

**Annex A1:**  
Round 3 APEP Materials  
All-Season Road Construction Activities  
– What Can You Expect? (Round 3)

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# EAST SIDE

TRANSPORTATION INITIATIVE

## *ALL-SEASON ROAD CONSTRUCTION ACTIVITIES WHAT CAN YOU EXPECT?*



2014

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## INTRODUCTION

The East Side Road Authority (ESRA) is undertaking the construction of an all-season road network on the East Side Lake Winnipeg. Once completed the all-season road network will provide year round transportation access to the remote and isolated communities in the region. It is estimated that the overall network will be approximately 1000 kilometres long and will take over thirty years to complete.

Construction has begun on a 156 kilometres all-season road from PR 304 to Berens River First Nation. As of January 1, 2014, three new bridges and 40 kilometres of road construction have been completed. Weather permitting, Bloodvein First Nation will have all-season road access to the provincial road network in the fall of 2014, after the bridge over the Bloodvein River is completed.

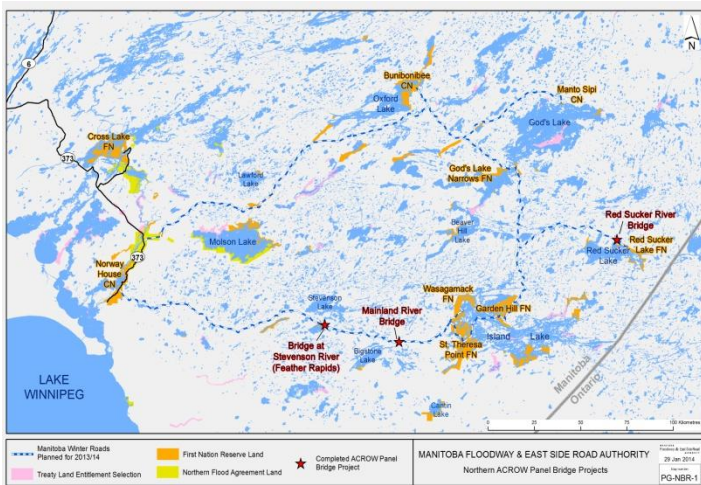
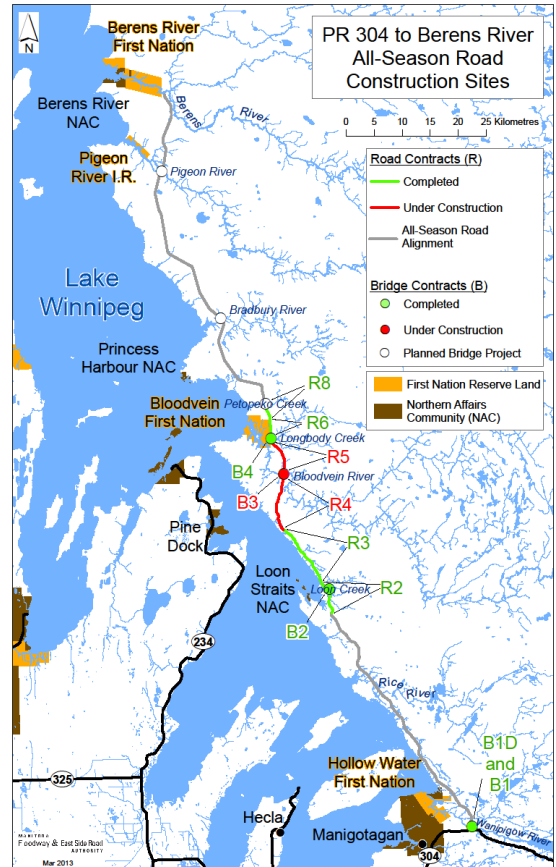
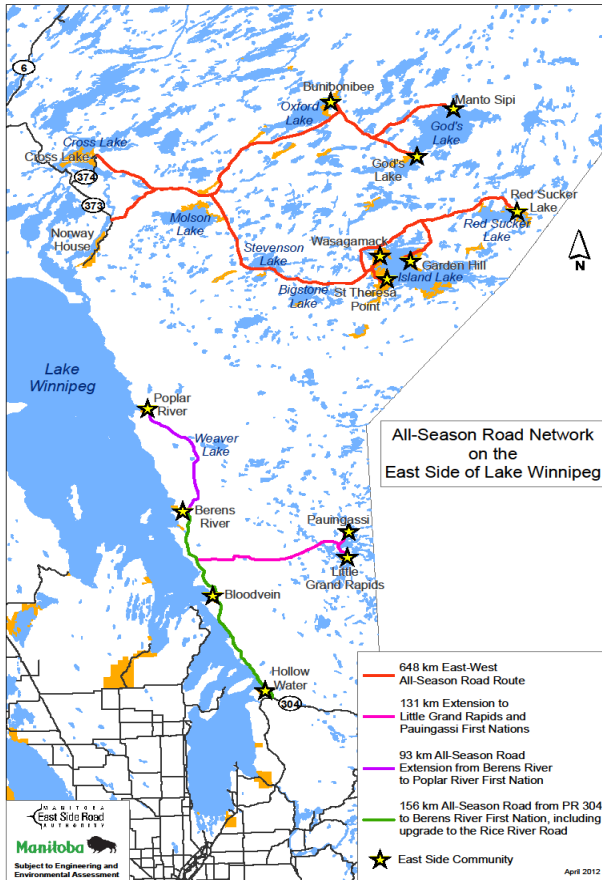
Farther north, improvements are also being made to the winter road system. Three temporary Acrow panel bridges have been installed over strategic locations (Red Sucker River, Mainland River and Feather Rapids) along the winter road network that will help extend the length of time local residents can use the winter roads. Mehkana Development Corporation, a construction company owned by Wasagamack First Nation, and Red Sucker Lake (RSL) Construction, a construction company owned by Red Sucker Lake First Nation, installed all three bridges. The Red Sucker River Bridge was opened to traffic in the 2013 winter road season while the Mainland River and Feather Rapids Bridges were opened in the 2014 winter road season.

A key component of the all-season road project is ensuring that east side communities participate in and benefit from the project. To achieve this objective, ESRA has entered into Community Benefits Agreements (CBA) with all thirteen east side First Nations. CBAs provide sole source contracts to local communities to undertake pre-construction activities such as exploratory clearing, right-of-way clearing, blasting and gravel crushing, and the installation of Acrow panel bridges.

With construction and pre-construction work well underway on the all-season road project, local residents can expect to see various types of construction activities as the project proceeds. Some of this work is being undertaken by local east side communities under sole source CBA contracts, while other work is being tendered out. Similarly, some of the work is taking place on the all-season road from PR 304 to Berens River (and the Rice River Road) while other components of the work may be occurring in or near other east side communities.

This brief summary is designed to provide the public with information on the various types of construction and maintenance activities and what you might encounter as construction proceeds.

***Please remember...For your safety and the safety of construction workers, please slow down, follow all signs, and use caution when approaching construction workers and equipment while driving on the winter roads.***



Top Left – The all-season road network on the east side of Lake Winnipeg.

Top Right – Status of construction for the all-season road from PR 304 to Berens River.

Left – Acrow panel bridge installation locations in the northern region of the east side.

## PRE-CONSTRUCTION ACTIVITIES

### Exploratory Clearing

For the all-season road project, exploratory clearing is being conducted to assist engineers and surveyors to access remote locations to evaluate the potential for locating the all-season road in specific areas. Clearing a 10 metre wide path with 10 metre by 20 meter pushouts allows specialized equipment space to test the soil to see if it is suitable for construction.

This work involves flagging trees or shrubs five meters from each side of the centerline every 10 metres. Workers undertake the clearing by:

- removing and disposing of all trees, shrubs and fallen timber
- the root mass is not disturbed so if the route or portions are found not to be good for construction the soils will be held in place until the vegetation grows back
- establishing push-outs at 200 meter intervals, which are 10 meter by 20 meter clearings that allow geotechnical drilling rigs to take soil samples
- where practical, salvageable timber is stockpiled for community purposes
- any materials such as brush, tree limbs and fallen and damaged trees is piled and burned or buried

Clearing can be done using a number of options including:

- hand clearing using chainsaws and hand tools
- bulldozers
- mulching with hydro-axes or other approved mechanical method (ex: Feller buncher or grapple skidder)
- combination of above

What can you expect?

- Trapping and hunting trails are maintained
- Local employment opportunities using equipment
- Work occurs during daylight hours
- This work causes minimal interference with traffic as it takes place completely off road



Exploratory clearing is usually undertaken manually by crews but can also use rotary brush cutters.



Wood that is harvested during exploratory and right-of-way clearing is made available for community purposes.

## ROAD CONSTRUCTION ACTIVITIES

### **Right-of-Way Clearing**

Clearing right-of-way consists of the removal and disposal of all trees, shrubs, fallen timber and surface litter from the highway right-of-way and other areas such as borrow pits, prior to grading. The right-of-way is generally 60 metres wide. Materials such as logs or timber suitable to manufacture forest products will be salvaged. Where required, stumps and roots will be grubbed out and separated from the soil. The non-salvageable forestry material such as brush, roots and limbs will be piled and burned or buried.

What can you expect?

- Trapping and hunting trails are maintained
- Local employment opportunities using equipment
- The bulk of the clearing work is done by bulldozers, log skidders or other forestry equipment
- This work causes minimal interference with traffic as it takes place completely off road



When clearing begins trees are cut down by logging equipment or knocked down by dozers and brush cutters. Salvageable timber is removed and stored for community purposes. Brush limbs and scrap wood are often burned or buried off the right-of-way. The clearing process advances along the right-of-way until completion.

## Utility Modification

Utility revisions consist of relocating overhead utility installations such as communication cables, and hydro poles in the right-of-way in preparation for construction. New road construction or re-construction of existing roads sometimes results in potential conflicts, requiring relocation of the utility.

What can you expect?

- Utility modifications are undertaken by the utility companies
- For east side communities, relocations may result in service outage but residents would be advised prior to any outages



Utility modifications may include Manitoba Hydro lines (both high voltage hydro lines and underground hydro cables), MTS communication lines and water.

## Aggregate Production and the Establishment of Quarries

Blasting, or the use of explosives to breakdown, excavate or remove rock, and gravel crushing, or the production of granular material to be used for all-season road construction, are activities involved with aggregate production. These activities occur in quarries that are established in the vicinity of the all-season road alignment. Quarries are generally established close to the road alignment to reduce hauling and transportation costs.

What can you expect?

- Discussions with local residents, including archaeological studies, occur before quarry development
- Removal of surface vegetation and timber may be salvaged for community purposes
- Public safety measures in place such as access restrictions and site security
- Periodic blasting may occur during daylight hours
- Watch for heavy equipment turning onto and off the road way into quarries
- Signage and flag persons may be present
- Removal of access roads when the quarry is no longer required







Activities that take place in and around quarries include drilling, blasting, gravel crushing, loading and hauling.

### **Establishment of Borrow Pits**

Borrow pits or borrow areas are sites where the existing soil/earth has been tested and determined suitable for road embankment construction. These borrow pits or areas may be on site within the right-of-way or adjacent to the road alignment. Borrow pits are often required when the existing soil/earth on the road construction site is unsuitable for road embankment construction or the design work has determined that there is insufficient quantity. Designated borrow pits are generally located close enough to the right-of-way so the earth can be hauled by heavy construction equipment such as motor scrapers or rock trucks.

What can you expect?

- Watch for heavy equipment turning onto and off the road way into borrows pits
- Signage and flag persons may be present
- Site will be regarded after use to ensure public safety
- Site will be re-vegetated and/or infilled once it is no longer required



## Grading

Grading is using existing earth on a construction site to prepare the roadbed of a roadway. It may be the reconstruction of an existing roadway or the construction of a new roadway. Grading consists of four sub activities: stripping the top soil, earth removal, placement and compaction, rock removal and placement and trimming and shaping.

What can you expect?

- Traffic control will be in place where there is potential for conflict between the public and grading work
- Flag persons and other workers will be attired in hi-visibility outer clothing
- An observer may encounter many pieces of heavy construction equipment moving about the construction site in a seemingly chaotic manner
- A small number of workers may be on site, doing inspection and survey work



## Grade and Gravel

Grade and gravel consists of the construction or reconstruction of a road plus traffic gravel on the finished grade surface. Traffic gravel provides an all-weather traction surface for traffic and enables maintenance crews to maintain a smooth riding surface.

What can you expect?

- Trucks dumping and turning on the road way
- Flag persons and construction signing will be in place if the road is open to traffic
- Drivers may encounter visibility problems due to dust conditions



## Culvert Installation & Equalization

New culverts are installed along new road embankments wherever it is determined that surface water such as spring melt or storm run-off needs to pass from one-side of the road to the other to prevent flood damage or to maintain the existing hydraulics. Culverts are often installed or replaced by excavating a trench to the required elevation through the road embankment. The trench is then backfilled and compacted to the culvert grade elevation with a granular bedding material. The new culvert may be pre-assembled and lowered into the trench or in the case of concrete pipe, be assembled by connecting short sections of the pipe in the trench. The pipe is backfilled with granular material to support the pipe adequately and reduce settlement in the road embankment.

Culverts are often used at small stream crossings. The culverts are installed when fish are not spawning and erosion and sediment protection is used to protect fish populations and aquatic habitat.

What can you expect?

- For the all-season road project, culvert installation will occur during road construction activities
- Erosion control and re-vegetation
- For the Rice River Road, emergency culvert replacement may occur at failed culvert sites



### Bridge Construction

Bridge construction is a major component of the all-season road project. There are six basic activities associated with bridge construction:

- 1) constructing footings and abutments;
- 2) inserting casing and pouring concrete into the shafts, which are the foundation for the columns that support the bridge;
- 3) constructing the abutment wall;
- 4) girder placement across the span of the bridge;
- 5) bridge deck construction and re-bar installation; and
- 6) paving the deck.

What can you expect?

- In most cases, bridges will be constructed off the road and will not impact the public
- Detours may be erected around bridge construction sites
- Signage and flag persons may be present
- Erosion control measures will be implemented to protect the waterway
- To allow in-water construction and minimize water disturbance, coffer dams may be installed



### Acrow Panel Bridge Installation

Acrow panel bridges are being used at a number of locations on the all-season road network. These bridges are prefabricated and shipped by truck in pieces for on-site installation. Shipping a bridge in pieces means it can be transported to remote sites using existing winter roads and installed before the all-season road links to the network. These bridges can be taken apart and moved to a new site at a later date, if required.

What can you expect?

- In most cases, the installation of Acrow Panel Bridges occurs off road and does not impact the public. However, during winter road season, the public is advised to watch for heavy equipment
- Local employment opportunities during bridge installation



### **Re-vegetation and Erosion Control**

Re-vegetation and erosion control is the practice of replanting and rebuilding the soil of disturbed land to construction sites. A variety of methods are used to control erosion including applying seed and fertilizer to disturbed lands. Along the all-season road, efforts are underway to plant native and naturalized grasses along the road way to hold the soil in place.

What can you expect?

- Crews are usually involved with re-vegetation and erosion control work.
- Local employment opportunities during bridge installation



## Road Improvement and Future Maintenance Activities

### Mowing

Mowing of vegetation on road sides is an annual activity that occurs during the summer months. It is done to improve visibility for driver safety and to control noxious weeds. Generally, mowing is undertaken between 4.5 metres to nine metres in width. Various types of mowing equipment may be used including tractors, heavy duty mowers, and weed-eaters.

What can you expect?

- Mowing equipment may move onto the shoulder of the road or be moving along the slope or ditch in the opposite direction to traffic
- Dust conditions may result



### Mechanical Brushing

Mechanical brushing is the removal of brush and small trees growing in the right-of-way. This is done to improve or preserve driver sight distances. It also helps to ensure proper drainage and to reduce the cost of snow removal. The majority of mechanical brushing takes place in the heavily wooded areas of the province or where conventional mowing equipment can not access the ditch slopes due to rock out crops or swamp conditions.

What can you expect?

- A heavy duty rotary brush cutter on the boom of a hydraulic excavator or the front of a tractor/crawler may be present
- Road users may observe small fragments of wood debris on the right-of-way from the brush cutter operation
- Traffic control will be in place where flying debris may interfere with traffic



### Washout Repair

This activity is required when repairs to road sub-grade, surface, shoulders and culverts (all road surface types) are damaged by washouts. These repairs are undertaken as soon as possible and as soon as conditions permit. Traffic control devices may be used and if immediate repairs are not practical, traffic may be detoured or diverted in a manner that provides a safe alternative.

What can you expect?

- Washout repair is usually done on emergency basis after heavy rainfall or spring flooding
- Lane or road closures may be in place
- Excavation equipment, motor graders, loaders and haul trucks will be on the work site
- Flag persons in hi-visibility clothing will be in place



### Drainage Preservation

The purpose of drainage preservation is to restore drainage to its original design in order to prevent sub-grade saturation and erosion. It consists of excavating, filling, trimming and shaping required to maintain roadside ditch profiles. It also includes ditch slopes, off takes and rip-rap areas as well as the removal of sediment and debris from culverts.

What can you expect?

- Traffic control and road closure may be in place, if required
- Equipment such as a backhoe, excavator, and haul trucks will be operating in the work area





## Snow Plowing

Plowing snow on roadways is done with motor graders, truck plows or rotary plows. Visibility behind snow plows can be significantly reduced.

What can you expect?

- Reduced visibility and slippery surface conditions may exist
- Do not attempt to pass snow plowing equipment until visibility conditions allow or the snow plowing equipment moves off the road surface
- Maximum plowing speed is 70 km/h, so expect to reduce speed and encounter delays



## Sanding, Spreading Ice Control and Dust Control

These activities are undertaken to increase traction or, in the case of dust control to minimize the amount of dust that is stirred up while driving on a gravel road.

What can you expect?

- Stay clear vehicles when the warning lights are flashing
- Spreading may be continuous or intermittent





**Special Thanks to  
Manitoba Infrastructure and Transportation**



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