

## **7.0 ASSESSMENT OF POTENTIAL SOCIAL EFFECTS**

### **7.1 Social Conditions**

#### **7.1.1 Introduction**

This section of the Environmental Assessment Certificate (EAC) Application/Environmental Impact Statement (EIS) (hereafter referred to as the EA.) has been prepared by Golder Associates Ltd. (Golder). It addresses the effects of the Proposed BURNCO Aggregate Project (hereafter referred to as the 'Proposed Project') identified in the construction, operation, reclamation and closure phases on Social VCs. Consideration has been given to mitigation measures and residual effects have been characterized. Additionally consideration has been given to cumulative effects of other reasonably foreseeable future projects in combination with the residual effects of the Proposed Project.

#### **7.1.2 Regulatory and Policy Setting**

This section provides a summary of the regulatory and policy setting of the Proposed Project as it relates to the Social Assessment.

##### **7.1.2.1 Housing and Accommodation**

An Official Community Plan (OCP) can be developed by both municipalities and regional districts. Under the provincial *Local Government Act*, an OCP is a statement of objectives and policies, including ones focused on housing and temporary accommodation, to guide decisions on planning and land use management, within the area covered by the plan, respecting the purposes of local government. Under the *Local Government Act*, OCPs must include:

- The approximate location, amount, type and density of residential development required to meet anticipated housing needs over a period of at least 5 years; and
- Housing policies of the local government respecting affordable housing, rental housing and special needs housing.

##### **7.1.2.2 Emergency Services**

###### **7.1.2.2.1 Police**

The Royal Canadian Mounted Police (RCMP) is established through the *Royal Canadian Mounted Police Act* (1985) as Canada's national police force. The RCMP is responsible for enforcing all federal laws, except significant parts of the Criminal Code, in all Canadian provinces and territories. Where provinces and municipalities have contracted the RCMP's services, it is also responsible for enforcing all Criminal Code and provincial and municipal laws. RCMP Contract Policing is provided through Police Services Agreements which are negotiated between the federal government and provinces, territories and municipalities (Commission of Inquiry into the Actions of Canadian Officials in Relation to Maher Arar 2006). Police Services Agreements outline the duties and responsibilities of the RCMP, as well as the level of resources, budget and policing priorities (RCMP 2013).

Under the *Police Act* the Province of BC must ensure that an adequate and effective level of policing and law enforcement is maintained throughout BC. Provincial Police Service Agreements allow for the provision of provincial police services by the RCMP in municipalities with less than 5,000 people and unincorporated areas. Under a Municipal Police Service Agreement, the Province of BC can also sub-contract the RCMP provincial force to municipalities with populations over 5,000 for police services. However, rather than use the RCMP, some larger municipalities in BC use independent police departments that are governed by the municipality's police board. Each police board is chaired by the municipality's mayor, and consists of one person appointed by the municipal council and up to five people appointed by the Province of BC (Ministry of Justice n.d.).

#### **7.1.2.2.2 Ambulance Services**

Health care services in Canada are primarily publicly funded under provincial jurisdiction, with the federal government responsible for provision of Aboriginal health services and for providing funds to the provinces, per the requirements of the *Canada Health Act*. Provincial legislation and regulation for health care in BC is administered by the Ministry of Health. The Ministry directly manages various healthcare programs and services including the Medical Services Plan (physician services), the Vital Statistics Agency, PharmaCare (prescription drug insurance) and the Emergency and Health Services Commission (ambulance services). Health service delivery is the responsibility of six health authorities. The Vancouver Coastal Health Authority delivers health services to residents in the Sunshine Coast Regional District (SCRD) and parts of Metro Vancouver. In addition, the First Nations Health Authority focuses on services and programs to improve health status of First Nations in BC.

Ambulance services are provided by the British Columbia Ambulance Service (BCAS) operating under the authority of the Emergency and Health Services Commission, as mandated in the *Emergency and Health Services Act*. The Emergency and Health Services Commission also receives direction from the BC Ministry of Health and regional health authorities (BC Ambulance Service 2011).

#### **7.1.2.2.3 Fire and Wildfire Management Services**

Local governments are responsible for providing municipal fire services. Guidance is provided by the BC Fire Code, which includes regulations in the *Fire Services Act*. The provincial government, through the BC Ministry of Forests, Lands and Natural Resource Operations Wildfire Management Branch, is responsible for managing wildfires on both Crown and private lands outside of organized areas such as municipalities or regional districts. Two pieces of legislation guide wildfire management in BC, the *Wildfire Act* (2005) and the *Wildfire Regulation* (2005). The *Wildfire Act* outlines the responsibilities and obligations regarding fire use, prevention, control and rehabilitation in BC (BC Wildfire Management Branch 2014b).

#### **7.1.2.2.4 Water Rescue Services**

The Canadian Coast Guard Pacific Region is responsible for providing search and rescue services in areas of federal responsibility, including the 560,000 kilometres of Pacific Ocean and 27,000 kilometres of BC coastline (Canadian Coast Guard 2012). The Joint Rescue Co-ordination Centre Victoria (JRCC Victoria), located at the

Canadian Forces Base Esquimalt, is responsible for planning, co-ordinating, controlling and conducting aeronautical and maritime search and rescue operations within the Pacific region. The JRCC Victoria is operated by the Canadian Forces in conjunction with the Canadian Coast Guard. The JRCC Victoria dispatches rescue vessels from Canadian Coast Guard Pacific stations and Royal Canadian Marine Search and Rescue (RCM-SAR) auxiliary stations. The type of distress and location of the distressed vehicle assist the JRCC Victoria in determining which station to dispatch from (Canadian Coast Guard 2012).

#### **7.1.2.2.5 Oil Spill Services**

The regulation of marine oil spill response is primarily defined in the *Canada Shipping Act (2001)* and administered by Transport Canada (Western Canada Marine Response Corporation 2013a). Shippers are legally responsible for oil spill preparedness and response (Pacific States/British Columbia Oil Spill Task Force, 2011), but the *Canada Shipping Act* defines the requirement for oil spill response organizations to be certified by the Minister and establishes planning standards that define minimum levels of capacity to be maintained by the response organization. Western Canada Marine Response Corporation (WCMRC) the only Transport Canada certified response organization in BC and is funded by the shipping industry through membership, bulk oil cargo and capital asset fees (Ministry of Environment 2012). WCMRC's mandate is to ensure there is a state of preparedness in place and to mitigate the impact when an oil spill occurs. This includes the protection of wildlife, economic and environmental sensitivities, and the safety of both the responders and the public (Western Canada Marine Response Corporation 2013b).

In addition to the WCMRC, the BC Ministry of Environment may provide additional resources and staff, subject to mutual agreement and cost-recovery for services provided. In collaboration with other agencies and First Nations, the Ministry of Environment will also determine the nature and extent of the environmental damage caused by the spill, facilitate the preparation of joint situation reports and media releases, and evaluate the adequacy of environmental protection (Ministry of Environment 2013).

#### **7.1.2.3 Mining Emergency Plans**

Mines and mining plans are regulated by the *Mines Act (1996)* and the Health, Safety and Reclamation Code for Mines in BC (Ministry of Energy, Mines and Petroleum Resources 2008), which required that:

- Mine Emergency Response Plan (ERP) be developed and maintained (see Volume 3, Part E - Section 16.0);
- A ERP Coordinator will be appointed to assist the mine manager in developing the ERP;
- Sufficient personnel, equipment and facilities are available for emergencies;
- Training is provided to all personnel involved in emergency operations; and
- All costs related to establishing, equipping, operating and maintaining mine rescue teams, mine rescue apparatus and equipment as prescribed by the Chief Inspector are the financial responsibility of the mine manager (Ministry of Energy, Mines and Natural Gas 2013).

An ERP addresses advance preparation and preventive measures for potential emergencies and acts as a guide to all procedures and courses of action that should be followed in the event of an emergency. It identifies those responsible for taking action immediately after the discovery of and during the response to an emergency, as well as their respective duties. The contents of an ERP are unique to each mine and information provided must be tailored to suit the unique concerns and situation. By maintaining a complete and up-to-date ERP, management can ensure personnel are prepared for a mine emergency, resulting in a smooth and professional response should one occur (Ministry of Energy, Mines and Natural Gas 2013).

Developing an ERP involves examining each area of the mine for potential emergencies as well as possible means of prevention and protection. As conditions may change over time, this exercise is to be repeated periodically. All areas and processes of the mine are inspected to determine what risks are associated with the work environment, including mine fires, explosions, rockbursts, falls of ground, runs of muck, liquefied backfill, intrushes of water, bulkhead fractures, as well as less likely events such as earthquakes, bomb threats, sabotage, etc. Once all risks are identified, control measures are considered to prevent emergency situations, and may include improved ground support and pillar design and/or the introduction of fire suppression systems. Appropriate training and procedures, safe working practices, an effective housekeeping program and first aid training are all examples of measures that will help prevent a minor emergency from becoming a crisis or a disaster (Ministry of Energy, Mines and Natural Gas 2013).

### **7.1.3 Assessment Methodology**

This section provides a description of the methodology used to complete the Social Assessment for the EA.

Please refer to Volume 2, Part B - Section 4.0: Assessment Methods of this EA. for full description of the assessment methodology and scope including: selection value components, establishing boundaries, describing existing conditions, identification of the Proposed Project-VC interactions, identifying mitigation measures, evaluating residual effects and assessing cumulative effects.

#### **7.1.3.1 Valued Component (VC) Selection and Rationale**

This section describes the VCs and measureable indicators identified for this social assessment. The identified VCs reflect issues and guidelines, potential Aboriginal concerns, issues identified by BC EAO and CEA Agency, First Nations, other stakeholders, professional judgment and where applicable, key sensitive resources, species or social and heritage values. All identified candidate social condition VCs were carried forward in the effects assessment (e.g. no social condition VCs were excluded from the assessment). Additional details regarding the methods used to select VCs is provided in Part B, Volume 2 – Section 4.2.4. Table 7.1-1 provides a summary of identified VCs, rationale for their inclusion in the assessment, and measurable Indicators that will be considered.

**Table 7.1-1: Valued Components and Measurable Indicators: Social Conditions**

Value Component	Rationale	Indicators
Housing and Accommodation	Temporary influx of workers to take up Proposed Project job opportunities could lead to pressures on accommodation availability and cost	<ul style="list-style-type: none"> <li>▪ Number of workers</li> <li>▪ Housing and temporary accommodation supply and demand</li> <li>▪ Housing development</li> </ul>
Emergency Services (including ambulance, hospital, fire, wildfire management, police, water rescue, oil spill services)	Proposed Project associated change in demand for emergency services exceeding local supply/capacity	<ul style="list-style-type: none"> <li>▪ Number of workers</li> <li>▪ Emergency services (policing, hospital, ambulance, fire, wildfire, water rescue) demand and supply</li> </ul>

### 7.1.3.2 Assessment Boundaries

#### 7.1.3.2.1 Spatial Boundaries

The spatial boundaries for the EA have been defined to capture the physical extent of the Proposed Project, related effects, and key environmental systems. Study areas are specific to each VC and are described in Table 7.1-2.

For housing and temporary accommodation, it is assumed that the majority of any in-migrating workers would live within the SCRD, with a focus on the Town of Gibsons. This is the geographical area where Proposed Project interactions with the housing could occur with respect to change in demand for housing and temporary accommodation. The RSA is the same as the LSA for this component.

For emergency services, the LSA is the administrative jurisdiction within which any population effects would occur, and any associated change in demand for emergency services would be experienced. This is also the broader area from which the various emergency services would be sourced from to service direct emergency Proposed Project needs (i.e. construction worker injury and ambulance, water rescue linked to Proposed Project water based transportation, etc.). The RSA is the same as the LSA for this valued component.

The LSA and RSA boundaries for each VC are shown in Figure 7.1-1. For a full description of the spatial boundaries of the Proposed Project, refer to Volume 1, Part A – Section 2.0 of this EA.

**Table 7.1-2: Spatial Boundaries: Social Conditions**

Valued Component	Local Study Area (LSA)	Regional Study Area (RSA)
Housing and Accommodation	Sunshine Coast Regional District (with a focus on the Town of Gibsons)	Same as LSA
Emergency Services	Sunshine Coast Regional District (with a focus on the Town of Gibsons), Metro Vancouver and Squamish-Lillooet Regional District	Same as LSA

### **7.1.3.2.2 Temporal Boundaries**

Based on the Proposed Project schedule, the temporal boundaries for the social assessment are as follows:

- Construction – up to 2 years;
- Operations – 16 years; and
- Reclamation and closure – on-going and 1 year beyond operations.

For a full description of the temporal boundaries of the Proposed Project please refer to Volume 2, Part B - Section 4.0.

### **7.1.3.2.3 Administrative Boundaries**

The LSA and RSAs for the Housing and Temporary Accommodation VC have been defined using the administrative boundaries of the SCRD. The Proposed Project is located within the SCRD Electoral Area F, which includes Langdale, Port Mellon, Williamson's Landing, Granthams Landing, Soames, Hopkins Landing, and Gambier and Keats Islands. However, for Electoral Area F, the Town of Gibsons acts as its economic and social hub.

The LSA and RSA for the Emergency Services VC do not match a defined administrative boundary, but include the SCRD, Squamish-Lillooet Regional District (SLRD), and Metro Vancouver. Marine rescue emergency services have regional organizations established to coordinate the delivery of these services.

### **7.1.3.2.4 Technical Boundaries**

No technical boundaries are applicable to the Social Condition VCs.

### **7.1.3.3 Assessment Methods**

The assessment method includes the following steps:

- Identify key social aspects that could be potentially affected by the Proposed Project, which informs the selection of VCs;
- Compile information on and characterize existing conditions for the Social VCs;
- Identify and evaluate the potential pathways for effects between the Proposed Project and the VC; and
- Predict the residual effects of the Proposed Project and evaluate the extent to which adverse effects can be mitigated.

### 7.1.3.3.1 Describing Existing Conditions

Data from Statistics Canada and BC Stats on population trends, housing availability and costs was collected and assessed in conjunction with data from the Vancouver Real Estate Board, and regional housing studies and reports. Primary data was collected from the Town of Gibsons and District Chamber of Commerce, the Sunshine Coast Bed and Breakfast, Cottage Owners Association (SCBBCOA) and other accommodation providers in the Town of Gibsons.

Information on emergency services was collected through an on-line review of community and service provider websites. Primary information on water rescue service and capacity was collected through from Canadian Coast Guard and Royal Marine Search and Rescue representatives.

### 7.1.3.3.2 Identifying Project Interactions

A preliminary evaluation of identified interactions between the various physical works and activities and the selected VCs across all spatial and temporal phases of the Proposed was undertaken to characterize interactions as:

- a) Positive, none or negligible, requiring no further consideration; or
- b) Potential effect requiring further consideration and possibly additional mitigation.

This evaluation is presented in Section 7.1.5. A rationale is provided for all determinations when there is no or negligible interaction and no further consideration is required. For those Proposed Project-VC interactions that may result in potential effects requiring further consideration, the nature of the effects (both adverse and positive) arising from those interactions is described. Potential effects include direct, indirect and induced effects.

Identification of Proposed Project interactions is based on the experience of technical specialists supported by existing secondary information. Demand for housing and temporary accommodation and emergency services may increase due to the Proposed Project workforce requirements and associated in-migration for employment opportunities, which may result in short- and medium-term supply shortages. The remote Proposed Project location could also place pressure on existing emergency services and affect the quality and cost of their provision.

### 7.1.3.3.3 Evaluating Residual Effects

Potential Proposed Project-related residual effects were characterized as the basis for determining the significance of potential residual adverse effects for each VC. The characterization of effects was undertaken following application of appropriate mitigation measures.

Potential residual effects were characterized using the following standard residual effects criteria:

- **Social Context** – the capacity of socio-economic systems and processes to accept and manage change; resilience to level of change relative to base case or base line variation typically experienced. Linked to levels of vulnerability;

- **Magnitude** – the expected size or severity of the residual effect;
- **Extent** – the spatial scale over which the residual physical, biological and/or social effect is expected to occur;
- **Duration** – the length of time the residual effect persists;
- **Reversibility** - indicating whether the effect is fully reversible, partially reversible, or irreversible; and
- **Frequency** – how often the residual effect occurs.

The criteria defined in Table 7.1-3 have been used to characterise and determine the significance of potential Social effects, which generally confirm to the criteria used for environmental effects. Please refer to Volume 1, Part A - Section 3.0 for a description of the criteria used to characterise potential effects for all disciplines.

The **likelihood** of potential residual effects (after mitigation) occurring was also characterized for each VC using the following qualitative terms:

- Low - likelihood of occurrence (0 to 40%) – Residual effect is possible but unlikely;
- Medium - likelihood of occurrence (41 to 80%) - Residual effect may occur, but is not certain to occur; and
- High - Likelihood of occurrence (81% to 100%) - Residual effect is likely to occur or is certain to occur.

Characterization of likelihood was based on professional judgement taking into consideration the available qualitative and quantitative data for each potential residual effect.

#### **7.1.3.3.4 Evaluating Significance of Residual Effects**

The significance of potential residual adverse effects will be determined for each VC based on the residual effects criteria and the likelihood of a potential residual effect occurring, a review of background information and available field study results, consultation with government agencies, First Nations, and other experts, and professional judgement. The general rationale and determinations of the significance of potential residual effects on VCs are provided in Section 7.1.5. The following definitions were used to determine the significance of residual adverse social effects:

- **Negligible effect, not significant:** no measureable change or a change that is within the range of natural variability based on residual effect criteria. Negligible residual effects are not carried forward to the cumulative effects assessment.
- **Not significant:** the assessment identifies that the effect is generally measurable at the sub-community, community or larger population level but not likely to result in substantial changes in economic or social well-being.



- **Significant:** the assessment identifies that the overall effect is measurable at the sub-community, community or larger population level, results in strong interest or concern by a community or broader population group, and/or results in substantial changes in economic and/or social well-being.

The above definitions were adopted for the following reasons:

- In many cases, determining the significance of a residual economic and social effect depends on the perceptions and values of affected people/communities (as made evident through consultation and engagement) with regards to their interpretation of significance; and qualitative data and interpretation, and observations of the socio-economic environment of affected communities or populations (including the resilience of populations/communities to effectively deal with/address a residual effect).
- There are often no established thresholds or standards for social VCs. Although it may be possible to set thresholds for some social effects for purposes of an EA, in many cases it is not possible to demonstrate a consensus on a specific threshold value or what such a threshold means in terms of significance of an effect.
- Social and economic effects may not lend themselves to the assignment of criteria for the determination of significance except in terms of potential, thus introducing a larger element of uncertainty into the effects assessment. For any predicted Proposed Project effect, the actual effect that occurs will be dependent on:
  - the response on the part of individuals and/or communities to socio-economic mitigation and management measures implemented by the Proposed Project; and
  - decisions made by individuals and/or communities with regards to events and situations that are unrelated to the Proposed Project, but interact with the Proposed Project effect.
- It can be difficult to conclude with certainty that mitigation measures will result in no residual effect. This is because as mitigation measures are developed and implemented over the course of the Proposed Project (particularly relevant for projects with long timelines), social and economic changes naturally take place, some of which can be difficult to predict during the assessment. In addition, some of the changes are outside the control of the Proposed Project, but can interact with the Proposed Project over its life cycle and in some cases affect the success of mitigation measures.

In summary, the challenges of: a) quantifying effects, b) identifying thresholds, and c) incorporating community resiliency, community perceptions and values in determining significance, coupled with the inherent uncertainty with respect to mitigation effectiveness and prediction of social and economic effects into the future, necessitates a qualitative approach to determination of significance.

#### **7.1.3.3.5 Level of Confidence**

The level of confidence for each predicted effect is discussed to characterize the level of uncertainty associated with both the significance and likelihood determinations. Level of confidence is typically based on expert judgement and is characterized as:

- Low: Limited evidence is available, models and calculations are highly uncertain, and/or evidence about potential effects is contradictory.
- Moderate: Sufficient evidence is available and generally supports the prediction.
- High: Sufficient evidence is available and most or all available evidence supports the prediction.

As there are many outside influences that can affect the magnitude and nature of the Proposed Project's impact on the VCs, such as economic conditions and broad factors affecting societal change, predictions of the Proposed Project's Social effects cannot be made with complete certainty.

**Table 7.1-3: Criteria for Characterizing Potential Residual Effects: Social Conditions**

VC	Social Context	Magnitude	Geographic Extent	Duration	Reversibility	Frequency
Housing and Accommodation	<b>Resilient:</b> Effects occurs in an environment of high resiliency and/or low vulnerability;	<b>Negligible:</b> Proposed Project will have no measurable effect;	<b>Local:</b> effect restricted to LSA;	<b>Short-term:</b> <1 year;	<b>Fully reversible:</b> Effect reversible with reclamation and/or over time;	<b>Low:</b> Occurs once;
	<b>Moderately Resilient:</b> Effects occurs in an environment of moderate resiliency and/or low vulnerability; or	<b>Low:</b> Changes cannot be distinguished from base case variations;				
Emergency Services	<b>Sensitive:</b> Effects occur in an environment of low resiliency and or high vulnerability.	<b>Moderate:</b> Changes are evident, but remain within recent historical norms; or <b>High:</b> Changes result in effects that are beyond historical norms.	<b>Beyond Regional:</b> effect extends beyond the RSA.	<b>Long-term:</b> >life of Proposed Project.	<b>Irreversible:</b> Effect irreversible.	<b>High:</b> Occurs on a regular basis and at regular intervals.

## 7.1.4 Baseline Conditions

### 7.1.4.1 Population and Demographics

An overview of population and demographic characteristics with respect to population size, projected population growth, and migration patterns within the LSA is presented below. This information, in conjunction with Proposed Project labour demands requirements (as described in the Project Description) and the labour force characteristics for the LSA (as presented in Volume 2, Part B – Section 6.1: Sustainable Economic effects assessment), is used to assess the availability (supply) of labour within the LSA for direct as well as indirect and induced Proposed Project jobs, the potential for temporary/permanent in-migration into the LSA for Proposed Project job opportunities, as well as potential effects on demand on housing (trends in population and household characteristics are important drivers of local housing demand).

In 2011, the population of the Town of Gibsons was 4,437, or 15.5% of the population of the SCRD (Table 7.1-4). Population growth in the Town of Gibsons between 1996 and 2011 has been steady and similar to the average population growth for BC over the same time period. In comparison, during this period, population growth in the SCRD was slightly lower than the BC average at 14.9%. Electoral Area F, in which the Proposed Project is located, had a population of 2,015 in 2011, a decrease of approximately 10% since 2006.

The median age in the Town of Gibsons and SCRD in 2011 was 51 years, approximately ten years older than the provincial median age. Both the Town of Gibsons and SCRD had approximately 25% of its population age 65 years or above, which is higher than the 15.7% in BC. The proportion of the population between 20 and 44 years was approximately 10 percentage points below the BC average in both the Town of Gibsons and SCRD. The higher median age and age distribution of both the Town of Gibsons and the SCRD are consistent with the area's popularity among retirees.

**Table 7.1-4: Population Characteristics of the LSA and RSA (1996, 2001, 2006 and 2011)**

	Town of Gibsons	Sunshine Coast Regional District	British Columbia
<b>Population (Number)</b>			
2011	4,437	28,619	4,400,057
2006	4,182	27,759	4,113,487
2001	3,906	25,599	3,907,738
1996	3,732	24,914	3,724,500
<b>Percent change in population [%]</b>			
2006 to 2011	6.1	3.1	7.0
2001 to 2006	7.1	8.4	5.3
1996 to 2001	4.7	2.7	4.9
<b>Age characteristics [%]</b>			
0 to 19 years	18.0%	18.3%	21.6%
20 to 44 years	22.2%	21.3%	32.7%
45 to 64 years	33.3%	36.8%	30.0%
65 years and over	26.5%	23.6%	15.7%
Median age of population	51.4	51.6	41.9
% population 15 and over	87.6%	87.3%	84.6%

Source: Statistics Canada 2001, 2007, 2012

Figure 7.1-2 shows that between 1991 and 2010, net migration in the SCRD has been positive, with a net average of approximately 320 people per year. The positive net migration has been primarily driven by net intra-provincial migration. High levels of net in-migration occurred between 1991 and 1995 due to strong economic performance and employment opportunities in the region. Net in-migration has remained relatively stable over the past 20 years but continues to be influenced by demographics and the business cycle (Central 1 Credit Union 2011).

#### **7.1.4.2 Housing and Temporary Accommodation**

The following section describes housing supply, housing demand, commercial accommodation and housing outlook in the LSA and RSA.

##### **7.1.4.2.1 Housing Supply**

Housing market trends in the SCRD have been similar to provincial trends over the past thirty years (Central 1 Credit Union 2011). Between 2005 and early 2008 the SCRD housing market remained vibrant with a high level of housing demand and sales but in 2008 the housing demand declined sharply in response to the recession. While sales rebounded in the second half of 2009 along with the rest of the Province of BC, sales fell again in the first half of 2010 (Central 1 Credit Union 2011). However, the SCRD is heavily influenced by demand from recreational property buyers, retirees, and owners of businesses that are not tied to specific locations (Sunshine Coast Community Economic Development n.d; Central 1 Credit Union 2011). It is estimated that 25% of all dwellings in the SCRD are seasonal dwellings<sup>1</sup> of which 5% are located in the Town of Gibsons (Campbell 2009). Over 93% of seasonal residences are Canadian owned, of which 78% are owned by people with primary residence in Metro Vancouver (Central 1 Credit Union 2011). The McNab Strata, located approximately half a kilometre away from the edge of the BURNCO property, are the closest homes to the Proposed Project. More information on the McNab Strata is available in Volume 2, Part B - Section 6.1: Sustainable Economy of the EIS.

In 2011 there were approximately 16,498 private dwellings in the SCRD, of which 12,839 were occupied by usual residents<sup>2</sup> (Table 7.1-5). The proportion of dwellings occupied by usual residents in the SCRD was low at 77.8%, or close to 13 percentage points below the BC average. In comparison, the Town of Gibsons was slightly above the BC average with 92.3% of private dwellings occupied by usual residents. Approximately 16% of SCRD's occupied dwellings were located in the Town of Gibsons and 6.9% in Electoral Area F. While the distribution of renters and owners in the Town of Gibsons was close to the provincial average, the proportion of owners in the SCRD was over 10 percentage points higher than BC (Table 7.1-5). The relatively high level of ownership in SCRD is largely driven by the region's older population base and specifically the relatively large retiree population (Central 1 Credit Union 2011). For rental accommodation, the vacancy rate for the SCRD between December 2013 and January 2014 was estimated at 6%, an increase since 2009. The increase in the vacancy rate for rental accommodation was attributed to the relatively low volume of home sales which has forced some owners to rent their properties. Approximately two-thirds of rental units had fewer than three bedrooms (Thomson 2014).

<sup>1</sup> Defined as seasonal or recreational properties only used part of the year and therefore not included in census or population figures.

<sup>2</sup> Refers to a private dwelling in which a person or a group of persons is permanently residing. Also included are private dwellings whose usual residents are temporarily absent on May 10, 2011.

Modelling performed by Central 1 Credit Union showed that the owned housing stock could rise by 28% in the SCRCD between 2010 and 2020, with an increase of about 2,900 owned housing units. Growth in the locally-owned and occupied housing stock is expected to outpace non-local ownership, as retirees relocate to the SCRCD and the number of small-businesses increases (Central 1 Credit Union 2011).

**Table 7.1-5: Housing Stock 2011**

	Town of Gibsons	Sunshine Coast Regional District	British Columbia
Total private dwellings	2,180	16,498	1,945,365
Private dwellings occupied by usual residents	2,013	12,839	1,764,637
Owner	70.2%	81.3%	70.0%
Renter	30.0%	18.1%	29.8%

Source: Statistics Canada 2012; Statistics Canada 2013

### 7.1.4.2.2 Housing Demand

Housing prices represent a key indicator of housing demand. Typically, when housing demand increases, so do housing prices. The Home Price Index (HPI) benchmarks represent the price of a typical property within each market, and takes into consideration differences across properties such as lot size, age, and number of rooms. These features become the composite of the typical house in a given area (Real Estate Board of Greater Vancouver 2012).

In January 2014, the HPI in the Sunshine Coast was approximately half of that in Metro Vancouver (Table 7.1-6). Between January 2006 and January 2008, the HPI in the Sunshine Coast increased by 19.5%, but then declined by 13.9% between January 2008 and January 2014 due to the economic downturn since 2008.

By comparison, Metro Vancouver experienced an increase in housing prices, with average housing prices rising by 52% between 2006 and 2014. In contrast to the Sunshine Coast, Metro Vancouver maintained steady growth in HPI between 2006 and 2014 with housing prices in Metro Vancouver being among the highest of any jurisdiction in Canada. Central 1 Credit Union forecasted that between 2011 and 2015, housing price levels in SCRCD would grow approximately 1.5% annually to \$397,000. Between 2016 and 2020, price levels are expected to increase with an average annual growth rate of 6.0% (Central 1 Credit Union 2011).

**Table 7.1-6: Home Price Index [\$]: Residential Average**

Housing	Sunshine Coast	Metro Vancouver
January 2014	337,400	660,800
January 2012	359,900	604,900
January 2010	379,300	561,800
January 2008	392,000	553,800
January 2006	328,000	434,100

Note: Data for the Sunshine Coast reflects area between Gibsons and Lund, not the full SCRCD.  
Source: Real Estate Board of Greater Vancouver 2014.

While the median monthly cost of shelter for an owned dwelling was higher than for a rented dwelling in 2011 in BC, the opposite exists in the SCRD where the median monthly rental cost was close to \$300 more per month than owning (Table 7.1-7). The relative median monthly cost of a rented dwelling compared to an owned dwelling was also higher in the Town of Gibsons by \$50. The cost of shelter in Electoral Area F for both owned and rented dwellings was between the Town of Gibsons and the SCRD, at \$717 and \$928 respectively.

**Table 7.1-7: Median Monthly Cost of Shelter 2011 [\$]**

	Town of Gibsons	Sunshine Coast Regional District	British Columbia
Owned dwellings	869	650	1,023
Rented dwellings	916	949	903

Source: Statistics Canada 2013.

Although there were proportionately more people spending 30% or more of their income on shelter in the Town of Gibsons compared to BC, it does not appear to have resulted in higher levels of overcrowding<sup>3</sup> (Table 7.1-8). Even though the proportion of people spending 30% or more of their income on shelter is lower in SCRD compared to BC, there is some indication that rising rental and housing prices are negatively impacting affordable housing on the Sunshine Coast particularly for youth, seniors, individuals with mental health and/or addictions issues, non-Sechelt aboriginals, single parent families and people with disabilities (Thomson 2010).

**Table 7.1-8: Affordability and Crowding 2011 [%]**

	Town of Gibsons	Sunshine Coast Regional District	British Columbia
Spending 30% or more of household total income on shelter costs	32.1	25.8	30.3
Overcrowded household	0.7	0.4	2.7

Source: Statistics Canada 2013.

### 7.1.4.2.3 Temporary Accommodation

The Sunshine Coast has 93 vacation rentals regulated by the Sunshine Coast Bed and Breakfast, Cottage Owners Association (SCBBCOA), of which approximately 41% are cottages, 36% are Bed and Breakfasts (B&B), and 23% are suites (Codrington 2013). SCBBCOA specifies a total of 45 rooms available in the Gibsons area and 23 rooms in Roberts Creek (located west of the Town of Gibsons) (Sunshine Coast Bed and Breakfast Cottage Owners Association 2014, pers. comm.). The Town of Gibsons also has six hotels and motels, with a combined capacity of close to 160 rooms (Cedars Inn 2014, pers. comm.; Gibsons Landing Inn 2014, pers. comm.; Sunnycrest Motel 2014, pers. comm.; Irwin Motel 2014, pers. comm.; the Gibsons and District Chamber of Commerce 2014, pers. comm.).

<sup>3</sup> Defined as more than one person per room. Not counted as rooms are bathrooms, halls, vestibules and rooms used solely for business purposes.

The summer season in the Town of Gibsons lasts from approximately June to August, during which the vacancy rate can become very low, particularly on weekends (Sunshine Coast Bed and Breakfast Cottage Owners Association 2014, pers. comm.; Cedars Inn 2014, pers. comm.; Gibsons Landing Inn 2014, pers. comm.; Sunnycrest Motel 2014, pers. comm.; Irwin Motel 2014, pers. comm.). A major driver of room availability in the Town of Gibsons during the shoulder seasons is the annual Howe Sound Pulp and Paper maintenance shut down when workers travel to the region to perform annual maintenance at the facility. The maintenance shut down process generally occurs between April and June requires three to four weeks, with total shut-down lasting two weeks. During the two weeks of complete shut-down, most accommodation in the Town of Gibsons is at or near capacity. In the rest of the off-season however, vacancy rates are higher and it is common for rooms to be vacant during week days (Sunnycrest Motel 2014, pers. comm.; Irwin Motel 2014, pers. comm.; Sunshine Coast Bed and Breakfast Cottage Owners Association 2014, pers. comm). For members of SCBBCOA that own cottages, it is common for properties to be rented for longer periods of time to local residents during the off-season (Sunshine Coast Bed and Breakfast Cottage Owners Association 2014, pers. comm).

#### **7.1.4.2.4 Housing Development**

The Town of Gibsons' OCP identifies two residential development neighbourhoods: the Upper Gibsons Neighbourhood Plan with capacity of up to 900 new residential units and the Gospel Rock Neighbourhood Plan with capacity for another 1,100 new residential units. Sechelt's OCP designates a number of sites for future residential development, with capacity of up to 2,000 units in the area between downtown Sechelt and West Sechelt. The Watermark condominium development is expected to create 104 condo units in Sechelt, and is currently under construction (Sunshine Coast Community Economic Development n.d.). In Roberts Creek, located between the Town of Gibsons and Sechelt, it was estimated that a total of 2,259 new units could be realized under total build-out, including secondary suites (Sunshine Coast Regional District 2012).

The outlook for housing sales in the region is expected to be positive over the next ten years, peaking in 2016 before slightly declining before the end of the decade as the market adjusts to balance supply and demand (Central 1 Credit Union 2011).

Future housing policy and objectives in the SCRDR are outlined in the seven adopted OCPs in the region. OCPs have been adopted for the following regions:

- Hillside/Port Mellon Industrial Area;
- Twin Creeks Areas;
- West Howe Sound;
- Elphinstone;
- Egmond/Pender Harbour; and
- Halfmoon Bay.



The current OCP for the Town of Gibsons outlines the following housing policy objectives:

- Recognize the varied housing needs and preferences within the community, and allow for a mix of housing types suitable for the changing population;
- Require a high standard of design and landscaping for all residential development, and incorporate Smart Growth principles into the overall site design;
- Retain and protect the character of existing residential neighbourhoods, while allowing for appropriate infill and redevelopment;
- Ensure the most effective use of Gibsons' limited land base by supporting higher densities in appropriate locations; and
- Integrate a diversity of housing types within new neighbourhoods (Town of Gibsons 2013).

### **7.1.4.3 Emergency Services**

#### **7.1.4.3.1 Police Services**

The RCMP provides policing services throughout the SCRD and the District of Squamish (Town of Gibsons 2010a). In 2012, 22 RCMP members were responsible for policing the SCRD provincial area, which includes the Town of Gibsons, several Indian Reserves as well as unincorporated areas. During this period, the caseload per officer<sup>4</sup> was 48, down from 63 in 2011 (Ministry of Justice 2011; Ministry of Justice 2013). The population per RCMP member in the SCRD provincial area was 940. In comparison, the case load for jurisdictions policed by the RCMP Provincial force in BC was 62 per member on average, with a popular served per member of 897 (Ministry of Justice 2013).

Within the SLRD, there were 25 RCMP officers assigned to the District of Squamish and 7 to the provincial area surrounding Squamish. The population per RCMP member was 774 in the District of Squamish in 2012, but only 315 in the surrounding area. This difference was reflected in caseloads, with the District of Squamish reporting 72 files per member, but only 18 in the provincial areas (Ministry of Justice 2013).

In Metro Vancouver, independent police forces provide services to the City of Vancouver and the District of West Vancouver. The District of North Vancouver is served by the RCMP. In 2011, there were 3,594 members assigned to police Metro Vancouver. Of these members, 1,736 policed independent municipal force areas, 1,830 policed RCMP municipal areas, and 28 policed the region's provincial areas. The population served per member in 2011 for Metro Vancouver was 669, and a case load of 48 offences per member was recorded for the region (Ministry of Justice 2011). In 2012, West Vancouver had 81 police officers, with a case load of 22 files and 592 residents per member. North Vancouver had 91 officers, with a case load of 39 files and 988 residents per member (Ministry of Justice 2013).

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<sup>4</sup> Caseload is defined as the number of Criminal Code offenses per authorized strength, representing the workload per officer

### 7.1.4.3.2 Ambulance and Health Services

Ambulance stations, staffing, and resources are summarised in Table 7.1-9 below. In addition to the ambulance stations in the Town of Gibsons and the District of Squamish, both communities are also serviced by air ambulance (Rural Coordination Centre of BC 2013).

**Table 7.1-9: Ambulance Stations and Personnel**

Station Location	Full-time Staff	Part-time Staff	Number of 24-hour Ambulances
Gibsons	1	20	2
Squamish	4	24	2
Lions Bay	2	28-30	2

Source: Statistics Canada 2013

BC Ambulance Service does not have any dedicated boats, but dispatch has a list of water taxi providers to be used. EMS helicopters are also based in Vancouver and one is available on Vancouver Island, as well as others in the interior of BC (BC Ambulance Service 2014).

In 2010, the average ambulance response time for 'most serious' 911 calls was over 10 minutes and 33 seconds in the Town of Gibsons, 11 minutes and 38 seconds in Squamish, and 10 minutes and 39 seconds in West Vancouver (CUPE 491 2010). Within urban areas, there is a general consensus that the most emergent medical calls require a response in less than nine minutes, while in rural areas a 30-minute standard for most emergent calls is accepted (Emergency Medical Service Review Committee 2009).

The Vancouver Coastal Health Authority covers the SCR, Squamish-Lillooet Regional District and parts of Metro Vancouver. There are 17 general practitioners working in the Town of Gibsons, most of who work in the Town of Gibsons Medical Clinic (College of Physicians and Surgeons of BC 2013). Town of Gibsons is also serviced by the Town of Gibsons Health Unit, a community health centre that provides a range of health care services including public and community health nurses. For hospital care, residents of Town of Gibsons travel to St. Mary's Regional Hospital in Sechelt which is a 38-bed facility that also serves the communities of Langdale, Roberts Creek, Halfmoon Bay and Pender Harbour (Vancouver Coastal Health 2013a). In 2009/2010, St. Mary's Hospital had 16,453 emergency room visits (Rural Coordination Centre of BC 2013).

The Squamish General Hospital is located in Squamish and is a 21-bed hospital that provides a range of services including general medicine and surgery, ambulatory care, and emergency (Vancouver Coastal Health 2013b). In 2009/2010, Squamish General Hospital had 14,069 emergency room visits (Rural Coordination Centre of BC 2013). There are also three medical clinics in Squamish: Squamish Medical Clinic, Elaho Medical Clinic and Diamond Head Medical Clinic. Combined, these clinics have 25 general physicians on staff (College of Physicians and Surgeons of BC 2013).

In Metro Vancouver, there are a total of fifteen hospitals. Lions Gate Hospital in North Vancouver is the closest to the Proposed Project, and provides a range of general and many specialized acute care services. A recognized trauma centre and the fourth busiest hospital in Vancouver, the hospital has 268 beds, 7 operating rooms, and a variety of diagnostic services and equipment (City of North Vancouver 2013).

### 7.1.4.3.3 Fire Services

Currently, the municipal and regional district fire services do not provide protection to the McNab Creek area. The Town of Gibsons and portions of Electoral Areas E and F of the SCR D are served by the Gibsons & District Volunteer Fire Department, comprised of 33 volunteer firefighters and 3 paid staff, including a fire chief, fire prevention officer and maintenance technician (Town of Gibsons 2010b). A full complement of volunteer responders for the department is 40, however the fire department experiences difficulty with recruiting and retaining members (Sunshine Coast Regional District 2014). The fire department provides the following public services:

- Fire suppression;
- Emergency medical first response;
- Rescue;
- Extrication;
- Hazardous materials control;
- Fire prevention; and
- Mutual aid (Sunshine Coast Regional District 2013).

The fire department services a population of approximately 10,000 people out of its two operating fire halls. The North Road fire hall is the department's administration building and houses the staff offices as well as six of the department vehicles. The department has occupied the building since its completion in 1984, with recent improvements including a seismic upgrade, automatic sprinkler system, mansard restoration, and new exhaust extraction system. The Chaster Road fire hall has served as a satellite hall since 1992 and houses a single pumper/tanker truck. The department operates with 8 pieces of rolling stock, including five pumper/tanker trucks and a ladder truck (Sunshine Coast Regional District 2013).

The fire department responded to 215 incidents in 2013, an increase of 25% over the 176 incidents of 2011 but a slight decrease since 2012 with 220 incidents. However, the number of calls per year is variable, ranging from a low of 176 to a high of 242 between 2009 and 2012. In 2013, the average total time of a 9-1-1 call being placed to having a truck on scene was 8 minutes and 26 seconds. In 2013 the department averaged 11 firefighters per call on weekday calls, 11 firefighters on evenings and 12 firefighters on weekends, showing a fairly consistent response level (Sunshine Coast Regional District 2014).

Squamish Fire Rescue serves a population of approximately 17,000 people out of its two fire halls. The department provides structural firefighting, wildland initial response firefighting, first responder medical aid assistance, highway rescue, fire inspection services and public education services to the District of Squamish (District of Squamish 2014). In SLRD's Electoral Area D, the Britannia Beach Fire Department has been operating for 110 years. In 2014, the fire service had 25 fire suppression members. It services the communities of Britannia Beach, Furry Creek and Porteau Cove (Barker 2014).

There are four neighbourhood fire halls in West Vancouver, with a fleet of seven trucks. Fire services include response and prevention of general building fires. West Vancouver Fire and Rescue Department has a total of 96 union members, including a fire chief and deputy chief, five assistant chiefs and an emergency vehicle technician (West Vancouver n.d.b; West Vancouver Fire & Rescue Services 2014, pers. comm.).

#### **7.1.4.3.4 Wildfire Management**

The Proposed Project falls within the jurisdiction of the Coastal Fire Center that is operated by BC Forest Services' Wildfire Management Branch (BC Wildfire Management Branch 2014a). The Coastal Fire Centre coordinates with approximately 185 fire departments and 12 Provincial Regional Districts, including the Squamish Lillooet Regional District (BC Wildfire Management Branch 2014b). There are six zones within the Coastal Fire Center's jurisdiction. The Proposed Project is located within the Sunshine Coast Zone, which operates two fire bases, one in Sechelt and the other in Powell River. The Sunshine Coast Zone has three, three-person initial attack crews that respond to fires (BC Wildfire Management Branch 2014c).

The BC Forest Service also has arrangements with contractors that provide firefighters province-wide to help with fire suppression during the fire season. Contract crew members are called to assist with wildfires that have lower intensity and present a lower risk to firefighter safety. These crews perform initial attack and sustained action on smouldering fires and are typically used in wildfires that are considered to be contained, under control, or in mop-up stage (BC Wildfire Management Branch 2014d).

When BC is responding to high numbers of fires, or particularly active fires requiring many resources, the Province of BC may call upon assistance from other countries and provinces. The Canadian Mutual Aid Resource Sharing Agreement and Northwest Compact allow BC to lend and borrow resources as needed. All out-of-province resource requests are coordinated through the Canadian Interagency Forest Fire Centre. Costs of bringing in these additional resources are paid for by the Ministry and Forests and Range, Wildfire Branch (BC Wildfire Management Branch 2014d).

#### **7.1.4.3.5 Water Rescue Services**

The Royal Canadian Marine Search and Rescue (RCM-SAR) is an independently incorporated volunteer organization that operates approximately 42 marine rescue stations and 60 search and rescue vessels on the BC coast and in the BC Interior (RCM-SAR 2014). Three stations – Squamish, Gibsons and West Vancouver - cover Howe Sound. There is substantial joint tasking between the three stations; depending on the season and nature of the call for service, all three stations can respond to an incident in their joint area if needed (RCM-SAR 2014, pers. com.). Stations are active 24 hours per day, seven days per week (RCM-SAR 2014, pers. com.). Squamish has approximately 32 staff, Gibsons maintains approximately 15 staff and West Vancouver has approximately 40-45 staff, all of which are part-time volunteers. All staff must have standard first aid level C and Automated External Defibrillator (AED) certification, as well as pleasure craft operator certificates, maritime radio operator certificate, and small vessel operator proficiency. Approximately half of members are also certified in marine advanced response-first responder certification.

The RCM-SAR responds to a range of calls, including life threatening situations. The target response time is to leave the dock within 20 minutes of a call being received (RCM-SAR 2014, pers. com.). In 2013, the Squamish and Gibsons stations each received 23 calls for service. Demand for services has been consistent over time (RCM-SAR 2014, pers. com.). In 2013, the West Vancouver station received 79 calls for service, almost double the calls received in 2012. This is due in part to the closure of the Kitsilano Coast Guard Base (RCM-SAR 2014, pers. com.).

RCM-SAR Station 14 is located in Town of Gibsons and responds to calls in Howe Sound including Gambier, Anvil, Keats and Paisley Islands, and the northwestern coast of Bowen Island, through Shoal Channel half way across the Salish Sea and north to Whyte Island (RCM-SAR n.d.). The station was established in 1977 and has one rescue vessel (RCM-SAR n.d.). The Gibsons Marine Rescue Society is currently fundraising for the acquisition of a new Falkins Class Type I Fast Response Vessel scheduled for delivery in 2015. The current vessel was acquired 10 years ago is approaching the end of its operational service life (Gibsons Marine Rescue Society 2013). RCM-SAR Station 4 was established in 2008 and is currently located at the Squamish Yacht Club in Squamish. The station has two rescue vessels and will respond to calls extending down to southern end of Anvil Island. RCM-SAR Station 4 is fully capable within their mandate, and as it has become more established and known, it has seen the number of calls increase. In 2013, Station 4 responded to 26 calls for help (RCM-SAR - Station 4 2014, pers. comm.). As of March 2014, RCM-SAR Station 4 is looking to relocate their station to a larger, more permanent location on the Squamish waterfront (Aldous 2014). RCM-SAR Station 1 is based in Horseshoe Bay and responds to marine emergencies in the Lower Howe Sound and English Bay area. In 2013, the station had 36 volunteers and responded to 79 missions. RCM-SAR Station 1 has two vessels at its disposal, but is currently fundraising to replace its 30 year old Howe Sound Rescue Boat with a Type 1 Fast Response Vessel (RCM-SAR 2014).

The Canadian Coast Guard Pacific Region is responsible for providing search and rescue services in areas of federal responsibility, including the 560,000 km of Pacific Ocean and 27,000 km of BC coastline (Canadian Coast Guard 2014). The Joint Rescue Co-ordination Centre Victoria (JRCC Victoria), located at the Canadian Forces Base Esquimalt, is responsible for planning, co-ordinating, controlling and conducting aeronautical and maritime search and rescue operations within the Pacific region. The JRCC Victoria is operated by the Canadian Forces in conjunction with the Canadian Coast Guard and dispatches rescue vessels from Canadian Coast Guard Pacific stations and Royal Canadian Marine Search and Rescue (RCM-SAR) auxiliary stations. The type of distress and location of the distressed vehicle assist the JRCC Victoria in determining which station to dispatch from (Canadian Coast Guard 2014).

The two Canadian Coast Guard stations located nearest to the Proposed Project are Sea Island, near Richmond, and French Creek, near Parksville (Canadian Coast Guard 2013, pers. comm.). Sea Island has one full-time, standby vessel and one backup air cushioned vehicle (hovercraft). French Creek has one forty-seven foot motor lifeboat and one backup open zodiac (Canadian Coast Guard 2013, pers. comm.). The Canadian Coast Guard is establishing a new Inshore Rescue Boat station in Vancouver during the peak summer operational, from the May long weekend until after Labour Day in September (Canadian Coast Guard 2012).

#### **7.1.4.3.6 Oil Spill Services**

WCMRC has at its disposal 31 vessels, 30,000m of containment boom, skimmers and equipment for shore line clean-up such as Shore Seal Boom and Flushing Kits (Western Canada Marine Response Corporation 2013a). In addition, WCMRC uses a combination of contractors and the Fishermen's Oil Spill Emergency Team (FOSET) members as sources of vessels, equipment and personnel for responding to marine oil spills. WCMRC holds contracts with over 100 vessels throughout BC, including Seiners, Draggers, Gillnetters, Trawlers and Super Skiffs. Members of the FOSET program provide on-water operations support including boom deployment, recovery, surveillance and assessment. As FOSET members are the vessel owners, each member corresponds to at least one vessel (Pacific States/British Columbia Oil Spill Task Force 2011). On average, WCMRC responds to approximately twenty spills each year (Western Canada Marine Response Corporation 2013a).

The Proposed Project falls within the WCMRC's Primary Area of Response, which means for spills less than 2,500 tons deployment on scene must be within 18 hours, and for spills above 2,500 tones deployment on scene must be within 72 hours (Western Canada Marine Response Corporation 2013b).

#### **7.1.4.3.7 Emergency Management and Response**

The SCRCD has an emergency program with a coordinator whose primary responsibilities are to plan for, mitigate, respond to and assist the district in recovering from natural and man-made disasters (Sunshine Coast Regional District n.d.). The primary concerns of the community with respect to emergency preparedness are wildfire, dangerous goods, landslides, tidal surges and earthquakes (Elsner 2011).

The District of Squamish has an emergency management team that consists of volunteers and district staff who have been trained in emergency management (District of Squamish 2011). The emergency management team has focused their emergency preparedness on flooding, rock slides, extreme winter weather and earthquakes, which are seen as the greatest threats to community safety.

Each municipality within Metro Vancouver is responsible for their own Emergency Management and Response. The Integrated Partnership for Regional Emergency Management (IPREM) is responsible for developing and delivering a coordinated regional emergency management strategy across Metro Vancouver and engages all levels of government and private sector agencies in regional emergency planning initiatives for Metro Vancouver. Established in 2009, IPREM is funded by the Province of BC and Metro Vancouver, with additional grants and in-kind contributions from public and private safety and security organizations (Integrated Partnership for Regional Emergency Management in Metro Vancouver 2013). In West Vancouver, the North Shore Emergency Management Office (NSEMO) supports municipal and regional North Shore response capabilities by coordinating preparedness, planning, response and recovery activities, and by bringing together resources from the three municipalities, response agencies, public safety lifeline volunteers and other organizations on the North Shore (West Vancouver n.d.a).

## **7.1.5 Effects Assessment**

### **7.1.5.1 Project-VC Interactions**

A preliminary evaluation of identified interactions between the various physical works and activities and the selected VCs across all spatial and temporal phases of the Proposed is presented in Table 7.1-10. Potential Proposed Project-VC interactions are characterized as:

- a) Positive, none or negligible, requiring no further consideration; or
- b) Potential effect requiring further consideration and possibly additional mitigation.

Rationale is provided for all determinations that there is no or negligible interaction and that no further consideration is required.

For those Proposed Project-VC interactions that may result in a potential direct, indirect and induced effects requiring further consideration, the nature of the effects (both adverse and positive) arising from those interactions is described in Section 7.1.5.2 below.

Potential Proposed Project effects on housing, and services and infrastructure generated from Proposed Project workforce requirements and associated population in-migration are largely in response to the totality of the Proposed Project, to its location, scale and operational policies and procedures and not to individual works and activities. Also, unlike environmental effects, where there can be substantive differences between construction and operations phase impacts, most economic and social impacts occur on a continuum, from the initiation of construction activity through operations. Impacts on individuals, households and communities are a result of the same processes in both phases. For example, demand for labour will begin with the start of construction and continue through operations. Associated population and in-migration effects and effects on housing and temporary accommodation could also occur throughout construction and operations. Where construction and operation impacts are clearly different, these differences are noted in the assessment. However, for many of the impacts, the assessment (and associated mitigation) does not always differentiate between Proposed Project phases. Closure impacts are, however, quite distinct from those of construction and operations, and are presented separately.

For a particular aspect of the social environment to qualify as an “effect”, the aspect must be relevant to the LSA and RSA of influence and there must be a reasonable expectation that the aspect could be meaningfully affected by the Proposed Project. The selection of social effect categories (and associated assessment indicators) is based on the following:

- Consultation and engagement with a focus on economic issues/concerns identified as being important by individuals, and communities;
- Key aspects of the socio-economic environment that are susceptible to change within the spatial context of the Proposed Project;
- The local and regional social development context; and
- Experience with similar environmental assessments for gravel mining projects.

**Table 7.1-10: Project-VC Interaction Table: Social Conditions VCs**

Project Activities	Housing and Accommodations		Emergency Services	
	Potential Interaction	Potential Effect / Rationale for Exclusion	Potential Interaction	Potential Effect / Rationale for Exclusion
<b>Construction</b>				
All	●	Construction activities will generate direct, indirect and induced employment opportunities. Workers sourced from outside the LSA could lead to increase demand on local housing and/or temporary accommodation, and affect housing availability and affordability.	●	Construction activities requiring direct use of local emergency services. Potential for change in demand for emergency services to exceed local emergency service supply/capacity  Small construction workforce requirements; no change in demand on local emergency services is anticipated from workers moving into the LSA for Proposed Project construction employment opportunities
<b>Operations</b>				
All	●	Operations activities would generate direct, indirect and induced employment opportunities. Workers sourced from outside the LSA could lead to increase demand on local housing and affect housing availability and affordability.	●	Operations activities requiring direct use of local emergency services. Potential for change in demand for emergency services to exceed local emergency service supply/capacity  Small operational workforce requirements; no increased demand on local emergency services is anticipated from workers moving into the LSA for Proposed Project operations employment opportunities.
<b>Reclamation and Closure</b>				
All	●	Reclamation and closure activities would end contract and employment opportunities related to the Proposed Project, potentially resulting in out-migration from the local area and adverse effects on housing prices.	○	Mine reclamation and closure will end demand on emergency services related to the Proposed Project. No effect on local emergency services due to out-migration from the local area.

*Notes:*

○ = Potential effect of Proposed Project activity on VC is positive, none or negligible; no further consideration warranted.

● = Potential effect of Proposed Project activity on VC that may require mitigation/benefit enhancement; warrants further consideration



### **7.1.5.2 Potential Project-Related Effects**

The following sections summarize the potential effects of the Proposed Project on Housing and Accommodation and Emergency Services during the construction, operation, and remediation closure phases of the Proposed Project.

#### **7.1.5.2.1 Housing and Accommodation**

##### **7.1.5.2.1.1 Construction**

Housing availability and affordability is directly affected by changes in population. One hundred eighteen direct, indirect and induced full time equivalent positions will be generated by Proposed Project construction (with direct Proposed Project construction requiring 40 full time equivalent positions). These positions represent less than 1% of the SCRD population and approximately 1.8% of the population in the Town of Gibsons and Electoral Area F combined in 2011. As indicated in Volume 2, Part B - Section 6.1: Sustainable Economy, the Proposed Project will also generate an estimated 80 indirect and induced jobs for a total of 120 jobs generated by the Proposed Project.

The Proponent will not provide a construction camp on site, (a caretaker's cabin will be erected on the Property for security and facility care when construction is not occurring) and workers will be responsible for their own accommodation arrangements. BURNCO will provide a water taxi service for its workers from the SCRD. The water taxi may also stop at Gambier Island if workers are located there.

As indicated in Volume 2, Part B - Section 6.1: Sustainable Economy, it is anticipated that the majority of Proposed Project construction jobs will be taken up by residents who have their primary residence within the LSA (i.e., SCRD) and possibly Metro Vancouver. It is anticipated a proportion of workers may commute daily from their place of residence in Gibson's, areas of Metro Vancouver as well as other nearby locations to the water taxi pick up sites. Some construction workers may decide to relocate temporarily closer to the water taxi pick-up locations, using either rental accommodation or shorter-term arrangements such as hotels and motels. A number of temporary accommodations in the LSA are expected to be available at the time of Proposed Project construction commencement. Given the relatively small number of Proposed Project construction workers required, the proportion of workers making such arrangements would not be large enough to affect the local rental and recreational accommodation (e.g., motels, hotels and B&Bs) market.

##### **7.1.5.2.1.2 Operations**

During operations, the direct, indirect and induced employment generated by the Proposed Project will be 98 full time equivalent position annually (with a requirement of 14 full time equivalent positions annually to support direct operations), which is equivalent to 0.3% of the population in the SCRD and 1.5% of the Town of Gibsons and Electoral Area F in 2011. As indicated in Volume 2, Part B - Section 6.1: Sustainable Economy, Proposed Project operations will also generate an additional 85 indirect and induced jobs.

The water taxi service will continue to operate between the SCRD and the Proposed Project site during operations. Operational workers hired from outside of Gibsons and the surrounding areas but who secure operational employment would likely relocate to Gibsons or nearby area for the water taxi pick-up location but the number of people relocating would be very small given the small operations labour requirements. The housing and rental

market would be able to accommodate the small number of in-migrants during operations. Any in-migration effect from operational workers would not be large enough to affect the local housing and accommodation market with respect to housing availability and affordability.

#### **7.1.5.2.1.3 Closure and Reclamation**

Prior to the cessation of operations there would be an estimated 14 full time equivalent positions directly supporting operational activities. The cessation of jobs at closure and any out-migration of operational workers for other job opportunities would be small in number and not affect the housing market with respect to housing prices.

#### **7.1.5.2.2 Emergency Services**

##### **7.1.5.2.2.1 Construction and Operations**

Construction and operations activities could potentially generate a demand for ambulance and/or health emergency services (e.g., in the event of work-related accidents and injuries), police services (e.g., in the event of Proposed Project workforce and/or Proposed Project-related public security and safety issues), fire and wildfire management services (e.g., in the event of fire within the Proposed Project Area or pertaining to water vessel transportation); water rescue services (e.g., in the event of water based emergency situation); and oil spill services (e.g., in the event of diesel spills – with diesel being main energy source for the Proposed Project).

Increased demand on emergency services can also be directly affected by changes in population when there is a substantive in-migration of workers to an area for job opportunities. As indicated in the Sustainable Economy effects assessment (Volume 2, Part B - Section 6.1) and Section 7.1.5.2.1 above, the direct, indirect and induced employment generated through Proposed Project construction and operations are relatively small in comparison to the existing and projected population base in the LSA. As there will not be a substantive change to the LSA population due to the Proposed Project, a population-related effect (i.e., increased demand) on emergency services is not anticipated.

#### **7.1.5.3 Mitigation**

The following mitigation is presented to mitigate potential Proposed Project-related effects to Social Condition VCs. The suite of measures proposed to mitigate potential social effects is presented in Table 7.1-11.

The mitigation strategy outlined below forms the basis for the commitments that the Proposed Project is making with respect to social conditions. A detailed list of all commitments of the Proposed Project are provided in Volume 3, Part F – Section 19.

##### **7.1.5.3.1 Housing and Accommodation**

Local hiring for the Project during construction and operations will help mitigate any strain on housing and accommodation as hiring locally will reduce the number of workers requiring temporary housing and accommodation.

### 7.1.5.3.2 Emergency Services

Local hiring for the Proposed Project during construction and operations will help mitigate in-migration during Proposed Project construction and operations, and in turn mitigate increase demand on emergency services from residents settling into the LSA to work on the Proposed Project.

For both construction and operations, the Proposed Project will develop and implement a Spill Prevention and Emergency Response Plan (SPERP) and an ERP (Volume 3, Part E - Section 16.0) that will assist in reducing land and water based accidents and emergency situations, security incidences, and fire from Proposed Project construction and/or operational activities. The SPERP will conform to best practice, is in accordance with the requirements of the *Mines Act* and the Health, Safety and Reclamation Code, meets regulatory requirements as stipulated by the BC Ministry of Energy and Mines and supports (does not compromise) the emergency service delivery requirements for the population base within the LSA (as directed by local, regional and provincial emergency response authorities and service providers). Details regarding the Environmental Management Program for the Proposed Project are provided in Volume 3, Part E - Section 16.0.

The SPERP and ERP will detail potential emergencies that may occur on the Proposed Project site and over the waters of Howe Sound as well as:

- Emergency response guidelines;
- Emergency systems and equipment to be used;
- Emergency response training to be provided;
- Notification and reporting requirements; and
- Containment and clean-up techniques/options where necessary.

Other components of the ERP include:

- On-site caretaker, present on the Property 24 hours per day, seven days per week;
- First aid and fire protection/suppression equipment will be available on-site during operational hours; and
- A water taxi available on site during operational hours in the event that an evacuation is required.

As the Proposed Project is situated in a remote location without road access, it will be necessary to develop and implement an ERP that takes the above elements into account. The ERP will be developed in conjunction with the BC Ministry of Energy and Mines as well as Seaspan and local, regional and provincial emergency response authorities, such as fire departments, municipal police and RCMP, Coastal Health Authority, and BCAS. The ERP will be communicated to emergency response authorities and service providers for their review and comment. The Proposed Project will provide all emergency response services on site, including fire and emergency health care. Further details are provided in Section 7.1.5.3. As outlined in the Access Management Plan (Volume 3, Part E - Section 16.0), the public will not be permitted access to the Property and signs will be erected on the beachfront side of the property to inform the public that access is not permitted. A new dock will also be

constructed, and access to the dock will be controlled with a security gate, with no public access. No safety buffer will be required around the jetty, but signs facing the water will indicate that a distance of 150 m should be maintained by other vessels.

The transport of aggregate will be undertaken by an experienced barge and tug operator such as Seaspan, which since 2007, has implemented and maintained an Environmental Management System (EMS) that conforms to ISO 14001:2004. Operations at Seaspan also conform to internal Environmental Best Management Practices (BMP), which includes spill prevention and response (Seaspan 2014b). Regular inspections and internal audits are conducted to ensure operational controls and best management practices are in place, and sufficient to reduce the potential environmental impact from Seaspan’s operations. Incident investigations, and ‘lessons learned’ sessions are also conducted to help prevent recurrence, while environmental performance is reviewed quarterly and practices adjusted to avoid stagnancy and ensure continual improvement (Seaspan 2014a). Other measures include conducting regular emergency response drills and classroom training sessions with vessel crews to ensure preparedness in the event of an incident, regularly conducting vessel inspections to ensure all Transport Canada requirements are adhered to, and collaborating with all regulatory bodies to ensure all tugs and barges are safe for service. In case of an environmental incident, Seaspan has divisional emergency response measures in place (Seaspan 2014c).

**Table 7.1-11: Identified Mitigation Measures: Social Conditions**

Potential Effect	Mitigation	Anticipated effectiveness
<b>Construction</b>		
Workers sourced from outside the LSA could lead to increase demand on local housing and/or temporary accommodation, and affect housing availability and affordability	Local hiring of workforce will assist in reducing any in-migration due to employment opportunity an associated effects on housing.	Anticipate small to negligible in-migration due to small construction workforce; Standard mitigation and best practice to reduce in-migration and demand on local housing and/or temporary accommodation. Mitigation will be effective in management of potential effect.
Construction activities requiring direct use of local emergency services. Change in demand for emergency services exceeding service supply/capacity	<ul style="list-style-type: none"> <li>▪ Develop and implement a Spill Prevention and Emergency Response Plan (Volume 3, Part E - Section 16.0).</li> <li>▪ Develop and implement an Emergency Response Plan (Volume 3, Part E Section 16.0).</li> <li>▪ Develop and implement an Access Management Plan (Volume 3, Part E Section 16.0).</li> <li>▪ Aggregate transport by an experienced barge and tug operator that implements an Environmental Management System (EMS) in conformance with ISO 14001:2004.</li> </ul>	Standard mitigation measures and best practice for Proposed Project of this size and type. Mitigation will be effective in management of potential effect.

Potential Effect	Mitigation	Anticipated effectiveness
<b>Operations</b>		
Workers sourced from outside the LSA could lead to increase demand on local housing and/or temporary accommodation, and affect housing availability and affordability	Local hiring of workforce will assist in reducing any in-migration due to employment opportunity an associated effects on housing	Anticipate small to negligible in-migration due to small operational workforce; Standard mitigation and best practice to reduce in-migration and demand on local housing and/or temporary accommodation. Mitigation will be effective in management of potential effect.
Operational activities requiring direct use of local emergency services. Change in demand for emergency services exceeding service supply/capacity	<ul style="list-style-type: none"> <li>▪ Develop and implement a Spill Prevention and Emergency Response Plan (Volume 3, Part E - Section 16.0).</li> <li>▪ Develop and implement an Emergency Response Plan (Volume 3, Part E Section 16.0).</li> <li>▪ Develop and implement an Access Management Plan (Volume 3, Part E Section 16.0).</li> <li>▪ Aggregate transport by an experienced barge and tug operator that implements an Environmental Management System (EMS) in conformance with ISO 14001:2004.</li> </ul>	Standard mitigation measures and best practice for Proposed Project of this size and type. Mitigation will be effective in management of potential effect.
<b>Reclamation and Closure</b>		
Change in demand for housing and temporary accommodation affecting housing affordability and availability	Local hiring of workforce will assist in reducing any out-migration due to cessation of employment , and associated effects on housing	Anticipate small to negligible out-migration due to small operational workforce; Standard mitigation and best practice to reduce in-migration (during operations) and associated out-migration during closure and demand on local housing and/or temporary accommodation. Mitigation will be effective in management of potential effect

### 7.1.5.4 Residual Effects Assessment

Residual effects were assessed through the potential interactions of Proposed Project activities with housing and accommodation and emergency services indicators. Potential Proposed Project-related residual effects have been characterized using the criteria for each VC identified in Table 7.1-3. The characterization of potential residual effects (i.e., following application of appropriate mitigation measures) is described below and presented in Table 7.1-12.

#### 7.1.5.4.1 Housing and Accommodation

Based on the Proposed Project direct construction labour requirements as well as the number of indirect and induced jobs generated through the Proposed Project (which are relatively small in number), the workforce

transportation plan as discussed above, and support for local hiring, changes to demand for housing and accommodation due to the proposed Project construction and operations are anticipated to be negligible with respect to magnitude. Any potential residual effects during construction would be local in geographical extent, short term in duration, fully reversible, with a high frequency or occurrence. Any potential residual effects during construction would negligible in magnitude, local in geographical extent, medium-term in duration, fully reversible, with a high frequency or occurrence.

The social C is considered resilient (effects occurs in an environment of high resiliency and/or low vulnerability) during construction and operations.

With the adherence to the proposed mitigation measures, any residual effect on housing and accommodation during construction and operations is expected to be negligible.

It is unlikely that the residual effect will occur after mitigation (likelihood is rated as low) and confidence in regards to this rating is high. There is a level of uncertainty based on the fact that where workers and families chose to live is due to a wide range of social and economic factors. Overall, confidence that the Proposed Project effect on housing and accommodation during construction and operations will be negligible will be high.

The cessation of jobs at closure and any out-migration of operational workers for other job opportunities would be small in number and not affect the housing market with respect housing prices. As such, no residual effects on housing and accommodation are anticipated at reclamation and closure and no rating of decommissioning of effects is undertaken.

#### **7.1.5.4.2 Emergency Services**

The Proposed Project will provide a number of emergency response services on site during Proposed Project construction and operations to meet or exceed Canadian Standards. Various management plans as described in Section 7.1.5.3 will be implemented to further reduce utilization/demand on local emergency services. Given the proposed mitigation, the direction of potential residual effects on emergency services during construction is expected to be negligible in magnitude, local in geographical extent short-term in duration, fully reversible and medium in frequency (occurs periodically). During operations, residual effects are expected to be negligible magnitude, local in geographical extent medium-term in duration, fully reversible and medium in frequency (occurs periodically).

The social context is considered resilient (effects occurs in an environment of high resiliency and/or low vulnerability) during construction and operations.

It is unlikely that an effect on emergency services will occur during construction and operations and confidence is high given the mitigation proposed. Overall, the confidence is high that the Proposed Project effect on emergency services will be negligible.

**Table 7.1-12: Characterization of Potential Project-Related Residual Effects: Social Conditions VC**

Potential Residual Effect	Residual Effect Assessment Criteria					
	Social Context	Magnitude	Extent	Duration	Reversibility	Frequency
<b>Construction</b>						
Construction activities will generate direct, indirect and induced employment opportunities. Workers sourced from outside the LSA could lead to increase demand on local housing and/or temporary accommodation, and affect housing availability and affordability.	R	N	L	ST	FR	H
Construction activities require direct use of local emergency services. Potential for change in demand for emergency services to exceed local emergency service supply/capacity	R	N	L	ST	FR	M
<b>Operations</b>						
Operation activities will generate direct, indirect and induced employment opportunities. Workers sourced from outside the LSA could lead to increase demand on local housing and/or temporary accommodation, and affect housing availability and affordability	R	N	L	MT	FR	H
Operations activities require direct use of local emergency services. Potential for change in demand for emergency services to exceed local emergency service supply/capacity	R	N	L	MT	FR	M
<b>Reclamation and Closure</b>						
None identified.						

Assessment Criteria:

Context: R – Resilient, MR-Moderately Resilient; S - Sensitive;

Magnitude: N – Negligible, L – Low, M – Medium, H – High;

Geographic Extent: L – Local, R – Regional, BR – Beyond Regional;

Duration: ST – Short-term, MT – Medium-term, LT – Long-term;

Reversibility: FR- Fully Reversible, PR - Partially Reversible, IR - Irreversible;

Frequency: L – Low, M – Medium, H – High

**Table 7.1-13: Likelihood of Occurrence of Potential Residual Effects: Social Conditions**

VC	Potential Residual Effect	Likelihood	Rationale
<b>Construction</b>			
Housing and Accommodation	Construction activities will generate direct, indirect and induced employment opportunities. Workers sourced from outside the LSA could lead to increase demand on local housing and/or temporary accommodation, and affect housing availability and affordability.	L	Based on low construction workforce requirements, low levels of in-migration and confidence in effectiveness of proposed mitigation measures, likelihood of an effect is low
Emergency Services	Construction activities require direct use of local emergency services. Potential for change in demand for emergency services to exceed local emergency service supply/capacity	L	Based on confidence in effectiveness of proposed mitigation measures, likelihood of an effect is low
<b>Operations</b>			
Housing and Accommodation	Operation activities will generate direct, indirect and induced employment opportunities. Workers sourced from outside the LSA could lead to increase demand on local housing and/or temporary accommodation, and affect housing availability and affordability	L	Based on low construction workforce requirements, low levels of in-migration and confidence in effectiveness of proposed mitigation measures, likelihood of an effect is low
Emergency Services	Operations activities require direct use of local emergency services. Potential for change in demand for emergency services to exceed local emergency service supply/capacity	L	Based on confidence in effectiveness of proposed mitigation measures, likelihood of an effect is low

L-Low, M-Medium, H-High



### 7.1.5.5 Significance of Residual Effects

The significance of potential residual adverse effects will be determined for each VC based on the residual effects criteria and the likelihood of a potential residual effect occurring, a review of background information and available field study results, consultation with government agencies, First Nations, and other experts, and professional judgement. The determination of significance of residual adverse effects is rated as negligible-not-significant, not significant, or significant, which are generally defined as follows:

- Negligible-Not Significant: The basis for determining that effects are negligible will be provided in the Application for each VC. Negligible effects will not be carried forward to the cumulative effects assessment
- Not significant: Effects determined to be not significant are residual effects greater than negligible that do not meet the definition of significant. Residual effects that are not significant will be carried forward to the cumulative effects assessment.
- Significant: The basis for determining that a residual effect is significant will be provided in the Application for each VC. Significant residual effects will be carried forward to the cumulative effects assessment.

Detailed rationale for significance determinations is provided below.

A summary of significance determinations is presented in Table 7.1-14. Detailed rationale for significance determinations is provided below.

**Table 7.1-14: Significance of Potential Residual Effects: Social Conditions**

VC	Potential Residual Effect	Significance	Rationale
<b>Construction</b>			
Housing and Accommodation	Construction activities will generate direct, indirect and induced employment opportunities. Workers sourced from outside the LSA could lead to increase demand on local housing and/or temporary accommodation, and affect housing availability and affordability.	Negligible-Not significant	N/A
Emergency Services	Construction activities require direct use of local emergency services. Potential for change in demand for emergency services to exceed local emergency service supply/capacity	Negligible - Not significant	N/A
<b>Operations</b>			
Housing and Accommodation	Operation activities will generate direct, indirect and induced employment opportunities. Workers sourced from outside the LSA could lead to increase demand on local housing and/or temporary accommodation, and affect housing availability and affordability	Negligible - Not significant	N/A
Emergency Services	Operation activities require direct use of local emergency services. Potential for change in demand for emergency services to exceed local emergency service supply/capacity	Negligible - Not significant	N/A
<b>Reclamation and Closure</b>			
None identified			

### 7.1.5.6 Level of Confidence

The level of confidence of predicted residual effects is provided in Table 7.1-15. The prediction confidence of the assessment on each VC is based on scientific information and statistical analysis, professional judgement and effectiveness of mitigation (rated as high confidence, moderate confidence, and low confidence).

**Table 7.1-15 Level of Confidence in Residual Effect Predictions: Social Conditions**

Potential Residual Effect	Level of Confidence (LOC) in Residual Effect Prediction	LOC Rationale
<b>Construction</b>		
Construction activities will generate direct, indirect and induced employment opportunities. Workers sourced from outside the LSA could lead to increase demand on local housing and/or temporary accommodation, and affect housing availability and affordability.	H	Effectiveness of mitigation and professional judgement; good understanding of cause-effect relationship between low levels of in-migration and housing effects.
Construction activities require direct use of local emergency services. Potential for change in demand for emergency services to exceed local emergency service supply/capacity	H	Effectiveness of mitigation and professional judgement; good understanding of cause-effect relationship between low level demand on emergency services and service supply capacity
<b>Operations</b>		
Operation activities will generate direct, indirect and induced employment opportunities. Workers sourced from outside the LSA could lead to increase demand on local housing and/or temporary accommodation, and affect housing availability and affordability	H	Effectiveness of mitigation and professional judgement; good understanding of cause-effect relationship between low levels of in-migration and housing effects.
Operation activities require direct use of local emergency services. Potential for change in demand for emergency services to exceed local emergency service supply/capacity	H	Effectiveness of mitigation and professional judgement; good understanding of cause-effect relationship between low level demand on emergency services and service supply capacity
<b>Reclamation and Closure</b>		
None identified		

L-Low, M-Moderate, H-High

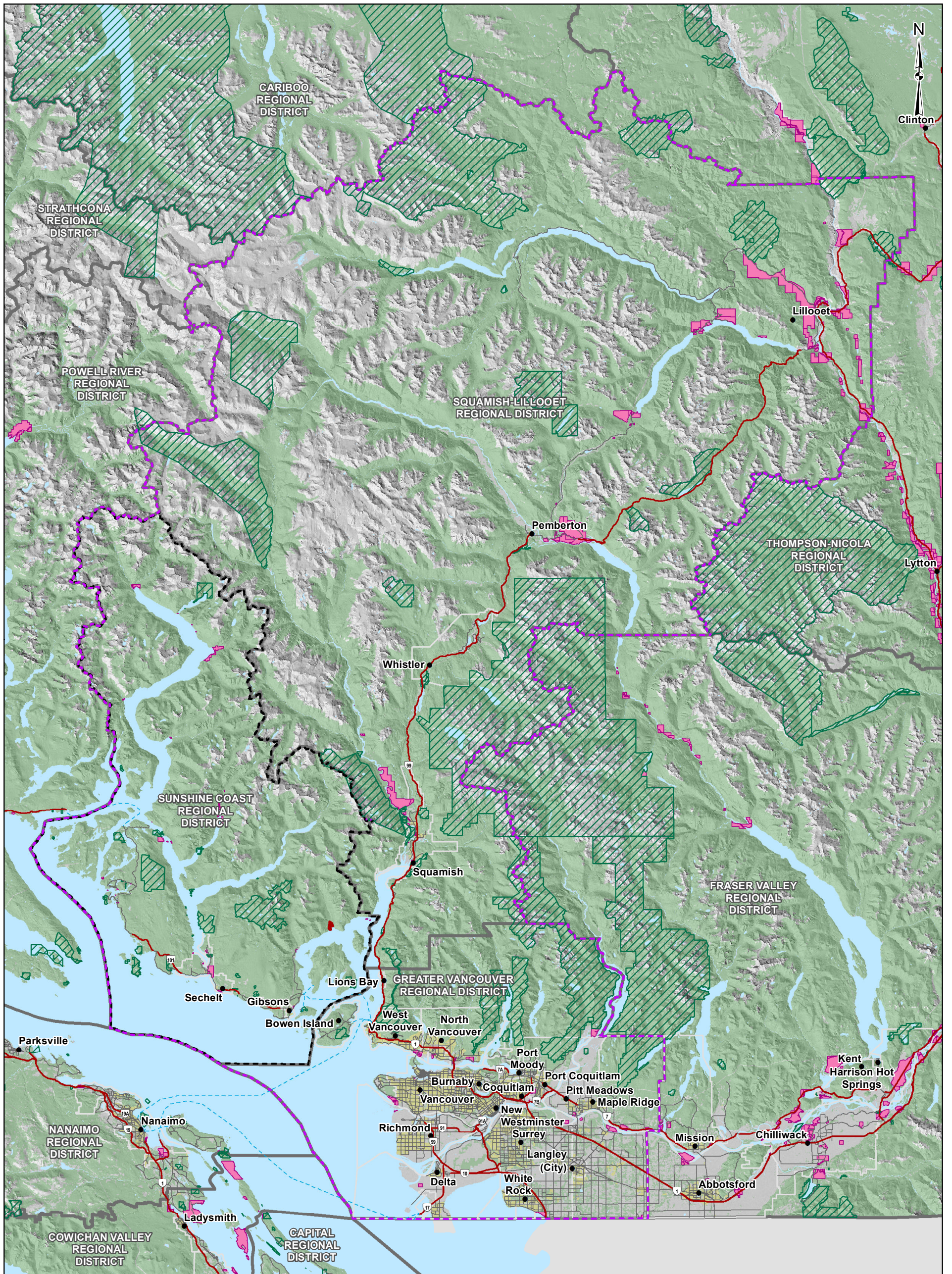
### **7.1.5.7 Cumulative Effects Assessment**

VCS that were determined to have not-significant or significant residual effects were carried forward in the cumulative effects assessment. All potential Project-related residual adverse effects were determined to be negligible – not significant and requiring no further consideration. No residual effects were carried forward to a cumulative effects assessment. Additional information on the methods used for the cumulative effects assessment is provided in Volume 2, Part B – Section 4.5.5.

### **7.1.6 Conclusions**

The Proposed Project construction and operations is expected to result in a negligible population change in the SCRD or the Town of Gibsons and Electoral Area F. It is therefore not anticipated that the Proposed Project will place an incremental demand on the housing and commercial accommodation market within the LSA. BURNCO will provide a water taxi service from the SCRD for its workers during construction and operations. It is anticipated that most workers will be hired either from the Town of Gibsons, other nearby communities and/or the greater Vancouver area, and will commute daily to the water taxi pickup points. During construction, the small number of workers who may be hired who may not have their permanent residence within proximity to the Proposed Project may decide to relocate to Gibsons or the Greater Vancouver area, using either rental accommodation or shorter-term arrangements such as hotels and motels, but the proportion of workers making such arrangements would not be large enough to affect the local rental and recreational accommodation market. A small number of operational workers who may not be from the area may relocate permanently to the Town of Gibsons or surrounding area, but the associated population effect and effect on the housing market would be small compared to the larger economic forces driving the housing market in the SCRD, such as retirement and demand for recreational properties. With proposed mitigation measures in place, Proposed Project effects on housing and accommodation are deemed to be negligible and not significant.

Construction and operations activities could also potentially generate a demand for emergency services due to on-site emergencies, changes in population associated with in-migration of workers, and increased vessel traffic. To mitigate potential Proposed Project use of local emergency services, BURNCO will establish and implement an ERP and provide all emergency response services at the Proposed Project site. Population changes resulting from the Proposed Project are also not anticipated to increase the need for community-based emergency services. Larger vessel traffic through Howe Sound generated by the Proposed Project represents an increase of less than 3% during operations, and it is not expected to affect marine based emergency services. With proposed mitigation measures in place, Proposed Project effects on emergency services are deemed to be negligible and not significant.



**LEGEND**

- Project Area
- Emergency Services Local and Regional Study Areas
- Housing and Accommodation Local and Regional Study Areas
- Regional District Boundary
- Park / Protected Area
- Vegetation
- Residential Area
- Indian Reserve
- Highway
- Road
- Ferry

**REFERENCE**

Parks/protected areas and regional district boundaries from the Province of British Columbia. Elevation and indian reserves from Geobase. Base data from CanVec. Projection: UTM Zone 10 Datum: NAD 83



PROJECT		BURNCO ROCK PRODUCTS LTD. BURNCO AGGREGATE PROJECT, HOWE SOUND, B.C.	
TITLE		<b>SOCIAL CONDITIONS STUDY AREAS</b>	
		PROJECT NO. 11-1422-0046	PHASE No.
		DESIGN MD 14 May. 2014	SCALE AS SHOWN
		GIS DL 09 Mar. 2016	REV. 1
		CHECK AS 10 Jun. 2014	<b>FIGURE 7.1-1</b>
REVIEW AC 10 Jun. 2014			

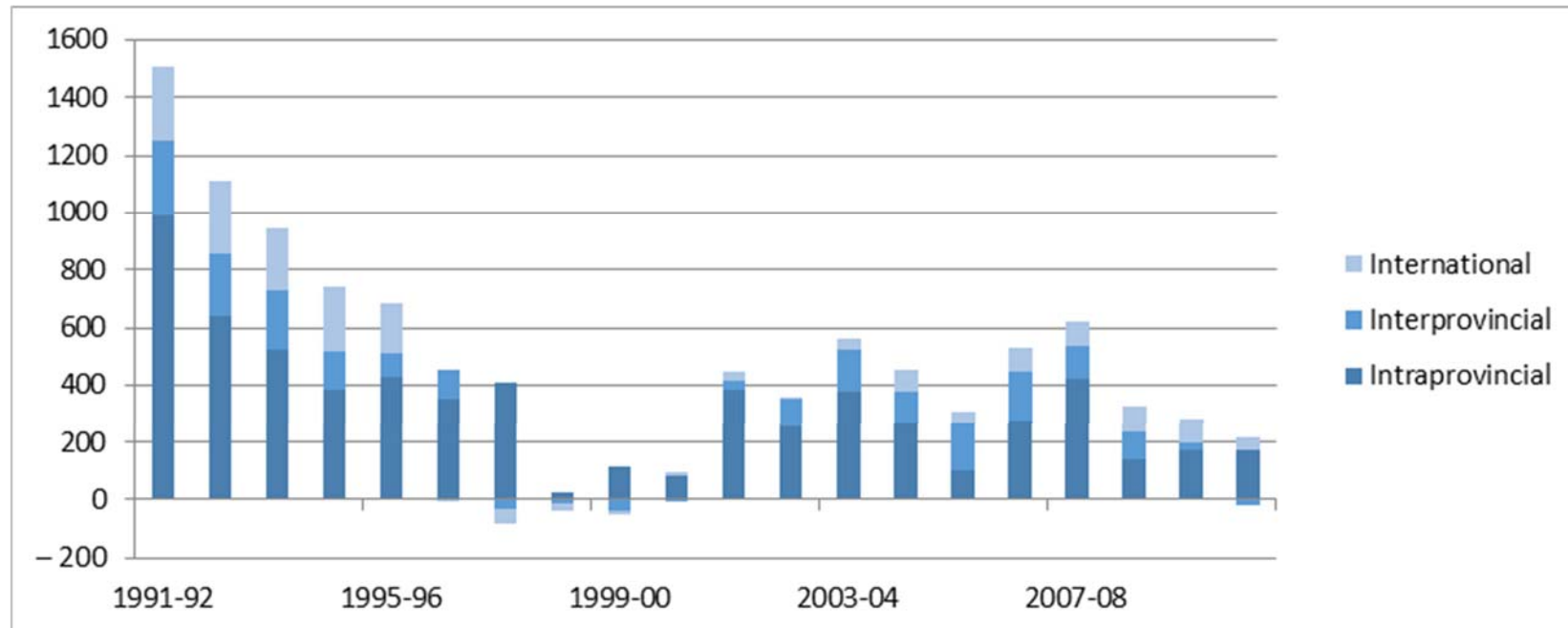


Figure 7.1-2: Migration: Sunshine Coast Regional District, 1991-2011 (Source: BC Stats 2012)