoba Regulation 439/87, respecting Environmental Accident Reporting.

Table 1. Manitoba Sustainable Development Reportable Spill Quantities

Classification	**Hazard**	**Reportable Quantity**
1	Explosives	All
2.1	Compressed Gas (Flammable)	100 L*
2.2	Compressed Gas	100 L*
2.3	Compressed Gas (Toxic)	All
2.4	Compressed Gas (Corrosive)	All
3	Flammable Liquids	100 L
4	Flammable Solids	1 kg
5.1 PG I,II,III	Oxidizer	1 kb or 1 L
	Oxidizer	50 Kg or 50 L
5.2	Organic Peroxide	1 Kg or 1 L
6.1 PG I	Acute Toxic	1 Kg or 1 L
PG II & III	Acute Toxic	5 Kg or 5 L
6.2	Infectious	All
7	Radioactive	Any discharge or radiation level exceeding 10 m Sv/h at the package surface and 200 uSv/h at 1 m from the package
8	Corrosive	5 Kg or 5L
9.1	Miscellaneous (Except PCB Mixtures)	50 Kg
9.1	PCB Mixtures	500 grams
9.2	Aquatic Toxic	1 Kg or 1 L
9.3	Wastes (Chronic Toxic)	5 Kg or 5 L

.6 *Container Capacity (refers to container water capacity)

.7 All spills shall be reported to **the Engineer** within 24 hours whether it was necessary to report the spill to Manitoba Sustainable Development or not. The spill report shall include the following:

.1 personnel responding to the spill
.2 material spilled
.3 cause of spill
.4 estimated amount of material spilled
.5 estimated area and volume of soil affected by the spill
.6 cleanup action undertaken
.7 means used to contain, transport and dispose of the materials involved

.8 All spills of quantities less than those set out in Table 1 and without a potential impact to the environment shall be contained and cleaned up immediately by on-site personnel in accordance with the approved on-site emergency response and containment plan and reported to the Engineer.

.9 In the event that there is a spill, leak or release onto the ground surface from any piece of equipment (e.g. broken hydraulic hose) the entire affected area shall be cleaned up and all contaminated soil shall be appropriately disposed of at a licenced soil recycling facility. If contaminated soil is to be stored on site for any time a designated storage area is to be identified and prepared to prevent secondary contamination.

.10 A spill kit or sufficient supply of materials for clean-up or spill containment (i.e. absorbent material, high density HDPE groundsheets and absorbent oil booms when working near water) shall always be available on site, and replenished as needed. If necessary, additional material shall be made available on short notice.

.11 **The Contractor** shall designate a qualified supervisor(s) as the onsite emergency response coordinator(s) who shall be on site at all times that work is being undertaken. The emergency response coordinator(s) shall have the authority to redirect manpower and equipment in order to respond in the event of a spill.

.12 The designated emergency response coordinator shall periodically review and if necessary revise the on-site emergency spill response plan.

.13 As dangerous goods/hazardous waste storage areas are taken out of service remediation shall be conducted, including the appropriate disposal of the contaminated material to the satisfaction of **the Engineer**.

2.5.3 Materials Handling & Storage

.1 All construction areas shall be kept clean and orderly at all times during, and after, completion of work or activities.

.2 Waste material shall be recycled to a degree that is economically and practically feasible.

.3 There shall be no indiscriminate dumping of waste and litter on or off work sites or **designated areas**.

.4 All waste materials shall be collected and contained in a designated waste storage area and in containers appropriate to the waste classification until removed from the site for recycling or disposal at an approved facility.

.5 Waste storage sites shall be designated for each worksite and camp as approved by **the Engineer**.

.6 Different waste streams shall not be mixed.

.7 Contaminated runoff or water shall be contained and prevented from entering any waterbody. The collected contaminated runoff or water shall be hauled off site for disposal at an approved disposal facility.

.8 No on-site burning of waste or any other material is allowed unless approved by t**he Engineer**. When required, **The Contractor** shall be responsible for obtaining a burning permit from Manitoba Sustainable Development for burning between April 1 and November 15.

2.5.4 Dangerous Goods/Hazardous Waste Handling and Disposal

.14 Dangerous goods and hazardous wastes shall be identified and shall be handled in accordance with *The Dangerous Goods Handling and Transportation Act* and Regulations and Health Canada's *Workplace Hazardous Materials Information System* (WHMIS).

.15 **The Contractor** shall have staff, trained and certified in the handling of dangerous goods, present on-site whenever said dangerous goods are being utilized for the performance of the work.

.16 A WHMIS file shall be maintained on-site for all hazardous materials at the work area. Prior to commencement of the Work, Material Safety Data Sheets (MSDS) shall be submitted to **the Engineer**. No material shall be brought to the site without prior submission of a MSDS.

.17 Designated dangerous goods/hazardous waste storage areas shall have the top soil stripped and be lined with at least 30 cm of impermeable material or approved equal. The dykes shall be designed, constructed and maintained to retain not less than 100% of the capacity of the total number of containers or 110% of the largest container, whichever is greatest. The top soil shall be stored and used in the restoration of the site.

.18 Disposal of hazardous waste shall only be done at hazardous waste facilities licensed under *The Dangerous Goods Handling and Transportation Act*.

.19 All waste stored at designated hazardous waste storage areas shall be removed from the site at least once every seven (7) days.

.20 Hydrocarbons shall not be stored or disposed of in earthen pits.

.21 All pesticides shall be handled and applied by or under the direct supervision of a licensed commercial applicator, as defined in section 4.1 of the *Pesticides Regulation 94/88*, and further all pesticides shall be used in accordance with any terms and conditions of the permit.

.22 A pesticide use permit shall be obtained prior to the application of pesticides, if required. **The Contractor** shall ensure that all pesticides are applied by a licenced commercial applicator and adhere to all conditions specified in this permit. These conditions include submitting a properly completed post seasonal form to the Contract Administrator at the completion of the Contract or at the end of each calendar year confirming that any terms and conditions of the permit have been satisfied. **The Contractor** shall supply the following information to **the Engineer** for this form:

.1 The name of each pesticide used
.2 The Pest Control Product number of each pesticide
.3 Quantity in litres of each pesticide used
.4 Total area treated in hectares
.5 A map of the treated areas
.6 Legal description of the land where practical
.7 Color coded map to indicate where each type of pesticide was used

2.5.5 Domestic Solid Wastes, Demolition and Construction Waste

.1 Dispose of non-reusable demolition and construction debris at a waste disposal ground operating under the authority of a permit pursuant to Manitoba *Regulation 150/91* respecting Waste Disposal Grounds. Provide proof of appropriate disposal.

.2 All domestic solid waste containers shall be clearly marked to identify the nature and type of material to be deposited (e.g. containers for recyclable material and containers for disposal).

2.5.6 Domestic Sewage

.1 All collected sewage shall be removed from the site at least once every seven days by a registered sewage hauler, as defined in section 21(1) of the Onsite Wastewater Management Systems Regulation No. 83/2003 and disposed of at a wastewater treatment facility licenced under the Environment Act

.2 All sewage shall be collected through the provision of an outside toilet facility in compliance with the *Onsite Wastewater Management Systems Regulation No. 83/2003*.

2.6 Dust Suppression

The following requirements apply to all dust suppression activities for all Project phases.

2.6.1 General

.1 All work shall be conducted in a manner that minimizes the raising of dust from construction or maintenance operations.

.2 Only water or approved dust suppressants shall be used for dust control. The use of waste petroleum or petroleum by-products as dust suppressants is not allowed.

.3 All vehicles used to haul materials to or from the work site shall have the load covered with a tarpaulin cover during transport to minimize dust and prevent material from falling out.
All material stockpiles or spoil piles prone to wind erosion shall be maintained as to minimize release of particulate matter or dust. This may include, but is not limited to, covering or stabilization of material stockpiled at the work site as required.

.4 The application of dust suppressants shall be limited to the roadway, driveway or **designated area**.

.5 Carefully monitor the application rate of all dust suppressants to ensure adequate coverage without pooling or runoff of products.

.6 The amount of dust suppressant applied should not exceed the minimum amount required to effectively suppress dust.

.7 The material must not migrate or run off the traveled portion of the roadway or designated area.

.8 Dust suppressants must conform to the manufacturer's specifications and must not contain concentrations of contaminants that would not normally be found in the suppressant.

.9 Ensure that dust suppressants do not enter and contaminate waterbodies, including surface and groundwater. Do not allow the product to leave the roadway.

.10 Do not apply products to areas of roads that are subject to flooding.

.11 Do not apply products if precipitation is occurring, or forecast to occur before the product sets or cures.

.12 Avoid over-application or application beyond the road shoulder.

.13 Should there be a need for a water source for compaction or dust suppression or related activity, a temporary authorization for any withdrawal greater than 25,000 litres or 550 gdp shall be required from the Manitoba Sustainable Development Water Use Licensing Section. Contact the Manager of Water Use Licensing Section, at (204) 945-3983 prior to the commencement of the work.

2.7 Concrete and Asphalt

The following requirements apply to all concrete and asphalt works during all Project phases.

2.7.1 General

.1 All concrete obtained and utilized for the Project must be sourced from a concrete **batch plant** licensed in accordance with the Manitoba Environment Act.

.2 All **contractor** owned **batch plants** must be licenced under the Environment Act prior to development or use.

.3 Concrete wash out areas must be designated at the pre-construction site meeting and approved by **the Engineer** prior to development or use.

.4 Waste concrete from concrete pumps and concrete trucks, cleanout materials from concrete trucks, concrete pumps and other equipment shall be deposited only in the concrete washout **Designated Area**. All of this material shall be hauled off site, for disposal at an approved landfill or to a recycling facility, not later than at the closure of the **Designated Area**.

.5 Concrete washout areas should be located a minimum of 100 meters away from the **ordinary high-water mark** of a waterbody or waterbody and in a non-porous soil location. All concrete washout areas shall be remediated to the satisfaction of **the Engineer** when no longer in use or when construction activities are complete, whichever is sooner. Concrete washout areas are not to be carried over from one contract to another unless approved by **the Engineer.**

.6 Concrete works shall be conducted in a manner that does not allow direct entry of concrete, concrete fines or concrete washout into a waterbody. Appropriate sealed containment to isolate a structure will be required for concrete usage within water.

.7 **The Contractor** shall comply with all requirements as laid out in the *Water Rights Act*, including but not limited to:

- .1 **The Contractor** must not release any excess cement and/or wastewater to surface waters, including wetlands,
- .2 Any containment area must not be connected to or drain to any surface waters, including wetlands, and
- .3 Any wastewater generated on site must be contained within the construction site.

.8 **The Contractor** shall comply with all requirements as laid out in the Environment Act Licence for the **batch plant** regarding utilization, cleanup and disposal of water, waste and hazardous materials at the washout site.

.9 Barges or shrouding shall be used to trap and prevent concrete and other bridge materials from entering a waterbody.

2.8 Noise and Noise Limitations

The following requirements apply to all Project-related works and during all Project phases. All activities shall be undertaken by means that do not result in violation of applicable noise by-laws, or other specified thresholds. **The contractor** is responsible for ensuring compliance with contract specifications, environmental legislation, permits and authorizations.

2.8.1 General

.1 All plant and equipment supplied for use on the Project shall be effectively "sound-reduced" by means of proper silencers, mufflers, acoustic linings, acoustic shields or acoustic sheds.

.2 Noise by-laws of the adjacent communities and municipal authorities shall be complied with.

.3 Any operation of plant or equipment beyond dates or times as specified or regulated by applicable by-laws or adjacent communities or municipal authorities shall require an exemption in writing.

2.9 Wildlife

Wildlife includes a broad range of terrestrial, aquatic, or avian species that may be affected by various activities. This procedure is intended to compliment other targeted procedures, regulatory requirements and monitoring plans. **The Contractor** is responsible for ensuring compliance with contract specifications, environmental legislation, permits and authorizations.

2.9.1 General

.1 Construction camps and worksites shall be kept clean and tidy. All food, garbage or waste that may attract wildlife shall be stored in an appropriate manner and be disposed of at an area which has been designated as an appropriate waste disposal site.

.2 Nuisance wildlife shall be immediately reported to the Natural Resources Officer and **the Engineer.**

.3 Employees, workers and other staff shall not hunt, trap or harass wildlife.

.4 **The Contractor** shall not remove, destroy or disturb species pursuant to Manitoba Regulation 25/98, or any future amendment thereof, respecting Threatened, Endangered and Extirpated Species, or species listed in the federal *Species at Risk Act*.

.5 Wildlife habitat shall not be destroyed or damaged, except pursuant to a licence, permit or other authorization issued for the Project.

.6 No person shall take or be in possession of or willfully destroy the nest or eggs of birds.

.7 No person shall remove, disturb, spring or in any way interfere with any trap set out lawfully by any other person for the purpose of taking furbearing animals.

.8 No blasting shall be permitted within close proximity to known sensitive wildlife habitat during critical lifecycle periods.

.9 Trees containing large nests of sticks and areas where active dens or burrows occur shall be identified, left undisturbed, and reported to the Natural Resources Officer.

.10 Terrestrial buffers, as identified by the Manitoba Conservation Data Centre's *Recommended Development Setback Distances from Birds* and/or Manitoba Sustainable Development's *Forest Management Guidelines for Terrestrial Buffers* shall be adhered to for all applicable sites.

.11 To reduce the possibility of vehicle collisions with wildlife, vehicle speed shall not exceed posted speed limits and wildlife warning signs shall be installed where appropriate.

.12 Prior to reinstating a quarry or borrow site, the area shall be surveyed to determine presence or absence of bank swallows and or common nighthawk nests. If nests are discovered, work shall be suspended and **the Engineer** will be contacted for further advice.

.13 Prior to removing temporary structures, an inspection shall be conducted to determine the presence or absence of barn swallow nests. If nests are discovered, work shall be suspended and **the Engineer** will be contacted for further advice.

2.9.2 Preventative Measures for Transfer of Invasive Species

.1 **The Contractor** shall ensure that equipment which has previously been in contact with an aquatic ecosystem, including but not limited to rivers, lakes, and marshes is properly cleaned so as to prevent the spread of aquatic invasive species.

    .1 Equipment of particular concern includes, water tanks, tank trucks, pumps, hoses, intake screens, boats and motors, and fish and water monitoring equipment.

.2 Equipment coming in contact with aquatic ecosystems must be cleaned and drained completely, dried, and inspected before and after contact. Cleaning is defined as the removal of all aquatic plants, animals, and sediments.

.3 Equipment that has or will come in contact with listed control zones (see attached Map) must be decontaminated using one of the methods described in Table 1. (See Manitoba Sustainable Development's website: http://www.gov.mb.ca/waterstewardship/stopais/ for the most up to date list of Control zones)

.4 Equipment that has come into contact with aquatic ecosystems in another province, territory, or country must be decontaminated as described in Table 1.

.5 In the event that aquatic invasive species are discovered during inspection **the Contractor** shall inform **the Engineer** and shall remove the equipment or machinery from the work site until it has been cleaned to the satisfaction of **the Engineer**. Manitoba Sustainable Development shall also be notified by using the web-form linked below: (http://www.gov.mb.ca/waterstewardship/stopais/ais_reporting.html

.6 To prevent the transfer of terrestrial invasive species, all equipment is to be cleaned to remove all earthen material and plant debris and inspected before being brought to site and before it is removed from site. Cleaning should be carried out with a pressure washer or scrub brush. If soap is used it shall be phosphate free.

.7 Documentation of measures to ensure the prevention of the spread of aquatic and terrestrial species invasive species shall be incorporated into the respective Water Quality and Fish Protection Plan and Monthly Environmental reports including:

    .1 History of equipment work locations and potential sources of contamination.

    .2 Details of cleaning / decontamination plan and procedures (methods).

    .3 Documentation of cleaning and decontamination (date, personnel, confirmation of methods used).

2.10 Wildfires

Wildfires can be a threat to people, property and activities. Advance planning, preparation and the implementation of safety measures is required to effectively respond to wildfires when they do occur.

2.10.1 General

.1 An evacuation and emergency preparedness plan addressing wildfires shall be implemented and submitted to **the Engineer** prior to commencing construction.

.2 No fires shall be started without first taking sufficient precautions to ensure that the fire can be kept under control.

.3 Open fires are prohibited from April 1st to November 15th annually. In the event that burning is required during that period, an application for a burning permit shall be submitted for approval to Manitoba Sustainable Development, where applicable. All conditions imposed by the burning permit shall be adhered to.

.4 No activity shall be conducted which may cause a fire to spread. Similarly, burning or smoldering matter shall not be placed where it may cause a fire to spread.

.5 A primary zone shall be established around camp sites and other longer term temporary structures associated with construction and maintenance activities. Flammable materials such as leaves, brush, dead limbs, and fallen trees shall be cleared from the area regularly.

.6 The locations of construction camps, offices, and related structures shall be chosen in such a fashion as to minimize the risk of exposure to wildfires.

.7 In the event that a wildfire occurs, it shall be immediately reported to **the Engineer** and to Manitoba Sustainable Development at 1-800-782-0076.

.8 All reasonable steps shall be taken in order to prevent a fire from burning out of control or spreading from land owned or occupied for construction purposes.

.9 In the event that a wildfire is identified where construction activities are taking place, all reasonable attempts shall be made in order to extinguish the wildfire. All available equipment, services and labor shall be made available at the disposal of an officer for the purposes of wildfire protection operations.

.10 All construction and related activities taking place in the vicinity of a wildfire shall cease until advised by **the Engineer** that it is safe to resume operations.

2.11 Heritage Resources

Heritage resources are an important component of Manitoba's historical legacy which may be uncovered during a wide range of construction activities. Heritage resources may include human remains, a heritage site, a heritage object, and any work or assembly of works of nature or human endeavor that is of value for its archeological, paleontological, pre-historic, historic, cultural, natural, scientific, or aesthetic features, and may be in the form of sites or objects or a combination thereof.

2.11.1 General

.1 Areas of heritage or cultural resources of interest will be identified in the Special Provisions and/or construction drawings and shall be inspected prior to the start of construction.

.2 Work shall immediately cease where archaeological or historic artifacts are encountered during construction activities. The discovery shall be reported to **the Engineer**.

a. Work at the location shall be suspended until a Historic Resource Consultant can assess the archaeological or historic artifacts encountered, and mitigation measures are confirmed with the Manitoba Historic Resources Branch.

2.12 Quarries and Borrow

The following requirements apply to all quarry and borrow related works during all Project phases.

2.12.1 Quarry Site Selection

.1 No operator of a quarry is to establish or mine a quarry closer than 400 meters from a residence, unless the operator has established a vegetated berm or tree screen sufficient to shield the quarry from view from the residence.

.2 With the exception of quarries that are contiguous with the road right-of- way, all quarry operations shall maintain a 100 meters buffer from the proposed road right-of-way. If no vegetated buffer or screen exists this distance shall be at least 150 meters.

.3 Habitat occupied by protected species shall be avoided.

.4 Quarry site selection shall consider the proximity of sensitive sites including waterbodies, wildlife, heritage resources and culturally important sites. Setbacks will vary depending on circumstances however selected areas are to be a minimum of:

- .1 100 m from a water course or waterbody,
- .2 100 m buffer from any large stick nest, eagle nest, heron rookery, or any other sensitive wildlife area,
- .3 30 m from heritage resources or identified cultural sites,
- .4 400 m from any residence,
- .5 15 m from the property line, and
- .6 Other setbacks as required.

.5 Prior to developing quarry sites, the potential for acid rock generation. Sites found to contain acid generating rock shall not be developed or used.

2.12.2 Quarry Development

.1 **The Contractor** shall comply with all legislations, licenses, authorizations and permits respecting the Project and quarry.

.2 **The Contractor** shall not commence any mobilization or drilling activities until a casual quarry permit or quarry lease have been issued by the province of Manitoba (if required).

.3 **The Contractor** is responsible for maintaining the site and promoting surface water runoff to minimize ponding after rainfall events. In the event that ponding does occur, it shall be discharged or removed using effective erosion and sediment control devices and pumps as accepted by **the Engineer**.

.4 Quarries shall be developed in accordance with the site plan submitted to **the Engineer** prior to the beginning of construction and, where applicable, the immediate quarry area plan provided to Manitoba Sustainable Development as part of the work permit (if required).

- .1 The major components of the Work are as follows:
  - .1 Access Road Construction,
  - .2 Clearing and Grubbing,
  - .3 Blasting, and
  - .4 Gravel Crushing and Stockpiling of Aggregate.

.5 Quarry operations shall not encroach within 15 meters of any property boundary adjoining, private, municipal, or crown leased land.

.6 No operator of a quarry shall establish or mine a quarry closer than 150 meters from a Provincial Trunk Highway, or Provincial Road, unless the operator has established a vegetated berm or tree screen sufficient to shield the quarry from view from the road or residence. A quarry shall not be established within 400 meters of a residence.

.7 A rehabilitation levy shall be paid by the lease holder for production of aggregate quarry mineral. This only applies to quarry minerals that are produced and removed from the quarry lease; no fee is required to be paid as long as the quarry mineral remains stockpiled on the quarry lease. (The current levy is 12¢ per tonne, as of 2018, and subject to change.)

.8 **The Contractor** may be subject to operational restrictions if in close proximity to sensitive receptors, including but not limited to: wildlife, fish, residences or communities as stipulated in applicable permits or by **the Engineer**.

.9 **The Contractor** shall maintain the quarry site in a tidy condition and free from the accumulation of debris

.10 A Decommissioning Plan shall be developed in accordance with all applicable permits, Legislation and Regulations and as approved by **the Engineer**.

.11 Borrow pits will be left in a manner which promotes natural re-vegetation of the site

- .1 In cases where seeding is required, and when conditions permit, seeding shall commence immediately upon completion of capping and trimming operations. When conditions do not permit immediate seeding, **the Contractor** will endeavor to ensure seeding is completed within the next growing season, unless otherwise authorized by **the Engineer**.
- .2 Seeding operations shall not be carried out under adverse conditions of high winds, frozen ground, or ground covered with snow, ice, or standing water

2.13 Site Decommissioning

All work sites are to be fully decommissioned when no longer required. The following requirements apply to decommissioning of all sites developed or used for the Project.

2.13.1 General

.1 All **designated areas** shall be leveled to natural or pre-existing grade and slope as part of **decommissioning**. Stockpiled topsoil and other organic matter that had been removed from the site shall be spread to promote natural re-establishment of vegetation.

.2 Where seeding is not required, temporary site locations shall be left in a manner which promotes natural re-vegetation of the site.

.3 In cases where seeding is required, and when conditions permit, it shall commence immediately upon completion of grading, capping and trimming operations.

.4 When conditions do not permit immediate seeding, **the Contractor** shall endeavor to ensure seeding is completed within the next growing season, unless otherwise authorized by **the Engineer**.

.5 Seeding operations shall not be carried out under adverse conditions of high winds, or ground covered with snow, ice, or standing water.

2.14 Revegetation and Vegetation Maintenance

The following requirements apply to all **revegetation** or vegetation maintenance works during all Project phases.

2.14.1 General

.1 Immediately following construction and decommissioning, all salvaged and stockpiled organics and soils which were set aside during site development shall be spread back over the area from which they originated and shall be seeded. If local soils are not available, other organic-based covers may be used to allow seed germination.

.2 Do not plant the following undesirable/invasive species:

a. Smooth Brome (Bromus inermis)
b. Downy Brome (Bromus tectorum)
c. Crested Wheatgrass (Agropyron cristatum)
d. Reed Canary Grass (Phalaris arundinacea)
e. Creeping Red Fescue (Festuca rubra)
f. Kentucky Bluegrass (Poa pratensis)
g. Birdsfoot Trefoil (Lotus corniculatis)
h. Yellow Sweet Clover (Melilotus officinalis)
i. White Sweet Clover (Melilotus alba)
j. Dutch Clover (Trifolium repens)
k. Alsike Clover (Trifolium hybridum)
l. Alfalfa (Medicago sativa)
m. Meadow Foxtail (Alopecurus pratensis)
n. Tufted/Cow/Bird Vetch (Vicia cracca)
o. Tall Fescue (Festuca arundinacea

.3 Utilization of ditches as a heavy-machinery transportation corridor shall be minimized to the greatest extent possible.

.4 **Revegetation** works shall not alter existing drainage patterns.

.5 Should there be a need for a water source as part of **revegetation** efforts, a temporary authorization shall be required from the Water Use Licensing Section of Manitoba Sustainable Development and Water Stewardship. Contact the Manager of Water Use Licensing Section, at (204) 945-6118 prior to the commencement of the work. Note any water withdrawal greater than 5500 gpd requires a permit.

2.15 Planned and Unplanned Shutdowns

The following requirements for planned and unplanned shutdowns apply to all temporary or permanent stoppages of work, including but not necessarily limited to: staff rotations, holidays, stop work orders or as part of contract closeout.

2.15.1 General

.1 **The Contractor** shall ensure all equipment, supplies, and any other items used during construction are relocated to designated areas for laydown and staging or taken off site prior to any shutdown period.

.2 All dangerous goods/hazardous waste shall be removed from the site, including from the designated areas for waste and/or fuel storage, for any shutdown period where transportation permits and/or at the discretion of **the Engineer**. In all instances dangerous goods/hazardous waste shall be securely stored and inspected regularly during the shutdown.

.3 Waste products shall be removed from the construction site during a shutdown period, including from the designated areas where transportation permits and/or at the discretion of **the Engineer**. The demolition and construction waste products, such as gravel and waste concrete, may be left on-site as long as they are stored in a secure designated area for waste.

.4 **The Contractor** shall submit a plan to the Engineer for removal and/or securing of equipment, supplies and waste materials in the event of an unplanned shutdown.

3.0 Glossary – Definitions and Terms

Batch Plant:
"Batch Plant" refers to concrete and asphalt production facilities.

Construction:
"Construction" refers to the period and activates associated with constructing Project infrastructure, including site preparation and decommissioning.

Decommissioning:
"Decommissioning" refers to the closure and/de-construction of infrastructure or work sites.

Designated Areas:
"Designated Areas" refers to specific sites that have been identified for a specific purpose which requires special approvals and/or careful documentation, maintenance, and decommissioning.

Fish-Bearing:
"Fish-Bearing" refers to waterbody containing **fish** as defined in the *Fisheries Act*.

Maintenance:
"Maintenance" refers to the period and activities related to Project upkeep.

Merchantable Timber:
"Merchantable Timber" refers to woody vegetation, specifically a tree, which is a specific taper, straightness, diameter and overall form which allows it to be harvested for commercial, community, or personal use.

Ordinary High-Water Mark:
"Ordinary High-Water Mark" refers to the average expected elevation at which a waterbody or waterbody would reach at least once in every two year period (1:2).

Post-Construction:
"Post-Construction" refers to the period and activities related to the time after which the Project is constructed and operational.

Qualified Fish Biologist:
"Qualified Fish Biologist" refers to designated individuals or groups with adequate certification and experience, as approved by **the Engineer**, to perform key fisheries or aquatics related tasks.

Revegetation:
"Revegetation" refers to, and includes, all works associated with site preparation, seeding and germination of plants for erosion control, aesthetics or any other purpose.

The Contractor:
"The Contractor" refers to the individual, company or group tasked with the construction, operation or maintenance activity, and includes all subcontractors and affiliates.

The Engineer:
"The Engineer" refers to designated Manitoba Infrastructure personnel or their representatives, including Manitoba Infrastructure Environmental staff.

Waterbody:
"Waterbody" (including the term watercourse) refers to any significant accumulation of water such as: a drain, stream, river, pond, or lake. Waterbodies can be natural or artificial. Waterbody can also refer to an ephemeral waterbody which is a shallow water body that temporarily contains water after spring snowmelt or a heavy rainfall and typically dries up within a matter of days to weeks

Manitoba

LAKE MANITOBA AND LAKE ST. MARTIN OUTLET CHANNELS PROJECT
Environmental Impact Statement

CHAPTER 4

ENVIRONMENTAL ASSESSMENT APPROACH

March 2020

Manitoba

Table of Contents

4.0 ENVIRONMENTAL ASSESSMENT APPROACH 4.1
4.1 INTRODUCTION 4.1
4.2 REGULATORY REQUIREMENTS 4.2
4.2.1 Canadian Environmental Assessment Act, 2012 (Canada) 4.2
4.2.2 The Environment Act (Manitoba) 4.2
4.2.3 Other Regulatory Requirements 4.2
4.3 OVERVIEW OF ENVIRONMENTAL ASSESSMENT APPROACH 4.3
4.4 STEPS 1 TO 4: SCOPING THE ASSESSMENT 4.5
4.4.1 Step 1: Selection of Valued Components 4.5
4.4.2 Step 2: Identification of Interactions between Valued Components and the Project 4.12
4.4.3 Step 3: Identification of Assessment Boundaries 4.15
4.4.3.1 Spatial Boundaries 4.15
4.4.3.2 Temporal Boundaries 4.16
4.4.4 Step 4: Characterization of Residual Environmental Effects and Defining Thresholds for Significance 4.16
4.4.4.1 Characterization of Residual Environmental Effects 4.16
4.4.4.2 Thresholds for Determining Significance of Residual Environmental Effects 4.17
4.4.5 Step 5: Existing Conditions 4.17
4.4.5.1 Data Collection and Analysis 4.17
4.4.5.2 Overview of Existing Conditions 4.17
4.5 STEPS 6 TO 10: EFFECTS ASSESSMENT 4.18
4.5.1 Step 6: Assessment of Environmental Effects 4.18
4.5.1.1 Assessment Cases 4.18
4.5.1.2 Identification of Potential Effects and Effects Pathways 4.18
4.5.1.3 Mitigation of Environmental Effects 4.18
4.5.1.4 Characterization of Residual Effects 4.18
4.5.2 Step 7: Assessment of Cumulative Environmental Effects 4.19
4.5.2.1 Identification of Other Projects or Activities 4.20
4.5.2.2 Cumulative Environmental Effects Pathways 4.20
4.5.2.3 Mitigation of Cumulative Environmental Effects 4.21
4.5.2.4 Characterization of Residual Cumulative Environmental Effects 4.21
4.5.3 Step 8: Significance Determination and Prediction Confidence 4.21
4.5.3.1 Determination of Significance of Residual Project Environmental Effects 4.21
4.5.3.2 Determination of Significance of Residual Cumulative Environmental Effects 4.22
4.5.3.3 Prediction Confidence 4.22
4.5.4 Step 9: Follow Up 4.22
4.5.5 Step 10: Summary 4.22
4.6 STEP 11: ASSESSMENT OF POTENTIAL ACCIDENTS AND MALFUNCTIONS 4.22
4.7 STEP 12: ASSESSMENT OF EFFECTS OF THE ENVIRONMENT ON THE PROJECT 4.23

4.8 REFERENCES 4.23

LIST OF TABLES

Table 4.4-1 Rationale for Valued Components Selected 4.7
Table 4.4-2 Interactions between Valued Components and the Project 4.13
Table 4.5-1 Summary of Project Residual Effects on (Name of VC) 4.19

LIST OF APPENDICES

APPENDIX 4A TABLES 4A.1

APPENDIX 4B FIGURES 4B.1

4.0 ENVIRONMENTAL ASSESSMENT APPROACH

4.1 INTRODUCTION

This chapter describes the overall approach taken by Stantec for the environmental assessment (EA) of potential effects of the Project. It provides an overview of the approach, sources of information used for the Environmental Assessment and the assessment approach followed. This assessment is intended to meet the requirements of the *Canadian Environmental Assessment Act*, 2012 (CEAA 2012) and *The Environment Act* (Manitoba).

MI submitted a project description to the Canadian Environmental Assessment Agency (Agency) in January 2018 (Manitoba Infrastructure 2018a). The Agency provided Guidelines for the Preparation of an Environmental Impact Statement (EIS) for the Project on May 15, 2018, with additions on August 16, 2018 and December 21, 2018 (Canadian Environmental Assessment Agency 2018 a, b and c). The guidelines stated that the EA will:

- describe the Project and existing environment
- describe what was heard during Indigenous and public engagement processes
- identify potential adverse effects
- propose measures to mitigate adverse environmental effects
- predict whether there will be significant adverse environmental effects, after mitigation measures are implemented
- include a follow-up program to verify the accuracy of the EA and the effectiveness of the mitigation measures

In addition to the above, the EA for the Project is also intended to maximize beneficial effects to the extent feasible, and to provide early and meaningful opportunities for Indigenous and public engagement, and input throughout the Project planning and the EA process.

MI submitted a scoping document for the Project to the Environmental Approvals Branch of Manitoba Sustainable Development (MSD) in March 2018 (Manitoba Infrastructure 2018b). MSD provided Environmental Impact Statement Guidelines for the Project on March 7, 2019 (Manitoba Sustainable Development 2019). In these guidelines, MSD stated their agreement of one EIS for review by both Manitoba under *The Environment Act*, and the Agency under the *Canadian Environmental Assessment Act, 2012*. MSD noted that the CEAA Guidelines address almost all the content proposed in the scoping document except for some additional items specific to the provincial process. The MSD Guidelines, therefore, focus on the additional items not covered in the CEAA Guidelines. Concordance tables, demonstrating where EIS Guidelines are addressed, are provided at the beginning of this EIS.

4.2 REGULATORY REQUIREMENTS

The Project requires an environmental assessment under both federal and provincial legislation.

4.2.1 Canadian Environmental Assessment Act, 2012 (Canada)

The Project is a designated project under CEAA 2012, and therefore requires an environmental assessment. The outlet channels are expected to achieve design flows of more than approximately 200 m^3/s. At full capacity (large flood years) the channels could divert over 17 billion m^3 per year. The outlet channels will supplement Manitoba's existing flood management infrastructure and are not expected to produce regular annual flow rates. Therefore, section 6 of the Regulations Designating Physical Activities, pursuant to CEAA 2012, applies:

> ***s. 6.*** *The construction, operation, decommissioning, and abandonment of a new structure for the diversion of 10 000 000 m^3/year or more a year from a natural body into another natural water body.*

4.2.2 The Environment Act (Manitoba)

The Project requires an Environment Act Licence under *The Environment Act* of Manitoba. The Project is classified as a Class 3 development, under the Classes of Development Regulation, being a flood control project protecting areas greater than 100 km^2. Since the distance between Lake Manitoba and Lake Winnipeg is over 80 km and the Project would protect an area more than 15 km wide (1,200 km^2), an environmental assessment will, therefore, be required under *The Environment Act*.

4.2.3 Other Regulatory Requirements

In addition to the environmental assessment and licensing requirement under CEAA 2012 and *The Environment Act* (Manitoba), permits and approvals will be sought as required for construction activities such as vegetation removal, camp development and burning of cleared vegetation. The proposed Project is in an area that has never been subject to a Regional Environmental Assessment Study, pursuant to CEAA 2012.

A listing of legislation pertinent to the construction of the outlet channels and associated works are presented in Chapter 1 (Appendix 1A). These acts, regulations and policies are anticipated to have linkages to the Project, or to specific project activities. Some legislation, including CEAA 2012, the federal *Fisheries Act*, The *Environment Act* (Manitoba) and *The Crown Lands Act* (Manitoba), set out specific requirements for compliance, including environmental assessment, permitting, and authorization, while others such as the federal *Migratory Birds Convention Act, 1994*, the federal *Species At Risk Act*, the federal *Transportation of Dangerous Goods Act*, the federal *Navigation Protection Act* and *The Wildlife Act* (Manitoba) identify prohibitions and require sound environmental management planning, mitigation and consideration of environmental impacts for the project life cycle.

4.3 OVERVIEW OF ENVIRONMENTAL ASSESSMENT APPROACH

The EA for the Project has been developed with reference to applicable regulatory requirements for environmental approvals as outlined in CEAA 2012 and *The Environment Ac*t (Manitoba), as well as applicable federal and provincial legislation, policies and guideline documents. The Agency's Guidelines specify the guiding principles of the EA and the scope of the EA required for the Project.

The Agency's Operational Policy Statements (OPS), technical guidance and reference documents under CEAA 2012 guided the EA for the Project (Appendix 4A, Table 4A-1) as did procedural guides (e.g., Cumulative Effects Practitioners Guide (Hegmann et al. 1999), Determining Whether a Project is Likely to Cause Significant Adverse Effects, Assessing Cumulative Environmental Effects (CEAA 2015), Follow-up Programs under the *Canadian Environmental Assessment Act* (CEAA 2011) under the former Canadian Environmental Assessment Act.

The environmental assessment aligns with federal and provincial sustainability principles and guidelines of sustainable development, as discussed in Chapter 13, Project Sustainability.

The EA has also been developed respecting information requirements stipulated in Licensing Procedures Regulation 163/88 under *The Environment Act* (Manitoba) and as outlined in MI's Environmental Assessment Scoping Document submitted to MSD (MI 2018b). The EA for the Project considers ecological, social and economic components of the environment consistent with legislative definitions of 'environment' and 'environmental effects' and further considers the principles and guidelines of sustainable development related to the environment as outlined in Schedules A and B of *The Climate and Green Plan Implementation Act* (CCSM c C134).

The environmental assessment methods address both Project-related and cumulative environmental effects. Project-related environmental effects are changes to the biophysical or human environment that are caused by a project or activity arising solely because of the proposed principal works and activities, as defined by the scope of the Project and as described in the Project Description (Chapter 3). Cumulative environmental effects are changes to the biophysical or human environment that are caused by an action associated with the Project, in combination with other past, present and certain or reasonably foreseeable[1] future projects or activities that have been or will be carried out.

Project-related environmental effects and cumulative environmental effects are assessed using a standardized framework for each VC[2]', with standard tables used to facilitate the evaluation. The

---

[1] CEAA 2012 defines certain as *the physical activity will proceed or there is a high probability that the physical activity will proceed, e.g. the proponent has received the necessary authorizations or is in the process of obtaining those authorizations.* CEAA 2012 defines reasonably foreseeable as *the physical activity is expected to proceed, e.g. the proponent has publicly disclosed its intention to seek the necessary EA or other authorizations to proceed.* (Canadian Environmental Assessment Agency 2015)

[2] Valued Component is defined by the Canadian Environmental Assessment Agency as "*environmental features that may be affected by a project and that have been identified to be of concern by the proponent, government agencies, Indigenous peoples or the public. The value of a component not only relates to its role in the ecosystem, but also to the value people place on it.*" (Canadian Environmental Assessment Agency 2018d).

environmental effects assessment methods used in this EA are shown graphically in Appendix 4B, Figure 4B-1.

- **Steps 1 through 4: Scoping of the Assessment**

  Scoping of the assessment includes the selection of VCs and the rationale for their selection; influence of consultation and engagement on the scoping of the VC; selection of the environmental effect(s); description of measurable parameters; description of temporal and spatial boundaries; and identification of benchmarks that are used to determine the significance of environmental effects. This step relies upon the scoping undertaken by regulatory authorities; the requirements of the CEAA Guidelines and MSD Guidelines; consideration of the input of the public, stakeholders, and Indigenous peoples that influenced the scope of the assessment; and the professional judgment of the Study Team (Stantec Consulting Ltd. and subconsultants) engaged to complete the environmental assessment.

- **Step 5: Existing Conditions**

  Baseline environmental conditions are described for each VC. In many cases, existing conditions implicitly include those environmental effects that may have been or may be caused by other past or present projects or activities that have been or are being carried out.

- **Step 6: Assessment of Project Environmental Effects**

  The assessment includes descriptions of how an environmental effect will occur or how the Project will interact with the environment; mitigation and environmental protection measures proposed to reduce or eliminate the environmental effect; and characterization of the residual environmental effects: the environmental effects that remain after mitigation has been applied. The effects are assessed for both the construction, and operation and maintenance phases of the Project.

- **Step 7: Assessment of Cumulative Environmental Effects**

  Cumulative environmental effects of the Project are identified in consideration of other past, present and reasonably foreseeable future projects or activities that have been or will be carried out. An evaluation of potential Project-related interactions with the environment is completed to determine if an assessment of cumulative environmental effects is required (i.e., there is potential for an interaction) for that specific Project environmental effect that interacts with those of other projects or activities that have been or will be carried out. The residual environmental effects of the Project in combination with other projects or activities that have been or will be carried out are then evaluated for cumulative effects, including the contribution of the Project to those cumulative effects. As required by the CEAA Guidelines, the cumulative effects assessment is a stand-alone section (see Chapter 11).

- **Step 8: Determination of Significance**

  The significance of Project-related residual effects and residual cumulative environmental effects (including the contribution of the Project to cumulative effects) are then determined with consideration of the significance criteria.

- **Step 9: Follow-up**

  Follow-up measures to verify the environmental effects predictions or to assess the effectiveness of mitigation, as well as any required monitoring, are recommended, where appropriate and applicable.

- **Step 10: Summary**

  The environmental effects on the VC are summarized.

- **Step 11: Assessment of Potential Accidents and Malfunctions**

  The effects of accidents and malfunctions on each VC are assessed in Chapter 14.

- **Step 12: Assessment of the Effects of the Environment on the Project**

  The effects of local conditions and natural hazards on each VC are assessed in Chapter 15.

Steps 1 through 10 are based on effects of typical Project activities on each VC, Steps 11 and 12 address other effects (atypical circumstances) as well as effects of the environment on the Project (such as extreme weather events). These steps are discussed in more detail in Sections 4.4 to 4.6.

4.4 STEPS 1 TO 4: SCOPING THE ASSESSMENT

4.4.1 Step 1: Selection of Valued Components

'Valued Components' (VCs) refer to environmental biophysical or human features[3] that may be affected by the Project as related to the role of the VC in the ecosystem and the value people place on it. The assessment evaluated potential Project effects on identified VCs as presented in the Agency Guidelines for the Project (Canadian Environmental Assessment Agency 2018a) and the Environmental Assessment Scoping Document (Manitoba Infrastructure 2018b) provided to MSD.

The environmental (i.e., biophysical and socio-economic) components within the region where the Project will be located were subject to an initial screening process using the following criteria to identify a preliminary list of VCs:

- **Potential for the environmental component to occur within the local assessment area (LAA) and regional assessment area (RAA)**

[3] For the purpose of this EIS, 'human features' include archaeological and cultural sites and travel routes.

Based on the baseline studies completed for the Project and existing information available for the region, a determination was made regarding the potential for a specific environmental component to occur within the LAA and RAA. If the environmental component occurs within the LAA and RAA, a determination was made as to whether the Project has the potential to interact, directly or indirectly, or adversely affect the environmental component.

- **Potential for the environmental component to interact with the Project**

- **Identification of the environmental component by local Indigenous communities**
  Information regarding environmental components having specific economic, societal, cultural, historical, archaeological or aesthetic significance was primarily obtained through the engagement process (Chapter 5) and TK studies (Chapter 10) specifically for Indigenous communities potentially affected by the Project.

  The VC selection process is described in Section 4.4 of the EIS as the first step in scoping the assessment. The criteria used to identify a preliminary list of VCs includes identification of the environmental component by local Indigenous communities, regulatory authorities, and other stakeholders. As listed in Chapter 5 of the EIS, Manitoba Infrastructure has conducted a number of community open houses seeking input and providing updates on various aspects of the project including:

  - Round 1 in 2017 at Winnipeg and Moosehorn where feedback was sought from the public during the early stages of the project development including proposed channel alignments, changes to the road network, operating guidelines and potential environmental effects.

  - Round 2 in Spring 2018 at Winnipeg and Moosehorn where updates were provided on Project background, proposed alignments, design and engineering components, and the EA process.

  - Round 3 in Summer 2018 at Winnipeg, Moosehorn, St Laurent, and Portage la Prairie where the proposed VCs, proposed locations of the outlet channels, conceptual designs of the control structures, spatial boundaries of the EA, and preliminary proposed mitigation measures being considered were presented and discussed with the public

  - Round 4 in Summer 2019 at Winnipeg and Moosehorn where a project update was provided including the proposed outlet channel Project descriptions, the steps involved in the environmental assessment and the timeline.

  In addition to the community open houses, engagement has occurred with several Indigenous and Northern Affairs Communities. Some communities were contacted as early as 2011, with engagement continuing through to present day and beyond, as summarized in the Indigenous Consultation Approach and Current Status in Appendix 5C. Section 5.3.4 of the EIS summarizes the output of engagement conducted to-date with Indigenous communities and groups. Comments from Indigenous communities and groups, categorized by VC, are included in Table 5 4. Some communities through these processes have identified concerns related to effects of channel

development with respect to their traditional areas, their rights-based activities and commercial activities. Appendix C includes a list of issues raised through community knowledge and feedback, and concerns expressed on high priority issues such as fisheries and water quality. The ongoing consultation planned will continue to seek input on the project. This input from Indigenous communities and public engagement processes assisted the scoping of each VC assessment, including identification of VCs, as discussed in the "Influence of Engagement on the Identification of Issues and the Assessment Process" sub-section in each VC assessment (Sections 11.8 to 11.19).

Federal and provincial regulatory authorities were consulted at various stages during Project planning. Regulatory authorities focused on environmental components with perceived ecological importance and those covered under federal and/or provincial legislation (e.g., the federal *Fisheries Act*; the SARA; *The Endangered Species and Ecosystems Act* (ESEA) of Manitoba). Section 5 of the CEAA 2012 lists environmental components that must be assessed as do the Agency Guidelines issued for the preparation of the Project EIS (Canadian Environmental Assessment Agency 2018a).

Species at Risk have special protection status by virtue of the federal SARA and Manitoba's ESEA. Therefore, Species at Risk occurring in the region are assessed as part of the vegetation and wildlife VCs. For the purpose of this EA, Species at Risk are defined as:

- federally listed species at risk (Schedules 1-3, federal species designated by the Committee on the Status of Endangered Wildlife in Canada [COSEWIC] for listing on Schedule 1 of the federal SARA), including species in the risk categories of extirpated, endangered, threatened, and special concern
- provincial species listed as Endangered or Threatened under the Manitoba ESEA
- species listed as very rare (provincial status of S1) or rare (provincial status of S2) throughout their range as listed by MCDC (2018).

Following the initial screening process of environmental components, a list of preliminary VCs was identified and presented at community meetings during the engagement process (Chapter 5) to verify the appropriateness of the proposed VCs and to revise the VC list to be assessed, as needed, based on input from communities, landowners and other stakeholders. Based on the above screening criteria, final VCs for a focused EA were selected and the predicted effects on these VCs are discussed in Chapters 6 through 10. The final list of VCs selected reflects feedback from regulatory authorities, Indigenous peoples, local communities, landowners and the public through the IPEP, professional judgement, and EA practice and guidance documents.

Table 4.4-1 presents the VCs for the assessment and the rationale for their choice.

Table 4.4-1 Rationale for Valued Components Selected

Environmental Element	Rationale for Consideration	VC Selection
Physical Environment		
Atmospheric environment	• Potential for reduction in air quality	• Atmospheric Environment which includes air quality,

Table 4.4-1 Rationale for Valued Components Selected

Environmental Element	Rationale for Consideration	VC Selection
	• Potential for increased greenhouse gas emissions • Potential for change in ambient noise levels • Potential for changes in night-time light levels	acoustic environment and lighting is a VC. • Significance of residual effects is not determined; effects are discussed in the assessment of receptors (vegetation, wildlife, land use, human health and Indigenous peoples) and significance determined for those VCs.
Geology	• The bedrock and surficial materials of the Project area may be affected by Project activities. There may be sites of palaeontological or palaeobotanical interest affected by the Project. • Surficial materials may be susceptible to instability and erosion.	• Geology and Soils is a VC. • Significance of residual effects is not determined; effects are discussed in the assessment of receptors. • Issues related to effects on bedrock and surficial materials are discussed primarily in the project description (Chapter 3). • Issues related to erosion and sedimentation in water bodies are discussed in the fish and fish habitat VC. • Sites of palaeontological or palaeobotanical interest are discussed in the heritage resources VC.
Soil	• The Project could affect soil quality through physical activities during construction activities. Soil quality could also be affected by contamination.	• Geology and Soils is a VC. • Significance of residual effects is not determined; effects are discussed in the assessment of receptors (vegetation, land use and Indigenous peoples) and significance determined for those VCs.
Groundwater	• Potential for changes in groundwater quality, quantity and flow as a result of Project construction and of the diversion of floodwaters • Potential for effects on groundwater users	• Groundwater and Surface Water is a VC. • Significance of residual effects is not determined; effects are discussed in the assessment of receptors (fish habitat, vegetation, land use and Indigenous peoples) and significance determined for those VCs.
Surface water	• Potential for changes to drainage conditions, channel regime, water levels, sediment	• Groundwater and Surface Water is a VC.

Table 4.4-1 Rationale for Valued Components Selected

Environmental Element	Rationale for Consideration	VC Selection
	transport and yield, and open-water areas as a result of the Project. • Potential for the Project to effect water quality in Lake Manitoba, Lake St. Martin and Lake Winnipeg.	• Significance of residual effects is not determined; effects are discussed in the assessment of receptors (fish and fish habitat, vegetation, wildlife, land use and Indigenous peoples) and significance determined for those VCs.
Aquatic Environment		
Fish and fish habitat	• Fish as defined by the federal *Fisheries Act* are protected under the Act. • 'Effects on fish' is an area of federal jurisdiction and, therefore, is pursuant to section 5 of CEAA, 2012. • Agency Guidelines identify fish as a VC to be considered in the EA (Canadian Environmental Assessment Agency 2018). • Important component of the ecosystem as a food source to local communities and economically in relation to the commercial and recreational fisheries. • Fish habitat supports fish species that are of importance for Indigenous and local community culture, traditional, and economic activities and values. • Fish habitat as defined by the federal *Fisheries Act* is protected under the Act. • Fish habitat encompasses biophysical features of the aquatic environment and lower tropic levels (i.e., aquatic plants and benthic invertebrate communities).	• Fish and Fish Habitat is a VC. • Significance of residual effects is determined.
Terrestrial Environment		
Vegetation and wetlands	• The Project has the potential to increase fragmentation and the loss of upland, riparian and wetland habitats. • The Project has the potential for the introduction and	• Vegetation is a VC. • Significance of residual effects is determined.

Table 4.4-1 Rationale for Valued Components Selected

Environmental Element	Rationale for Consideration	VC Selection
	colonization of weeds and non-native species. • Project construction and operation has the potential to affect rare plants and Species at Risk vegetation.	
Wildlife and wildlife habitat	• The Project may affect wildlife, wildlife habitats and biodiversity. • 'Effects on migratory birds' is an area of federal jurisdiction, and, therefore, is pursuant to section 5 of CEAA, 2012. • A diversity of species, many of which are at risk, breed in the region. • Lake St. Martin is an Important Bird Area for colonial waterbirds. Cormorants, gulls, herons, and terns are some of the species known to nest on islands within Lake St. Martin. • The Project may affect protected species and their critical habitat.	• Wildlife is a VC. • Significance of residual effects is determined.
Human Environment		
Land and resource use	• The Project will alter land use in the local assessment area. • Access to public and private land may change. • Agriculture, recreation and tourism are important to the local economy.	• Land and Resource Use is a VC. • Significance of residual effects is determined.
Infrastructure and services	• Increased traffic volume on roads (e.g., PTH 6) will be potentially affected by the Project. • Workforce can cause increased demands on services (e.g., fire, police) in the region. • Travel routes and trails may be affected by the Project.	• Infrastructure and Services is a VC. • Significance of residual effects is determined.
Economy	• The Project is expected to reduce the financial costs of flooding. • Financial costs for the Project would have to be covered by	• Economy is a VC. • Significance of residual effects is determined.

Table 4.4-1 Rationale for Valued Components Selected

Environmental Element	Rationale for Consideration	VC Selection
	provincial and federal governments.	
Human health	• Changes to the atmospheric environment (e.g., noise, dust) can affect human health.	• Human Health is a VC. • Significance of residual effects is determined.
Heritage resources	• Historic resources may be affected by the Project.	• Heritage Resources is a VC. • Significance of residual effects is determined.
Traditional land and resource use	• Traditional land use areas used for fishing, hunting, trapping, and plant harvesting may be affected by the Project. • Traditional sites may be disturbed by the Project. • Access to traditional land use sites may be affected. • Loss or destruction or changes to sites of physical and cultural heritage may occur as a result of the Project.	• Traditional Land and Resource Use is a VC, included in the discussion of Indigenous Peoples. • Significance of residual effects is determined.
Indigenous peoples	• Section 5 (1) (c) of CEAA 2012 requires, with respect to aboriginal peoples, the assessment of any change that may be caused to the environment on health and socio-economic conditions; physical and cultural heritage; the current use of lands and resources for traditional purposes; or any structure, site or thing that is of historical, archaeological, palaeontological, or architectural significance. • The CEAA guidelines for the Project require and assessment of impacts to potential or established Aboriginal or Treaty rights.	• The effects of the Project on Indigenous Peoples are discussed in terms of: – Traditional Land and Resource Use, which is a VC – Indigenous Health and Socio-economic Conditions, which is a VC – Aboriginal and Treaty rights, which is a VC

4.4.2 Step 2: Identification of Interactions between Valued Components and the Project

The Project will interact with the VCs during the construction, and operation and maintenance phases. Table 4.4-2 summarizes the anticipated interactions of the Project with each VC. More detailed descriptions of the specific effect pathways for each VC are provided in the VC chapters.

Table 4.4-2 Interactions between Valued Components and the Project

Project Components and Physical Activities	Atmospheric Environment	Geology and Soil	Groundwater and Surface Water	Fish and Fish Habitat	Vegetation	Wildlife	Land and Resource Use	Infrastructure and Services	Economy	Human Health	Heritage Resources	Traditional Land and Resource Use	Indigenous Health and Socio-economic	Aboriginal and Treaty Rights
Construction														
Site preparation of Project components[1] (development of the Project development area (PDA) prior to construction activities [e.g., removal of existing infrastructure, vegetation clearing and initial earthworks, development of temporary construction camp and staging areas])	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Project-related transportation within the LAA (movement of trucks, equipment, bulk materials, supplies, and personnel within the LAA)	√	√	-	-	-	√	-	√	√	√	-	√	√	√
Construction of Project components[1] (physical construction of utilities, infrastructure, and other facilities as well as reclamation of temporary construction areas)	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Water development and control (dewatering and realignment of existing water works)	-	-	√	√	√	√	√	-	√	√	√	√	√	√

Table 4.4-2 Interactions between Valued Components and the Project

Project Components and Physical Activities	Atmospheric Environment	Geology and Soil	Groundwater and Surface Water	Fish and Fish Habitat	Vegetation	Wildlife	Land and Resource Use	Infrastructure and Services	Economy	Human Health	Heritage Resources	Traditional Land and Resource Use	Indigenous Health and Socio-economic	Aboriginal and Treaty Rights
Operations and Maintenance														
Operation and maintenance of the outlet channels (normal operational conditions when the outlet channels and associated infrastructure [e.g., water control structures] are either actively conveying water or are non-operational)	√	-	√	√	-	√	√	√	√	-	-	√	√	√
Operation and maintenance of other Project components[1] (normal operations conditions associated with PR 239 and municipal road realignments, and bridges and culverts)	√	-	√	√	√	√	√	√	√	-	√	√	√	√
Project-related transportation within the LAA (movement of trucks, equipment, bulk materials, supplies, and personnel within the LAA)	√	-	-	-	-	√	-	√	√	-	-	√	√	√

Note: √ means Potential Interaction that might cause an effect.
– means no interactions are expected.

[1] See **Section 3.3** for description of activities involved

4.4.3 Step 3: Identification of Assessment Boundaries

4.4.3.1 Spatial Boundaries

Spatial boundaries are established for the assessment of Project environmental effects and cumulative environmental effects for each VC. The primary consideration used is the probable geographical extent of the environmental effects (i.e., the zone of influence) on the VC.

Spatial boundaries may be different from one VC to another, depending on the characteristics of the VC. The spatial boundaries are referred to as the project development area (PDA), the local assessment area (LAA), and the regional assessment area (RAA). Appendix 4B, Figures 4B-2, 4B-3 and 4B-4 show the spatial boundaries for the VCs.

The Project Development Area (PDA) is the physical space or directly affected area within which Project components and activities are located and the immediately adjacent area, including designated ROW. The Project components and activities included as the PDA are described in Chapter 3, Section 3.4. The PDA is the same for all VCs and the total area has been calculated as 2,099 ha.

The LAA is the maximum area within which Project environmental effects, both direct and indirect, can be predicted or measured with a reasonable degree of accuracy and confidence. The LAA includes the PDA and adjacent areas where environmental effects may reasonably be expected to occur. The LAA varies from one VC to another, depending on factors such as local conditions, species abundance, socioeconomic factors, and cultural values.

The RAA is the area that provides context to the changes occurring in the LAA for each VC. For example, this could include the area occupied by the VC population, so that effects to the VC can be characterized or quantified. The RAA is also the area within which the Project's environmental effects may interact or accumulate with the environmental effects of other projects or activities that have been or will be carried out such that cumulative environmental effects may potentially occur. The RAA for each VC depends on physical and biological conditions and the type and location of other past, present, or reasonably foreseeable projects or activities that have been or will be carried out.

The rationale for the choice of the LAA and RAA for each VC is discussed in the VC chapters. These include a subsection on the consideration of Indigenous and traditional knowledge and its application to the scope of the assessment for the VC. The Project Development Area (PDA) and Local Assessment Area (LAA), representing, respectively, the Project footprint and where Project effects can be predicted or measured with a reasonable degree of accuracy and confidence, are the areas where the application of most Indigenous and/or community concerns were focused. For instance, concerns were expressed on erosion and runoff from farmlands, effects on the vegetation around the channels, and flooding of local communities. Concerns with respect to surface water and fish, however, extended beyond the LAA. As a result, the Regional Assessment Area (RAA) was chosen to include all of Lake Manitoba, Lake St. Martin and the North Basin of Lake Winnipeg.

4.4.3.2 Temporal Boundaries

The temporal boundaries for the assessment are based on the timing and duration of Project activities and the nature of the interactions with each VC. The purpose of a temporal boundary is to identify when an environmental effect may occur in relation to specific Project phases and activities. Temporal boundaries for the Project include the construction phase (estimated as five years) and the operations and maintenance phase, which has no duration to it as the Project is expected to operate in perpetuity and is not expected to be decommissioned.

4.4.4 Step 4: Characterization of Residual Environmental Effects and Defining Thresholds for Significance

4.4.4.1 Characterization of Residual Environmental Effects

Residual environmental effects or benefits (i.e., those that remain after mitigation or enhancement has been applied) are described during each Project phase. The analysis includes both direct and indirect interactions between the Project and the VC, and it considers mitigation measures to eliminate or reduce environmental effects or to enhance benefits. Once mitigation measures are applied, remaining effects are residual. Only residual environmental effects are assessed for significance.

The characterization of residual environmental effects is:

- direction of change is the long-term trend of the environmental effect (i.e., neutral, adverse or positive)
- duration is the period required until the VC returns to its existing condition (before project activities) or the environmental effect can no longer be measured or otherwise perceived (e.g., short-term, mid-term, or long-term)
- magnitude is the intensity of change in a measurable parameter or variable relative to existing conditions, defined for each VC as low, medium, high, or other qualifier as deemed appropriate
- timing is the sensitivity of the VC to activities during critical life stages: periods of time where residual effects from Project activities could affect the VC (e.g., time of day, seasonal, restricted activity periods)
- geographic extent is the area where an environmental effect of a defined magnitude occurs, defined for each VC based on definitions of PDA, LAA, and RAA, as appropriate
- frequency is the number of times during a specific Project phase or activity that an environmental effect might occur (e.g., one time or multiple times) in a specified time period
- reversibility is the likelihood that a measurable parameter will recover from an environmental effect, including through active management techniques (e.g., habitat restoration)

- ecological/socioeconomic context is the general characteristics of the area in which the Project is located, as indicated by past and existing levels of human activity, or the resilience/fragility of the VC regarding potential adverse effects

Where possible, these characterizations are described quantitatively for each residual environmental effect. Where these characteristics cannot be expressed quantitatively, they are described qualitatively. The definitions of the characteristics vary between VCs and are defined in the VC chapters.

4.4.4.2 Thresholds for Determining Significance of Residual Environmental Effects

Threshold criteria for determining the significance of environmental effects are identified for each VC, beyond which a residual environmental effect would be considered significant. These are generally selected in consideration of provincial and federal regulatory requirements, standards, objectives and guidelines that are applicable to the VC, societal values, or other planning objectives. They have been developed in consideration of guidance, past practice, and defensible professional experience/judgement, and adapted to the specific conditions of the receiving environment and the nature of the environmental effects. In some cases, and particularly where standards, guidelines or regulatory requirements do not specifically exist, thresholds can be defined for measurable parameters to support measurement that informs the determination of significance.

Significance of effects is not determined for physical environment VCs (atmospheric environment, geology and soils, groundwater and surface water). The effects on these VCs are discussed in the assessment of the receptors of changes to the physical environment (i.e., the aquatic environment, terrestrial environment, human environment and Indigenous Peoples) and significance determined there.

4.4.5 Step 5: Existing Conditions

4.4.5.1 Data Collection and Analysis

The methods used to collect and analyze the data for describing the existing conditions of the VC are described. This may include information from past research conducted in the region, traditional and ecological knowledge (if applicable and available), and knowledge gained from a literature review, qualitative and quantitative analyses, and field programs.

4.4.5.2 Overview of Existing Conditions

The status and characteristics of the VC within its defined spatial and temporal boundaries for the assessment are described.

4.5 STEPS 6 TO 10: EFFECTS ASSESSMENT

4.5.1 Step 6: Assessment of Environmental Effects

4.5.1.1 Assessment Cases

The assessment of environmental effects considers the construction and operations and maintenance phases of the Project. The construction phase includes site preparation of Project components, Project-related transportation within the LAA, construction of Project components, dewatering and alignment of the existing water works, and any site cleanup and reclamation of temporary construction sites. The operations phase includes the operation and maintenance of the outlet channels and other Project Components and transportation related to operation.

Details of the Project phases are provided in Chapter 3, the Project Description. The environmental assessment compares the Project development case with the baseline case, which was described in the existing conditions section for the VC.

4.5.1.2 Identification of Potential Effects and Effects Pathways

The assessment of each VC begins with a table identifying the Project components and physical activities that may interact with the VC to cause the identified environmental effects. The pathways (cause and effect relationships) whereby these components and activities could result in the environmental effect during each project phase are evaluated and described. Where possible, the spatial and temporal extent of these changes (i.e., where and when the environmental effect might occur) are also described.

The EA focuses on residual environmental effects: environmental effects after mitigation has been applied. While environmental effects before mitigation are examined, they are not quantified or assessed, nor is the significance of the environmental effect determined before mitigation.

4.5.1.3 Mitigation of Environmental Effects

Mitigation measures that may help to reduce or eliminate an environmental effect are described, with an emphasis on how these measures help to reduce or eliminate the environmental effect. Mitigation is defined as a change in the temporal or spatial aspects of the Project and the means in which the Project is constructed or operated, over and above the Project design aspects described in Chapter 3. In addition, mitigation can include specialized measures such as habitat compensation or replacement, as well as planned environmental management and response measures (e.g., environmental and social management system, management plans).

4.5.1.4 Characterization of Residual Effects

Residual environmental effects are described during each Project phase, taking into account how the mitigation would alter the environmental effect. The analysis includes both direct and indirect interactions

between the Project and the VC. Environmental effects for each VC are characterized for each Project phase and activity and presented in an environmental effects' summary table (Table 4.5-1).

Table 4.5-1 Summary of Project Residual Effects on (Name of VC)

Residual Effect	Residual Effects Characterization								
	Project Phase	Direction	Duration	Magnitude	Timing	Geographic Extent	Frequency	Reversibility	Ecological and Socio-economic Context
Effect Name 1									
Effect Name 2									

KEY
See Table in VC Chapter for detailed definitions

Project Phase
C: Construction
O: Operation

Direction:
P: Positive
A: Adverse
N: Neutral

Duration:
ST: Short-term
MT: Medium-term
LT: Long-term

Magnitude:
N: Negligible
L: Low
M: Moderate
H: High

Timing
NS: No sensitivity
MS: Moderate sensitivity
HS: High sensitivity

Geographic Extent:
PDA: Project development area
LAA: local assessment area
RAA: regional assessment area

N/A: Not applicable

Frequency:
S: Single event
IR: Irregular event
R: Regular event
C: Continuous

Reversibility:
R: Reversible
I: Irreversible

Ecological/Socio-Economic Context:
U: Undisturbed
D: Disturbed
R: Resilient
NR: Not resilient

4.5.2 Step 7: Assessment of Cumulative Environmental Effects

The cumulative environmental effects of the Project in combination with other projects or activities that have been or will be carried out are assessed. The assessment of cumulative environmental effects is presented in Chapter 11. The assessment includes a detailed discussion of how the Project may interact with other projects or activities that have been or will be carried out and interact with the environment, mitigation measures, and the characterization of residual cumulative environmental effects. In accordance with the the Agency Guidelines for the Project, a cumulative effects assessment is only required for VCs upon which the Project may result in adverse residual effects. VCs that would not be affected by the Project or would be affected positively may be omitted from the cumulative effects assessment.

Two conditions must be met to initiate an assessment of cumulative effects on a VC:

- The Project is assessed as having adverse residual environmental effects on a VC.

- The adverse residual effects from the Project overlap spatially and temporally with residual effects of other projects or physical activities on a VC.

If these conditions are not met, there is no expectation that the Project will contribute cumulatively to residual effects of other projects or physical activities on the VC and further assessment is not warranted. If the two conditions are met, then an assessment of cumulative effects on the VC is initiated.

4.5.2.1 Identification of Other Projects or Activities

Other projects or activities that have been or will be carried out are identified for inclusion in the cumulative environmental effects assessment, based on their potential for residual environmental effects that could interact spatially and temporally with the residual environmental effects of the Project. The environmental effects of other past and present projects or activities that have been carried out are generally reflected in the existing baseline environment and are therefore considered in the Project-related environmental effects assessment for each VC. The assessment and evaluation of the cumulative environmental effects of the Project in combination with other projects or activities that may be carried out considers the nature and degree of change from these existing conditions due to both the Project and the other projects or activities.

The screening of other projects or activities relevant to the cumulative environmental effects assessment is based on the following criteria:

- Status of other project or activity refers to a past or present project, or a project or activity that is certain (the proponent has received the necessary regulatory approvals or is in the process of receiving them), planned, or reasonably foreseeable (the proponent has publicly disclosed its intention to seek the necessary regulatory approvals).
- Potential for interaction related to timing of the project and/or activity refers to another project or activity must be carried out or implemented during the time frame that is relevant to the Project.
- Potential for a spatial interaction of environmental effect refers to another project or activity does not have to be located in the RAA, but its effects must interact with those of the VC in the RAA.

4.5.2.2 Cumulative Environmental Effects Pathways

The assessment of each cumulative environmental effect begins with a description of the environmental effect and the pathways whereby the project environmental effects may interact with other projects or activities in the RAA, as defined for a VC. Where possible, the cumulative environmental effect is quantified in terms of the degree of change in the appropriate measurable parameter(s) and the spatial and temporal extent of these changes (i.e., where and when the interactions between the Project's residual environmental effects and the residual environmental effects of other projects or activities might occur). As the assessment focuses on residual environmental effects, cumulative environmental effects before mitigation are not characterized, nor is their significance determined.

4.5.2.3 Mitigation of Cumulative Environmental Effects

As with the Project's environmental effects, mitigation measures that would reduce the cumulative environmental effects are described, with an emphasis on those measures that would help to minimize the interaction of the Project-related environmental effect with similar environmental effects from other projects, activities, and actions. There are three types of mitigation measures generally considered when addressing mitigation for cumulative effects in a region where there are several projects/activities:

- measures that can be implemented solely by Manitoba Infrastructure
- measures that can be implemented by Manitoba Infrastructure in cooperation with other project proponents, government, Indigenous organizations, the public, and/or other stakeholders
- measures that can be implemented independently by other project proponents, governments, Indigenous organizations, the public, and/or other stakeholders

4.5.2.4 Characterization of Residual Cumulative Environmental Effects

Residual cumulative environmental effects are described and assessed, taking into account how mitigation will alter the cumulative environmental effect. Cumulative environmental effects are characterized in terms of the direction, duration, magnitude, timing, geographic extent, frequency, reversibility, and ecological or socioeconomic context. The contribution of the Project to cumulative environmental effects is assessed where there is a potential for measurable interacting environmental effects to occur.

4.5.3 Step 8: Significance Determination and Prediction Confidence

4.5.3.1 Determination of Significance of Residual Project Environmental Effects

A determination of the significance of environmental effects is made using thresholds defined for the VC, and/or the measurable parameters, beyond which a residual environmental effect would be considered significant.

The significance determination for environmental effects is based on a variety of considerations. These considerations can include criteria defined in effect characterization as well as applicable legislation, regulatory standards or other thresholds of acceptability. These determinations of significance inform decision-making under both the federal and provincial decision-making processes. Where the environmental effects are determined to be significant, there is further consideration of the likelihood of occurrence of that significant environmental effect, based on past experience and the professional judgment of the study team.

4.5.3.2 Determination of Significance of Residual Cumulative Environmental Effects

A determination of the significance of residual cumulative environmental effects is then made using the same standards or thresholds for significance developed for the VC and/or the measurable parameters.

4.5.3.3 Prediction Confidence

The confidence in the determination of significance of effects on a VC is stated. This is described in terms of the quality or quantity of the data used in the assessment, expected effectiveness of mitigation and enhancement measures and the assumptions made in assessing the effects.

4.5.4 Step 9: Follow Up

A follow-up program is used, where applicable, to verify environmental effects predictions or to verify the effectiveness of mitigation measures. A monitoring program includes compliance measures used to verify that mitigation was applied or to demonstrate compliance with the requirements of environmental laws or regulations, or the conditions of permits, approvals or authorizations issued under such laws or regulations.

Appropriate follow-up measures are proposed for consideration by regulatory authorities where the scientific uncertainty of the environmental effects predictions or the effectiveness of mitigation warrants the need for such programs. Environmental monitoring measures to demonstrate compliance with legislation or to monitor environmental quality for other purposes are also described as appropriate for consideration by regulatory authorities. Follow up and monitoring programs, where applicable, are presented in Chapter 12.

4.5.5 Step 10: Summary

A summary is provided for all the factors that lead the conclusion for environmental effects on a VC.

4.6 STEP 11: ASSESSMENT OF POTENTIAL ACCIDENTS AND MALFUNCTIONS

The assessment of accidents and malfunctions are presented in Chapter 14. Potential accidents and malfunctions are identified based on the Project Description using historical performance data for other similar projects at a regional, provincial, national or international scale, as appropriate. Where applicable, for each accident or malfunction, one or more scenarios relating to how the accident or malfunction might occur during the life of the Project are developed.

The focus of the evaluation is on accidents and malfunctions that have a reasonable likelihood of occurring during the lifetime of the Project based on the nature of the Project and the environmental effects that may occur, or for those that could result in significant environmental effects even if their

likelihood of occurrence is low. For each accident scenario, a preliminary screening is conducted to determine if it is likely to affect each identified VC. The significance of the project-related environmental effects for each accident or malfunction and its likelihood of occurrence is then determined using the same thresholds as determined for the Project-related environmental effects on each applicable VC.

4.7 STEP 12: ASSESSMENT OF EFFECTS OF THE ENVIRONMENT ON THE PROJECT

The assessment of effects of the environment on the Project are presented in Chapter 15. Environmental factors that could potentially affect the Project include factors that may result in an interruption of service or damage to infrastructure. This, in turn, could result in adverse effects to VCs, or their resilience to coping with an adverse effect. Based on the consideration of the various mitigation strategies applied through design criteria and the implementation of contingency planning, the significance of these residual environmental effects is described. The assessment of effects of the environment on the Project is presented in Chapter 15.

4.8 REFERENCES

Canadian Environmental Assessment Agency. 2011. Follow-up Programs under the Canadian Environmental Assessment Act. December 2011.

Canadian Environmental Assessment Agency. 2015. Assessing Cumulative Environmental Effects under the Canadian Environmental Assessment Act, 2012. March 2015.

Canadian Environmental Assessment Agency. 2018a. Guidelines for the preparation of an environmental impact statement, Lake Manitoba and Lake St. Martin Outlet Channels Project proposed by Manitoba Infrastructure. Version 1: May 15, 2018.

Canadian Environmental Assessment Agency. 2018b. Amendment to the Environmental Impact Statement Guidelines for the proposed Lake Manitoba and Lake St. Martin Outlet Channels Project. August 16, 2018.

Canadian Environmental Assessment Agency. 2018c. Change in depth of engagement with five Indigenous Groups for the Lake Manitoba and Lake St. Martin Outlet Channels Project. December 21, 2018.

Canadian Environmental Assessment Agency. 2018d. Determining Whether a Designated Project is Likely to Cause Significant Adverse Environmental Effects under the Canadian Environmental Assessment Act, 2012.

Hegmann, G., C. Cocklin, R. Creasey, S. Dupuis, A. Kennedy, L. Kingsley, W. Ross, H. Spaling and D. Stalker. 1999. Cumulative Effects Assessment Practitioners Guide. Prepared by AXYS Environmental Consulting Ltd. and the CEA Working Group for the Canadian Environmental Assessment Agency, Hull, Quebec.

MCDC (Manitoba Conservation Data Centre). 2018. Accessed at: https://www.gov.mb.ca/sd/environment_and_biodiversity/cdc/index.html

Manitoba Infrastructure. 2018a. Project Description Lake Manitoba and Lake St. Martin Outlet Channels. Prepared for Canadian Environmental Assessment Agency. January 2018.

Manitoba Infrastructure. 2018b. Lake Manitoba and Lake St. Martin Outlet Channels Project Environmental Assessment Scoping Document. Prepared for Environmental Approvals Branch Manitoba Sustainable Development. March 2018.

Manitoba Sustainable Development. 2019. Letter to Christine Baljko (Manitoba Infrastructure) from Bruce Webb (Environmental Assessment Branch, Manitoba Sustainable Development) regarding Lake Manitoba and Lake St. Martin Outlet Channels Project – Environmental Impact Statement Guidelines. March 7. Posted to Public Registry, Client File No. 5966.00.

Appendix 4A TABLES

LIST OF TABLES

Table 4A-1 Canadian Environmental Assessment Agency's Policy and Guidance Documents 4A.2

Table 4A-1 Canadian Environmental Assessment Agency's Policy and Guidance Documents

Operation Policy Statement	**Purpose**
Addressing "Purpose of" and "Alternative Means" under the *Canadian Environmental Assessment Act*, 2012	Sets out the general requirements and approach to address the purpose of a designated project and alternative means of carrying out the designated project under CEAA 2012 when the Agency is the responsible authority.
Addressing Cumulative Environmental Effects under the *Canadian Environmental Assessment Act*, 2012	Sets out the general requirements and approach to consider cumulative environmental effects of designated projects under CEAA 2012 when the Agency is the responsible authority. It also provides core guidance to project proponents.
Determining Whether a Designated Project is Likely to Cause Significant Adverse Environmental Effects under the *Canadian Environmental Assessment Act*, 2012	Supports the implementation of CEAA 2012 provisions related to determining whether a designated project is likely to cause significant adverse environmental effects. It is intended to support proponents of designated projects in the preparation of an EIS, in conjunction with other Agency policy and guidance instruments.
Technical Guidance Documents	**Purpose**
Guide to Preparing a Description of a Designated Project under the *Canadian Environmental Assessment Act*, 2012	Specifies the information that is required in a project description to: ▪ Conform with the requirements set out in the Prescribed Information for a Description of a Designated Project Regulations. ▪ Inform the Agency of the possibility that the carrying out of the designated project may cause adverse environmental effects. ▪ Enable the Agency to determine whether an environmental assessment is required under CEAA 2012.
Assessing Cumulative Environmental Effects under the *Canadian Environmental Assessment Act*, 2012	Provides methodological options and considerations to support the implementation of CEAA 2012 and the approach outlined in the Cumulative Effects OPS to achieve a high-quality EA. It also supports proponents in the development of an EIS.
Technical Guidance for Assessing the Current Use of Lands and Resources for Traditional Purposes under the *Canadian Environmental Assessment Act*, 2012	Supports the implementation of CEAA 2012 provisions related to the effects of any changes to the environment on the current use of lands and resources for traditional purposes by Indigenous peoples. Provides core guidance to proponents who propose the carrying out of a designated project.
Technical Guidance for Assessing Physical and Cultural Heritage or any Structure, Site or Thing that is of Historical, Archaeological, Paleontological or Architectural Significance under the *Canadian Environmental Assessment Act*, 2012	Supports the implementation of CEAA 2012 provisions related to the effects of any changes to the environment on physical and cultural heritage or on any structure, site or thing that is of historical, archaeological, paleontological or architectural significance. Provides core guidance to project proponents.
Reference Guides	**Purpose**
Considering Indigenous Traditional Knowledge in Environmental Assessments conducted under the *Canadian Environmental Assessment Act*, 2012	Provides information of the importance of Traditional Knowledge (TK) in EAs, as well as general principles to be used in incorporating TK into an EA under CEAA 2012.
Practitioners Glossary for the Environmental Assessment of	Provides a description of terms to assist in implementing CEAA 2012.

Table 4A-1 Canadian Environmental Assessment Agency's Policy and Guidance Documents

Operation Policy Statement	Purpose
Designated Projects under the *Canadian Environmental Assessment Act*, 2012	
Support Tool for the Required Information Elements Under the *Species at Risk Act* for Environmental Assessments Conducted Under the *Canadian Environmental Assessment Act*	Provides advice on the main considerations to be incorporated when assessing effects on *Species at Risk Act* (SARA) species under the responsibility of the Minister for Environment and Climate Change Canada and Parks Canada and the key steps needed to address the SARA in the context of federal environmental assessments under the CEAA.
Addressing *Species at Risk Act* Considerations Under the *Canadian Environmental Assessment Act* for Species Under the Responsibility of the Minister responsible for Environment and Climate Change Canada (ECCC)	Provides guidance on specific obligations under the SARA for species under the responsibility of the Minister for Environment Canada and Parks Canada as they relate to federal environmental assessment. The document shows how certain SARA requirements may be addressed at each step of an environmental assessment conducted under the CEAA.
Source: Canadian Environmental Assessment Agency 2018	

Appendix 4B FIGURES

LIST OF FIGURES

Figure 4B-1 Environmental Assessment Methods 4B.2
Figure 4B-2 Physical Environment Assessment Areas 4B.3
Figure 4B-3 Ecological Environment Assessment Areas 4B.4
Figure 4B-4 Human Environment Assessment Areas 4B.5

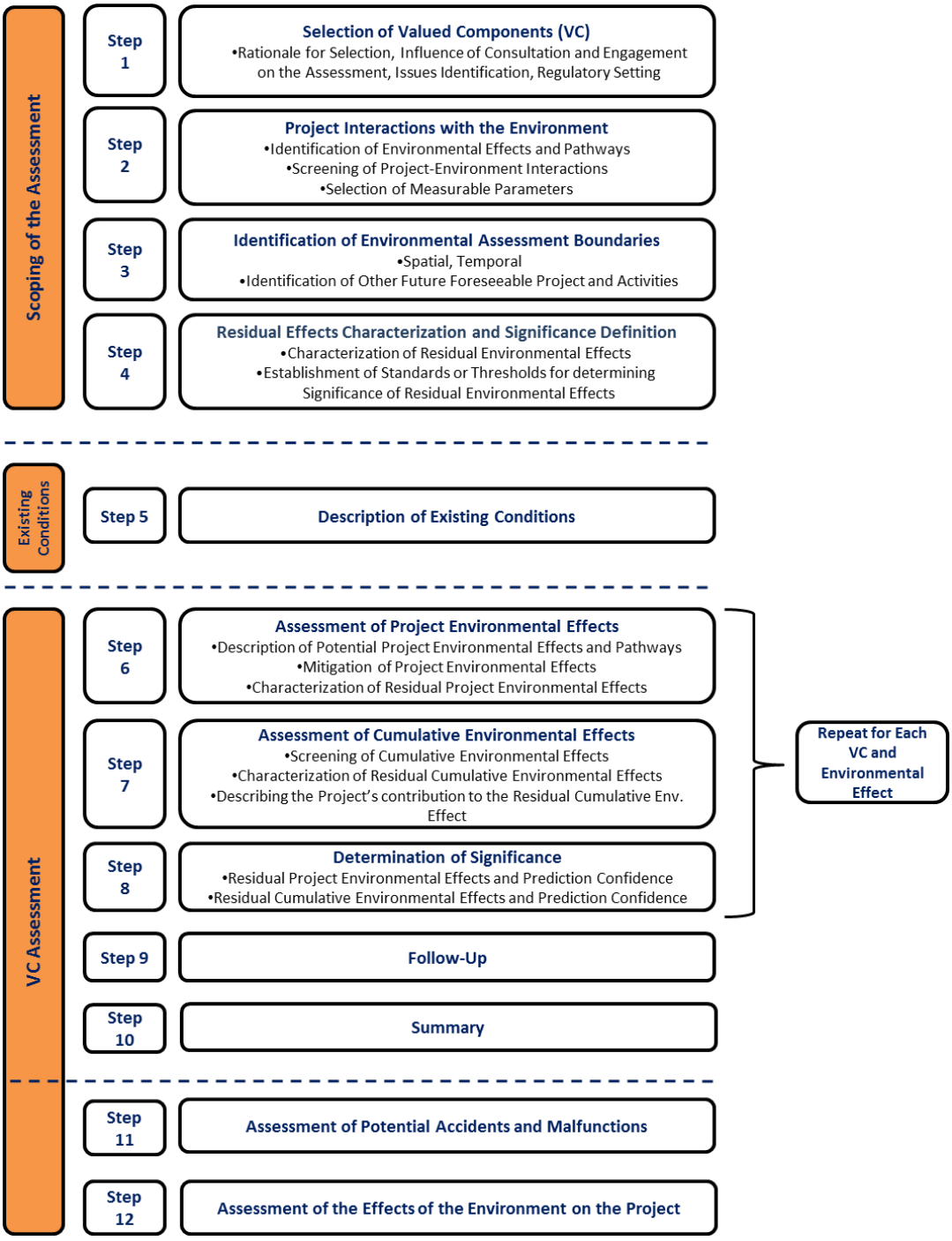
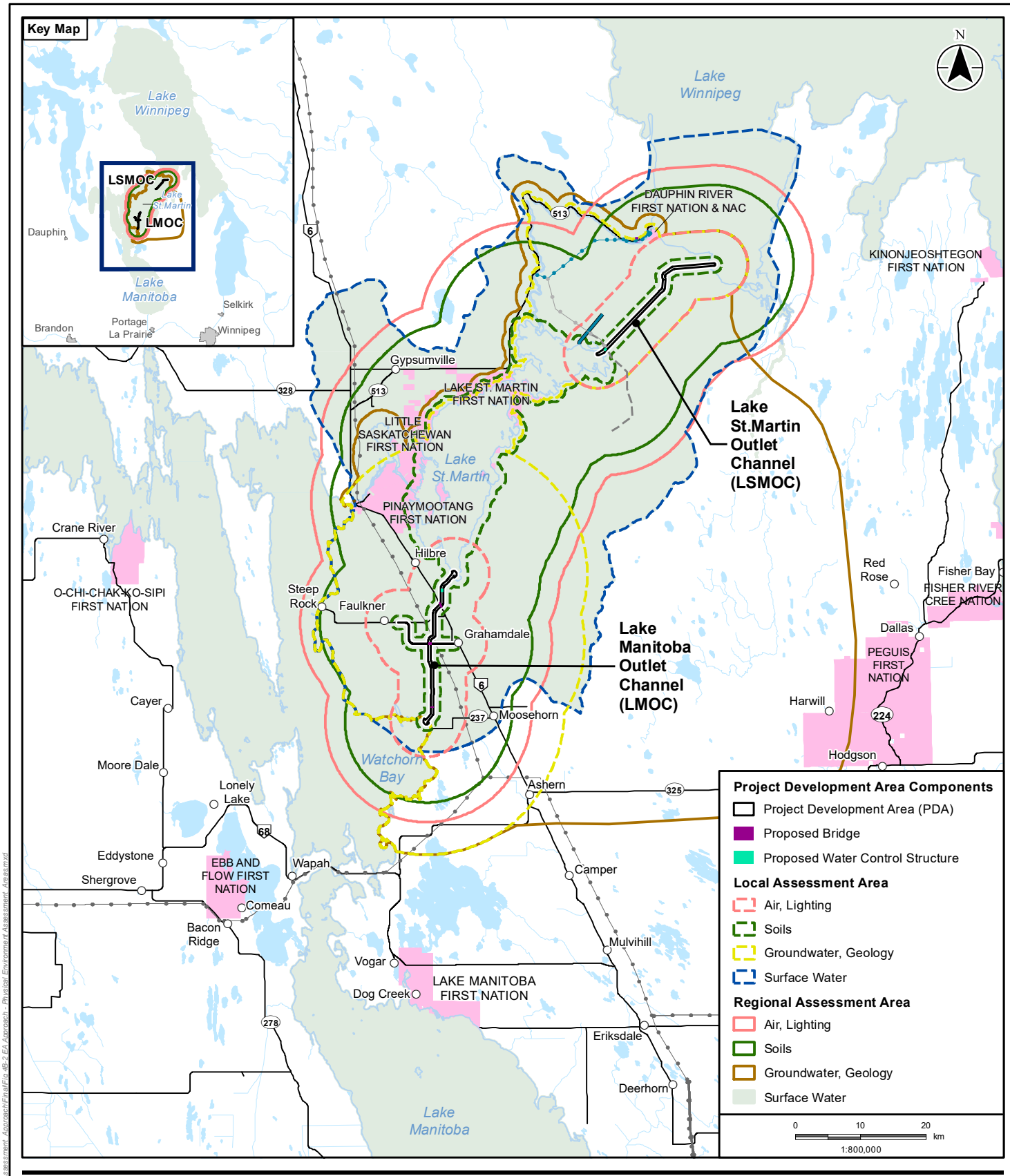


Figure 4B-1 Environmental Assessment Methods



Legend

- Fairford Water Control Structure
- Lake St.Martin Emergency Outlet Channel (Reach 1)
- Lake St. Martin Access Road
- Existing Transmission Line
- Existing Distribution Line
- Planned Distribution Line
- Provincial Highway (PTH/PR)
- Northern Affairs Community (NAC)
- First Nation

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/21/2019 3:19:44 PM

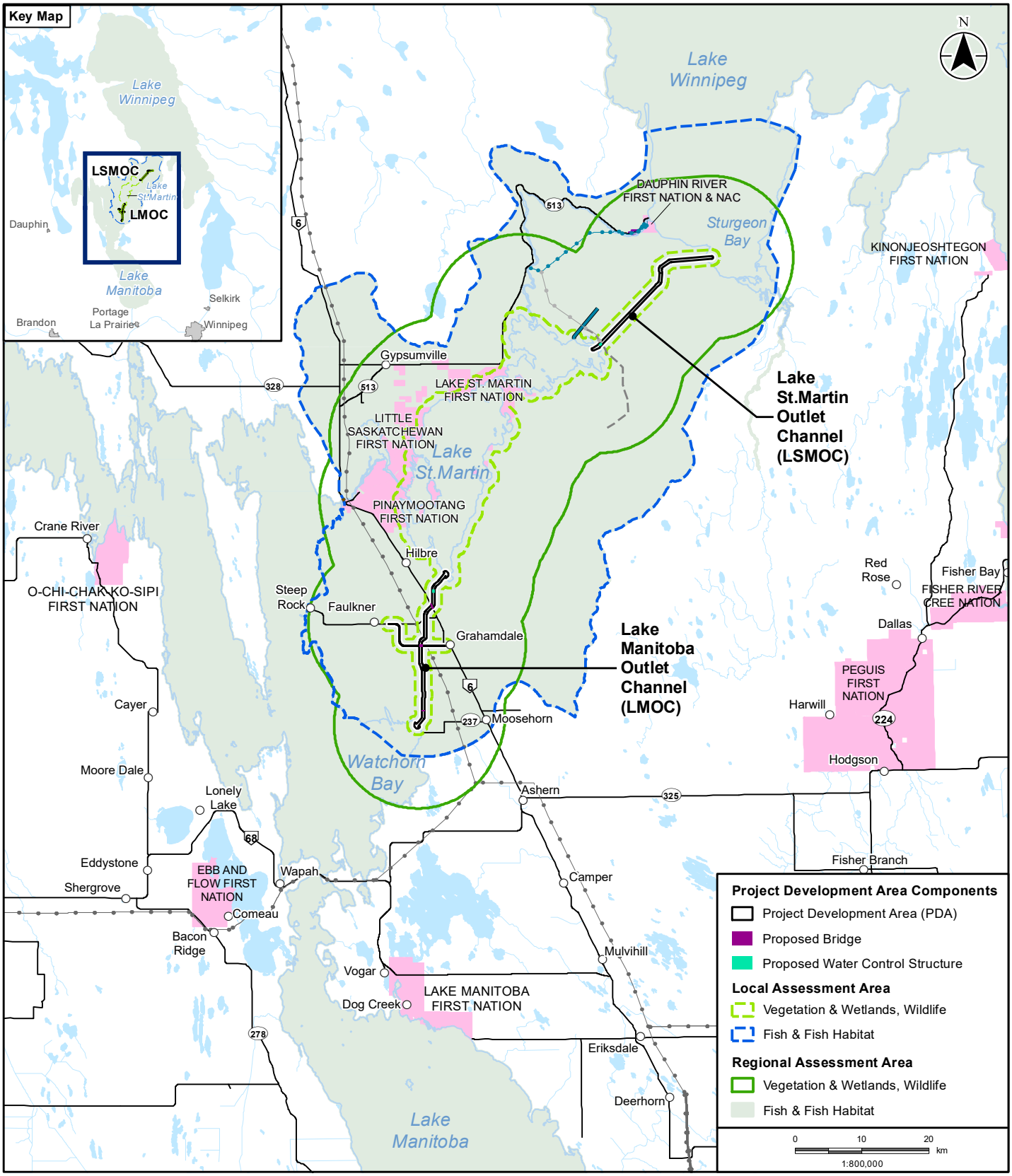
Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

Physical Environment Assessment Areas

Figure 4B-2

G:\ GIS Project Folder\11475120\figures\Ch4 Env Assessment Approach\Final\Fig 4B-2 EA Approach - Physical Environment Assessment Areas.mxd



Legend

- Fairford Water Control Structure
- Lake St.Martin Emergency Outlet Channel (Reach 1)
- Lake St. Martin Access Road
- Existing Transmission Line
- Existing Distribution Line
- Planned Distribution Line
- Provincial Highway (PTH/PR)
- Northern Affairs Community (NAC)
- First Nation

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/21/2019 2:29:33 PM

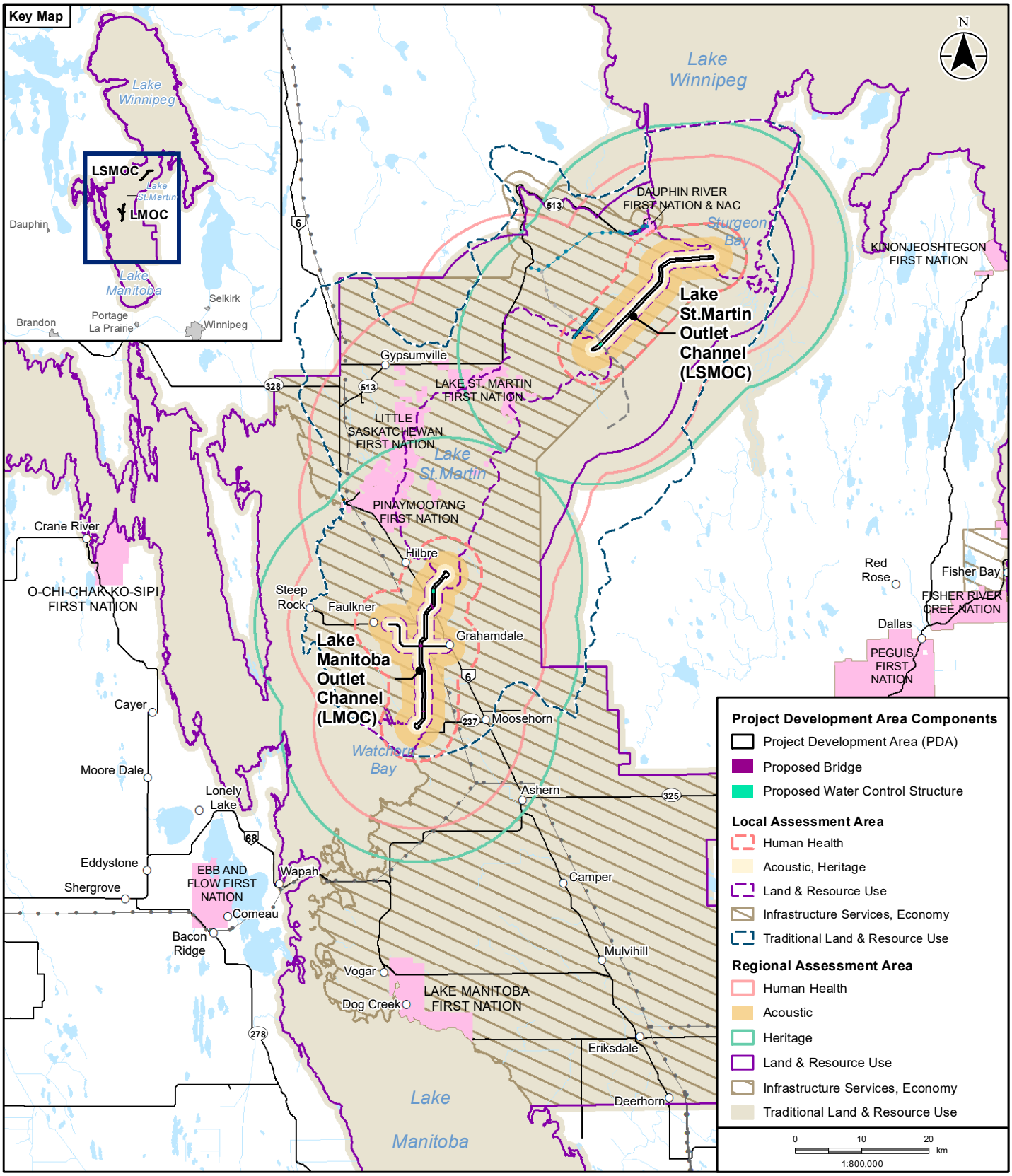
Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

Ecological Environment Assessment Areas

Figure 4B-3

G:\ GIS Project Folder\11475120\figures\Ch4 Env Assessment Approach\Final\Fig 4B-3 EA Approach - Ecological Environment Assessment Areas.mxd



Legend

- Fairford Water Control Structure
- Lake St.Martin Emergency Outlet Channel (Reach 1)
- Lake St. Martin Access Road
- Existing Transmission Line
- Existing Distribution Line
- Planned Distribution Line
- Provincial Highway (PTH/PR)
- Northern Affairs Community (NAC)
- First Nation

Notes

1. Coordinate System: NAD 1983 UTM Zone 14N
2. Data Sources: Governments of Manitoba and Canada, Manitoba Infrastructure
3. Last Update: 8/23/2019 10:27:08 AM

Manitoba

MANITOBA INFRASTRUCTURE
Lake Manitoba & Lake St.Martin Outlet Channels Project
Environmental Impact Statement

Human Environment Assessment Areas

Figure 4B-4

G:\ GIS Project Folder\11475120\figures\Ch4 Env Assessment Approach\Final\Fig 4B-4 EA Approach - Human Environment Assessment Areas.mxd

Manitoba

LAKE MANITOBA AND LAKE ST. MARTIN OUTLET CHANNELS PROJECT
Environmental Impact Statement

CHAPTER 5

PUBLIC AND INDIGENOUS ENGAGEMENT

March 2020

Table of Contents

5.0 PUBLIC AND INDIGENOUS ENGAGEMENT 5.1
5.1 OVERVIEW OF CHAPTER 5.1
5.2 PUBLIC ENGAGEMENT 5.2
5.2.1 Goals and Objectives 5.2
5.2.2 Preliminary Engagement 5.3
5.2.3 Public Engagement Process 5.6
5.2.3.1 Stakeholder Group Identification 5.7
5.2.3.2 Engagement Methods 5.9
5.2.3.3 Public Open Houses 5.11
5.2.4 Public Engagement Results 5.15
5.2.4.1 Overview 5.15
5.2.4.2 Round 1 ..... 5.16
5.2.4.3 Round 2 ..... 5.17
5.2.4.4 Round 3 ..... 5.18
5.2.4.5 Round 4 ..... 5.20
5.2.4.6 Issues and Concerns Identified During Public Engagement (2017-2019) 5.22
5.2.5 Ongoing Public Engagement – Next Steps 5.25
5.3 INDIGENOUS ENGAGEMENT AND CONSULTATION 5.26
5.3.1 Goals and Objectives 5.26
5.3.1.1 Overview 5.26
5.3.1.2 Current Status of Consultation 5.26
5.3.1.3 Crown-Aboriginal Consultation Process 5.26
5.3.1.4 Consultation Process for the Project 5.27
5.3.2 Pre-Project Engagement 5.28
5.3.3 Engagement Planning Process 5.29
5.3.3.1 Guidance 5.29
5.3.3.2 Selection and Identification of Communities 5.30
5.3.3.3 Engagement Methods 5.32
5.3.4 Engagement and Consultation Results 5.34
5.3.4.1 Overview 5.34
5.3.4.2 Summary by Communities included in EIS Guidelines (CEAA2018) 5.35
5.3.4.3 Northern Affairs Communities 5.53
5.3.4.4 Other Indigenous Groups Engaged by MI 5.60
5.3.4.5 Summary of Engagement Results 5.62
5.3.5 Ongoing Indigenous Engagement – Next Steps 5.64
5.4 REFERENCES 5.65

LIST OF TABLES

Table 5.2-1 Project Stakeholder Groups Engaged on the Project 5.7
Table 5.2-2 Summary of Feedback from Open Houses Categorized by VC 5.22
Table 5.3-1 Summary of Indigenous Engagement by VC 5.62

LIST OF APPENDICES

APPENDIX 5A TABLES 5A.1

APPENDIX 5B OPEN HOUSE MATERIALS 5B.1

APPENDIX 5C INDIGENOUS CONSULTATION APPROACH AND CURRENT STATUS REPORT 5C.1

5.0 PUBLIC AND INDIGENOUS ENGAGEMENT

5.1 OVERVIEW OF CHAPTER

This chapter discusses the public and Indigenous engagement process for the Project. The requirements for this process are discussed extensively in both the Agency Environmental Impact Statement (EIS) Guidelines for the Project (CEAA 2018) and in the Environmental Assessment Scoping Document for the Project (Manitoba Infrastructure 2018) submitted to Manitoba Sustainable Development. This indicates the importance of public and Indigenous engagement in the planning and assessment of the Project. Concordance tables, demonstrating where EIS Guidelines are addressed, are provided in at the beginning of this EIS.

Public engagement is discussed in several sections of the EIS Guidelines:

- Section 2.2 of Part 1 stresses the importance of providing for meaningful public participation, and the requirement to provide current information about the Project to the public and especially to the communities likely to be most affected by the Project.
- Section 4 of Part 2 notes that the EIS will describe the ongoing and proposed public participation activities that will be undertaken or have been conducted on the Project, including providing a summary of key issues raised related to the Project and potential effects to the environment, as well as any outstanding issues and ways to address them.

Indigenous engagement is discussed in several sections of the EIS Guidelines:

- Section 2.3 of Part 1 notes that the purpose of Indigenous engagement includes assisting in meeting the statutory obligations of *CEAA, 2012* to assess environmental effects of the proposed Project on Aboriginal peoples, and to “assist the Agency in fulfilling the Crown’s constitutional obligations to consult with potentially impacted Indigenous groups on potential impacts to potential or established Aboriginal or Treaty rights." This is to include documenting efforts made to integrate Indigenous knowledge into the assessment of environmental effects.
- Section 4.2.2 of Part 1 discusses the engagement with Indigenous groups about the collection and use of Indigenous knowledge.
- Section 2 of Part 5 discusses the need to obtain views on the Project and the assessment, and to document the main issues and comments raised during the engagement activities by each group, the responses provided, and any future planned engagement activities. This section also identifies the various groups that should be contacted, including those that may be affected by the Project to a lesser degree, and the process to be followed.

The approach to carrying out the Indigenous and Public Engagement Program (IPEP) is discussed in the Environmental Assessment Scoping Document for the Project:

- Section 4 notes that the program involves Indigenous (First Nations and Metis) and non-Indigenous communities, organizations, and municipalities, as well as government departments and agencies, and other potentially affected or interested and parties[1]. It also notes that comments, questions and responses provided through the IPEP will be summarized by community and organization and documented in the EIS.
- Section 4.1 describes the various objectives of the program, focused around providing information on the proposed Project to interested and potentially affected parties and providing meaningful opportunities for input and feedback on the Project.
- Section 4.2 describes the approach to carrying out the program, including building on past studies and ongoing discussions with First Nation communities and other Indigenous People and stakeholders who have expressed interest in the proposed Project.

5.2 PUBLIC ENGAGEMENT

5.2.1 Goals and Objectives

The primary goal of public engagement is to provide meaningful opportunities to generate a dialogue and exchange information about the proposed Project and the environmental assessment with interested and potentially affected parties. This is required in the EIS Guidelines and is consistent with section 4(1) of the *Canadian Environmental Assessment Act, 2012* (CEAA 2012) that states the purpose of public engagement is to ensure that opportunities are provided for meaningful public participation during an environmental assessment.

Manitoba Infrastructure's approach to engagement achieves the primary goal by the following objectives:

- providing meaningful opportunities for the early involvement of interested and affected parties
- providing opportunities for continued participation throughout all stages of the proposed Project
- using a variety of engagement approaches to exchange information, receive feedback and engage with participants in a transparent manner
- providing flexibility in the approach so that engagement activities can be revised in response to comments and feedback received

[1] Interested and potentially affected parties – Interested parties are defined as Indigenous and/or non-Indigenous peoples of Manitoba who may be interested in participating or learning about the Project. Affected parties refer to Indigenous and/or non-Indigenous parties who may be directly or indirectly affected by the development of the Project.

- using feedback received through engagement activities to assist with decision-making with respect to Project design, as well as to assist in avoiding or minimizing potential adverse effects and maximizing benefits and opportunities
- communicating how feedback is used

The objectives were achieved through incorporating the following key elements:

- early involvement
  - Manitoba Infrastructure began engaging with interested and affected parties following the flood of 2011; these meetings and discussions confirmed the need for permanent infrastructure to mitigate the effects of the potential for future floods (summarized in Chapter 2)
- continued participation
  - Regular conversations have occurred at various stages of the planning and design, since the planning process for the Project was initiated in 2015 variety of engagement – various approaches to engagement have been used including presentations, one on one meetings, public open houses, surveys, comment sheets, and a Project website where information could be obtained, and questions/comments submitted through the Project email account
- flexibility in approach
  - based on feedback, locations for open houses were added outside of the direct Project vicinity to include Portage la Prairie and St. Laurent. In addition, where requested, one-on-one meetings have complemented and supplemented public open houses
- feedback in decision making
  - feedback received from this engagement has been used to identify ideas, issues and concerns that inform the Project design, the alignment (summarized in Chapter 2), and the VCs of the environmental assessment
- communicating feedback
  - in addition to the list of feedback documented in this EIS, information has been presented at previous meetings

5.2.2 Preliminary Engagement

Manitoba Infrastructure, with the assistance of Indigenous and Northern Relations Manitoba, where appropriate, have been meeting with interested and potentially affected parties in the area of the proposed Project since the flood of 2011. A summary of process in these early phases can be found in Chapter 2. Following the 2011 flood, discussions with landowners, Indigenous communities and groups, and the public, focussed on studies commissioned by the Province of Manitoba, including the Lake

Manitoba and Lake St. Martin Regulation Review Committee (LM&LSMRRC 2013), the Manitoba 2011 Flood Review Task Force (MFRTF 2013) and the Assiniboine River and Lake Manitoba Basins Flood Mitigation Study (KGS 2016a) as discussed in Chapter 2. The outcome of these discussions included the identification that new flood protection infrastructure was required.

Lake Manitoba and Lake St. Martin Regulation Review Committee

The Lake Manitoba and Lake St. Martin Regulation Review Committee (the Committee) utilized a variety of approaches to engage members of the public. Focused meetings were held in various locations surrounding Lake Manitoba and were used as a means of engaging individuals with specific interests or knowledge to discuss topics such as agriculture, fisheries and wildlife, and planning. Focused meetings often corresponded with site visits to areas affected by flooding, and typically included participation by knowledgeable local residents. A total of seven public open houses were also used as a means to engage the larger public audience. These were held in areas surrounding Lake St. Martin and Lake Manitoba, and were advertised in local newspapers, radio, local websites and the Lake Manitoba and Lake St. Martin Regulation Review Committee website.

In addition to face-to-face meetings and open house events, the Committee developed and maintained a dedicated website which included copies of all presentation materials, information on upcoming events, and provided opportunities for the public to provide feedback and direct commentary. Lastly, other public engagement activities included meetings with individuals as well as issuance of on online survey of rural municipalities and First Nations.

Public engagement conducted by the Committee was successful in obtaining a great deal of public input and feedback. A total of 212 feedback forms were received; all 10 communities which received the municipal government survey responded, and a great deal of input was provided by technical experts and stakeholders, including: First Nations, Rural Municipalities, farmers and ranchers and fishers. Furthermore, a total of 495 people responded to the survey.

Further detail regarding the Lake Manitoba and Lake St. Martin Regulation Review Committee's public engagement program can be found in the Lake Manitoba and Lake St. Martin Regulation Review Committee Report (LMLSMRRC 2013).

Assiniboine River and Lake Manitoba Basins Flood Mitigation Study

Stage 1 of the Assiniboine River and Lake Manitoba Basin Flood Mitigation Study (KGS Group 2014) introduced the Project and channel outlet alignment options for Lake Manitoba and Lake St. Martin while providing information about the larger framework of the flood management options within the Province of Manitoba. A public engagement process was implemented to explain the study and obtain input from targeted audiences and the public on flood mitigation options to consider. The public engagement process outlined in the final report consisted of the following events (See Appendix Q of KGS 2016a):

- six events in Round 1 for the study introduction (June 2013)

- one event for the LMOC and LSMOC options (September 2014)
- six events in Round 2 for the Preliminary Results (December 2014)

For Round 1, three key stakeholder briefing sessions in the afternoon followed by public open houses in the evenings were held in Dauphin (June 18, 2013), Brandon (June 19, 2013), and Portage La Prairie (June 20, 2013), to discuss the Assiniboine River and Lake Manitoba Basin Flood Mitigation Study (Appendix Q of KGS 2016a). Community leadership and organizations including Indigenous communities were identified and mailed an invitation to the briefing sessions. These invites included Reeves, Chief Administrative Officers, Mayors, Councilors, leadership and representatives of First Nation and Metis communities, local businesses, local landowners, interested groups and other interested individuals.[2] Advertisements were placed in local newspapers to notify the public of upcoming open houses.

For the Lake Manitoba and Lake St. Martin Outlet Channels option, an open house was held in Ashern on September 18, 2014, to provide information on the preliminary outlet options and provided an opportunity for stakeholders to examine proposals, express their opinions, and influence the design. Input from participants was solicited on six options for the Lake Manitoba outlet channel and two options for the Lake St. Martin outlet channel. The information presented provided conclusions and recommendations on two alignment options for people to consider for the Lake Manitoba outlet channel and a preferred alignment option for the Lake St. Martin outlet channel (Willow Point). Community leadership and organizations within the study region were identified and mailed an invitation to the briefing sessions. These invites included Reeves, Chief Administrative Officers, Mayors, Councilors, leadership and representatives of First Nation and Metis communities, local businesses, local landowners, interested groups and other interested individuals[3]. An email invitation was sent to stakeholders that had provided an email address. Advertisements were placed in various newspapers to notify the public. Approximately 250 people attended, representing homeowners, farmers/ranchers, and cottage owners, elected officials, business owners, and Indigenous community members (Appendix Q of KGS 2016a).

For Round 2, afternoon sessions for key stakeholders followed by public open houses in the evenings were held in Dauphin (December 8, 2014), Brandon (December 9, 2014), and Portage La Prairie (December 10, 2014). The purpose of the events in Round 2 was to provide information about the scope of the study, a review of preliminary results, and provide an opportunity for feedback prior to the development of the final report. Input from participants was solicited in order to understand experiences and concerns, as well as their preferences from the list of preliminary results. Invitations were mailed out to local, regional and provincially identified stakeholders, including municipal representatives, business owners, the public, conservation districts, and leadership and representatives of First Nation and Metis communities.[4] The public open houses were also advertised in local newspapers (Appendix Q of KGS 2016a).

[2] See Appendix Q of the KGS 2016a study for a list of the stakeholders and Indigenous communities and groups that were invited to the sessions.
[3] See Appendix Q of the KGS 2016a study for a list of the stakeholders and Indigenous communities and groups that were invited to the sessions.
[4] IBID

Manitoba 2011 Flood Review Task Force

In February 2012, the Province of Manitoba established an independent Task Force to examine many aspects of the 2011 flood. The Task Force undertook an engagement process from May to October 2012 where over 30 meetings/events were held with more than 45 municipalities and First Nations in locations across the province (See Appendix A of MFRTF 2013). The purpose of the engagement process was to help the public understand the role of the Task Force and the topics to be considered, to hear and meet directly with Manitobans affected, and gather feedback and information relevant to the work of the Task Force. The events were attended by over 450 people and approximately 136 open house feedback forms were filled. Engagement methods included surveys, online feedback forms, email and progress updates, and public open houses. Notification methods included individually addressed letters, press releases, public service announcements, newspaper and radio advertisements, online calendars, electronic announcements, and posters, phone calls, and direct emails. Through the engagement, many people indicated that they believe the existing control structures for Lake Manitoba are inadequate, that outflows from the lake must be able to match inflows from the Portage Diversion, and a new channel/outlet from Lake Manitoba to Lake Winnipeg is necessary and/or the capacity of the Fairford outlet should be increased. The major outcome of the engagement was identification of the need for new flood control infrastructure in the area.

5.2.3 Public Engagement Process

Correspondence and meetings with Indigenous communities and groups, landowners and the public after these meetings between 2011 and 2015 focused on the Project. Manitoba Infrastructure used various methods to provide information about the Project and the environmental assessment process, as well as gather meaningful feedback. These methods were determined based on expectations that had been set through conversations going back to 2011 where meetings, and presentations had effectively been used to exchange information. The following methods were used to share information about the Project:

- Project website
- printed material
- public open houses
- questionnaires
- one-on-one meetings
- Table Talks
- helicopter tours

As the process to address flooding impacts evolved into examining measures to address future flooding and the design and alignment of the Project, a wider area was examined to include other stakeholders who might be affected. Public information sessions and/or public open houses were timed to correlate

with planning and design milestones. Follow up sessions and other mechanisms, such as one-on-one meetings were organized based on the needs and interests of stakeholder groups.

The engagement process incorporated multiple methods to provide or request feedback including a Project website, Project email account, questionnaires, comment sheets, presentations with Q and A sessions, Table Talk storyboards and/or a graffiti wall at public meetings. At each public meeting, handouts were available including maps showing the location and alignment of the proposed outlet channels and the federal government's environmental assessment process.

Inclusion of a Project website and online survey in the public engagement process recognized that busy schedules can interfere with participation at scheduled events and allowed interested parties to absorb information and provide feedback on their own time.

Copies of the notification letters, postcards, storyboards, comment sheets, questionnaires, presentations, Table Talk boards, graffiti walls, and link to video, which were used in the public open houses are included in Appendix 5B.

5.2.3.1 Stakeholder Group Identification

Stakeholders were initially identified as those physically impacted by previous flooding, but an examination of maps identified other locations of potentially affected communities and jurisdictions.

The Lake Manitoba Outlet Channel (LMOC) is located within the RM of Grahamdale, intersecting an area identified by the RM as an Agricultural Rural Area (RM Grahamdale 2016). The intersected land is predominantly private land used for agriculture production. Some sites intersected by Project are provincial Crown land. The nearest privately held residence is approximately 0.5 km from the centreline of the LMOC, and there are approximately 66 residences within 3.0 km of the Project. The Lake St. Martin Outlet Channel (LSMOC) is located entirely on provincial Crown land; this area is considered semi-remote as there is limited road access, with the nearest permanent residence located approximately 6.1 km away.

Based on engagement response and attendance from the Assiniboine River and Lake Manitoba Basin Flood Mitigation Study (KGS 2014) and the Manitoba 2011 Flood Review Task Force (MFRTF 2013), a list of stakeholders for the Project was developed. Table 5.2-1 lists the stakeholders engaged with since 2011 as part of the public engagement for the Project and associated studies.

Table 5.2-1 Project Stakeholder Groups Engaged on the Project

	2011-2015	2015-2019
Municipal Governments	RM of Coldwell, City of Dauphin, RM of Ochre River, RM of Alonsa, Town of Minnedosa, RM of Archie, RM of Miniota, RM of Shellmouth, RM of Woodworth, RM of Glenwood, RM of Whitehead, RM of Sifton,	RM of Grahamdale, RM of West Interlake, City of Brandon, RM of Grassland, RM of Shellmouth-Boulton, RM of Sifton, Town of Russell, RM of Coldwell, RM of Archie, RM of Whitehead, RM of Rockwood, RM of West

Table 5.2-1 Project Stakeholder Groups Engaged on the Project

	2011-2015	2015-2019
	City of Portage La Prairie, RM of Portage La Prairie, Town of Russell, RM of Rockwood, Rm of Westbourne, RM of Victoria, RM of Woodlands, RM of St.Francois Xavier, RM of Cartier, RM of Dauphin, RM of West Interlake, RM of Langford, RM of Lawrence-Lakeshore, RM of Ste.Rose, RM of Archie-Ellice, RM of Grassland, RM of Glenwood, RM of Cypress-Langford, Town of Carberry, Town of Virden, City of Brandon, RM of Daly, RM of Blanshard, RM of Wallace, Town of Emerson	Interlake, RM of Grassland, RM of Cartier, RM of Alonsa, RM of Ste. Rose, RM of Glenwood, RM of Cornwallis, RM of Dauphin, RM of Archie-Ellice, RM of Whitehead, RM of Miniota, RM of Woodworth, RM of Ochre River, RM of Portage la Prairie, RM of St. Francois Xavier, RM of North Cypress-Langford, RM of Lawrence-Lakeshore, RM of Victoria, RM of Westbourne, RM of Langford, Town of Minnedosa, Town of Russell, Town of Virden, Town of Carberry, City of Portage la Prairie, City of Dauphin
Government Organizations	Manitoba Agriculture, Manitoba Habitat Heritage Corporation, Southwest Flood Strategy Group	Manitoba Hydro, Manitoba Sustainable Development, Department of Fisheries and Oceans, Service Canada, Department of Agriculture, Environment and Climate Change Canada, Fisheries Branch, Manitoba Sustainable Development (MSD), Biodiversity and Endangered Species Section, MSD, Wildlife Branch, MSD, Groundwater Section, MSD, Water Science & Management Branch, MSD, Agri-Resource, Manitoba Agriculture, Environmental Approvals Branch, MSD, Parks and Regional Services, MSD, Medical Officer of Health, Interlake-Eastern Regional Health Authority (RHA), Prairie and Northern Region, Canadian Environmental Assessment Agency (Agency), Manitoba Region, Indigenous and Northern Affairs Canada (INAC), Fisheries Protection Program, Department of Fisheries and Oceans Canada (DFO)
Landowners	Directly affected landowners	Directly affected landowners
Associations	Manitoba Association of Cottage Owners, Manitoba Beef Producers, Benyks Point Cottagers	Manitoba Beef Producers, Associated Lake Manitoba Stakeholders, Delta Agriculture Conservation Co-Op Inc., LakeSide Sno-Drivers 3004, Twin Lakes Beach Association, Manitoba Trappers Association, Interlake Tourism Association, Lakeshore School Division, Assiniboine Basin Initiative
Locally Elected Officials	Meetings with community leadership were held in December 2014 and included officials from the RM of Coldwell, City of Dauphin, RM of Ocre River, RM of Alonsa, RM of Archie, RM of Miniota, RM of Shellmouth-Boulton, RM of Wodwoorth, RM of Glenwood, RM of Whitehead, RM of Sifton City of Portage La Prairie, RM of Rockwood, RM of Portage, RM of Westborune, RM of Victoria, RM of Woodlands, RM of St. Francois Exaver, RM of Cartier	Reeve and Council from the Grahamdale, MLA for River Heights (Liberal Party of Manitoba)

Table 5.2-1 Project Stakeholder Groups Engaged on the Project

	2011-2015	2015-2019
Non-Government Officials	Assiniboine River Basin Initiative	Climate Change Connection, Assiniboine River Basin Initiative, Moosehorn Duck Club, Keewahtinook Fishers of Lake Winnipeg
General Public	Open houses were held in Ashern (2014), Dauphin (2014), Brandon (2014) and Portage La Prairie (2014)	Open Houses were held in Moosehorn (2017-2019), Winnipeg (2017-2019), Portage la Prairie (2018), and St. Laurent (2018)

5.2.3.2 Engagement Methods

Project Website

Manitoba Infrastructure developed a Project-specific website (https://www.gov.mb.ca/mit/wms/lmblsmoutletsl/index.html) in February 2018 where regularly updated information on the Project was made available. Storyboards produced for public open houses and information sessions and handouts from meetings are posted to the website. The website also posts a Project email allowing ongoing public input into the proposed Project. A video describing the Project, purpose, and area was uploaded to the website in February 2018, and was updated in June 2019 to include the preferred channel alignments and Project infrastructure.

Printed Material

Fact sheets, maps, and information cards with Project website and email addresses were distributed at the public open houses and are also made available on the website for the proposed Project. Information was created in both French and English.

Public Open Houses

Four rounds of public open houses were held between 2017 and 2019. In each round, a public open house was held in Moosehorn and Winnipeg and in Round 3, public open houses were also held in Brandon, Portage la Prairie and St. Laurent. The public open houses provided information about the Project, regulatory approvals and timelines as well as gathered feedback from participants.

Interested and affected parties were advised of the engagement activities through advertisements in local newspapers, letters, email distributions and postcard mailouts where contact information had been provided. Manitoba Infrastructure also posted open house information on their departmental Twitter account, and to the newsfeed on the Project website. Typically, a minimum of two weeks' notice was provided for meetings including open houses, and notifications provided the website address.

All public open houses were staffed with members of the Manitoba Infrastructure Project team. The open houses in Rounds 1, 2 and 3 included presentations. Storyboards with maps, Project description, timelines, regulatory approvals and contact information were displayed at all open houses. A short video

of the Project and its route was played on an endless loop at the June 2019 open houses in Winnipeg and Moosehorn. Sign in sheets, comment cards, and note takers collected information from participants including contact information for those who wanted to remain informed about the Project. Round 4 included a graffiti wall that enabled participants to leave comments. Overall, the public open houses were designed to provide multiple methods of allowing participants to provide feedback. Additional details are described in Section 5.2.2.4.

Questionnaires

Hard copy questionnaires were distributed at the public open houses as well as meetings to provide opportunities for input and comments regarding the Project. The same questions were posted online on the Project website; the link was also presented at open houses. The length of time that each questionnaire was posted on the Project website varied by round; in general, the questionnaires were posted prior to each public open house and remained online after each public open house.

One-on-One Meetings

In some cases, one-on-one meetings were organized to provide the opportunity for specific issue discussions or for more personal, confidential information. Ongoing one-on-one meetings have been held with landowners and the RM of Grahamdale to address questions and discuss the Project.

Information Sessions

Three information sessions amongst provincial staff were held in 2018 on March 14, April 19, and May 2 to gather and share information on the environmental effects, baseline studies, and data of the Project. Manitoba Infrastructure presented the proposed Project followed by a question and answer period. Breakout sessions occurred with disciplines to discuss specific topics (e.g., wildlife, water, socio-economics). A total of 29 people from the provincial government attended the three sessions in Winnipeg.

Table Talks

At all the public open houses, attendees were encouraged to write on a series of boards presented by MI. In Round 1, one board asked attendees to mark up maps where certain wildlife species have been located. In Round 2, a second board was added that asked attendees to share their opinion on certain key considerations for the environmental assessment. In Round 3, a Table Talk storyboard was provided to allow participants to provide comments on the Project. In Round 4, a graffiti wall allowed people to provide comments about the Project and the process.

Helicopter Tours

Helicopter tours in 2016 and 2017 provided local regulators, consultants retained for the Project environmental assessment, and First Nations leadership an opportunity to better understand the context of the Project proposed route, and environmental features of the area.

5.2.3.3 Public Open Houses

Round 1

Purpose

In Round 1, two public open houses were held with interested and potentially affected stakeholders in Moosehorn on June 29, 2017, and Winnipeg on July 13, 2017, to present preferred alignments, changes to the road network, and potential environmental impacts, as well as obtain additional input on the Project. The Moosehorn open house ran from 11 am to 8 pm; the Winnipeg open house ran from 5 to 8 pm. A total of 157 people signed into the Moosehorn public open house and 58 people signed into the Winnipeg public open house. Storyboards displayed the background and history of the Project, an overview of the preferred channel alignments, proposed changes to the existing road network, proposed operating guidelines, and potential environmental impacts.

For the LMOC, the results of the feasibility analysis done by KGS Group (2014) were presented, comparing two alignments: Option C and Option D[5]. Components of the feasibility analysis included constructability, operation and maintenance, cost, risk, environmental, and socio-economic impacts. Option D was presented as the preferred option based on the lower overall risk and lower potential for groundwater impacts.

For the LSMOC, Option 4 was presented as the preferred route based on the relatively high overall ranking in all categories of the feasibility analysis. The Option 4 concept included a channel inlet approximately 3.8 km east of the existing Reach 1 of the EOC with a northwestward alignment going around the peatland and Big Buffalo Lake, connecting to the existing Reach 3 of the emergency outlet channel. A Table Talk section with one storyboard allowed participants to identify locations of known wildlife. Manitoba Infrastructure personnel attending explained information displayed on the storyboards, answered questions and engaged in discussions with attendees.

Notification

The open houses in Round 1 were advertised in the Winnipeg Free Press, Winnipeg Sun, Grassroots News and the local paper Around Town. The RM of Grahamdale distributed the open house notification through an email distribution list and a Facebook page. Telephone calls to some Indigenous communities[6] were made in Round 1 advising people of the open houses.

[5] see Chapter 2 for a comparison of the Option C and Option D routes.
[6] Telephone calls were made to Dauphin First Nation, Ebb and Flow First Nation, Lake Manitoba First Nation, Little Saskatchewan First Nation, O-Chi-Chak-Ko-Sipi First Nation, Pinaymootang First Nation

Materials

At the Round 1 open house, engagement materials included the following:

- A PowerPoint presentation described the proposed Project alignment, preliminary design, and location of structures.
- Project storyboards showcased the environmental assessment process, including a mapping exercise to allow the public to provide information on the location of key wildlife species such as elk, moose, wolf, red-headed woodpecker, marten, and bobolink.
- A Table Talks exercise was held where participants were invited to identify where wildlife was located.
- A Sign-in sheet was provided to participants with an opportunity to offer their contact information to receive future notification about Project events.
- A Hard copy questionnaire was provided for feedback and comments on the materials presented and for notification to future open houses.

Round 2

Purpose

In Round 2, two public open houses were held in Moosehorn and Winnipeg on March 6, and March 8, 2018, respectively, to primarily discuss the proposed locations of the outlet channels and information regarding the environmental assessment. Each public open house ran from 2 pm to 4 pm and again the same day from 6 pm to 8 pm. A total of 87 people signed into the Moosehorn public open house and 44 people signed into the Winnipeg public open house. A presentation was given by Manitoba Infrastructure at both the afternoon and evening sessions followed by a question and answer period. Questionnaires were distributed at each open house that focused on participants' views about the Project as a whole, as well as the potential Project effects on the environmental features in the area. Completed questionnaires were either left at the open houses, mailed or emailed to Manitoba Infrastructure following the open houses.

Notification

For Round 2, eight newspapers advertised the two open house events including Winnipeg Free Press, Winnipeg Sun, Grassroots News, Interlake Spectator, Express Weekly News and Around Town. Twenty-eight landowners received notice of the open house via letter mail while four RMs, one city, and one town received the same letter. An email list compiled from previous open houses was used in identifying and inviting people to attend the open house of their choice.

Materials

At the Round 2 open houses, engagement materials were available that contained facts and details relating to various aspects of the Project, including the following:

- Handouts were provided, such as a fact sheet, CEAA and MSD assessment process outline, Project Overview Map, LMOC and LSMOC, Information cards with the Project website and Project e-mail address.
- A PowerPoint presentation described the proposed channel alignments, design and engineering components, and EA process. The presentation also included contact information for Manitoba Infrastructure staff and introduced the Project website.
- Project storyboards showed the Project background, proposed alignments, design and engineering components, and EA process.
- In Winnipeg, a Table Talks exercise was held where participants were invited to write their comments on a storyboard that contained 6 topics including physical environment, Indigenous peoples, socio-economics, plants and ecosystems, fish and fish habitat, and wildlife, along with several sub-topics for each category.
- In Moosehorn, a Table Talks exercise where participants were invited to markup maps with known areas of socio-economic and/or environmental importance.
- A sign-in sheet to provide participants with an opportunity to provide their contact information to receive future notification about Project events.
- A hard copy questionnaire was handed to obtain feedback and comments on the materials presented and for notification to future open houses.

Round 3

Purpose

In Round 3, July 2018, two additional locations were added to address questions from upstream communities regarding the operation of the Portage diversion. A total of four public open houses were held in Moosehorn on July 19, 2018, St. Laurent on July 20, 2018, Portage la Prairie on July 21, 2018, and Winnipeg on July 27, 2018, and primarily discussed the proposed locations of the outlet channels, conceptual designs of the control structures, spatial boundaries of the EA, VCs, and preliminary proposed mitigation measures being considered for the Project. Each public open house was from 2 pm to 5 pm and from 6 pm to 8 pm. A total of 158 people signed in for all four open houses, including, 64 in Moosehorn, 24 in St. Laurent, 25 in Portage la Prairie, and 45 in Winnipeg.

At each meeting, a presentation was given by Manitoba Infrastructure at both the afternoon and evening sessions followed by a question and answer period. Questionnaires were distributed that asked

participants their views about the Project as a whole, as well as the suitability of the VCs and associated spatial boundaries. Completed questionnaires were left at the open house or mailed or emailed to Manitoba Infrastructure after the open house. Manitoba Infrastructure staff were available to explain information on the storyboards, to answer questions and engage in discussions with public attendees.

Notification

Round 3 advertised the four open houses in eight newspapers including the Winnipeg Free Press, Brandon Sun, Winnipeg Sun, Grassroots News, Interlake Spectator, Portage CP Herald, Express Weekly News, and Around Town. Landowners received notice of the open house via letter mail while four RM's, one city, and one town received the same letter. An email list compiled from previous open houses was used in identifying and inviting people to attend the open house of their choice.

Materials

At the Round 3 open houses, engagement materials were made available and included the following:

- Handouts were provided, such as a fact sheet describing environmental approvals and proposed timelines, an interactions table showing the interaction between preliminary valued components (VC) and preliminary environmental effects, hard copy questionnaires, CEAA and MSD assessment process outline, and Project Overview Map.
- Storyboards described the Project alignments, spatial boundaries, VCs, the EA process and potential effects.
- A PowerPoint presentation described the background and history of the Project, alignments, engineering structures, and conceptual design for the rights-of-way, update on engagement, environmental assessment process, and potential effects.
- In St. Laurent, copies of the handouts were made available in French.
- In St. Laurent, a Table Talks exercise was held where participants were invited to write their comments on a storyboard that contained six topics: physical environment, Indigenous peoples, socio-economics, plants and ecosystems, fish and fish habitat, and wildlife. There were several sub-topics for each category.

Round 4

Purpose

In Round 4, two public open houses were held in Winnipeg and Moosehorn on June 25, 2019, and June 27, 2019, respectively, and discussed the proposed outlet channel Project descriptions, the steps involved in the environmental assessment and the timeline. Each public open house ran from 2 pm to

5 pm and from 6 pm to 8 pm. A total of 54 people signed into the Winnipeg open house and 69 people signed in to the Moosehorn open house.

Notification

For round 4, the open houses were advertised in local newspapers, Manitoba Infrastructure website and through postcard and email mailings for those who had provided contact information. The postcard was posted by Manitoba Infrastructure staff in local venues such as the library and post office in Moosehorn. 52 interested and affected parties were mailed notifications via Canada Post and 195 people received email notifications.

Materials

At the Round 4 open houses, engagement materials included the following:

- Handouts were provided of maps showing the proposed outlet channels and the CEAA assessment process outline.
- Information cards were handed out with the Project website and the Project email address.
- A video was shown of the proposed Project and alignments, and it was played on a loop.
- Storyboards described the channel alignments, engineering and design components, EA, proposed operating guidelines, and proposed timeline and schedule for environmental approvals.
- A graffiti wall allowed participants an opportunity to provide comments on sticky-notes.
- A sign-in sheet was provided to participants to offer their contact information to receive future notification about Project events.
- A hard copy questionnaire was provided to obtain feedback on the Project and the public open house.

5.2.4 Public Engagement Results

5.2.4.1 Overview

To date, the engagement activities discussed above have taken place from 2015 to 2019 and have provided participants the opportunity to learn about the Project including its purpose, routes and timing, as well as to provide feedback and local input into the routing, VCs, and potential effects of the Project.

5.2.4.2 Round 1

Questionnaires

Information was gathered in Round 1 from June 2017 to July 17, 2017, through questions posed in an online survey on the Project website, as well as handed out at two open houses in questionnaires. Online surveys were completed by five respondents in ROUND 1, with two respondents identifying themselves as affected landowners, two as impacted community members, and one respondent as non-impacted. The online questionnaire results for round 1 indicated that:

- four respondents supported the Project
- three respondents do not support the location of the LMOC, while four respondents do support the location of the LSMOC
- three respondents were undecided on whether they support the proposed relocation of PR 239
- four respondents supported the proposed operating guidelines, while the remaining respondent was undecided

Additional comments from the online questionnaires in Round 1 indicated that there is concern about how the Project will affect the frequency of operation of the Portage Diversion and the associated impacts to land use and the environment when the Portage Diversion is in operation, including the addition of silt/debris downstream and the soil salinity of flooded lands. Additional comments were recorded regarding the impact the channel will have on wildlife (deer) crossing on Birch Creek and waterfowl being hunted with new access, and concern that the channel will provide optimal conditions for the breeding of invasive carp and mussels. Concern regarding the realignment of PR 239, accessing land, and the destruction of livelihoods from the Project location was also recorded through the online surveys.

Hard copy questionnaires were given to attendees at the Moosehorn open house to answer questions on the information provided on the poster boards and presentation. A total of 28 participants responded to the questionnaire. In summary, the majority (86%) of participants support the concept of the Project, however; there was more support for the alignment of the LSMOC (61%) than the LMOC (50%). Approximately 46% of participants support the realignment of PR 239 and the proposed operating guidelines, with the remaining unsupportive or undecided. The majority (68%) indicated that they were affected landowners, while other impacts of importance that were indicated include community, environmental, and economic impacts. Land use for participants in the area was described largely as residential, farming, or recreational. Key concerns noted in these questionnaires included loss of agriculture, groundwater impacts, wildlife impacts, surface water quality, safety concerns, and a concern over the delayed timeline in fear of another flood event.

Hard copy questionnaires were also given to attendees at the Winnipeg open house. A total of 16 participants responded to the questionnaire. In summary, the majority (75%) of participants support the concept of the Project and the locations of both channels (63%); however, a minority (38%) indicated that

they support the realignment of PR 239 and the proposed operating guidelines, with the remaining unsupportive or undecided. The majority (69%) indicated that they were affected landowners, while other impacts of importance that were identified included environmental and economic impacts, commercial impacts, and impacts to Aboriginal and Treaty Rights. Land use for participants was described as largely residential (63%). Key concerns that were noted in these questionnaires included impacts to moose, beaches, fish, and traditional medicines, groundwater and surface water impacts, and impacts to wildlife. Another concern that was articulated was the consequences of not completing the Project in a timely manner and fear of another flood event.

Open Houses

The comments recorded from verbal discussions at the Moosehorn open house indicated that most of the concern was about the LMOC alignment, the loss of agricultural land and impacts to established farms. The environmental concerns that were raised were largely focused on impacts to downstream surface water quality, impacts to groundwater including personal wells, fish and fish habitat including the alignment affecting spawning areas, and waterfowl/birds.

Feedback from the Round 1 public open houses is included in Appendix 5A, Table 5A.1 as well as Table 5.2-2 (see page 5.22), which summarizes all of the feedback from the public open houses. All feedback has been categorized by VC; more information regarding each VC can be found in the corresponding VC chapter.

5.2.4.3 Round 2

Questionnaires

Online questionnaires were completed by three participants. The online questionnaires were posted on the Project website from February 2018 to June 2018. Two of the respondents described themselves as affected landowners or permanent residents. All three indicated that the information was adequate to describe the Project. Two respondents indicated that the key environmental topics presented are sufficient in assessing potential Project effects on environmental features in the area, however; two respondents also indicated that there are other environmental topics they would like to see covered and other considerations for project planning. These other concerns included the environmental issues at the south end of Lake Manitoba and from the operation of the Portage Diversion, and the impact of not proceeding with the Project.

At the Moosehorn public open houses, hard copy questionnaires were completed by eight participants. Five respondents described themselves as affected landowners or permanent residents. The results indicated that approximately three people found the information that was presented adequate to describe the Project and three people indicated that the environmental topics were sufficient in addressing potential Project effects. The majority (seven people) indicated that there are other key environmental topics that they would like to see considered. Comments and considerations in these surveys focused on the impacts of not proceeding with the Project, the regulations causing a financial burden on taxpayers,

agricultural losses, and environmental impacts such as impacts to endangered species (red-headed woodpecker), impacts to groundwater quality and quantity, and long-term monitoring for the Project.

In Winnipeg, hard copy surveys were completed by six people attending the public open house. Two participants described themselves as affected landowners or permanent local residents, with the remaining equally distributed between interested public, resource users, seasonal residents, and Indigenous community members. The results indicated that three people found the information presented adequate to describe the Project. Four people indicated that the environmental topics presented are sufficient for assessing potential effects on environmental features in the area, while three indicated that there are other key environmental topics that they would like to see considered. Comments and considerations in these surveys focused on climate change, impacts to archaeological sites, water quality and air quality. For both the online and hardcopy surveys, participants indicated that their preferred method of notification is email, regular website updates, and mail correspondence.

Open Houses

In Moosehorn, the highest proportion of the 87 attendees (41%) lived in Moosehorn or its vicinity. People also attended from the communities of Grahamdale, Ashern, Hilbre, Faulkner, Steep Rock, Gympsumville, and Eriksdale. A large portion of discussions centered around socio-economic activities (28%). Other topics included Project description (13%), groundwater and surface water (13%), EA approach (11%) and wildlife (10%). The category other refers fish and fish habitat, regulatory and environmental licensing, and EA approach.

The Table Talks exercise in Round 2 at Moosehorn was a mapping exercise where participants were shown maps and were asked questions in relation to the proposed Project area. The Table Talks questions and mapping results are presented in Appendix 5A, Table 5A.. This mapping exercise identified areas for elk habitat/ crossings, wolf areas, fish areas, areas where there is concern for sediment/sand, a possible burial area where an arrowhead was previously found, and areas with flooded cabins.

In Winnipeg, the highest proportion of attendees (54%) were from the City of Winnipeg. People also attended from the communities of Cartier, Portage la Prairie, St. Laurent, La Salle, and Gypsumville. Participants from nine other rural towns also attended, accounting for 16% of the attendance. A large portion of the discussions centered around groundwater and surface water (25%), the Project description/alignment (21%) and socio-economic impacts (18%). The Table Talks exercise in Winnipeg was a comment board with topics and subtopics.

5.2.4.4 Round 3

Questionnaires

The questionnaire was posted on the Project website from June 2018 until February 2019. Online questionnaires were completed by five respondents. The respondents described themselves as affected landowners or permanent residents, Indigenous community members, interested public, and other. Three respondents indicated that the information was adequate to describe the Project. One respondent

indicated that the valued components were sufficient for assessing Project effects on environmental features, and three indicated the proposed spatial boundaries are not appropriate to assess potential adverse environmental effects. Four respondents agreed with some land use restrictions to the ROWs. Other comments recorded focused on the need for more public information regarding the selection of the proposed route, integration of results from consultation into the process, impacts to surface water quality, invasive species, the effect of lake ice, how this Project could work with other flood mitigation projects, and funding plans for future maintenance. Most respondents from the online questionnaires indicated they would like to be notified by e-mail, mail correspondence, community notices/papers, and website updates.

In Round 3, hard copy questionnaires were completed by open house participants in Moosehorn (7), Winnipeg (1), St. Laurent (5), and Portage la Prairie (4).

In Moosehorn, the questionnaire respondents identified themselves in relation to the Project as affected landowners or permanent local residents, seasonal residents, and resource users. Five people indicated that sufficient information was provided to understand the Project. Three of the participants indicated that the preliminary VCs presented are sufficient. Contrary to the other survey locations, three people indicated that the spatial boundaries presented are appropriate to assess potential Project effects. Similar to Portage la Prairie, four people were in agreement with the proposed land use restrictions on the ROWs. Topics of primary interest indicated for the next open house included Engineering and Design. These surveys indicated that email, mail, and news broadcasts were the preferred notification methods.

In St. Laurent, the five open house participants that completed the questionnaire identified themselves in relation to the Project as affected landowners or permanent local residents and seasonal residents. Four people indicated that sufficient information was provided to understand the Project. Of the participants, two and three, respectively, indicated that the preliminary VCs presented are sufficient and the spatial boundaries presented are appropriate for assessing potential Project effects. All five were in agreement with the proposed land use restrictions in the ROWs. Topics of primary interest indicated for the next open house included Engineering and Design. These surveys indicated that website updates and email were the preferred notification methods.

In Winnipeg, the survey participant identified themselves in relation to the Project as a seasonal resident. The survey comments from Winnipeg indicated that there is sufficient information presented to understand the Project, that the preliminary VCs are sufficient, the spatial boundaries are appropriate to assess the Project, and were in agreement on the restricted land use in the LMOC ROW. This survey indicated that newspaper was the preferred notification method.

In Portage la Prairie, the four people who completed the questionnaire identified themselves in relation to the Project as a seasonal resident, affected landowner or permanent local resident, interested member of the public, and an Indigenous community member. Most comments from Portage la Prairie indicated that there was sufficient information presented to understand the Project, that the preliminary VCs were sufficient, and spatial boundaries presented were appropriate, for assessing potential Project effects. Two people were in agreement with the proposed land use restrictions on the LMOC ROW. Topics of primary

interest indicated for the next open house included Indigenous consultation and Engineering and Design. These surveys indicated that website updates and social media were the preferred notification methods.

Open Houses

In Moosehorn, most attendees were from Moosehorn. The remaining attendees identified themselves as being from Grahamdale, Ashern, Hilbre, Faulkner and Steep Rock, along with 8 participants from other rural communities. Most comments were focused on the Project description (including Project alignment/location), while other comments focused on socio-economic considerations. Other topics raised included wildlife, and regulatory/licensing.

In St. Laurent, most attendees were from St. Laurent and the City of Winnipeg. The remaining attendees were from Moosehorn, Cartier, Ebb and Flow First Nation, Lake Francis, Stonewall, St. Ambroise, St. Eustache, and Lake Manitoba. Most comments and discussion focused on the Project description (including Project alignment/location and alternatives), groundwater and surface water quality, and the Indigenous and public engagement process. Other topics raised included the environmental assessment/approach, socio-economic considerations, invasive species, the Portage Diversion, and environmental licensing.

In Winnipeg, most attendees were from the City of Winnipeg. The remaining attendees were from Headingly, Brandon, Neepawa, St. Agathe, Moosehorn, St. Laurent, Steep Rock, Lake St. Martin First Nation and Buffalo Point First Nation. Most comments were focused on the Project description (including Project alignment/location), while other comments focused on groundwater and surface water considerations. Other topics raised included regulatory licensing, the environmental assessment and approach, and socio-economic considerations.

In Portage la Prairie, most attendees were from Portage la Prairie and Lakeland. The remaining attendees were from the towns of Delta, Langruth, Grahamdale, High Bluff, Macdonald, and Amaranth and the City of Brandon. Most comments and discussion focused on the Portage Diversion and the Project description. Other topics raised included environmental licensing and the Indigenous and public engagement plan.

Feedback from the Round 3 public open houses is included in Appendix 5A, Table 5A.3 as well as Table 5.2-2 (see page 5.22), which summarizes all the feedback from the other public open houses. All feedback has been categorized by VC; more information regarding each VC can be found in the corresponding VC chapter.

5.2.4.5 Round 4

Questionnaires

In Round 4, hard copy questionnaires were completed by seven participants at the Winnipeg event and six participants at the Moosehorn event.

In Winnipeg, respondents to the questionnaire identified themselves as landowners/permanent residents, seasonal residents, and resource users, with one participant identifying themselves as an Indigenous community member. Four questionnaire respondents indicated that they found the open house informative, that the date/time/location was convenient, and that the storyboards were informative. All the respondents found the staff approachable. Four people indicated that they would maybe attend the next open house. Topics that participants requested additional information on include geology/soils, groundwater/surface water, fish and fish habitat, land and resource use, infrastructure and services, Indigenous land uses, and the Project timeline. Additional comments included in the surveys focused on the Project timeline needing to be expedited, the interest in training and job opportunities, and an expression of disappointment to not having a formal presentation at the open house.

In the Moosehorn questionnaire, respondents identified themselves as landowners, permanent residents, and one identified themselves as an Indigenous community member/farmer. Four respondents agreed that they found the open house informative, the date/time/location convenient, and the staff approachable. Of the respondents, three found the storyboards informative, and three indicated that they would attend the next open house. Respondents are interested in learning more about groundwater and surface water, fish and fish habitat. Additional comments included in the surveys focused on impacts to fishing, farming operations, Watchorn beach (safety), and dissatisfaction with the expropriation process. One comment also expressed concerns of not proceeding with the Project in a timely manner. Local venues were the preferred notification method that was indicated through these surveys.

Open Houses

In Winnipeg, the open house was attended by 56 people. Most attendees were from Winnipeg, Twin Lakes Beach area, and St. Laurent. Participants from other communities included Pinaymootang, Steep Rock, Arborg, Grahamdale, Peguis First Nation, Misipawistik Creek Nation, Berens River First Nation, and the RMs of Belleview, Coldwell, Grahamdale and Woodlands.

In Winnipeg, the primary comments received through verbal discussions with participants focused on the Project description including the design components, alignment, and past flooding concerns/claims. Other topics raised included the engagement process with First Nations and traditional land use studies, and the CEAA approval process. Some comments related to the Project timeline and construction delay. Several comments also focused on the proposed operating guidelines/water levels, and training/job opportunities. The graffiti wall comments in Winnipeg identified similar comments to the discussions, including comments around the 2011 flood, the Indigenous engagement, design elements, Lake Manitoba water levels, frustration with the Project timeline and concern over the next possible flood. One comment was also submitted over email voicing concerns over the diversion of water into Lake Winnipeg, the historical impacts to Lake Winnipeg due to Manitoba Hydro, and the associated loss of lands and cultural losses to Berens River First Nation.

In Moosehorn, most attendees were from Moosehorn, Steep Rock, Hilbre, and Grahamdale. Participants from other communities included Little Saskatchewan First Nation, Faulkner, RM of West Interlake, Lake Manitoba First Nation, Ashern, Grand Rapids, Arborg, and Fairford.

In Moosehorn, the primary comments received through verbal discussions with participants focused on land expropriation, including expressing grief over the expropriation process, uncertainty, timelines, and the impacts to agricultural operations. Other areas of focus in discussions were the impacts of remnant land parcels being designated for wildlife. Many of the participants felt that there would be wildfire and illegal hunting concerns should the parcels not be hayed. Other comments brought forward included the channel and road alignment/design selected and potential impacts to groundwater. Additional comments included concern over fish spawning areas, operational guidelines, and impacts to Watchorn Beach, including safety concerns. The graffiti wall comments in Moosehorn identified similar comments to the discussions, including frustration regarding the designation of land for wildlife and issues surrounding illegal hunting and wildfires in the area, surface water drainage concerns, impacts to first nations, and concerns around the channel alignment.

Feedback from the Round 4 public open houses is included in Appendix 5A, Table 5A.4 as well as Table 5.2-2 (see 5.22). Feedback has been categorized by VC; more information regarding each VC can be found in the corresponding VC chapter.

5.2.4.6 Issues and Concerns Identified During Public Engagement (2017-2019)

Table 5.2-2 summarizes feedback from the Round 1 to Round 4 open houses between June 2017 and June 2019, categorized by VC. A complete listing of feedback by public open house round is included in Appendix 5A, Tables 5A.1 to Table 5A.4. These tables also include comments, issues and questions raised that were not directly associated with a VC such as operating guidelines and control structures.

Table 5.2-2 Summary of Feedback from Open Houses Categorized by VC

Valued Component	Feedback from Engagement
Atmospheric Environment	• Air quality concerns (dust/noise)
	• Effect of wind on surface water needs to be considered
Geology and Soils	• Alterations to sediment and sand transport into the waterways
	• Concern over increased erosion of shorelines (including Watchorn park and Lake Winnipeg) and need for shoreline protection
	• Impact of the Project on the current salinization of soils from the operation of the Portage Diversion
	• Impact of not proceeding with studies, including impacts of flooding (such as in 2011) on shorelines and trees
	• Need for information on lake bottoms sediments
Groundwater and Surface Water	• Impacts to wells and septic systems, including loss of well water
	• Contamination of groundwater resources, including from groundwater/surface water interactions
	• Surface water contaminants, including algae and agricultural runoff to the downstream waterbodies
	• Formation of frazil ice

Table 5.2-2 Summary of Feedback from Open Houses Categorized by VC

Valued Component	Feedback from Engagement
	• Impacts to the entire flood management system, including the operation of the Portage Diversion and the associated soil salinization due to its operations
	• Impacts to Pinemuta Lake and other small lakes in the area from alterations in flow, contaminant movement, and wetland drainage from cutting off headwaters. Need for drainage plan.
	• Sediment and debris movement and deposition, including impacts to Watchorn Bay
	• Need for information/studies on impacts to water flow and water levels including the Assiniboine River and impacts to Lake Winnipeg; concern over wind impacts on water levels and shoreline damage
	• Flooding hazard where the channel could bottleneck (the Narrows)
Fish and Fish Habitat	• Impacts to spawning areas at the inlets and outlets
	• Impacts to fish populations (abundance and diversity), health of fish, and loss of fish habitat, including current impacts from the Portage Diversion and the channels impact on nutrient availability
	• Ecosystem level impact and the effect on Sturgeon Bay Provincial Park
	• Impacts to fish movement in the Project area, including the Ditchfield, Boundary, Wooddale, and Birch Creek drains
	• The introduction of aquatic invasive species (carp, zebra mussels) having direct access to new waterbodies and a potential breeding ground within the channel
	• Alteration to the ecosystem, including changes to micro-organisms, fish, insects, and the alteration of the shoreline
	• Concern over the study boundaries and potential far reaching upstream and downstream impacts
Vegetation	• Wetland protection and restoration is critical
	• Need for assessment of agricultural losses in the EA
	• Concern over land use restrictions in the ROW (haying is desired)
	• Impacts to vegetation on the shoreline and loss of natural protections, including 100 year old Willows destroyed
	• Concern about health of the Delta Marsh
	• Concern over water hemlock in the lake
	• Impact of the channel on historical flows, including allowing sand build up around the lake causing plants and trees to stabilize
	• Need for a study on LSMOC and effects on Sturgeon Bay Provincial Park
	• Interest in type of vegetation planned for the channel bank, including responsibility for maintenance and weed control
	• Need for an evaluation of smaller species such as plankton and insects because they affect fish

Table 5.2-2 Summary of Feedback from Open Houses Categorized by VC

Valued Component	Feedback from Engagement
Wildlife	• Deer, elk and moose and the potential effect of the Project on these animals including past overhunting, migration and movement of animals
	• Potential disturbance of birds and small animals including the nests of ducks, geese and owls
	• Smaller game animals and furbearers such as beaver, muskrat, grouse, etc. could be affected
	• Increased number of ravens that kill smaller birds and eat their eggs; eat the grouse; kill calves and young cows.
	• Species at risk and migratory birds; effects on shoreline damage/flooding on birds and missing piping plovers
	• Issues surrounding beavers; growing shrubs and trees will attract them.
	• Concern that the LMOC will result in a mosquito breeding ground if water level in the channel is constant
	• Interest in livestock use of the LMOC and ROW
	• Spatial boundaries of EIS should include the Mantagao Wildlife Management Area
	• Issues and reasoning for turning expropriated land into land designated for wildlife
Land and Resource Use	• Choice of LMOC route is affecting agricultural land and established farms and will result in a loss of taxable land
	• Safety and Security concerns including trespassing and poaching, threats to property and fire protection
	• Water levels in relation to cottages and acres destroyed if Project does not proceed
	• Loss of 100-year old industry – commercial fisheries – and fish habitat. People oppressed, distressed, stressed, lonely and homeless.
	• Compensation for fishing and future problems that cannot be currently foreseen. Loss of agriculture and taxes
	• Increased salinity on farmland
	• Drainage - water moves faster than ever before and should be assessed
	• Questions around use of channel including recreational boating, fishing, canoeing, kayaking, and hunting
	• Access to water supply for livestock
	• Land expropriated with mortgage and can’t be worked
	• Expropriation process was late, much in limbo, no offers, no information, and land restrictions
	• Issues and reasoning for turning expropriated land into land designated for wildlife.
	• Effects of the channels on Watchorn provincial park

Table 5.2-2 Summary of Feedback from Open Houses Categorized by VC

Valued Component	Feedback from Engagement
Infrastructure and Services	• Impacts to groundwater wells (quantity and quality)
	• Vehicle access, including ability to access agricultural operations and livestock
	• Poor visibility on PR 239, traffic safety concern
	• Damage to roads from heavy traffic and truck traffic during construction
	• Unwanted access of ATVs/dirt bikes on the access road
	• Traffic interruptions and traffic re-routing concerns
	• Dust and noise control
Economy	• Changes in the tax base and concern over increase in taxes
	• Interest in contracts associated with the Project
Human Health	• Concern over the potential for a flood and the Project not moving forward quickly
	• Stress and anxiety from the 2011 flood and associated uncertainty with respect to this Project and land expropriation
	• Concerns regarding air and water quality
	• Hemlock and *E.Coli* concerns from the operation of the Portage Diversion
Heritage	• Concern about archaeological sites being impacted, especially since artifacts were found near Watchorn Provincial Park
	• Lack of available data in the area, including traditional knowledge data
Traditional Land and Resource Use	• Indigenous Peoples in the area will be the most affected; restricting ROW during operations might restrict Indigenous rights
	• Concern over loss of beaches, fish, moose, as well as impacts to wildlife migration, use of traditional medicine, and fish spawning
	• Impacts to Lake Winnipeg commercial fishers including loss of fisheries and damaged equipment from debris
	• Insufficient consultation, archaeology or Traditional Knowledge studies completed
	• Insufficient public knowledge of what caused people and communities to locate to the area
	• The inclusion of local knowledge in the Project; locals have extensive knowledge regarding the historic local conditions and environment in the area
	• The need for First Nation participation in the construction, operation and maintenance of the Project
	• Effects of the channel on on-reserve farming

5.2.5 Ongoing Public Engagement – Next Steps

Engagement with interested and potentially affected parties (such as the RM of Grahamdale) will continue throughout the development of the proposed Project. Following submission of this EIS and receipt of

necessary regulatory approvals, engagement will continue to further develop an understanding of the interests and concerns of people and communities potentially affected by the proposed Project, particularly those close, such as the RM of Grahamdale. The engagement will inform ways to minimize potential adverse effects and enhance positive effects where possible. The future engagement will continue to provide updated information and opportunities to comment on the Project throughout detailed design, construction, and operation and maintenance. Comments and input received will be reviewed to assess whether the information alters the effects assessment and/or warrants modifications to mitigation measures proposed as part of this EIS.

5.3 INDIGENOUS ENGAGEMENT AND CONSULTATION

5.3.1 Goals and Objectives

5.3.1.1 Overview

The general goals and objectives for engagement were described in Section 5.2.1. In general, the intent is to provide meaningful opportunities for potentially affected people and groups to receive information about the proposed Project and for Manitoba Infrastructure to hear and understand concerns and comments about the Project. The Indigenous engagement and consultation process also gathers information in support of decisions regarding impacts to Aboriginal and Treaty rights, as part of Crown consultation under Section 35 of the Constitution Act.

5.3.1.2 Current Status of Consultation

Since August 2019, MI has developed an Indigenous Consultation Approach and Current Status (ICACS) report (Appendix 5C) for the Project, outlining the objectives of consultation in accordance with the Manitoba Government's Interim Policy for Crown Consultations with First Nations, Metis communities, and other Aboriginal communities. The ICACS report describes in further detail the 4-phase Consultation process used for the Project, the pre-project engagement activities, how community input informed the final alignments of the channels and the assessment that was undertaken to determine communities interested and/or affected by the Project. The ICACS report also provides a summary of the engagement and Consultation activities and associated workplans with each identified community, updated with information to February 2020. The ICACS report supplements information presented in this chapter and includes next steps in the consultation process for spring, summer, and fall of 2020. Workplans currently under development include the completion of TLRU studies to support the assessment of project related effects on Aboriginal and Treaty Rights.

5.3.1.3 Crown-Aboriginal Consultation Process

The Manitoba Government recognizes that the Crown has a legal duty to consult in a meaningful way with First Nations, Metis and other Aboriginal groups and communities when any proposed provincial law, regulation, decision or action may infringe upon or adversely affect the exercise of a Treaty or Aboriginal right. Subsection 35(1) of the Constitution Act, 1982, provides that the existing Aboriginal and Treaty

rights of the Aboriginal peoples of Canada are hereby recognized and affirmed. Subsection 35 (2) defines the Aboriginal peoples of Canada as including First Nation, Inuit and Métis peoples of Canada.

Canadian courts, including the Supreme Court of Canada, have made judgments clarifying the meaning of Section 35. One element of these judgments, in simple terms, is that governments are required to consult with First Nations, Métis communities and other Aboriginal communities about any action or decision (including enacting a law or regulation) that might adversely affect the exercise of a Treaty or Aboriginal right, before taking that action or making that decision. The goal of any consultation process is to provide a forum where concerns can be raised with government before a final decision is made.

Government must also reasonably accommodate concerns about the effects of the decision or action raised in the consultation process, by attempting to address those concerns. This duty of consultation and accommodation arises out of the principle of the "honour of the Crown." The Crown (Government) is to act honourably and in good faith in its relationships with Aboriginal peoples. One of the main objectives of the Crown-Aboriginal relationship is to further the reconciliation of the pre-existence of Aboriginal societies with the sovereignty of the Crown.

The Agreements Management and Aboriginal Consultation (AMAC) Branch serves as Manitoba's primary coordinating body for Crown-Aboriginal consultations relating to major or complex projects across the province. Manitoba's Crown-Aboriginal consultation process is outlined in its Interim Provincial Policy for Crown Consultations with First Nations, Métis Communities and Other Aboriginal Communities (2009). The interim policy is a reflection and recognition of Section 35 of the Constitution Act, 1982 and the case law that has developed in this area.

The Manitoba government is aware of the responsibilities of the Crown that they represent for this Project and have established their engagement to accommodate these requirements.

Manitoba Infrastructure and Province of Manitoba Indigenous and Northern Relations (INRM) are engaging Indigenous peoples to better understand the Project's potential impacts on Treaty or Aboriginal rights. Engagement allows for Indigenous people to raise issues and concerns that will be further examined as part of the EIS.

Manitoba recognizes that assistance may be required for a community to be able to meaningfully participate in the engagement process. Manitoba has a Crown-Aboriginal Consultation Participation Fund available to assist communities with the cost of engagement. Manitoba government departments can access the Crown-Aboriginal Consultation Participation Fund on behalf of Indigenous communities. Prior to any funding being issued, a funding agreement is required between the department and the community. Additional information on Aboriginal and Treaty Rights can be found in Section 10.4.

5.3.1.4 Consultation Process for the Project

For the proposed Project, Manitoba Infrastructure designed an engagement process that would encourage productive and respectful dialogue between the Manitoba government and the Indigenous peoples. The process included four phases: Phase 1 Assessment and Planning; Phase 2 Implementation;

Phase 3 Review and Consider Information; and Phase 4 External Communications and Final Decision. Each of these phases are described below. This four-phase process was included in presentations with Indigenous communities regarding the Project.

Phase 1: Assessment and Planning

Manitoba Infrastructure conducted an initial assessment to determine communities and groups that may be interested and or affected by the Project and made initial contact through letters to determine the community's interest in engagement. Manitoba Infrastructure provided participation opportunities for interested and affected parties.

Phase 2: Implementation

For communities that are potentially highly impacted by the Project, Manitoba Infrastructure is working on consultation plans and budgets to accommodate community participation. Records of contact are documenting community questions and concerns. Meetings and information exchanges attempt to address relevant biophysical (e.g., wildlife, vegetation), socio-economic or cultural questions and comments so that they can be considered in relation to VCs and addressed in the effects assessment of the EIS and applied throughout all phases of the Project including construction, operation, and maintenance.

Phase 3: Review and Consider Information

In Phase 3, consultation information will be reviewed and analyzed prior to reporting the consultation results internally to Crown decision makers. This includes respecting and incorporating community knowledge and Traditional Knowledge (TK) into the EA and Project processes, as described in Section 10.1.

Phase 4: External Communications and Final Decision

In the final phase, community concerns are addressed and/or accommodated. Explanations are provided to the community to explain how their input was incorporated into any decision making.

5.3.2 Pre-Project Engagement

Pre-Project engagement began with several First Nations and other Indigenous communities that were displaced due to the floods of 2011. In the summer of 2011, the Government of Manitoba began engagement with Indigenous groups that were most affected, including being displaced by the flood. Discussions at that time were focussed around a number of studies commissioned by the Province of Manitoba, including the Lake Manitoba and Lake St. Martin Regulation Review Committee (LM&LSMRRC 2013), the Assiniboine River and Lake Manitoba Basins Flood Mitigation Study (KGS Group 2016a) and the Manitoba 2011 Flood Review Task Force (MFRTF 2013), as discussed in Chapter 2. The outcome of these discussions included the identification that new flood protection infrastructure was required.

During the 2011 flood, and again in the same area in 2014, an emergency was declared, and the EOC (built in 2011) was constructed to relieve the flooding.

Engagement on the proposed outlet channels has required Manitoba Infrastructure and INRM to work with some communities that remained displaced from the 2011 floods and continue to face challenges from the displacements. This reality has challenged engagement attempts to focus on the proposed outlet channels and issues associated with the 2011 floods and displacement continue to be raised. Issues that are more related to the floods than the Project are included in the comments and feedback tables and categorized as “other”.

Although the engagement and consultation processes are in the early stages, engagement has occurred with a number of communities as identified in Section 5.3.4, which summarizes the engagement activities to date. Some communities have identified concerns related to effects of channel development with respect to their traditional areas; their rights-based activities as well as commercial activities through these processes. These concerns and comments are summarized in Table 5.3-1 and provided in greater detail by community in Appendix 5A, Table 5A.5 to Table 5A.23.

5.3.3 Engagement Planning Process

5.3.3.1 Guidance

As noted in Section 5.1, the Agency EIS Guidelines for the Project and the Environmental Assessment Scoping Document for the Project) prescribed requirements for conducting the Indigenous engagement process.

The EIS Guidelines (CEAA 2018) and two subsequent letters dated August 16, 2018 and December 21, 2018, respectively identified 28 Indigenous groups to be engaged, including those that may be affected by the Project to a lesser degree, and the process to be followed; the need to document the main issues and comments raised during the engagement activities by each group, the responses provided, and any future planned engagement activities; the approach to assist the Agency in fulfilling the Crown’s constitutional obligations to consult with potentially impacted Indigenous groups regarding Aboriginal or Treaty rights; and the need to document efforts made to integrate Indigenous knowledge into the assessment of environmental effects.

The Environmental Assessment Scoping Document describes the various objectives of the program, focused around providing information on the proposed Project to interested and potentially affected parties and providing meaningful opportunities for input and feedback on the Project; the approach to carrying out the program, including building on past studies and ongoing discussions with First Nation communities and other Indigenous People and stakeholders who have expressed interest in the proposed Project; and, how Manitoba Infrastructure would summarize comments, questions and responses provided by community and organization and documented in the EIS.

5.3.3.2 Selection and Identification of Communities

Following the design and alignment of the Project, Manitoba Infrastructure and INRM identified 31 communities to be engaged by Manitoba Infrastructure and INRM based on geographic area, proximity to the Project, traditional territory, rights-based activities, previous consultations, community protocols and other knowledge of community land use. The frequency and amount of engagement with a community may change as the Project progresses based on the communities' interest to engage, concerns and questions raised, and the likelihood of impact on Treaty or Aboriginal Rights.

Of the 31 communities, Manitoba Infrastructure and INRM has had frequent engagement with twelve Indigenous communities located on Lake Manitoba, Lake St. Martin and Lake Winnipeg who have used or are currently using land near the Project to exercise Aboriginal and Treaty Rights. They include the following, in alphabetical order:

- Dauphin River First Nation
- Dauphin River NAC
- Ebb and Flow First Nation
- Fisher River Cree Nation
- Kinonjeoshtegon First Nation
- Lake Manitoba First Nation
- Lake St. Martin First Nation
- Little Saskatchewan First Nation
- Manitoba Metis Federation
- O-Chi-Chak-Ko-Sipi First Nation
- Peguis First Nation
- Pinaymootang First Nation

The communities listed above are located between 4 km and 59 km from the proposed Project PDA.

CEAA identified 22 Indigenous groups as affected by the Project, in the EIS Guidelines (CEAA 2018) and a subsequent letter dated December 21, 2018[7]. The 22 groups listed by CEAA were part of the 31

[7] In a letter dated December 21, 2108 from CEAA reclassified the following five communities from Indigenous groups that may be affected by the Project but to a lesser degree, to Indigenous groups that may most be affected by the

communities initially identified and contacted by Manitoba Infrastructure from 2015-2016. The 22 groups are:

- Manitoba Metis Federation (MMF)
- Dauphin River First Nation
- Lake St. Martin First Nation
- Little Saskatchewan First Nation
- Pinaymootang First Nation
- O-Chi-Chak-Koo-Sipi First Nation
- Ebb and Flow First Nation
- Lake Manitoba First Nation
- Skownan First Nation
- Peguis First Nation
- Sandy Bay First Nation
- Fisher River Cree Nation
- Kinonjeoshtegon First Nation
- Bloodvein First Nation
- Norway House Cree Nation
- Berens River First Nation
- Hollow Water First Nation
- Brokenhead Ojibway Nation
- Sagkeeng First Nation
- Black River First Nation
- Poplar River First Nation

Project: Brokenhead Ojibway Nation; Sagkeeng First Nation; Black River First Nation; Poplar River First Nation; and, Misipawistic Cree Nation.

- Misipawistik Cree Nation

The list of 22 most affected Indigenous groups was expanded by CEAA to 23 in a letter dated August 16, 2018, with the addition of Keeseekoowenin Ojibway First Nation. The same letter added the following Indigenous groups stating they may be affected by the Project but to a lesser degree bringing the total list of Indigenous groups identified by CEAA to 27. A letter from CEAA dated June 27, 2019 revised the classification of these 5 Indigenous groups to include them with the Indigenous communities and groups that are expected to be most affected by the Project.

- Fox Lake Cree Nation
- Pimicikamak Okimawin (Cross Lake Band of Indians)
- York Factory Cree Nation
- Tataskweyak Cree Nation
- Council of Chiefs of Anishinaabe Agowidiiwinan

In addition to the 27 Indigenous groups identified in the EIS Guidelines (CEAA 2018), and subsequent letters, Manitoba Infrastructure has met with and/or corresponded with the 11 Northern Affairs Communities (NAC), including:

- Aghaming NAC
- Berens River NAC
- Dauphin River NAC
- Fisher Bay NAC
- Loon Straits NAC
- Manigotagan NAC
- Matheson Island NAC
- Norway House NAC
- Pine Dock NAC
- Princess Harbour NAC
- Seymourville NAC

Manitoba Infrastructure will work with Indigenous groups to design, construct, and operate the proposed Project in a manner which avoids or minimizes potential adverse residual effects to Aboriginal and Treaty Rights in the area. Manitoba Infrastructure will engage with any Indigenous community or group that has concerns with the Project and will consult with communities or groups whose Aboriginal or Treaty Rights are potentially affected by the Project.

5.3.3.3 Engagement Methods

Engagement methods included letters, emails, discussions with community elected officials, meetings with community members, participation at open houses and community reports. Members of the communities involved in discussions with Manitoba Infrastructure and INRM include Elders, youth,

resource users, Chiefs and Councils, Northern Affairs Councils, and Metis Government. The output provided Manitoba Infrastructure with a list of issues and concerns by Indigenous community and Indigenous group.

Similar to the public engagement process described in Section 5.2, discussions began several years before this EIS. Communities in closest proximity to the proposed outlet channels were offered funding for traditional land use studies to help the Indigenous communities and Manitoba Infrastructure better understand the effects of the Project on the community and Aboriginal and Treaty Rights. The outputs of this are described in Section 10.1 (Traditional Land and Resource Use).

In 2015, Manitoba Infrastructure informed communities around Lake St. Martin and the southern end of Lake Winnipeg that permanent outlet channels for Lake Manitoba and Lake St. Martin were being considered as an infrastructure project to allow for better management of lake levels on Lake Manitoba and Lake St. Martin. The decision to proceed with the permanent outlet channel Project followed the completion of the Lake Manitoba and Lake St. Martin Regulation Review and the Assiniboine River and Lake Manitoba Basin Flood Mitigation Study as well as the recommendation of the Manitoba 2011 Flood Review Task Force. In a letter dated August 13, 2015, meetings with communities were requested to discuss the Project, request input on the preferred alignment of both channels, commence discussion on Crown-Aboriginal Consultation, and explore options for Aboriginal involvement in the Project delivery. The August 13, 2015 letter was sent to the Chiefs of:

- Dauphin River First Nation
- Interlake Reserves Tribal Council
- Lake St. Martin First Nation
- Little Saskatchewan First Nation
- Pinaymootang First Nation

Using preliminary information obtained through various communications with First Nations and prior Crown-Aboriginal consultations, Manitoba Infrastructure considered the proposed Project construction and operations potential effect on rights-based activities of various communities around Lake St. Martin, Lake Manitoba, and Lake Winnipeg. Between July 22, 2016, and August 6, 2016, Project notification packages were sent to 31 communities that would potentially be affected by the Project.

The July 22, 2016 notification package included an initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the potential effects on Aboriginal and Treaty Rights. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights and committed Manitoba Infrastructure to follow up with those communities they had not heard back from. Contact information for Manitoba Infrastructure and IMR staff was provided for questions, concerns, or information requirements.

Manitoba Infrastructure staff followed up with telephone calls to the recipients of the notification package to schedule meetings to discuss the Project and potential effects on treaty and Aboriginal Rights. Email and telephone calls, as well as meetings with Chief and Council occurred in 2016. A helicopter flight of the area occurred in July 2016 with Interlake Reserves Tribal Council (IRTC), Little Saskatchewan First Nation, Pinaymootang First Nation, Dauphin River First Nation, Lake Manitoba First Nation, Peguis First Nation and Kinonjeoshtegon First Nation.

The IRTC membership includes Dauphin River First Nation, Little Saskatchewan First Nation, Pinaymootang First Nation, Peguis First Nation, Kinonjeoshtegon First Nation and Lake Manitoba First Nation. The IRTC advised Manitoba Infrastructure of the May 4, 2017 Council of Chiefs Resolution supporting IRTC acting as the coordinator for all six First Nations in regard to the engagement and consultation processes including a coordinated approach to a Traditional Knowledge (TK) and Land Use study. The Province signed a consultation agreement with IRTC on August 10, 2017. In December 2017, IRTC facilitated a TK session with their consultant, Golder Associates. On January 5, 2018, Golder Associates, on behalf of the IRTC, provided a summary TK report.

In February 2018, some communities, including Pinaymootang First Nation, advised Manitoba Infrastructure that they no longer wanted to be a part of the IRTC process and want to be consulted independently, which resulted in the development of work plans and budgets. In the spring of 2018, some First Nations advised the province that they would not consult on the Project until the 2011 flooding issues had been resolved.

First Nation communities and the MMF were contacted by telephone to advise them of the 2017 open house meetings in Moosehorn and Winnipeg. To date, some communities or groups have received funding for and conducted Traditional Land Use studies and Traditional Knowledge Reports in 2018 (documented in Section 10.1).

Manitoba Infrastructure has contacted the communities identified in the EIS Guidelines as documented in Section 5.3.4. Meetings and email exchanges continue with First Nations in 2019 to answer questions, and exchange information on potential environmental effects and develop workplans and budgets to facilitate ongoing engagement and consultation.

5.3.4 Engagement and Consultation Results

5.3.4.1 Overview

The following section summarizes the engagement to-date with Indigenous communities and groups. An overall summary of comments from Indigenous communities and groups is categorized by VC in Table 5.3-1 (see page 5.61). The complete list of comments and questions from Indigenous communities and groups is included in Appendix 5A, Table 5A.1 to Table 5A.23. A description of each community is included in Chapter 10.

The communities are listed in alphabetical order and categorized as per the EIS Guidelines (CEAA 2018) between those that are expected to be the most affected by the Project (Section 5.3.4.2) and those that

may also be affected by the Project but to a lesser degree (Section 5.3.4.3) The Northern Affairs Communities are included in Section 5.3.4.4 and the IRTC is included in Section 5.3.4.5.

5.3.4.2 Summary by Communities included in EIS Guidelines (CEAA 2018)

The following communities were included in the EIS Guidelines (CEAA 2018)[8] as those to be engaged with respect to the Project.

Berens River First Nation

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to Chief Hartley Everett on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal Rights by September 12, 2016. Contact information for Manitoba Infrastructure and IMR staff was provided for questions, concerns, or information requirements. A follow up phone call was made to the Band office on August 23 and a voicemail left with the Chief. A follow up letter was sent on October 24, 2017 to provide Project information to leadership.

On September 6, 2018, a letter was sent to Chief Hartley Everett presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. The results indicated that that the 2011 flood would have increased water levels by 1.3 inches higher at the peak of the event if the outlet channel had been operating and that the volume of water entering Lake Winnipeg will not change with the outlet channel operation; however, the length of time for water to move from Lake Manitoba to Lake Winnipeg may be affected. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

Black River First Nation

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to Chief Sheldon Kent on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal Rights by September 12, 2016. Contact information for Manitoba Infrastructure and IMR staff was provided for questions, concerns, or information requirements. A follow up phone call on August 12 was made and a voicemail left with the Chief to confirm that August 8 letter had been received.

[8] These communities were identified in EIS Guidelines (CEAA 2018) as well as subsequent letters from CEAA dated August 2018, December 21, 2018 and June 27, 2019.

Manitoba Infrastructure met with Black River First Nation on November 3, 2016 to better understand issues and concerns of the community and answer questions regarding the Project as well as explain the regulatory process. Information on the Project was exchanged following the November 3, 2016 meeting and in preparation for a meeting which took place on April 20, 2017 to discuss the alignment and questions from the First Nation as well as a consultation budget and workplan.

A meeting on November 2, 2017 discussed the Project and additional questions from the First Nation. Manitoba Infrastructure sent a letter to Chief and Council on February 8, 2018 to follow up on discussions regarding the Project at a meeting in November 2017. The letter proposed a presentation with Council followed by a community meeting.

On September 6, 2018, a letter was sent to the Chief presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. The results indicated that that the 2011 flood would have increased water levels by 1.3 inches higher at the peak of the event if the OC had been operating and that the volume of water entering Lake Winnipeg will not change with the outlet channel operation; however, the length of time for water to move from Lake Manitoba to Lake Winnipeg may be affected. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

Manitoba Infrastructure contacted the community on July 2019 to provide updated Project information and offer a community meeting.

A summary of the issues and concerns raised by Black River First Nation to date is included in Appendix 5A, Table 5A.5.

Bloodvein First Nation

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to the Chief on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure and IMR staff was provided for questions, concerns, or information requirements.

On October 24, 2017, a letter was sent to the Chief to follow up on the Province's attempts to contact the community and confirm the community's position on the Province's position that the Project is unlikely to have any effects on the exercise of Bloodvein First Nation's Aboriginal Treaty Rights or assertions.

On September 6, 2018, a letter was sent to the Chief presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. The results indicated that that the 2011 flood would have increased water levels by 1.3 inches higher at the peak of the event if the outlet channel had been operating and that the volume of

water entering Lake Winnipeg will not change with the outlet channel operation; however, the length of time for water to move from Lake Manitoba to Lake Winnipeg may be affected. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

Brokenhead Ojibway Nation

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to Chief Bear on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure and IMR staff was provided for questions, concerns, or information requirements.

On October 24, 2017, a letter was sent to the Chief to follow up on the Province's attempts to contact the community and confirm the community's position on the Province's position that the Project is unlikely to have any effects on the exercise of Brokenhead Ojibway Nation's Aboriginal Treaty Rights or assertions.

On September 6, 2018, a letter was sent to the Chief presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrasructure's initial assessment of potential effects for the community. The results indicated that that the 2011 flood would have increased water levels by 1.3 inches higher at the peak of the event if the outlet channel had been operating and that the volume of water entering Lake Winnipeg will not change with the outlet channel operation; however, the length of time for water to move from Lake Manitoba to Lake Winnipeg may be affected. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

Manitoba Infrastructure emailed Chief Smith on July 10, 2019 offering a meeting to discuss the Project. Chief Smith responded in a letter on July 24, 2019 recommending that if the proposed meeting is intended as consultation, as per Section 35 of the Constitution, Manitoba must send the First Nation a letter saying Manitoba Infrastructure wishes to initiate consultation.

Dauphin River First Nation

On August 13, 2015, Manitoba sent a letter to the community's leadership informing them of the Manitoba commitment to enhancing outlet capacity from Lake Manitoba and Lake St. Martin in order to reduce the threat of flooding. The letter outlined the conceptual design and the process to further the design. On September 9, 2015, some community members participated in an information session in Winnipeg, where conceptual design findings were presented and feedback on channel alignment options was obtained, and options for Aboriginal involvement in the delivery of the Project were explored. Dauphin River First Nation leadership participated in an information sharing session regarding the Project on November 26, 2015 with communities represented by the IRTC including Peguis First Nation, Little Saskatchewan First

Nation, Pinaymootang First Nation, Dauphin River First Nation, Lake Manitoba First Nation, Kinonjeoshtegon First Nation.

The Chief of the First Nation participated in a meeting on July 5, 2016 with Manitoba Infrastructure and other Chiefs of several First Nation communities located around Lake St. Martin to discuss the Project. A notification package dated July 22, 2016, contained a letter to the Chief explaining the Project and Manitoba Infrastructure's initial assessment that the Project may potentially affect the community's Aboriginal or treaty Rights. The notification package also included information on the regulatory authorities involved, Manitoba Infrastructure contact information, two maps, and a request for a meeting. A meeting was held on August 2, 2016 between Manitoba Infrastructure and the community's Chief and Council. The First Nation expressed concerns regarding outstanding issues with past flood events. Telephone calls and letters were sent to the First Nation leadership following the August 2, 2016 meeting and Manitoba Infrastructure sent another letter on September 23, 2016 requesting a meeting to better understand the potential effects of the Project on the community as well as to begin developing a consultation plan and preliminary budget. A meeting between Manitoba Infrastructure and Dauphin River First Nation was held on November 16, 2016 to discuss construction opportunities associated with the Project and the bidding process. At the meeting the First Nation advised Manitoba Infrastructure that construction could not begin until community members returned to their Reserve lands and all outstanding flood issues are resolved.

Between November 25, 2016 and March 2017 several emails and phone calls were exchanged to confirm a meeting date to discuss Aboriginal and Treaty Rights. In the meeting on April 12, 2017 between Manitoba, Dauphin River First Nation and the IRTC, there was discussion around construction and opportunities for the First Nations to tender for work, Project-specific information, questions and comments. The community mapped and identified areas of importance and issues of concern. An information sharing meeting with the IRTC on April 28, 2017 involved Dauphin River First Nation, Lake St. Martin First Nation, Little Saskatchewan First Nation, Lake Manitoba First Nation, Ebb and Flow First Nation, Southern Chiefs Organization, and Manitoba to provide an overview of the Project, including alignment options, and understand the consultation process and potential economic opportunities. On May 4, 2017, the Chief for Dauphin River First Nation signed the May 4th Council of Chiefs Resolution in support of having IRTC act as the coordinator for all six First Nations in regard to the Traditional Knowledge and Land Use Study (TKLU) and consultation. On May 17, 2017 the IRTC submitted a proposal to the province for consultation funding, which was supported by its members, including Dauphin River FN. The letter confirmed support for the Project by the IRTC and its members. Manitoba Infrastructure's response in a letter on May 24, 2017 committed Manitoba to continued dialogue and collaboration with potentially affected communities. Manitoba Infrastructure met with commercial fishers from Dauphin River First Nation on August 31, 2017 and with Councillors from the First Nation on October 24, 2017 to answer questions and address concerns. On December 1, 2017, Manitoba Infrastructure sent a letter to the Chief outlining the four phases of the Manitoba consultation process and explaining that they are at the end of Phase 2 with the August 10, 2017 consultation and funding agreement with IRTC.

Between November 2018 and February 2019, Manitoba Infrastructure sent emails and letters as well as made a phone call to notify the First Nation of planned exploratory work on the land associated with the Project including, surveying and other studies required to further the design of the Project.

A summary of the issues and concerns raised by Dauphin River First Nation to date is included in Appendix 5A, Table 5A.6.

Ebb and Flow First Nation

A notification package dated July 22, 2016, contained a letter to the Chief explaining the Project and Manitoba Infrastructure's initial assessment that the Project may potentially affect the community's Aboriginal or treaty Rights. The notification package also included information on the regulatory authorities involved, Manitoba Infrastructure contact information, two maps, and a request for a meeting. A follow-up letter was sent December 23, 2016.

An information sharing meeting with the IRTC on April 28, 2017 involved Dauphin River First Nation, Lake St. Martin First Nation, Little Saskatchewan First Nation, Lake Manitoba First Nation, Ebb and Flow First Nation, Southern Chiefs Organization, and Manitoba to provide an overview of the Project and understand the consultation process. In July 2017, Ebb and Flow First Nation expressed interest in developing a consultation plan and budget. An initial meeting was held on August 30, 2017 to discuss the Project and to review the consultation plan template. On December 1, 2017, Manitoba Infrastructure sent a letter to the Chief outlining the four phases of the Manitoba consultation process and update on the current status of discussions.

On March 23, 2018, and April 10, 2018, Ebb and Flow First Nation met with Manitoba Infrastructure and advised Manitoba Infrastructure that they were not going to consult until the 2011 issues were resolved. On September 6, 2018, a letter was sent to the Chief presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. The results indicated that that the 2011 flood would have increased water levels by 1.3 inches higher at the peak of the event if the outlet channel had been operating and that the volume of water entering Lake Winnipeg will not change with the outlet channel operation; however, the length of time for water to move from Lake Manitoba to Lake Winnipeg may be affected. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements. On April 10, 2018 a letter was sent to follow up on the meeting with Manitoba Infrastructure by including meeting minutes and confirming that MIs understanding is that Ebb and Flow does not want to consult until 2011 flood issues are resolved, and that Manitoba Infrastructure would like to hear their concerns regarding the Project.

Ebb and Flow First Nation was notified in in May 2019 of upcoming fieldwork. A summary of issues and concerns raised by Ebb and Flow First Nation is included in Appendix 5A, Table 5A.7.

Fisher River Cree Nation

Manitoba Infrastructure responded to issues raised by Fisher River Cree Nation, such as debris, in a March 3, 2016 letter. A subsequent letter to the Chief dated July 26, 2016 on the LMOC/LSMOC Flood Protection Project, which included a Project description, maps, and regulatory requirements. In the letter, Manitoba Infrastructure expressed interest in understanding any potential effects the Project may have on Treaty and Aboriginal Rights. Telephone calls and letters were exchanged between Manitoba Infrastructure and the Chief of the First Nation to set up a meeting to discuss the Project, concerns from the community and the baseline reports. The meeting took place on April 3, 2017. Between May and August 2017, Manitoba Infrastructure worked with the First Nation to discuss Project timelines and finalize consultation plans and budget for consultation. The agreement led to subsequent budget and consultation work plan submissions in 2017 and 2018 and includes participation of fishers from the First Nation. Manitoba Infrastructure contacted First Nation between June 23, 2017 and July 3, 2017 to advise of two open houses as well as the format and information that would be available at the open houses. A helicopter tour of the Project area was provided in October 2017 for the community's leadership. On October 11, 2017 an Elders' meeting took place in the morning and a community meeting took place in the afternoon to discuss the Project. A Project meeting with fishers occur November 30, 2017. On December 1, 2017, Manitoba Infrastructure sent a letter to the Chief outlining the four phases of the Manitoba consultation process and requests community report, which was received October 18, 2018.

Manitoba Infrastructure contacted Fox Lake Cree Nation to provide information regarding the Project. In response, a meeting was held with the leadership of Fox Lake Cree Nation on September 25, 2018, to discuss the Project and address questions and concerns of the community.

On July 8, 2019, Fox Lake Cree Nation advised Manitoba Infrastructure that they were interested in a meeting in Thompson to discuss the Project.

A summary of the issues and concerns raised by Fisher River Cree Nation to date is included in Appendix 5A, Table 5A.8.

Hollow Water First Nation

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to Chief Larry Baker on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure and IMR staff was provided for questions, concerns, or information requirements. A follow-up letter was sent dated October 24, 2017.

In response to an email on March 29, 2018, indicating issues and concerns with the Project, Manitoba Infrastructure offered a community meeting and an agenda was sent April 3, 2018. On September 6, 2018, a letter was sent to the Chief presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community.

The results indicated that that the 2011 flood would have increased water levels by 1.3 inches higher at the peak of the event if the outlet channel had been operating and that the volume of water entering Lake Winnipeg will not change with the outlet channel operation; however, the length of time for water to move from Lake Manitoba to Lake Winnipeg may be affected. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

A summary of the issues and concerns raised by Hollow Water First Nation to date is included in Appendix 5A, Table 5A.9.

Keeseekoowenin Ojibway Nation

Manitoba Infrastructure contacted Keeseekoowenin Ojibway Nation between July 2-17, 2019 providing Project information and requesting a meeting. No response has been received to date.

Kinonjeoshtegon First Nation

Manitoba Infrastructure began engaging with Kinonjeoshtegon First Nation with an information meeting on November 26, 2015 with Manitoba, Peguis First Nation, Little Saskatchewan First Nation, Pinaymootang First Nation, Dauphin River First Nation, Lake Manitoba First Nation, Kinonjeoshtegon First Nation, and the IRTC, to discuss the status of the Project and answer questions.

A notification package dated July 22, 2016, contained a letter to Chief David Traverse explaining the Project and Manitoba Infrastructure's initial assessment that the Project may potentially affect the community's Aboriginal or treaty Rights. The notification package also included information on the regulatory authorities involved, Manitoba Infrastructure contact information, two maps, and a request for a meeting. Chief Traverse was contacted by phone on August 4, 2016 to confirm receipt of the July 22, 2016 letter and to schedule a meeting. Manitoba Infrastructure followed up with a letter on December 23, 2016 requesting a meeting to share Project information and to better understand community concerns.

Phone calls and emails were exchanged between Manitoba Infrastructure and Chief Traverse between March 15 and May 12, 2017 to follow up on previous discussions and to request a meeting with the community. On May 4, 2017, Chief Traverse signed the May 4th Council of Chiefs Resolution in support of having IRTC act as the coordinator for all six First Nations in regard to the TKLU and consultation. The IRTC engagement plan was received on May 17, 2017. Manitoba Infrastructure contacted the First Nation on June 23, 2017 to advise of two open houses, as well as the format and information that would be available at the open houses. On December 1, 2017, Manitoba Infrastructure sent a letter to the Chief outlining the four phases of the Manitoba consultation process and explaining that they are at the end of Phase 2 with the August 10, 2017 consultation and funding agreement with IRTC. A meeting was held on December 12, 2017 with Manitoba Infrastructure, INR and Kinonjeoshtegon First Nation, including community Elders, to discuss the consultation process, Project components and the regulatory process.

From September 6, 2018 to August 13, 2019, letters and emails were sent to the Chief regarding updated Project information and activities, including upcoming fieldwork. A meeting was held on July 28, 2019 with

IRTC (facilitating consultation on behalf of the First Nation) to provide updated Project information and discuss updating the work plan and budget.

A summary of issues and concerns raised by Kinonjeoshtegon First Nation to date are included in Appendix 5A, Table 5A.10.

Lake Manitoba First Nation

Manitoba Infrastructure began engaging with Lake Manitoba First Nation with an information meeting on November 26, 2015 with Manitoba, Peguis First Nation, Little Saskatchewan First Nation, Pinaymootang First Nation, Dauphin River First Nation, Lake Manitoba First Nation, Kinonjeoshtegon First Nation, and the IRTC, to discuss the status of the Project and answer questions.

A notification package dated July 22, 2016, contained a letter to the Chief explaining the Project and Manitoba Infrastructure's initial assessment that the Project may potentially affect the community's Aboriginal or treaty Rights. The notification package also included information on the regulatory authorities involved, Manitoba Infrastructure contact information, two maps, and a request for a meeting. Three meetings were also held with the First Nation from July 2016 to February 2017 with Lake Manitoba First Nation Chief and Council, focusing on outstanding flood related issues. In December 2016, Council for Lake Manitoba First Nation contacted Manitoba Infrastructure requesting dates to begin the consultation process. In January 2017, Lake Manitoba First Nation explained they did not want to discuss the Project until outstanding flooding issues had been resolved. However, meetings and information continued to be exchanged.

An information sharing meeting with the IRTC on April 28, 2017 involved Dauphin River First Nation, Lake St. Martin First Nation, Little Saskatchewan First Nation, Lake Manitoba First Nation, Ebb and Flow First Nation, Southern Chiefs Organization, and Manitoba to provide an overview of the Project and understand the consultation process. On May 4, 2017, the Chief for Lake Manitoba First Nation signed the May 4th Council of Chiefs Resolution in support of having IRTC act as the coordinator for all six First Nations in regard to the TKLU and consultation. The IRTC engagement plan was received on May 17, 2017. A presentation and community meeting were also held in June and October 2017, respectively, to share Project information presented at open house events. On December 1, 2017, Manitoba Infrastructure sent a letter to the Chief outlining the four phases of the Manitoba consultation process and explaining that they are at the end of Phase 2 with the August 10, 2017 consultation and funding agreement with IRTC. From December 2017 to May 2019, six letters were sent to Chief regarding updated Project information, status of flood agreements, meeting requests to discuss issues and concerns, and notification of upcoming fieldwork.

A summary of the issues and concerns raised by Lake Manitoba First Nation to date are included in Appendix 5A, Table 5A.11.

Lake St. Martin First Nation

A notification package dated July 22, 2016, contained a letter to the Chief explaining the Project and Manitoba Infrastructure's initial assessment that the Project may potentially affect the community's Aboriginal or treaty Rights. The notification package also included information on the regulatory authorities involved, Manitoba Infrastructure contact information, two maps, and a request for a meeting. A follow-up letter dated September 23, 2016 was also sent.

On August 22, 2016, the community was advised of upcoming fieldwork. On August 30, 2016 a meeting was held with Chief and Council to discuss Project alignments and details. Manitoba Infrastructure met with Lake St. Martin First Nation and their legal Counsel on October 27, 2016, to discuss the Project, resource mapping, consultation plan and budget process and regulatory process.

A letter dated August 13, 2017 was sent from Manitoba Infrastructure to Chief of Lake St. Martin First Nation to invite Chief and Council to an information session in Winnipeg regarding the Project. Several follow-up communications were also sent. From November 2016 to April 2017, four meetings were held with Manitoba Infrastructure and Lake St. Martin First Nation to discuss contract process, issues and concerns, the Project components, resource mapping, and consultation plan. Manitoba Infrastructure sent two follow-up letters dated March 13, 2017 and May 24, 2017 to the Lake St. Martin First Nation committing to reconciliation and working collaboratively to address past issues. An information sharing meeting with the IRTC on April 28, 2017 involved Dauphin River N, Lake St. Martin First Nation, Little Saskatchewan First Nation, Lake Manitoba First Nation, Ebb and Flow First Nation, Southern Chiefs Organization, and Manitoba to provide an overview of the Project and understand the consultation process. On July 5, 2017 Manitoba Infrastructure sent the consultation plan template and participation fund guide to Chief Sinclair. Meetings were held on August 8, 2017 to discuss the consultation plan and budget. On September 14, 2017 a meeting occurred to discuss the Project and resource mapping proposal and budget A meeting on October 6, 2017 discussed consultation and the Project, including issues and concerns. At a November 27, 2017 meeting, engagement methods were discussed. On December 1, 2017, Manitoba Infrastructure sent a letter to the Chief outlining the four phases of the Manitoba consultation process and explaining that they are at the end of Phase 2 with the August 10, 2017 consultation and funding agreement with IRTC. Further meetings were held on December 7, 2017 to present the Project Description and consultation updates; March 13, 2018 to discuss consultation budget and workplan development; July 12, 2018 to discuss consultation funding; and August 8, 2018 to review the workplan and budget. On October 1, 2018, the consultation agreement was signed.

Two additional letters were sent from December 2017 to July 2019 notifying of the fieldwork for the topographic survey and well installations. Three additional meetings were held between March 2019 and June 2019 to discuss the engagement work plan and budget and to provide Project updates.

A summary of the issues and concerns raised to date by Lake St. Martin First Nation are included in Appendix 5A, Table 5A.12.

Little Saskatchewan First Nation

On August 13, 2015, Manitoba Infrastructure sent a letter to the community's leadership informing them of Manitoba's commitment to enhancing outlet capacity from Lake Manitoba and Lake St. Martin in order to reduce the threat of flooding. The letter outlined the conceptual design and the process to further the design. On September 9, 2015, Little Saskatchewan First Nation participated in an information session in Winnipeg, where conceptual design findings were presented and feedback on channel alignment options was obtained, and options for Aboriginal involvement in the delivery of the Project were explored. Leadership of Little Saskatchewan First Nation participated in an information sharing session regarding the Project on November 26, 2015 with communities represented by the IRTC including Peguis First Nation, Little Saskatchewan First Nation, Pinaymootang First Nation, Dauphin River First Nation, Lake Manitoba First Nation, and Kinonjeoshtegon First Nation.

The Chief of the First Nation participated in a meeting on July 5, 2016 with Manitoba Infrastructure and other Chiefs of several First Nation communities located around Lake St. Martin to discuss the Project. A notification package dated July 26, 2016, contained a letter to the Chief explaining the Project and Manitoba Infrastructure's initial assessment that the Project may potentially affect the community's Aboriginal or treaty Rights. The notification package also included information on the regulatory authorities involved, Manitoba Infrastructure contact information, two maps, and a request for a meeting. On August 23, 2016, Manitoba Infrastructure followed up with Little Saskatchewan First Nation to confirm receipt of the letter and requested additional community concerns. Manitoba Infrastructure also informed the community of upcoming soil studies relating to the Project. A letter was sent again by Manitoba Infrastructure on September 23, 2016 committing to a consultation process plan and budget development. A meeting on November 16, 2016 with Manitoba and four First Nations including Lake St. Martin, Pinaymootang, Little Saskatchewan, and Dauphin River focused on possible tendering and contracting opportunities for the Project.

Between February 8, 2017 and March 13, 2017, Manitoba met with several communities, including Little Saskatchewan First Nation, and followed up with a letter to arrange the next meeting with the community. An information sharing meeting with the IRTC on April 28, 2017 involved Little Saskatchewan First Nation, Dauphin River First Nation, Lake St. Martin First Nation, Lake Manitoba First Nation, Ebb and Flow First Nation, Southern Chiefs Organization, and Manitoba to provide an overview of the Project and understand the consultation process. On May 4, 2017, the Chief for Little Saskatchewan First Nation signed the May 4th Council of Chiefs Resolution in support of having IRTC act as the coordinator for all six First Nations in regard to the TKLUS and consultation. The IRTC engagement plan was received on May 17, 2017. Manitoba sent a letter to the Chief on May 24, 2017 regarding the IRTC process. Manitoba Infrastructure contacted the First Nation on June 23, 2017 to advise of two open houses, as well as the format and information that would be available at the open houses. A Community Meeting regarding the Project took place on October 25, 2017 and a draft community summary report was submitted. On December 1, 2017, Manitoba Infrastructure sent a letter to the Chief outlining the four phases of the Manitoba consultation process and explaining that they are at the end of Phase 2 with the August 10, 2017 consultation and funding agreement with IRTC.

Manitoba sent letters to the First Nation on March 6, 2018 and September 6, 2018 to provide an update on community consultation work completed and requested that the First Nation verify the summary of concerns for the community. Between October 25, 2018 and November 11, 2018, Manitoba received correspondence from Little Saskatchewan First Nation, including a Band Council Resolution to proceed with its own consultation process. The community was invited to a helicopter tour over the Project area on November 20, 2018. Manitoba Infrastructure spoke with the Chief on December 12, 2018 who requested a meeting for additional Project information.

A meeting was held on January 11, 2019 with Manitoba Infrastructure and First Nation to share the consultation proposal. Between April 2 and 30, 2019, Little Saskatchewan First Nation made requests for an update on the proposal provided. A Band Council Resolution was sent by the First Nation on May 3, 2019 opting out of the IRTC process. A meeting was held on July 4, 2019 with Chief and Council and Manitoba Infrastructure to discuss Project information and available updates, next steps on proposal review, and development of a draft work plan and budget. On July 24, 2019, the First Nation requested an update from Manitoba for review of the proposal to include July 4, 2019 discussions. Manitoba responded to the request for review on July 25, 2019. Correspondence between Manitoba Infrastructure and Little Saskatchewan First Nation between August 13 and 15, 2019 indicated a concern by the First Nation about current field work on the Project. A follow-up meeting is being arranged.

Notification of upcoming fieldwork activities were sent to the First Nation on December 27, 2018, February 11, 2019, February 27, 2019, and July 23, 2019.

A summary of the issues and concerns raised by Little Saskatchewan First Nation to date is included in Appendix 5A, Table 5A.13.

Manitoba Metis Federation

In 2012, the MMF partnered with the Province of Manitoba to recognize Métis rights to harvest natural resources for food and domestic use in Manitoba. An agreement was reached on Métis harvesting rights in mutually agreed-to regions of the province. The proposed LMOC is located within the recognized harvest zone, but the LSMOC is not. While an agreement has been reached the MMF asserts that their community exercises their rights in areas outside of the recognized area. Discussions continue between the MMF and Manitoba in this regard.

Manitoba Infrastructure began conversations with the MMF about the Project in November 2015, with a telephone call to MMF requesting a meeting to discuss the proposed outlet channels. The first meeting was held on December 8, 2015, and Metis rights and concerns with land use were discussed. Options for the channel location (C and D, described in Chapter 2) were identified as areas of significant use by Métis.

On July 26, 2016, a letter was sent from Manitoba Infrastructure to the MMF describing the Project, the regulatory authorities involved, maps, and a request for a meeting. The MMF responded on September 8, 2016 requesting a meeting, which took place on October 20, 2016. At the meeting, Project information was provided and concerns and questions from MMF were discussed. A meeting between Manitoba

Infrastructure and MMF on November 29, 2016 allowed for the discussion of work plans, a budget, and the consultation process. At a meeting on January 16, 2017 the MMF requested information on the Project timelines, and data collected for the Project. The MMF expressed the need for a budget and their participation in information gathering for resource mapping.

On June 23, 2017, Manitoba Infrastructure phoned the MMF to advise them of upcoming open houses regarding the Project. A meeting on December 1, 2017 allowed Manitoba Infrastructure and MMF to develop a mutually agreeable consultation work plan and budget for the Project.

On February 26, 2018, MMF was sent an invitation for the open houses in Moosehorn and Winnipeg. Meetings, emails, and conference calls took place between March 2018 and August 2019 to exchange information on the Project, economic opportunities associated with the Project, field work, as well as budget and consultation plans.

A summary of the issues and concerns raised by the MMF to date is included in Appendix 5A, Table 5A.14.

Misipawistik Cree Nation

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to the Chief on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure and IMR staff was provided for questions, concerns, or information requirements.

On October 24, 2017, a letter was sent to the Chief to follow up on the Province's attempts to contact the community and confirm the community's perspective on the Province's position that the Project is unlikely to have any effects on the exercise of Misipawistik Cree Nation's Aboriginal Treaty Rights or assertions.

On September 6, 2018, a letter was sent to the Chief presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. The results indicated that that the 2011 flood would have increased water levels by 1.3 inches higher at the peak of the event if the outlet channel had been operating and that the volume of water entering Lake Winnipeg will not change with the outlet channel operation; however, the length of time for water to move from Lake Manitoba to Lake Winnipeg may be affected. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

Norway House Cree Nation

Manitoba Infrastructure has been in discussions, including meetings, with Norway House Cree Nation regarding the Project since February 2015 to better understand issues and concerns of the community and answer questions regarding the Project.

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to the Chief on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure and IMR staff was provided for questions, concerns, or information requirements. On August 29, 2016, Norway House Cree Nation responded in a letter to Manitoba Infrastructure advising that their First Nation believes the Project will potentially impact their membership's ability to exercise treaty and Aboriginal rights. A meeting between Manitoba and Norway House Cree Nation took place on December 21, 2016 to discuss the Project, alignment, regulatory process, and concerns of the community. The development of a consultation plan and budget were also discussed at the meeting.

A meeting between Manitoba Infrastructure and the community leadership took place on May 2, 2017 where preferred alignments and other Project information was discussed including concerns from the community. A plan and funding for consultation was discussed. Manitoba Infrastructure followed up with a letter, a phone call, and emails between June 2017 and April 2018.

On May 23, 2018, Manitoba met with Chief and Council to discuss the Project and the consultation process. On September 6, 2018, a letter was sent to the First Nation presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. The results indicated that that the 2011 flood would have increased water levels by 1.3 inches higher at the peak of the event if the outlet channel had been operating and that the volume of water entering Lake Winnipeg will not change with the outlet channel operation; however, the length of time for water to move from Lake Manitoba to Lake Winnipeg may be affected. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

Manitoba Infrastructure received an email form the Chief on July 31, 2019 requesting a workplan and budget for formal engagement.

A summary of the issues and concerns raised by Norway House Cree Nation to date is summarized in Appendix 5A, Table 5A.15.

O-Chi-Chak-Ko-Sipi First Nation

The Chief of the O-Chi-Chak-Ko-Sipi First Nation participated in a meeting on July 5, 2016 with Manitoba Infrastructure and Chiefs of Dauphin River, and Lake Manitoba First Nations to discuss the Project. A notification package dated July 22, 2016, contained a letter to the Chief explaining the Project and Manitoba Infrastructure's initial assessment that the Project may potentially affect the community's Aboriginal or treaty Rights. The notification package also included information on the regulatory authorities involved, Manitoba Infrastructure contact information, two maps, and a request for a meeting. Phone calls and emails to the First Nation were made between September 3 and November 15, 2016, and a follow-up letter sent on December 23, 2016 requesting a meeting to share Project information and to better understand community concerns.

A meeting held on February 8, 2017 with Manitoba Infrastructure and O-Chi-Chak-Ko-Sipi First Nation, Lake St. Martin, Lake Manitoba and Pinaymootang to discuss the Project and concerns of the communities. O-Chi-Chak-Ko-Sipi First Nation is part of the IRTC. Manitoba sent a letter on May 24, 2017 following up on a letter presented at the February 8, 2017 meeting, which indicated the support of the Project by the IRTC communities andO-Chi-Chak-Ko-Sipi First Nation. The letter committed Manitoba to work collaboratively with the First Nations to address issues raised. Ongoing correspondence occurred between June and November 2017 to follow up on previous discussions. On December 1, 2017, Manitoba Infrastructure sent a letter to the Chief outlining the four phases of the Manitoba consultation process and explaining that they are at the end of Phase 2 with the August 10, 2017 consultation and funding agreement with IRTC.

A meeting was held on April 10, 2018, where the community explained that they did not want to consult on the proposed Project until the 2011 flood issues had been resolved. Manitoba Infrastructure followed-up with a letter including meeting minutes and confirming the understanding that community does not want to consult until 2011 flood issues are resolved, but that Manitoba Infrastructure wishes to hear of the FN's concerns regarding the Project.

On September 6, 2018, a letter was sent to O-Chi-Chak-Ko-Sipi First Nation presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. The results indicated that that the 2011 flood would have increased water levels by 1.3 inches higher at the peak of the event if the outlet channel had been operating and that the volume of water entering Lake Winnipeg will not change with the outlet channel operation; however, the length of time for water to move from Lake Manitoba to Lake Winnipeg may be affected. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

Emails and letters were sent in February and May 2019 to advise community of field work.

A summary of the issues and concerns raised O-Chi-Chak-Ko-Sipi First Nation to date is summarized in Appendix 5A, Table 5A.16.

Peguis First Nation

Manitoba Infrastructure began engaging with Peguis First Nation with an information meeting on November 26, 2015 with Manitoba, Peguis First Nation, Little Saskatchewan First Nation, Pinaymootang First Nation, Dauphin River First Nation, Lake Manitoba First Nation, Kinonjeoshtegon First Nation, and the IRTC, to discuss the status of the Project and answer questions.

A notification package dated July 22, 2016, contained a letter to the Chief explaining the Project and Manitoba Infrastructure's initial assessment that the Project may potentially affect the community's Aboriginal or Treaty Rights. The notification package also included information on the regulatory authorities involved, Manitoba Infrastructure contact information, two maps, and a request for a meeting. A follow-up letter was sent on September 23, 2016.

On May 4, 2017, the Chief signed the May 4th Council of Chiefs Resolution supporting the IRTC proposal. A community meeting to discuss the Project was held on October 6, 2017. Peguis First Nation advised Manitoba Infrastructure of their wishes to cease Crown consultation process with IRTC in a letter dated August 3, 2018.

On September 6, 2018, a letter was sent to Peguis First Nation presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. The results indicated that that the 2011 flood would have increased water levels by 1.3 inches higher at the peak of the event if the outlet channel had been operating and that the volume of water entering Lake Winnipeg will not change with the outlet channel operation; however, the length of time for water to move from Lake Manitoba to Lake Winnipeg may be affected. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

Three additional meetings were held with the community from October 2018 to July 2019 to discuss the development of the engagement plan, consultation process, and provide updates on the Project. Six letters were also sent to Peguis First Nation from November 2018 to August 2019 to notify the community of upcoming fieldwork and update on the Lake St. Martin access road project.

From February to May 2019, Manitoba Infrastructure sent emails and letters as well as made a phone call to notify the First Nation of fieldwork activities associated with the Project.

A report of the issues and concerns heard was also provided. A summary of the issues and concerns raised by Peguis First Nation to date is included in Appendix 5A, Table 5A.17.

Pinaymootang First Nation

Manitoba Infrastructure sent the Chief of Pinaymootang First Nation an invitation letter on August 13, 2015 to an information session in Winnipeg on September 9, 2015. On September 2, 2016 Manitoba Infrastructure received a letter from IRTC confirming the Chief would not attend the September 9, 2015 information session. At the session, conceptual design findings were presented and feedback on channel

alignment options was obtained, and options for Aboriginal involvement in the delivery of the Project were explored. The Chief of Pinaymootang First Nation attended an information meeting on November 26, 2015 with Manitoba, Peguis First Nation, Little Saskatchewan First Nation, Pinaymootang First Nation, Dauphin River First Nation, Lake Manitoba First Nation, Kinonjeoshtegon First Nation, and the IRTC, to discuss the status of the Project and answer questions.

On April 22, 2016 Pinaymootang requested a map from MI, which was provided on May 27, 2016. A notification package dated July 22, 2016, contained a letter to the Chief explaining the Project and Manitoba Infrastructure's initial assessment that the Project may potentially affect the community's Aboriginal or treaty Rights. The notification package also included information on the regulatory authorities involved, Manitoba Infrastructure contact information, two maps, and a request for a meeting. A meeting of introductions was held on July 28, 2016 with Pinaymootang First Nation and Manitoba where the community listed concerns associated with flooding. A letter was sent to the Chief on September 23, 2016 to follow up on the notification package and request a meeting. A copy of the May 2013 Crown-Aboriginal Consultation Participation Fund Community Guide was included with the letter to facilitate the development of a consultation plan and budget. A helicopter flight over the Project area was provided to the community leadership on July 28, 2016. The next meeting was held on October 12, 2016 to discuss the Project, the Manitoba consultation process, raise concerns and answer questions. A meeting on November 16, 2016 with Manitoba and four First Nations including Lake St. Martin, Pinaymootang, Little Saskatchewan, and Dauphin River focused on possible tendering and contracting opportunities for the Project.

A meeting was held on February 8, 2017 with Manitoba Infrastructure and Pinaymootang First Nation to discuss the Project and community concerns. On May 4, 2017, thee Chief for Pinaymootang First Nation signed the May 4th Council of Chiefs Resolution in support of having IRTC act as the coordinator for all six First Nations in regard to the TKLUS and consultation. On December 1, 2017, Manitoba Infrastructure sent a letter to the Chief outlining the four phases of the Manitoba consultation process and explaining that they are at the end of Phase 2 with the August 10, 2017 consultation and funding agreement with IRTC.

Pinaymootang First Nation is a member of the IRTC and sent Manitoba Infrastructure a band council resolution signed by IRTC member Chiefs of Lake Manitoba, Peguis First Nation, Pinaymootang First Nation, Little Saskatchewan First Nation, Dauphin River First Nation and Kinonjeoshtegon First Nation supporting the IRTC proposal, and requesting that outstanding issues from 50 years and the 2011 flood claims must be addressed in advance of discussions on the permanent channel and that future discussions must involve the IRTC Board of Directors. Manitoba sent a letter on May 24, 2017 following up on a letter presented at the February 8, 2017 meeting, which indicated the support of the Project by the IRTC communities including Pinaymootang First Nation. The letter committed Manitoba to work collaboratively with the First Nations to address issues raised. It referenced the IRTC proposal regarding consultation process and proposed budget. A community meeting was held on December 14, 2017, with Chief, Council and community members to discuss the Project, answer questions, and document issues and concerns.

A workplan to outline moving forward has been drafted and includes six objectives: how to share information; confirming concerns; sharing environmental assessment; completing Phase 2 consultation; analysis, reporting and decision making; and, reporting on the decision. The community was invited to another helicopter flight over the Project area on November 20, 2018. Letters, emails and phone calls continue to be exchanged between Manitoba and the First Nation between December 2018 and August 2019 to provide Project updates including information regarding field work, and address issues and concerns.

A summary of the issues and concerns raised by Pinaymootang First Nation is included in Appendix 5A, Table 5A.18.

Pimicikamak Okimawin (Cross Lake Band of Indians)

Manitoba Infrastructure emailed Pimichikamak on July 8, 2019 requesting a meeting in Thompson, Manitoba along with four other communities, including Fox Lake Cree Nation, Norway House Cree Nation, York Factory First Nation, and Tataskweyak Cree Nation. Manitoba Infrastructure made a follow up telephone call on July 30, 2019 to confirm interest and attendance in the information session.

Poplar River First Nation

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to Chief Russell Lambert on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure and IMR staff was provided for questions, concerns, or information requirements. On August 24, 2016, a call was made to the community and confirmation of the receipt of the letter was provided. A follow up letter was sent on October 24, 2017 to the newly-elected Chief Vera Mitchell to provide information and a request for further engagement.

On September 6, 2018, a letter was sent to the Chief presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. The results indicated that that the 2011 flood would have increased water levels by 1.3 inches higher at the peak of the event if the outlet channel had been operating and that the volume of water entering Lake Winnipeg will not change with the outlet channel operation; however, the length of time for water to move from Lake Manitoba to Lake Winnipeg may be affected. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

Sagkeeng First Nation

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to Chief Derrick Henderson on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the

Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure and IMR staff was provided for questions, concerns, or information requirements. On August 23, 2016, Manitoba Infrastructure contacted Sagkeeng First Nation via phone call to follow-up on the initial letter. A message was left for Chief Derrick Henderson to call back.

A follow-up letter was sent by Manitoba Infrastructure on October 24, 2017 to provide updated Project information and request further engagement. On November 30 and December 1, 2017, Council for Sagkeeng First Nation responded with letters explaining that the First Nation had insufficient information regarding the specifics of the Project to assess the potential adverse impacts on their Treaty and Aboriginal rights and requested funding to independently analyze those potential impacts.

A follow-up letter was sent by INR to the Chief of Sagkeeng First Nation on February 8, 2018 requesting a meeting with the community to share information about the Project, including technical and environmental information. On March 29, 2018, a Band Council Resolution (BCR) was received identifying potential issues related to commercial fishers for the community and identifying representative to act as the contact for the community (legal counsel of OTK Law). Manitoba Infrastructure followed up by email proposing to host a community meeting with fishers to present the Project and hear their concerns. On May 17, 2018, the Province sent an email to the Chief reiterating its offer for a meeting and community session, and offered funding for the meeting including hall rental, catering and honorariums for Elders or other knowledge holders. Emails were exchanged between Manitoba Infrastructure and legal counsel of Sagkeeng First Nation on May 25 and September 26, 2018 regarding the consultation process. On October 2, 2018, Sagkeeng provided a legal response to Manitoba Infrastructure letter dated October 24, 2017.

Sandy Bay First Nation

An email from legal counsel representing Sandy Bay First Nation was received on September 26, 2018. A phone call in July 2019 was made by Manitoba Infrastructure to the Chief to request a meeting to discuss the Project. Field work notifications were sent to the community in May 2019.

Skownan First Nation

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to Chief Cameron Cacheway on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure and IMR staff was provided for questions, concerns, or information requirements.

On October 24, 2017, a follow-up letter was sent to provide updated Project information and request further engagement. Information about field work was provided to the community in May 2019. In July 2019. Manitoba Infrastructure invited the Chief to meet and share information about the Project.

Tataskweyak Cree Nation

Manitoba Infrastructure contacted Tataskweyak Cree Nation on October 9, 2018 requesting the contact information for Chief and Council to share information on the Project and to provide the Manitoba Infrastructure contact information for the Project. On November 26, 2018, a call was received from Tataskweyak Cree Nation (Hilda Mayham- Executive Assistant) requesting information on the Project and information regarding the potential effects for the community's submission to CEAA. No meeting with Manitoba Infrastructure was requested. An e-mail was sent on November 26, 2018 following up on the telephone call and providing Project related information.

Manitoba Infrastructure emailed the Nation on July 8, 2019 requesting a meeting in Thompson, Manitoba along with four other communities including Fox Lake Cree Nation, Norway House Cree Nation, York Factory First Nation, and Pimichikamak Okimawin. The community coordinator requested confirmation of the meeting on July 15, 2019.

York Factory First Nation

A telephone call was received from Chief of York Factory First Nation on November 28, 2018, inquiring on the consultations and discussing a potential meeting. An e-mail follow-up was sent to Manitoba Infrastructure the same day. On December 11, 2018, Manitoba Infrastructure sent a draft environmental work plan to the community, which was followed by a meeting between Manitoba and York Factory First Nation on the same day to discuss the Project including current status of the EIS, consultation, and draft engagement workplan.

On January 28, 2019 York Factory First Nation communicated to share issues and concerns regarding the consultation workplan budget. Ongoing communications have been made from January to July 2019 regarding Project information and the consultation workplan.

5.3.4.3 Northern Affairs Communities

In addition to the Indigenous communities and groups listed by CEAA in the EIS Guidelines (CEAA 2018), Manitoba Infrastructure engaged with Northern Affairs Communities in Manitoba.

Aghaming NAC

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to Mayor Robert Bull on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact

information for Manitoba Infrastructure and IMR staff was provided for questions, concerns, or information requirements. Manitoba Infrastructure followed up with a phone call on September 6, 2016 which confirmed that the community had received the letter and had no information requests at the time. On October 24, 2017, a follow up letter was sent to Mayor Robert Bull to provide an update on the Project.

On September 6, 2018, a letter was sent to Mr. Robert Bull of the Aghaming Community Council presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. The results indicated that that the 2011 flood would have increased water levels by 1.3 inches higher at the peak of the event if the outlet channel had been operating and that the volume of water entering Lake Winnipeg will not change with the outlet channel operation; however, the length of time for water to move from Lake Manitoba to Lake Winnipeg may be affected. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

Berens River NAC

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to Mayor Allan Atlookan on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure and IMR staff was provided for questions, concerns, or information requirements. On September 1, 2016, a telephone call to the community was made and confirmation was received that the letter had been received. Contact information was provided to the community for questions, concerns, or information requirements. A follow up phone call was made to confirm the reception of the initial letter. There was no return call from the community.

On October 24, 2017, a follow up letter was sent to provide a Project update. On September 6, 2018 an additional follow up letter was sent to Mayor Allan Atlookan presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. The results indicated that that the 2011 flood would have increased water levels by 1.3 inches higher at the peak of the event if the outlet channel had been operating and that the volume of water entering Lake Winnipeg will not change with the outlet channel operation; however, the length of time for water to move from Lake Manitoba to Lake Winnipeg may be affected. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

Dauphin River NAC

The Dauphin River Northern Affairs Community is located adjacent to the Dauphin River and Dauphin River First Nation and has participated in discussions and engagement activities regarding the previous

operations of the EOC in 2011 and 2014 and the current discussions on the interim operating authorization for the EOC.

A notification package dated July 22, 2016, contained a letter to the Mayor explaining the Project and included information on the regulatory authorities involved, Manitoba Infrastructure contact information, two maps, and a request for a meeting. On September 7, 2016 Manitoba Infrastructure received a report from the Dauphin River NAC identifying the community issues and concerns. On December 16, 2016 an initial meeting was held to introduce the Project. The Project alignment options was presented to the community Council. Issues were raised and recorded.

A meeting was held on March 22, 2017 were Manitoba Infrastructure expressed their interest in developing a consultation plan and budget so that community knowledge could be incorporated into the regulatory requirements. Three meetings were held from August 2017 to August 2018 to present Project information and to receive information from Area 6 Fishers. Several communications were exchanged from March 2017 to September 2018 regarding the draft consultation work plan, proposed funding agreement, and draft budget including letters dated December 1, 2017, September 6, 2017 and September 17, 2017.

Several communications, including three letters, were sent to Dauphin River NAC from November 2018 to August 2019 regarding investigative fieldwork, including helicopter flights and well installation.

A summary of issues and concerns raised by Dauphin River NAC is included in Appendix 5A, Table 5A.19.

Fisher Bay NAC

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to Mayor Clarence Govereau on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure and IMR staff was provided for questions, concerns, or information requirements.

On October 24, 2017, a follow up letter was sent to Mayor Clarence Govereau to provide an update on the Project. On September 6, 2018, a letter was sent to Mayor Clarence Govereau presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. The results indicated that that the 2011 flood would have increased water levels by 1.3 inches higher at the peak of the event if the outlet channel had been operating and that the volume of water entering Lake Winnipeg will not change with the outlet channel operation; however, the length of time for water to move from Lake Manitoba to Lake Winnipeg may be affected. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

Loon Straits NAC

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to Mayor Willie Monkman on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure and IMR staff was provided for questions, concerns, or information requirements. On August 24, 2016, a phone call was made to the community to follow up on the initial letter. There was no return call from the community.

On October 24, 2017, a follow up letter was sent to Mayor Willie Monkman to provide an update on the Project. On September 6, 2018, a letter was sent to Mayor Willie Monkman presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. The results indicated that that the 2011 flood would have increased water levels by 1.3 inches higher at the peak of the event if the outlet channel had been operating and that the volume of water entering Lake Winnipeg will not change with the outlet channel operation; however, the length of time for water to move from Lake Manitoba to Lake Winnipeg may be affected. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

On September 6, 2018, a letter was sent to Mayor Willie Monkman presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. The results indicated that that the 2011 flood would have increased water levels by 1.3 inches higher at the peak of the event if the outlet channel had been operating and that the volume of water entering Lake Winnipeg will not change with the outlet channel operation; however, the length of time for water to move from Lake Manitoba to Lake Winnipeg may be affected. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

Manitgotagan NAC

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to Mayor Larry Wood on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure and IMR staff was provided for questions, concerns, or information requirements. A phone call was made to the community on September 6, 2016 to follow up on the initial letter and to provide an opportunity to engage community leadership. There was no return call from the community.

On October 24, 2017, A follow up letter was sent to Councilor Dale Boulette to provide an update on the Project and an opportunity for further engagement. On September 6, 2018, a letter was sent to Mayor Larry Wood presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. The results indicated that that the 2011 flood would have increased water levels by 1.3 inches higher at the peak of the event if the outlet channel had been operating and that the volume of water entering Lake Winnipeg will not change with the outlet channel operation; however, the length of time for water to move from Lake Manitoba to Lake Winnipeg may be affected. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

On September 6, 2018 Manitoba Infrastructure sent an additional follow up letter to the Mayor presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. The results indicated that that the 2011 flood would have increased water levels by 1.3 inches higher at the peak of the event if the outlet channel had been operating and that the volume of water entering Lake Winnipeg will not change with the outlet channel operation; however, the length of time for water to move from Lake Manitoba to Lake Winnipeg may be affected. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

Matheson Island NAC

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to Deputy Mayor Kevin Mowatt on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure and IMR staff was provided for questions, concerns, or information requirements. Manitoba Infrastructure followed up with a phone call on August 24, 2016 which confirmed that the community had received the letter. A letter was sent to Mayor Wanda Mowatt on October 24, 2017 to follow up on the initial letter and to provide an opportunity to engage community leadership.

On September 6, 2018, a letter was sent to Mayor Wanda Mowatt presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. The results indicated that that the 2011 flood would have increased water levels by 1.3 inches higher at the peak of the event if the outlet channel had been operating and that the volume of water entering Lake Winnipeg will not change with the outlet channel operation; however, the length of time for water to move from Lake Manitoba to Lake Winnipeg may be affected. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

Norway House NAC

A letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to Mayor Cristo Spiess on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure and IMR staff was provided for questions, concerns, or information requirements.

A meeting request from Mayor Spiess was received by Manitoba Infrastructure in a letter dated October 18, 2017. Manitoba Infrastructure followed up by letter on February 8, 2018 with possible dates for a meeting to present Project information. Manitoba Infrastructure followed up with Mr. Lloyd Flett, CAO of Norway House NAC, on April 26, 2018 to confirm potential dates for a meeting with the community council. No response was received.

On September 6, 2018, a letter was sent presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. The results indicated that that the 2011 flood would have increased water levels by 1.3 inches higher at the peak of the event if the outlet channel had been operating and that the volume of water entering Lake Winnipeg will not change with the outlet channel operation; however, the length of time for water to move from Lake Manitoba to Lake Winnipeg may be affected. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

The NAC responded to the August 8, 2016 letter on October 18, 2017 identifying errors in previous Manitoba Infrastructure correspondence. A summary of issues and concerns raised by Norway House NAC is included in Appendix 5A, Table 5A.20.

Pine Dock NAC

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to Mayor Teag Selkirk on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure and IMR staff was provided for questions, concerns, or information requirements. Manitoba Infrastructure followed up with a phone call on August 24, 2016 which confirmed that the community had received the letter.

A letter was sent to the Mayor on October 24, 2017 to follow up on the initial letter and to provide an opportunity to engage community leadership.

On September 6, 2018, Manitoba Infrastructure sent a letter presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. The results indicated that that the 2011 flood would have increased water levels by 1.3 inches higher at the peak of the event if the outlet channel had been operating and that the volume of water entering Lake Winnipeg will not change with the outlet channel operation; however, the length of time for water to move from Lake Manitoba to Lake Winnipeg may be affected. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

Princess Harbour NAC

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to Mayor Barry Magnusson on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure and IMR staff was provided for questions, concerns, or information requirements. A telephone call was made to the community on September 1, 2016 which confirmed that the community had received the initial letter and follow up as per the September 12, 2016 deadline.

On October 24, 2017 a letter was sent to follow up on the initial letter, provide an update on the Project, and to provide an opportunity to engage community leadership.

On September 6, 2018, a letter was sent to Mayor Barry Magnusson, presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. The results indicated that that the 2011 flood would have increased water levels by 1.3 inches higher at the peak of the event if the outlet channel had been operating and that the volume of water entering Lake Winnipeg will not change with the outlet channel operation; however, the length of time for water to move from Lake Manitoba to Lake Winnipeg may be affected. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

Seymourville NAC

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to Mayor Bernal Helgason on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure and IMR staff was provided for questions, concerns, or information requirements. On September 1, 2016 a telephone call was made to the community confirming

the reception of the initial letter and advising to contact Manitoba Infrastructure should additional information be required. On September 14, 2017 the community sent a letter to Manitoba Infrastructure identifying their concerns with the Project.

On September 6, 2018, a letter was sent to Mayor Bernel Helgason, presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. The results indicated that that the 2011 flood would have increased water levels by 1.3 inches higher at the peak of the event if the outlet channel had been operating and that the volume of water entering Lake Winnipeg will not change with the outlet channel operation; however, the length of time for water to move from Lake Manitoba to Lake Winnipeg may be affected. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

A summary of issues and concerns raised by Seymorville NAC to date is included in Appendix 5A, Table 5A.21.

5.3.4.4 Other Indigenous Groups Engaged by MI

Indigenous groups with whom Manitoba Infrastructure has been engaging but are not included in the list from CEAA are listed below.

Assembly of Manitoba Chiefs

On October 10, 2018, Manitoba Infrastructure sent a letter to the Grand Chief Arlen Dumas acknowledging a letter sent to the Honourable Brian Pallister, Premier, explaining its commitment to follow up with Anishinaabe Agowidiiwinan regarding consultation of individual Nations. On May 30, 2018 Manitoba Infrastructure met with AMC representatives and provided a presentation on the Project description, work completed to date, regulatory and proposed consultation/engagement process.

Interlake Reserve Tribal Council

Manitoba Infrastructure sent letter of invitation in August 2015 for a meeting with the IRTC to share information on the Project. On August 10, 2017, the IRTC signed an engagement agreement with Manitoba Infrastructure representing six First Nations including Dauphin River First Nation, Ebb and Flow First Nation, Lake Manitoba First Nation, Lake St. Martin First Nation, Little Saskatchewan First Nation, O-Chi-Chak-Ko-Sipi First Nation, and Pinaymootang First Nation.

In August 2017, a consultation agreement and funding was signed with IRTC. A separate open house for IRTC communities was held in Ashern on October 24, 2017.

A summary of issues and concerns raised to date by the IRTC is included in Appendix 5A, Table 5A.22.

The IRTC agreement has evolved to where 3 communities remain as part of the IRTC agreement, Pinaymootang FN, Little Saskatchewan First Nation, and Peguis FN have since opted to be engaged and consulted with individually by Manitoba.

Keewahtinohk Fishers of Lake Winnipeg

A meeting with the Keewahtinohk Fisher of Lake Winnipeg was held in Berens River First Nation on July 4, 2018. A summary of issues and concerns raised by the Keewahtinohk Fishers to date is included in Appendix 5A, Table 5A.23.

Treaty 2 Organization (Anishinaabe Agowidiiwinan)

Grand Chief Norman Bone provided written and formal notice on March 25, 2018 to the Ministers of Sustainable Development and Agriculture that their actions on agricultural crown land triggers procedural and substantive rights affirmed and recognized by the Constitution. On June 19, 2018, Manitoba Infrastructure received an additional letter indicating the organization had concerns over the potential impacts to Treaty and Aboriginal Rights from the Project.

Manitoba Infrastructure responded by letter dated September 6, 2018 to Grand Chief Norman Bone of Anishinaabe Agowidiiwinan acknowledging his letters of June 1 and emails of June 8 and 19, 2018 to the Minister of Indigenous and Northern Relations and the Honourable Brian Pallister, Premier. In the letter, Manitoba Infrastructure explained its consultation with seven of the nine Treaty 2 communities regarding the Project. This consultation included:

- Dauphin River First nation (process coordinated through IRTC)
- Ebb and Flow First Nation
- Lake Manitoba First Nation (process coordinated through IRTC)
- Lake St. Martin First Nation
- Little Saskatchewn First Nation (process coordinated through IRTC)
- O-Chi-Chak-Ko-Sipi First Nation
- Pinaymootang First Nation

A letter dated December 20, 2018 from the Treaty 2 Organization further described their concerns regarding the Project. On January 4, 2019, Manitoba Infrastructure responded by letter to Grand Chief Eugene Eastman that consultations were underway with individual First Nations and indicating that the provincial Crown Consultation Steering Committee would meet at their request. Manitoba Infrastructure expressed interest in learning the effective way of consulting with Anishsinaabe Agowidiiwinan and recommended consultation with Anishsinaabe Agowidiiwinan and Skownan First Nation. Contact information for Manitoba Infrastructure representatives was provided and a request for a meeting. A

meeting with the Treaty 2 organization occurred on May 16, 2019 to discuss the upcoming fieldwork and a presentation was held on July 30, 2019, to discuss the Project description, environmental assessment process, and concerns heard to date.

5.3.4.5 Summary of Engagement Results

Table 5.3-1 reflects a high-level summary of overall issues, concerns, and questions recorded through the Indigenous engagement process to date and organized by VC. Appendix 5A, Tables 5A.5 to Table 5A.23 includes detailed comments, issues and questions recorded by community that has participated in the engagement process to date.

Table 5.3-1 Summary of Indigenous Engagement by VC

Valued Component	Feedback from Engagement
Atmospheric Environment	• Noise, dust and light pollution from Project construction and operation
Geology and Soils	• Potential for spills and impacts from machinery during construction
	• Increased water levels on Lake Winnipeg resulting in erosion of lands
Groundwater and Surface Water	• Concerns regarding water quality downstream (including Lake Winnipeg and Birch Creek) for contaminants such as hydrocarbons, algae, mercury, and pesticides, including impacts of contaminants on fish
	• Bottleneck effect at the narrows causing a capacity issue and hazard for flooding
	• Alternatives to the channel, including dredging Dauphin River
	• Water levels on Lake Winnipeg, including uncertainty on the effect of an increase and downstream impacts
	• Impacts to surface water drainage regimes/hydrology, including access and causing wetland drainage
	• Impacts to groundwater, aquifers and residential wells from excavation activities
	• Agricultural runoff (pesticides/herbicides) impacting water quality
	• Concern around changes to water quantity, levels, and flow, impacting ice formation, access, and uncertainty around the potential to flood communities if water flows back from Lake Winnipeg
	• Concern around potential impacts and current deteriorating water quality in Lake Winnipeg/Lake Manitoba, including sediments, algae, and invasive species
	• Shoreline damage from ice
	• Sediments/debris generation, transport, erosion, and deposition in the Dauphin River/Macbeth point/Bear Creek and Lake Winnipeg, and the associated economic impacts on fishing
Fish and Fish Habitat	• Need for fishing data/records and aquatics to be included in the environmental report
	• Interest in involvement of DFO in assessing the various channel options
	• Impacts to spawning areas and movement/stranding of fish during construction and operation; emergency channel damaged spawning grounds and caused stranding

Table 5.3-1 Summary of Indigenous Engagement by VC

Valued Component	Feedback from Engagement
	• Invasive species (zebra mussels, carp) are a concern, including impact on fish, clogging water intakes, and impacting water treatment
	• Potential for channels to create a new travel route for fish to move between lakes. Mechanisms (filter/structure) to stop fish migration through the channels
	• Loss and/or alteration of fish populations (including sucker, jackfish, whitefish, pickerel), distribution, and habitat due to Project construction and operation, changes in water quality and shoreline morphology, and sediment and debris transfer between lakes
	• Interest in establishment of a fish hatchery or restocking to compensate for damage to fish and spawning areas
	• Potential to affect fish, fishing areas and commercial fisheries. Compensation for local fishers if there are negative impacts from the Project
	• Concern of low fish production, poor fish health, and changes to fish migration
	• Interest in fish surveys and where fish nets were set for monitoring
	• Concern that fish will need to be monitored to be sure it is safe prior to consumption.
	• Existing impacts to Lake Winnipeg water quality and concern that Project will contribute (increase in sediments, turbidity, algae blooms and invasive species)
	• Benefits of involvement of First Nations in sampling/data collection
	• Concern over structures for fish passage; current fish ladder does not work
Vegetation	• Reduced access to important gathering resources
	• Disturbance during construction and operation to important gathering resources such as plant species of cultural, spiritual and medicinal importance
	• Need for wetland protection
	• Concern with invasive species
	• Loss of hay lands and impacts to agricultural economy
Wildlife	• Disturbance during construction and operation to wildlife and wildlife habitat
	• Impact of the channel on wildlife habitat and wildlife movement and migration (moose and elk)
	• Control of wolves
	• Loss of trapping and hunting areas and reduction in animal populations
Infrastructure and Services	• Flooding of roads a concern due to ice build up
	• Access controls and maintenance on the access roads
	• Impacts to water treatment processes from increased sediments, debris, and microorganisms into Lake Winnipeg
Economy	• Requirement for accommodation and economic benefits of the Project
	• Need for contract opportunities, training, mentoring, and job opportunities from construction, including interest in on-site community Project monitoring personnel

Table 5.3-1 Summary of Indigenous Engagement by VC

Valued Component	Feedback from Engagement
	• Concerns regarding equity of contract tendering processes
	• Reduced economic activity due to changes in fishing catch rates
	• Concern workers in the area do not use local services (gas, motels)
Human Health	• Changes to water quality including contaminants such as mercury and pesticides impacting health of pets/fish that are consumed
	• Impacts to drinking water supply and quality, including *E.coli*, sediment, and micro-organism contamination, and associated compensation for water treatment
	• Mould and associated respiratory issues from 2011 flood
Heritage	• Loss, damage, disturbance of areas of cultural, archaeological, paleontological, or architectural significance through Project disturbances; loss of unmarked graves
Traditional Land and Resource Use	• Reduction in suitable hunting and trapping areas
	• Wilson Point outlet impacting sturgeon spawning area and commercial fishing area
	• Impacts to First Nations commercial fishing; fishers require compensation if channels destroy fisheries
	• Need to include traditional knowledge of people who work and live on the lake; scientific approach does not include Elders' knowledge. Process must be culturally and environmentally sound
	• Need for First Nation languages in communication materials
	• Need for First Nation and Metis people to be involved in baseline data collection
	• Encroachment
	• Access for, and effect on, fishing, trapping, hunting, gathering medicine, eagle feather gathering, berry picking, ceremony, and other traditional uses
	• Insufficient Consultation; confidential knowledge
	• Effects on Lake Winnipeg water levels, and impacts to water quality, commercial fishing, debris, recreation, domestic water supply, land erosion
	• Impact on tourism, forestry, conservation areas, boreal forest, wetlands, and peatlands
	• Effects of the Project on unmarked community graves
	• Impacts to agriculture, including loss of hay

5.3.5 Ongoing Indigenous Engagement – Next Steps

Manitoba Infrastructure will continue to engage with Indigenous peoples and communities on this Project regarding development of engagement plans and TK studies. Ongoing engagement will include continued discussion to understand interests and concerns of people and communities potentially affected by the proposed Project, as well as

working towards addressing potential effects. Accommodation for potential adverse Project effects may be incorporated into operating guidelines for the channel and detailed design. (See Chapter 10, Section 10.3).

5.4 REFERENCES

CEAA (Canadian Environmental Assessment Agency). 2018 Guidelines for the Preparation of an Environmental Impact Statement pursuant to the Canadian Environmental Assessment Act, 2012. Lake Manitoba and Lake St. Martin Outlet Channels Project, Proposed by Manitoba Infrastructure. 45 pp.

Manitoba Infrastructure 2018. Lake Manitoba and Lake St. Martin Outlet Channels Project Environmental Assessment Scoping Document. Prepared for Environmental Approvals Branch, Manitoba Sustainable Development. Submitted by Manitoba Infrastructure. 20 pp.

KGS Group. 2014. Assiniboine River & Lake Manitoba Basins Flood Mitigation Study; Lake Manitoba & Lake St. Martin Outlet Channels Conceptual Design – Stage 1

Lake Manitoba and Lake St. Martin Regulation Review Committee (LM&LSMRRC). 2013. Finding the Right Balance: A Report to the Minister of Infrastructure and Transportation. Volume 1: Main Report.

Lake Manitoba Regulation Review Advisory Committee (LMRRAC). 2003. Regulation of Water Levels on Lake Manitoba and along the Fairford River, Pineimuta Lake, Lake St. Martin, and Dauphin River and Related Issues.

Manitoba 2011 Flood Review Task Force (MFRTF). 2013. Manitoba 2011 Flood Review Task Force Report.

Appendix 5A TABLES

Table 5A-1
Dauphin River First Nation

Comment	Related EIS Section	Applicable VC Chapter(s)
Concern over sediments and debris in the Dauphin River.	Physical Environment	Groundwater and Surface Water
Shore damaged from ice.	Physical Environment	Groundwater and Surface Water
Water on Lake Winnipeg has a sheen on it that looked like a rainbow.	Physical Environment	Groundwater and Surface Water
What happens when more water is coming? Waves cause erosion and the river mouth will fill in.	Physical Environment	Groundwater and Surface Water
What if the narrows restricts flow and floods the south basin of Lake St. Martin?	Physical Environment	Groundwater and Surface Water
Will debris be cleaned up? It has caused erosion.	Physical Environment	Groundwater and Surface Water
Why not dredge the mouth of the Dauphin River?	Physical Environment	Groundwater and Surface Water
What contaminants will come in the water in the channels?	Physical Environment	Groundwater and Surface Water
Are fishing data and records part of the environmental submission?	Aquatic Environment	Fish and Fish Habitat
Do something at Buffalo Creek so the fish can't get down the creek to spawn.	Aquatic Environment	Fish and Fish Habitat
Reopen the fish hatchery.	Aquatic Environment	Fish and Fish Habitat
The Wilson Point outlet will affect the sturgeon spawning area and commercial fishing area. This season's spawn was observed to be pilled up on the shore of Wilson Point.	Aquatic Environment	Fish and Fish Habitat
There will be fish in the channels and they will be stranded.	Aquatic Environment	Fish and Fish Habitat
You are forgetting that whitefish from Lake Winnipeg go down Dauphin River to Lake St. Martin.	Aquatic Environment	Fish and Fish Habitat
DRFN members fish for pickerel along the bay and shoreline of Lake Winnipeg.	Aquatic Environment	Fish and Fish Habitat
Fishing occurs for jackfish, pickerel and whitefish in Lake St. Martin including the junction in Fairford.	Aquatic Environment	Fish and Fish Habitat
Flooding destroyed our medicine plant picking areas, trapping and hunting areas.	Terrestrial Environment	Vegetation and Wetlands
Moose are no longer in the area to hunt. The area is flooded all the time.	Terrestrial Environment	Wildlife and Wildlife Habitat
There are no deer or moose in our hunting areas, there is water everywhere.	Terrestrial Environment	Wildlife and Wildlife Habitat
DRFN members hunt moose and deer along Lake Winnipeg and Buffalo Creek.	Terrestrial Environment	Wildlife and Wildlife Habitat
DRFN members trap marten and fisher along Highway 513.	Terrestrial Environment	Wildlife and Wildlife Habitat
Trapping for beaver and muskrat occurs along the proposed Lake St. Martin channel route.	Terrestrial Environment	Wildlife and Wildlife Habitat
Need to have a requirement to compensate the commercial fishers every time the channel is operated.	Human Environment	Land and Resource Use
Commercial fishing was impacted, and still is.	Human Environment	Land and Resource Use
How much are you paying since you will be paying the farmers who land you use millions?	Human Environment	Land and Resource Use
If the Emergency Outlet Channel is used, fisheries will need compensation. Fishers will have to go farther to fish and lose money.	Human Environment	Land and Resource Use
Our hunting and trapping areas are all gone.	Human Environment	Land and Resource Use
The Wilson Point outlet will affect the sturgeon spawning area and commercial fishing area. This season's spawn was observed to be pilled up on the shore of Wilson Point.	Human Environment	Land and Resource Use
The community was not involved in previous work tendering opportunities.	Human Environment	Economy
Who controls access on the roads? Is the road first? Will access be controlled?	Human Environment	Infastructure and Services
Flooding destroyed our medicine plant picking areas, trapping and hunting areas.	Indigenous Peoples	Traditional Land and Resource Use
Moose are no longer in the area to hunt. The area is flooded all the time.	Indigenous Peoples	Traditional Land and Resource Use
The project is in our traditional hunting grounds.	Indigenous Peoples	Traditional Land and Resource Use
There are no deer or moose in our hunting areas, there is water everywhere.	Indigenous Peoples	Traditional Land and Resource Use
What about Aboriginal data?	Indigenous Peoples	Traditional Land and Resource Use
DRFN members hunt moose and deer along Lake Winnipeg and Buffalo Creek.	Indigenous Peoples	Traditional Land and Resource Use
DRFN members trap marten and fisher along Highway 513.	Indigenous Peoples	Traditional Land and Resource Use

Table 5A-1
Dauphin River First Nation

Comment	Related EIS Section	Applicable VC Chapter(s)
DRFN members fish for pickerel along the bay and shoreline of Lake Winnipeg.	Indigenous Peoples	Traditional Land and Resource Use
Trapping for beaver and muskrat occurs along the proposed Lake St. Martin channel route.	Indigenous Peoples	Traditional Land and Resource Use
Fishing occurs for jackfish, pickerel and whitefish in Lake St. Martin including the junction in Fairford.	Indigenous Peoples	Traditional Land and Resource Use
Could the site be accessed through Dauphin River instead of the new road? That would be a shorter route, would provide access to other DRFN lands.	Project Description	
How deep is the Lake St. Martin channel?	Project Description	
How do the narrows affect the channels?	Project Description	
How long is the road?	Project Description	
How much water will be in the Lake Manitoba channel?	Project Description	
How much work was done on Reach 3? Is it wider at the Lake St. Martin end?	Project Description	
How would the channels be operated?	Project Description	
If the Emergency Outlet Channel is used, fisheries will need compensation. Fishers will have to go farther to fish and lose money.	Project Description	
The Fairford structure is old, how long will it last?	Project Description	
This project is related to Manitoba Hydro's need for water for power. How involved is Manitoba Hydro?	Project Description	
What about a channel at St. Laurent to take it to Gimli?	Project Description	
What about Cedar Lake?	Project Description	
When will construction begin?	Project Description	
Where is the water coming from?	Project Description	
Who controls access on the roads? Is the road first? Will access be controlled?	Project Description	
Why not move the water to Cedar Lake?	Project Description	
Why not move the water to the War Path River?	Project Description	
Why was the channel not built in 2011?	Project Description	
Will you restore the Emergency Outlet Channel?	Project Description	
You should build a bridge. Is there consideration for a bridge across the Dauphin River? It would benefit DRFN.	Project Description	
Who benefits from these channels?	Project Description	
Are costs covered for these meetings?	Public and Indigenous Engagement	
Did you hire a consultation coordinator?	Public and Indigenous Engagement	
Does government have cooperative consultations with other communities?	Public and Indigenous Engagement	
DRFN wants an arena, recreation facilities.	Public and Indigenous Engagement	
The First Nation requires an overview of the entire project.	Public and Indigenous Engagement	
Will you do community consultations?	Public and Indigenous Engagement	
This was not enough notice or time to prepare.	Public and Indigenous Engagement	
Big Rock and Thunderbird Rock were damaged in 2011.	CSA	
DRFN was self sufficient in the 1970s, had a fish hatchery, forestry industry and tourism operations. This changed. Now we need government to work with us. New channels and dams will have an effect on the new community. The community wants to become independent again.	CSA	
ORH is short 40 homes.	CSA	
Debris along the Dauphin River needs to be cleaned up, there are dead trees.	CSA	
Emergency Outlet Channel destroyed moose habitat and affected fish migration. There was a fish kill.	CSA	
There are social problems now from being evacuated. There is trauma.	CSA	
We have never received the environmental or consultant reports from the ongoing monitoring work. We need to be briefed on these reports. We only got these reports now, 6 years late.	CSA	
We need a compensation program; there is old equipment, safety concerns, nets are ruined from debris. Will you meet with resource users?	CSA	
We told the Minister no work until all outstanding issues are resolved.	CSA	
What happened to commercial fish quotas? Give us our fish licences back.	CSA	
Will this project delay ORH?	CSA	

Table 5A-1
Dauphin River First Nation

Comment	Related EIS Section	Applicable VC Chapter(s)
We need to deal with environmental issues that are outstanding.	CSA	

Table 5A-2
Dauphin River NAC

Comment	Related EIS Section	Applicable VC Chapter(s)
Fishing is our livelihood, and it is being damaged.	Aquatic Environment	Fish and Fish Habitat
Berries and edibles are gone.	Terrestrial Environment	Vegetation and Wetlands
Wildlife habitat will be lost.	Terrestrial Environment	Wildlife and Wildlife Habitat
Fishing is our livelihood, and it is being damaged.	Indigenous Peoples	Traditional Land and Resource Use
Trapping areas have been wiped out.	Indigenous Peoples	Traditional Land and Resource Use
Would like to hear the information on the proposed permanent channels.	Project Description	
The community was not treated fairly during previous flooding. Damaged buildings and equipment have not been replaced as promised. DRNAC was evacuated, but received no assistance. INR did not release a community housing inspection report until 2016. DRNAC was not able to appeal this report. MB was not respectful in its responses to our IOA report.	CSA	

Table 5A-3
Fisher River Cree Nation

Comment	Related EIS Sections	Applicable VC Chapter(s)
Altered cultural experience due to noise, dust and light pollution associated with project construction and operation and the presence of permanent structures.	Physical Environment	Atmospheric Environment
Lake Winnipeg water levels are a concern.	Physical Environment	Groundwater and Surface Water
Increased debris and sediment makes it more difficult and expensive to fish.	Physical Environment	Groundwater and Surface Water
Health of Lake Winnipeg is worse than in the past.	Physical Environment	Groundwater and Surface Water
We used to be able to drink the water from the lake, now we can't.	Physical Environment	Groundwater and Surface Water
MacBeth fishers were affected in 2011. There was an increase in debris, mud, and silt that were attributed to the channel. Bigger channel means more debris.	Physical Environment	Groundwater and Surface Water
Should implement necessary controls to protect wetlands from drainage.	Physical Environment	Groundwater and Surface Water
Should assess and mitigate the problems of debris and contamination of FRCN's fishing grounds resulting from the channel.	Physical Environment	Groundwater and Surface Water
Concerned that excavation of wetlands, quarries, borrow pits, and ditches may impact groundwater, aquifers and residential wells.	Physical Environment	Groundwater and Surface Water
Changes in lake currents, excessive silting and debris in nets.	Physical Environment	Groundwater and Surface Water
Loss or alteration of fish habitat due to project construction and operation, presence of permanent infrastructure, changes in water quality and shoreline morphology, and alteration of water, sediment and debris transfer between Lake Manitoba, Lake St. Martin and Lake Winnipeg.	Aquatic Environment	Fish and Fish Habitat
Alteration of fish movement and/or migration due to project construction and operation, presence of permanent infrastructure, changes in water quality and alteration of water, sediment and debris transfer between Lake Manitoba, Lake St. Martin and Lake Winnipeg.	Aquatic Environment	Fish and Fish Habitat
Increased fish mortality through the stranding of fish during project operation and potential reduction in fish quality and increased mortality due to changes in water quality.	Aquatic Environment	Fish and Fish Habitat
Debris and fouled nets harmful to fishing.	Aquatic Environment	Fish and Fish Habitat
Fish production is down.	Aquatic Environment	Fish and Fish Habitat
Negative impacts on the whitefish from emergency channel operation (fish stranding).	Aquatic Environment	Fish and Fish Habitat
Zebra mussels are a concern.	Aquatic Environment	Fish and Fish Habitat
Where aquatics included in the environmental report?	Aquatic Environment	Fish and Fish Habitat
Spawning grounds in Lake St. Andrews area could be affected. Pickerel catches are down. Fish migration has changed.	Aquatic Environment	Fish and Fish Habitat
Aquatic invasive species entering Lake Winnipeg.	Aquatic Environment	Fish and Fish Habitat
Disturbance to important gathering resources such as plant species of cultural, spiritual, and medicinal importance through the project construction and operation and presence of permanent structures.	Terrestrial Environment	Vegetation and Wetlands
Reduced access to important gathering resources such as plant species of cultural, spiritual, and medicinal importance due to permanent structures bisecting the landscape.	Terrestrial Environment	Vegetation and Wetlands
Should implement necessary controls to protect wetlands from drainage.	Terrestrial Environment	Vegetation and Wetlands
Disturbance of wildlife and wildlife habitat due to project construction and operation and presence of permanent infrastructure that will bisect the land.	Terrestrial Environment	Wildlife and Wildlife Habitat
Altered movement, use, or avoidance by wildlife of the project and surrounding areas due to project construction and operation and presence of permanent infrastructure that will bisect land.	Terrestrial Environment	Wildlife and Wildlife Habitat
Increase in wildlife mortality due to potential vehicle-wildlife collisions from increase vehicle traffic associated with project construction/operation.	Terrestrial Environment	Wildlife and Wildlife Habitat
Were elk or moose found in the area?	Terrestrial Environment	Wildlife and Wildlife Habitat
The channels will affect elk and moose migration routes.	Terrestrial Environment	Wildlife and Wildlife Habitat
Moose populations are down in the project area.	Terrestrial Environment	Wildlife and Wildlife Habitat
Should assess and mitigate the potential impact on wildlife from increased hunting to the area with increased access.	Terrestrial Environment	Wildlife and Wildlife Habitat
Should assess and mitigate the effect that the new road and ditches will have on moose migration routes and calving grounds.	Terrestrial Environment	Wildlife and Wildlife Habitat
Should assess and mitigate the effects fo the channel obstruction on travel routes of moose.	Terrestrial Environment	Wildlife and Wildlife Habitat

Table 5A-3
Fisher River Cree Nation

Comment	Related EIS Sections	Applicable VC Chapter(s)
FRCN is concerned with the potential adverse effects of the project on wildlife, particularly moose, and the subsequent impact on aboriginal and treaty rights (hunting).	Terrestrial Environment	Wildlife and Wildlife Habitat
Road access is an area of interest.	Human Environment	Infrastructure and Services
The access road was used for hunting, but much less in recent years.	Human Environment	Infrastructure and Services
Reduced economic activity due to changes in fishing catch rates.	Human Environment	Economy
Members want economic opportunities from the project.	Human Environment	Economy
FRCN is seeking economic opportunities from the project.	Human Environment	Economy
As an accomodation measure, Manitoba should provide job opportunities.	Human Environment	Economy
As an accomodation measure, Manitoba should provide construction contract opportunities.	Human Environment	Economy
As an accomodation measure, Manitoba should provide training and mentoring opportunities.	Human Environment	Economy
We used to be able to drink the water from the lake, now we can't.	Human Environment	Health
Loss, damage, or disturbance of areas of cultural, historical, archaeological, paleontological, or architectural significance through project-related disturbance.	Human Environment	Heritage Resources
Reduced access to hunting and trapping areas due to project construction and operation and presence of permenant infrastrucure that will bisect the land.	Indigenous Peoples	Traditional Land and Resource Use
Changes in the regulation of water levels that may impact governance and decision making associated with land and water use.	Indigenous Peoples	Traditional Land and Resource Use
Impact on viability of FRCN'S McBeth Point fishing station and expansion plans.	Indigenous Peoples	Traditional Land and Resource Use
Impact on FRCN's resource tourism business (Fisher River Outfitters) which provides hunting, fishing and ecotourism experiences, and has exclusive resource tourism licences for vast areas affected by the project. FRCN resource tourism expansion plans, which include development of remote outfitting camps in the Sturgeon Bay, Kinwow Bay, and other areas, will be affected as well.	Indigenous Peoples	Traditional Land and Resource Use
Impact on FRCN's recreational development initiatives that are built on the basis of promoting untouched boreal wilderness areas with pristine forests and waters and abundant wildlife. These initiatives include: 1) Promoting sales of cottage lots at FRCN'S Bay River subdivision; 2) Development of an RV park and campground along the beaches of Lake Winnipeg; 3) Development of the FRCN region as the gateway to Fisher Bay Provincial Park.	Indigenous Peoples	Traditional Land and Resource Use
Impact on FRCN's forestry-based industry, which includes timber harvest operations, sawmill, firewood production, tree nursery, tree plantations, biomass production, and forest regeneration contracts.	Indigenous Peoples	Traditional Land and Resource Use
Impact on FRCN's Conservation Areas Initiative, which proposes the designation of Crown lands for purposes of environmental protection.	Indigenous Peoples	Traditional Land and Resource Use
Operation of the emergency channel had a negative effect on commercial fishers at McBeth Harbour.	Indigenous Peoples	Traditional Land and Resource Use
Debris and fouled nets harmful to fishing.	Indigenous Peoples	Traditional Land and Resource Use
Increased debris and sediment makes it more difficult and expensive to fish.	Indigenous Peoples	Traditional Land and Resource Use
Has been almost 7 years since the (emergency) channel operated and we are still seeing the effects such as a longer fishing season to fill quotas, adding more costs to the fishermen.	Indigenous Peoples	Traditional Land and Resource Use
The channels will affect commercial fishers.	Indigenous Peoples	Traditional Land and Resource Use
Much less hunting near the access road now; much less game.	Indigenous Peoples	Traditional Land and Resource Use
As an accomodation measure, Manitoba should provide technical support and funding contribution to support the FRCN conservation initiative, and designate staff to accomplish the conservation objectives.	Indigenous Peoples	Traditional Land and Resource Use
Should assess and mitigate the potential impact on wildlife from increased hunting to the area with increased access.	Indigenous Peoples	Traditional Land and Resource Use
Manitoba should designate a significant portion of the project area that falls within FRCN traditional territory as a provincial park, wildlife managmenet area, or provincial forest (to be determined in consultation with FNs, communities, and stakeholders).	Indigenous Peoples	Traditional Land and Resource Use

Table 5A-3
Fisher River Cree Nation

Comment	Related EIS Sections	Applicable VC Chapter(s)
Cumulative impacts of development resulting in the loss of traditional lands and resources.	Indigenous Peoples	Traditional Land and Resource Use
Reduced or altered ability to transmit knowledge or cultural practices due to changes in landscape and traditional resources.	Indigenous Peoples	Traditional Land and Resource Use
Impact on development of FRCN's fish processing plant, which is currently in progress.	Indigenous Peoples	Traditional Land and Resource Use
Impact on FRCN fishers' income due to longer fishing seasons as a result of lower catches, lost time looking for new fishing grounds, further time and expenses to travel to other parts of the lake, and lost or damaged nets.	Indigenous Peoples	Traditional Land and Resource Use
Commercial fishing is important to the community.	Indigenous Peoples	Traditional Land and Resource Use
The channel is near MacBeth and FRCN has seen its effects on commercial fishing.	Indigenous Peoples	Traditional Land and Resource Use
Members travel to Lake St. Martin for events, activities and ceremonies.	Indigenous Peoples	Traditional Land and Resource Use
The ridge that runs beside the project area will need to be addressed. It is a historic travel corridor.	Indigenous Peoples	Traditional Land and Resource Use
As an accomodation measure, Manitoba should fix Sisterline Road that FRCN uses to exit the community.	Indigenous Peoples	Traditional Land and Resource Use
Should assess and mitigate the effects fo the channel obstruction on travel routes of moose.	Indigenous Peoples	Traditional Land and Resource Use
FRCN is concerned with the potential adverse effects of the project on wildlife, particularly moose, and the subsequent impact on aboriginal and treaty rights (hunting).	Indigenous Peoples	Traditional Land and Resource Use
Concerned that the destruction of such a vast area of pristine boreal forest, wetlands and peatlands may have far reaching environmental effects impacting rights and resource-based commercial enterprises.	Indigenous Peoples	Traditional Land and Resource Use
Impact of the project on Lake Winnipeg fishing grounds at Sturgeon Bay and Kinwow Bay.	Indigenous Peoples	Traditional Land and Resource Use
Consider building a bridge from PR 513 or access the site from DRFN.	Project Description	
What licenses are required?	Project Description	
How did the 2011 operations go?	Project Description	
It is fishing season; difficult to have fishers attend the engagement meeting.	Public and Indigenous Engagement	
Community youth should be able to participate in the engagement.	Public and Indigenous Engagement	
Concerned about how the project will impact other First Nations such as Dauphin River and Lake St. Martin.	Public and Indigenous Engagement	
Where is the environmental information?	Public and Indigenous Engagement	
Manitoba should implement all other mitigation measures recommended by CEAA.	Public and Indigenous Engagement	
Compensation will be required (for the debris from the channel operation).	CSA	
Manitoba should provide FRCN commercial fishers with nets on the same basis as Manitoba provided fishers from other communtiies affected by the debris resulting from the outlet channel.	CSA	

Table 5A-4
Hollow Water First Nation

Comment	Related EIS Section	Applicable VC Chapter(s)
HWFN members do not know what a 2 inch increase in levels would do.	Physical Environment	Groundwater and Surface Water
Lake Winnipeg is sick, there are algae blooms. It can be good for fish in the short term, but bad long term.	Physical Environment	Groundwater and Surface Water
Concerned about invasive species.	Aquatic Environment	Fish and Fish Habitat
Have you considered the fish ladders that are on the Nelson at Keeyask as an example?	Aquatic Environment	Fish and Fish Habitat
Lake Winnipeg is sick, there are algae blooms. It can be good for fish in the short term, but bad long term.	Aquatic Environment	Fish and Fish Habitat
There are low pickerel numbers, will the project affect fish? Consultation will be required on fisheries.	Aquatic Environment	Fish and Fish Habitat
Concerned about invasive species.	Terrestrial Environment	Vegetation and Wetlands
Black and Deer Islands in Lake Winnipeg are important for HWFN, ceremonies, hunting.	Terrestrial Environment	Wildlife and Wildlife Habitat
Community has general wildlife concerns.	Terrestrial Environment	Wildlife and Wildlife Habitat
Concerned about invasive species.	Terrestrial Environment	Wildlife and Wildlife Habitat
Are there economic opportunities associated with the project?	Human Environment	Economy
Black and Deer Islands in Lake Winnipeg are important for HWFN, ceremonies, hunting.	Indigenous Peoples	Traditional Land and Resource Use
Scientific approach does not include Elders knowledge, other processes have not done this.	Indigenous Peoples	Traditional Land and Resource Use
There are low pickerel numbers, will the project affect fish? Consultation will be required on fisheries.	Indigenous Peoples	Traditional Land and Resource Use
Do you work with Manitoba Hydro on LWR? What effect would this project have regarding Manitoba Hydro's severance line and erosion.	Project Description	
How long is the environmental review for the project?	Public and Indigenous Engagement	
How will the new Navigable Waters Act affect the process?	Public and Indigenous Engagement	
Interested in a work plan to test the effects of the project.	Public and Indigenous Engagement	
HWFN will need funding.	Public and Indigenous Engagement	
Is there funding for climate change study?	Public and Indigenous Engagement	

Table 5A-5
Interlake Reserves Tribal Council

Comment	Related EIS Sections	Applicable VC Chapter(s)
Potential for environmental contamination to result from project construction including spills from construction machinery.	Physical Environment	Geology and Soil
Potential for the Lake St. Martin channel to result in increased sediment into Lake Winnipeg, similar to what was experienced while the EOC was operating (silt, sediment, and debris washing into the area around MacBeth Point).	Physical Environment	Groundwater and Surface Water
Potential for the project to affect the water quality in Lake St. Martin or Lake Winnipeg.	Physical Environment	Groundwater and Surface Water
Concerns around chemicals (pesticides, herbicides) used on farmland from draining into the channel.	Physical Environment	Groundwater and Surface Water
Potential for the channel to affect groundwater including potential impacts to drinking water.	Physical Environment	Groundwater and Surface Water
Potential for erosion in Lake St. Martin channel to be discharged to Lake Winnpeg.	Physical Environment	Groundwater and Surface Water
Potential for changes in water quantity and flow, including the loss of water in Lake St. Martin, potential for channels to increase flow rate of water in Lake St. Martin, increasing debris in nets and affecting freeze/access on Lake St. Martin.	Physical Environment	Groundwater and Surface Water
Potential for changing currents or fluctuating water levels in Lake St. Martin, which could result in inconsistency or delays in ice formation.	Physical Environment	Groundwater and Surface Water
Potential for the project to result in changing water levels on Lake Winnipeg.	Physical Environment	Groundwater and Surface Water
Potential for water to flow backwards through the channels, potential for poor water quality in Lake Winnipeg, affecting Lake St. Martin and Lake Manitoba, potential for the water levels to drop in Lake Winnipeg.	Physical Environment	Groundwater and Surface Water
Concerns about potential for the channels to affect surface water regimes.	Physical Environment	Groundwater and Surface Water
Potential for flood waters to move towards the community instead of following the natural drainage pattern.	Physical Environment	Groundwater and Surface Water
Potential for the channels to result in changes to the distribution of fish, fish populations, and fish to be trapped in the channel.	Aquatic Environment	Fish and Fish Habitat
Potential for Lake St. Martin channel to create a new travel route for fish and potential for fish to move through the Lake Manitoba channel. Members indicated they have been catching fish species (bullhead) in the area that they have never seen before and were wondering about installing a filter/structure to stop fish migration through the channel.	Aquatic Environment	Fish and Fish Habitat
Potential spread of zebra mussels.	Aquatic Environment	Fish and Fish Habitat
Potential for affect on fish spawning grounds, including in Lake St. Martin and whitefish spawning grounds, located near the Lake St. Martin channel outlet.	Aquatic Environment	Fish and Fish Habitat
Potential for the project to affect fish and fishing areas.	Aquatic Environment	Fish and Fish Habitat
Potential for access road construction to distrub wildlife and vegetation.	Terrestrial Environment	Vegetation and Wetlands
Potential for the project to result in changes to the availability of plants and berries.	Terrestrial Environment	Vegetation and Wetlands
Potential for access road construction to distrub wildlife and vegetation.	Terrestrial Environment	Wildlife and Wildlife Habitat
Potential for the project to effect wildlife habitat, movement and populations.	Terrestrial Environment	Wildlife and Wildlife Habitat
Concerns about numbering of the access road and if it will be a maintained road because hunters are not allowed to shoot off maintained roads.	Human Environment	Infrastructure and Services
Community concerns: flooding, hunting, fishing, medicines.	Indigenous Peoples	Traditional Land and Resource Use
Potential for water level changes to negatively affect wildlife habitat and vegetation for harvesting.	Indigenous Peoples	Traditional Land and Resource Use
Potential for the project to add to existing effects on hunting and trapping.	Indigenous Peoples	Traditional Land and Resource Use
Potential for the project to affect fish and fishing areas.	Indigenous Peoples	Traditional Land and Resource Use
Potential for the project to result in changes to the avialability of fish for harvesting.	Indigenous Peoples	Traditional Land and Resource Use

Table 5A-5
Interlake Reserves Tribal Council

Comment	Related EIS Sections	Applicable VC Chapter(s)
Potential for the project to negatively affect the ability of community members to pass TEK to younger generations.	Indigenous Peoples	Traditional Land and Resource Use
Potential for the construction of the access road to block the natural water drainage patterns that feed into Mantagao Lake.	Project Description	
Concerns that there is a natural bottleneck to water flow at the Narrows on Lake St. Martin and that it will contribute to flooding.	Project Description	
Concerns about the project not protecting Lake St. Martin communities from flooding, only more southern communities.	Project Description	
Concerns regarding the timeline for the EIA submission and that ability for community knowledge and input to get meaningfully incorporated into the EIA.	Public and Indigenous Engagement	
Concerns that communities were not consulted from the very beginning.	Public and Indigenous Engagement	
Concerns that the project will be approved regardless of serious environmental effects predicted, such as harm to fish. Feel they need to be involved in the decision making process.	Public and Indigenous Engagement	
Community voiced that they don't have authority to approve the project, as the project attempts to alter what the Creator made.	Public and Indigenous Engagement	

Table 5A-6
Lake Manitoba First Nation

Comment	Related EIS Sections	Applicable VC Chapter(s)
The outlet for the Lake St. Martin channel is located at Wilson Point. What keeps Lake Winnipeg water when the lake is high from running back down the channel?	Physical Environment	Groundwater and Surface Water
What is the effect on Birch Creek?	Physical Environment	Groundwater and Surface Water
Will the channels allow the algae blooms that occur on Lake Winnipeg the ability to move back down the channel to Lake Manitoba?	Physical Environment	Groundwater and Surface Water
Set up a hatchery to compensate for damage to fish and spawning areas on Lake St. Martin and Dauphin River.	Aquatic Environment	Fish and Fish Habitat
What about fishing on Lake St. Martin? You are putting fish at risk. How do you compensate the fishers? Fishing occurs for sucker, whitefish, and pickerel in the project area.	Aquatic Environment	Fish and Fish Habitat
Why were fish stranded in the Emergency Outlet Channel?	Aquatic Environment	Fish and Fish Habitat
Will there be any form of filters put in place to keep unwanted species from Lake Winnipeg getting back into Lake Manitoba?	Aquatic Environment	Fish and Fish Habitat
Seneca root is picked in the project area including berry picking in the northern portion of the channel.	Terrestrial Environment	Vegetation and Wetlands
We want to hunt in that area. The Duck Mountains are closed off to us for hunting so why keep us out of the area? Our hunting and trapping areas are all gone. There is debris everywhere and everything is dead. We have been impacted. Hunting and trapping occurs in and around Lake Manitoba.	Terrestrial Environment	Wildlife and Wildlife Habitat
Seneca root is picked in the project area including berry picking in the northern portion of the channel.	Indigenous Peoples	Traditional Land and Resource Use
Needs to be joint consultations that are overlapping concerns and traditional knowledge. Concerns with confidential knowledge and issues.	Indigenous Peoples	Traditional Land and Resource Use
We want to hunt in that area. The Duck Mountains are closed off to us for hunting so why keep us out of the area? Our hunting and trapping areas are all gone. There is debris everywhere and everything is dead. We have been impacted. Hunting and trapping occurs in and around Lake Manitoba.	Indigenous Peoples	Traditional Land and Resource Use
What about fishing on Lake St. Martin? You are putting fish at risk. How do you compensate the fishers? Fishing occurs for sucker, whitefish, and pickerel in the project area.	Indigenous Peoples	Traditional Land and Resource Use
Why control access?	Indigenous Peoples	Traditional Land and Resource Use
Can you give us a 10-15 year worst case scenario forecast for potential flooding for Lake Manitoba and Lake St. Martin? Want community to see the anticipated worst case flood. Your scientists can predict 10-15 years ahead.	Project Description	
Does the environmental assessment require the data?	Project Description	
How long is the access road?	Project Description	
How would the channels be operated?	Project Description	
What are the possible benefits of the project?	Project Description	
Who were the designers and who were the hydrologists? Was DFO involved?	Project Description	
What engagement have you had with the RMs?	Public and Indigenous Engagement	
Why are the FNs on Lake Manitoba not included in the consultation process?	Public and Indigenous Engagement	
Compensation is required before the channels are built.	CSA	
LMFN lost all recreational facilities, the arena, ball diamonds, pow wow grounds; as a result, lost our Treaty Day celebrations. Cottagers on Lake Manitoba were back to their cottages within 2 years. LMFN has not been home since 2011. Houses not flooded have not been lived in are lost as well. LMFN dropped the lawsuit against the province for loss of land. LMFN may resume this legal action. The ring dykes around the houses are causing damage, they are trapping water inside. LMFN does not want to discuss the channels until the community is fixed and issues resolved. The flood of 2011 resulted in LMFN losing areas where we fished and hunted. Who is liable for this and for the dykes? Can we remove the dykes?	CSA	

Table 5A-6
Lake Manitoba First Nation

Comment	Related EIS Sections	Applicable VC Chapter(s)
When were options put forward? Project is going ahead without First Nations approvals. What about options G and E? You are disrespecting First Nations. Why don't you come out at Steeprock and move cottagers instead of First Nations people? First Nations people have moved enough and have had enough disruptions to their lives. The Fairford River Water Control Structure has been in place for 50 years which has affected all the FNs on Lake St. Martin. All of our outstanding issues for these First Nations must be resolved before government moves forward on this project. The Interlake Reserves Tribal Council sent a resolution to your government making it clear these outstanding issues must be resolved.	CSA	
Who is responsible for the tender packages for Manitoba? The community needs more homes. We want to build homes near the lake. There are cemeteries below 806 ft that will be flooded.	CSA	
Your 806 easement will allow you to flood up to that level and flood more land. 806 ft easement will take 80% of the reserve land and there should be no talk of any channels until this is resolved. 804 ft is high enough and there can be no channel talk until there is a complete settlement agreement.	CSA	

Table 5A-7
Little Saskatchewan First Nation

Comment	Related EIS Section	Applicable VC Chapter(s)
Are you adding more mercury to these lakes and fish?	Physical Environment	Groundwater and Surface Water
There will be more water entering Lake St. Martin.	Physical Environment	Groundwater and Surface Water
Are you adding more mercury to these lakes and fish?	Aquatic Environment	Fish and Fish Habitat
If these channels operate in the spring, how are you going to keep fish from getting in? This is a concern.	Aquatic Environment	Fish and Fish Habitat
The channels may provide for more recreational use and that can bring zebra mussels.	Aquatic Environment	Fish and Fish Habitat
The project will affect fishing and loss of hay lands.	Aquatic Environment	Fish and Fish Habitat
Were there studies on the affect to fish?	Aquatic Environment	Fish and Fish Habitat
Community has lost hay lands and this has affected the agricultural economy.	Terrestrial Environment	Vegetation and Wetlands
Kill all the wolves in the area; they are killing the moose, It's not people. Bring back the use of poison to control wolves.	Terrestrial Environment	Wildlife and Wildlife Habitat
The water was high again this year and there were no grouse and no rabbits. There was nothing to hunt.	Terrestrial Environment	Wildlife and Wildlife Habitat
Are we going to get some economic benefits from this project?	Human Environment	Economy
Community should have significant economic benefits from the proposed project due to the level of impact of flooding.	Human Environment	Economy
Little Saskatchewan wants to be included in channel construction not just offered an opportunity. Are there contracts for LSFN? We have 20 graduated heavy equipment operators through Service Canada. The next step is to get them on equipment to do work. There is little work returned to the community in these projects. The money moves out of province and we are left with nothing.	Human Environment	Economy
Are you buying out the private lands for Option D?	Indigenous Peoples	Traditional Land and Resource Use
Community has lost hay lands and this has affected the agricultural economy.	Indigenous Peoples	Traditional Land and Resource Use
Could you speak about the resource mapping exercise?	Indigenous Peoples	Traditional Land and Resource Use
Fishing has been slow, production is down.	Indigenous Peoples	Traditional Land and Resource Use
Flood dykes were cut and flooded the land behind them. Hay lands were lost.	Indigenous Peoples	Traditional Land and Resource Use
The operations of the Fairford River Water Control Structure affects trapping by changing the levels and they flood out the muskrats or freeze them out. Require changes in mesh sizes (fishing nets) and that is an extra cost.	Indigenous Peoples	Traditional Land and Resource Use
The project will affect fishing and loss of hay lands.	Indigenous Peoples	Traditional Land and Resource Use
The water was high again this year and there were no grouse and no rabbits. There was nothing to hunt.	Indigenous Peoples	Traditional Land and Resource Use
Did they take into consideration the bridges in the community as having an effect on this project?	Project Description	
How much environmental information do you have?	Project Description	
If you add 7,500 cfs, won't that make Lake St. Martin levels higher and more likely to flood Lake Pinumatta as well?	Project Description	
If you add that much water to Lake St. Martin are you not going to increase the lake level because the narrows is going to be a plug that restricts water?	Project Description	
The narrows on Lake St. Martin will be a bottleneck and flood Lake St. Martin. The 7,000 cfs from the Fairford structure equals the narrows capacity.	Project Description	
The west access road into the Mantago Lake WMA can’t be used. Is there any plan to improve that road?	Project Description	
What are the options for the channels? What options were considered?	Project Description	
What is the difference between Option C and D for the Lake Manitoba channel?	Project Description	
What is the height distance from Lake Manitoba to Lake St. Martin?	Project Description	
What is the minimum output for the Lake Manitoba channel?	Project Description	
Who were the designers and who were the hydrologists? Was DFO involved?	Project Description	
Why does this channel appear to so much wider than option D on the map?	Project Description	
Will government make a decision without our input?	Project Description	
Will the narrows on Lake St. Martin affect the operation of the channel?	Project Description	

Table 5A-7
Little Saskatchewan First Nation

Comment	Related EIS Section	Applicable VC Chapter(s)
Have you talked to the land owners along the alignment and what are you paying for their lands?	Public and Indigenous Engagement	
Was not aware of the open house.	Public and Indigenous Engagement	
Need money to cover Elders' expenses and other costs. Will it cover the lawyer fees?	Public and Indigenous Engagement	
Who pays for the community coordinator costs?	Public and Indigenous Engagement	
There was no consultations on the Fairford River Water Control Structure, why would this project be any different?	Public and Indigenous Engagement	
Additions to reserve is an issue as LSFN is obligated to pay taxes on the lands until the lands receive reserve status. We did not talk about the concern we have with the additions to reserves lands. We have outstanding tax bills for $15,000 of these lands and they should have been added to our reserve lands so they would not be subject to taxation.	CSA	
Firewood is saturated and water comes out when we burn the wood.	CSA	
Fishers are fishing Lake St. Martin who do not have the right to fish and are putting the catch under their Lake Winnipeg quota.	CSA	
Something needs to be done for our houses before any new channel is considered. I want a people settlement package. The Feds have a say in housing design and we are having problems getting any approvals. Compensation is required before new channels are built. Our community still is not home. There are children who have never lived in their home community. They will be challenged. Outstanding compensations need to be addressed.	CSA	
The man made flood of 2011 forced us away from our traditional lands.	CSA	
Unresolved past issues must be dealt with. We still have no houses and no evacuees have come home yet. People must be brought home now.	CSA	
We are under third-party management and we cannot get any money to do much of anything without approval.	CSA	
We have cemeteries below the 806 ft and you can flood our cemeteries with the easement.	CSA	
What are the details related to the cottage flood protection program? Are all cottages protected? Is this program available to First Nations?	CSA	
Who is responsible for the tender packages for Manitoba? Who is responsbile on the provincial side? More houses are required.	CSA	
Why do you need an 806 easement? If you take that elevation, 80% of the LSFN reserve land would no longer be useable as only 20% is above 806 feet. If you set it at 806 ft, you can fill Lake St. Martin to that level and flood LSFN. The easement will take 80% of reserve land away. 804 ft is high enough and there can be no channel talk until there is a complete settlement agreement. There have been no homes for 5 years. We lost all our recreational facilities the arena the ball diamonds. The houses not flooded, but not lived in are now so poorly maintained, they are lost too. We have cemeteries below the 806 and you can flood our cemeteries with the easement.	CSA	
Why do you need an easement of 806 ft? If you take that elevation, 80% of LSFN would no longer be useable as only 20% is above 806 ft. If you set it at 806 ft, you can fill Lake St. Martin to that level and flood LSFN. 806 easement is 8 ft higher than normal water levels and flood level is when water crosses land. Recreation area and ball diamonds will be lost.	CSA	

Table 5A-8
Lake St. Martin First Nation

Comment	Related EIS Section	Applicable VC Chapter(s)
Is more water going into Lake St. Martin?	Physical Environment	Groundwater and Surface Water
Has an environmental assessment been done? Effects to groundwater would be serious for route C option.	Physical Environment	Groundwater and Surface Water
Does Lake Manitoba channel affect Lake St. Martin water levels?	Physical Environment	Groundwater and Surface Water
What is the speed of the flow through the channel?	Physical Environment	Groundwater and Surface Water
What are the effects to Lake St. Martin?	Physical Environment	Groundwater and Surface Water
Will the channels have an effect on Bear Creek and Lake St. Martin narrows spawning areas?	Physical Environment	Groundwater and Surface Water
Will the channel add sediment to Bear Creek?	Physical Environment	Groundwater and Surface Water
Water quality decimated commercial fishing on Lake St. Martin (during flood).	Physical Environment	Groundwater and Surface Water
The channel will change Lake St. Martin water quality from Lake Manitoba.	Physical Environment	Groundwater and Surface Water
There are issues with debris. There are dead trees along the Dauphin River. Operating the channel will cause more debris.	Physical Environment	Groundwater and Surface Water
Pesticides are getting into Lake St. Martin affecting our water quality and the fish we eat.	Physical Environment	Groundwater and Surface Water
We are concerned for the health of our pets because of the lake.	Human Environment	Health
The Portage Diversion brings water from the west along with its pesticides into Lake Manitoba.	Physical Environment	Groundwater and Surface Water
With these channels, will that reduce the flooding on PR 513? The road floods because of ice build up.	Physical Environment	Groundwater and Surface Water
What about all the contamination that is coming into Lake Winnipeg from sewage lagoons? I saw the Little Saskatchewan lagoon and that would flow into the lake when they let it out.	Physical Environment	Groundwater and Surface Water
What effect on Lake Winnipeg water levels will these channels have? I hear that erosion is a concern on Lake Winnipeg?	Physical Environment	Groundwater and Surface Water
The proposed channels will spoil the whitefish fisheries.	Aquatic Environment	Fish and Fish Habitat
How many fish died or were moved from Emergency Outlet Channel operation?	Aquatic Environment	Fish and Fish Habitat
How many pickerel were salvaged?	Aquatic Environment	Fish and Fish Habitat
Did you do fish studies in big buffalo bog?	Aquatic Environment	Fish and Fish Habitat
Bear Creek is an important spawning creek for Lake St. Martin. Will there be an effect on the creek?	Aquatic Environment	Fish and Fish Habitat
Will this option wash away the bog?	Aquatic Environment	Fish and Fish Habitat
Where were the fish nets set for monitoring work?	Aquatic Environment	Fish and Fish Habitat
Arrange to have a meeting with chief and council to explain the (fish) monitoring.	Aquatic Environment	Fish and Fish Habitat
Operation of the Emergency Outlet Channel resulted in no whitefish spawning in LSM for 2 years.	Aquatic Environment	Fish and Fish Habitat
What about zebra mussels? We are concerned how they will clog our water intakes. We are concerned how they will affect the fish.	Aquatic Environment	Fish and Fish Habitat
Your project will put fish in Lake St. Martin at risk. How will you compensate the fishers?	Aquatic Environment	Fish and Fish Habitat
Will the channels have an effect on Bear Creek and Lake St. Martin narrows spawning areas?	Aquatic Environment	Fish and Fish Habitat
What about restocking Lake St. Martin?	Aquatic Environment	Fish and Fish Habitat
Emergency channel operation killed thousands of fish.	Aquatic Environment	Fish and Fish Habitat
Was a fish survey done on Buffalo Lake?	Aquatic Environment	Fish and Fish Habitat
Lake MB channel will allow whitefish to leave Lake St. Martin and go to Lake Manitoba.	Aquatic Environment	Fish and Fish Habitat
You need to stop invasive species from Lake Manitoba getting into Lake Winnipeg.	Aquatic Environment	Fish and Fish Habitat
The Lake Manitoba channel will provide them (invasive species) with a direct route to Lake St. Martin.	Aquatic Environment	Fish and Fish Habitat
We want you to monitor the fish to be sure it is safe to eat.	Aquatic Environment	Fish and Fish Habitat
We have caught whitefish with sores on them.	Aquatic Environment	Fish and Fish Habitat
Channels will affect fish in Lake St. Martin and monitoring fish is important.	Aquatic Environment	Fish and Fish Habitat
Were there any FNs involved in the Sturgeon Bay area? Having FNs involved in sampling and data collection would have been good.	Aquatic Environment	Fish and Fish Habitat
Will this option wash away the bog?	Terrestrial Environment	Vegetation and Wetlands

Table 5A-8
Lake St. Martin First Nation

Comment	Related EIS Section	Applicable VC Chapter(s)
There are traditional medicines on the east and west side of Lake St. Martin that are used to cure toothaches and respiratory issues. We must consult on that before the channels go forward. These sites are affected by high water.	Terrestrial Environment	Vegetation and Wetlands
What are the impacts on road maintenance?	Human Environment	Infrastructure and Services
How are the contracts for work issued?	Human Environment	Economy
LSMFN wants to be engaged in developing employment opportunities, job skills to work on project and new community and operation return home. LSMFN has joint venture with hartman construction.	Human Environment	Economy
There have been no construction benefits for the FNs regarding this project.	Human Environment	Economy
When can LSMFN begin construction on the road, LSMFN was the most affected and work should come to LSMFN.	Human Environment	Economy
LSMFN wants the road construction.	Human Environment	Economy
Will the work be pieced out?	Human Environment	Economy
LSMFN wants economic benefits from the project.	Human Environment	Economy
LSMFN wants a community member to be on site as a community project monitor who can report to the community on the project is constructed.	Human Environment	Economy
LSMFN wants economic opportunities associated with the project.	Human Environment	Economy
LSMFN is working with Manitoba to secure economic opportunities for the community that are associated with the channel project. Contracts are being negotiated to bring economic benefits to the community.	Human Environment	Economy
There will be positive benefits for the community. LSMFN is a resilient community and will move forward.	Human Environment	Economy
Looking for economic opportunities. Want to work on the project.	Human Environment	Economy
Will there be economic benefits and jobs for LSMFN people with this project?	Human Environment	Economy
Community is concerned about effects project may have on domestic water supply.	Human Environment	Health
Pesticides are getting into Lake St. Martin affecting our water quality and the fish we eat.	Human Environment	Health
The proposed channels will spoil the whitefish fisheries.	Indigenous Peoples	Traditional Land and Resource Use
Debris from emergency channel affecting commercial fishing, safety of fishers and damaging boats and motors?	Indigenous Peoples	Traditional Land and Resource Use
LSMFN wants to have water rights to Lake St. Martin so levels cannot cause evacuations. LSMFN has suffered serious social issues, 80 members have died since 2011.	Indigenous Peoples	Traditional Land and Resource Use
Commercial fisheries will be affected.	Indigenous Peoples	Traditional Land and Resource Use
It was not just Lake Winnipeg fishers affected, Lake St. Martin fishers were affected (by flooding and emergency channel operation).	Indigenous Peoples	Traditional Land and Resource Use
LSMFN hunt and trap in buffalo lake bog. Does this work make it unsafe for us to use this area?	Indigenous Peoples	Traditional Land and Resource Use
What is controlled access for the road? We hunt and trap in that area.	Indigenous Peoples	Traditional Land and Resource Use
If you restrict access, Conservation officers will issue ticket to us for using the area. Our people would be cautious about using the area to hunt and fish.	Indigenous Peoples	Traditional Land and Resource Use
Manitoba can pass legislation prohibiting white people from using the access to get into the area. Conservation could enforce against white people in the area. FN can pass a Band Council Resolution restricting people in their traditional use area.	Indigenous Peoples	Traditional Land and Resource Use
Commercial fishers use Johnson's Beach a lot.	Indigenous Peoples	Traditional Land and Resource Use
There are traditional medicines on the east and west side of Lake St. Martin that are used to cure toothaches and respiratory issues. We must consult on that before the channels go forward. These sites are affected by high water.	Indigenous Peoples	Traditional Land and Resource Use
Where does resource mapping fit into this process?	Indigenous Peoples	Traditional Land and Resource Use
How does resource mapping unfold?	Indigenous Peoples	Traditional Land and Resource Use
Your project will put fish in Lake St. Martin at risk. How will you compensate the fishers?	Indigenous Peoples	Traditional Land and Resource Use

Table 5A-8
Lake St. Martin First Nation

Comment	Related EIS Section	Applicable VC Chapter(s)
There is compensation required for all the users, trappers, our medicines.	Indigenous Peoples	Traditional Land and Resource Use
We hunt moose in the area of the channels, and north of the road, and fish at Johnson Beach.	Indigenous Peoples	Traditional Land and Resource Use
Resource mapping will need to look at Willow Point as well.	Indigenous Peoples	Traditional Land and Resource Use
We hunt north of the road.	Indigenous Peoples	Traditional Land and Resource Use
There are unmarked LSM community member graves along the shore of Lake St. Martin near Rabbit Point and are flooded because of high water of Lake St. Martin.	Indigenous Peoples	Traditional Land and Resource Use
High water on Lake St. Martin flooded out muskrat trapping areas, trappers have lost income, and those trappers need to be compensated.	Indigenous Peoples	Traditional Land and Resource Use
Hay lands at Lake St. Martin lost due to flooding.	Indigenous Peoples	Traditional Land and Resource Use
Wilson Point is an important commercial fishing area.	Indigenous Peoples	Traditional Land and Resource Use
There should be a debris clean up program to clean up the material that is damaging commercial fishing equipment.	Indigenous Peoples	Traditional Land and Resource Use
Operations of the Fairford River Water Control Structure during the winter affects fishers by changing levels damages nets.	Indigenous Peoples	Traditional Land and Resource Use
Channel project will affect hunting and trapping areas used by LSMFN members.	Indigenous Peoples	Traditional Land and Resource Use
Commercial fishing is important.	Indigenous Peoples	Traditional Land and Resource Use
Area around Bear Creek is an important area for traditional uses and proposed permanent channel may affect the area.	Indigenous Peoples	Traditional Land and Resource Use
We are going to loose our social assistance. We will have to rely on moose, fish and ducks to feed our grandchildren. I want our children to be able to hunt and sustain themselves.	Indigenous Peoples	Traditional Land and Resource Use
Farmers are dumping their sewage into the lake and it comes through the Fairford structure.	Indigenous Peoples	Traditional Land and Resource Use
Hunted off the Idelywild road but hunting is poor.	Indigenous Peoples	Traditional Land and Resource Use
Project will affect our traditional lands. Do not support project. Leave Mother Earth alone.	Indigenous Peoples	Traditional Land and Resource Use
I trapped in Buffalo Lake and had a cabin there in the 60s. Your project will damage that.	Indigenous Peoples	Traditional Land and Resource Use
Were there any FNs involved in monitoring?	Project Description	
Has the aggregate work been portioned out? LSMFN did a lot of granite blasting at the LSM community site.	Project Description	
We have members working with Hydro clearing right of way for line to Dauphin River.	Project Description	
When will you allocate work for LSM?	Project Description	
Give us the contracts and we will do consultation.	Project Description	
When will the power line installation be available to get work? I install power lines and am interested in that work. Also interested in the Dauphin River power line.	Project Description	
Will the lakes along option D be joined to allow water to flow into LSM?	Project Description	
How did the fish salvage operation on the emergency channel work?	Project Description	
How deep is the emergency channel?	Project Description	
Are there other easements on Lake St. Martin communities ?	Project Description	
What option is cheaper, C or D?	Project Description	
Where is the plug on Reach 3?	Project Description	
Will there be a new bridge on PTH 6 for the control structure?	Project Description	
What is the cost of the project? How many bridges?	Project Description	
Build a bridge on LSM so we can access our reserve on the other side.	Project Description	
Who makes a final decision on what channel option is chosen?	Project Description	
Are FNs going to have a say in where the channels go?	Project Description	
What is the anticipated completion date?	Project Description	
Does affects assessment compare to current conditions or pre-Fairford River Water Control Structure conditions in the 1950s?	Project Description	
What is the cost of doing nothing?	Project Description	

Table 5A-8
Lake St. Martin First Nation

Comment	Related EIS Section	Applicable VC Chapter(s)
Is the process in 2011 different from the channel being discussed today?	Project Description	
Has there been an analysis of the financial value of proceeding? Such as with the RR floodway.	Project Description	
Will the Lake St. Martin narrows affect the project?	Project Description	
What are the lengths of the channel options?	Project Description	
A new channel will cause more damage and changes to the area we use. Use the original channel.	Project Description	
When did these options start?	Project Description	
Where did you do your study on LSM?	Project Description	
Where are the consutlants working now?	Project Description	
Why is this the access road you want to build? Why not come from the other side? What are the upgrades?	Project Description	
Is there going to be gate on the road?	Project Description	
When are you going to start work on the road?	Project Description	
Who gets contracts for the roadwork? The communities? When can we start? How much do you pay? Talking to all the communities about roadwork will take a long time.	Project Description	
What are volumes for roadwork?	Project Description	
Why are you tendering the roadwork?	Project Description	
Can we get the roadwork done by the end of the year?	Project Description	
Can LSMFN get contract for brushwork on the road right of way?	Project Description	
What are impacts of roadwork?	Project Description	
The proposed channels will allow government to fill LSM and flood the community.	Project Description	
The narrows on Lake St. Martin will have a negative effect on how the province operates. The narrows will bottle neck the flow and LSMFN will be flooded with the operations.	Project Description	
Was there a plan to move water into Cedar Lake and not into Lake St. Martin?	Project Description	
Where is the channel you already built?	Project Description	
Is the flood impact information only for the 2011 flood?	Project Description	
Government only got going in dealing with LSM flood until 2011 flood. Is the emergency channel closed?	Project Description	
Manitoba Hydro’s dams block water flows and back up water.	Project Description	
You need to study the impacts of what we are saying.	Project Description	
What are the future impacts of this project?	Project Description	
Our lands are saturated.	Project Description	
Why is the existing channel not being used as the permanent outlet channel to save money?	Project Description	
What is the purpose of the channel project?	Project Description	
Is the channel project complete?	Project Description	
Lake St. Martin narrows will block water flow and your channel will flood Lake St. Martin.	Project Description	
What is the water level of Lake St. Martin?	Project Description	
Lake Manitoba channel will be adding more water into Lake St. Martin.	Project Description	
Where is all the water coming from?	Project Description	
Options C and D for the proposed channels are located in Treaty 2 territory. Treaty 2 Chiefs must be involved.	Public and Indigenous Engagement	
Trappers and fishers must participate.	Public and Indigenous Engagement	
LSMFN wants access to the consultants reports.	Public and Indigenous Engagement	
You must ask us, do not just build.	Public and Indigenous Engagement	
This meeting is not consultation it is information sharing.	Public and Indigenous Engagement	
Give us the contracts and we will do consultation.	Public and Indigenous Engagement	
If the government had done this in the past all the flooding could have been avoided.	Public and Indigenous Engagement	
This project is in Treaty 2 territory. There has not been enough discussions with FNs.	Public and Indigenous Engagement	

Table 5A-8
Lake St. Martin First Nation

Comment	Related EIS Section	Applicable VC Chapter(s)
More discussion on access road is required. Give the chief a key and he should decide who gets in.	Public and Indigenous Engagement	
How long would the consultation process be?	Public and Indigenous Engagement	
How would accomodation take place once consultation is complete?	Public and Indigenous Engagement	
What would this project look like if only LSM interests were taken into account?	Public and Indigenous Engagement	
Consultation will need to be intensive due to level of impact to the communtiy.	Public and Indigenous Engagement	
Why not consult with the 4 communities together?	Public and Indigenous Engagement	
How long have you been working on the study?	Public and Indigenous Engagement	
Resource use area will need to be specific.	Public and Indigenous Engagement	
How is work on the project being tendered? LSMFN is not part of IRTC process. LSMFN is an independent FN and MI is to deal directly with them.	Public and Indigenous Engagement	
What happens if LSMFN is ready to go but the IRTC is not?	Public and Indigenous Engagement	
How long for the environment licence to be approved?	Public and Indigenous Engagement	
LSMFN has a community coordinator in mind for the Resource mapping project.	Public and Indigenous Engagement	
LSMFN should be part of a water control board that is involved in any operations of the permanent channel.	Public and Indigenous Engagement	
Federal Representatives should attend all meetings, as it is their fiduciary responsibility to protect the community.	Public and Indigenous Engagement	
Consultation with Manitoba is required and will work to address effects by accommodation and compensation.	Public and Indigenous Engagement	
Engagement with Manitoba to include specific meetings with Elders, youth (use the school process), traditional knowledge holders, resource harvesters, hunters, trappers, gatherers.	Public and Indigenous Engagement	
You are taking away from our community and not offering anything in return.	Public and Indigenous Engagement	
LSMFN has heard there are problems with the consultation process involving the IRTC. LSMFN is making is clear consultations are to be between LSMFN and Manitoba directly.	Public and Indigenous Engagement	
Which communities have you consulted with?	Public and Indigenous Engagement	
There is not enough information coming down from the top to the community.	Public and Indigenous Engagement	
LSMFN fishers did not receive full compensation and they need to be compensated.	CSA	
There remain outstanding compensations for commercial fishers on Lake Winnipeg and Lake St. Martin.	CSA	
All the outstanding issues for all the FNs need to be addressed and we want to be home before you do any construction.	CSA	
What about the easement agreement? LSMFN was most affected.	CSA	
Paying for past compensations for damages from 1960 would give the FNs more comfort moving forward.	CSA	
High water on Lake St. Martin flooded out muskrat trapping areas, trappers have lost income, and those trappers need to be compensated.	CSA	
LSM fishers need to be compensated.	CSA	
No compensation for those losses (during flooding).	CSA	
806 easement is a concern to the community.	CSA	
LSMFM has no access to Lake St. Martin since the flood.	CSA	
Evacuees will face challenges when they return to the new community after living in Winnipeg for the past 6 years. Social, educational and cultural values were affected. There was a loss of structure.	CSA	
Some evacuees were children when they left and now have children of their own who have never been to Lake St. Martin.	CSA	
There will not be enough homes for all the evacuees to go home too.	CSA	
The layout of the new community is in a standard residential subdivisions which is not what people from LSMFN are used too.	CSA	
Issues related to flooding will affect community members for a long time.	CSA	

Table 5A-8
Lake St. Martin First Nation

Comment	Related EIS Section	Applicable VC Chapter(s)
Going back to what we had is not possible as it is gone.	CSA	
Aboriginal title, traditional land base and use has been affected by floods.	CSA	
Past operations of the Fairford River Water Control Structure resulted in flooding of LSMFN.	CSA	
Commercial fishers need to be compensated for losses.	CSA	
Province failed to regulate waters that have been diverted into Lake St. Martin.	CSA	
How will you deal with the damages done in 2011?	CSA	
Are there mitigation studies on the effects of the Fairford structure?	CSA	
You cannot say our water was not affected.	CSA	
There was a fish kill on Lake St. Martin in 2004 or 2005.	CSA	
There are concerns how evacuees were taken care of since they moved in 2011. Provincial benefits were cancelled. Evacuees treated unfairly and may look into legal action.	CSA	
Manitoba wants an easement of 806 ft on Lake St. Martin. An easement means government can store water on that land and flood it.	CSA	

Table 5A-9
Norway House Cree Nation

Comment	Related EIS Section	Applicable VC Chapter(s)
Significant negative adverse effects of Lake St. Martin channel on water flows to NHCN via Playgreen Lake and Lake Winnipeg.	Physical Environment	Groundwater and Surface Water
NHCN has concerns regarding drainage of agricultural fields and contamination of waters. There will be negative effects to water quality. Consultation should involve commercial fishers assoc, trappers, elders and youth.	Physical Environment	Groundwater and Surface Water
NHCN experiences significant negative impacts from activities occurring upstream of Lake Winnipeg and Playgreen Lake.	Physical Environment	Groundwater and Surface Water
The project will impact local waterways and potentially impact the exercise of aboriginal and treaty rights of our membership.	Physical Environment	Groundwater and Surface Water
NHCN will receive all of this water and everything that is in it.	Physical Environment	Groundwater and Surface Water
The channels will speed up the water.	Physical Environment	Groundwater and Surface Water
Our community has seen Lake Winnipeg water quality continues to be affected and we see more sediments, turbidity, algae blooms, and invasive species, zebra mussels. We get our domestic water from the river, it has to be processed through our water treatment plant, and these channels will make that worse.	Physical Environment	Groundwater and Surface Water
What is going to be added to Lake Winnipeg from Lake Manitoba? What is in Lake Manitoba that is not in Lake Winnipeg?	Physical Environment	Groundwater and Surface Water
Lake Winnipeg sedimentation is reducing our water quality this project will bring more sediment.	Physical Environment	Groundwater and Surface Water
Project is going to add more water to Lake Winnipeg.	Physical Environment	Groundwater and Surface Water
What are the effects of the channel project on Lake Winnipeg water levels?	Physical Environment	Groundwater and Surface Water
NHCN has an agreement with the Federal, Provincial Governments and Manitoba Hydro that was put in place in 1997. That agreement makes it clear there can be no more water added into Lake Winnipeg that could affect NHCN. These channels add new water into the lake so your channels are in breech of that agreement. That 2.16 inches represents tons of water entering Lake Winnipeg that will reach Norway House Cree Nation and can have an effect on our community.	Physical Environment	Groundwater and Surface Water
Our community has seen Lake Winnipeg water quality continues to be affected and we see more sediments, turbidity, algae blooms, and invasive species, zebra mussels. We get our domestic water from the river, it has to be processed through our water treatment plant, and these channels will make that worse.	Aquatic Environment	Fish and Fish Habitat
Zebra mussels pose a problem to our water distribution system.	Aquatic Environment	Fish and Fish Habitat
This is the first time we have received any information on the emergency outlet channel. I am on the Lake Winnipeg Commercial Fishers Board, we have been asking for information for years, and nothing was provided. We have seen changes in our fish species in Lake Winnipeg because of the channel.	Aquatic Environment	Fish and Fish Habitat
How many contracts were issued for roadwork? Were they open tender or sole source?	Human Environment	Economy
Our community has seen Lake Winnipeg water quality continues to be affected and we see more sediments, turbidity, algae blooms, and invasive species, zebra mussels. We get our domestic water from the river, it has to be processed through our water treatment plant, and these channels will make that worse.	Indigenous Peoples	Traditional Land and Resource Use
Is the project to benefit the agricultural interest on Lake Manitoba?	Indigenous Peoples	Traditional Land and Resource Use
This is the first time we have received any information on the emergency outlet channel. I am on the Lake Winnipeg Commercial Fishers Board, we have been asking for information for years, and nothing was provided. We have seen changes in our fish species in Lake Winnipeg because of the channel.	Indigenous Peoples	Traditional Land and Resource Use
What is the portion of water contributed to Lake Winnipeg that comes from Lake Manitoba?	Project Description	
Is there a relationship between this project and Manitoba Hydro?	Project Description	
Why are you not showing us other options for Lake Manitoba channel as there were others?	Project Description	
Where is NHCN and Manitoba at in regards to the project?	Project Description	

Table 5A-9
Norway House Cree Nation

Comment	Related EIS Section	Applicable VC Chapter(s)
Did you do an environmental assessment of the existing road?	Project Description	
You are using the road to avoid an environmental assessment and licensing.	Project Description	
NHCN has concerns regarding drainage of agricultural fields and contamination of waters. There will be negative effects to water quality. Consultation should involve commercial fishers assoc, trappers, elders and youth.	Public and Indigenous Engagement	
I have been to the emergency outlet channel and there was no consultation when the channel was built.	Public and Indigenous Engagement	
How many FNs have been engaged?	Public and Indigenous Engagement	
Can you give us a template form we can follow for the budget and plan?	Public and Indigenous Engagement	
NHCN concerned with the lack of communications with Manitoba since last meeting.	Public and Indigenous Engagement	
Is this a consultation meeting?	Public and Indigenous Engagement	
For the record NHCN does not consider this meeeting to be consultation.	Public and Indigenous Engagement	
Are you having discussions with the municipalities? If you are I want to see what is being discussed.	Public and Indigenous Engagement	
How is land along the Lake Manitoba channel being acquired? Is there any Crown Land involved?	Public and Indigenous Engagement	
We will need funding to hire our own technical experts to review your project.	Public and Indigenous Engagement	
Was the consultation plan completed?	Public and Indigenous Engagement	
This is the first time we have received any information on the emergency outlet channel. I am on the Lake Winnipeg Commercial Fishers Board, we have been asking for information for years, and nothing was provided. We have seen changes in our fish species in Lake Winnipeg because of the channel.	Public and Indigenous Engagement	
Since this is not a consultation meeting and our time for your presentation is up, would you be prepared to come to a community meeting?	Public and Indigenous Engagement	
Will consultation funding be in the 40-50k range?	Public and Indigenous Engagement	
Is this meeting part of a settlement agreement, did you bring a cheque?	CSA	
What about community settlements?	CSA	

Table 5A-10
O-Chi-Chak-Ko-Sipi First Nation

Comment	Related EIS Section	Applicable VC Chapter(s)
The project has benefits, it can help prevent the things that happened in the past.	Human Environment	Economy
You already provided $90 million for the access road. You are being criticised by the Manitoba Heavy Equipment Industry for not tendering the work. We can hold it up because we have not been dealt with. Everyone else is getting compensated adequately. There is trouble with the road contracts and no one informed us.	Human Environment	Economy
Manitoba Hydro controls the lake levels. This project is for Hydro.	Project Description	
The road is one of the four parts of the channel, what are the other three?	Project Description	
Community members need to be involved once we get Minister's approval to do environmental assessment.	Public and Indigenous Engagement	
Manitoba must full meet its duty to consult, and we need funding to participate. We will need funding for independent expert analysis.	Public and Indigenous Engagement	
This meeting is not consultation.	Public and Indigenous Engagement	
Until there has been a compete environmental assessment of our community, we do not agree with the project. We will not engage until we have a full and complete environmental assessment. There are no Ministers at this meeting to hear our issues.	Public and Indigenous Engagement	
We must have capacity funding in place. The money to do the study for the community is expected to be in the 500k range.	Public and Indigenous Engagement	
Community lands are flooded. OCCKSFN has lost lands on lake side due to dykes no longer useable. We can't use septic fields we have no high land so we are crowding ourselves.	CSA	
O-Chi-Chak-Ko-Sipi FN has unresolved issues from previous floods.	CSA	
Past issues must be addressed before we provide input into the proposed channels. Who would be the people to deal with in regards to the 2011 flood issues?	CSA	
We need an environmental assessment done in the community to identify the damages and effects that exist from the 2011 flood.	CSA	

Table 5A-11
Pinaymootang First Nation

Comment	Related EIS Section	Applicable VC Chapter(s)
Pinaymootang FN will not allow consultants onto Pinaymootang to do well testing.	Physical Environment	Groundwater and Surface Water
The government has already made up its mind on this project. You (MI) are doing well testing feet from our reserve boundary.	Physical Environment	Groundwater and Surface Water
Pinaymootang is concerned about potential effects to groundwater.	Physical Environment	Groundwater and Surface Water
If option C is chosen, how will you deal with the effects to groundwater?	Physical Environment	Groundwater and Surface Water
Shoreline erosion is affecting DRFN. Chunks of land and trees are flowing down the river into Lake Winnipeg.	Physical Environment	Groundwater and Surface Water
We oppose the channel as they will bring more silt and will take our fish out. Two fishing seasons were lost.	Physical Environment	Groundwater and Surface Water
For the well testing work, Pinaymootang needs to know the areas of interest, be satisfied with the firm doing the work and agree to the TOR. Pinaymootang would like to manage the testing program.	Physical Environment	Groundwater and Surface Water
Concerned about drinking water. There is e.coli in our water.	Human Environment	Health
There is no talk about water quality.	Physical Environment	Groundwater and Surface Water
Was DFO involved in the various channel options put forward?	Aquatic Environment	Fish and Fish Habitat
How did you (MI) allow the stranding of thousands of fish in Reach 1? Operation of the (emergency) channel affects fisheries.	Aquatic Environment	Fish and Fish Habitat
Silt got into Lake Winnipeg from operation fo the channel and destroyed fish habtiat and spawning grounds.	Aquatic Environment	Fish and Fish Habitat
What is MI's mechanism for fish movement to Lake MB?	Aquatic Environment	Fish and Fish Habitat
Current fish ladder does not work and the fish hatchery at Dauphin River has been closed for 30 years.	Aquatic Environment	Fish and Fish Habitat
Operating the emergency channel damages the spawning grounds.	Aquatic Environment	Fish and Fish Habitat
Will fish be stuck in the Lake Manitoba channel?	Aquatic Environment	Fish and Fish Habitat
We bury our dead in water. There are no more berries, no fish. Conservation Officers watching us spotlighting.	Terrestrial Environment	Vegetation and Wetlands
What about moose?	Terrestrial Environment	Wildlife and Wildlife Habitat
We bury our dead in water. There are no more berries, no fish. Conservation Officers watching us spotlighting.	Terrestrial Environment	Wildlife and Wildlife Habitat
Can wildlife cross the channel?	Terrestrial Environment	Wildlife and Wildlife Habitat
Pinaymootang FN is interested in engaging in a community benefit process related to construction and operation of the channels.	Human Environment	Economy
There is no money coming to the communtiy. MI's contractors do not stay at our motel or buy gas from our station.	Human Environment	Economy
FNs must get construction opportunities assocated with the project. Big companies get the money and FNs get nothing.	Human Environment	Economy
What are the time lines, what are the benefits to the FNs? Only 8 labourer jobs were hired in 2011 no heavy equipment operators from FNs got jobs. FNs need a guarantee they will get benefits from work on the project.	Human Environment	Economy
Concerned about drinking water. There is e.coli in our water.	Human Environment	Health
We cannot trap because of either too much water or too little water.	Indigenous Peoples	Traditional Land and Resource Use
Government must compensate from previous events. Past issues must be resolved such as loss of hay lands, loss of farming lands, fluctuation in Lake Pinemuta impacting muskrat trapping on lake and surrounding wetlands. Changing water levels make it more difficult for commercial fishers to access Lake St. Martin.	Indigenous Peoples	Traditional Land and Resource Use
The channels have a negative effect on commercial fishing. We have lost commercial fishing licenses and you (MI) continue to do work on water testing without asking us.	Indigenous Peoples	Traditional Land and Resource Use
Fairford River Water Control Structure destroyed our community and wildlife habitat, affected our way of life, and caused diseases such as diabetes. There was no consideration of us. Channels will have a big effect on our community and will result in flooding our community.	Indigenous Peoples	Traditional Land and Resource Use
The channels are in our traditional hunting area. You (MI) flooded our area with the work you did in 2011. Water backed up as far south as the Mantago Wildlife Management area. We could not access our hunting area because of the water backing up from your work.	Indigenous Peoples	Traditional Land and Resource Use

Table 5A-11
Pinaymootang First Nation

Comment	Related EIS Section	Applicable VC Chapter(s)
We oppose the channel as they will bring more silt and will take our fish out. Two fishing seasons were lost.	Indigenous Peoples	Traditional Land and Resource Use
Your channels will affect our proposal to purchase private land south along Lake Manitoba to Hilbre. What happens to these lands if your channel goes there?	Indigenous Peoples	Traditional Land and Resource Use
Land is important to our people.	Indigenous Peoples	Traditional Land and Resource Use
Flooding destroyed farming around LSM only 2 or 3 farmers from the 30-40 are left trying to make a living.	Indigenous Peoples	Traditional Land and Resource Use
Money is already moving on the project. Farmers on Lake Manitoba channel were paid out. Cottagers have been dealt with. Traditional hunting areas are impacted. We have not seen the agreement with the Chiefs. It did not go to the grass roots.	Indigenous Peoples	Traditional Land and Resource Use
We bury our dead in water. There are no more berries, no fish. Conservation Officers watching us spotlighting.	Indigenous Peoples	Traditional Land and Resource Use
Hunting, fishing, trapping, picking seneca root takes place where the channels are proposed.	Indigenous Peoples	Traditional Land and Resource Use
If channels are not built Lake St. Martin will flood again. Past operations of the Fairford River Water Control Structure affected rat trapping. Levels up and down drowned the rats. Levels made the ice unsafe.	Indigenous Peoples	Traditional Land and Resource Use
Is the footprint of the channel considered occupied crown land? If so, we cannot hunt on ocupied crown lands.	Indigenous Peoples	Traditional Land and Resource Use
Our relationship is with the land and your project will affect the land and fisheries. Provide information on the environmental process to show project will not affect Aboriginal and Treaty rights. Process must be culturally and environmentally sound.	Indigenous Peoples	Traditional Land and Resource Use
Areas where we harvested gooseberries, cranberries, and nuts are gone. Kids have lost those abilities. There are cultural losses.	Indigenous Peoples	Traditional Land and Resource Use
We need access to our resources, to Pinemuta, Lake St. Martin, to our fishing areas for recreation use on Lake St. Martin across the flood dyke.	Indigenous Peoples	Traditional Land and Resource Use
Is there FN participation in the environmental studies ?	Project Description	
Are first nations involved in monitoring and data collection?	Project Description	
Can you provide a detailed contour map for Fairford?	Project Description	
You (MI) have moved culverts to Birch Creek for the project. There is no agreement with FNs.	Project Description	
Why have the channel run beside PTH 6 instead of through Pinaymootang?	Project Description	
Option C is shorter than Option D. Is D more money?	Project Description	
What is the cost of the project?	Project Description	
What happens to the emergency outlet channel if you choose an option that doesn't include it?	Project Description	
What are your plans if the 4 FNs on Lake St. Martin do not agree with the project?	Project Description	
Why is the access road not coming from Dauphin River, across the river?	Project Description	
Ask us where we would put the channel.	Project Description	
Are there control structures on the proposed channel?	Project Description	
Is there a control structure at Reach 1?	Project Description	
Is the project to help Lake Manitoba farmers?	Project Description	
What is the elevation drop between Lake Manitoba and Lake St. Martin?	Project Description	
What about the narrows in LSM? They are shallow and will be a choke point on the lake.	Project Description	
How much monitoring and data collection was done before 2011?	Project Description	
Did MI test the Fairford River?	Project Description	
You had plans in place for a long time so why did you not test sooner?	Project Description	
How long is the assessment process?	Project Description	
How much did Reach 1 cost?	Project Description	
What are the established timelines?	Project Description	
Hydro should be attending. Hydro wants license and regulate every waterbody in the province. 806 easement will let province flood to that level.	Project Description	

Table 5A-11
Pinaymootang First Nation

Comment	Related EIS Section	Applicable VC Chapter(s)
Is the access road going to be a maintained road? If so we will not be able to spotlight from the road as that is against the law and we will be charged by the C/Os.	Project Description	
Why is the channel coming out of Watchorn Bay?	Project Description	
Lake Manitoba channel will have a 100 ft drop to Lake St. Martin. Is that not a problem? We don't believe the 10 ft difference in lake levels.	Project Description	
How much money was the emergency channel?	Project Description	
Are you filling in the existing channel?	Project Description	
Private contractors have already been paid (for work on the project).	Project Description	
Was there a study of the effects on our reserve?	Project Description	
These channels will flood our land.	Project Description	
The emergency channel should be opened.	Project Description	
Hope we have more meetings, if the channel prevents flooding, it will be good.	Project Description	
Narrows on Lake St. Martin will restrict flow and new channel will flood LSMFN.	Project Description	
Will the combined flows into Lake St. Martin from the Fairford and proposed channel affect water levels on Lake St. Martin?	Project Description	
MI must be in compliance with all federal and DFO requirements.	Project Description	
Meeting is not considered consultation and discussions are without prejudice.	Public and Indigenous Engagement	
Why are the maps showing LSM First Nation? You flooded them out and only grave sites remain.	Public and Indigenous Engagement	
Big Fisher and Little Fisher Islands are reserve lands and your map is wrong.	Public and Indigenous Engagement	
What do you consider to be consultation?	Public and Indigenous Engagement	
You need to engage with Treaty 2 chiefs.	Public and Indigenous Engagement	
What was the turnout at the Ashern Open House?	Public and Indigenous Engagement	
No FN agreed to any channel at the Open House. There was no consultation.	Public and Indigenous Engagement	
Does the province provide funding for the FN to secure expertise to analyze the reports findings, and conclustions?	Public and Indigenous Engagement	
High level discussions are required, Chief to Premier. The community wants to return home. What contracts are there for FNs?	Public and Indigenous Engagement	
IRTC consultation process does not inlcude the grass roots people. Those who fish, farm, hunt, need to be at consultation table.	Public and Indigenous Engagement	
What are the time lines, what are the benefits to the FNs? Only 8 labourer jobs were hired in 2011 no heavy equipment operators from FNs got jobs. FNs need a guarantee they will get benefits from work on the project.	Public and Indigenous Engagement	
Is this meeting consultation?	Public and Indigenous Engagement	
This is an IRTC meeting and is a good start on dialogue. The IRTC has not endorsed the project. Government people are here to answer questions. If the channels prevent flooding from happending we need to talk.	Public and Indigenous Engagement	
This is a done deal. This is the first time we have been consulted. Why did you not consult from the start? This is no different than 2011. This meeting is pointless.	Public and Indigenous Engagement	
Pinay can no longer be party to the streamlined consultation process that has been facilitated by the IRTC and is not party to the August 2017 Crown Aboroginal consultation agreement.	Public and Indigenous Engagement	
The Fairford Water Control Structure has affected the Lake St. Martin communities for 50 years. These oustanding issues need to be resolved. IRTC sent a resolution making it clear that these issues need to be resolved.	CSA	
Government must compensate from previous events. Past issues must be resolved such as loss of hay lands, loss of farming lands, fluctuation in Lake Pinemuta impacting muskrat trapping on lake and surrounding wetlands. Changing water levels make it more difficult for commercial fishers to access Lake St. Martin.	CSA	

Table 5A-11
Pinaymootang First Nation

Comment	Related EIS Section	Applicable VC Chapter(s)
Fairford River Water Control Structure destroyed our community and wildlife habitat, affected our way of life, and caused diseases such as diabetes. There was no consideration of us. Channels will have a big effect on our community and will result in flooding our community.	CSA	
Why do you (MI) not pay us for the damages you (MI) have already done to us before you spend any money on this project? You (MI) have not fixed the damaged roads from the flood.	CSA	
The 2014 BCR and IRTC Resolution must be honoured?	CSA	
Fix the outstanding issues associated with the Fairford River Water Control Structure. If you fix those issues, we would be more agreeable to your project.	CSA	
Is government still seaking an easement?	CSA	
If the alignment is changed, is easement still required?	CSA	
Provide correspondence that the easement is still required?	CSA	
Consultation cannot occur until oustanding issues are resolved.	CSA	
Community leaders have signed the 806 ft easement without talking to the community.	CSA	
Compensation is required. LSM was the most affected. Commercial fishers must be compensated. Do not build this until we are compensated for the FRWCS. We need a voice at the IRTC.	CSA	
Neither the province nor Federal Government does anything to manage Pineimuta Lake. No project without consultation and compensation. LSM fishers got nothing and Lake Winnipeg fishers got compensation. Unauthorized fishers on Lake St. Martin and no one does anything.	CSA	
2011 operation of emergency channel destroyed fish spawning areas, affected whitefish and killed fish. Big commercial fishers on Lake Winnipeg got thousands of dollars in compensation but LSM fishers only got a little.	CSA	
Access to Lake St. Martin is gone because of fluctuating water levels. Bull rushes plug the access. Lake St. Martin is no longer safe due to fluctuating water levels as a result of the Fairford River Water Control Structure.	CSA	
Past issues (flooding, damage, lack of compenstation) must be addressed first.	CSA	
We want the commercial fishing licenses the province bought back.	CSA	

Table 5A-12
Seymorville NAC

Comment	Related EIS Section	Applicable VC Chapter(s)
If water treatment costs rise are you prepared to provide appropriate compensation?	Physical Environment	Groundwater and Surface Water
Potential effects to Lake Winnipeg water levels?	Physical Environment	Groundwater and Surface Water
What assurances can you make that the additional dirt, debris and microorganisms you allow into Lake Winnipeg will not have a negative impact on water treatment processes and associated costs?	Physical Environment	Groundwater and Surface Water
What assurances can you provide to the community that the additional water will not directly impact our community during storms?	Physical Environment	Groundwater and Surface Water
What information / research shows the project would have minimal effects on Lake Winnipeg?	Physical Environment	Groundwater and Surface Water
Who will compensate commercial local fishers if there are negative impacts?	Aquatic Environment	Fish and Fish Habitat
What assurances can you make that the additional dirt, debris and microorganisms you allow into Lake Winnipeg will not have a negative impact on water treatment processes and associated costs?	Human Environment	Infrastructure and Services
Who will compensate commercial local fishers if there are negative impacts?	Indigenous Peoples	Traditional Land and Resource Use
How many reliable and objective sources were obtained prior to commencement of the project?	Project Description	
Are there funds available to the communities to investigate direct impacts?	Public and Indigenous Engagement	
Is there funding to help examine and develop a preventative strategy for the homes in our area of concern?	CSA	

Table 5A-13
Manitoba Metis Federation

Comment	Related EIS Section	Applicable VC Chapter(s)
Concerns over impacts about accommodation; Interested in economic benefits.	Human Environment	Infrastructure and Services
Manitoba response to SVS report (LSMEOC System) 4 months late, MMF lacks expertise to comment on Manitoba response to issues, MMF looking for economic opportunities, CEAA process, want clarification on consultation process INR/MI, Manitoba to provide consultation workplan.	Human Environment	Economy
Métis have same rights as FNs. Maps did not identify Metis Specific Resource Harvest Area. Definition of land use not consistent with Métis understanding of land use. Private lands may be used by Metis harvesters and there is no acknowledgment of that use. Metis not general public or stakeholders we are rights holders and can not be included in the general population.	Indigenous Peoples	Traditional Land and Resource Use
MMF agrees to flood protection plan. Metis have a concern over land use and indicated that Option C and D are in areas of significant use by Métis. How are serious concerns addressed about the channels if they negatively affect Metis users? Issue of First Nation Flood Liaison business cards.	Indigenous Peoples	Traditional Land and Resource Use
Full proper and meaningful consultation is required to understand the potential effects the project pose and not limited to the Metis Natural Resource Harvest Zone. MMF were not brought into the project at the outset and consulted late in this process; MMF input will have less impact on the conceptual design of the project. Métis specific information not assessed in the channel alignment selections. No clarity from MI if routes would be changed if significant impacts to Métis rights were to occur.	Indigenous Peoples	Traditional Land and Resource Use
Concerns with timelines as they will not allow MMF to have input on potential effects to Metis specific interests and rights. Use of terminology such as 'stakeholders 'unacceptable as Metis has constitutionally protected rights, CEAA process only provides minimal funds MMF need a certain level of funding to consult their community. MMF lacks trust in government doing TKS; MMF have their own consultants they use.	Indigenous Peoples	Traditional Land and Resource Use
MMF recognized resource mapping plan has similar elements as a consultation plan and has capacity issues to do this. MMF has experience with other government agencies doing engagement and results were poor. If MMF had internal capacity it would reduce the need for outside consultants. Metis methodology for data collection is Metis specific and any sharing of that would need to be endorsed by Metis executive. Success of the resource mapping proposal is linked to the money that is allocated.	Indigenous Peoples	Traditional Land and Resource Use
Extra time could be used by the MMF to consult with the Metis community and begin to collect information on the resource use study. Concern that assessing and mitigating the impacts of the project on the rights, claims and interests of the Manitoba Metis community may be at risk and failure to recognize and consider these impacts will put a strain on the EA process which can result in delays in the construction timeline.	Indigenous Peoples	Traditional Land and Resource Use
Meeting was on the IOA for the LSMEOC but the MMF made it clear the IOA and permanent channel project are not separate as the area of the resource mapping proposal will cover both proposals and the MMF method to determine traditional Metis specific information. Need formal documentation on the permanent channel project and the time lines for the project. Data collected and available today could be applied to the permanent channel project. Without a budget moving forward is problematic.	Indigenous Peoples	Traditional Land and Resource Use
Métis have same rights as FNs. Maps did not identify Metis Specific Resource Harvest Area. Definition of land use not consistent with Métis understanding of land use. Private lands may be used by Metis harvesters and there is no acknowledgment of that use. Metis not general public or stakeholders we are rights holders and can not be included in the general population.	Public and Indigenous Engagement	

Table 5A-13
Manitoba Metis Federation

Comment	Related EIS Section	Applicable VC Chapter(s)
Full proper and meaningful consultation is required to understand the potential effects the project pose and not limited to the Metis Natural Resource Harvest Zone. MMF were not brought into the project at the outset and consulted late in this process; MMF input will have less impact on the conceptual design of the project. Métis specific information not assessed in the channel alignment selections. No clarity from MI if routes would be changed if significant impacts to Métis rights were to occur.	Public and Indigenous Engagement	
Concerns with timelines as they will not allow MMF to have input on potential effects to Metis specific interests and rights. Use of terminology such as 'stakeholders 'unacceptable as Metis has constitutionally protected rights, CEAA process only provides minimal funds MMF need a certain level of funding to consult their community. MMF lacks trust in government doing TKS; MMF have their own consultants they use.	Public and Indigenous Engagement	
MMF recognized resource mapping plan has similar elements as a consultation plan and has capacity issues to do this. MMF has experience with other government agencies doing engagement and results were poor. If MMF had internal capacity it would reduce the need for outside consultants. Metis methodology for data collection is Metis specific and any sharing of that would need to be endorsed by Metis executive. Success of the resource mapping proposal is linked to the money that is allocated.	Public and Indigenous Engagement	
Issue related to road contracts and Manitoba's commitment to engage in good faith; no information provided to MMF in response to their questions at January 2018 meeting, want confirmation when consultation will begin.	Public and Indigenous Engagement	
Manitoba response to SVS report (LSMEOC System) 4 months late, MMF lacks expertise to comment on Manitoba response to issues, MMF looking for economic opportunities, CEAA process, want clarification on consultation process INR/MI, Manitoba to provide consultation workplan.	Public and Indigenous Engagement	

Table 5A-14
Ebb and Flow First Nation

Comment	Related EIS Section	Applicable VC Chapter(s)
How will the project affect commercial fisheries?	Physical Environment	Groundwater and Surface Water
What about increased sediment loads into Lake Manitoba?	Physical Environment	Groundwater and Surface Water
Will the channel spread zebra mussels to Lake Manitoba?	Physical Environment	Groundwater and Surface Water
Past flooding of EFFN by the operations of the Portage diversion resulted in flooding in 2011 and 2014.	Physical Environment	Groundwater and Surface Water
Fish were stranded in the emergency channel.	Aquatic Environment	Fish and Fish Habitat
How will the project affect commercial fisheries?	Aquatic Environment	Fish and Fish Habitat
What about increased sediment loads into Lake Manitoba?	Aquatic Environment	Fish and Fish Habitat
Will the channel spread zebra mussels to Lake Manitoba?	Aquatic Environment	Fish and Fish Habitat
Our way of life will be disturbed and do not want further disruption. Losing our language and we are trying to save our culture. The land base of our community must be addressed for our future culture and language. Areas where our ancestors picked berries have been affected. Will need to be a lot of dialogue even though the project may not affect us the same as other First Nations.	Terrestrial Environment	Vegetation and Wetlands
A moose survey this past winter with the wildlife biologists with Sustainable Development saw some signs but only 2 moose in the entire area.	Terrestrial Environment	Wildlife and Wildlife Habitat
An aerial moose survey in the area of the proposed channel only saw 2 moose in the entire area. Duck Mountain moose hunting has been closed for 6 years.	Terrestrial Environment	Wildlife and Wildlife Habitat
There is previous damage to homes because of flooding of the reserve. House inspections did not account for mould to develop in other homes over time since the flooding. Pumps were ruined. Community members are sick and falling down, diabetes, respiratory issues due to mould. Want a meeting to get answers for these issues.	Human Environment	Health
All we get is back and forth between the Federal and Provincial governments. We had individual house owners go out and get loans on their own to fix the mould problems in their homes. The ground is so saturated we cannot use septic fields we have to use holding tanks.	Human Environment	Health
The mould in homes, respiratory issues, diabetes. Not opposed to the project. The project might be a great idea to deal with lake levels but we can not support it until our issues are addressed and adequately compensated for damages from past flooding. We need the provincial representative whom we can talk with.	Human Environment	Health
How will the project affect commercial fisheries?	Indigenous Peoples	Traditional Land and Resource Use
There are important community values that need to be recognized and protected.	Indigenous Peoples	Traditional Land and Resource Use
All First Nations are unique. Ebb and Flow has different values than other First Nations. Important that you deal fairly with those First Nations on Lake St. Martin who have been most affected and we want to be sure that takes place.	Indigenous Peoples	Traditional Land and Resource Use
Ebb and Flow worked with Hydro on the Bipole III project and told them their line would have a negative effect on a trapping area and they did not listen and put the line right where we told them not to. We used to trap rabbits in that area.	Indigenous Peoples	Traditional Land and Resource Use
Our way of life will be disturbed and do not want further disruption. Losing our language and we are trying to save our culture. The land base of our community must be addressed for our future culture and language. Areas where our ancestors picked berries have been affected. Will need to be a lot of dialogue even though the project may not affect us the same as other First Nations.	Indigenous Peoples	Traditional Land and Resource Use
We have a dyke in our community. What are you going to do about the dyke? We have lost land and none was offered to make up for that. Give us land in Winnipeg. The ball diamonds are lost and we want our lands back the way they were. We want to know how you will resolve these issues.	Indigenous Peoples	Traditional Land and Resource Use
Seventy percent of our lands were flooded and we received nothing. The northern communities got land and new communities. What did we get?	Indigenous Peoples	Traditional Land and Resource Use
This project is in Treaty 2 territory.	Indigenous Peoples	Traditional Land and Resource Use

Table 5A-14
Ebb and Flow First Nation

Comment	Related EIS Section	Applicable VC Chapter(s)
An aerial moose survey in the area of the proposed channel only saw 2 moose in the entire area. Duck Mountain moose hunting has been closed for 6 years.	Indigenous Peoples	Traditional Land and Resource Use
Why are the First Nations on Lake Manitoba not included in the emergency channel consultation process?	Project Description	
Without this project, we could be devastated by another 2011 or 2014 flood. Project benefits, but must look at everything and other First Nations and the farmers' whose lands you will be taking.	Project Description	
Past flooding of EFFN by the operations of the Portage diversion resulted in flooding in 2011 and 2014.	Project Description	
The environmental assessment requires data. What data do you use?	Project Description	
Why is the project needed?	Project Description	
What is the slope of the channels?	Project Description	
How would the channel be operated?	Project Description	
Will these channels be operated all the time?	Project Description	
Are these channels a spring only operation?	Project Description	
Hydro has control over all the lakes and water levels. In 2011 Winnipeg was prepared and protected and we got nothing. We did not know the water was coming. I was at meetings and I was told that the province couldn't give information because the meter was broken. They lied to us. There was an election coming in 2011 so it was easier to flood us than to let Winnipeg get flooded. If they had let Winnipeg flood it would have costs billions. No one came to our community. Hydro runs the lake levels.	Project Description	
Why are the First Nations on Lake Manitoba not included in the emergency channel consultation process?	Public and Indigenous Engagement	
There are important community values that need to be recognized and protected.	Public and Indigenous Engagement	
All First Nations are unique. Ebb and Flow has different values than other First Nations. Important that you deal fairly with those First Nations on Lake St. Martin who have been most affected and we want to be sure that takes place.	Public and Indigenous Engagement	
Ebb and Flow worked with Hydro on the Bipole III project and told them their line would have a negative effect on a trapping area and they did not listen and put the line right where we told them not to. We used to trap rabbits in that area.	Public and Indigenous Engagement	
Our way of life will be disturbed and do not want further disruption. Losing our language and we are trying to save our culture. The land base of our community must be addressed for our future culture and language. Areas where our ancestors picked berries have been affected. Will need to be a lot of dialogue even though the project may not affect us the same as other First Nations.	Public and Indigenous Engagement	
Without this project, we could be devastated by another 2011 or 2014 flood. Project benefits, but must look at everything and other First Nations and the farmers' whose lands you will be taking.	Public and Indigenous Engagement	
Want the best for the other First Nation. Lake St. Martin's issues will need to be resolved. This looks like a good path that we have started.	Public and Indigenous Engagement	
There was a lack of timely notification to EFFN for the operation of the diversion and subsequent flooding.	Public and Indigenous Engagement	
There is previous damage to homes because of flooding of the reserve. House inspections did not account for mould to develop in other homes over time since the flooding. Pumps were ruined. Community members are sick and falling down, diabetes, respiratory issues due to mould. Want a meeting to get answers for these issues.	Public and Indigenous Engagement	
Are Sandy Bay, Skownan and O-Chi-Chak-Ko-Sipi included in this process?	Public and Indigenous Engagement	
We want a meeting with someone to address these outstanding issues.	Public and Indigenous Engagement	
EFFN is not part of the IRTC who are involved in this project.	Public and Indigenous Engagement	
This project is in Treaty 2 territory.	Public and Indigenous Engagement	

Table 5A-14
Ebb and Flow First Nation

Comment	Related EIS Section	Applicable VC Chapter(s)
There is previous damage to homes because of flooding of the reserve. House inspections did not account for mould to develop in other homes over time since the flooding. Pumps were ruined. Community members are sick and falling down, diabetes, respiratory issues due to mould. Want a meeting to get answers for these issues.	CSA	
Operation of the Portage Diversion saved billions in damages to Winnipeg; First Nations east of PTH 6 received million dollar settlements and EFFN got nothing.	CSA	
We want a meeting with someone to address these outstanding issues.	CSA	
2011 issues remain unresolved. EFFN has received no compensation for the devastation of the reserve. EFFN want to talk with people who can resolve these past issues. The flood of 2011 continues to impact our community. Manitoba flooded the Reserve by operating the Portage Diversion without warning EFFN.	CSA	
The past flooding issues from 2011 are a serious concern to our communities and they must be addressed.	CSA	
We have a dyke in our community. What are you going to do about the dyke? We have lost land and none was offered to make up for that. Give us land in Winnipeg. The ball diamonds are lost and we want our lands back the way they were. We want to know how you will resolve these issues.	CSA	
We are asking for resolution of our issues. The Federal and Provincial governments need to deal with our issues. The Federal governments say it is a provincial issue because province was responsible for the flooding and the province says it is a Federal responsibility.	CSA	
Seventy percent of our lands were flooded and we received nothing. The northern communities got land and new communities. What did we get?	CSA	
I understand that you represent the proposed channel project. Who would be the people to deal with in regards to the 2011 flood issues?	CSA	
All we get is back and forth between the Federal and Provincial governments. We had individual house owners go out and get loans on their own to fix the mould problems in their homes. The ground is so saturated we cannot use septic fields we have to use holding tanks.	CSA	
Hydro has control over all the lakes and water levels. In 2011 Winnipeg was prepared and protected and we got nothing. We did not know the water was coming. I was at meetings and I was told that the province couldn't give information because the meter was broken. They lied to us. There was an election coming in 2011 so it was easier to flood us than to let Winnipeg get flooded. If they had let Winnipeg flood it would have costs billions. No one came to our community. Hydro runs the lake levels.	CSA	
The mould in homes, respiratory issues, diabetes. Not opposed to the project. The project might be a great idea to deal with lake levels but we can not support it until our issues are addressed and adequately compensated for damages from past flooding. We need the provincial representative whom we can talk with.	CSA	
The back and forth between the Federal and Provincial government has not resolved these issues. The communities need to speak to someone who has the authority to deal with these issues. That person must be at a leadership role, no disrespect intended to you; the communities need to talk with the decision maker.	CSA	
If our issues are not resolved, our next step will be through the courts. The issues from 2011 are not closed. If Dave Hicks and RDG cannot address our issues we will go to Ottawa and if no satisfaction we will use the courts.	CSA	

Table 5A-15
Kinonjeoshtegon First Nation

Comment	Related EIS Sections	Applicable VC Chapter(s)
What about pesticides entering Lake Winnipeg from Lake Manitoba? What about pesticides from agricultural lands entering Lake St. Martin?	Physical Environment	Groundwater and Surface Water
What about debris similar to the emergency operations?	Physical Environment	Groundwater and Surface Water
Kinonjeoshtegon does not believe the lake level would rise only by 2 or so inches.	Physical Environment	Groundwater and Surface Water
What about pesticides entering Lake Winnipeg from Lake Manitoba? What about pesticides from agricultural lands entering Lake St. Martin?	Human Environment	Health
Do not agree with this process. Kinonjeoshtegon people have our own language and words. Features on the map are not in our language.	Indigenous Peoples	Traditional Land and Resource Use
Peguis is encroaching into our traditional use area and there is no consultation with us. They have TLE land selections in our traditional use area and no one consults with us on their land selections. This has been brought to Manitoba's attention (SD and INR) before. Where is the fiduciary responsibility of the Federal Government why are they not involved?	Indigenous Peoples	Traditional Land and Resource Use
Peguis applied for a 1 acre communal cabin in our traditional use area near Lake St. George. We have contacted the Crown Lands representative in regards to that cabin. A meeting with Peguis may be in order to discuss the cabin and our areas.	Indigenous Peoples	Traditional Land and Resource Use
There are Treaty Five communities on Lake Winnipeg, where are they, are you going to talk to all Treaty Five communities?	Public and Indigenous Engagement	
Do not agree with this process. Kinonjeoshtegon people have our own language and words. Features on the map are not in our language.	Public and Indigenous Engagement	
Uncertainty with the IRTC leading the consultation for Jackhead. The community is working with DFO on a submission regarding Lake Winnipeg.	Public and Indigenous Engagement	

Table 5A-16
Peguis First Nation

Comment	Related EIS Section	Applicable VC Chapter(s)
Upgrade of Idylewild Road and channel project may affect access to the Mantago Lake, change hydrology in the general area, affect the ability to trap and hunt. Peguis has not been consulted on these issues yet.	Physical Environment	Groundwater and Surface Water
Will more mercury be in the water coming through the channels?	Physical Environment	Groundwater and Surface Water
There will be negative effects to Lake Winnipeg. Increased lake levels will result in Lake Winnipeg backing-up down the Fisher River into Peguis during periods of high winds, flooding the community.	Physical Environment	Groundwater and Surface Water
Lake Manitoba channel will cut off wildlife movement because it will be full of water. Will the channel allow invasive species to spread?	Aquatic Environment	Fish and Fish Habitat
Peguis members use the access road (Idelywild) for hunting and trapping, medicine gathering (seneca root and berries).	Terrestrial Environment	Vegetation and Wetlands
Lake Manitoba channel will cut off wildlife movement because it will be full of water. Will the channel allow invasive species to spread?	Terrestrial Environment	Wildlife and Wildlife Habitat
Lake Manitoba channel will cut off wildlife movement because it will be full of water. Will the channel allow invasive species to spread?	Terrestrial Environment	Wildlife and Wildlife Habitat
Upgrade of Idylewild Road and channel project may affect access to the Mantago Lake, change hydrology in the general area, affect the ability to trap and hunt. Peguis has not been consulted on these issues yet.	Indigenous Peoples	Traditional Land and Resource Use
The level of consultation with Peguis should be appropriate, as the proposed project is located in Peguis' traditional use area (larger than the TLE notice area).	Indigenous Peoples	Traditional Land and Resource Use
IRTC to undertake required work towards the establishment of the Lake St. Martin Joint Venture to enable the undertaking towards the objectives referenced in this resolution. (Crown Consultations individual community traditional land use study).	Indigenous Peoples	Traditional Land and Resource Use
Protect hunting, trapping, fishing, recreational use areas, medicinal plant picking, berry picking, eagle feather gathering.	Indigenous Peoples	Traditional Land and Resource Use
Consultation is to be organized directly with Peguis First Nation. The meeting organized by Golder was not well attended and does not represent Peguis' interests. Peguis has existing traditional land use map of the area.	Indigenous Peoples	Traditional Land and Resource Use
The project will affect traditional uses in the area. Peguis members use the Idelywild road for hunting. Highrock Lake Mantago Lake are important areas for the community.	Indigenous Peoples	Traditional Land and Resource Use
There will be negative effects to Lake Winnipeg. Increased lake levels will result in Lake Winnipeg backing-up down the Fisher River into Peguis during periods of high winds, flooding the community.	Indigenous Peoples	Traditional Land and Resource Use
Peguis members use the access road (Idelywild) for hunting and trapping, medicine gathering (seneca root and berries).	Indigenous Peoples	Traditional Land and Resource Use
Is there a final flood mitigation report available? When is the document to be completed?	Project Description	
Clarify the benefits of the proposed project.	Project Description	
Outstanding flood issues must be resolved before discussing the proposed channel. Future discussions must involve partnership with the IRTC.	Public and Indigenous Engagement	
Upgrade of Idylewild Road and channel project may affect access to the Mantago Lake, change hydrology in the general area, affect the ability to trap and hunt. Peguis has not been consulted on these issues yet.	Public and Indigenous Engagement	
The level of consultation with Peguis should be appropriate, as the proposed project is located in Peguis' traditional use area (larger than the TLE notice area).	Public and Indigenous Engagement	
Consultation is to be organized directly with Peguis First Nation. The meeting organized by Golder was not well attended and does not represent Peguis' interests. Peguis has existing traditional land use map of the area.	Public and Indigenous Engagement	
Outstanding flood issues must be resolved before discussing the proposed channel. Future discussions must involve partnership with the IRTC.	CSA	

Table 5A-17
Norway House NAC

Comment	Related EIS Section	Applicable VC Chapter(s)
NH NAC has concerns related to effects to Lake Winnipeg water levels, water quality, commercial fishing, debris, recreation, domestic water supply.	Indigenous Peoples	Traditional Land and Resource Use
The community does not have information about the project, and cannot comment until information is provided.	Project Description	
NH NAC has concerns related to effects to Lake Winnipeg water levels, water quality, commercial fishing, debris, recreation, domestic water supply.	Project Description	
Council request information related to construction and design of the flood protection channel, expected flows and estimated water levels resulting from the more rapid and direct flows of water being diverted into Lake Winnipeg through the channel, environment and wildlife studies. A presentation to council would be more suitable way to provide information.	Project Description	
The community does not have information about the project, and cannot comment until information is provided.	Public and Indigenous Engagement	
CAO suggested MI attend the Association of Northern Affairs Communities Annual meeting in August 2018 and provide information on the project to all NR NAC communities that may be interested.	Public and Indigenous Engagement	

Table 5A-18
Black River First Nation

Comment	Related EIS Section	Applicable VC Chapter(s)
Increased water levels on Lake Winnipeg will result in erosion of our lands. Neither the Federal nor Provincial government take responsibility for the erosion damage to our lands.	Physical Environment	Geology and Soil
Why is the project required? Is additional water going to be put into Lake Winnipeg?	Physical Environment	Groundwater and Surface Water
How will the project affect water levels on Lake Winnipeg?	Physical Environment	Groundwater and Surface Water
Increased water levels on Lake Winnipeg will result in erosion of our lands. Neither the Federal nor Provincial government take responsibility for the erosion damage to our lands.	Physical Environment	Groundwater and Surface Water
With these channels coming into the Lake St. Martin what will it do to the lake?	Physical Environment	Groundwater and Surface Water
What is the LSM water level today?	Physical Environment	Groundwater and Surface Water
BRFN is concerned that the channels will bring invasive species into Lake Winnipeg. BRFN concerns on effects of zebra mussels on the water treatment plant.	Physical Environment	Groundwater and Surface Water
What happens to the creeks the channel cuts off?	Physical Environment	Groundwater and Surface Water
What were effects on Lake Winnipeg by operating the emergency channel?	Physical Environment	Groundwater and Surface Water
BRFN is concerned that the channels will bring invasive species into Lake Winnipeg. BRFN concerns on effects of zebra mussels on the water treatment plant.	Aquatic Environment	Fish and Fish Habitat
Commercial fishing on Lake St. Martin is an important economic activity and must be protected. Fishing on LSM is poor, species have changed. Carp are getting into LSM and doing damage. Pickerel are hard to find.	Aquatic Environment	Fish and Fish Habitat
Access to Lake St. Martin for fishing is a concern. Access was supposed to be improved in 2011 but never was.	Aquatic Environment	Fish and Fish Habitat
BRFN commercial fishers talk of fishing in the area. Other communities hunt in our area. We share our areas.	Aquatic Environment	Fish and Fish Habitat
What were effects on Lake Winnipeg by operating the emergency channel?	Aquatic Environment	Fish and Fish Habitat
What happens to the creeks the channel cuts off?	Terrestrial Environment	Vegetation and Wetlands
BRFN commercial fishers talk of fishing in the area. Other communities hunt in our area. We share our areas.	Terrestrial Environment	Wildlife and Wildlife Habitat
Increased water levels on Lake Winnipeg will result in erosion of our lands. Neither the Federal nor Provincial government take responsibility for the erosion damage to our lands.	Indigenous Peoples	Traditional Land and Resource Use
The province provides assistance to private landowners but not to First Nations.	Indigenous Peoples	Traditional Land and Resource Use
Were First Nations people involved in the baseline data collection? FNs know the land. Government consultants give government the information government is looking for.	Indigenous Peoples	Traditional Land and Resource Use
Commercial fishing on Lake St. Martin is an important economic activity and must be protected. Fishing on LSM is poor, species have changed. Carp are getting into Lake St. Martin and doing damage. Pickerel are hard to find.	Indigenous Peoples	Traditional Land and Resource Use
Access to Lake St. Martin for fishing is a concern. Access was supposed to be improved in 2011 but never was.	Indigenous Peoples	Traditional Land and Resource Use
What happens to the creeks the channel cuts off?	Indigenous Peoples	Traditional Land and Resource Use
Have you talked to the communities on Lake St. Martin? What is the big protest about?	Indigenous Peoples	Traditional Land and Resource Use
BRFN may use consultation funding to get commercial fishers to participate.	Indigenous Peoples	Traditional Land and Resource Use
BRFN commercial fishers talk of fishing in the area. Other communities hunt in our area. We share our areas.	Indigenous Peoples	Traditional Land and Resource Use
Are there maps of the project area before any development? It would have been useful to see the area prior to the developments.	Project Description	
What were effects on Lake Winnipeg by operating the emergency channel?	Project Description	
How does the project relate to Manitoba Hydro, Lake Winnipeg Regulation and 8-mile channel?	Project Description	
Why is the project required? Is additional water going to be put into Lake Winnipeg?	Project Description	

Table 5A-18
Black River First Nation

Comment	Related EIS Section	Applicable VC Chapter(s)
If the project receives a licence will Hydro gets its licence for regulating water levels on Lake Winnipeg?	Project Description	
When will work start and what is completion date?	Project Description	
How long is the access road?	Project Description	
What channels exist? Does the Lake Manitoba channel exist?	Project Description	
Government-hired consultants are biased toward the government and there is a lack of trust with information that is provided.	Public and Indigenous Engagement	
Black River First Nation will be reaching out to other First Nations to be sure they are being involved and they have a full understanding of what the project is going to do.	Public and Indigenous Engagement	
Are you ignoring First Nations on Lake Winnipeg?	Public and Indigenous Engagement	
How will the consultation plan process work? Will it run until it is completed?	Public and Indigenous Engagement	
Will the consultation plan and budget allow BRFN to hire experts to consider reports that are being provided?	Public and Indigenous Engagement	
Where is the project at? Can we schedule another meeting?	Public and Indigenous Engagement	
When can BRFN start discussing this project with community members related to Consultation process and budget?	Public and Indigenous Engagement	
Have you talked to the communities on Lake St. Martin? What is the big protest about?	Public and Indigenous Engagement	
How many First Nations on Lake Winnipeg have you contacted?	Public and Indigenous Engagement	
BRFN may use consultation funding to get commercial fishers to participate.	Public and Indigenous Engagement	
Was the IRTC process and Open Houses at Ashern useful?	Public and Indigenous Engagement	
How is IRTC process to work if one or more communities were to withdraw?	Public and Indigenous Engagement	
You are trying to sell that information to us as that is Manitoba's position.	Public and Indigenous Engagement	
What happens to the project if one community opposes the project?	Public and Indigenous Engagement	
Where are we at with BRFN? What does Manitoba propose?	Public and Indigenous Engagement	
Open community meetings may not be effective because of BRFN culture. Have a number of tables with specific groups at each table with government representatives to focus on the project. Manitoba should review the planning process used for the East Side Planning Initiative for options to consider as process.	Public and Indigenous Engagement	

Table 5A-19
Round 1

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Concerned about possible loss of well water volume.	Physical Environment	Groundwater and Surface Water
Worried about well and septic system.	Physical Environment	Groundwater and Surface Water
Concerned about well water quality and drainage.	Physical Environment	Groundwater and Surface Water
Concerned about contamination of groundwater and stopping flowing wells.	Physical Environment	Groundwater and Surface Water
The transfer of contamination from Lake Manitoba will increase.	Physical Environment	Groundwater and Surface Water
Will an extra outlet reduce frazzle ice at the mouth of Dauphin River? What is the variance of flow between new channel and Dauphin River?	Physical Environment	Groundwater and Surface Water
Concerned about water quality.	Physical Environment	Groundwater and Surface Water
Concerned about the future portage diversion rebuild and increase in capacity.	Physical Environment	Groundwater and Surface Water
Concerned about groundwater and surface water interaction.	Physical Environment	Groundwater and Surface Water
Concerned about flow out water from Lake Manitoba affecting ground sources.	Physical Environment	Groundwater and Surface Water
Will pollution that comes from the portage diversion with spring run off or heavy rain be monitored?	Physical Environment	Groundwater and Surface Water
Will water be seeping out of the channel over time on adjacent land and how will it be dealt with?	Physical Environment	Groundwater and Surface Water
Concerned about operating changes to the Portage diversion once channels are built (impacts to adjacent lands from seepage and higher levels of salinity), and environmental impacts to Lake Manitoba each time the diversion is run (more debris and silt along the shore).	Physical Environment	Groundwater and Surface Water
Lake Manitoba channel inlet and outlet are located in spawning bays.	Aquatic Environment	Fish and Fish Habitat
We have already had an unfavourable impact by the Portage Diversion into Lake Manitoba on our fish population. Don't mess with our fish.	Aquatic Environment	Fish and Fish Habitat
Concerned about effects on wildlife, including birds, mammals, fish and reptiles.	Aquatic Environment	Fish and Fish Habitat
Project will have a devasting impact on commercial fisheries: loss of 100 year old industry; loss of fish habitat; loss of dependency on region; loss of wildlife.	Aquatic Environment	Fish and Fish Habitat
No more beaches, loss of medicines, beaches, fish, moose, etc.	Aquatic Environment	Fish and Fish Habitat
Concerned about migration, wildlife, use of traditional medicine, spawning of fish.	Aquatic Environment	Fish and Fish Habitat

Table 5A-19
Round 1

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Will there be breeding ground for carp/zebra mussels, etc. in the channels?	Aquatic Environment	Fish and Fish Habitat
Concerned about effects on wildlife, including birds, mammals, fish and reptiles.	Terrestrial Environment	Wildlife and Wildlife Habitat
Wildlife is important to us. Ducks and geese nest in our area. We have birds and small animals all around us which will be disturbed.	Terrestrial Environment	Wildlife and Wildlife Habitat
Concern for animals needing to evacuate project area.	Terrestrial Environment	Wildlife and Wildlife Habitat
Project will have a devasting impact on commercial fisheries: loss of 100 year old industry; loss of fish habitat; loss of dependency on region; loss of wildlife.	Terrestrial Environment	Wildlife and Wildlife Habitat
No more beaches, loss of medicines, beaches, fish, moose, etc.	Terrestrial Environment	Wildlife and Wildlife Habitat
Concerned about migration, wildlife, use of traditional medicine, spawning of fish.	Terrestrial Environment	Wildlife and Wildlife Habitat
Wildlife (deer) historically cross Birch Bay Creek at the mouth on Lake St. Martin. What effect will the channel have on them?	Terrestrial Environment	Wildlife and Wildlife Habitat
Why would the best route for a channel be where the best agricultural land is?	Human Environment	Land and Resource Use
Safety concerns for childern in close proximity to the channel.	Human Environment	Land and Resource Use
Timeline and financial concerns. Would like advanced notice to modify our farming operation.	Human Environment	Land and Resource Use
Use another route. Should not be uprooting established farms.	Human Environment	Land and Resource Use
Concerned about loss of taxable land. Why take the longer route?	Human Environment	Land and Resource Use
Loss of agriculture land at the expense of small environmental benefit. Not balanced, not considering agriculture.	Human Environment	Land and Resource Use
Concerned if the project is not done. The number of acres destroyed from previous floods around Lake Manitoba and Lake St. Martin are huge.	Human Environment	Land and Resource Use
Project will have a devasting impact on commercial fisheries: loss of 100 year old industry; loss of fish habitat; loss of dependency on region; loss of wildlife.	Human Environment	Land and Resource Use
Concerned about water and land security. I have property on both Lake Manitoba and Lake St. Martin (cottage development).	Human Environment	Land and Resource Use

Table 5A-19
Round 1

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Loss of livelihood and commercial fishing. People oppressed, distressed, stress, lonely and homeless.	Human Environment	Land and Resource Use
Concerned about unwanted trespassing on bank for hunting water foul, etc. How can this be controlled?	Human Environment	Land and Resource Use
How will we know or foresee all the extra problems that may arise later and how would those be compensated for? This channel will directly affect our livelihood forever once started; a lifetime of work lost. What we benefit now will be lost in taxes.	Human Environment	Land and Resource Use
Inconvenience of extra travelling to access land to the east.	Human Environment	Infrastructure and Services
No concern for community or people that are affected.	Human Environment	Infrastructure and Services
Worried about well and septic system.	Human Environment	Infrastructure and Services
Concerned about well water quality and drainage.	Human Environment	Infrastructure and Services
Visibility to the north on PR 239 is very poor; therefore, an increase in traffic at this corner will make it more dangerous.	Human Environment	Infrastructure and Services
After the 2011 flood, we were told project would happen in 2016 to 2017 at latest. We were terrified of water levels in 2014 and 2017; emergency management communications are not good enough.	Human Environment	Health
No mention made on the impacts to First Nations. The most affected in project path will be Indigenous peoples who inhabit the area.	Indigenous Peoples	Traditional Land and Resource Use
No more beaches, loss of medicines, beaches, fish, moose, etc.	Indigenous Peoples	Traditional Land and Resource Use
Concerned about migration, wildlife, use of traditional medicine, spawning of fish.	Indigenous Peoples	Traditional Land and Resource Use
Fear of another flood like 2011 at Twin Lake Beaches, St. Laurent. Will the current government support us like the previous government did? That is, will we be compensated if an inundation occurs?	Project Description	
Political interest; the previous government has over $200 million committed to work on the Assiniboine River, east of Portage La Prairie. This work must be done as well so the burden of excess water can be shared equally between all Manitobans.	Project Description	
Use route 'G'; only requires one bridge.	Project Description	
What other outlet choices are there?	Project Description	
If the channel is put where proposed, for safety purposes, they should construct a bridge and keep Steeprock Highway at its existing location.	Project Description	

Table 5A-19
Round 1

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Let the water flow down the Assiniboine River when it was meant to flow.	Project Description	
Why would the best route for a channel be where the best agricultural land is?	Project Description	
The public would like to see why Route B isn't viable; there are no yard sites, no public, and it is a shorter distance.	Project Description	
My concerns are with how PR239 will meet with Highway 6.	Project Description	
Concerned about the magnitude of the project, but fully recognize the need for action.	Project Description	
These new channels promote the idea that water should be sent north to pollute our water.	Project Description	
Concerned about loss of taxable land. Why take the longer route?	Project Description	
This project will develop a whole new ecosystem. It will also change the environment in the lake system east of the outlet.	Project Description	
Start feasibility study on dredging Fairford River so it can better handle peak flows in the existing drainage system before the next catastrophe.	Project Description	
There is Insufficient flow capability.	Project Description	
Guidelines should be challenged and reviewed on a regular basis.	Project Description	
Environment damage from the 2011 flood was so destructive and operation of the portage diversion is constantly causing damage to Lake Manitoba.	Project Description	
Just get it done; follow operation guidelines.	Project Description	
Concerned that this is moving the problem somewhere else.	Project Description	
Support outlet channel project; however, this is worst possible route. What the Province and KGS is doing to our community is sickening. Most frustrating aspect of project is rerouting Hwy 239. Build bridge on Hwy 239 and keep it where it is.	Project Description	
Too devasting to record concerns from past flood in a few short lines. Doesn't seem to matter any way. Quality of life has been impacted.	Public and Indigenous Engagement	
Get this done as fast as possible.	Public and Indigenous Engagement	
Get it done; lower Lake Manitoba more than suggested, back to levels years ago.	Public and Indigenous Engagement	

Table 5A-19
Round 1

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
More consultation before Option D was chosen would have helped. We were not consulted with our own insights being honestly considered in decisions, only told what was happening.	Public and Indigenous Engagement	
There are environmental concerns when building new channels, but no concerns with environmental impact when in emergency flood situation.	Public and Indigenous Engagement	
Too much technical language when we ask plain language. There should be an information documentary that explains everthing so that when we look at storyboards we are better prepared. Please provide "wet cycle" article link.	Public and Indigenous Engagement	

Table 5A-20
Round 2

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Consideration should be given to archeological sites, water quality, air quality.	Physical Environment	Atmospheric Environment
Concerned about sand and sediment from Lake Manitoba and Watchorn Bay being carried by the Lake Manitoba channel and dropped into Lake St. Martin.	Physical Environment	Geology and Soil
Why is there reluctance to allow the water to drop below 810' asl? This is of concern for the shoreline.	Physical Environment	Geology and Soil
It seems that with the [Portage] diversion, Lake Manitoba receives excess water from Brandon and has lost natural protections (i.e. 100 year old willows and shoreline). It is becoming more and more difficult to live there. It doesn't appear that things will bounce back. Natural protection is gone.	Physical Environment	Geology and Soil
What material is being used in the channel?	Physical Environment	Geology and Soil
A lot of people are concerned about 812.5 ft and how it will affect the southern shore.	Physical Environment	Geology and Soil
Consideration given to impacts of not progressing with studies. Damage done to the thousands of acres along shores of Lake Manitoba during 2011 floods still being felt today. Large stands of trees lost, shoreline badly eroded and bullrushes have invaded land where before prairie grass existed. Ecosystems damaged and the only way to ensure they are not lost for good is to progress with the channels.	Physical Environment	Geology and Soil
How many years of monitoring will be done for this project?	Physical Environment	Groundwater and Surface Water
How is the area going to drain?	Physical Environment	Groundwater and Surface Water
Watchorn Bay is shallow; if water is drawn from there, the concern is that sediment would move.	Physical Environment	Groundwater and Surface Water
Will you drill down to assess the quality of water at different depths?	Physical Environment	Groundwater and Surface Water
Concerned that water will back up and affect Pineimuta Lake.	Physical Environment	Groundwater and Surface Water
Shallow aquifer (<60 ft) is better quality than deeper aquifers (>200 ft).	Physical Environment	Groundwater and Surface Water
What are the levels for Lake St. Martin?	Physical Environment	Groundwater and Surface Water
Drainage in our RM is substandard compared to other RMs. Will we be brought to Provincial standards?	Physical Environment	Groundwater and Surface Water
Shallow water in the area seems to have better quality than deeper wells – is this the case?	Physical Environment	Groundwater and Surface Water

Table 5A-20
Round 2

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Understand the project will affect wells within 3 km during construction.	Physical Environment	Groundwater and Surface Water
Is Lake St. Martin draining properly now?	Physical Environment	Groundwater and Surface Water
A lot of wells went dry in the 1980s. What if the ditch goes the other way toward the aquifer?	Physical Environment	Groundwater and Surface Water
How can Steeprock be a charged aquifer if water is flowing out the top?	Physical Environment	Groundwater and Surface Water
Concerned about impacts as the project continues (water and water quality, fish and fishing, land and land usage, animals, birds, etc.).	Physical Environment	Groundwater and Surface Water
Concerned about ground water quality/quantity	Physical Environment	Groundwater and Surface Water
Concerned about sand and sediment from Lake Manitoba and Watchorn Bay being carried by the Lake Manitoba channel and dropped into Lake St. Martin.	Physical Environment	Groundwater and Surface Water
Why has there been no study on Lake Winnipeg levels before setting the project operating guidelines?	Physical Environment	Groundwater and Surface Water
What about the areas upstream of the Project, farther west where creeks have been channelized and wetlands lost?	Physical Environment	Groundwater and Surface Water
Will there be more debris?	Physical Environment	Groundwater and Surface Water
If the channels were the best option, then what were the climate change considerations?	Physical Environment	Groundwater and Surface Water
After 2011 flood of Peguis Reserve, experts called the elders liars saying that water is not flowing to the reserve (but it was). This should be investigated.	Physical Environment	Groundwater and Surface Water
Has any work been done upstream? Will wetlands and creeks be affected?	Physical Environment	Groundwater and Surface Water
Consideration needs to be given to the entire watershed. Cannot look at one area and not at the entire system.	Physical Environment	Groundwater and Surface Water
Regarding the effects on the Assiniboine River, a couple from St. Francis Xavier indicated that since the Portage Diversion, the Assiniboine River has changed and is twice the size and more shallow.	Physical Environment	Groundwater and Surface Water
Why have no studies been conducted on Lake Winnipeg regarding what level to open the channel?	Physical Environment	Groundwater and Surface Water

Table 5A-20
Round 2

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
What is being done to assess the effects along the whole system from the Portage Diversion to Lake St. Martin?	Physical Environment	Groundwater and Surface Water
What will happen with seepage?	Physical Environment	Groundwater and Surface Water
When speaking to water levels like 810.5' and 812.5', where is this? It can vary on such a large lake.	Physical Environment	Groundwater and Surface Water
People are concerned about 812' asl.	Physical Environment	Groundwater and Surface Water
The long-term average lake level before the Fairford Water Control Structure (190X – 1961) is 812.5' asl.	Physical Environment	Groundwater and Surface Water
Water quality from the Assiniboine River should be part of this study.	Physical Environment	Groundwater and Surface Water
Looking at ways to minimize use of the Portage Diversion would be better for the project. It is a system; you can't just look at one part of it.	Physical Environment	Groundwater and Surface Water
Why is there reluctance to allow the water to drop below 810' asl? This is of concern for the shoreline.	Physical Environment	Groundwater and Surface Water
It seems that with the [Portage] diversion, Lake Manitoba receives excess water from Brandon and has lost natural protections (i.e. 100 year old willows and shoreline). It is becoming more and more difficult to live there. It doesn't appear that things will bounce back. Natural protection is gone.	Physical Environment	Groundwater and Surface Water
In 2011 a river in Peguis which usually empties into Lake Winnipeg was flowing backwards due to high water.	Physical Environment	Groundwater and Surface Water
Record of water levels are available on the Water Survey of Canada website. Historic data can be shown for the Westbourn and Steeprock stations.	Physical Environment	Groundwater and Surface Water
Sediment transport from the Portage Diversion is a concern. Sediment impact is affecting water levels by filling the lake and displacing water.	Physical Environment	Groundwater and Surface Water
People are noticing an increase in algae. Water quality in general is deteriorating.	Physical Environment	Groundwater and Surface Water
The Portage Diversion bypasses all of the wetlands, it just dumps right into Lake Manitoba. Wetlands filter and buffer.	Physical Environment	Groundwater and Surface Water

Table 5A-20
Round 2

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Consider making use of excess water when possible, rather than flushing it to the lakes. Some areas may flood, but others may be in a state of drought. Perhaps water should be made available to farmers when needed.	Physical Environment	Groundwater and Surface Water
Take a holistic watershed approach to water management.	Physical Environment	Groundwater and Surface Water
The Portage Diversion is sending contaminated water to Lake Manitoba. Water regulation is also an issue; let the lake drain down.	Physical Environment	Groundwater and Surface Water
What is the plan for all of the small lakes? Many are close to the channel. How will MI maintain them?	Physical Environment	Groundwater and Surface Water
What's being done for the entire watershed? What about the Portage Diversion and Lake St. Martin?	Physical Environment	Groundwater and Surface Water
What is the height of Lake St. Martin?	Physical Environment	Groundwater and Surface Water
What is going through the Fairford?	Physical Environment	Groundwater and Surface Water
Why not run the Shellmouth Dam to better manage the system?	Physical Environment	Groundwater and Surface Water
The City (Winnipeg) should get more of the water.	Physical Environment	Groundwater and Surface Water
Heard the Portage Diversion is at capacity. What is the Assiniboine River water level at? It seems like the Province forgot about that river.	Physical Environment	Groundwater and Surface Water
Is Lake Winnipeg higher than it should be?	Physical Environment	Groundwater and Surface Water
There was a big flood along Dauphin River road last winter. The issues with frazil ice were discussed.	Physical Environment	Groundwater and Surface Water
Need a Canada-wide and international management system of the waters.	Physical Environment	Groundwater and Surface Water
30% of the floodwaters are from Saskatchewan.	Physical Environment	Groundwater and Surface Water
Concern about drainage of wetlands.	Physical Environment	Groundwater and Surface Water
If the lake is 810.5 ft, but forecasting suggests flood event, how much water will the new channel dissipate of 810.5 ft and will it be enough?	Physical Environment	Groundwater and Surface Water
Are the flows 7,500 cfs? The time to dissipate the 2014 flood into the lake is a concern. How long does it take to move water through the Lake (e.g., water from Waterhen River)?	Physical Environment	Groundwater and Surface Water
Water at 810.5 ft in the South Basin?	Physical Environment	Groundwater and Surface Water

Table 5A-20
Round 2

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Don't know anything like this being done for the Portage Diversion. Water from the Assiniboine River entering Lake Manitoba is suspect; it affects the quality of Lake Manitoba water. Ways to minimize the use of the diversion would make the assessment easier. Are there ways to assure more water goes down the existing channel?	Physical Environment	Groundwater and Surface Water
Lake Manitoba is taking more water from other areas due to the Portage Diversion. There should be other ways of diverting water. Does high Lake Winnipegosis levels hurt?	Physical Environment	Groundwater and Surface Water
Concern about water levels in relation to cottages.	Physical Environment	Groundwater and Surface Water
Control structure at Fairford River is an issue; it does not flow unless it is at 813 ft?	Physical Environment	Groundwater and Surface Water
Will the new channel address natural flow?	Physical Environment	Groundwater and Surface Water
The operating range is 810.5 to 812.5 ft. Steve Topping kept the levels at 812.5 ft the last several years.	Physical Environment	Groundwater and Surface Water
When can the channel be opened?	Physical Environment	Groundwater and Surface Water
Massive loss of wetlands upstream and channelization of creeks is the cause of this project. Project addresses only symptoms. A fraction of the half-billion dollar budget could restore the wetlands.	Physical Environment	Groundwater and Surface Water
Consider effects of downstream and upstream watershed. Don't want another "Portage Diversion" causing headaches for others.	Physical Environment	Groundwater and Surface Water
Concerned about impacts to Lake Winnipeg.	Physical Environment	Groundwater and Surface Water
Consideration should be given to archeological sites, water quality, air quality.	Physical Environment	Groundwater and Surface Water
Consider the environmental impacts of using the Portage Diversion more when the Lake Manitoba and Lake St. Martin outlet channels are put into operation. The increased salinity on adjacent farmland and the affects of high water on Lake Manitoba and the negative impacts that has on areas around the lake.	Physical Environment	Groundwater and Surface Water
If someone has problems with decompression, is the province willing to drill a well to assume there will be equal water quality? What will you do?	Physical Environment	Groundwater and Surface Water
Concerned that the project will flush fish and micro organisms, and change shorelines.	Aquatic Environment	Fish and Fish Habitat

Table 5A-20
Round 2

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Fish come up Ditchfield Drain, all the way into Boundary Drain.	Aquatic Environment	Fish and Fish Habitat
In the spring, suckers follow the drains, then move into the ditches and follow the roads.	Aquatic Environment	Fish and Fish Habitat
Whitefish move from Lake Winnipeg, through Lake St. Martin (their main spawning area), and with high water go all the way to Lake Manitoba. Lots of fish are being caught on Lake Manitoba.	Aquatic Environment	Fish and Fish Habitat
Concerned that fishing will be threatened; leave as is.	Aquatic Environment	Fish and Fish Habitat
Concerned about impacts as the project continues (water and water quality, fish and fishing, land and land usage, animals, birds, etc.).	Aquatic Environment	Fish and Fish Habitat
Sucker fishing in project area in the spring.	Aquatic Environment	Fish and Fish Habitat
Fish move up Birch Creek to Woodale Drain. This will be cut off.	Aquatic Environment	Fish and Fish Habitat
There are fish in the creek at culverts in project area.	Aquatic Environment	Fish and Fish Habitat
Impacts to fisheries is important, specifically the loss of perch. People used to catch lots of perch, now it's just walleye and jackfish.	Aquatic Environment	Fish and Fish Habitat
Have studies been conducted on the 2011 flood and impacts to the fishery?	Aquatic Environment	Fish and Fish Habitat
Should look at how fish move to Lake Winnipeg (e.g., many favour perch on Lake Manitoba).	Aquatic Environment	Fish and Fish Habitat
There is a fish spawning area in Sturgeon Bay.	Aquatic Environment	Fish and Fish Habitat
Zebra mussels are concerning.	Aquatic Environment	Fish and Fish Habitat
Potential for zebra mussels to move to Lake Manitoba is an issue.	Aquatic Environment	Fish and Fish Habitat
Perch gone (very little) due to diversion into Lake Manitoba.	Aquatic Environment	Fish and Fish Habitat
Impacts to fishery not on board.	Aquatic Environment	Fish and Fish Habitat
Is the fish hatchery still at Dauphin River?	Aquatic Environment	Fish and Fish Habitat
Impacts to fishery including spawning.	Aquatic Environment	Fish and Fish Habitat
Who will make sure that the trees don't mature and have beaver issues?	Terrestrial Environment	Vegetation and Wetlands
Will you consider what is grown on the land defore development?	Terrestrial Environment	Vegetation and Wetlands
Does the EA assess agricultural loss in Manitoba?	Terrestrial Environment	Vegetation and Wetlands
Department of agriculture did studies on vegetation re-establishment after the 2011 flood.	Terrestrial Environment	Vegetation and Wetlands

Table 5A-20
Round 2

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Shoreline will be affected by droughts and flooding. What will be done to protect the riparian zone?	Terrestrial Environment	Vegetation and Wetlands
What about the wetland areas? Will what used to be there come back?	Terrestrial Environment	Vegetation and Wetlands
What about the areas upstream of the Project, farther west where creeks have been channelized and wetlands lost?	Terrestrial Environment	Vegetation and Wetlands
Province is proposing classes of wetlands. There are currently zero protections. Wetlands have been removed and they used to take the surplus water. Difficult to take this project seriously when we continue to allow wetlands to disappear.	Terrestrial Environment	Vegetation and Wetlands
Existing water levels are high but haven't had a chance to recover (plant regrowth); the concern is health of the shoreline.	Terrestrial Environment	Vegetation and Wetlands
Wetlands Protection Act – lost 4 wetland types in the Province and there needs to be protection of at least Wetland Types 1 and 2. These wetlands play a big role in managing flooding.	Terrestrial Environment	Vegetation and Wetlands
Will spoil piles be revegetated?	Terrestrial Environment	Vegetation and Wetlands
Has any work been done upstream? Will wetlands and creeks be affected?	Terrestrial Environment	Vegetation and Wetlands
It seems that with the [Portage] diversion, Lake Manitoba receives excess water from Brandon and has lost natural protections (i.e. 100 year old willows and shoreline). It is becoming more and more difficult to live there. It doesn't appear that things will bounce back. Natural protection is gone.	Terrestrial Environment	Vegetation and Wetlands
Will the reeds still grown at Delta Marsh? What about low events?	Terrestrial Environment	Vegetation and Wetlands
With the diversion, we get pressure water from Brandon to help Winnipeg. We lost protection (100 year old willows). People lost land; people that live there. We see these events and natural protection gone. What is happening at the Portage Diversion?	Terrestrial Environment	Vegetation and Wetlands
Massive loss of wetlands upstream and channelization of creeks is the cause of this project. Project addresses only symptoms. A fraction of the half-billion dollar budget could restore the wetlands.	Terrestrial Environment	Vegetation and Wetlands
Concerned about eventual health of the Delta Marsh.	Terrestrial Environment	Vegetation and Wetlands

Table 5A-20
Round 2

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Consideration given to impacts of not progressing with studies. Damage done to the thousands of acres along shores of Lake Manitoba during 2011 floods still being felt today. Large stands of trees lost, shoreline badly eroded and bullrushes have invaded land where before prairie grass existed. Ecosystems damaged and the only way to ensure they are not lost for good is to progress with the channels.	Terrestrial Environment	Vegetation and Wetlands
First saw ravens in the area in the 1940s. Have become more and more common ever since. Ravens kill smaller birds and eat their eggs.	Terrestrial Environment	Wildlife and Wildlife Habitat
People used to shoot hawks and ravens, but not anymore, so there are more of them. They are eating the grouse.	Terrestrial Environment	Wildlife and Wildlife Habitat
There are no geese or ducks nesting on Mud Lake.	Terrestrial Environment	Wildlife and Wildlife Habitat
Ducks and geese use grain fields in the fall.	Terrestrial Environment	Wildlife and Wildlife Habitat
Geese never used to nest here between 1911 and 1950.	Terrestrial Environment	Wildlife and Wildlife Habitat
Ravens kill calves and young cows.	Terrestrial Environment	Wildlife and Wildlife Habitat
There are a lot less gulls in Siglunes.	Terrestrial Environment	Wildlife and Wildlife Habitat
Species at Risk and migratory birds are a concern. Flooding the shoreline will affect birds.	Terrestrial Environment	Wildlife and Wildlife Habitat
Saw a great horned owl this year near Reed Lake.	Terrestrial Environment	Wildlife and Wildlife Habitat
There are issues with ravens that there never used to be; they destroy a lot of nests.	Terrestrial Environment	Wildlife and Wildlife Habitat
Geese come through the area in March, followed by crows.	Terrestrial Environment	Wildlife and Wildlife Habitat
Why build on high ground? Waterfowl and other species would adapt to going through wetter habitat. Suggested having 1/4 mile wide weirs and have the	Terrestrial Environment	Wildlife and Wildlife Habitat
There isn't any trapping along the east side of the Lake Manitoba channel, only removal of nuisance animals.	Terrestrial Environment	Wildlife and Wildlife Habitat
Used to hunt moost in GHA 16; now overhunted and closed. Used to see moose, deer and grouse along the access road.	Terrestrial Environment	Wildlife and Wildlife Habitat
Used to be many elk in the area in the 1930s-40s, but overhunted. In 1960s elk were brought from Riding Mountain National Park.	Terrestrial Environment	Wildlife and Wildlife Habitat
Used to hunt elk in the Sleeve Lake area. Number of elk in area is about right now.	Terrestrial Environment	Wildlife and Wildlife Habitat
A group of 6-7 elk move across Spearhill Road (#5). Someone must be feeding them. They go from hay bale to hay bale.	Terrestrial Environment	Wildlife and Wildlife Habitat

Table 5A-20
Round 2

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
There are no muskrat in the area, too many beavers.	Terrestrial Environment	Wildlife and Wildlife Habitat
People generally trap on crown land. Trapped species include wolf, coyote and beaver.	Terrestrial Environment	Wildlife and Wildlife Habitat
There are fewer moose and wolves. The area is too wet now, partially due to the increased number of beavers.	Terrestrial Environment	Wildlife and Wildlife Habitat
Not many moose in the last 20 years.	Terrestrial Environment	Wildlife and Wildlife Habitat
Geese come through the area in March, followed by crows.	Terrestrial Environment	Wildlife and Wildlife Habitat
Five or six groups of wolves are in the area. 30 wolves were killed last year in Grahamdale. There are more wolves closer to Lake Winnipeg. Some wolves collared in the Riding Mountain area showed up on the shores of Lake Manitoba the next day, then returned to Riding Mountain.	Terrestrial Environment	Wildlife and Wildlife Habitat
In the 1950s and 60s, there were a lot of moose and elk, but no deer.	Terrestrial Environment	Wildlife and Wildlife Habitat
There never used to be racoons (now lots) and no porcupine.	Terrestrial Environment	Wildlife and Wildlife Habitat
There are about six moose in the area. Wolves cleaned out the deer in the region. The fire in 1989 chassed a lot of the big game out. About 3-4 years ago, game by the access road were hunted out. Among the wildlife seen in that area in the past year were muskrat and beaver, but no moose.	Terrestrial Environment	Wildlife and Wildlife Habitat
A lot of beaver east of Ashern (Birch Lake/Sleeve Lake); water is supposed to go to Fisher River so won't blow the dens (to protect Peguis).	Terrestrial Environment	Wildlife and Wildlife Habitat
By the control structures on the west side, there is a red fox den. Most water is dry on the small lakes.	Terrestrial Environment	Wildlife and Wildlife Habitat
Concerned about impacts as the project continues (water and water quality, fish and fishing, land and land usage, animals, birds, etc.).	Terrestrial Environment	Wildlife and Wildlife Habitat
Habitat will be destroyed by putting the Lake Manitoba drain on high ground; woodpeckers live on high ground. The area/acres affected by putting the drain in low ground vs high has a negligible affect on the overall population of endangered species.	Terrestrial Environment	Wildlife and Wildlife Habitat
Elk Crossing identified on project map; typically 6-7 animals.	Terrestrial Environment	Wildlife and Wildlife Habitat
Elk area identified on project map. Maybe more elk at Dog Lake or the Camper area and east of Lundar.	Terrestrial Environment	Wildlife and Wildlife Habitat

Table 5A-20
Round 2

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Wolves move along Iverson Road and they travel far. Can see tracks on the road.	Terrestrial Environment	Wildlife and Wildlife Habitat
What happens to all the wildlife if there is another flood?	Terrestrial Environment	Wildlife and Wildlife Habitat
Loss of frogs (significant), snakes and pelicans on Lake Manitoba due to flooding and introduction of coyotes.	Terrestrial Environment	Wildlife and Wildlife Habitat
Save the natural habitat.	Terrestrial Environment	Wildlife and Wildlife Habitat
Watchorn Provincial Park was established in the 1960s for recreational use (e.g., swimming). Concerns that there will be dredging well away from the	Human Environment	Land and Resource Use
Does the EA assess agricultural loss in Manitoba?	Human Environment	Land and Resource Use
Concerned that fishing will be threatened; leave as is.	Human Environment	Land and Resource Use
Our farmland has been taken. Why not go through the swamp? Area was flooded in 2011 and 2014, government won't open the Emergency Channel.	Human Environment	Land and Resource Use
Used to make hay near Mantagao Lake in the 1950s-60s. Would haul back to Moosehorn and bring to the elevator. In dry years, people cut hay in the area	Human Environment	Land and Resource Use
There isn't any trapping along the east side of the Lake Manitoba channel, only removal of nuisance animals.	Human Environment	Land and Resource Use
Land acquisition: people should have the option of getting land back if possible.	Human Environment	Land and Resource Use
Changes to the leasing of crown lands is worry some and could have economic impacts.	Human Environment	Land and Resource Use
Department of agriculture did studies on vegetation re-establishment after the 2011 flood.	Human Environment	Land and Resource Use
Haven't been able to use a lot of the lower lands since 2011.	Human Environment	Land and Resource Use
Heard there will be four sites expropriated. Proposed there are at least 8 years within ½ mile of the channel.	Human Environment	Land and Resource Use
Want fair compensation for property. Government wants to pay based on past land values but he wants future values. Should be compensated for loss of land.	Human Environment	Land and Resource Use
Wants farmers to be able to cut grass along the channels.	Human Environment	Land and Resource Use
Channel is 10 feet above ground, which is a waste of land if they cannot hay it.	Human Environment	Land and Resource Use

Table 5A-20
Round 2

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Expropriation only happens if we can't make a deal with the landowner.	Human Environment	Land and Resource Use
Interested in lands to the north and south.	Human Environment	Land and Resource Use
Crown land discussions.	Human Environment	Land and Resource Use
We won't be able to use the area affected by the channels.	Human Environment	Land and Resource Use
Would we be able to use the area affected by the channels?	Human Environment	Land and Resource Use
Understand project has to go through the area and want to see people treated fairly on the price of their land. People in St. Laurent understand and were hit in 2011.	Human Environment	Land and Resource Use
RM can get 3 years of taxes if the land is bought.	Human Environment	Land and Resource Use
Used to hunt moost in GHA 16; now overhunted and closed. Used to see moose, deer and grouse along the access road.	Human Environment	Land and Resource Use
Used to be many elk in the area in the 1930s-40s, but overhunted. In 1960s elk were brought from Riding Mountain National Park.	Human Environment	Land and Resource Use
Used to hunt elk in the Sleeve Lake area. Number of elk in area is about right now.	Human Environment	Land and Resource Use
People generally trap on crown land. Trapped species include wolf, coyote and beaver.	Human Environment	Land and Resource Use
Concerned about impacts as the project continues (water and water quality, fish and fishing, land and land usage, animals, birds, etc.).	Human Environment	Land and Resource Use
Need to remember that food production is more important than environmental concerns. People need to go hungry before they fully appreciate that.	Human Environment	Land and Resource Use
It appears that any environmental risk has been addressed solely by the sacrifice of agricultural land. There should be an agricultural land loss risk assessment completed before risks are mitigated by expropriating agricultural land.	Human Environment	Land and Resource Use
Concerned about effects on agriculture	Human Environment	Land and Resource Use

Table 5A-20
Round 2

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Used to make hay at location identified on project map. Would drive cattle back and forth from Gypsumville to this area. Used an old winter road from Gypsumville to this location. Area used to be private property. An old steam engine used for pulp wood cutting is located in this area. Used to cut pulp wood in Jumping Creek.	Human Environment	Land and Resource Use
Cabins here were flooded in 2011 & 2014 (location identified on project map). Some were damaged, but rebuilt. There is no road to get here; people use a trail if it's dry enough.	Human Environment	Land and Resource Use
Concerned about what will happen to farm land in this area (identified on project map).	Human Environment	Land and Resource Use
What about the impact to tourism and the economy, including impacts to the fishery?	Human Environment	Land and Resource Use
What about the impact to tourism and the economy, including impacts to the fishery?	Human Environment	Land and Resource Use
The Lake Manitoba Outlet Channel looks perfect for recreational development like boating, cottages, fishing, etc. Don't let this happen. We don't trust that the government won't try to do something like this.	Human Environment	Land and Resource Use
At what stage is land acquisition?	Human Environment	Land and Resource Use
Will land acquisition be done by the time environmental approvals are issued?	Human Environment	Land and Resource Use
Is the fish hatchery still at Dauphin River?	Human Environment	Land and Resource Use
Own property on Lake Manitoba; want the channels built now.	Human Environment	Land and Resource Use
Why build houses on Lake St. Martin at 803 ft when they will be flooded again?	Human Environment	Land and Resource Use
One farmer got $7M for his property while the band only gets $90M in total.	Human Environment	Land and Resource Use
Why wasn't channel built in the 1960s when originally planned?	Human Environment	Land and Resource Use
We are paying property taxes on lands under water (living on Lake Manitoba shoreline).	Human Environment	Land and Resource Use
Used to have a lot of beach but not any more.	Human Environment	Land and Resource Use
Did the province buy Crown Lands?	Human Environment	Land and Resource Use

Table 5A-20
Round 2

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Impacts to fishery not on board.	Human Environment	Land and Resource Use
Consider the environmental impacts of using the Portage Diversion more when the Lake Manitoba and Lake St. Martin outlet channels are put into operation. The increased salinity on adjacent farmland and the affects of high water on Lake Manitoba and the negative impacts that has on areas around the lake.	Human Environment	Land and Resource Use
Concern about water levels in relation to cottages.	Human Environment	Land and Resource Use
Impacts to fishery including spawning.	Human Environment	Land and Resource Use
A local from Moosehorn wrote a book about the Fairford Trail. Has a lot of local and historical knowledge about the area.	Human Environment	Land and Resource Use
Concerned about traffic interruptions related to re-routing of traffic for channel construction.	Human Environment	Infrastructure and Services
It was very dry between 1975 and 1985. People could drive all of the local trails by truck.	Human Environment	Infrastructure and Services
The area east of Moosehorn used to be dry, people could drive all the way to Sleeve Lake.	Human Environment	Infrastructure and Services
PR239 is pounded out because the railway is gone, so all material from the Graymont plant gets trucked out.	Human Environment	Infrastructure and Services
In 1904 there were plans to build a boat connection between Lake Winnipeg and Lake Manitoba through Gunnison Lake.	Human Environment	Infrastructure and Services
In original reserve, there were 10-12 houses flooded. Now they are building close to 300 houses, which is a lot more than what was there before.	Human Environment	Infrastructure and Services
This is where we live and grew up. Concerns will differ by community.	Human Environment	Infrastructure and Services
Will there be access to the east side of Iverson Road from north of Grahamdale?	Human Environment	Infrastructure and Services
Concerned about traffic interruptions related to re-routing of traffic for channel construction.	Human Environment	Infrastructure and Services
Access road invites ATVs, dirt bikes, etc. Why not access [the LSMOC] from PR513?	Human Environment	Infrastructure and Services
Where are people from First Nations being moved to?	Human Environment	Infrastructure and Services
Lake St. Martin First Nation is suffering, fundamentally because we put these people on crappy land, just like Peguis.	Human Environment	Infrastructure and Services

Table 5A-20
Round 2

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Concerned about changes to the tax base within the RM. 3 years of taxes in lieu is nothing when compared to the fact that the channel will be here in perpetuity.	Human Environment	Economy
Project should not cost the RM anything; the project should be a benefit.	Human Environment	Economy
Concerned about costs to tax payers of various options.	Human Environment	Economy
Environment and finance go hand in hand, but there is no revenue for this project.	Human Environment	Economy
Never a chapter on economy. Irresponsible of the Minister to announce Project as it could fail in the EA Process; has no business undercutting the process. Needs to be intervener funding (fisheries, biologists/ecologists). Only intervener funding for a project 12 years ago. EA Approvals department is not friendly. This discourages public involvement.	Human Environment	Economy
Consideration should be given to archeological sites, water quality, air quality.	Human Environment	Health
A bone was found on the beach at Watchorn Provincial Park long ago. Unsure what it was.	Human Environment	Heritage Resources
Consider the history of the area and the people who know the area, including indigenous people.	Human Environment	Heritage Resources
Arrowhead found at this location (near Watchhorn Provincial Park). As well, a spring at this location.	Human Environment	Heritage Resources
Possible burial area. There may have been an aboriginal village in this area (2 locations identified).	Human Environment	Heritage Resources
Did field studies include archaeological studies? Little money spent on this. Predictive modelling will give an output based on potential for sites. There could be a “gold mine” of sites in the project area. Archaeological sites are all related, you can’t only search the ROW. Generally the number of true sites is 10x more than the number of known sites.	Human Environment	Heritage Resources
Consideration should be given to archeological sites, water quality, air quality.	Human Environment	Heritage Resources

Table 5A-20
Round 2

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
People should be shown the history as to why people are here. Peguis was moved. The public should know what caused people in affected communities to locate here. Were they put here?	Indigenous Peoples	Traditional Land and Resource Use
Want to see analysis to include how Indigenous people moved to the reserves. What percent of the problems are Lake St. Martin people affected by being moved to the area?	Indigenous Peoples	Traditional Land and Resource Use
Has a Traditional Land Use study been offered?	Indigenous Peoples	Traditional Land and Resource Use
No Traditional Land Entitlement study, Section 35 consultation, or EIS review have been offered.	Indigenous Peoples	Traditional Land and Resource Use
Has a Traditional Land Use study been done? If so, Peguis has not been involved. Pointed out waypoints for Enbridge and MMTP project to illustrate invovement of the community.	Indigenous Peoples	Traditional Land and Resource Use
Consider the history of the area and the people who know the area, including indigenous people.	Indigenous Peoples	Traditional Land and Resource Use
Fairford and Portage Diversion has caused flooding of Lake St. Martin.	Project Description	
City is more interested in areas that affect them.	Project Description	
Councillor spoke about how the RM hired an engineer last year to ask questions so that they know what is going on. They are looking for the Province to pay for this process.	Project Description	
Get legislation changed to help our tax payers and do other projects that also badly needed to be done. Get federal and provincial government do this because we also tax to death.	Project Description	
Concerned about continued use of the Portage Diversion that causes flooding of landowners on Lake Manitoba (agricultural) without compensation.	Project Description	
After 2011 flood of Peguis Reserve, experts called the elders liars saying that water is not flowing to the reserve (but it was). This should be investigated.	Project Description	
The Minister was irresponsible in announcing the project. He has no business announcing it before approvals are in place.	Project Description	
People are suspicious of Manitoba Hydro. They are concerned that the province and Hydro are partnering.	Project Description	

Table 5A-20
Round 2

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
A Lake St. Martin resident indicated there were over 100 people in the community; this flooding was hard on people. School under construction. There are problems when the temperature increases above 0 degrees Celsius. Channels will help alleviate flooding.	Project Description	
With the diversion, we get pressure water from Brandon to help Winnipeg. We lost protection (100 year old willows). People lost land; people that live there. We see these events and natural protection gone. What is happening at the Portage Diversion?	Project Description	
Cost of last flood was huge, next time will be 4 to 5 times more due to new buildings.	Project Description	
Have to trust people's knowledge/stories of pre-flood conditions/environment. Post-flood studies of normal, even over a 5-10 year period, does not do justice to the pre-flood (2011) normal.	Project Description	
Interaction with other channels/controls/hydro? How? Why? Who? Politics? Hydro Profit? (Apparently Hydro is supposed to increase significantly)	Project Description	
If it gets drier, does the project cause undesirable effects to the south which will need more money to fix? Can the project include any additions to prepare for a global warming scenario, while resources are in place to do so? For example, ability to divert water to farmers.	Project Description	
No talk about environmental issues at the south end of Lake Manitoba. If province is going to use new outlets at the south end of Lake Manitoba and Lake St. Martin there will be more water put down the Portage Diversion which will impact landowners along the Diversion and around Lake Manitoba.	Project Description	
Section 6 of CEAA 2012 indicates that Lake St. Martin and Dauphin River have to be examined.	Project Description	
The province should be responsible for the channels forever. Project is only good if there is enforcement.	Project Description	
What is happening at the Assiniboine Diversion?	Project Description	
Will the drain that goes to the lake be tied to a ditch (at the bridge)?	Project Description	

Table 5A-20
Round 2

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Will there be relief wells along the ditch? What is happening with depressurization?	Project Description	
Access road will be expensive to build, but at least there is an existing road for most of the way. More work will be required for the winter road. During summer you can travel all the way to the winter road by 2 wheel drive truck.	Project Description	
Where are the control structures?	Project Description	
How do control structures work?	Project Description	
What is the distance of cascading drop structures in the last section of the Lake St. Martin channel?	Project Description	
Will there be water flow through the Lake Manitoba channel.	Project Description	
What is the cost of the Project? Why not use the channel at Hilbre?	Project Description	
Were contracts for the road awarded?	Project Description	
Do you have a copy of the proposed operating procedures?	Project Description	
Will each channel be operated separately?	Project Description	
Will there be drain ditches on either side of the channel?	Project Description	
Where will the berms be located?	Project Description	
What is the distance and what type of road to access Lake St. Martin? Will the RM have to maintain the road?	Project Description	
Where are the control structures located? What is the elevation of the land there?	Project Description	
How many kilometres is the PR 239 realignment?	Project Description	
What is the width of the control structures?	Project Description	
Will PR 239 be an all-season road?	Project Description	
Will there be access to the east side of Iverson Road from north of Grahamdale?	Project Description	
What is the cost of the project and what is the Federal commitment?	Project Description	
Why build on high ground? Waterfowl and other species would adapt to going through wetter habitat. Suggested having 1/4 mile wide weirs and have the development go through the lakes, and gates for the landowners.	Project Description	

Table 5A-20
Round 2

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Use a fence across Reed Lake, which has a hard bottom. This is a natural relief value to Lake St. Martin when water levels are high.	Project Description	
Our farmland has been taken. Why not go through the swamp? Area was flooded in 2011 and 2014, government won't open the Emergency Channel.	Project Description	
Move the channel ½ mile west through the waterbodies. Channel will silt in every year. Who will maintain (dredge) the channel? Understand that dredging will extend about ¼ mile into the lake. Proposed a route to go east-west across Steeprock. The existing waterways through Reed Lake take care of the excess. ½ mile dyke north of Watchorn Provincial Park – did not help in 2011.	Project Description	
There should be a channel north of Hilbre to Lake St. Martin; this is a recharge area.	Project Description	
What if the project doesn't work and needs to go north where everyone wants it to go?	Project Description	
Who is involved in the project - KGS? Who are the Federal representatives? Is Golder involved?	Project Description	
Is the EA complete?	Project Description	
Is KGS is doing the environmental assessment?	Project Description	
Questions regarding the recent road construction project completed without going through the normal tendering process. How do I know you are doing your job when elsewhere you are not transparent about tendering? (Four other people indicated they have a similar concern) Was road gifted without bid? What was preliminary cost estimate? Clarify bid process; contract given on RM land without consultation.	Project Description	
Consider changing legislation for this particular project to go down the natural outlet. It would cost tax payers about 60% of total cost, could use the extra money on improving our provincial drains.	Project Description	
The environmental impacts on Lake Manitoba of not opening an outlet channel should be considered. The time frame for monitoring this project should be ongoing (long term) regarding the lake levels regulation and operation of the Portage Diversion.	Project Description	

Table 5A-20
Round 2

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
The project's assessment area should include the area of the 2011 Lake Manitoba flood, including Dog Lake.	Project Description	
Habitat will be destroyed by putting the Lake Manitoba drain on high ground; woodpeckers live on high ground. The area/acres affected by putting the drain in low ground vs high has a negligible affect on the overall population of endangered species.	Project Description	
Access road invites ATVs, dirt bikes, etc. Why not access [the LSMOC] from PR513?	Project Description	
Why has there been no study on Lake Winnipeg levels before setting the project operating guidelines?	Project Description	
Was climate change a consideration in assessment of the channels or options of routes?	Project Description	
If the channels were the best option, then what were the climate change considerations?	Project Description	
Some climate change effects are drought. Does it make the most sense to invest in infrastructure that will divert water north if there is drought in the south?	Project Description	
Is information on the land being collected in the area?	Project Description	
What is the impact assessment?	Project Description	
What fieldwork has been done?	Project Description	
What is the spatial extent of this study? Is it Lake Manitoba to Lake Winnipeg?	Project Description	
Someone has to look at the big picture; very large regional cumulative effects assessment is needed.	Project Description	
Why have no studies been conducted on Lake Winnipeg regarding what level to open the channel?	Project Description	
Is a mitigation damage plan being developed?	Project Description	
What is being done to assess the effects along the whole system from the Portage Diversion to Lake St. Martin?	Project Description	
Looking at ways to minimize use of the Portage Diversion would be better for the project. It is a system; you can't just look at one part of it.	Project Description	

Table 5A-20
Round 2

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Why not run the Shellmouth Dam to better manage the system?	Project Description	
The City (Winnipeg) should get more of the water.	Project Description	
If the lake is 810.5 ft, but forecasting suggests flood event, how much water will the new channel dissipate of 810.5 ft and will it be enough?	Project Description	
When can the channel be opened?	Project Description	
What will be done with the emergency channel? Specifically, what will be done with spoil piles?	Project Description	
Where is Reach 3? Why was it never used?	Project Description	
What is happening at the Portage Diversion? Significant work is happening there.	Project Description	
How did they manage to permanently increase the capacity of the Portage Diversion? Equipment is working there.	Project Description	
How would it work if in October the soil is saturated by 200% with water and a flood event is imminent? Isn't there concern that would lead the Portage	Project Description	
Some say the project is being made to take more water.	Project Description	
The guidelines don't work for the Portage Diversion.	Project Description	
Why are they working on the Assiniboine Diversion without environmental studies? Let us look at flooding and stop that.	Project Description	
Describe operation of the channels. When do they kick in?	Project Description	
What elevation is the invert of the channel?	Project Description	
The project is estimated at $500 million. This will be borrowed money.	Project Description	
Get the project done. Timeline is too long. People were told long ago that it would happen.	Project Description	
Construction in 2019?	Project Description	
Will there be guidelines for operation of the structures, so that people know when they will or won't operate, and how much water will flow through them?	Project Description	
Regulation of 810.5-812.5' asl on Lake Manitoba. Why is it kept as close to 812' as possible?	Project Description	
What is the capacity of the flow through the channels?	Project Description	
Why align the channels where they are now?	Project Description	
What material is being used in the channel?	Project Description	

Table 5A-20
Round 2

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Is the Lake Manitoba channel going to be an open reach?	Project Description	
What is the depth of the channels?	Project Description	
How much water is going through the structures?	Project Description	
When will the Project be built?	Project Description	
Why go through Option D? Was it costed out?	Project Description	
How wide is the channel?	Project Description	
Where is the road?	Project Description	
It was indicated that the Sturgeon Creek ditch concept is a good model.	Project Description	
Is 812.5 ft the limit before opening the Lake Manitoba Channel?	Project Description	
Makes me nervous that this was part of a water management strategy, now described as under emergency conditions. Used to be a range of operation of Lake Manitoba (810-812.5 ft.). Is there a new operating range?	Project Description	
What is the lowest level for the Lake Manitoba control structure to operate?	Project Description	
Under 812 ft, will there be flow through the new channel? It was once pointed out that the system is planned to operate at the top end of the water levels. Will it ever get below 810 ft?	Project Description	
What is the bottom end of the ditch invert?	Project Description	
A lot of people are concerned about 812.5 ft and how it will affect the southern shore.	Project Description	
Can you hold water at the lower level?	Project Description	
Why can't the levels go lower?	Project Description	
The project is $500 million. Is there any way to provide more detail on expected depth?	Project Description	
Can't believe that we will only manage at 812 ft.	Project Description	
There were drafts of channel locations 3 years ago?	Project Description	
What is the length of time required for the channel to be developed?	Project Description	
There are two structures along the channels; will there be guidelines for their operation?	Project Description	
Will you open up the channel at 812.5 ft?	Project Description	

Table 5A-20
Round 2

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Thought this would be part of a water management strategy, but now it sounds like another emergency response.	Project Description	
Can Cedar Lake be used if another flood hits?	Project Description	
People are looking for water management over the entire system, why are we only looking at emergency evacuation of water?	Project Description	
Lake Manitoba takes more water than normal because of the Portage Diversion. Why aren't we looking at ways to recover? Lake Winnipegosis is higher than it's been in decades, is this not an issue as well?	Project Description	
Has CEAA issued the guidelines?	Project Description	
Will the EA review process be harmonized?	Project Description	
Where in the timeline is the environmental process and how do we get a licence?	Project Description	
The access road does not need a licence?	Project Description	
How many different approvals will the project require?	Project Description	
What is the scope of the EA studies?	Project Description	
Will there be an open tendering process?	Project Description	
With the diversion, we get pressure water from Brandon to help Winnipeg. We lost protection (100 year old willows). People lost land; people that live there. We see these events and natural protection gone. What is happening at the Portage Diversion?	Project Description	
Who controls the channels and in conjunction with who, in a non-political, non-hydro influenced manner?	Project Description	
Project has received enough consideraton. Studied to death!	Project Description	
Final design should incorporate existing operating lake levels, i.e. 810 to 812.5 ft for Lake Manitoba.	Project Description	
No invitation to Peguis First Nation or participation for Section 35 Consultation.	Public and Indigenous Engagement	
No Traditional Land Entitlement study, Section 35 consultation, or EIS review have been offered.	Public and Indigenous Engagement	
The website is wrong in some of the information presented.	Public and Indigenous Engagement	
How long will it take to come back with more project information?	Public and Indigenous Engagement	

Table 5A-20
Round 2

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Community member from Peguis First Nation indicated they were not consulted in 2015/16 when looking at project alternatives.	Public and Indigenous Engagement	
Have First Nations been contacted?	Public and Indigenous Engagement	
Peguis Land and Resource Coordinator indicated that Peguis has not been involved. There has been no advertising and Section 35 has yet to be done with	Public and Indigenous Engagement	
Peguis First Nation is listed as an affected community, but they weren't offered meaningful consultation. They have not reviewed the EA statement in the last few years and want to see this information.	Public and Indigenous Engagement	
Is there still opportunity for input?	Public and Indigenous Engagement	
I will harp on this project when the opportunities arise.	Public and Indigenous Engagement	
If I assemble an expert team to review the Project EA, can I get money to pay for it? Manitoba Environmental Approvals is not user friendly. Get them to	Public and Indigenous Engagement	
The board that reads that the outlet channels were identified as a result of the 2011 flooding is an insult. The need for these channels was identified when they built the Fairford water control structure.	Public and Indigenous Engagement	
Legends on the maps are not accurate. Crown land designations can't be lumped together. People need to understand what is protected and what isn't. Please change this.	Public and Indigenous Engagement	
Attended a session years ago and people weren't given opportunity to speak. Likes the process being used today. There is a lot of work that has been done.	Public and Indigenous Engagement	
Who is taking notes?	Public and Indigenous Engagement	
Do you have a website address?	Public and Indigenous Engagement	
Presentation revealed no "earth shattering" information. Expected more concrete answers to questions. You say you have all the resources to plan the project.	Public and Indigenous Engagement	
If there is another flood, the cost will be 3-4 times more than it was in 2011. Cottages are worth $300-400 thousand now.	Project Description/ Justification	
The reality is, people now will be flooded. If we don't do it now, why do it at all?	Project Description/ Justification	

Table 5A-20
Round 2

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Urgency of the project is lost; what there is a flood next year? All animals will be dead and people will be relocated. Is this a 2-3 year study? We want the channels to be built now and were told there would be shovels in the ground last year.	Project Description/ Justification	
The urgency of the project seems to be lost. What if it floods again? The construction date is far too long. Minister Peterson gave lip service, he said shovels were in the ground. Steve Topping said we are in for a flood every 10 years or so.	Project Justification	
Is federal money still on the table?	Project Justification	
How much federal money is on the table?	Project Justification	

Table 5A-21
Round 3

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Could it be a federal issue to determine where water is coming from? A west wind it really pushes the water up quite a bit.	Physical Environment	Atmospheric Environment
Concerned about Watchorn Park, particularly regarding erosion.	Physical Environment	Geology and Soil
How do you stop erosion if the drop is 90 ft?	Physical Environment	Geology and Soil
What shoreline protection is available for current home owners at Twin Lakes beach area if geotubes are removed?	Physical Environment	Geology and Soil
Would like to hear more about shoreline protection.	Physical Environment	Geology and Soil
Concern expressed about salinity in the soil (related to the Portage Diversion).	Physical Environment	Geology and Soil
Will there be shoreline impacts?	Physical Environment	Geology and Soil
Will the project affect sand or water in the Watchorn Bay area?	Physical Environment	Geology and Soil
What if they can't keep water in the Lake Manitoba outlet channel?	Physical Environment	Groundwater and Surface Water
What happens to the channel if Fairford goes dry? Basal heave may not be as high as anticipated.	Physical Environment	Groundwater and Surface Water
Concern regarding Portage Diversion and capacity being input from the Diversion into Lake Manitoba exceeds the amount of output by the channel.	Physical Environment	Groundwater and Surface Water
Will the project handle the higher waters? How will the control structures be operated?	Physical Environment	Groundwater and Surface Water
Concerned about needing to dig to get water to the channel.	Physical Environment	Groundwater and Surface Water
How high does Lake Manitoba have to be in order to push 7,500 cfs?	Physical Environment	Groundwater and Surface Water
Spatial boundaries for groundwater and surface water drainage are not enough.	Physical Environment	Groundwater and Surface Water
Fish spawning and water run off need to be considered.	Physical Environment	Groundwater and Surface Water
Make water quality one of the most important components of this project. Not just maintaining it, but improving over time.	Physical Environment	Groundwater and Surface Water
Policy decisions have big impacts. For example, hog farming practices and manure spreading can have big impacts and can contaminate wells in flood events.	Physical Environment	Groundwater and Surface Water
Agricultural drainage a big concern. Water moves faster than ever before and should be assessed.	Physical Environment	Groundwater and Surface Water

Table 5A-21
Round 3

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Could it be a federal issue to determine where water is coming from? A west wind it really pushes the water up quite a bit.	Physical Environment	Groundwater and Surface Water
Waves piled up in 2011 because the lake is so shallow. There was a huge outcry in 2011 to join the wetlands as part of the channel.	Physical Environment	Groundwater and Surface Water
Will the headwaters of Buffalo Creek be cut off?	Physical Environment	Groundwater and Surface Water
Lots of water is coming from Saskatchewan.	Physical Environment	Groundwater and Surface Water
Issues with siltation when the Portage Diversion is run.	Physical Environment	Groundwater and Surface Water
At 812/814 ft on Lake Manitoba, running the diversion affects us.	Physical Environment	Groundwater and Surface Water
Concern with the Portage Diversion and pollution coming through.	Physical Environment	Groundwater and Surface Water
Concern is Portage Diversion wiping out areas and having debris.	Physical Environment	Groundwater and Surface Water
What happened at the lake mouth of Portage Diversion during the last floods?	Physical Environment	Groundwater and Surface Water
What surface water monitoring will there be?	Physical Environment	Groundwater and Surface Water
How will you mitigate issues at Watchorn Bay?	Physical Environment	Groundwater and Surface Water
Why are only parts of the lakes included in the RAA and not the entire lake?	Physical Environment	Groundwater and Surface Water
Will the project affect sand or water in the Watchorn Bay area?	Physical Environment	Groundwater and Surface Water
What are the water levels for the lake right now?	Physical Environment	Groundwater and Surface Water
Sometimes the lake levels are too high.	Physical Environment	Groundwater and Surface Water
Concerned about water quality.	Physical Environment	Groundwater and Surface Water
What happens to water levels through the system?	Physical Environment	Groundwater and Surface Water
What about current water movements? What about water quality in the southern and central basins of Lake Winnipeg?	Physical Environment	Groundwater and Surface Water
Do you have hydrologists on your team?	Physical Environment	Groundwater and Surface Water
How are you handling the delta of Lake Manitoba outlet channel?	Physical Environment	Groundwater and Surface Water
How will the Make Manitoba channel be constructed? How will you excavate it if there are groundwater blowout concerns?	Physical Environment	Groundwater and Surface Water

Table 5A-21
Round 3

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Both fish and water can move freely in the lake; don't understand why the LAA is so small for Lake Manitoba and Lake Winnipeg. Why is the part of Lake Winnipeg within Sturgeon Bay Provincial Park not part of the LAA? It is very close to the channel mouth, yet the LAA cuts off at the park boundary.	Physical Environment	Groundwater and Surface Water
Effect of lake ice needs to be considered for operation during winter. It might not be possible to draw down the lake in anticipation of future flooding as lake ice is often 1.5m thick (or more) and could restrict the flow of water into the structure.	Physical Environment	Groundwater and Surface Water
Means of dealing with silt in the intakes. Might be necessary to allocate funding, likely perpetuity, to dredge the intakes to preserve the channels' effectiveness.	Physical Environment	Groundwater and Surface Water
eColi is an issue when the lake is high. Could it be from the Portage Diversion when it is opened?	Physical Environment	Groundwater and Surface Water
The Lake Manitoba channel inlet area and Lake St. Martin channel outlet areas are fish spawning areas.	Aquatic Environment	Fish and Fish Habitat
There are now more jackfish and not as many walleye in Lake St. Martin.	Aquatic Environment	Fish and Fish Habitat
Concerned about water quality and invasive species. What is going to happen with zebra mussels?	Aquatic Environment	Fish and Fish Habitat
Why no fishing in the channel?	Aquatic Environment	Fish and Fish Habitat
If it’s recreational fishing, why can’t it be done?	Aquatic Environment	Fish and Fish Habitat
Fish spawning and water run off need to be considered.	Aquatic Environment	Fish and Fish Habitat
Concerned about migratory birds and zebra mussels.	Aquatic Environment	Fish and Fish Habitat
What will be done with fish passage?	Aquatic Environment	Fish and Fish Habitat
Are there any plans to limit carp movement via the channels?	Aquatic Environment	Fish and Fish Habitat
Both fish and water can move freely in the lake; don't understand why the LAA is so small for Lake Manitoba and Lake Winnipeg. Why is the part of Lake Winnipeg within Sturgeon Bay Provincial Park not part of the LAA? It is very close to the channel mouth, yet the LAA cuts off at the park boundary.	Aquatic Environment	Fish and Fish Habitat

Table 5A-21
Round 3

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
LAA and RAA boundaries for Aquatic Environment must be larger, as fish, invasive species (such as Zebra Mussels), and pollutants can travel very far both upstream and downstream. Many locals have noticed that the introduction of the Assiniboine Diversion into the Lake Manitoba watershed has significantly changed the fish population (type and kind), as well as other aquatic species.	Aquatic Environment	Fish and Fish Habitat
Include impact to fisheries in farrther watersheds/areas such as all of Lake Manitoba, Lake Winnipeg, Assiniboine River, Red River, Winnipeg River as well as the Deltas which include Lake Francis and Red River Delta. Unfortunately for this project, water is very connected. Residents of Lake Manitoba/St. Martin will be very unhappy if invasive species show up from Lake Winnipeg and vice versa, and the fish in Lake Manitoba could easily impact the aquatic life in Lake St. Martin.	Aquatic Environment	Fish and Fish Habitat
The channels, the oulets and intakes, might become or affect fish spawning areas.	Aquatic Environment	Fish and Fish Habitat
You need to pay someone to cut down the hay along the channels.	Terrestrial Environment	Vegetation and Wetlands
Channels will get beavers along them. Needs to be an effort to keep the area clear of beavers; growing shrubs/trees will attract them.	Terrestrial Environment	Vegetation and Wetlands
Would like to have SD and DFO quantify the net present value of preserving that tiny strip of wetlands to society when we have vast wetlands here in	Terrestrial Environment	Vegetation and Wetlands
Farmers want to know if MI would be spraying the ROW to control weeds and invasive species.	Terrestrial Environment	Vegetation and Wetlands
Water hemlock is an issue that arose after the last flood.	Terrestrial Environment	Vegetation and Wetlands
There is hemlock in the lake now, probably because of the portage diversion. There never used to be. Have to be careful in the water or else get big rashes.	Terrestrial Environment	Vegetation and Wetlands
Likely necessary to restrict access during construction. Unrealistic to restrict activities on the ROW during operation. Restrictions might illegally restrict First Nations Peoples rights. Maybe more realistic to place restrictions on small areas- perhaps in the immediate vicinity of control structures or in very sensitive wildlife habitats.	Terrestrial Environment	Wildlife and Wildlife Habitat

Table 5A-21
Round 3

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
VCs do not clearly identify trapping or furbearers. Trapping would fall under land uses for socio-economic considerations. Species are representative of habitat types in the area. Many furbearers would be represented by other habitats. Marten are listed.	Terrestrial Environment	Wildlife and Wildlife Habitat
Channels will get beavers along them. Needs to be an effort to keep the area clear of beavers; growing shrubs/trees will attract them.	Terrestrial Environment	Wildlife and Wildlife Habitat
If the Lake Manitoba outlet channel stays wet, it will become a mosquito factory.	Terrestrial Environment	Wildlife and Wildlife Habitat
Will have fewer issues if the location of the channels is not where there is prime animal habitat.	Terrestrial Environment	Wildlife and Wildlife Habitat
Perhaps the province should put up a 300 m wildlife refuge along the access road. Nobody traps there, no matter what others tell you.	Terrestrial Environment	Wildlife and Wildlife Habitat
Are you going to exclude livestock from entering the channel area?	Terrestrial Environment	Wildlife and Wildlife Habitat
Owls are a concern – what happens if a nest is destroyed?	Terrestrial Environment	Wildlife and Wildlife Habitat
Why not go through the mud lakes? Ducks are not there. There was a Ducks Unlimited person that studied the waterfowl population (name quoted was Harrison).	Terrestrial Environment	Wildlife and Wildlife Habitat
Mantagao Wildlife Management Area was established for wildlife. Project will disturb wildlife so spatial boundaries should be expanded to include the WMA.	Terrestrial Environment	Wildlife and Wildlife Habitat
Spatial boundaries should include the Portage Diversion and wildlife protection; area should be much larger than shown.	Terrestrial Environment	Wildlife and Wildlife Habitat
Concerned about migratory birds and zebra mussels.	Terrestrial Environment	Wildlife and Wildlife Habitat
Wildlife category is lacking species at risk (such as piping plovers); and smaller game animals and furbearers such as beaver, muskrat, grouse, etc.	Terrestrial Environment	Wildlife and Wildlife Habitat
Are you going to exclude livestock from entering the channel area?	Human Environment	Land and Resource Use
Better have a road or access to top of the berm to access land on both sides (ATVs, etc.).	Human Environment	Land and Resource Use
No consideration for RM of Grahamdale. There is 2,500 acres of farmland being lost so what happens after the EA?	Human Environment	Land and Resource Use

Table 5A-21
Round 3

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Farmers want to know if MI would be spraying the ROW to control weeds and invasive species.	Human Environment	Land and Resource Use
Property owner asked if he will get compensated for fishing. Part of the business and he owns a fishing license. If he has to move, he may need to give up or not use his fishing license.	Human Environment	Land and Resource Use
VCs do not clearly identify trapping of furbearers. Trapping would fall under land uses for socio-economic considerations. Species are representative of habitat types in the area. Many furbearers would be represented by other habitats. Marten are listed.	Human Environment	Land and Resource Use
Why no fishing in the channel?	Human Environment	Land and Resource Use
If it's recreational fishing, why can't it be done?	Human Environment	Land and Resource Use
You need to pay someone to cut down the hay along the channels.	Human Environment	Land and Resource Use
Slopes on channels would be too steep. Locals asked if the slopes could be flattened for the use of haying the dykes.	Human Environment	Land and Resource Use
Will canoeing and kayaking be allowed in the channel?	Human Environment	Land and Resource Use
Every activity is being prohibited, so who will get to use the channels?	Human Environment	Land and Resource Use
How will the rules regarding acceptable channel use be enforced for every person? (No boating, no hunting, no access, etc.)	Human Environment	Land and Resource Use
Hunting is a big issue and everyone should be held to the same standard.	Human Environment	Land and Resource Use
People will hunt along the channels.	Human Environment	Land and Resource Use
Concerned about not haying or having cattle on/near the channels.	Human Environment	Land and Resource Use
Channel would cut right through farmer's land and his cattle would loose access to their water supply.	Human Environment	Land and Resource Use
Perhaps the province should put up a 300 m wildlife refuge along the access road. Nobody traps there, no matter what others tell you.	Human Environment	Land and Resource Use

Table 5A-21
Round 3

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Value placed on food production coming from the farmland expropriated. As food producers and agrologists we take our profession seriously in providing the people of the world with food, fibre and fuel. Taking farmland away from food producers to protect aquatic life and swamps is just wrong when people starve in this world everyday. Manitoba has > 100,000 lakes and more swamps, its time to be realistic in our expectations on preservation of the environment. The channels should be constructed on the lowest land.	Human Environment	Land and Resource Use
Limiting access on the ROW is wasting land that's dry.	Human Environment	Land and Resource Use
Stopping hunting and fishing on ROW to the person who proudly owned the land is unacceptable.	Human Environment	Land and Resource Use
If signs are put up to restrict access they will be ignored.	Human Environment	Land and Resource Use
Agree with restricted access; it's a ditch. If you want to swim, fish, kayak, etc. use a lake.	Human Environment	Land and Resource Use
It's public land and the public should have access. There are a lot of dangers in and on other public lands that area used.	Human Environment	Land and Resource Use
Municipalities that are being saved north of Winnipeg should be helping Grahamdale because of the raised taxes with loss of land.	Human Environment	Land and Resource Use
Need to help farmers in the area with their drainage issues because this project is distrupting lives and farms and making it more costly and incovenient to farm	Human Environment	Land and Resource Use
Policy decisions have big impacts. For example, hog farming practices and manure spreading can have big impacts and can contaminate wells in flood events.	Human Environment	Land and Resource Use
Agricultural drainage a big concern. Water moves faster than ever before and should be assessed.	Human Environment	Land and Resource Use
Seems like the government is giving lip service. Flood affected beach people, landowners, etc.	Human Environment	Land and Resource Use
How will the land be purchased from others?	Human Environment	Land and Resource Use
How do you stop hunting and fishing?	Human Environment	Land and Resource Use
Local residents will merit more study on effects of ROW access.	Human Environment	Land and Resource Use

Table 5A-21
Round 3

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
If you give reasonable explanation for restricting ROW use, most people will abide by the rules. If not, they will ignore and do what they want.	Human Environment	Land and Resource Use
Would like to hear from people who will be directly affected by ROW restrictions.	Human Environment	Land and Resource Use
Haying should be allowed on ROW, otherwise a lot of good land will be wasted.	Human Environment	Land and Resource Use
Heard some landowners would be affected.	Human Environment	Land and Resource Use
Cottage owner near Watchorn Bay sandbagged the beach in 2011 and still lost a lot of property. There was a lot of overland flooding at that time.	Human Environment	Land and Resource Use
Beef cattle producers association is in favour of the project and supports flood protection to help beef producers, but concerned about proposed land access and restrictions. Allowing haying or grazing on the ROW will reduce MI maintenance costs and achieve the same goal as MI mowing it themselves.	Human Environment	Land and Resource Use
Would like a permanent mechanism to restrict land use activities. Environment already significantly disrupted by the presence of a channel and does not require further human disruptions during or after completion of the project.	Human Environment	Land and Resource Use
The fear factor for those of us who survived the 2011 flood event are still high. We lost loved ones, plants/trees, our homes and money. Much was not replaced, some is irreplaceable.	Human Environment	Land and Resource Use
Likely necessary to restrict access during construction. Unrealistic to restrict activities on the ROW during operation. Restrictions might illegally restrict First Nations Peoples rights. Maybe more realistic to place restrictions on small areas- perhaps in the immediate vicinity of control structures or in very sensitive wildlife habitats.	Human Environment	Land and Resource Use
Looks like the bridge by PCN is an issue and will flood them.	Human Environment	Infrastructure and Services
How will vehicle access be managed?	Human Environment	Infrastructure and Services
Interlake Tribal Council has a company that is capable of helping built the Project.	Human Environment	Economy

Table 5A-21
Round 3

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Heard that taxes will go up.	Human Environment	Economy
Thank you for the many meetings and information sharing. Initial work indicates a strong and honest project team. You will be making a significant impact on our lives, our province, and our country.	Human Environment	Economy
eColi is an issue when the lake is high. Could it be from the Portage Diversion when it is opened?	Human Environment	Health
There is hemlock in the lake now, probably because of the portage diversion. There never used to be. Have to be careful in the water or else get big rashes.	Human Environment	Health
Likely necessary to restrict access during construction. Unrealistic to restrict activities on the ROW during operation. Restrictions might illegally restrict First Nations Peoples rights. Maybe more realistic to place restrictions on small areas- perhaps in the immediate vicinity of control structures or in very sensitive wildlife habitats.	Indigenous Peoples	Traditonal Land and Resource Use
Does the project go through the First Nations lands?	Indigenous Peoples	Traditional Land and Resource Use
Missing from the socio-economic category is land use (beyond resources use) by Indigenous Peoples, such as powow and teaching areas.	Indigenous Peoples	Traditional Land and Resource Use
The project team should be flexible to suggestions, alternatives, changes, reiterations, and combined solutions. Keep the general public informed. Team may have PhDs, engineers and hydrologic experts, but the locals are the ones who have extensive knowledge regarding the historic local conditions/environment in the areas. Please listen to them.	Indigenous Peoples	Traditional Land and Resource Use
The fear factor for those of us who survived the 2011 flood event are still high. We lost loved ones, plants/trees, our homes and money. Much was not replaced, some is irreplaceable.	Indigenous Peoples	Traditional Land and Resource Use
40 ft vertical slopes could be dangerous.	Accidents and Malfunctions	
Safety is a big issue.	Accidents and Malfunctions	
What if someone drowns in the channel?	Accidents and Malfunctions	
What shoreline protection is available for current home owners at Twin Lakes beach area if geotubes are removed?	Project Description	

Table 5A-21
Round 3

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
At 812/814 ft on Lake Manitoba, running the diversion affects us.	Project Description	
Like to have beaches (on Lake Manitoba) cleaned up when the Portage Diversion is running.	Project Description	
Consider the impact around Lake Manitoba when flooding occurs. Given timeline, there is a good chance another flood will happen before project is complete.	Project Description	
Sounds like the objective is to limit access.	Project Description	
Contract is now 51% to First Nations.	Project Description	
Not pleased with the Lake Manitoba Option D route and would like channel to follow Option C generally, but farther to the south where it goes through lakes that are spring fed. Would only require land purchases of two local landowners. KGS study stated the reason they did not go there was due to underground aquifers. Did digging in the area and found no evidence of the recharge aquifers identified in the report. For this reason, Option C was a better route option.	Project Description	
Why not go through the mud lakes? Ducks are not there. There was a Ducks Unlimited person that studied the waterfowl population (name quoted was Harrison).	Project Description	
Use route C, not D.	Project Description	
Lake Manitoba channel should go through the marsh network rather than beside it.	Project Description	
Will MI contract out to maintain the channels after they are developed?	Project Description	
What if they can't keep water in the Lake Manitoba outlet channel?	Project Description	
What happens to the channel if Fairford goes dry? Basal heave may not be as high as anticipated.	Project Description	
Operating guidelines are confusing. Lake Manitoba channel should be operated before 812.5 ft asl.	Project Description	
Concern regarding Portage Diversion and capacity being input from the Diversion into Lake Manitoba exceeds the amount of output by the channel.	Project Description	
Will the project handle the higher waters? How will the control structures be	Project Description	

Table 5A-21
Round 3

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
How long will it take to develop the project?	Project Description	
Concerned about needing to dig to get water to the channel.	Project Description	
How high does Lake Manitoba have to be in order to push 7,500 cfs?	Project Description	
20 ft tall spoil piles along the Lake Manitoba outlet channel is too high.	Project Description	
How far into the lakes will the channels extend?	Project Description	
Build a weir at the Lake Manitoba channel inlet which is set at 812' asl, that	Project Description	
How long will the EIS take to be produced and approved?	Project Description	
Still do not know when our land will be taken and the highway built.	Project Description	
More detail on PR 239 realignment intersection with PTH 6 at Grahamdale.	Project Description	
More information needed on the PR 239 realignment.	Project Description	
Please assess the Portage Diversion as part of this project.	Project Description	
Spatial Boundaries should include the Portage Diversion and the Lake St. Martin outlet channel access road.	Project Description	
Are they going to upgrade the Assiniboine River?	Project Description	
Don't take away any geotubes along the Lake Manitoba shoreline until the channels built.	Project Description	
Heard operating guidelines for the Portage Diversion are to be reviewed. What are the guidelines?	Project Description	
Any special works planned for Portage Diversion?	Project Description	
Where is the channel?	Project Description	
When will the project be built?	Project Description	
How will channels handle the floods?	Project Description	
Will the Fairford control the outflow to Lake Winnipeg.	Project Description	
People are upset it is taking so long to build the project.	Project Description	
How deep will the digging go?	Project Description	
If the drop is 23,000 cfs through Fairford, then will flood PCN.	Project Description	
Don't see why this project is being built; it can't handle floods.	Project Description	
What do you have to do for an environmental assessment?	Project Description	
What has happened with the EA?	Project Description	

Table 5A-21
Round 3

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Spatial boundaries should include the Portage Diversion and wildlife protection; area should be much larger than shown.	Project Description	
I don't think the channel should be open from Lake Manitoba all the way to the outlet. The lake is low already this year.	Project Description	
What is the end date? Be sensitive in blaming release of money for future delays; it has been dedicated now. Be proactive in having it released for use on time.	Project Description	
Does the project go through the First Nations lands?	Project Description	
Why not build through the Big Buffalo Creek?	Project Description	
How long to get the project and EIS filed?	Project Description	
Consider environmental damage caused by using the Portage Diversion.	Project Description	
More information on operating rules and preventing high water prior to flooding.	Project Description	
How will vehicle access be managed?	Project Description	
How will you mitigate issues at Watchorn Bay?	Project Description	
How will environmental and engineering information be integrated into the design?	Project Description	
How are spatial boundaries delineated? Why buffer the features with an arbitrary distance rather than use natural features like watersheds?	Project Description	
Why are only parts of the lakes included in the RAA and not the entire lake?	Project Description	
How do you determine what to consider for cumulative effects assessment?	Project Description	
There is a problem with Fairford and its operation.	Project Description	
How are you handling the delta of Lake Manitoba outlet channel?	Project Description	
Why have bridge crossings where they are positioned?	Project Description	
Please explain the project (e.g., where is it located, etc.)?	Project Description	
How will you tender the project? Specifically, what procurement model will be used?	Project Description	

Table 5A-21
Round 3

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
How does the project work?	Project Description	
Diescrepancy in presentation regarding depth of Lake St. Martin (8-10 vs 8-12m).	Project Description	
How many bridges will be built?	Project Description	
Is it rock solid that the project will be built?	Project Description	
How wide are the channels themselves?	Project Description	
How will the Make Manitoba channel be constructed? How will you excavate it if there are groundwater blowout concerns?	Project Description	
How will you follow protocols for both channels?	Project Description	
Is the schedule too compressed?	Project Description	
First Nations representative asked why we are building this project? His points: 1) Get rid of Fairford River Diversion and let the system naturalize. 2) Needs to be system-wide water management that includes inter-provincial bodies as well as other systems within Manitoba, e.g., Portage Diversion operation and the hydroelectric generating stations along the Nelson River. 3) The Lake of Prairies (drawn down 11 feet) was a primary contributor to the flooding in Manitoba in 2011 in addition to holding backwaters at Jenpeg. Would this happen again?	Project Description	
How long to get the project and EIS filed?	Project Description	
Will engineering panel be developed to independently review the project design?	Project Description	
Is there an EA for the project? Has it been submitted?	Project Description	
When will the EA be ready? Where is it at now?	Project Description	
What is the residual effect of the Project and how is it being addressed?	Project Description	

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
The channel that connects Lake Manitoba to Lake St. Martin does not seem to take the most direct or cost effective route (i.e., there are shorter routes that include less infrastructure upgrades/bridges and do not affect as many farmers as the proposed route). The reason for this route being chosen when others seemed to be available not clearly communicated.	Project Description	
Lack of information on environmental impacts, reasons for size of delineated LAA and RAA, and total project footprint size (such as work camp areas).	Project Description	
Both fish and water can move freely in the lake; don't understand why the LAA is so small for Lake Manitoba and Lake Winnipeg. Why is the part of Lake Winnipeg within Sturgeon Bay Provincial Park not part of the LAA? It is very close to the channel mouth, yet the LAA cuts off at the park boundary.	Project Description	
Other flood mitigation measures can be combined with this project to maintain Lake Manitoba levels 100% of the time (below 811.5 ft). For example, wetland restoration, preservation of existing Manitoba and Saskatchewan wetlands and forest area from development projects/clear-cuts, southern water-retention possibilities, use of Assiniboine and Red River Water to irrigate farmland and residential areas (instead of treated tap water or aquifer/well water), new regulations requiring commercial/farm/residential lands to retain a certain volume of water per area (i.e. ponds, water holes, wetland restoration, etc.).	Project Description	
Currently water on Lake Manitoba remains too close to housing (even though the water level is close to its desired range of 811.5 ft); there is no buffer for more water. Proximity of the water is still close enough to cause wave damage (haven't seen the actual beach since before the flood). With any higher than the current water levels, I would say that it is a really bad flood and there is significant damage possibility with waves. 812, 813, or anything above 811.5 ft is unacceptable 100% of the time on Lake Manitoba.	Project Description	

Table 5A-21
Round 3

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Add VC for Provincial and National Water Management Strategy. How water management projects are interlinked with the overall provincial and national water management strategy and the impact on the overall water system (natural and man-made). Is it aligned with the goals and objective of the national water system? Maybe time for the federal and provincial governments to refine their missions, goals, objectives, regulations, and policies to ensure that a project such as this really is aligned with an effective strategy to protect and preserve the water ecosystems in relationship to human activity. Project does not really consider the downstream or upstream impacts outside of the project area. This was the same problem Assinaboine Diversion had.	Project Description	
This project will have impacts outside the project area. Try not to develop downstream/upstream problems for future generations to deal with.	Project Description	
Spatial boundaries appear to be based on distances from the project. This approach seems to be arbitrary. It would seem that a preliminary assessment would identify areas outside the current spacial boundaries and possibly exclude some areas that are inside the present boundaries. Perhaps as the assessment progressess the boundaries might be altered.	Project Description	
Effect of lake ice needs to be considered for operation during winter. It might not be possible to draw down the lake in anticipation of future flooding as lake ice is often 1.5m thick (or more) and could restrict the flow of water into the structure.	Project Description	
Why does the environmental license take 1 year?	Project Description	
How long will it take to be approved? Storyboard implies 1 year from April 2018.	Project Description	
What can stop the project? Will First Nation consultation slow it down?	Public and Indigenous Engagement	
How many people came out today? How about in Moosehorn?	Public and Indigenous Engagement	

Table 5A-21
Round 3

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
There are 2 English storyboards with spelling mistakes on them. Environmental is spelled in French on the timeline, and Marten is spelled “Martern” on the VC board.	Public and Indigenous Engagement	
Please don’t refer to the 2011 flood as a natural event; it wasn’t. Flooding in area was due to use of the Portage Diversion. Please change wording; it upsets a lot of people.	Public and Indigenous Engagement	
Storyboard indicating the project will be built in 2020/21 is incorrect.	Public and Indigenous Engagement	
We’ve been sending concerns to the project team but have no response. How does public commentary get considered in the EA and project planning?	Public and Indigenous Engagement	
Maps on storyboard for the component parts are wrong as Reach 3 was built to the lake in 2011. Emergency channel is shown in the wrong location.	Public and Indigenous Engagement	
Keep local media outlets aware of any project developments.	Public and Indigenous Engagement	
Is there a storyboard overseeing the management of the waters?	Public and Indigenous Engagement	
What consultation has occurred?	Public and Indigenous Engagement	
How will the IPEP information be shared with the public and in the EA?	Public and Indigenous Engagement	
Diescrepancy in presentation regarding depth of Lake St. Martin (8-10 vs 8-12m).	Public and Indigenous Engagement	
Very little about Aboriginal Consultation on storyboards or presentation.	Public and Indigenous Engagement	
The project team should be flexible to suggestions, alternatives, changes, reiterations, and combined solutions. Keep the general public informed. Team may have PhDs, engineers and hydrologic experts, but the locals are the ones who have extensive knowledge regarding the historic local conditions/environment in the areas. Please listen to them.	Public and Indigenous Engagement	
Thank you for the many meetings and information sharing. Initial work indicates a strong and honest project team. You will be making a significant impact on our lives, our province, and our country.	Public and Indigenous Engagement	

Table 5A-21
Round 3

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
VCs not clearly identified during presentation; could not find them on website. May have been presented and available on the website; however, not identifiable as "Valued Components".	Public and Indigenous Engagement	
This has to happen. Nobody disagrees with the need for the project.	Public and Indigenous Engagement	

Table 5A-22
Round 4

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Town south of Lake Winnipeg gets significant wind, so that area goes under water when winds are high. Portage Beach must be getting lots of water because of wind.	Physical Environment	Atmospheric Environment
Is there quite a bit of wind effect on the lakes?	Physical Environment	Atmospheric Environment
Is the land flat until you get to Lake Winnipeg? The 100m difference between Lake Manitoba and Lake Winnipeg all happens at the end.	Physical Environment	Geology and Soil
Interested in soil information at lake bottom.	Physical Environment	Geology and Soil
Lake Winnipeg has been high for years. Is there a structure affecting that level?	Physical Environment	Groundwater and Surface Water
Town south of Lake Winnipeg gets significant wind, so that area goes under water when winds are high. Portage Beach must be getting lots of water because of wind.	Physical Environment	Groundwater and Surface Water
In general, water moves back and forth with the wave action – how does the channel affect the movement? When we built our place I found a fence post showing the levels here changed 5'.	Physical Environment	Groundwater and Surface Water
One of the considerations is the impact on the community around Lake St. Martin – there is flooding now that didn't occur before – what is your baseline?	Physical Environment	Groundwater and Surface Water
How do you regulate the water levels in Lake St. Martin area? Is the amount of flow on LSMOC equalled to the amount of flow on LMOC?	Physical Environment	Groundwater and Surface Water
The lakes historically benefitted when levels were low, which allowed the build up of the sand around the lake and the stabilization of plant and tree growth. Is there that type of consideration in this?	Physical Environment	Groundwater and Surface Water
When Lake Manitoba was flooded it had been running high for many years and hadn't had the opportunity for stabilization from low levels.	Physical Environment	Groundwater and Surface Water
One of the problems with diversion at Portage la Prairie - you put water through channel when water higher than land, you increase water pressure and affect salinity.	Physical Environment	Groundwater and Surface Water
I'd like to see the study done on LSMOC and effects on Sturgeon Bay Provincial Park – you're affecting the ecosystem.	Physical Environment	Groundwater and Surface Water
2003 Lake Manitoba down to 810.7.	Physical Environment	Groundwater and Surface Water
Lake Winnipeg levels have been high for a long time.	Physical Environment	Groundwater and Surface Water
Is there quite a bit of wind effect on the lakes?	Physical Environment	Groundwater and Surface Water
What is the average height of Lake Manitoba?	Physical Environment	Groundwater and Surface Water
How is Lake St. Martin going to be impacted by the project?	Physical Environment	Groundwater and Surface Water

Table 5A-22
Round 4

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Is Lake Manitoba part of the Lake Winnipeg water basin?	Physical Environment	Groundwater and Surface Water
Concerned there may be backflow.	Physical Environment	Groundwater and Surface Water
Potential for runoff into channels from agricultural land/cattle.	Physical Environment	Groundwater and Surface Water
How many monitoring wells have been installed in the proposed channels?	Physical Environment	Groundwater and Surface Water
What consideration is being given to ground water?	Physical Environment	Groundwater and Surface Water
How is the water from the west side of channel going to get to east side?	Physical Environment	Groundwater and Surface Water
Water in the ditch will seep.	Physical Environment	Groundwater and Surface Water
Channel will bottle neck us – we're at risk for ice/flooding at bend.	Physical Environment	Groundwater and Surface Water
Lowland water (Reed Lake) – the channel will cut the flow into the low lands (Reed Lake) and the water will flood in.	Physical Environment	Groundwater and Surface Water
Affluent water run off from cattle operation will run into the channel.	Physical Environment	Groundwater and Surface Water
Groundwater – lowering aquifer, pumping groundwater.	Physical Environment	Groundwater and Surface Water
Why is the water in Lake Winnipegosis peaking in June? Waterhen flowing at high capacity (flowing from Cedar Lake) during spring, you don't get runoff effects in Lake Winnipegosis. Some groundwater must be coming through from Cedar Lake to Lake Winnepegosis. Historically (May) over by June – coincidental with water rising in Cedar Lake. Pressure from Cedar Lake forebay on groundwater.	Physical Environment	Groundwater and Surface Water
Artesian wells – project will change those – many people rely on artesian wells.	Physical Environment	Groundwater and Surface Water
Lake Manitoba Channel - Water goes to Grahamdale. How will the channel effect the water movement that goes east? What's the drainage plan? I won't be able to go south of where I live now.	Physical Environment	Groundwater and Surface Water
Water quality – What happens to wells when it's dry? Will lake water be sucked into aquifer when it's dry?	Physical Environment	Groundwater and Surface Water
Very concerned with losing groundwater. KGS made many mistakes.	Physical Environment	Groundwater and Surface Water
Lower water levels in fall to prepare for spring runoff; be proactive with channel operation.	Physical Environment	Groundwater and Surface Water
Need to remember that storms cause wave impacts on top of the high water levels – waves caused some of the greatest damage to properties on twin beach during 2011 flood. Levels should be maintained at a lower level in consideration of this.	Physical Environment	Groundwater and Surface Water
How will aquatic invasive species be dealt with this project?	Aquatic Environment	Fish and Fish Habitat
How can you go from one spawning area to another spawning area at Watchhorn Bay? No one is out there testing in the fall. There's a better route.	Aquatic Environment	Fish and Fish Habitat

Table 5A-22
Round 4

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
We see impacts on commercial fishing, invasive species.	Aquatic Environment	Fish and Fish Habitat
We've got fish heads every few feet on the beach.	Aquatic Environment	Fish and Fish Habitat
With LSMOC going to Lake Winnipeg – where is the spawning ground and how will it be affected (on the outlet end)?	Aquatic Environment	Fish and Fish Habitat
I'd like to see the study done on LSMOC and effects on Sturgeon Bay Provincial Park – you're affecting the ecosystem.	Aquatic Environment	Fish and Fish Habitat
Will there be an evaluation of smaller species like plankton and insects because they affect fish?	Aquatic Environment	Fish and Fish Habitat
U of M said Lake St. Martin has a productive lake for all the fish and fish habitat.	Aquatic Environment	Fish and Fish Habitat
Concern about the channel washing away nutrients and decimating fish habitat and fishing for First Nations.	Aquatic Environment	Fish and Fish Habitat
What about zebra mussels?	Aquatic Environment	Fish and Fish Habitat
Changing Lake St. Martin into a river system; concerned about impacts to habitats and overall changes.	Aquatic Environment	Fish and Fish Habitat
Fish spawning impacts in Lake St. Martin, based on changing systems, changes to water temperature, etc., is a concern.	Aquatic Environment	Fish and Fish Habitat
Concern about invasive species (zebra mussels).	Aquatic Environment	Fish and Fish Habitat
Issues with Lake Manitoba inlet (spawning) and kids beach (Watchorn provincial beach park). Bear creek (outlet) spring spawning for jack (northern pike).	Aquatic Environment	Fish and Fish Habitat
Watchorn Bay – spawning bay – they chose an alignment that went from one spawning bay and into another.	Aquatic Environment	Fish and Fish Habitat
Are fish going to be able to spawn or use the channels?	Aquatic Environment	Fish and Fish Habitat
What is the environmental affect of the flooding? We've seen destruction of marsh.	Terrestrial Environment	Vegetation and Wetlands
The lakes historically benefitted when levels were low, which allowed the build up of the sand around the lake and the stabilization of plant and tree growth. Is there that type of consideration in this?	Terrestrial Environment	Vegetation and Wetlands
I'd like to see the study done on LSMOC and effects on Sturgeon Bay Provincial Park – you're affecting the ecosystem.	Terrestrial Environment	Vegetation and Wetlands
What will the channel be vegetated with?	Terrestrial Environment	Vegetation and Wetlands
Crops took a long time to come around after flood. There is a fox trail in our crops.	Terrestrial Environment	Vegetation and Wetlands

Table 5A-22
Round 4

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Weed control – who maintain the banks? Why can't we cut the hay? Would help manage weeds.	Terrestrial Environment	Vegetation and Wetlands
I'd like to see the study done on LSMOC and effects on Sturgeon Bay Provincial Park – you're affecting the ecosystem.	Terrestrial Environment	Wildlife and Wildlife Habitat
Will there be an evaluation of smaller species like plankton and insects because they affect fish?	Terrestrial Environment	Wildlife and Wildlife Habitat
Our area is across from Steep Rock. We didn't have a road to our ranch until the 90s. When land was cleared we saw deer come down. We have FN hunting 24/7/365. The elk and deer are still there but it's just different.	Terrestrial Environment	Wildlife and Wildlife Habitat
Crops took a long time to come around after flood. There is a fox trail in our crops.	Terrestrial Environment	Wildlife and Wildlife Habitat
Turning this expropriated land back to wildlife is WRONG: 1) public corridor through our farms; 2) tame forages results in more wildlife and waterfowls nesting; 3) tell the tree huggers to come for a farm tour on land that is managed properly for wildlife and I'll show them the benefits.	Terrestrial Environment	Wildlife and Wildlife Habitat
The channel will be wide and will affect the movement of animals.	Terrestrial Environment	Wildlife and Wildlife Habitat
I'm seeding 10 acres with cereal for elk.	Terrestrial Environment	Wildlife and Wildlife Habitat
The province has completely given up on big game wildlife management.	Terrestrial Environment	Wildlife and Wildlife Habitat
We see impacts on commercial fishing, invasive species.	Human Environment	Land and Resource Use
Been going to Lake Manitoba (St. Laurent) since I was 6 years old. People are still crying for their lost trees; we lost 100-year old willows. To think that another flood could happen before the flood mitigation happens.	Human Environment	Land and Resource Use
Is the land acquisition for LSMOC crown or private? Is any land being acquired by Indigenous communities?	Human Environment	Land and Resource Use
Our area is across from Steep Rock. We didn't have a road to our ranch until the 90s. When land was cleared we saw deer come down. We have FN hunting 24/7/365. The elk and deer are still there but it's just different.	Human Environment	Land and Resource Use
Is it mostly cattle operations (by the Lake Manitoba outlet channel)?	Human Environment	Land and Resource Use
Farmer with ranch on peninsula was under water after 2011 flood, could not go home for 2 years, only compensated for one. Lost half of cattle, not replaced. Understand why focus is on impacts to fish, wildlife, etc., but would like to see more on impacts to people and their livelihoods.	Human Environment	Land and Resource Use
Will there be public tourist access?	Human Environment	Land and Resource Use

Table 5A-22
Round 4

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Turning this expropriated land back to wildlife is WRONG: 1) public corridor through our farms; 2) tame forages results in more wildlife and waterfowls nesting; 3) tell the tree huggers to come for a farm tour on land that is managed properly for wildlife and I'll show them the benefits.	Human Environment	Land and Resource Use
I want to talk to someone from Federal government. Land is being expropriated. Taking some for channel, some for environmental. It's a 1/4 mile from the channel.	Human Environment	Land and Resource Use
Main source of income is bait fish – we hire a couple of people – it's our livelihood. The First Nations have had a larger voice than us.	Human Environment	Land and Resource Use
We live on the lake and we're affected by the 2011 flood – we weren't compensated very well. Feel FN received better compensation.	Human Environment	Land and Resource Use
We are most affected between our 2 farms. Our home and farm has been expropriated and we haven't seen an offer. Have recceived the following information from the province: Order of Concern, March 11; Date of Exproriation, April 11; Date of Offer, August 9.	Human Environment	Land and Resource Use
The order in council said "they'd exhausted all offers" - there were no offers. Total 400 acres expropriated.	Human Environment	Land and Resource Use
For channel they need 80 acres and told me to leave the hay for environmental reasons - for wildlife - I'm not allowed to cut hay.	Human Environment	Land and Resource Use
We have 2 quarters and they're taking ½ of that PLUS pasture that we rent. We have cattle operation. We're losing our area where we keep our bulls in the winter. We're losing our cattle; this shuts down our calf/cattle operations.	Human Environment	Land and Resource Use
We have 430 acres being expropriated. Lose ¼ section with artesian well where we winter our bulls (affects another ranch as well) because channel will be right next to Bayhorn Road. We have a cow/calf operation, grains, renovated home, artesian well. We also own 3 quarters west but it's not good for farming.	Human Environment	Land and Resource Use
The government hasn't committed to us. They have not been allowed to bring any numbers. We're suppose to get numbers in the mail tomorrow, but we don't believe anything anymore.	Human Environment	Land and Resource Use
We have 350 head cattle operation. No grain. 2.5 quarter sections are being expropriated including our house. They thought of going around but they realized they couldn't have cattle operation that close to channel.	Human Environment	Land and Resource Use
Got first letter April 6-9, 2019. Own land around Reed Lake. Will lose west access. We trapped on lake, multi-generations.	Human Environment	Land and Resource Use

Table 5A-22
Round 4

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
We were expropriated without a clue. They're keeping land for wildlife.	Human Environment	Land and Resource Use
Access to land - MI wants land to go back to natural state. Give us a lifetime interest, a right to cut hay on the "natural state" land that is being expropriated.	Human Environment	Land and Resource Use
Expropriation process was way too late. So much in limbo.	Human Environment	Land and Resource Use
Concern over wildlife in the channel ROW and illegal hunting on the expropriated land, and that farmers' land is supposed to be going back to natural state (wildlife). This land should be managed by the farmers (seeded to hay). Lots of nighlighting, and this ROW will be a corridor for illegal access and illegal hunting. Farmers should be responsible to hay that land and to manage the wildlife on their own. Turn land back to farmers. Farmers won't be able to control illegal hunting on their land. Wildlife land should be designated somewhere else. Also a hazard for fire control – bush fire waiting to happen.	Human Environment	Land and Resource Use
Farmer had 240 acres exproriated for wildlife. Land taken from family. Why should anyone have the right to take my land? Never approached for a deal, never made an offer; now they own my land. Offered $100,000 to another landowner to make up for his loss and was rejected.	Human Environment	Land and Resource Use
Watchorn Provincial Park beach – used by many, kids go out half a mile; channel goes right next to it, will suck sand away, have to dredge – going to destroy Watchorn Provincial Beach Park.	Human Environment	Land and Resource Use
Watchorn beach – people come from all over to use that beach – worried channel will destroy it. 2011 flood impacted beach and saw decrease in users until it was rehabilitated. Better now, but worried channel is so close to beach that it will negatively impact beach; remove sand or change to currents – it's currently very safe, no currents to worry about, etc.	Human Environment	Land and Resource Use
Since land expropriation for channels started, property values have doubled. Neighbours are fighting. Province is taking more than they need to put back to natural state (taking extra that would be landlocked).	Human Environment	Land and Resource Use
It's taken 50 years to establish our farm, now it's being taken from us. We can't just move and re-establish, there's new municipal laws and restrictions. Where we were, we were grandfathered in and had it good; we'll never have that again. Current government doesn't care. People should matter the most. We're losing our livelihood.	Human Environment	Land and Resource Use

Table 5A-22
Round 4

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
FN communities influenced the routes, the ones they didn't want were ruled out because the government knew they had no chance. This is what we're left with and no matter what we say, nothing will change. This is how we make a living and it's being taken; beyond our control.	Human Environment	Land and Resource Use
Have been in favour of this project. We own 5 quarters. Had property completely flooded in 2011. Some low land turned into shallow lake. When water evaporated was a layer of salt and land became saline. Still paying mortgage on 2 properties. Can't sell; farmers don't wan't saline land.	Human Environment	Land and Resource Use
Supported channel because we couldn't have another flood like 2011. Was disappointed to hear that all this land that is being expropriated will be turned back into wildlife. Problem is you'll create a ½ mile corridor into the heart of all of our farms.	Human Environment	Land and Resource Use
We have problems with illegal hunting. You're giving a 22 km ½ mile wide access. We won't be able to restrict access to private property. I've had cattle killed/rustled/shot.	Human Environment	Land and Resource Use
For every acre of channel you must be giving an acre back to wildlife. I have 2 hydro line ROW. Hydro lets us farm it. MI should do the same. If managed properly, we'll have more wildlife production them if left to nature.	Human Environment	Land and Resource Use
You're putting a highway through our farms and we will have nightlighting (thieves/poachers) we won't be able stop access.	Human Environment	Land and Resource Use
What does the land being expropriated become? Is it crown land?	Human Environment	Land and Resource Use
Fire control – if designated wildlife and we're not allowed to cut hay, people will be able to ride quads – cause wildfire.	Human Environment	Land and Resource Use
I should be compensated for the clearing I've done on right of way.	Human Environment	Land and Resource Use
It's not going through our house but it's completing changing the place we live.	Human Environment	Land and Resource Use
How do you farm with this all going on?	Human Environment	Land and Resource Use
They expropriate my land that I still have a mortgage on and I can't work the land.	Human Environment	Land and Resource Use
Why put it so close to a Provincial Park? They just did much needed upgrades, spent lots of money, now the channels going adjacent. Go to destroy the park – degrading, wash away the beach, safety issues…	Human Environment	Land and Resource Use

Table 5A-22
Round 4

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Will there be any opportunities for recreation and tourism? Particularly RM of Grahamdale – great natural features. Herd of wild horses, meteor impact, snowmobile and ATV access, photography, ice fishing and hunting. Steeprock - great geographic area and history. Interested in access to channels.	Human Environment	Land and Resource Use
Grazing or haying along channel? Interested in disruptions to agriculture – looking for consideration.	Human Environment	Land and Resource Use
Concerns with salinity in soil. Big affects on agriculture.	Human Environment	Land and Resource Use
Expropriation without offers us wrong. Expropriation should be last resort.	Human Environment	Land and Resource Use
Concerned about impacts on fishing.	Human Environment	Land and Resource Use
One of the considerations is the impact on the community around Lake St. Martin – there is flooding now that didn't occur before – what is your baseline?	Human Environment	Infrastructure and Services
PR 239 has a lot of heavy traffic at Steep Rock; there's the cement plant.	Human Environment	Infrastructure and Services
PR 239 always in bad shape so plan for heavy traffic – weight restrictions in spring. Only access for cottages at Steep Rock.	Human Environment	Infrastructure and Services
Land being expropriated. This is affecting my access. Get access through Moosehorn Duck Club. In winter, need access to move cattle for wintering cattle. How are they crossing the ditch on the TWP road?	Human Environment	Infrastructure and Services
We're not part of the channel so we're being expropriated. Once road is built there will be an access issue. Have 1.5 miles of fence; who is responsible for replacing it? Want to know our rights. Don't have time to rebuild the fence. Have cattle. If fence is going against highway, will need to be upgraded; designed for rural road.	Human Environment	Infrastructure and Services
We have wells – if they shut off our hydro we need another source of water for our cattle.	Human Environment	Infrastructure and Services
I live on Woodale Line – Anyone hauling rock from Steep Rock will use Woodale rather than going around to get on new road. What will be used to control dust?	Human Environment	Infrastructure and Services
I'm 1/2 mile away from channel. If they take that well away (SE 18 24 8), I'm hooped (livestock/house 60 pgm flow). There's a run off 1/2 km from Township Road. My farm could be flooded.	Human Environment	Infrastructure and Services
I don't look forward to looking at the channel outside my window. Waste of farmland, have to take farm equipment/livestock across bridge.	Human Environment	Infrastructure and Services
I'll have access issue across the channel. We bring the cows in from pasture for the winter – how will they cross the channel?	Human Environment	Infrastructure and Services

Table 5A-22
Round 4

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Not happy with road realignment, people coming from the north are going to detour west on our sideroads to get to 239 more efficiently – doesn't make sense.	Human Environment	Infrastructure and Services
Artesian wells – project will change those – many people rely on artesian wells.	Human Environment	Infrastructure and Services
Why was the road redesigned to route south into Grahamdale? Most affected landowner – losing 560 acres – taking out crop land. Split 6 of my quarters, affects access to land, drainage, relocating PR 239 right by my house (major highway), relocating of Hwy 6.	Human Environment	Infrastructure and Services
We have 6 approvals to our house to allow big equipment to bypass the house – now it's a highway so I only get 2 approaches. I want more approaches.	Human Environment	Infrastructure and Services
The existing road is being taken out causing me be go a mile north – causing me to go extra 5 miles to access land.	Human Environment	Infrastructure and Services
The highway past our house will be loud.	Human Environment	Infrastructure and Services
There's no time to plan for this. I need to move things on my property, build a pad, get hydro in. I need money to book people to construct those things. I need one year. Lack of information and funding being provided by MI.	Human Environment	Infrastructure and Services
People who own cabins are interested in renting out accommodations for workers. How to get on a list for providing private accommodations?	Human Environment	Infrastructure and Services
How did you do socio-economics? How do you acknowledge why you need to acknowledge? You've got traditional territory.	Human Environment	Economy
Local construction company said they hope construction is broken into smaller components of $25-30 million over several years so that smaller companies can bid. Otherwise, it will only be large companies out of province that can afford to build.	Human Environment	Economy
Socio-economic study/report being done? (RM of Grahamdale) How are socio-economics being incorporated into the assessment?	Human Environment	Economy
RM of Grahamdale wants socio-economic analysis of their RM.	Human Environment	Economy
Channel will devalue our land because it divides it up – now have to access 2 lands.	Human Environment	Economy
We're in limbo for 2 years – don't know what to sell cattle, market low now.	Human Environment	Economy
They're taking 7500 acres of good quality land and 7% of the tax base. Who pays for that?	Human Environment	Economy
Worried about cost of future inflations, such as fuel and trucking cattle, with loss of route home.	Human Environment	Economy

Table 5A-22
Round 4

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
What's wearing people down is the years - we've lost people to death, financial losses.	Human Environment	Health
How would you feel if your home is full of black mould and you're given some spray bottles. We've been living in a 5th wheel trailer ever since the flood. Not to discount the totally displaced families who are raising families in the city when you're not from the city.	Human Environment	Health
We've been stressed out since 2011.	Human Environment	Health
Lots of anxiety. There's a lack of trust in the community.	Human Environment	Health
Land expropriation process has been drawn out and has stressed people out.	Human Environment	Health
Not enough archaeology or TK – can't get answers on these matters.	Human Environment	Heritage
Concern about the channel washing away nutrients and decimating fish habitat and fishing for First Nations.	Indigenous Peoples	Traditional Land and Resource Use
Concern how operation will affect Lake St. Martin/livelihood.	Indigenous Peoples	Traditional Land and Resource Use
Concerns about the consultation process with FN and the TLU studies for the EIS. Have concerns that our input hasn't been heard. How can this be submitted without our input?	Indigenous Peoples	Traditional Land and Resource Use
Assessment of impacts on First Nations not done yet. Funding problems? Province?	Indigenous Peoples	Traditional Land and Resource Use
The depth of study for TLU takes a while and can't be done before August. We (Interlake Tribal Council) had an agreement but MI says it's expired. We agree there should be a new agreement. We need money for studies. If ILTC does study then it's led by us and written in our words. We have concerns about funding, timing, and authenticity absent a reliable and complete EIS to CEAA. We want to do those TK/TLU studies.	Indigenous Peoples	Traditional Land and Resource Use
Not convinced that these structures are in our best interest – we (Interlake Tribal Council) feel they'll work for people down south (i.e. Winnipeg) and not us. That's where best intent is at stake.	Indigenous Peoples	Traditional Land and Resource Use
How will it affect the livelihood of our people (Interlake Tribal Council)? We were negatively affected negatively by emergency channel.	Indigenous Peoples	Traditional Land and Resource Use
The Fairford flood of early '70s, there were ranchers that lost crops around Lake St. Martin and the land was given to Lake St. Martin reserve. Not all issues resolved.	Indigenous Peoples	Traditional Land and Resource Use
It's a delusion that there's been Indigenous consultation and land studies (i.e. TLU).	Indigenous Peoples	Traditional Land and Resource Use
Not enough archaeology or TK – can't get answers on these matters.	Indigenous Peoples	Traditional Land and Resource Use

Table 5A-22
Round 4

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Your baseline is wrong and I don't know how you are going to fix that. FN is going to go after that. It's high risk to put together a baseline post flood – combine that without TLU.	Indigenous Peoples	Traditional Land and Resource Use
Did MI confirm TLU and boundaries of traditional territories before putting them in EIS?	Indigenous Peoples	Traditional Land and Resource Use
"Low impacted" communities are still concerned about the project, even though they haven't communicated.	Indigenous Peoples	Traditional Land and Resource Use
Licensed trapper from Pinaymootang FN, heavy equipment operator trained (2013); wants hand-on experience. Our jails are full, men and women are desparate, this is in our backyard. There should be FN participation in the construction, operation and maintenance of this project. Post jobs on reserve, not MI website. Have job fair on reserve. Unemployed people on reserve would shovel with a spoon to do something.	Indigenous Peoples	Traditional Land and Resource Use
Because of the St. Martin flood, I missed the opportunity to be trained on the trapline.	Indigenous Peoples	Traditional Land and Resource Use
After flood, our Chief got houses and 5 acres we built houses too fast and contractor told us to slow down	Indigenous Peoples	Traditional Land and Resource Use
I'm concerned. I'm from Little Saskatchewan and we operate a farm – we're concerned about how operation of channels will affect our livelihood. Concerned about favouritism. Will it all be coordinated under one branch?	Indigenous Peoples	Traditional Land and Resource Use
It looks like they're using our reserve (Little Saskatchewan) as a reservoir.	Indigenous Peoples	Traditional Land and Resource Use
Has any thought been given to the environment when the next flood hits?	Project Description	
Keep Lake Manitoba baseline at 808.5 to 810.5; 812.5 is too high.	Project Description	
What is the rate in inches/day/week if the Lake Manitoba outlet is totally operational?	Project Description	
How quickly in days could the lake level be lowered 6" if the Portage Diversion is not operational?	Project Description	
What is definition of flood condition?	Project Description	
Determine channel operation?	Project Description	
Which will be used? 90, 50 or 10 percentile?	Project Description	
From the plan map, it appears the outlet control structure is located some distance downstream. If this is true, what will it look like at the lake outlet?	Project Description	
The length of channel and number of structures within the Lake Winnipeg water power reserve will be of interest from regulation point of view.	Project Description	

Table 5A-22
Round 4

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
In the event I get flooded again are there any changes to compensation? Guidelines are being established for flooding and hand-in-hand there should be guidelines for compensation.	Project Description	
How will you protect us if we have an abnormal amount of water in the coming years? At the rate things are happening now, the area won't be safe for another 8 years.	Project Description	
Every time a question is asked, the clock stops.	Project Description	
The operating level of Lake Manitoba is 810.5. Drop to 810.5 in fall so in winter there's room for water to come in. They don't lower it enough over the winter.	Project Description	
Even with new channel, Lake Manitoba would have hit 816 in 2011.	Project Description	
At what point do they decide to turn the switch on to manage the levels (it's Sept, it's raining…)?	Project Description	
Will the channel stay open all winter?	Project Description	
In the video they're showing construction 2020-2023 – you know how old I am?	Project Description	
Are the regulations to open Lake St. Martin channel when it's dry? Numbers on north side of lake sound wrong.	Project Description	
Once you get to 814, my property will be in trouble; need to build a bigger ditch.	Project Description	
We understand the math but who has the authority to open the gate because they're not giving it to me.	Project Description	
We are concerned about the 23-hour closure for the road in the winter without our knowledge or consent. CEAA guideline says clearing should be included in the EIS impact statement for August.	Project Description	
Is land expropriation complete?	Project Description	
Bill C69 – is it the law of the land? Will you be following CEAA 2012 or the new bill? When Ministers are reviewing projects they should consider the United Nations comments as law that's what's on the federal government.	Project Description	
When the current outlet was built they said they didn't need an outlet at Lake St. Martin which isn't intuitive – that decision caused tragedy and angst.	Project Description	
How do you regulate the water levels in Lake St. Martin area? Is the amount of flow on LSMOC equalled to the amount of flow on LMOC?	Project Description	
In June 2018 – they projected process would allow construction in 2019 – what happened to timeline?	Project Description	

Table 5A-22
Round 4

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
There will be no construction in 2019? So it's at least one year late? People are writing letters to get money. Is August 2019 submission firm? So when people ask questions the clock stops?	Project Description	
I'm surprised of the water height with the new channels. If on LSMOC you're up to 803 and you have wind – you need advice on how that will work.	Project Description	
In the channel literally, you're a foot above prairie, do you think there will be enough excavated material to address flooding?	Project Description	
Will CEAA approval require royal assent?	Project Description	
We should have joint panels on Manitoba projects.	Project Description	
Has the proponent done due diligence on all infrastructure? This is part of scope.	Project Description	
When is the project going to be built?	Project Description	
Concern with First Nations that the road construction was not scoped into the project.	Project Description	
Where is the construction period at? Is it delayed?	Project Description	
Were other routes investigated?	Project Description	
What environmental approvals/reviews can happen at the same time?	Project Description	
What is the review period? When is construction going to start? What is the consultation period? When does consultation end?	Project Description	
Will the Fairford dam still be in use?	Project Description	
Concerned about lengthy submission/review timelines.	Project Description	
What work has started on the project?	Project Description	
Interested in construction timelines and process to begin (approval process).	Project Description	
When will EIS be submitted? What studies are being done now?	Project Description	
Climate change – how are those projections influencing the assessment?	Project Description	
Why are they clearing for the project already?	Project Description	
Where did water from the emergency channel go? And did that water impact anyone?	Project Description	
When environmental impacts are assessed, are we also assessing the environmental impacts if we don't do the project?	Project Description	
What will be done with emergency channel restoration and invasive species – messed with ecosystem.	Project Description	

Table 5A-22
Round 4

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Concerned about proper management of the channels and who it benefits – for farming, ideal to have 812.5 ft in spring, not August. It should not just be a number that triggers channel to open – need proper management of channels and be proactive, not at the point of a flood; water levels and time of year should influence management.	Project Description	
Has the project not been approved yet?	Project Description	
Drop structure – usually sheet pile is at the end where the water exits to – make it safe.	Project Description	
What are the structures? Are there inlet/outlet structures? Where are locations of drop structures?	Project Description	
I'm exasperated in how long this is taking. We could have a flood anytime and everything will be wiped out (LSMOC).	Project Description	
The last portion of the line goes through the Lake Winnipeg water power storage reserve – different approval required. If it's under Crown Land Act, then anyone can do anything. Ministerial order is required.	Project Description	
Operating level for Lake Manitoba should be 810.5. Lost 50 feet of beach in 20 years. Baseline is wrong. Government paid for sea wall - the ice comes along in the spring and pulls the rocks away.	Project Description	
What will the channels be lined with?	Project Description	
What are the locations of the drop structures?	Project Description	
What is the federal role in the project?	Project Description	
Frustration with the timeline if a flood happens, the whole area land be wiped out; needs to be constructed.	Project Description	
What are the components (infrastructure) associated with the inlets/outlets?	Project Description	
What is this whole process called?	Project Description	
Once you have conclusions, if there are negative impacts how will they be dealt with? Will there be some sort of compensation?	Project Description	
When will the Federal Government be finished with their EA review? What is the plan should they disagree with this plan?	Project Description	
When will it be done! Where is the environmental process really at?	Project Description	
If there is a better route north of Hibre and shorter, why not go there?	Project Description	
How is the water from the west side of channel going to get to east side?	Project Description	
About 15 years ago they re-did Steep Rock Hwy to take curves out and now they're putting curves back in.	Project Description	

Table 5A-22
Round 4

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
I don't like channel idea – it's taking too much land. They should go north halfway between Hilford/Fairford. They say there's limestone but it's shorter.	Project Description	
Will both channels be built at the same time? Will one lake be given priority over another lake? Will they be operational before both are done?	Project Description	
How can you go from one spawning area to another spawning area at Watchhorn Bay? No one is out there testing in the fall. There's a better route.	Project Description	
10-foot drop from Lake St. Martin to Lake Manitoba; 2-ft drop from Reed Lake to Lake Manitoba; 8-ft drop from Reed Lake and Lake St. Martin.	Project Description	
20 communities represented in TAG.	Project Description	
Why didn't they go through by Pinaymootang (believe there's no groundwater through that route)? Concern about ground water issues and the route option selected.	Project Description	
Why was route option selected?	Project Description	
How will they prevent silting at the inlet?	Project Description	
Is theLake Manitoba channel going to have water / flow all the time?	Project Description	
Watchorn Provincial Park beach – used by many, kids go out half a mile; channel goes right next to it, will suck sand away, have to dredge – going to destroy Watchorn Provincial Beach Park.	Project Description	
Why was the road redesigned to route south into Grahamdale? Most affected landowner – losing 560 acres – taking out crop land. Split 6 of my quarters, affects access to land, drainage, relocating PR 239 right by my house (major highway), relocating of Hwy 6.	Project Description	
Don't agree with route. Prefer route up north. They used test well data from 50-year land, said there was cracked bedrock, was too close to reserve and their drinking water. What about all of our farms? Every well is flowing in the proposed route. If they build a channel, they're going to waste good quality water. Why not use the northern route and line the aquifer?	Project Description	
Relocation of 239 – Initially it was going to route north, then they changed the route. My house is 147 feet from highway.	Project Description	
Want an access road.	Project Description	
Will an access road be built to the other half of Lake St. Martin First Nation?	Project Description	
Concerns with operations – once you start operating, it's going to plug, will need to be constantly dredging.	Project Description	
What are steps for construction? Where do you start? PR239 realignment, ditching, bridges... in what order?	Project Description	

Table 5A-22
Round 4

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Will Fairford control structure continue to be in use with channels?	Project Description	
Drop structures – opportunities to use weirs for Whitewater opportunity for users (done in Calgary as example).	Project Description	
Concerns with operating guidelines and that they might change after approved and once channels are operating.	Project Description	
Lower water levels in fall to prepare for spring runoff; be proactive with channel operation.	Project Description	
Water levels are kept too high; should be a lower threshold. High levels are too risky, don't want close to flood conditions. There is no wiggle room – desired range of 810.5-812.5 is way too high. Should be 808.5-810.5 – that's "normal" levels before Fairford was in place.	Project Description	
Water levels are kept too high; should be a lower threshold. High levels are too risky, don't want close to flood conditions. There is no wiggle room – desired range of 810.5-812.5 is way too high. Should be 808.5-810.5 – that's "normal" levels before Fairford was in place.	Project Description	
2011 destroyed lives; never again please.	Public and Indigenous Engagement	
The only new thing was more delays!	Public and Indigenous Engagement	
With the government doing their best to stall things, why continue? Everything will be destroyed in the next flood.	Public and Indigenous Engagement	
Manitoba water stewardship produces lake level for us and on a probability basis.	Public and Indigenous Engagement	
Why has Indigenous consultation been left out of the 'timeline' the 'interaction' charts?	Public and Indigenous Engagement	
A longitudinal profile of Lake St. Martin outlet channel would give a good idea about the overall plan to certain of C.S. bridges drops structure and outlet and inlet structures.	Public and Indigenous Engagement	
A plan with number/type of structures along the channel alignment will be a useful info for an open house.	Public and Indigenous Engagement	
Not a single permanent resident representative south of Lake St. Martin that is not FN.	Public and Indigenous Engagement	
Wish someone was here from the federal government.	Public and Indigenous Engagement	
Why are there people here from Nelson River; 35 FN communities, part of the process?	Public and Indigenous Engagement	
Every year more groups are added; there were 6 communities, now 35.	Public and Indigenous Engagement	

Table 5A-22
Round 4

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
Project is taking too long.	Public and Indigenous Engagement	
Volunteer groups are still cleaning up garbage and debris from the flood.	Public and Indigenous Engagement	
Our beach has been cleared up two times by the RM - just before political visits.	Public and Indigenous Engagement	
We've had meetings with our group with provincial government – yes "we'll get you info - names of 35 groups" and nothing; going in circles.	Public and Indigenous Engagement	
The province here already set a precedent by settling a $90 million lawsuit, but I wasn't part of that class action lawsuit.	Public and Indigenous Engagement	
You need to get enough people together to have issues addressed.	Public and Indigenous Engagement	
Concerns about the consultation process with FN and the TLU studies for the EIS. Have concerns that our input hasn't been heard. How can this be submitted without our input?	Public and Indigenous Engagement	
If all the FN have to give consent that is a real challenge.	Public and Indigenous Engagement	
One approval the Manitoba government needs is to get an approval from themselves.	Public and Indigenous Engagement	
Show 2011 on the storyboards – don't hide from it.	Public and Indigenous Engagement	
People inside Winnipeg only see this much. What happened up there was done to protect this area.	Public and Indigenous Engagement	
Will there be interveners coming in after the fishing?	Public and Indigenous Engagement	
We brought questions because we didn't know the format of the open house had changed.	Public and Indigenous Engagement	
The proponent would be smart to stop the Minister from conducting public engagement on top of the public review for P6.	Public and Indigenous Engagement	
The reality of the hold up of the channel is because of the provincial government. Read the agreement between Feds/Prov – it's emphatic about Indigenous consultation.	Public and Indigenous Engagement	
Press conference last August – premier shaking finger into camera – not good for project.	Public and Indigenous Engagement	
Need more storyboards for definition of residual effects.	Public and Indigenous Engagement	
It's a delusion that there's been Indigenous consultation and land studies (i.e. TLU).	Public and Indigenous Engagement	
Map portfolio – make maps easy to access in filing – don't file large files that are slow to open.	Public and Indigenous Engagement	

Table 5A-22
Round 4

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
The First Nations feel that they haven't been consulted, that they don't know what the impacts are.	Public and Indigenous Engagement	
Concern that the project will be in limbo if governments switch with elections.	Public and Indigenous Engagement	
Has consultation period with FN's started?	Public and Indigenous Engagement	
Is there a presentation today?	Public and Indigenous Engagement	
What is the review period? When is construction going to start? What is the consultation period? When does consultation end?	Public and Indigenous Engagement	
How many communities have been engaged/consulted on the project?	Public and Indigenous Engagement	
35 FNs involved; not all 35 affected by flood. When does the public get a say; we were affected by flood. Have been impacted by flooding since '70s and still no change.	Public and Indigenous Engagement	
Any progress on Indigenous concerns?	Public and Indigenous Engagement	
What is FN response?	Public and Indigenous Engagement	
When does consultation end? Is there a timeline? Someone said one year – how far into that are we?	Public and Indigenous Engagement	
Need notification process to let public and communities about operating procedures with respect to what's going happen and when.	Public and Indigenous Engagement	
Operating guidelines storyboards – all technical talk; will never pass an EIS.	Public and Indigenous Engagement	
Support structure is on reserve. To have them come to Winnipeg is hard.	Public and Indigenous Engagement	
Too short notice for the open house! Need a few weeks notice!	Public and Indigenous Engagement	
Get this thing done!! It's already 50 years too late!!	Public and Indigenous Engagement	
Thank you for the information - it is appreciated. I do not feel forgotten in this long, long process (2011-2019).	Public and Indigenous Engagement	
No presentation? Not just me disappointed many attendees asking/commenting!	Public and Indigenous Engagement	
I live 1.5 km from Fairford structure – I was there during 2011.	Public and Indigenous Engagement	
I prefer to get updates on the project from Canada Post.	Public and Indigenous Engagement	
Doesn't look like anything has changed.	Public and Indigenous Engagement	
When you live in this community, then you see how it's affecting their lives.	Public and Indigenous Engagement	
Government started talking to us April 3, 2017. We were flooded in 2011.	Public and Indigenous Engagement	
Engineers are being paid a percentage of cost of project.	Public and Indigenous Engagement	

Table 5A-22
Round 4

Comment/Concern	Related EIS Section	Applicable VC Chapter(s)
More communication/information on the future. How homesteads will be moved.	Public and Indigenous Engagement	
Videos don't show houses/farmyards, etc.	Public and Indigenous Engagement	
Video does not show farmland, houses, buildings, infrastructure. Our farm, house and shop are being taken; the video doesn't capture any of that, looks like it's going through land with no use. Our land has purpose – use drone footage that shows existing and what's actually there, so people watching this video can see the actual impacts this is having on us and what's being taken away for the channels.	Public and Indigenous Engagement	
Minister Ron Schuler – he didn't know where the control centre was and didn't know that it would be full of water.	Public and Indigenous Engagement	
Is it possible to make your notes public?	Public and Indigenous Engagement	
Manitoba Infrastructure should come and bike the route to see the area and the effect.	Public and Indigenous Engagement	
Is duty to consult with FN complete, in progress?	Public and Indigenous Engagement	
Using the same E75 for both is not necessarily done. MMPT EIS – using the same confused the NEB – it was a weak panel from our perspective. We were at the tail end of doing assessment when NEB did EIA.		
There are approximately 20 projects that have gone into 2012 process – expert panels were clear in NEB doing EIA. NEB / Panel were confused and they shortened their EA review as a result.		

Appendix 5B OPEN HOUSE MATERIALS

Public Open House Advertisement

OPEN HOUSE

Share Your Views

concerning the proposed construction plans of the Lake Manitoba and Lake St. Martin outlet channels

You are invited to share your views at an Open House hosted by Manitoba Infrastructure and representatives from the consulting engineers of Kontzamanis Graumann Smith MacMillan Inc. These representatives will present the province's proposed plans for the construction of the Lake Manitoba and Lake St. Martin outlet channels.

Topics discussed will include the preliminary details on the channel, environmental considerations and the next steps in delivering this major flood infrastructure project.

The open house will be held in the Moosehorn, MB community hall on:

Date: **Thursday, June 29, 2017**
Time: **11:00 a.m. – 8:00 p.m.**
Location: **Moosehorn Community Hall, Railway Avenue**
Rural Municipality of Grahamdale

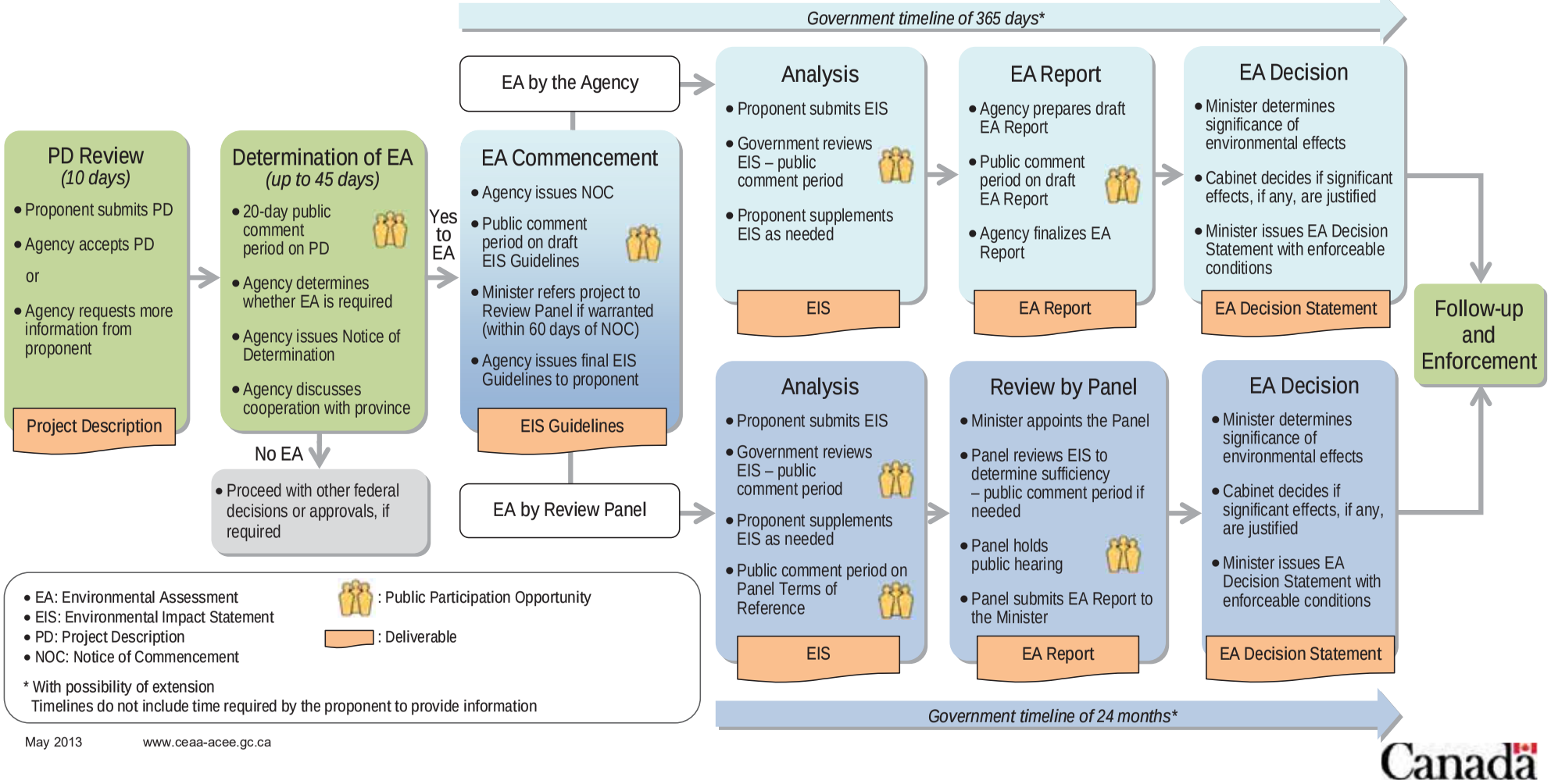
For more information please contact: Mark Allard at **204-622-2261** or **Mark.Allard@gov.mb.ca**

Manitoba

Canadian Environmental Assessment Agency | Agence canadienne d'évaluation environnementale

ENVIRONMENTAL ASSESSMENT PROCESS MANAGED BY THE AGENCY

Aboriginal consultation is integrated into the EA to the extent possible



- EA: Environmental Assessment
- EIS: Environmental Impact Statement
- PD: Project Description
- NOC: Notice of Commencement

: Public Participation Opportunity

: Deliverable

* With possibility of extension
Timelines do not include time required by the proponent to provide information

Canada

Lake Manitoba
Lake St. Martin



Lake St. Martin Emergency Outlet Channel (Fall 2011) (photo courtesy of KGS)

Outlet Channels

Public Information Session

June 29, 2017

Manitoba

Manitoba

Background & History

- 2011 Spring Flood Event
  - High flows recorded on most streams and rivers in the Assiniboine and Lake Manitoba Watershed
- 2011 Flood Review Task Force Report (Farlinger)
- Lake Manitoba and Lake St. Martin Regulation Review Committee Report (Westdal)
- Assiniboine River and Lake Manitoba Basins Flood Mitigation Study (KGS Group)
  - Consideration to
    - Water Retention along Assiniboine River
    - Water Control on Waterhen River
    - Pumping Lake Winnipegosis to Cedar Lake
    - Increased Outlet Capacity from Lake Manitoba and Lake St. Martin
- Lake Manitoba and Lake St. Martin Outlet Channel; Conceptual Design Stage 1 (KGS Group)
  - Development of Six Options for Lake Manitoba Outlet
  - Development of Two Options for Lake St. Martin Outlet
- 2014 Summer Rain Event
- Public Open House, Ashern MB, September 2014
- Lake Manitoba and Lake St. Martin Outlet Channel; Conceptual Design Stage 2 (KGS Group)
  - Further development of Options C and D on Lake Manitoba Channel
  - Addition of two options for Lake St Martin Outlet Channel

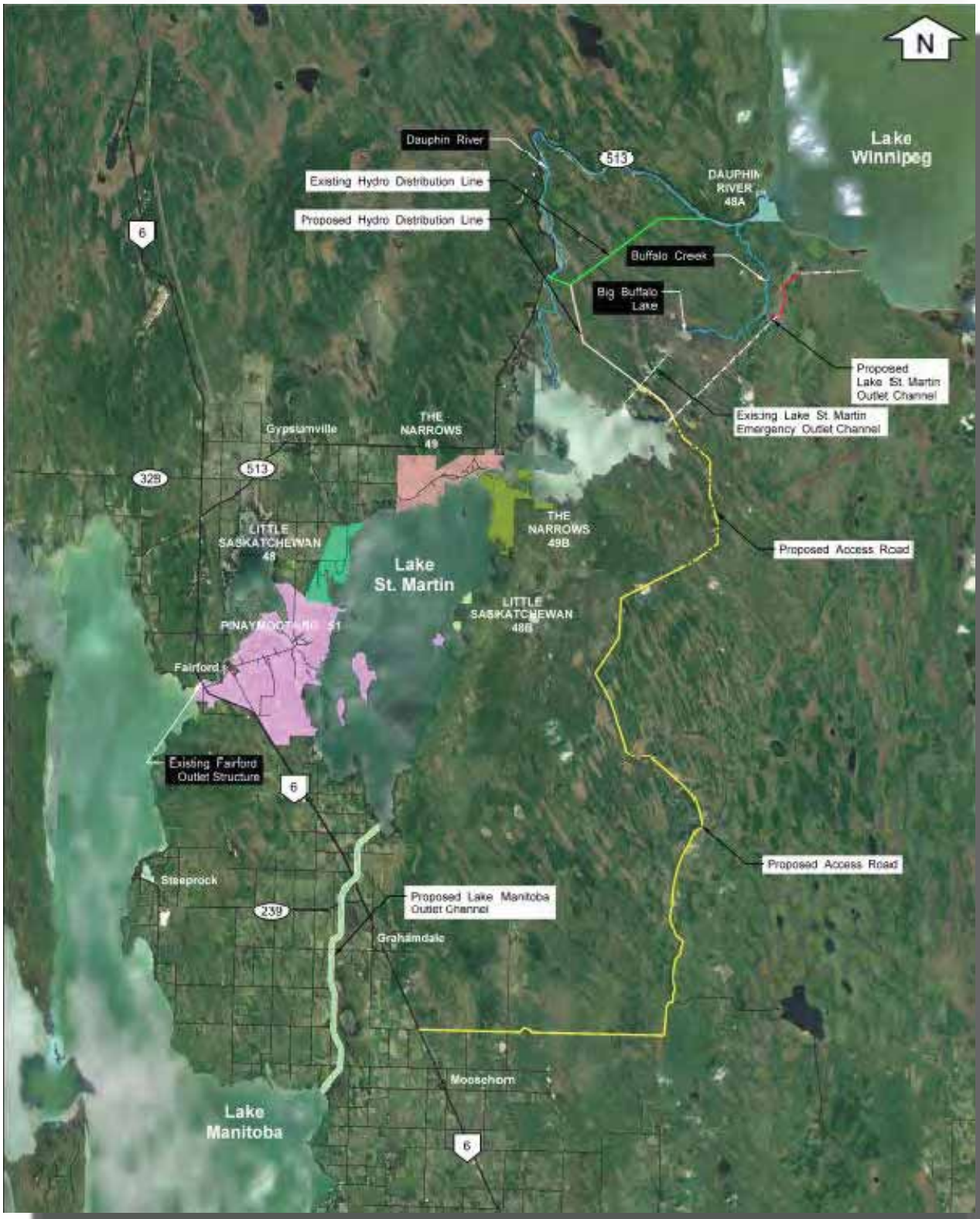
Manitoba

Background & History

- July 2015 Federal and Provincial Governments announce cost sharing of Outlet Channel Project
  - 50/50 cost share of $495 Million Budget Estimate
  - Desirable completion in 2020/21 creates accelerated schedule
- Environmental Data Collection and Field Investigation (M. Forster Enterprises)
  - Study area included options within Stage 2 Conceptual Design
  - Lake Manitoba Outlet Channel Options
  - Lake St. Martin Outlet Channel Options
  - Lake St. Martin OC Access Road Alignment
  - Lake St. Martin OC Hydro Distribution Line
- Investigation and Preliminary Engineering for the Lake Manitoba Outlet Channel; Options C and D (KGS Group)
  - Further investigation, preliminary engineering and evaluation of Options C and D
  - Recommendation of Route D as the preferred alternative
- Preliminary Design for Reach 2 of the Lake St. Martin Outlet Channel (KGS Group)
  - Evaluation of 4 alternatives
  - Recommendation of Option 4 with preliminary engineering design
- Spring 2017 RM of Grahamdale and Impacted Landowner Meetings; June 29th Public Information Session, Moosehorn
- July 13th Public Information Session, Winnipeg

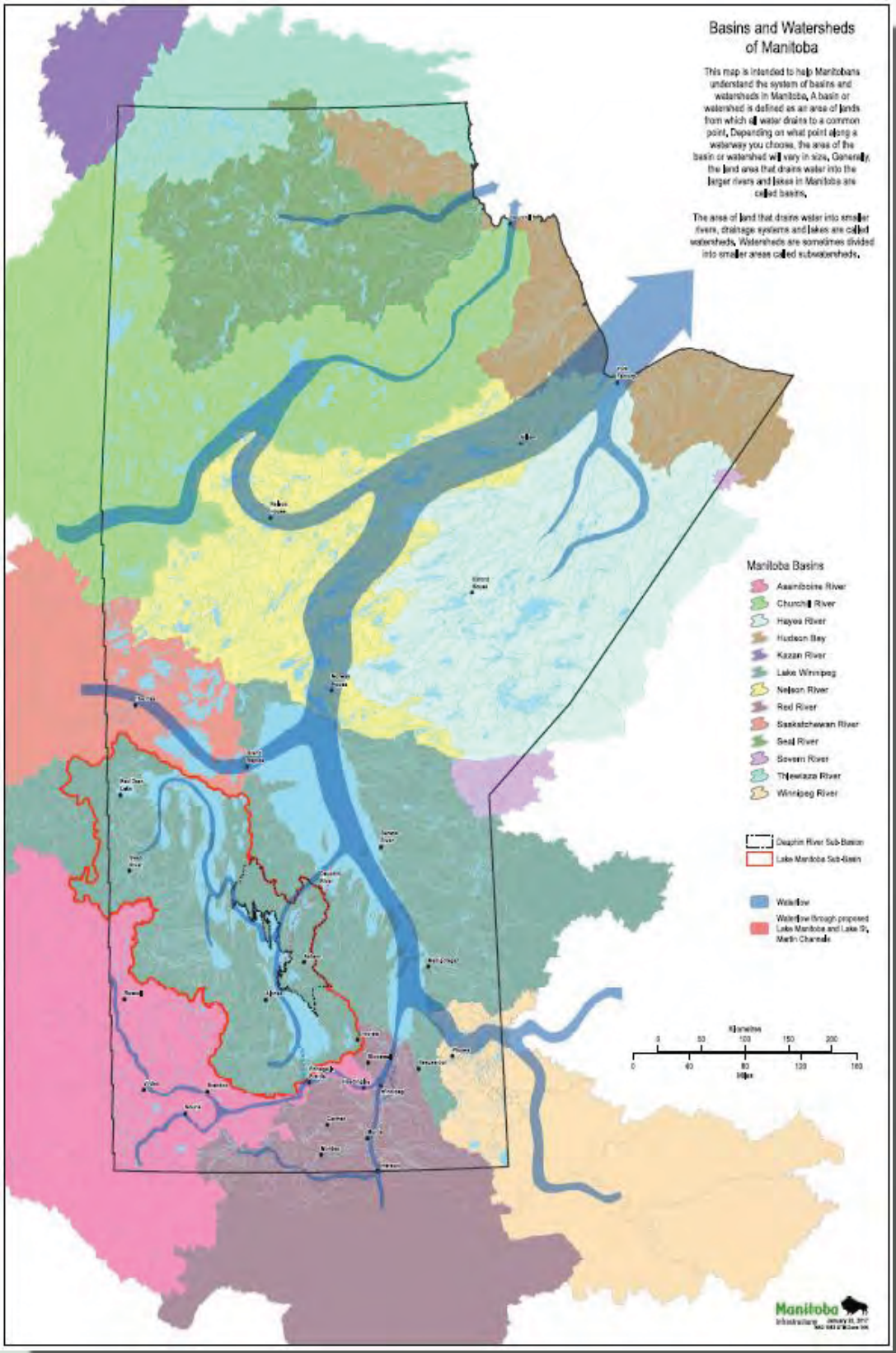
Manitoba

Project Location Overview



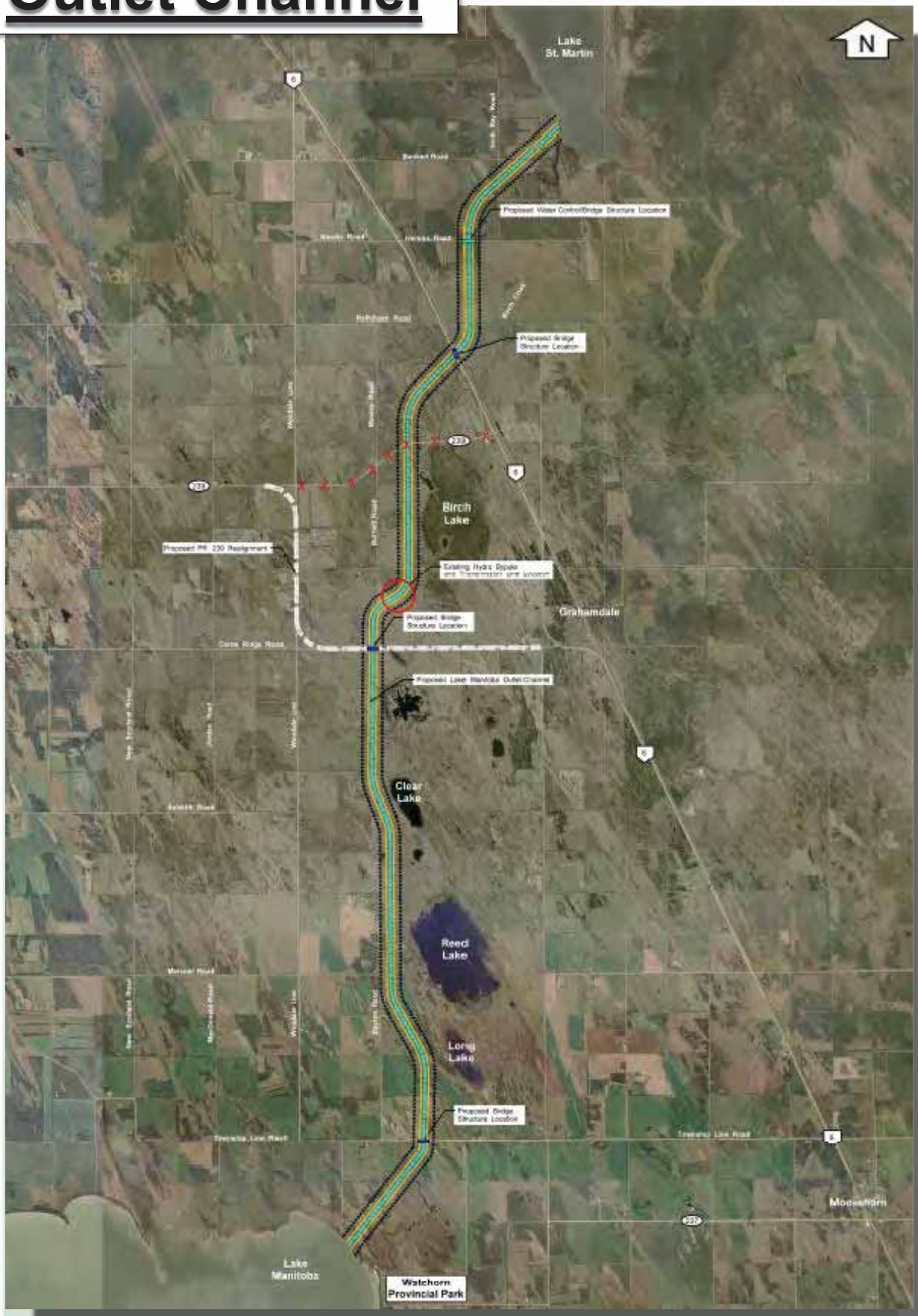
Manitoba

Basins and Watersheds of Manitoba



Proposed Lake Manitoba Outlet Channel

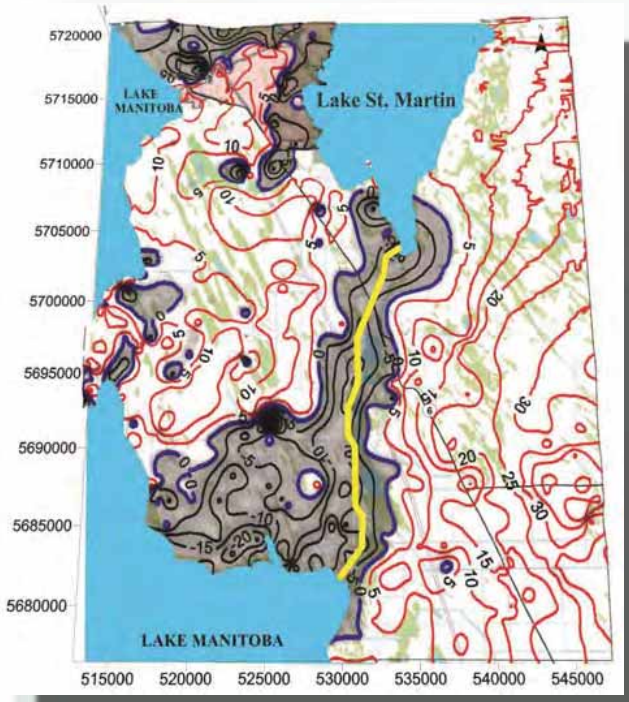
Manitoba



Manitoba

Lake Manitoba Outlet Channel

Bedrock Details

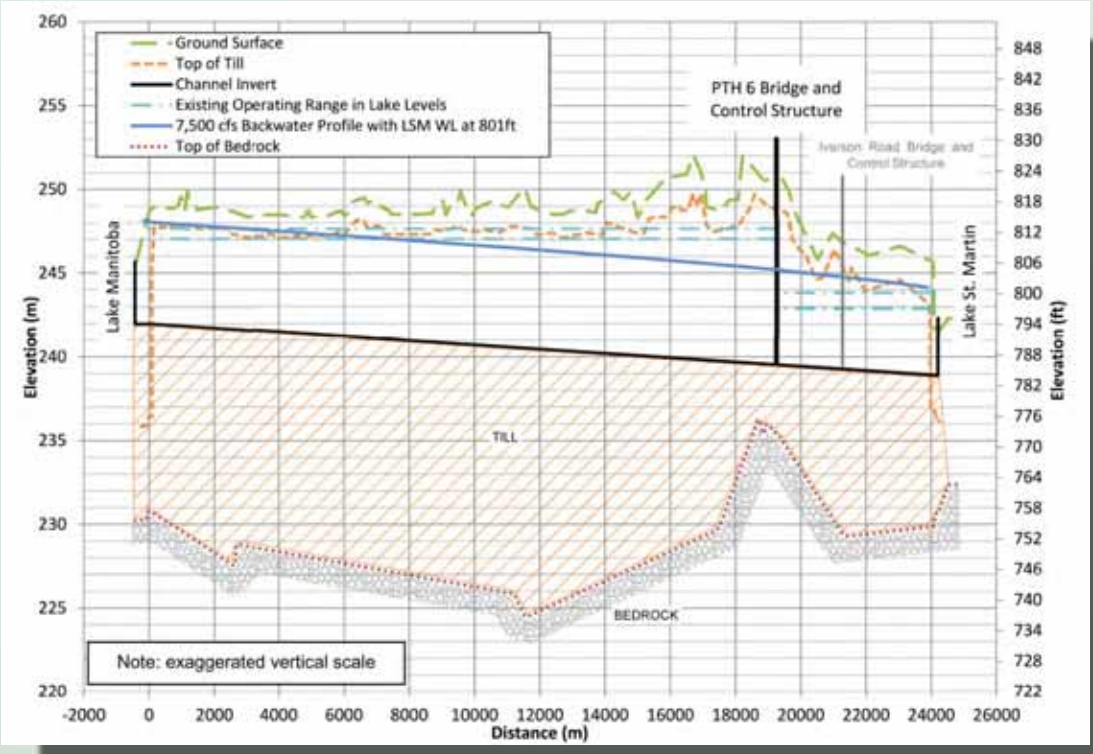


- Channel Excavation in Bedrock
- Channel Excavation in Till

•Excavation in bedrock creates high risk of aquifer contamination

•Proposed channel will be excavated in Till

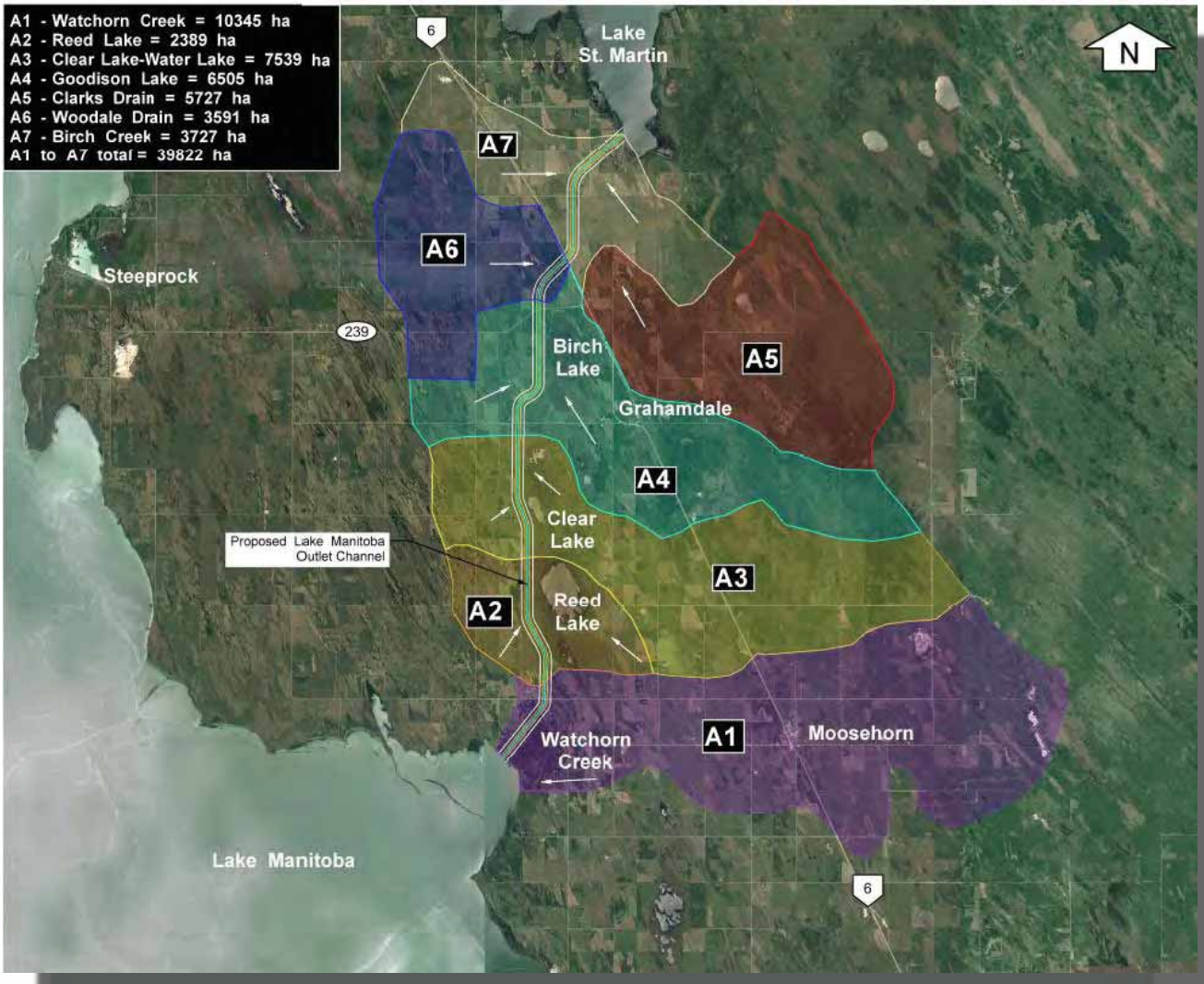
Proposed Channel Profile with Bedrock



Information provided by KGS Group

Manitoba

Local Watersheds
Vicinity of Lake Manitoba Outlet Channel

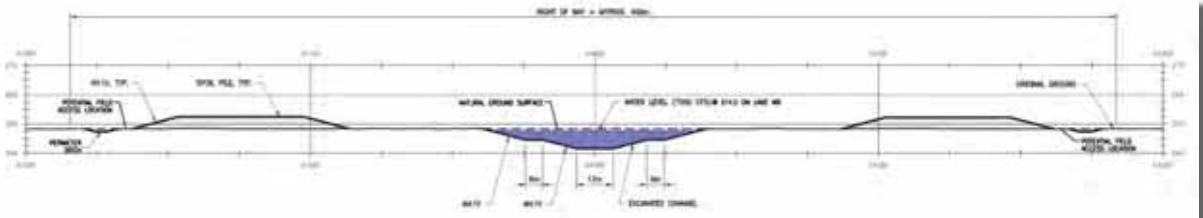


•Perimeter ditching to accommodate local area drainage

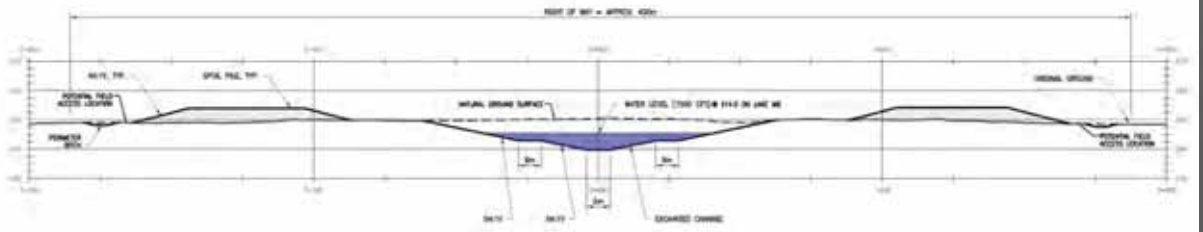
Manitoba

Lake Manitoba Outlet Channel

Typical Channel Cross Sections

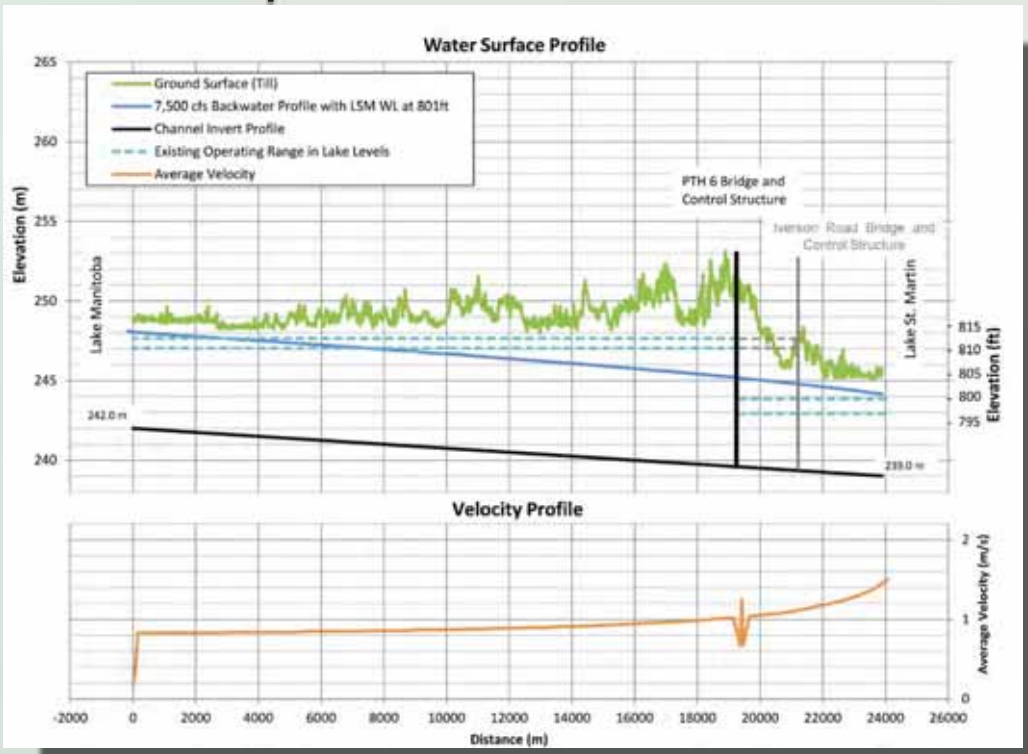


ROUTE D – CROSS SECTION 8m CUT OR LESS



ROUTE D – CROSS SECTION >8m CUT

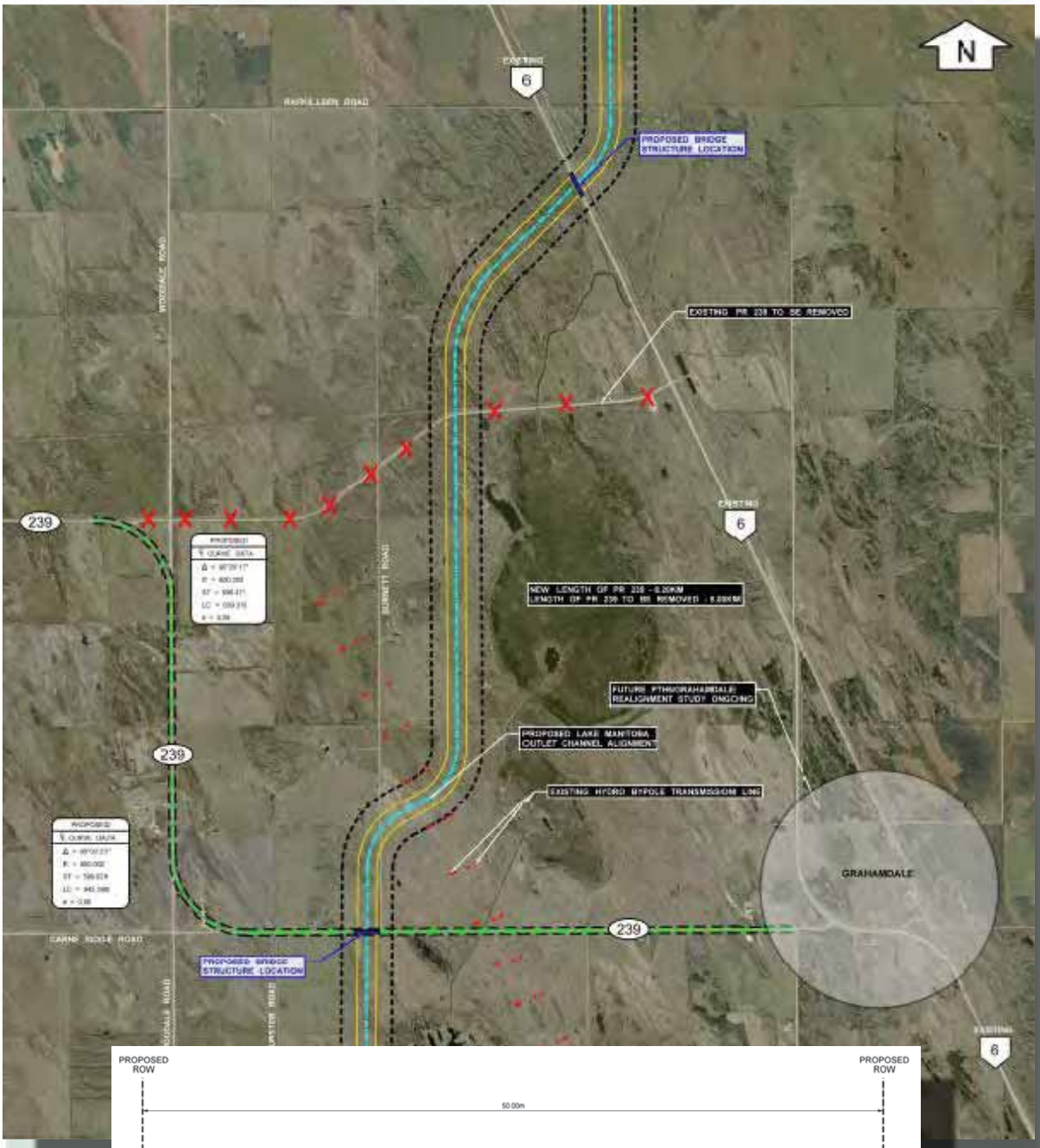
Proposed Channel Profile

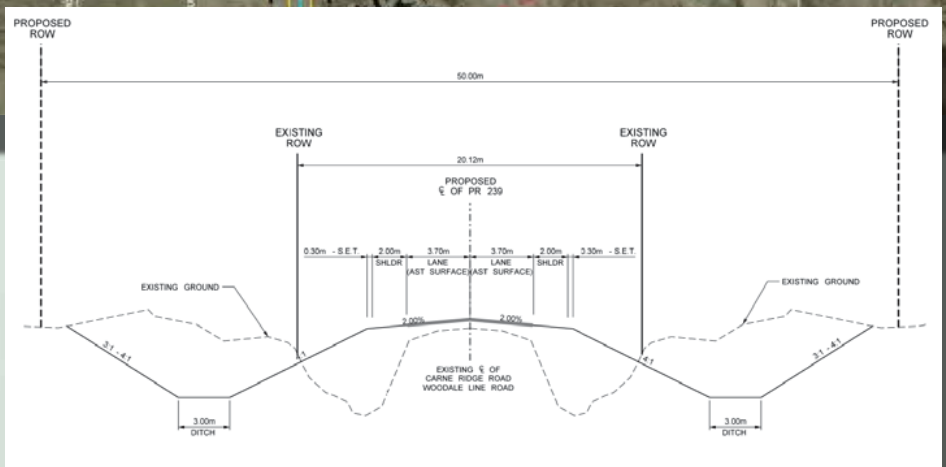


Information provided by KGS Group

Manitoba

Lake Manitoba Outlet Channel
PR 239 Realignment



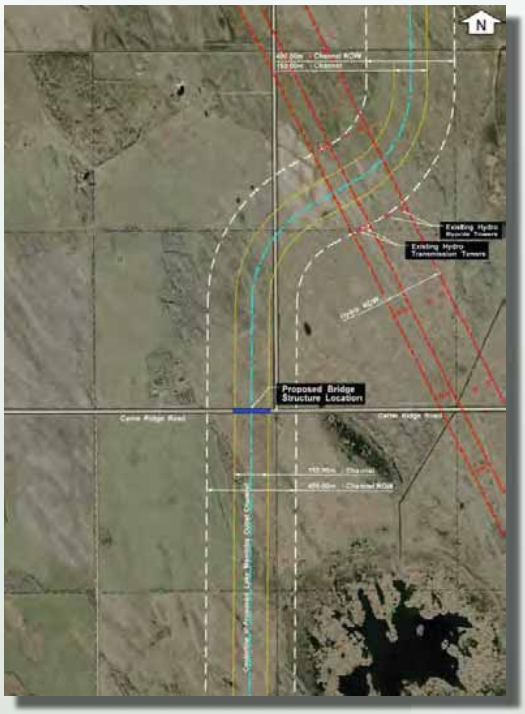


Manitoba

Lake Manitoba Outlet Channel Structure Locations



Township Road Bridge Structure



Carne Ridge Road Bridge Structure



PTH 6 Bridge Structure



Iverson Road Water Control & Bridge Structure

Manitoba

Existing Lake St. Martin Emergency Outlet Channel



- Lake St. Martin Emergency Outlet Channel available for use during construction

- Lake St. Martin Emergency Outlet Channel used to maintain water levels in Big Buffalo Lake complex

- No long term impacts to Big Buffalo Lake / Buffalo Creek aquatic system

- Construction costs are similar between options

- Future opportunities for environmental compensation

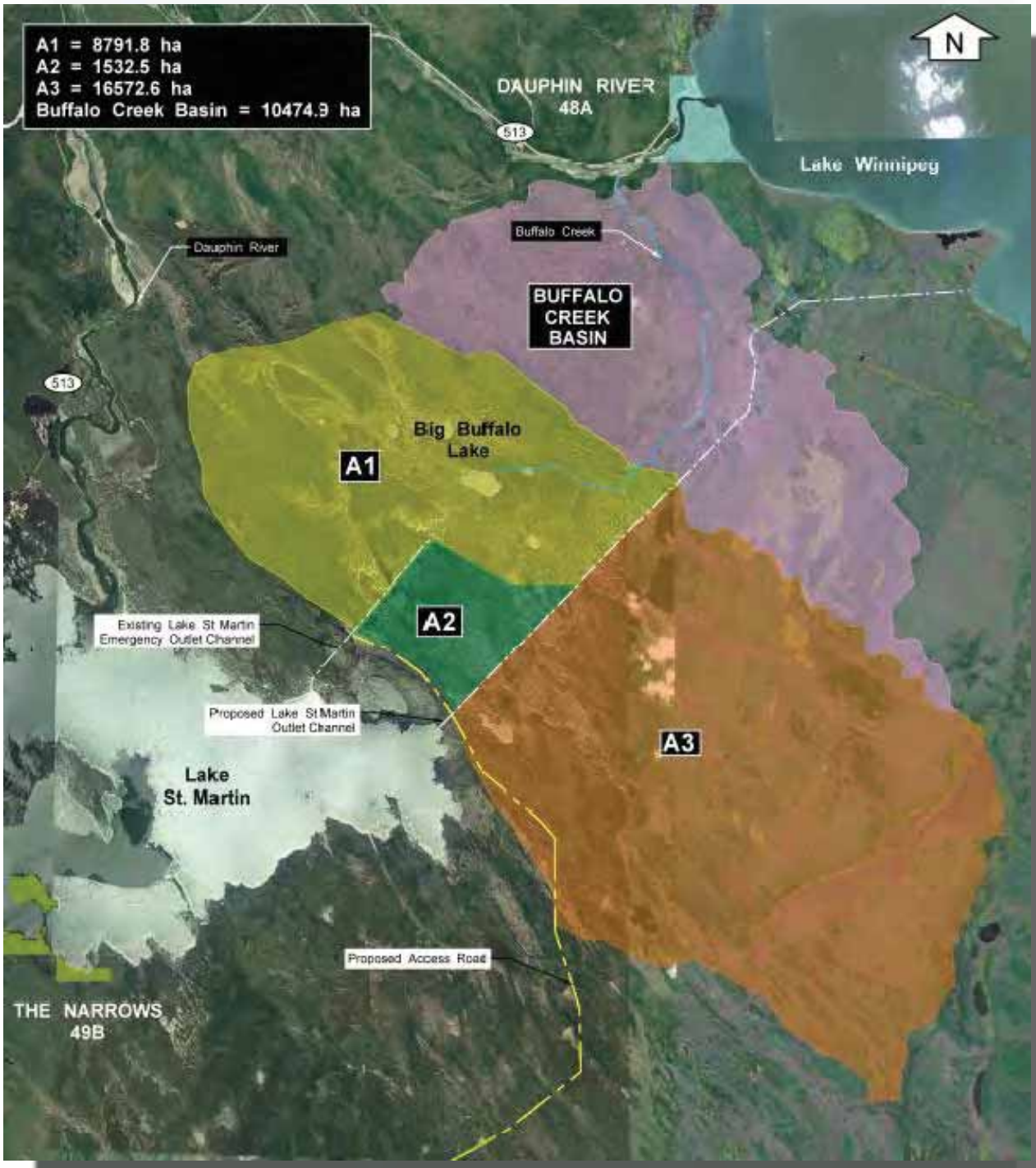
Manitoba

Proposed Lake St. Martin Outlet Channel



Manitoba

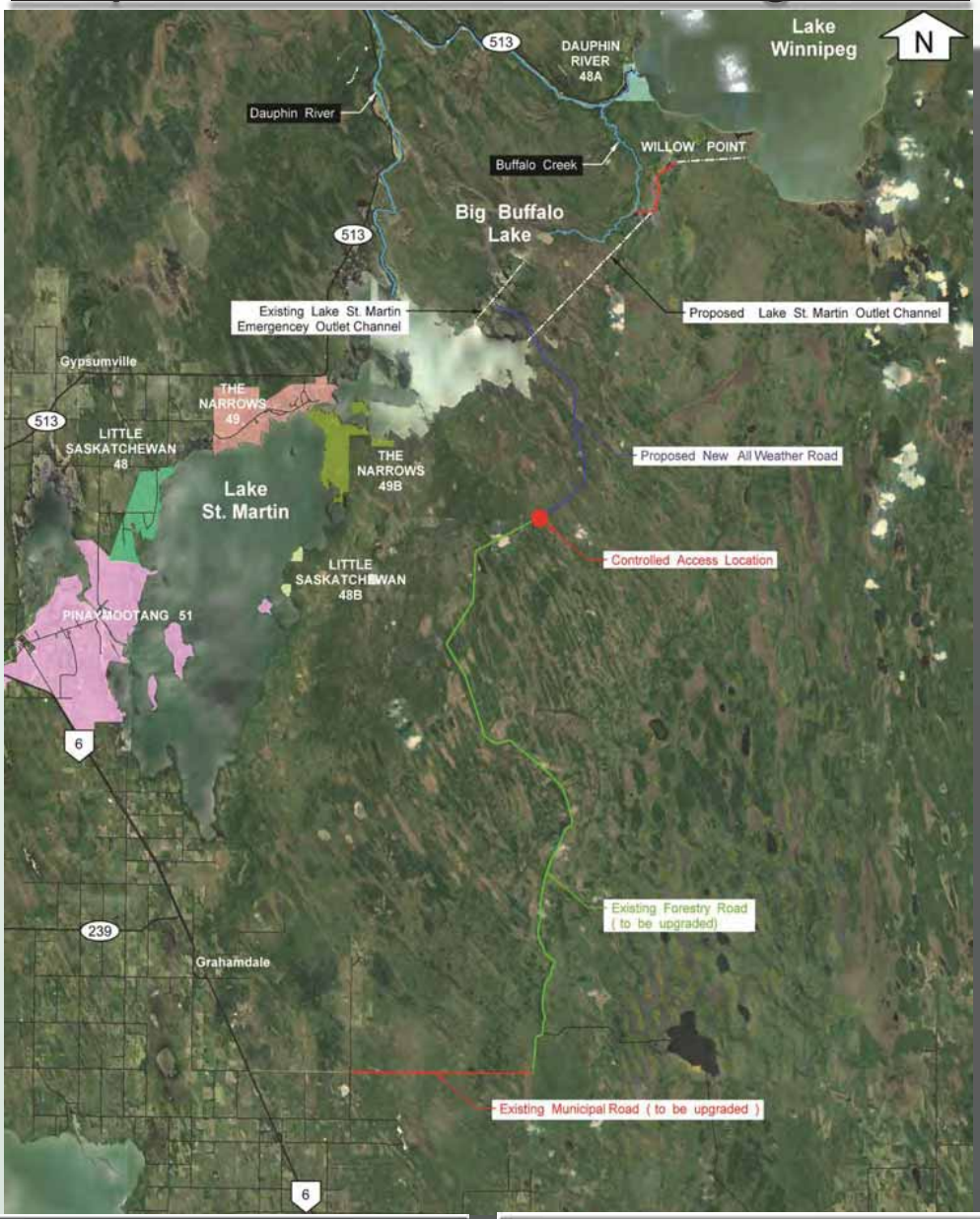
Lake St. Martin Outlet Channel Drainage Area

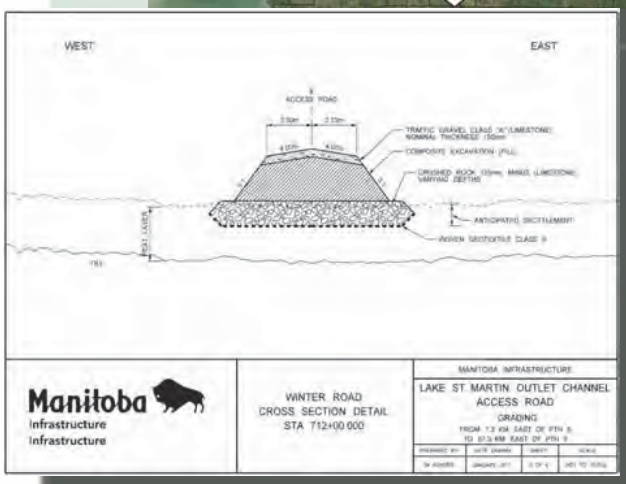


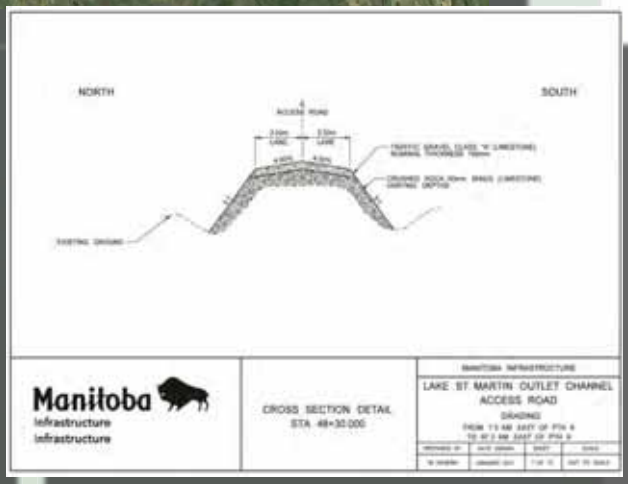
Manitoba

Lake St. Martin Outlet Channel

Proposed Access Road Alignment



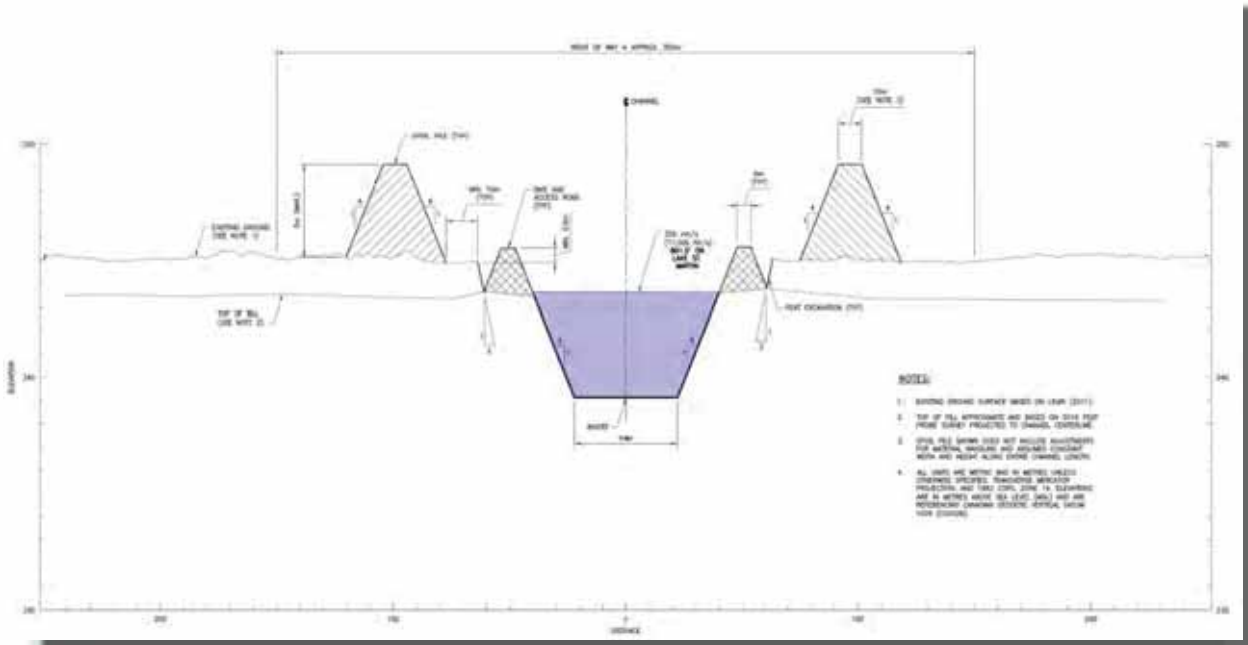




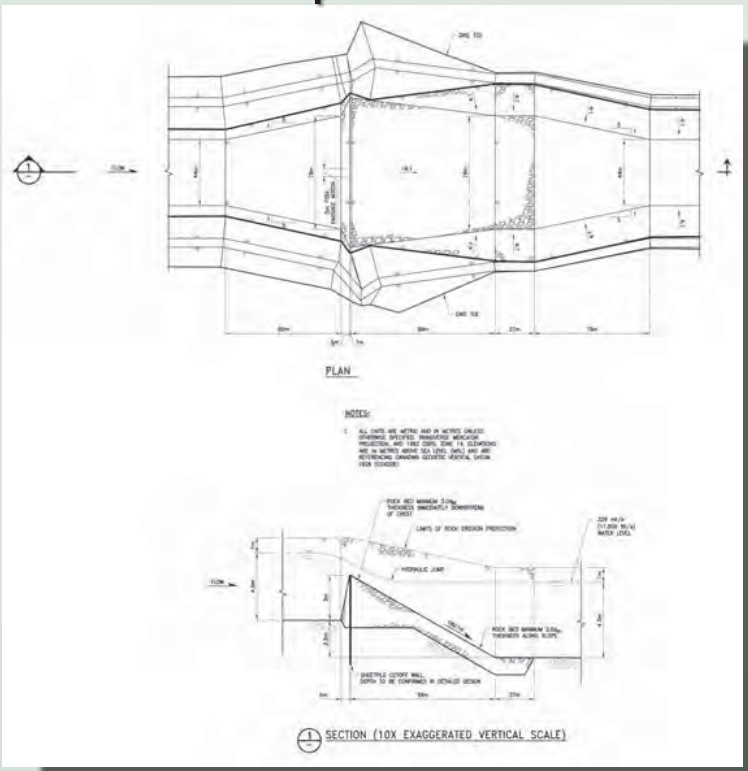
Manitoba

Lake St. Martin Outlet Channel

Typical Channel Cross Sections



Channel Drop Structure Detail

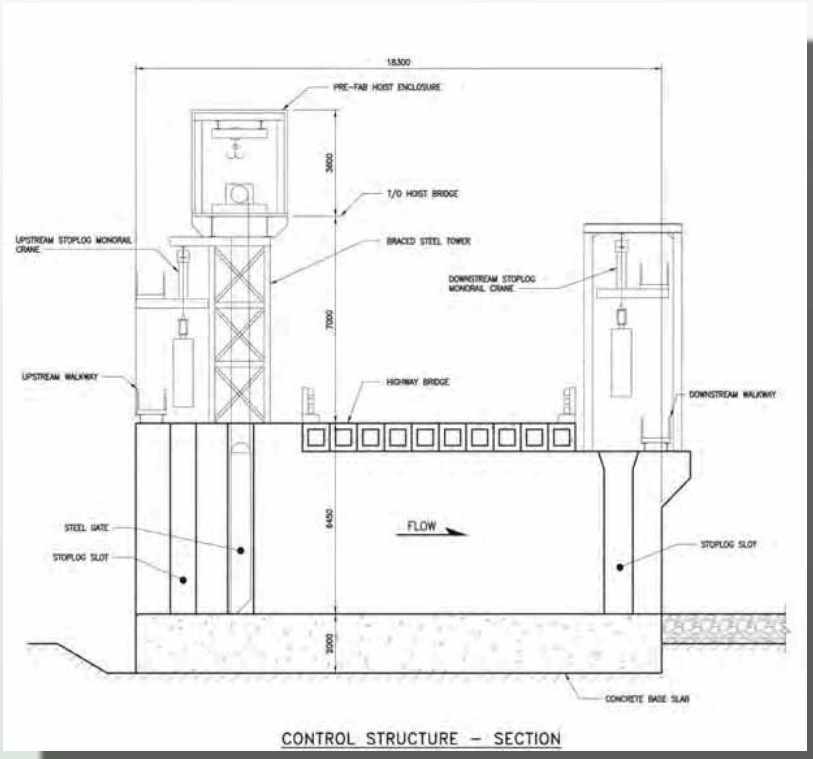


Information provided by KGS Group

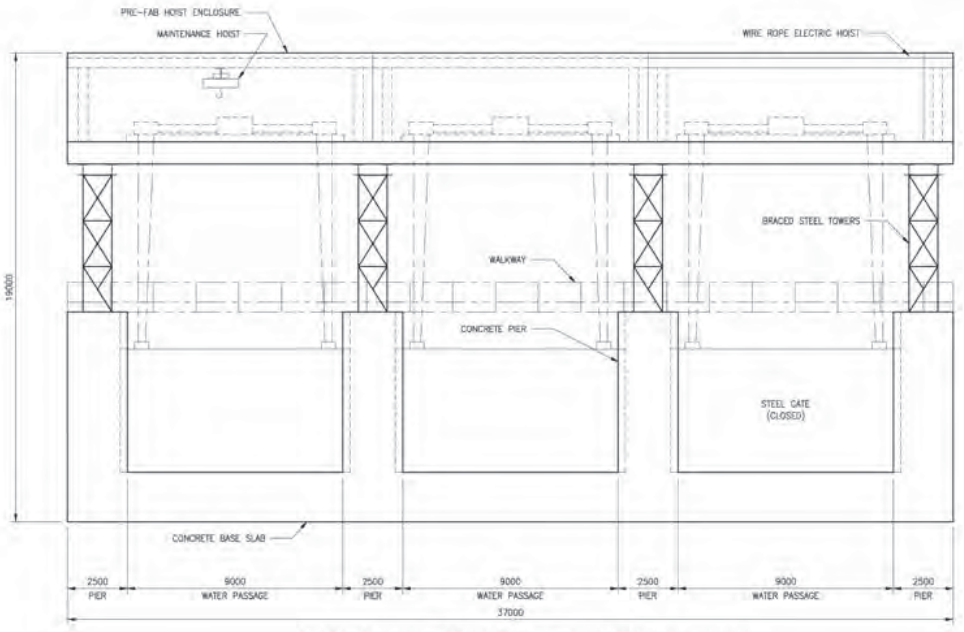
Manitoba

Lake Manitoba - Lake St. Martin Outlet Channels

Water Control Structure Details - Conceptual



CONTROL STRUCTURE – SECTION



3 BAY CONTROL STRUCTURE – UPSTREAM ELEVATION

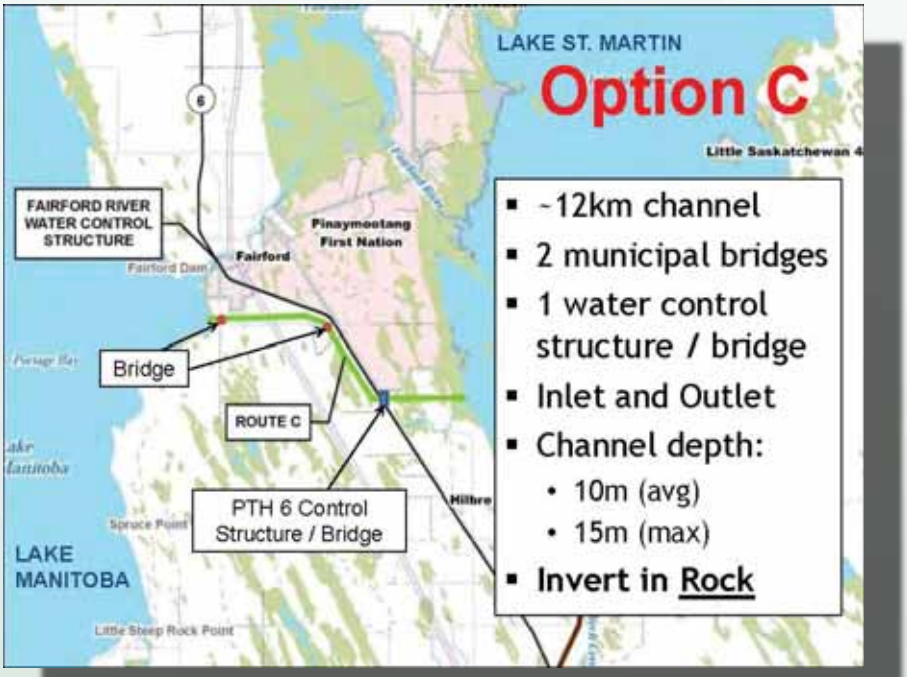
Information provided by KGS Group

Manitoba

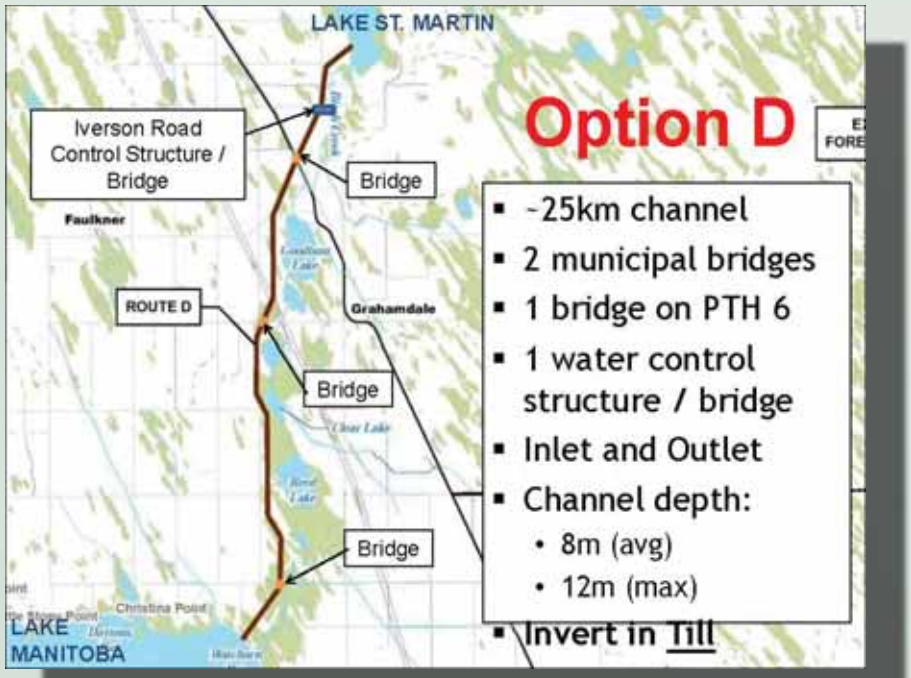
Lake Manitoba Outlet Channel

Channel Alignment Options

Option C



Option D



Information provided by KGS Group

Manitoba

Lake Manitoba Outlet Channel

Channel Alignment Options

Summary of Results

	Route C	Route D
Constructability	★★½	★★½
Operation and Maintenance	★½	★½
Cost	★★★	★★½
Risk	★	★★★½
Physical / Biological Environment Impacts	★★★★★	★★★½
Social Economic Considerations	★½	★½
Surface Water Impacts	★½	★
Groundwater Impacts	★	★★★★★
Average Rating	★★	★★½

- Option D identified as preferred alternative
- Mostly attributed to groundwater impacts and associated risks

Manitoba

Proposed Operating Guidelines

Lake Manitoba Outlet Channel

Lake Manitoba

Fairford River Water Control Structure

- The Fairford River Water Control Structure will be operated according to the "Minimal Log Change Regime" with target Lake Manitoba range between 810.5 – 812.5 ft (recognizing that the lake will occasionally reach 810.0 ft or lower on the low side, and 813.0 ft or higher on the high side) and Lake St. Martin range between 797.0 – 800.0 ft
- Under normal operating conditions, outflow will be set to 50% capacity and there are no further stop-log adjustments
- During recovery from flood conditions on Lake Manitoba (level above 812.5 ft), the FRWCS will be kept wide open until Lake Manitoba recedes to the middle of the range (811.5 ft) after which point the FRCWS will be operated to achieve normal outflow (50% capacity)
- For recovery from drought on Lake Manitoba (level below 810.5 ft), the FRWCS is kept at 800 cfs until Lake Manitoba levels increase to the middle of the range (811.5 ft) after which point the FRCWS will be operated to achieve normal outflow (50% capacity)

Lake Manitoba Outlet Channel

- The outlet channel will be opened to maximum capacity when Lake Manitoba is above top of operating range (812.5 ft),
- Once the water level on Lake Manitoba recedes below the middle of the regulation range (811.5 ft), the outflow from the Lake Manitoba Outlet Channel will be reduced so that the outflow from the Fairford River Water Control Structure and the Lake Manitoba Outlet Channel, insofar as possible matches the inflow into Lake Manitoba
- The Lake Manitoba Outlet Channel will be closed once Lake Manitoba is below 811.5 ft and the outflow from the Fairford River Water Control Structure is greater than the total inflow into Lake Manitoba
- Initial operation of the outlet control structure shall not be initiated during the period in which there is solid ice cover in the channel (typically from Dec 1 – April 30th)

Manitoba

Proposed Operating Guidelines

Lake St. Martin Outlet Channel

Lake St. Martin

Lake St. Martin Outlet Channel

- The target regulation range for Lake St. Martin is 797-800 ft
- The Lake St. Martin Outlet Channel will be opened to full capacity when the Lake St. Martin water level rises above 800 ft or when the Lake Manitoba Outlet is opened for initial operation and Lake St. Martin is above 797 ft.
- During recovery from high water when the lake level decreases below 800 ft, the outflow from the Lake St. Martin Outlet Channel will be reduced to the greater of either 50% of channel capacity or the outflow required to ensure total outflow from Lake St. Martin matches inflow from the Fairford River and Lake Manitoba Outlet Channel
- If the Lake Manitoba Outlet is in operation in November, the Lake St. Martin Outlet Channel should be operated so that the total outflow from Lake St. Martin, insofar as possible, matches inflow from the Fairford River and Lake Manitoba Outlet Channel during winter
- The Lake St. Martin Outlet Channel will be closed fully when Lake St. Martin drops below 798 ft during the period from when ice cover has cleared out of the channel in the spring to October 31st
- During the spring freshet the Lake St. Martin Outlet Channel will be operated if the Lake Manitoba Outlet Channel has been in operation over the winter under the following conditions:
  - If the Dauphin River outflow plus Lake St. Martin Outlet Channel capacity is less than the total inflow into Lake St. Martin, then the Lake St. Martin Outlet Channel will be open to full capacity
  - Otherwise, the Lake St. Martin Outlet Channel should be operated so that the total outflow from Lake St. Martin, insofar as possible, matches inflow from the Fairford River and Lake Manitoba Outlet Channel
- Initial operation of the outlet control structure shall not be initiated during the period in which there is solid ice cover in the channel (typically from Dec 1 – April 30th)

Manitoba

Project Schedule / Next Steps

Item	Schedule
Preliminary Design Packages Complete	Jan 31 – June 30, 2018
Crown Consultation wrap up	First ¼ of 2018
Environmental Impact Statement Submission (by Manitoba Infrastructure)	Second ¼ of 2018
Detailed Design Packages Complete	Jan 31 – June 30, 2019
Environmental Authorization	Second ¼ of 2019
Initiate Tendering	Second ¼ of 2019
* Construction commences	Second ¼ of 2019
Completion of Channel	Fourth ¼ of 2021

* Lake St. Martin Outlet Channel access road construction commences summer of 2017

Manitoba

Questions / Comments

Feedback forms available here today or please feel free to share your feedback at Survey Monkey using the following link:
https://www.surveymonkey.com/r/BT7FYXJ

Reach out to one of the Manitoba Infrastructure or KGS Group Representatives here today! They would be happy to answer any questions or discuss the project with you!

OR

Contact:

Mark Allard, P.Eng.
Project Director
Phone: 204-622-2261
Email: Mark.Allard@gov.mb.ca

For any Environmental Assessment Information Contact

Christine Baljko
Environmental Coordinator
Phone: 204-479-6025
Email: Christine.Baljko@gov.mb.ca

What is an Environmental Assessment?

Manitoba

Environmental Assessment

- Environmental Assessment is a process that is mandated by both Canadian and Manitoban law and is required before construction of large projects.
- It helps determine where, what, when and how a project may affect the environment, including people and human health.
- It provides a process for proponents to consider ways to **avoid** and **mitigate** (minimize) **environmental effects**.
- It also identifies monitoring programs to ensure that predictions made about environmental effects are accurate and that mitigation measures are working as intended.

Environmental Assessment Process

- Provincial and federal environmental assessment processes are similar but the review processes are unique.
- Environmental impact assessments undergo government review but are also available for public input.
- The final decision to authorize the project is based on government's review of the significance of predicted environmental effects.
- Even if approved, a project may be subject to short-term and/or long-term monitoring and reporting requirements.

Environmental Studies

- Environmental studies are often required before an environmental impact assessment can be performed.
- They identify species at risk, unique features and help us understand and identify potential effects of the project.
- They help document existing environmental conditions and provide a baseline for "before and after" comparison during and after the project.
- Once the existing environment is understood and potential effects have been identified environmental impact assessment can be performed







Environmental Approvals

Manitoba

Manitoba – Environmental Approvals

- Authorization is granted in the form of an Environment Act Licence

Canada – Canadian Environmental Assessment Agency (CEAA)

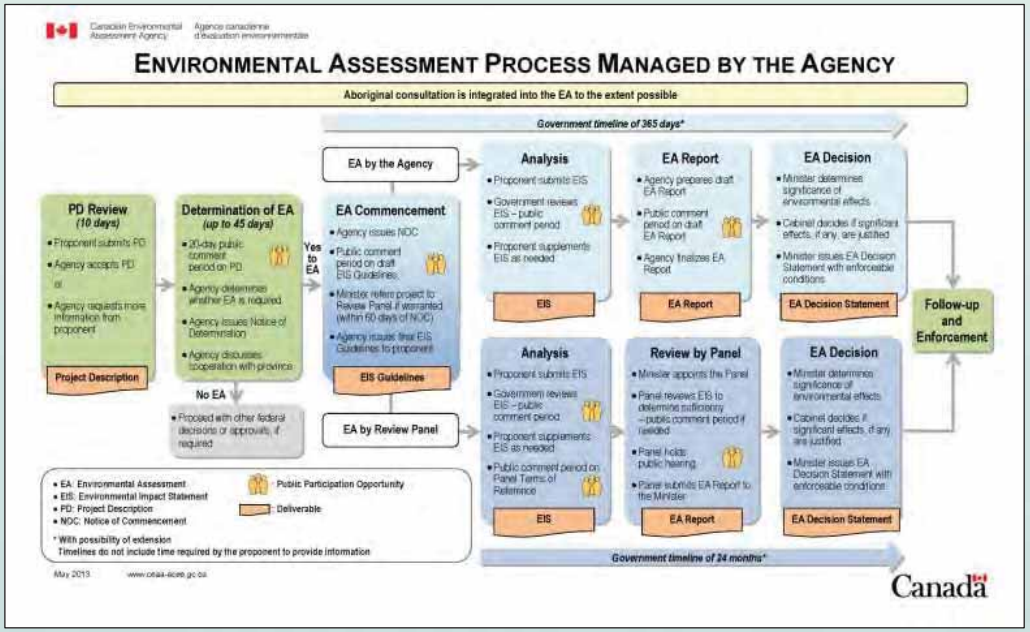
- Authorization is granted in the form of an Environmental Assessment Decision

Department of Fisheries and Oceans - Fisheries Authorizations

- Are specific to activities which may impact fish or fish habitat
- Required for work conducted in fish bearing waterways, including:
  - Bridges
  - Culverts
  - Breakwaters
  - Causeways







Opportunities for Public Participation

Participate in Public Engagement Activities, including:

- Public Information Sessions

Review and provide comment or feedback on project documents posted to public registries, including:

- Project Description
- Project EIS Guidelines
- Project Environmental Assessment Report
- CEAA Environmental Assessment Report

Open House Materials 5B.1
Round One

Manitoba



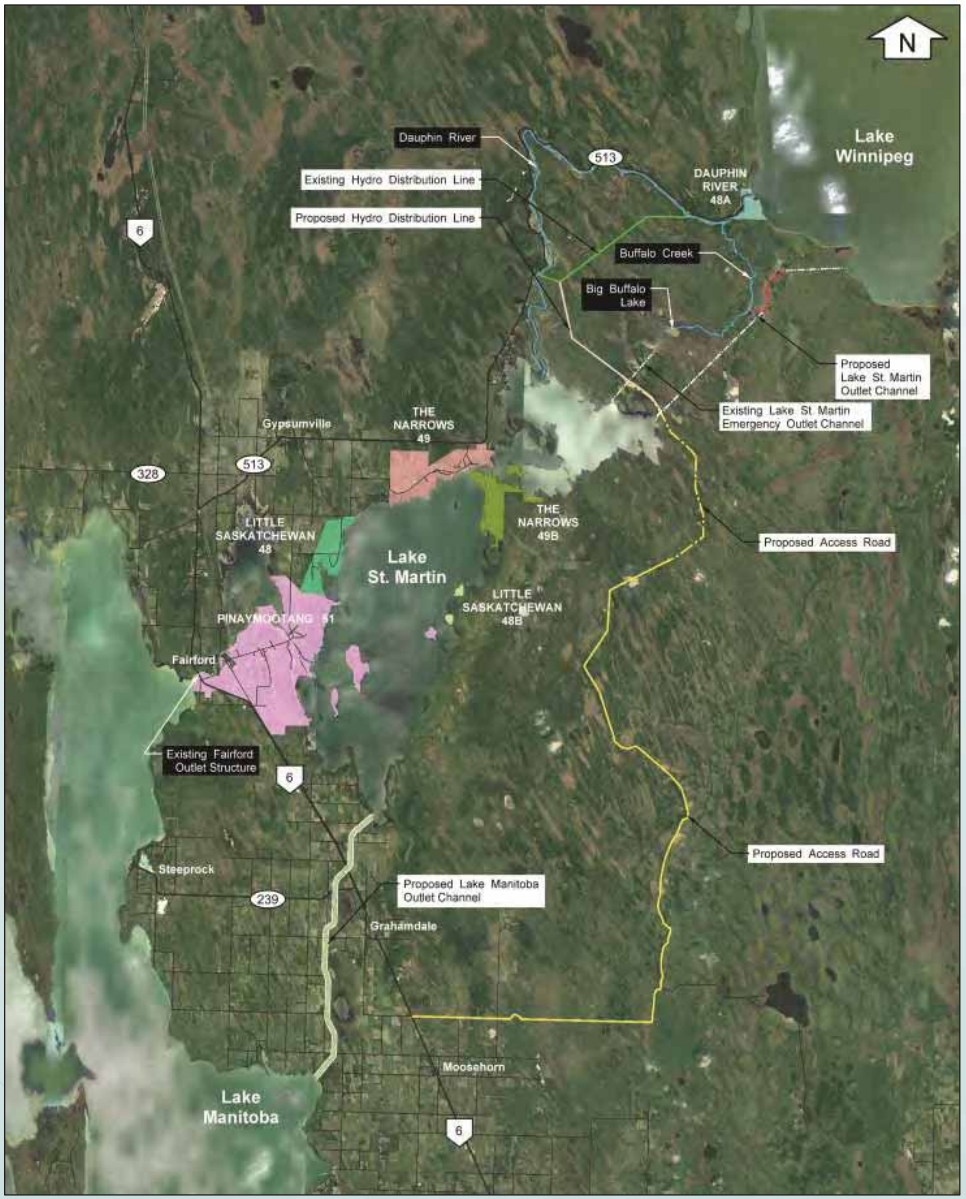
Canada Warbler



Red-headed Woodpecker



Bobolink





Golden-winged Warbler



Least Bittern

What's There Now?

Manitoba

Ecological Classification

- Four prominent land cover types were identified within the Regional Study Area (RSA) for the proposed LMOC: modified grassland, tilled cropland, marsh wetlands and aspen dominant hardwood stands.
- The RSA for the proposed LSMOC is largely rich fen with 'islands' of treed and shrubby sphagnum bogs and some upland mixedwood and coniferous forests on sandy moraine ridges
- Waterbodies in the RSA for LMOC include: Lake Manitoba, Watchorn Creek, Mercer Creek, Birch Creek, Lake St. Martin, Reed Lake, Clear Lake, Goodison Lake, Fairford River, Pineimuta Lake
- Waterbodies in the RSA for LSMOC include: Lake St. Martin, Bear Creek, Big Buffalo Lake, Little Buffalo Lake, Buffalo Creek, Dauphin River, Lake Manitoba





Traditional Use

- Six registered archeological sites are located within the RSA. Four are from the historic period and include fur trade and homestead influence. Two are from 350 to 2000 years ago and had stone tools and/or Native ceramics
- Area has low potential for archeological sites
- Historic record shows human occupation over the past 8000-7000 years
- Historic and ongoing resource harvesting in the RSA

KEY WILDLIFE SPECIES OBSERVED IN PROJECT AREA

Group	Key Species
Ungulates	Moose
	Elk
Furbearers	American Marten
	Beaver
Ecologically Sensitive Wildlife Sites	Bat and snake hibernacula
	Terrestrial mammal dens (e.g. bears, wolves) rookeries
	Large stick nests, Nesting Colony
	Mineral licks
Migratory Birds	Forest/Grassland Bird SAR Species* (including barn swallow, bank swallow, bobolink, Canada warbler, common nighthawk, eastern whip-poor-will, eastern wood-pewee, golden-winged warbler, olive-sided flycatcher, peregrine falcon, red-headed woodpecker, short-eared owl, Sprague's pipit, rusty blackbird)
	Water Bird SAR* (including American white pelican, horned grebe, least bittern, piping plover, trumpeter swan, yellow rail, ducks and geese)
Herptiles	Northern Leopard Frog

Potential Environmental Impacts

Manitoba

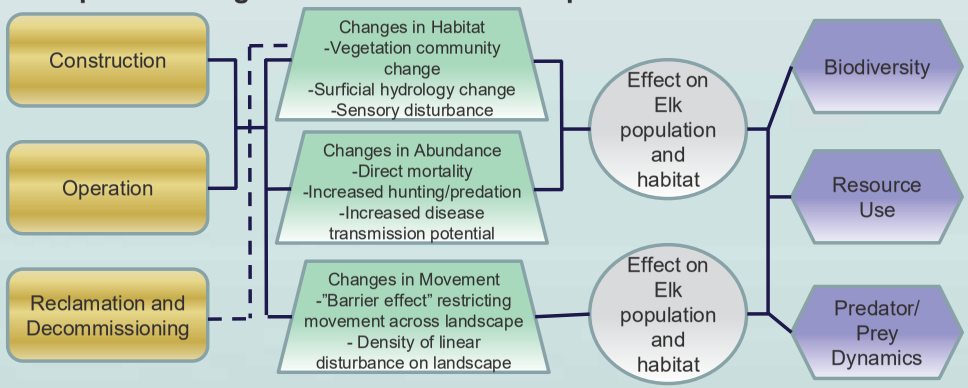
Example of Environmental Impacts

Environmental Component	Environmental Impacts	Example of Indicator
Air Quality, Noise and Climate	• Temporary emissions and dust from machinery • Temporary increases in noise from construction activities	• Exceedance of air quality guidelines • Exceedance of noise guidelines
Terrain, Topography, Geology and Soils	• Channel excavation will contribute to erosion and sedimentation • Soil compaction from heavy machinery • Spills from equipment	• Exceedance of air quality guidelines • Exceedance of noise guidelines
Vegetation	• Loss of native vegetation • Loss of rare plant habitat • Riparian flooding resulting in loss of vegetation and woody debris	• Habitat for plant species at risk
Surface Water	• Reduction in water quality (elevation in suspended solids in water) • Seepage between groundwater and surface water • Altered flows, greater mixing of waters in lakes	• Water volume withdrawals • Exceedance of water quality guidelines • Fish harvest statistics
Groundwater	• Blowout/Basal heave • Aquifer/well drawdown and associated wetland drainage • Contamination by surface water	• Well supply and drinking water quality • Wetland function
Fish and Fish Habitat	• Altered flows and reduced water quality could affect spawning • Fish may be attracted to outlet channels, rather than natural rivers • Loss of riparian areas for spawning	• White Sucker
Mammals	• Habitat loss/fragmentation/change • Mortality from vehicle collision or increased predation • Constraints to movement along the landscape, i.e. Barrier effect	• Moose • Elk
Birds	• Habitat loss/fragmentation/change • Mortality from vehicle collision or increased predation • Nest destruction	• Bobolink • Canada Warbler
Herptiles	• Habitat loss/fragmentation/change • Egg/larva loss from sedimentation	• Northern Leopard Frog
Resource Use	• Reduced opportunities for resource harvesting (fish, traditional plants, hunting, timber, trapping) • Visual impacts	• Fish harvest statistics • Fish spawning success

Example Mitigation Measures

- Environmental considerations at all stages of design
- Use of construction Best Management Practices (BMP)
- Pre-construction and construction monitoring to ensure effectiveness of BMPs
- Using timing windows for sensitive periods for wildlife, during which certain construction activities are prohibited/limited
- Using setback distances from wildlife habitat features
- Compensation/offsetting plan to replace some habitat lost to project

Example of Linkages for Environmental Impacts



Outreach Materials 5B.1
Round One

What Wildlife have you seen in the Area?

Please circle locations on the maps

Manitoba

Elk



Elk - Notes



Moose



Moose - Notes



Wolf



Wolf – Notes



Red-headed Woodpecker



RHWO – Notes



Bobolink



Bobolink – Notes



Other Wildlife



Other Wildlife – Notes

(1)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☐ Yes
   - ☒ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☑ Yes but prefer outlet 6
   - ☐ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☐ Yes
   - ☒ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☒ Affected Landowner
   - ☑ Environmental impact
   - ☑ Community Impact
   - ☐ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

use outlet 6
only one Bridge.

✓

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☐ Residential
   - ☐ Farming
   - ☐ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

9. Please note any additional Questions or Comments or Concerns you may have:

Optional		
Name:	Postal Code:	Tel/email:

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

(2)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - [x] Yes
   - [ ] No
   - [ ] Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - [x] Yes
   - [ ] No
   - [ ] Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - [x] Yes
   - [ ] No
   - [ ] Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - [x] Yes
   - [ ] No
   - [ ] Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - [x] Yes
   - [ ] No
   - [ ] Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - [ ] Affected Landowner
   - [ ] Environmental Impact
   - [x] Community Impact
   - [ ] Economic Impact
   - [ ] Aboriginal/Treaty Right
   - [ ] Not impacted
   - [ ] Unsure
   - [ ] Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - [x] Residential
   - [ ] Farming
   - [ ] Recreation
   - [ ] Commercial
   - [ ] Not Applicable
   - [ ] Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

no

9. Please note any additional Questions or Comments or Concerns you may have:

Optional		
Name:	Postal Code:	Tel/email:

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

(3)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☐ Yes
   - ☒ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☐ Yes
   - ☒ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☐ Yes
   - ☐ No
   - ☒ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☐ Yes
   - ☒ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☐ Yes
   - ☐ No
   - ☒ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☒ Affected Landowner
   - ☐ Environmental impact
   - ☒ Community Impact
   - ☐ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☑ Residential
   - ☐ Farming
   - ☐ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

9. Please note any additional Questions or Comments or Concerns you may have:

Optional		
Name:	Postal Code:	Tel/email:

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

(4)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

   What other choice do you have?

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

   little know

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☐ Affected Landowner
   - ☑ Environmental impact
   - ☑ Community Impact
   - ☐ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☐ Residential
   - ☐ Farming
   - ☐ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

9. Please note any additional Questions or Comments or Concerns you may have:

Optional		
Name:	Postal Code:	Tel/email:

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

(5)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☐ Yes
   - ☑ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☐ Yes
   - ☑ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☐ Yes
   - ☑ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☐ Yes
   - ☑ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☑ Affected Landowner
   - ☐ Environmental impact
   - ☑ Community Impact
   - ☑ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:
IF channel is put where they propose
That for safty sake they put a bridge and keep steep rock Hyway at existing location

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☐ Residential
   - ☐ Farming
   - ☐ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

9. Please note any additional Questions or Comments or Concerns you may have:

Optional		
Name:	Postal Code:	Tel/email:

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

(6)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☑ Affected Landowner
   - ☐ Environmental Impact
   - ☐ Community Impact
   - ☐ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☐ Residential
   - ☐ Farming
   - ☐ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

9. Please note any additional Questions or Comments or Concerns you may have:

Optional		
Name:	Postal Code:	Tel/email:

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

(7)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - [x] Yes
   - [ ] No
   - [ ] Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - [x] Yes
   - [ ] No
   - [ ] Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - [x] Yes
   - [ ] No
   - [ ] Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - [x] Yes
   - [ ] No
   - [ ] Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - [x] Yes
   - [ ] No
   - [ ] Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - [x] Affected Landowner
   - [ ] Environmental impact
   - [ ] Community Impact
   - [ ] Economic Impact
   - [ ] Aboriginal/Treaty Right
   - [ ] Not impacted
   - [ ] Unsure
   - [ ] Other

If "Other", please describe briefly:

✓

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☒ Residential
   - ☐ Farming
   - ☒ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

9. Please note any additional Questions or Comments or Concerns you may have:

Optional		
Name:	Postal Code:	Tel/email:

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

(8)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project? .
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☐ Affected Landowner
   - ☐ Environmental impact
   - ☑ Community Impact
   - ☑ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

✓

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☐ Residential
   - ☑ Farming
   - ☑ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

9. Please note any additional Questions or Comments or Concerns you may have:

Optional		
Name:	Postal Code:	Tel/email:

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

(9)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☑ Affected Landowner
   - ☐ Environmental impact
   - ☐ Community Impact
   - ☐ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

✓

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☑ Residential
   - ☐ Farming
   - ☑ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

9. Please note any additional Questions or Comments or Concerns you may have:

Optional		
Name: [redacted]	Postal Code: [redacted]	Tel/email: [redacted]

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

(10)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☐ Affected Landowner
   - ☐ Environmental impact
   - ☐ Community Impact
   - ☐ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☑ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☐ Residential
   - ☐ Farming
   - ☑ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

9. Please note any additional Questions or Comments or Concerns you may have:

Optional		
Name: [redacted]	Postal Code: [redacted]	Tel/email:

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

(11)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☐ Affected Landowner
   - ☐ Environmental Impact
   - ☑ Community Impact
   - ☑ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

Manitoba

Lake Mānitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☐ Residential
   - ☑ Farming
   - ☐ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

9. Please note any additional Questions or Comments or Concerns you may have:

Optional [redacted]		
Name:	Postal Code [redacted]	l/email: [redacted]

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

(12)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☐ Yes
   - ☒ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☒ Yes
   - ☐ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☐ Yes
   - ☒ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☒ Affected Landowner
   - ☐ Environmental impact
   - ☐ Community Impact
   - ☐ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☐ Residential
   - ☒ Farming
   - ☐ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

No

9. Please note any additional Questions or Comments or Concerns you may have:

Optional		
Name: [redacted]	ostal Code: [redacted]	Tel/email:

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☐ Yes
   - ☒ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☐ Yes
   - ☒ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☒ Yes
   - ☐ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☐ Yes
   - ☐ No
   - ☒ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☐ Yes
   - ☒ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☒ Affected Landowner
   - ☐ Environmental impact
   - ☐ Community Impact
   - ☒ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☐ Residential
   - ☒ Farming
   - ☐ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

No concern for property or people that are affected but the water flow down the Assiniboine when it was meant to flow.

9. Please note any additional Questions or Comments or Concerns you may have:

Why was the best route for a channel be where the best agricultural land is. Maybe people doing the assessment have absolutely no agricultural knowledge

Optional		
Name: [redacted]	Postal Code: [redacted]	Tel/email: [redacted]

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

(14)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - [x] Yes
   - [ ] No
   - [ ] Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - [ ] Yes
   - [x] No
   - [ ] Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - [x] Yes
   - [ ] No
   - [ ] Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - [ ] Yes
   - [ ] No
   - [x] Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - [ ] Yes
   - [ ] No
   - [x] Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - [x] Affected Landowner
   - [x] Environmental impact
   - [x] Community Impact
   - [x] Economic Impact
   - [ ] Aboriginal/Treaty Right
   - [ ] Not impacted
   - [ ] Unsure
   - [x] Other

If "Other", please describe briefly: POSSIBLE LOSS OF WELL WATER VOLUME. POSSIBLE DANGER TO my CHILDREN BY CLOSE PROXIMITY TO CHANNEL.

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☑ Residential
   - ☑ Farming
   - ☐ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

NO, OTHER THAN COMING OUT OF A SPAWNING BAY IN LAKE MANITOBA AND GOING TO A SPAWNING BAY IN LAKE ST MARTIN

9. Please note any additional Questions or Comments or Concerns you may have:

THE PUBLIC WOULD LIKE TO SEE WHY ROUTE B ISN'T VIABLE. NO YARD SITES, NO PEOPLE, AND SHORTER DISTANCE.

Optional

Name: [redacted] Postal Code: [redacted] Tel/email: [redacted]

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

(15)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☑ Affected Landowner
   - ☐ Environmental impact
   - ☐ Community Impact
   - ☐ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☑ Residential
   - ☑ Farming
   - ☐ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

Yes We have already had an increased (unfavourable) level of the Diversion into Lake Manitoba on our fish population. Don't make it worse!

9. Please note any additional Questions or Comments or Concerns you may have:

We own one with a cow # 537 will be hit to big.

Just get things over

Optional

Name: [redacted] Postal Code: [redacted] Tel/email: [redacted]

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - [x] Yes
   - [ ] No
   - [ ] Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - [ ] Yes
   - [x] No
   - [ ] Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - [ ] Yes
   - [ ] No
   - [x] Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - [ ] Yes
   - [ ] No
   - [x] Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - [ ] Yes
   - [ ] No
   - [x] Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - [x] Affected Landowner
   - [x] Environmental Impact
   - [x] Community Impact
   - [ ] Economic Impact
   - [ ] Aboriginal/Treaty Right
   - [ ] Not impacted
   - [ ] Unsure
   - [ ] Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☒ Residential
   - ☐ Farming
   - ☒ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

Yes, I worry about my well & septic system Also the effect on wildlife including birds, mammals, fish and reptiles

9. Please note any additional Questions or Comments or Concerns you may have:

Would have felt consultation before the option D was chosen would have helped. We were not consulted with our insights being honestly considered in decisions. We were told what was happening. The consultations were only PR projects

Optional		
Name: [redacted]	Postal Code: [redacted]	Tel/email: [redacted]

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

17

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☑ Affected Landowner
   - ☑ Environmental impact
   - ☑ Community Impact
   - ☑ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - [x] Residential
   - [ ] Farming
   - [x] Recreation
   - [ ] Commercial
   - [ ] Not Applicable
   - [ ] Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

well water quality
drainage

9. Please note any additional Questions or Comments or Concerns you may have:

Timeline - financial concerns
farming concerns ? ~~To~~ advanced
notice to modify our operation

Optional		
Name: [redacted]	Postal Code: [redacted]	Tel/email: [redacted]

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

(15)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☑ Affected Landowner
   - ☐ Environmental impact
   - ☐ Community Impact
   - ☐ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not Impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

√

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☑ Residential
   - ☐ Farming
   - ☐ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

Yes
In 2013 with 2011 we were told 2016 - 17 at latest: 2014 terrified us & EMCs w. better @ communicating than in 2011! Spring 2017 - terrified again!

9. Please note any additional Questions or Comments or Concerns you may have:

Too much "techno-speak" when we ask plain language questions! why do you not have an info document that explains everything then when we look to post we are better prepared

Optional	Please provide "wet-cycle" article link!	
Name:	Postal Code:	Tel/email: [redacted]

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

(19)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☐ Yes
   - ☐ No
   - ☒ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☐ Yes
   - ☒ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☐ Yes
   - ☐ No
   - ☒ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☐ Yes
   - ☒ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☐ Yes
   - ☒ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☐ Affected Landowner
   - ☒ Environmental impact
   - ☒ Community Impact
   - ☐ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

√

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☒ Residential
   - ☐ Farming
   - ☐ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

yes - wildlife is important to us
ducks + geese nest in our area we
have birds + small animals all
around us which will be disturbed

9. Please note any additional Questions or Comments or Concerns you may have:

Upgrading established farms should
not happen - use other routes

Optional		
Name:	Postal Code:	Tel/email:

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

(29)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - [x] Yes
   - [ ] No
   - [ ] Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - [x] Yes
   - [ ] No
   - [ ] Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - [x] Yes
   - [ ] No
   - [ ] Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - [ ] Yes
   - [ ] No
   - [x] Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - [x] Yes
   - [ ] No
   - [ ] Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - [ ] Affected Landowner
   - [ ] Environmental impact
   - [ ] Community Impact
   - [ ] Economic Impact
   - [ ] Aboriginal/Treaty Right
   - [x] Not impacted
   - [ ] Unsure
   - [ ] Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☐ Residential
   - ☐ Farming
   - ☐ Recreation
   - ☐ Commercial
   - ☑ Not Applicable
   - ☐ Other

If "Other", please describe briefly: POLITICAL INTEREST

8. Do you have any concerns about the environmental impacts of the project?

Yes, I have concerns given the magnitude of the project, but I fully recognize the need for action.

9. Please note any additional Questions or Comments or Concerns you may have:

The previous govt had over $200 million committed to work on the downstream end of Portage La Prairie. This work must be done as well as the trench of excess water can be shared equally by all Manitobans.

Optional		
Name: [redacted]	Postal Code: [redacted]	Tel/email: [redacted]

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

(21)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☑ Affected Landowner
   - ☐ Environmental impact
   - ☐ Community Impact
   - ☐ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly: by [illegible] Channel [illegible]

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - [x] Residential
   - [ ] Farming
   - [ ] Recreation
   - [ ] Commercial
   - [ ] Not Applicable
   - [ ] Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

9. Please note any additional Questions or Comments or Concerns you may have:

Optional

[redacted] Postal Code: [redacted]

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

(22)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - [x] Yes
   - [ ] No
   - [ ] Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - [ ] Yes
   - [ ] No
   - [x] Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - [ ] Yes
   - [ ] No
   - [x] Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - [ ] Yes
   - [ ] No
   - [x] Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - [x] Yes
   - [ ] No
   - [ ] Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - [ ] Affected Landowner
   - [ ] Environmental impact
   - [ ] Community Impact
   - [x] Economic Impact
   - [ ] Aboriginal/Treaty Right
   - [ ] Not impacted
   - [ ] Unsure
   - [ ] Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☐ Residential
   - ☐ Farming
   - ☐ Recreation
   - ☐ Commercial
   - ■ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

9. Please note any additional Questions or Comments or Concerns you may have:

- CONCERNED ABOUT LOSS OF TAXABLE LAND.
- WHY TAKE THE LOWER RIVER

Optional		
Name:	Postal Code:	Tel/email:

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

(23)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☒ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☒ Yes
   - ☐ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☒ Yes
   - ☐ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☒ Yes
   - ☐ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☐ Yes
   - ☒ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☒ Affected Landowner
   - ☒ Environmental impact
   - ☒ Community Impact
   - ☒ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

✓

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)

- ☐ Residential
- ☒ Farming
- ☒ Recreation
- ☐ Commercial
- ☐ Not Applicable
- ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

Yes

9. Please note any additional Questions or Comments or Concerns you may have:

Optional		
Name: [redacted]	Postal Code: [redacted]	Tel/email: [redacted]

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

(24)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☐ Yes
   - ☑ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☐ Yes
   - ☑ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☑ Affected Landowner
   - ☑ Environmental Impact
   - ☑ Community Impact
   - ☑ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☐ Residential
   - ☒ Farming
   - ☒ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project? YES

- CONTAMINATION OF GROUND WATER
- FLOWING WELLS STOPPING

9. Please note any additional Questions or Comments or Concerns you may have:

Optional		
Name: [redacted]	Postal Code: [redacted]	Tel/email: [redacted]

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

(29)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☐ Yes
   - ☑ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☐ Yes
   - ☑ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☐ Yes
   - ☑ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☑ Affected Landowner
   - ☐ Environmental impact
   - ☐ Community Impact
   - ☐ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☑ Other

If "Other", please describe briefly:
LOSS OF AGRICULTURE LANDS AT EXPENSE OF SMALL ENVIRONMENT BENEFIT
" = NOT BALANCED "

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☐ Residential
   - ☑ Farming
   - ☑ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

NOT CONSIDERING AGRICULTURE

9. Please note any additional Questions or Comments or Concerns you may have:

Optional

Name: [redacted] Postal Code: [redacted] Tel/email: [redacted]

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

(26)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☐ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☐ Yes
   - ☐ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☐ Yes
   - ☐ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☐ Yes
   - ☐ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☐ Yes
   - ☐ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☐ Affected Landowner
   - ☐ Environmental Impact
   - ☐ Community Impact
   - ☐ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☐ Residential
   - ☐ Farming
   - ☐ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

Change to our system. You developing a whole new environment where proposed drain. You also are going to change the environment in Lake system east of drain

9. Please note any additional Questions or Comments or Concerns you may have:

Optional			
Name:	[redacted]	Postal Code:	Tel/email: [redacted]

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

(27)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☐ Yes
   - ☑ No visibility to the north is very poor at this point & traffic at this corner will make it more dangerous
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☐ Affected Landowner
   - ☐ Environmental impact
   - ☑ Community Impact
   - ☑ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

✓

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - [x] Residential
   - [x] Farming
   - [ ] Recreation
   - [ ] Commercial
   - [ ] Not Applicable
   - [ ] Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

Yes The transfer of contaminates from Lake Manitoba will increase with the size of the

9. Please note any additional Questions or Comments or Concerns you may have:

Optional		
Name [redacted]	Postal Code [redacted]	Tel/email: [redacted]

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

28

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☑ Affected Landowner
   - ☐ Environmental impact
   - ☐ Community Impact
   - ☐ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

✓

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☐ Residential
   - ☐ Farming
   - ☐ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☑ Other

If "Other", please describe briefly: I am guided by the high water on Lake MB

8. Do you have any concerns about the environmental impacts of the project?

Only if it is not done
The # of dams destroyed around
Lake MB and Lake St Martin are high

9. Please note any additional Questions or Comments or Concerns you may have:

Optional		
Name [redacted]	Postal Code: [redacted]	Tel/email:

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

(29)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
~~June 29th, 2017 Open House in~~ Moosehorn, Manitoba
July 13, WPG.

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☐ Affected Landowner
   - ☐ Environmental impact
   - ☐ Community Impact
   - ☑ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other Commercial Fishy Livelihood (Lost)

If "Other", please describe briefly:
Devastating Livelihood Impact on a 100 year Industry.

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☐ Residential
   - ☐ Farming
   - ☐ Recreation
   - ☑ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

1.) Loss of fishery Habitat.
2.) Loss of Dependancy on Region
3.) Loss of Wildlife

9. Please note any additional Questions or Comments or Concerns you may have:

Will a Extra Outlet Reduce
Freezzle Ice @ mouth of Dauph River
What is the Variance of Flow
between new Channel & Dauphin River

Optional					
Name:	[redacted]	Postal Code	[redacted]	Tel/email:	[redacted]

This survey can also be completed online at: **https://www.surveymonkey.com/r/BT7FYXJ**

CANADA 150

30

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☐ Yes
   - ☑ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☐ Yes
   - ☑ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☑ Affected Landowner
   - ☑ Environmental impact
   - ☐ Community Impact
   - ☐ Economic Impact
   - ☑ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☑ Residential
   - ☐ Farming
   - ☑ ~~Recreation~~
   - ☐ Commercial
   - ☐ Not Applicable
   - ☑ Other

If "Other", please describe briefly:
PUBLIC DEVELOPMENTS.

8. Do you have any concerns about the environmental impacts of the project?

WATER & LAND QUALITY

9. Please note any additional Questions or Comments or Concerns you may have:

I HAVE PROPERTY ON BOTH
LAKE MANITOBA & LAKE WINNIPEG

Optional			
Name: [redacted]		Postal Code:	Tel/email: [redacted]

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

property

(37)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☐ Yes
   - ☐ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☐ Yes
   - ☐ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☐ Yes
   - ☐ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☑ Affected Landowner
   - ☐ Environmental impact
   - ☐ Community Impact
   - ☐ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☐ Residential
   - ☐ Farming
   - ☐ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

9. Please note any additional Questions or Comments or Concerns you may have:

Optional		
Name:	Postal Code:	Tel/email:

This survey can also be completed online at: **https://www.surveymonkey.com/r/BT7FYXJ**

CANADA 150

(32)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☐ Yes
   - ☒ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☐ Yes
   - ☒ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☐ Yes
   - ☒ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☐ Yes
   - ☒ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☐ Yes
   - ☒ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☑ Affected Landowner
   - ☑ Environmental impact
   - ☑ Community Impact
   - ☒ Economic Impact
   - ☑ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:
oppressed distressed/stress lonely homeless
* - loss of lively hood: Comm. Resilience

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)

- ☒ Residential
- ☐ Farming
- ☒ Recreation → No more beaches for swimming
- ☐ Commercial
- ☐ Not Applicable
- ☒ Other → No more fish & marked swimming

If "Other", please describe briefly: loss of Scenic Road.

8. Do you have any concerns about the environmental impacts of the project?

loss of Medicines
Beaches
fish
Moose + other

9. Please note any additional Questions or Comments or Concerns you may have:

Opti[redacted]

Nam[redacted]el/email:

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

33

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☑ Affected Landowner
   - ☐ Environmental impact
   - ☐ Community Impact
   - ☐ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☐ Residential
   - ☐ Farming
   - ☐ Recreation
   - ☐ Commercial
   - ☑ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

No

9. Please note any additional Questions or Comments or Concerns you may have:

I fear that we will have another flood like 2011 at
Twin Lake Beaches, St. Laurent. Will the current government
support us like the previous gov't did? That is,
will we be compensated if an inundation occurs?

Optional			
Name	[redacted]	Postal Code: [redacted]	Tel/email: [redacted]

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

34

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☐ Yes
   - ☑ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☐ Yes
   - ☑ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☐ Yes
   - ☑ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☐ Yes
   - ☑ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☐ Yes
   - ☑ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☑ Affected Landowner
   - ☑ Environmental impact
   - ☑ Community Impact
   - ☑ Economic Impact
   - ☑ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☑ Other

If "Other", please describe briefly:
Quality of Life

✓

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☑ Residential
   - ☐ Farming
   - ☐ Recreation
   - ☑ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

Too devastating to record in a few short lines. Don't seem to matter anyway.

9. Please note any additional Questions or Comments or Concerns you may have:

Optional		
Name:	Postal Code:	Tel/email:

This survey can also be completed online at: **https://www.surveymonkey.com/r/BT7FYXJ**

CANADA 150

33

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☑ Affected Landowner
   - ☑ Environmental impact
   - ☐ Community Impact
   - ☑ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:
INSUFFICIENT FLOW CAPABILITY

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☐ Residential
   - ☐ Farming
   - ☐ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

9. Please note any additional Questions or Comments or Concerns you may have:

LISTED IN 6. AS OTHER.

Optional					
Name:	[redacted]		Postal Code:	[redacted]	Tel/email: [redacted]

This survey can also be completed online at: **https://www.surveymonkey.com/r/BT7FYXJ**

CANADA 150

(39)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☐ Yes
   - ☐ No
   - ☒ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☐ Yes
   - ☐ No
   - ☒ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☐ Yes
   - ☐ No
   - ☒ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☐ Yes
   - ☐ No
   - ☒ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☐ Yes
   - ☐ No
   - ☒ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☐ Affected Landowner
   - ☒ Environmental impact
   - ☐ Community Impact
   - ☐ Economic Impact
   - ☒ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☐ Residential
   - ☐ Farming
   - ☐ Recreation
   - ☐ Commercial
   - ☒ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

Yes! migration, wild life, use of traditional
medicines, spawning of fish.

9. Please note any additional Questions or Comments or Concerns you may have:

Optional		
Name:	Postal Code:	Tel/email:

This survey can also be completed online at: **https://www.surveymonkey.com/r/BT7FYXJ**

CANADA 150

(31)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☑ Affected Landowner
   - ☐ Environmental impact
   - ☐ Community Impact
   - ☐ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)

- ☐ Residential
- ☐ Farming
- ☑ Recreation
- ☑ Commercial
- ☐ Not Applicable
- ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

WATER QUALITY

9. Please note any additional Questions or Comments or Concerns you may have:

CONCERN ABOUT THE FUTURE PORTAGE
DIVERSION REBUILD + INCREASE IN CAPACITY

Optional		
Name:	Postal Code:	Tel/email:

This survey can also be completed online at: **https://www.surveymonkey.com/r/BT7FYXJ**

CANADA 150

(38)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☒ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☒ Yes
   - ☐ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☒ Yes
   - ☐ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☐ Yes
   - ☐ No
   - ☒ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☒ Yes
   - ☐ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☐ Affected Landowner
   - ☐ Environmental impact
   - ☐ Community Impact
   - ☒ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☐ Residential
   - ☐ Farming
   - ☒ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

Groundwater / Surface water interaction

9. Please note any additional Questions or Comments or Concerns you may have:

Optional		
Name:	Postal Code:	Tel/email:

This survey can also be completed online at: **https://www.surveymonkey.com/r/BT7FYXJ**

CANADA 150

39

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☒ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☒ Yes
   - ☐ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☒ Yes
   - ☐ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☒ Yes
   - ☐ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☐ Yes
   - ☐ No
   - ☒ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☒ Affected Landowner
   - ☒ Environmental impact
   - ☒ Community Impact
   - ☒ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☐ Residential
   - ☐ Farming
   - ☐ Recreation
   - ☐ Commercial
   - ☒ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

ENVIRONMENTAL IMPACT CONCERNS WHEN BUILDING NEW
NO CONCERNS WITH ENV. IMPACT WHEN IN EMERGENCY SITUATION (EVEN WHEN DAMAGE IS GOING TO HAPPEN AGAIN.

9. Please note any additional Questions or Comments or Concerns you may have:

GUIDELINES TO BE CHALLENGED & REVIEWED ON A REGULAR BASIS.

Optional		
Name: [redacted]	Postal Code: [redacted]	Tel/email: [redacted]

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☒ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☐ Yes
   - ☒ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☐ Yes
   - ☐ No
   - ☒ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☒ Yes
   - ☐ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☒ Yes
   - ☐ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☒ Affected Landowner
   - ☐ Environmental impact
   - ☐ Community Impact
   - ☐ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☒ Residential
   - ☐ Farming
   - ☐ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

yes - water from flow out from Lake MB
& Hecla ground sources -

9. Please note any additional Questions or Comments or Concerns you may have:

Optional		
Name:	Postal Code:	Tel/email:

This survey can also be completed online at: **https://www.surveymonkey.com/r/BT7FYXJ**

CANADA 150

41

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☑ Yes just get it done
   - ☐ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☑ Yes follow them
   - ☐ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☑ Affected Landowner
   - ☐ Environmental impact
   - ☐ Community Impact
   - ☐ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☑ Residential
   - ☐ Farming
   - ☐ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

Not really, I think the environment damage done by the 2011 flood ~~was~~ was so destructive & operation of the ~~to~~ Portage Diversion is constantly causing damage + killing Lake MB.

9. Please note any additional Questions or Comments or Concerns you may have:

Just get something done ASAP!!!

Optional		
Name:	Postal Code:	Tel/email:

This survey can also be completed online at: https://www.surveymonkey.com/r/BT7FYXJ

CANADA 150

(42)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☑ Affected Landowner
   - ☐ Environmental impact
   - ☐ Community Impact
   - ☐ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☑ Residential
   - ☐ Farming
   - ☐ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

More that we don't move the problem
Somewhere else.

9. Please note any additional Questions or Comments or Concerns you may have:

Get it done as fast as possible.

Optional		
Name:	Postal Code:	Tel/email:

This survey can also be completed online at: **https://www.surveymonkey.com/r/BT7FYXJ**

CANADA 150

(43)

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☑ Affected Landowner
   - ☐ Environmental impact
   - ☐ Community Impact
   - ☐ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☑ Residential
   - ☐ Farming
   - ☑ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

none

9. Please note any additional Questions or Comments or Concerns you may have:

- GET 'ER DONE
- need to Lower Lake Manitoba - more than suggested - Build Outlet year ago

Optional		
Name:	Postal Code:	Tel/email:

This survey can also be completed online at: **https://www.surveymonkey.com/r/BT7FYXJ**

CANADA 150

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

Attendee Feedback Form

1. Do you support the **concept** of a **Lake Manitoba** and **Lake St Martin** Outlet Channels Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

2. Do you support of the **location** of the proposed **Lake Manitoba** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

3. Do you support of the **location** of the proposed **Lake St. Martin** Outlet Channel Project?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

4. Do you support the proposed relocation of Provincial Road No. 239?
   - ☑ Yes
   - ☐ No
   - ☐ Undecided

5. Do you support the proposed Operating Guidelines for the Outlet Channels?
   - ☐ Yes
   - ☐ No
   - ☑ Undecided

6. To the best of your knowledge, which one of the following phrases best describes the impact the Outlet Channel Projects may have on you?
   - ☑ Affected Landowner
   - ☐ Environmental impact
   - ☐ Community Impact
   - ☐ Economic Impact
   - ☐ Aboriginal/Treaty Right
   - ☐ Not impacted
   - ☐ Unsure
   - ☐ Other

If "Other", please describe briefly:

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channel Projects
June 29th, 2017 Open House in Moosehorn, Manitoba

7. If you frequent the project area, which statement best describes your land use? (select one or more that applies)
   - ☑ Residential
   - ☐ Farming
   - ☑ Recreation
   - ☐ Commercial
   - ☐ Not Applicable
   - ☐ Other

If "Other", please describe briefly:

8. Do you have any concerns about the environmental impacts of the project?

no

9. Please note any additional Questions or Comments or Concerns you may have:

n/a

Optional		
Name:	Postal Code:	Tel/email:

This survey can also be completed online at: **https://www.surveymonkey.com/r/BT7FYXJ**

CANADA 150

My Surveys Products Resources Plans & Pricing UPGRADE CREATE SURVEY Ccf9708

Create better surveys faster. Upgrade to add users and get team collaboration tools. View pricing »

Lake Manitoba and Lake St. Martin Outlet Channel Projects

SUMMARY → DESIGN SURVEY → COLLECT RESPONSES → ANALYZE RESULTS

Current View

+ Filter + Compare + Show

No rules applied

Rules allow you to **FILTER**, **COMPARE** and **SHOW** results to see trends and patterns.

Learn more »

Saved Views (1)

Original View (No rules applied)

+ Save As

Exports

Shared Data

No shared data

Sharing allows you to share your survey results with others. You can share all data, a saved view, or a single question summary.

Learn more »

+ Share All

RESPONDENTS: 5 of 5 Export All + Share All

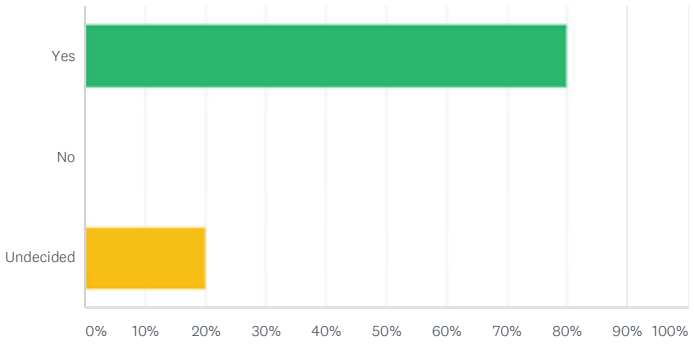
QUESTION SUMMARIES DATA TRENDS INDIVIDUAL RESPONSES

Page 1

Q1 Customize Export

Do you support the concept of a Lake Manitoba and Lake St. Martin Outlet Channels Project?

Answered: 5 Skipped: 0



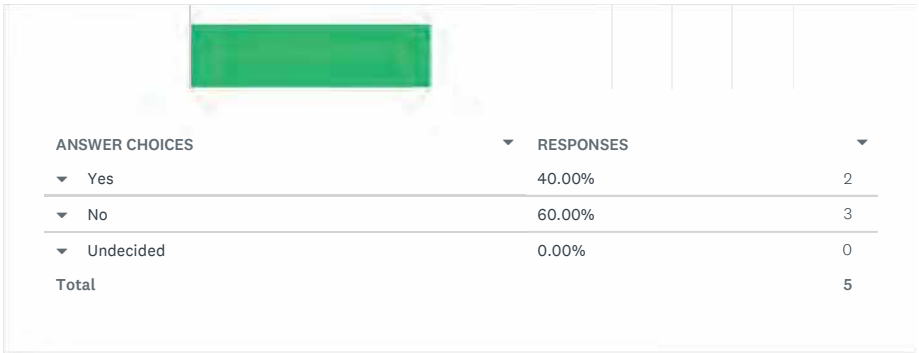
ANSWER CHOICES	RESPONSES	
Yes	80.00%	4
No	0.00%	0
Undecided	20.00%	1
Total		5

Q2 Customize Export

Do you support of the location of the proposed Lake Manitoba Outlet Channel Project?

Answered: 5 Skipped: 0



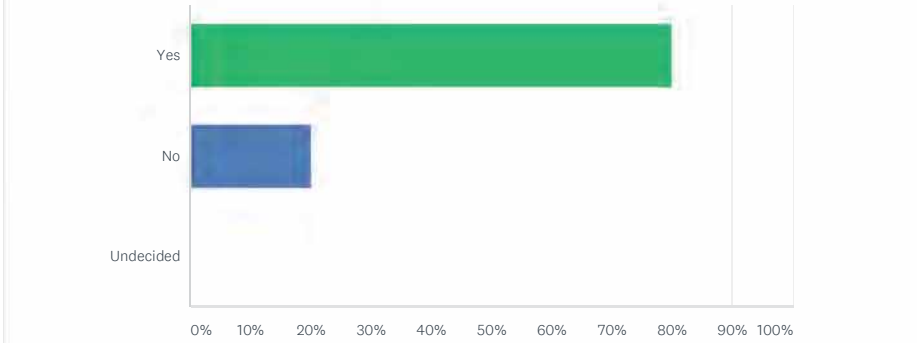


ANSWER CHOICES	RESPONSES	
Yes	40.00%	2
No	60.00%	3
Undecided	0.00%	0
Total		5

Q3 Customize Export

Do you support of the location of the proposed Lake St. Martin Outlet Channel Project?

Answered: 5 Skipped: 0

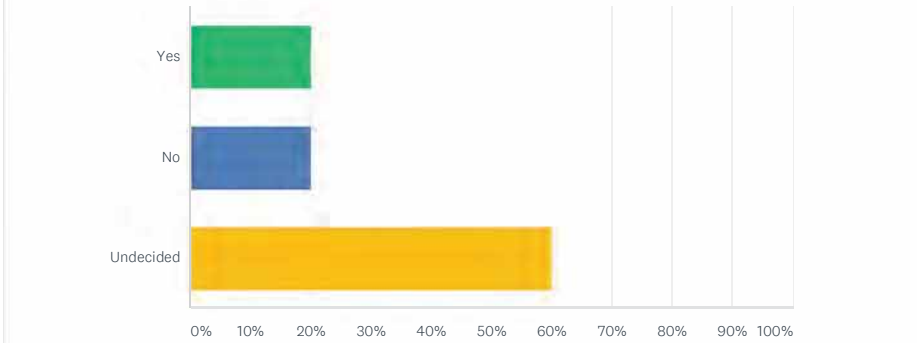


ANSWER CHOICES	RESPONSES	
Yes	80.00%	4
No	20.00%	1
Undecided	0.00%	0
Total		5

Q4 Customize Export

Do you support the proposed relocation of Provincial Road No. 239?

Answered: 5 Skipped: 0



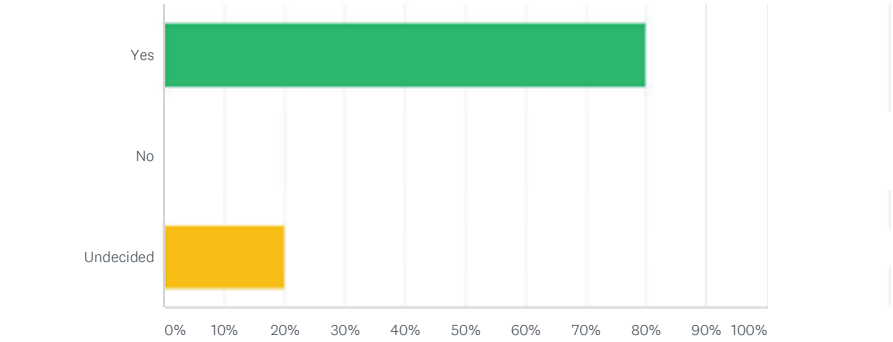
ANSWER CHOICES	RESPONSES	
Yes	20.00%	1
No	20.00%	1
Undecided	60.00%	3
Total		5

Q5

Customize Export

Do you support the proposed Operating Guidelines for the Outlet Channels?

Answered: 5 Skipped: 0



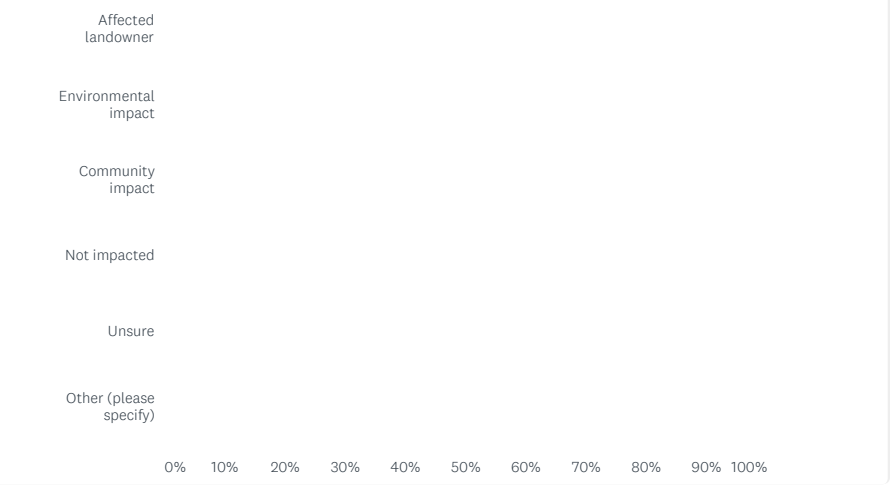
ANSWER CHOICES	RESPONSES	
Yes	80.00%	4
No	0.00%	0
Undecided	20.00%	1
Total		5

Q6

Customize Export

To the best of your knowledge, which one of the following phrases best describes the impact the outlet channel projects may have on you?

Answered: 5 Skipped: 0



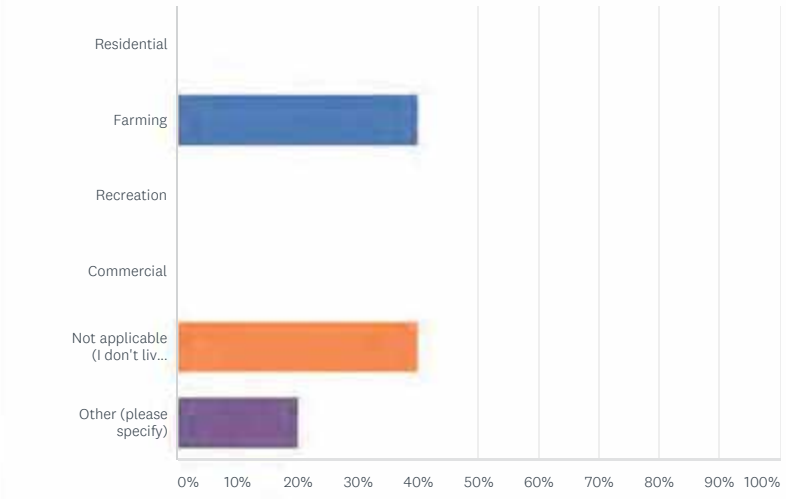
ANSWER CHOICES		RESPONSES	
Affected landowner		40.00%	2
Environmental impact		0.00%	0
Community impact		40.00%	2
Not impacted		20.00%	1
Unsure		0.00%	0
Other (please specify)	Responses	0.00%	0
Total			5

Q7

Customize Export

If you frequent the project area, which statements best describes your land use? (select one or more that applies)

Answered: 5 Skipped: 0



ANSWER CHOICES		RESPONSES	
Residential		0.00%	0
Farming		40.00%	2
Recreation		0.00%	0
Commercial		0.00%	0
Not applicable (I don't live in the project area)		40.00%	2
Other (please specify)	Responses	20.00%	1

Total Respondents: 5

Q8

Export

Do you have any concerns about the environmental impacts of the project?

Answered: 2 Skipped: 3

Responses (2) Text Analysis My Categories

PAID FEATURE

Use text analysis to search and categorize responses; see frequently-used words and phrases. To use Text Analysis, upgrade to a paid plan .

UPGRADE Learn more »

Categorize as... Filter by Category Search responses

Showing **2** responses

As a land owner along the Portage Diversion my concern is that once the channels are built, and the levels of Lake Manitoba are lowered,the following will occur: 1.the diversion will be used more, 2.there will be higher water volumes going down the diversion for longer periods of time, thus adversely effecting my land from seepage and higher levels of salinity. My land is already experiencing adverse effects from the diversion running and nothing is being done to compensate us now. We own a cottage along the south shore of Lake Manitoba. There is a huge environmental impact on Lake Manitoba each time the Portage Diversion is run. In 2017 huge trees and debris have been diverted from the river into the lake and all along the shore. River silt and garbage like this has a short and long term negative environmental effect on the lake.

6/30/2017 8:24 AM View respondent's answers

Wildlife (deer) historically cross Birch Bay creek at the mouth on lake St Martin what effect will channel have on them. The pollution that will come from Portage diversion with spring run off or heavy rain will this be monitored? Will there be water seeping out of channel on land adjacent to bank in time and how will it be dealt with. Unwanted trespassing on bank for hunting water foul etc how can this be controlled?Will it be breeding ground for carp/ zebra mussels etc. in channel?

6/29/2017 6:04 PM View respondent's answers

Q9

Export

Please note any additional Questions or Comments or Concerns you may have here

Answered: 2 Skipped: 3

Responses (2) Text Analysis My Categories

PAID FEATURE
Use text analysis to search and categorize responses; see frequently-used words and phrases. To use Text Analysis, upgrade to a paid plan .

UPGRADE Learn more »

Categorize as... Filter by Category Search responses

Showing **2** responses

Please do not misunderstand me - I support this outlet channel. That being said, you have chosen the worst possible route for it to go. What the Province of Manitoba and KGS is doing to our community is sickening. The most frustrating aspect of this entire project is the rerouting of Hwy 239. It is as if you cannot hear how ridiculous this sounds. Please, just build the bridge on Hwy 239. You are taking so much from us. Please just give us this. Keep 239 where it is.

7/4/2017 3:12 PM View respondent's answers

The inconvenience of extra travelling to access land east. The biggest how will know or foresee all exta problems that may arise later and be compensated for. This channel will directly effect our livelihood once started forever. Life time of work lost . What benefit we get will be lost in taxes.p

6/29/2017 6:04 PM View respondent's answers

Q10

Export

Contact details (optional)

Answered: 2 Skipped: 3

ANSWER CHOICES		RESPONSES	
Name	Responses	100.00%	2
Postal Code	Responses	100.00%	2
Email/ Tel no.	Responses	100.00%	2

ENGLISH

About SurveyMonkey • Privacy Policy • Email Opt-In • Help
Copyright © 1999-2017 SurveyMonkey

Manitoba
Infrastructure
Water Management and Structures
2nd Floor - 280 Broadway, Winnipeg, MB
R3C 0R8

February 21, 2018

To whom it may concern,

Re: Open House Invitation for the Lake Manitoba and Lake St. Martin Outlet Channels Project

Manitoba Infrastructure is hosting two open house events to discuss the proposed Lake Manitoba and Lake St. Martin Outlet Channel Project. These events are intended to provide the public with an opportunity to learn about the project and to provide comments on environmental concerns. As a key stakeholder, we invite you to attend and share your thoughts.

The first open house will take place on Tuesday March 6, 2018 at the community hall in Moosehorn, MB. The second is scheduled for Thursday March 8, 2018 at the Canad Inns Destination Centre, 1824 Pembina Hwy in Winnipeg, MB. Both events will take place from 2:00pm to 4:00pm and 6:00pm to 8:00pm. Brief presentations will be given with open discussion to follow.

We'd also like to take this opportunity to notify you that our project website (http://www.gov.mb.ca/mit/wms/lmblsmoutlets/index.html) was recently updated, and that the project is now featured on the Canadian Environmental Assessment Agency's (CEAA) registry at http://www.ceaa.gc.ca/050/details-eng.cfm?evaluation=80148. Please continue to visit these sites for more information.

Should you have any other questions or concerns, please feel free to contact me by phone (204-479-6025) or email (Christine.Baljko@gov.mb.ca).

Sincerely,

<Original signed by>

Christine Baljko
Environmental Coordinator

cc: Mark Allard, Project Director

Lake Manitoba and Lake St. Martin Outlet Channels Project

Fact Sheet

The project is a provincial flood protection initiative.

It involves construction of two new floodwater diversion channels and two new water control structures.

Flood protection will be provided to the people living around Lake Manitoba and Lake St. Martin by allowing more water to exit the lakes during peak flood periods.

Lake Manitoba Outlet Channel

- approximately 23 km long
- located between Lake Manitoba and Lake St. Martin
- the channel will remain wetted year-round
- the water control structure will be located along Iverson Road, and will also act as a bridge
- three new bridges will be built to accommodate existing traffic

Lake St. Martin Outlet Channel

- approximately 23 km long
- located between Lake St. Martin and Lake Winnipeg
- the channel will remain dry when not operated
- the water control structure will be located near the inlet of the channel at Lake St. Martin
- elevation changes along the channel will require construction of several drop structures



Required Environmental Approvals

- Manitoba Sustainable Development
- Canadian Environmental Assessment Agency
- Department of Fisheries and Oceans
- Transport Canada Navigable Waters Protection Program

Public Participation – Ongoing Opportunities

- Current and upcoming Open House events – Summer and Fall 2018
- Project website
- Through the provincial and Federal Environmental Authorization processes



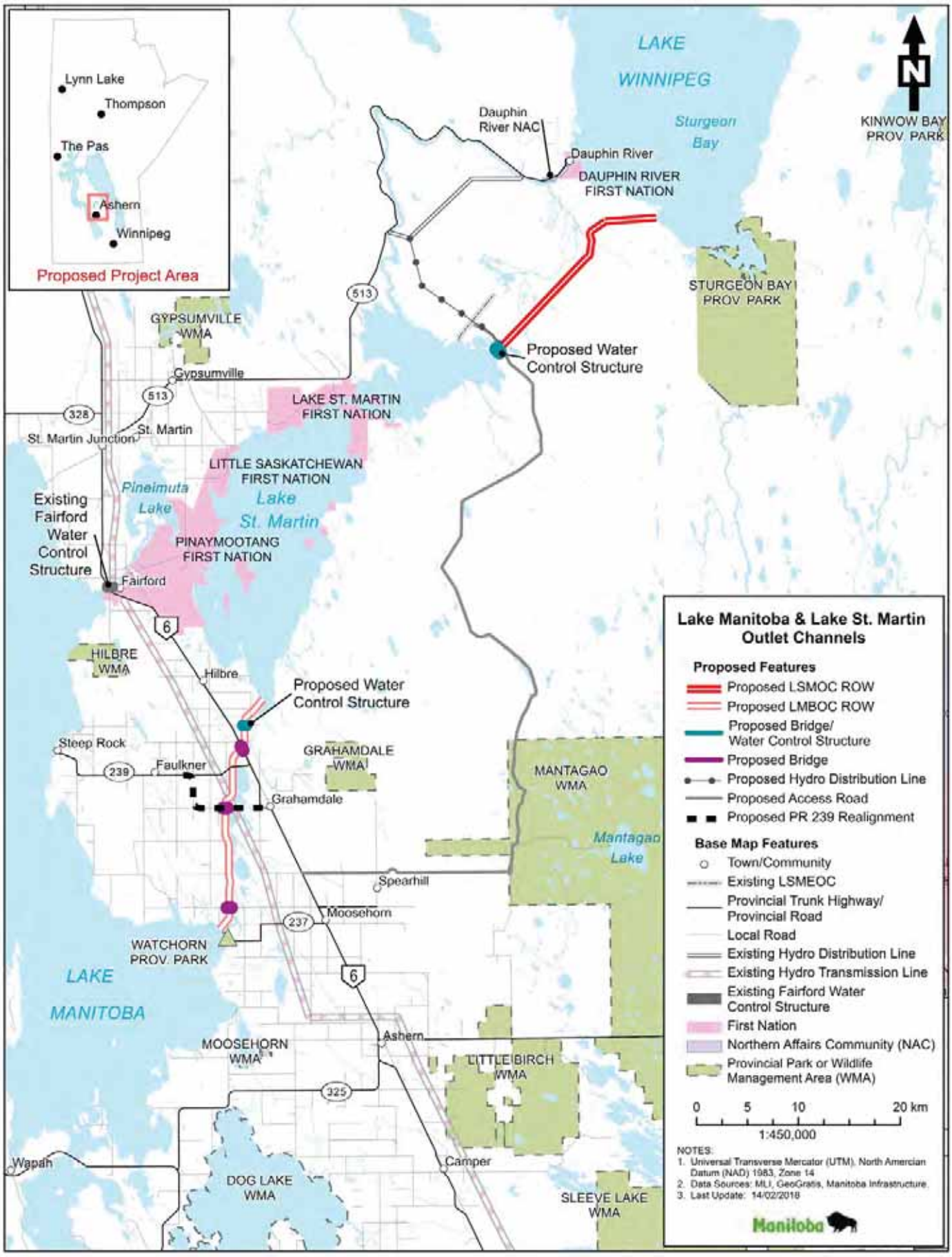
For More Information

http://www.gov.mb.ca/mit/wms/lmblsmoutlets/index.html

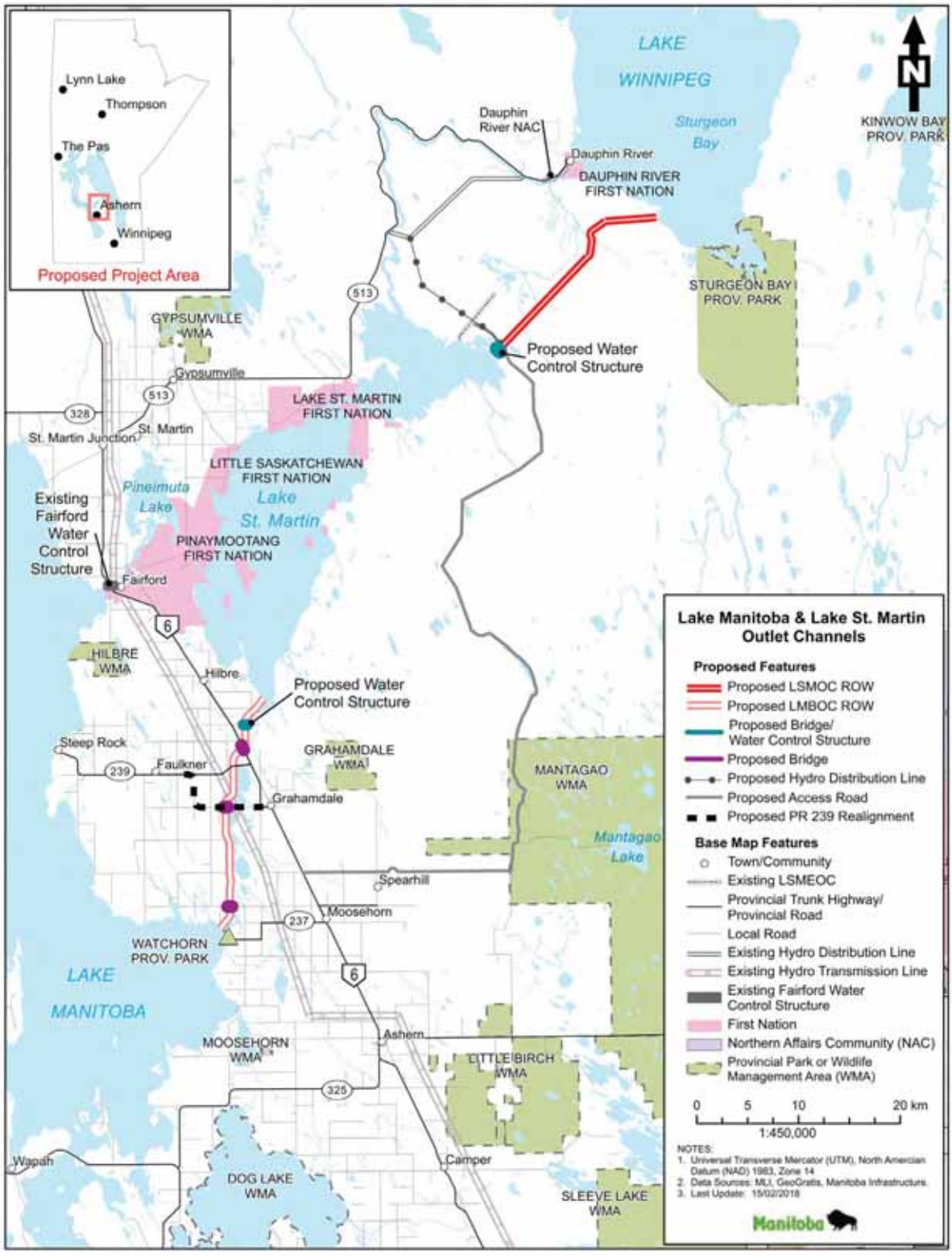
To provide comment

outletchannels@gov.mb.ca

Manitoba

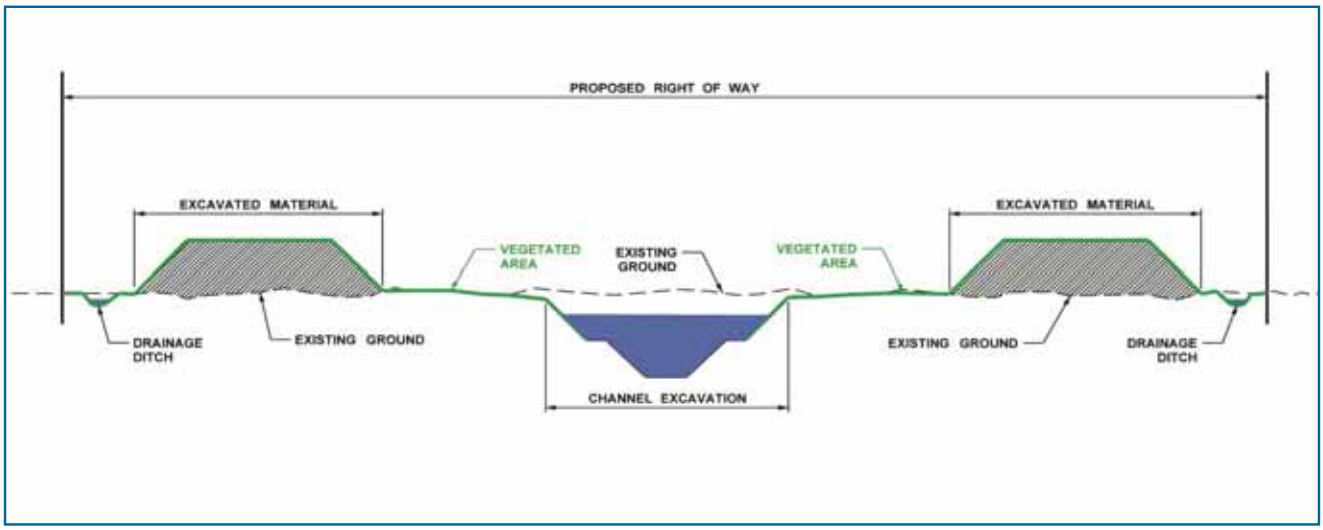

Lynn Lake
Thompson
The Pas
Ashern
Winnipeg
Proposed Project Area
LAKE
WINNIPEG
Dauphin
River NAC
Dauphin River
DAUPHIN RIVER
FIRST NATION
Sturgeon
Bay
KINWOW BAY
PROV. PARK
STURGEON BAY
PROV. PARK
Proposed Water
Control Structure
513
GYPSUMVILLE
WMA
Gypsumville
LAKE ST. MARTIN
FIRST NATION
328
St. Martin Junction
St. Martin
LITTLE SASKATCHEWAN
FIRST NATION
Pineimuta
Lake
Lake
St. Martin
Existing
Fairford
Water
Control
Structure
PINAYMOOTANG
FIRST NATION
Fairford
6
HILBRE
WMA
Hilbre
Proposed Water
Control Structure
Steep Rock
239
Faulkner
GRAHAMDALE
WMA
Grahamdale
MANTAGAO
WMA
Mantagao
Lake
Spearhill
Moosehorn
237
WATCHORN
PROV. PARK
LAKE
MANITOBA
6
MOOSEHORN
WMA
Ashern
LITTLE BIRCH
WMA
325
Wapah
DOG LAKE
WMA
Camper
SLEEVE LAKE
WMA
Lake Manitoba & Lake St. Martin
Outlet Channels
Proposed Features
Proposed LSMOC ROW
Proposed LMBOC ROW
Proposed Bridge/
Water Control Structure
Proposed Bridge
Proposed Hydro Distribution Line
Proposed Access Road
Proposed PR 239 Realignment
Base Map Features
Town/Community
Existing LSMEOC
Provincial Trunk Highway/
Provincial Road
Local Road
Existing Hydro Distribution Line
Existing Hydro Transmission Line
Existing Fairford Water
Control Structure
First Nation
Northern Affairs Community (NAC)
Provincial Park or Wildlife
Management Area (WMA)
0 5 10 20 km
1:450,000
NOTES:
1. Universal Transverse Mercator (UTM), North American
Datum (NAD) 1983, Zone 14
2. Data Sources: MLI, GeoGratis, Manitoba Infrastructure
3. Last Update: 14/02/2018
Manitoba

Manitoba

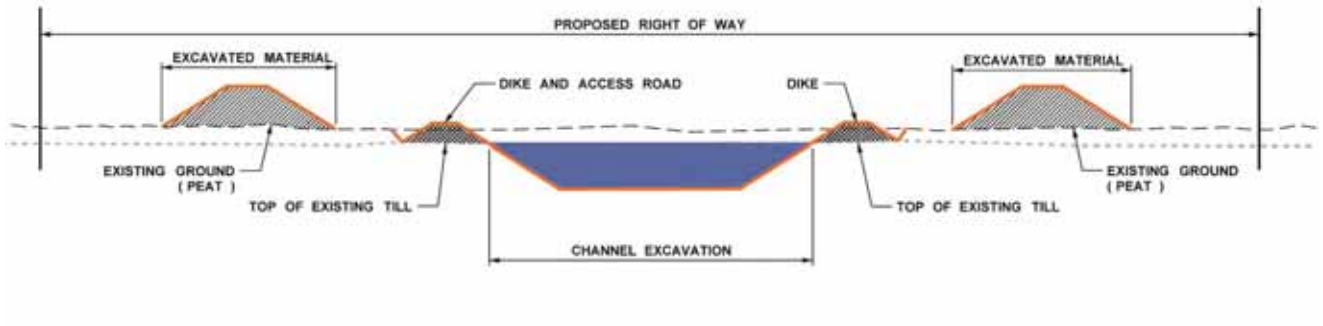

Lynn Lake
Thompson
The Pas
Ashern
Winnipeg
Proposed Project Area
LAKE
WINNIPEG
Dauphin
River NAC
Dauphin River
DAUPHIN RIVER
FIRST NATION
Sturgeon
Bay
KINWOW BAY
PROV. PARK
STURGEON BAY
PROV. PARK
513
GYPSUMVILLE
WMA
Gypsumville
Proposed Water
Control Structure
LAKE ST. MARTIN
FIRST NATION
328
St. Martin Junction
St. Martin
LITTLE SASKATCHEWAN
FIRST NATION
Pineimuta
Lake
Lake
St. Martin
Existing
Fairford
Water
Control
Structure
PINAYMOOTANG
FIRST NATION
Fairford
6
HILBRE
WMA
Hilbre
Proposed Water
Control Structure
Steep Rock
239
Faulkner
GRAHAMDALE
WMA
Grahamdale
MANTAGAO
WMA
Mantagao
Lake
Spearhill
Moosehorn
237
WATCHORN
PROV. PARK
LAKE
MANITOBA
6
Ashern
MOOSEHORN
WMA
LITTLE BIRCH
WMA
325
Wapah
DOG LAKE
WMA
Camper
SLEEVE LAKE
WMA
N
Lake Manitoba & Lake St. Martin
Outlet Channels
Proposed Features
Proposed LSMOC ROW
Proposed LMBOC ROW
Proposed Bridge/
Water Control Structure
Proposed Bridge
Proposed Hydro Distribution Line
Proposed Access Road
Proposed PR 239 Realignment
Base Map Features
Town/Community
Existing LSMEOC
Provincial Trunk Highway/
Provincial Road
Local Road
Existing Hydro Distribution Line
Existing Hydro Transmission Line
Existing Fairford Water
Control Structure
First Nation
Northern Affairs Community (NAC)
Provincial Park or Wildlife
Management Area (WMA)
0 5 10 20 km
1:450,000
NOTES:
1. Universal Transverse Mercator (UTM), North American Datum (NAD) 1983, Zone 14
2. Data Sources: MLI, GeoGratis, Manitoba Infrastructure.
3. Last Update: 15/02/2018
Manitoba

Manitoba

Proposed Outlet Channels



Lake Manitoba Outlet Channel Conceptual Cross Section



Lake St. Martin Outlet Channel Conceptual Cross Section

Manitoba

Welcome

Lake Manitoba and Lake St. Martin Outlet Channels Project



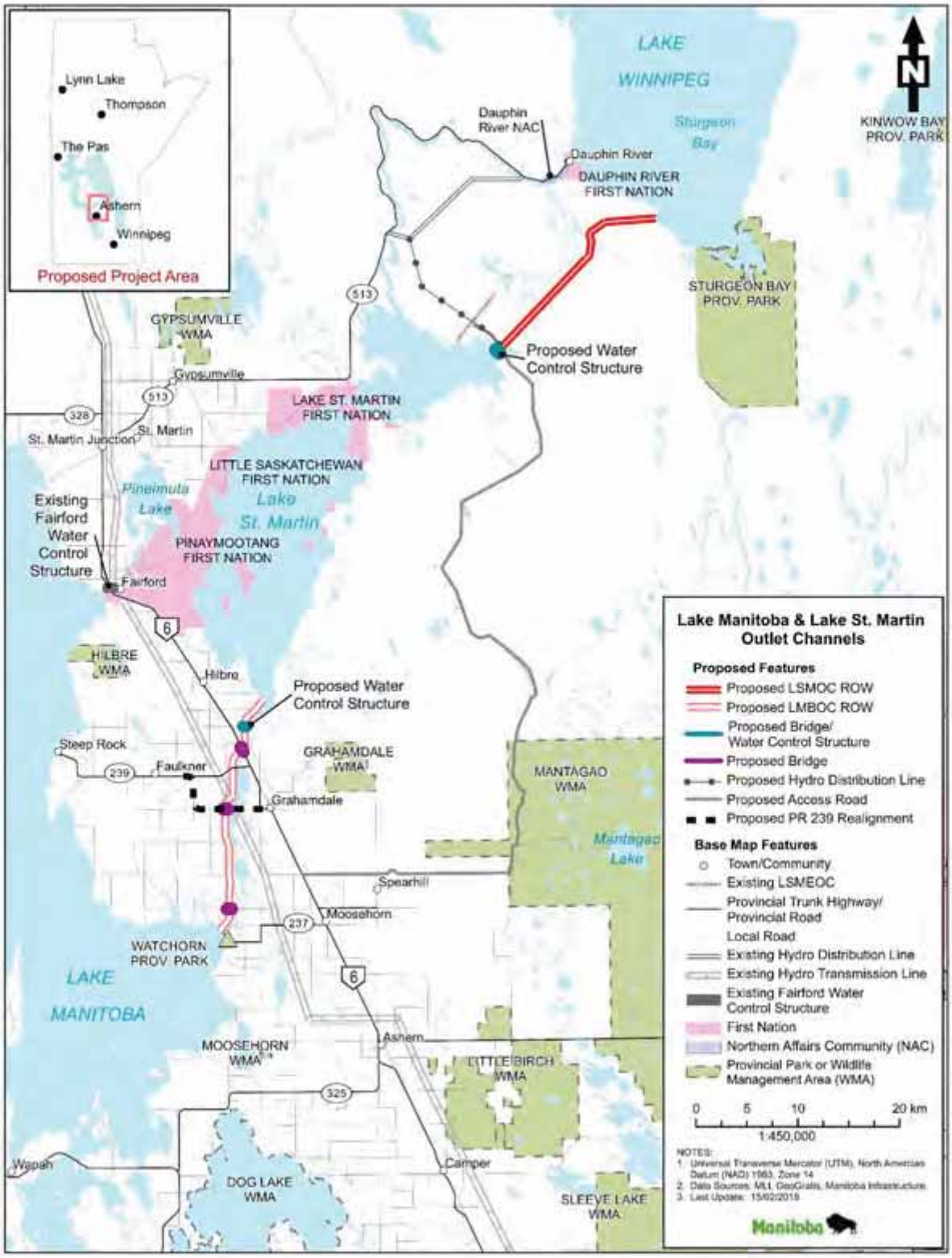






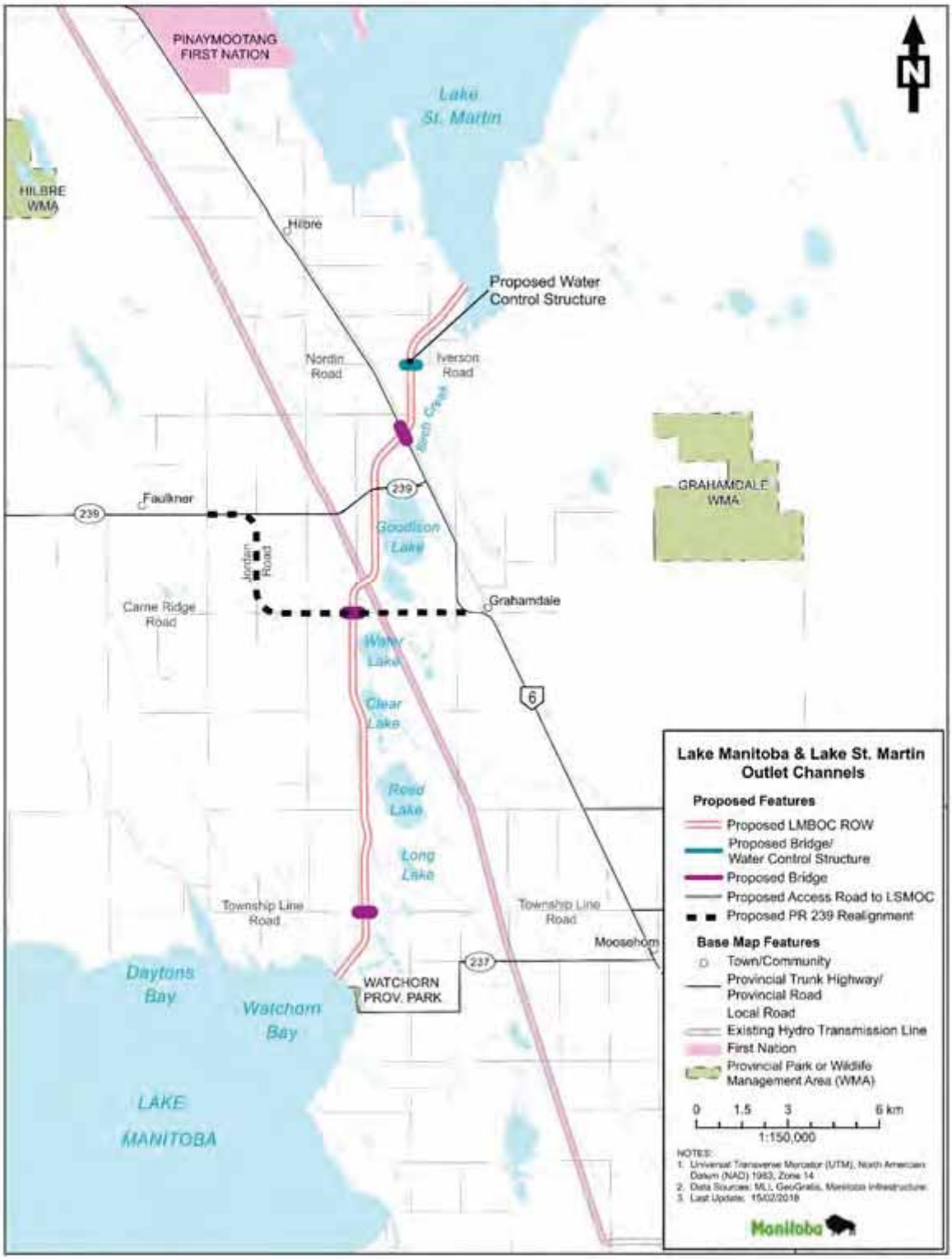
March 2018 Open House

Manitoba


Lynn Lake
Thompson
The Pas
Ashern
Winnipeg
Proposed Project Area
LAKE WINNIPEG
Sturgeon Bay
Dauphin River NAC
Dauphin River
DAUPHIN RIVER FIRST NATION
KINWOW BAY PROV. PARK
STURGEON BAY PROV. PARK
513
GYPSUMVILLE WMA
Gypsumville
Proposed Water Control Structure
LAKE ST. MARTIN FIRST NATION
328
St. Martin Junction
St. Martin
LITTLE SASKATCHEWAN FIRST NATION
Pineimuta Lake
Lake St. Martin
PINAYMOOTANG FIRST NATION
Existing Fairford Water Control Structure
Fairford
6
HILBRE WMA
Hilbre
Proposed Water Control Structure
Steep Rock
239
Faulkner
GRAHAMDALE WMA
Grahamdale
MANTAGAO WMA
Mantagao Lake
Spearhill
Moosehorn
237
WATCHORN PROV. PARK
LAKE MANITOBA
MOOSEHORN WMA
Ashern
LITTLE BIRCH WMA
325
Wapah
DOG LAKE WMA
Camper
SLEEVE LAKE WMA
Lake Manitoba & Lake St. Martin Outlet Channels
Proposed Features
Proposed LSMOC ROW
Proposed LMBOC ROW
Proposed Bridge/ Water Control Structure
Proposed Bridge
Proposed Hydro Distribution Line
Proposed Access Road
Proposed PR 239 Realignment
Base Map Features
Town/Community
Existing LSM/EOC
Provincial Trunk Highway/ Provincial Road
Local Road
Existing Hydro Distribution Line
Existing Hydro Transmission Line
Existing Fairford Water Control Structure
First Nation
Northern Affairs Community (NAC)
Provincial Park or Wildlife Management Area (WMA)
0 5 10 20 km
1:450,000
NOTES:
1. Universal Transverse Mercator (UTM), North American Datum (NAD) 1983, Zone 14
2. Data Sources: MLI, GeoGratis, Manitoba Infrastructure
3. Last Update: 15/02/2018
Manitoba

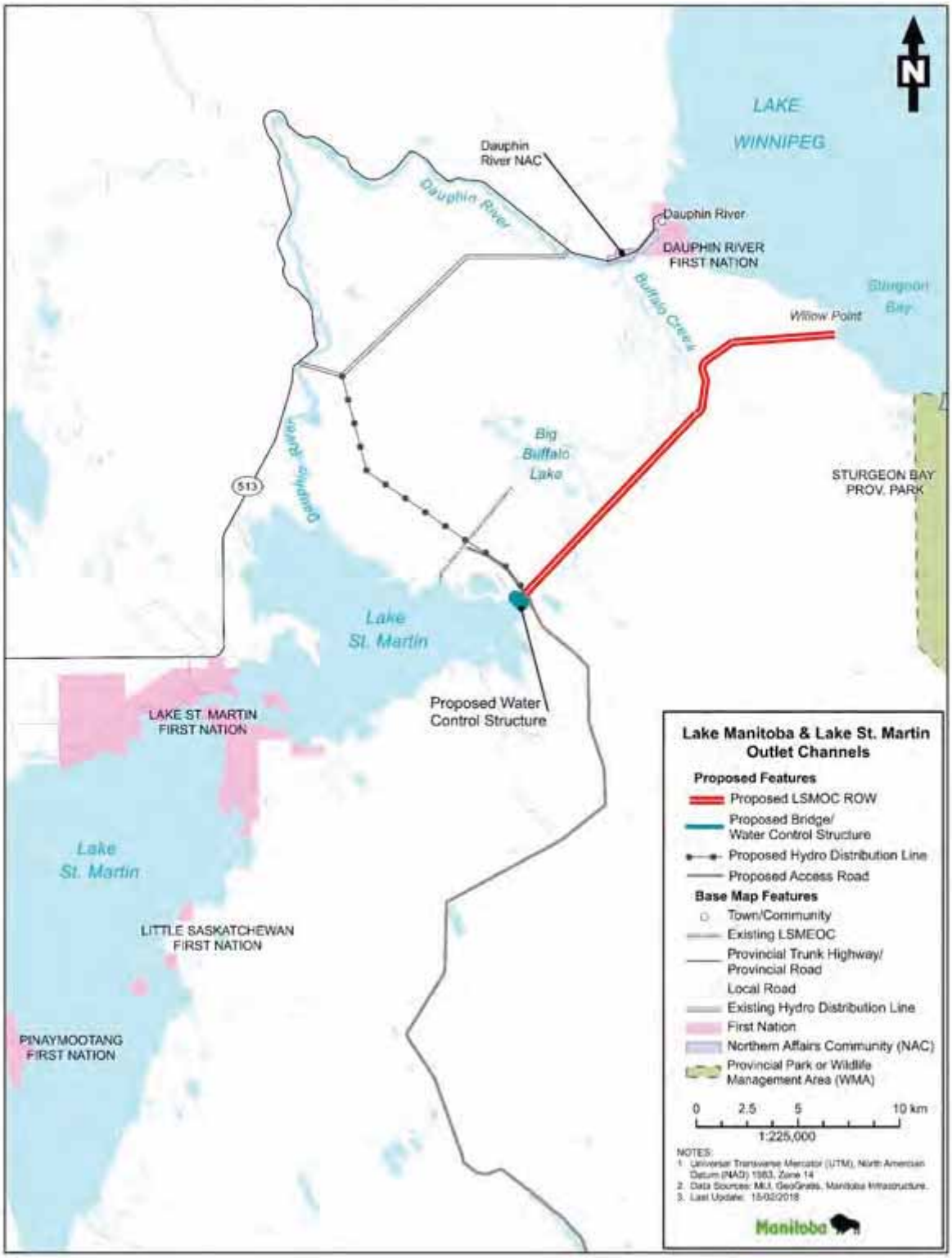
Manitoba

Proposed Lake Manitoba Outlet Channel



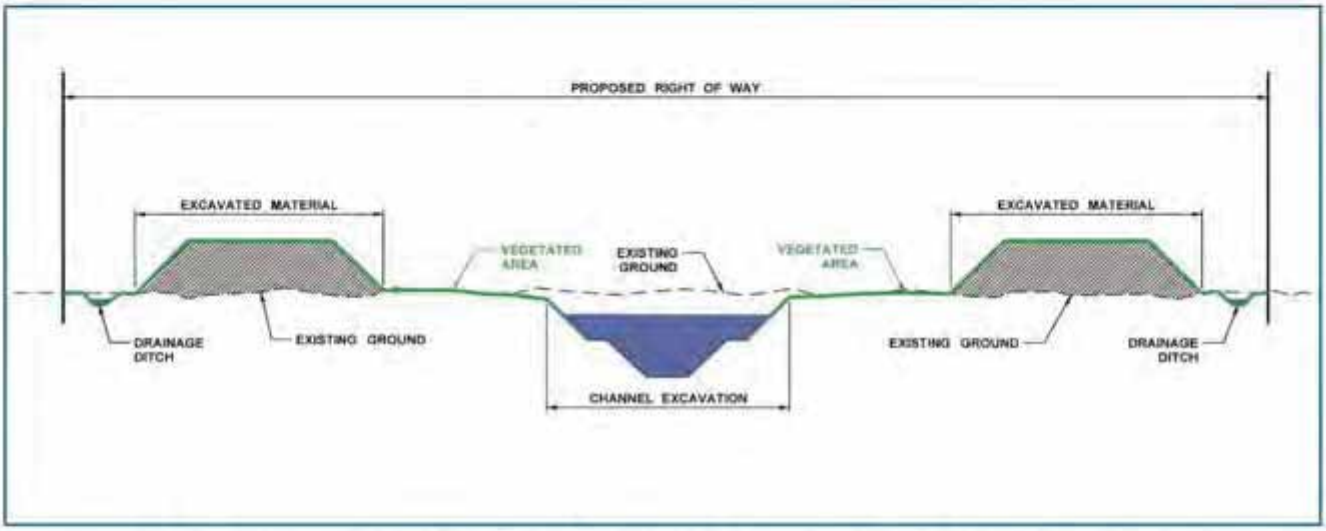
Manitoba

Proposed Lake St. Martin Outlet Channel

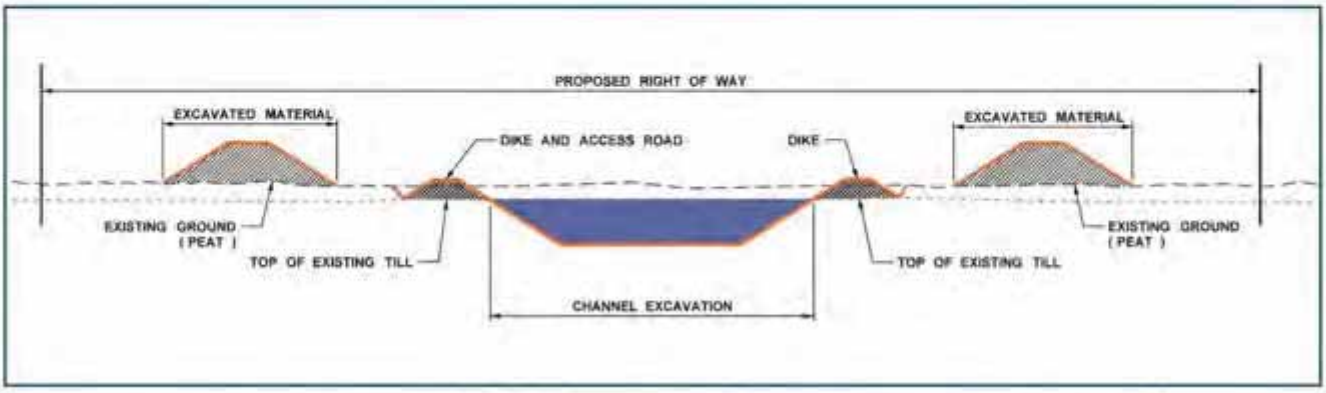


Manitoba

Proposed Outlet Channels



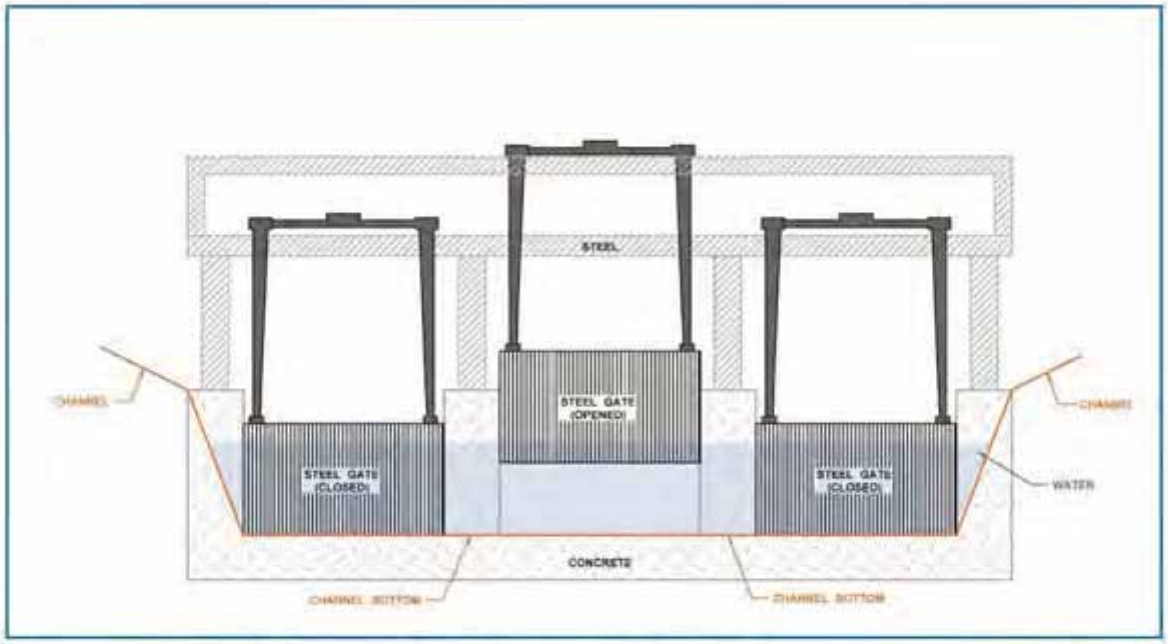
Lake Manitoba Outlet Channel Conceptual Cross Section



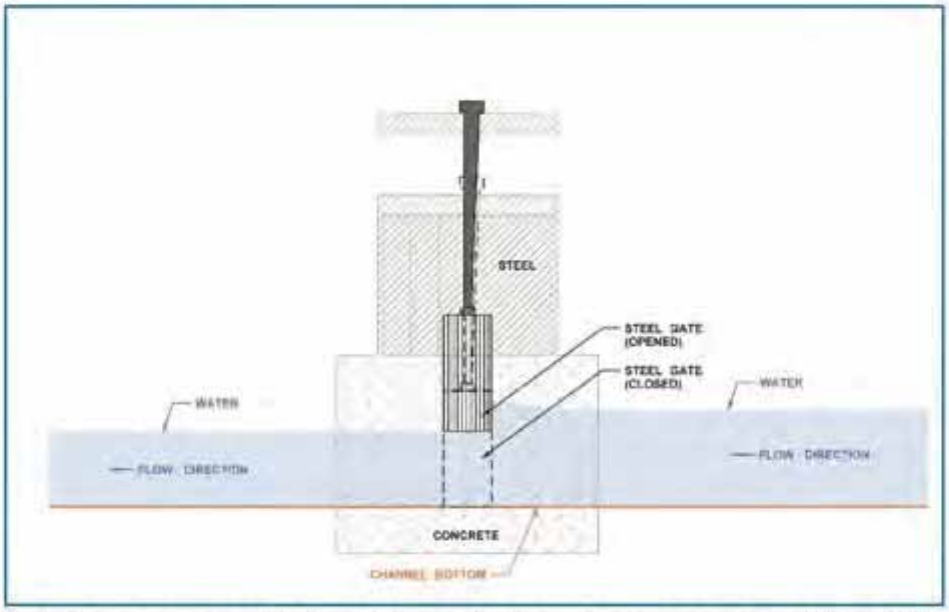
Lake St. Martin Outlet Channel Conceptual Cross Section

Manitoba

Proposed Water Control Structures



Water Control Structure (3 Bay) Conceptual Cross Section



Water Control Structure (3 Bay) Conceptual Profile

The Project

Background

Recent flooding highlighted the need to better control Lake St. Martin and Lake Manitoba.

Widespread flooding across much of southern Manitoba in 2011 resulted in unprecedented inflows into Lake Manitoba and Lake St. Martin — overwhelming the capacity of existing waterways.

Lake St. Martin Emergency Channel was constructed in 2011 and operated in 2011 and 2014.

Flooding resulted in long-term evacuation of First Nation communities, affecting thousands of acres of farmland, bridges and highways, and homes and cottages.

The need for permanent channels was identified.

Past—Public and Indigenous Outreach

Indigenous Peoples and Communities	• Community meetings • Information sessions
Local Landowners	• Individual visits and meetings • Information sessions • Open houses
General Public	• Public information sessions • Open houses
Municipal and Local Governments	• Planning and update meetings • Information sessions • Open houses
Other Government Agencies	• Planning and update meetings • Site visits

The Project

Water control systems working together

The Lake Manitoba Outlet Channel will work in tandem with the existing Fairford River Water Control Structure to help mitigate flooding on Lake Manitoba.

The Lake St. Martin Outlet Channel will increase the ability to convey flood waters to Lake Winnipeg and provide improved flood protection around Lake St. Martin without appreciably affecting lake levels on Lake Winnipeg.

The two proposed channels will provide greater flexibility in operating the provincial water control system including the Portage Diversion.

Project History

Provincial Flood Review:

- 2011 Flood Review Task Force Report
- 2013 Lake Manitoba and Lake St. Martin Regulation Review Committee Report
- 2016 Assiniboine River and Lake Manitoba Basins Flood Mitigation Study

The Provincial Review resulted in many different options and recommendations to start with developing the Lake Manitoba and Lake St. Martin Outlet Channels.

Conceptual design report (KGS) compared six options for Lake Manitoba Outlet Channel and four options for the Lake St. Martin Outlet Channel.

As a result, preferred options were recommended.

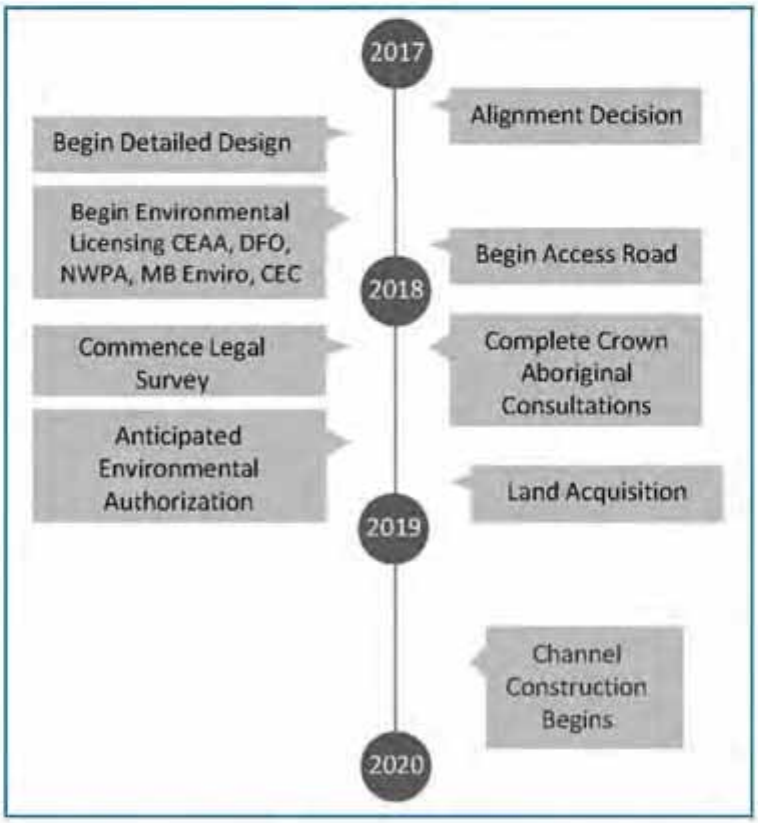
PROJECT BACKGROUND

Manitoba

Design and Construction



Project Planning Phases



Timeline

Why Conduct an Environmental Assessment?

Manitoba Infrastructure is working to develop the Project plan in an environmentally responsible manner.

Government requirements through legislation, such as:

Manitoba – Environmental Approvals

Authorization is granted in the form of an Environment Act Licence under The Environment Act of Manitoba and considers other legislation and guidance.

Canada – Canadian Environmental Assessment Agency

Authorization is granted in the form of an Environmental Assessment Decision under the Canadian Environmental Assessment Act 2012 and other legislation such as the Navigable Waters Protection Act.

Department of Fisheries and Oceans - Fisheries Authorizations

Are specific to activities that may affect fish or fish habitat; required for work conducted in fish bearing waterways such as bridges and culverts.

What is an Environmental Assessment?

Identifies project and environment interaction, predicts effects, identifies measures to avoid/minimize impacts, and monitor and follow-up to verify predictions and effectiveness of measures.

Includes potential effects on the biophysical and socio-economic environments (includes Indigenous and non-Indigenous people).

Assessments undergo federal and provincial government review.

The Federal and Provincial governments review all information submitted on a project and determine whether it can proceed to development.

If a project is approved, license requirements may stipulate additional measures such as short-term and/or long-term monitoring and reporting requirements.

ENVIRONMENTAL PLANNING

Manitoba



What's There Now?

The Project Region Contains:

The Lake Manitoba Outlet Channel area is surrounded by grassland, agriculture, wetlands and forests.



The Lake St. Martin Outlet Channel area is surrounded by wetlands and upland forests and is semi-remote.

Several species at risk occur here, such as: red-headed woodpecker, bobolink, short-eared owl



Large animals such as: elk, deer, coyotes, lynx and wolves.

Fish species common to these waters include: walleye, northern pike, lake whitefish, and perch.

Human History and Traditional Use

Evidence of human occupation and resource harvesting in the region over the past 8000-7000 years.

Six registered archeological sites in the project area:

Four from the fur trade and homestead period

Two from 350 to 2000 years ago and had stone tools and/or ceramics

Main Stages of Environmental Assessment

Scope of environmental assessment

Project setting and baseline conditions

Identification of potential effects

Avoidance/reduction of adverse effects

Other effects to consider

Follow-up and monitoring





Main Stages of Environmental Assessment

SCOPE

The area and timeframe in which we examine changes to people and the environment.

PROJECT SETTING

The description of people and the environment, which uses various information sources.

IDENTIFICATION OF POTENTIAL EFFECTS

Potential changes to environment and effects on people.

AVOIDANCE/REDUCTION OF ADVERSE EFFECTS

Considers the environmental effects that are likely to occur prior to and after implementation of mitigation measures.

OTHER EFFECTS TO CONSIDER

Potential accidents or malfunctions, contingency and emergency measures.

Cumulative environmental effects.

FOLLOW-UP AND MONITORING

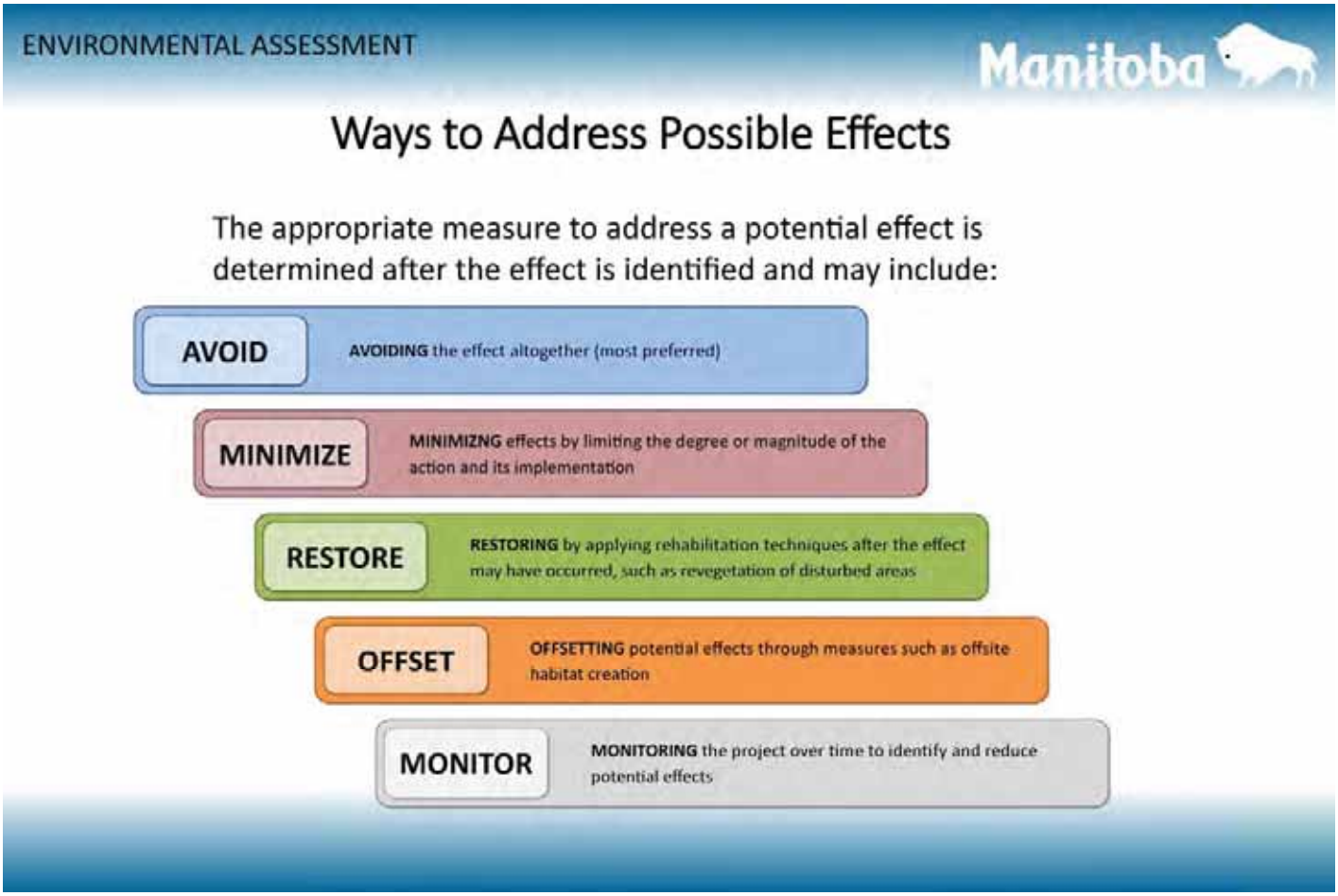
Verify accuracy of the effects assessment and determine effectiveness of mitigation and design measures.

Environmental Assessment Topics

Environmental topics used to measure changes and assess impact to the environment as a result of the project are:



Environmental topics may be affected by the Project and are of expressed importance to local Indigenous communities, regulatory authorities and/or other stakeholders.


ENVIRONMENTAL ASSESSMENT
Manitoba
Ways to Address Possible Effects
The appropriate measure to address a potential effect is determined after the effect is identified and may include:
AVOID
AVOIDING the effect altogether (most preferred)
MINIMIZE
MINIMIZNG effects by limiting the degree or magnitude of the action and its implementation
RESTORE
RESTORING by applying rehabilitation techniques after the effect may have occurred, such as revegetation of disturbed areas
OFFSET
OFFSETTING potential effects through measures such as offsite habitat creation
MONITOR
MONITORING the project over time to identify and reduce potential effects

FUTURE PLANNING

Manitoba

Please Stay and Talk With Us

Provide information and concerns so they can be considered in the environmental assessment and be addressed in project design.

- ✓ Write on Discussion Boards
- ✓ Talk with Project Staff
- ✓ Complete a Questionnaire
- ✓ Email comments: outletchannel@gov.mb.ca

Learn more:

www.gov.mb.ca/mit/wmslmblmoutlets/index.html

Future Open Houses

Summer 2018—Moosehorn and Winnipeg

Fall 2018—Moosehorn and Winnipeg

FUTURE PLANNING

Manitoba

Please Stay and Talk With Us

Provide information and concerns so they can be considered in the environmental assessment and be addressed in project design.

- ✓ Write on Discussion Boards
- ✓ Talk with Project Staff
- ✓ Complete a Questionnaire
- ✓ Email comments: outletchannel@gov.mb.ca

Learn more:

www.gov.mb.ca/mit/wmslmblmoutlets/index.html

Future Open Houses

Summer 2018—Moosehorn and Winnipeg

Fall 2018—Moosehorn and Winnipeg

Manitoba

Thank You



For more information, you can also contact Manitoba Infrastructure staff directly at:

Mark Allard, P.Eng.

Project Director

Phone: 204-622-2261

Email: Mark.Allard@gov.mb.ca

Christine Baljko

Environmental Coordinator

Phone: 204-479-6025

Email: Christine.Baljko@gov.mb.ca

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

Your feedback and input is important to us. Please complete this questionnaire and leave it at the Open House, mail it to us at the address below or complete it online at https://www.surveymonkey.com/r/QLRQ622

1) **Was the information provided to you today adequate to help you understand the Project?**
☐Yes ☑No ☐ Undecided

2) **Do you feel that the key environmental topics we presented today are sufficient for assessing potential project effects on environmental features in the area?**
☐Yes ☑No ☐ Undecided

3) **Are there any other key environmental topics you would like to see considered?**
changing Ledgestration for this protticular project to go down the natural outlet it would the tax payer ~~~~ about 60% of total cost it ~~~~ could use the extra money on improving out provincial drains

4) **Is there anything you feel we need to consider for Project planning or our environmental assessment?**
Get Ledgestration changed to help our tax payers and do other projects that also badly needed to be done. Get Federal and provincial government do this because we also tax to death

5) **What would you like to hear from us next time?**
☑ Environmental Assessment
☑ Engineering, Structures and Design
☐ Indigenous and Public Consultation
☐ Other:_____

For more information, please visit our website: www.gov.mb.ca/mit/wms/lmblsmoutlets/index.html
If you'd like to contact us, please send us an email: outletchannels@gov.mb.ca

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

6) **How would you like to be notified about the Project?**

- ☐ Social Media (Twitter, Facebook)
- ☑ Email
- ☐ Regular website updates
- ☑ Correspondence by mail
- ☐ Other:_____

7) **Which of the following categories best describes you?**

- ☐ Indigenous community member
- ☑ Affected landowner or permanent local resident
- ☑ Seasonal resident or cottage owner
- ☐ Resource user (camping, hunting, fishing, or other recreational activities)
- ☑ Interested member of the public
- ☐ Other:_____

8) **Please leave us your name and contact information and we'll add you to our mailing list.**

Name (please print) [redacted]
Phone Number
Email
Postal Code

Thank You!

If you'd like to submit your questionnaire to us by mail, please send it to:

C/O: Lake Manitoba and Lake St. Martin Outlet Channels Project
Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB
R3C 0R8

For more information, please visit our website: www.gov.mb.ca/mit/wms/lmblsmoutlets/index.html
If you'd like to contact us, please send us an email: outletchannels@gov.mb.ca

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

Your feedback and input is important to us. Please complete this questionnaire and leave it at the Open House, mail it to us at the address below or complete it online at https://www.surveymonkey.com/r/QLRQ622

1) **Was the information provided to you today adequate to help you understand the Project?**
☑ Yes ☐ No ☐ Undecided

2) **Do you feel that the key environmental topics we presented today are sufficient for assessing potential project effects on environmental features in the area?**
☐ Yes ☐ No ☑ Undecided

3) **Are there any other key environmental topics you would like to see considered?**

_____
_____
_____
_____

4) **Is there anything you feel we need to consider for Project planning or our environmental assessment?**

_____
_____
_____
_____

5) **What would you like to hear from us next time?**
☑ Environmental Assessment
☐ Indigenous and Public Consultation
☑ Engineering, Structures and Design
☐ Other: _____

For more information, please visit our website: www.gov.mb.ca/mit/wms/lmblsmoutlets/index.html
If you'd like to contact us, please send us an email: outletchannels@gov.mb.ca

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

6) How would you like to be notified about the Project?

- ☐ Social Media (Twitter, Facebook)
- ☑ Email [redacted]
- ☐ Regular website updates
- ☐ Correspondence by mail
- ☐ Other: _____

7) Which of the following categories best describes you?

- ☐ Indigenous community member
- ☑ Affected landowner or permanent local resident
- ☐ Seasonal resident or cottage owner
- ☑ Resource user (camping, hunting, fishing, or other recreational activities)
- ☑ Interested member of the public
- ☐ Other: _____

8) Please leave us your name and contact information and we'll add you to our mailing list.

Name (please print) [redacted]
Phone Number
Email
Postal Code

Thank You!

If you'd like to submit your questionnaire to us by mail, please send it to:

C/O: Lake Manitoba and Lake St. Martin Outlet Channels Project
Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB
R3C 0R8

For more information, please visit our website: www.gov.mb.ca/mit/wms/lmblsmoutlets/index.html
If you'd like to contact us, please send us an email: outletchannels@gov.mb.ca

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

Your feedback and input is important to us. Please complete this questionnaire and leave it at the Open House, mail it to us at the address below or complete it online at https://www.surveymonkey.com/r/QLRQ622

1) **Was the information provided to you today adequate to help you understand the Project?**
☐Yes ☐No ☑ Undecided

2) **Do you feel that the key environmental topics we presented today are sufficient for assessing potential project effects on environmental features in the area?**
☑Yes ☐No ☐ Undecided

3) **Are there any other key environmental topics you would like to see considered?**

I DO NOT KNOW OF ANY AT PRESENT TIME. HOWEVER AS THE PROJECT CONTINUES, I DON'T KNOW WHAT WILL AFFECT US ---- WATER and WATER QUALITY, FISH and FISHING, LAND and LAND USAGE, ANIMALS, BIRDS, etc. and ???

4) **Is there anything you feel we need to consider for Project planning or our environmental assessment?**

CONSIDER the HISTORY of the AREA, the PEOPLE WHO KNOW THE AREA including INDIGENOUS peoples

5) **What would you like to hear from us next time?**
☑ Environmental Assessment
☑ Indigenous and Public Consultation
☑ Engineering, Structures and Design
☐ Other: _____

For more information, please visit our website: www.gov.mb.ca/mit/wms/lmblsmoutlets/index.html
If you'd like to contact us, please send us an email: outletchannels@gov.mb.ca

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

6) How would you like to be notified about the Project?

- ☐ Social Media (Twitter, Facebook)
- ☐ Email
- ☐ Regular website updates
- ☑ Correspondence by mail
- ☐ Other: LOCAL NEWS PAPERS

7) Which of the following categories best describes you?

- ☐ Indigenous community member
- ☑ Affected landowner or permanent local resident
- ☐ Seasonal resident or cottage owner
- ☐ Resource user (camping, hunting, fishing, or other recreational activities)
- ☐ Interested member of the public
- ☐ Other: _____

8) Please leave us your name and contact information and we'll add you to our mailing list.

Name (please print) [redacted]
Phone Number
Email
Postal Code

Thank You!

If you'd like to submit your questionnaire to us by mail, please send it to:

C/O: Lake Manitoba and Lake St. Martin Outlet Channels Project
Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB
R3C 0R8

For more information, please visit our website: www.gov.mb.ca/mit/wms/lmblsmoutlets/index.html
If you'd like to contact us, please send us an email: outletchannels@gov.mb.ca

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

Your feedback and input is important to us. Please complete this questionnaire and leave it at the Open House, mail it to us at the address below or complete it online at https://www.surveymonkey.com/r/QLRQ622

1) **Was the information provided to you today adequate to help you understand the Project?**
☐Yes ☑No ☐ Undecided

2) **Do you feel that the key environmental topics we presented today are sufficient for assessing potential project effects on environmental features in the area?**
☐Yes ☐No ☐ Undecided

3) **Are there any other key environmental topics you would like to see considered?**
effects on agriculture

4) **Is there anything you feel we need to consider for Project planning or our environmental assessment?**

5) **What would you like to hear from us next time?**
☐ Environmental Assessment
☐ Engineering, Structures and Design
☐ Indigenous and Public Consultation
☐ Other: Watchboard

future flooding - no more for every year effects on Beach

For more information, please visit our website: www.gov.mb.ca/mit/wms/lmblsmoutlets/index.html
If you'd like to contact us, please send us an email: outletchannels@gov.mb.ca

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

6) **How would you like to be notified about the Project?**

- ☐ Social Media (Twitter, Facebook)
- ☐ Email
- ☒ Regular website updates
- ☐ Correspondence by mail
- ☐ Other: _____

7) **Which of the following categories best describes you?**

- ☐ Indigenous community member
- ☒ Affected landowner or permanent local resident
- ☐ Seasonal resident or cottage owner
- ☐ Resource user (camping, hunting, fishing, or other recreational activities)
- ☐ Interested member of the public
- ☐ Other: _____

8) **Please leave us your na[redacted] our mailing list.**

Name (please print) _____
Phone Number _____
Email _____
Postal Code _____

Thank You!

If you'd like to submit your questionnaire to us by mail, please send it to:

C/O: Lake Manitoba and Lake St. Martin Outlet Channels Project
Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB
R3C 0R8

For more information, please visit our website: www.gov.mb.ca/mit/wms/lmblsmoutlets/index.html
If you'd like to contact us, please send us an email: outletchannels@gov.mb.ca

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

Your feedback and input is important to us. Please complete this questionnaire and leave it at the Open House, mail it to us at the address below or complete it online at https://www.surveymonkey.com/r/QLRQ622

1) **Was the information provided to you today adequate to help you understand the Project?**
☐Yes ☐No ☒ Undecided

2) **Do you feel that the key environmental topics we presented today are sufficient for assessing potential project effects on environmental features in the area?**
☐Yes ☐No ☒ Undecided

3) **Are there any other key environmental topics you would like to see considered?**
HEAVY GROUNDWATER QUALITY/QUANTITY.

4) **Is there anything you feel we need to consider for Project planning or our environmental assessment?**
TONITE'S PRESENTATION REVEALED. NO "EARTH SHATTERING" INFORMATION. I ~~WOULD HAVE~~ EXPECTED MORE CONCRETE ANSWERS TO QUESTIONS. YOU SAY YOU HAVE ALL THE RESOURCES TO PLAN THE PROJECT.

5) **What would you like to hear from us next time?**
☒ Environmental Assessment
☐ Engineering, Structures and Design
☐ Indigenous and Public Consultation
☐ Other: _____

For more information, please visit our website: www.gov.mb.ca/mit/wms/lmblsmoutlets/index.html
If you'd like to contact us, please send us an email: outletchannels@gov.mb.ca

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

6) How would you like to be notified about the Project?

- ☐ Social Media (Twitter, Facebook)
- ☒ Email
- ☐ Regular website updates
- ☒ Correspondence by mail
- ☐ Other: PUBLIC ADVERTISING!

NEWSPAPER

THERE'S MANY PEOPLE TO BE IMPACTED WHO ARE STILL @ HOME ON A MEETING NITE!

7) Which of the following categories best describes you?

- ☐ Indigenous community member
- ☒ Affected landowner or permanent local resident
- ☐ Seasonal resident or cottage owner
- ☐ Resource user (camping, hunting, fishing, or other recreational activities)
- ☐ Interested member of the public
- ☐ Other: _____

8) Please leave us your name and contact information and we'll add you to our mailing list.

Name (please print) _____
Phone Number _____
Email _____
Postal Code _____

Thank You!

If you'd like to submit your questionnaire to us by mail, please send it to:

C/O: Lake Manitoba and Lake St. Martin Outlet Channels Project
Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB
R3C 0R8

For more information, please visit our website: www.gov.mb.ca/mit/wms/lmblsmoutlets/index.html
If you'd like to contact us, please send us an email: outletchannels@gov.mb.ca

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

Your feedback and input is important to us. Please complete this questionnaire and leave it at the Open House, mail it to us at the address below or complete it online at https://www.surveymonkey.com/r/QLRQ622

1) **Was the information provided to you today adequate to help you understand the Project?**
☐Yes ☑No ☐ Undecided

2) **Do you feel that the key environmental topics we presented today are sufficient for assessing potential project effects on environmental features in the area?**
☐Yes ☐No ☐ Undecided

3) **Are there any other key environmental topics you would like to see considered?**
The environmental impacts on Lake Manitoba, of not opening an outlet channel, should be considered.

The time frame for monitoring this project should be ongoing (long term) regarding the Lake Levels regulation and operation of the Portage Diversion.

4) **Is there anything you feel we need to consider for Project planning or our environmental assessment?**
Costs to taxpayers of various options.

Continued use of Portage Diversion that causes flooding of landowners on lake MB (agricultural) without compensation.

The scope of monitoring the project should include the area of the 2011 lake MB flood, including Dog Lake.

5) **What would you like to hear from us next time?**
☐ Environmental Assessment
☑ Engineering, Structures and Design
☐ Indigenous and Public Consultation
☐ Other:_____

For more information, please visit our website: www.gov.mb.ca/mit/wms/lmblsmoutlets/index.html
If you'd like to contact us, please send us an email: outletchannels@gov.mb.ca

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

6) **How would you like to be notified about the Project?**

- ☑ Social Media (Twitter, Facebook)
- ☐ Email
- ☑ Regular website updates
- ☐ Correspondence by mail
- ☐ Other: _____

7) **Which of the following categories best describes you?**

- ☐ Indigenous community member
- ☑ Affected landowner or permanent local resident – affected by 2011 flooding of Lake Manitoba - Dog Lake
- ☐ Seasonal resident or cottage owner
- ☐ Resource user (camping, hunting, fishing, or other recreational activities)
- ☑ Interested member of the public
- ☐ Other: _____

8) **Please leave us your name and contact information and we'll add you to our mailing list.**

Name (please print) _____
Phone Number _____
Email _____
Postal Code _____

Thank You!

If you'd like to submit your questionnaire to us by mail, please send it to:

C/O: Lake Manitoba and Lake St. Martin Outlet Channels Project
Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB
R3C 0R8

For more information, please visit our website: www.gov.mb.ca/mit/wms/lmblsmoutlets/index.html
If you'd like to contact us, please send us an email: outletchannels@gov.mb.ca

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

Your feedback and input is important to us. Please complete this questionnaire and leave it at the Open House, mail it to us at the address below or complete it online at https://www.surveymonkey.com/r/QLRQ622

1) **Was the information provided to you today adequate to help you understand the Project?**
☐Yes ☐No ☑ Undecided

2) **Do you feel that the key environmental topics we presented today are sufficient for assessing potential project effects on environmental features in the area?**
☐Yes ☐No ☐ Undecided

3) **Are there any other key environmental topics you would like to see considered?**
The habitat that will be destroyed by putting Lake Mb drain on high ground; woodpeckers live on high ground.
- I don't buy the concept that the Lake Mb. outlet be dug on higher ground.
- The area (acres) affected by ~~[illegible]~~ putting the drain in low ground vs. high is negligible effect on the overall population of endangered species.

4) **Is there anything you feel we need to consider for Project planning or our environmental assessment?**
- You need to remember that food production is more important than environmental concerns.
- People need to go hungry before they fully appreciate the above statement.

5) **What would you like to hear from us next time?**
☐ Environmental Assessment
☐ Indigenous and Public Consultation
☐ Engineering, Structures and Design
☑ Other: Benefits of farming to society

For more information, please visit our website: www.gov.mb.ca/mit/wms/lmblsmoutlets/index.html
If you'd like to contact us, please send us an email: outletchannels@gov.mb.ca

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

6) **How would you like to be notified about the Project?**

- ☐ Social Media (Twitter, Facebook)
- ☑ Email
- ☐ Regular website updates
- ☐ Correspondence by mail
- ☐ Other: _____

7) **Which of the following categories best describes you?**

- ☐ Indigenous community member
- ☐ Affected landowner or permanent local resident
- ☐ Seasonal resident or cottage owner
- ☐ Resource user (camping, hunting, fishing, or other recreational activities)
- ☐ Interested member of the public
- ☑ Other: Food producer

8) **Please leave us your name and contact information and we'll add you to our mailing list.**

Name (please print) _____
Phone Number _____
Email _____
Postal Code _____

[redacted]

Thank You!

If you'd like to submit your questionnaire to us by mail, please send it to:

C/O: Lake Manitoba and Lake St. Martin Outlet Channels Project
Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB
R3C 0R8

For more information, please visit our website: www.gov.mb.ca/mit/wms/lmblsmoutlets/index.html
If you'd like to contact us, please send us an email: outletchannels@gov.mb.ca

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

Your feedback and input is important to us. Please complete this questionnaire and leave it at the Open House, mail it to us at the address below or complete it online at https://www.surveymonkey.com/r/QLRQ622

1) **Was the information provided to you today adequate to help you understand the Project?**
☑ Yes ☐ No ☐ Undecided

2) **Do you feel that the key environmental topics we presented today are sufficient for assessing potential project effects on environmental features in the area?**
☑ Yes ☐ No ☐ Undecided

3) **Are there any other key environmental topics you would like to see considered?**

IT APPEARS THAT MANY ENVIRONMENTAL ISSUES HAVE BEEN ADDRESSED HOWEVER, IT APPEARS THAT ANY ENVIRONMENTAL RISK HAS BEEN ADDRESSED SOLELY BY THE SACRIFICE OF AGRICULTURAL LAND.
SHOULD THERE NOT BE AN AGRICULTURAL LAND LOSS RISK ASSESSMENT COMPLETED BEFORE

4) ~~**Is there anything you feel we need to consider for Project planning or our environmental assessment?**~~ RISK ARE MITIGATED BY EXPROPRIATING AGRICULTURE LAND?

5) **What would you like to hear from us next time?**
☐ Environmental Assessment
☐ Engineering, Structures and Design
☐ Indigenous and Public Consultation
☐ Other:_____

For more information, please visit our website: www.gov.mb.ca/mit/wms/lmblsmoutlets/index.html
If you'd like to contact us, please send us an email: outletchannels@gov.mb.ca

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

6) How would you like to be notified about the Project?

- ☐ Social Media (Twitter, Facebook)
- ☐ Email
- ☐ Regular website updates
- ☐ Correspondence by mail
- ☐ Other: _____

7) Which of the following categories best describes you?

- ☐ Indigenous community member
- ☑ Affected landowner or permanent local resident
- ☐ Seasonal resident or cottage owner
- ☐ Resource user (camping, hunting, fishing, or other recreational activities)
- ☐ Interested member of the public
- ☐ Other: _____

8) Please leave us your name and contact information and we'll add you to our mailing list.

Name (please print) _____
Phone Number _____
Email _____
Postal Code _____

[redacted]

Thank You!

If you'd like to submit your questionnaire to us by mail, please send it to:

C/O: Lake Manitoba and Lake St. Martin Outlet Channels Project
Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB
R3C 0R8

For more information, please visit our website: www.gov.mb.ca/mit/wms/lmlsmoutlets/index.html
If you'd like to contact us, please send us an email: outletchannels@gov.mb.ca

LMBLSMOC Open House

Winnipeg, MB
March 8, 2018

Session 1: 14:00 - 16:00

Table Talks

What do you Think? (Appendix A)

- Indigenous Peoples:
    - Lake St. Martin First nation is suffering, fundamentally, because we put these people on crappy land, just like Peguis.
- Wetlands
    - The massive loss of wetlands upstream, and the channelization of creeks, is the cause of this Project. The Project itself addresses only symptoms. A fraction of the ½ billion dollar budget (soon to be 1 billion) could restore the wetlands.

Point Locations

- N/A

Discussion

Heritage/History/Land Use

Wildlife

Fish

General

- Provincial government is out
- The issue is wetland loss. The source of the issue is not being addressed.
- Another root cause is that First Nations were moved to the worst available lands. Wish the government would offer land to the First Nations.
- Q: Has CEAA issued the guidelines?
    - A: Yes
        - Q: Is there still opportunity for input?
            - A: Yes
- I will harp on this project when the opportunities arise.
- The Access road invites ATVs, dirt bikes, etc. Why not access [the LSMOC] from PR513?
    - That was considered but would require a bridge. The proposed access route alignment is pre-existing, and only requires limited new construction and upgrading for the project.

Questions and Comments

Presentation

- Q: Can you walk me through the operation of the channels? When do they kick in?
    - A: The desire – through the art of flood forecasting – is to identify when a flood is forecast to hit the operating level. Lake Manitoba has storage ability. The channel may only operate at 812' (asl), or we may choose to open it early, etc. Having operating parameters as "guidelines" allows for some flexibility in comparison to legislated requirements.
- Q: Why has there been no study on Lake Winnipeg levels before setting the project operating guidelines?
    - A: If the channels were operated at full capacity, Lake Winnipeg would rise by 2.5"
- I thought this would be part of a water management strategy, but now it sounds like its another emergency response.
- Q: What about the wetland areas? Will what used to be there come back?
    - A:
- Q: What elevation is the invert of the channel?
    - A: Conceptual cut is approximately 8m on average.
        - Q: What will happen with seepage?
            - A: Don't fully know yet, but this is a consideration for design.
- Q: When speaking to water levels like 810.5' and 812.5', where is this? It can vary on such a large lake.
    - A: Monitoring stations are located at Steep Rock and Westbourne. These values do not include wind effect.
- People are concerned about 812' asl.
- The long term average lake level before the Fairford Water Control Structure (190X – 1961) is 812.5' asl.
- Q: Will the EA review process be harmonized?
    - A: there is no longer a formal agreement for harmonized review of EAs.
- Lots of work has been done, but what about the areas upstream of the Project, further west where creeks have been channelized and wetlands lost.
- The Project is estimated at 500 million dollars. This will be borrowed money.
- The public that the environment and finance goes hand in hand, but there is no revenue for this project.
- The Minister was irresponsible in announcing the project. He has no business announcing it before approvals are in place.
- Q: If I assemble an expert team to review the Project EA, can I get money to pay for it? Manitoba Environmental Approvals is not user friendly. Get them to these sessions. I don't want to get involved and get cut off at the knees by Manitoba Environmental Approvals.
    - A: CEAA does have criteria and opportunities for intervener funding.
- Q: What is the spatial extent of this study? Is it Lake Manitoba to Lake Winnipeg?

    - A: We are looking to finalize this. We assess the project at 3 spatial scales: Project footprint, Local Assessment Area, Regional Assessment Area. These can vary in size depending on the focus.
- Water Quality from the Assiniboine River is suspect. That should be part of this study.
- Looking at ways to minimize use of the Portage Diversion would be better for the project. It is a system. You can't just look at one part of it.
- Q: Why is there reluctance to allow the water to drop below 810' asl? This is of concern for the shoreline.
    - A: We are not proposing that we interfere with natural minimum flows. The project will look at managing excess flows.
- It seems that with the [Portage] diversion, Lake Manitoba receives excess water from Brandon and has lost natural protections; i.e. 100 year old willows and shoreline. It is becoming more and more difficult to live there. It doesn't appear that things will bounce back. Natural protection is gone.
- Q: What is happening at the Portage Diversion? Significant work is happening there.
    - A: Repairs are being made to the structure. It is not an expansion.
- Q: Will there be more debris?
    - A: If there is another flood event, then yes. But this can't be predicted.
- People are looking for water management over the entire system, why are we only looking at emergency evacuation of water?
- Lake Manitoba takes more water than normal because of the Portage Diversion, why aren't we looking at ways to recover? Lake Winnipegosis is higher than it's been in decades, is this not an issue as well?
- In 2011 a river in Peguis which usually empties into Lake Winnipeg was flowing backwards due to high water.
- The province is proposing classes of wetlands. There are currently zero protections. Wetlands have been removed, they used to take the surplus water. It's difficult to take this project seriously when we continue to allow wetlands to disappear.
- People should be shown the history as to why people are here. Peguis was moved. The Public should know what caused people in affected communities to locate here? Were they put here?
- Record of water levels are available on the Water Survey of Canada website. Historic data can be shown for the Westbourn and Steeprock stations.

Session 2: 18:00 - 20:00

Table Talks

What do you Think? (Appendix A)

- People:

    - Fishery including spawning
- Economy:
    - Cost of last flood was huge, next time will be 4 to 5 times more due to new buildings.
- Physical Environment:
    - Small Lakes!
- Second earlier wetland comment.
- Key Considerations for EA:
    - Interaction with other channels/controls/hydro?
    - How? Why? Who?
    - Politics? Hydro Profit?
        - [Hydro Profit] Apparently supposed to go way up?
- Fish and Fish Habitat
    - Perch gone (very little) due to diversion into Lake Manitoba
- Fishery Impacts not on boards
- Wildlife:
    - What happens to all the wildlife if there is another flood.
    - Loss of frogs (significant) and snakes and pelicans on Lake Manitoba due to flooding & introduction of [coyotes].
    - [Save] natural habitat
- How to trust people's knowledge/stories of pre-flood conditions/environment.
- Post-flood studies of normal even over a 5 or 10 year period doesn't [do] justice to the pre-flood (2011) normal.

Point Locations

- N/A

Discussion

- Fisheries impacts, specifically the loss of perch is important. People used to catch lots of perch, now it's just walleye and jackfish.
- Zebra mussels are concerning.
- What about the impact to tourism and the economy, including impacts to the fishery?
- People are suspicious of Hydro. They are concerned that Manitoba and Hydro are partnering.
- Sediment transport from the Portage Diversion is a concern. Sediment impact is affecting water levels my filling the lake and displacing water.
- People are noticing changes in algae. There is more now. Water quality in general is deteriorating.
- The Portage Diversion bypasses all of the wetlands, it just dumps right into Lake Manitoba. Wetlands filter and buffer.
- Consideration needs to be given to the entire watershed.

- Consideration should also be given to making use of excess water whenever possible, rather than flushing it to the lakes. Some areas may flood, but others may be in a state of drought. Perhaps water should be made available to farmers when needed.
- Take a holistic watershed approach to water management.
- The Lake Manitoba Outlet Channel looks perfect for recreational development like boating, cottages, fishing, etc. Don't let this happen. We don' trust that the government won't try to do something like this.

Questions and Comments

Storyboards and Walk-Around

- Get the project done! The timeline is too long. People were told long ago that it would happen. The Portage Diversion is sending contaminated water to Lake Manitoba. Water Regulation is also an issue, let the lake drain down.
- The board that reads that the outlet channels were identified as a result of the 2011 flooding is an insult. The need for these channels was identified when they built the Fairford water control structure!

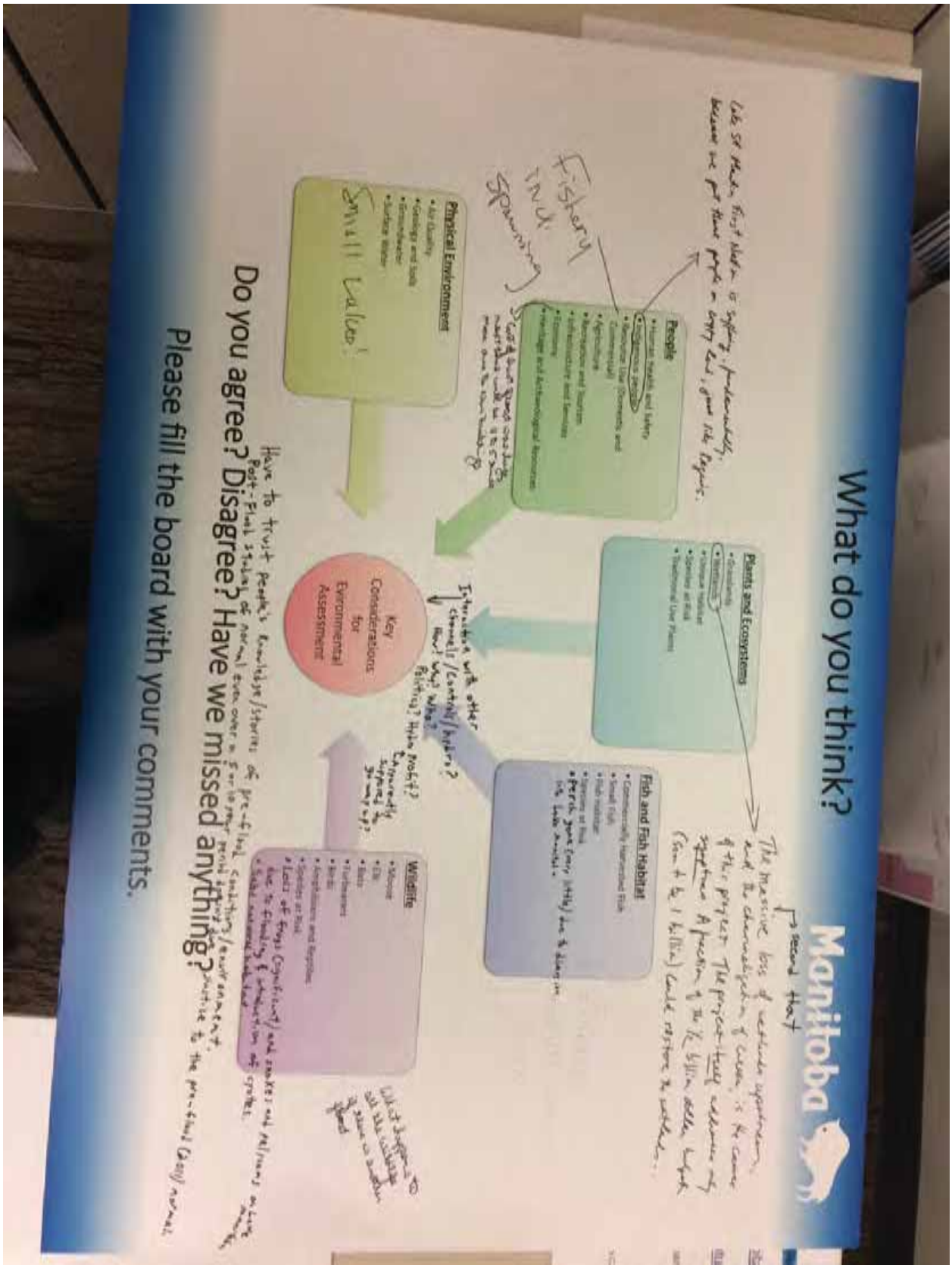
Presentation

- The urgency of the project seems to be lost. What if it floods again? The construction date is far too long. Minister Peterson gave lip service, he said shovels were in the ground. Steve Topping said we are in for a flood every 10 years or so.
- How did they manage to permanently increase the capacity of the Portage Diversion? Equipment is working there.
    - A: The Portage Diversion has been pushed beyond capacity. It has not been dug deeper. Crews are working to repair damages. Only under declaration of an emergency can work proceed without approvals. Provincial Ministers can not bypass federal or provincial legislation. We need to take these steps.
- If there is another flood, the cost will be 3-4 times more than it was in 2011. Cottages are worth 300-400 thousand dollars now.
    - A: The Project continues to be one of the governments highest infrastructure priorities.
- Q: Where in the timeline is the environmental process and how do we get a licence?
    - A: The CEAA process is 365 days. We are targeting a licence in late 2019. We have been working on it for 1.5 years. If it were not pushed by the government and the public, this would be a 10 year project. Reports were produced in 2016, we have been pushing forward as a project team.
- Q: If another flood hits, can Cedar Lake be used?
    - A: This was identified as an option, but better options exist.
- Q: The access road does not need a licence?

  - A: No. Upgraded portions do not need a licence, but an internal review was done. New construction along the winter road does need a licence.
- Q: At what stage is land acquisition?
  - A: MI has met with landowners. We've selected a preferred alignment. CLPA has met with landowners and talked dollars. Surveyors have pinned the channel. MI is creating the final legal plan. Not until we have that will the minister approve expropriation.
- Q: Will land acquisition be done by the time environmental approvals are issued?
  - A: Yes
- Q: Construction in 2019?
  - A: Yes. Pending environmental approvals.
- Q: Is federal money still on the table?
  - A: Yes. We think so. Just waiting on an agreement.
- Q: What will be done with the emergency channel? Specifically spoil piles, what will be done?
  - A: We are looking to repurpose it, but don't have complete details on that yet. We may use it to flow water out of Lake St. Martin to recharge the Buffalo bog complex. Spoil piles will be revegetated. It may be an opportunity to provide for fish habitat.
- Q: Have studies been conducted on the 2011 flood and impacts to the fishery?
  - A: yes. The plan is to mitigate damage. MI has been working with DFO. MI did not have the luxury of doing pre-flood monitoring, but did follow-up with 5 years of post-flood monitoring. MI is now trying to qualify and quantify the damage or harm.
- Q: Did field studies include archaeological studies? There has been little money spent on this. Predictive modelling will give an output based on potential for sites. There could be a "gold mine" of sites in the project area. Archaeological sites are all related, you can't only search the ROW. Generally the number of true sites is 10x more than the number of known sites.
  - Baseline studies employed a predictive model. Everything is posted online for public viewing. Heritage resource risks are important.
- Q: How many different approvals will the project require?
  - A: Road requires provincial approvals only. It is not long enough for CEAA consideration.
- Q: What is the plan for all of the small lakes? Many are close to the channel. How will MI maintain them?
  - A: MI is aware of this. We have done some hydraulic/geotechnical investigations, but more work needs to be done to avoid or minimize impacts. We aren't that far along yet.
- Legends on the maps are not accurate. Crown land designations can't be lumped together. People need to understand what is protected and what isn't. Please change this.
- Q: Often, people focus on what's being done now. What's being done for the entire watershed? What about the Portage Diversion and Lake St. Martin?
  - A: Need to review and decide on spatial boundary for project related effects.
- Q: Was climate change a consideration in assessment of the channels or options of routes?
  - A: One of the anticipated guidelines from CEAA will be to address climate change as it relates to the project. Not only how the project impacts climate change, but how climate change impacts the project.
- Q: If the channels were the best option, then what were the climate change considerations?

    - A: The effects of climate change points to hydrology that needs to be addressed, both the intensity and severity.
- Q: Some climate change effects are drought. Does it make the most sense to invest in infrastructure that will divert water north if there is drought in the south?
    - A: There are different perspectives on climate change but there are lots of unknowns. If we had better trend information, we would use it.
- The reality is, people now will be flooded. If we don't do it now, why do it at all?
    - Yes, the effort is to move things forward now.
- Q: Will there be guidelines for operation of the structures, so that people know when they will or won't operate, and how much water will flow through them?
    - A: information on operating guidelines are available on our website for review. They are guidelines for a reason. If legislated, they become so rigid that they can't be modified, even in special circumstances.
- Q: Regulation of 810.5-812.5' asl on Lake Manitoba. Why is it kept as close to 812 as possible?
    - A: Since 2011, the Fairford River Water Control Structure has been operating at 100% capacity. MI could not spill more water if it wanted to.

Appendix A


What do you think?
Manitoba
Plants and Ecosystems
People
Physical Environment
Fish and Fish Habitat
Wildlife
Key Considerations for Environmental Assessment
Do you agree? Disagree? Have we missed anything?
Please fill the board with your comments.

OPEN HOUSE

Open House Materials 5B3
Round Three

Share Your Views

concerning the proposed construction of the Lake Manitoba and Lake St. Martin outlet channels project

You are invited to share your views concerning the proposed construction of the Lake Manitoba and Lake St. Martin outlet channel at an Open House hosted by Manitoba Infrastructure.

Topics presented will include the channel environmental authorizations, engineering design and construction, as well as the next steps in delivery this major flood infrastructure project. There will also be an opportunity to learn more about the current and proposed operation of the Portage Diversion.

The open houses will be held in the following locations:

Location: Moosehorn
Moosehorn Community Hall, Railway Avenue
Date: Tuesday, June 19, 2018
Time: 2:00 p.m. – 5:00 p.m. and 6:00 p.m. to 8:00 p.m.

Location: St. Laurent
St. Laurent Recreation Centre, Lot 825, PTH 6
Date: Wednesday, June 20, 2018
Time: 2:00 p.m. – 5:00 p.m. and 6:00 p.m. to 8:00 p.m.

Location: Portage la Prairie
Canad Inns Destination Centre
Portage la Prairie, 2401 Saskatchewan Avenue West
Date: Thursday, June 21, 2018
Time: 2:00 p.m. – 5:00 p.m. and 6:00 p.m. to 8:00 p.m.

For more information, please contact: Coenraad Fourie at 204-573-4191 or Coenraad. Fourie@gov.mb.ca

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channels Project

Fact Sheet — Issue No. 2

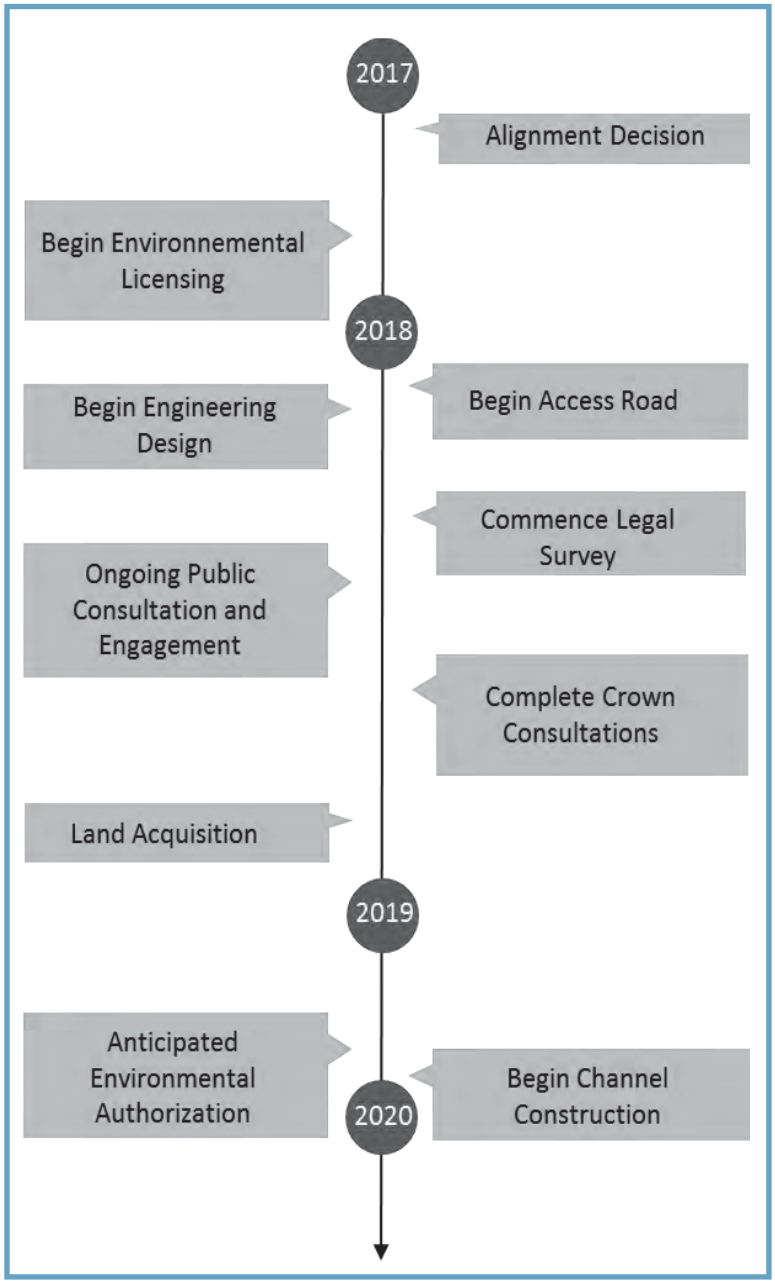
Project Benefits

The Lake Manitoba Outlet Channel will work with the Fairford River Water Control Structure to help mitigate flooding on Lake Manitoba.

The channels will only be operational when levels on Lake Manitoba and Lake St. Martin exceed a certain threshold.

The Lake St. Martin Outlet Channel will help move flood waters to Lake Winnipeg and provide improved flood protection around Lake St. Martin without appreciably affecting lake levels on Lake Winnipeg.

These outlet channels will provide greater ability to mitigate adverse effects related to the operation of existing critical flood infrastructure.



Environmental Approvals

- Manitoba Sustainable Development
  www.gov.mb.ca/sd/eal/registries/5966lstmartin/index.html
- Canadian Environmental Assessment Agency
  www.ceaa-acee.gc.ca/050/evaluations/ proj/80148?culture=en-CA
- Fisheries and Oceans Canada
- Transport Canada Navigation Protection Program

Public Participation

- Future Open House to discuss
  - Environmental Effects Assessment Details
  - Conclusions
- Online Survey
  www.surveymonkey.com/r/QLRQ622
- Table Talk Sessions with project staff



For More Information

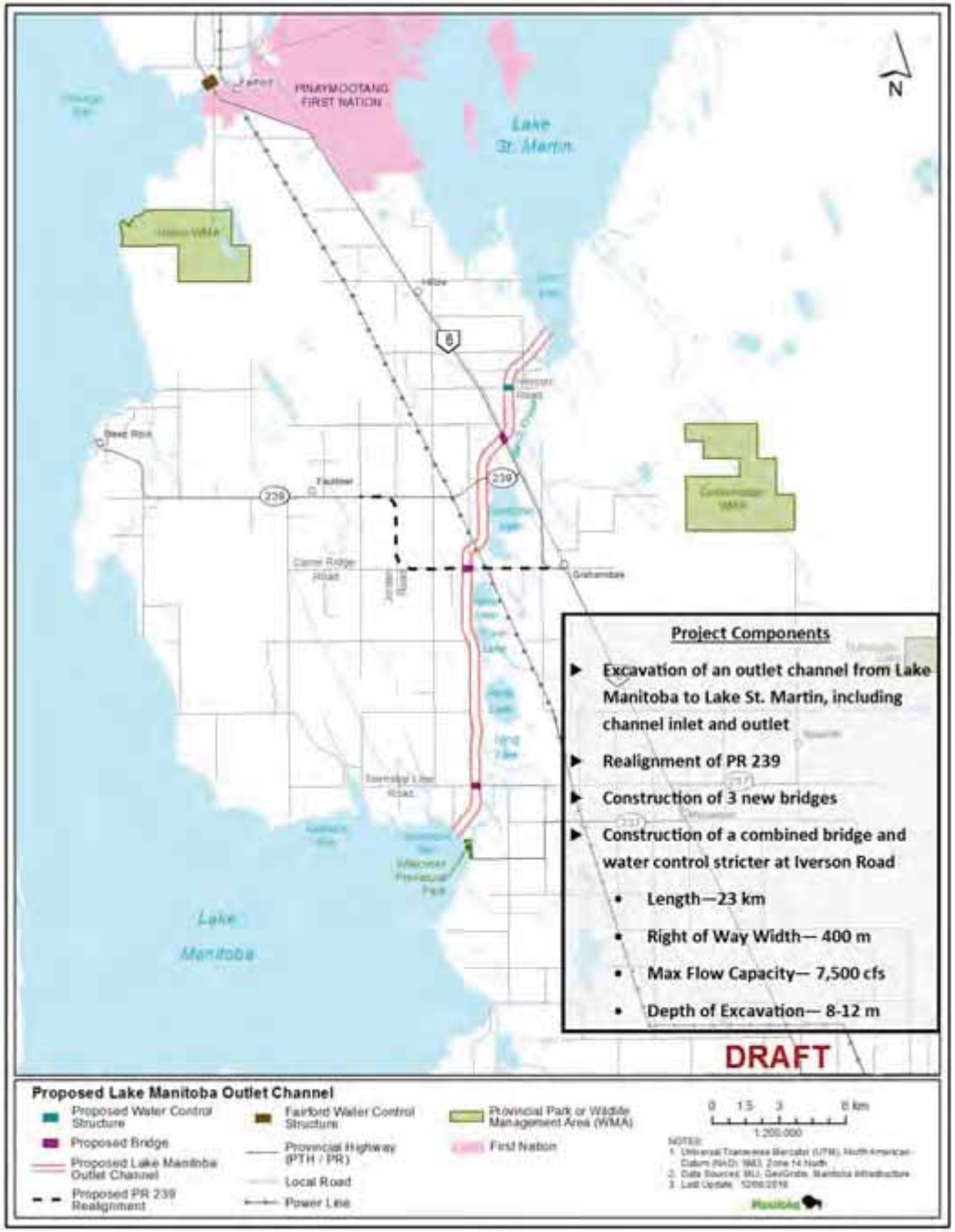
www.gov.mb.ca/mit/wms/lmblsmoutlets/index.html

To provide comment

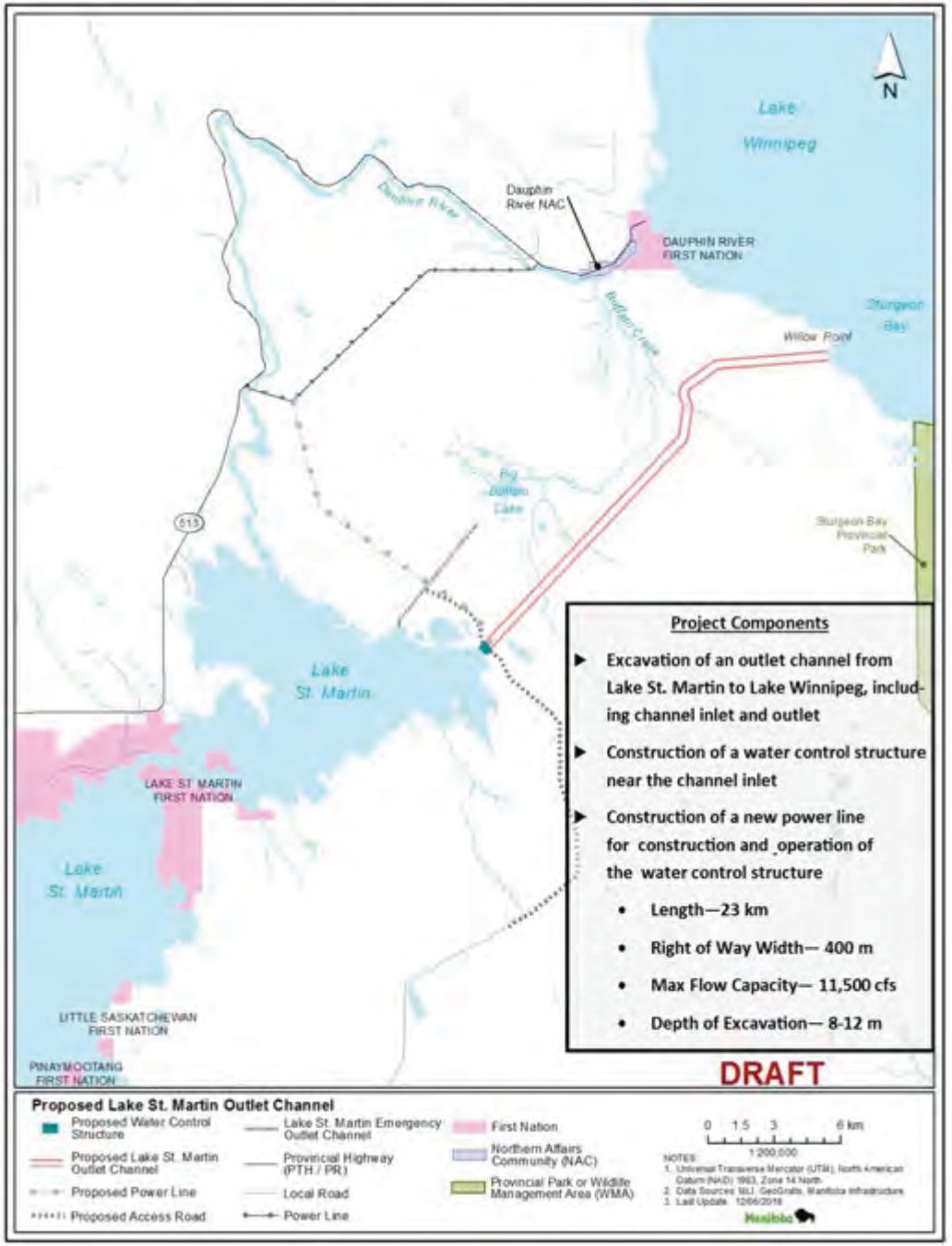
outletchannels@gov.mb.ca

Manitoba

Lake Manitoba Outlet Channel



Lake St. Martin Outlet Channel



Manitoba

Your feedback and input is important to us. Please complete this questionnaire and leave it at the Open House, mail it in to the address below or complete it online at www.surveymonkey.com/r/QLRQ622

Please select the most appropriate answer available and provide additional comment where space is provided.

1) Was enough information provided at the Open House for you to understand the Project?

☐ Yes ☐ No ☐ Undecided

If not, what additional information would you like to see?

_____

_____

_____

_____

2) Preliminary Valued Components were presented at the open house and can be found on the Project website (www.gov.mb.ca/mit/wms/lmblsmoutlets/). Are the Valued Components sufficient for assessing potential project effects on environmental features in the area?

☐ Yes ☐ No ☐ Undecided

If not, what changes would you like to see made to Valued Components?

_____

_____

_____

_____

3) Do you think the spatial boundaries presented at the open house are appropriate to assess potential adverse environmental effects of the project?

☐ Yes ☐ No ☐ Undecided

If not, please explain why:

_____

_____

_____

_____

4) Primarily for safety reasons and to limit adverse environmental impacts, restrictions to some land use activities are proposed, such as access, grazing/haying, fishing on the Lake Manitoba Outlet Channel Right-of-Way. Do you agree with this proposal?

☐ Yes ☐ No ☐ Undecided

If not, please explain why:

_____

_____

_____

_____

5) Is there anything else you feel we need to consider for project planning or our environmental assessment?

_____

_____

_____

_____

6) What topics would you like to hear more about at the next open house?

☐Environmental Assessment
☐Engineering, Structures and Design
☐Indigenous and Public Consultation
☐Other: _____

7) How would you like to be notified about the project?

☐ Social Media (Twitter, Facebook)
☐ Regular website updates
☐ Email
☐ Correspondence by mail
☐ Other: _____

8) Which of the following best describes your relation to the region? (Optional)

☐ Affected landowner or permanent local resident
☐ Interested member of the public
☐ Indigenous
☐ Seasonal resident or cottage owner
☐ Resource user (camping, hunting, fishing or other recreational activities)
☐ Other: _____

9) Please leave your name and contact information and it will be added to our mailing list. This information will remain confidential and will not be shared to a third party without your consent, unless we are required or authorized to do so by law or other regulation.

Name (please print) _____
Address _____
Phone Number _____
Email _____
Postal Code _____

Thank You!

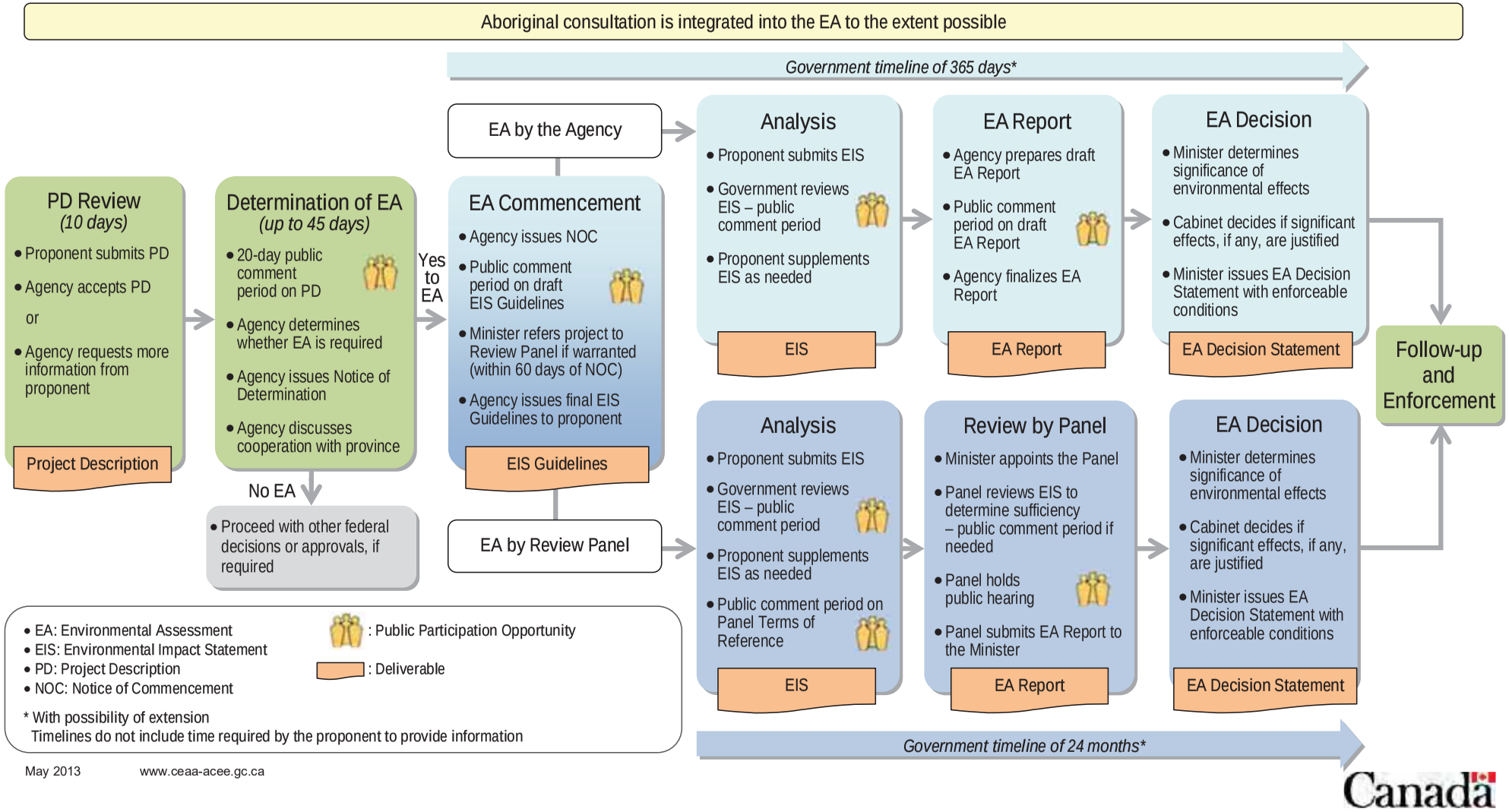
If you would like to submit your questionnaire to us by mail, please send it to:

C/O Lake Manitoba and Lake St. Martin Outlet Channels Project
Manitoba infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB, R3C 0R8

Project Website- www.gov.mb.ca/mit/wms/lmblsmoutlets/

Open House Materials 5B3
Round Three

ENVIRONMENTAL ASSESSMENT PROCESS MANAGED BY THE AGENCY



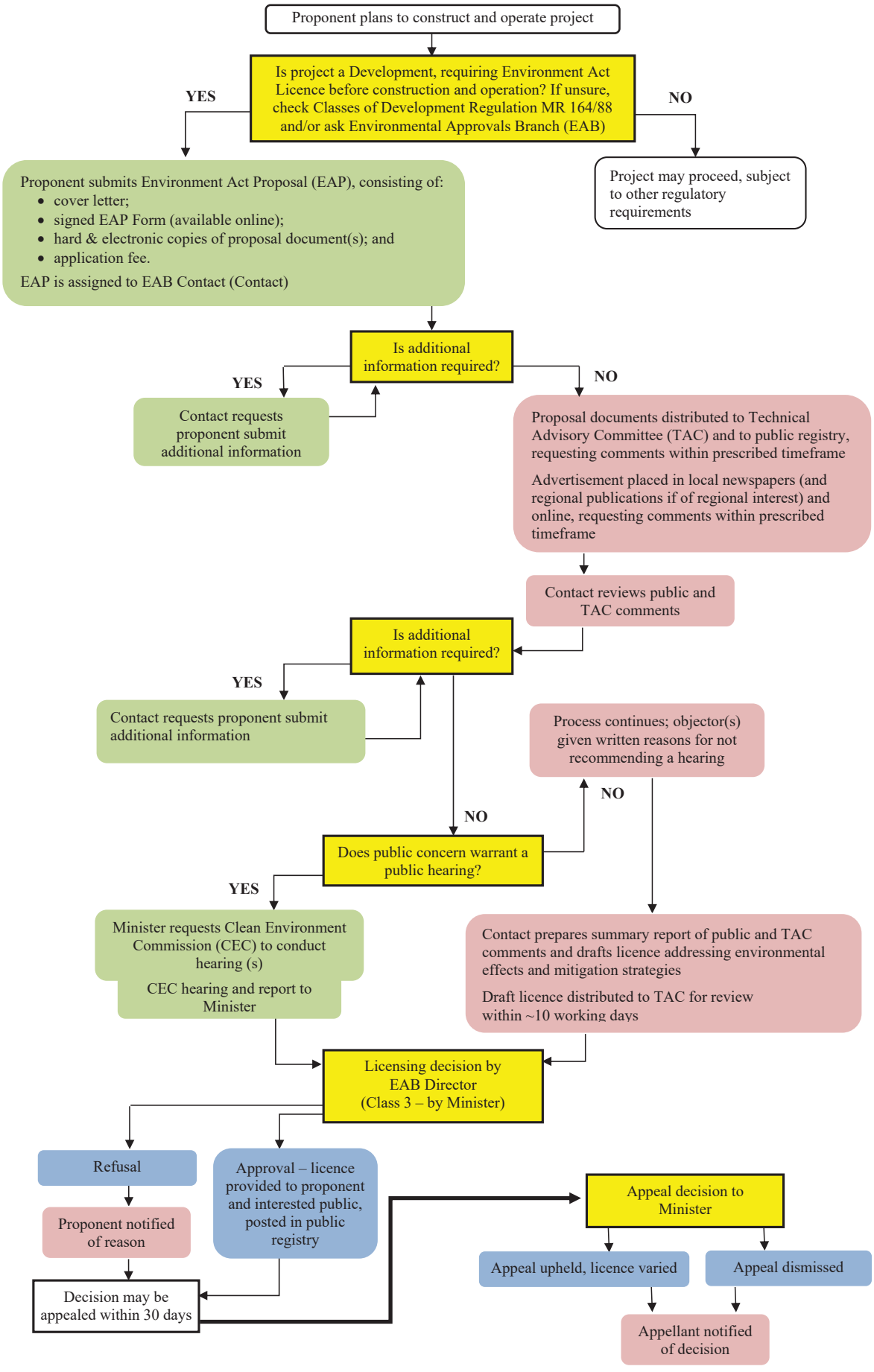
May 2013 www.ceaa-acee.gc.ca

Canada

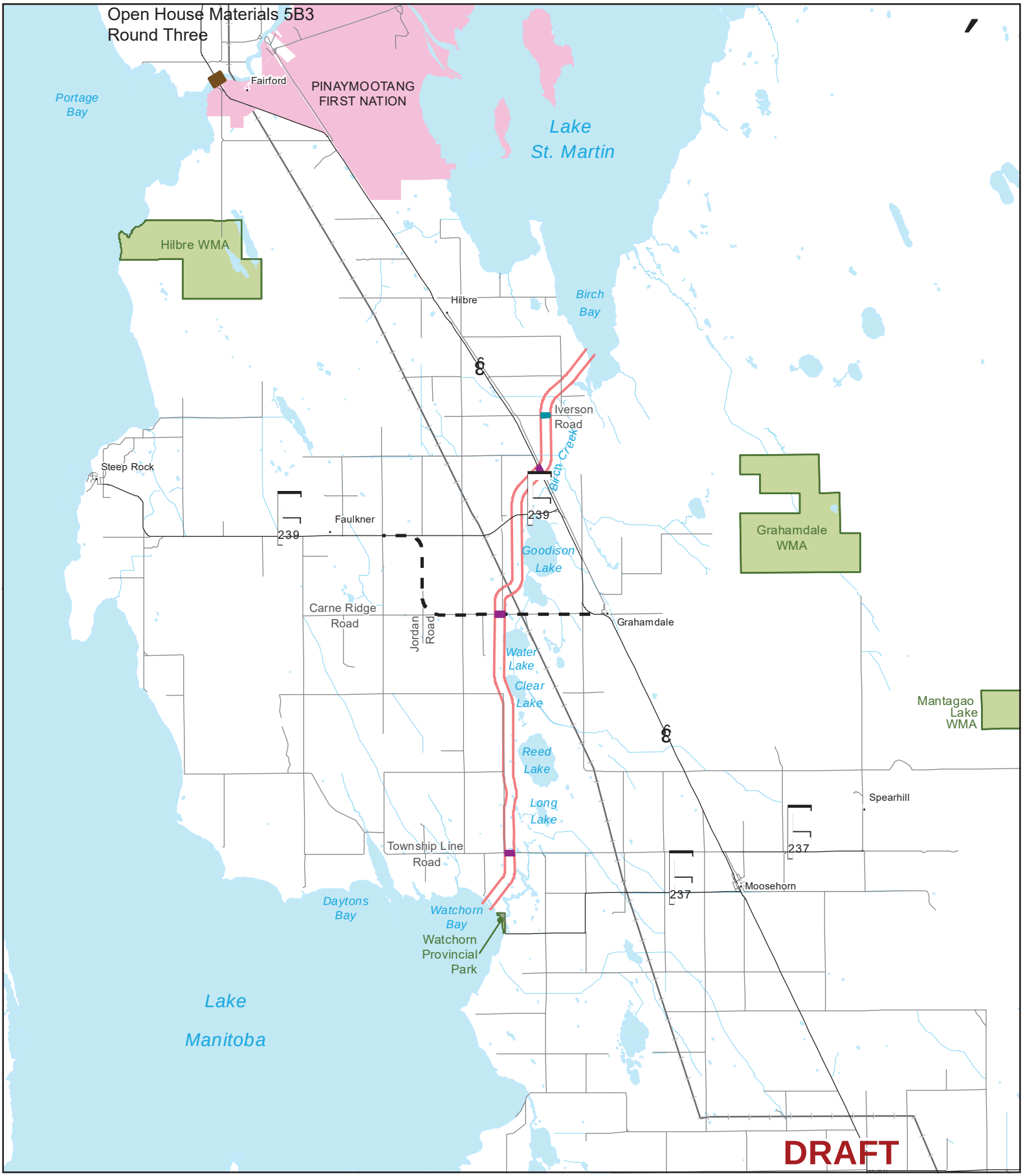
Environmental Assessment and Licensing Process

October 2017

Manitoba Sustainable Development



Open House Materials 5B3
Round Three
Lynn Lake
Thompson
The Pas
Ashern
Winnipeg
Proposed Project Location
Lake Winnipeg
Sturgeon Bay
Dauphin River NAC
DAUPHIN RIVER FIRST NATION
Gypsumville WMA
Basket Lake WMA
Gypsumville
513
328
LAKE ST. MARTIN FIRST NATION
Lake St. Martin Outlet Channel
Sturgeon Bay Provincial Park
LITTLE SASKATCHEWAN FIRST NATION
Lake St. Martin
PINAYMOOTANG FIRST NATION
Peonan Point WMA
Hilbre
Hilbre WMA
Lake Manitoba Outlet Channel
Steep Rock
239
Faulkner
Grahamdale WMA
Mantagao Lake WMA
Grahamdale
Lake Manitoba
237
Moosehorn
Watchorn Provincial Park
PEGUIS FIRST NATION
325
Moosehorn WMA
Ashern
Dog Lake WMA
Little Birch WMA
DRAFT
Proposed Lake Manitoba and Lake St. Martin Outlet Channels
Proposed Water Control Structure
Proposed Bridge
Proposed Outlet Channel
Proposed Power Line
Proposed Access Road
Proposed PR 239 Realignment
Lake St. Martin Emergency Outlet Channel
Provincial Highway (PTH / PR)
Local Road
Power Line
Fairford Water Control Structure
First Nation
Northern Affairs Community (NAC)
Provincial Park / Wildlife Management Area (WMA)
0 4 8 16 km
1:475,000
NOTES:
1. Universal Transverse Mercator (UTM), North American Datum (NAD) 1983, Zone 14 North
2. Data Sources: MLI, GeoGratis, Manitoba Infrastructure.
3. Last Update: 12/06/2018
Manitoba



Proposed Lake Manitoba Outlet Channel

- Proposed Water Control Structure
- Proposed Bridge
- Proposed Lake Manitoba Outlet Channel
- Proposed PR 239 Realignment
- Fairford Water Control Structure
- Provincial Highway (PTH / PR)
- Local Road
- Power Line
- Provincial Park or Wildlife Management Area (WMA)
- First Nation

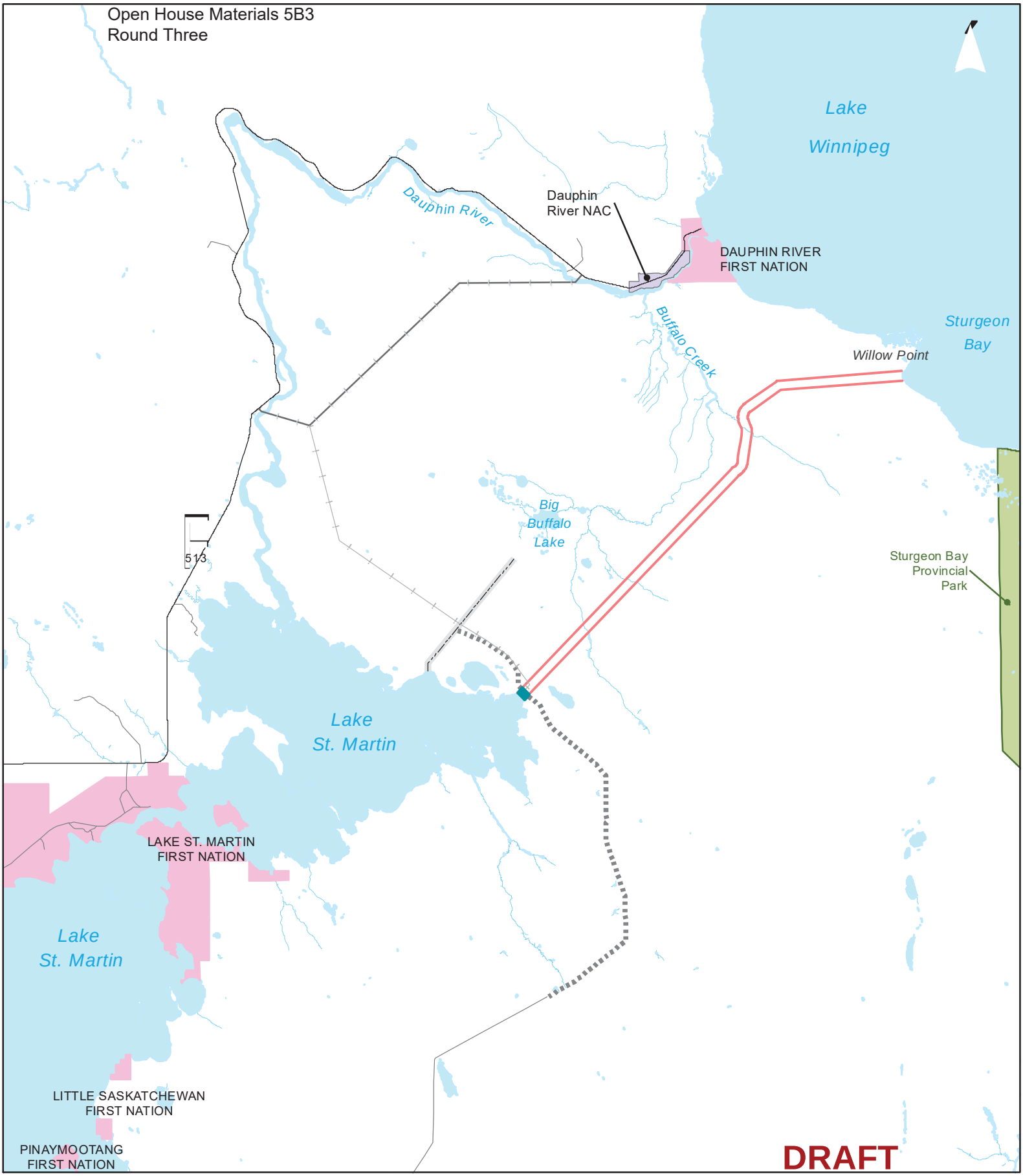
0 1.5 3 6 km

1:200,000

NOTES:

1. Universal Transverse Mercator (UTM), North American Datum (NAD) 1983, Zone 14 North
2. Data Sources: MLI, GeoGratis, Manitoba Infrastructure.
3. Last Update: 12/06/2018

Manitoba


Open House Materials 5B3
Round Three
Lake
Winnipeg
Dauphin River
Dauphin
River NAC
DAUPHIN RIVER
FIRST NATION
Buffalo Creek
Sturgeon
Bay
Willow Point
Big
Buffalo
Lake
513
Sturgeon Bay
Provincial
Park
Lake
St. Martin
LAKE ST. MARTIN
FIRST NATION
Lake
St. Martin
LITTLE SASKATCHEWAN
FIRST NATION
PINAYMOOTANG
FIRST NATION
DRAFT
Proposed Lake St. Martin Outlet Channel
Proposed Water Control Structure
Proposed Lake St. Martin Outlet Channel
Proposed Power Line
Proposed Access Road
Lake St. Martin Emergency Outlet Channel
Provincial Highway (PTH / PR)
Local Road
Power Line
First Nation
Northern Affairs Community (NAC)
Provincial Park or Wildlife Management Area (WMA)
0 1.5 3 6 km
1:200,000
NOTES:
1. Universal Transverse Mercator (UTM), North American Datum (NAD) 1983, Zone 14 North
2. Data Sources: MLI, GeoGratis, Manitoba Infrastructure.
3. Last Update: 12/06/2018
Manitoba

Manitoba

Welcome

Lake Manitoba and Lake St. Martin Outlet Channels Project









Open House

Lake Manitoba and Lake St. Martin Outlet Channels Project

What's New

This open house is intended to share information about the Lake Manitoba and Lake St. Martin Outlet Channel Project and How it has progressed Here's what is new:

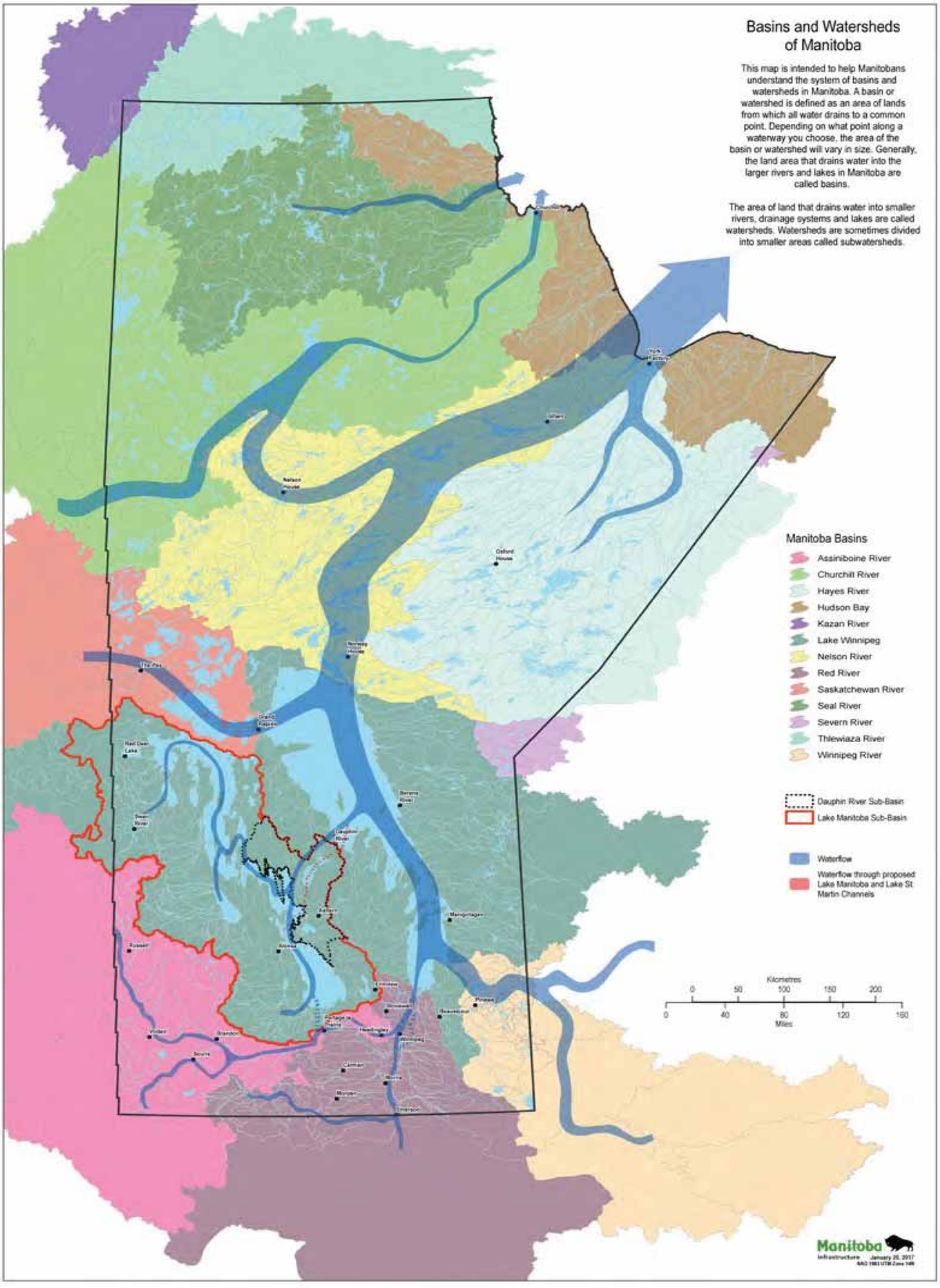
The Canadian Environmental Assessment agency requires a federal environmental assessment in addition to the provincial environmental assessment report for Manitoba Sustainable Development. The requirements for both assessments will be combined and submitted as one report in the fall 2018.

- Field programs for the environmental assessments are completed.
  - The Spatial Boundaries and Valued Components have been selected for the project.
  - The identification of potential effects of the project are under way.
  - Traditional use studies will be completed by several indigenous communities
- Preliminary post-construction land-use analysis is under development
- Road network modifications have been chosen

PROJECT BACKGROUND

Manitoba

Basins and Watersheds of Manitoba



Background & History

- 2011 Spring Flood Event
  - High flows recorded on most streams and rivers in the Assiniboine and Lake Manitoba Watershed
  - Led to widespread flooding across much of southern Manitoba
  - Resulted in unprecedented inflows into Lake Manitoba and Lake St. Martin overwhelming the capacity of existing waterways.
- 2014 Spring Rain Event
  - Large amounts of precipitation beginning in the winter and carrying into the spring led to high flows and elevated water levels
  - Again, unprecedented inflows into Lake Manitoba and Lake St. Martin exceeded the capacity of existing waterways

Subsequent high lake levels resulted in long-term evacuation of First Nation Communities surrounding Lake Manitoba and Lake St. Martin, affecting thousands of acres of farmland, bridges, highways, homes and cottages

Flood Studies

- 2011 Flood Review Task Force Report (Farlinger)
- 2013 Lake Manitoba and Lake St. Martin Regulation Review Committee Report (Westdal)
- 2016 Assiniboine River and Lake Manitoba Basins Flood Mitigation Study (KGS Group)

  Consideration to
  - ◊ Water Retention along Assiniboine River
  - ◊ Water Control on Waterhen River
  - ◊ Pumping Lake Winnipegosis to Cedar Lake
  - ◊ Increased Outlet Capacity from Lake Manitoba and Lake St. Martin

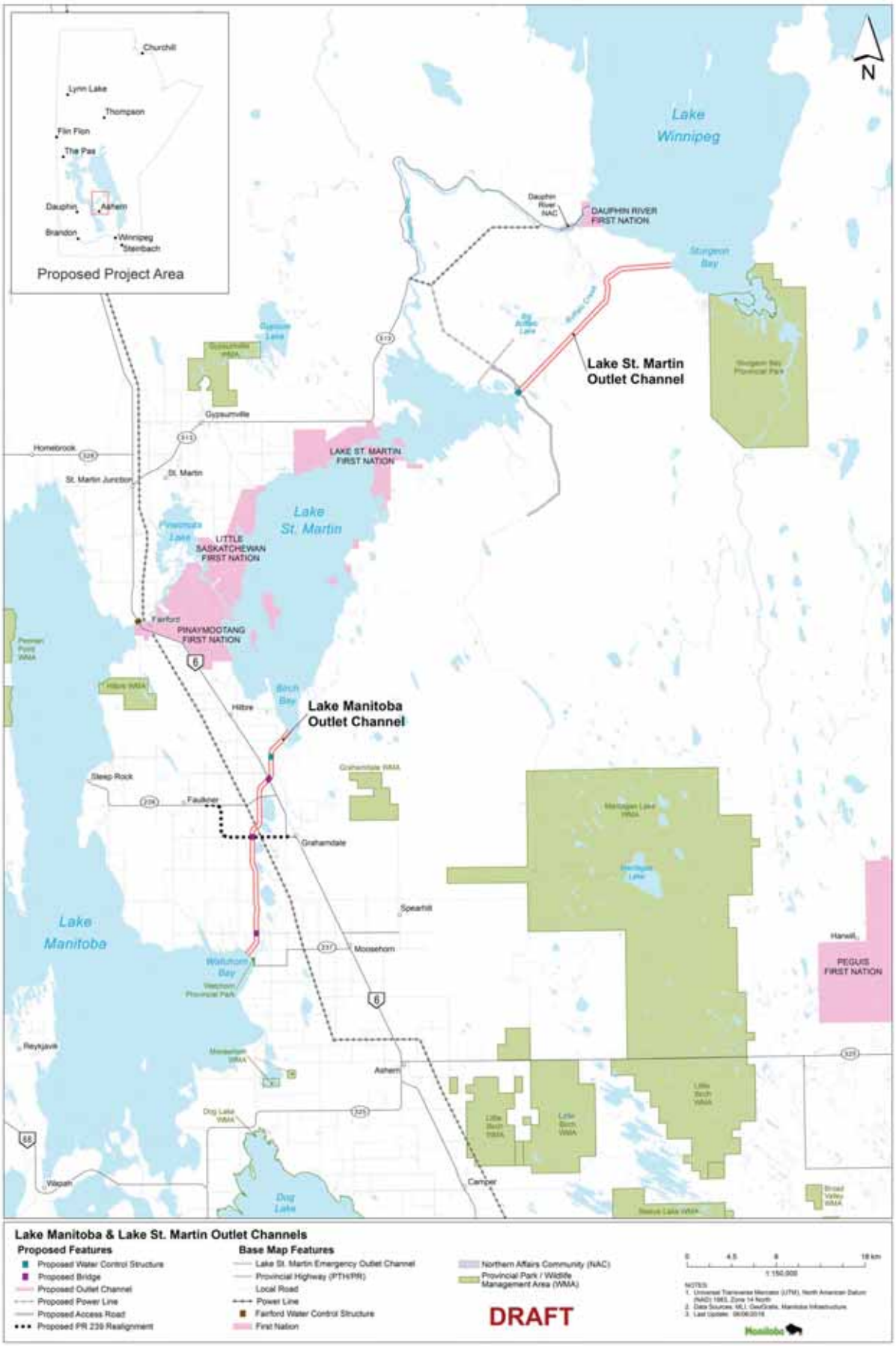
Study Outcomes

- The Provincial Review resulted in many different options and recommendations, but overall increasing the outlet capacity of Lake Manitoba and Lake St. Martin was the preferred recommendation
- The outlet channels will be supplemental to, but not an expansion of existing flood infrastructure in Manitoba

Manitoba

Manitoba

Project Overview Location



Project Benefits

Water control systems working together

- The Lake Manitoba Outlet Channel will work with the Fairford River Water Control Structure to help mitigate flooding on Lake Manitoba
- The Lake St. Martin Outlet Channel will help move flood waters to Lake Winnipeg and provide improved flood protection around Lake St. Martin without appreciably affecting lake levels on Lake Winnipeg
- The channels will only be operational when levels on Lake Manitoba and Lake St. Martin exceed a certain threshold.
- The Lake Manitoba and Lake St. Martin Outlet Channels will also provide a greater ability to mitigate adverse effects related to the operation of existing critical flood infrastructure
- Provincial Government expecting cost sharing of Outlet Channel Project with Federal Government
  - 50/50 cost share of $495 Million Budget Estimate
  - Desirable completion in 2020/21 creates accelerated schedule

PROJECT BACKGROUND

Proposed Lake Manitoba Outlet Channel

Components

- Excavation of an outlet channel from Lake Manitoba to Lake St. Martin, including the channel inlet and outlet
- Realignment of PR 239
- Construction of 3 new bridges
  - PTH 6
  - Carne Ridge Road
  - Township Line Road
- Construction of a combined bridge and water control structure at Iverson Road

Conceptual Dimensions and Performance Specifications	
Right of Way Width	400 m
Channel Length	23 km
Channel Slopes	4:1 (Horizontal : Vertical)
Depth of Excavation	8 - 12 m
Maximum Flow Capacity	7,500 cfs



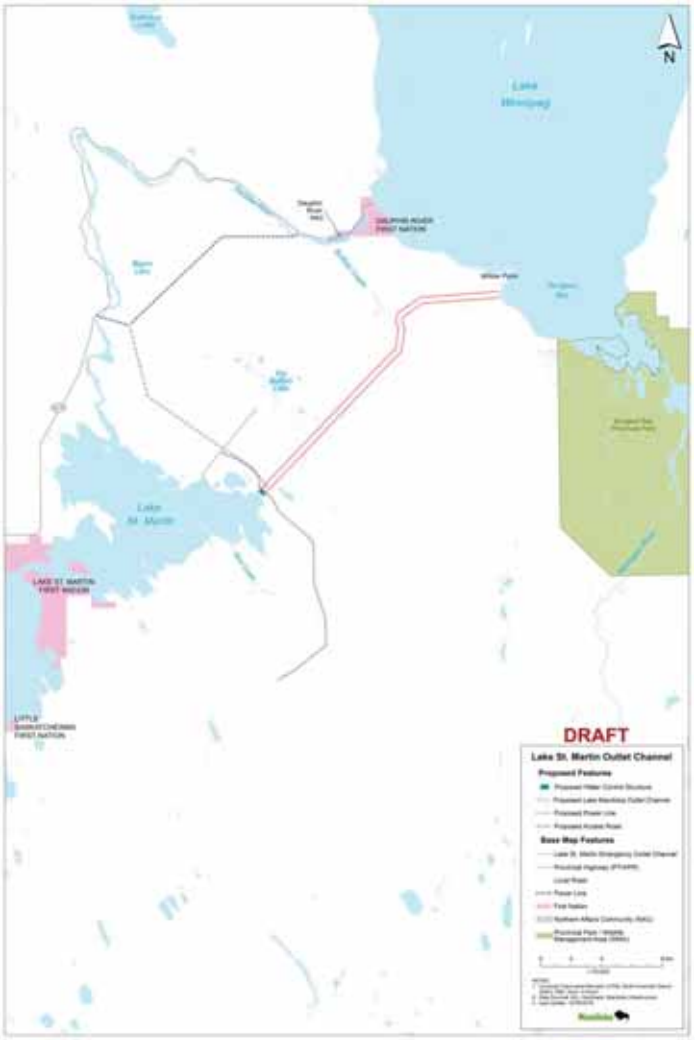
PROJECT BACKGROUND

Proposed Lake St. Martin Outlet Channel

Components

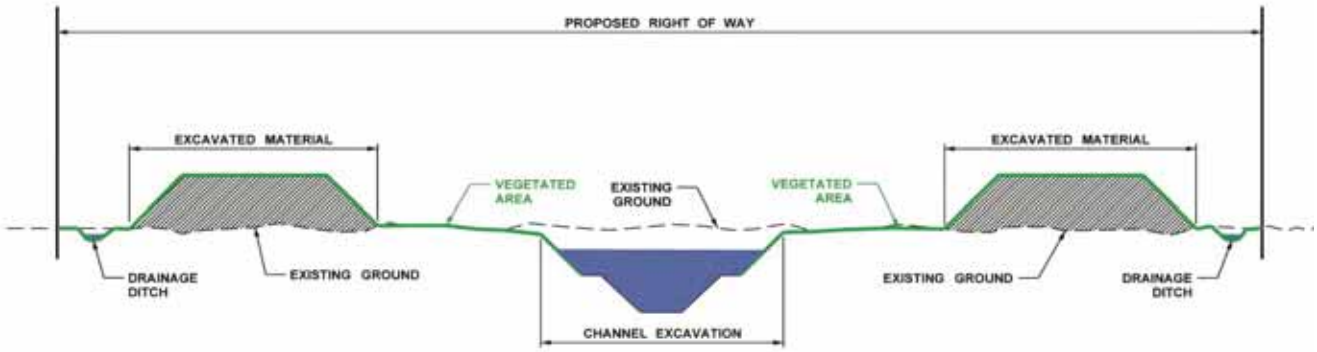
- Excavation of an outlet channel from Lake St. Martin to Lake Winnipeg, including the channel inlet and outlet
- Construction of a water control structure near the channel inlet
- Construction of a new power line for construction and operation of the water control structure

Conceptual Dimensions and Performance Specifications	
Right of Way Width	225 m
Channel Length	23 km
Channel Slopes	4:1 (Horizontal : Vertical)
Depth of Excavation	8-10 m
Maximum Flow Capacity	11,500 cfs

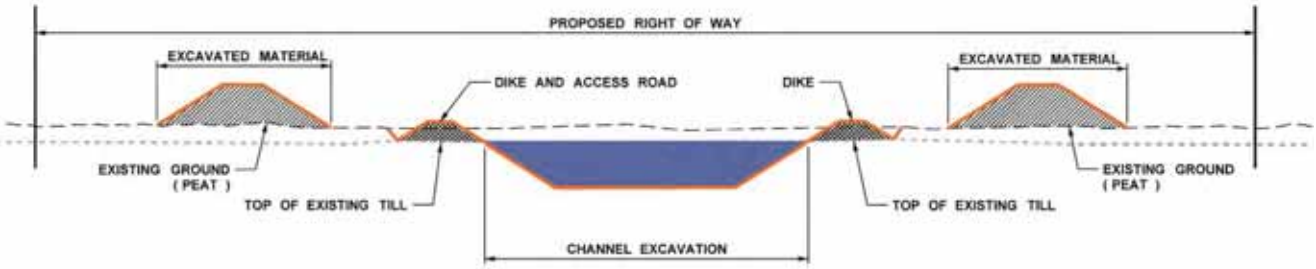


Manitoba

Proposed Outlet Channels: Conceptual Design

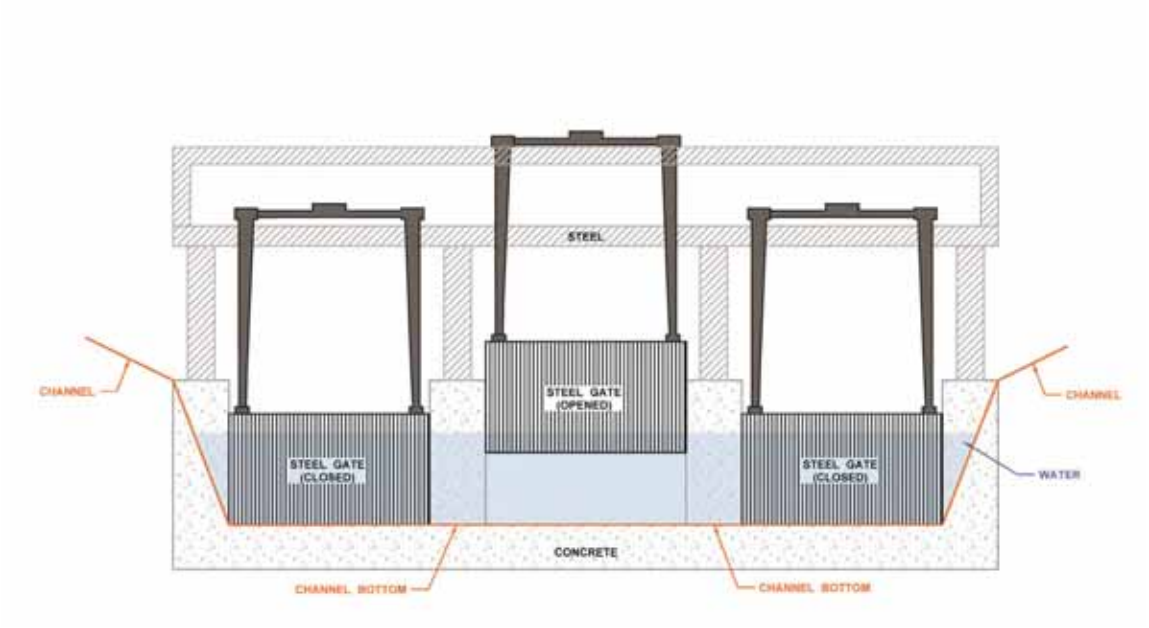


Lake Manitoba Outlet Channel Conceptual Cross Section

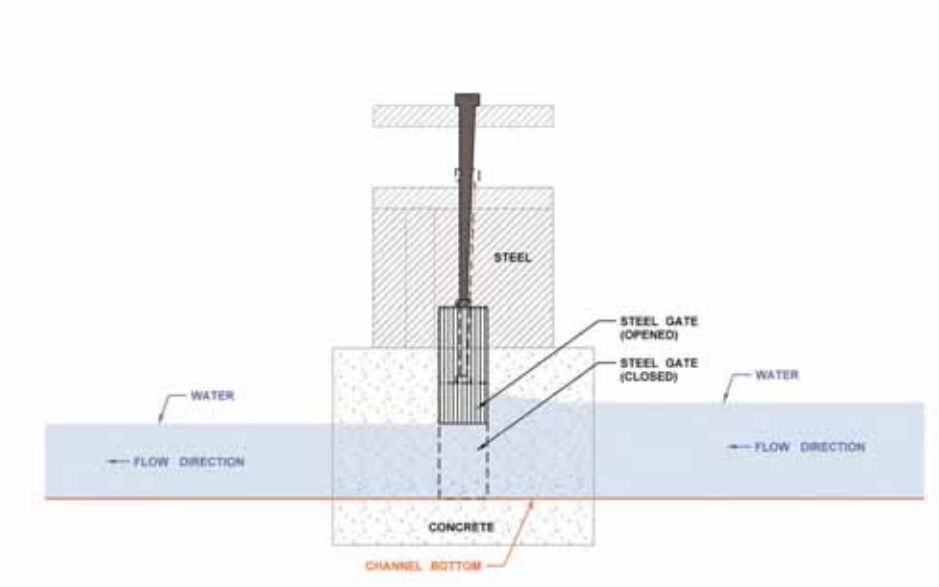


Lake St. Martin Outlet Channel Conceptual Cross Section

Proposed Water Control Structures: Conceptual Design



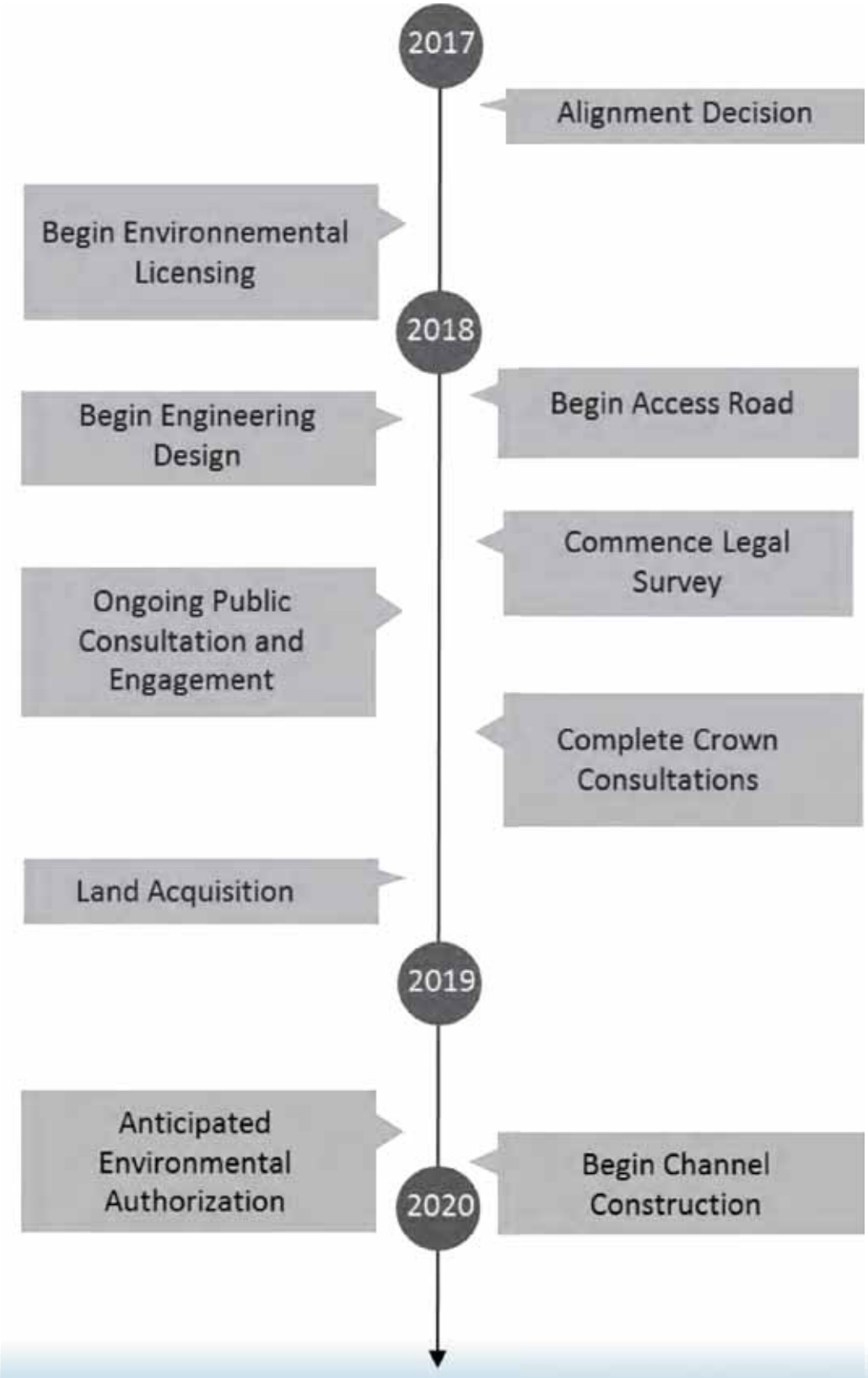
Water Control Structure (3 Bay) Conceptual Cross Section



Water Control Structure (3 Bay) Conceptual Profile

Manitoba

Project Timeline



Public Engagement History

2012

2011 Flood Review Task Force

Lake Manitoba and Lake St. Martin Regulation Review Committee

2013 - 2014 **Assiniboine River & Lake Manitoba Basins Flood Mitigation Study**

2017 - Present **Lake Manitoba and Lake St. Martin Outlet Channels Project**

Project Engagement Activities

Indigenous Peoples and Communities	• Community meetings • Information sessions
Local Landowners	• Individual visits and meetings • Information sessions • Open houses
General Public	• Public information sessions • Open houses
Municipal and Local Governments	• Planning and update meetings • Information sessions • Open houses
Other Government Agencies	• Planning and update meetings • Site visits

Public Engagement: What We've Heard So Far

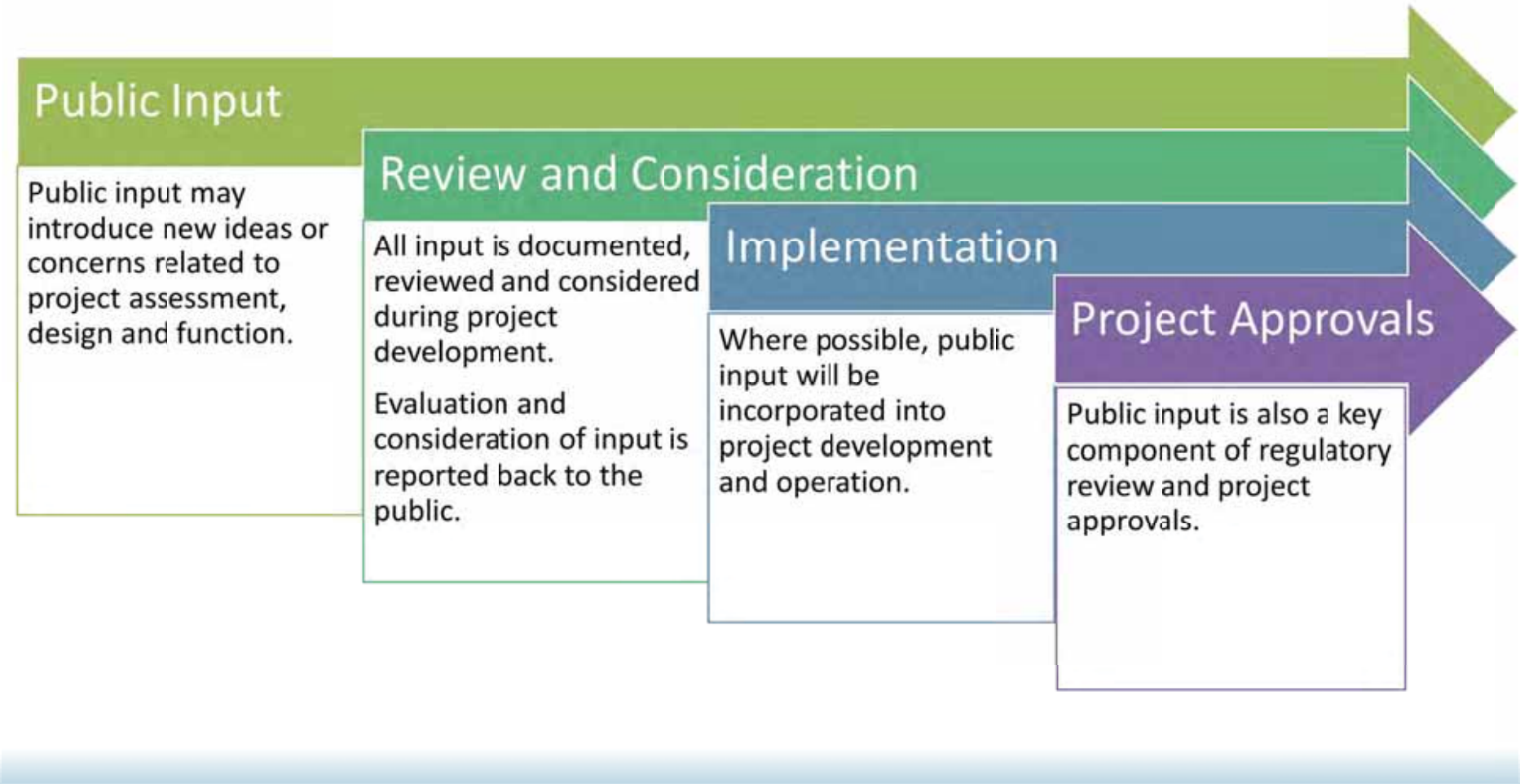
- Most support the concept of the Project and the proposal to construct additional flood control infrastructure.
- Many want the Project constructed as quickly as possible to reduce future flood risks.
- Many feel that the proposed operating guidelines will keep Lake Manitoba water levels too high.
- Many feel that the Portage Diversion is to blame for flooding on Lake Manitoba and Lake St. Martin, and that it's use and operation should be considered as part of the Project's environmental assessment.
- Many feel that the Project does not work to resolve greater water management issues which contribute to flooding, including the channelization of waterways and loss of wetlands.

Other Common Concerns Include:



- Impacts to local communities
- Loss of agricultural lands and immediate impacts to affected landowners
- Impacts to water quality in Lake Manitoba and Lake St. Martin
- Impacts to groundwater, including contamination and reduced flows
- Impacts to fish, wildlife and natural systems
- Loss of riparian (shoreline) ecosystems and natural protections as a result of the 2011 and 2014 floods

How We Use Your Input



Environmental Authorization and Approvals

Environmental Assessment

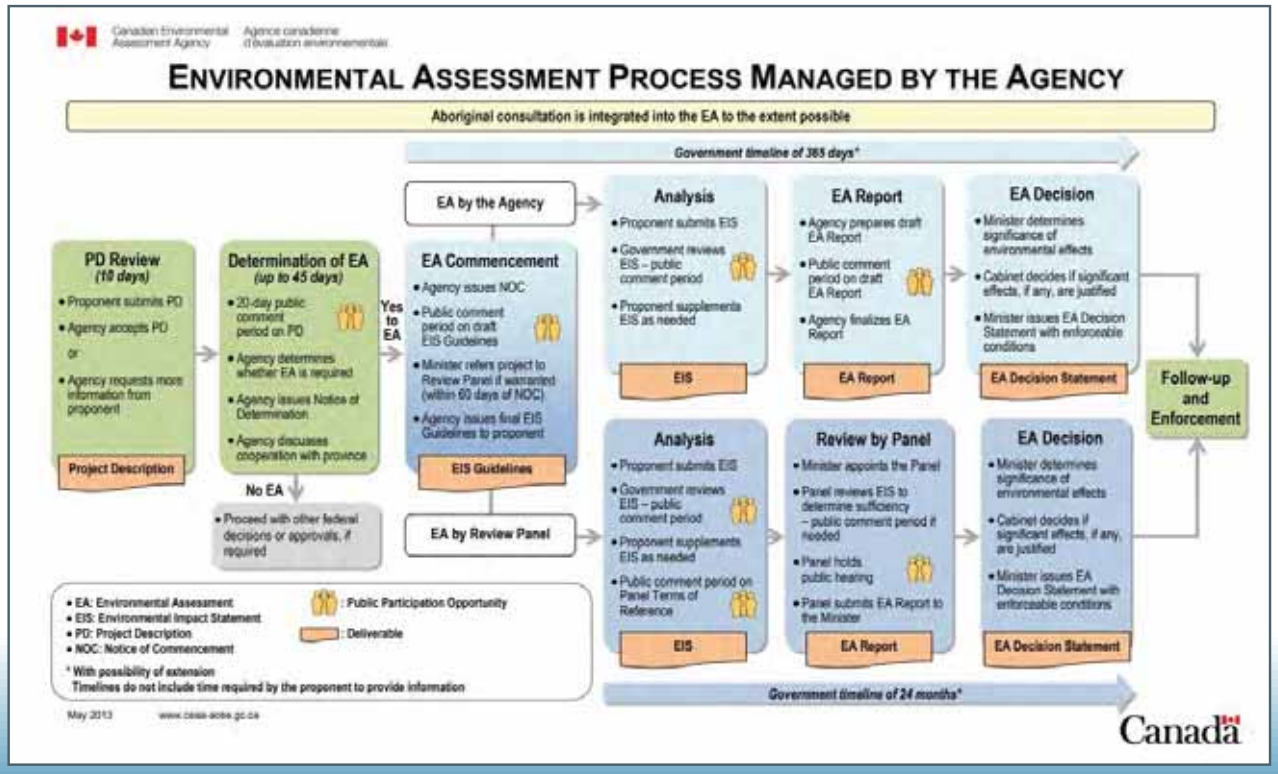
- Federal and Provincial law mandate that large projects meeting designated criteria require environmental assessment prior to construction.

Fisheries Act Authorization

- Any work or activities which could result in serious harm to fish that support or are part of a commercial, recreational or Aboriginal fishery requires a Fisheries Act Authorization from Fisheries and Oceans Canada.

Transport Canada

- Any structure which will be located in, on, over, through or across navigable water requires authorization from Transport Canada's Navigation Protection Program.



Environmental Authorization and Approvals

Environmental Assessment

What is it?

- A project planning and evaluation process that is mandated by Federal and Provincial law and required before construction of large projects.
- Determines ***Where***, ***What***, ***When*** and ***How*** a project could affect the environment, including traditional, cultural, social and economic impacts to people.
- Provides a process to ***Avoid*** and ***Mitigate*** (minimize) potential effects.
- Identifies monitoring programs to ensure predictions made about project-related effects are accurate and that mitigation measures are working as intended.

Who does it?

- Environmental assessments are conducted by project proponents, those who are responsible for design, construction and operation of a project.
- **Manitoba Infrastructure** is the proponent for the Lake Manitoba and Lake St. Martin Outlet Channels Project, and is leading the Environmental Assessment.

Who reviews it?

- Once complete, an Environmental Impact Statement is submitted to the Canadian **Environmental Assessment Agency (CEAA)** and **Manitoba Sustainable Development Environmental Approvals Branch** for independent review.
- Both the Federal and Provincial review processes include several opportunities for **public involvement and commentary**.

Manitoba

Main Stages of Environmental Assessment

Scoping

Outlining the area and timeframe in which changes to people and the environment are assessed.

Understanding the Existing Environment

Defining the existing environment, including people by use of various information sources, including traditional knowledge, studies and surveys, or existing reports.

We Are Here

Identifying Potential Effects

Identifying potential changes to environment and resulting effects on Valued Components such as people, plants and animals.

Avoiding and Mitigating Adverse Effects

Identifying opportunities and committing to actions to avoid or minimize project-related effects to people and the environment.

Other Considerations

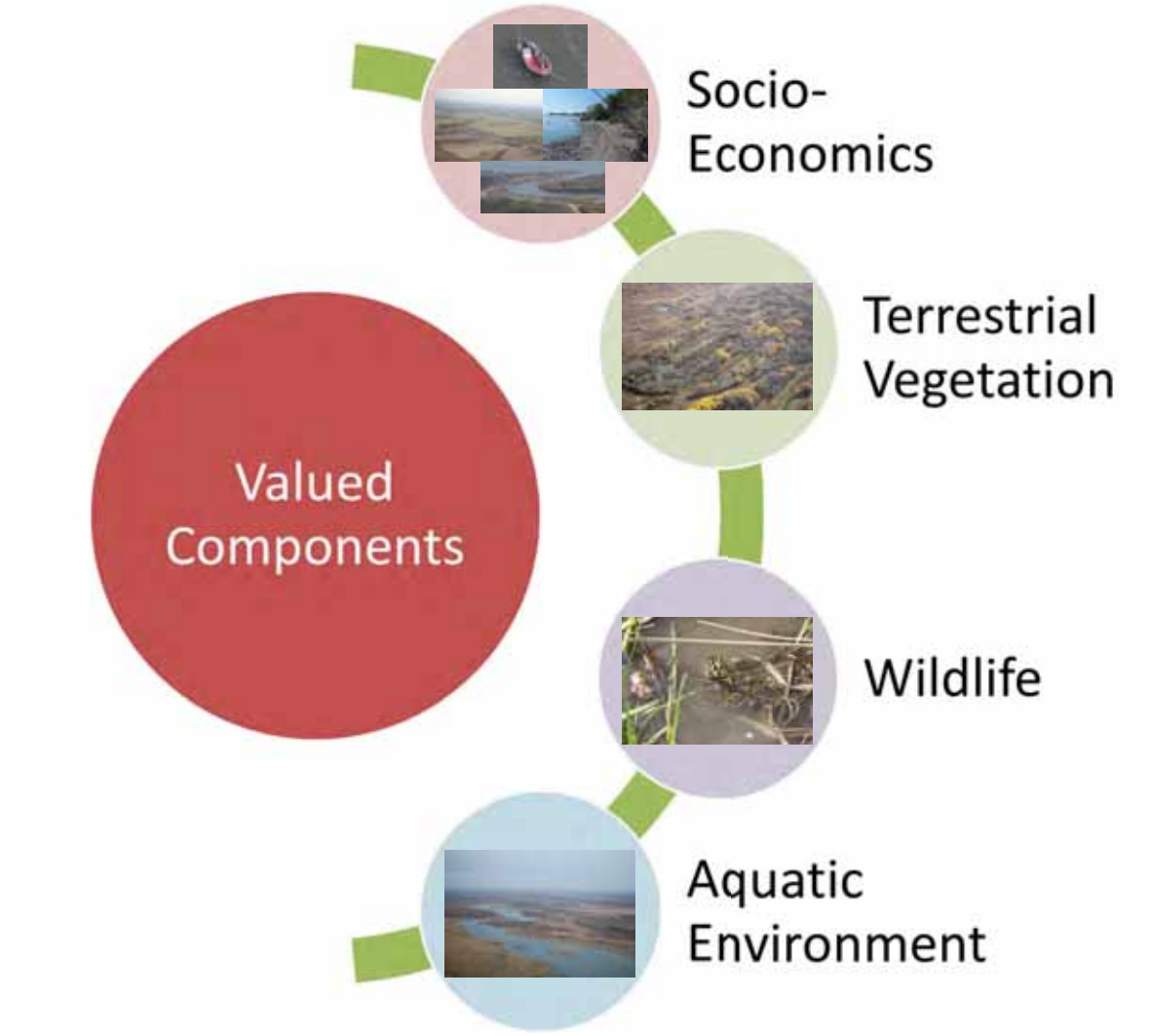
Other considerations include potential accidents or malfunctions, cumulative effects as a result of other undertakings and activities, and potential effects of the environment on the Project (e.g. climate change).

Follow-up and Monitoring

Identify commitments and processes to verify the accuracy of the effects assessment and determine effectiveness of mitigation.

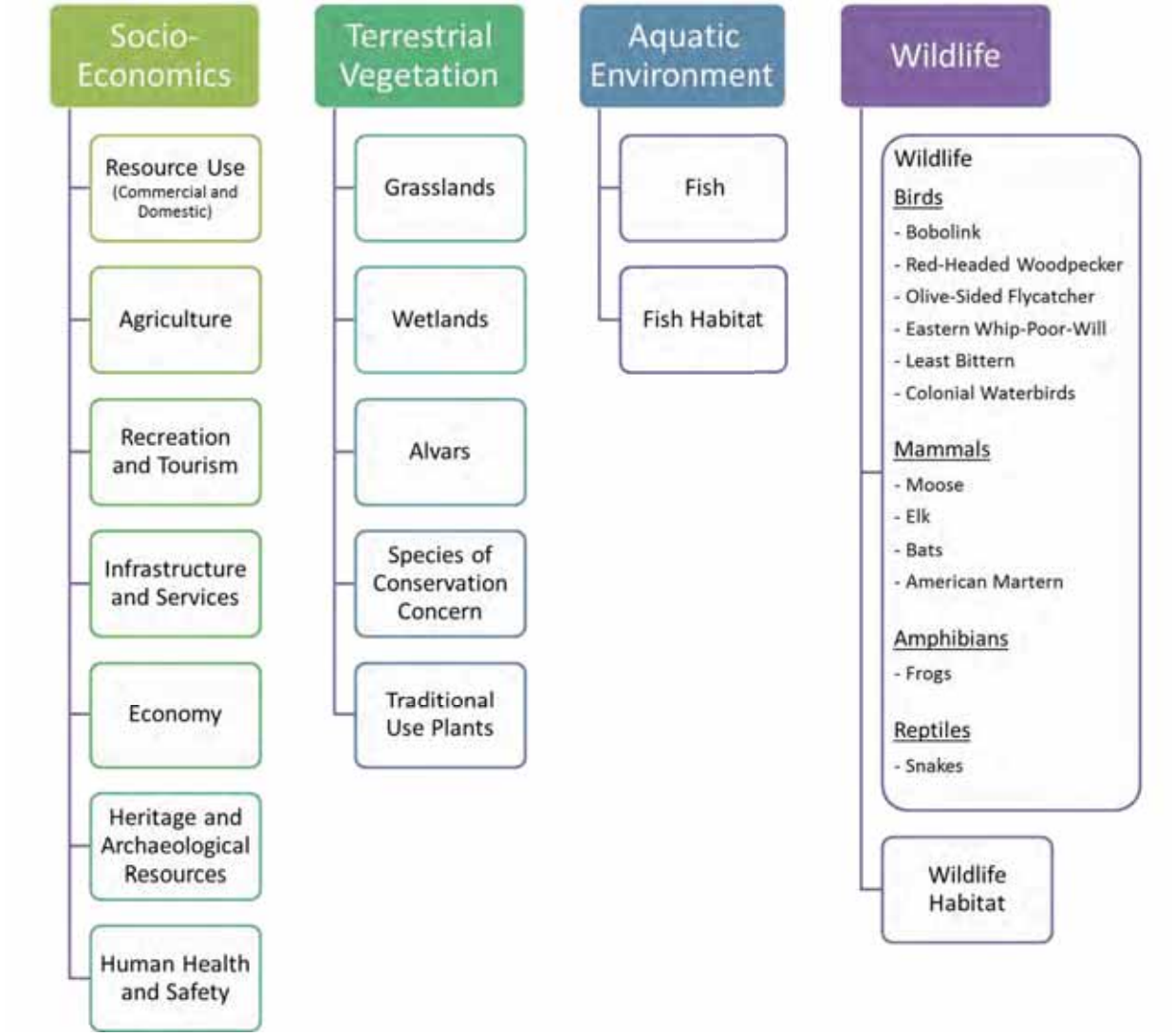
Valued Components

“Valued Component” is a term used by the Canadian Environmental Assessment Agency to describe important components of the environment which are used to assess potential effects of a project.



Valued Components

Proposed Valued Components for the Lake Manitoba and Lake St. Martin Outlet Channels Project are:



What's important to you?

Spatial Boundaries

- Spatial boundaries are used to identify the areas or regions where Project effects are likely to occur and be assessed.
- To accurately assess effects, spatial boundaries are divided into 3 categories:

Project Footprint

The area on which the Project components or activities are located (e.g. Channel Right of Way).

Local Assessment Area

Area beyond the Project Footprint in which direct and indirect Project effects are measurable.

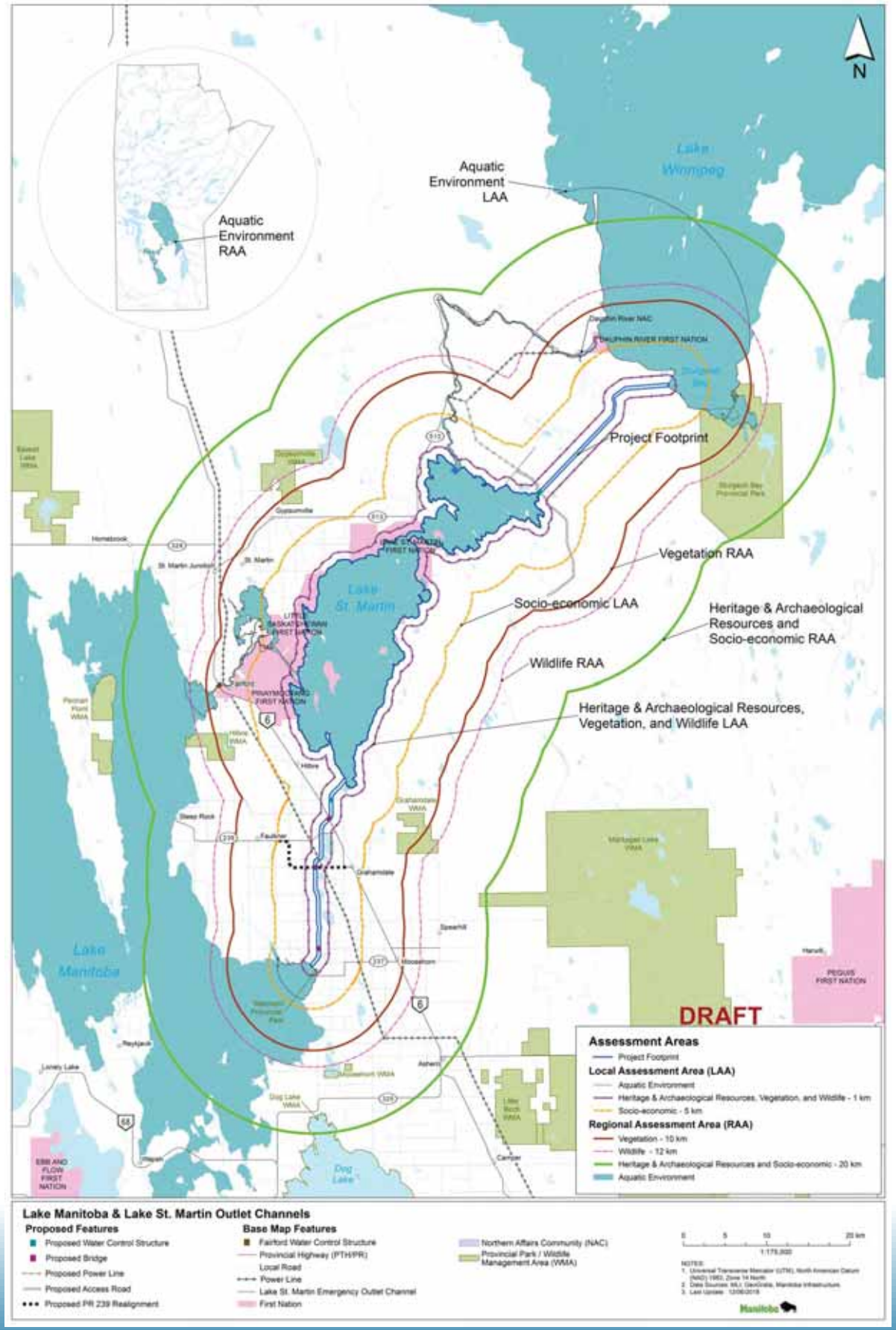
Regional Assessment Area

Area beyond the LAA within which most indirect and cumulative effects are expected to occur.

Different spatial boundaries may be used for each Valued Component based on their predicted project related effects.

Manitoba

Proposed Spatial Boundaries



Lake Manitoba Outlet Channel - Proposed Land Use Limitations

Environmental Assessment also considers post-construction land uses and management activities and how these may affect people and the environment. Based on consideration of potential effects and public input received to date, MI is proposing the following land use limitations for the right of way:

Land Use	Examples of Risks or Concerns	Proposed Mitigation	What do you think?
Vehicle and Off-Road Access	• Personal injury • Infrastructure and environmental damage, such as rutting and erosion, or introduction of noxious weeds • Accidents, such as wild fires, spills or leaks • Unintentional trespassing, crop damage or livestock harassment on privately held adjacent lands	Prevent vehicular access to the Project right of way by use of signage and/or barriers	
Hunting	• Personal injury • Increased hunting pressure on wildlife species • Infrastructure and property damage	Hunting activity within the Project right of way will not be permitted	
Fishing	• Personal injury • Increased fishing pressure on fish	Fishing activity within the Project right of way will not permitted	
Boating	• Personal injury • Infrastructure and property damage	Boating activity within the inlets, channels and outlets will not be permitted	
Grazing or Haying Leases	• Livestock safety • Nutrient loading near water from livestock manure • Infrastructure and environmental damage, such as rutting and erosion or reduced vegetative cover • Biosecurity or transmission of livestock diseases	Grazing or haying leases will not be issued or extended to the Lake Manitoba Outlet Channel Right of Way	

The proposed land uses are not intended to affect existing Indigenous rights-based activities.

ENVIRONMENTAL ASSESSMENT

Manitoba

Potential Key Interactions Between the Project and the Environment

Project Component	Project Phase	Receptor									
		Climate, Noise and Air Quality	Geology and Soils	Groundwater	Surface Water	Fish and Fish Habitat	Vegetation	Mammals	Birds	Amphibians and Reptiles	Species at Risk
Lake Manitoba Outlet Channel, Inlet and Outlet	Construction	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦
	Operation		✦	✦	✦	✦	✦	✦	✦	✦	✦
	Maintenance	✦			✦	✦	✦	✦	✦	✦	✦
	Non-Operation			✦	✦	✦	✦	✦	✦	✦	✦
Lake Manitoba Outlet Channel Water Control Structure	Construction	✦					✦	✦	✦	✦	✦
	Operation	✦									
	Maintenance	✦									
Lake St. Martin Outlet Channel, Inlet, Outlet and Drop Structures	Construction	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦
	Operation		✦		✦	✦	✦	✦	✦	✦	✦
	Maintenance	✦			✦	✦	✦	✦	✦	✦	✦
	Non-Operation				✦	✦	✦	✦	✦	✦	✦
Lake St. Martin Outlet Channel Water Control Structure	Construction	✦	✦				✦	✦	✦	✦	✦
	Operation	✦									
	Maintenance	✦									
Bridges and Culverts	Construction	✦			✦	✦	✦	✦	✦	✦	✦
	Operation				✦	✦		✦	✦	✦	✦
	Maintenance	✦			✦	✦		✦	✦	✦	✦
PR 239 and Municipal Road Re-Alignments	Construction	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦
	Operation	✦		✦	✦	✦	✦	✦	✦	✦	✦
	Maintenance	✦	✦		✦	✦	✦	✦	✦	✦	✦
Temporary Construction Camps and Staging Areas	Construction*	✦	✦		✦		✦	✦	✦	✦	
	Operation**										
	Maintenance**										
Quarries	Construction	✦	✦	✦	✦		✦	✦	✦	✦	
	Operation	✦	✦	✦	✦		✦	✦	✦	✦	
	Maintenance	✦	✦	✦	✦		✦	✦	✦	✦	
Distribution Line	Construction	✦	✦	✦	✦	✦	✦	✦	✦	✦	✦
	Operation						✦	✦	✦	✦	✦
	Maintenance	✦					✦	✦	✦	✦	✦

✦Potential interaction; Blank cell: No anticipated interaction

Construction: Phase in which the Project components are being built, and are not yet functional
Operation: Phase in which the Project components have been built and are functional
Maintenance: Phase in which Project components are functional but undergo repair or replacement

*Includes mobilization, demobilization and rehabilitation of temporary sites that are only required during the Project's construction phase
**Temporary Construction Camps and Staging Areas will be decommissioned after construction and are therefore not required in the Maintenance and Operation phases

Manitoba

Potential Key Interactions Between the Project and People

Project Component	Project Phase	Health and Socio-Economic Conditions	Physical and Cultural Heritage	Current use of Lands and Resources for Traditional Purposes	Sites of Importance
Lake Manitoba Outlet Channel, Inlet and Outlet	Construction	+	+	+	+
	Operation	+	+	+	+
	Maintenance	v		+	
	Non-Operation				
Lake Manitoba Outlet Channel Water Control Structure	Construction	+	+		
	Operation	+	+	+	+
	Maintenance	+			
Lake St. Martin Outlet Channel, Inlet, Outlet and Drop Structures	Construction	+	+	+	+
	Operation	+	+	+	+
	Maintenance	+		+	
	Non-Operation				
Lake St. Martin Outlet Channel Water Control Structure	Construction	+	+		
	Operation	+	+	+	+
	Maintenance	+			
Bridges and Culverts	Construction	+	+	+	
	Operation				
	Maintenance	+			
PR 239 and Municipal Road Re-Alignments	Construction	+	+	+	
	Operation				
	Maintenance	+			
Temporary Construction Camps and Staging Areas	Construction*	+	+	+	+
	Operation**				
	Maintenance**				
Quarries	Construction	+	+	+	+
	Operation			+	
	Maintenance	+			
Distribution Line	Construction	+	+	+	
	Operation			+	
	Maintenance	+		+	

+Potential interaction; Blank cell: No anticipated interaction

Construction: Phase in which the Project components are being built, and are not yet functional
Operation: Phase in which the Project components have been built and are functional
Maintenance: Phase in which Project components are functional but undergo repair or replacement

*Includes mobilization, demobilization and rehabilitation of temporary sites that are only required during the Project's construction phase
**Temporary Construction Camps and Staging Areas will be decommissioned after construction and are therefore not required in the Maintenance and Operation phases

Please Stay and Talk With Us

Provide information and concerns so they can be considered in the environmental assessment and in project design.

- ✓ Write on Discussion Boards
- ✓ Talk with Project Staff
- ✓ Complete a Questionnaire
- ✓ Email comments: outletchannel@gov.mb.ca

Learn more:

www.gov.mb.ca/mit/wmslmblmoutlets/index.html

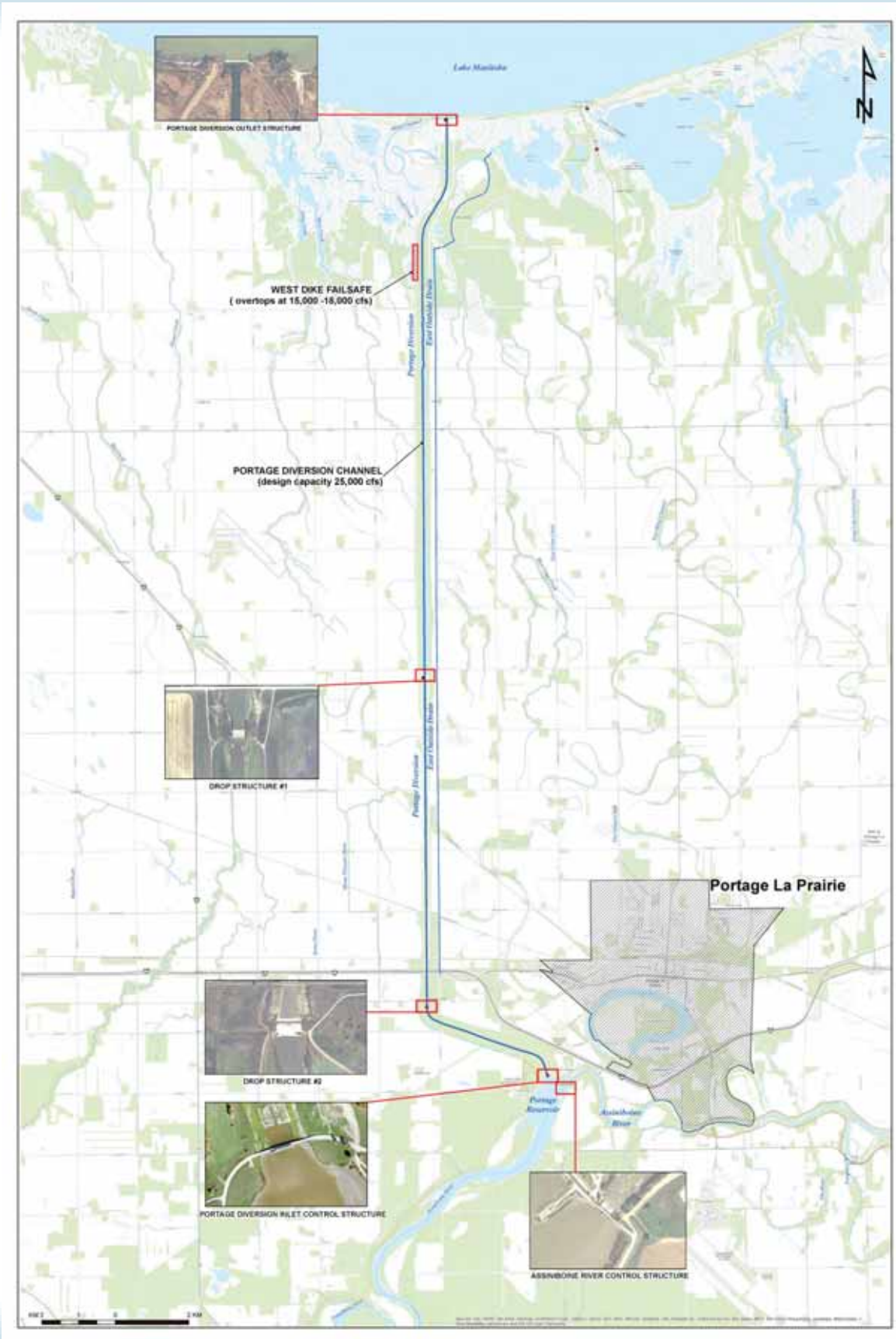
<u>Future Discussion Topics:</u>

- Environmental Effects Assessment Details

- Conclusions

Portage Diversion Layout

Manitoba



Recent and Future Projects

Assiniboine River Control Structure

- Public and worker safety improvements
  - Completed in 2015
  - Works include fencing, signage, and safety boom
- Electrical and mechanical upgrades
  - Ongoing
  - Works include upgrades to 600V electrical distribution system, replacement of gate control system and motor control center, new bulkhead gate hoist, new stand-by diesel generator fuel/piping system and new exterior diesel generator







Portage Diversion East Outside Drain

- Reconstruction of 18 km of drain
  - Completed in 2013
- Replacement of culverts beneath three (3) railway crossings
  - Completed in 2018





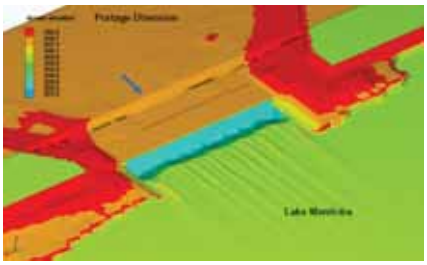


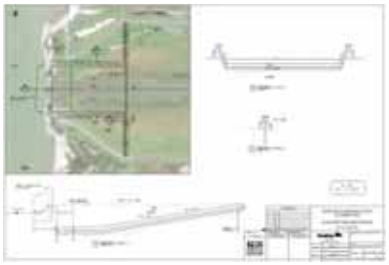
Recent and Future Projects

Portage Diversion Outlet Structure

- Construction of temporary rock apron to stabilize outlet structure
  - Completed in 2018
- Conceptual Design for options to repair or replace structure
  - Completed in 2018
- Outlet structure major repair or replacement prioritized over next few years







Portage Diversion Channel

- Removal of sedimentation within channel
  - Completed in 2017
- Groundwater/soil salinity study for the Portage Diversion
  - Ongoing—commenced in 2016
- Enhancement of East Dike north of PR 227 to address freeboard issues at design capacity of 25,000 cfs
  - Proposed to commence in 2018
  - Multi-phase over the next couple of years
- Failsafe assessment and potential enhancement of West Dike to handle design capacity of 25,000 cfs
  - Prioritized for future years—yet to be approved







Manitoba

Portage Diversion Operating Guidelines
1984 Red River Floodway Program of Operation

Operation Objectives

The Portage Diversion will be operated to meet these objectives:

1. To provide maximum benefits to the City of Winnipeg and areas along the Assiniboine River downstream of Portage la Prairie.
2. To minimize ice jams forming along the Assiniboine River.
3. Not to increase the water level in Lake Manitoba beyond maximum regulated level of 812.87 ft (247.76 m), if possible.
4. Prevent overtopping of the failsafe section in the Portage Diversion, if possible.

Operating Rules

1. Except as provided for under Rule 8, the Portage Diversion shall be utilized to its maximum capability to keep water levels in Winnipeg below 17.0 feet (5.2m), City Datum.
2. The flow in the Diversion shall not be allowed to exceed 25,000 cfs (708 m3/s).
3. If the flow forcasts indicate that the peak inflow into the reservoir to be 20,000 cfs (566m3/s) or more, the Diversion will be put into use as soon as possible to flush out snow blockages and in situ ice.
4. During the period that there is ice on the reservoir, the water level of the reservoir will not be allowed to exceed 865.0 feet (263.65m) to provide room for releases from breaching of upstream ice jams.
5. The conduits of the Spillway Structure shall be closed while there is water going over the bascule gates.
6. While there is ice on Assiniboine River downstream of Portage la Prairie it is desirable to limit flows to approximately 5,000 cfs (142m3/s) in the River if possible. Flows of this magnitude appear to be optimum flows required to assist in flushing the ice down the river without causing major ice jams or flooding to adjacent farm lands through local drainage inlets. This procedure provides additional capacity, if required, on the River downstream of Portage la Prairie when the second peak arrives. The level of Lake Manitoba should not be taken into account while there is ice on the Assiniboine River, as the period during which there is ice on the River during the spring runoff is only a few days, and diverted flows for this short a period of time have a negligible effect on the level of Lake Manitoba
7. After the ice has gone from the Assiniboine River downstream of Portage la Prairie, it is desirable to maintain flows less than 10,000 cfs (283m3/s) in the River if possible. Flows greater than 10,000 cfs (283m3/s) are above natural bank stage of the River, and backup of local streams which outlet into the Assiniboine may occur at this level. There also may be seepage problems through the dike, leakage under the dike through the gated culverts and flooding of cultivated land between the dikes.
8. For flows of up to 30,000 cfs (850m3/s) under open water conditions, the failsafe section of the west dike of the Portage Diversion should not be breached if the peak stage in Winnipeg will not exceed 18.0 feet (5.5m).

Manitoba

Portage Diversion Operating Guidelines Recommended by Flood Control Infrastructure Operation Review Panel (2015)

Pre-Spring Break-up Operation

1. While there is ice on the Assiniboine River downstream of Portage la Prairie, it is desirable to limit flows to approximately 5,000 cfs in the river if there is a potential for ice jamming.
2. During the period that there is ice on the reservoir, the water level of the reservoir must not be allowed to exceed 865.0 feet to provide room for releases from breaching of upstream ice jams.
3. If flow forecasts indicate that the Portage Diversion will likely be put into operation, the Diversion should be put into use as soon as practical to flush out snow blockages and in situ ice.

Spring Run-off Operation

4. During the spring run-off, after the ice has gone from the Assiniboine River downstream of Portage la Prairie:
   a. If the Lake Manitoba level is forecast to peak below 813 feet, maintain a maximum flow in the lower Assiniboine River of 10,000 cfs, reduced if necessary to keep the river level in Winnipeg below 19 feet James Avenue Datum if possible. Even when there is no risk of flooding on Lake Manitoba maintain a target flow of 10,000 cfs in the lower Assiniboine river to minimize environmental impact of diversion flows on Lake Manitoba.
   b. If the Lake Manitoba level is forecast to peak above 813 feet, and the projected volume of water from the Portage Diversion into Lake Manitoba will be less than 590,000 ac-ft, maintain a flow in the lower Assiniboine River of 12,000 cfs, reduced as necessary to keep the river level in Winnipeg below 20 feet James Avenue Datum.
   c. If the Lake Manitoba level is forecast to peak above 813 feet, and the projected volume of water from the Portage Diversion into Lake Manitoba will be greater than 590,000 ac-ft, increase flows on the Assiniboine River above 12,000 cfs so as to balance impacts between the Lower Assiniboine River and Lake Manitoba, reduced as necessary to keep the river level in Winnipeg below 21 feet James Avenue Datum.

Growing Season Operation

5. On or after May 25th, if Lake Manitoba levels are below 813 feet the lower Assiniboine flow may be limited to 10,000 cfs if the forecast indicates that Lake Manitoba will not go above 813 feet or that he projected volume of water from the Portage Diversion (from May 25th on) will be less than 236,000 ac-ft. Otherwise operate the Portage Diversion so as to balance impacts between the lower Assiniboine River and Lake Manitoba.
6. In years that the spring thaw occurs early (ice clear from the lower Assiniboine River prior to April 15), flows on the Assiniboine River can be limited to 10,000 cfs at an earlier date than May 25th, conditional on guideline 5.

General

7. The conduit of the spillway structure should be closed while there is water going over the bascule gates

Highlighted Guideline Changes

Manitoba

The revised operating guidelines provide more prescriptive targets for balancing the distribution of flow through the Portage Diversion Channel and down the Lower Assiniboine River. City of Winnipeg river level targets are also raised to reduce reliance on the Portage Diversion.

Lower Assiniboine Flows

Old Rule:

- Limit flow on the Lower Assiniboine to 10,000 cfs if possible

New Rule:

- If Lake Manitoba Level is forecast to remain below 813 ft, limit flow on the Lower Assiniboine to 10,000 cfs.
- If Lake Manitoba Level is forecast to be above 813 ft, limit flow on the Lower Assiniboine to 12,000 cfs.
- If Lake Manitoba Level is forecast to be above 813 ft, and the total diverted volume will be greater than 590,000 ac-ft, allow flow on the Lower Assiniboine to exceed 12,000 cfs.

City of Winnipeg Water Levels

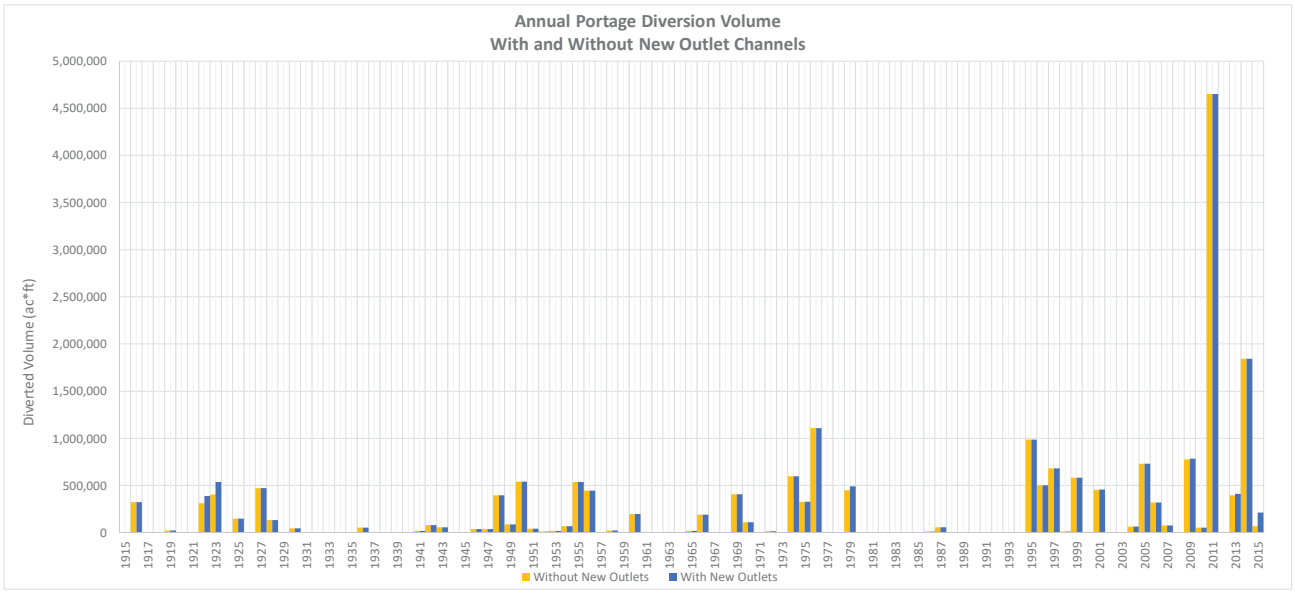
Old Rule:

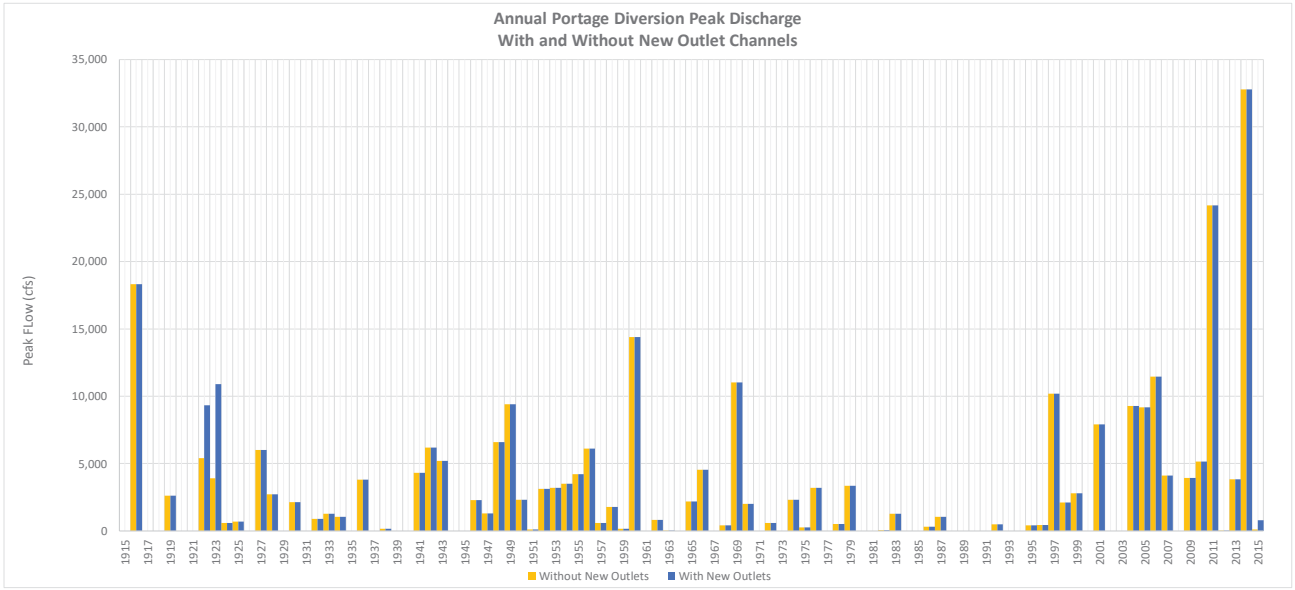
- The Portage Diversion shall be utilized to its maximum capability to keep water levels in Winnipeg below 17 ft James Avenue datum.
- For flows up to 30,000 cfs into the Portage Reservoir, do not breach the fail-safe if the level at James Avenue will not exceed 18 ft.

New Rule:

- If Lake Manitoba Level is forecast to remain below 813 ft, reduce flow on the Lower Assiniboine to maintain the level at James Avenue below 19 ft.
- If Lake Manitoba Level is forecast to be above 813 ft, reduce flow on the Lower Assiniboine to maintain the level at James Avenue below 20ft.
- If Lake Manitoba Level is forecast to be above 813 ft, and the total diverted volume will be greater than 590,000 ac-ft, reduce flow on the Lower Assiniboine to maintain the level at James Avenue below 21 ft.

Effect of the Lake Outlets on Frequency of Portage Diversion Operation (based on simulation of 100 years of data)





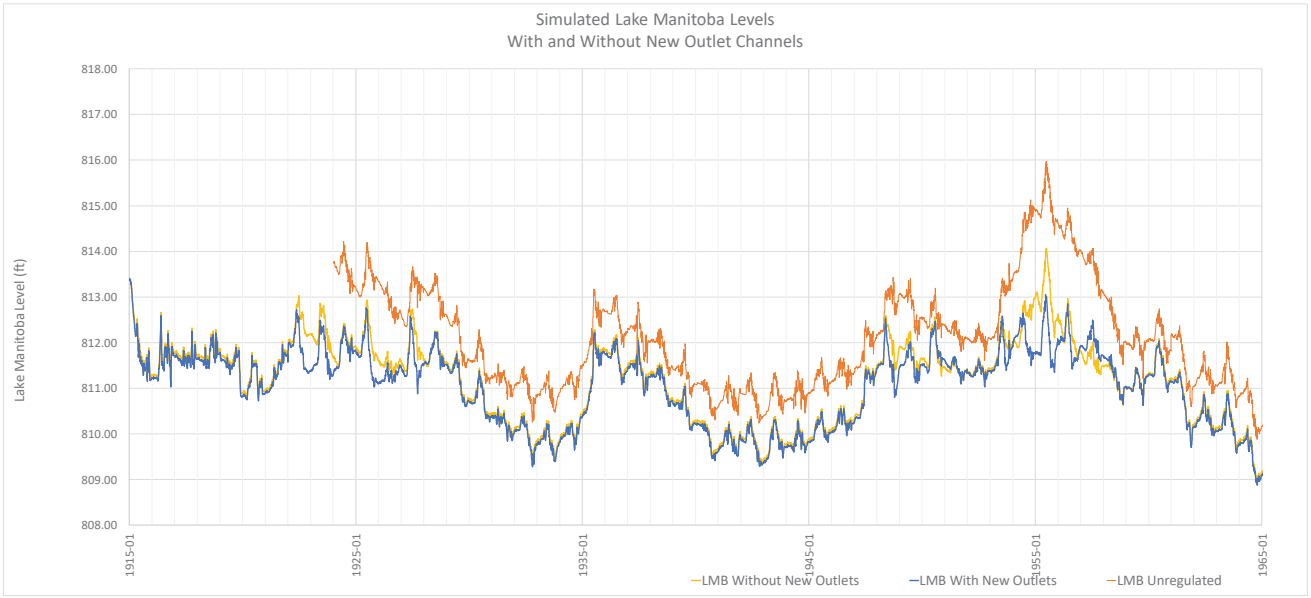
Year with Change	Additional Diverted Volume from Portage Diversion (ac*ft)	Additional Days Of Operation
1922	75,372	0
1923	134,052	3
1979	43,863	0
2001	2,993	0
2009	5,402	0
2013	16,345	0
2015	144,407	30

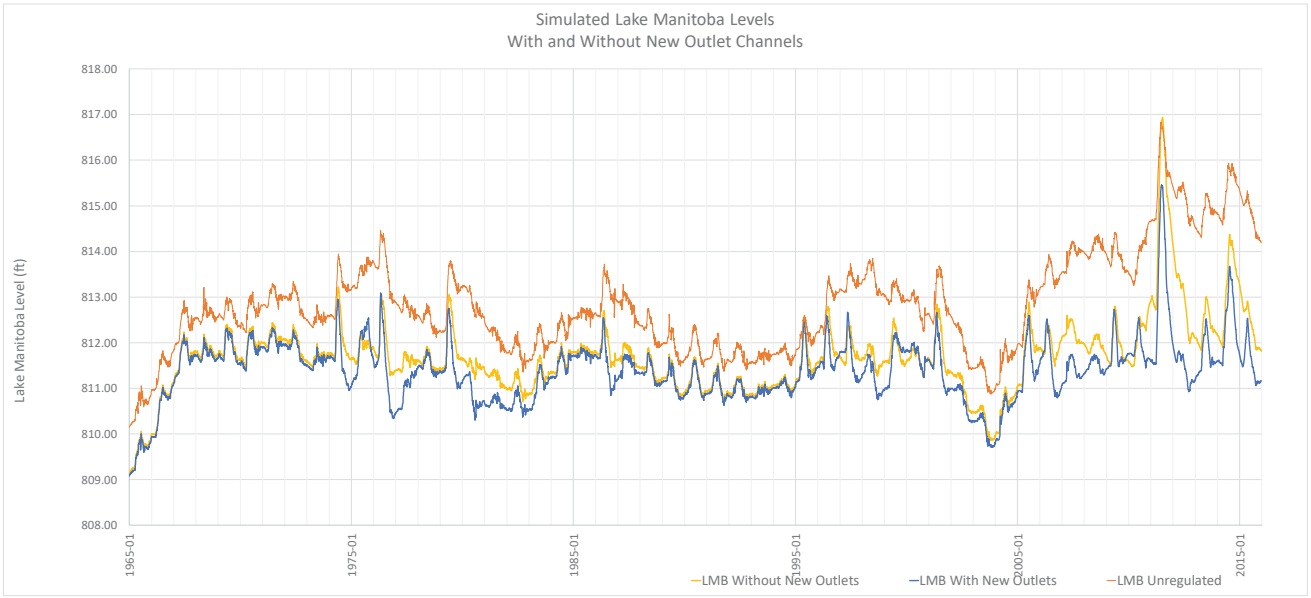
Percent Total Increase in Volume Diverted to Lake Manitoba **2.1%**

Percent Total Increase in Portage Diversion Operating Days **1.9%**

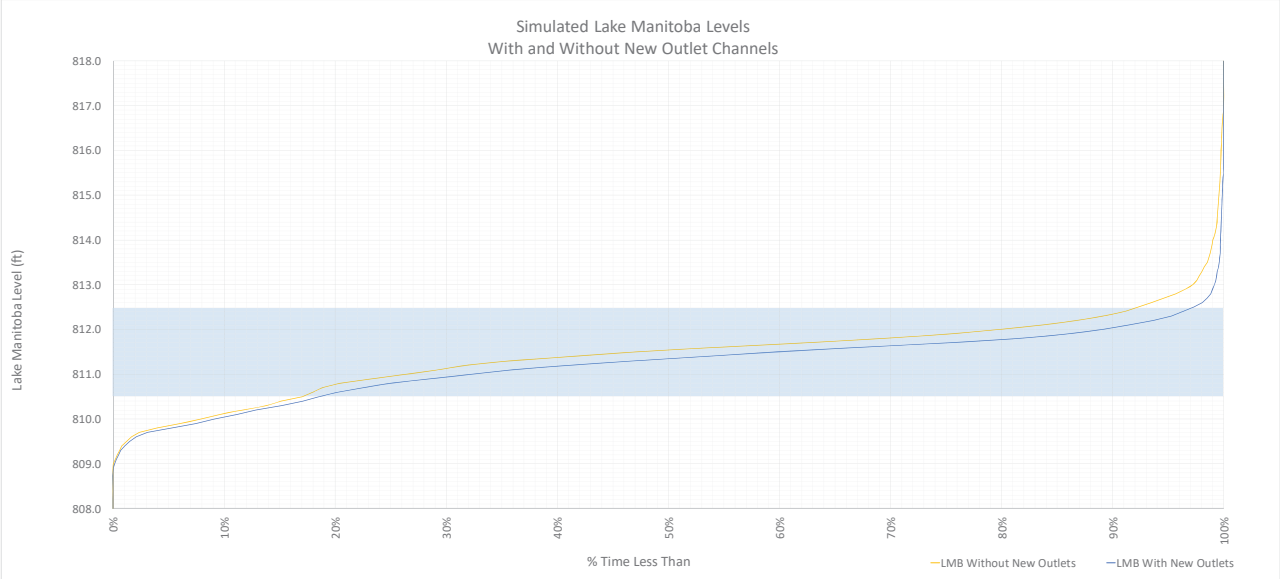
New Years of Portage Diversion Operation **0**

Operational Comparison





Operational Comparison



Use of the new outlet channels increases the amount of time that Lake Manitoba stays within the desired operating range of 810.5 ft to 812.5 ft.

- Currently Lake Manitoba is below 813.0 ft approximately 97.2% of the time.
- With the new outlets, Lake Manitoba will be below 813.0 ft 99.1% of the time

Manitoba

Thank You



For more information, feel free to contact Manitoba Infrastructure staff directly at:

Mark Allard

Project Director

Phone: 204-622-2261

Email: Mark.Allard@gov.mb.ca

Christine Baljko

Environmental Coordinator

Phone: 204-479-6025

Email: Christine.Baljko@gov.mb.ca

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

Your feedback and input is important to us. Please complete this questionnaire and leave it at the Open House, mail it in to the address below or complete it online at www.surveymonkey.com/r/QLRQ622

Please select the most appropriate answer available and provide additional comment where space is provided.

1) Was enough information provided at the Open House for you to understand the Project?

☑ Yes ☐ No ☐ Undecided

If not, what additional information would you like to see?

2) Preliminary Valued Components were presented at the open house and can be found on the Project website (www.gov.mb.ca/mit/wms/lmblsmoutlets/). Are the Valued Components sufficient for assessing potential project effects on environmental features in the area?

☐ Yes ☐ No ☑ Undecided

If not, what changes would you like to see made to Valued Components?

3) Do you think the spatial boundaries presented at the open house are appropriate to assess potential adverse environmental effects of the project?

☐ Yes ☑ No ☐ Undecided

If not, please explain why:

Not enough on ground water + surface water drainage

4) Primarily for safety reasons and to limit adverse environmental impacts, restrictions to some land use activities are proposed, such as access, grazing/haying, fishing on the Lake Manitoba Outlet Channel Right-of-Way. Do you agree with this proposal?

☐ Yes ☑ No ☐ Undecided

If not, please explain why:

waste of land that is dry

Please refer turn over for more questions!

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

5) Is there anything else you feel we need to consider for project planning or our environmental assessment?

fish spawning & ground water run off

6) What topics would you like to hear more about at the next open house?

- ☑ Environmental Assessment
- ☐ Engineering, Structures and Design
- ☐ Indigenous and Public Consultation
- ☐ Other: _____

7) How would you like to be notified about the project?

- ☐ Social Media (Twitter, Facebook)
- ☐ Regular website updates
- ☑ Other: on the "news"
- ☐ Email
- ☑ Correspondence by mail

8) Which of the following best describes your relation to the region? (Optional)

- ☑ Affected landowner or permanent local resident
- ☐ Interested member of the public
- ☐ Indigenous
- ☐ Other: _____
- ☐ Seasonal resident or cottage owner
- ☐ Resource user (camping, hunting, fishing or other recreational activities)

9) Please leave your name and contact information and it will be added to our mailing list. This information will remain confidential and will not be shared to a third party without your consent, unless we are required or authorized to do so by law or other regulation.

Name (please print) [redacted]
Address
Phone Number
Email
Postal Code

Thank You!

If you would like to submit your questionnaire to us by mail, please send it to:

C/O Lake Manitoba and Lake St. Martin Outlet Channels Project
Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB, R3C 0R8

Project Website- www.gov.mb.ca/mit/wms/lmblsmoutlets/

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

Your feedback and input is important to us. Please complete this questionnaire and leave it at the Open House, mail it in to the address below or complete it online at www.surveymonkey.com/r/QLRQ622

Please select the most appropriate answer available and provide additional comment where space is provided.

1) Was enough information provided at the Open House for you to understand the Project?

☐ Yes ☐ No ☑ Undecided

If not, what additional information would you like to see?

Still do not know when our land will be taken and highway will be destroying our gust

2) Preliminary Valued Components were presented at the open house and can be found on the Project website (www.gov.mb.ca/mit/wms/lmblsmoutlets/). Are the Valued Components sufficient for assessing potential project effects on environmental features in the area?

☑ Yes ☐ No ☐ Undecided

If not, what changes would you like to see made to Valued Components?

3) Do you think the spatial boundaries presented at the open house are appropriate to assess potential adverse environmental effects of the project?

☐ Yes ☑ No ☐ Undecided

If not, please explain why:

stopping hunting and fishing to the person who already owns the land is unacceptable

4) Primarily for safety reasons and to limit adverse environmental impacts, restrictions to some land use activities are proposed, such as access, grazing/haying, fishing on the Lake Manitoba Outlet Channel Right-of-Way. Do you agree with this proposal?

☐ Yes ☑ No ☐ Undecided

If not, please explain why:

Please refer turn over for more questions!

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

5) Is there anything else you feel we need to consider for project planning or our environmental assessment?

all the municipalities that are being impacted from manitoba north should be helping granville municipality because of the taxes we will get loss of land.

6) What topics would you like to hear more about at the next open house?

- ☐ Environmental Assessment
- ☐ Engineering, Structures and Design
- ☐ Indigenous and Public Consultation
- ☐ Other: impacts on local residence

7) How would you like to be notified about the project?

- ☐ Social Media (Twitter, Facebook)
- ☐ Regular website updates
- ☑ Email
- ☑ Correspondence by mail
- ☐ Other: _____

8) Which of the following best describes your relation to the region? (Optional)

- ☑ Affected landowner or permanent local resident
- ☐ Interested member of the public
- ☐ Indigenous
- ☐ Other: _____
- ☐ Seasonal resident or cottage owner
- ☑ Resource user (camping, hunting, fishing or other recreational activities)

9) Please leave your name and contact information and it will be added to our mailing list. This information will remain confidential and will not be shared to a third party without your consent, unless we are required or authorized to do so by law or other regulation.

Name (please print) [redacted]
Address
Phone Number
Email
Postal Code

Thank You!

If you would like to submit your questionnaire to us by mail, please send it to:

C/O Lake Manitoba and Lake St. Martin Outlet Channels Project
Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB, R3C 0R8

Project Website- www.gov.mb.ca/mit/wms/lmblsmoutlets/

June 2018

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

Your feedback and input is important to us. Please complete this questionnaire and leave it at the Open House, mail it in to the address below or complete it online at www.surveymonkey.com/r/QLRQ622

Please select the most appropriate answer available and provide additional comment where space is provided.

1) Was enough information provided at the Open House for you to understand the Project?

☑ Yes ☐ No ☐ Undecided

If not, what additional information would you like to see?

2) Preliminary Valued Components were presented at the open house and can be found on the Project website (www.gov.mb.ca/mit/wms/lmblsmoutlets/). Are the Valued Components sufficient for assessing potential project effects on environmental features in the area?

☑ Yes ☐ No ☐ Undecided

If not, what changes would you like to see made to Valued Components?

3) Do you think the spatial boundaries presented at the open house are appropriate to assess potential adverse environmental effects of the project?

☑ Yes ☐ No ☐ Undecided

If not, please explain why:

4) Primarily for safety reasons and to limit adverse environmental impacts, restrictions to some land use activities are proposed, such as access, grazing/haying, fishing on the Lake Manitoba Outlet Channel Right-of-Way. Do you agree with this proposal?

☑ Yes ☐ No ☐ Undecided

If not, please explain why:

I do not agree they will be enforced.

Please refer turn over for more questions!

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

5) Is there anything else you feel we need to consider for project planning or our environmental assessment?

make under grade one of the most important components of the project and not just maintain but improve our lands

6) What topics would you like to hear more about at the next open house?

- ☐ Environmental Assessment
- ☑ Engineering, Structures and Design
- ☐ Indigenous and Public Consultation
- ☐ Other: _____

7) How would you like to be notified about the project?

- ☐ Social Media (Twitter, Facebook)
- ☐ Regular website updates
- ☑ Email
- ☐ Correspondence by mail
- ☐ Other: _____

8) Which of the following best describes your relation to the region? (Optional)

- ☐ Affected landowner or permanent local resident
- ☐ Interested member of the public
- ☐ Indigenous
- ☑ Seasonal resident or cottage owner
- ☐ Resource user (camping, hunting, fishing or other recreational activities)
- ☐ Other: _____

9) Please leave your name and contact information and it will be added to our mailing list. This information will remain confidential and will not be shared to a third party without your consent, unless we are required or authorized to do so by law or other regulation.

Name (please print) [redacted]
Address
Phone Number
Email
Postal Code

Thank You!

If you would like to submit your questionnaire to us by mail, please send it to:

C/O Lake Manitoba and Lake St. Martin Outlet Channels Project
Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB, R3C 0R8

Project Website- www.gov.mb.ca/mit/wms/lmblsmoutlets/

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

Your feedback and input is important to us. Please complete this questionnaire and leave it at the Open House, mail it in to the address below or complete it online at www.surveymonkey.com/r/QLRQ622

Please select the most appropriate answer available and provide additional comment where space is provided.

1) Was enough information provided at the Open House for you to understand the Project?

☑ Yes ☐ No ☐ Undecided

If not, what additional information would you like to see?

More detail on PR 239 Realignment intersection with PTH 6 at Grahamdale

2) Preliminary Valued Components were presented at the open house and can be found on the Project website (www.gov.mb.ca/mit/wms/lmblsmoutlets/). Are the Valued Components sufficient for assessing potential project effects on environmental features in the area?

☑ Yes ☐ No ☐ Undecided

If not, what changes would you like to see made to Valued Components?

3) Do you think the spatial boundaries presented at the open house are appropriate to assess potential adverse environmental effects of the project?

☑ Yes ☐ No ☐ Undecided

If not, please explain why:

4) Primarily for safety reasons and to limit adverse environmental impacts, restrictions to some land use activities are proposed, such as access, grazing/haying, fishing on the Lake Manitoba Outlet Channel Right-of-Way. Do you agree with this proposal?

☑ Yes ☐ No ☐ Undecided

If not, please explain why:

Please refer turn over for more questions!

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

5) Is there anything else you feel we need to consider for project planning or our environmental assessment?

_____

_____

_____

_____

6) What topics would you like to hear more about at the next open house?

☐ Environmental Assessment
☐ Engineering, Structures and Design
☐ Indigenous and Public Consultation
☐ Other: _____

7) How would you like to be notified about the project?

☐ Social Media (Twitter, Facebook)
☐ Regular website updates
☐ Email
☐ Correspondence by mail
☐ Other: _____

8) Which of the following best describes your relation to the region? (Optional)

☐ Affected landowner or permanent local resident
☐ Interested member of the public
☐ Indigenous
☐ Seasonal resident or cottage owner
☐ Resource user (camping, hunting, fishing or other recreational activities)
☐ Other: _____

9) Please leave your name and contact information and it will be added to our mailing list. This information will remain confidential and will not be shared to a third party without your consent, unless we are required or authorized to do so by law or other regulation.

Name (please print) _____
Address _____
Phone Number _____
Email _____
Postal Code _____

[redacted]

Thank You!

If you would like to submit your questionnaire to us by mail, please send it to:

C/O Lake Manitoba and Lake St. Martin Outlet Channels Project
Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB, R3C 0R8

Project Website- www.gov.mb.ca/mit/wms/lmblsmoutlets/

June 2018

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

Your feedback and input is important to us. Please complete this questionnaire and leave it at the Open House, mail it in to the address below or complete it online at www.surveymonkey.com/r/QLRQ622

Please select the most appropriate answer available and provide additional comment where space is provided.

1) Was enough information provided at the Open House for you to understand the Project?

☑ Yes ☐ No ☐ Undecided

If not, what additional information would you like to see?

239 ROAD RE-ALIGNMENT INFO.

2) Preliminary Valued Components were presented at the open house and can be found on the Project website (www.gov.mb.ca/mit/wms/lmblsmoutlets/). Are the Valued Components sufficient for assessing potential project effects on environmental features in the area?

☐ Yes ☐ No ☑ Undecided

If not, what changes would you like to see made to Valued Components?

3) Do you think the spatial boundaries presented at the open house are appropriate to assess potential adverse environmental effects of the project?

☐ Yes ☐ No ☑ Undecided

If not, please explain why:

4) Primarily for safety reasons and to limit adverse environmental impacts, restrictions to some land use activities are proposed, such as access, grazing/haying, fishing on the Lake Manitoba Outlet Channel Right-of-Way. Do you agree with this proposal?

☑ Yes ☐ No ☐ Undecided

If not, please explain why:

I ABSOLUTELY AGREE.

IT'S A DITCH SURROUNDED BY LAKES. YOU WANT

Please refer turn over for more questions!

TO SWIM, FISH, KAYAK, ETC, USE A LAKE!!

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

5) Is there anything else you feel we need to consider for project planning or our environmental assessment?

_____

_____

_____

_____

6) What topics would you like to hear more about at the next open house?

☐ Environmental Assessment
☑ Engineering, Structures and Design
☐ Indigenous and Public Consultation
☐ Other: _____

7) How would you like to be notified about the project?

☐ Social Media (Twitter, Facebook)
☐ Regular website updates
☑ Email
☐ Correspondence by mail
☐ Other: _____

8) Which of the following best describes your relation to the region? (Optional)

☑ Affected landowner or permanent local resident
☐ Interested member of the public
☐ Indigenous
☐ Other: _____
☐ Seasonal resident or cottage owner
☐ Resource user (camping, hunting, fishing or other recreational activities)

9) Please leave your name and contact information and it will be added to our mailing list. This information will remain confidential and will not be shared to a third party without your consent, unless we are required or authorized to do so by law or other regulation.

Name (please print) _____
Address _____
Phone Number _____
Email _____
Postal Code _____

[redacted]

Thank You!

If you would like to submit your questionnaire to us by mail, please send it to:

C/O Lake Manitoba and Lake St. Martin Outlet Channels Project
Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB, R3C 0R8

Project Website- www.gov.mb.ca/mit/wms/lmblsmoutlets/

June 2018

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

Your feedback and input is important to us. Please complete this questionnaire and leave it at the Open House, mail it in to the address below or complete it online at www.surveymonkey.com/r/QLRQ622

Please select the most appropriate answer available and provide additional comment where space is provided.

1) Was enough information provided at the Open House for you to understand the Project?

☐ Yes ☑ No ☐ Undecided

If not, what additional information would you like to see?

I would like to have Environment Canada + Fisheries + Oceans quantify the net present value of preserving that tiny strip of wetlands to society when we have vast wetlands here in Canada.

2) Preliminary Valued Components were presented at the open house and can be found on the Project website (www.gov.mb.ca/mit/wms/lmblsmoutlets/). Are the Valued Components sufficient for assessing potential project effects on environmental features in the area?

☐ Yes ☑ No ☐ Undecided

If not, what changes would you like to see made to Valued Components?

Value placed on food production coming from the farmland expropriated. As food producers and agrologists we take our profession seriously in providing the people of the world with food, fibre + fuel. Taking farmland away from food producers to protect aquatic life + swamps is just wrong when people starve in this world every day. Manitoba has >100,000 lakes + more swamps. It's time to be realistic in our expectations on preservation of the environment

3) Do you think the spatial boundaries presented at the open house are appropriate to assess potential adverse environmental effects of the project?

☐ Yes ☐ No ☐ Undecided

If not, please explain why:

The channels should be constructed on the lowest land.

4) Primarily for safety reasons and to limit adverse environmental impacts, restrictions to some land use activities are proposed, such as access, grazing/haying, fishing on the Lake Manitoba Outlet Channel Right-of-Way. Do you agree with this proposal?

☐ Yes ☑ No ☐ Undecided

If not, please explain why:

It's public land and the public should have access

There are lots of dangers in and on other public lands.

Please refer turn over for more questions!

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

5) Is there anything else you feel we need to consider for project planning or our environmental assessment?

You need to help the farmers in the area with their drainage issues because you are disrupting lives + farms and making it more costly and inconvenient to farm + live in the area.

6) What topics would you like to hear more about at the next open house?

- ☐ Environmental Assessment
- ☐ Engineering, Structures and Design
- ☐ Indigenous and Public Consultation
- ☑ Other: How Environment Canada and Fisheries + Oceans are becoming realistic.

7) How would you like to be notified about the project?

- ☐ Social Media (Twitter, Facebook)
- ☐ Regular website updates
- ☐ Other: _____
- ☑ Email
- ☐ Correspondence by mail

8) Which of the following best describes your relation to the region? (Optional)

- ☑ Affected landowner or permanent local resident
- ☐ Interested member of the public
- ☐ Indigenous
- ☐ Other: _____
- ☐ Seasonal resident or cottage owner
- ☐ Resource user (camping, hunting, fishing or other recreational activities)

9) Please leave your name and contact information and it will be added to our mailing list. This information will remain confidential and will not be shared to a third party without your consent, unless we are required or authorized to do so by law or other regulation.

Name (please print) [redacted]
Address
Phone Number
Email
Postal Code

Thank You!

If you would like to submit your questionnaire to us by mail, please send it to:

C/O Lake Manitoba and Lake St. Martin Outlet Channels Project
Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB, R3C 0R8

Project Website- www.gov.mb.ca/mit/wms/lmblsmoutlets/

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

Your feedback and input is important to us. Please complete this questionnaire and leave it at the Open House, mail it in to the address below or complete it online at www.surveymonkey.com/r/QLRQ622

Please select the most appropriate answer available and provide additional comment where space is provided.

1) Was enough information provided at the Open House for you to understand the Project?

☑ Yes ☐ No ☐ Undecided

If not, what additional information would you like to see?

2) Preliminary Valued Components were presented at the open house and can be found on the Project website (www.gov.mb.ca/mit/wms/lmblsmoutlets/). Are the Valued Components sufficient for assessing potential project effects on environmental features in the area?

☑ Yes ☐ No ☐ Undecided

If not, what changes would you like to see made to Valued Components?

3) Do you think the spatial boundaries presented at the open house are appropriate to assess potential adverse environmental effects of the project?

☑ Yes ☐ No ☐ Undecided

If not, please explain why:

4) Primarily for safety reasons and to limit adverse environmental impacts, restrictions to some land use activities are proposed, such as access, grazing/haying, fishing on the Lake Manitoba Outlet Channel Right-of-Way. Do you agree with this proposal?

☑ Yes ☐ No ☐ Undecided

If not, please explain why:

Please refer turn over for more questions!

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

5) Is there anything else you feel we need to consider for project planning or our environmental assessment?

_____

_____

_____

_____

6) What topics would you like to hear more about at the next open house?

☐ Environmental Assessment
☑ Engineering, Structures and Design
☐ Indigenous and Public Consultation
☐ Other: _____

7) How would you like to be notified about the project?

☑ Social Media (Twitter, Facebook)
☐ Regular website updates
☐ Other: _____
☑ Email
☐ Correspondence by mail

8) Which of the following best describes your relation to the region? (Optional)

☑ Affected landowner or permanent local resident
☐ Interested member of the public
☐ Indigenous
☐ Other: _____
☑ Seasonal resident or cottage owner
☐ Resource user (camping, hunting, fishing or other recreational activities)

9) Please leave your name and contact information and it will be added to our mailing list. This information will remain confidential and will not be shared to a third party without your consent, unless we are required or authorized to do so by law or other regulation.

Name (please print) _____
Address _____
Phone Number _____
Email _____
Postal Code _____

[redacted]

Thank You!

If you would like to submit your questionnaire to us by mail, please send it to:

C/O Lake Manitoba and Lake St. Martin Outlet Channels Project
Manitoba infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB, R3C 0R8

Project Website- www.gov.mb.ca/mit/wms/lmlslmoutlets/

June 2018

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

Your feedback and input is important to us. Please complete this questionnaire and leave it at the Open House, mail it in to the address below or complete it online at www.surveymonkey.com/r/QLRQ622

Please select the most appropriate answer available and provide additional comment where space is provided.

1) Was enough information provided at the Open House for you to understand the Project?

☒ Yes ☐ No ☐ Undecided

If not, what additional information would you like to see?

2) Preliminary Valued Components were presented at the open house and can be found on the Project website (www.gov.mb.ca/mit/wms/lmblsmoutlets/). Are the Valued Components sufficient for assessing potential project effects on environmental features in the area?

☒ Yes ☐ No ☐ Undecided

If not, what changes would you like to see made to Valued Components?

3) Do you think the spatial boundaries presented at the open house are appropriate to assess potential adverse environmental effects of the project?

☒ Yes ☐ No ☐ Undecided

If not, please explain why:

4) Primarily for safety reasons and to limit adverse environmental impacts, restrictions to some land use activities are proposed, such as access, grazing/haying, fishing on the Lake Manitoba Outlet Channel Right-of-Way. Do you agree with this proposal?

☒ Yes ☐ No ☐ Undecided

If not, please explain why:

Please refer turn over for more questions!

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

5) Is there anything else you feel we need to consider for project planning or our environmental assessment?

The impact on the enviroment around Lake Manitoba when flooding occurs. With the timeline there is good chance another flood will happen before the project is completed. The environmental damage cause by using the Portage Diversion

6) What topics would you like to hear more about at the next open house?

- ☐ Environmental Assessment
- ☐ Engineering, Structures and Design
- ☐ Indigenous and Public Consultation
- ☑ Other: OPERATION RULES, POSSIBLE USE of outlets to prevent highwater prior to flooding

7) How would you like to be notified about the project?

- ☐ Social Media (Twitter, Facebook)
- ☐ Email
- ☒ Regular website updates
- ☐ Correspondence by mail
- ☐ Other: _____

8) Which of the following best describes your relation to the region? (Optional)

- ☒ Affected landowner or permanent local resident
- ☐ Seasonal resident or cottage owner
- ☐ Interested member of the public
- ☐ Resource user (camping, hunting, fishing or other recreational activities)
- ☐ Indigenous
- ☐ Other: _____

9) Please leave your name and contact information and it will be added to our mailing list. This information will remain confidential and will not be shared to a third party without your consent, unless we are required or authorized to do so by law or other regulation.

Name (please print) [redacted]
Address
Phone Number
Email
Postal Code

Thank You!

If you would like to submit your questionnaire to us by mail, please send it to:

C/O Lake Manitoba and Lake St. Martin Outlet Channels Project
Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB, R3C 0R8

Project Website- www.gov.mb.ca/mit/wms/lmblsmoutlets/

Portage

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

Your feedback and input is important to us. Please complete this questionnaire and leave it at the Open House, mail it in to the address below or complete it online at www.surveymonkey.com/r/QLRQ622

Please select the most appropriate answer available and provide additional comment where space is provided.

1) Was enough information provided at the Open House for you to understand the Project?

☒ Yes ☐ No ☐ Undecided

If not, what additional information would you like to see?

2) Preliminary Valued Components were presented at the open house and can be found on the Project website (www.gov.mb.ca/mit/wms/lmblsmoutlets/). Are the Valued Components sufficient for assessing potential project effects on environmental features in the area?

☐ Yes ☐ No ☑ Undecided

If not, what changes would you like to see made to Valued Components?

3) Do you think the spatial boundaries presented at the open house are appropriate to assess potential adverse environmental effects of the project?

☒ Yes ☐ No ☐ Undecided

If not, please explain why:

4) Primarily for safety reasons and to limit adverse environmental impacts, restrictions to some land use activities are proposed, such as access, grazing/haying, fishing on the Lake Manitoba Outlet Channel Right-of-Way. Do you agree with this proposal?

☐ Yes ☒ No ☐ Undecided

If not, please explain why:

I think there should be haying allowed, otherwise a lot of good land will be wasted

Please refer turn over for more questions!

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

5) Is there anything else you feel we need to consider for project planning or our environmental assessment?

Migratory Birds / Zebra Mussels

6) What topics would you like to hear more about at the next open house?

- ☐ Environmental Assessment
- ☐ Engineering, Structures and Design
- ☒ Indigenous and Public Consultation
- ☐ Other: _____

7) How would you like to be notified about the project?

- ☒ Social Media (Twitter, Facebook)
- ☐ Regular website updates
- ☐ Email
- ☐ Correspondence by mail
- ☐ Other: _____

8) Which of the following best describes your relation to the region? (Optional)

- ☒ Affected landowner or permanent local resident
- ☐ Interested member of the public
- ☒ Indigenous
- ☐ Other: _____
- ☐ Seasonal resident or cottage owner
- ☒ Resource user (camping, hunting, fishing or other recreational activities)

9) Please leave your name and contact information and it will be added to our mailing list. This information will remain confidential and will not be shared to a third party without your consent, unless we are required or authorized to do so by law or other regulation.

Name (please print) [redacted]
Address
Phone Number
Email
Postal Code

Thank You!

If you would like to submit your questionnaire to us by mail, please send it to:

C/O Lake Manitoba and Lake St. Martin Outlet Channels Project
Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB, R3C 0R8

Project Website- www.gov.mb.ca/mit/wms/lmblsmoutlets/

June 2018

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

Your feedback and input is important to us. Please complete this questionnaire and leave it at the Open House, mail it in to the address below or complete it online at www.surveymonkey.com/r/QLRQ622

Please select the most appropriate answer available and provide additional comment where space is provided.

1) Was enough information provided at the Open House for you to understand the Project?

☐ Yes ☐ No ☑ Undecided

If not, what additional information would you like to see?

I couldn't hear

2) Preliminary Valued Components were presented at the open house and can be found on the Project website (www.gov.mb.ca/mit/wms/lmblsmoutlets/). Are the Valued Components sufficient for assessing potential project effects on environmental features in the area?

☐ Yes ☐ No ☐ Undecided

If not, what changes would you like to see made to Valued Components?

3) Do you think the spatial boundaries presented at the open house are appropriate to assess potential adverse environmental effects of the project?

☐ Yes ☐ No ☐ Undecided

If not, please explain why:

4) Primarily for safety reasons and to limit adverse environmental impacts, restrictions to some land use activities are proposed, such as access, grazing/haying, fishing on the Lake Manitoba Outlet Channel Right-of-Way. Do you agree with this proposal?

☑ Yes ☐ No ☐ Undecided

If not, please explain why:

Please refer turn over for more questions!

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

5) Is there anything else you feel we need to consider for project planning or our environmental assessment?

I don't think the ~~outlet~~ channel should be open from Lake Manitoba all the way to the outlet

Imagine how much water will be drained from Lake Manitoba. The lake is low already thus you

6) What topics would you like to hear more about at the next open house?

- ☐ Environmental Assessment
- ☐ Engineering, Structures and Design
- ☐ Indigenous and Public Consultation
- ☐ Other: _____

7) How would you like to be notified about the project?

- ☐ Social Media (Twitter, Facebook)
- ☑ Email
- ☐ Regular website updates
- ☐ Correspondence by mail
- ☐ Other: daskenelik@mymts.net

8) Which of the following best describes your relation to the region? (Optional)

- ☑ Affected landowner or permanent local resident
- ☑ Seasonal resident or cottage owner
- ☐ Interested member of the public
- ☐ Resource user (camping, hunting, fishing or other recreational activities)
- ☐ Indigenous
- ☐ Other: _____

9) Please leave your name and contact information and it will be added to our mailing list. This information will remain confidential and will not be shared to a third party without your consent, unless we are required or authorized to do so by law or other regulation.

Name (please print) [redacted]
Address
Phone Number
Email
Postal Code

LOT 1 - South Laurentia Beach

Thank You!

If you would like to submit your questionnaire to us by mail, please send it to:

C/O Lake Manitoba and Lake St. Martin Outlet Channels Project
Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB, R3C 0R8

Project Website- www.gov.mb.ca/mit/wms/lmblsmoutlets/

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

Your feedback and input is important to us. Please complete this questionnaire and leave it at the Open House, mail it in to the address below or complete it online at www.surveymonkey.com/r/QLRQ622

Please select the most appropriate answer available and provide additional comment where space is provided.

1) Was enough information provided at the Open House for you to understand the Project?

☑ Yes ☐ No ☐ Undecided

If not, what additional information would you like to see?

2) Preliminary Valued Components were presented at the open house and can be found on the Project website (www.gov.mb.ca/mit/wms/lmblsmoutlets/). Are the Valued Components sufficient for assessing potential project effects on environmental features in the area?

☑ Yes ☐ No ☐ Undecided

If not, what changes would you like to see made to Valued Components?

3) Do you think the spatial boundaries presented at the open house are appropriate to assess potential adverse environmental effects of the project?

☑ Yes ☐ No ☐ Undecided

If not, please explain why:

4) Primarily for safety reasons and to limit adverse environmental impacts, restrictions to some land use activities are proposed, such as access, grazing/haying, fishing on the Lake Manitoba Outlet Channel Right-of-Way. Do you agree with this proposal?

☑ Yes ☐ No ☐ Undecided

If not, please explain why:

Local residents will want more study re effects + access

Please refer turn over for more questions!

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

5) Is there anything else you feel we need to consider for project planning or our environmental assessment?

6) What topics would you like to hear more about at the next open house?

- ☐ Environmental Assessment
- ☑ Engineering, Structures and Design
- ☐ Indigenous and Public Consultation
- ☐ Other: _____

7) How would you like to be notified about the project?

- ☐ Social Media (Twitter, Facebook)
- ☑ Regular website updates
- ☐ Email
- ☐ Correspondence by mail
- ☐ Other: _____

8) Which of the following best describes your relation to the region? (Optional)

- ☐ Affected landowner or permanent local resident
- ☐ Interested member of the public
- ☐ Indigenous
- ☑ Seasonal resident or cottage owner
- ☐ Resource user (camping, hunting, fishing or other recreational activities)
- ☐ Other: _____

9) Please leave your name and contact information and it will be added to our mailing list. This information will remain confidential and will not be shared to a third party without your consent, unless we are required or authorized to do so by law or other regulation.

Name (please print) [redacted]
Address
Phone Number
Email
Postal Code

Thank You!

If you would like to submit your questionnaire to us by mail, please send it to:

C/O Lake Manitoba and Lake St. Martin Outlet Channels Project
Manitoba infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB, R3C 0R8

Project Website- www.gov.mb.ca/mit/wms/lmblsmoutlets/

June 2018

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

Your feedback and input is important to us. Please complete this questionnaire and leave it at the Open House, mail it in to the address below or complete it online at www.surveymonkey.com/r/QLRQ622

Please select the most appropriate answer available and provide additional comment where space is provided.

1) Was enough information provided at the Open House for you to understand the Project?

☑ Yes ☐ No ☐ Undecided

If not, what additional information would you like to see?

2) Preliminary Valued Components were presented at the open house and can be found on the Project website (www.gov.mb.ca/mit/wms/lmblsmoutlets/). Are the Valued Components sufficient for assessing potential project effects on environmental features in the area?

☑ Yes ☐ No ☐ Undecided

If not, what changes would you like to see made to Valued Components?

3) Do you think the spatial boundaries presented at the open house are appropriate to assess potential adverse environmental effects of the project?

☑ Yes ☐ No ☐ Undecided

If not, please explain why:

4) Primarily for safety reasons and to limit adverse environmental impacts, restrictions to some land use activities are proposed, such as access, grazing/haying, fishing on the Lake Manitoba Outlet Channel Right-of-Way. Do you agree with this proposal?

☑ Yes ☐ No ☐ Undecided

If not, please explain why:

Please refer turn over for more questions!

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

5) Is there anything else you feel we need to consider for project planning or our environmental assessment?

WHAT SHORELINE PROTECTION IS AVAILABLE FOR PRESENT HOME OWNERS AT TWIN LAKES BEACH AREA. IF GEO-TUBES ARE REMOVED?

6) What topics would you like to hear more about at the next open house?

- ☐ Environmental Assessment
- ☐ Engineering, Structures and Design
- ☐ Indigenous and Public Consultation
- ☐ Other: SHORE LINE PROTECTION.

7) How would you like to be notified about the project?

- ☐ Social Media (Twitter, Facebook)
- ☑ Email
- ☐ Regular website updates
- ☐ Correspondence by mail
- ☐ Other: _____

8) Which of the following best describes your relation to the region? (Optional)

- ☑ Affected landowner or permanent local resident
- ☐ Interested member of the public
- ☐ Indigenous
- ☐ Seasonal resident or cottage owner
- ☐ Resource user (camping, hunting, fishing or other recreational activities)
- ☐ Other: _____

9) Please leave your name and contact information and it will be added to our mailing list. This information will remain confidential and will not be shared to a third party without your consent, unless we are required or authorized to do so by law or other regulation.

Name (please print) [redacted]
Address
Phone Number
Email
Postal Code

Thank You!

If you would like to submit your questionnaire to us by mail, please send it to:

C/O Lake Manitoba and Lake St. Martin Outlet Channels Project
Manitoba infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB, R3C 0R8

Project Website- www.gov.mb.ca/mit/wms/lmblsmoutlets/

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

Your feedback and input is important to us. Please complete this questionnaire and leave it at the Open House, mail it in to the address below or complete it online at www.surveymonkey.com/r/QLRQ622

Please select the most appropriate answer available and provide additional comment where space is provided.

1) Was enough information provided at the Open House for you to understand the Project?

☑ Yes ☐ No ☐ Undecided

If not, what additional information would you like to see?

much more user-friendly & inviting - today had less techno-babble and more plain speak: increased trust in process!

2) Preliminary Valued Components were presented at the open house and can be found on the Project website (www.gov.mb.ca/mit/wms/lmblsmoutlets/). Are the Valued Components sufficient for assessing potential project effects on environmental features in the area?

☐ Yes ☑ No ☐ Undecided

If not, what changes would you like to see made to Valued Components?

3) Do you think the spatial boundaries presented at the open house are appropriate to assess potential adverse environmental effects of the project?

☐ Yes ☑ No ☐ Undecided

If not, please explain why:

we verbally discussed to add:
1) Portage Diversion operation
2) wild life protection - area is larger than shown

4) Primarily for safety reasons and to limit adverse environmental impacts, restrictions to some land use activities are proposed, such as access, grazing/haying, fishing on the Lake Manitoba Outlet Channel Right-of-Way. Do you agree with this proposal?

☑ Yes ☐ No ☐ Undecided

If not, please explain why:

IF you give a reasoned / reasonable set of explanations most people will abide the rules
IF NOT - they will ignore and do what they want.

Please refer turn over for more questions!

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

5) Is there anything else you feel we need to consider for project planning or our environmental assessment?

the Fear Factor for those of us who survived the 2011 flood event are still High ↑ we lost loved ones, beloved plants (trees) and our homes / $$$: much is not replaced! some is irreplaceable!!

6) What topics would you like to hear more about at the next open house?

- ☐ Environmental Assessment
- ☑ Engineering, Structures and Design
- ☐ Indigenous and Public Consultation
- ☑ Other: end date / be very sensitive in planning release of $$ for future delay - it has been dedicated now be pro-active in having it released for use ON TIME!

7) How would you like to be notified about the project?

- ☐ Social Media (Twitter, Facebook)
- ☑ Email
- ☐ Regular website updates
- ☐ Correspondence by mail
- ☐ Other: _____

8) Which of the following best describes your relation to the region? (Optional)

- ☑ Affected landowner or permanent local resident
- ☐ Interested member of the public
- ☐ Indigenous
- ☐ Seasonal resident or cottage owner
- ☐ Resource user (camping, hunting, fishing or other recreational activities)
- ☐ Other: _____

9) Please leave your name and contact information and it will be added to our mailing list. This information will remain confidential and will not be shared to a third party without your consent, unless we are required or authorized to do so by law or other regulation.

Name (please print) [redacted]
Address
Phone Number
Email
Postal Code

Thank You!

If you would like to submit your questionnaire to us by mail, please send it to:

C/O Lake Manitoba and Lake St. Martin Outlet Channels Project
Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB, R3C 0R8

Project Website- www.gov.mb.ca/mit/wms/lmblsmoutlets/

June 2018

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

Your feedback and input is important to us. Please complete this questionnaire and leave it at the Open House, mail it in to the address below or complete it online at www.surveymonkey.com/r/QLRQ622

Please select the most appropriate answer available and provide additional comment where space is provided.

1) Was enough information provided at the Open House for you to understand the Project?

☑ Yes ☐ No ☐ Undecided

If not, what additional information would you like to see?

2) Preliminary Valued Components were presented at the open house and can be found on the Project website (www.gov.mb.ca/mit/wms/lmblsmoutlets/). Are the Valued Components sufficient for assessing potential project effects on environmental features in the area?

☐ Yes ☐ No ☑ Undecided

If not, what changes would you like to see made to Valued Components?

3) Do you think the spatial boundaries presented at the open house are appropriate to assess potential adverse environmental effects of the project?

☑ Yes ☐ No ☐ Undecided

If not, please explain why:

4) Primarily for safety reasons and to limit adverse environmental impacts, restrictions to some land use activities are proposed, such as access, grazing/haying, fishing on the Lake Manitoba Outlet Channel Right-of-Way. Do you agree with this proposal?

☑ Yes ☐ No ☐ Undecided

If not, please explain why:

Please refer turn over for more questions!

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

5) Is there anything else you feel we need to consider for project planning or our environmental assessment?

_____

_____

_____

_____

6) What topics would you like to hear more about at the next open house?

☐ Environmental Assessment
☑ Engineering, Structures and Design
☐ Indigenous and Public Consultation
☐ Other: _____

7) How would you like to be notified about the project?

☐ Social Media (Twitter, Facebook)
☐ Regular website updates
☑ Email
☐ Correspondence by mail
☐ Other: _____

8) Which of the following best describes your relation to the region? (Optional)

☑ Affected landowner or permanent local resident
☐ Interested member of the public
☐ Indigenous
☐ Seasonal resident or cottage owner
☐ Resource user (camping, hunting, fishing or other recreational activities)
☐ Other: _____

9) Please leave your name and contact information and it will be added to our mailing list. This information will remain confidential and will not be shared to a third party without your consent, unless we are required or authorized to do so by law or other regulation.

Name (please print) _____ [redacted]
Address _____
Phone Number _____
Email _____
Postal Code _____

Thank You!

If you would like to submit your questionnaire to us by mail, please send it to:

C/O Lake Manitoba and Lake St. Martin Outlet Channels Project
Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB, R3C 0R8

Project Website- www.gov.mb.ca/mit/wms/lmblsmoutlets/

June 2018

WPG June 27

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

Your feedback and input is important to us. Please complete this questionnaire and leave it at the Open House, mail it in to the address below or complete it online at www.surveymonkey.com/r/QLRQ622

Please select the most appropriate answer available and provide additional comment where space is provided.

1) Was enough information provided at the Open House for you to understand the Project?

☒ Yes ☐ No ☐ Undecided

If not, what additional information would you like to see?

2) Preliminary Valued Components were presented at the open house and can be found on the Project website (www.gov.mb.ca/mit/wms/lmblsmoutlets/). Are the Valued Components sufficient for assessing potential project effects on environmental features in the area?

☒ Yes ☐ No ☐ Undecided

If not, what changes would you like to see made to Valued Components?

3) Do you think the spatial boundaries presented at the open house are appropriate to assess potential adverse environmental effects of the project?

☒ Yes ☐ No ☐ Undecided

If not, please explain why:

4) Primarily for safety reasons and to limit adverse environmental impacts, restrictions to some land use activities are proposed, such as access, grazing/haying, fishing on the Lake Manitoba Outlet Channel Right-of-Way. Do you agree with this proposal?

☒ Yes ☐ No ☐ Undecided

If not, please explain why:

Please refer turn over for more questions!

Share Your Thoughts

Lake Manitoba & Lake St. Martin Outlet Channels

5) Is there anything else you feel we need to consider for project planning or our environmental assessment?

6) What topics would you like to hear more about at the next open house?

- ☒ Environmental Assessment
- ☒ Engineering, Structures and Design
- ☒ Indigenous and Public Consultation
- ☐ Other: _____

7) How would you like to be notified about the project?

- ☐ Social Media (Twitter, Facebook)
- ☐ Regular website updates
- ☒ Other: newspaper
- ☐ Email
- ☐ Correspondence by mail

8) Which of the following best describes your relation to the region? (Optional)

- ☐ Affected landowner or permanent local resident
- ☐ Interested member of the public
- ☐ Indigenous
- ☐ Other: _____
- ☒ Seasonal resident or cottage owner
- ☐ Resource user (camping, hunting, fishing or other recreational activities)

9) Please leave your name and contact information and it will be added to our mailing list. This information will remain confidential and will not be shared to a third party without your consent, unless we are required or authorized to do so by law or other regulation.

Name (please print) [redacted]
Address
Phone Number
Email
Postal Code

Thank You!

If you would like to submit your questionnaire to us by mail, please send it to:

C/O Lake Manitoba and Lake St. Martin Outlet Channels Project
Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB, R3C 0R8

Project Website- www.gov.mb.ca/mit/wms/lmblsmoutlets/

OPEN HOUSE

Share Your Views

concerning the proposed construction of the Lake Manitoba and Lake St. Martin outlet channels project

You are invited to share your views concerning the proposed construction of the Lake Manitoba and Lake St. Martin outlet channel at open houses hosted by Manitoba Infrastructure.

Topics presented will include the channel environmental authorizations, engineering design and construction, as well as the next steps in the delivery of this major flood infrastructure project.

The open houses will be held in the following locations:

Location: **Canad Inns Destination Centre Fort Garry**
1824 Pembina Highway, Winnipeg
Date: **Tuesday, June 25, 2019**
Time: **2 p.m. to 5 p.m. and 6 p.m. to 8 p.m.**

Location: **Moosehorn**
Moosehorn Community Hall, Railway Avenue
Date: **Thursday, June 27, 2019**
Time: **2 p.m. to 5 p.m. and 6 p.m. to 8 p.m.**

For more information, please contact:
Coenraad Fourie at 204-573-4191 or
Coenraad.Fourie@gov.mb.ca.

Manitoba

Open House Materials 5B4
Round Four

Lake Manitoba and Lake St. Martin Outlet Channels Project



Open House Materials 5B4
Round Four

The Manitoba government has proposed building permanent outlet channels as part of Manitoba's system of flood mitigation infrastructure in the Lake Manitoba and Lake St. Martin areas.

Public open houses have been scheduled to hear feedback on the project. Team members from Manitoba Infrastructure and Stantec will be present to answer questions and document feedback.

Open houses run at the following locations:

WINNIPEG
Canad Inns Destination Centre Fort Garry
1824 Pembina Highway | Date: Tuesday, June 25, 2019
2:00-5:00 pm | 6:00-8:00 pm

MOOSEHORN
Moosehorn Community Hall
Railway Avenue | Date: Thursday, June 27, 2019
2:00-5:00 pm | 6:00-8:00 pm

For questions about the event or project please contact:
Coenraad Fourie | Manitoba Infrastructure
Coenraad.Fourie@gov.mb.ca | T: 204-573-4191

Manitoba



WELCOME

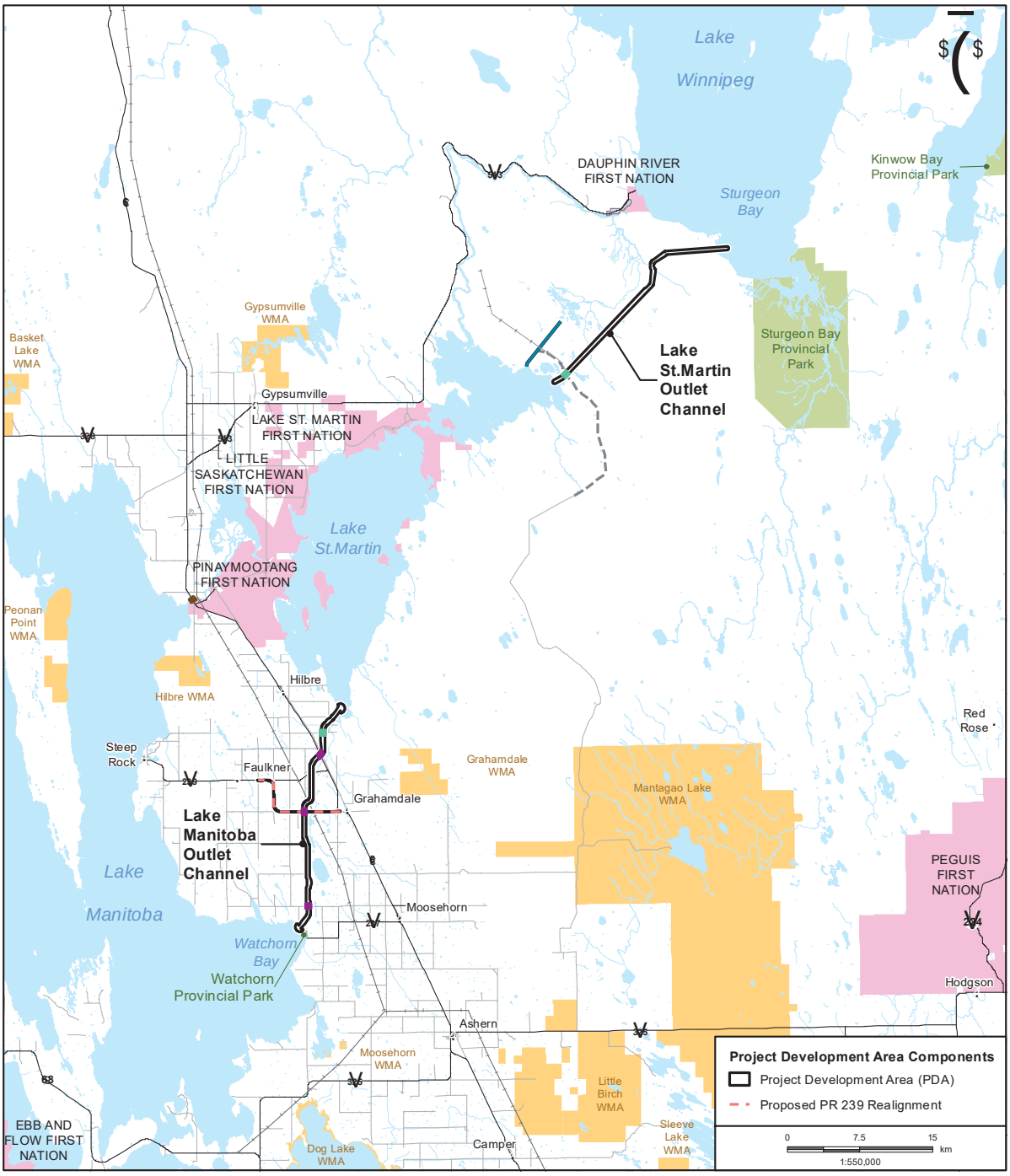
Lake Manitoba
and
Lake St. Martin
Outlet Channels Project

OPEN HOUSE






PROJECT OVERVIEW



Legend

- Fairford Water Control Structure
- Proposed Bridge
- Proposed Water Control Structure
- Lake St.Martin Emergency Outlet Channel (Reach 1)
- Reach 1 Access Road
- Proposed Transmission Line
- Existing Transmission Line
- Provincial Highway (PTH/PR)
- Municipal Roads
- Northern Affairs Communities (NAC)
- First Nation
- Wildlife Management Areas
- Provincial Parks

PROJECT DESCRIPTION

The purpose of this project is to mitigate flooding on Lake Manitoba and Lake St. Martin.

Project components:

- Diversion channels
  - Lake Manitoba Outlet Channel
  - Lake St. Martin Outlet Channel
- Channel inlets and outlets
- Drop structures
- Water control structures
- Bridges, including combined bridges and water control structures
- Road works including, re-alignment and/or construction of provincial highways and roads and municipal roads that are incidental to the project
- Repurposing of a portion of the unused Reach 3 of the existing Lake St. Martin Emergency Outlet Channel
- Associated Works and Activities (e.g., site clearing, excavation, waste disposal, dust control)

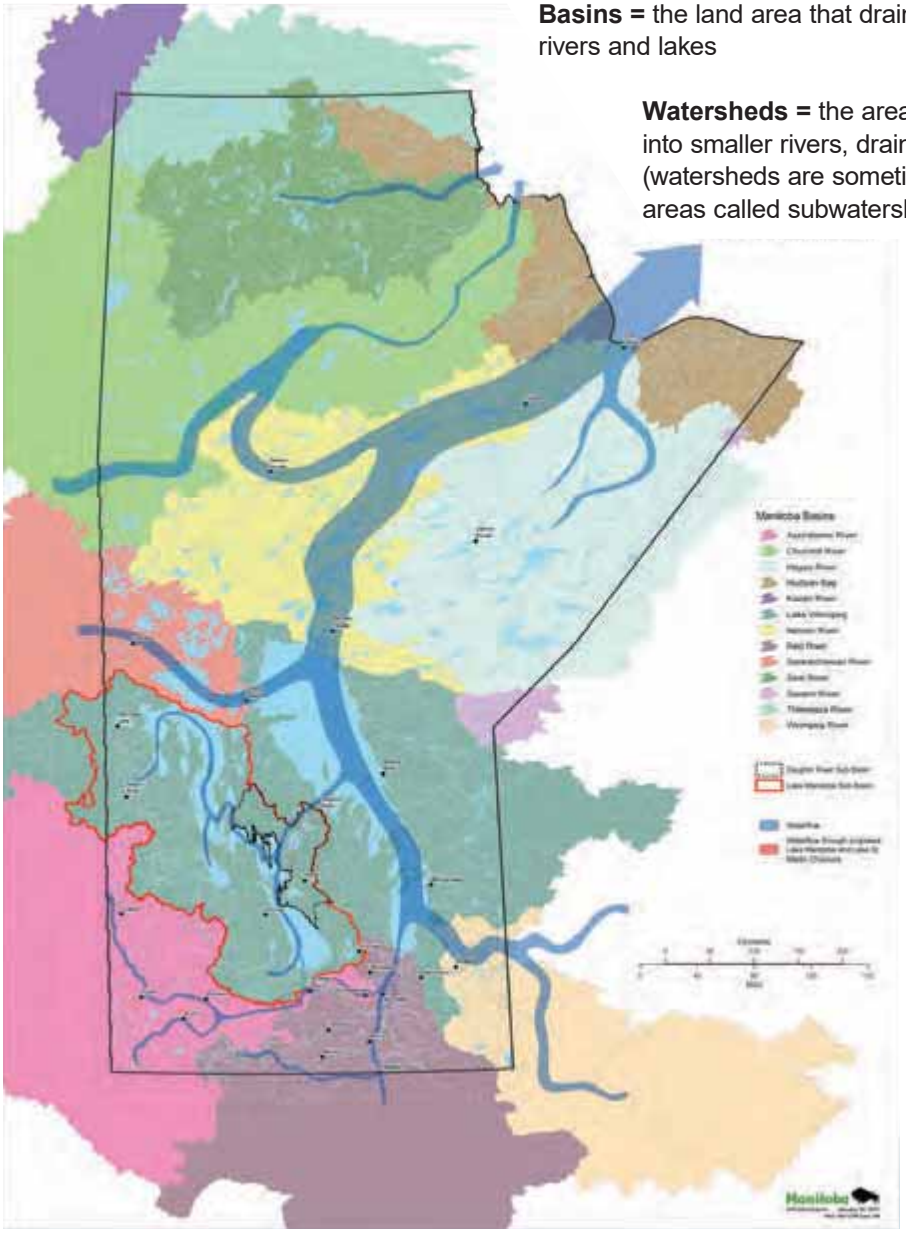
Diversion Channel Details

- Lake Manitoba Outlet Channel:
  - 24.1 kilometres long, 100 metres (328.1 feet) wide diversion channel in a 400 metres right-of-way
  - Combined bridge and water control structure at Iverson Road
  - Realignment and/or construction of Provincial Road 239 and related municipal roads
  - Three road bridge structures
  - Channel runs northwards from Watchorn Bay on Lake Manitoba to Birch Bay on Lake St. Martin
  - Channel Slopes:
    Between 5:1 and 6:1 (Horizontal : Vertical)
  - Depth of Excavation:
    8 – 13 metres
  - Maximum Flow Capacity: 212 metres^3/second
- Lake St. Martin Outlet Channel:
  - 23.8 kilometres long, 120 metres wide (393.7 feet) wide diversion channel in a 400 metres right-of-way
  - Combined bridge and water control structure
  - Multiple drop structures
  - Channel Slopes:
    4:1 (Horizontal : Vertical)
  - Depth of Excavation:
    6 – 10 metres
  - Maximum Flow Capacity: 326 metres^3/second

BASINS AND WATERSHEDS OF MANITOBA

Due to its geographic location and topography, many areas of Manitoba are susceptible to flooding. Water moves from the Rocky Mountains, northern United States and the boreal forest through Manitoba on the way to Hudson Bay. Manitoba's landscape was largely shaped by glacial processes and as a result, large portions of the province are relatively flat and subject to flooding during high run-off events.

While much of Manitoba is vulnerable, Manitobans are generally well protected due to investments in flood protection infrastructure from previous generations. The project will provide flood mitigation infrastructure to Lake Manitoba and Lake St. Martin, which remain vulnerable.

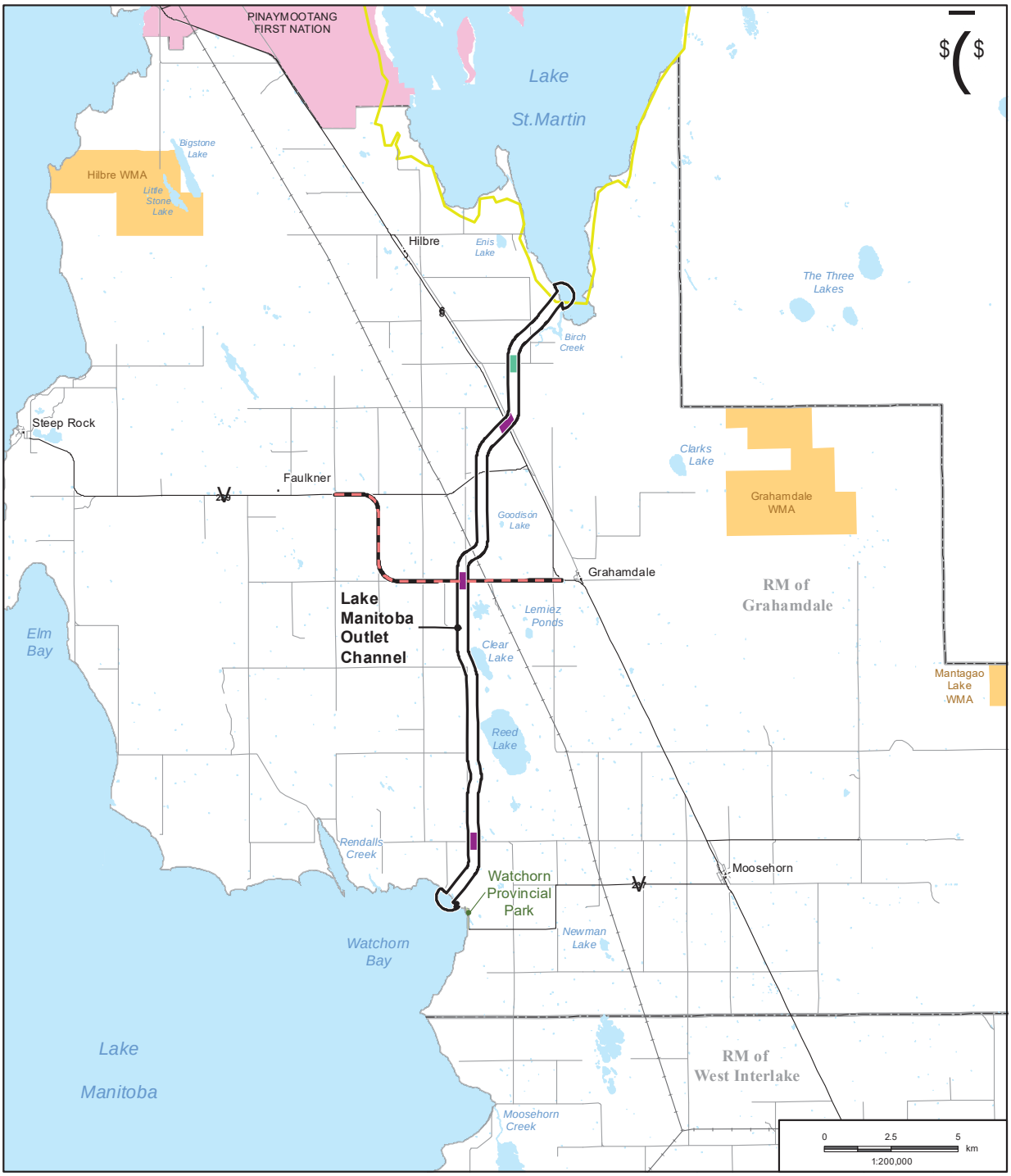


Basins = the land area that drains water into the larger rivers and lakes

Watersheds = the area of land that drains water into smaller rivers, drainage systems and lakes (watersheds are sometimes divided into smaller areas called subwatersheds)

Open House Materials 5B4
Round Four

PROPOSED LAKE MANITOBA OUTLET CHANNEL

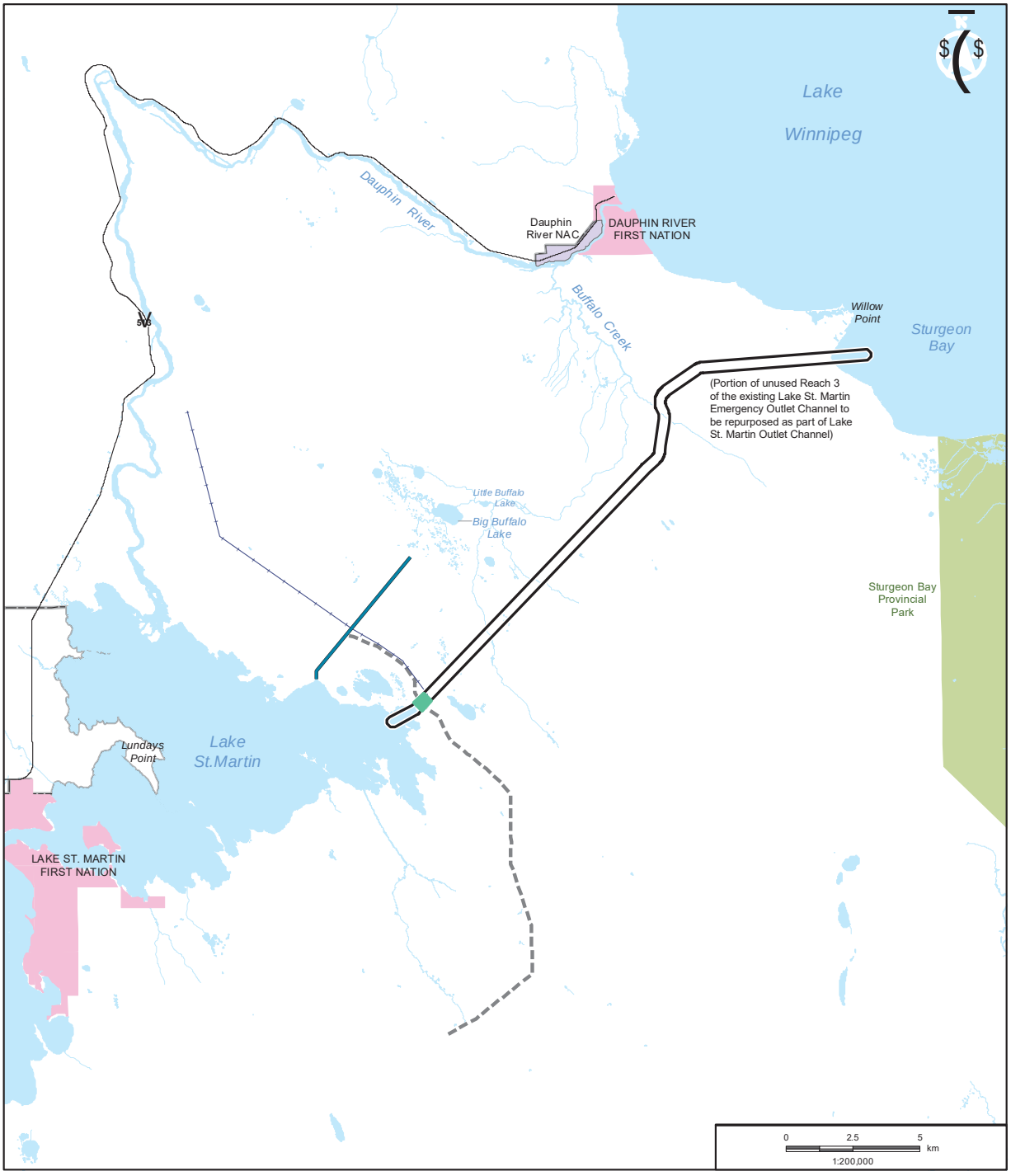


Legend

- Project Development Area
- Proposed PR 239 Realignment
- Proposed Bridge
- Proposed Water Control Structure
- Existing Transmission Line
- Provincial Highway (PTH/PR)
- Municipal Roads
- First Nation
- Wildlife Management Areas
- Provincial Parks
- Important Bird Areas
- Rural Municipality

Open House Materials 5B4
Round Four

PROPOSED LAKE ST. MARTIN OUTLET CHANNEL

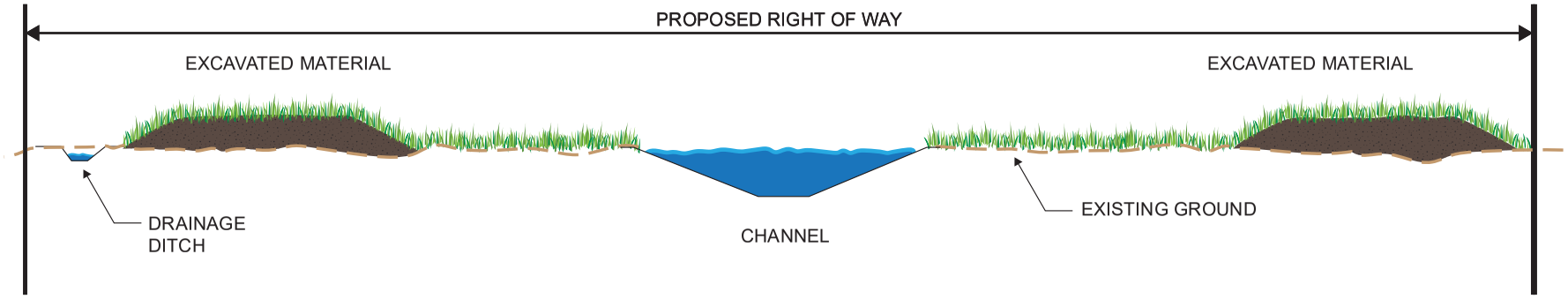


Legend

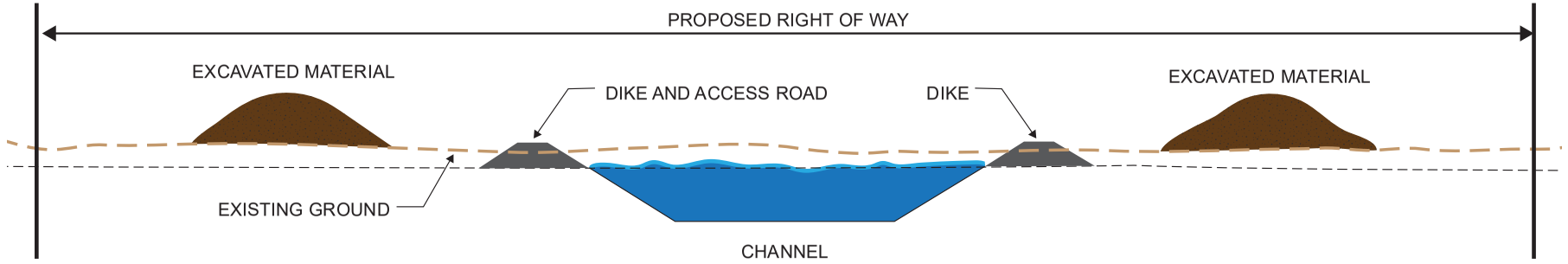
- Project Development Area
- Proposed Transmission Line
- Proposed Water Control Structure
- Lake St.Martin Emergency Outlet Channel (Reach 1)
- Lake St.Martin Channel Access Road
- Provincial Highway (PTH/PR)
- Northern Affairs Communities (NAC)
- First Nation
- Provincial Parks

OUTLET CHANNEL
CONCEPTUAL CROSS SECTION

Lake Manitoba Outlet Channel

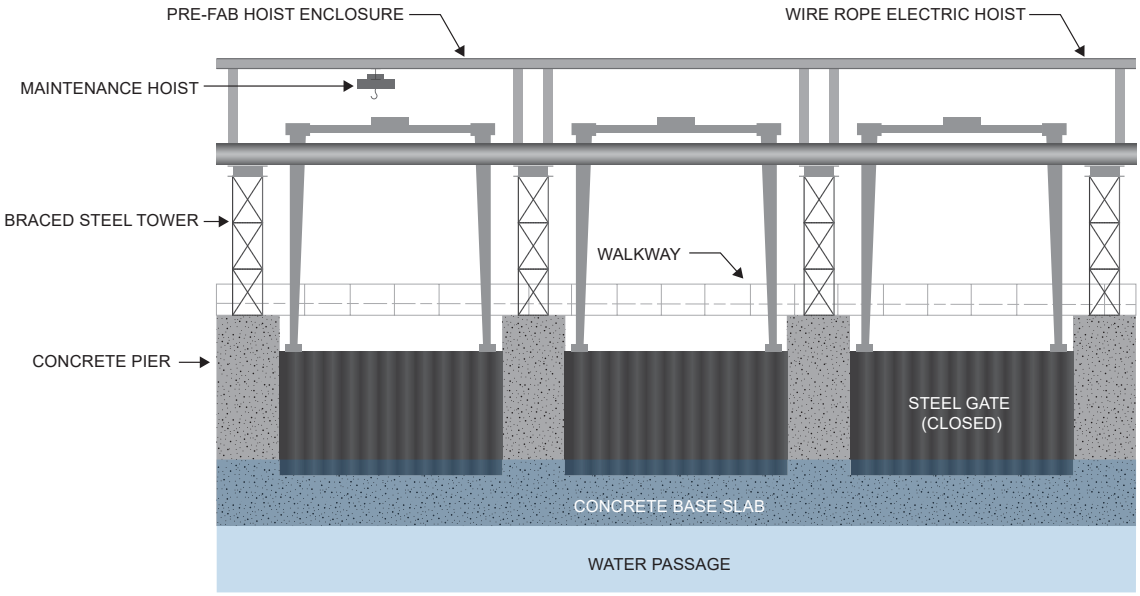


Lake St. Martin Outlet Channel

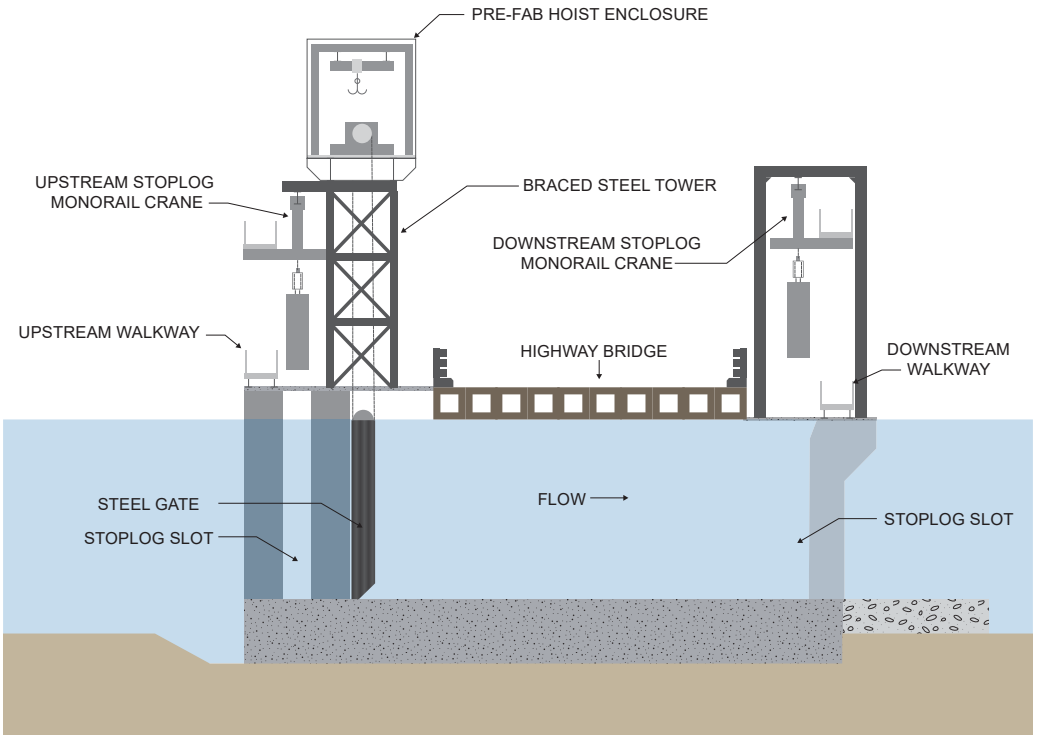


PROPOSED WATER CONTROL STRUCTURES: CONCEPTUAL DESIGN

Water Control Structure (Three Bay) Conceptual Cross Section



Water Control Structure Conceptual Side Profile

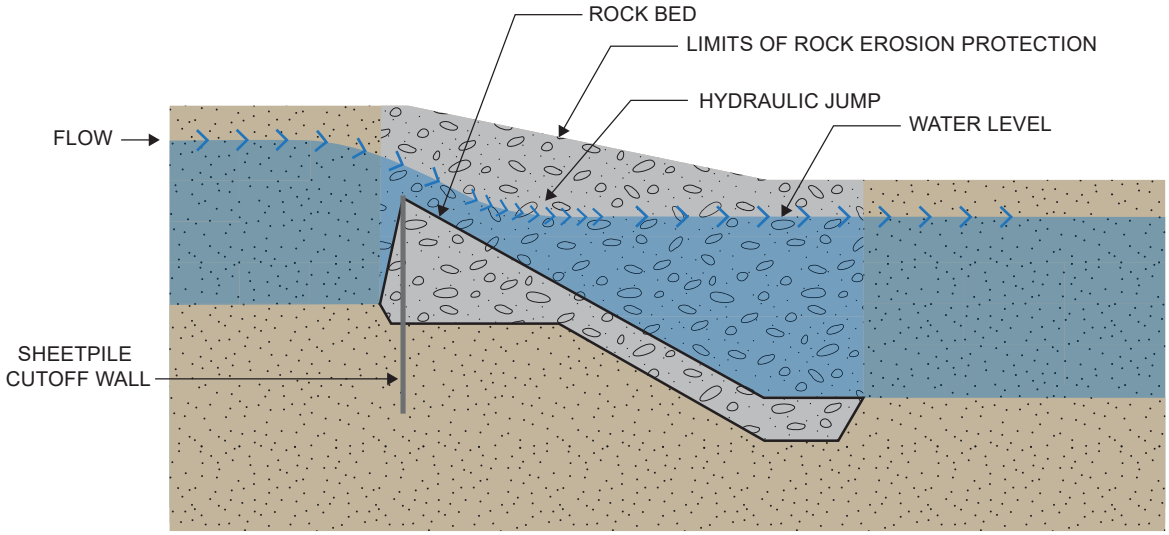


PROPOSED DROP STRUCTURE DESIGN

The St. Martin Outlet Channel will require several drop structures to minimize channel velocity in areas of steep sloping terrain.

The drop structures are proposed to be constructed of rockfill, with a sheet pile cutoff at the upstream crest.

While the high velocities and elevation difference through the drop structures will prevent the movement of fish in the upstream direction from Lake Winnipeg, they have been designed to safely accommodate any downstream fish passage and minimize any fish stranding. For example, a notch will be designed into the top of the structures, with minimum flow provided and a deep pool upstream to allow overwintering.



PROPOSED OUTLET CHANNEL OPERATING GUIDELINES: LAKE MANITOBA

Operating guidelines for the Lake Manitoba and Lake St. Martin Outlet Channels were developed in February 2019 by the Lake Manitoba and Lake St. Martin Outlet Channels Operating Guidelines Technical Committee.

The proposed guidelines are based on previous work in 2003 and 2013 by the Committees for Lake Manitoba and Lake St. Martin Regulation. Revisions from previous work are bolded and are a result of new information from hydrologic modelling. These guidelines were selected as the optimal operating regime to maximize flood protection.

Fairford River Water Control Structure

1. The target regulation range on Lake Manitoba is 812.5 feet to 810.5 feet.
2. During recovery from flood conditions on Lake Manitoba, the Fairford River Water Control Structure is kept wide open until Lake Manitoba recedes to the middle of the range after which is should be cut back to a normal setting (50-60 per cent capacity).
3. During recovery from drought, the Fairford River Water Control Structure is kept at 800 cubic feet per second until Lake Manitoba levels increase to middle of the range after which point the structure will be operated to achieve normal outflow (50–60 per cent capacity).
4. Under normal operating conditions, once outflow reaches normal, there are no further stop-log adjustments, as long as Lake Manitoba remains within the range.
5. The minimum flow on the Fairford River should be 800 cubic feet per second with a desirable flow of 1,000 cubic feet per second as often as practicable.

Lake Manitoba Outlet Channel

1. The Lake Manitoba Outlet Channel will be opened to maximum capacity when Lake Manitoba is above the top of the regulation range (812.5 feet),
2. **The Lake Manitoba Outlet Channel may be opened pro-actively (when the water level is below 812.5 feet) if the water level on Lake Manitoba is forecasted to be above 813 feet in the same season (REV 1).**
3. The outflow from the Lake Manitoba Outlet Channel will be reduced when the water level on Lake Manitoba recedes to the middle of the regulation range (811.5 feet), so that the combined flow through the Fairford River Water Control Structure and in the Lake Manitoba Outlet Channel, insofar as practicable, matches the inflow into Lake Manitoba.
4. The Lake Manitoba Outlet Channel will be closed once the Lake Manitoba water level recedes below 811.5 feet and the flow through the Fairford River Water Control Structure is greater than the total inflow into Lake Manitoba. **During Outlet Channel shutdown, consideration will be given to ensuring that the drawdown rate within the Outlet Channel does not compromise channel embankment stability (REV 1).**
5. Initial operation of the outlet control structure will not be initiated during the period in which there is solid ice cover in the channel (typically from Dec 1 – April 30th). **However, operation may be considered if severe flooding is forecasted for the following spring (REV 1).**

PROPOSED OUTLET CHANNEL OPERATING GUIDELINES: LAKE ST. MARTIN

Operating guidelines for the Lake Manitoba and Lake St. Martin Outlet Channels were developed in February 2019 by the Lake Manitoba and Lake St. Martin Outlet Channels Operating Guidelines Technical Committee.

The proposed guidelines are based on previous work in 2003 and 2013 by the Committees for Lake Manitoba and Lake St. Martin Regulation. Revisions from previous work are bolded and are a result of new information from hydrologic modelling. These guidelines are were selected as the optimal operating regime to maximize flood protection.

Lake St. Martin Outlet Channel

1. The target regulation range for Lake St. Martin is 797–800 feet.
2. The Lake St. Martin Outlet Channel will be operated to full capacity:
   a. when the Lake St. Martin water level rises above 800 feet

   or

   b. when the Lake Manitoba Outlet is opened for initial operation, Lake St. Martin is above 797 feet, **and Lake St. Martin is forecasted to go above 800 feet without operation of the Lake St. Martin Outlet Channel (REV 1).**

   Consideration may be given to opening the Lake St. Martin Outlet Channel to less than full capacity if Lake St. Martin is forecasted to go only slightly above 800 feet (REV1).
3. The outflow from the Lake St. Martin Outlet Channel will be reduced when the lake level decreases below 800 feet, to the greater of the following:
   a. **25 per cent (REV 1)** of channel capacity,
   b. the outflow required to ensure the combined flows in the Dauphin River and the Lake St. Martin Outlet Channel matches the total inflow into Lake St. Martin
4. **The flow in the Lake St. Martin Outlet Channel will be further reduced when the water level on Lake St. Martin recedes below 798 feet, so that the combined flows in the Dauphin River and in the Lake St. Martin Outlet Channel, insofar as practicable, matches the inflow into Lake St. Martin (REV 1).**

ENVIRONMENTAL ASSESSMENT STEPS

Scoping of the Assessment	✓ Step 1	**Selection of Valued Components (VC)** • Rationale for Selection, Influence of Consultation and Engagement on the Assessment, Issues Identification, Regulatory Setting
	✓ Step 2	**Project Interactions with the Environment** • Identification of Environmental Effects and Pathways • Screening of Project-Environment Interactions • Selection of Measurable Parameters
	✓ Step 3	**Identification of Environmental Assessment Boundaries** • Spatial, Temporal • Identification of Other Future Foreseeable Project and Activities
	✓ Step 4	**Residual Effects of Characterization and Significance Definition** • Characterization of Residual Environmental Effects • Establishment of Standards of Thresholds for determining Significance of Residual Environmental Effects
Existing Conditions	✓ Step 5	**Description of Existing Conditions**
WE ARE HERE VC Assessment	Step 6	**Assessment of Project Environmental Effects** • Description of Potential Project Environmental Effects and Pathways • Mitigation of Project Environmental Effects • Characterization of Residual Project Environmental Effects
	Step 7	**Assessment of Cumulative Environmental Effects** • Screening of Cumulative Environmental Effects • Characterization of Residual Cumulative Environmental Effects • Describing the Project's contribution to the Residual Cumulative Environmental Effect
	Step 8	**Determination of Significance** • Residual Project Environmental Effects and Prediction Confidence • Residual Cumulative Environmental Effects and Prediction Confidence
	Step 9	**Follow-Up**
	Step 10	**Summary**
	Step 11	**Assessment of Potential Accidents and Malfunctions**
	Step 12	**Assessment of the Effects of the Environment on the Project**

Repeat for Each Value Component and Environmental Effect

STEP 1: SELECTION OF VALUED COMPONENTS

To identity a preliminary list of Valued Components, environmental (i.e., biophysical and socio-economic) components in the project region were initially screened using the following criteria:

- Potential for the environmental component to occur within the local assessment area (LAA) and regional assessment area (RAA)
- Potential for the environmental component to interact with the project
- The environmental component was identified by local Indigenous communities
- The environmental component was identified by regulatory authorities
- The environmental component was identified by other stakeholders

As a result, the Environmental Assessment will review the potential effects of the project on the components under each group:

Physical Environment

- Atmospheric Environment
  - Air Quality
  - Acoustic Environment
  - Lighting
- Geology and Soil
- Groundwater and Surface Water

Aquatic Environment

- Fish and Fish Habitat

Terrestrial Environment

- Vegetation and Wetlands
- Wildlife and Wildlife Habitat

Human Environment

- Land and Resource Use
- Infrastructure and Services
- Economy
- Health
- Heritage Resources
- Indigenous Peoples
  - Current Use of Lands for Indigenous Purposes
  - Health and Socio-economic Conditions
  - Physical and Cultural Heritage (Traditional Land Use)

STEP 2: INTERACTIONS BETWEEN VALUED COMPONENTS AND THE PROJECT

Project Components and Physical Activities	Atmospheric Environment	Geology and Soil	Groundwater and Surface Water	Fish and Fish Habitat	Vegetation and Wetlands	Wildlife and Wildlife Habitat	Land and Resource Use	Infrastructure and Services	Economy	Health	Heritage Resources	Indigenous Peoples
Construction												
Site Preparation of Project Components (development of the project development area prior to construction activities [e.g., removal of existing infrastructure, vegetation clearing and initial earthworks, development of temporary construction camp and staging areas])	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Project-related transportation within the LAA (movement of trucks, equipment, bulk materials, supplies, and personnel within the LAA)	✓	✓	—	—	—	✓	—	✓	✓	✓	—	✓
Construction of Project Components (physical construction of utilities, infrastructure, and other facilities as well as reclamation of temporary construction areas)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Water Development and Control (dewatering and realignment of existing water works)	—	—	✓	✓	✓	✓	✓	—	✓	✓	✓	✓
Operations and Maintenance												
Operation and Maintenance of the Outlet Channels (normal operational conditions when the outlet channels and associated infrastructure [e.g., water control structures] are either actively conveying water or are non-operational)	✓	—	✓	✓	—	✓	✓	✓	✓	—	—	✓
Operation and Maintenance of other Project Components (normal operations conditions associated with Provincial Road 239 and municipal road realignments, and bridges and culverts)	✓	—	✓	✓	✓	✓	✓	✓	✓	—	✓	✓
Project-related Transportation within the LAA (movement of trucks, equipment, bulk materials, supplies, and personnel within the LAA)	✓	—	—	—	—	✓	—	✓	✓	—	—	✓

✓ means Potential Interaction that might cause an effect
— means no interactions are expected

LAA = local assessment area

STEP 3: IDENTIFICATION OF ENVIRONMENTAL ASSESSMENT BOUNDARIES

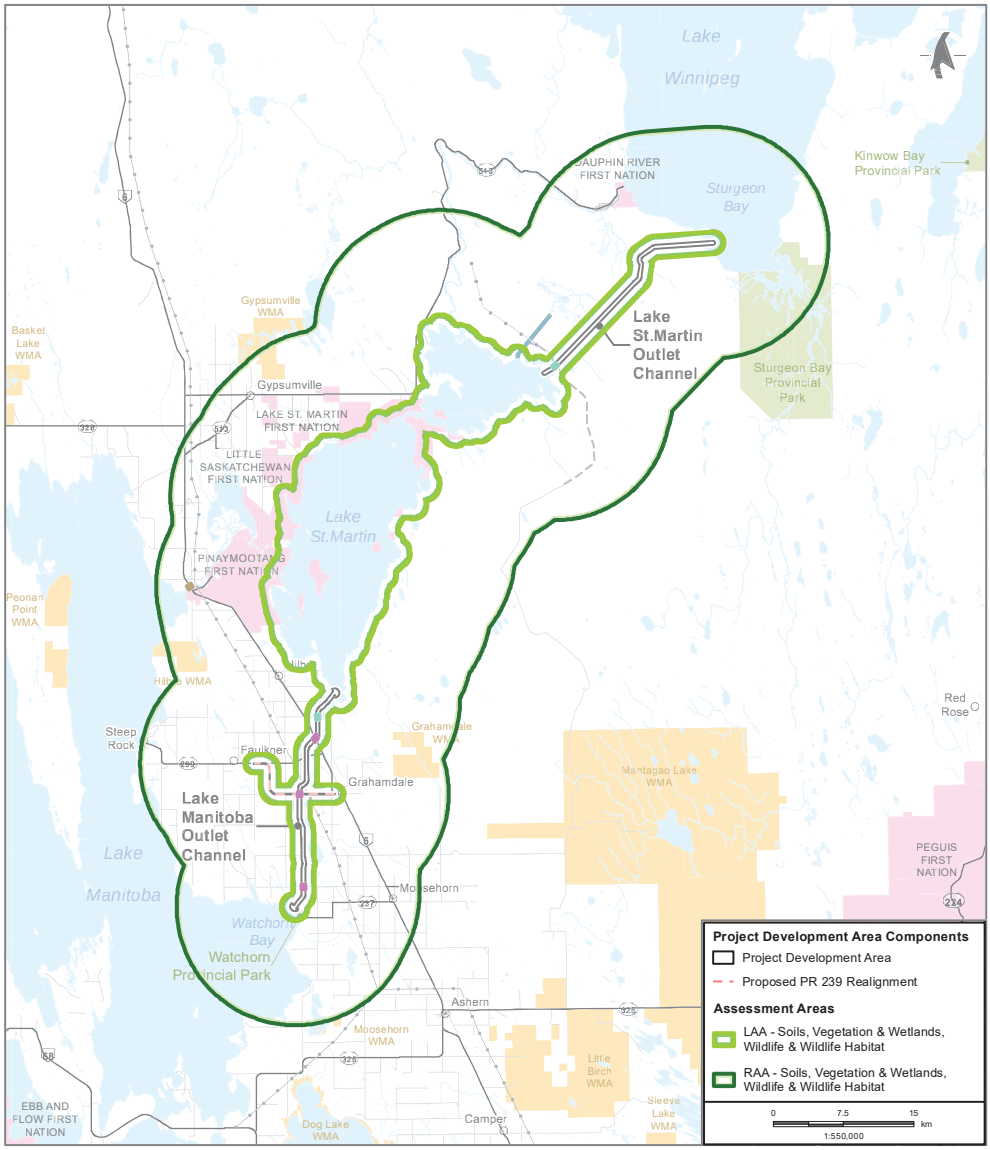
Spatial boundaries are established for the assessment of project environmental effects and cumulative environmental effects for each Valued Component. The primary consideration used is the probable geographical extent of the environmental effects (i.e., the zone of influence) on the Valued Component.

Spatial boundaries may be different from one Valued Component to another, depending on the characteristics of the Valued Component. The spatial boundaries are referred to as the Project Footprint, the local assessment area (LAA), and the regional assessment area (RAA)

Project Development Area =
the physical space or directly affected area within which project components and activities are located and the immediately adjacent area, including designated right-of-way

Local Assessment Area =
the area where direct environmental effects have the most impact based on baseline (existing) data

Regional Assessment Area =
the area where potential direct, indirect and cumulative effects may occur beyond the LAA



This map shows an example of the LAA and RAA for three Value Components: Soils, Vegetation & Wetlands, Wildlife & Wildlife Habitat.

STEP 4: RESIDUAL EFFECTS OF CHARACTERIZATION AND SIGNIFICANCE

Residual Effect

The analysis to determine residual effects includes both direct and indirect interactions between the project and the Value Component, and it considers mitigation measures to eliminate or reduce environmental effects or to enhance benefits. Once mitigation measures are applied, remaining effects are **residual effects**.

Residual environmental effects of each Valued Component are analyzed for each project phase.

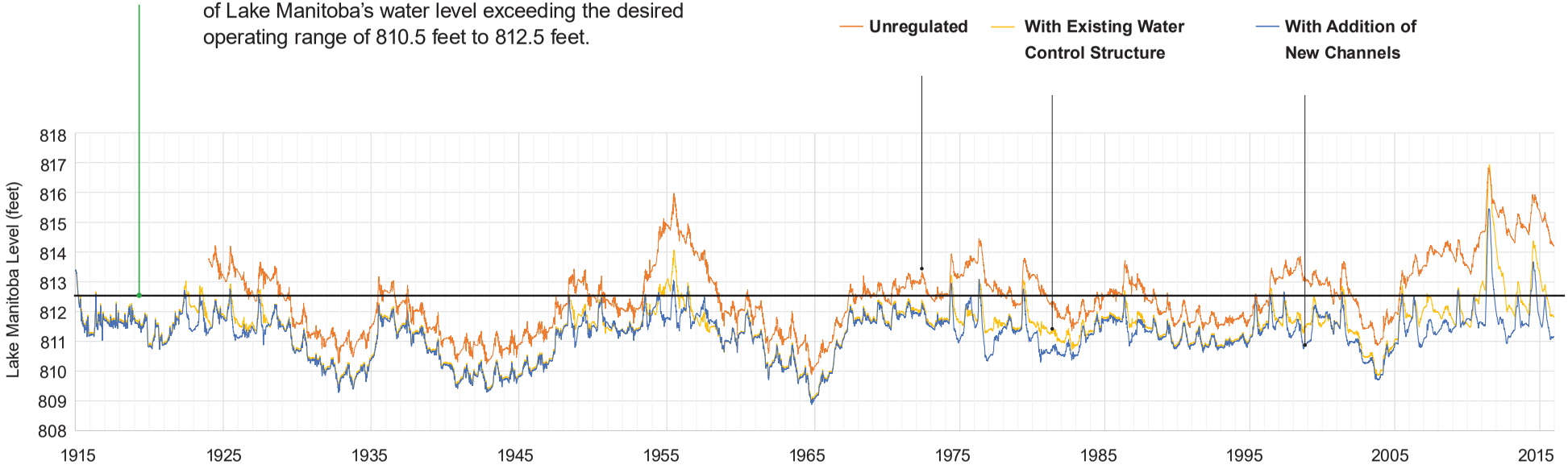
Only residual environmental effects are assessed for significance.

The characterized of residual environmental affects includes:

Direction of change	The long-term trend of the environmental effect (i.e., positive or adverse)
Duration	The period required until the component returns to its existing condition (e.g., short-term, mid-term, or long-term)
Magnitude	The measurable intensity of change relative to existing conditions (e.g. low, medium, high)
Geographic extent	The area where an environmental effect occurs (e.g. spatial boundaries)
Frequency	The number of times during a specific project phase or activity that an environmental effect might occur (e.g., one time or multiple times) in a specified time period
Reversibility	The likelihood that a measurable parameter will recover from an environmental effect (e.g., habitat restoration)
Ecological/ socioeconomic context	The general characteristics of the area in which the project is located, as indicated by past and existing levels of human activity, or the resilience/fragility of the component regarding potential adverse effects
Timing	Periods of time where residual effects from project activities could affect the component (e.g., time of day, seasonal, restricted activity periods)

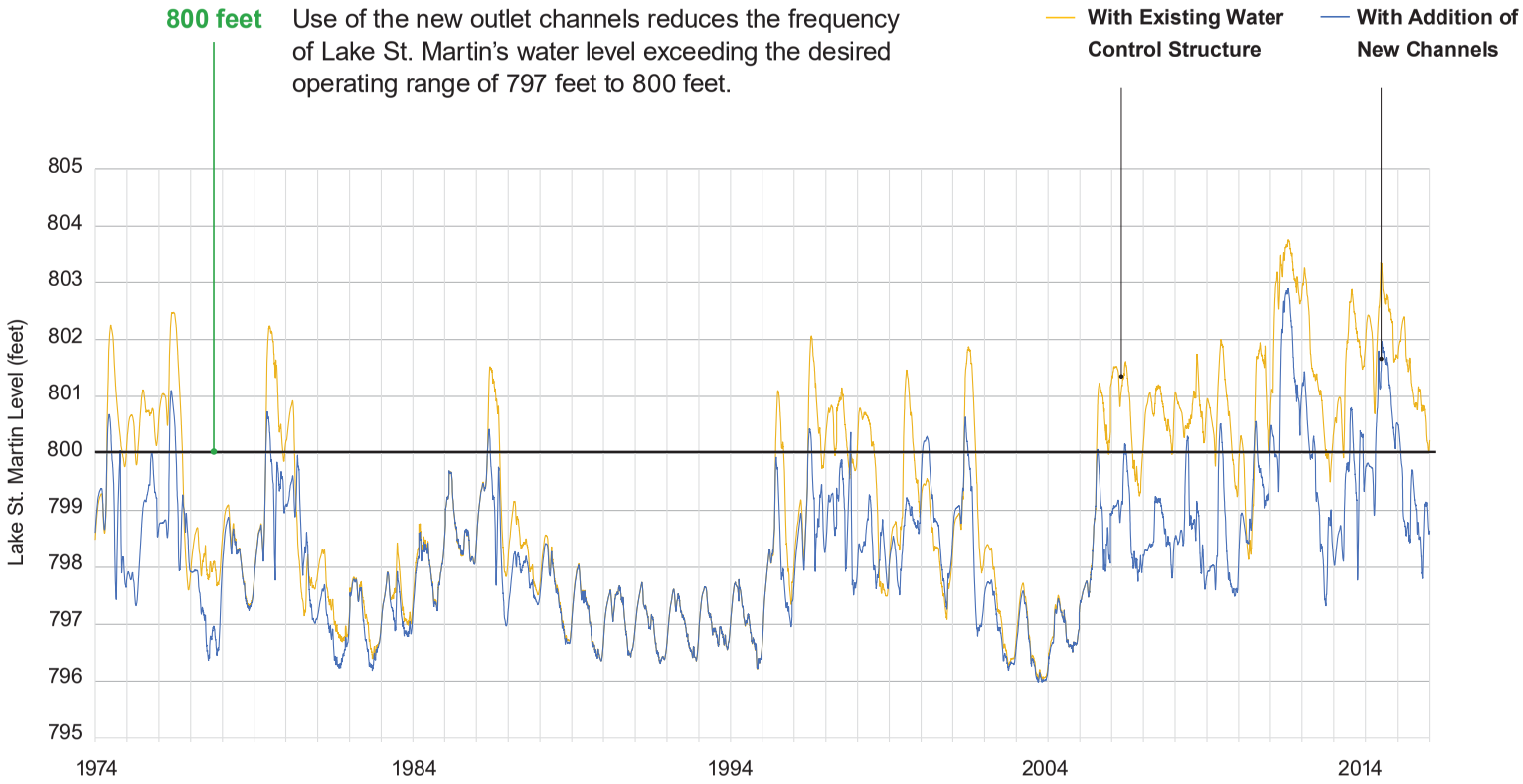
SIMULATED LAKE MANITOBA LEVELS WITH AND WITHOUT NEW OUTLET CHANNELS

812.5 feet Use of the new outlet channels reduces the frequency of Lake Manitoba's water level exceeding the desired operating range of 810.5 feet to 812.5 feet.



SIMULATED LAKE ST. MARTIN LEVELS WITH AND WITHOUT NEW OUTLET CHANNELS

800 feet Use of the new outlet channels reduces the frequency of Lake St. Martin's water level exceeding the desired operating range of 797 feet to 800 feet.



TIMELINE

Planning and Design 2016 – 2019

- Route
- Engineering
- Environmental Design
- Environmental Assessment
- Final Design
- Construction Planning
- Environmental Protection Plans
- Permit License Applications

CEAA EIS 1 Year Review Period

Submit Environmental Impact Statement to CEAA

Construction 2020 – 2023

Prior to construction, the project requires approvals from:

Federal Government:

- Canadian Environmental Assessment Agency (CEAA)
- Fisheries and Ocean Canada
- Transport Canada

Provincial Government

- Manitoba Sustainable Development Environmental Approvals Branch

Ongoing Engagement and Consultation

THANK YOU

For more information:

Visit: **www.manitoba.ca/mit/wms/lmblsmoutlets/environmental.html**

Email: **outletchannel@gov.mb.ca**

Contact Manitoba Infrastructure staff directly at:

Coenraad Fourie
Project Director

Engineering and Construction

Coenraad.Fourie@gov.mb.ca

Christine Baljko
Project Director

Environment and Consultation

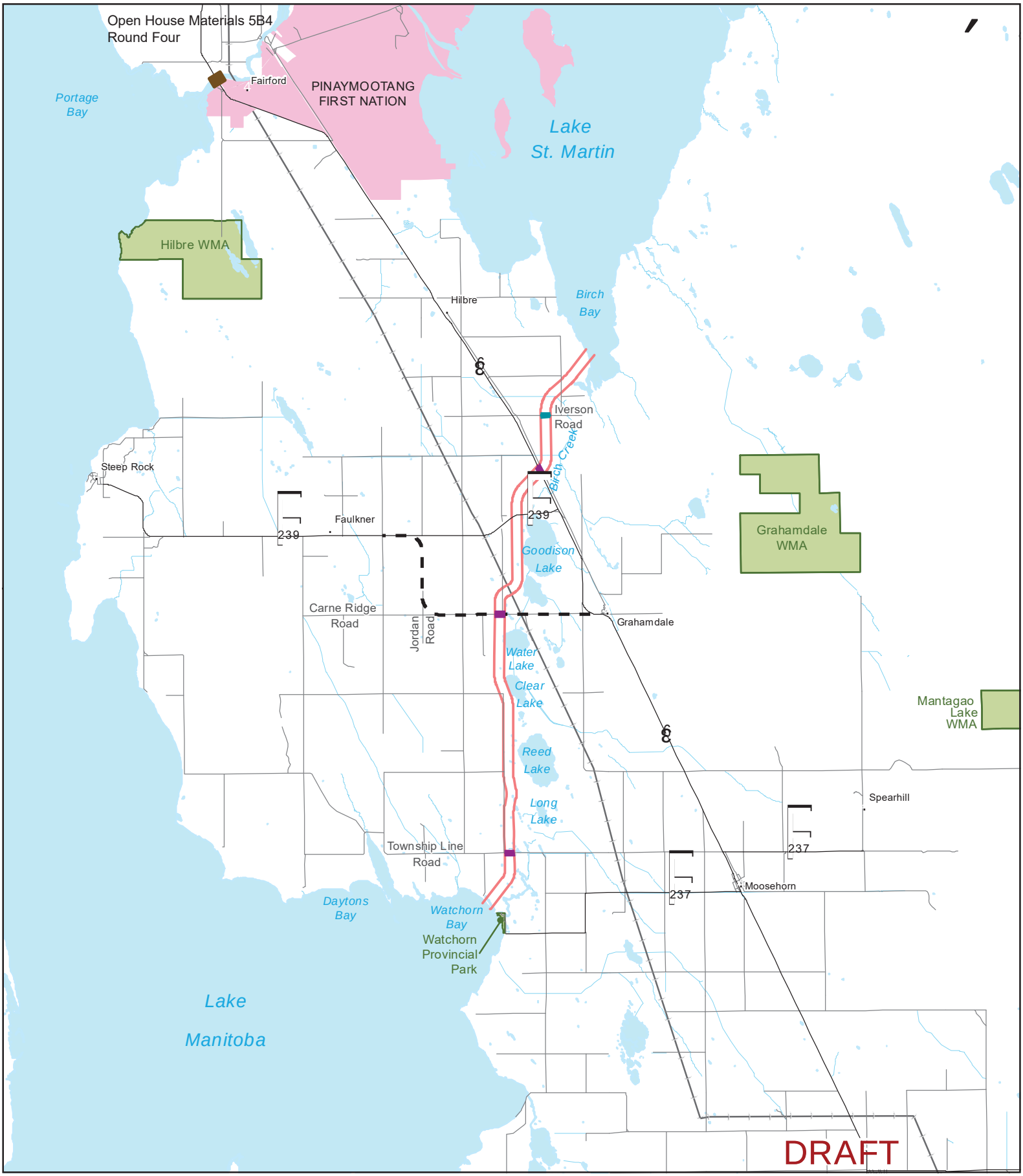
Christine.Baljko@gov.mb.ca



WE WANT TO HEAR FROM YOU!



Open House Materials 5B4
Round Four
Lynn Lake
Thompson
The Pas
Ashern
Winnipeg
Proposed Project Location
Lake Winnipeg
Sturgeon Bay
Dauphin River NAC
DAUPHIN RIVER FIRST NATION
Gypsumville WMA
Basket Lake WMA
Gypsumville
513
328
LAKE ST. MARTIN FIRST NATION
LITTLE SASKATCHEWAN FIRST NATION
Lake St. Martin
PINAYMOOTANG FIRST NATION
Lake St. Martin Outlet Channel
Sturgeon Bay Provincial Park
Peonan Point WMA
Hilbre
Hilbre WMA
Lake Manitoba Outlet Channel
Steep Rock
Faulkner
239
Grahamdale WMA
Mantagao Lake WMA
Grahamdale
Lake Manitoba
237
Moosehorn
Watchorn Provincial Park
PEGUIS FIRST NATION
325
Moosehorn WMA
Ashern
Dog Lake WMA
Little Birch WMA
DRAFT
Proposed Lake Manitoba and Lake St. Martin Outlet Channels
Proposed Water Control Structure
Proposed Bridge
Proposed Outlet Channel
Proposed Power Line
Proposed Access Road
Proposed PR 239 Realignment
Lake St. Martin Emergency Outlet Channel
Provincial Highway (PTH / PR)
Local Road
Power Line
Fairford Water Control Structure
First Nation
Northern Affairs Community (NAC)
Provincial Park / Wildlife Management Area (WMA)
0 4 8 16 km
1:475,000
NOTES:
1. Universal Transverse Mercator (UTM), North American Datum (NAD) 1983, Zone 14 North
2. Data Sources: MLI, GeoGratis, Manitoba Infrastructure.
3. Last Update: 12/06/2018
Manitoba



Proposed Lake Manitoba Outlet Channel

- Proposed Water Control Structure
- Proposed Bridge
- Proposed Lake Manitoba Outlet Channel
- Proposed PR 239 Realignment
- Fairford Water Control Structure
- Provincial Highway (PTH / PR)
- Local Road
- Power Line
- Provincial Park or Wildlife Management Area (WMA)
- First Nation

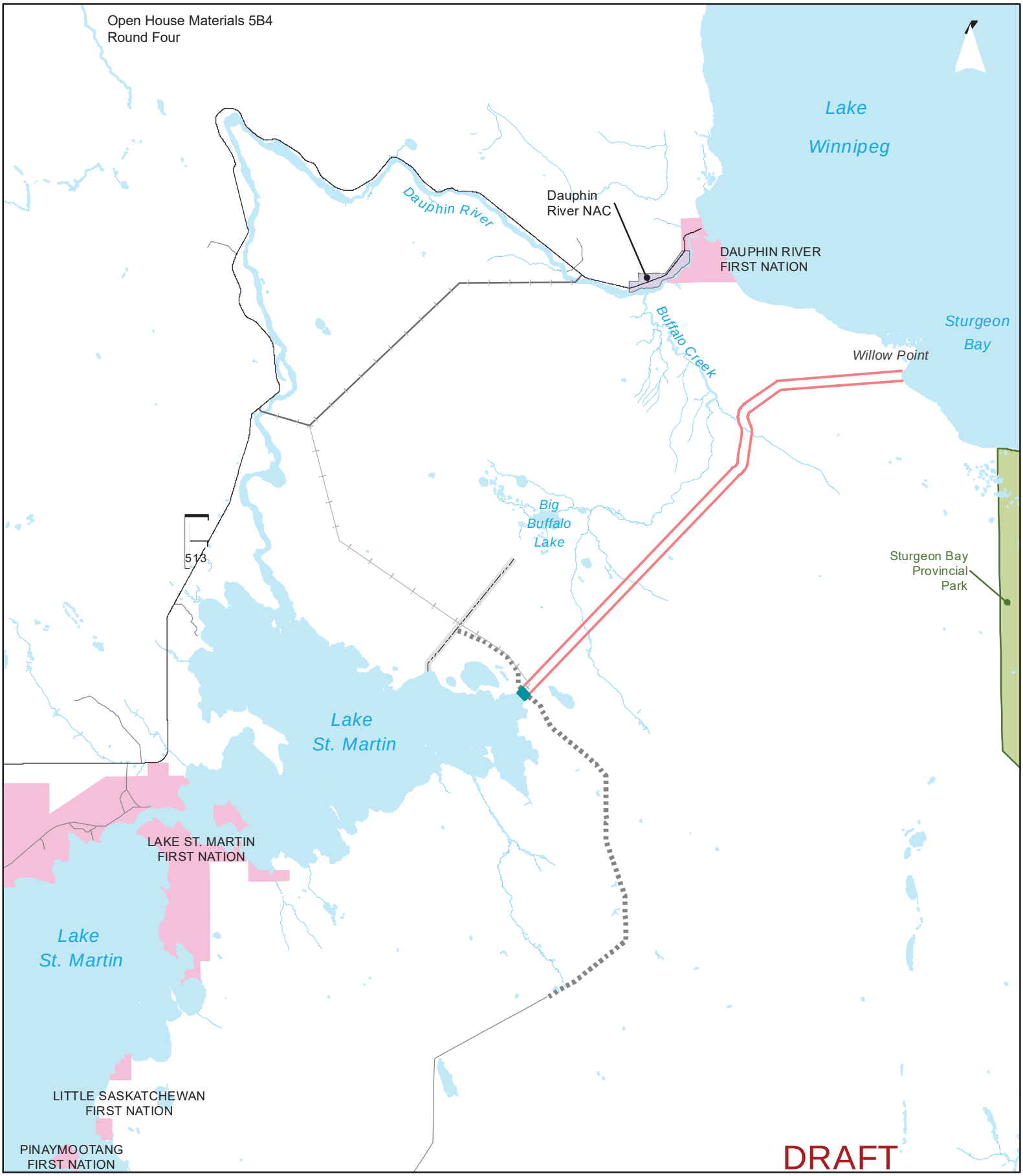
0 1.5 3 6 km

1:200,000

NOTES:

1. Universal Transverse Mercator (UTM), North American Datum (NAD) 1983, Zone 14 North
2. Data Sources: MLI, GeoGratis, Manitoba Infrastructure.
3. Last Update: 12/06/2018

Manitoba



Proposed Lake St. Martin Outlet Channel

- Proposed Water Control Structure
- Proposed Lake St. Martin Outlet Channel
- Proposed Power Line
- Proposed Access Road
- Lake St. Martin Emergency Outlet Channel
- Provincial Highway (PTH / PR)
- Local Road
- Power Line
- First Nation
- Northern Affairs Community (NAC)
- Provincial Park or Wildlife Management Area (WMA)

0 1.5 3 6 km

1:200,000

NOTES:

1. Universal Transverse Mercator (UTM), North American Datum (NAD) 1983, Zone 14 North
2. Data Sources: MLI, GeoGratis, Manitoba Infrastructure.
3. Last Update: 12/06/2018

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channels Open House
Thursday, June 27, 2019
Moosehorn Community Hall
2:00 pm to 5:00 pm and 6:00 to 8 pm

Thank you for attending today's open house. What did you think?

Open House Comments (Please circle yes, no or somewhat)			
1. Did you find the Open House informative?	Yes	No	Somewhat
2. Was the date/time/location/venue convenient?	Yes	No	Somewhat
3. Were the staff attending approachable and helpful?	Yes	No	Somewhat
4. Were the story boards informative?	Yes	No	Somewhat
5. Will you come to the next open house?	Yes	No	Maybe

6. What information are you interested in learning more about?
   - ☐ Geology and Soil
   - ☐ Groundwater and Surface Water
   - ☐ Fish and Fish Habitat
   - ☐ Vegetation and Wetlands
   - ☐ Wildlife and Wildlife Habitat
   - ☐ Air Quality, Acoustics, Lighting
   - ☐ Land and Resource Use
   - ☐ Infrastructure and Services including Engineering and Design
   - ☐ Health
   - ☐ Economy
   - ☐ Heritage Resources
   - ☐ Indigenous Peoples Uses
   - ☐ Other? _____

7. How would you like to receive project information or updates?
   - ☐ Project Website
   - ☐ Email
   - ☐ Canada Post Delivery
   - ☐ Local venues (Post office, Municipal Office, etc.)
   - ☐ Other

8. How are you connected with the project area?
   - ☐ Landowner
   - ☐ Indigenous community member
   - ☐ permanent resident
   - ☐ Seasonal resident
   - ☐ Recreational user (fishing, camping, hunting)
   - ☐ Commercial fishing
   - ☐ Other _____

Manitoba

9. Please provide your contact information below if you would like to be added to our mailing list. This information will be kept confidential and will NOT be shared by a third party without your written consent, unless we are required or authorized to do so by law or other regulation.

Name _____

Address _____

Postal Code _____

Phone Number _____

Email _____

General Comments:

10. Any additional comments?

You can submit your comments by email to outletchannel@gov.mb.ca

or by Canada Post to:

Lake Manitoba and Lake St. Martin Outlet Channels Project

Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB R3C 0R8

www.manitoba.ca/mit/wms/lmblsmoutlets/

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channels Open House
Tuesday, June 25, 2019
Winnipeg Canad Inns estination Centre Fort arry
6:00 pm to 8:00 pm

Thank you for attending today's open house. What did you think?

Open House Comments (Please circle yes, no or somewhat)			
1. Did you find the Open House informative?	Yes	No	Somewhat
2. Was the date/time/location/venue convenient?	Yes	No	Somewhat
3. Were the staff attending approachable and helpful?	Yes	No	Somewhat
4. Were the story boards informative?	Yes	No	Somewhat
5. Will you come to the next open house?	Yes	No	Maybe

6. What information are you interested in learning more about?
   - ☐ Geology and Soil
   - ☐ Groundwater and Surface Water
   - ☐ Fish and Fish Habitat
   - ☐ Vegetation and Wetlands
   - ☐ Wildlife and Wildlife Habitat
   - ☐ Air Quality, Acoustics, Lighting
   - ☐ Land and Resource Use
   - ☐ Infrastructure and Services including Engineering and Design
   - ☐ Health
   - ☐ Economy
   - ☐ Heritage Resources
   - ☐ Indigenous Peoples Uses
   - ☐ Other? _____

7. How would you like to receive project information or updates?
   - ☐ Project Website
   - ☐ Email
   - ☐ Canada Post Delivery
   - ☐ Local venues (Post office, Municipal Office, etc.)
   - ☐ Other

8. How are you connected with the project area?
   - ☐ Landowner
   - ☐ Indigenous community member
   - ☐ permanent resident
   - ☐ Seasonal resident
   - ☐ Recreational user (fishing, camping, hunting)
   - ☐ Commercial fishing
   - ☐ Other _____

Manitoba

9. Please provide your contact information below if you would like to be added to our mailing list. This information will be kept confidential and will NOT be shared by a third party without your written consent, unless we are required or authorized to do so by law or other regulation.

Name _____

Address _____

Postal Code _____

Phone Number _____

Email _____

General Comments:

10. Any additional comments?

You can submit your comments by email to outletchannel@gov.mb.ca

or by Canada Post to:

Lake Manitoba and Lake St. Martin Outlet Channels Project

Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB R3C 0R8

www.manitoba.ca/mit/wms/lmblsmoutlets/

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channels Open House
Thursday, June 27, 2019
Moosehorn Community Hall
6:00- 8:00 PM

Thank you for attending today's open house. What did you think?

Open House Comments (Please circle yes, no or somewhat)			
1. Did you find the Open House informative?	Yes	No	Somewhat
2. Was the date/time/location/venue convenient?	Yes	No	Somewhat
3. Were the staff attending approachable and helpful?	Yes	No	Somewhat
4. Were the story boards informative?	Yes	No	Somewhat
5. Will you come to the next open house?	Yes	No	Maybe

6. What information are you interested in learning more about?
   - ☐ Geology and Soil
   - ☒ Groundwater and Surface Water
   - ☒ Fish and Fish Habitat
   - ☐ Vegetation and Wetlands
   - ☐ Wildlife and Wildlife Habitat
   - ☐ Air Quality, Acoustics, Lighting
   - ☒ Land and Resource Use
   - ☒ Infrastructure and Services including Engineering and Design
   - ☐ Health
   - ☐ Economy
   - ☐ Heritage Resources
   - ☐ Indigenous Peoples Uses
   - ☐ Other? _____

7. How would you like to receive project information or updates?
   - ☐ Project Website
   - ☒ Email
   - ☐ Canada Post Delivery
   - ☐ Local venues (Post office, Municipal Office, etc.)
   - ☐ Other

8. How are you connected with the project area?
   - ☒ Landowner
   - ☐ Indigenous community member
   - ☒ permanent resident
   - ☐ Seasonal resident
   - ☐ Recreational user (fishing, camping, hunting)
   - ☐ Commercial fishing
   - ☐ Other _____

Manitoba

9. Please provide your contact information below if you would like to be added to our mailing list. This information will be kept confidential and will NOT be shared by a third party without your written consent, unless we are required or authorized to do so by law or other regulation.

Name

Address

Postal Code

Phone Number

Email

[redacted]

General Comments:

10. Any additional comments?

You can submit your comments by email to outletchannel@gov.mb.ca

or by Canada Post to:

Lake Manitoba and Lake St. Martin Outlet Channels Project

Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB R3C 0R8

www.manitoba.ca/mit/wms/lmblsmoutlets/

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channels Open House

Thursday, June 27, 2019

Moosehorn Community Hall

6:00- 8:00 PM

Thank you for attending today's open house. What did you think?

Open House Comments (Please circle yes, no or somewhat)			
1. Did you find the Open House informative?	Yes	No	Somewhat
2. Was the date/time/location/venue convenient?	Yes	No	Somewhat
3. Were the staff attending approachable and helpful?	Yes	No	Somewhat
4. Were the story boards informative?	Yes	No	Somewhat
5. Will you come to the next open house?	Yes	No	Maybe

6. What information are you interested in learning more about?
   - ☐ Geology and Soil
   - ☑ Groundwater and Surface Water
   - ☐ Fish and Fish Habitat
   - ☐ Vegetation and Wetlands
   - ☐ Wildlife and Wildlife Habitat
   - ☐ Air Quality, Acoustics, Lighting
   - ☑ Land and Resource Use
   - ☑ Infrastructure and Services including Engineering and Design
   - ☐ Health
   - ☐ Economy
   - ☐ Heritage Resources
   - ☐ Indigenous Peoples Uses
   - ☐ Other? _____

7. How would you like to receive project information or updates?
   - ☐ Project Website
   - ☑ Email
   - ☐ Canada Post Delivery
   - ☑ Local venues (Post office, Municipal Office, etc.)
   - ☐ Other

8. How are you connected with the project area?
   - ☑ Landowner
   - ☐ Indigenous community member
   - ☑ permanent resident
   - ☐ Seasonal resident
   - ☑ Recreational user (fishing, camping, hunting)
   - ☐ Commercial fishing
   - ☐ Other _____

Manitoba

9. Please provide your contact information below if you would like to be added to our mailing list. This information will be kept confidential and will NOT be shared by a third party without your written consent, unless we are required or authorized to do so by law or other regulation.

Name

Address

Postal Code

Phone Number

Email

[redacted]

General Comments:

10. Any additional comments?

- worried bout ground water ~~and~~ cost of future inflations such as fewl, and trucking cattle since loss of route home to chose em across coutry..,

You can submit your comments by email to outletchannel@gov.mb.ca

or by Canada Post to:

Lake Manitoba and Lake St. Martin Outlet Channels Project

Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB R3C 0R8

www.manitoba.ca/mit/wms/lmblsmoutlets/

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channels Open House
Thursday, June 27, 2019
Moosehorn Community Hall
6:00- 8:00 PM

Thank you for attending today's open house. What did you think?

Open House Comments (Please circle yes, no or somewhat)			
1. Did you find the Open House informative?	(Yes)	No	Somewhat
2. Was the date/time/location/venue convenient?	(Yes)	No	Somewhat
3. Were the staff attending approachable and helpful?	(Yes)	No	Somewhat
4. Were the story boards informative?	Yes	No	(Somewhat)
5. Will you come to the next open house?	(Yes)	No	Maybe

6. What information are you interested in learning more about?
   - ☑ Geology and Soil
   - ☑ Groundwater and Surface Water
   - ☑ Fish and Fish Habitat
   - ☑ Vegetation and Wetlands
   - ☑ Wildlife and Wildlife Habitat
   - ☐ Air Quality, Acoustics, Lighting
   - ☐ Land and Resource Use
   - ☐ Infrastructure and Services including Engineering and Design
   - ☐ Health
   - ☐ Economy
   - ☐ Heritage Resources
   - ☐ Indigenous Peoples Uses
   - ☐ Other? WATCHORN PARK (BEACH)

7. How would you like to receive project information or updates?
   - ☐ Project Website
   - ☐ Email
   - ☐ Canada Post Delivery
   - ☑ Local venues (Post office, Municipal Office, etc.)
   - ☐ Other

8. How are you connected with the project area?
   - ☑ Landowner
   - ☐ Indigenous community member
   - ☑ permanent resident
   - ☐ Seasonal resident
   - ☐ Recreational user (fishing, camping, hunting)
   - ☐ Commercial fishing
   - ☐ Other _____

Manitoba

9. Please provide your contact information below if you would like to be added to our mailing list. This information will be kept confidential and will NOT be shared by a third party without your written consent, unless we are required or authorized to do so by law or other regulation.

Name [redacted]

Address

Postal Code

Phone Number

Email

General Comments:

10. Any additional comments?

I TALKED TO CHRISTINE AND VOICED MY CONCERNS REGARDING SAND, BEACH, SAFETY, AND ???

You can submit your comments by email to outletchannel@gov.mb.ca

or by Canada Post to:

Lake Manitoba and Lake St. Martin Outlet Channels Project

Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB R3C 0R8

www.manitoba.ca/mit/wms/lmblsmoutlets/

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channels Open House
Thursday, June 27, 2019
Moosehorn Community Hall
6:00- 8:00 PM

Thank you for attending today's open house. What did you think?

Open House Comments (Please circle yes, no or somewhat)			
1. Did you find the Open House informative?	Yes	No	Somewhat
2. Was the date/time/location/venue convenient?	Yes	No	Somewhat
3. Were the staff attending approachable and helpful?	Yes	No	Somewhat
4. Were the story boards informative?	Yes	No	Somewhat
5. Will you come to the next open house?	Yes	No	Maybe

6. What information are you interested in learning more about?
   - ☐ Geology and Soil
   - ☒ Groundwater and Surface Water
   - ☒ Fish and Fish Habitat
   - ☐ Vegetation and Wetlands
   - ☐ Wildlife and Wildlife Habitat
   - ☐ Air Quality, Acoustics, Lighting
   - ☒ Land and Resource Use
   - ☒ Infrastructure and Services including Engineering and Design
   - ☐ Health
   - ☐ Economy
   - ☐ Heritage Resources
   - ☐ Indigenous Peoples Uses
   - ☐ Other? _____

7. How would you like to receive project information or updates?
   - ☐ Project Website
   - ☒ Email
   - ☐ Canada Post Delivery
   - ☐ Local venues (Post office, Municipal Office, etc.)
   - ☐ Other

8. How are you connected with the project area?
   - ☒ Landowner
   - ☐ Indigenous community member
   - ☒ permanent resident
   - ☐ Seasonal resident
   - ☐ Recreational user (fishing, camping, hunting)
   - ☐ Commercial fishing
   - ☐ Other _____

Manitoba

9. Please provide your contact information below if you would like to be added to our mailing list. This information will be kept confidential and will NOT be shared by a third party without your written consent, unless we are required or authorized to do so by law or other regulation.

Name

Address

Postal Code

Phone Number

Email

[redacted]

General Comments:

10. Any additional comments?

You can submit your comments by email to outletchannel@gov.mb.ca

or by Canada Post to:

Lake Manitoba and Lake St. Martin Outlet Channels Project

Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB R3C 0R8

www.manitoba.ca/mit/wms/lmblsmoutlets/

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channels Open House

Thursday, June 27, 2019

Moosehorn Community Hall

6:00- 8:00 PM

Thank you for attending today's open house. What did you think?

Open House Comments (Please circle yes, no or somewhat)			
1. Did you find the Open House informative?	Yes	No	Somewhat
2. Was the date/time/location/venue convenient?	Yes	No	Somewhat
3. Were the staff attending approachable and helpful?	Yes	No	Somewhat
4. Were the story boards informative?	Yes	No	Somewhat
5. Will you come to the next open house?	Yes	No	Maybe

6. What information are you interested in learning more about?
   - ☐ Geology and Soil
   - ☑ Groundwater and Surface Water
   - ☐ Fish and Fish Habitat
   - ☐ Vegetation and Wetlands
   - ☐ Wildlife and Wildlife Habitat
   - ☐ Air Quality, Acoustics, Lighting
   - ☑ Land and Resource Use
   - ☑ Infrastructure and Services including Engineering and Design
   - ☐ Health
   - ☐ Economy
   - ☐ Heritage Resources
   - ☐ Indigenous Peoples Uses
   - ☐ Other? _____

7. How would you like to receive project information or updates?
   - ☐ Project Website
   - ☑ Email
   - ☐ Canada Post Delivery
   - ☑ Local venues (Post office, Municipal Office, etc.)
   - ☐ Other

8. How are you connected with the project area?
   - ☑ Landowner
   - ☐ Indigenous community member
   - ☑ permanent resident
   - ☐ Seasonal resident
   - ☑ Recreational user (fishing, camping, hunting)
   - ☐ Commercial fishing
   - ☐ Other _____

Manitoba

9. Please provide your contact information below if you would like to be added to our mailing list. This information will be kept confidential and will NOT be shared by a third party without your written consent, unless we are required or authorized to do so by law or other regulation.

Name [redacted]

Address

Postal Code

Phone Number

Email

General Comments:

10. Any additional comments?

- worried bout ground water ~~and~~ cost of future inflations such as fewl, and trucking cattle since loss of route home to chose em across coutry. . .

You can submit your comments by email to outletchannel@gov.mb.ca

or by Canada Post to:

Lake Manitoba and Lake St. Martin Outlet Channels Project

Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB R3C 0R8

www.manitoba.ca/mit/wms/lmblsmoutlets/

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channels Open House
Thursday, June 27, 2019
Moosehorn Community Hall
6:00- 8:00 PM

Thank you for attending today's open house. What did you think?

Open House Comments (Please circle yes, no or somewhat)			
1. Did you find the Open House informative?	(Yes)	No	Somewhat
2. Was the date/time/location/venue convenient?	(Yes)	No	Somewhat
3. Were the staff attending approachable and helpful?	(Yes)	No	Somewhat
4. Were the story boards informative?	Yes	No	(Somewhat)
5. Will you come to the next open house?	(Yes)	No	Maybe

6. What information are you interested in learning more about?
   - ☑ Geology and Soil
   - ☑ Groundwater and Surface Water
   - ☑ Fish and Fish Habitat
   - ☑ Vegetation and Wetlands
   - ☑ Wildlife and Wildlife Habitat
   - ☐ Air Quality, Acoustics, Lighting
   - ☐ Land and Resource Use
   - ☐ Infrastructure and Services including Engineering and Design
   - ☐ Health
   - ☐ Economy
   - ☐ Heritage Resources
   - ☐ Indigenous Peoples Uses
   - ☐ Other? WATCHORN PARK (BEACH)

7. How would you like to receive project information or updates?
   - ☐ Project Website
   - ☐ Email
   - ☐ Canada Post Delivery
   - ☑ Local venues (Post office, Municipal Office, etc.)
   - ☐ Other

8. How are you connected with the project area?
   - ☑ Landowner
   - ☐ Indigenous community member
   - ☑ permanent resident
   - ☐ Seasonal resident
   - ☐ Recreational user (fishing, camping, hunting)
   - ☐ Commercial fishing
   - ☐ Other _____

Manitoba

9. Please provide your contact information below if you would like to be added to our mailing list. This information will be kept confidential and will NOT be shared by a third party without your written consent, unless we are required or authorized to do so by law or other regulation.

Name [redacted]

Address

Postal Code

Phone Number

Email

General Comments:

10. Any additional comments?

I TALKED TO CHRISTINE AND VOICED MY CONCERNS REGARDING SAND, BEACH, SAFETY, AND ???

You can submit your comments by email to outletchannel@gov.mb.ca

or by Canada Post to:

Lake Manitoba and Lake St. Martin Outlet Channels Project

Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB R3C 0R8

www.manitoba.ca/mit/wms/lmblsmoutlets/

Manitoba

WINNIPEG
25 JUNE

1 of 3

COMMENTS FROM GRAFFITI WALL

2011 DESTROYED LIVES

NEVER AGAIN PLEASE

HAS ANY THOUGHT BEEN GIVEN TO THE ENVIRONMENT WHEN THE NEXT FLOOD HITS?

KEEP LAKE MANITOBA BASE LINE AT 808.5 $ -810 @ .12 - IS TO HIGH.

THE ONLY NEW THING WAS MORE DELAYS!

WITH THE GOV'T DOING THEIR BEST TO STALL THINGS, WHY CONTINUE? EVERYTHING WILL BE DESTROYED IN THE NEXT FLOOD?

WHAT IS THE RATE, IN INCHES/DAY/WEEK IF FLOW OUTLET IS FULLY OPENED

HOW QUICKLY IN DAYS COULD THE LAKE LEVEL BE LOWERED 6" IF P.D. IS NOT OPERATIONAL?

WINNIPEG
25 JUNE

283

What is definition of flood condition

90 Percentile
50 "
10 Percentile

Which will be used to

MB WATER STEWARDSHIP Produces take based on A Probabilty BASIS(20

Determine Channel operation ?

WHY has Indigenous Consultation been left out of the 'timeline' & the 'interaction' charts

A Longitudinal profile of St. Martin outlet channel would give a good idea about the overall plan. →

location of C.S. bridges, drop structure & outlet & inlet structures

Turning this EXPRORRIATED LAND BACK TO WILDLIFE is WRONG

① PUBLIC CORRIDOR THROUGH OUR FARMS.

② TAME FORAGES RESULTS IN MORE WILDLIFE AND WATERFOWL NESTING

27 JUNE 2019

MOOSEHORN

Page 181

GRAFFITI WALL

③ TELL THE TREE HUGGERS TO COME FOR A FARM TOUR ON LAND THAT IS MANAGED PROPERLY FOR WILDLIFE AND I'LL SHOW THEM THE BENEFITS. ROSS JERMEY

If there is a better route north of Hibre + shorter, why not go there.

Assessment of impacts on First Nations not done yet.

Funding? Problems? Promo?

How is the water from the west side of channel going to get to east side? ??

WINNIPEG
25 JUNE
3 of 3

⇒A plan with number/type of structures along the channel alignment will be so useful info for an Open House

Plan
From the map, it appears the outlet control structure is located some distance downstream. If this is true what it will look like at the lake outlet.

The length of channel and # of structures within the Lake Winnipeg Water Power Reserve will be of interest from regulation point of view

Lake Manitoba and Lake St. Martin Outlet Channels Open House

Tuesday, June 25, 2019

Winnipeg Canad Inns Destination Centre Fort Garry

2:00 pm to 5:00 pm

Thank you for attending today's open house. What did you think?

Open House Comments (Please circle yes, no or somewhat)			
1. Did you find the Open House informative?	(Yes)	No	Somewhat
2. Was the date/time/location/venue convenient?	Yes	No	(Somewhat)
3. Were the staff attending approachable and helpful?	(Yes)	No	Somewhat
4. Were the story boards informative?	(Yes)	No	Somewhat
5. Will you come to the next open house?	Yes	No	(Maybe)

6. What information are you interested in learning more about?
   - ☑ Geology and Soil
   - ☑ Groundwater and Surface Water
   - ☑ Fish and Fish Habitat
   - ☑ Vegetation and Wetlands
   - ☑ Wildlife and Wildlife Habitat
   - ☐ Air Quality, Acoustics, Lighting
   - ☑ Land and Resource Use
   - ☑ Infrastructure and Services including Engineering and Design
   - ☐ Health
   - ☑ Economy
   - ☐ Heritage Resources
   - ☐ Indigenous Peoples Uses
   - ☐ Other? _____

7. How would you like to receive project information or updates?
   - ☐ Project Website
   - ☑ Email
   - ☐ Canada Post Delivery
   - ☐ Local venues (Post office, Municipal Office, etc.)
   - ☐ Other

8. How are you connected with the project area?
   - ☑ Landowner
   - ☐ Indigenous community member
   - ☐ permanent resident
   - ☑ Seasonal resident
   - ☑ Recreational user (fishing, camping, hunting)
   - ☐ Commercial fishing
   - ☐ Other _____

Manitoba

9. Please provide your contact information below if you would like to be added to our mailing list. This information will be kept confidential and will NOT be shared by a third party without your written consent, unless we are required or authorized to do so by law or other regulation.

Name [redacted]

Address

Postal Code

Phone Number

Email

General Comments:

10. Any additional comments?

GET THIS THING DONE!!
IT'S ALREADY 50 YEARS TOO LATE!!

You can submit your comments by email to outletchannel@gov.mb.ca

or by Canada Post to:

Lake Manitoba and Lake St. Martin Outlet Channels Project

Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB R3C 0R8

www.manitoba.ca/mit/wms/lmblsmoutlets/

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channels Open House

Tuesday, June 25, 2019

Winnipeg Canad Inns Destination Centre Fort Garry

2:00 pm to 5:00 pm

Thank you for attending today's open house. What did you think?

Open House Comments (Please circle yes, no or somewhat)			
1. Did you find the Open House informative?	Yes	No	Somewhat
2. Was the date/time/location/venue convenient?	Yes	No	Somewhat
3. Were the staff attending approachable and helpful?	Yes	No	Somewhat
4. Were the story boards informative?	Yes	No	Somewhat
5. Will you come to the next open house?	Yes	No	Maybe

6. What information are you interested in learning more about?
   - ☐ Geology and Soil
   - ☐ Groundwater and Surface Water
   - ☐ Fish and Fish Habitat
   - ☐ Vegetation and Wetlands
   - ☐ Wildlife and Wildlife Habitat
   - ☐ Air Quality, Acoustics, Lighting
   - ■ Land and Resource Use
   - ■ Infrastructure and Services including Engineering and Design
   - ☐ Health
   - ☐ Economy
   - ☐ Heritage Resources
   - ■ Indigenous Peoples Uses
   - ☐ Other? _____

7. How would you like to receive project information or updates?
   - ☐ Project Website
   - ■ Email
   - ☐ Canada Post Delivery
   - ☐ Local venues (Post office, Municipal Office, etc.)
   - ☐ Other

8. How are you connected with the project area?
   - ☐ Landowner
   - ☐ Indigenous community member
   - ☐ permanent resident
   - ☐ Seasonal resident
   - ☐ Recreational user (fishing, camping, hunting)
   - ☐ Commercial fishing
   - ■ Other _____

Manitoba

9. Please provide your contact information below if you would like to be added to our mailing list. This information will be kept confidential and will NOT be shared by a third party without your written consent, unless we are required or authorized to do so by law or other regulation.

Name

Address

Postal Code

Phone Number

Email

[redacted]

General Comments:

10. Any additional comments?

You can submit your comments by email to outletchannel@gov.mb.ca

or by Canada Post to:

Lake Manitoba and Lake St. Martin Outlet Channels Project

Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB R3C 0R8

www.manitoba.ca/mit/wms/lmblsmoutlets/

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channels Open House

Tuesday, June 25, 2019

Winnipeg Canad Inns Destination Centre Fort Garry

2:00 pm to 5:00 pm

Thank you for attending today's open house. What did you think?

Open House Comments (Please circle yes, no or somewhat)			
1. Did you find the Open House informative?	Yes	No	Somewhat
2. Was the date/time/location/venue convenient?	Yes	No	Somewhat
3. Were the staff attending approachable and helpful?	Yes	No	Somewhat
4. Were the story boards informative?	Yes	No	Somewhat
5. Will you come to the next open house?	Yes	No	Maybe

6. What information are you interested in learning more about?
   - ☐ Geology and Soil
   - ☐ Groundwater and Surface Water
   - ☐ Fish and Fish Habitat
   - ☐ Vegetation and Wetlands
   - ☐ Wildlife and Wildlife Habitat
   - ☐ Air Quality, Acoustics, Lighting
   - ☐ Land and Resource Use
   - ☑ Infrastructure and Services including Engineering and Design
   - ☐ Health
   - ☐ Economy
   - ☐ Heritage Resources
   - ☐ Indigenous Peoples Uses
   - ☐ Other? _____

7. How would you like to receive project information or updates?
   - ☐ Project Website
   - ☐ Email
   - ☐ Canada Post Delivery
   - ☑ Local venues (Post office, Municipal Office, etc.)
   - ☐ Other

8. How are you connected with the project area?
   - ☐ Landowner
   - ☐ Indigenous community member
   - ☐ permanent resident
   - ☑ Seasonal resident
   - ☐ Recreational user (fishing, camping, hunting)
   - ☐ Commercial fishing
   - ☐ Other _____

Manitoba

9. Please provide your contact information below if you would like to be added to our mailing list. This information will be kept confidential and will NOT be shared by a third party without your written consent, unless we are required or authorized to do so by law or other regulation.

Name

Address

Postal Code

Phone Number

Email

[redacted]

General Comments:

10. Any additional comments?

You can submit your comments by email to outletchannel@gov.mb.ca

or by Canada Post to:

Lake Manitoba and Lake St. Martin Outlet Channels Project

Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB R3C 0R8

www.manitoba.ca/mit/wms/lmblsmoutlets/

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channels Open House

Tuesday, June 25, 2019

Winnipeg Canad Inns Destination Centre Fort Garry

2:00 pm to 5:00 pm

Thank you for attending today's open house. What did you think?

Open House Comments (Please circle yes, no or somewhat)			
1. Did you find the Open House informative?	(Yes)	No	Somewhat
2. Was the date/time/location/venue convenient?	(Yes)	No	Somewhat
3. Were the staff attending approachable and helpful?	(Yes)	No	Somewhat
4. Were the story boards informative?	(Yes)	No	Somewhat
5. Will you come to the next open house?	(Yes)	No	Maybe

6. What information are you interested in learning more about?
   - ☐ Geology and Soil
   - ☐ Groundwater and Surface Water
   - ☐ Fish and Fish Habitat
   - ☐ Vegetation and Wetlands
   - ☐ Wildlife and Wildlife Habitat
   - ☐ Air Quality, Acoustics, Lighting
   - ☐ Land and Resource Use
   - ☐ Infrastructure and Services including Engineering and Design
   - ☐ Health
   - ☐ Economy
   - ☐ Heritage Resources
   - ☐ Indigenous Peoples Uses
   - ☒ Other? When will Federal Gov't be finished with their ENV. assessment. What is the plan ahead if they disagree with this plan?

7. How would you like to receive project information or updates?
   - ☒ Project Website
   - ☐ Email
   - ☐ Canada Post Delivery
   - ☐ Local venues (Post office, Municipal Office, etc.)
   - ☐ Other

8. How are you connected with the project area?
   - ☒ Landowner
   - ☐ Indigenous community member
   - ☐ permanent resident
   - ☒ Seasonal resident
   - ☐ Recreational user (fishing, camping, hunting)
   - ☐ Commercial fishing
   - ☐ Other _____

Manitoba

9. Please provide your contact information below if you would like to be added to our mailing list. This information will be kept confidential and will NOT be shared by a third party without your written consent, unless we are required or authorized to do so by law or other regulation.

Name _____

Address _____

Postal Code _____

Phone Number _____

Email _____

General Comments:

10. Any additional comments?

Thankyou for the information - it is appreciated. I do not feel forgotten in this long, long process (2011 - 2019).

You can submit your comments by email to outletchannel@gov.mb.ca

or by Canada Post to:

Lake Manitoba and Lake St. Martin Outlet Channels Project

Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB R3C 0R8

www.manitoba.ca/mit/wms/lmblsmoutlets/

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channels Open House
Tuesday, June 25, 2019
Winnipeg Canad Inns Destination Centre Fort Garry
2:00 pm to 5:00 pm

Thank you for attending today's open house. What did you think?

Open House Comments (Please circle yes, no or somewhat)			
1. Did you find the Open House informative?	Yes	No	Somewhat
2. Was the date/time/location/venue convenient?	Yes	(No)	Somewhat
3. Were the staff attending approachable and helpful?	(Yes)	No	Somewhat
4. Were the story boards informative?	Yes	No	Somewhat
5. Will you come to the next open house?	(Yes)	No	Maybe

very little new info

6. What information are you interested in learning more about?
   - ☑ Geology and Soil
   - ☑ Groundwater and Surface Water
   - ☑ Fish and Fish Habitat
   - ☑ Vegetation and Wetlands
   - ☑ Wildlife and Wildlife Habitat
   - ☐ Air Quality, Acoustics, Lighting
   - ☑ Land and Resource Use
   - ☐ Infrastructure and Services including Engineering and Design
   - ☐ Health
   - ☐ Economy
   - ☑ Heritage Resources
   - ☑ Indigenous Peoples Uses
   - (#1) ☐ Other? WHEN will it be done! where is the ENVIRO process really at?

7. How would you like to receive project information or updates?
   - ☐ Project Website
   - ☑ Email
   - ☐ Canada Post Delivery
   - ☐ Local venues (Post office, Municipal Office, etc.)
   - ☐ Other

8. How are you connected with the project area?
   - ☐ Landowner
   - ☐ Indigenous community member
   - ☑ permanent resident
   - ☐ Seasonal resident
   - ☐ Recreational user (fishing, camping, hunting)
   - ☐ Commercial fishing
   - ☐ Other _____

Manitoba

9. Please provide your contact information below if you would like to be added to our mailing list. This information will be kept confidential and will NOT be shared by a third party without your written consent, unless we are required or authorized to do so by law or other regulation.

Name [redacted]

Address

Postal Code

Phone Number

Email

General Comments:

10. Any additional comments?

Presentation??? not just me disappointed. Many attendees asking commenting!

You can submit your comments by email to outletchannel@gov.mb.ca

or by Canada Post to:

Lake Manitoba and Lake St. Martin Outlet Channels Project

Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB R3C 0R8

www.manitoba.ca/mit/wms/lmblsmoutlets/

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channels Open House
Tuesday, June 25, 2019
Winnipeg Canad Inns Destination Centre Fort Garry
6:00 pm to 8:00 pm

Thank you for attending today's open house. What did you think?

Open House Comments (Please circle yes, no or somewhat)			
1. Did you find the Open House informative?	Yes	No	Somewhat
2. Was the date/time/location/venue convenient?	Yes	No	Somewhat
3. Were the staff attending approachable and helpful?	Yes	No	Somewhat
4. Were the story boards informative?	Yes	No	Somewhat
5. Will you come to the next open house?	Yes	No	Maybe

6. What information are you interested in learning more about?
   - ☐ Geology and Soil
   - ☐ Groundwater and Surface Water
   - ☐ Fish and Fish Habitat
   - ☐ Vegetation and Wetlands
   - ☐ Wildlife and Wildlife Habitat
   - ☐ Air Quality, Acoustics, Lighting
   - ☐ Land and Resource Use
   - ☐ Infrastructure and Services including Engineering and Design
   - ☐ Health
   - ☐ Economy
   - ☐ Heritage Resources
   - ☐ Indigenous Peoples Uses
   - ☐ Other? _____

WHEN PROJECT WILL BE COMPLETED

7. How would you like to receive project information or updates?
   - ☐ Project Website
   - ☐ Email
   - ☐ Canada Post Delivery
   - ☐ Local venues (Post office, Municipal Office, etc.)
   - ☐ Other

8. How are you connected with the project area?
   - ☑ Landowner
   - ☐ Indigenous community member
   - ☐ permanent resident
   - ☐ Seasonal resident
   - ☐ Recreational user (fishing, camping, hunting)
   - ☐ Commercial fishing
   - ☐ Other _____

Manitoba

9. Please provide your contact information below if you would like to be added to our mailing list. This information will be kept confidential and will NOT be shared by a third party without your written consent, unless we are required or authorized to do so by law or other regulation.

Name _____

Address _____

Postal Code _____

Phone Number _____

Email _____

General Comments:

10. Any additional comments?

You can submit your comments by email to outletchannel@gov.mb.ca

or by Canada Post to:

Lake Manitoba and Lake St. Martin Outlet Channels Project

Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB R3C 0R8

www.manitoba.ca/mit/wms/lmblsmoutlets/

Manitoba

Lake Manitoba and Lake St. Martin Outlet Channels Open House

Tuesday, June 25, 2019

Winnipeg Canad Inns Destination Centre Fort Garry

6:00 pm to 8:00 pm

Thank you for attending today's open house. What did you think?

Open House Comments (Please circle yes, no or somewhat)			
1. Did you find the Open House informative?	Yes	No	Somewhat
2. Was the date/time/location/venue convenient?	Yes	No	Somewhat
3. Were the staff attending approachable and helpful?	Yes	No	Somewhat
4. Were the story boards informative?	Yes	No	Somewhat
5. Will you come to the next open house?	Yes	No	Maybe

6. What information are you interested in learning more about?
   - ☑ Geology and Soil
   - ☑ Groundwater and Surface Water
   - ☑ Fish and Fish Habitat
   - ☑ Vegetation and Wetlands
   - ☑ Wildlife and Wildlife Habitat
   - ☐ Air Quality, Acoustics, Lighting
   - ☑ Land and Resource Use
   - ☑ Infrastructure and Services including Engineering and Design
   - ☐ Health
   - ☑ Economy
   - ☑ Heritage Resources
   - ☑ Indigenous Peoples Uses
   - ☐ Other? Licensed Trapper

7. How would you like to receive project information or updates?
   - ☐ Project Website
   - ☑ Email
   - ☐ Canada Post Delivery
   - ☐ Local venues (Post office, Municipal Office, etc.)
   - ☐ Other

8. How are you connected with the project area?
   - ☑ Landowner
   - ☑ Indigenous community member
   - ☐ permanent resident
   - ☐ Seasonal resident
   - ☐ Recreational user (fishing, camping, hunting)
   - ☐ Commercial fishing
   - ☑ Other Licensed Trapper

Manitoba

9. Please provide your contact information below if you would like to be added to our mailing list. This information will be kept confidential and will NOT be shared by a third party without your written consent, unless we are required or authorized to do so by law or other regulation.

Name

Address

Postal Code

Phone Number

Email

[redacted]

General Comments:

10. Any additional comments?

Looking for apprenticeship & training During This project
Like to be part of the environmental side of this project from within
Advise on training & recruitment & protection of people on project

You can submit your comments by email to outletchannel@gov.mb.ca

or by Canada Post to:

Lake Manitoba and Lake St. Martin Outlet Channels Project

Manitoba Infrastructure
2nd Floor – 280 Broadway
Winnipeg, MB R3C 0R8

www.manitoba.ca/mit/wms/lmblsmoutlets/

Manitoba

Appendix 5C INDIGENOUS CONSULTATION APPROACH AND CURRENT STATUS REPORT

Indigenous Consultation Approach and Current Status Report

1. Objectives

Manitoba Infrastructure recognizes it has a duty to consult in a meaningful way with First Nations, Métis communities and other Aboriginal communities when any proposed provincial law, regulation, decision or action may infringe upon or adversely affect the exercise of a treaty or Aboriginal right of that First Nation, Métis community or other Aboriginal community.

Manitoba Infrastructure is responsible for both Crown-Indigenous consultation and the proponent engagement process required for federal environmental authorization of the Lake Manitoba and Lake St. Martin outlet channels project. As a proponent, the federal government requires Manitoba Infrastructure to engage with potentially affected Indigenous groups to assist in fulfilling the federal Crown constitutional obligations and to fulfil the regulatory requirements for developing a complete Environmental Impact Statement (EIS). As the provincial Crown jurisdiction, Manitoba Infrastructure also has a responsibility under Section 35 of Canada's constitution to consult with Indigenous groups or communities whose exercise of treaty or Aboriginal rights might be affected by a government decision or action related to the project.

Manitoba Infrastructure wants to offer a consistent, transparent and fair approach when engaging with First Nations, Métis communities and other Aboriginal communities potentially impacted by the Project. Manitoba Infrastructure has developed a consultation approach in accordance with the Manitoba government's Interim Provincial Policy for Crown Consultations with First Nations, Métis Communities and Other Aboriginal Communities (the "Interim Policy"). The Interim Policy was appended to the Project EIS. The overall objectives of the Interim policy are:

- To ensure the Manitoba government informs itself and gains a proper understanding of the interests of First Nations, Métis communities and other Indigenous communities, with respect to a proposed government decision or action;
- To seek ways to address and / or accommodate those interests where appropriate through a process of consultation while continuing to work towards the best interests of the citizens of Manitoba;
- To advance the process of reconciliation between the Crown and First Nations, Métis communities and other Indigenous communities.

The Interim Policy is also supported by *Guidelines for Crown Consultations with First Nations, Métis Communities and Other Aboriginal Communities* that were adopted at the same time as the Policy. The Guidelines were appended to the Project EIS. The Guidelines provided Manitoba Infrastructure with the principles for developing the consultation processes with individual First Nations, Métis communities and other Aboriginal communities for the Project.

The Manitoba Government's experience to date with Crown-Indigenous consultation has resulted in established practices and processes that Manitoba Infrastructure has been able to draw upon to develop the consultation process for the Project. The Supreme Court of Canada in its decisions has outlined a spectrum for consultation, which gives a basic guide for the level of consultation required. Generally, the more serious the potential impact on the exercise of Aboriginal or Treaty rights or the greater the

likelihood or frequency of impact, the more important the role of consultation and more extensive the process may need to be. Also, the greater the strength of a community's claim for a Treaty or Aboriginal right, the more important the role of consultation and more extensive the process may need to be.

At the lower end of the spectrum, consultation requirements may include giving notice and discussing any issue related in response to the notice. At the higher end of the spectrum a more extensive consultation process will likely be required. The level of consultation effort for each community potentially impacted by the Project is described in Section 2 of this report.

To meet these overall objectives and to fulfill Manitoba's duty to consult, Manitoba Infrastructure designed and is following a four-phased consultation process that would encourage productive and respectful dialogue between the Manitoba government and the Indigenous peoples. These four phases are generally described in Figure 1.

Figure 1: Four Phases of Consultation



The following objectives for this approach help to achieve the Manitoba government's overall consultation objectives:

- Provide a reasonable process or forum to facilitate the exchange of information;
- Listen to and understand the concerns of First Nations, Métis and other Indigenous communities regarding the Project and how it might affect the exercise of asserted or established Aboriginal or Treaty rights of those communities and their members;
- Review and consider the specific concerns or information provided by those communities; and
- Address those concerns to a reasonable extent and if not reasonable to provide responses or reasons as to why they were not addressed.

To ensure oversight of consultation, a Steering Committee with representation from the Manitoba departments of Agriculture and Resource Development (formerly Sustainable Development), Justice, and Indigenous and Northern Relations and Infrastructure oversees the process and its implementation. The Steering Committee endeavours to guide Manitoba Infrastructure through its own consultation process while being respectful to the unique processes of potentially affected communities.

Manitoba Infrastructure recognizes that assistance may be required for a community to be able to meaningfully participate in the consultation process. Manitoba has a Crown-Aboriginal Consultation Participation Fund available to assist communities with the cost of engagement. In order for communities to access funding, a funding agreement must be signed between Manitoba Infrastructure and the community. The level of funding offered for communities is determined by their potential impact from the project. Additional details of the funding agreements for potentially highly impacted communities are included in Section 3 of this report.

2. Background

2.1 Pre-Project Engagement

As outlined in Section 5.3.2 of the Project EIS, pre-project engagement and consultation began with several First Nations and other Indigenous communities following the 2011 flood event and the identification that a new, permanent flood protection infrastructure was required.

Discussions at that time were focussed around a number of studies commissioned by the Province of Manitoba, including the Manitoba 2011 Flood Review Task Force (MFRTF 2013), the Lake Manitoba and Lake St. Martin Regulation Review Committee (LM&LSMRRC 2013), and the Assiniboine River and Lake Manitoba Basins Flood Mitigation Study (KGS Group 2016a), as discussed in Chapter 2 of the EIS. The purpose of these discussions were to review the actions and events undertaken previous to, during, and after the 2011 flood; the management of Lake Manitoba and Lake St. Martin; and, identify and assess potential options to reduce future flood risk for communities. One recommendations of these discussions and reports included the identification that new flood protection infrastructure in the Lake Manitoba and Lake St. Martin area was required.

Beyond engineering and government specialists, the Manitoba 2011 Flood Review Task Force also involved members from flood affected communities and First Nations (MFRTF 2013). In addition, the Lake Manitoba and Lake St. Martin Regulation Review Committee was formed, also involving Indigenous communities (LM&LSMRRC 2013). Meetings and site visits for the Lake Manitoba and Lake St. Martin Regulatory Review also occurred with Indigenous communities and groups, including: Pinaymootang First Nation, Dauphin River Commercial Fisheries Federation, Little Saskatchewan First Nation, Dauphin River First Nation, and Lake Manitoba First Nation. Studies by the 2011 Flood Review Task Force and the Lake Manitoba and Lake St. Martin Regulation Review provided broad perspectives on the 2011 unprecedented flood event and offered a variety of opinions and recommendations on possible improvements that could reduce damages in the future

The Assiniboine River and Lake Manitoba Basins Flood Mitigation Study (KGS Group 2016a) process involved steering and technical committees, as well as a Study Liaison Committee (SLC) that had a broader perspective than the engineering focus of the steering and technical committees. Indigenous

representation, through the Southern Chiefs Organization, the Manitoba Keewatinowi Okimakanaki, and Manitoba Métis Federation.

As identified in Chapter 5 of the Project EIS, pre-project engagement on the proposed outlet channels required Manitoba Infrastructure to work with some communities that remained displaced from the 2011 floods and continue to face challenges from the displacements. This reality has challenged engagement attempts to focus on the proposed outlet channels and issues associated with the 2011 floods and displacement continue to be raised. For example, meetings to gather input on the alignment location of the proposed channels were hosted within Winnipeg, and surrounding areas. While significant effort was put into gaining input from the Indigenous communities, success in obtaining formal input to was limited. These informal inputs and comments during discussions for the above reports, and engagement activities, were considered in the final alignment review and decision. Informal comments received to date include:

- A lack of support for Option C because of the close proximity to Pinaymootang First Nation
- A concern of impacting drinking water on Pinaymootang First Nation with Option C
- Option C and the Fairford River would effectively place Pinaymootang First Nation on an island
- Impacts to Big Buffalo Lake and Buffalo Creek could be avoided with re-aligning around the area
- The outlet at Lake Winnipeg should be south of Willow Point to avoid impacts to fish spawning grounds at Johnson Beach.

2.2 Initiation of Consultation

In 2015, Manitoba Infrastructure initiated Phase 1: Assessment and Planning of consultation process for the Project by conducting an initial assessment. The Initial Assessment identified First Nations, Métis communities and other Indigenous communities that may be interested and or affected by the Project Communities were identified using the project's area of scope, and knowledge from previous operations of the channel. A list of communities identified Chapter 5 of the Project EIS.

Through Manitoba Infrastructure's Initial Assessment process, as directed by provincial policy, Manitoba Infrastructure identified 31 Indigenous communities and groups where Aboriginal and Treaty rights could potentially be impacted by the project. The provincial policy provides direction on identifying Indigenous communities and the extent of consultation required based on the project description, the proximity to the project footprint, potential environmental impacts, and current understanding of traditional land use.

Following the federal government's issuance of initial Project EIS guidelines, and amendments provided on August 16, 2018, December 21, 2018, and June 27, 2019, additional Indigenous groups downstream on Lake Winnipeg and the Nelson River system were identified for engagement requirements by the federal government.

While Manitoba Infrastructure is committed to engaging with all 39 Indigenous communities and groups, the province will only be undertaking Crown consultation with the 31 communities and groups initially identified through Manitoba Infrastructure's initial assessment process. Specific information on how

Manitoba Infrastructure assessed each community in the Initial Assessment is included in the community summaries below.

Following the Initial Assessment, Manitoba Infrastructure made initial contact through letters to determine the community's interest in consultation. Manitoba Infrastructure provided participation opportunities for interested and affected parties. An outline of Manitoba Infrastructure's four-phase consultation process was included in initial presentations with Indigenous communities regarding the Project, which are detailed in the community summaries below, but covered the following information:

- Community Specific Summaries
- Community Information
- Notification of Proposed Project
- Information Sharing and Initial Concerns
- Consultation Planning and Work Plan Development
- Traditional Knowledge Shared Throughout the Consultation Process (if applicable)

While Manitoba Infrastructure shares the consultation and engagement approach with each Indigenous community and group when notifications goes out, the approach can be revisited as consultation and engagement proceeds.

Manitoba Infrastructure's overall consultation approach moving forward with each Indigenous community and group is based on the department's current understanding of potential impacts on Treaty or Aboriginal Rights. Continued discussions with Indigenous groups and communities through the consultation process will help Manitoba Infrastructure to develop a further understanding of the interests and concerns of those potentially affected by the proposed project.

Indigenous communities and groups that are potentially more seriously impacted by the project will have the opportunity to sign consultation work plans and funding agreements. The consultation work plans and funding agreements for these communities will include commitments for community meetings; community mapping; Traditional Knowledge studies; elder and resource user interviews; hiring of a community coordinator; Community Consultation Report; and a traditional knowledge report. The work plans and funding agreements are developed jointly with Indigenous communities or groups and staff from Manitoba Infrastructure and Indigenous and Northern Relations. Once the work plans and funding agreements are approved, they are implemented by the community. Manitoba Infrastructure will, in the course of consulting with the communities, monitor activities and funding to ensure that the objectives are achieved and activities and expenditures are consistent with the approved work plan. An example work plan for potentially more seriously impacted Indigenous communities is attached to this report.

Indigenous communities and groups that are potentially less seriously impacted by the project will also have the opportunity to sign consultation work plans. Initially, Manitoba Infrastructure does not expect to provide formal funding for Traditional Knowledge studies due to the findings of Manitoba Infrastructure's Initial Assessment on potential community impacts, Traditional use areas, and the exercise of Aboriginal

and Treaty rights. While formal funding agreements with these communities will not be signed, funding will be allocated to support activities of the consultation work plan. Manitoba Infrastructure will cover these applicable costs directly as they arise, and may include Elder honorariums or costs to support facility rentals for meeting arrangements. Based on Manitoba Infrastructure's current understanding of community concerns, the department does not anticipate that the activities of the consultation will be complex enough to develop a formal funding agreement. An example work plans for potentially less seriously impacted Indigenous communities is attached to this report.

Manitoba Infrastructure will develop consultation work plans for Indigenous communities and groups that are potentially least seriously impacted by the project. Initially, Manitoba Infrastructure does not expect to provide formal funding for Traditional Knowledge studies due to the findings of Manitoba Infrastructure's Initial Assessment of potential community impacts, Traditional use areas, and the exercise of Aboriginal and Treaty rights. The consultation work plans for these communities will still include opportunities to meet, with the majority of information sharing occurring through information packages. The work plans for these communities that are potentially least seriously impacted by the project will be prepared by Manitoba Infrastructure and shared with the community. While formal funding agreements with these communities will not be signed, funding will be allocated to support activities of the consultation work plan. Manitoba Infrastructure will cover these applicable costs directly as they arise, and may include Elder honorariums or costs to support facility rentals for meeting arrangements. Based on Manitoba Infrastructure's current understanding of community concerns, the department does not anticipate that the activities of the consultation will be complex enough to develop a formal funding agreement. An example work plan for potentially least seriously impacted Indigenous communities is attached to this report.

The activities of the above work plans and funding agreements, will enable Manitoba Infrastructure to fulfil its obligation under Section 35 of the Constitution Act, 1982 as well as proponent engagement requirements under the Canadian Environmental Assessment Act, 2012 and Manitoba's Environment Act.

In addition to the above communities that Manitoba Infrastructure is consulting, there are additional communities who Manitoba Infrastructure will undertaking engagement activities with. While we don't anticipate that there will be impacts to Aboriginal and Treaty rights with these communities, Manitoba Infrastructure is still interested in collecting this information from communities. Manitoba Infrastructure will develop engagement work plans these communities, but does not anticipate funding activities. The engagement work plans for these communities will outline opportunities for information sharing on the initial assessment, EIS, and environmental assessment process. The engagement work plans for these communities will be prepared by Manitoba Infrastructure and shared with the community.

The summaries below provide a more detailed overview of community knowledge, initial communication, and activities to-date for all 39 Indigenous communities and groups involved in the consultation and engagement processes.

Lake St. Martin First Nation

Manitoba Infrastructure's initial assessment has determined Lake St. Martin First Nation (LSMFN) is highly likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). Lake St. Martin First Nation has indicated that community traditional uses occur in the Lake St. Martin area, such as hunting, trapping, gathering, fishing, and ceremonial practices.

Manitoba Infrastructure is undertaking a fulsome, in-person consultation process with LSMFN that includes providing funding for a collaboratively developed consultation work plan, conducting a Traditional Knowledge land-use study, hiring of a community coordinator, and a minimum of three community and stakeholder meetings.

As of February 2020, a total of 27 meetings, 17 letters and 102 email and/or phone calls have occurred between Manitoba and Lake St. Martin First Nation.

Community Information

Lake St. Martin First Nation No. 275 (CIRNAC 2019a) is an Anishinaabe Treaty 2 community with reserve land located along the northwestern shore of Lake St. Martin, approximately 10 km from the PDA. Lake St. Martin First Nation retains an administration building in the City of Winnipeg and a band office in Gypsumville (Manta 2019). Governance is provided for under the *First Nations Election Act* (CIRNAC 2019a). As of June 2019, the registered population was 2,864 (CIRNAC 2019a). Lake St. Martin First Nation has three reserves: Obushkudayang, approximately 320 ha in size; The Narrows 49, approximately 2600 ha in size; and The Narrows 49A, approximately 980 ha in size (CIRNAC 2019a). Health services can be accessed in the community one day per week via a mobile clinic (Interlake-Eastern Regional Health Authority n.d.). The nearest hospital is in Arborg, approximately 120 km to the southeast.

Moose and white-tailed deer are important species to Indigenous groups in the Interlake area for subsistence hunting, including Lake St. Martin First Nation. Upland bird and waterfowl hunting by Lake St. Martin First Nation focuses on a variety of species (see the EIS: Appendix 10A, Table 10A.2-1 Species of Interest for Indigenous Groups Engaged on the Project; Manitoba Infrastructure 2019b).

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Lake St. Martin First Nation. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

A notification package dated July 22, 2016, contained a letter to the Chief explaining the Project and Manitoba Infrastructure's initial assessment that the Project may potentially affect the community's Aboriginal or treaty Rights. The notification package also included information on the regulatory

authorities involved, Manitoba Infrastructure contact information, two maps, and a request for a meeting. A follow-up letter dated September 23, 2016 was also sent.

Information Sharing and Initial Concerns

On August 30, 2016 a meeting was held with Chief and Council to discuss Project alignments and details. A letter dated August 13, 2017 was sent from Manitoba Infrastructure to Chief of Lake St. Martin First Nation to invite Chief and Council to an information session in Winnipeg regarding the Project. Several follow-up communications were also sent. An information sharing meeting with the IRTC on April 28, 2017 involved Dauphin River N, Lake St. Martin First Nation, Little Saskatchewan First Nation, Lake Manitoba First Nation, Ebb and Flow First Nation, Southern Chiefs Organization, and Manitoba to provide an overview of the Project and understand the consultation process. Further meetings were held on December 7, 2017 to present the Project Description and consultation updates

Consultation Process and Work Plan Development

Manitoba Infrastructure met with Lake St. Martin First Nation on October 27, 2016, to discuss the Project, resource mapping, consultation plan and budget process and regulatory process. From November 2016 to April 2017, four meetings were held with Manitoba Infrastructure and Lake St. Martin First Nation to discuss tendering process, issues and concerns, the Project components, resource mapping, and consultation plan. Manitoba Infrastructure sent two follow-up letters dated March 13, 2017 and May 24, 2017 to the Lake St. Martin First Nation committing to reconciliation and working collaboratively to address past issues. On July 5, 2017 Manitoba Infrastructure sent the consultation plan template and participation fund guide. Meetings were held on August 8, 2017 to discuss the consultation plan and budget. On September 14, 2017 a meeting occurred to discuss the Project and resource mapping proposal and budget. A meeting on October 6, 2017 discussed consultation and the Project, including issues and concerns. At a November 27, 2017 meeting, engagement methods were discussed. Additional meetings were held March 13, 2018 to discuss consultation budget and work plan development; July 12, 2018 to discuss consultation funding; and August 8, 2018 to review the work plan and budget. On October 1, 2018, the consultation agreement for interim operation of the emergency channel was signed.

Six additional meetings were held between March 2019 and January 2020 to discuss the engagement work plan and budget, and to provide Project updates. The work plan and budget for consultations on the Project was agreed to by LSMFN and Manitoba during a meeting with Chief Sinclair and their Community Coordinator on November 26th, 2019; and, the funding agreement to undertake the Traditional Knowledge study, consultation meetings, and final phases of consultation was signed on January 9th, 2020.

The work plan and budget to support Phase II, III, and IV consultation activities, including hiring of a community coordinator, conducting a Traditional Knowledge (TK) study, and a minimum of three community meetings was mutually agreed upon and a funding agreement was signed on January 9th, 2020.

The TK component of the work plan involves interviews with Elders and resource users, a mapping exercise, and a site visit. The TK report will contain at minimum information on the following:

- location(s) in which rights are being practiced or exercised;

- the context in which the right is practiced or exercised (including information about which groups of an Indigenous group practice the right (women, elders, youth), how the right was practiced historically);
- how the Indigenous group's cultural traditions, laws and governance systems inform the manner in which they exercise their rights (the who, what, when, how, where and why);
- the Indigenous group's perspectives on the importance of the land on which the Project is located and how it intersects with any land management uses and/or plans they may have;
- how often the right is practiced or exercised and timing or seasonality of the practice or exercise of the right; and,
- maps and data sets (e.g., fish catch numbers).

Consultation work plans and other communications including ongoing letters, emails, and phone calls have and will continue to provide numerous opportunities for the community to review and provide comments on the information used for describing and assessing effects on Aboriginal peoples, including impacts to Aboriginal or Treaty rights.

Areas of discrepancy between the community and Manitoba were determined and addressed throughout the consultation process by providing opportunities for local perspectives to be captured and recorded in community led Traditional Knowledge and Resource Use studies, and by developing mutually agreed upon consultation work plans that include community review of all project related reports and documentation, and discussions around mitigations, accommodations, as well as conditions issued under the Project's Environment Act Licence and/or the Impact Assessment Agency of Canada's Decision Statement. In addition, Phase III of consultations allows affected Indigenous groups to validate Indigenous knowledge that will be integrated into the EIS.

Traditional Knowledge Shared Throughout the Consultation Process

Lake St. Martin First Nation noted subsistence and recreational fishing occur Lake St. Martin, Dauphin River, Mantagao River, and Sturgeon Bay year-round (Manitoba Infrastructure 2019b). Fishing focuses on northern pike, walleye, and lake whitefish as well as a variety of other species (see Appendix 10A, Table10A.2-1 Species of Interest for Indigenous Groups Engaged on the Project; Manitoba Infrastructure 2019b).

Lake St. Martin First Nation indicated that the flooding of Lake St. Martin has resulted in impacts to the harvest of medicinal herbs and plants (Manitoba Infrastructure 2018b).

The recent Lake St. Martin Access Road Project has caused concern for Lake St. Martin First Nation regarding the road's location, whether or not it will be gated, and if there will be impacts to road maintenance (Manitoba Infrastructure 2019a).

A summary of the issues and concerns raised to date by Lake St. Martin First Nation are included in the EIS: Appendix 5A, Table 5A.12.

Other Notifications (Sec. 35 Consultations for minor works related to the project)

On August 22, 2016, Manitoba advised the community of upcoming fieldwork for geotechnical investigations. Six additional letters were sent from December 2017 to February 2020 notifying LSMFN of

the fieldwork for the topographic survey, rock availability studies, borrow pit excavation, tender opportunities, and well installations. Manitoba did not receive any comments from the First Nation regarding these notifications.

Next Steps

Manitoba continues to meet with LSMFN throughout the consultation process. Community meetings as part of the agreed upon consultation work plan will involve dialogue around the environmental assessment process, the EIS, verification of community baseline information, mitigation and environmental monitoring plans, and community recommendations for addressing and/or accommodating their concerns. As part of the consultation process MI will ensure that the community receives feedback on the information they provide and how their information and concerns were included in the decision making process.

Detailed mitigation and monitoring program (e.g., aquatic monitoring plan, fisheries offset plan, sediment management plan, heritage resource protection plan) review discussions have been incorporated into the community specific work plan that supports consultation. Information shared throughout these discussions will be included in the subsequent development of mitigation strategies and environmental management and/or monitoring plans, in order to ensure that any potential impacts from the project are appropriately assessed and accommodated.

Phases III and IV of consultations will include reviewing community concerns and incorporating their recommendations, and communicating the decision and licence conditions to the First Nation. As the project develops, Manitoba will use the information obtained and will make reasonable efforts to address concerns that are identified by the communities, and will continue to work collaboratively with the First Nation and share relevant information throughout the consultation process.

The Traditional Knowledge Study report is expected to be completed by early spring 2020, the community consultation meetings will be completed by summer 2020, and the Community Consultation Report will be completed by summer 2020.

Pinaymootang First Nation

Manitoba Infrastructure's initial assessment has determined Pinaymootang First Nation (PFN) is highly likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). Pinaymootang First Nation has indicated that community traditional uses occur in the Lake St. Martin and Lake Manitoba areas, such as hunting, trapping, gathering, fishing, and ceremonial practices.

Manitoba Infrastructure is undertaking a fulsome, in-person consultation process with PFN that includes providing funding for a collaboratively developed consultation work plan, conducting a Traditional Knowledge land-use study, hiring of a community coordinator, and a minimum of three community and stakeholder meetings.

As of February 2020, a total of seven meetings, 18 letters, and 46 follow-up emails and/or phone calls have occurred between Manitoba and PFN.

Community Information

Pinaymootang First Nation No. 272 (CIRNAC 2019a) is a Treaty 2 Ojibway Nation located between Lake Manitoba and Lake St. Martin, approximately 8 km from the PDA (IRTC 2019a). Pinaymootang First Nation is a member of the Interlake Reserves Tribal Council (IRTC 2019a). Pinaymootang First Nation has a single reserve, Fairford 50, which is approximately 7,412 ha (CIRNAC 2019a). The registered population of Pinaymootang First Nation was 3,110 as of June 2019 (CIRNAC 2019a). Pinaymootang First Nation is governed by a Chief and six Councilors, elected under the *Indian Act* Election System (CIRNAC 2019a). Pinaymootang First Nation has a fire hall and a band office (Government of Canada 2013), as well as a health centre (Pinaymootang Health Centre n.d.). The nearest hospital is located in Ashern, approximately 50 km to the southwest.

Moose and white-tailed deer are important species to Indigenous groups in the Interlake area for subsistence hunting, including Pinaymootang First Nation, who hunt in the RAA and LAA. Moose sighting near the Pinaymootang First Nation are uncommon, therefore hunting is focused on white-tail deer harvest in fall and winter (Golder and Associates 2018). A variety of upland bird and waterfowl are hunted by Pinaymootang First Nation (see the EIS: Appendix 10A, Table 10A.2-1 Species of Interest for Indigenous Groups Engaged on the Project; Manitoba Infrastructure 2019b).

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Pinaymootang First Nation. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

A notification package dated July 22, 2016, contained a letter to the Chief explaining the Project and Manitoba Infrastructure's initial assessment that the Project may potentially affect the community's Aboriginal or treaty Rights. The notification package also included information on the regulatory authorities involved, Manitoba Infrastructure contact information, two maps, and a request for a meeting. An introductory meeting was held on July 28, 2016 with Pinaymootang First Nation and Manitoba where the community listed concerns associated with flooding. A letter was sent to the Chief on September 23, 2016 to follow up on the notification package and request a second meeting.

Information Sharing and Initial Concerns

While Manitoba experienced unprecedented water levels on Lake Manitoba and Lake St. Martin in 2011, Manitoba undertook the emergent construction and operation of the Lake St. Martin Emergency Outlet Channel (LSMEOC). This decision by the Manitoba government was made to accelerate the reduction of water levels on these lakes. At that time, Manitoba took steps to engage with Pinaymootang First Nation in discussion on impacts resulting from this work. Manitoba has now made a commitment to enhance the outlet capacity form Lake Manitoba and Lake St. Martin in order to better maintain lake levels within their desirable range. This will be achieved by a single project that includes construction two outlet channels.

Manitoba Infrastructure sent the Chief of Pinaymootang First Nation an invitation letter on August 13, 2015 to an information session in Winnipeg on September 9, 2015. On September 2, 2016 Manitoba Infrastructure received a letter from IRTC confirming the Chief would not attend the September 9, 2015 information session. At the session, conceptual design findings were presented and feedback on channel alignment options was obtained, and options for Aboriginal involvement in the delivery of the Project were explored. The Chief of Pinaymootang First Nation attended an information meeting on November 26, 2015 with Manitoba, Peguis First Nation, Little Saskatchewan First Nation, Pinaymootang First Nation, Dauphin River First Nation, Lake Manitoba First Nation, Kinonjeoshtegon First Nation, and the IRTC, to discuss the status of the Project and answer questions.

At a meeting with Manitoba Infrastructure Minister Pederson on November 28, 2016, PFN leadership acknowledged the benefits of the channel but stated that compensation from previous events to be addressed and resolved. A PFN Councillor specifically identified the following: loss of hay lands due to flooding that has resulted in the loss of farming activities in the community; lake level fluctuations on Lake Pineimata that have affected the muskrat trapping on the lake and surrounding wetlands; and, fluctuating water levels that have made accessing Lake St. Martin for commercial fishing more difficult and requiring mitigation. The Minister acknowledged the impacts and recognized PFN's desire to resolve the compensation issues and these matters were taken back to the Manitoba Government for consideration.

A summary of the issues and concerns raised to date by Pinaymootang are included in the EIS: Appendix 5A.

Consultation Process and Work Plan Development

On April 22, 2016 Pinaymootang First Nation requested a Project map from Manitoba, which was provided on May 27, 2016. A copy of the May 2013 Crown-Aboriginal Consultation Participation Fund Community Guide was included with the letter to facilitate the development of a consultation plan and budget. A helicopter flight over the Project area was provided to the community leadership on July 28, 2016. The next meeting was held on October 12, 2016 to discuss the Project, the Manitoba consultation process, raise concerns and answer questions. A meeting on November 16, 2016 with Manitoba and four First Nations including Lake St. Martin, Pinaymootang, Little Saskatchewan, and Dauphin River focused on possible construction tendering opportunities for the Project.

A meeting was held on February 8, 2017 with Manitoba Infrastructure and Pinaymootang First Nation to discuss the Project and community concerns. On May 4, 2017, the Chief for Pinaymootang First Nation signed the May 4th Council of Chiefs Resolution in support of having the Interlake Reserves Tribal Council (IRTC) to act as facilitator for all six First Nations in regard to the TKs and consultation. On December 1, 2017, Manitoba Infrastructure sent a letter to the Chief outlining the four phases of the Manitoba consultation process. These discussions led to the signing of a consultation funding agreement with the IRTC (representing Dauphin River First Nation, Kinonjeoshtegon First Nation, Lake Manitoba First Nation, Little Saskatchewan First Nation, Peguis First Nation, and Pinaymootang First Nation) and

the production of the *Interlake Reserves Tribal Council October Phase 1 Traditional Land Use and Traditional Knowledge Report* (Golder 2018).

Pinaymootang First Nation is a member of the IRTC and sent Manitoba Infrastructure a Band Council Resolution signed by IRTC member Chiefs of Lake Manitoba, Peguis First Nation, Pinaymootang First Nation, Little Saskatchewan First Nation, Dauphin River First Nation and Kinonjeoshtegon First Nation supporting the IRTC proposal, and requesting that outstanding issues from 50 years and the 2011 flood claims must be addressed in advance of discussions on the permanent channel and that future discussions must involve the IRTC Board of Directors. Manitoba sent a letter on May 24, 2017 following up on a letter presented at the February 8, 2017 meeting, which indicated the support of the Project by the IRTC communities including Pinaymootang First Nation. The letter committed Manitoba to work collaboratively with the First Nations to address issues raised. It referenced the IRTC proposal regarding consultation process and proposed budget. A community meeting was held on December 14, 2017, with Chief, Council and community members to discuss the Project, answer questions, and document issues and concerns. The community meeting included a questionnaire for gathering Traditional knowledge.

A work plan to outline moving forward has been drafted and includes six objectives: how to share information; confirming concerns; sharing environmental assessment; completing Phase 2 consultation; analysis, reporting and decision making; and, reporting on the decision. The community was invited to another helicopter flight over the Project area on November 20, 2018. Letters, emails and phone calls continue to be exchanged between Manitoba and the First Nation between December 2018 and August 2019 to provide Project updates including information regarding field work, and address issues and concerns.

Consultation work plans and other communications including ongoing letters, emails, and phone calls have and will continue to provide numerous opportunities for the community to review and provide comments on the information used for describing and assessing effects on Aboriginal peoples, including impacts to Aboriginal or Treaty rights.

Areas of discrepancy between the community and Manitoba were determined and addressed throughout the consultation process by providing opportunities for local perspectives to be captured and recorded in community led Traditional Knowledge and Resource Use studies, and by developing mutually agreed upon consultation work plans that include community review of all project related reports and documentation, and discussions around mitigations, accommodations, as well as conditions issued under the Project's Environment Act Licence and/or the Impact Assessment Agency of Canada's Decision Statement. In addition, Manitoba Infrastructure's consultation process allows opportunities for potentially impacted Indigenous groups to validate Indigenous knowledge that will be integrated into the EIS.

<u>Traditional Knowledge Shared Throughout the Consultation Process</u>

Pinaymootang First Nation reported trapping in the RAA, with species including fisher, marten, muskrat, otter, rabbit, and weasel (Golder Associates 2018:13). Factors affecting trapping include fewer animals to trap, participation in the workforce, and low fur prices (Golder Associates 2018).

Pinaymootang First Nation reported that subsistence and recreational fishing occur in Lake St. Martin, Dauphin River, Mantagao River, and Sturgeon Bay year-round (Manitoba Infrastructure 2019b). Fishing focuses on a variety of species important to the community (see Appendix 10A, Table 10A.2-1 Species of Interest for Indigenous Groups Engaged on the Project; Manitoba Infrastructure 2019b).

Pinaymootang First Nation engage in plant and berry gathering in the RAA and LAA. Plants and berries gathered include saskatoon berries, cranberries, chokecherries, weekey, Seneca root, and nuts (Golder Associates 2018). Pinaymootang First Nation indicated that the flooding of Lake St. Martin has resulted in impacts to the harvest of medicinal herbs and plants (Manitoba Infrastructure 2018b).

Pinaymootang First Nation visit and use cabins and campgrounds in the RAA. No Pinaymootang First Nation cabins or campsites were recorded within the Project Development Area (Golder Associates 2018).

Pinaymootang First Nation indicated the existence of grave sites and ceremonial or spiritual sites in the Project area (Golder Associates 2018). Six registered archaeological sites were identified in the Interlake region from the Provincial Archaeological Site Inventory: “Four of the sites were identified as historic period and included sites of fur trade and homestead influence; the two remaining sites were identified as Middle to Late Woodland Period (ca. 2,000 to 350 years ago) based on the stone tools and Native ceramics” (Manitoba Infrastructure 2019:4-50). Five of the six identified sites occur within Pinaymootang traditional lands, or adjacent to Pinaymootang traditional lands (Manitoba Infrastructure 2019b).

Pinaymootang First Nation reported important trails or access routes in the Project area, including a snowmobile trail used to access Lake St. Martin fishing areas (Golder Associates 2018).

Other Notifications (Sec. 35 Consultations for minor works related to the project)

The following eight emails and letters were sent to PFN to notify them of upcoming fieldwork and provide an opportunity for comments: August 22, 2016 fieldwork to collect more geotechnical data in the area of Reach 2; December 27, 2018 investigative work being done by KGS on preliminary design of outlet channels; February 11, 2019 investigative fieldwork including access development, snow and bush/tree clearing, drilling, groundwater monitoring, topographic surveys, and ground penetrating radar (seismic) surveys; February 27, 2019 topographic survey proposed transmission line; May 7, 2019 rock availability study; July 23, 2019 sentinel well installation and monitoring; August 13, 2019 borrow pit excavation; and, January 31, 2020 winter fieldwork investigation.

In addition, on September 22, 2016 KGS engineering requested access to test and sample domestic wells on PFN and interview the residents about their wells. Results were sent to the owners and the PFN council. The data were to used build a baseline of well information near the Option “C” Lake Manitoba channel alternative.

Next Steps

Manitoba continues to meet with PFN throughout the consultation process. Community meetings as part of the agreed upon consultation work plan will involve dialogue around the environmental assessment process, the EIS, verification of community baseline information, mitigation and environmental monitoring plans, and community recommendations for addressing and/or accommodating their concerns. As part of the consultation process MI will ensure that the community receives feedback on the information they provide and how their information and concerns were included in the decision making process.

Detailed mitigation and monitoring program (e.g., aquatic monitoring plan, fisheries offset plan, sediment management plan, heritage resource protection plan) review discussions have been incorporated into the community specific work plan that supports consultation. Information shared throughout these discussions will be included in the subsequent development of mitigation strategies and environmental management and/or monitoring plans, in order to ensure that any potential impacts from the project are appropriately assessed and accommodated.

Phases III and IV of consultations will include reviewing community concerns and incorporating their recommendations, and communicating the decision and licence conditions to the First Nation. As the project develops, Manitoba will use the information obtained and will make reasonable efforts to address concerns that are identified by the communities, and will continue to work collaboratively with the First Nation and share relevant information throughout the consultation process.

The Traditional Knowledge Study report is expected to be completed by early spring 2020, the community consultation meetings will be completed by summer 2020, and the Community Consultation Report will be completed by summer 2020.

Little Saskatchewan First Nation

Manitoba Infrastructure's initial assessment has determined Little Saskatchewan First Nation (LSFN) is highly likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). Little Saskatchewan First Nation has indicated that community traditional uses occur in the Lake St. Martin and Lake Winnipeg areas, such as hunting, trapping, gathering, fishing, and ceremonial practices.

Manitoba Infrastructure is undertaking a fulsome, in-person consultation process with Little Saskatchewan First Nation that includes providing funding for a collaboratively developed consultation work plan, conducting a Traditional Knowledge land-use study, hiring of a community coordinator, and a minimum of three community and stakeholder meetings.

As of February 2020, a total of 16 meetings, 16 letters and 80 email and/or phone calls have occurred between Manitoba and Little Saskatchewan First Nation.

Community Information

Little Saskatchewan First Nation No. 274 (CIRNAC 2019a) is a Treaty 2 Ojibway Nation located along the western shoreline of Lake St. Martin, approximately 16 km from the PDA. Little Saskatchewan First Nation holds membership in the Interlake Reserves Tribal Council (IRTC 2019a). The community is accessible from the north by PR 513 or from the south via passage through Pinaymootang First Nation. The governance system for Little Saskatchewan First Nation consists of a Chief and four Councilors, who are elected under the *Indian Act* Election system (CIRNAC 2019a). As of June 2019, Little Saskatchewan First Nation had a registered population of 1,322 (CIRNAC 2019a). Little Saskatchewan First Nation has two reserve parcels: Little Saskatchewan 48, which has an area of 1,310.80 ha, and Little Saskatchewan 48B, which has an area of 97.50 ha (CIRNAC 2019a). The community has a fire hall and band office (Government of Canada 2013). Little Saskatchewan First Nation has its own health centre (Little Saskatchewan Health Centre n.d.). The nearest hospital is in Ashern, approximately 70 km south.

Moose and white-tailed deer are important species to Indigenous groups in the Interlake area for subsistence hunting, including Little Saskatchewan First Nation. The proposed Project is adjacent to GHA 21, GHA 16, and GHA 25 to the southeast (Manitoba Infrastructure 2019b). Upland bird and waterfowl hunting by Little Saskatchewan First Nation focuses on a variety of species (see Appendix 10A, Table 10A.2-1 Species of Interest for Indigenous Groups Engaged on the Project; Manitoba Infrastructure 2019b). Little Saskatchewan First Nation hunt in the RAA and LAA (Golder Associates 2018).

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Little Saskatchewan First Nation. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

A notification package dated August 13, 2015, contained a letter to the Chief explaining proposed Project will minimize the threat of flooding to communities and lands on the shores of both Lake Manitoba and Lake St. Martin. The notification package also included information that Manitoba recognizes its responsibility to undertake Engagement and Crown-Aboriginal Consultation, as the proposed Project may potentially affect the community's Aboriginal and Treaty rights. Following the 2011 flood event, Manitoba commissioned the Lake Manitoba and Lake St. Martin Regulation Review and the Assiniboine River and Lake Manitoba Basin Flood Mitigation Study. The Lake Manitoba and Lake St. Martin Flood Review Committee recommended that an additional outlet be constructed from Lake Manitoba and that the Lake St. Martin Emergency Outlet Channel to be converted to permanent infrastructure. As part of the flood mitigation study, several outlet channel options were developed for managing water levels on the both Lake Manitoba and Lake St. Martin.

Information Sharing and Initial Concerns

In the fall of 2014, an overview of conceptual design work for the proposed outlet channels, six (6) options were considered for the Lake Manitoba and Lake St. Martin Outlet Channels. Manitoba extended an invitation for Chief and Council to attend an information session for September 9, 2015. The objectives of the information session was to present findings from the conceptual design study, obtain feedback and comments on preferred alignment of each channel, commence discussions on Crown-Aboriginal Consultation and explore options for Aboriginal involvement in delivery of the project.

On November 26, 2015, a meeting with the IRTC communities including LSFN was held to discuss the proposed project and any initial concerns that communities had.

July 22, 2016 letter to the First Nation stated that Manitoba is committed to enhancing the outlet capacity from Lake Manitoba and Lake St. Martin in order to better maintain lake levels within their desirable range during periods of high water. The letter included a map identifying components for the proposed project, construction of the Lake Manitoba Outlet Channel, enhancement of the Lake St. Martin Emergency Outlet Channel, and construction of a hydro line providing electrical power for operation of Lake St. Martin Water Control Structure. In a follow up letter dated September 23, 2016, Manitoba proposed a meeting to discuss project information that has been generated in the project area on issues such as fisheries, water quality, aquatic habitat, and wildlife, and share information about environmental licensing regulations and processes.

A meeting on April 28, 2017 included an overview of the proposed Project, and discussions around the outlet channels alignment and recommendations, the Lake St. Martin Emergency Outlet Channel - Interim Operation Authorization, resource mapping proposal, road access, and funding for Section 35 Consultation process, engagement opportunities, and information on the environmental assessment. During the meeting, the First Nation concluded that a greater understanding of the project for the communities is beneficial in that it helps pose questions and identify possible concerns that were not known prior. In addition to Chief and Council for Little Saskatchewan First Nation, attendance from Chief and Councils of Lake Manitoba First Nation, Ebb and Flow First Nation, the Southern Chiefs Organization, and representatives of the IRTC also occurred.

Consultation Process and Work Plan Development

Manitoba Infrastructure met with Little Saskatchewan First Nation and their legal Counsel on November 4, 2016. This initial meeting with Little Saskatchewan First Nation provided a general discussion around the project and the community's concerns prior to the meeting with the councilors regarding specific concerns with commercial fisheries on Lake St. Martin. The agenda comprised a project overview, review of environmental information, and consultation process. The Manitoba Consultation Participant Fund Guideline document, project area maps were provided. Chief had questions about what costs will be covered, Manitoba Indigenous and Norther Relations (INR) explained that expenses related to the work plan such as Elders interviews, a community coordinator, professional fees includes lawyer fees, and travel are applicable. During the meeting, the community raised the following concerns: access road into the Mantago Lake WMA and concerns around potential for increased access; modifications to the Fairford Structure with respect to flows either to propose an increase or a decrease in flows; and, provision of information to commercial fishers. Manitoba responded that access past the new permanent road (winter road) will be controlled and that commercial fishers are included in project information sharing.

July 2017 Manitoba and LSFN entered formally into Crown consultation with IRTC facilitating the process. A letter to LSFN Chief dated December 1, 2017 provided further informing on the status of the IRTC facilitated Crown consultation process, including describing the four phases of consultation. These discussions led to the signing of a consultation funding agreement with the IRTC (representing Dauphin River First Nation, Kinonjeoshtegon First Nation, Lake Manitoba First Nation, Little Saskatchewan First Nation, Peguis First Nation, and Pinaymootang First Nation) and the production of the *Interlake Reserves Tribal Council October Phase 1 Traditional Land Use and Traditional Knowledge Report* (Golder 2018).

On November 8, 2018, Manitoba received a Band Council Resolution (BCR) indicating that LSFN is opting out of the IRTC facilitated process and have identified a community coordinator to lead the consultation process for LSFN. Manitoba also informed LSFN December 4, 2018 that Manitoba is continuing to develop the Environmental Impact Assessment.

On January 11, 2019, Manitoba met with LSFN Community Coordinator to present a Traditional Knowledge (TK) proposal in preparation for mutual development of a Crown consultation work plan. On July 4, 2019, Manitoba met with LSFN Chief and Council, their Community Coordinator, and their consultant on overview of work plan and consultation process for the project.

Consultation work plans and other communications including ongoing letters, emails, and phone calls have and will continue to provide numerous opportunities for the community to review and provide comments on the information used for describing and assessing effects on Aboriginal peoples, including impacts to Aboriginal or Treaty rights.

Areas of discrepancy between the community and Manitoba were determined and addressed throughout the consultation process by providing opportunities for local perspectives to be captured and recorded in community led Traditional Knowledge and Resource Use studies, and by developing mutually agreed upon consultation work plans that include community review of all project related reports and documentation, and discussions around mitigations, accommodations, as well as conditions issued under the Project's Environment Act Licence and/or the Impact Assessment Agency of Canada's Decision

Statement. In addition, Phase III of consultations allows affected Indigenous groups to validate Indigenous knowledge that will be integrated into the EIS.

Traditional Knowledge Shared Throughout the Consultation Process

Little Saskatchewan First Nation reported subsistence and recreational fishing occur in Lake St. Martin, Dauphin River, Mantagao River, and Sturgeon Bay year-round (Manitoba Infrastructure 2019b). Fishing focuses on northern pike, walleye, and lake whitefish as well as a variety of other species (see Appendix 10A, Table 10A.2-1 Species of Interest for Indigenous Groups Engaged on the Project; Manitoba Infrastructure 2019b). Little Saskatchewan First Nation also reported trapping muskrats in the RAA (Golder Associates 2018).

Little Saskatchewan First Nation gathers plants and berries in the RAA and LAA. Little Saskatchewan First Nation members indicated that berry picking takes place near Lake St. Martin. It was also reported that prior to the 2011 flood, raspberries, chokecherries, strawberries, and gooseberries were gathered (Golder Associates 2018). Other berry-gathering places that were actively used prior to the 2011 flood include Little Saskatchewan 48 Reserve and The Narrows 49 Reserve (Golder Associates 2018). Seneca root and weekey, medicinal plants, are both gathered on the Reserve (Golder Associates 2018).

Little Saskatchewan First Nation also indicated that the flooding of Lake St. Martin has resulted in impacts to the harvest of medicinal herbs and plants (Manitoba Infrastructure 2018b).

Little Saskatchewan First Nation reported the presence of a cemetery on the Reserve. This cemetery is important to Little Saskatchewan First Nation, and a desire to have a dike installed to protect it in the event of flooding was expressed (Golder Associates 2018).

The recent Lake St. Martin Access Road Project has caused concern for Little Saskatchewan First Nation regarding the road's location, whether or not it will be gated, and if there will be impacts to road maintenance (Manitoba Infrastructure 2019a).

A summary of the issues and concerns raised by Little Saskatchewan First Nation to date is included in the EIS: Appendix 5A, Table 5A.13.

Other Notifications (Sec. 35 Consultations for minor works related to the project)

The following eight emails and letters were sent to LSFN to notify them of upcoming fieldwork and provide an opportunity for comments: August 22, 2016 fieldwork to collect more geotechnical data in the area of Reach 2; December 27, 2018 investigative work being done by KGS on preliminary design of outlet channels; February 11, 2019 investigative fieldwork including access development, snow and bush/tree clearing, drilling, groundwater monitoring, topographic surveys, and ground penetrating radar (seismic) surveys; February 27, 2019 topographic survey proposed transmission line; May 7, 2019 rock availability study; July 23, 2019 sentinel well installation and monitoring; August 13, 2019 borrow pit excavation; and, January 31, 2020 winter fieldwork investigation.

Next Steps

Manitoba continues to meet with LSFN throughout the consultation process. Community meetings as part of the agreed upon consultation work plan will involve dialogue around the environmental assessment process, the EIS, verification of community baseline information, mitigation and environmental monitoring plans, and community recommendations for addressing and/or accommodating their concerns. As part of the consultation process MI will ensure that the community receives feedback on the information they provide and how their information and concerns were included in the decision making process.

Detailed mitigation and monitoring program (e.g., aquatic monitoring plan, fisheries offset plan, sediment management plan, heritage resource protection plan) review discussions have been incorporated into the community specific work plan that supports consultation. Information shared throughout these discussions will be included in the subsequent development of mitigation strategies and environmental management and/or monitoring plans, in order to ensure that any potential impacts from the project are appropriately assessed and accommodated.

Phases III and IV of consultations will include reviewing community concerns and incorporating their recommendations, and communicating the decision and licence conditions to the First Nation. As the project develops, Manitoba will use the information obtained and will make reasonable efforts to address concerns that are identified by the communities, and will continue to work collaboratively with the First Nation and share relevant information throughout the consultation process.

The Traditional Knowledge Study report is expected to be completed by early spring 2020, the community consultation meetings will be completed by summer 2020, and the Community Consultation Report will be completed by summer 2020.

Dauphin River First Nation

Manitoba Infrastructure's initial assessment has determined Dauphin River First Nation (DRFN) is highly likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). Dauphin River First Nation has indicated that community traditional uses occur in the Lake St. Martin and Lake Winnipeg areas, such as hunting, trapping, gathering, fishing, and ceremonial practices.

Manitoba Infrastructure is undertaking a fulsome, in-person consultation process with Dauphin River First Nation that includes providing funding for a collaboratively developed consultation work plan, conducting a Traditional Knowledge land-use study, hiring of a community coordinator, and a minimum of three community and stakeholder meetings.

As of February 2020, a total of eleven meetings, 13 letters, and 54 emails and/or phone calls have occurred between Manitoba and DRFN.

Community Information

Dauphin River First Nation No. 316 (CIRNAC 2019a) is an Ojibway Treaty 2 Nation located in the Interlake Region, and situated on the north shore of the Dauphin River, approximately 4 km from the PDA. Dauphin River First Nation is adjacent the Dauphin River Northern Affairs Community. As of May 2019, Dauphin River First Nation had a registered population of 388 (CIRNAC 2019a). The Nation has one reserve (48a), which covers an area of 325.8 ha (CIRNAC 2019a). Dauphin River First Nation is a member of Interlake Reserves Tribal Council (IRTC 2019a) and is governed by a Chief and two Councilors who are elected according to a custom electoral system (CIRNAC 2019a). Local medical services are provided by a community health worker, while the nearest hospital is in Ashern, approximately 150 km south. In 2018, Dauphin River First Nation celebrated the opening of a K-8 school on its reserve (Government of Manitoba 2016c).

Moose (*Alces alces*) and white-tailed deer (*Odocoileus virginianus*) are important species for subsistence hunting for Indigenous groups in the Interlake area, including Dauphin River First Nation. Dauphin River First Nation members hunt and trap along the shoreline of Lake Winnipeg and along Buffalo Creek, with moose and deer habitat found in both areas (Golder Associates 2018). The province of Manitoba is divided into game hunting areas (GHAs) that are applicable to all Indigenous and Non-Indigenous resource users. The proposed Project is near GHA 21, GHA 16, and GHA 25 to the southeast (Manitoba Infrastructure 2019b). Upland game bird and waterfowl hunting by Dauphin River First Nation focuses on a variety of species (see the EIS: Appendix 10A, Table 10A.2-1 Species of Interest for Indigenous Groups Engaged on the Project; Manitoba Infrastructure 2019b).

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Dauphin River First Nation. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

On August 13, 2015, Manitoba sent a letter to the community's leadership informing them of the Manitoba commitment to enhancing outlet capacity from Lake Manitoba and Lake St. Martin in order to reduce the threat of flooding. The letter outlined the conceptual design for the proposed Project, and the process to further the design. A notification package dated July 22, 2016, contained a letter to the Chief explaining the Project and Manitoba Infrastructure's initial assessment that the Project may potentially affect the community's Aboriginal or Treaty Rights. The notification package also included information on the regulatory authorities involved, Manitoba Infrastructure contact information, two maps, and a request for a meeting.

Information Sharing and Initial Concerns

On September 9, 2015, some community members participated in an information session in Winnipeg, where conceptual design findings were presented, feedback on channel alignment options was obtained, and options for Aboriginal involvement in the delivery of the Project were explored. Dauphin River First Nation leadership participated in an information sharing session regarding the Project on November 26, 2015 with communities represented by the IRTC including Peguis First Nation, Little Saskatchewan First Nation, Pinaymootang First Nation, Dauphin River First Nation, Lake Manitoba First Nation, and Kinonjeoshtegon First Nation.

The Chief of the First Nation participated in a meeting on July 5, 2016 with Manitoba Infrastructure and other Chiefs of several First Nation communities located around Lake St. Martin to discuss the Project. A meeting was held on August 2, 2016 between Manitoba Infrastructure and Chief and Council. The First Nation expressed concerns regarding outstanding issues with past flood events. Telephone calls and letters were sent to the First Nation leadership following the August 2, 2016 meeting and Manitoba Infrastructure sent another letter on September 23, 2016 requesting a meeting to better understand the potential effects of the Project on the community as well as to begin developing a consultation plan and preliminary budget. A meeting between Manitoba Infrastructure and Dauphin River First Nation was held on November 16, 2016 to discuss employment opportunities associated with the Project and the construction tendering process. At the meeting, the First Nation advised Manitoba Infrastructure that construction could not begin until community members returned to their reserve lands and all outstanding flood issues are resolved.

Between November 25, 2016 and March 2017, several emails and phone calls were exchanged to confirm a meeting date to discuss Aboriginal and Treaty Rights. In the meeting on April 12, 2017 between Manitoba, Dauphin River First Nation and the IRTC, among other items, this meeting included discussion about the purpose of the project, the consultation process, opportunities to support traditional knowledge studies, potential employment opportunities. The community mapped and identified areas of importance and issues of concern. An information sharing meeting with the IRTC on April 28, 2017 involved Dauphin River First Nation, Lake St. Martin First Nation, Little Saskatchewan First Nation, Lake Manitoba First Nation, Ebb and Flow First Nation, Southern Chiefs Organization, and Manitoba to provide an overview of the Project, including alignment options, and understand the consultation process and potential economic opportunities.

Consultation Planning and Work Plan Development

On May 4, 2017, the Chief for Dauphin River First Nation signed the May 4th Council of Chiefs Resolution in support of having IRTC act as the coordinator for all six First Nations in regard to the Traditional Knowledge study (TK) and consultation. On May 17, 2017 the IRTC submitted a proposal to the province for consultation funding, which was supported by its members, including Dauphin River FN. The letter confirmed support for the Project by the IRTC and its members. Manitoba Infrastructure's response in a letter on May 24, 2017 committed Manitoba to continued dialogue and collaboration with potentially affected communities. Manitoba Infrastructure met with commercial fishers from Dauphin River First Nation on August 31, 2017 and with Councilors from the First Nation on October 24, 2017 to answer questions and address concerns. On December 1, 2017, Manitoba Infrastructure sent a letter to the Chief outlining the four phases of the Manitoba consultation process.

These discussions led to the signing of a consultation funding agreement with the IRTC (representing Dauphin River First Nation, Kinonjeoshtegon First Nation, Lake Manitoba First Nation, Little Saskatchewan First Nation, Peguis First Nation, and Pinaymootang First Nation) and the production of the *Interlake Reserves Tribal Council October Phase 1 Traditional Land Use and Traditional Knowledge Report* (Golder 2018).

The work plan and budget to support Phase II, III, and IV consultation activities, including hiring of a community coordinator, conducting a Traditional Knowledge (TK) study, and a minimum of three community meetings was mutually agreed upon and a funding agreement was signed on November 29th, 2019.

The TK component of the work plan involves interviews with Elders and resource users, a mapping exercise, and a site visit. The TK report will contain at minimum information on the following:

- location(s) in which rights are being practiced or exercised;
- the context in which the right is practiced or exercised (including information about which groups of an Indigenous group practice the right (women, elders, youth), how the right was practiced historically);
- how the Indigenous group's cultural traditions, laws and governance systems inform the manner in which they exercise their rights (the who, what, when, how, where and why);
- the Indigenous group's perspectives on the importance of the land on which the Project is located and how it intersects with any land management uses and/or plans they may have;
- how often the right is practiced or exercised and timing or seasonality of the practice or exercise of the right; and,
- maps and data sets (e.g., fish catch numbers).

Consultation work plans and other communications including ongoing letters, emails, and phone calls have and will continue to provide numerous opportunities for the community to review and provide comments on the information used for describing and assessing effects on Aboriginal peoples, including impacts to Aboriginal or Treaty rights.

Community concerns will be addressed throughout the consultation process consultation process by providing opportunities for local perspectives to be captured and recorded in community led Traditional Knowledge and Resource Use studies, and by developing mutually agreed upon consultation work plans

that include community review of all project related reports and documentation, and discussions around mitigations, accommodations, as well as conditions issued under the Project's Environment Act Licence and/or the Impact Assessment Agency of Canada's Decision Statement. In addition, Phase III of consultations allows affected Indigenous groups to validate Indigenous knowledge that will be integrated into the EIS.

Traditional Knowledge Shared Throughout the Consultation Process

Through the Indigenous engagement program for this Project, Dauphin River First Nation indicated that moose and deer habitat and hunting areas along Lake Winnipeg and Buffalo Creek were affected by operation of the LSMEOC.

Dauphin River First Nation trap furbearers such as marten and fisher along PR 513 and beaver and muskrat along the proposed Lake St. Martin channel route (Golder Associates 2018:5). Through the Indigenous engagement program for this Project, Dauphin River First Nation indicated that trapping areas were affected by operation of the LSMEOC.

Dauphin River First Nation reported subsistence and recreational fishing occur at Lake St. Martin, Dauphin River, Mantagao River, and Sturgeon Bay year-round (Manitoba Infrastructure 2019b). Fishing focuses on northern pike (*Esox lucius*), walleye (*Sander vitreus*), and lake whitefish (*Coregonus clupeaformis*) as well as a variety of other species important to the Dauphin River First Nation (see Appendix 10A, Table 10A.2-1; Manitoba Infrastructure 2019b).

Dauphin River First Nation fish for walleye (pickerel) along Lake Winnipeg and have identified a spawning area at the south end of that lake (see Golder Associates 2018).

Dauphin River First Nation previously gathered berries and medicinal plants in their traditional territory, but the 2011 flood removed much of the desired vegetation (Golder Associates 2018). Through the Indigenous engagement program for this Project, Dauphin River First Nation indicated that medicinal plant gathering areas were affected by operation of the EOC.

Dauphin River First Nation noted two historic settlements on the west shore of Lake Winnipeg. Graves are located at one of these settlements, north of the EOC (Golder Associates 2018). A pulp mill was also noted by Dauphin River First Nation at the south end of Lake Winnipeg, and a snowmobile trail was mapped that crosses the EOC (Golder Associates 2018). Six registered archaeological sites were identified in the Interlake region from the Provincial Archaeological Site Inventory: "Four of the sites were identified as historic period and included sites of fur trade and homestead influence; the two remaining sites were identified as Middle to Late Woodland Period (ca. 2,000 to 350 years ago) based on the stone tools and Native ceramics" (Manitoba Infrastructure 2019b:4-50). One of these sites is located on Dauphin River First Nation lands (Manitoba Infrastructure 2019b).

Dauphin River First Nation reported the existence of a snowmobile trail that intersects the proposed LSMOC (Golder Associates 2018). The recent Lake St. Martin Access Road Project has caused concern for Dauphin River First Nation regarding the road's location, whether or not it will be gated, and potential for impacts to road maintenance (Manitoba Infrastructure 2019a).

A summary of issues and concerns raised by Dauphin River First Nation to date are included in the EIS: Appendix 5A, Table 5A.6.

Other Notifications (Sec. 35 Consultations for minor works related to the project)

On August 22, 2016, Manitoba advised the community of upcoming fieldwork for geotechnical investigations. Six additional letters were sent from December 2017 to February 2020 notifying DRFN of the fieldwork for the topographic survey, rock availability studies, borrow pit excavation, tender opportunities, and well installations. Manitoba did not receive any comments from the First Nation regarding these notifications.

Next Steps

Manitoba continues to meet with DRFN throughout the consultation process. Community meetings as part of the agreed upon consultation work plan will involve dialogue around the environmental assessment process, the EIS, verification of community baseline information, mitigation and environmental monitoring plans, and community recommendations for addressing and/or accommodating their concerns. As part of the consultation process MI will ensure that the community receives feedback on the information they provide and how their information and concerns were included in the decision making process.

Detailed mitigation and monitoring program (e.g., aquatic monitoring plan, fisheries offset plan, sediment management plan, heritage resource protection plan) review discussions have been incorporated into the community specific work plan that supports consultation. Information shared throughout these discussions will be included in the subsequent development of mitigation strategies and environmental management and/or monitoring plans, in order to ensure that any potential impacts from the project are appropriately assessed and accommodated.

Phases III and IV of consultations will include reviewing community concerns and incorporating their recommendations, and communicating the decision and licence conditions to the First Nation. As the project develops, Manitoba will use the information obtained and will make reasonable efforts to address concerns that are identified by the communities, and will continue to work collaboratively with the First Nation and share relevant information throughout the consultation process.

The Traditional Knowledge Study report is expected to be completed by early spring 2020, the community consultation meetings will be completed by summer 2020, and the Community Consultation Report will be completed by summer 2020.

Dauphin River Northern Affairs Community

Manitoba Infrastructure's initial assessment has determined Dauphin River Northern Affairs Community (NAC) is highly likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). Dauphin River Northern Affairs Community has indicated that community traditional uses occur in the Lake St. Martin and Lake Winnipeg areas, such as hunting, trapping, gathering, fishing, and ceremonial practices.

Manitoba Infrastructure is undertaking a fulsome, in-person consultation process with Dauphin River Northern Affairs Community that includes providing funding for a collaboratively developed consultation work plan, conducting a Traditional Knowledge land-use study, hiring of a community coordinator, and a minimum of three community and stakeholder meetings.

As of February 2020, a total of six meetings, 12 letters, and 41 emails and/or phone calls have occurred between Manitoba and Dauphin River Northern Affairs Community.

Community Information

Dauphin River lies in the Interlake Region of Manitoba, located at the mouth of the Dauphin River at Lake Winnipeg, approximately 5 km from the PDA. Access is provided by PR 513 (Government of Manitoba 2016c). Dauphin River NAC has a Mayor and two Councilors elected under the *Northern Affairs Act*, as well as other community-based personnel (Northern Association of Community Councils 2019). As of 2011, the population numbered 30, distributed among 15 housing units (Government of Manitoba 2016c). The local economy is closely linked to fishing and trapping, with some tourism (Government of Manitoba 2016c). Local services include a community health worker, an airstrip, a restaurant, fishing guides, recreational facilities, and a community hall (Government of Manitoba 2016c). The community of Gypsumville, some 70 km to the southwest, provides postal, police, grocery, gasoline, and mechanical service to Dauphin River NAC (Dauphin River 2010). Educational services are provided by Frontier School Division (Government of Manitoba 2016c). The nearest hospital is located in Ashern, approximately 160 km to the south (Dauphin River 2010).

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Dauphin River Northern Affairs Community. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

A notification package dated July 22, 2016, contained a letter to the Mayor explaining the Project and included information on the regulatory authorities involved, Manitoba Infrastructure contact information, two maps, and a request for a meeting. On September 7, 2016 Manitoba Infrastructure received a report from the Dauphin River NAC identifying the community issues and concerns. On December 16, 2016 an initial meeting was held to introduce the Project. The Project alignment options was presented to the community Council. Issues were raised and recorded.

Information Sharing and Initial Concerns

On September 7, 2016, Dauphin River sent Manitoba a report on issues relating to damages and concerns from the operation of the Emergency Lake St. Martin Outlet Channel, including housing, well water, community building and roads, and fisheries.

On March 22, 2017 at the open house in Ashern, Manitoba, Dauphin River Northern Affairs Community requested information on the proposed permanent channels. As a result, three meetings were held from August 2017 to August 2018 to present Project information and to receive information from Area 6 Fishers. A combined fishers meeting with Dauphin River NAC and Dauphin River First Nation was then held on August 31, 2017.

On March 15, 2018, a meeting was held to discuss the Interim Operation of the Lake St. Martin Emergency Channel, Project details, and a draft consultation work plan and budget.

A letter dated September 6, 2018 was sent to Dauphin River to verify their concerns. A follow-up letter was also sent on September 19, intending to verify and finalize their concerns.

Manitoba received two letters dated September 30, 2019 and November 25, 2019 reiterating the community's concerns that fish and water quality are important to the community.

Consultation Process and Work Plan Development

A meeting was held on March 22, 2017 were Manitoba Infrastructure expressed their interest in developing a consultation plan and budget so that community knowledge could be incorporated into the regulatory requirements. Several communications, including letters dated December 1, 2017, September 6, 2017 and September 17, 2017, were exchanged from March 2017 to September 2018 regarding the consultation work plan, proposed funding agreement, and draft budget. On November 19, 2019, a discussion with the community concluded that the work plan is currently in draft form, but both Manitoba and Dauphin River are supportive of finalizing a funding agreement and proceeding with consultations.

Community meetings as part of the agreed upon consultation work plan will involve dialogue around the environmental assessment process, the Environmental Impact Statement (EIS), mitigation and environmental monitoring plans, and community recommendations for addressing and/or accommodating their concerns. As part of the consultation process Manitoba will ensure that the community receives feedback on the information they provide and how their information and concerns were included in the decision making process.

Consultation work plans and other communications including ongoing letters, emails, and phone calls have and will continue to provide numerous opportunities for the community to review and provide comments on the information used for describing and assessing effects on Aboriginal peoples, including impacts to Aboriginal or Treaty rights.

Areas of discrepancy between the community and Manitoba were determined and addressed throughout the consultation process by providing opportunities for local perspectives to be captured and recorded in community led Traditional Knowledge and Resource Use studies, and by developing mutually agreed upon consultation work plans that include community review of all project related reports and documentation, and discussions around mitigations, accommodations, as well as conditions issued under the Project's Environment Act Licence and/or the Impact Assessment Agency of Canada's Decision

Statement. In addition, future consultation allows affected Indigenous groups to validate Indigenous knowledge that will be integrated into the EIS.

Traditional Knowledge Shared Throughout the Consultation Process

In a report on the effects of the operation of the Lake St. Martin Emergency Outlet Channel (LSMEOC), the Dauphin River NAC indicated that the LSMEOC has caused loss of habitat for wildlife, such as moose and deer, who have now moved elsewhere. There has been an increase in problem bears as a result of habitat disturbance and displacement (Einarsson 2017).

Dauphin River indicated that due to the operation of the LSMEOC, water levels have changed. The water has become too deep for muskrat and beavers, and their structures were seriously impacted during the 2011 flood and LSMEOC operation. As a result, Dauphin River Northern Affairs Community stated that trapping areas have been wiped out (Einarsson 2017).

Dauphin River indicated that as a result of the 2011 flood and subsequent LSMEOC operation, “our equipment was damaged, fish stocks were depleted by the loss of spawn in 2011, 2012 and 2014; thousands of mature fish were killed when trapped in the channel” (Einarsson 2017).

Dauphin River reported that the availability of berries and other edible plants have been negatively affected by flooding and use of the LSMEOC (Einarsson 2017).

Dauphin River Northern Affairs Community has also expressed concerns around the Lake St. Martin Emergency Channel Access Road Project including the road’s location, whether or not it will be gated, and the potential impacts to road maintenance (Manitoba Infrastructure 2019a).

Dauphin River has concerns that fish spawning have been affected in particular at Willow Point, and raised questions about how the Project will affect fish movements; and, how debris and sediment during construction and operation will affect fish, the fishery, and public safety. Also of concern are moose and dear mobility in the project area for both during construction and when complete.

A summary of issues and concerns raised by Dauphin River NAC is included in the EIS: Appendix 5A, Table 5A.19.

Other Notifications (Sec. 35 Consultations for minor works related to the project)

The following eight emails and letters were sent to Dauphin River to notify them of upcoming fieldwork and provide an opportunity for comments: August 22, 2016 fieldwork to collect more geotechnical data in the area of Reach 2; December 27, 2018 investigative work being done by KGS on preliminary design of outlet channels; February 11, 2019 investigative fieldwork including access development, snow and bush/tree clearing, drilling, groundwater monitoring, topographic surveys, and ground penetrating radar (seismic) surveys; February 27, 2019 topographic survey proposed transmission line; May 7, 2019 rock availability study; July 23, 2019 sentinel well installation and monitoring; August 13, 2019 borrow pit excavation; and, January 31, 2020 winter fieldwork investigation.

Next Steps

Manitoba continues to meet with Dauphin River Northern Affairs Community throughout the consultation process. Community meetings as part of the agreed upon consultation work plan will involve dialogue

around the environmental assessment process, the EIS, verification of community baseline information, mitigation and environmental monitoring plans, and community recommendations for addressing and/or accommodating their concerns. As part of the consultation process MI will ensure that the community receives feedback on the information they provide and how their information and concerns were included in the decision making process.

Detailed mitigation and monitoring program (e.g., aquatic monitoring plan, fisheries offset plan, sediment management plan, heritage resource protection plan) review discussions have been incorporated into the community specific work plan that supports consultation. Information shared throughout these discussions will be included in the subsequent development of mitigation strategies and environmental management and/or monitoring plans, in order to ensure that any potential impacts from the project are appropriately assessed and accommodated.

Phases III and IV of consultations will include reviewing community concerns and incorporating their recommendations, and communicating the decision and licence conditions to the First Nation. As the project develops, Manitoba will use the information obtained and will make reasonable efforts to address concerns that are identified by the communities, and will continue to work collaboratively with the First Nation and share relevant information throughout the consultation process.

The Traditional Knowledge Study report is expected to be completed by early spring 2020, the community consultation meetings will be completed by summer 2020, and the Community Consultation Report will be completed by summer 2020.

Peguis First Nation Engagement and Consultation Summary

Manitoba Infrastructure's initial assessment has determined that Peguis First Nation (PFN) is highly likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). Manitoba Infrastructure's understanding is that Peguis First Nation's community traditional uses occur in the Lake Winnipeg area, such as hunting, trapping, gathering, fishing, and ceremonial practices.

Manitoba Infrastructure is undertaking a fulsome, in-person consultation process with Peguis First Nation that includes providing funding for a collaboratively developed consultation work plan, conducting a Traditional Knowledge land-use study, hiring of a community coordinator, and a minimum of three community and stakeholder meetings.

As of February 2020, a total of 11 meetings, 13 letters, and 58 emails and/or phone calls have occurred between Manitoba and Peguis First Nation.

Community Information

Peguis First Nation has published a comprehensive community plan and has an identified Community Interest Zone, which overlaps with the southeastern portions of the Project and the Regional Assessment Area (see Chapter 4 of the EIS). As was confirmed through the Traditional Knowledge study conducted in 2017, Peguis First Nation members use the land and waters in the PDA, LAA, and RAA for traditional activities such as hunting, fishing, gathering, and cultural ceremonies. As such, the Project could affect the availability of traditional resources due to changes in fish and wildlife habitat, changes in wildlife movement, changes in wildlife health or mortality, changes in plant communities and diversity, and changes in wetland functions.

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Peguis First Nation. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

Manitoba Infrastructure began engaging with Peguis First Nation with an information meeting on November 26, 2015 with Manitoba, Peguis First Nation, Little Saskatchewan First Nation, Pinaymootang First Nation, Dauphin River First Nation, Lake Manitoba First Nation, Kinonjeoshtegon First Nation, and the Interlake Reserves Tribal Council (IRTC), to discuss the status of the Project and answer any initial questions.

A notification package dated July 22, 2016, contained a letter to the Chief explaining the Project and Manitoba Infrastructure's initial assessment that the Project may potentially affect the community's Aboriginal or Treaty Rights. The notification package also included information on the regulatory authorities involved, Manitoba Infrastructure contact information, two maps, and a request for a meeting. A follow-up letter was sent on September 23, 2016.

Information Sharing and Initial Concerns

On September 6, 2018, a letter was sent to Peguis First Nation presenting the results of the hydrological modelling for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. T. Information regarding the Project, including the regulatory review. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

Consultation Planning and Work Plan Development (Phase II)

Seven meetings were held with the Peguis Consultation and Special Projects Office from October 2018 to January 2020 to discuss the development of the consultation work plan and associated funding agreement, and to provide updates on the Project. A work plan for moving forward has been mutually agreed upon and the associated budget is currently pending approval.

Traditional Knowledge Shared Throughout the Consultation Process

In 2017, Peguis First Nation participated in the IRTC led Traditional Knowledge (TK) study. An introductory meeting was held for all IRTC member communities; and, on October 26th, 2017 a community meeting was held in Peguis to provide an opportunity for members to learn about and provide input on the Project, as well as to collect TK information in relation to the proposed Project's location. Representatives from the Province attended each meeting, including staff from Manitoba Infrastructure and Manitoba Indigenous and Northern Relations to provide technical information related to the Project.

Generally, the community meeting included an overview of the Project that was provided by the Province, a question and answer period, and a period for gathering TK from community members. Golder facilitators were on site to assist in the gathering of TK during each meeting. Golder provided maps to record this information, including Project maps both with and without satellite imagery. Golder or IRTC representatives informed meeting participants that the intent of the TK data gathering was to establish whether the Project was likely to result in adverse effects on the IRTC member Nations. Meeting participants were also informed that the information gathered would be provided to the Province for incorporation into their EIS and Project decision-making process. Prior to collecting mapped TK information, Golder requested that each participant sign a consent form. The consent form was intended to inform participants that any information they shared would be retained in ownership by themselves, the IRTC and its member Nations but Golder and the Province would be provided access to this information solely for the purposes of the Project.

The community meeting was open to all interested community members and was approximately two hours in length. During the community meetings, participants were prompted to identify areas of hunting, trapping, fishing, plant gathering, cultural uses (e.g., trails, cabins, camps, gravesites) or areas of ecological importance (e.g., spawning areas, habitat areas, calving areas) that were located in proximity to the Project. A period of ten years was selected to represent current land use in acknowledgement that TK for many of the IRTC member land users was significantly altered because of the 2011 flooding.

Through this process, Peguis First Nation indicated that current hunting for moose, deer, and elk are taking place, specific locations are indicated in the TK report.

Peguis First Nation pick berries and medicines in various locations, with a high value area located east of the proposed EOC access road. Peguis First Nation indicated that the flooding of Lake St. Martin has resulted in impacts to the harvest of medicinal herbs and plants. Peguis First Nation indicated that an area where eagle feathers were gathered is located near the proposed LSMEOC access road.

Peguis First Nation rely upon existing roads in the area as access trails to game, including the Lake St. Martin access road and road that runs west of it. The recent Lake St. Martin Access Road Project has caused concern for Peguis First Nation regarding the road's location, whether or not it will be gated, and if there will be impacts to road maintenance.

While to date, no cultural or spiritual sites (e.g., gravesites, ceremonial sites, cabins, etc.) have been identified in the Project footprint, members were concerned about the potential for unidentified sites and wanted to ensure that any sites would be protected and avoided. It was also noted that commemoration of sites historical, cultural or spiritual importance to the communities might aid in their protection. Study participants expressed the need to conduct a site visit on the proposed Project footprint to be able to confirm whether unreported sites of importance are located at these areas. As such, a site visit for community members is incorporated into the consultation work plan and accompanying Traditional Knowledge Study.

A summary of the issues and concerns raised to date by Peguis First Nation are included in the EIS Appendix 5A, Table 5A.17.

Other Notifications (Sec. 35 Consultations for minor works related to the project)

On August 22, 2016, Manitoba advised the community of upcoming fieldwork for geotechnical investigations. Three additional letters were sent from December 2017 to January 2020 notifying Peguis First Nation of the fieldwork for the topographic survey, rock availability studies, borrow pit excavation, tender opportunities, and well installations.

Next Steps

Manitoba continues to meet with Peguis First Nation throughout the consultation process. Community meetings as part of the agreed upon consultation work plan will involve dialogue around the environmental assessment process, the EIS, verification of community baseline information, mitigation and environmental monitoring plans, and community recommendations for addressing and/or accommodating their concerns. As part of the consultation process MI will ensure that the community receives feedback on the information they provide and how their information and concerns were included in the decision making process.

Detailed mitigation and monitoring program (e.g., aquatic monitoring plan, fisheries offset plan, sediment management plan, heritage resource protection plan) review discussions have been incorporated into the community specific work plan that supports consultation. Information shared throughout these discussions will be included in the subsequent development of mitigation strategies and environmental management and/or monitoring plans, in order to ensure that any potential impacts from the project are appropriately assessed and accommodated.

Phases III and IV of consultations will include reviewing community concerns and incorporating their recommendations, and communicating the decision and licence conditions to the First Nation. As the project develops, Manitoba will use the information obtained and will make reasonable efforts to address concerns that are identified by the communities, and will continue to work collaboratively with the First Nation and share relevant information throughout the consultation process.

The Traditional Knowledge Study report is expected to be completed by early spring 2020, the community consultation meetings will be completed by summer 2020, and the Community Consultation Report will be completed by summer 2020.

Lake Manitoba First Nation

Manitoba Infrastructure's initial assessment has determined that Lake Manitoba First Nation (LMFN) is less likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). It is Manitoba Infrastructure's current understanding that this community's primary use is concentrated on Lake Manitoba as it relates to fishing and water related activities, and has expressed water-related concerns. Manitoba Infrastructure will share information with Lake Manitoba First Nation on the Project throughout the consultation process with in-person meetings, as required.

As of February 2020, a total of seven meetings, 11 letters, and 25 emails and/or phone calls have occurred between Manitoba and LMFN.

Community Information

Lake Manitoba First Nation No. 271 (CIRNAC 2019a) is an Ojibway-speaking Treaty 2 Nation located on the northeast shore of Lake Manitoba, approximately 34 km from the PDA. As of June 2019, Lake Manitoba First Nation had a registered population of 2,138 (CIRNAC 2019a) and is a member of the Interlake Reserves Tribal Council (IRTC 2019a). Lake Manitoba First Nation has one reserve (Dog Creek 46), which encompasses 3,770.6 ha (CIRNAC 2019a). Local facilities include a band office and fire hall (Government of Canada 2013). Lake Manitoba First Nation is governed by a Chief and four Councilors who are elected under the *Indian Act* Election System (CIRNAC 2019a; IRTC 2019a). The nearest hospital is in Eriksdale, approximately 40 km to the west. Police services are located in Ashern, approximately 50 km to the northwest.

Moose and white-tailed deer are important species to Indigenous groups in the Interlake area for subsistence hunting, including Lake Manitoba First Nation. Upland game bird and waterfowl hunting by Lake Manitoba First Nation focuses on a variety of species (Appendix 10A, Table 10A.2-1 Species of Interest for Indigenous Groups Engaged on the Project; Manitoba Infrastructure 2019b).

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Lake Manitoba First Nation. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

A notification package dated July 22, 2016, contained a letter to the Chief explaining the Project and Manitoba Infrastructure's initial assessment that the Project may potentially affect the community's Aboriginal or treaty Rights. The notification package also included information on the regulatory authorities involved, Manitoba Infrastructure contact information, two maps, and a request for a meeting.

Information Sharing and Initial Concerns

Manitoba Infrastructure began engaging with Lake Manitoba First Nation with an information meeting on November 26, 2015 with Manitoba, Peguis First Nation, Little Saskatchewan First Nation, Pinaymootang First Nation, Dauphin River First Nation, Lake Manitoba First Nation, Kinonjeoshtegon First Nation, and the Interlake Reserves Tribal Council (IRTC), to discuss the status of the Project and answer questions.

Three meetings were also held with the First Nation from July 2016 to February 2017 with Lake Manitoba First Nation Chief and Council, focusing on outstanding flood related issues. In December 2016, Council for Lake Manitoba First Nation contacted Manitoba Infrastructure requesting dates to begin the consultation process. In January 2017, Lake Manitoba First Nation explained they did not want to discuss the Project until outstanding flooding issues had been resolved. However, meetings and information continued to be exchanged.

An second information sharing meeting with the IRTC on April 28, 2017 involved Dauphin River First Nation, Lake St. Martin First Nation, Little Saskatchewan First Nation, Lake Manitoba First Nation, Ebb and Flow First Nation, Southern Chiefs Organization, and Manitoba to provide an overview of the Project and understand the consultation process.

Consultation Process and Work Plan Development

On May 4, 2017, the Chief for Lake Manitoba First Nation signed the May 4th Council of Chiefs Resolution in support of having IRTC act as the coordinator for all six First Nations in regard to the TK and consultation. The IRTC engagement plan was received on May 17, 2017. A presentation and community meeting were also held in June and October 2017, respectively, to share Project information presented at open house events. On December 1, 2017, Manitoba Infrastructure sent a letter to the Chief outlining the four phases of the Manitoba consultation process and explaining that they are at the end of Phase 2 with the August 10, 2017 consultation and funding agreement with IRTC.

These discussions led to the signing of a consultation funding agreement with the IRTC (representing Dauphin River First Nation, Kinonjeoshtegon First Nation, Lake Manitoba First Nation, Little Saskatchewan First Nation, Peguis First Nation, and Pinaymootang First Nation) and the production of the *Interlake Reserves Tribal Council October Phase 1 Traditional Land Use and Traditional Knowledge Report* (Golder 2018). This report provided initial TK information for the communities however, due to shortcomings in the quality and quantity of data that were collected, Manitoba determined that additional TK information was required for these communities.

Consultation Activities

The work plan and budget to support Phase II consultation activities, including hiring of a community coordinator, conducting a TK study, and a minimum of three community meetings was mutually agreed upon and a funding agreement was signed on November 14th, 2019.

The TK component of the work plan involves interviews with Elders and resource users, a mapping exercise, and a site visit. The TK report will contain at minimum information on the following:

- location(s) in which rights are being practiced or exercised;

- the context in which the right is practiced or exercised (including information about which groups of an Indigenous group practice the right (women, elders, youth), how the right was practiced historically);
- how the Indigenous group's cultural traditions, laws and governance systems inform the manner in which they exercise their rights (the who, what, when, how, where and why);
- the Indigenous group's perspectives on the importance of the land on which the Project is located and how it intersects with any land management uses and/or plans they may have;
- how often the right is practiced or exercised and timing or seasonality of the practice or exercise of the right; and,
- maps and data sets (e.g., fish catch numbers).

Consultation work plans and other communications including ongoing letters, emails, and phone calls have and will continue to provide abundant opportunities for the community to review and provide comments on the information used for describing and assessing effects on Aboriginal peoples, including impacts to Aboriginal or Treaty rights.

Areas of discrepancy between the community and Manitoba were determined and addressed throughout the consultation process by providing opportunities for local perspectives to be captured and recorded in community led Traditional Knowledge and Resource Use studies, and by developing mutually agreed upon consultation work plans that include community review of all project related reports and documentation, and discussions around mitigations, accommodations, as well as conditions issued under the Project's Environment Act Licence and/or the Impact Assessment Agency of Canada's Decision Statement. In addition, Phase III of consultations allows affected Indigenous groups to validate Indigenous knowledge that will be integrated into the EIS.

Traditional Knowledge Shared Throughout the Consultation Process

Lake Manitoba First Nation indicated that trapping takes place in the RAA and LAA, especially around Lake Manitoba, as well as to the south and east of the proposed EOC access road (Golder Associates 2018).

Lake Manitoba First Nation reported subsistence and recreational fishing occur Lake St. Martin, Dauphin River, Mantagao River, and Sturgeon Bay year-round (Manitoba Infrastructure 2019b). Fishing focuses on northern pike, walleye, and lake whitefish as well as a variety of other species (see the EIS Appendix 10A, Table 10A.2-1 Species of Interest for Indigenous Groups Engaged on the Project; Manitoba Infrastructure 2019b).

Lake Manitoba First Nation indicated that fishing takes place in the PDA, including within the Lake Manitoba channel and in Lake Winnipeg (Golder Associates 2018:8).

Lake Manitoba First Nation gather plants and berries in the RAA, noting that berry availability had decreased following the 2011 flood (Golder Associates 2018). Lake Manitoba First Nation also indicated that the flooding of Lake St. Martin has resulted in impacts to the harvest of medicinal herbs and plants (Manitoba Infrastructure 2018b).

A summary of the issues and concerns raised by Lake Manitoba First Nation to date are included in the EIS: Appendix 5A, Table 5A.11.

Other Notifications (Sec. 35 Consultations for minor works related to the project)

From December 2017 to February 2020, five letters were sent notifying LMFN of the fieldwork for the topographic survey, rock availability studies, borrow pit excavation, tender opportunities, and well installations. Manitoba did not receive any comments from the First Nation regarding these notifications.

Next Steps

Moving forward with communities who are potentially less impacted by the project, including LMFN, Manitoba will continue to share information and meet with the community, as necessary.

The Traditional Knowledge Study report is expected to be completed by early spring 2020, the community consultation meetings will be completed by summer 2020, and the Community Consultation Report will be completed by summer 2020.

More detailed information regarding the ongoing consultation process and timelines are provided in Section 3 of this report.

Kinonjeoshtegon First Nation

Manitoba Infrastructure's initial assessment has determined that Kinonjeoshtegon First Nation (KFN) is less likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). It is Manitoba Infrastructure's current understanding that this community's primary use is concentrated on Lake Winnipeg as it relates to fishing and water related activities, and has expressed water-related concerns. Manitoba Infrastructure will share information with Kinonjeoshtegon First Nation on the Project throughout the consultation process with in-person meetings, as required.

As of February 2020, a total of three meetings, 10 letters, and 29 emails and/or phone calls have occurred between Manitoba and KFN.

Community Information

Kinonjeoshtegon First Nation No. 268 (CIRNAC 2019a) is a Treaty 5 Chippewa Nation, located near the western shores of Lake Winnipeg, approximately 39 km from the PDA. Kinonjeoshtegon First Nation is a member of the Interlake Reserves Tribal Council (IRTC 2019a) Governance is provided under the *Indian Act* (CIRNAC 2019a), with an elected Chief and four Councilors (Interlake Reserves Tribal Council 2019). As of June 2019, the registered population for Kinonjeoshteogon First Nation was 788 (CIRNAC 2019a). Kinonjeoshtegon First Nation has two reserves, Jackhead 43, which is approximately 1200 ha in size, and Jackhead 43A, approximately 140 ha in size (CIRNAC 2019a). A renal health centre located in the Hodgson region provides service to Kinonjeoshtegon First Nation, as well as other First Nations in the area (Interlake-Eastern Regional Health Authority 2012). The nearest hospital is located in Arborg, approximately 70 km south-east.

Moose and white-tailed deer are important species to Indigenous groups in the Interlake area for subsistence hunting, including Kinonjeoshtegon First Nation. The proposed Project is adjacent to GHA 21, GHA 16, and GHA 25 to the southeast (Manitoba Infrastructure 2019b). Upland game bird hunting and water bird hunting by Kinonjeoshtegon First Nation focuses on a variety of species (Appendix 10A, Table 10A.2-1 Species of Interest for Indigenous Groups Engaged on the Project; Manitoba Infrastructure 2019b).

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Kinonjeoshtegon First Nation. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

Manitoba Infrastructure began engaging with Kinonjeoshtegon First Nation with an information meeting on November 26, 2015 with Manitoba, Peguis First Nation, Little Saskatchewan First Nation, Pinaymootang First Nation, Dauphin River First Nation, Lake Manitoba First Nation, Kinonjeoshtegon First Nation, and the IRTC, to discuss the status of the Project and answer questions.

A notification package dated July 22, 2016, contained a letter to Chief David Traverse explaining the Project and Manitoba Infrastructure's initial assessment that the Project may potentially affect the community's Aboriginal or treaty Rights. The notification package also included information on the regulatory authorities involved, Manitoba Infrastructure contact information, two maps, and a request for a meeting. Chief Traverse was contacted by phone on August 4, 2016 to confirm receipt of the July 22,

2016 letter and to schedule a meeting. Manitoba Infrastructure followed up with a letter on December 23, 2016 requesting a meeting to share Project information and to better understand community concerns.

Information Sharing and Initial Concerns

Phone calls and emails were exchanged between Manitoba Infrastructure and the Chief between March 15 and May 12, 2017 to follow up on previous discussions and to request a meeting with the community. On May 4, 2017, the Chief signed the May 4th Council of Chiefs Resolution in support of having IRTC act as the coordinator for all six First Nations in regard to the Traditional Knowledge and Land Use (TK) study and consultation. The IRTC engagement plan was received on May 17, 2017. Manitoba Infrastructure contacted the First Nation on June 23, 2017 to provide notice of two open houses, as well as the format and information that would be available at the open houses. On December 1, 2017, Manitoba Infrastructure sent a letter to the Chief outlining the four phases of the Manitoba consultation process and explaining that they are at the end of Phase 2 with the August 10, 2017 consultation and funding agreement with IRTC. A meeting was held on December 12, 2017 with Manitoba Infrastructure, INR and Kinonjeoshtegon First Nation, including community Elders, to discuss the consultation process, Project components and the regulatory process.

From September 6, 2018 to August 13, 2019, letters and emails were sent to the Chief regarding updated Project information and activities, including upcoming fieldwork. A meeting was held on July 28, 2019 with IRTC (facilitating consultation on behalf of the First Nation) to provide updated Project information and discuss updating the work plan and budget.

Consultation Planning and Work Plan Development

On May 4, 2017, the Chief for Kinonjeoshtegon First Nation signed the May 4th Council of Chiefs Resolution in support of having IRTC act as the coordinator for all six First Nations in regard to the TK and consultation. On May 17, 2017 the IRTC submitted a proposal to the province for consultation funding, which was supported by its members, including Kinonjeoshtegon. The letter confirmed support for the Project by the IRTC and its members. Manitoba Infrastructure's response in a letter on May 24, 2017 committed Manitoba to continued dialogue and collaboration with potentially affected communities. These discussions led to the signing of a consultation funding agreement with the IRTC (representing Dauphin River First Nation, Kinonjeoshtegon First Nation, Lake Manitoba First Nation, Little Saskatchewan First Nation, Peguis First Nation, and Pinaymootang First Nation) and the production of the *Interlake Reserves Tribal Council October Phase 1 Traditional Land Use and Traditional Knowledge Report* (Golder 2018). This report provided initial TK information for the communities however, due to shortcomings in the quality and quantity of data that were collected, Manitoba determined that additional TK information was required for these communities.

The work plan and budget to support Phase II consultation activities, including hiring of a community coordinator, conducting a TK study, and a minimum of three community meetings was mutually agreed upon and a funding agreement was signed on November 14th, 2019.

The TK component of the work plan involves interviews with Elders and resource users, a mapping exercise, and a site visit. The TK report will contain at minimum information on the following:

- location(s) in which rights are being practiced or exercised;
- the context in which the right is practiced or exercised (including information about which groups of an Indigenous group practice the right (women, elders, youth), how the right was practiced historically);
- how the Indigenous group's cultural traditions, laws and governance systems inform the manner in which they exercise their rights (the who, what, when, how, where and why);

- the Indigenous group's perspectives on the importance of the land on which the Project is located and how it intersects with any land management uses and/or plans they may have;
- how often the right is practiced or exercised and timing or seasonality of the practice or exercise of the right; and,
- maps and data sets (e.g., fish catch numbers).

Consultation work plans and other communications including ongoing letters, emails, and phone calls have and will continue to provide numerous opportunities for the community to review and provide comments on the information used for describing and assessing effects on Aboriginal peoples, including impacts to Aboriginal or Treaty rights.

Community concerns will be addressed throughout the consultation process by providing opportunities for local perspectives to be captured and recorded in community led Traditional Knowledge and Resource Use studies, and by developing mutually agreed upon consultation work plans that include community review of all project related reports and documentation, and discussions around mitigations, accommodations, as well as conditions issued under the Project's Environment Act Licence and/or the Impact Assessment Agency of Canada's Decision Statement. In addition, Phase III of consultations allows affected Indigenous groups to validate Indigenous knowledge that will be integrated into the EIS.

Traditional Knowledge Shared Throughout the Consultation Process

Kinonjeoshtegon First Nation indicated that trapping takes place in the RAA and LAA, with species taken including marten, lynx, rabbit, wolf, beaver, coyote, fox, fisher, mink, otter, squirrel, wolverine, weasel, and bear (Golder Associates 2018).

Kinonjeoshtegon First Nation reported subsistence and recreational fishing occur Lake St. Martin, Dauphin River, Mantagao River, and Sturgeon Bay year-round (Manitoba Infrastructure 2019b). Fishing focuses on a variety of species important to Kinonjeoshtegon First Nation (see Appendix 10A, Table 10A.2-1 Species of Interest for Indigenous Groups Engaged on the Project; Manitoba Infrastructure 2019b).

Kinonjeoshtegon First Nation members fish for subsistence in the RAA and reported taking walleye, lake whitefish, burbot, northern pike, sucker, perch, and lake sturgeon (Golder Associates 2018).
Kinonjeoshtegon First Nation members gather berries and plants in the RAA, including saskatoon berries, blueberries, raspberries, cranberries, weekey, and muskeg tea (Golder Associates 2018).
Kinonjeoshtegon First Nation indicated that the flooding of Lake St. Martin has resulted in impacts to the harvest of medicinal herbs and plants (Manitoba Infrastructure 2018b).

Kinonjeoshtegon First Nation reported the use of cabins and campsites northeast of the RAA (Golder Associates 2018).

Kinonjeoshtegon First Nation indicated the existence of gravesites located within the RAA (Golder Associates 2018).

Kinonjeoshtegon First Nation reported that trails or access routes used by the community exist, but these have not been recorded (Golder Associates 2018).

A summary of issues and concerns raised by Kinonjeoshtegon First Nation to date are included in the EIS: Appendix 5A, Table 5A.10.

Other Notifications (Sec. 35 Consultations for minor works related to the project)

Five emails and letters were sent from December 2017 to February 2020 notifying KFN of the fieldwork for the topographic survey, rock availability studies, borrow pit excavation, tender opportunities, and well installations. Manitoba did not receive any comments from the First Nation regarding these notifications.

Next Steps

Moving forward with communities who are potentially less impacted by the project, including Kinonjeoshtegon First Nation, Manitoba will continue to share information and meet with the community, as necessary.

The Traditional Knowledge Study report is expected to be completed by early spring 2020, the community consultation meetings will be completed by summer 2020, and the Community Consultation Report will be completed by summer 2020.

More detailed information regarding the ongoing consultation process and timelines are provided in Section 3 of this report.

Fisher River Cree Nation

Manitoba Infrastructure's initial assessment has determined that Fisher River Cree Nation (FRCN) is less likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). It is Manitoba Infrastructure's current understanding that this community's primary use is concentrated on Lake Winnipeg as it relates to fishing and water related activities, and has expressed water-related concerns. Manitoba Infrastructure will share information with Fisher River Cree Nation on the Project throughout the consultation process with in-person meetings, as required.

As of February 2020, a total of 12 meetings, 14 letters, and 83 emails and phone calls have occurred between Manitoba and FRCN.

Community Information

Fisher River Cree Nation No. 264 (CIRNAC 2019a) is a Cree-speaking community, located near the south-western shores of Lake Winnipeg, approximately 59 km from the PDA (FRCN 2019). A signatory to Treaty 5, Fisher River Cree Nation is comprised of two reserves, Fisher River 44 and Fisher River 44A, which encompass an area of 5541.9 ha and 777 ha, respectively (CIRNAC 2019a). As of June 2019, Fisher River Cree Nation had a registered population of 4,012 (CIRNAC 2019a). Local facilities include a health centre, administration office, high school, water and sewer plant, recreation centre, and radio station (FRCN 2019). Fisher River Cree Nation operates its own Board of Education, Housing Authority, and the Ochekwi Sipi Cree Nation Personal Care Home to provide services for Fish River Cree Nation members. Fisher River Cree Nation also participates in the Intertribal Child and Family Services. Fisher River Economic Development Corporation operates several subsidiary companies with the goal of increasing community investment and employment (FRCN 2019). Fisher River Cree Nation operates the Fisher River Health Centre; the nearest hospital is located in Hodgson, some 30 km to the southwest (Road on Map 2019).

Moose and white-tailed deer are important species to Indigenous groups in the Interlake area for subsistence hunting, including Fisher River Cree Nation. Fisher River Cree Nation hunt and trap along the shoreline of Lake Winnipeg and along Buffalo Creek, with moose and deer habitat found in both areas (Golder Associates 2018:5). The proposed Project is adjacent to GHA 21, GHA 16, and GHA 25 to the southeast (Manitoba Infrastructure 2019b). Upland bird and waterfowl hunting by Fisher River Cree Nation focuses on a variety of species (see the EIS: Appendix 10A, Table 10A.2-1 Species of Interest for Indigenous Groups Engaged on the Project; Manitoba Infrastructure 2019b).

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Fisher River Cree Nation. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

A notification package dated July 26, 2016, contained a letter to the Chief explaining the Project and Manitoba Infrastructure's initial assessment that the Project may potentially affect the community's

Aboriginal or Treaty rights. The notification package also included information on the regulatory authorities involved, Manitoba Infrastructure contact information, two maps, and a request for a meeting. Telephone calls and letters were exchanged between Manitoba Infrastructure and the Chief of FRCN to set up a meeting to discuss the Project, concerns from the community, and the baseline reports.

Information Sharing and Initial Concerns

Manitoba Infrastructure responded to historical issues raised by Fisher River Cree Nation such as debris related to the 2011 and 2014 floods in a March 3, 2016 letter. A letter dated Dec 23, 2016, advised FRCN that Manitoba would like to meet with Chief and Council to understand the potential effects the channel may have on aboriginal and treaty rights, and to share environmental information that had been gathered with respect to fisheries, water quality, aquatic habitat and wildlife. Chief and Council responded by letter dated January 13, 2017 requesting a meeting. A meeting was subsequently scheduled for April 3, 2017, at which provincial representatives presented an overview of the project and provided Chief and Council with several binders of environmental studies. Another meeting was held with the leadership of Fisher River Cree Nation on September 25, 2018, to further discuss the Project and address questions and concerns from the community.

Consultation Process and Work Plan Development

Between May and August 2017, Manitoba Infrastructure worked with FRCN to discuss Project timelines and finalize consultation plans and budgets for consultation. The discussions led to subsequent budget and consultation work plan submissions in 2017 and 2018, which included participation of fishers from FRCN. Manitoba Infrastructure contacted FRCN between June 23, 2017 and July 3, 2017 to advise of two open houses as well as the format and information that would be available at the open houses. On December 1, 2017, Manitoba Infrastructure sent a letter to the Chief outlining the four phases of the Manitoba consultation process and requests community report, which was received October 18, 2018.

At the meeting between Chief and Council and provincial representatives on April 3, 2017, a consultation plan framework was discussed and it was agreed there would be two separate consultation plans: one dealing with the access road, and a second dealing with the channels. A consultation plan and budget for the Phase 1: Access Road was approved, and the consultation funding agreement signed by Chief and Council on August 4, 2017. The consultation plan and budget for the Phase 2: Channel, Control Station and Hydro ROW was subsequently agreed to by the parties and signed by Chief and Council on March 8, 2018. The parties have agreed that additional concerns may be raised after the consultation process has been completed, and further consultations may be necessary at that time. It was also understood and agreed that Chief and Council may also provide additional proposals from time to time regarding mitigation of potential adverse impacts that may emerge in future.

Consultation Activities

Two consultation work plans have been undertaken by Manitoba and FRCN, and two subsequent consultation reports have been submitted to date: (1) Access Road Consultations, and (2) Channel, Control Station and Hydro ROW.

As part of Phase I: Access Roads consultations, on October 11, 2017 an Elders' meeting took place in the morning and a community meeting took place in the afternoon to discuss the project. Following this, a project meeting with fishers occurred November 30, 2017. Fisher River Cree Nation leadership

participated in a helicopter trip over the project area on October 12, 2017. The site tour was arranged by Manitoba to provide designated members of the affected communities the opportunity to view the project area from the air.

As part of the Phase II Consultation activities for the channels, meetings were held in the Fisher River Community Centre with Elders, Traditional Knowledge holders, fishers and community members. Lunch was provided at all meetings. Meeting agendas, presentation material and meeting notes were reviewed by both parties and securely filed. In addition to the community meetings, several meetings were held by Chief and Council with their consultant and others to discuss issues and mitigation or accommodation options. Manitoba and FRCN conducted the most recent community meeting on March 28, 2018 and the report was submitted by FRCN in September 2018.

To complete Manitoba's consultation process (Phases II, III, and IV), a final consultation work plan and budget was developed by Manitoba Infrastructure and FRCN and agreed upon in the fall of 2019. Activities included in this work plan include presenting the EIS to the community, community meetings and focus groups, and reporting on the consultation and engagement process and outcomes and MB's response to each of the concerns or suggestions of FRCN.

The TK component of the work plan involves interviews with Elders and resource users, a mapping exercise, and a site visit. The TK report will contain at minimum information on the following:

- location(s) in which rights are being practiced or exercised;
- the context in which the right is practiced or exercised (including information about which groups of an Indigenous group practice the right (women, elders, youth), how the right was practiced historically);
- how the Indigenous group's cultural traditions, laws and governance systems inform the manner in which they exercise their rights (the who, what, when, how, where and why);
- the Indigenous group's perspectives on the importance of the land on which the Project is located and how it intersects with any land management uses and/or plans they may have;
- how often the right is practiced or exercised and timing or seasonality of the practice or exercise of the right; and,
- maps and data sets (e.g., fish catch numbers).

Consultation work plans and other communications including ongoing letters, emails, and phone calls have and will continue to provide numerous opportunities for the community to review and provide comments on the information used for describing and assessing effects on Aboriginal peoples, including impacts to Aboriginal or Treaty rights.

Areas of discrepancy between the community and Manitoba were determined and addressed throughout the consultation process by providing opportunities for local perspectives to be captured and recorded in community led Traditional Knowledge studies, and by developing mutually agreed upon consultation work plans, and discussions around mitigations, accommodations, as well as conditions issued under the Project's Environment Act Licence and/or the Impact Assessment Agency of Canada's Decision Statement. In addition, Phase III of consultations allows affected Indigenous groups to validate Indigenous knowledge that will be integrated into the EIS.

Traditional Knowledge Shared Throughout the Consultation Process

Fisher River Cree Nation reported trapping-related concerns including a reduction in access to trapping areas; wildlife disturbance due to Project construction; disruption of wildlife movement patterns; and increased wildlife mortality due to increased vehicular traffic.

Fisher River Cree Nation reported that subsistence and recreational fishing occurs on Lake St. Martin, Dauphin River, Mantagao River, and Sturgeon Bay year-round. Fishing focuses on northern pike, walleye, and Lake Whitefish as well as a variety of other species. Fisher River Cree Nation fish for walleye (pickerel) along Lake Winnipeg and have recorded a spawning area at the south end of that lake.

Fisher River Cree Nation noted through the Indigenous engagement program that the flooding of Lake St. Martin has resulted in impacts to the harvest of medicinal herbs and plants.

The recent Lake St. Martin Access Road Project has caused concern for Fisher River Cree Nation regarding the road's location, access control, and potential for impacts to road maintenance.

Fisher River Cree Nation made several recommendations for mitigations that included: assessing and mitigating the potential impact on moose (and other wildlife) from the expected increase in the number of hunters who previously had no access to the area; addressing the effect that the channel will have on moose migration routes and calving grounds; implementing necessary controls to protect existing wetlands from drainage as a result of drainage plans and construction of the channel and other project components; and, implementing all other mitigation and accommodation measures as recommended and or directed by the Canadian Environmental Assessment Agency.

Fisher River Cree Nation also proposed several possible accommodations that included: providing job opportunities for FRCN members; providing FRCN with Construction Contract opportunities; providing training and mentoring opportunities for FRCN members (e.g. Heavy Equipment Operators, Truck Drivers, Drillers and Blasters; designating a major portion or portions of the project area that falls within FRCN's Traditional Territory Notice Area as Provincial Park, Wildlife Management Area, Provincial Forest, Provincially Significant Wetlands, Provincially Significant Peatlands, or a combination thereof through the FRCN Conservation Areas Initiative; and, providing technical support and funding contribution to support the FRCN Conservation Initiative.

A summary of the issues and concerns raised by Fisher River Cree Nation to date is included in the EIS: Appendix 5A, Table 5A.8.

Other Notifications (Sec. 35 Consultations for minor works related to the project)

On August 22, 2016, Manitoba advised the community of upcoming fieldwork for geotechnical investigations. Three additional letters were sent from December 2017 to January 2020 notifying FRCN of the fieldwork for the topographic survey, rock availability studies, borrow pit excavation, tender opportunities, and well installations. Manitoba did not receive any comments from FRCN regarding these notifications.

Next Steps

Moving forward with communities who are potentially less impacted by the project, including Fisher River Cree Nation, Manitoba will continue to share information and meet with the community, as necessary.

The Traditional Knowledge Study report is expected to be completed by early spring 2020, the community consultation meetings will be completed by summer 2020, and the Community Consultation Report will be completed by summer 2020.

More detailed information regarding the ongoing consultation process and timelines are provided in Section 3 of this report.

Ebb and Flow First Nation

Manitoba Infrastructure's initial assessment has determined that Ebb and Flow First Nation (EFFN) is less likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). It is Manitoba Infrastructure's current understanding that this community's primary use is concentrated on Lake Manitoba as it relates to fishing and water related activities, and has expressed water-related concerns. Manitoba Infrastructure will share information with Ebb and Flow First Nation on the Project throughout the consultation process with offers to meet in-person, as required.

As of February 2020, a total of 4 meetings, 9 letters, and 32 emails and/or phone calls have occurred between Manitoba and EFFN.

Community Information

Ebb and Flow First Nation No. 280 (CIRNAC 2019a) is an Anishinabe-speaking Treaty 2 Nation located northeast of Riding Mountain National Park along the western shores of Lake Manitoba, approximately 35 km from the PDA. Ebb and Flow First Nation holds membership in the West Region Tribal Council Inc. (CIRNAC 2019a), and as of June 2019, had a population of 3,225 (CIRNAC 2019a). Ebb and Flow First Nation has one reserve (Ebb and Flow 52) that comprises an area of 4,663.80 ha (CIRNAC 2019a). Ebb and Flow First Nation is governed by a Chief and four Councilors who are elected under the Indian Act Election System (CIRNAC 2019a).

The Indigenous engagement program to date and publicly available literature have not revealed information on TLRU for Ebb and Flow First Nation. Further engagement may provide information on interactions between Princess Ebb and Flow First Nation's TLRU and the Project, if any.

A summary of issues and concerns raised by Ebb and Flow First Nation is included in the EIS: Appendix 5A, Table 5A.7.

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Ebb and Flow First Nation. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

A notification package dated July 22, 2016, contained a letter to the Chief explaining the Project and Manitoba Infrastructure's initial assessment that the Project may potentially affect the community's Aboriginal or Treaty rights. The notification package also included information on the regulatory authorities involved, Manitoba Infrastructure contact information, two maps, and a request for a meeting. A follow-up letter was sent December 23, 2016.

Information Sharing and Initial Concerns

An information sharing meeting with the Interlake Reserves Tribal Council (IRTC) on April 28, 2017 involved Dauphin River First Nation, Lake St. Martin First Nation, Little Saskatchewan First Nation, Lake

Manitoba First Nation, Ebb and Flow First Nation, Southern Chiefs Organization, and Manitoba. The meeting involved an overview of the Project, discussions around the outlet channels alignment and recommendations, the Lake St. Martin Emergency Outlet Channel - Interim Operation Authorization, resource mapping proposal, road access, and funding for Section 35 Consultation process, engagement opportunities, and information on the environmental assessment. During the meeting, the First Nations concluded that a greater understanding of the project for the communities is beneficial in that it helps pose questions and identify possible concerns that were not known prior.

During an August 30, 2017 meeting with Ebb and Flow First Nation, the project description was provided. Ebb and Flow have concerns the project may have to the commercial fisheries of Lake Manitoba, increasing sedimentation and further spread of zebra mussels. Manitoba responded that it is expected there would be minimal effects of sedimentation on Lake Manitoba as flows would be from Lake Manitoba to Lake St. Martin and then to the Dauphin River and finally to Lake Winnipeg. As part of the project, Department of Fisheries and Oceans authorization (DFO) is required and there is a requirement to provide monitoring data to DFO. There have been two years of ongoing baseline studies that involved an assessment on fish and fish habitats, including the area of Watchorn Creek. Environmental considerations and sensitivities are to be included in the design of the project and during construction. Ebb and Flow was concerned about whether the Project would result in zebra mussels spreading to Lake Manitoba.

A letter to Ebb and Flow First Nation Chief and Council dated December 1, 2017 provided further informing on the status of the IRTC facilitated Crown consultation process, including describing the four phases of consultation.

On April 10, 2018, a combined project information sharing meeting was held with Ebb and Flow First Nation and O-Chi-Chak-Ko-Sipi First Nation. Both communities want 2011 past flooding issues resolved, EFFN concerned about moose population.

On September 6, 2018, a letter was sent to the Chief presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure’s initial assessment of potential effects for the community. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

On December 13, 2018, a letter was sent to EEFN in response to a September 24, 2018 email from an EEFN Councilor. The letter outlined Manitoba Infrastructure’s intent to continue moving forward with consultation activities.

On March 23, 2018, and April 10, 2018, Ebb and Flow First Nation met with Manitoba Infrastructure and advised Manitoba Infrastructure that they were not going to consult until the 2011 issues were resolved. On September 6, 2018, a letter was sent to the Chief presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure’s initial assessment of potential effects for the community. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

On April 10, 2018 a letter was sent to follow up on the meeting with Manitoba Infrastructure by including meeting minutes and confirming that MIs understanding is that Ebb and Flow does not want to consult

until 2011 flood issues are resolved, and that Manitoba Infrastructure would like to hear their concerns regarding the Project.

Consultation Planning and Work Plan Development

In July 2017, Ebb and Flow First Nation expressed interest in developing a consultation plan and budget. An initial meeting was held on August 30, 2017 to discuss the Project and to review the consultation plan template. On December 1, 2017, Manitoba Infrastructure sent a letter to the Chief outlining the four phases of the Manitoba consultation process and update on the status of discussions.

While the consultation is currently in Phase II, Ebb and Flow First Nation will also have the opportunity to sign a consultation work plan that would include a minimum of two community meetings. Consultation work plans and other communications including ongoing letters, emails, and phone calls have and will continue to provide numerous opportunities for the community to review and provide comments on the information used for describing and assessing effects on Aboriginal peoples, including impacts to Aboriginal or Treaty rights.

Community concerns will be addressed throughout the consultation process by providing opportunities for local perspectives to be captured and recorded in community meetings, and by developing mutually agreed upon consultation work plans that include community review of all project related reports and documentation, and discussions around mitigations, accommodations, and licence conditions. In addition, the consultation process provides opportunities for affected Indigenous groups to validate Indigenous knowledge that will be integrated into the EIS.

Other Notifications (Sec. 35 Consultations for minor works related to the project)

Ebb and Flow First Nation was notified in in May 2019 of upcoming fieldwork.

Next steps

Moving forward with communities who are potentially least impacted by the project, including Ebb and Flow First Nation, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the ongoing consultation process and timelines are provided in Section 3 of this report.

Ochi-Chak-Ko-Sipi First Nation

Manitoba Infrastructure's initial assessment has determined that Ochi-Chak-Ko-Sipi First Nation (OCCKSFN) is less likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). It is Manitoba Infrastructure's current understanding that this community's primary use is concentrated on Lake Manitoba as it relates to fishing and water related activities, and has expressed water-related concerns. Manitoba Infrastructure will share information with Ochi-Chak-Ko-Sipi First Nation on the Project throughout the consultation process with offers to meet in-person, as required.

As of February 2020, a total of three meetings, nine letters, and thirty six emails and/or phone calls have occurred between Manitoba and Ochi-Chak-Ko-Sipi First Nation.

Community Information

O-Chi-Chak-Ko-Sipi First Nation No. 279 (CIRNAC 2019a) is a Treaty 2 Nation located on Crane River Reserve 51, approximately 40 km from the PDA. O-Chi-Chak-Ko-Sipi First Nation has one reserve, Crane River 51 that is 3522.5 ha in size (CIRNAC 2019a). As of June 2019, the registered population was 1,196 (CIRNAC 2019a). O-Chi-Chak-Ko-Sipi First Nation elects a Chief and three Councilors under the Indian Act Election System (CIRNAC 2019a). O-Chi-Chak-Ko-Sipi First Nation operates a Kindergarten-to-Grade-8 school and a daycare and offers employment and training services to band members (OCCFN 2019).

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Ochi-Chak-Ko-Sipi First Nation. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

A notification package dated July 26, 2016 contained a letter to the Chief explaining the Project and Manitoba Infrastructure's initial assessment that the Project may potentially affect the community's Aboriginal or Treaty rights. Manitoba is committed to enhance the outlet capacity from Lake Manitoba and Lake St. Martin in order to better maintain lake levels within their desirable range during periods of high water. The letter included how Manitoba has taken into consideration potential effects the construction and operations of the proposed project may have on your community's ability to exercise its traditional use of lands and resources based on the information known to the province at this time. The preliminary information was obtained through various communications with Indigenous communities and prior Crown-Indigenous consultations. It is Manitoba's initial assessment the proposed project could have a potential effect on Ochi-Chak-Ko-Sipi First Nation's Aboriginal and Treaty rights. The letter also included a map identifying components for the proposed project; construction of the Lake Manitoba Outlet Channel, the Lake St. Martin Outlet Channel, and construction of a hydro line providing electrical power for operation of Lake St. Martin Water Control Structure. The notification package also included information on the regulatory authorities involved, Manitoba Infrastructure contact information, and a request for a meeting.

Information Sharing and Initial Concerns

On July 5, 2016, the Chief of the O-Chi-Chak-Ko-Sipi First Nation participated in a meeting with the Minister, staff from the department, and with Chiefs of Dauphin River, and Lake Manitoba First Nations to discuss the Project and alignment options.

December 23, 2016 second letter to Chief of Ochi-Chak-Ko-Sipi FN requesting a meeting to gain understanding of potential effects on Aboriginal and Treaty rights, share environmental information.

A meeting held on February 8, 2017 with Manitoba Infrastructure and O-Chi-Chak-Ko-Sipi First Nation, Lake St. Martin, Lake Manitoba and Pinaymootang to discuss the Project and concerns of the communities.

Manitoba sent a letter on May 24, 2017 following up on a letter presented at the February 8, 2017 meeting, which indicated the support of the Project by the IRTC communities and O-Chi-Chak-Ko-Sipi First Nation. The letter committed Manitoba to work collaboratively with the First Nations to address issues raised. Ongoing correspondence occurred between June and November 2017 to follow up on previous discussions.

December 1, 2017 letter to Chief and Council in follow-up to July 26, 2016 letter further informing the status of Crown consultation process, Manitoba continues to move forward in Phase 2 of the Crown consultation process, this is the phase where Manitoba provides information about the proposed project and its potential effects and the community would provide its information, concerns or issues about any impacts of this project on the exercise of rights.

On September 6, 2018, a letter was sent to O-Chi-Chak-Ko-Sipi First Nation presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. The results indicated that that the 2011 flood would have increased water levels by 1.3 inches higher at the peak of the event if the outlet channel had been operating and that the volume of water entering Lake Winnipeg will not change with the outlet channel operation; however, the length of time for water to move from Lake Manitoba to Lake Winnipeg may be affected. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

Consultation Planning and Work Plan Development

While the consultation is currently on Phase II, Ochi-Chak-Ko-Sipi First Nation will also have the opportunity to sign consultation work plan. The consultation work plan for Ochi-Chak-Ko-Sipi First Nation will have minimum two community meetings to discuss the EIS, proposed mitigations and monitoring plans, and to capture any community concerns or recommendations.

Consultation work plans and other communications including ongoing letters, emails, and phone calls have and will continue to provide numerous opportunities for the community to review and provide

comments on the information used for describing and assessing effects on Aboriginal peoples, including impacts to Aboriginal or Treaty rights.

Areas of discrepancy between the community and Manitoba will be determined and addressed throughout the consultation process by providing opportunities for local perspectives to be captured and recorded by developing mutually agreed upon consultation work plans that include community review of all Project related reports and documentation, and discussions around Project-specific mitigation and monitoring plans, accommodations, as well as conditions issued under the Project's Environment Act Licence and/or the Impact Assessment Agency of Canada's Decision Statement. In addition, Phase III of consultations allows affected Indigenous groups to validate Indigenous knowledge that will be integrated into the EIS.

Manitoba heard community concerns at a meeting April 10, 2018, Chief emphasized that until there is a completed environmental assessment of the community, they do not agree with the project. The Chief also stated that the community would need capacity funding in place. Manitoba responded that the intent is to develop a mutually agreeable, reasonable consultation work plan that provides the community sufficient capacity to participate in consultation.

Traditional Knowledge Shared Throughout the Consultation Process

O-Chi-Chak-Ko-Sipi First Nation indicated that the flooding of Lake St. Martin has resulted in impacts to the harvest of medicinal herbs and plants (Manitoba Infrastructure 2018b).

A summary of the issues and concerns raised O-Chi-Chak-Ko-Sipi First Nation to date is summarized in Appendix 5A, Table 5A.16.

Other Notifications (Sec. 35 Consultations for minor works related to the project)

As part of the Lake Manitoba and Lake St. Martin Outlet Channel project preliminary design emails and letters were sent in February and May 2019 to advise community of field work.

February 11, 2019 Investigative Field Work – Hatch Engineering access development, snow and bush/tree clearing, drilling, groundwater monitoring, topographic surveys, and ground penetrating radar (seismic) surveys.

Next Steps

Moving forward with communities who are potentially least impacted by the project, including Ochi-Chak-Ko-Sipi First Nation, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the ongoing consultation process and timelines are provided in Section 3 of this report.

Manitoba Metis Federation

Manitoba Infrastructure's initial assessment has determined the Indigenous Rights of the Manitoba Metis Federation's (MMF) members are less likely to experience potential impacts, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). For MMF, the project could affect the availability of traditional resources including changes in fish and wildlife habitat, changes in wildlife movement, changes in wildlife health or mortality, changes in plant communities and diversity, and changes in wetland functions.

The Manitoba Metis Federation has also communicated to Manitoba that they expect to be consulted on the project. Therefore, Manitoba is undertaking in-person consultation process with MMF that includes providing funding for a collaboratively developed consultation work plan, conducting a Traditional Knowledge, hiring of a community coordinator, and community meetings. As of February 2020, a total of 13 meetings, 7 letters, and 81emails and/or phone calls have occurred between Manitoba and MMF. The following sections detail the activities and communications that have been undertaken to date to accomplish these objectives and the planned approach for moving forward with MMF.

Background

The Manitoba Metis Federation was founded in 1967 to represent Métis interests in Manitoba. The Federation, which is organized into seven regions across Manitoba, has an elected President and a Board of Directors (Manitoba Metis Federation 2019). Each Region has community-level "Locals", administered by a chairperson, a vice-chairperson, and a secretary-treasurer (Manitoba Métis Federation 2019). The Federation caucus is made up of Ministers that have portfolios in various departments, including Energy and Infrastructure, Health and Wellness, Housing and Property Management, Citizenship, Metis Community Liaison, Metis Employment and Training, Metis Justice Institute, Natural Resources, and Tripartite Self-Government Negotiations (Manitoba Metis Federation 2019). Federation objectives include cultural translation, education awareness, and promotion of member interests (Manitoba Metis Federation 2019).

The Project falls within the Manitoba Metis Federation Interlake Region, which is home to 12 Métis Locals. The Manitoba Metis Federation hunts for a variety of species, with the most commonly harvested being deer, moose, ruffed grouse, Canada geese, mallard duck, and sharp-tailed grouse (Caillou Group 2016). The Manitoba Metis Federation reports that harvesting of moose, elk, and deer occurs primarily in the fall season, and secondarily in the winter seasons as the seasonality of moose, deer, and elk harvesting patters are similar (Manitoba Hydro 2011a). Most big game hunting by Manitoba Metis Federation occurs on the west side of Lake Winnipegosis and Lake Manitoba (Manitoba Hydro 2011a; 2011d).

Notification of Proposed Project

Manitoba Infrastructure began conversations with the MMF about the Project in November 2015, with a telephone call to MMF requesting a meeting to discuss the proposed outlet channels. The first meeting was held on December 8, 2015, and Metis rights and concerns with land use were discussed. Options for the channel location (Options "C" and "D", described in the EIS: Chapter 2) were identified as areas of significant use by Métis.

Information Sharing and Initial Concerns

On July 26, 2016, a letter was sent from Manitoba Infrastructure to the MMF describing the Project, the regulatory authorities involved, maps, and a request for a meeting. The MMF responded on September 8, 2016 requesting a meeting, which took place on October 20, 2016. At the meeting, Project information was provided and concerns and questions from MMF were discussed. A meeting between Manitoba Infrastructure and MMF on November 29, 2016 allowed for the discussion of work plans, a budget, and the consultation process. At a meeting on January 16, 2017 the MMF requested information on the Project timelines, and data collected for the Project. The MMF expressed the need for a budget and their participation in information gathering for resource mapping.

On June 23, 2017, Manitoba Infrastructure phoned the MMF to advise them of upcoming open houses regarding the Project. A meeting on December 1, 2017 allowed Manitoba Infrastructure and MMF to develop a mutually agreeable consultation work plan and budget for the Project.

On February 26, 2018, MMF was sent an invitation for the open houses in Moosehorn and Winnipeg. Meetings, emails, and conference calls took place between March 2018 and August 2019 to exchange information on the Project, economic opportunities associated with the Project, fieldwork, as well as budget and consultation plans.

Consultation Planning and Work Plan Development

Discussions with the MMF around a consultation work plan, budget, and timelines are ongoing. Manitoba has provided a template work plan and budget as an opportunity for the Manitoba Metis Federation to outline and describe proposed activities related to consultation and engagement. The template supports the four phases of consultation: assessment, information sharing, review/analysis, and communications, as well as a Traditional Knowledge (TK) study. The TK component of the work plan involves interviews with Elders and resource users, a mapping exercise, and a site visit. The TK report will contain at minimum information on the following:

- location(s) in which rights are being practiced or exercised;
- the context in which the right is practiced or exercised (including information about which groups of an Indigenous group practice the right (women, elders, youth), how the right was practiced historically);
- how the Indigenous group's cultural traditions, laws and governance systems inform the manner in which they exercise their rights (the who, what, when, how, where and why);
- the Indigenous group's perspectives on the importance of the land on which the Project is located and how it intersects with any land management uses and/or plans they may have;
- how often the right is practiced or exercised and timing or seasonality of the practice or exercise of the right; and,
- maps and data sets (e.g., fish catch numbers).

Consultation work plans and other communications including ongoing letters, emails, and phone calls have and will continue to provide numerous opportunities for the community to review and provide comments on the information used for describing and assessing effects on Indigenous peoples, including impacts to Indigenous rights.

Community concerns will be addressed throughout the consultation process by providing opportunities for local perspectives to be captured and recorded in community led Traditional Knowledge and Resource Use studies, and by developing mutually agreed upon consultation work plans that include community review of all project related reports and documentation, and discussions around mitigations, accommodations, as well as conditions issued under the Project's Environment Act Licence and/or the Impact Assessment Agency of Canada's Decision Statement. In addition, Phase III of consultations allows affected Indigenous groups to validate Indigenous knowledge that will be integrated into the EIS.

Traditional Knowledge and Land Use

Members of the Manitoba Métis Federation abide by the "Laws of the Harvest" as well as provincial regulations concerning sport hunting seasons. Moose are hunted in several areas, including the Interlake Region (Manitoba Hydro 2011a:39). Small animal harvesting by Manitoba Métis Federation includes upland birds, such as grouse, partridge, ptarmigan, as well as ducks, geese, and rabbits. Manitoba Métis Federation stated the harvesting of small animals occurs primarily in the fall season and secondarily in the winter (Manitoba Hydro 2011a). The harvesting of small animals for food purposes by Manitoba Métis Federation mostly occurs along the westerly side of Lake Manitoba and Lake Winnipegosis (Manitoba Hydro 2011a).

Species trapped by the Manitoba Métis Federation include beaver, coyote, fisher, fox, lynx, marten, mink, muskrat, otter, rabbit, raccoon, squirrel, weasel, wolf, and wolverine. Trapping areas focus on muskrat, weasel, beaver, coyote, and fox harvesting (Manitoba Hydro 2011a).

Manitoba Metis Federation members often fish for sustenance, with the primary species harvested being walleye, northern pike, trout, and suckers (Manitoba Hydro 2011a). Manitoba Metis Federation explained that fishing occurs mainly in summer but can take place year-round (Manitoba Hydro 2011a). Lake Winnipeg and Lake Manitoba contain a wide range of fish species harvested by Manitoba Métis Federation (see Appendix 10A, Table 10A.2-1 Species of Interest for Indigenous Groups Engaged on the Project; Shared Value Solutions 2018). Manitoba Métis Federation citizens indicated that their most commonly fished species included walleye, northern pike, sauger, and channel catfish (Caillou Group 2016). Fishing by Manitoba Métis Federation in the Local Assessment Area is documented on Lake St. Martin and the Dauphin River to its mouth at Lake Winnipeg (Manitoba Hydro 2011a).

Manitoba Métis Federation indicated that berries and other edible plants are harvested from late summer through to fall freeze-up, with medicines harvested throughout the year (Manitoba Hydro 2011a). Berries, wood products, roots, nuts, mushrooms, and medicines are collected in the summer and fall seasons, with fuel wood being harvested throughout the year, and certain root plants being harvested in the spring (Manitoba Hydro 2011a). Berries gathered by Manitoba Métis Federation include blueberries, raspberries, saskatoons and chokecherries, strawberries, cranberries, goose berries, pin cherries, moss berries, elder berries, blackberries, and nanny berries (Manitoba Hydro 2011a). Manitoba Metis Federation also harvest certain types of roots, nuts, and plants are edible and/or medicinal, including hazel nuts, bear nuts, mushrooms, fiddle heads, horse radish, wild tea, Seneca root, sweet grass, sage, weekis or weeka root, balsam bark, red willow, and back poplar bud (Manitoba Hydro 2011a). Manitoba Métis Federation related that commonly collected trees and tree products include jack pine, white (paper) pine, balsam poplar, Manitoba maple, tamarack (larch) and bur oak (Calliou Group 2016).

Manitoba Metis Federation has identified the general location of a number of culturally important sites or places including ceremonial, burial, and other sacred or spiritual places (e.g., Thunderbird nest and

Manipogo sighting area) and an intergenerational family camp within an area between Lake Winnipegosis and Lake Manitoba (Manitoba Hydro 2011a). Porcupine Hills and Duck Mountain have also been identified by Manitoba Métis Federation as areas of extensive traditional use (Manitoba Hydro 2011a).

Manitoba Métis Federation has identified the general location of historic fur trade posts, Métis cart trails, and York boat routes as the area between Lake Winnipegosis and Lake Manitoba (Manitoba Hydro 2011a).

A summary of the issues and concerns raised by the MMF to date is included in the EIS: Appendix 5A, Table 5A.14.

Other Notifications (Sec. 35 Consultations for minor works related to the project)

The following five emails and letters were sent to the MMF to notify them of upcoming fieldwork and provide an opportunity for comments: February 11, 2019 investigative fieldwork including access development, snow and bush/tree clearing, drilling, groundwater monitoring, topographic surveys, and ground penetrating radar (seismic) surveys; February 27, 2019 topographic Survey proposed transmission line, May 7, 2019 rock availability study; and, July 23, 2019 sentinel Well Installation and monitoring.

Next Steps

Manitoba continues to meet with MMF throughout the consultation process. Community meetings as part of the agreed upon consultation work plan will involve dialogue around the environmental assessment process, the Environmental Impact Statement (EIS), verification of community baseline information, mitigation and environmental monitoring plans, and community recommendations for addressing and/or accommodating their concerns. As part of the consultation process MI will ensure that the community receives feedback on the information they provide and how their information and concerns were included in the decision making process.

Detailed mitigation and monitoring program (e.g., aquatic monitoring plan, fisheries offset plan, sediment management plan, heritage resource protection plan) review discussions have been incorporated into the community specific work plan that supports consultation. Information shared throughout these discussions will be included in the subsequent development of mitigation strategies and environmental management and/or monitoring plans, in order to ensure that any potential impacts from the project are appropriately assessed and accommodated.

Phases III and IV of consultations will include reviewing community concerns and incorporating their recommendations, and communicating the decision and licence conditions to MMF. As the project develops, Manitoba will use the information obtained and will make reasonable efforts to address concerns that are identified by the communities, and will continue to work collaboratively with MMF and share relevant information throughout the consultation process.

Norway House Cree Nation

Manitoba Infrastructure's initial assessment has determined that Norway House Cree Nation (NHCN) is least likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). It is Manitoba Infrastructure's current understanding that this community's primary use is concentrated on Lake Winnipeg as it relates to fishing and water related activities, and has expressed water-related concerns. Manitoba Infrastructure will share information with Norway House Cree Nation on the Project throughout the consultation process with offers to meet in-person, as required.

As of February 2020, a total of 4 meetings, 6 letters, and 21 emails and/or phone calls have occurred between Manitoba and NHCN.

Community Information

Norway House Cree Nation No. 278 (CIRNAC 2019a) is a Treaty 5 Cree Nation located at the confluence of Nelson River and Lake Winnipeg, approximately 212 km from the PDA. The community can be accessed by PR #373 and PR #6 (Norway House 2010). Norway House Cree Nation are located on more than six dozen reserves comprising over 27,000 ha (CIRNAC 2019a). The largest of these, Norway House 17, had a 2016 population of 4,927 persons (Statistics Canada 2016). As of June 2019, Norway House Cree Nation had a registered population of 8,349 persons (CIRNAC 2019a). Norway House Cree Nation utilizes a custom electoral system, with a Chief and 6 Councilors (CIRNAC 2019a). Economic activities include commercial fishing and trapping, and Norway House Cree Nation is home to a hospital, personal care home, education facilities, including post-secondary, public works facilities, and businesses. Services include a pharmacy, dental clinic, shopping mall, and recreation centre (Norway House Cree Nation 2019). Under the 1997 Manitoba TLE Framework Agreement (MFA 1997), Norway House Cree Nation has an active Treaty Land Entitlement, with a total of 104,784 acres. As of 2017, 42,045.6 acres had been converted to Reserve (CIRNAC 2019a). Norway House Cree Nation co-manages natural resources in its traditional territory through membership in a Resource Management Board (Government of Manitoba 2019).

Information on traditional land use was not located; however, Norway House Cree Nation has expressed concerns that Lake Winnipeg has changed over time with more sediments, increased turbidity, blue green algae and invasive species. Residents suspect that additional channel projects may aggravate these changes and affect water supply for Norway House Cree Nation (Manitoba Infrastructure 2018b).

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Norway House Cree Nation. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

Manitoba Infrastructure has been in discussions, including meetings, with Norway House Cree Nation regarding the Project since February 2015 to better understand issues and concerns of the community and answer questions regarding the Project.

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to the Chief on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure and IMR staff was provided for questions, concerns, or information requirements. On August 29, 2016, Norway House Cree Nation responded in a letter to Manitoba Infrastructure advising that their First Nation believes the Project will potentially impact their membership's ability to exercise treaty and Aboriginal rights. A meeting between Manitoba and Norway House Cree Nation took place on December 21, 2016 to discuss the Project, alignment, regulatory process, and concerns of the community. The development of a consultation plan and budget were also discussed at the meeting.

Information Sharing and Initial Concerns

A meeting between Manitoba Infrastructure and the community leadership took place on May 2, 2017 where preferred alignments and other Project information was discussed including concerns from the community.

September 6, 2018, a letter was sent to the First Nation presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

A summary of issues and concerns raised by Norway House Cree Nation is included in the EIS: Appendix 5A.

Consultation Planning and Work Plan Development

A work plan and funding for consultation was discussed in the May 2017 meeting between Manitoba Infrastructure and NHCN. Manitoba Infrastructure followed up with a letter, a phone call, and emails between June 2017 and April 2018. On May 23, 2018, Manitoba met with Chief and Council to discuss the Project and the consultation process, and on July 31, 2019 Manitoba Infrastructure received an email form the Chief requesting a work plan and budget for formal consultation.

For Manitoba to understand the scope of the community's concerns regarding the Project and to help focus the level of consultation required to address these concerns, Manitoba Infrastructure proposed to hold a meeting with NHCN and other concerned communities located along the Nelson River. NHCN clarified that they did not intend to correspond with Manitoba Infrastructure unless a consultation agreement was signed. After continued correspondence, NHCN, Manitoba Infrastructure and other interested communities located along the Nelson River did meet to discuss the Project in Thompson, MB

in November 2019. As a result of the November 2019 meeting Manitoba Infrastructure and NHCN have continued correspondence and continue to work towards a mutually agreeable consultation work plan.

Consultation work plans and other communications including ongoing letters, emails, and phone calls have and will continue to provide numerous opportunities for the community to review and provide comments on the information used for describing and assessing effects on Aboriginal peoples, including impacts to Aboriginal or Treaty rights.

Community concerns will be addressed throughout the consultation process by providing opportunities for local perspectives to be captured and recorded by developing mutually agreed upon consultation work plans that include community review of all Project related reports and documentation, and discussions around Project-specific mitigation and monitoring plans, accommodations, as well as conditions issued under the Project's Environment Act Licence and/or the Impact Assessment Agency of Canada's Decision Statement. In addition, the consultation process provides opportunities for affected Indigenous groups to validate Indigenous knowledge that will be integrated into the EIS.

Next steps

Moving forward with communities who are potentially least impacted by the project, including Norway House Cree Nation, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the ongoing consultation process and timelines are provided in Section 3 of this report.

Poplar River First Nation

Manitoba Infrastructure's initial assessment has determined that Poplar River First Nation (PRFN) is least likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). It is Manitoba Infrastructure's current understanding that this community's primary use is concentrated on Lake Winnipeg as it relates to fishing and water related activities, and has expressed water-related concerns. Manitoba Infrastructure will share information with Poplar River First Nation on the Project throughout the consultation process with offers to meet in-person, as required.

As of February 2020, a total of 3 letters, and 1 email and/or phone call has occurred between Manitoba and PRFN.

Community Information

Poplar River First Nation No. 277 (CIRNAC 2019a) is a Treaty 5 Ojibway (Anishinabe) First Nation located on the east side of Lake Winnipeg, at the mouth of the Poplar River, approximately 125 km from the PDA. Poplar River First Nation has a single reserve, Poplar River 16, which is 1,537.8 ha in size (CIRNAC 2019a). There is no permanent access to Poplar River First Nation; a winter road exists, and charter flights and barges make the journey (SERDC 2019). As of June 2019, the registered population of Poplar River First Nation is 1,930 (CIRNAC 2019a). Poplar River First Nation is governed by a Chief and 6 Councilors, under the Indian Act (CIRNAC 2019a; SERDC 2019). Poplar River First Nation is home to several commercial services and businesses, including restaurants, an airport, education and daycare facilities, and grocery and hardware stores. Poplar River First Nation is also a member of the Southeast Resources Development Council Corporation, which provides education, health, financial, and community services to its membership (SERDC 2019).

For the environmental assessment for the Manitoba Floodway & East Side Road Authority All-Season Road Connecting Berens River to Poplar River First Nation (2014), Poplar River First Nation reported that the east side of Lake Winnipeg had been used for traditional activities including travel routes, fishing, hunting, trapping, camping, plant harvesting, timber harvest for firewood, and sacred/ceremonial places (CEA Agency 2017). Hunting was acknowledged to be an important activity for Indigenous groups in this area including Poplar River First Nation. The area described is distant from the Project LAA though it borders the east-side shores of Lake Winnipeg included in the RAA.

A description of fishing locations used by Poplar River First Nation was provided by CEA Agency (2017). In addition to Lake Winnipeg, the Poplar River and Weaver Lake were noted to be important fishing areas for Poplar River First Nation (CEA Agency 2017).

Poplar River First Nation harvests berries, plants, and wild rice in local creeks and muskeg areas in the vicinity of the community (CEA Agency 2017).

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Poplar River First Nation. Detailed accounting, including a record of

communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to Chief on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure and IMR staff was provided for questions, concerns, or information requirements. On August 24, 2016, a call was made to the community and confirmation of the receipt of the letter was provided. A follow up letter was sent on October 24, 2017 to the newly-elected Chief to provide information and a request for further engagement.

Information Sharing and Initial Concerns

On September 6, 2018, a letter was sent to the Chief presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

A summary of issues and concerns raised by Poplar River First Nation is included in the EIS: Appendix 5A.

Next steps

Moving forward with communities who are potentially least impacted by the project, including Poplar River First Nation, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the ongoing consultation process and timelines are provided in Section 3 of this report.

Berens River First Nation

Manitoba Infrastructure's initial assessment has determined that Berens River First Nation (BRFN) is least likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). It is Manitoba Infrastructure's current understanding that this community's primary use is concentrated on Lake Winnipeg as it relates to fishing and water related activities, and has expressed water-related concerns. Manitoba Infrastructure will share information with Berens River First Nation on the Project throughout the consultation process with offers to meet in-person, as required.

As of February 2020, a total of 1 meeting, 3 letters, and 7 emails and/or phone calls have occurred between Manitoba and BRFN.

Community Information

Berens River First Nation No. 266 (CIRNAC 2019a) is a Treaty 5 Anishinabe Nation located on the eastern shore of Lake Winnipeg near the mouth of the Berens River approximately 73 km from the PDA. As of June 2019, Berens River First Nation had a registered population of 3,514 (CIRNAC 2019a). Berens River First Nation is comprised of two reserves, Berens River 13 which is 2,546.9 ha in size, and Pigeon River 13A which is 344.8 ha in size (CIRNAC 2019a). Berens River First Nation is a member of the Southeast Resource Development Council Corp, which represents eight First Nation members in southeastern Manitoba and promotes economic development and capacity building (SERDC 2019). Berens River First Nation is governed by a Chief and five Councilors under an Indian Act Election System (CIRNAC 2019a). Geographically isolated, the community was only accessible by air until the completion of an all-weather road in 2017. Facilities on the reserve include a band office, day care, nursing station, Northern Store, Berens River School, and Berens River Log Inn (SERDC 2019).

For the environmental assessment for the Manitoba Floodway and East Side Road Authority All-Season Road Connecting Berens River to Poplar River First Nation (2014), Berens River First Nation reported that the east side of Lake Winnipeg had been used for traditional activities including travel routes, fishing, hunting, trapping, camping, plant harvesting, timber harvest for firewood, and sacred/ceremonial places (CEA Agency 2017). Hunting was acknowledged to be an important activity for Indigenous groups in the Project RAA, including Berens River First Nation.

A description of fishing locations used by the Berens River First Nation was provided by CEAA (2017). In addition to Lake Winnipeg, other rivers were also noted to be important fishing areas for Berens River First Nation (CEAA 2017).

Berens River First Nation harvests berries, plants and wild rice along the Berens River and several other areas in the vicinity of the reserve.

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Berens River First Nation. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to Chief Hartley Everett on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal Rights by September 12, 2016. Contact information for Manitoba Infrastructure and IMR staff was provided for questions, concerns, or information requirements. A follow up phone call was made to the Band office on August 23 and a voicemail left with the Chief. A follow up letter was sent on October 24, 2017 to provide Project information to leadership.

Information Sharing and Initial Concerns

In June of 2018, community based commercial fishers expressed interest in the Project, and its potential effects to the commercial fishery. On July 4, 2018 the commercial fishers group arranged for a meeting with Project staff and expressed concerns, including: Project operation, invasive species, impacts to the fishery, fish health and impacts to water levels and water quality in Lake Winnipeg. Project staff provided responses to expressed concerns, and also presented and/or provided additional information regarding the Project, copies of baseline studies and reports, and contact information to allow for ongoing discussions.

On September 6, 2018, a letter was sent to Chief presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

A summary of issues and concerns raised by Berens River First Nation is included in the EIS: Appendix 5A.

Next steps

Moving forward with communities who are potentially least impacted by the project, including Berens River First Nation, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the ongoing consultation process and timelines are provided in Section 3 of this report.

Bloodvein First Nation

Manitoba Infrastructure's initial assessment has determined that Bloodvein First Nation (BFN) is least likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). It is Manitoba Infrastructure's current understanding that this community's primary use is concentrated on Lake Winnipeg as it relates to fishing and water related activities, and has expressed water-related concerns. Manitoba Infrastructure will share information with Bloodvein First Nation on the Project throughout the consultation process with offers to meet in-person, as required.

As of February 2020, a total 2 letters, and 3 emails and/or phone calls have occurred between Manitoba and BFN.

Community Information

Bloodvein First Nation No. 267 (CIRNAC 2019a) is a Treaty 5 Anishinaabe Nation located on the eastern shore of Lake Winnipeg, directly north of the Bloodvein River, approximately 83 km from the PDA. As of June 2019, the community had a registered population of 1,902 (CIRNAC 2019a), Bloodvein First Nation holds membership in the Southeast Resource Development Council Corporation, which represents eight First Nation members in southeastern Manitoba and promotes economic development and capacity building (SERDC 2019). Bloodvein First Nation's Reserve encompasses an area of 1,625.2 ha (CIRNAC 2019a). The community is accessible by air year-round via a gravel airstrip. In the summer months, the community can also be accessed by a ferry/barge system. On-reserve facilities include a band office, a Kindergarten-to-Grade-9 School, Health Centre, arena, and RCMP Detachment (SERDC 2019). Bloodvein First Nation is governed by a Chief and four Councilors who are elected under the *Indian Act* Election System (CIRNAC 2019a).

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Bloodvein First Nation. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to the Chief on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure and Manitoba Indigenous and Northern Relations (INR) staff was provided for questions, concerns, or information requirements.

Information Sharing and Initial Concerns

On October 24, 2017, a letter was sent to the Chief to follow up on the Province's attempts to contact the community and confirm the community's position on the Province's position that the Project is unlikely to have any effects on the exercise of Bloodvein First Nation's Aboriginal Treaty Rights.

On September 6, 2018, a letter was sent to the Chief presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. Manitoba made further attempts in 2017 and 2018 to provide project information and schedule a meeting.

A summary of issues and concerns raised by Bloodvein First Nation is included in the EIS: Appendix 5A.

Next Steps

Moving forward with communities who are potentially least impacted by the project, including Bloodvein First Nation, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the ongoing consultation process and timelines are provided in Section 3 of this report.

Hollow Water First Nation

Manitoba Infrastructure's initial assessment has determined that Hollow Water First Nation (HWFN) is least likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). It is Manitoba Infrastructure's current understanding that this community's primary use is concentrated on Lake Winnipeg as it relates to fishing and water related activities, and has expressed water-related concerns. Manitoba Infrastructure will share information with Hollow Water First Nation on the Project throughout the consultation process with offers to meet in-person, as required.

As of February 2020, a total of one meeting, three letters, and three emails and/or phone calls have occurred between Manitoba and HWFN.

Community Information

Hollow Water First Nation No. 263 (CIRNAC 2019a) is a Treaty 5 Anishinabe Nation located on the eastern shores of Lake Winnipeg, approximately 134 km from the PDA. Hollow Water First Nation is a member of the Southeast Resource Development Council Corporation, which represents eight First Nation members in southeastern Manitoba and promotes economic development and capacity building (SERDC 2019). As of June 2019, Hollow Water First Nation had a population of 2,019 (CIRNAC 2019a), of which 1,049 members live on the reserve. Hollow Water First Nation has one reserve (Reserve Hole or Hollow Water 10), which encompasses an area of 1,622.9 ha. Hollow Water First Nation is accessible by an all-weather road (SERDC 2019). Hollow Water First Nation is governed by a Chief and four Councilors who are elected under the *Indian Act* Election System (CIRNAC 2019a). Facilities on the reserve include a band office, health centre, water treatment plant, daycare, and fueling station (SERDC 2019).

The Indigenous engagement program to date and publicly available literature have not revealed information on TK for Hollow Water First Nation. Further engagement may provide information on interactions between Hollow Water First Nation's TK and the Project, if any.

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Hollow Water First Nation. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to the Chief on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. A follow-up letter was sent dated October 24, 2017.

Information Sharing and Initial Concerns

On March 29, 2018 HWFN signed a Band Council Resolution (BCR) identifying potential issues related to commercial fishers as a concern to the community and identifying a coordinator to act as the contact for the community. Manitoba followed up with HWFN to indicate Manitoba Infrastructure would host a community meeting with Fishers to present the project and listen to fisheries concerns.

On April 3rd, 2018 a meeting occurred in Winnipeg to discuss the concerns around fisheries, and to provide the following information on the project: maps of project area, channels, power line and access

road; regulatory process information sheet; tour of channel project web site and location of base line studies available for review on web site for permanent channel; extra copies of hand outs for HWFN use and distribution; and, baseline information was provided in. Manitoba also described the process for developing the fisheries offset plan and the Department of Fisheries and Oceans (DFO) authorization requirements. Hollow Water First Nation raised concerns around the following: water quality, invasive species, and Algae blooms on Lake Winnipeg; the effects of water level changes from the project; potential effects to Islands which are used for cultural and subsistence purposes; economic opportunities from the project; integration of community knowledge in project planning; and, adequate funding for the consultation process and independent review of Manitoba's water level modelling. Manitoba suggested that a community meeting could be held in Hollow Water to discuss further the concerns and to allow for feedback on how members perceive the project and the potential impacts to Aboriginal and treaty rights.

On September 6, 2018, a letter was sent to the Chief presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. Information regarding the Project was also provided to the community.

A summary of the issues and concerns raised by Hollow Water First Nation to date is included in the EIS: Appendix 5A, Table 5A.9.

Next Steps

Moving forward with communities who are potentially least impacted by the project, including Hollow Water First Nation, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the ongoing consultation process and timelines are provided in Section 3 of this report.

Black River First Nation

Manitoba Infrastructure's initial assessment has determined that Black River First Nation (BRFN) is least likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). It is Manitoba Infrastructure's current understanding that this community's primary use is concentrated on Lake Winnipeg as it relates to fishing and water related activities, and has expressed water-related concerns. Manitoba Infrastructure will share information with Black River First Nation on the Project throughout the consultation process with offers to meet in-person, as required.

As of February 2020, a total of 3 meetings, 3 letters, and 35 emails and/or phone calls have occurred between Manitoba and BRFN.

Community Information

Black River First Nation No. 260 (CIRNAC 2019a) is a Treaty 5 Anishinaabe Nation located on the eastern shore of Lake Winnipeg at the confluence of the O'Hanley and Black Rivers, approximately 162 km from the PDA. As of June 2019, Black River First Nation had a registered population of 1,432 (CIRNAC 2019a), Black River First Nation is a member of the Southeast Resource Development Council Corp (SERDC 2019). Black River First Nation has one reserve with an area of 809.3 ha and is accessible year-round by a paved road (CIRNAC 2019a; SERDC 2019). As of 2019, 985 members reside on the reserve. Black River First Nation members are involved in a range of economic activities such as trapping, agricultural development, wild rice harvesting, hunting and commercial fishing. Facilities on the reserve include a nursery-to-Grade-9 school, water treatment facility, window plant, truss plant, and general store (Black River First Nation 2009; SERDC 2019).

Hunting and trapping remain an important subsistence and cultural activity for the Black River First Nation (MMTP 2015). The health and abundance of wildlife is critical for the culture and way of life of Black River First Nation (MMTP 2015). The presence of highway and road activity has been noted by Black River First Nation as having a negative effect on the vegetation which wildlife relies upon (MMTP 2015). Black River First Nation report that hunting has been negatively affected by clear cutting, farming and gas lines, oil pipeline, railways, highways, power lines, and wind farms (Manitoba Hydro 2015b).

Black River First Nation use many different plants for traditional medicines. Berries and other plants are gathered by Black River First Nation, including but not limited to, wild rice and weekey (also known as sweet flag; MMTP 2015).

Notification of Proposed Project

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to the Chief on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. Contact information for Manitoba Infrastructure staff was provided for questions, concerns, or information requirements.

Information Sharing and Initial Concerns

Manitoba Infrastructure met with Black River First Nation on November 3, 2016 to better understand issues and concerns of the community and answer questions regarding the Project as well as explain the regulatory process. Information on the Project was exchanged following the November 3, 2016 meeting and in preparation for a meeting which took place on April 20, 2017 to discuss the alignment and questions from the First Nation as well as a consultation budget and work plan.

A meeting on November 2, 2017 discussed the Project and additional questions from the First Nation. BRFN identified concerns during initial meeting on the project that included: effects on the current Lake Winnipeg regulations review process; shoreline erosion of reserve lands; effect on 8 mile channel; relationship between this project and Hydro getting lake regulation licence; purpose of project; biased consultants reports; distrust of government information for consultants; involvement of FN members environmental data collection; effects on Lake St. Martin; invasive species getting into Lake Winnipeg; commercial fisher concerns regarding effects to Lake Winnipeg; and, concerns regarding access to Lake St. Martin.

Manitoba Infrastructure sent a letter to Chief and Council on February 8, 2018 to follow up on discussions regarding the Project at a meeting in November 2017. The letter proposed a presentation with Council followed by a community meeting.

On September 6, 2018, a letter was sent to the Chief presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. The results indicated that that the 2011 flood would have increased water levels by 1.3 inches higher at the peak of the event if the OC had been operating and that the volume of water entering Lake Winnipeg will not change with the outlet channel operation; however, the length of time for water to move from Lake Manitoba to Lake Winnipeg may be affected. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

Manitoba Infrastructure contacted the community on July 2019 to provide updated Project information and offer a community meeting.

A summary of the issues and concerns raised by Black River First Nation to date is included in the EIS: Appendix 5A, Table 5A.5.

Consultation Planning and Work Plan Development

Black River First Nation submitted a draft consultation work plan and budget on August 15th, 2017. Manitoba has discussed with BRFN, and has proposed a funded meeting to be held in the community. A meeting occurred on November 2nd, 2017 with a councillor to provide details on the project. Discussions occurred regarding the consultation planning and funding.

A March 29th, 2018 Band Council Resolution (BCR) identified potential issues related to commercial fishers as a concern to the community and identified a community coordinator to act as the contact for the community. As follow up Manitoba Infrastructure would host a community meeting with Fishers to present the project and listen to fisheries concerns.

Consultation work plans and other communications including ongoing letters, emails, and phone calls have and will continue to provide numerous opportunities for the community to review and provide comments on the information used for describing and assessing effects on Aboriginal peoples, including impacts to Aboriginal or Treaty rights.

Community concerns will be addressed throughout the consultation process by providing opportunities for local perspectives to be captured and recorded by developing mutually agreed upon consultation work plans that include community review of all Project related reports and documentation, and discussions around Project-specific mitigation and monitoring plans, accommodations, as well as conditions issued under the Project's Environment Act Licence and/or the Impact Assessment Agency of Canada's Decision Statement. In addition, Phase III of consultations allows affected Indigenous groups to validate Indigenous knowledge that will be integrated into the EIS.

Next steps

Moving forward with communities who are potentially least impacted by the project, including Black River First Nation, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the ongoing consultation process and timelines are provided in Section 3 of this report.

Sagkeeng First Nation

Manitoba Infrastructure's initial assessment has determined that Sagkeeng First Nation (SFN) is least likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). It is Manitoba Infrastructure's current understanding that this community's primary use is concentrated on Lake Winnipeg as it relates to fishing and water related activities, and has expressed water-related concerns. Manitoba Infrastructure will share information with Sagkeeng First Nation on the Project throughout the consultation process with offers to meet in-person, as required.

As of February 2020, a total of four letters, and eight emails and/or phone calls have occurred between Manitoba and SFN.

Community Information

Sagkeeng First Nation No. 262 (CIRNAC 2019a), also known as Fort Alexander, is a Treaty 1 Anishinabe Nation located adjacent the town of Pine Falls, approximately 169 km from the PDA. Sagkeeng First Nation is also a member of the Ojibway "Grand Council of Treaty #3" (MMTP 2015). As of June 2019, the registered population of Sagkeeng First Nation was 8,034 (CIRNAC 2019a). Sagkeeng First Nation has a single reserve, Fort Alexander Indian Reserve #3, located along both shores of the Winnipeg River (Sagkeeng First Nation n.d.) with a size of approximately 8,770 ha (CIRNAC 2019a). Sagkeeng First Nation utilizes a custom electoral system, and community members are governed by an elected Chief and 6 Councillors (Sagkeeng Anicinabe n.d.). Sagkeeng First Nation provides a number of health, education, and financial services to its community members (Sagkeeng Anicinabe n.d.).

Sagkeeng First Nation reports that hunting takes place between Lake Winnipeg and Nopiming Provincial Park, extending further south of the Piney area as well. A small area south of Selkirk in and around Birds Hill Park is also utilized (Sagkeeng O-Pimatiziiwin 2 2016).

Sagkeeng First Nation stated that medicinal plant gathering occurs at several sites east and southeast of Winnipeg (Sagkeeng O-Pimatiziiwin 2016). Sagkeeng First Nation note that development increasingly has impacts on the harvesting of traditional plants and medicines (Sagkeeng O-Pimatiziiwin 2 2016). For Sagkeeng First Nation, there is a natural interdependence among all things, and members are increasingly forced to find other places for harvesting, due to continued species decline in other areas. (MMTP 2015). Sagkeeng First Nation is also reluctant to disclose information about traditional medicines due to the risk of others appropriating traditional medicines and plants used by traditional healers (MMTP 2015). Members prefer that plants harvested for medicines not be identified by name because of concerns that identifying plant species will result in harvesting by others and a depletion of scarce resources used by First Nations. Sagkeeng First Nation members believe that development is increasingly making it more difficult to find healthy plant life (MMTP 2015).

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Sagkeeng First Nation. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to Chief the on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure and IMR staff was provided for questions, concerns, or information requirements. On August 23, 2016, Manitoba Infrastructure contacted Sagkeeng First Nation via phone call to follow-up on the initial letter. A message was left for Chief Derrick Henderson to call back.

A follow-up letter was sent by Manitoba Infrastructure on October 24, 2017 to provide updated Project information and request further engagement. On November 30 and December 1, 2017, Council for Sagkeeng First Nation responded with letters explaining that the First Nation had insufficient information regarding the specifics of the Project to assess the potential adverse impacts on their Treaty and Aboriginal rights and requested funding to independently analyze those potential impacts.

Information Sharing and Initial Concerns

A follow-up letter was sent by INR to the Chief of Sagkeeng First Nation on February 8, 2018 requesting a meeting with the community to share information about the Project, including technical and environmental information. On March 29, 2018, a Band Council Resolution (BCR) was received identifying potential issues related to commercial fishers for the community and identifying representative to act as the contact for the community (legal counsel). Manitoba Infrastructure followed up by email proposing to host a community meeting with fishers to present the Project and hear their concerns.

A summary of issues and concerns raised by Sagkeeng First Nation is included in the EIS: Appendix 5A.

Consultation Planning and Work Plan Development

On May 17, 2018, the Province sent an email to the Chief reiterating its offer for a meeting and community session, and offered funding for the meeting including hall rental, catering and honorariums for Elders or other knowledge holders. Emails were exchanged between Manitoba Infrastructure and legal counsel of Sagkeeng First Nation on May 25 and September 26, 2018 regarding the consultation process. On October 2, 2018, Sagkeeng provided a legal response to Manitoba Infrastructure letter dated October 24, 2018.

Next steps

Moving forward with communities who are potentially least impacted by the project, including Sagkeeng FN, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the ongoing consultation process and timelines are provided in Section 3 of this report.

Brokenhead Ojibway Nation

Manitoba Infrastructure's initial assessment has determined that Brokenhead Ojibway Nation (BON) is least likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). It is Manitoba Infrastructure's current understanding that this community's primary use is concentrated on Lake Winnipeg as it relates to fishing and water related activities, and has expressed water-related concerns. Manitoba Infrastructure will share information with Brokenhead Ojibway Nation on the Project throughout the consultation process with offers to meet in-person, as required.

As of February 2020, a total 5 letters, and 9 emails and/or phone calls have occurred between Manitoba and BON.

Community Information

Brokenhead Ojibway Nation No. 261 (CIRNAC 2019a) is a Treaty 1 Anishinabe Nation located on the southern shores of Lake Winnipeg, approximately 167 km from the PDA. As of June 2019, Brokenhead Ojibway Nation had a population of 2,107 members, of which 794 community members lived on the reserve (CIRNAC 2019a). Brokenhead Ojibway Nation is comprised of three reserves, Birch Landing (272 ha), Na-Sha-Ke-Penais (3 ha) and Brokenhead 4 (5,412.8 ha). The main reserve is Brokenhead 4, which is accessible by an all-weather road PR 59 (SERDC 2019). Brokenhead Ojibway Nation is a member of the Southeast Resource Development Council Corporation, which represents eight First Nation members in southeastern Manitoba and promotes economic development and capacity building (SERDC 2019). On-reserve facilities include a band office, Kindergarten-to-Grade-9 school, recreational centre, daycare, and health centre (CIRNAC 2019a).

The Indigenous engagement program to date and publicly available literature have not revealed information on TK for Brokenhead Ojibway Nation. Further engagement may provide information on interactions between Brokenhead Ojibway Nation's TK and the Project, if any.

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Brokenhead Ojibway Nation. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to BON on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016.

Information Sharing and Initial Concerns

On October 24, 2017, a letter was sent to the Chief to follow up on Manitoba's previous attempts to contact the community and confirm that the Project is unlikely to have any effects on the exercise of Brokenhead Ojibway Nation's Aboriginal Treaty Rights or assertions.

On September 6, 2018, a letter was sent to the Chief presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba's initial assessment of potential effects for the community. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure and INR was also provided for questions, concerns, or information requirements.

Manitoba Infrastructure emailed the Chief on July 10, 2019 offering a meeting to discuss the Project. The Chief responded in a letter on July 24, 2019 recommending that if the proposed meeting is intended as consultation, as per Section 35 of the Constitution, Manitoba must send the First Nation a letter saying Manitoba Infrastructure wishes to initiate consultation.

A summary of issues and concerns raised by Brokenhead Ojibway Nation is included in the EIS: Appendix 5A.

Next steps

Moving forward with communities who are potentially least impacted by the project, including Brokenhead Ojibway Nation, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the ongoing consultation process and timelines are provided in Section 3 of this report.

Misipawistik Cree Nation

Manitoba Infrastructure's initial assessment has determined the Misipawistik Cree Nation (MCN) is least likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). It is Manitoba Infrastructure's current understanding that this community's primary use is concentrated on Lake Winnipeg as it relates to fishing and water related activities, and has expressed water-related concerns. Manitoba Infrastructure will share information with Misipawistik Cree Nation on the Project throughout the consultation process with offers to meet in-person, as required.

As of February 2020, a total of 3 letters, and 4 emails and/or phone calls have occurred between Manitoba and MCN.

Community Information

Misipawistik Cree Nation No. 310 (CIRNAC 2019a) is a Treaty 5 Cree Nation located near Grand Rapids, approximately 157 km from the PDA. It is accessible from PTH 6. As of June 2019, Misipawistik Cree Nation had a registered population of 2,131 persons (CIRNAC 2019a). Misipawistik Cree Nation has two reserves, Grand Rapids 33 and Masikiskahk Indian Reserve, which comprise approximately 1,873 ha (CIRNAC 2019a). As of April 2019, Misipawistik Cree Nation had a registered population of 2,131 persons (CIRNAC 2019a). Governance is provided by a custom electoral system, and is comprised of a Chief and 3 Councillors, elected under the Misipawistik Cree Nation Election Policy (Misipawistik Cree Nation 2018). Education needs are managed by Frontier School Division, with N-12 students attending Grand Rapids School (Misipawistik Cree Nation 2018). The Misipawistik Cree Nation Health Authority is based in Grand Rapids and has provided programs such as the Misipawistik Wechetowin Healing Project, aimed at community healing and trust building (Aboriginal Health Foundation 2019). Misipawistik Cree Nation is home to a number of services and businesses, including a grocery store, an internet provider, two gas bars, a highway rest stop and restaurant, and a credit union (Misipawistik Cree Nation 2018). Misipawistik Cree Nation is also involved in several business ventures and partnerships, including Aseneskak Casino, Tipi Insurance, Swampy Cree Holdings and Nisokapawino Forestry Management Corporation (Misipawistik Cree Nation 2018).

The Indigenous engagement program to date and publicly available literature have not revealed information on TK for Misipawistik Cree Nation. Further engagement may provide information on interactions between Misipawistik Cree Nation's TK and the Project, if any.

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Misipawistik Cree Nation. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to the Chief on

August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure and INR staff was provided for questions, concerns, or information requirements.

On October 24, 2017, a letter was sent to the Chief to follow up on the Province's attempts to contact the community and confirm the community's perspective on the Province's position that the Project is unlikely to have any effects on the exercise of Misipawistik Cree Nation's Aboriginal Treaty Rights or assertions.

Information Sharing and Initial Concerns

On September 6, 2018, a letter was sent to the Chief presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure was also provided for questions, concerns, or information requirements.

A summary of issues and concerns raised by Misipawistik Cree Nation is included in the EIS: Appendix 5A.

Next steps

Moving forward with communities who are potentially least impacted by the project, including Misipawistik Cree Nation, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the ongoing consultation process and timelines are provided in Section 3 of this report.

Aghaming Northern Affairs Community

Manitoba Infrastructure's initial assessment has determined that Aghaming Northern Affairs Community (NAC) is least likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). It is Manitoba Infrastructure's current understanding that this NAC's primary concern and community's use is related to fishing and water related activities on Lake Winnipeg. Manitoba Infrastructure will share information with Aghaming Northern Affairs Community on the Project throughout the consultation process with offers to meet in-person, as required.

As of February 2020, three letters and one email and/or phone calls have occurred between Manitoba and Aghaming.

Community Information

Aghaming NAC is a settlement (as defined under the *Northern Affairs Act*) located on the eastern shore of Lake Winnipeg, approximately 138 km from the PDA. As of 2011, it had a population of 15 (Northern Association of Community Councils 2019). It lies in a 16 km^2 area shared by Wanipigow, Seymourville, and Manigotagan, and as of May 2016, had 6 housing units (Government of Manitoba 2016a). Governance is provided by a contact person (Government of Manitoba 2016a). Police and medical services are located in Powerview-Pine Falls, approximately 80 km south (Government of Manitoba 2016a). Aghaming Northern Affairs Community has a small recreational facility, while education services are located in Wanipigow (Government of Manitoba 2016a). Manigotagan provides accommodation services in the form of a motel (Government of Manitoba 2016a).

The Indigenous engagement program efforts to date and publicly available literature have not revealed information on TK for Aghaming Northern Affairs Community. Further engagement may provide information on interactions between Aghaming Northern Affairs Community's TK and the Project, if any.

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Aghaming Northern Affairs Community. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to the Mayor on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure staff was provided for questions, concerns, or information requirements. Manitoba Infrastructure followed up with a phone call on September 6, 2016 which confirmed that the community had received the letter and had no information requests at the time. On October 24, 2017, a follow up letter was sent to the Mayor to provide an update on the Project.

Information Sharing and Initial Concerns

On September 6, 2018, a letter was sent to the Mayor of the Aghaming Community Council presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. Information regarding the Project, including the regulatory review, was provided. Contact information for Manitoba Infrastructure was also provided for questions, concerns, or information requirements.

A summary of issues and concerns raised by Aghaming NAC is included in the EIS: Appendix 5A.

Next Steps

Moving forward with communities who are potentially least impacted by the project, including Aghaming NAC, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the ongoing consultation process and timelines are provided in Section 3 of this report.

Berens River Northern Affairs Community

Manitoba Infrastructure's initial assessment has determined that the Berens River Northern Affairs Community (NAC) is least likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). It is Manitoba Infrastructure's current understanding that this NAC's primary concern and community's use is related to fishing and water related activities on Lake Winnipeg. Manitoba Infrastructure will share information with Berens River Northern Affairs Community on the Project throughout the consultation process with offers to meet in-person, as required.

As of February 2020, three letters and one email and/or phone calls have occurred between Manitoba and Berens River.

Community Information

Berens River Northern Affairs Community, recognized under the *Northern Affairs Act* in 1970, is located on the eastern shore of Lake Winnipeg, and lies approximately 75 km from the PDA. The community is not accessible year-round and relies on a winter road as well as air and barge transport for access (Government of Manitoba 2016b). According to Statistics Canada, as of 2016 there were 46 persons residing in 28 housing units at Berens River Northern Affairs Community (Statistics Canada 2016). Berens River Northern Affairs Community has a Mayor and two Councilors, as well as other community personnel (Northern Association of Community Councils 2019). Fire services are absent in the community, with police services accessible through Selkirk RCMP, located some 240 km south, and medical services available through the federal nursing station located on the adjacent Berens River First Nation reserve (Government of Manitoba 2016b). Berens River Northern Affairs Community has several local services, including a nursing station, an airstrip, an arena, two eating and lodging facilities, a grocery store, a building supply store, and community hall (Government of Manitoba 2016b). Education services are provided by Frontier School Division, which operates the N-9 Berens River School, located on the adjacent Berens River First Nation reserve (Government of Manitoba 2016b).

For the environmental assessment for the Manitoba Floodway & East Side Road Authority (2014), Berens River Northern Affairs Community reported that the east side of Lake Winnipeg had been used for traditional activities including travel routes, fishing, hunting, trapping, camping, plant harvesting, timber harvest for firewood, and sacred/ceremonial places (CEA Agency 2017). Hunting was acknowledged as an important activity for Indigenous groups in this area including Berens River Northern Affairs Community. The area described is outside the Project Development Area, although it borders the eastern shores of Lake Winnipeg included in the RAA. Lake Winnipeg is a preferred fishing location used by Berens River Northern Affairs Community (CEA Agency 2017).

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Berens River Northern Affairs Community. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to the Mayor on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure staff was provided for questions, concerns, or information requirements. On September 1, 2016, a telephone call to the community was made and confirmation was received that the letter had been received. Contact information was provided to the community for questions, concerns, or information requirements. A follow up phone call was made to confirm the reception of the initial letter.

Information Sharing and Initial Concerns

On October 24, 2017, a follow up letter was sent to provide a Project update. On September 6, 2018 an additional follow up letter was sent to the Mayor presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. Information regarding the Project was also provided. Contact information for Manitoba Infrastructure was also provided for questions, concerns, or information requirements.

A summary of issues and concerns raised by Berens River NAC to date is included in the EIS: Appendix 5A.

Next Steps

Moving forward with communities who are potentially least impacted by the project, including Berens River NAC, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the ongoing consultation process and timelines are provided in Section 3 of this report.

Fisher Bay Northern Affairs Community

Manitoba Infrastructure's initial assessment has determined the Fisher Bay Northern Affairs Community (NAC) is least likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). It is Manitoba Infrastructure's current understanding that this NAC's primary concern and community's use is related to fishing and water related activities on Lake Winnipeg. Manitoba Infrastructure will share information with Fisher Bay Northern Affairs Community on the Project throughout the consultation process with offers to meet in-person, as required.

As of February 2020, five letters and one email and/or phone calls have occurred between Manitoba and Fisher Bay.

Community Information

Fisher Bay lies on the western shore of Lake Winnipeg, approximately 55 km from the PDA. Under the *Northern Affairs Act*, it is presided over by a Mayor and two Councilors, and also retains a Community Administrative Officer (Northern Association of Community Councils 2019). As of 2011, the recorded population was 35 persons, distributed among 16 housing units (Government of Manitoba 2016d). The local economy is reliant on commercial fishing, with trapping and logging also contributing (Government of Manitoba 2016d). Local services are limited to a mechanical field-service company and recreation facilities (Government of Manitoba 2016d). The Frontier School Division busses students to a K-12 school located on the adjacent Fisher Bay Cree Nation reserve (Government of Manitoba 2016d). Fire services are also provided by adjacent Fisher River Cree Nation, while policing services are available from Fisher Branch, approximately 60 km south. The nearest hospital is in Hodgson, approximately 45 km south.

The Indigenous engagement program to date and publicly available literature have not revealed information on TK for Fisher Bay Northern Affairs Community. Further engagement may provide information on interactions between Fisher Bay Northern Affairs Community's TK and the Project, if any.

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Fisher Bay Northern Affairs Community. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to the Mayor on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure and INR staff was provided for questions, concerns, or information requirements.

Information Sharing and Initial Concerns

On October 24, 2017, a follow up letter was sent to the Mayor to provide an update on the Project. On September 6, 2018, a letter was sent to the Mayor presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. Information regarding the Project was also provided. Contact information for Manitoba Infrastructure was also provided for questions, concerns, or information requirements.

A summary of issues and concerns raised by Fisher Bay NAC is included in the EIS: Appendix 5A.

Next Steps

Moving forward with communities who are potentially least impacted by the project, including Fisher Bay NAC, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the ongoing consultation process and timelines are provided in Section 3 of this report.

Loon Straits Northern Affairs Community

Manitoba Infrastructure's initial assessment has determined that the Loon Straits Northern Affairs Community (NAC) is least likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). It is Manitoba Infrastructure's current understanding that this NAC's primary concern and community's use is related to fishing and water related activities on Lake Winnipeg. Manitoba Infrastructure will share information with Loon Straits Northern Affairs Community on the Project throughout the consultation process with offers to meet in-person, as required.

As of February 2020, three letters and one email and/or phone calls have occurred between Manitoba and Loon Straits.

Community Information

Loon Straits is located on Lake Winnipeg's eastern shore, approximately 99 km from the PDA. It is a defined as a settlement under the *Northern Affairs Act*, and access to the community is by seasonal roads, boats, and aircraft (Government of Manitoba 2016e). The community retains a contact person but no other governance (Northern Association of Community Councils 2019). According to the 2016 Canadian Census, the population of Loon Straits was 10, with 27 private dwellings (Statistics Canada 2016). The local economy is mostly comprised of commercial fishing and trapping (Government of Manitoba 2016e). Local fire-fighting services are limited to portable equipment, while police support is based in Selkirk, approximately 215 km south (Government of Manitoba 2016e). Local medical support is limited to basic First Aid, and community services are limited to a small, summer-use non-licensed airstrip (Government of Manitoba 2016e).

The Indigenous engagement program to date and publicly available literature have not revealed information on TK for Loon Straits NAC. Further engagement may provide information on interactions between Loon Straits Northern Affairs Community's TK and the Project, if any.

The following sections were selected to highlight the activities and communications that have been undertaken to date with Loon Straits Northern Affairs Community. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to the Mayor on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure staff was provided for questions, concerns, or information requirements.

Information Sharing and Initial Concerns

On October 24, 2017, a follow up letter was sent to the Mayor to provide an update on the Project. On September 6, 2018, a letter was sent to the Mayor presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. Information regarding the Project was also provided. Contact information for Manitoba Infrastructure was also provided for questions, concerns, or information requirements.

A summary of issues and concerns raised by Loon Straits Northern Affairs Community to date is included in the EIS: Appendix 5A.

Next Steps

Moving forward with communities who are potentially least impacted by the project, including Loon Straits Northern Affairs Community, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the ongoing consultation process and timelines are provided in Section 3 of this report.

Manigotagan Northern Affairs Community

Manitoba Infrastructure's initial assessment has determined that the Manigotagan Northern Affairs Community (NAC) is least likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). It is Manitoba Infrastructure's current understanding that this NAC's primary concern and community's use is related to fishing and water related activities on Lake Winnipeg. Manitoba Infrastructure will share information with Manigotagan Northern Affairs Community on the Project throughout the consultation process with offers to meet in-person, as required.

As of February 2020, three letters and two emails and/or phone calls have occurred between Manitoba and Manigotagan.

Community Information

Manigotagan is situated on the east shore of Lake Winnipeg, approximately 137 km from the PDA. It is accessible by PR 304 (Government of Manitoba 2016f). Under the *Northern Affairs Act*, Manigotagan Northern Affairs Community is represented by a Mayor and four Councillors, as well as other community representatives (Northern Association of Community Councils 2019). Manigotagan Northern Affairs Community has a diverse economy, with forestry, logging, commercial fishing, trapping, hunting, wild rice gathering, and tourism all represented (Government of Manitoba 2016f). As of 2011, the population for Manigotagan Northern Affairs Community was 213, with 83 housing units (Government of Manitoba 2016f). Local emergency services consist of fire response, with police and medical based in Powerview-Pine Falls, approximately 70 km to the south (Government of Manitoba 2016f). Local recreation facilities include a baseball field, curling rink, and community hall. Educational services are provided by Frontier School Division, with students attending Wanipigow School on the Hollow Water Reserve (Government of Manitoba 2016f). Local businesses are focused on logging and mechanical operations (Government of Manitoba 2016f).

The Indigenous engagement program to date and publicly available literature have not revealed information on TK for Manigotagan Northern Affairs Community. Further engagement may provide information on interactions between Manigotagan Northern Affairs Community's TK and the Project, if any.

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Manigotagan Northern Affairs Community. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to the Mayor on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects

the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure staff was provided for questions, concerns, or information requirements. A phone call was made to the community on September 6, 2016 to follow up on the initial letter and to provide an opportunity to engage community leadership.

Information Sharing and Initial Concerns

On October 24, 2017, a follow up letter was sent to a Councilor to provide an update on the Project and an opportunity for further engagement. On September 6, 2018, a letter was sent to the Mayor presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. Information regarding the Project was also provided. Contact information for Manitoba Infrastructure was also provided for questions, concerns, or information requirements.

A summary of issues and concerns raised by Manigotagan NAC to date is included in the EIS: Appendix 5A.

Next Steps

Moving forward with communities who are potentially least impacted by the project, including Manigotagan Northern Affairs Community, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the ongoing consultation process and timelines are provided in Section 3 of this report.

Matheson Island Northern Affairs Community

Manitoba Infrastructure's initial assessment has determined that the Matheson Island Northern Affairs Community (NAC) is least likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). It is Manitoba Infrastructure's current understanding that this NAC's primary concern and community's use is related to fishing and water related activities on Lake Winnipeg. Manitoba Infrastructure will share information with Matheson Island Northern Affairs Community on the Project throughout the consultation process with offers to meet in-person, as required.

As of February 2020, three letters and one email and/or phone calls have occurred between Manitoba and Matheson Island.

Community Information

Matheson Island Northern Affairs Community is located on an island situated near the Narrows on Lake Winnipeg, approximately 68 km from the PDA. The community was recognized under the *Northern Affairs Act* in 1969 and is accessible by ferry and by PR 234 and PTH 8 (Government of Manitoba 2016g). Matheson Island Northern Affairs Community is governed by a Mayor and 4 Councilors, and employs a community administrative officer, volunteer fire chief, and two public works personnel (Government of Manitoba 2016g; Northern Association of Community Councils 2019). As of 2011, the population of Matheson Island Northern Affairs Community was 103, with 69 housing units (Government of Manitoba 2016g). Educational services are provided by Frontier School Division, which operates the Matheson Island School (Government of Manitoba 2016g). The community has local fire response capability, with police and medical services located in Arborg, approximately 130 km south. Local services include an airstrip, two ferries, recreational facilities, a fish plant, and bakery (Government of Manitoba 2016g). Matheson Island Northern Affairs Community is also home to Matheson Island Marketing Co-op, focused on commercial fishing.

The Indigenous engagement program to date and publicly available literature have not revealed information on TK for Matheson Island Northern Affairs Community. Further engagement may provide information on interactions between Matheson Island Northern Affairs Community's TK and the Project, if any.

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Matheson Island Northern Affairs Community. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to Deputy the Mayor on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the

effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure staff was provided for questions, concerns, or information requirements. Manitoba Infrastructure followed up with a phone call on August 24, 2016 which confirmed that the community had received the letter. A letter was sent to the Mayor on October 24, 2017 to follow up on the initial letter and to provide an opportunity to engage community leadership.

Information Sharing and Initial Concerns

On September 6, 2018, a letter was sent to the Mayor presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure was also provided for questions, concerns, or information requirements.

A summary of issues and concerns raised by Matheson Island NAC to date is included in the EIS: Appendix 5A.

Next Steps

Moving forward with communities who are potentially least impacted by the project, including Matheson Island NAC, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the ongoing consultation process and timelines are provided in Section 3 of this report.

Pine Dock Northern Affairs Community

Manitoba Infrastructure's initial assessment has determined that the Pine Dock Northern Affairs Community (NAC) is least likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). It is Manitoba Infrastructure's current understanding that this NAC's primary concern and community's use is related to fishing and water related activities on Lake Winnipeg. Manitoba Infrastructure will share information with Pine Dock Northern Affairs Community on the Project throughout the consultation process with offers to meet in-person, as required.

As of February 2020, three letters and one email and/or phone calls have occurred between Manitoba and Pine Dock.

Community Information

Pine Dock Northern Affairs Community is in the Narrows region, along the western shore of Lake Winnipeg, approximately 80 km from the PDA. Recognized under the *Northern Affairs Act* in 1972, Pine Dock is accessible by PR 234 and PTH 8 (Government of Manitoba 2016h). As of 2011, Pine Dock Northern Affairs Community had a registered population of 50 persons and 50 housing units and is served by a Mayor and 4 Councilors (Northern Association of Community Councils 2019). Pine Dock Northern Affairs Community also has a community council and staff (Northern Association of Community Councils 2019). Pine Dock Northern Affairs Community offers recreational services, including a baseball field, community hall, and outdoor rink (Government of Manitoba 2016h). Pine Dock Northern Affairs Community has its own fire truck, and police and medical services can be accessed in Arborg, approximately 110 km to the southwest. A local resort provides meal and accommodation services (Government of Manitoba 2016h).

The Indigenous engagement program to date and publicly available literature have not revealed information on TK for Pine Dock Northern Affairs Community. Further engagement may provide information on interactions between Pine Dock Northern Affairs Community's TK and the Project, if any.

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Pine Dock Northern Affairs Community. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to the Mayor on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure staff was provided for questions, concerns, or information

requirements. Manitoba Infrastructure followed up with a phone call on August 24, 2016 which confirmed that the community had received the letter.

A letter was sent to the Mayor on October 24, 2017 to follow up on the initial letter and to provide an opportunity to engage community leadership.

Information Sharing and Initial Concerns

On September 6, 2018, Manitoba Infrastructure sent a letter presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. Information regarding the Project was also provided. Contact information for Manitoba Infrastructure was also provided for questions, concerns, or information requirements.

A summary of issues and concerns raised by Pine Dock NAC to date is included in the EIS: Appendix 5A.

Next Steps

Moving forward with communities who are potentially least impacted by the project, including Pine Dock NAC, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the ongoing consultation process and timelines are provided in Section 3 of this report.

Princess Harbour Northern Affairs Community

Manitoba Infrastructure's initial assessment has determined that the Princess Harbour Northern Affairs Community (NAC) is least likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). It is Manitoba Infrastructure's current understanding that this NAC's primary concern and community's use is related to fishing and water related activities on Lake Winnipeg. Manitoba Infrastructure will share information with Princess Harbour Northern Affairs Community on the Project throughout the consultation process with offers to meet in-person, as required.

As of February 2020, three letters and one email and/or phone calls have occurred between Manitoba and Princess Harbour.

Community Information

Princess Harbour Northern Affairs Community is located on a peninsula of the eastern shore of Lake Winnipeg, approximately 71 km from the PDA. Recognized in 1972 under the Northern Affairs Act, the settlement is not easily accessible, as there is no permanent road, and air and ferry services were halted in 2015 (Government of Manitoba 2016i). Princess Harbour Northern Affairs Community representation occurs through a contact person, and the 2011 population was 10, with 6 housing units (Government of Manitoba 2016i). Police and medical services are accessible at the Bloodvein Reserve, approximately 17 km southeast. Local services include a bed and breakfast and freight company (Government of Manitoba 2016i).

The Indigenous engagement program to date and publicly available literature have not revealed information on TK for Princess Harbour Northern Affairs Community. Further engagement may provide information on interactions between Princess Harbour Northern Affairs Community's TK and the Project, if any.

The following sections were selected to highlight the activities and communications that have been undertaken to date with Princess Harbour Northern Affairs Community. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to the Mayor on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure staff was provided for questions, concerns, or information requirements. A telephone call was made to the community on September 1, 2016 which confirmed that the community had received the initial letter and follow up as per the September 12, 2016 deadline.

Information Sharing and Initial Concerns

On October 24, 2017 a letter was sent to follow up on the initial letter, provide an update on the Project, and to provide an opportunity to engage community leadership.

On September 6, 2018, a letter was sent to the Mayor, presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure was also provided for questions, concerns, or information requirements.

A summary of issues and concerns raised by Princess Harbour NAC to date is included in the EIS: Appendix 5A.

Next Steps

Moving forward with communities who are potentially least impacted by the project, including Princess Harbour NAC, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the ongoing consultation process and timelines are provided in Section 3 of this report.

Seymourville Northern Affairs Community

Manitoba Infrastructure's initial assessment has determined that the Seymourville Northern Affairs Community (NAC) is least likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). It is Manitoba Infrastructure's current understanding that this NAC's primary concern and community's use is related to fishing and water related activities on Lake Winnipeg. Manitoba Infrastructure will share information with Seymourville Northern Affairs Community on the Project throughout the consultation process with offers to meet in-person, as required.

As of February 2020, three letters and one email and/or phone calls have occurred between Manitoba and Seymourville.

Community Information

Seymourville NAC incorporated in 2004 under the *Northern Affairs Act* (Government of Manitoba 2016k) and is one of a group of five incorporated communities located in Wanipigow, MB, approximately 134 km from the PDA. As of 2016, Seymourville Northern Affairs Community had a population of 118 persons, with 37 housing units (Government of Manitoba 2016k). Seymourville is governed by a Mayor and 4 Councillors (Northern Association of Community Councils 2019). Seymourville personnel include a public works person and volunteer fire chief (Government of Manitoba 2016k). Seymourville has a small fire-fighting vehicle, with police services accessible and comprehensive medical services in Pine Falls, approximately 85 km south. Educational services are provided by Wanipigow School (Government of Manitoba 2016k). Local recreation facilities include baseball diamond, recreation building, and outdoor rink, with local business services including a fish-packing plant and general repair (Government of Manitoba 2016k).

The Indigenous engagement program to date and publicly available literature have not revealed information on TK for Seymourville. Further engagement may provide information on interactions between Seymourville's TK and the Project, if any.

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Seymourville Northern Affairs Community. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to the Mayor on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure staff was provided for questions, concerns, or information requirements. On September 1, 2016 a telephone call was made to the community confirming the

reception of the initial letter and advising to contact Manitoba Infrastructure should additional information be required. On September 14, 2017 the community sent a letter to Manitoba Infrastructure identifying their concerns with the Project.

Information Sharing and Initial Concerns

On September 6, 2018, a letter was sent to the Mayor, presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. Information regarding the Project was also provided. Contact information for Manitoba Infrastructure was also provided for questions, concerns, or information requirements.

A summary of issues and concerns raised by Seymourville NAC to date is included in the EIS: Appendix 5A.

Next Steps

Moving forward with communities who are potentially least impacted by the project, including Seymourville NAC, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the ongoing consultation process and timelines are provided in Section 3 of this report.

Norway House Northern Affairs Community

Manitoba Infrastructure's initial assessment has determined that Norway House Northern Affairs Community (NAC) is least likely to experience potential impacts to the exercise of Aboriginal and Treaty Rights, due to their proximity to the Project and resource use by members within and adjacent to the Project Development Area (PDA) or the Local Assessment Area (LAA). It is Manitoba Infrastructure's current understanding that this NAC's primary concern and community's use is related to fishing and water related activities on Lake Winnipeg. Manitoba Infrastructure will share information with Norway House Northern Affairs Community on the Project throughout the consultation process with offers to meet in-person, as required.

As of February 2020, three letters and one email and/or phone calls have occurred between Manitoba and Norway House.

Community Information

Norway House Northern Affairs Community is located on the east channel of the Nelson River, approximately 30 km north of Lake Winnipeg, and approximately 218 km from the PDA. Recognized under the *Northern Affairs Act* in 1970, it is serviced by PR 373 and PTH 6 (Government of Manitoba 2016j). As of 2011, the population was 461 persons with 203 housing units (Government of Manitoba 2016j). Governance is provided by a Mayor and 6 Councilors and the community employs several permanent and seasonal personnel (Government of Manitoba 2016j). Norway House Northern Affairs Community has its own fire hall and police detachment, with medical services available on the adjacent Norway House Cree Nation Reserve (Government of Manitoba 2016j). Economic drivers are primarily commercial fishing and trapping, along with wild rice planting and transportation services (Government of Manitoba 2016j). Norway House Northern Affairs Community is also home to a local radio station, an annual fishing derby, and the annual York Boat Days (Norway House 2010). Norway House Northern Affairs Community has a number of services, including an airstrip, ferry services, and recreation facilities. Educational services are provided by Frontier School Division, which operates two schools in Norway House Northern Affairs Community: N-6 Jack River School and N-12 Helen Betty Osborne Ininiw Education Resource Centre (Government of Manitoba 2016j). Local businesses include restaurants, equipment rentals, a gas station, and a pharmacy (Government of Manitoba 2016j).

The Indigenous engagement program to date and publicly available literature have not revealed information on TK for Norway House Northern Affairs Community. Further engagement may provide information on interactions between Norway House Northern Affairs Community's TK and the Project, if any.

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Norway House Northern Affairs Community. Detailed accounting, including a record of communication and meetings are included in the appendices. These records have been amended to remove names and sensitive community information.

Notification of Proposed Project

A letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to the Mayor on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure staff was provided for questions, concerns, or information requirements.

Information Sharing and Initial Concerns

A meeting request from the Mayor was received by Manitoba Infrastructure in a letter dated October 18, 2017. Manitoba Infrastructure followed up by letter on February 8, 2018 with possible dates for a meeting to present Project information. Manitoba Infrastructure followed up with the CAO of Norway House NAC, on April 26, 2018 to confirm potential dates for a meeting with the community council. No response was received.

On September 6, 2018, a letter was sent presenting the results of the hydrological modelling simulation for Lake Winnipeg and Manitoba Infrastructure's initial assessment of potential effects for the community. Information regarding the Project, including the regulatory review, was provided through a link. Contact information for Manitoba Infrastructure was also provided for questions, concerns, or information requirements.

A summary of issues and concerns raised by Norway House NAC is included in the EIS: Appendix 5A.

Next Steps

Moving forward with communities who are potentially least impacted by the project, including Norway House NAC, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the ongoing consultation process and timelines are provided in Section 3 of this report.

Sandy Bay First Nation

Manitoba Infrastructure's initial assessment has determined that Sandy Bay First Nation (SBFN) is unlikely to be adversely impacted by the project. However, the Impact Assessment Agency of Canada (IAAC) includes SBFN to the list of potentially affected communities that Manitoba is expected to engage with on the project. While Manitoba Infrastructure doesn't anticipate that there will be impacts to Aboriginal and Treaty rights of members of Sandy Bay First Nation, Manitoba Infrastructure is still interested in collecting this information from SBFN and has developed an engagement work plan for the community.

As of February 2020, there has been three emails, letters and/or phone calls have occurred between Manitoba and SBFN.

Community Information

Sandy Bay First Nation No. 283 (CIRNAC 2019a) is a Treaty 1 Ojibway Nation situated on Reserve No. 5, located along the western shore of Lake Manitoba, approximately 76 km from the PDA which covers an area of 6659.60 ha (CIRNAC 2019a). As of June 2019, the registered population was 6,830 (CIRNAC 2019a). 80% of Sandy Bay First Nation's population identify as Ojibway language speakers (Sandy Bay First Nation n.d.). Sandy Bay First Nation is governed by a Chief and four Councilors elected according to the *Indian Act* Election System and is a member of the Dakota Ojibway Tribal Council, which offers First Nation members capacity-building programs in finance, education, housing, child and family services, and social development (CIRNAC 2019a; Dakota Ojibway Tribal Council 2017). Sandy Bay First Nation provides social services, a radio station, civic services, learning and health centers, a nursing centre, a fire hall and police service, employment training, a gas bar, and child and family services (Sandy Bay First Nation n.d.).

The Indigenous engagement program to date and publicly available literature have not revealed information on TK for Sandy Bay First Nation. Further engagement may provide information on interactions between Sandy Bay First Nation's TK and the Project if any.

Information Sharing and Initial Concerns

An email from legal counsel representing Sandy Bay First Nation was received on September 26, 2018. A phone call in July 2019 was made by Manitoba Infrastructure to the Chief to request a meeting to discuss the Project. July 2019 Manitoba Infrastructure spoke with the Chief to propose a meeting to share project information.

A summary of issues and concerns raised by Sandy Bay First Nation is included in the EIS: Appendix 5A.

Other Notifications (Sec. 35 Consultations for minor works related to the project)

On May 7th, 2019 one letter and two emails were sent to Chief regarding notification of upcoming rock availability study.

Next Steps

Moving forward with communities who are unlikely to be adversely impacted by the project, including Sandy Bay First Nation, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the engagement process and timelines are provided in Section 3 of this report.

Skownan First Nation

Manitoba Infrastructure's initial assessment has determined that Skownan First Nation (SFN) is unlikely to be adversely impacted by the project. However, the Impact Assessment Agency of Canada (IAAC) included Skownan First Nation to the list of potentially affected communities that Manitoba is expected to engage with on the project. While Manitoba Infrastructure doesn't anticipate that there will be impacts to Aboriginal and Treaty rights of members of Skownan First Nation, Manitoba Infrastructure is still interested in collecting this information from Skownan First Nation and has developed an engagement work plan for the community.

As of February 2020, 3 letters, emails and/or phone calls have occurred between Manitoba and Skownan First Nation.

Community Information

Skownan First Nation No. 281 (CIRNAC 2019a) is a Treaty 2 Ojibway Nation located North of Lake Manitoba and on the Southwest bank of Waterhen Lake, approximately 85 km from the PDA (StatsCan 2016). Skownan First Nation is accessible year-round by PTH 276 (CIRNAC 2019a). As of April 2019, the registered population of Skownan First Nation was 1,540 people (CIRNAC 2019a). Skownan First Nation has one reserve, Waterhen 45 (1865.7 ha), located approximately 288 km Northwest of Winnipeg (CIRNAC 2019a). As of June 2019, Skownan First Nation's registered population was 1,550 people (CIRNAC 2019a). Governance of the community is provided by a Chief and four Councilors, elected every four years under the Skownan First Nation Band Custom Election Code (Skownan First Nation 2019). Skownan First Nation is a member of the West Region Tribal Council (CIRNAC 2019a). The Skownan Development Corporation, overseen by an elected board of directors, operates within Skownan First Nation and acts to create economic and business initiatives and employment opportunities that support self-reliance (Skownan First Nation 2019). Skownan First Nation has a Pre-K-to-9 school as well as a health center (Skownan First Nation 2019). Other businesses and services include a fire hall, water utility, an outfitting company, and a local radio station (Skownan First Nation 2019).

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Skownan First Nation. For a detailed accounting, please reference the appendices where a record of communication and meetings are identified.

Notification of Proposed Project

An initial letter outlining the Project components, regulatory requirements, and results of Manitoba Infrastructure's initial assessment of the effects on Aboriginal and Treaty Rights was sent to the Chief on August 8, 2016. The letter described Manitoba's duty to consult and provided maps of the Project components and the Project area. The letter requested a response with specific concerns on the effects the Project may have on the exercise of Treaty or Aboriginal rights by September 12, 2016. Contact information for Manitoba Infrastructure staff was provided for questions, concerns, or information requirements.

On October 24, 2017, a follow-up letter was sent to provide updated Project information and request further engagement. Information about fieldwork was provided to the community in May 2019. In July 2019. Manitoba Infrastructure invited the Chief to meet and share information about the Project.

Next Steps

Moving forward with communities who are unlikely to be adversely impacted by the project, including Skownan First Nation, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the engagement process and timelines are provided in Section 3 of this report.

Keeseekoowenin Ojibway Nation

Manitoba Infrastructure's initial assessment has determined that Keeseekoowenin Ojibway Nation (KON) is unlikely to be adversely impacted by the project. However, the Impact Assessment Agency of Canada (IAAC) included Keeseekoowenin Ojibway Nation to the list of potentially affected communities that Manitoba is expected to engage with on the project. While Manitoba Infrastructure doesn't anticipate that there will be impacts to Aboriginal and Treaty rights of members of Keeseekoowenin Ojibway Nation, Manitoba Infrastructure is still interested in collecting this information from Keeseekoowenin Ojibway Nation and has developed an engagement work plan for the community.

Community Information

Keeseekoowenin Ojibway Nation No. 286 (CIRNAC 2019a) is a Treaty 2 Ojibway (Anishinabe) Nation located near Elphinstone, Manitoba, approximately 119 km from the PDA. Keeseekoowenin Ojibway Nation has three reserves. Keeseekoowenin 61, the largest of these, is 2121.8 ha in size, while Clear Lake 61A is 428.5 ha in size, and Bottle Lake 61B is 40.5 ha in size, respectively (CIRNAC 2019a). As of June 2019, Keeseekoowenin Ojibway Nation had a registered population of 1,297 (CIRNAC 2019a). Keeseekoowenin Ojibway Nation is a member of the West Region Tribal Council, an advisory council representing eight First Nations that focuses on governance, education, social development, fire safety, and housing (211 Manitoba n.d.). Governance for Keeseekoowenin Ojibway Nation is provided by a Chief and four Councillors (Keeseekoowenin 2017). Keeseekoowenin Ojibway Nation is a member of the Coalition of First Nations with Interests in Riding Mountain National Park (Treaty Relations Commission of Manitoba 2019a) and assists Parks Canada with wildlife surveys, bison culls, and grasslands restoration (Parks Canada 2019). Keeseekoowenin Ojibway Nation maintains a collaborative relationship with Parks Canada regarding authority and jurisdiction over IR 61A fishing station on Clear Lake (Parks Canada 2018; Treaty Relations Commission of Manitoba 2019). Education services are provided by the Keeseekoowenin Education Authority, with a K-8 school located in Elphinstone (Manitoba First Nations Education Resource Centre 2019). The Keeseekoowenin Health and Wellness Centre is also located in Elphinstone (411 Directory Assistance 2019).

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Keeseekoowenin Ojibway Nation. For a detailed accounting, please reference the appendices where a record of communication and meetings are identified.

Notification of Proposed Project

Manitoba Infrastructure contacted the Chief by email on July 10th, 2019 to provide Project information and request a meeting to discuss any concerns. There was no direct response from the Chief, however, KON will be represented at all project meetings by the Anishinaabe Agowidiiwinan - Treaty 2 Chiefs organization. To date, there have been nine letters, three emails and phone calls and one meeting with the Anishinaabe Agowidiiwinan - Treaty 2 Chiefs.

Information Sharing and Initial Concerns

During the Anishinaabe Agowidiiwinan – Treaty 2 regular monthly meeting on July 16th, 2019 Manitoba was invited to present project information to their 9 member communities; Ebb and Flow,

Keeseekoowenin, O-Chi-Chak-Ko-Sipi, Skownan, Dauphin River, Lake Manitoba, Lake St. Martin, Little Saskatchewan, and Pinaymootang.

A summary of issues and concerns raised by Keeseekoowenin Ojibway Nation is included in the EIS: Appendix 5A.

Next Steps

Moving forward with communities who are unlikely to be adversely impacted by the project, including Keeseekoowenin Ojibway Nation, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the engagement process and timelines are provided in Section 3 of this report.

Fox Lake Cree Nation Engagement

Manitoba Infrastructure's initial assessment has determined that Fox Lake Cree Nation is unlikely to be adversely impacted by the project. However, in late 2018, the Impact Assessment Agency of Canada (IAAC) expanded FLCN to the list of potentially affected communities that Manitoba is expected to engage with on the project.

Manitoba Infrastructure is confident in our initial analysis that concluded that the Project would cause minimal increases in peak flood levels on Lake Winnipeg and the Nelson River. The analysis showed minimal changes to timing and increases in peak flood levels on Lake Winnipeg and the Nelson River system. The estimated changes to peak flood levels on Lake Winnipeg, Cross Lake, and Split Lake water levels are within natural variation and are as follows:

- Lake Winnipeg would increase by 0.07 m (2.8 inches) during a repeat of the 2011 event
- Cross Lake would increase by 0.06 m (2.4 inches) during a repeat of the 2011 event
- Split Lake would increase by 0.01 m (0.4 inches) during a repeat of the 2005 event

While Manitoba Infrastructure doesn't anticipate that there will be impacts to Aboriginal and Treaty rights of members of Fox Lake Cree Nation, Manitoba Infrastructure is still interested in collecting this information from Fox Lake Cree Nation and will develop an engagement work plan for the community.

As of February 2020, a total of two meetings, one letter, and fifteen emails and/or phone calls have occurred between Manitoba and FLCN.

Community Information

Fox Lake Cree Nation No. 305 (CIRNAC 2019a) is a Treaty 5 Cree Nation located near Gillam, Manitoba, and located approximately 425 km from the PDA (KTC 2019). Fox Lake Cree Nation is one of two Bands established from the main body of York Factory First Nation (KTC 2019). Formerly known as the Gillam Band, Fox Lake Cree Nation was renamed in 1947 (Fox Lake Cree Nation n.d.). As of June 2019, the registered population of Fox Lake Cree Nation was 1,280 (CIRNAC 2019a). Fox Lake Cree Nation has four reserves, Fox Lake 1 (561.7 ha), Fox Lake 2 (39.5 ha), Fox Lake West 3 (1138.8 ha), and A Kwis Ki Mahka Indian Reserve (1.3 ha) (CIRNAC 2019a). Fox Lake Cree Nation is a member of the Keewatin Tribal Council, an economic, education, and finance development council that represents eleven member Reserves in Northern Manitoba (KTC 2019). Governance occurs under an Indian Act custom electoral system, which includes a Chief and two Councilors (CIRNAC 2019a). Fox Lake Cree Nation co-manages natural resources in its traditional territory through membership in a Resource Management Board (Government of Manitoba 2019).

The Indigenous engagement program to date and publicly available literature have not revealed information on TK for Fox Lake Cree Nation. Further engagement may provide information on interactions between Fox lake Cree Nation's TK and the Project, if any.

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Fox Lake Cree Nation. For a detailed accounting, please reference the appendices where a record of communication and meetings are identified.

Notification of Proposed Project

Manitoba Infrastructure contacted Fox Lake Cree Nation to provide information regarding the Project. In response, a meeting was held with Fox Lake Cree Nation on September 25, 2018, to discuss the Project and address initial questions and concerns of the community. The topics of discussion were presentation of the Project components.

In the summer of 2019, Manitoba Infrastructure sent an invitation to host an information session about the Lake Manitoba and Lake St. Martin Outlet Channel Project to FLCN. The invitation proposed to meet in Thompson, Manitoba along with four other communities located downstream of the Project on the Nelson River, including Norway House Cree Nation, York Factory First Nation, Tataskweyak Cree Nation, and Pimicikamak Cree Nation (Cross Lake Band of Indians).

Information Sharing and Initial Concerns

The meeting with FLCN and other Nelson River communities took place in November 2019 and was intended to act as an opportunity to share Project information, present the environmental assessment, and gain information regarding initial Project-related concerns from potentially affected communities, including FLCN. Discussions and concerns were related to flooding from hydro-development projects in proximity to the Nelson River system. Project related-information was left with the community, including impacts to water levels on Lake Winnipeg and Nelson River.

On January 13, 2020, Manitoba Infrastructure sent correspondence to the Nelson River communities, including FLCN, as a follow-up to the November 2019 meeting. In this correspondence, Manitoba Infrastructure provided copies of meeting notes, technical information, and summaries of the work conducted as part of the environmental assessment for the Project. In response, FLCN requested additional information regarding Manitoba Infrastructures Proposed Project activities and duty to consult on the Project.

A summary of issues and concerns raised by FLCN is included in the EIS: Appendix 5A.

Engagement Planning and Work Plan Development

As stated above, Manitoba Infrastructure has requested that FLCN provide additional information on potential effects of the Project to the community's Indigenous and Treaty Rights so as to continue dialogue regarding the development of an engagement work plan.

Next steps

Moving forward with communities who are unlikely to be adversely impacted by the project, including Fox Lake Cree Nation, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the engagement process and timelines are provided in Section 3 of this report.

Pimicikamak Cree Nation (Cross Lake Band of Indians) Engagement

Manitoba Infrastructure's initial assessment has determined that Pimicikamak Cree Nation (Cross Lake Band of Indians) is unlikely to be adversely impacted by the project. However, in late 2018, the Impact Assessment Agency of Canada (IAAC) expanded Pimicikamak Cree Nation to the list of potentially affected communities that Manitoba is expected to engage with on the project.

Manitoba Infrastructure is confident in our initial analysis that concluded that the Project would cause minimal increases in peak flood levels on Lake Winnipeg and the Nelson River. The analysis showed minimal changes to timing and increases in peak flood levels on Lake Winnipeg and the Nelson River system. The estimated changes to peak flood levels on Lake Winnipeg, Cross Lake, and Split Lake water levels are within natural variation and are as follows:

- Lake Winnipeg would increase by 0.07 m (2.8 inches) during a repeat of the 2011 event
- Cross Lake would increase by 0.06 m (2.4 inches) during a repeat of the 2011 event
- Split Lake would increase by 0.01 m (0.4 inches) during a repeat of the 2005 event

While Manitoba Infrastructure doesn't anticipate that there will be impacts to Aboriginal and Treaty rights of members of Pimicikamak Cree Nation, Manitoba Infrastructure is still interested in collecting this information from Pimicikamak Cree Nation and will develop an engagement work plan for the community.

As of February 2020, one meeting, thirteen emails and/or phone calls have occurred between Manitoba and Pimicikamak Cree Nation.

Community Information

Pimicikamak Okimawin (Cross Lake Band of Indians) is a self-governed traditional council which asserts its distinction from the Cross Lake Band of Indians. Comprised of four councils – the Women's, Elders, Youth, and Executive councils, Pimicikamak Okimawin governs by consensus (Pimicikamak n.d.). Pimicikamak Okimawin has a custom electoral system (CIRNAC 2019a), and follows a "grassroots" government, being governed by a Chief, Vice Chief, and 7 Council members (Pimicikamak n.d.). The Treaty 5 community of Pimicikamak Okimawin is located approximately 190 km south of Thompson and Nelson River, where it enters Cross Lake (Cross Lake Band 2019) and is approximately 286 km from the PDA. Pimicikamak Okimawin is accessible by PR 373. Several reserves have been set aside with Cross Lake Reserve 19D being its most populous, comprising 5760.3 ha (CIRNAC 2019a). Four other reserves are larger than 100 ha in size, including Cross Lake 19 comprising 2375 ha, Cross Lake 19E comprising 760 ha, Cross Lake 19B comprising 741 ha, and Cross Lake 19A comprising 598.6 ha (CIRNAC 2019a). As of June 2019, Pimicikamak Okimawin had a registered population of 8,869 (CIRNAC 2019a). The Mikisew School located on Reserve 19A provides services for Grade 8-12 students, acting under the Cross Like Education Authority (Manitoba First Nations Education Resource Centre 2019). Plans to build a hospital on Pimicikamak Okimawin traditional territory are under way, and Pimicikamak Okimawin retains a nursing station facility on Reserve (Cross Lake Band Health Services 2016). Facilities include a fire department, police station, water supply and trucks, septic tanks and sewage disposal systems, daily bus transportation, radio station, and an airstrip. Pimicikamak Okimawin co-manages natural resources in its traditional territory through membership in a Resource Management Board (Government of Manitoba 2019).

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Pimicikamak Cree Nation. For a detailed accounting, please reference the appendices where a record of communication and meetings are identified.

Notification of Proposed Project and Information Sharing

In the summer of 2019, Manitoba Infrastructure sent an invitation to host an information session about the Lake Manitoba and Lake St. Martin Outlet Channel Project to FLCN. The invitation proposed to meet in Thompson, Manitoba along with four other communities located downstream of the Project on the Nelson River, including Norway House Cree Nation, York Factory First Nation, Tataskweyak Cree Nation, and Pimichikamak Cree Nation (Cross Lake Band of Indians). Manitoba Infrastructure made a follow up telephone call on July 30, 2019 to confirm interest and attendance in the information session.

Information Sharing and Initial Concerns

The meeting with Pimicikamak Cree Nation and other Nelson River communities took place in November 2019 and was intended to act as an opportunity to share Project information, present the environmental assessment, and gain information regarding initial Project-related concerns from potentially affected communities, including Pimicikamak Cree Nation. Discussions and concerns were related to flooding from hydro-development projects in proximity to the Nelson River system. Project related-information was left with the community, including impacts to water levels on Lake Winnipeg and Nelson River.

On January 13, 2020, Manitoba Infrastructure sent correspondence to the Nelson River communities, including Pimicikamak Cree Nation, to request a written submission identifying potential adverse impacts the project may have on Pimicikamak Cree Nation members' harvesting and traditional use activities. The follow up email included attachments; the EIS presentation, water modelling summary, story boards, Valued Components summaries, meeting minutes, and travel expense claim form for the Thompson meeting. In response, Pimicikamak Cree Nation requested additional information regarding Manitoba Infrastructure's proposed Project activities and duty to consult on the Project.

A summary of issues and concerns raised by Pimicikamak Cree Nation is included in the EIS: Appendix 5A.

Engagement Planning and Work Plan Development

The Indigenous engagement program to date and publicly available literature have not revealed information on TK for Pimicikamak Cree Nation (Cross Lake Band of Indians). Further engagement may provide information on interactions between Pimicikamak Cree Nation (Cross Lake Band of Indians) TK and the Project, if any.

Next steps

Moving forward with communities who are unlikely to be adversely impacted by the project, including Pimicikamak Cree Nation, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the engagement process and timelines are provided in Section 3 of this report.

York Factory First Nation Engagement

Manitoba Infrastructure's initial assessment has determined that York Factory First Nation (YFFN) is unlikely to be adversely impacted by the project. However, in late 2018, the Impact Assessment Agency of Canada (IAAC) expanded York Factory First Nation to the list of potentially affected communities that Manitoba is expected to engage with on the project.
Manitoba Infrastructure is confident in our initial analysis that concluded that the Project would cause minimal increases in peak flood levels on Lake Winnipeg and the Nelson River. The analysis showed minimal changes to timing and increases in peak flood levels on Lake Winnipeg and the Nelson River system. The estimated changes to peak flood levels on Lake Winnipeg, Cross Lake, and Split Lake water levels are within natural variation and are as follows:

- Lake Winnipeg would increase by 0.07 m (2.8 inches) during a repeat of the 2011 event
- Cross Lake would increase by 0.06 m (2.4 inches) during a repeat of the 2011 event
- Split Lake would increase by 0.01 m (0.4 inches) during a repeat of the 2005 event

While Manitoba Infrastructure doesn't anticipate that there will be impacts to Aboriginal and Treaty rights of members of York Factory First Nation, Manitoba Infrastructure is still interested in collecting this information from York Factory First Nation and will develop an engagement work plan for the community. As of February 2020, a total of two meetings, twenty-four emails and/or phone calls have occurred between Manitoba and YFFN.

Community Information

York Factory First Nation No. 304 (CIRNAC 2019a) is Treaty 5 Cree Nation located 477 km from the PDA. As of June 2019, York Factory First Nation had a registered population of 1,454 (CIRNAC 2019a). York Factory First Nation is a member of the Keewatin Tribal Council (KTC 2019). The reserve size is 967.4 ha, with an on-reserve population of 406 (CIRNAC 2019a). When the Hudson Bay Company closed its post at York Factory in 1957, York Factory First Nation was relocated to the southeast shore of Split Lake, to an area known as York Landing or Kawechiwasik (KHLP 2019). However, York Factory First Nation did not receive reserve status until 1989 (KTC 2019b). The reserve has no year-round road access (CIRNAC 2019a). York Factory First Nation is governed by a Custom Electoral System (CIRNAC 2019a) with a Chief and four Councilors (KTC 2019b). Under the 1997 Manitoba TLE Framework Agreement, York Factory First Nation has an active Treaty Land Entitlement, with 29,173 acres to be acquired (CIRNAC 2019a). York Factory First Nation co-manages natural resources in its traditional territory through membership in a Resource Management Board (Government of Manitoba 2019).

The following sections were chosen to highlight the activities and communications that have been undertaken to date with York Factory First Nation. For a detailed accounting, please reference the appendices where a record of communication and meetings are identified.

Notification of Proposed Project

On November 28, 2018 Manitoba received request from a community representative on the status of the proposed Lake Manitoba and Lake St. Martin Outlet Channel Project. In response, Manitoba and YFFN met in December 11, 2018 topics included four components of the project, current status of the Environmental Impact Statement, operational guidelines, known concerns, and mitigation measures. Manitoba Infrastructure requested YFFN to participate in the environmental engagement by providing community insight into the potential environmental effects and how those may potentially effect Aboriginal and Treaty rights of the community.

Information Sharing and Initial Concerns

At a December 11, 2018 meeting, the primary concerns raised by the community were: water level effect on Lake Winnipeg, fish and fish habitat, and movement of invasive species. Manitoba Infrastructure committed to continue discussions on project information and begin drafting environmental engagement work plan in collaboration with YFFN.
On January 28, 2019, YFFN contacted Manitoba Infrastructure to identify that work on development of the engagement plan was ongoing.
A meeting with York Factory First Nation and other Nelson River communities took place in November 2019 and was intended to act as an opportunity to share Project information, present the environmental assessment, and gain information regarding initial Project-related concerns from potentially affected communities, including York Factory First Nation. Discussions and concerns were related to flooding from hydro-development projects in proximity to the Nelson River system. Project related-information was left with the community, including impacts to water levels on Lake Winnipeg and Nelson River.
A summary of issues and concerns raised by TCN is included in the EIS: Appendix 5A.

Engagement Planning and Work Plan Development

The Indigenous engagement program to date and publicly available literature have not revealed information on TK for York Factory First Nation. Further engagement may provide information on interactions between York Factory First Nation's TK and the Project, if any.

Next steps

Moving forward with communities who are unlikely to be adversely impacted by the project, including York Factory First Nation, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the engagement process and timelines are provided in Section 3 of this report.

Tataskweyak Cree Nation Engagement

Manitoba Infrastructure's initial assessment has determined that Tataskweyak Cree Nation (TCN) is unlikely to be adversely impacted by the project. However, in late 2018, the Impact Assessment Agency of Canada (IAAC) expanded Tataskweyak Cree Nation to the list of potentially affected communities that Manitoba is expected to engage with on the project.

Manitoba Infrastructure is confident in our initial analysis that concluded that the Project would cause minimal increases in peak flood levels on Lake Winnipeg and the Nelson River. The analysis showed minimal changes to timing and increases in peak flood levels on Lake Winnipeg and the Nelson River system. The estimated changes to peak flood levels on Lake Winnipeg, Cross Lake, and Split Lake water levels are within natural variation and are as follows:

- Lake Winnipeg would increase by 0.07 m (2.8 inches) during a repeat of the 2011 event
- Cross Lake would increase by 0.06 m (2.4 inches) during a repeat of the 2011 event
- Split Lake would increase by 0.01 m (0.4 inches) during a repeat of the 2005 event

While Manitoba Infrastructure doesn't anticipate that there will be impacts to Aboriginal and Treaty rights of members of Tataskweyak Cree Nation, Manitoba Infrastructure is still interested in collecting this information from Tataskweyak Cree Nation and will develop an engagement work plan for the community.

As of February 2020, a total of two meetings, and twelve emails and/or phone calls have occurred between Manitoba and TCN.

Community Information

Tataskweyak Cree Nation No. 306 (CIRNAC 2019a) is a Treaty 5 Nation located 479 km from the PDA. Tataskweyak Cree Nation is accessible year-round by PR 280. Tataskweyak Cree Nation has three reserves, Split Lake 171, 171A, and 171B, which comprise approximately 19,000 ha (CIRNAC 2019a). Tataskweyak Cree Nation is a member of the Keewatin Tribal Council and is governed through the Indian Act Election System employing a Chief and six Council members (CIRNAC 2019a). As of June 2019, Tataskweyak Cree Nation had a registered population of 3,992, of which 2,474 reside on-reserve (CIRNAC 2019a). Tataskweyak Cree Nation is remote but receives daily freight deliveries from companies such as Arctic Beverages and Old Dutch. Grey Goose Bus Lines is an important transportation provider for Tataskweyak Cree Nation (KTC 2019). Tataskweyak Cree Nation retains its own education authority, and operates the Chief Sam Cook Mahmuwee Education Centre, an N-12 school (Manitoba First Nations Education Resource Centre 2019). Facilities include gas bars, schools, a store, nursing stations, band office, hotels, food services, and hydroelectric services (Tataskweyak Cree Nation 2019). Tataskweyak Cree Nation co-manages natural resources in its traditional territory through membership in a Resource Management Board (Government of Manitoba 2019).

The Indigenous engagement program to date and publicly available literature have not revealed information on TK for Tataskweyak Cree Nation. Further engagement may provide information on interactions between Tataskweyak Cree Nation's TK and the Project, if any.

The following sections were chosen to highlight the activities and communications that have been undertaken to date with Tataskweyak Cree Nation. For a detailed accounting, please reference the appendices where a record of communication and meetings are identified.

Notification of Proposed Project

Manitoba Infrastructure contacted Tataskweyak Cree Nation on October 9, 2018 requesting the contact information for Chief and Council in order to share information on the Project and to provide the Manitoba Infrastructure contact information for the Project. On November 26, 2018, a call was received from Tataskweyak Cree Nation requesting information on the Project and information regarding the potential effects for the community's submission to IAAC (formerly the Canadian Environmental Assessment Agency). No meeting with Manitoba Infrastructure was requested. An e-mail was sent on November 26, 2018 following up on the telephone call and providing Project related information.

Manitoba Infrastructure emailed TCN on July 8, 2019 requesting a meeting in Thompson, Manitoba along with four other communities including Fox Lake Cree Nation, Norway House Cree Nation, York Factory First Nation, and Pimichikamak Okimawin. The community coordinator requested confirmation of the meeting on July 15, 2019.

Information Sharing and Initial Concerns

Initial correspondence with TCN in 2018 included sharing information related to baseline studies and other technical reports available on Manitoba Infrastructure's Project website, as well as links to the IAAC (formerly CEAA environmental assessment registry). In 2019, efforts were made to arrange for a meeting with TCN and other communities located downstream of the Project on the Nelson River. The meeting with TCN and other Nelson River communities took place in November 2019 and was intended to act as an opportunity to share Project information, present the environmental assessment, and gain information regarding initial Project-related concerns from potentially affected communities, including TCN. Unfortunately, these details were not discussed. However, it was made clear to Manitoba Infrastructure that the Nelson River communities, including TCN, are seeking full consultation regarding potential effects of the Project. Project related-concerns that were shared include impacts to Indigenous and Treaty Rights, invasive species, water quality, medicinal plants, and changes to water levels.

On January 13, 2020, Manitoba Infrastructure sent correspondence to the Nelson River communities, including TCN, as a follow-up to the November 2019 meeting. In this correspondence, Manitoba Infrastructure provided copies of meeting notes, technical information, and summaries of the work conducted as part of the environmental assessment for the Project.

A summary of issues and concerns raised by TCN is included in the EIS: Appendix 5A.

Consultation Planning and Work Plan Development

Also included in the January 13, 2020 correspondence described above, was a request for potentially affected communities to provide further information regarding their perspective on potential Project effects to members of their communities.

Next steps

Moving forward with communities who are potentially least impacted by the project, including TCN, Manitoba will continue to share information and extend offers to meet, as necessary.

More detailed information regarding the ongoing consultation process and timelines are provided in Section 3 of this report.

Treaty 2 (Anishsinaabe Agowidiiwinan)

Treaty 2 Organization (Anishinabe) was founded on June 12, 2018, a result of a 1998 meeting of Treaty 2 Nations. This meeting led to the birth of Anishinaabe Agowidiiwinan, the Ojibway or Chippewa communities who were present at the signing of Treaty 2 in Manitoba House in 1871 (Treaty 2 Territory 2018a). Organization members include Dauphin River First Nation, Ebb and Flow First Nation, Keeseekoowenin Ojibway First Nation, Lake Manitoba First Nation, Lake St. Martin First Nation, Little Saskatchewan First Nation, O-Chi-Chak-Ko-Sipi First Nation, Pinaymootang First Nation, Skownan First Nation and Tootinaowaziibeeng First Nation (Treaty 2 Territory 2018b). The purpose of the Treaty 2 Organization is to preserve and promote the collective rights of Treaty 2 members with respect to culture, lands, language and history. All Treaty 2 Organization members hold reserves in Treaty 2 Territory, and the collective encompasses First Nation members of Treaties 1, 4, and 5, including Dakotas, Cree, and Dakota-speaking peoples, among others (Treaty 2 Territory 2018b). The Organization provides services to organizations such as the Interlake Reserves Tribal Council, West Region Tribal Council, Dakota Ojibway Tribal Council, and West Region Tribal Health (Treaty 2 Territory 2018b). Governed by a Grand Chief, the Treaty 2 Organization holds many Councils and participates in coalitions. Councils include the Grand and Governing Councils, the Elders and Ikwewak (Women) Councils, the Land, Water and Resource Council, and the Anishnaabek and Youth Councils. The Treaty 2 Organization Grand Council is comprised of all Anishinabek from Treaty 2 Nations and meets annually. With the exception of Tootinaowaziibeeng First Nation, all the member Nations of Treaty 2 Organization are engaged on the Project.

The Grand Chief provided written and formal notice on March 25, 2018 to the Ministers of Sustainable Development and Agriculture that their actions on agricultural crown land triggers procedural and substantive rights affirmed and recognized by the Constitution. On June 19, 2018, Manitoba Infrastructure received an additional letter indicating the organization had concerns over the potential impacts to Treaty and Aboriginal Rights from the Project.

Manitoba Infrastructure responded by letter dated September 6, 2018 to Anishinaabe Agowidiiwinan acknowledging these concerns and providing explanation of Manitoba Infrastructure's intent to consult directly with seven of the nine Treaty 2 communities regarding the Project. This consultation included:

- Dauphin River First nation (process coordinated through IRTC)
- Ebb and Flow First Nation
- Lake Manitoba First Nation (process coordinated through IRTC)
- Lake St. Martin First Nation
- Little Saskatchewan First Nation (process coordinated through IRTC)
- O-Chi-Chak-Ko-Sipi First Nation
- Pinaymootang First Nation

A letter dated December 20, 2018 from the Treaty 2 Organization further described their concerns regarding the Project. On January 4, 2019, Manitoba Infrastructure responded by letter to the Grand Chief that consultations were underway with individual First Nations and indicating that the project staff would meet at their request. Contact information for Manitoba Infrastructure representatives was provided and a request for a meeting. A meeting with the Treaty 2 organization occurred on May 16, 2019 to discuss the upcoming fieldwork and a presentation was held on July 30, 2019, to discuss the Project description, environmental assessment process, and concerns heard to date.

<u>Next Steps</u>

Manitoba will continue to work with Anishsinaabe Agowidiiwinan as the Project and consultations progress. A third meeting will be arranged to discuss the results of the environmental assessment, any

potential concerns around the project, and the proposed mitigations and monitoring program (e.g., aquatic monitoring plan, fisheries offset plan, sediment management plan, heritage resource protection plan). Manitoba will document the insights and ideas that this discussion with Anishsinaabe Agowidiiwinan provides, and will work collaboratively to review and address those issues or concerns.

3. Status and Approach for Ongoing Indigenous Consultation for the Project

Manitoba Infrastructure will continue to consult with Indigenous peoples and communities on this Project by continuing with the four-phased consultation approach that was designed for the Project. Manitoba Infrastructure had completed the initial planning phase of this work and, as described in Section 2 above, continues to make efforts to meet with Indigenous communities and groups to discuss project planning, environmental assessment, and community concerns. Manitoba Infrastructure is currently in Phase 2 of the four-phased consultation approach. This is the implementation phase where information is provided about the proposed project and its potential effects.

Furthermore, although Manitoba Infrastructure has completed an Initial Assessment to help determine the scope of consultation, as discussions continue with Indigenous communities and groups, Manitoba Infrastructure's assessment of the depth of consultation efforts may change as the department's understanding of the project's impacts or current land use evolves. As outlined in Section 2 of this report, Manitoba Infrastructure's Initial Assessment will continue to be reviewed on an ongoing basis when additional information is received, and the frequency and amount of engagement with a community may change as the Project progresses based on the communities' interest to engage, concerns and questions raised, and the likelihood of impact on Treaty or Aboriginal Rights.

The following timeline for future Indigenous consultation for the project is tied closely to the ongoing environmental assessment process to ensure that feedback and concerns from Indigenous communities and groups is incorporated before a licensing decision is made. While the following sections provide a high level summary of the consultation activities that are scheduled to occur with all communities, details of the consultation work plans, including specific objectives and associated meetings, are available as an attachment to this report. Manitoba Infrastructure's approach to consultation, and the objectives outlined in the consultation plans, can be adapted to community specific community needs as they arise.

3.1 Winter 2020:

3.1.1 Potentially highly impacted communities:

Manitoba continues to meet with communities throughout the consultation process. Community meetings as part of the agreed upon consultation work plan will involve dialogue around the environmental assessment process, the EIS, mitigation and environmental monitoring plans, and community recommendations for addressing and/or accommodating their concerns. As part of the consultation process MI will ensure that the community receives feedback on the information they provide and how their information and concerns were included in the decision making process.

As of February 2020, Manitoba Infrastructure has signed four consultation work plans and funding agreements to accommodate community participation with those potentially highly impacted by the Project:

- Dauphin River First Nation
- Kinonjeoshtegon First Nation
- Lake Manitoba First Nation

- Lake St. Martin First Nation

These consultation work plans acknowledge previous discussions with communities that have occurred to-date. This sharing of information, discussions, and meetings were discussed above in Section 2 of this report. The level of funding within these agreements is determined based on the extent of planned consultation activities. Manitoba Infrastructure and the Indigenous community or group determine an adequate level of funding to support these required activities. Within the approved funding agreements, Manitoba Infrastructure has supported consultation costs related to the Project that are consistent with Crown-Aboriginal Consultation Participation Fund, which guides how funding may be accessed for community support costs related to project consultation.

Manitoba Infrastructure continues to work with other potentially highly impacted Indigenous communities and groups to jointly develop consultation plans and budgets. The consultation work plans and funding agreements for these above communities include funding for hiring of a community coordinator; community meetings; community mapping; Traditional Knowledge studies; elder and resource user interviews; Community Consultation Report; and a traditional knowledge report.

The following section provides a summary of the ongoing consultation activities that are scheduled to occur with potentially highly impacted Indigenous communities for winter 2020. Details of the final and draft consultation work plans, including specific objectives and associated meetings, are available as an attachment to this report.

Environmental Assessment Process & Environmental Impact Statement

The first objective of the consultation work plan for these communities is for Manitoba Infrastructure to share more information about the proposed project and its potential effects. Meetings to discuss the environmental assessment approach will provide Indigenous communities and groups with information on the EIS, including a description and presentation of the information included in the EIS. At this meeting Manitoba Infrastructure, and its consultants, will present the EIS, including how community concerns and input was incorporated into planning and design. Manitoba Infrastructure staff and consultants will also provide Indigenous groups and communities with technical support to understand the technical material presented in the EIS. The level of technical support provided can be increased can be increased if requested by the community. The EIS presentation will also provide an overview of the potential adverse effects of the proposed project on the exercise of Aboriginal and Treaty rights, and the potential significance of those effects from Manitoba Infrastructure's perspective.

Based on the information presented in the EIS, and at this presentation, MI will also hear any concerns that the community may have regarding the exercise of their Aboriginal and Treaty rights.

Traditional Knowledge Studies

The second objective of the consultation work plan for these communities is to complete a Traditional Knowledge study, undertake a site visit to view traditional areas of use, and report on these activities. The Community Coordinator will facilitate and organize a community meeting for Elders, resource users, and community members to provide information about Traditional Knowledge and resource use within the proposed project area, and to share specific concerns and identify locations on maps where cultural sites, burial sites, hunting, fishing, trapping grounds and species, and medicine and subsistence gathering

areas are affected by the proposed project; and, to make suggestions for addressing those effects. The Community Coordinator and Manitoba Infrastructure will also arrange a site visit to view traditional areas of use within the project area, to see its current state, identify areas of importance, and use that should be avoided or impacts mitigated. Following the community meeting the Community Coordinator will provide a report to Manitoba Infrastructure that includes Traditional Knowledge and resource use in the project area (including supporting material and maps), and the community's suggestions for avoiding these effects.

Completion of Traditional Knowledge studies for those Indigenous communities that are potentially highly impacted by the project will ensure that Manitoba Infrastructure can adequately describe/provide detail related to their Aboriginal and Treaty Rights and how they are exercised, measures to mitigate/accommodate where needed (and their effectiveness), analyse the impacts of residual project impacts, and analyse the cumulative effects of the project on potential or established Aboriginal or Treaty Rights.

Proposed Mitigations and Environmental Management Plans

The third objective of the consultation work plan for these communities is to undertake a meeting on proposed environmental management and monitoring plans. These meeting will be organized to hear concerns, as necessary, from a variety of user groups, including fishers, trappers, and hunters. The Community Coordinator for each potentially highly impacted community will be responsible for identifying community members that represent each focus group.

Manitoba Infrastructure will present proposed mitigations and environmental management and monitoring plans to explain their purpose and function. Presentations will occur, as necessary, for the following plans: groundwater management, surface water management, access management, and wildlife monitoring. Manitoba Infrastructure will also hear any concerns that the community may have regarding the exercise of their Treaty and Aboriginal rights with regards to these plans.

Information shared throughout these discussions will be included in the subsequent development of mitigation strategies and environmental management and/or monitoring plans, in order to ensure that any potential impacts from the project are appropriately assessed and accommodated.

3.1.2 Potentially less impacted communities:

Consultation work plans have been prepared for all communities that have potentially less serious impacts on the exercise of aboriginal or treaty rights from the Project. The work plans will be presented to communities for their clarification on the consultation process, but will not include funding for Traditional Knowledge Studies or a Community Coordinator.

The following section provides a summary of the ongoing consultation activities that are scheduled to occur with potentially less impacted Indigenous communities for winter 2020. Details of the consultation work plans, including specific objectives and offers to meet, are available in are available as an attachment to this report.

Environmental Assessment Process & Environmental Impact Statement (Information Packages and Meetings)

Throughout winter 2020, Manitoba Infrastructure will provide written notification to communities outlining the proposed consultation plan moving forward. The written notification will also include information regarding the ongoing environmental assessment process and details of the EIS with an offer to meet and provide an in-person presentation on the EIS, including a description and presentation of the information included in the EIS.

Technical consultants have prepared information packages on all Valued Components assessed within the project EIS. These information packages will be curated specifically for each Indigenous community or group, depending on the initial community concerns documented by Manitoba Infrastructure. Additional information packages on all Valued Components will be shared, if requested by the community.

When requested by the communities, Manitoba Infrastructure will provide in-person presentations on the EIS, including how community concerns and input was incorporated into planning and design. This will also provide an overview of the potential adverse effects of the proposed project on the exercise of Aboriginal and Treaty rights, and the potential significance of those effects from Manitoba's perspective.

Based on the information presented in the EIS, MI will hear any concerns that the community may have regarding the exercise of their Aboriginal and Treaty rights at this meeting or by written correspondence.

3.1.3 Potentially least impacted communities:

Manitoba will continue to share information and extend offers to meet, as necessary, with those communities that are potentially least impacted by the project.

The following section provides a summary of the ongoing consultation activities that are scheduled to occur with potentially least impacted Indigenous communities for winter 2020. Details of the consultation work plans, including specific objectives and offers to meet, are available as an attachment to this report.

Environmental Assessment Process & Environmental Impact Statement

Throughout winter 2020, Manitoba Infrastructure will provide written notification to communities outlining the proposed consultation plan moving forward. The written notification will also include information regarding the ongoing environmental assessment process and details of the EIS. Depending on the level of consultation required, or as requested, Manitoba Infrastructure will provide an in-person presentation on the EIS, including a description and presentation of the information included in the EIS.

Technical consultants have prepared information packages on all Valued Components assessed within the project EIS. These information packages will be curated specifically for each Indigenous community or group, depending on the initial community concerns documented by Manitoba Infrastructure. Additional information packages on all Valued Components will be shared, if requested by the community.

At these meetings or by written correspondence, Manitoba Infrastructure will present the EIS, including how community concerns and input was incorporated into planning and design. This will also provide an overview of the potential adverse effects of the proposed project on the exercise of Aboriginal and Treaty rights, and the potential significance of those effects from Manitoba's perspective.

Based on the information presented in the EIS, MI will hear any concerns that the community may have regarding the exercise of their Aboriginal and Treaty rights at this meeting or by written correspondence.

Information Package on Proposed Mitigations and Environmental Management Plans

An information package will be sent to communities that are potentially least impacted on the proposed environmental management and monitoring plans.

The information packages will include details on the proposed mitigations and environmental management and monitoring plans, including their purpose and function.

Manitoba Infrastructure will prepare Environmental Management Plans for the following areas: groundwater management, surface water management, access management, and wildlife monitoring. The information package will be curated specifically for each Indigenous community or group, depending on the initial community concerns documented by Manitoba Infrastructure and the relevant Environmental Management Plans. Additional information packages on all Environmental Management Plans will be shared, if requested by the community. An offer to meet and present on this information will also be extended.

3.1.4 Engagement Only Communities:

Manitoba will share information and extend offers to meet, as necessary, with those communities that have been identified for consultation by the federal government but not through Manitoba Infrastructure's initial assessment process.

Environmental Assessment Process & Environmental Impact Statement (Information Packages and Meetings)

Throughout winter 2020, Manitoba Infrastructure will provide written notification to these communities outlining the proposed engagement plan moving forward with an offer to meet and provide an in-person presentation on the EIS, including a description and presentation of the information included in the EIS. Some of these meetings have already occurred to-date, but will continue to be scheduled for those communities who have not received the information.

This will also provide an overview of Manitoba Infrastructure's assessment that that effects on Aboriginal and Treaty rights are not anticipated with these Indigenous communities or groups. Based on the information presented in the EIS, MI will hear any concerns that the community may have regarding the exercise of their Aboriginal and Treaty rights at this meeting or by written correspondence.

Information Package on Proposed Mitigations and Environmental Management Plans

An information package on the proposed environmental management and monitoring plans will be sent to communities that are not anticipated to have impacts.

The information packages will include details on the proposed mitigations and environmental management and monitoring plans, including their purpose and function.

Manitoba Infrastructure will prepare Environmental Management Plans for the following areas: groundwater management, surface water management, access management, and wildlife monitoring. The information package will be curated specifically for each Indigenous community or group, depending on the initial community concerns documented by Manitoba Infrastructure and the relevant Environmental Management Plans. Additional information packages on all Environmental Management Plans will be shared, if requested by the community. An offer to meet and present on this information will also be extended.

3.2 Spring 2020:

3.2.1 Potentially highly impacted communities:

Throughout spring 2020, Manitoba Infrastructure will continue with Phase 2 of the consultation process by presenting on the proposed fisheries offset and aquatic monitoring plans, verify community baseline information and community concerns, receiving a Community Consultation Report, and presenting responses to those concerns. Under the guidance of the consultation work plans, Manitoba Infrastructure will meet with potentially highly impacted communities to present this information in the following format.

The following section provides a summary of the ongoing consultation activities that are scheduled to occur with potentially highly impacted Indigenous communities for spring 2020; however, specific work plans may be organized different to meet the needs and status of consultation for the community. Details of the final and draft consultation work plans, including specific objectives and associated meetings, are available as an attachment to this report.

Proposed Fisheries Offset and Aquatic Monitoring Plan

One of the objectives of the consultation work plan for the potentially highly impacted communities will be to undertake a meeting on the proposed fisheries offset and aquatic monitoring plan.

Manitoba Infrastructure, and their consultant, will meet with Chief and Council or their representatives, and the community (may select a group of community members such as fisheries, to attend this meeting rather than an open community meeting), to present the proposed plan that is intended to meet the requirements of the Fisheries Act, including offsetting and monitoring. The proposed fisheries offset and aquatic monitoring plan will incorporate information shared through previous discussions, in order to ensure that any potential impacts from the project are appropriately assessed and accommodated.

Manitoba Infrastructure will hear any concerns that the community may have regarding the exercise of their Aboriginal and Treaty rights, and concerns with how Manitoba Infrastructure has assessed and accommodated information that was shared about potential impacts.

Confirming Community Concerns

Manitoba Infrastructure will share the department's current understanding of community concerns that was used to describe and assess effects on Indigenous peoples. Manitoba Infrastructure's record of individual community concerns will consist of information identified through the following: the initial assessment, through ongoing meetings, and through ongoing dialogue and communications. Manitoba

Infrastructure will clearly describe its current understanding of the project's impact to Aboriginal and Treaty rights. Manitoba Infrastructure will also respond to any community concerns that are documented.

Manitoba Infrastructure will ask Indigenous groups and communities to verify whether the department understood their concerns and suggestions accurately. Manitoba Infrastructure will also provide potentially highly impacted communities and groups the opportunity to review and provide comments on the information used for describing and assessing these effects on Indigenous peoples within their community. The community will review the table, verify community baseline information, and provide feedback on Manitoba Infrastructure's responses.

Community Consultation Report

When feasible, the Community Coordinator will provide a Community Consultation Report to Manitoba Infrastructure. This could occur following the confirmation of community concerns, or in summer 2020 following the Chief and Council presentation on community concerns.

The Community Consultation Report will include the community's perspectives, questions and concerns with respect to the specific proposed project on the exercise of the community's Aboriginal and Treaty rights. This report may be largely based on previous reports prepared by the community, as well as current information gathered by the Community Coordinator through ongoing consultation meetings. Manitoba Infrastructure will share the following information with the Community Coordinator to assist them with preparing the report: meeting notes and a chart reflecting (a) community's concerns so far (b) MI's measures to address those concerns (c) community's comments from this meeting in relation to community concerns and MI's measures to address them.

Manitoba Infrastructure use the information provided by the community in their Community Consultation Report to better understand their concerns, and will prepare responses to each community concern.

3.2.2 Potentially less impacted communities:

Information Package on Proposed Mitigations and Environmental Management Plans

An information package will be sent to communities that are potentially less impacted on the proposed environmental management and monitoring plans.

The information packages will include details on the proposed mitigations and environmental management and monitoring plans, including their purpose and function.

Manitoba Infrastructure will prepare Environmental Management Plans for the following areas: groundwater management, surface water management, access management, and wildlife monitoring. The information package will be curated specifically for each Indigenous community or group, depending on the initial community concerns documented by Manitoba Infrastructure and the relevant Environmental Management Plans. Additional information packages on all Environmental Management Plans will be shared, if requested by the community. An offer to meet and present on this information will also be extended.

Confirming Community Concerns

Manitoba Infrastructure will share the department's current understanding of community concerns that was used to describe and assess effects on Indigenous peoples. Manitoba Infrastructure's record of individual community concerns will consist of information identified through the following: the initial assessment, through ongoing meetings, and through ongoing dialogue and communications. Manitoba Infrastructure will clearly describe its current understanding of the project's impact to Aboriginal and Treaty rights.

Manitoba Infrastructure will also provide potentially less impacted communities and groups the opportunity to review and provide comments on the information used for describing and assessing these effects on Indigenous peoples within their community.

3.2.3 Potentially least impacted communities:

Updated Information Package on Proposed Mitigations and Environmental Management Plans

Following the initial information package, potentially least impacted communities will have the opportunity to share concerns regarding the exercise of their Treaty and Aboriginal rights by written correspondence or in-person meetings. The information shared throughout these discussions will be included in the subsequent development of mitigation strategies and environmental management and/or monitoring plans, in order to ensure that any potential impacts from the project are appropriately assessed and accommodated. Additional feedback and input from other communities (potentially highly impacted and potentially less impacted) will also be incorporated and may require Manitoba Infrastructure to update the Environmental Management Plans for the Project.

Manitoba Infrastructure will provide an updated information package on the revised strategies and plans.

Confirming Community Concerns

Manitoba Infrastructure will share the department's current understanding of community concerns that was used to describe and assess effects on Indigenous peoples. Manitoba Infrastructure's record of individual community concerns will consist of information identified through the following: the initial assessment, through ongoing meetings, and through ongoing dialogue and communications. Manitoba Infrastructure will clearly describe its current understanding of the project's impact to Aboriginal and Treaty rights.

Manitoba Infrastructure will also provide potentially least impacted communities and groups the opportunity to review and provide comments on the information used for describing and assessing these effects on Indigenous peoples within their community. The community will review the table, verify community baseline information, and provide feedback to Manitoba Infrastructure.

3.2.4 Engagement Only Communities:

Updated Information Package on Proposed Mitigations and Environmental Management Plans

Following the initial information package, communities that are not anticipated to have impacts will have the opportunity to share concerns regarding the exercise of their Treaty and Aboriginal rights by written

correspondence or in-person meetings. The information shared throughout these discussions will be included in the subsequent development of mitigation strategies and environmental management and/or monitoring plans, in order to ensure that any potential impacts from the project are appropriately assessed and accommodated. Additional feedback and input from other communities participating in consultation will also be incorporated and may require Manitoba Infrastructure to update the Environmental Management Plans for the Project.

Manitoba Infrastructure will provide an updated information package on the revised strategies and plans.

Confirming Community Concerns

Manitoba Infrastructure will share the department's current understanding of community concerns that was used to describe and assess effects on Indigenous peoples. Manitoba Infrastructure's record of individual community concerns will consist of information identified through the following: the initial assessment, through ongoing meetings, and through ongoing dialogue and communications. Manitoba Infrastructure will clearly describe its current understanding of the project's impact to Aboriginal and Treaty rights.

Manitoba Infrastructure will also provide these communities with an opportunity to review and provide comments on the information used for describing and assessing these effects on Indigenous peoples within their community. The community will review the table, verify community baseline information, and provide feedback to Manitoba Infrastructure.

3.3 Summer 2020:

Manitoba Infrastructure will continue through Phase 2 of the consultation process in summer 2020. As the project develops, Manitoba will use the information obtained and will make reasonable efforts to address concerns that are identified by the communities, and will continue to work collaboratively with the First Nation and share relevant information throughout the consultation process.

Manitoba Infrastructure will also advance to Phase 3 of the four-phased consultation process that was designed for the Project during summer 2020. In Phase 3, Manitoba Infrastructure will review the consultation information, consider how concerns may be addressed and accommodated, and document the consultation.

The following section provides a summary of the ongoing consultation activities that are scheduled to occur with potentially highly impacted Indigenous communities for summer 2020; however, specific work plans may be organized different to meet the needs and status of consultation for the community. Details of the final and draft consultation work plans, including specific objectives and associated meetings, are available as an attachment to this report.

3.3.1 Potentially highly impacted communities:

As discussed above, the Community Coordinator for the potentially highly impacted communities will provide a Community Consultation Report, when feasible, to Manitoba Infrastructure. This could have occurred in spring 2020, following the confirmation of community concerns, or in summer 2020, following the Chief and Council presentation on community concerns.

Present Responses to Community Concerns (Chief and Council Meeting)

The Community Coordinator and Manitoba Infrastructure staff will organize a meeting with Chief and Council or their representatives for a presentation on a review of MI responses to the community's concerns as identified through meetings and Community Consultation Report, that was used to describe and assess effects on Indigenous peoples. MI will also clearly describe its understanding of the project's impact to Aboriginal and Treaty rights.

Additionally, Manitoba Infrastructure will provide information on the final versions of the Environmental Management/Monitoring Plans, including how community information and concerns were incorporated.

Based on the above activities, and successful outcome of meeting the objectives within the detailed work plans for each community, Manitoba Infrastructure will conclude Phase 2 of the consultation process for potentially highly impacted communities.

3.3.2 Potentially less impacted communities:

Fisheries Offset and Aquatic Monitoring Plan (Meeting)

One of the objectives of the consultation work plan for the potentially less impacted communities will be to host a meeting on the proposed fisheries offset and aquatic monitoring plan.

Manitoba Infrastructure, and their consultant, will meet with Chief and Council or their representatives, and the community (may select a group of community members such as fisheries, to attend this meeting rather than an open community meeting), to present the proposed plan that is intended to meet the requirements of the Fisheries Act, including offsetting and monitoring. The proposed fisheries offset and aquatic monitoring plan will incorporate information shared through previous discussions, in order to ensure that any potential impacts from the project are appropriately assessed and accommodated.

Manitoba Infrastructure will hear any concerns that the community may have regarding the exercise of their Aboriginal and Treaty rights, and concerns with how Manitoba Infrastructure has assessed and accommodated information that was shared about potential impacts.

Based on the above activities, and successful outcome of meeting the objectives within the detailed work plans for each community, Manitoba Infrastructure will conclude Phase 2 of the consultation process for potentially less impacted communities.

3.3.3 Potentially least impacted communities:

Fisheries Offset and Aquatic Monitoring Plan (Information Package)

One of the objectives of the consultation work plan for the potentially least impacted communities is to share an information package on the proposed fisheries offset and aquatic monitoring plan. An offer to meet with these communities will also be extended.

The information package will present the proposed plan that is intended to meet the requirements of the Fisheries Act, including offsetting and monitoring. The proposed fisheries offset and aquatic monitoring

plan will incorporate information shared through previous discussions, in order to ensure that any potential impacts from the project are appropriately assessed and accommodated.

Manitoba Infrastructure will hear any concerns (written or in person, as required) that the community may have regarding the exercise of their Aboriginal and Treaty rights, and concerns with how Manitoba Infrastructure has assessed and accommodated information that was shared about potential impacts.

Based on the above activities, and successful outcome of meeting the objectives within the detailed work plans for each community, Manitoba Infrastructure will conclude Phase 2 of the consultation process for potentially least impacted communities.

3.3.4 Engagement Only Communities:

Fisheries Offset and Aquatic Monitoring Plan (Information Package)

One of the objectives of the engagement work plan is to share an information package on the proposed fisheries offset and aquatic monitoring plan. An offer to meet with these communities will also be extended.

The information package will present the proposed plan that is intended to meet the requirements of the Fisheries Act, including offsetting and monitoring. The proposed fisheries offset and aquatic monitoring plan will incorporate information shared through previous discussions, in order to ensure that any potential impacts from the project are appropriately assessed and accommodated.

Manitoba Infrastructure will hear any concerns (written or in person, as required) that the community may have regarding the exercise of their Aboriginal and Treaty rights, and concerns with how Manitoba Infrastructure has assessed and accommodated information that was shared about potential impacts.

3.3.5 Proceeding to Phase 3 of the Consultation Process

As Manitoba Infrastructure advances to Phase 3 of the four-phased consultation process, consultation information will be reviewed and analyzed prior to reporting the consultation results internally to Crown decision makers. This includes respecting and incorporating community knowledge and Traditional Knowledge (TK) into the EA and Project processes, as described in Section 10.1. Manitoba Infrastructure will determine when the consultation is considered complete. Manitoba Infrastructure will base this decision on a number of considerations, including a community's indication that consultation was not required, a continued lack of response from communities after reasonable efforts were made, community concerns were address, or there is no significant further information to be shared or concerned by Manitoba Infrastructure.

This phase of consultation is comparable for all potentially highly impacted communities, potentially less impacted communities, and potentially least impacted communities.

Crown Consultation Report

Following Manitoba Infrastructure's presentation to Chief and Council on the department's response to community concerns, Manitoba Infrastructure will prepare and submit a Crown Consultation Report to

federal and provincial regulators. This report will summarize the consultation processes, its outcomes, and Manitoba's response to each of the concerns or suggestions of the communities.

The Crown Consultation Report will include an appendix with all individual Community Consultation Reports from the potentially highly impacted communities. Community Consultation Reports are not prepared by potentially less impacted communities or potentially least impacted communities, but verification of their community concerns and Manitoba Infrastructure's responses will be used within the Crown Consultation Report. Community information gathered through engagement will also be included in the Crown Consultation Report. Providing this information will ensure that community information is directly communicated to federal and provincial regulators.

The Crown Consultation Report along with other documentation such as community-led traditional knowledge studies, will supplement the EIS to provide the information being sought through the EIS guidelines (wherever provided and verified by an Indigenous group) including but not limited to details regarding the consultation activities that took place with each potentially impacted Indigenous community and group.

After reviewing and adequately considering the Crown Consultation Report, federal and provincial regulators will make a decision on the project.

3.4 Fall 2020:

Manitoba Infrastructure will finalize consultation with Indigenous communities and groups on this Project in fall 2020 by advancing to Phase 4 of the four-phased consultation process that was designed for the Project.

In the final phase, External Communications and Final Decision, Manitoba Infrastructure will undertake external communications with each First Nation, Métis community or other Aboriginal community that participated in the consultation about the government decision that was made and any measures to be undertaken to address potential effects on the exercise of Aboriginal or treaty rights. Manitoba Infrastructure will communicate how community concerns are addressed and/or accommodated and will provide an explanation about how community input was incorporated into any decision making.

This phase of consultation is comparable for all potentially highly impacted communities, potentially less impacted communities, and potentially least impacted communities. However, the method of reporting may differ, depending if an in-person meeting is required. This information is also shared with engagement only communities.

External Reporting on the Decision to the Community

After a decision is made by federal and provincial regulators, Manitoba Infrastructure will report to Chief and Council on what the decision was, the consultation and engagement processes and outcomes, including Manitoba's responses to the community's concerns or suggestion, and whether and how Manitoba Infrastructure mitigated, accommodated, and addressed their concerns or accepted their suggestions.

For potentially highly impacted communities, Manitoba Infrastructure will present this information to Chief and Council during a meeting. For those communities that are potentially less or least impacted by the project, Manitoba Infrastructure will present this information by written notification with an offer to meet. Manitoba Infrastructure will arrange a follow-up meeting with those communities if requested.

Present Environmental License Conditions

At this meeting, or by written notification, Manitoba will present the conditions of the federal and provincial environmental licenses and how Manitoba mitigated, accommodated and addressed community concerns or accepted their suggestions.

If community concerns were not address in the decision, Manitoba Infrastructure will provide the justifications for why.

Figure 2: Consultation Schedule for Fall Approval

Proposed Timeline	Winter		Spring		Summer			Fall
Community	Consultation Activity							
Lake St. Martin Pinaymootang Little Saskatchewan Dauphin River Dauphin River NAC Lake Manitoba Peguis First Nation Kinonjeoshteogon Fisher River Ebb and Flow O-Chi-Chak-Ko-Sipi MMF	Funding Agreement Wrap up/ Community Meeting: EIS Presentations	TK Studies/ Meeting: EMP,Mitigation, Monitoring with offer to meet	Meeting: Aquatic, Fisheries, Offsett plan discussion	Confirm community concerns by sharing what has been heard to date	Chief and Council Meeting: Review of Consultation	Consultation Report		License Notification and Meeting to present Approval conditions
Norway House Cree Nation Poplar River Berens River Bloodvein Hollow Water Black River Sagkeeng Brokenhead Misipawistik	Consultation letter/EIS Information with meeting offer	EIS Presentations (when requested)	Information package: EMP, Mitigation, Monitoring with offer to meet		Meeting: Aquatic, Fisheries, Offsett plan discussion			License Notification with offer to meet
Aghaming NAC Berens River NAC Fisher Bay NAC Loon Straits NAC Manigotagan NAC Matheson Island NAC Pine Dock NAC Princess Harbour NAC Seymourville NAC Norway House NAC	Consultation letter/EIS Information with meeting offer	Information package: EMP, Mitigation, Monitoring with offer to meet	Information package: Update EMP, Mitigation, Monitoring with offer to meet		Information package: Aquatic, Fisheries, Offset plan with offer to meet			
Sandy Bay Skownan Keeseekoowenin Fox Lake Pimicikamak Cree Nation York Factory Tataskweyak Treaty #2	Consultation letter/EIS Information with meeting offer Meeting: EIS Presentation Meeting: EIS Presentation Meeting: EIS Presentation Meeting: EIS Presentation Meeting: EIS Presentation	Meeting: EIS Presentation Meeting: EIS Presentation Meeting: EIS Presentation Information package: EMP, Mitigation, Monitoring with offer to meet	Information package: Update EMP, Mitigation, Monitoring with offer to meet		Information package: Aquatic, Fisheries, Offset plan with offer to meet			

LAKE MANITOBA AND LAKE ST. MARTIN OUTLET CHANNELS
CONSULTATION WORK PLAN

Developed Manitoba

Objective #1 – Traditional Knowledge Study, Site Visit and Reporting:

Manitoba will:

- Provide information on the type, location, extent and timing of their proposed project.
- Discuss, understand, and respond to any issues the community might raise.
- Provide a list of suggested questions to use as a guide for interviews conducted during the Traditional Knowledge study.
- Provide a Project Consultation Coordinator who will facilitate the logistics of this work plan (find locations, set schedules, plan meetings, etc.).

First Nation will:

- Identify and involve Elders, knowledge holders, and resource users for all the meetings, particularly for the site visit and the community meetings and interview sessions. (Note: MI will provide a list of suggested questions for interviews.)
- Share its information and perspectives on the potential for adverse effects and significance of those effects on the exercise of their Aboriginal and Treaty rights.
- Identify specific uses of lands and waters in and around the proposed project area, and the timing or season of those uses. (Examples: hunting, trapping, fishing, plant gathering, camping, cultural and traditional activities, the locations of burial or cultural sites, etc.).
- If required, identify a Community Coordinator to assist the community in accomplishing the objectives of this work plan, including: working with Manitoba's Project Consultation Coordinator to organize meetings, writing reports, and facilitation during meetings.
- Provide a report related to the findings of this objective to be submitted to Manitoba. At minimum, the report will include the following:
    - location(s) in which rights are being practiced or exercised;
    - the context in which the right is practiced or exercised (including information about which groups of an Indigenous group practice the right (women, elders, youth), how the right was practiced historically);
    - how the Indigenous group's cultural traditions, laws and governance systems inform the manner in which they exercise their rights (the who, what, when, how, where and why);
    - the Indigenous group's perspectives on the importance of the land on which the Project is located and how it intersects with any land management uses and/or plans they may have;
    - how often the right is practiced or exercised and timing or seasonality of the practice or exercise of the right; and,
    - maps and data sets (e.g., fish catch numbers).

Process of Accomplishing Objective #1

- **Traditional Knowledge Study**
- **Site Visit**

Traditional Knowledge Study

Purpose: Opportunity for community members to provide information about Traditional Knowledge and resource use within the proposed project area, and to share specific concerns and identify locations on maps where cultural sites, burial sites, hunting, fishing, trapping grounds and species, and medicine and subsistence gathering areas are affected by the proposed project; and, to make suggestions for addressing those effects.

Organized by: The Community Coordinator will facilitate and organize the community meeting, effectively advertise it at an appropriate time that community members can attend, and prepare and present all required materials (with support from Manitoba).

Participants: Manitoba Infrastructure (upon invitation), Elders, resource users, community members.

Location: Community to determine.

Deliverables: The Community Coordinator will provide a report to Manitoba that includes Traditional Knowledge and resource use in the project area (including supporting material and maps), and the community's suggestions for avoiding these effects.

Traditional Knowledge Report to be submitted on.

Site Visit

Purpose: To view traditional areas of use within the project area, to see its current state, identify areas of importance, and use that should be avoided or impacts mitigated.

Organized by: The Community Coordinator with the assistance of MI's Project Consultation Coordinator (if required).

Participants: Manitoba, Chief, Councillors, Elders, and resource users.

Location: Traditional use areas within the project area (i.e., Lake St. Martin Channel inlet and outlet locations).

Objective #2 – Confirming Initial Concerns and Suggestions:

Process of accomplishing objective #2

Manitoba will:

- Collate and review the information provided by the community to date, in order to understand information and concerns.
- Prepare a list of all concerns and suggestions communicated to Manitoba to date.
- Provide the list of concerns to the community.

First Nation will

- Within 30 days of receipt of the Manitoba report, confirm accuracy or correct any inaccuracies in Manitoba's understanding of their concerns and suggestions.

Objective #3 - Share and discuss the environmental assessment, the assessment approach, reporting:

Manitoba will:

- Provide a description and presentation of the Environmental Impact Statement (EIS), including environmental assessment process and proposed mitigations.

- Provide its assessment of the significance of those potential adverse effects from Manitoba's perspective.
- Provide information on what Manitoba has assessed, and the potential adverse effects of the proposed project on the exercise of Aboriginal and Treaty rights.
- Identify which specific rights might be adversely affected.
- Provide information on the environmental license requirements for the proposed project, including federal and provincial environmental review processes.
- Provide information on proposed environmental management and monitoring plans.
- Discuss, understand, and respond to any issues the community might raise.
- Provide a Project Consultation Coordinator who will facilitate the logistics of this work plan (find locations, set schedules, plan meetings, etc.).

First Nation will:

- Identify and involve their Elders, knowledge holders, and resource users for all the meetings.
- Make known its concerns about the project's potential effects and suggest mitigations.
- Have the Community Coordinator assist the community, its Elders, and resource users in identifying on a map community uses of land and waters in the specific areas of proposed work for hunting, trapping, fishing, plant gathering, camping and other important traditional activities, or important sites such as any burials or cultural gathering sites.
- Within 30 days of meeting No. 3, the Community Coordinator will provide a Community Consultation Report to Manitoba. It should include, the community's perspectives, questions and concerns with respect to the specific proposed project on the exercise of the community's Aboriginal and Treaty rights. Note: This report can be largely based on previous reports prepared by the community. Manitoba will share meeting notes and a chart reflecting (a) community's concerns so far (b) MI's measures to address those concerns (c) community's comments from this meeting in relation to community concerns and MI's measures to address them.

Process of accomplishing objective #3

- **Meeting No. 1: Present Environmental Impact Statement**
- **Meeting No. 2: Discuss Environmental Mitigations and Monitoring Plans**
- **Meeting No. 3: Present Proposed Fisheries Offset and Aquatic Monitoring Plan**

Meeting No. 1: Present Environmental Assessment and Environmental Impact Statement

Purpose: At this meeting MI's consultant(s) will present the Environmental Impact Statement (EIS), including how community concerns and input was incorporated into planning and design, and based on the EIS, MI will hear any concerns that the community may have regarding the exercise of their Aboriginal and Treaty rights.

It is expected that during this event, the traditional knowledge community scoping meeting will occur; and, as it relies on community members to conduct some of the research related to the study, training will occur at this time as well.

Organized by: Project Consultation Coordinator and the Community Coordinator.

Participants: Manitoba, Chief and Council or their representatives, and open to community members.

Location: To be determined by community.

Outcome: Manitoba will share meeting notes and a chart reflecting (a) community's concerns so far (b) MI's measures to address those concerns (c) community's comments from this meeting in relation to community concerns and MI's measures to address them.

Meeting No. 2: Present Proposed Mitigations and Management Plans

Purpose: Workshops on specific topics (e.g., terrestrial effects) and/or user groups (e.g., fishers, trappers, and hunters) will be coordinated as needed. MI will present proposed mitigations and environmental management and monitoring plans to explain their purpose and function. This will also include the proposed fisheries offset and aquatic monitoring plan. Examples of these detailed monitoring plans include: groundwater management, surface water management, access management, and wildlife monitoring. MI will hear any concerns that the community may have regarding the exercise of their Treaty and Aboriginal rights.

Organized by: Project Consultation Coordinator and the Community Coordinator.

Participants: Identified community members that represent each focus group.

Location: To be determined by community.

Meeting No. 3: Present Proposed Fisheries Offset and Aquatic Monitoring Plan

Purpose: At this meeting, MI and their consultant(s) will present the proposed plan that is intended to meet the requirements of the Fisheries Act, including offsetting and monitoring. MI will hear any concerns that the community may have regarding the exercise of their Aboriginal and Treaty rights.

Organized by: Project Consultation Coordinator and the Community Coordinator.

Participants: Manitoba, Chief and Council or their representatives, and the community (may select a group of community members such as fisheries, to attend this meeting rather than an open community meeting).

Location: To be determined by community.

Outcome: Manitoba will share meeting notes and a chart reflecting (a) the community's concerns so far (b) MI's measures to address those concerns, and (c) community's comments from this meeting in relation to community concerns and MI's measures to address them.

Objective #4 - Conclude Phase 2 Crown-Aboriginal Consultations:

Manitoba will:

- Based on the community concerns identified in the consultation report and meeting minutes, Manitoba will present responses to each community concern.
- Provide information on the final versions of the Environmental Management/Monitoring Plans, including how community information and concerns were incorporated.
- Provide information on what Manitoba has assessed as the potential adverse effects of the proposed project on the exercise of Aboriginal and Treaty rights.
- Provide written responses to community concerns.
- Identify which specific rights might be adversely affected.

First Nation will:

- Identify and involve Elders, knowledge holders, and resource users for all the meetings, particularly for the site visit and the community meetings and interview sessions.

- Share its information and perspectives on the potential for adverse effects and significance of those effects on the exercise of their Aboriginal and Treaty rights.
- If required, identify a Community Coordinator to assist the community in accomplishing the objectives of this work plan, including: working with Manitoba's Project Consultation Coordinator to organize meetings, writing reports, and facilitation during meetings.
- Provide feedback and confirm if the meeting minutes and/or record of community event is correct.

Process of accomplishing objective #4

- **Meeting No. 3: Presentation to Chief and Council**

Meeting No. 3: Present Responses to Community Concerns

Purpose: This presentation will include, a review of MI responses to the community's concerns as identified through meetings and the consultation report. MI will clearly describe its understanding of the project's impact to Aboriginal and Treaty rights.

Organized by: Project Consultation Coordinator and the Community Coordinator.

Participants: Manitoba, Chief and Council or their representatives.

Location: To be determined by community.

Outcome: Manitoba will share meeting notes and a chart reflecting (a) community's concerns so far (b) MI's measures to address those concerns, and (c) community's comments from this meeting in relation to community concerns and MI's measures to address them.

Objective #5 - Analysis, reporting and decision:

Manitoba will:

- Review the information provided by the community in their Community Consultation Report to understand the information and concerns.
- Prepare a list of all concerns and suggestions communicated to Manitoba during and as a result of all Phase 2 tasks; and, send this list to the community to confirm whether Manitoba understood their concerns and suggestions accurately.
- Incorporate and include community review and feedback of concerns and MI's responses.
- Prepare and submit an internal report to the Minister of Sustainable Development. This report will summarize the consultation and engagement processes, its outcomes, and Manitoba's response to each of the concerns or suggestions of the community.
- After reviewing and adequately considering the report, Manitoba will make its decision.

Objective #6 - Reporting on the decision to the community:

After decision(s) are made, Manitoba will report to Chief and Council:

- What the decision(s) were.
- The consultation and engagement processes and outcomes, including Manitoba's responses to the community's concerns or suggestions.
- Whether and how Manitoba mitigated, accommodated, and addressed their concerns or accepted their suggestions; and, if their concerns were not addressed, will provide the justification(s) for why.

Process of accomplishing Objective #6

- **Meeting No. 4: Presentation to Chief an Council**
- **Meeting No. 4: Present Environmental License(s) Conditions**

Purpose: At this meeting, or by written notification, Manitoba will present the conditions of the federal and provincial environmental licenses and how Manitoba mitigated, accommodated and addressed community concerns or accepted their suggestions; and, if their concerns were not addressed, will provide justification(s) for why.

Organized by: Project Consultation Coordinator.

Participants: Manitoba, Chief and Council or their representatives.

Location: To be determined by community.

Funding is available for translation of printed and presented material.

LAKE MANITOBA AND LAKE ST. MARTIN OUTLET CHANNELS
WORK PLAN

Proposed by Manitoba

Objective #1– Confirming Initial Concerns and Suggestions:

Process of accomplishing Objective #1

Manitoba will:

- Collate and review the information provided by the community to date, in order to understand the information and concerns.
- Prepare a list of all concerns and suggestions communicated to Manitoba to date.
- Provide the list of concerns to the community.

First Nation will:

- Within 30 days of receipt of the Manitoba report, confirm accuracy or correct any inaccuracies in Manitoba's understanding of their concerns and suggestions.

Objective #2 - Share and Discuss the Environmental Assessment, Management Plans, Mitigation, Monitoring, and Reporting:

Manitoba will:

- Provide a description and/or presentation of the Environmental Impact Statement (EIS), including the environmental assessment process and proposed mitigations.
- Provide an assessment of the significance of those potential adverse effects from Manitoba's perspective.
- Provide information on what Manitoba has assessed, and the potential adverse effects of the proposed project on the exercise of Aboriginal and Treaty rights.
- Identify which specific rights might be adversely affected.
- Provide information on the environmental license requirements for the proposed project, including federal and provincial environmental review processes.
- Provide information on proposed environmental management and monitoring plans.
- Discuss, understand, and respond to any issues the community might raise.
- Provide a Project Consultation Coordinator who will facilitate the logistics of this work plan (find locations, set schedules, plan meetings, etc.).

First Nation will:

- Identify and involve their Elders, knowledge holders, and resource users for all the meetings.
- Make known its concerns about the project's potential effects and suggest mitigations.
- The Community will provide a Community Consultation Report to Manitoba. It should include, the community's perspectives, questions and concerns with respect to the specific proposed project on the exercise of the community's Aboriginal and Treaty rights. Note: This report can be largely based on previous reports and/or meeting minutes prepared by the community.

Process of accomplishing Objective #2

- **Meeting No. 1: Present Environmental Impact Statement**
- **Meeting No. 2: Present and Discuss Environmental Management/Monitoring Plans, Fisheries Offset and Aquatic Monitoring Plan**

Meeting No. 1: Present Environmental Assessment and Environmental Impact Statement

Purpose: At this meeting MI's consultant(s) will present the Environmental Impact Statement (EIS), including how community concerns and input was incorporated into planning and design, and based on the EIS, MI will hear any concerns that the community may have regarding the exercise of their Aboriginal and Treaty rights.

Organized by: Project Consultation Coordinator and the Community Coordinator.

Participants: Manitoba, Chief and Council or their representatives, and open to community members.

Location: To be determined by community.

Outcome: Manitoba will share meeting notes and a chart reflecting (a) community's concerns so far; (b) MI's measures to address those concerns; and, (c) community's comments from this meeting in relation to community concerns and MI's measures to address them.

Meeting No. 2: Present Proposed Environmental Management and Monitoring Plans

Purpose: At this meeting, MI and their consultant(s) will present proposed environmental management and monitoring plans to explain their purpose and function. Examples of these detailed monitoring plans include: groundwater management, surface water management, access management, and wildlife monitoring. AND/OR present the proposed plan that is intended to meet the requirements of the Fisheries Act, including offsetting and monitoring. AND/OR Community Meeting. MI will hear any concerns that the community may have regarding the exercise of their Aboriginal and Treaty rights.

Organized by: Project Consultation Coordinator and the Community Coordinator.

Participants: Manitoba, Chief and Council or their representatives, and open to community members.

Location: To be determined by community.

Outcome: Manitoba will share meeting notes and a chart reflecting (a) community's concerns so far (b) MI's measures to address those concerns (c) community's comments from this meeting in relation to community concerns and MI's measures to address them.

Objective #3 - Conclude Phase 2 Crown-Aboriginal Consultations:

Manitoba will:

- Present responses to each community concern identified in the consultation report and meeting minutes.
- Provide information on the final versions of the Environmental Management/Monitoring Plans, including how community information and concerns were incorporated.
- Provide information on what Manitoba has assessed as the potential adverse effects of the proposed project on the exercise of Aboriginal and Treaty rights.
- Provide written responses to the community consultation report.

- Identify which specific rights might be adversely affected.

[Community Name] will:

- Identify and involve Elders, knowledge holders, and resource users for all the meetings, particularly for the site visit, community meetings, and interview sessions.
- Share its information and perspectives on the potential for adverse effects and significance of those effects on the exercise of their Aboriginal and Treaty rights.
- If required, identify a Community Coordinator to assist the community in accomplishing the objectives of this work plan, including: working with Manitoba's Project Consultation Coordinator to organize meetings, writing reports, and facilitation during meetings.
- Provide feedback and confirm if the meeting minutes and/or record of community event is correct.

Process of accomplishing Objective #3

- **Meeting No. 3: Presentation to Chief and Council**

Meeting No. 3: Present Responses to Community Concerns

Purpose: This presentation will include, a review of MI responses to the community's concerns as identified through meetings and the consultation report. MI will clearly describe its understanding of the project's impact to Aboriginal and Treaty rights.

Organized by: Project Consultation Coordinator and the Community Coordinator.

Participants: Manitoba, Chief and Council and/or their representatives.

Location: To be determined by community.

Outcome: Manitoba will share meeting notes and a chart reflecting (a) community's concerns so far; (b) MI's measures to address those concerns; and, (c) community's comments from this meeting in relation to community concerns and MI's measures to address them.

Objective #4 - Analysis, Reporting and Decision:

Manitoba will:

- Review the information provided by the community in their Community Consultation Report to understand the information and concerns.
- Prepare a list of all concerns and suggestions communicated to Manitoba during and as a result of all Phase 2 tasks; and, send this list to the community to confirm whether Manitoba understood their concerns and suggestions accurately.
- Incorporate and include community review and feedback of concerns and MI's responses.
- Prepare and submit an internal report to the Minister of Sustainable Development. This report will summarize the consultation and engagement processes, its outcomes, and Manitoba's response to each of the concerns or suggestions of the community.
- After reviewing and adequately considering the report, Manitoba will make its decision.

Objective #5 - Reporting on the Decision to the Community:

After decision(s) are made, Manitoba will report to Chief and Council:

- What the decision(s) were.

- The consultation and engagement processes and outcomes, including Manitoba's responses to the community's concerns or suggestions.
- Whether and how Manitoba mitigated, accommodated, and addressed their concerns or accepted their suggestions; and, if their concerns were not addressed, will provide the justification(s) as for why.

Process of accomplishing Objective #5

- **Information Package Provided to Chief and Council: Environmental License(s) Conditions**

Outcome: Manitoba will provide in writing the conditions of the federal and provincial environmental licenses and how Manitoba mitigated, accommodated and addressed community concerns or accepted their suggestions; and, if their concerns were not addressed, will provide justification(s) for why.

Funding is available for translation of printed and presented material.

LAKE MANITOBA AND LAKE ST. MARTIN OUTLET CHANNELS

WORK PLAN

Proposed by Manitoba

Objective #1 –Confirming Initial Concerns and Suggestions:

Manitoba will:

- Collate and review the information provided by the community to date, in order to understand the information and concerns.
- Prepare a list of all concerns and suggestions communicated to Manitoba to date.
- Provide the list of concerns to the community.

First Nation will:

- Within 30 days of receipt of the Manitoba report, confirm accuracy or correct any inaccuracies in Manitoba's understanding of their concerns and suggestions.

Objective #2 Share and Discuss the Environmental Assessment, Management Plans, Mitigation, Monitoring, and Reporting:

Manitoba will:

- Provide a description and/or presentation of the Environmental Impact Statement (EIS), including the environmental assessment process and proposed mitigations.
- Provide an assessment of the significance of those potential adverse effects from Manitoba's perspective.
- Provide information on what Manitoba has assessed, and the potential adverse effects of the proposed project on the exercise of Aboriginal and Treaty rights.
- Identify which specific rights might be adversely affected.
- Provide information on the environmental license requirements for the proposed project, including federal and provincial environmental review processes.
- Provide information on proposed environmental management and monitoring plans.
- Discuss, understand, and respond to any issues the community might raise.
- Provide a Project Consultation Coordinator who will facilitate the logistics of this work plan (find locations, set schedules, plan meetings, etc.).

First Nation will:

- Identify and involve their Elders, knowledge holders, and resource users for all the meetings.
- Make known its concerns about the project's potential effects and suggest mitigations.
- The Community will provide a Community Consultation Report to Manitoba. It should include, the community's perspectives, questions and concerns with respect to the specific proposed project on the exercise of the community's Aboriginal and Treaty rights. Note: This report can be largely based on previous reports and/or meeting minutes prepared by the community.

The above will be accomplished through community specific information package that include a meeting that cover the following topics:

a. Environmental Assessment and Environmental Impact Statement

Purpose: MI will provide and/or present the Environmental Impact Statement, including how community concerns and input was incorporated into planning and design, and based on the EIS, MI will hear any concerns that the community may have regarding the exercise of their Aboriginal and Treaty rights.

b. Present Proposed Mitigations and Management Plans

Purpose: MI will provide and/or present proposed mitigations and environmental management and monitoring plans to explain their purpose and function. Examples of these detailed monitoring plans include: groundwater management, surface water management, access management, and wildlife monitoring. MI will hear any concerns that the community may have regarding the exercise of their Treaty and Aboriginal rights.

c. Present Proposed Fisheries Offset and Aquatic Monitoring Plan

Purpose: MI will provide and/or present the proposed plan that is intended to meet the requirements of the Fisheries Act, including offsetting and monitoring. MI will hear any concerns that the community may have regarding the exercise of their Aboriginal and Treaty rights.

Objective # 3 Conclude Phase 2 Crown-Aboriginal Consultations:

Manitoba will:

- Provide responses to each community concern identified
- Provide information on the final versions of the Environmental Management/Monitoring Plans, including how community information and concerns were incorporated.
- Provide information on what Manitoba has assessed as the potential adverse effects of the proposed project on the exercise of Aboriginal and Treaty rights.
- Identify which specific rights might be adversely affected.

First Nation will:

- Identify and involve Elders, knowledge holders, and resource users for all the meetings, particularly for the site visit, community meetings, and interview sessions.
- Share its information and perspectives on the potential for adverse effects and significance of those effects on the exercise of their Aboriginal and Treaty rights.
- Provide feedback and confirm if Manitoba's understanding of community concerns are correct.

Provide and/or Present Responses to Community Concerns

Objective #4 - Analysis, Reporting and Decision:

Manitoba will:

- Review the information provided by the community in their Community Consultation Report to understand the information and concerns.

- Prepare a list of all concerns and suggestions communicated to Manitoba during and as a result of all Phase 2 tasks; and, send this list to the community to confirm whether Manitoba understood their concerns and suggestions accurately.
- Incorporate and include community review and feedback of concerns and MI's responses.
- Prepare and submit an internal report to the Minister of Sustainable Development. This report will summarize the consultation and engagement processes, its outcomes, and Manitoba's response to each of the concerns or suggestions of the community.
- After reviewing and adequately considering the report, Manitoba will make its decision.

Objective #5 - Reporting on the Decision to the Community:

After decision(s) are made, Manitoba will report to Chief and Council:

- What the decision(s) were.
- The consultation and engagement processes and outcomes, including Manitoba's responses to the community's concerns or suggestions.
- Whether and how Manitoba mitigated, accommodated, and addressed their concerns or accepted their suggestions; and, if their concerns were not addressed, will provide the justification(s) as for why.

Process of accomplishing Objective #5

- **Information Package Provided to Chief and Council: Environmental License(s) Conditions**

Manitoba will provide in writing the conditions of the federal and provincial environmental licenses and how Manitoba mitigated, accommodated and addressed community concerns or accepted their suggestions; and, if their concerns were not addressed, will provide justification(s) for why.

Information will be translated as required.