

## **SCRD STAFF REPORT**

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**DATE:** March 26, 2013  
**TO:** Infrastructure Services Committee (April 4, 2013)  
**FROM:** David Rafael, Senior Planner  
**RE:** **BURNCO DRAFT APPLICATION INFORMATION REQUIREMENTS**

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### **RECOMMENDATIONS**

- 1. THAT the report titled “BURNCO Draft Application Information Requirements” be received;**
  - 2. AND THAT the following comments be forwarded to the Environmental Assessment Officer:**
    - a) Environmental impact on key species such as eel-grass, forage fish and cetaceans (especially from increased barge movement) needs to be emphasized and appropriate studies provided;**
    - b) Consideration should be given to making improvements to the foreshore area, that may have suffered from the impacts of previous forestry and industrial activity, in light of the proposed loading and barge facility;**
    - c) There is a gap relating to assessing the potential impact on economic activity such as tourism, resulting from the mine;**
    - d) Include a section on the environmental recovery of Howe Sound, including estimated investment to date that achieved the current improvements and any proposed reclamation projects, the objective is to assess what impact the mine (including barge activity and potential accidents) could have on the on-going recovery of Howe Sound;**
    - e) As mitigation/benefit the air should include a review of improvements such as new trails, kayak landing near or on the site.**
  - 3. AND THAT the draft Application Information Requirements is forwarded for information to:**
    - West Howe Sound Advisory Planning Commission,**
    - Natural Resources Advisory Committee,**
    - West Howe Sound Community Association,**
    - Howe Sound Community Forum, and**
    - Future of Howe Sound Society;**
  - 4. AND THAT the final draft be referred to the above for comment when the Environmental Assessment Office starts the public consultation period;**
  - 5. AND FINALLY THAT staff provide a report to the Planning and Development Committee prior to the completion of the public consultation period to allow for additional comments to be provided from the SCRD Board.**
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## BACKGROUND

The BURNCO gravel mine proposal is currently undergoing an environmental assessment. At this stage, the proponent has prepared a document setting out the draft application information requirements (dAIR). The dAIR was recently sent to the SCRD and the Environmental Assessment Officer (EAO) requested comments by April 15, 2013. A copy of the full document was placed in the Directors' Reading Room, is available from staff and is posted on the SCRD website at

<http://www.scrd.ca/BURNCO-Aggregate-Mine>

The EA website notes that *the process for developing the application information requirements as follows:*

- *The proponent prepares a draft (the document under review in this report);*
- *EAO seeks feedback from the working group, First Nations and the public. Public input is obtained through posting the draft application information requirements on the ePic (BC's EA project information centre) web site, issuing an RSS feed<sup>1</sup> to interested parties, specifying a period and process for public written input, and directing the proponent to hold a public open house in one or more locations near the project; and*
- *EAO approves and formally issues the application information requirements document when it is satisfied that the document is complete and appropriate for the assessment to be undertaken.*

*The draft application information requirements is the first formal stage in the environmental assessment process where the public provides input on the project.*

It is important to ensure that the AIR includes all the issues and sets out the information required to address the issues. If the AIR fails to include an item then it is very unlikely that the EAO will require BURNCO to address it in the application stage.

The SCRD has received many letters from local residents, residents of Howe Sound and people who visit/recreate in the area. Copies of the letters are available on the SCRD website and in the SCRD Directors' Reading Room. Concerns regarding the gravel mine include:

1. Noise
2. Visual impact
3. Dust and Air Quality
4. Impact on Health arising from issues such as noise, dust and so on
5. Impact on Freshwater Fish Habitat
6. Impact on Boating and Navigation
7. Impact on Martine Habitat and Species, especially cetaceans
8. Impact on Foreshore Habitat and Species, especially eel grass and forage fish breeding areas including loss of alluvial fan
9. Impact on wildlife
10. Impact on the Environmental Revival of Howe Sound thus wasting significant investment

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<sup>1</sup> **RSS Rich Site Summary** (originally **RDF Site Summary**, often dubbed *Really Simple Syndication*) is a family of web feed formats used to publish frequently updated works—such as blog entries, news headlines, audio, and video—in a standardized format. An RSS document (which is called a "feed", "web feed",<sup>1</sup> or "channel") includes full or summarized text, plus metadata such as publishing dates and authorship. (Source: Wikipedia)

11. Impact on Property Values especially of the McNab Strata and properties on Gambier Island
12. Impact on Viability of existing yacht/boat clubs and youth camps in the area
13. Impact on the area as a recreation and tourism destination
14. Reclamation of the mine and potential clean up costs
15. Loss of economic potential (tourism, filming, fisheries, closing of camps and boat clubs, loss of property value and tax) outweighs economic benefit of the mine (few jobs, property tax gain)

The dAIR is broken into topics and most chapters will include:

- a) baseline information,
- b) studies to be carried out,
- c) regulatory/policy requirements (including links to legislation and agencies),
- d) effects assessments,
- e) cumulative impacts and
- f) mitigation measures.

## DISCUSSION

### Application Information Requirements

The following is information provided by the EAO.

*Proponents are responsible for preparing the draft AIR which specifies the information that must be included in their Application for an EA Certificate (Application). Agencies and First Nations are responsible for identifying the information they require in the AIR. The EAO is responsible for incorporating comments received from agencies and First Nations and determining whether to approve the AIR or require additional information.*

*Each agency is responsible for identifying the information it requires so that it can be included in the AIR. This information may include:*

- *Identifying environmental, heritage, health and socio-economic valued components (VC) in a proposed project area;*
- *Specifying that potential effects on these VCs be examined;*
- *Commenting on the criteria that the proponent plans to use to determine the significance of any adverse effects;*
- *Commenting on the appropriateness of study areas; and*
- *Requiring any other information needed so that the Application can be properly assessed in terms of potential impacts, proposed mitigation measures and significance of any residual effects.*

*The AIR should focus on information that must be included in the Application. Detailed comments relating to baseline studies should be conveyed to proponents before these studies proceed or in a separate comment to the proponent. Comments on the AIR should focus on the level of information required for an Application rather than the more detailed information that is typically required during the permitting stage.*

*The public will have an opportunity to comment on the document during EAO's Public Comment Period after the working group has provided feedback.*

## Contents of the Draft AIR

A copy of the table of contents is attached to show the breadth of the information that BURNCO is proposing to provide with the application (Attachment A).

The dAIR sets out information about the proposed project including the processing facility and marine loading and barge facility. Another section sets out the range of permits and approvals that are required in addition to an environmental assessment certificate; these can be applied for and issued concurrently to the certificate (this is the concurrent review).

Exceptions will be the chapters on project description, EA process, and assessment methods which are descriptive in nature.

An important section regards identifying the Valued Components; these are the key indicators for environment, social, economic, heritage and health impacts/issues. BURNCO included a list of these in the dAIR (Attachment B).

The dAIR proposes to examine impacts on terrestrial wildlife and vegetation; fisheries and aquatic habitat (freshwater and marine); geotechnical/natural hazards; surface and groundwater; air quality and the impact of climate change. Specific species mentioned include marbled murrelets, and a focus will be on red/blue listed species. Baseline studies, including literature reviews, will establish the current conditions and identify sites of specific concern (such as raptor nests). Mitigation measures and environmental management strategies will be set out.

Information regarding noise, dust, visual impact and light pollution will be presented.

Information will be provided regarding economic impact along with a mitigation strategy, however the focus is on potential benefits. The dAIR may not deliver the information needed to assess broader negative impacts that were raised in correspondence with the SCRD. BURNCO has been advised of the correspondence and informed where to find copies on the SCRD website. The public review of the dAIR is an opportunity for concerns to be raised by individuals or groups regarding this under the heading of Regional Economic Development – Potential Effects. As this is likely to be one focus during the public review BURNCO should include reference to the overall balance of economic impact (potential benefits such as economic gain due to the project vs potential negatives such as impact on tourism) in the next version of the dAIR.

Under Social Effects issues such as marine transportation and non-traditional land use (including recreation and tourism) are covered. There is scope to consider improvements to recreation in the area. For example BURNCO should examine establishing a public trail around the site to allow access to the Crown lands beyond. To assist trail use, there is scope to establish a small boat/canoe/kayak moorage/landing facility either on the site or on Crown land nearby (to be at the head of the trail).

Health Effects include impact on water, air quality, and noise

There is a section on Heritage and another on First Nations Information Requirements. The Squamish Nation is included in the consultation regarding the dAIR and the environmental assessment as a whole.

A description of the federal EA process will also be provided along with information about how this process is integrated.

### Next Steps – Environmental Assessment

The EAO will organize a working group meeting in late April to discuss the dAIR. In addition to the SCRD, the working group is made up of provincial & federal agencies/ ministries (can be issue based reps such as the Grizzly Bear expert, and so on) and First Nation(s) are also invited (sometimes they will met separately with EAO as well as or instead of participating on the working group). It is not clear if the EAO is inviting other local governments. The EAO is not inviting community groups – they will be able to make their views known during the public consultation process.

Staff will confirm the dates for public consultation period for the dAIR.

BURNCO will then conduct the field work and produce the reports and documents required by the AIR. Once this is done there will be a period where the application is reviewed for completeness (has BURNCO provided all the information required by the AIR). Then the application is complete and can be submitted; everything up to this point is part of the pre-application stage.

The application then undergoes a public consultation period where the actual information is examined for accuracy. When this period is finished the EAO reviews the comments and can ask BURNCO to provide additional information or move the application forward to the Ministers responsible for approving or refusing the environmental certificate; the Ministers may also ask for additional information.

### Next Steps – Rezoning Application

The Board resolved to place Bylaw 310.147 on hold pending receipt of the Application Information Requirements. When the AIR is approved then staff will provide a report updating the Directors and seeking direction with respect to Bylaw 310.147 (BURNCO rezoning application to allow for processing). Updates will also be posted on the SCRD website.

### **SUMMARY**

It appears that the breadth of information that will be provided covers the natural environment and physical aspects of the project. No obvious gaps appear. However the headings and sub-headings are broad. Thus it is useful to note the concerns expressed regarding specific issues.

The following comments should be provided to the Environmental Assessment Officer as items that the SCRD wishes to see included or emphasized in the final AIR:

- a) Environmental impact on key species such as eel-grass, forage fish and cetaceans (especially from increased barge movement) needs to be emphasized and appropriate studies provided;
- b) Consideration should be given to making improvements to the foreshore area, that may have suffered from the impacts of previous forestry and industrial activity, in light of the proposed loading and barge facility;
- c) There is a gap relating to assessing the potential impact on economic activity such as tourism, resulting from the mine;
- d) Include a section on the environmental recovery of Howe Sound, including estimated investment to date that achieved the current improvements and any proposed reclamation projects, the objective is to assess what impact the mine (including barge activity and potential accidents) could have on the on-going recovery of Howe Sound;
- e) As mitigation/benefit the air should include a review of improvements such as new trails, kayak landing near or on the site.

The dAIR should be forwarded to interested groups for information and these groups should also be notified when the public consultation period starts in order for them to provide comments, either directly to the EAO or through the SCRD. The list of groups should be:

- West Howe Sound Advisory Planning Commission,
- Natural Resources Advisory Committee,
- West Howe Sound Community Association,
- Howe Sound Community Forum, and
- Future of Howe Sound Society;

The SCRD can also provide additional comments during the public consultation period. Staff will provide a report to set out any additional comments during this period.

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David Rafael, Senior Planner

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**DRAFT AIR/EIS GUIDELINES (REV. 1.0)**  
**PROPOSED BURNCO AGGREGATE PROJECT**

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**FIGURES**

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Figure 2: Site and Surrounding Area Plan

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Figure 4: Proposed and Existing Barge Shipping Routes

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Figure 8: BCEAO Cumulative Assessment Process

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## **PART B – ASSESSMENT OF POTENTIAL EFFECTS, MITIGATION AND SIGNIFICANCE OF RESIDUAL EFFECTS**

### **4.0 ASSESSMENT METHODS**

#### **4.1 General**

The EAC Application/EIS will provide a clear description of the methods used to conduct the assessment and will specifically include the following information:

- Scope of the environmental, economic, social, heritage, and health effects assessments;
- A description of the agencies, First Nations, and stakeholders that reviewed and commented on the draft AIR / EIS Guidelines;
- A description of how consultations with the public, stakeholders, First Nations, and government agencies on the scoping and identification of issues to be addressed in the assessment;
- A list of the guidance documents provided by agencies used to develop the assessment methodology;
- Methods used for assessing potential effects of the Proposed Project, including identification of the criteria used to characterise effects in support of the evaluation of the significance of effects (*i.e.*, magnitude, geographic extent, duration and frequency, reversibility, context and probability) for construction, operation, and reclamation and closure phases of the Proposed Project;
- Description/reference for each standard used in baseline studies and assessment analyses; and
- List of applicable best management practices, and guidance documents that will be implemented.

#### **4.2 Valued Component Selection**

The EAC Application/EIS will describe the general methodology used to identify the valued components (VCs) for each discipline specific study used in the effect assessment. VCs are the key indicators of the environmental, social, economic, heritage or health environment that are considered important by the Proponent, public, First Nations, scientist and government agencies involved in the assessment of potential effects during the construction, operation and reclamation and closure phases of the Proposed Project.

VCs are selected through development of the AIR/EIS Guidelines and reflect regulatory issues and guidelines, potential First Nations concerns, issues identified by government agencies, stakeholders, professional judgment and key sensitive resources, species or social and heritage values. VCs for the biophysical environment are typically major components, such as wildlife or vegetation, or are aspects of the physical and biological environment that are widely recognized as important for ecological resources. Representative VCs for the socio-cultural and economic environment are aspects of the human environment that include such components as economy, employment and business, land use, communities or community life, and traditional land and resource access and use.

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VCs will be scoped and identified based on the following criteria:

- Focus and identification of the issues of greatest concern and relevance to the Proposed Project associated with the biophysical conditions and cultural/socioeconomic (human) resources of the Project area;
- Identification of measurable parameters to assess Project-specific effects and cumulative effects for each VC;
- Regulatory requirements and issues raised by First Nations, the public and interested stakeholders;
- Assessment of spatial and temporal boundaries; and
- Integration of the cumulative effects assessment into the overall assessment of Project-related residual environmental effects.

Table 3 presents a preliminary list of VCs for inclusion in the EAC Application/EIS and provides a rationale for the selection of each VC. VCs that have been identified are based on currently available information, including ongoing studies and experience in the site and region. VCs may be revised or updated based on consultation and additional information.

VCs will include measurement endpoints which will be used in the assessment to represent properties of the environment or a population, that when changed, could result in or contribute to a project-related effect which may alter an endpoint. Measurement endpoints may be quantitative (e.g., concentrations of chemical in tissues of representative VC species, species density levels, and noise levels) or qualitative (e.g., distribution, movement and behaviour of wildlife from disturbance to travel corridors). Measurement endpoints are a value used to assess whether there is an effect on a VC (e.g., population persistence for a VC species). Measurement endpoints represent an ecological, economic or social basis for evaluation of the significance of residual effects.

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**Table 3: Valued Components (VCs) and Selection Criteria**

| Discipline/Theme                             | Valued Component(s)                                                         | Definition and/or Supporting Rationale                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|----------------------------------------------|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fisheries and Aquatic Habitat                | Anadromous chum, coho salmon and Cutthroat trout species and their habitats | <p style="text-align: center;"><b>Environment</b></p> <p>Fish species are appropriate "sentinels" of the overall aquatic system. Anadromous chum and coho salmon and trout are appropriate indicators of seasonal freshwater and some marine fish habitats and populations in the Project area. A total of six salmon and trout fish species were identified and assessed within the Project area and are preferred habitats for chum and coho salmon and Cutthroat trout. It is not practical to identify and evaluate all fish species VCs (Hill et al. 2006). A sub-set of VCs was selected that ranked the highest through screening by the following attributes:</p> <ul style="list-style-type: none"> <li>▪ Distribution within the Project area;</li> <li>▪ Regulatory status (special status, risk);</li> <li>▪ Selected VCs habitat requirements;</li> <li>▪ Position in the food chain;</li> <li>▪ Commercial and economic importance;</li> <li>▪ Recreation and aesthetic importance; and</li> <li>▪ Availability information.</li> </ul> |
| Marine Sediment                              | Freshwater resident trout and their habitats (Cutthroat trout)              | <p>Cutthroat trout is a resident fish species in streams within the Project area and is an appropriate indicator of the year-round habitat use and conditions. Cutthroat trout is distributed within many similar freshwater systems in the region and has recreational, economic and First Nations importance. Cutthroat trout is positioned high in the aquatic food chain, and has specific habitat requirements.</p> <p>The quality of marine sediment affects the quality of habitat for benthic communities, as well as the quality of overlying water column. The quality of this VC may be affected by historical or current operations and activities, and/or future activities or operations associated with Project during both the construction and operation phases. Sediment quality may be affected through sediment re suspension, siltation or accidental release of chemicals. The VC measurement endpoints are physical (particle size composition) and chemical (e.g., metals and contaminant concentrations) composition.</p>    |
| Marine Benthic communities (fauna and flora) | Marine Benthic communities (fauna and flora)                                | <p>Impacts can result from the installation of marine facilities (habitat loss), changes in water and sediment quality, increased navigation, and accidental release of toxic substances. Abundance, taxonomic composition, and diversity of benthic communities are good indicators of the quality of the marine habitat.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                   | <p><b>Migratory Marine Birds</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>▪ Taxa listed under the federal Species at Risk Act (SARA); and Red (endangered or threatened) or Blue-listed (special concern) species;</li> <li>▪ Migratory seabirds whose known range overlaps the Project study area; and</li> <li>▪ These groups may be affected by changes in noise conditions (during construction), light conditions, water and sediment quality, physical presence of marine facilities and increased navigation.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                                                   | <p><b>Marine Mammals</b></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <ul style="list-style-type: none"> <li>▪ Taxa listed under the federal Species at Risk Act (SARA); and Red (endangered or threatened) or Blue-listed (special concern) species (e.g., Steller Sea Lion, Grey Whale, Southern Killer Whale, Harbour Porpoise)</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <p><b>Terrestrial Wildlife and Vegetation</b></p> | <p><b>Terrestrial Species at Risk and their habitat:</b></p> <ul style="list-style-type: none"> <li>▪ Amphibian species at risk</li> <li>▪ Western screech owl</li> <li>▪ Common nighthawk</li> <li>▪ Northern Goshawk</li> <li>▪ Band-tailed pigeon</li> <li>▪ Marbled murrelet</li> <li>▪ Roosevelt Elk</li> <li>▪ Grizzly bear</li> </ul> <p><b>Vegetation:</b></p> <ul style="list-style-type: none"> <li>▪ Environmentally Sensitive Ecosystems</li> <li>▪ Rare plants</li> </ul> | <ul style="list-style-type: none"> <li>▪ Provincially Red (endangered or threatened) or Blue-listed (special concern) taxa;</li> <li>▪ Taxa listed under the provincial Integrated Wildlife Management Strategy (IWMS);</li> <li>▪ Taxa listed under the federal Species at Risk Act (SARA);</li> <li>▪ Regionally Important Wildlife;</li> <li>▪ Migratory birds whose known range overlaps the Project study area;</li> <li>▪ Provincially (red/ blue) listed or sensitive/ unique ecosystems which may occur at or adjacent to the Proposed project could be affected by changes to area conditions including clearing of vegetation or changes to hydrological regimes;</li> <li>▪ Taxa or subtaxa of provincially (red/ blue-listed) and/or federally (under Schedule 1 of SARA) designated plant species which may occur within the Proposed project area could be affected by alterations or loss of habitat; and</li> <li>▪ Species or species groups known to occur at or adjacent to the Proposed project area. Changes to noise or light regimes could affect normal species behaviour such as nesting or foraging.</li> </ul> |
| <p><b>Geotechnical and Natural Hazards</b></p>    | <p><b>Terrain stability and earthquakes</b></p> <hr/> <p><b>Snow avalanches</b></p> <hr/> <p><b>Climate</b></p>                                                                                                                                                                                                                                                                                                                                                                        | <ul style="list-style-type: none"> <li>▪ Road and site construction and clearing can increase the chances of landslides and ground stability;</li> <li>▪ Could induce earthquake drive liquefaction, and fault ruptures;</li> <li>▪ Mine operation may create new avalanche trigger zones; and</li> <li>▪ May increase storm event frequency, sea surge.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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|                         |                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------|------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Surface Water Resources | Water quantity: base flow, high flow                 | <ul style="list-style-type: none"> <li>▪ Mine operation may alter contribution to base flows in watercourses; and</li> <li>▪ Mine operation may alter runoff;</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|                         | Water quality: suspended sediments, chemical quality | <ul style="list-style-type: none"> <li>▪ Increase in TSS / TDS may alter clarity and quality of runoff and base flow; and</li> <li>▪ Accidental release of chemicals may alter clarity and quality of runoff and base flow.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Groundwater Resources   | Groundwater regime and groundwater quality           | <ul style="list-style-type: none"> <li>▪ Mine operation may alter local groundwater regime by lowering water levels, reduce infiltration rates from and to adjacent rivers and creeks; and</li> <li>▪ Mine operation may allow marine water infiltration into the aggregate pit.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|                         |                                                      | <p>BC Ambient Air Quality Objectives (AAQO) and National Ambient Air Quality Objectives (NAAQO) for SO<sub>2</sub>, NO<sub>2</sub>, Dust Fall, PM<sub>10</sub>, PM<sub>2.5</sub>. Comparison with background and baseline conditions</p> <p>Comparison with totals across Canada including BC, Alberta and all territories.</p>                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Air Quality             | Air Quality                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Climate Change          | Green House Gases                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Sustainable Economy     | Regional economic development                        | <p style="text-align: center;"><b>Economic</b></p> <ul style="list-style-type: none"> <li>▪ Project will offer new contracting opportunities, which may result in diversification and expansion of the local economy;</li> <li>▪ Project labour demand during construction and operation phases will draw upon labour supply in the vicinity of the Project and effects would be adverse or beneficial depending on conditions that prevail at the time this demand enters the market;</li> <li>▪ Potential change in local government expenditure and revenue streams; and</li> <li>▪ Presence of Project construction, infrastructure and/or operations may affect local property values and the local owners' use of their real estate.</li> </ul> |
|                         | Labour market                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                         | Local government revenue                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                         | Real estate                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Social Conditions       | Housing and Accommodation                            | <p style="text-align: center;"><b>Social</b></p> <ul style="list-style-type: none"> <li>▪ Temporary influx of Project construction workers may lead to pressures on accommodation availability and cost and increased demand for accommodation has the potential to generate incremental revenues for local providers; and</li> <li>▪ Project construction and operation in a remote location could affect emergency response abilities and cost of emergency services.</li> </ul>                                                                                                                                                                                                                                                                    |
|                         | Emergency Services                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Marine Transportation   | Marine Navigation                                    | <ul style="list-style-type: none"> <li>▪ Change in vessel traffic</li> <li>▪ Physical interference</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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|                                |                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|--------------------------------|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Non-Traditional Land Use       | Forestry                     | <ul style="list-style-type: none"> <li>▪ Conversion of forested private lands to non-forestry uses and potential change in access to Crown forested lands and associated change in timber harvesting and wood processing.</li> <li>▪ Project may affect resident and tourist access to and use of outdoor recreation areas and resources adjacent to and in the Project activity zones. ;</li> <li>▪ Project may affect access to and use of tenured guide outfitting and trapping areas;</li> <li>▪ The Project may change environmental setting, fish and wildlife populations and opportunities to trap, hunt and fish; and</li> <li>▪ The Project will affect access to and development of mineral and aggregate tenures and deposits.</li> </ul> |
|                                | Harvesting fish and wildlife |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                                | Recreation and tourism       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                                | Minerals and Aggregates      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Visual and Aesthetic Resources | Visual Quality               | <ul style="list-style-type: none"> <li>▪ Visual quality of the surrounding landscape could potentially be adversely affected by the presence of aggregate pit and processing infrastructure, marine barge loading, processing and barge loading facilities lighting and barge shipping.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Heritage Resources             | Paleontological resources    | <b>Heritage</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                                | Archaeological resources     | <ul style="list-style-type: none"> <li>▪ Construction and operation of the Proposed Project could directly or indirectly affect heritage resources in the Project Area</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Public Health                  | Water quality                | <b>Health</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|                                | Air quality                  | <ul style="list-style-type: none"> <li>▪ Public health issues including change to water quality and air quality will be integrated across all disciplines in a single report as a whole to address accumulation of many potential issues holistically rather than individually within discipline-specific reports.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Noise                          | Noise levels                 | <ul style="list-style-type: none"> <li>▪ Potential noise effects of the Proposed Project on seasonal, semi-permanent and permanent residents in proximity.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |