Schedule C –
[DRAFT] Application Information Requirements (TEMPLATE)

FOR THE

[PROJECT]

ISSUED BY

ENVIRONMENTAL ASSESSMENT OFFICE

[DATE]

BRITISH COLUMBIA
EAO | Environmental Assessment Office

Version Control History

Version #	Date	Modification	Approved By
1.0	April 2020	n/a	Kevin Jardine, Chief Environmental Assessment Officer, Environmental Assessment Office
1.1	July 2024	Administrative updates to guidance references, administrative edits, and Indigenous terminology.	Julie Chace, Executive Director of Strategic Services and Compliance Division
2.0	July 2025	Shortened section 7 to be included in a table format, administrative edits, updated language throughout to include current polices, updates based on internal and external reviews, and new requirements for section on greenhouse gas emissions.	Julie Chace, Senior Executive Director of Strategic Services and Compliance Division
2.1	May 2026	Format edits for clarity of substitution requirements; updates to First Nations section, clarifications in Valued Component table	Julie Chace, Senior Executive Director of Strategic Services and Compliance Division

This document provides a template for draft Application Information Requirements (AIR). Text that appears in [*square brackets and italics*], is to be filled in and customized for the proposed project (Project). Instructions that are not to appear in the actual draft AIR appear in text boxes such as this.

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PREFACE TO THE APPLICATION INFORMATION REQUIREMENTS

This document provides a template for draft Application Information Requirements (AIR). Text that appears in [*square brackets and italics*], is to be filled in and customized for the proposed project. Instructions that are not to appear in the actual draft AIR appear in text boxes such as this.

The Application Information Requirements (AIR) sets out the information the Proponent is required to provide in their Application for an Environmental Assessment Certificate (the Application) to support the consent decisions of participating Indigenous nations and the decisions of provincial decision makers, per the recommendation under Section 29(2) of the *Environmental Assessment Act* (2018), S.B.C 2018, c. 51 (the Act).

The Proponent is proposing to [*describe project type and location*], as described in the Detailed Project Description at this [*link*] on the Environmental Assessment Office's (EAO) EPIC website.

The Project is proposed to be [*provide a brief summary of the project including project components and activities*]. Preliminary information on the conceptual approach to developing the Project is provided in the AIR for context. The Project is being assessed under the Act.

TABLE OF CONCORDANCE

A Table of Concordance must be included in the Application. The Table of Concordance must demonstrate where the information requirements are found in the Application, which volume and section, in the format of table below.

Table 1. Table of Concordance between AIR and Application – example entry

AIR Section and Page No.	AIR Title	AIR Section Language	Application Section Title	Application Volume, Section (or Sub-Section),	Relevant Appendix
Section 7.12 *Pages 22 to 29*	*Marine Resources Assessment Boundaries*	*The Application must define assessment boundaries for the marine resources VC, including spatial, temporal, administrative and technical boundaries.*	*Marine Resources Assessment Boundaries*	*Volume 2* *Section 4.2.2*	*Volume 6* *Appendix K*

ABBREVIATIONS AND ACRONYMS

The Application must include a list of all acronyms and abbreviations used and their definitions. This list will likely be an expanded version of the list below, which consists of terms that appear in this document.

Act – The *Environmental Assessment Act* (2018)

AIR – Application Information Requirements

Application – An Application for an Environmental Assessment Certificate

B.C. – British Columbia

EA – Environmental Assessment

EAO – Environmental Assessment Office

GBA+ – Gender Based Analysis Plus[1]

GHG – Greenhouse gas

HHRA – Human Health Risk Assessment

IAA – The *Impact Assessment Act*

LNG – Liquid natural gas

SARA – *Species at Risk Act*

TAC – Technical Advisory Committee

VC – Valued Component

[***Abbreviation/Acronym –*** *Full Text*]

APPLICATION SUMMARY

The purpose of the Application summary is to give the public / readers an overview of the project, issues and mitigation approaches. Length should generally be kept to 20 to 30 pages. The summary should be written in plain language.

The Application must include a stand-alone, plain language summary of the Application, including the following:

a) A summary description of the project;

b) A summary description of the Environmental Assessment (EA) scope;

c) A brief overview of engagement activities with First Nations, the public, local governments,[2] provincial and federal government agencies and stakeholders;

d) A summary of the key issues raised by First Nations, the public, local governments, provincial and federal government agencies and stakeholders;

e) A summary of anticipated key effects on Section 25 matters and valued components, proposed mitigation measures, predicted residual and cumulative effects and any required follow-up programs;

f) A summary of anticipated key effects on First Nations and their rights recognized and affirmed by Section 35 of the *Constitution Act, 1982* (Section 35 Rights), and proposed mitigation measures; and

g) Key maps or figures illustrating the Project location and key Project components.

The Application must be provided in an indexed, unlocked PDF format.

[1] Gender Based Analysis Plus (GBA+) provides a framework to describe the full scope of potential adverse and positive effects under the Act. GBA+ is an analytical framework that guides practitioners, proponents and participants to ask important questions about how designated projects may affect diverse or potentially vulnerable population groups.

[2] Local governments include municipalities and regional districts.

1.0 PROJECT OVERVIEW

1.1. Project Introduction

The Application must provide a high-level overview of the project including:

- The type of project;
- The objective of the project;
- A statement of the general project location and names of the nearest communities; and
- The relevant history of the project, including exploratory or investigative history.

1.2. Proponent Description

The Application must:

- Describe the proponent, including company history, type of company or organization, affiliations, headquarter location, corporate and management structures;
- Provide the registered legal name and registered address of the proponent;
- Provide contact information for proponent representatives for the project (for example, name, address, phone, email); and
- Identify the main contractor / company responsible for the preparation of the Application. Refer to *Appendix 17.3* that identifies key personnel responsible for preparing the Application including their qualifications.

1.3. Project Location

Information that has been identified as confidential by First Nations or government body should not be shown on maps or described in text in such a way that compromises its confidentiality. Refer to the Guide to Indigenous Knowledge in Environmental Assessments found *here* for information on Indigenous knowledge consent, policies and protocols.

The Application must describe the project location and access. Descriptions of the following features must be included, and where appropriate, located on map(s):

- Project site including the latitude and longitude coordinates (using international standard representation in degrees, minutes, seconds) of the main project site (for centralized projects) and endpoints (for linear projects);
- Project maximum disturbance footprint, including the surface area, and approximate locations and spacing of on and off-site Project components, where available;
- Project access route and transportation corridors, including use of existing roads;
- All waterbodies, including intermittent and ephemeral streams and navigable waterways;
- Environmentally sensitive areas, such as national, provincial and regional parks, ecological reserves, marine protected areas, marine refuges, ecologically and biologically sensitive areas, old growth management areas, ungulate winter ranges, wetlands, estuaries, habitats of federally or provincially listed species at risk, provincially-identified wildlife habitats and other identified sensitive areas identified through the assessment process to date;

- Current land and aquatic use in the area;
- Summary of historical environmental characteristics of the area;
- Description of the historical environmental and socio-economic history of the Project site;
- Major existing infrastructure;
- Description and locations of all potable drinking water sources;
- Description of local communities, including distances to these communities;
- Proponent lands, tenures, properties, or leased lands;
- Adjacent land uses;
- Distance to the international or provincial/territorial boundaries (for example, Alberta, the Northwest Territories, the Yukon, or the United States, where applicable) if the potential for effects to cross a border is identified;
- Description of First Nation territories[3], Treaty lands, communities and Reserve lands and distance to these features;
- First Nation harvesting regions (included with permission of First Nation);
- First Nation land use plans and/or environmental bylaws; and
- Summary of culturally and locally important features of the landscape (including features of cultural importance to First Nations).

The following shapefiles and .kmz files for the project must be submitted:

- Project footprint;
- Known or proposed project components;
- Project access route;
- Boundaries of Local Assessment Areas and Regional Assessment Areas for each VC; and
- Other non-confidential biophysical and political data.

Refer to the *Spatial Data Submission Standards Guidelines* to ensure maps and shapefiles are submitted according to the EAO requirements.

1.4. Project Components

The Application must provide a description of the project components determined to be within the scope of the project in the Process Order, including figures of both, on- and off-site facilities and associated activities.

If applicable, the Application must describe how existing infrastructure will be used for the project.

1.5. Project Activities

The Application must provide a description of the key activities occurring in the applicable construction, operations, closure, post-closure and decommissioning phases of the project, including the activities' durations and proposed

[3] Do not include First Nation territories boundaries on maps.

scheduling. Proposed scheduling should identify the time of year, frequency, and duration for key project activities. Any overlapping phases should be described. Describe which project facilities and activities will not be decommissioned.[4]

If applicable, the Application can identify an early construction phase and describe any activities that are planned to be conducted prior to construction of the main components of the project (for example, tree clearing or decommissioning/removal of existing infrastructure that must be removed).

The Application must also provide a summary of the changes that have been made to the project since submission of the Detailed Project Description, including the rationale for the changes.

1.6. Workforce Requirements

The Application must describe the anticipated labour requirements, employee programs and policies (if available), and workforce development opportunities for the designated project, including Gender Based Analysis+ (GBA+) considerations, in relation to:

- Opportunities for employment outlining the anticipated number of full-time and part-time positions to be created for each project phase, the skill and education levels required for the positions, and working conditions;
- Anticipated workforce region of origin (local, regional, out-of-province or international employees);
- Investment in training opportunities;
- Expected workforce requirements based on the National Occupational Classification system and timelines for employment opportunities;
- Anticipated work rotation schedules and means to get employees to the project site (for example, fly-in / fly-out, bus, employee use of personal vehicles);
- Anticipated housing arrangements for the workforce for each project phase;
- Anticipated hiring policies including hiring programs;
- Workplace policies and programs for First Nation employment and employment of underrepresented groups;
- Employee assistance programs and benefits including career planning, employee counselling, family support, transition planning, pension plan and group insurance benefit plans; and
- Workplace policies and programs including codes of conduct, workplace safety programs and cultural training and awareness programs.

1.7. Project Purpose

The proponent must identify the purpose of the project.

1.7.1. Purpose of the Project

The Application must broadly classify the Project (such as 'export of LNG') and outline what is to be achieved by carrying out the project including:

- The target market (such as international, domestic, local); and
- Objectives the proponent has in carrying out the project.

[4] Please note that the description of decommissioning is not required where it is explicitly excluded by the *Reviewable Projects Regulation*.

1.7.2. Need for the Project (for federally substituted projects only)

The Application must describe the underlying opportunity or issue that the project intends to seize or solve under Section 22(1)(d) of the *Impact Assessment Act*. The Application must provide supporting information that demonstrates the need for the project. The Application must include a summary of any comments or views of First Nations, the public, and other participants the proponent received to date on the need for the project.

1.8. Alternative Means of Carrying out the Project

The proponent must analyze alternatives to the project and alternative means of carrying it out. The Application must identify and consider alternative means of carrying out the project that are technically and economically feasible, including the use of best achievable technology, and the potential environmental, economic, social, cultural and health effects, effects to First Nations and their Section 35 rights, and risks and uncertainties associated with those alternatives. The alternative means analysis must address all project components for all project phases, where relevant to the project activities and design. Considerations include, but are not limited to, alternative technologies, processes, mitigation and design.

The alternative means analysis must:

- Identify the preferred means of carrying out the project;
- Describe all alternative means considered, including substantively different ways that are technically and economically feasible to meet the Project needs and achieve the project purpose;
- Identify alternative means that have been determined as technically and economically feasible, with rationale;
- Demonstrate how the views, information, and knowledge from First Nations, the public, and other participants, as well as how existing studies/reports, and sustainability principles were considered;
- Describe the methods and criteria that were used for comparing the alternative means that are technically and economically feasible and for identifying the preferred means. Criteria must include consideration of the following factors and may also include economic, logistic or other factors relevant to the comparison:
    - Environmental, economic, social, cultural and health effects;
    - Effects to First Nations and their Section 35 Rights;
    - Any relevant studies, local or regional plans, community plans, and Indigenous knowledge;
    - Effects on diverse human populations who may be more vulnerable to adverse effects using a GBA+ analysis;
    - Effects on GHG emissions; and
    - Risks and uncertainties.
- Identify the potential effects, risk and uncertainties of each technically and economically alternative means;
- Discuss how the Best Available Technologies have been considered in identifying the preferred means; and
- Summarize the potential effects, risks and uncertainties of the preferred means and how these are addressed (refer to other parts of the Application where applicable for more detail).

1.8.1. Rationale (for substituted projects only)

The Application must present a rationale for selecting the proposed project over other options, which includes how sustainability principles were considered. The analysis of alternatives to the project must validate the preferred

alternative as a reasonable approach to meet the need and purpose.

The alternatives to and alternative means assessments may be informed by, but are not limited to the following:

- Regional and strategic assessments, if available;
- Scientific research;
- Any study or plan that is conducted or prepared by a government (including local, provincial, federal or Indigenous nation) in respect to the project region and that has been provided with respect to the project;
- Any relevant assessment of the effects of the project that is conducted by or on behalf of a First Nation and that is provided with respect to the project;
- Indigenous knowledge, community or local knowledge, comments received from the public, comments received from a jurisdiction; and
- Other studies or assessment conducted by other proponents.

2.0 REGULATORY FRAMEWORK

2.1. Environmental Assessment Process

The Application must identify where the project has met the definition of a reviewable project, with reference to the appropriate section of the Reviewable Projects Regulation and provide a high-level overview of the EA process. It must also state if there is a First Nation or federal review and whether it is coordinated or substituted with the provincial EA. Provide a reference to the Assessment Plan which provides details of the process.

2.2. Relevant Government Policies and Initiatives

The Application must identify government policies, study initiatives, and regional and strategic assessments relevant to the project and / or EA and their implications.

2.3. Land and Marine Use Plans

The Application must summarize any land and / or marine use plans of a government (municipal, provincial, federal, or a First Nation) that may be relevant to the project area including whether the project is consistent with the identified plans.

2.4. Agreements or Arrangements with First Nations

The Application must identify and describe how any applicable agreements or arrangements between federal or provincial governments with First Nations that are pertinent to the project and / or EA (for example: treaty, Act agreements (Section 41), consultation agreements, etc.).

2.5. Permitting

The Application must provide an update to the information provided on permitting in the Detailed Project Description, which must:

- Describe existing licenses, permits, approvals or tenures and the date received;
- Describe any tenure-related constraints that would need to be resolved for the project to proceed as proposed, and the nature of those constraints;
- Describe if and how existing permits or authorizations would or may be modified for the project;
- Describe anticipated authorizations and permits, their expected submission dates and an indication of whether they would be submitted during the EA; and
- Describe whether permits or authorizations would provide the proponent with exclusive or non-exclusive rights and the implications of this with respect to required assessment matters.

2.6. Environmental and Community Context

This section provides a landscape-level overview of the project area that sets the context for the assessment and will allow a comprehensive understanding of the current level of ecosystem functions and community well-being. This sets the stage for the discussion of biophysical factors that support ecosystem function (in *Section 13.0*) and factors that support human and community well-being (in *Section 14.0*), based on the results of the VC assessments completed in Section 6.0. Detailed information on the baseline conditions for each VC should be included in each relevant VC assessment section.

For federally substituted assessments the following text should also be included:

In describing the biophysical environment, the Application must take an ecosystem approach that considers how the project may affect the structure and functioning of biotic and abiotic components with the ecosystem using scientific, local and Indigenous Knowledge regarding ecosystem health and integrity, as applicable. The Application must provide a description of the indicators and measures used to determine ecosystem health and integrity. The presence of endangered ecosystems potentially affected by the Project will be included in the description of the biophysical baseline conditions.

For environmental context of the assessment, the Application must consider the resilience of relevant species populations, communities and associated habitats to the effects of the Project. Ecological processes will be evaluated for potential susceptibility to adverse effects from the project. For the community context of the assessment, the Application must consider community health and well-being, current and future generations and disproportionate effects to distinct human populations.

3.0 PUBLIC ENGAGEMENT

The Application must describe the proponent's ongoing and proposed public and stakeholder engagement activities regarding the project and during the development of the Application. The proponent's public and stakeholder engagement strategy must be informed in part by the Assessment Plan issued by the EAO. The Application must describe whether the engagement is consistent with the requirements in the Assessment Plan, and if not, provide a rationale.

The Application must describe the efforts made to distribute project information and the information and materials that were distributed during the proponent's engagement in Early Engagement, Process Planning and Application Development. Indicate the methods used, where the consultation was held, the number of people, organizations and groups consulted and the views expressed (with attention given to groups differentiated by age, gender, ethnicity, employment and income levels and geographic location to more fully understand differential effects and perspectives), and the extent to which this information was incorporated in the design of the project as well as in the Application.

The Application must provide a summary of key issues related to the project, which were raised through engagement with the public and stakeholders and the potential environmental, economic, social, cultural and health effects, including disproportionate effects for diverse groups within the population and effects to current and future generations. Describe ways to address the issues raised, such as alternative means, specific mitigation measures or specific monitoring programs and adaptive management to deal with uncertainty. Identify the public and stakeholder concerns that were not addressed, if any, and provide reasons why the concerns were not addressed.

The Application must also provide details regarding how the public and stakeholders will be kept involved during all phases of the project, if the project is approved and proceeds.

4.0 LOCAL GOVERNMENT ENGAGEMENT

The Application must describe the proponent's ongoing and proposed local government engagement activities regarding the project and during the development of the Application. The proponent's engagement strategy must be informed in part by the Assessment Plan issued by the EAO. The Application must describe whether the engagement is consistent with the requirements in the Assessment Plan, and if not, provide a rationale.

The Application must describe the efforts made to distribute project information and the information and materials that were distributed during the consultation process. Indicate the methods used, where the consultation was held, the views expressed and the extent to which this information was incorporated in the design of the project as well as in the Application.

The Application must provide a summary of key issues related to the project, which were raised through engagement with local government and the potential environmental, economic, social, cultural and health effects, including disproportionate effects on distinct human populations and effects to current and future generations. Describe ways to address the issues raised, such as alternatives means, specific mitigation measures or specific monitoring programs and adaptive management to deal with uncertainty. Identify local government concerns that were not addressed, if any, and provide reasons why the concerns were not addressed.

The Application must also provide details regarding how local governments will be kept involved during all phases of the project, if the project is approved and proceeds.

5.0 VALUED COMPONENTS SELECTION

The Application must include a table that summarizes the VCs and subcomponents that will be considered and the rationale for which VCs and subcomponents are included in the assessment, not applicable to the assessment, or included in an alternative VC. The table must include the anticipated linkages between VCs.

The following is a standard list of Valued Components (VCs) and subcomponents to be used as a starting point for the EA. Refer to the Effects Assessment Policy found *here* for guidance on the identification and selection of VCs. The proponent may propose additions, deletions or other changes to the standard list of VCs and subcomponents with supporting rationale during Early Engagement to ensure that the VCs are relevant to their specific project and capture the appropriate scope of topics for assessment, including effects on First Nations and their Section 35 Rights, and First Nation requested VCs and subcomponents. In identifying VCs to be included, it is important to consider potential interactions between the project and the biophysical and human environment, as well as the potential for overarching effects of the project on biophysical factors that support ecosystem function and human environment factors that support community well-being. Proponents should also consider the specific needs of First Nations in relation to understanding the effects of the project on the First Nation and their Section 35 Rights. Taken together, the VCs should provide an understanding of the potential effects of the project on the biophysical environment, overall community well-being, and First Nations rights.

The EAO will confirm the VCs during Process Planning through engagement with the proponent, members of the TAC and any Community Advisory Committee, and First Nations.

Valued Components	Subcomponents	Effects to Valued Component	Indicators[5]	Anticipated Linkages to other Valued Components or Sections
Air Quality	Air quality	• Increase in Criteria Air Contaminants • Increase in Volatile Organic Compounds • Increase in other air pollutants		Human Health Vegetation Water Quality Wildlife Soil Biophysical Factors that Support Ecosystem Function
	Acidifying emissions Eutrophying emissions	• Change in acidification and eutrophication		
	Odour	• Change in odour		
Acoustic	Noise	• Increase in audible noise levels due to *[phase]* activities • Increase in low-frequency noise levels		Human Health Wildlife Land and Resource Use Biophysical Factors that Support Ecosystem Function
	Vibration	• Increase in vibration due to *[phase]* activities		

Surface Water	Surface water and sediment quality	• Changes in levels of:
		  • Acidification and eutrophication
		  • Metals
		  • Acid Rock Drainage
		  • Nutrients
		  • Sedimentation
				Freshwater Fish
				Human Health
				Wildlife
				Land and resource use
				Culture
				First Nations
				Vegetation
				Biophysical Factors that Support Ecosystem Function

	Surface water quantity (Hydrology)	• Changes to in-stream flow • Changes to runoff dynamics and pattern		
Groundwater	Groundwater quality	• Groundwater and aquifer contamination (drilling fluids, seepage, acid mine drainage)		Surface Water Human Health Vegetation Culture First Nations Biophysical Factors that Support Ecosystem Function
	Groundwater quantity	• Changes in groundwater flow • Changes to groundwater quantity • Interactions with surface water • Climate change effects (e.g., larger precipitation events and extended periods of drought) on water use		
Marine Water and Sediment Quality	Marine Water Quality	• Changes in marine water quality from existing conditions, including potential contamination • Changes in total suspended solids concentration and turbidity • Changes in nutrient concentrations		Marine Resources Human Health Biophysical Factors that Support Ecosystem Function
	Marine Sediment Quality	• Change in sediment disturbance • Changes in sediment quality from existing conditions, including potential contamination		
Soil	Soil quality	• Acidification • Eutrophication • Contamination • Erosion • Dust accumulation		Vegetation Human Health Biophysical Factors that Support Ecosystem Function
	Soil quantity	• Loss of soil due to erosion and soil disturbance, alteration and removal		
Unique Geologic Landforms		• Changes in areal extent or condition of unique geological landforms ○ Examples include: karst, sand dunes, lava beds, caves, cliffs, rocky outcrops, talus slopes, hot springs		Land and Resource Use Biophysical Factors that Support Ecosystem Function

[5] B.C. Cumulative Effects Framework values and indicators should be considered based on the region of the proposed Project.

Valued Components	Subcomponents	Effects to Valued Component	Indicators[5]	Anticipated Linkages to other Valued Components or Sections

Vegetation	Plant species of interest	• Changes to plant species of interest including:
		  ○ Provincially and federally listed plants and lichens
		  ○ Species of conservation concern
		  ○ Species of importance to First Nations
		• Invasive species
				Land and Resource Use
				Wildlife
				Human Health
				First Nations
				Biophysical Factors that Support Ecosystem Function

	Plant communities of interest	• Effects to ecological communities of conservation concern • Effects to provincially listed ecological communities • Effects to ecological communities valued for traditional use		
	Wetland functions	• Effects to wetland ecosystems (including area) and functions (including hydrological, biogeochemical and habitat functions)		

	Ecosystems	• Effects to ecosystems, including:
		  ○ Old forest (including old growth management areas)
		  ○ Grasslands
		  ○ Alpine/subalpine
		  ○ Riparian		

Wildlife	Birds (including individual species or species groups as appropriate)	• Effects to Species at Risk (provincially and federally listed) • Effects to species of importance to First Nations • Effects to birds, mammals, reptiles and amphibians • Effects to wildlife habitat, habitat functionality, fragmentation, including sensory disturbance / zone of influence as appropriate • Effects to important habitat features such as coarse woody debris, wildlife trees and snags, protected nests, leks, breeding sites, mineral licks, roosts, hibernacula, and dens • Effects to wildlife mortality • Effects to wildlife movement • Effects to wildlife health		Land and Resource Use Human Health First Nations Biophysical Factors that Support Ecosystem Function
	Mammals (including individual species or species groups as appropriate)			
	Reptiles and Amphibians (including individual species or species groups as appropriate)			

Aquatic Resources and Freshwater Fish	Fish habitat	• Effects to fish habitat, including:
		  ○ Riparian ecosystems
		  ○ Spawning locations
		  ○ In-stream flow
				Human Health
				Land and Resource Use
				Biophysical Factors that Support Ecosystem Function
				Wildlife
				Culture
				First Nations

	Aquatic resources	• Effects to aquatic resources, including:
		  ○ Benthic invertebrates (community composition)
		  ○ Periphyton (community composition and biomass)
		  ○ Bioaccumulation in aquatic resources (tissue concentrations)
		  ○ Phytoplankton and zooplankton (community composition)		

	Fish	• Effects to fish, including:
		  ○ Fish tissue
		  ○ Fish behaviour (e.g., migration blockage)
		  ○ Fish communities (e.g., fish health, developmental effects)
		  ○ Species at Risk
		  ○ Traditional use species
		  ○ Other aquatic species of management concern		

Marine Resources	Fish habitat	• Effects to fish habitat, including:
		  ○ Eelgrass
		  ○ Kelp
		  ○ Marine plants
				Marine Use
				Human Health
				First Nations
				Biophysical Factors that Support Ecosystem Function

	Marine mammals	• Effects to marine mammals, including:
		  ○ Species at Risk
		  ○ Mammal behaviour
		  ○ Underwater noise
		  ○ Traditional use species		

Valued Components	Subcomponents	Effects to Valued Component	Indicators[5]	Anticipated Linkages to other Valued Components or Sections
	Fish	• Effects to fish, including: o Underwater noise o Species at Risk o Fish behaviour o Other species of management concern o Traditional use species		
	Marine Invertebrates	• Effects to marine invertebrates, including: o Species at Risk o Other species of management concern o Traditional use species		
Employment and Economy	Employment	• Effects to employment, including: o Jobs and training o Labour income o Access to economic opportunities / economic equity		Land and Resource Use Infrastructure and Services Marine Use Community Health and Well-being
	Economy	• Effects to the economy, including: o Tax revenues and government expenditures o GDP contributions o Business revenue o Land and resource valuations (including tourism) o Cost of living (for example, housing, food, goods and services) o Tourism and other economic drivers in the region		
Land and Resource Use	Private property	• Effects to the use and enjoyment of private property		Air Quality Acoustic Surface Water Vegetation Wildlife Freshwater Fish Human Health Community Health and Well-being First Nations Unique Geologic Landforms
	Tenured land and resource use	• Effects to industrial land uses (for example, mining, oil and gas) • Effects to other tenured, permitted or licensed land uses		
	Public land and resource use	• Effects to consumptive land uses (for example, hunting, fishing, trapping, vegetation gathering) • Effects to non-consumptive land uses (for example, camping, hiking, skiing, boating, climbing, caving) • Effects to agriculture • Effects to tourism		
	Parks and protected areas	• Effects to parks and protected areas, including: o Federal, provincial, regional, municipal parks o Other protected areas o Recreation Sites and Trails B.C. areas		
	Visual resources	• Effects to visual resources		
Marine Use	Navigation	• Effects to marine navigation		Marine Resources Culture First Nations Community Health and Well-being
	Tenured marine use	• Effects to tenured, permitted or licensed marine uses (for example, aquaculture, moorage, commercial fishing)		
	Public marine use	• Change in consumptive marine uses (for example, hunting, fishing, vegetation gathering) • Change in non-consumptive marine uses (for example, boating, kayaking) • Effects to tourism		
	Marine protected areas	• Effects to marine protected areas		
	Visual resources	• Effects to visual resources		

Valued Components	Subcomponents	Effects to Valued Component	Indicators[5]	Anticipated Linkages to other Valued Components or Sections
Infrastructure and Services	Community infrastructure and services	• Effects to community infrastructure and services, including: o Health care and social services and facilities o Emergency response services o Domestic water supply o Sewage and water treatment facilities o Landfills and recycling facilities o Community recreational facilities o Educational services and facilities, including day care o Other public and private sector services		Employment and Economy Community Health and Well-being Human Health
	Transportation infrastructure	• Effects to transportation infrastructure and traffic volumes		
	Housing and accommodation	• Effects to housing and accommodation, including rentals		
Human Health	HHRA	• Effects to human health, including: o Air quality o Drinking and recreational water quality o Noise o Soil quality o Quality and quantity of country foods		Air Quality Acoustic Surface Water Groundwater Marine Resources Soil Vegetation Employment and Economy Infrastructure and Services Land and Resource Use Culture Community Health and Well-being First Nations Marine Use Community Health and Well-being
Community Health and Well-being	Health infrastructure and services Population health	• Effects to community health, including: o Health infrastructure and services o Healthcare, social services and facilities o Emergency response services o Population health[1] o Social determinants of health o Personal safety		Human Health Culture Employment and Economy Infrastructure and Services Community Health and Well-being
Archaeological and Heritage Resources[2]	Historical resources Archaeological sites Palaeontological resources	• Effects to sites of historical importance • Effects to sites of archaeological importance (including Culturally Modified Trees) • Effects to paleontological resources		Land and Resource Use Marine Use Culture First Nations Community Health and Well-being
Culture[3]		• Effects to governance and stewardship systems • Effects to customs, beliefs and values • Effects to language and intergenerational knowledge transfer • Effects to community and cultural cohesion		First Nations Community Health and Well-being

Table 2. Potential Valued Components and Subcomponents for the Environmental Assessment

6.0 VALUED COMPONENT ASSESSMENT METHODS

The Application must describe the methods used to assess the potential effects of the project. The Application must describe how scientific, Indigenous and local knowledge were applied in the analysis. For Indigenous knowledge, the Application must outline how Indigenous knowledge was used in alignment with the Indigenous knowledge policies and protocols of the First Nation and how the First Nation was involved in the use of the Indigenous knowledge. Further, the Application must confirm that the First Nation has provided consent for its use and public disclosure and that the First Nation agrees that the Indigenous knowledge has been appropriately characterized within the Application.

All VC sections of the Application must include the following headings and information, and any VC-specific deviations from this section must be described. Each VC chapter must identify to which other VCs it is linked and describe how the results of the assessment will be integrated into those of other VCs.

6.1. Relevant Statutes, Policies and Frameworks

The Application must summarize the regulatory and planning context for the management of the VC, including relevant legislation, policies and frameworks specific to the VC, and how these apply to the Project. These may include various Acts, regulations, policies, standards, cooperation agreements and/or decision-making frameworks including Indigenous law.

The following table provides VC-specific relevant statues, policies and frameworks that may be relevant.

Table 3. Relevant Statues, Policies, and Frameworks for Valued Components

Valued Component	Relevant Statutes, Policies and Frameworks
Air Quality	Statutes, policies and frameworks that may be relevant to the air quality VC include: • *Canadian Environmental Protection Act,* and regulations; • *Environmental Management Act* and regulations; • British Columbia Ambient Air Quality Objectives; • Canadian Ambient Air Quality Standards; • British Columbia Air Quality Dispersion Modelling Guideline (BC ENV, 2022); • British Columbia Field Sampling Manual (Province of B.C., 2013, 2020); • Guidance on Application of Provincial Air Quality Objectives for NO_2 (BC ENV, 2021); • Guidance on Application of Provincial Air Quality Objectives for SO_2 (BC MOE, 2017); • Meteorological Data and Sensing Requirements in the B.C. Ministry of Environment; and • Evaluating Human Health Impacts in Environmental Assessment: Air Quality (Health Canada, 2016). • *[Additional sector-specific statues, policies and frameworks as applicable:]*
Acoustic	Statutes, policies and frameworks that may be relevant to the acoustic VC include: • Municipal bylaws; • Guidance for Evaluating Human Health Impacts in Environmental Assessment: Noise (Health Canada, 2017); and • British Columbia Noise Control Best Practices Guideline (BCER 2023). • *[Additional sector-specific statues, policies, and frameworks as applicable].*
Surface Water	Statutes, policies and frameworks that may be relevant to the surface water VC include: • *Water Sustainability Act* and regulations; • *Environmental Management Act,* including the Contaminated Sites Regulation; • *Fisheries Act*; • *Drinking Water Protection Act*; • B.C. Water Quality Guidelines; • Source Drinking Water Quality Guidelines (ENV, 2020); • Guidelines for Canadian Drinking Water Quality (Health Canada, 2022); • Canadian Council of Ministers of the Environment Canadian Environmental Quality Guidelines; • Guidance for Evaluating Human Health Impacts in Environmental Assessment: Water Quality (Health Canada, 2017b); • Manual of Standard Operation Procedures for Hydrometric Surveys in British Columbia (MELP 1998b);

	• B.C. Environmental Flow Needs Policy; • B.C. Field Sampling Manual (Province of B.C., 2013, 2020); • Snow Survey Sampling Guide (BC MOE 1981); and • Government Actions Regulation under the *Forest & Range Practices Act*. • *[Additional sector-specific statues, policies and frameworks as applicable]*
Groundwater	Statutes, policies and frameworks that may be relevant to the groundwater VC include: • B.C. Guidelines for Groundwater Modelling to Assess Impacts of Proposed Natural Development Activities (BC MOE, 2012); • *Water Sustainability Act*; • *Environmental Management Act,* including the Contaminated Sites Regulation*;* • *Drinking Water Protection Act;* • B.C. Contaminated Sites Standards (in the B.C. Contaminated Sites Regulation); • B.C. Water Quality Guidelines; • B.C. Field Sampling Manual (Province of B.C., 2013, 2020); • Government Actions Regulation under the *Forest & Range Practices Act*; • Source Drinking Water Quality Guidelines (ENV, 2020); • Guidelines for Canadian Drinking Water Quality (Health Canada, 2022); • Canadian Groundwater Quality Guidelines for Use at Contaminated Sites; and • Guidance for Evaluating Human Health Impacts in Environmental Assessment Drinking and Recreational Water Quality (Health Canada, 2016b). • *[Additional sector-specific statues, policies and frameworks as applicable:]*
Marine Water and Sediment Quality	Statutes, policies and frameworks that may be relevant to the marine water quality VC include: • *Environmental Management Act,* including the Contaminated Sites Regulation; • B.C. Water Quality Guidelines; • *Fisheries Act* and regulations; • *Migratory Birds Convention Act* and regulations; • *Canadian Shipping Act* and regulations*;* • *Canadian Environmental Protection Act, 1999* and regulations; and • The Canadian Environmental Quality Guidelines. • *[Additional sector-specific statues, policies and frameworks as applicable]*.
Soil	Statutes, policies and frameworks that may be relevant to the soil VC include: • *Environmental Management Act,* including the Contaminated Sites Regulation; • *Agricultural Land Commission Act* and Agricultural Land Reserve regulations; • *Forest Range and Practices Act*; • *Local Government Act*; and • Canadian Council of Ministers of the Environment Canadian Soil Quality Guidelines for the Protection of Environment and Human Health • *[Additional sector-specific statues, policies and frameworks as applicable]*.
Unique Geologic Landforms	Statutes, policies and frameworks that may be relevant to the unique geologic landforms VC include: • Protecting Karst in Coastal B.C. Special Report (Forest Practices Board, 2007); • Land use plans; • *Land Act* Notations of Interest; and • Government Actions Regulation under the *Forest & Range Practices Act*. • *[Additional sector-specific statues, policies and frameworks as applicable]*.
Vegetation	Statutes, policies and frameworks that may be relevant to the vegetation VC may include: • *Energy Resource Activities Act* and associated regulations and guidelines; • *Forest and Range Practices Act*; • *Forest Act;* • *Weed Control Act* and regulation; • *Water Sustainability Act* and regulations; • B.C. Conservation Framework; • *Land Act;* • Evaluating the Health of Wetlands: Wetland Management Routine Effectiveness Evaluation and Technical Supplements (Fletcher et al, 2021; BCWF & FLNRO, 2021); • *Species at Risk Act* (SARA); • Federal Policy on Wetland Conservation (Government of Canada, 1991);

	• Canadian Wetland Classification System; and • Wetland Ecological Functions Assessment: An Overview of Approaches. • *[Additional sector-specific statues, policies and frameworks as applicable]*.
Wildlife	Statutes, policies and frameworks that may be relevant to the wildlife VC include: • *Wildlife Act*; • *SARA;* • *Land Act*; • *Migratory Birds Convention Act* and regulation; • Recovery strategies, management plans, management strategies, guidelines, and action plans for migratory birds and species at risk; • B.C. Conservation Framework; • *Energy Resource Activities Act* and associated regulations and guidelines; and • Government Actions Regulation under the *Forest & Range Practices Act*. • *[Additional sector-specific statues, policies and frameworks as applicable]*.
Aquatic Resources and Freshwater Fish	Statutes, policies and frameworks that may be relevant to the aquatic resources and freshwater fish VC include: • *Fisheries Act* and regulations; • *Environmental Management Act* and regulations; • Fisheries and Oceans Canada (DFO) policies; • *SARA*; • Framework for Assessing the Ecological Flow Requirements to Support Fisheries in Canada (DFO, 2013); • *Energy Resource Activities Act* and associated regulations and guidelines; • *Riparian Areas Protection Act* and regulations*;* • Government Actions Regulation under the *Forest & Range Practices Act;* • *Water Sustainability Act* and regulations; and • B.C. Environmental Flow Needs Policy. • *[Additional sector-specific statues, policies and frameworks as applicable]*..
Marine Resources	Statutes, policies and frameworks that may be relevant to the marine resources VC include: • *Fisheries Act* and regulations; • *Environmental Management Act* and regulations**;** • *SARA;* • Fisheries Protection Policy Statement (Fisheries and Oceans Canada, 2013); • *Canadian Environmental Protection Act, 1999* and regulations*;* • *Oceans Act;* • *Canada Shipping Act;* • *Energy Resource Activities Act* and associated regulations and guidelines; and • *Wildlife Act.* • *[Additional sector-specific statues, policies and frameworks as applicable]*.
Employment and Economy	Statutes, policies and frameworks that may be relevant to the employment and economy include national, provincial, regional and/or local economic development plans, strategies and action plans, such as: • *Labour Mobility Act;* • *Trade, Investment and Labour Mobility Agreement Implementation Act;* • *New West Partnership Trade Agreement Implementation Act;* • Local community charter(s); • Resources from the First Nations Information Governance Centre; • Human and Community Well-being: Guidelines for Assessing Social, Economic, Cultural and Health Effects in Environmental Assessments in B.C.; • *Local Government Act;* and • *Local Government Grants Act.* • *[Additional sector-specific statues, policies and frameworks as applicable]*.
Land and Resource Use	Statutes, policies and frameworks that may be relevant to the land and resource use VC include: • Crown land policies; • Land use plans; • Official Community Plans; • Regional Growth Strategies; • Municipal and Regional District bylaws; • Ministry of Agriculture and Food's Guidance Document for EAO Environmental Assessments

	• *Agricultural Land Commission Act;* • *Forest Act;* • *Forest and Range Practices Act* • *Water Sustainability Act*; • *Land Act;* • *Mineral Tenure Act;* • *Mines Act;* • *Energy Resource Activities Act;* • *Parks Act;* • *Wildlife Act;* • *Fisheries Act; and* • *Local Government Act.* [*Additional sector-specific statues, policies and frameworks as applicable*].
Marine Use	Statutes, policies and frameworks that may be relevant to the marine use VC include: • *Canadian Navigable Waters Act;* • *Canada Marine Act* and regulations; • *Pilotage Act;* • *Canada Shipping Act;* • *Marine Transportation Security Act* and regulations; • *Fisheries Act*; • *Environmental Management Act and regulations*; and • First Nation marine plans. • [*Additional sector-specific statues, policies and frameworks as applicable*].
Infrastructure and Services	Statutes, policies and frameworks that may be relevant to the infrastructure and services VC include: • Official Community Plans; • Regional Growth Strategies; • Municipal and Regional District bylaws; • Service provider management/development plans and strategies; • Local community charter(s); • Human and Community Well-being: Guidelines for Assessing Social, Economic, Cultural and Health Effects in Environmental Assessments in B.C. (BC EAO, 2020); • *Transportation Act;* • *Local Government Act;* • *School Act*; • *Teachers Act*; • *Fire Services Act*; • *First Nations Education Act*; • *Police Act*; and • *Public Health Act*. • [*Additional sector-specific statues, policies and frameworks as applicable*].
Human Health	Statutes, policies and frameworks that may be relevant to the human health VC include: • *Public Health Act* and regulations; • Contaminated Sites Regulation under the *Environmental Management Act*; • *Drinking Water Protection Act* and regulations; • Human and Community Well-being: Guidelines for Assessing Social, Economic, Cultural and Health Effects in Environmental Assessments in B.C. (BC EAO, 2020); • Health Canada Guidelines for Canadian Drinking Water Quality (Health Canada, 2022); • British Columbia Guidance for Prospective Human Health Risk Assessment (MOH, 2022); • Environment Canada Guidance for Ecological Risk Assessments (Government of Canada, 2013); • Health Canada Guidance for Evaluating Human Health Effects in Impact Assessment: Human Health Risk Assessment (Health Canada, 2023); • Health Canada Federal Contaminated Site Risk Assessment in Canada Guidance on Human Health Preliminary Quantitative Risk Assessment (Health Canada, 2021); and • Relevant statutes, policies and frameworks for the air quality, surface water, groundwater and noise VCs.

	• [*Additional sector-specific statues, policies and frameworks as applicable*].
Community Health and Well-being	Statutes, policies and frameworks that may be relevant to the community health VC include: • Human and Community Well-being: Guidelines for Assessing Social, Economic, Cultural and Health Effects in Environmental Assessments in B.C. (BC EAO, 2020); • Health Canada Guidance for Evaluating Human Health Effects in Impact Assessment: Human Health Risk Assessment (Health Canada, 2023); • [*Additional sector-specific statues, policies and frameworks as applicable*].
Archaeological and Heritage Resources	Statutes, policies and frameworks that may be relevant to the archaeological and heritage resources VC include: • *Heritage Conservation Act*; • Fossil Management Framework*;* • Fossil Management Policy including Fossil Impact Assessment Guidelines (Province of B.C., 2021); • Applicable Indigenous heritage policies and cultural use studies provided by First Nations; and • [*Additional sector-specific statues, policies and frameworks as applicable*] such as: • *Local Government Act;* and • Vancouver Charter.
Culture	Statutes, policies and frameworks that may be relevant to the culture VC include Indigenous and non-Indigenous community and land use plans that overlap the project site and land use studies provided by First Nations.

6.2. Influence of Consultation and Engagement

The Application must describe how information obtained from consulting the EAO, the Agency *[if substituted]* First Nations, the Technical Advisory Committee (TAC), any Community Advisory Committee, the public, and any other stakeholders was used. Consultation may consist of information gathered or shared during engagement with First Nations, TAC or any Community Advisory Committee meetings, public comment periods and open houses. Where information regarding Indigenous Knowledge is obtained from First Nations the Application will describe how it was integrated into the Application.

6.3. Assessment Boundaries

The Application Information Requirements must describe the spatial, temporal, administrative and technical boundaries of each VC (or subcomponent) to be used and provide rationale for why these boundaries were chosen using professional, local and Indigenous knowledge where available. The Application Information Requirements must include an explanation of how the proponent considered any information received from First Nations in identifying spatial boundaries.

The Application Information Requirements must also describe the methods used to identify the boundaries. Information on boundaries for each VC (or subcomponent) must be included in the appropriate VC sections of the Application, and must encompass all relevant project phases, components and activities. Transboundary spatial boundaries must be identified where transboundary effects are expected outside of the Province of British Columbia's or Government of Canada's jurisdiction. The spatial boundary maps for VCs (or subcomponents) must clearly identify parts of the project footprint located on lands and waters that lie within federal jurisdiction or treaty lands.

The following spatial boundaries and the sizes of these areas in hectares must be identified in the Application Information Requirements and used in the Application:

- [*List spatial boundaries (for example, project footprint,* Local Assessment Area*,* Regional Assessment Area *and cumulative effects assessment area) and describe the extent of each boundary*.]

The following temporal boundaries must be identified in the Application Information Requirements and used in the Application:

- [*List the temporal limits of the project (for example, construction, operation, decommissioning) and describe the duration and activities of each phase.*]

- *[Where relevant, VC-specific temporal boundaries that reflect how long the VC will experience effects should be described.]*

Where administrative or technical boundaries have constrained the assessment of potential effects, the nature of the boundaries and their influence must be documented in the Application.

6.4. Existing Conditions

For each VC (or subcomponent), the Application must describe the existing conditions (for example, "baseline") within the study areas in enough detail to enable potential project-VC interactions to be identified, understood and assessed. This description may include the characteristics of the VC (or subcomponent) itself and other components upon which the integrity of the VC relies.

The Application must include:

- A description of the quality and reliability of the existing conditions data and its applicability for the purpose used, including any data gaps, insufficiencies and uncertainties, particularly for the purpose of monitoring activities;
- A detailed description of the natural and / or human-caused trends, including climate change, that may alter the VC irrespective of the changes that may be caused by the project or other projects and activities in the local area;
- An explanation of if and how other past and present projects and activities in the study area have affected, or are affecting, each VC;
- Documentation of the methods and information sources used to compile information on existing (or baseline) conditions, including any standards or guidelines followed;
- Where additional project- and VC-specific field studies are undertaken, the scope and methods used should follow published documents pertaining to data collection and analysis methods, where these are available, and note which guidance documents were used. Where methods used for data collection deviate from applicable published guidance, the rationale for the variance must be provided in the Application; and
- Description of the VC-specific application of local and Indigenous knowledge.

The Application may provide technical reports that present the existing conditions data in Appendices and summarize the key findings of these technical reports directly in the Application. Regardless of the approach, the description of the existing conditions must be presented in a manner that allows the reader to appropriately apply the information to each VC (or subcomponent).

The following table provides VC-specific requirements for the description of existing conditions.

Table 4. Existing Conditions Descriptions for Valued Components

Valued Component	Existing Conditions Descriptions
Air Quality	As applicable, the Application must: • Describe sources of baseline air emissions, including mobile, stationary and fugitive; • Provide baseline information to characterize ambient air quality by identifying and quantifying emission sources of criteria/common air contaminants (for example, total suspended particulates, fine particulates smaller than 2.5 microns, respirable particulates of less than 10 microns, carbon monoxide, ozone, sulphur oxides, nitrogen oxides, volatile organic compounds, hydrogen sulphide, any other hazardous air pollutants (mobile and stationary sources) – note that where possible, baseline conditions must be established using a minimum of 12 months of continuous monitoring data; however, 24 months or more of baseline data collection is preferred; • Address seasonal variability in the baseline survey and include a determination of background or ambient contaminant concentrations, and provide monitoring data of appropriate duration, representativeness, data completeness, data validation and quality control;

	• Describe the local and regional climate including historical records of relevant meteorological information (for example, precipitation, air temperature, wind speed, wind direction, relative humidity); • Describe the local and regional climate projections for the area with the rationale of the climate model chosen and including a description of the current and projected climate impacts on air quality; • Describe human, and terrestrial and aquatic VC air quality-sensitive receptors in the study area; • Describe available Indigenous and local knowledge related to current air quality conditions; • Describe sources of nuisance odour in the study area; and • If applicable, provide air dispersion models of a base case, developed in accordance with provincial or federal standards, to account for existing pollutant sources and to determine the spatial distribution of pollutants in the study area. • [*Additional regional or site-specific information as applicable*] • [*Additional sector-specific information requirements as applicable*]
Acoustic	As applicable, the Application must: • Describe current ambient noise levels at key receptor points (for example, closest or most affected receptors), where relevant this may include providing the results of a baseline ambient noise survey and permissible sound levels for each receptor; • Describe typical sound sources, geographic extent and temporal variations; • Describe noise-sensitive receptors in the study area, including any foreseeable future receptors and distances of receptors from the project, including camps that will house project workers when off shift; and • Describe available Indigenous and local knowledge related to current noise conditions. • [*Additional regional or site-specific information as applicable*] • [*Additional sector-specific information requirements as applicable*]
Surface Water	As applicable, the Application must: • Describe the regional and local surface water quantity and quality conditions, including a description of the local watersheds; • Provide maps of the watershed(s) in the vicinity of the project showing key watercourses and waterbodies; • Describe regional and local sediment quality conditions; • Describe any project-specific baseline surveys completed, including a detailed description of the methods used and how the results helped to characterize existing conditions (for example, filled an information gap; confirmed or refuted older information) – note that baseline conditions must be established using a minimum of 12 months of continuous monitoring data; however, 24 months or more of baseline data collection is preferred; • Provide surface water quantity and quality data used to develop or inform water balance and water quality models, if required for the assessment; • Provide regional and local hydrologic and climatologic data (hydrometric data collection is to adhere to standardized practices and procedures – refer to the most recent version of the Manual of British Columbia Hydrometric Standards); • Describe the local and regional climate projections for the area with the rationale of the climate model chosen and including a description of the current and projected climate impacts on hydrology; • Provide local water quality data (water quality data collection is to adhere to standardized practices and procedures – refer to Cavanaugh et al 1998, Clark 2003, MELP 1998, or ENV 2024); • Describe regional geological and geochemical conditions; • Describe seasonal and inter-annual patterns in streamflow; • Describe seasonal and inter-annual trends in water quality parameters; • Describe water quality relative to B.C. Water Quality Guidelines and B.C. Drinking Water Quality Guidelines, where aquatic life or Canadian Council of Ministers of the Environment guidelines are exceeded; • Describe sediment quality relative to B.C. and Canadian Council of Ministers of the Environment Sediment Quality Guidelines; • Identify springs and potable water resources within the assessment area and describe their current use, potential for future use, and whether their consumption has First Nation cultural importance; • Describe effects occurring to surface water and sediment, and water use and users from discharges to the receiving environment from any current and historical industrial activities; and • Describe available Indigenous and local knowledge related to surface water. • [*Additional regional or site-specific information as applicable*] • [*Additional sector-specific information requirements as applicable*]
Groundwater	As applicable, the Application must: • Describe the regional and local groundwater quantity and quality conditions;

	• Describe any project-specific baseline surveys completed, including a detailed description of the methods used and how the results helped to characterize existing conditions (for example, filled an information gap; confirmed or refuted older information); • Provide groundwater quantity and quality data used to develop or inform water balance and water quality models, if required for the assessment; • Describe seasonal trends in groundwater quality and quantity parameters; • Describe possible groundwater-surface water interactions; • Describe water quality relative to B.C. Water Quality Guidelines or the BC Contaminated Sites Standards (for groundwater wells); • Identify all domestic, communal or municipal water wells within the assessment area; describe their current use, potential for future use and whether their consumption has a First Nation cultural importance; and • Describe available Indigenous and local knowledge related to groundwater. • *[Additional regional or site-specific information as applicable]* • *[Additional sector-specific information requirements as applicable]*
Marine Water and Sediment Quality	As applicable, the Application must: • Describe any project-specific baseline surveys completed, including a detailed description of the methods used and how the results helped to characterize existing conditions (for example, filled an information gap; confirmed or refuted older information) – note that baseline conditions must be established using a minimum of 12 months of continuous monitoring data; however, 24 months or more of baseline data collection is preferred; • Provide marine water quality data used to develop or inform water quality models, if required for the assessment; • Describe the local and regional climate projections for the area with rationale of the climate model chosen and including a description of the current and projected climate impacts on marine water and sediment quality; • Describe water quality relative to B.C. Water Quality Guidelines and Canadian Environmental Quality Guidelines; and • Describe available Indigenous and local knowledge related to marine water and sediment quality. • *[Additional regional or site-specific information as applicable]* • *[Additional sector-specific information requirements as applicable]*
Soil	As applicable, the Application must: • Describe general information about baseline physiography; • Provide baseline soil map units and data (soil series distribution and extent); • Provide baseline maps and data for soil erosion potential; • Provide baseline maps and data for land or agricultural capability as relevant; • Characterize topsoil and subsoil for suitability as growth media for reclamation; • Characterize land or agricultural capability as relevant; • Describe any historical land use and the potential for contamination of soils and sediments and describe any known or suspected soil contamination with the study area that could be re-suspended, released, or otherwise disturbed as a result of the Project; and • Describe available Indigenous and local knowledge related to soil. • *[Additional regional or site-specific information as applicable]* • *[Additional sector-specific information requirements as applicable]*
Unique Geologic Landforms	As applicable, the Application must: • Describe any unique geological landforms that may interact with the project; • Provide maps showing the extents of the unique geological landforms; and • Describe available Indigenous and local knowledge related to the unique geological landforms. • *[Additional regional or site-specific information as applicable]* • *[Additional sector-specific information requirements as applicable]*
Vegetation	As applicable, the Application must: • Identify and classify terrestrial ecosystems in the Local Study Area according to the Biogeoclimatic Ecosystem Classification system and the applicable field guide(s) to site identification; • Provide ecosystem mapping used to identify and classify terrestrial and riparian ecosystems using appropriate provincial standards (for example, Terrestrial Ecosystem Mapping or Sensitive Ecosystem Mapping) with appropriate field verification; • Describe the local and regional climate projections for the area with rationale of the climate model chosen and include a description of the current and projected climate impacts on vegetation; • Describe the location, extent and condition of ecological communities of conservation concern; • Identify and classify wetland associations following *Wetlands of British Columbia: A Guide to Identification* (Mackenzie and Moran 2004);

	• Identify the location and extent forest lands by seral stage, including of old forest ecosystems and Old Growth Management Areas; • Describe the current level of disturbance associated with vegetation, including a qualitative description of level of habitat fragmentation; • Describe the natural disturbance regime (such as, fire, floods, droughts, etc.); • Identify the location and abundance of rare and provincially or federally listed plant species, based on targeted field surveys as applicable; • Describe the presence and abundance of invasive and non-native species in the project area and any regional-scale invasive species management efforts; • Identify the biodiversity metrics (species richness), biotic and abiotic indicators that are used to characterize the baseline vegetation biodiversity and discuss the rationale for their selection; • Identify any Wildlife Tree Reserve Areas that have been established in forestry cutting permits within the Local Assessment Area; • Provide information on the presence and abundance of traditional use plants in the project area, integrating available Indigenous and local knowledge as applicable; and • Describe available Indigenous and local knowledge related to vegetation. • [*Additional regional or site-specific information as applicable*] • [*Additional sector-specific information requirements as applicable*]
Wildlife	As applicable, the Application must: • Include a current list of species expected to occur in the largest spatial boundary for the VC; • For each species, provide federal (Committee on the Status of Endangered Wildlife in Canada and SARA) and provincial (Conservation Data Centre List and Conservation Framework Rank) conservation status and expected occurrence (for example, months; seasons), distribution (for example, extent of project interaction), and general habitat associations (for example, old forest; wetlands); • Describe the occurrence, distribution, population status, threats and conservation goals of each VC subcomponent (for example, species or species group); • Describe and provide all project-specific baseline surveys completed, including a detailed description of the methods used and how the results helped to characterize existing conditions (for example, filled an information gap; confirmed or refuted older information); • Describe the efforts to determine species presence/absence, the limitations of those efforts, the likelihood/probability of species presence/absence, and the level of confidence in those determinations; • Describe the location, distribution, condition and amount of suitable habitat that provides the daily, seasonal and/or annual life requisites for a VC subcomponent. Provide the habitat mapping used to describe baseline conditions, which should be Terrestrial Ecosystem Mapping (for example, RIC 1998, 1999), Predictive Ecosystem Mapping (RIC 2000), or other well-supported and appropriate habitat mapping methods (for example, habitat suitability index model using vegetation resources inventory data); • Describe the locations and general nature of wildlife habitat enhancement projects (e.g., mule deer winter range enhancement) in the Regional Assessment Area; • Describe the linear disturbance density (in km/km^2) by habitat type; • Describe the local and regional climate projections for the area with rationale of the climate model chosen and including a description of the current and projected climate impacts on wildlife and suitable habitat and/or migration patterns of each VC subcomponent; • Identify the biodiversity metrics, or biotic and abiotic indicators, that are used to characterize the baseline biodiversity for wildlife and discuss the rationale for their selection; • Describe the location, distribution, condition and amount of 'critical habitat' (for example, as defined in a recovery strategy, conservation plan, or similar document); • Provide a list of Ungulate Winter Ranges, Wildlife Habitat Areas, Wildlife Management Areas, Important Bird Areas, Bird Conservation Regions, or sanctuaries and the extent to which these overlap with the wildlife VC spatial boundaries; • Provide a list or description of wildlife and wildlife habitat management objectives as defined in Land and Resource Management Plans or Sustainable Resource Management Plans; • Describe the location and relative importance or significance of wildlife habitat features (for example, breeding colonies, travel corridors and inter/intra-seasonal movements, mineral licks, protected nests, dens, roosts); • Describe any established conservation thresholds (for example, as defined in a recovery strategy, conservation plan, or similar document) and whether these are exceeded at baseline (for example, linear feature density, core security habitat, critical habitat);

	• Describe the levels of disturbance currently affecting wildlife and wildlife habitat, such as habitat fragmentation, and the extent of human access and use (authorized and/or unauthorized) and any relevant current conditions from B.C. Cumulative Effects Framework reports; • Describe the natural disturbance regimes and their sources (such as, fire, floods, droughts, diseases, insects and other pests); • Provide information on the use of species as country foods and reference to species of Indigenous cultural use and value; and • Describe available Indigenous and local knowledge related to wildlife; including information from publicly-available sources (e.g., roadkill data). • [*Additional species-specific information requirements as applicable]* • [*Additional regional or site-specific information as applicable*] • [*Additional sector-specific information requirements as applicable*]
Aquatic Resources and Freshwater Fish	As applicable, the Application must: • Provide maps of the watershed(s) in the vicinity of the project showing key watercourses and waterbodies; • Describe and provide maps of relevant fish habitats, including characteristics that directly and indirectly support fish in carrying out their life processes, including: width, depth, and gradient of the waterbody; temperature, dissolved oxygen, and pH; habitat types (e.g., riffle, run, pool [freshwater], or intertidal and subtidal habitat types [marine]); fish habitat uses (i.e., for spawning, rearing, migration, and overwintering habitat); aquatic algae and aquatic vegetation; and riparian vegetation (composition and state of maturity); • Provide a characterization of fish habitat features that may demonstrate the presence of fish species in terms of appropriate habitats – water quality and quantity, sediment characteristics, seafloor terrain features, prey, shelter, refuge, feeding, spawning habitats, nursery habitats, rearing habitats, overwintering, migration routes, sensitive timing for these activities, seasonal variability in habitat use, ranges and sensitive periods, and primary and secondary productivity in affected water bodies as applicable; • Describe the fish species present and an estimate of the abundance of those species, including a description of the efforts to determine species presence/absence, the limitations of those efforts, the likelihood/probability of species presence/absence, and the level of confidence in those determinations; • Provide a description of the biodiversity within the freshwater and marine environment, including describing the trophic state, interactions and relative importance of each species with the identified food webs and identify the biodiversity metrics, biotic and abiotic indicators that are used to characterize the baseline biodiversity for fish and/or aquatic species, including the rationale for their selection; • Describe the historical occurrence, distribution, and conservation status of freshwater fish in the watercourses and waterbodies; • Describe and provide any baseline surveys, including Project-specific surveys conducted in the local and regional study areas for water quality, freshwater plankton, periphyton, benthic invertebrates, shellfish, fish, fish habitat, macrophytes, and biological tissues, including the methods used (for example, location of sampling stations, catch methods, date of catches, species, catch-per-unit effort) and how the results helped to characterize existing conditions (for example, the source of data available, filled an information gap; confirmed or refuted older information) as applicable; • Identify natural obstacles (such as, falls, beaver dams) or existing structures (such as, water crossings) that hinder the free passage of fish; • Describe threats to fish in the project area such as relating to, but not limited to, illegal harvesting, and invasive plant or fish species; • Describe the conservation status under the B.C. Conservation Data Centre, Committee on the Status of Endangered Wildlife in Canada, and SARA for all potential freshwater fish and aquatic resources Species at Risk; • Describe the local and regional climate projections for the area with rationale of the climate model chosen and including a description of the current and projected climate impacts on fish, habitat and habitat use; • Provide information on the use of fish and/or aquatic species as country foods and reference to species of Indigenous cultural use and value; and • Describe available Indigenous and local knowledge related to freshwater fish. • [*Additional regional or site-specific existing information as applicable*] • [*Additional sector-specific information requirements as applicable*]
Marine Resources	As applicable, the Application must: • Provide maps of the watershed(s) in the vicinity of the project showing key watercourses and waterbodies; • Provide maps of the marine environment in the vicinity of the project showing proximity to marine protected areas and important watercourses supporting fisheries; • Describe and provide maps of relevant habitats, including characteristics that directly and indirectly support marine resources in carrying out their life processes, including critical habitat or sensitive habitat areas;

	• Describe the historical occurrence, distribution, and conservation status of marine fish, marine mammals and marine invertebrates; • Describe and provide any project-specific baseline surveys completed, including the methods used and how the results helped to characterize existing conditions (for example, filled an information gap; confirmed or refuted older information); • Describe the biological marine resources present and an estimate of the abundance of those species; • Describe the location, distribution, condition, and amount of fish habitat that provides the seasonal and/or annual life requisites; • Describe the location and characteristics of any relevant 'critical habitat' (as defined in a recovery strategy, conservation plan, or similar document); • Describe habitat use, including seasonal variability in habitat use; • Describe the local and regional climate projections for the area with rationale of the climate model chosen and including a description of the current and projected climate impacts on marine resources; • Describe ambient underwater noise levels in the study area and at the project site from various sources based on acoustic measurements; • Describe the underwater vibration and sound sources including geographic extent and spatial and temporal variations within the water column and at the seafloor; • Provide information on the use of species as country foods and reference to species of Indigenous cultural use and value; and • Describe available Indigenous and local knowledge related to marine resources. • [*Additional regional or site-specific information as applicable*] • [*Additional sector-specific information requirements as applicable*]
Employment and Economy	As applicable, the Application must: • Describe the local and regional economy, including the main economic activities in the local and regional study areas; • Characterize the economic conditions, including the differences of experiences by diverse groups, including First Nations, Elders, or other community relevant groups, as appropriate (such as women, youth, seniors); • Describe trends in labour force and employment statistics for residents in the local and regional study areas, including First Nations, and the availability of skilled and unskilled workers, existing workers, existing employment rates, full-time and part-time employment, and training; • Describe local labour market conditions for other underrepresented groups such as groups defined by gender identity and expression, sexual orientation, age, mental and physical ability, race, religion, immigrant status, language and socio-economic status; • Describe wage and income information, including average salary range; • Describe tax revenues and government expenditures; • Discuss trends and factors influencing cost of living (for example, housing, food, goods and services); • Describe and quantify, where possible, land and resource valuations; • Describe businesses or industry relevant to the Project in the local and regional study areas, including availability of businesses that may provide supplies and services required for the Project; and • Describe available Indigenous and local knowledge related to employment and economy. • [*Additional regional or site-specific information as applicable*] • [*Additional sector-specific information requirements as applicable*]

Land and Resource Use	As applicable, the Application must:
	• Describe any Regional Land and Resource Management Plans and official community plans, as well as associated zoning or land use policies;
	• Describe any Indigenous land use or resource plans;
	• Identify sub-groups within the study area and their vulnerability to land and resource use effects (for example, Indigenous people, farmers);
	• Describe the following types of land or resource uses, including location and access, in the vicinity of the Project:
	  ○ Private property and residential areas;
	  ○ Industrial land uses (for example, mining, oil and gas);
	  ○ Other tenured, permitted or licensed land uses (for example, trapping, guiding);
	  ○ Consumptive land uses (for example, hunting, fishing, trapping, vegetation gathering);
	  ○ Downstream non-project water uses, users and licenses that may be affected by the project, and describe that use (e.g., aquatic life, drinking, irrigation, livestock watering, industrial, etc.);
	  ○ Non-project groundwater uses and users that may be affected by the project, and describe that use;
	  ○ Indigenous groundwater uses and users, where information is available or provided;
	  ○ Outdoor recreation areas (for example, camping, hiking, skiing, boating, caving);

	○ Agricultural land uses; ○ Tourism; ○ Parks and protected areas; ○ Other. • Describe current conditions with respect to air quality, surface water quality, noise, vibration, odour or night-time light nuisance for occupants or resource users; • Describe the local and regional climate projections for the area with rationale of the climate model chosen and including a description of the current and projected climate impacts on land and resource use; • Describe the visual landscape from key use areas; and • Describe available Indigenous and local knowledge related to land and resource use. • *[Additional regional or site-specific information as applicable]* • *[Additional sector-specific information requirements as applicable]*
Marine Use	As applicable, the Application must: • Identify and describe navigable waters, including potentially affected waterway users and concerns regarding waterway use and access; • Describe relevant marine use plans; • Describe all marine protected areas; • Describe Port operations, management plans, policies and objectives; • Describe Canadian Coast Guard services in the area; • Describe marine infrastructure, and navigation aids; • Describe applicable marine communication policies and procedures; • Describe and quantify shipping and other marine traffic (for example, cruise ships, ferries, fishers, recreational boaters, commercial tour operators, military, coast guard, tugboats and barges); • Describe and quantify commercial fisheries; • Describe other tenured, permitted or licensed marine uses (for example, aquaculture, moorage); • Describe recreational fishing; • Describe Indigenous fisheries and boating routes; • Describe other marine harvesting uses and activities; • Describe marine recreation and tourism in the area; • Describe the visual landscape from key use areas; and • Describe available Indigenous and local knowledge related to marine use. • *[Additional regional or site-specific information as applicable]* • *[Additional sector-specific information requirements as applicable]*
Infrastructure and Services	As applicable, the Application must: • Describe relevant population demographics and trends (for example, health status, community safety and crime, education and training, population size, gender, age, permanent and temporary populations); • Describe the capacity and availability of the following; • Health care and social services and facilities; • Emergency response services; • Domestic water supply; • Sewage and water treatment facilities; • Solid waste collection services, landfills and recycling facilities; • Community recreational infrastructure, facilities and services; • Educational services and facilities including day care; • Any other relevant public or private sector infrastructure and services. • Describe the capacity of local and regional transportation infrastructure; • Describe the capacity of housing and accommodation; and • Describe available Indigenous and local knowledge related to infrastructure and services. • *[Additional regional or site-specific information as applicable]* • *[Additional sector-specific information requirements as applicable]*
Human Health	As applicable, the Application must: • Summarize baseline conditions for VCs that are linked to human health, which may include: ○ Air quality; ○ Acoustic; ○ Surface Water; ○ Groundwater;

	○ Marine Resources; and/or ○ Soil quality. • Summarize baseline conditions for quality and quantity of country foods, including baseline contaminant concentrations in the tissues of country foods (traditional foods) consumed by First Nations and local communities. Information can be pulled from relevant VCs, such as: ○ Vegetation; ○ Wildlife; ○ Marine Resources; and/or ○ Freshwater Fish. • Describe baseline conditions identified for VCs that contribute to population health, such as: ○ Population demographics; ○ Employment and income; ○ Access to health services; ○ Personal health practices (for example, substance use, diet, exercise); ○ Behaviours and activities (for example, recreational, traditional, or other land uses); and/or ○ Health status (for example, mental health, chronic illnesses). Any context-specific definitions of health and well-being, including from the perspective of the relevant Indigenous nation. • Describe available Indigenous knowledge or local knowledge related to human health, and how local and Indigenous knowledge from relevant populations was used in establishing health baseline conditions, including input from diverse subgroups; • Describe baseline health conditions and existing health inequalities using available disaggregated data for diverse groups and subgroups and their differential access to resources, opportunities and services within the community where that data is available. Where gaps in the data exist, or when potential disproportionate effects on subgroups are not anticipated, the Application must discuss impacts to health for the broader population. Where available information presents a limitation on the ability to describe differential effects to distinct populations, articulate this limitation and describe its implications for analysis; • Describe the country foods[6] (i.e., traditional foods) consumed by which First Nations, including how much, how frequently, where these country foods are harvested, and how the data was collected (such as site-specific consumption surveys, community-led assessments on impacts to Treaty or harvesting rights). If site-specific consumption data are not provided, then provide an acceptable rationale why the surrogate consumption data provided is appropriate (if given express permission by First Nation communities to disclose this information); and • Describe relevant community and Indigenous nation history or context, including historical effects on health. • Describe available Indigenous and local knowledge related to human health. • *[Additional regional or site-specific information as applicable]* • *[Additional sector-specific information requirements as applicable]*
Community Health and Well-Being	As applicable, the Application must: • Provide an overview of the current state of human and community well-being in the project area from both a local and Indigenous perspective; • Describe influences on community health (including changes to disposable income, cost of living, lifestyle, language, rates of alcohol and substance abuse, and of illegal activities and violence; rates of sexually transmitted infections and gender-based violence; etc.), and, as applicable, indicators proposed by First Nations; • Describe community cohesion, including factors such as community or neighbourhood engagement, support and social networks and other social activities; • Describe the psychosocial environment and its influence on community well-being; • Describe the socio-cultural environment, identifying First Nations and predominant cultural communities, demographic characteristics and major socio-cultural concerns of the population; • Describe access, ownership and use of resources (such as, land tenure, minerals, food, water, social infrastructure); • Describe the capacity (currently available or planned) of institutions to deliver public services and infrastructure; • Describe relevant historical community background; • Existing health infrastructure and services, including health care provider capacity; and • Drinking water infrastructure, services and sources for surface and/or groundwater (permanent, seasonal, periodic, or temporary), including approximate wellhead capture zones; • *[Additional regional or site-specific information as applicable]*

[6] As per the *British Columbia Guidance for Prospective Human Health Risk Assessment (April 2022)*, country foods are defined as all foods sourced outside of commercial food systems, also referred to as environmental livelihoods. This includes any food that is trapped, fished, hunted, harvested, or grown for subsistence or medicinal purposes outside of the commercial food chain.

	• *[Additional sector-specific information requirements as applicable]*
Archaeological and Heritage Resources	As applicable, the Application must: • Describe and provide archaeological studies completed in the local and regional study area and any sites found within the Project footprint; • Describe the archaeological potential in the project area; • Describe any heritage, archaeological or historical sites identified in the project area; • Describe the paleontological potential in the project area; and • Describe available Indigenous and local knowledge related to archaeological and heritage resources. • *[Additional regional or site-specific information as applicable]* • *[Additional sector-specific information requirements as applicable]*
Culture	As applicable, the Application must: • Describe the cultural history and identity in the project area including governance and stewardship systems, customs, beliefs and values; • Describe language and intergenerational knowledge transfer; • Describe community and cultural cohesion; • Describe the link between cultural practices and community health; and • Describe available Indigenous and local knowledge related to culture. • *[Additional regional or site-specific information as applicable]* • *[Additional sector-specific information requirements as applicable]*

6.5. Potential Effects

The Application must summarize the methods used to identify and assess the potential effects of the project on the identified VCs and subcomponents, including the results of any interaction between effects (to one VC or multiple VCs), and how input from the TAC and participating Indigenous nations was incorporated.

For each VC, the Application must identify the potential interactions between the project, including the various physical works and activities, and each VC (or subcomponent). The Application must describe any indicators and parameters used to facilitate the evaluation of potential project effects.

The Application must then describe the potential positive and negative direct and indirect effects for each phase of the project on each VC. The Application must identify interactions between the project and these effects, and outline indicators that will be used to measure these effects.

6.6. Effects Management

The Application must describe effects management approaches for all VCs, including approaches to avoid, reduce or otherwise address potential negative effects and enhance positive effects as appropriate.

The Application must apply GBA+ analysis and document how effects management approaches may be disproportionate on distinct human populations, including First Nations, Elders, or other community relevant groups such as women, youth, and seniors.

For each VC section, the Application must:

- Apply the mitigation hierarchy of avoid, minimize, restore on-site and offset;
- Describe the best practices and avoidance measures incorporated into the project design to reduce potential effects, including site and route selection, project scheduling, project design (for example, equipment selection, placement, emissions abatement measures) and construction and operation procedures and practices;
- Describe any standard mitigation to be implemented, including consideration of best management practices, environmental management plans for each Project phase, environmental protection plans, contingency plans, emergency response plans and other general practices;
- Describe the approach used to identify and select site-specific mitigation measures to be implemented to address

potential adverse effects (including any offset plans);

- Describe site-specific measures that are specific to each identified effect and clearly indicate how the mitigation measures will reduce the potential adverse effects or enhancement measures will increase positive effects on the VC (measures are to be written as specific commitments that clearly describe how the proponent intends to implement them and the outcome these measures are designed to address);
- Describe how disproportionate effects to distinct human populations, including First Nations, Elders, or other community relevant groups such as women, youth, and seniors, were used to inform mitigation and enhancement measures;
    - Where gaps in available data present limitations on the possibility of understanding disproportionate effects, the Application must specify these limitations and their possible implications to understanding of effects;
- If there is little relevant or applicable experience with a proposed mitigation measure and there may be some question as to its effectiveness, clearly describe the potential risks and uncertainties associated with use of the mitigation should those measures not be effective;
- Include the anticipated time required for mitigation measures to become effective, to enable understanding of the duration of residual effects and the temporal characteristics of reversibility;
- Summarize the mitigation measures for potential project effects by project phase and identify any mitigation measures that are in management or offset plans;
- Identify any potentially negative effects associated with the mitigation method itself;
- Provide an analysis of the likely effectiveness of the proposed technically and economically feasible mitigation measures; the reasons for determining if the mitigation measure reduces the extent to which the effects are adverse must be made explicit;
- Clearly indicate the effect(s) that the mitigation measures are designed to address and the desired outcome of each mitigation measure, and whether they are under provincial, federal, or another jurisdiction (or a combination);
- Clearly indicate which mitigation measures are within the care and control of, and will be implemented by, the proponent. For any mitigation measure that will be applied by contractors and/or sub-contractors, clearly indicate how the proponent will ensure that they apply the mitigation measure;
- Do not use the terms “where feasible”, “if applicable”, “if appropriate”, “if practical”, and other conditional terms when describing mitigation measures; instead, provide a clear understanding of the situations in which those mitigation measures would or would not be applied. For instances where the mitigation measure would not be applied, clearly indicate: why, who would make the decision, and details about what contingency measure(s) would be applied instead; and
- Write mitigation measures as specific commitments that clearly describe how the proponent intends to implement them and the desired outcomes; measures are to be specific, achievable, measurable, and verifiable, and described in a manner that avoids ambiguity in intent, interpretation and implementation.

For projects that propose offsetting, the Application must provide offsetting or compensation plans following the *Procedures for Mitigating Impacts on Environmental Values (Environmental Mitigation Procedures)* (Ministry of Environment 2014b).

6.7. Assessing Negative Effects

Negative effects may result from interactions between the project and VCs, and may be avoided, minimized, restored, or offset through the application of mitigation and management measures. Following the identification of mitigation and management measures, any residual negative effects on VCs must be assessed and described.

The Application must provide a detailed description of the methods used to assess negative effects to the VCs that are anticipated as a result of the project and present the results of this assessment, after taking mitigation into account.

The Application must, for each potential effect:

- Describe the analytical methods used to identify negative effect, including modelling approaches;
- Identify assumptions used in analytical methods;
- Present the results of the analyses, including a detailed description of any potential residual effect (the description of the potential effect can be either qualitative or quantitative);
- Describe in qualitative terms the nature and degree of uncertainty or conservatism related to the data, modelling and methods used for the analysis; and
- Describe the effectiveness of mitigation measures and proposed adaptive management measures and describe the prediction of potential residual effects. If additional risk analysis is required to fully characterize the potential risk where there is high uncertainty about the mitigation effectiveness (for example, where mitigation measures are proposed to be implemented for which there is little experience or questions about their effectiveness), a range of likely, plausible and possible outcomes will be assessed and additional studies, mitigation or contingency plans may be required.

For all VCs, information regarding potential effects on the human environment should be presented by gender, age and other community relevant identity factors to identify disproportionate residual effects for diverse groups using GBA+.

Where appropriate, and where the best practice or evidence-based thresholds exist, adverse effects should be described quantitatively using these criteria. Where a quantitative description is not possible, effects should be described qualitatively.

When residual effects on a VC are predicted and the VC is also considered a “pathway” for other potential effects on other VCs, the Application must identify the linkages between the VCs.

Where offsetting measures are proposed to directly or indirectly address a potential effect, the Application must first describe any potential effects following the implementation of measures to avoid, minimize and restore on-site. For transparency, the change to the VC prior to the implementation of offsetting should be clearly identified, quantified and characterized in the Application to fully understand the consequences of the project being assessed. The characterization is best undertaken in the context of describing the proposed suite of mitigation, the need for and scope of offset, and residual effect.

6.7.1. VC-Specific Effects

For the Land and Resource Use VC, the Application must also include if and how the location and nature of project components and activities would or could limit or prevent access to, and limit or prevent other land and resource uses in surrounding areas.

For the Human Health VC, the Application must also, as applicable:

- Describe potential effects on quality and quantity of country foods, including contaminant concentrations in the tissues of country foods (i.e., traditional foods) consumed by First Nations and local communities;

- Conduct a human health problem formulation exercise including a preliminary model prediction (i.e., a conceptual site model or conceptual exposure model) to determine whether a HHRA is required. The proponent must provide a rationale/explanation if problem formulation/preliminary model predictions indicate that a HHRA is not warranted;
- If an HHRA is conducted, it must:
    - Be conducted by a professional with training, experience, and qualifications in HHRAs in B.C., and a professional statement including the qualifications and experience must be included;
    - Follow relevant HHRA guidance, such as Guidance on Human Health Risk Assessment by Northern Health Authority;
    - Where population sizes are too small to quantitively assess risk, a qualitative assessment of risk, based on findings of the HHRA, the demographics of the community and epidemiological information on the contaminants must be provided.
- Identify human receptors that may be potentially affected by project-related activities. Describe and quantify the project-related activities, COPCs, nuisances and environmental, social and economic changes that could potentially cause adverse health effects to the identified human receptors.

For the Community Health and Well-Being VC, the Application must also, as applicable:

- Identify if the project would interact with other factors that support community health and well-being that were not specifically assessed as part of a VC;
- Assess potential adverse and positive effects of changes to affected communities' social conditions including, but not limited to: food security (including access to country foods); income inequity; changes at the community-level that affect social conditions as result of increased population, workers camps, economic activity, cost of living, among other factors; increased rates of alcohol and substance abuse, illegal activities and violence, rates of sexually transmitted infections, and gender-based violence and non-commercial/trade economy;
- Describe in- and out-migration project effects, including changes in social and cultural make-up of affected communities and changes in populations;
- Identify whether social divisions might be intensified as a result of the project;
- Evaluate potential social effects associated with increased disposable income, including potential cost of living effects, adverse and positive lifestyle changes, distribution of benefits among affected people;
- Describe any anticipated effects to language;
- Consider the potential for stresses on community, family and household cohesion, alcohol and substance abuse, or illegal or other potentially disruptive activities;
- Describe if any differential access for diverse groups to health infrastructure and services within the community, including health care provider capacity, and increased use of health and related health-social services in relevant communities, will be negatively or positively impacted by the project, where that data is available. Where gaps in the data exist, or when potential disproportionate effects on subgroups are not anticipated, the Application must discuss impacts to health for the broader population;
- In situations where project-related air, water or noise emissions exceed local, provincial, territorial, or federal guidelines or thresholds, and yet public concerns were raised regarding human health effects, provide a description of the public concerns and how they are to be addressed (if not already addressed); and
- Describe changes to viewscapes as a result of the project and potential effects to community health.

6.8. Assessing Positive Effects

Potential positive effects may be directly related to the project or may be identified after considering the consequences of technically and economically feasible mitigation measures that maximize a wider range of benefits. Proponents are encouraged to look for opportunities to create positive effects and practically extend the scope or extent of project-specific mitigation, restoration, and enhancement measures to produce net project benefits. Where appropriate, information regarding potential positive effects on human and community well-being should be presented by gender, age and other community relevant identity factors to identify disproportionate potential effects for diverse groups.

The Application must:

- Identify and assess predicted positive effects;
- Describe how long-term trends (for example, changing environment, employment and technology) and market fluctuations have been considered;
- Characterize the positive effect; and
- Describe how the positive effect may be monitored and adaptively managed or enhanced.

6.9. Characterization of Residual Effects

The Application must provide a brief characterization of negative residual effects of the project to the VCs.

For each negative residual effect, the Application must:

- Provide a detailed characterization of residual effects following the implementation of mitigation measures;
- For every residual effect, the context needs to be fully described using qualitative and/or quantitative information, including:
    - Effects of past and present projects and activities;
    - Potential trends in the condition of the VC;
    - Vulnerability and resiliency of the VC.
- Use the following criteria to characterize residual effects and must take into account the environmental, economic, social, cultural and health context within which the potential effects may occur:
    - Magnitude;
    - Extent;
    - Duration;
    - Reversibility;
    - Frequency;
    - Affected populations;
    - Risk and uncertainty.
- Where applicable, consider importance in characterizing residual effects;
- Define the criteria/terms used to characterize the residual effects;

- Describe the likelihood of whether a residual effect is likely to occur using appropriate quantitative or qualitative terms and enough description to understand how the conclusion of likelihood was reached; and
- Identify and explain the relevant sources of information that were used to characterize the residual effects, including those provided by First Nations and other EA participants.

The characterization must follow the characterization definitions provided in the table below or provide a clear description of any differences followed and rationale why.

Table 5: Residual Effects Characterization Definitions

Criteria	General Description	Assessment Definitions
Context	Consideration of context draws heavily on the description of existing conditions (the environmental, economic, social, cultural and / or health setting) of the valued component, which reflect cumulative effects of other projects, and activities that have been carried out, and especially information about the effect of natural and human-caused trends in the condition of the valued component.	**High:** the receiving environment or population has high natural resilience to imposed stresses and can respond and adapt to the potential residual effect. **Moderate:** the receiving environment or population has a moderate resilience to imposed stresses and may be able to respond and adapt to the potential residual effect. **Low:** the receiving environment or population has low resilience to imposed stresses and will not easily adapt to the potential residual effect.
Magnitude	Magnitude refers to the expected size or severity of the residual effect. When evaluating magnitude of residual effects, consider the proportion of the Valued component affected within the spatial boundaries and the relative effect (e.g., relative to natural annual variation in the magnitude of the valued component or other relevant characteristic). It is important to include, where relevant and available, standards, objectives, limits, or thresholds into these definitions, specific to individual VCs and residual effects. If there is not an established threshold, it is best practice to develop one for clarity.	**Negligible:** no detectable change from existing conditions. **Low:** the potential residual effect will slightly alter or change the valued component without changing its role or function, and it does not approach an established threshold or limit **Medium:** the potential residual effect will alter or change the nature, role, or function of a valued component but will not affect its integrity, and it may be close to or at an established threshold or limit. **High:** the potential residual effect will substantially alter or change the nature, role, or function of a valued component and may jeopardize the valued component's integrity, and it surpasses an established threshold or limit.
Extent	The spatial scale over which the residual effect is expected to occur.	**Limited**: the potential residual effect is restricted to the project footprint. **Local**: the residual effect will be within the local assessment area. **Regional:** the potential residual effect will be within the regional assessment area. **Beyond Regional:** the potential residual effect will be beyond the regional assessment area.

<table>
<tr><th>Criteria</th><th>General Description</th><th>Assessment Definitions</th></tr>
<tr><td>Duration</td><td>The period during which the potential effect persists and acts upon the valued component. This may be longer than the duration of the physical work or activity that produced the potential residual effect.</td><td>Short-term: the anticipated potential residual effect will be felt temporarily during project construction or closure stages only. It also applies to any effect that will occur for less than two years in operations.
Medium-term: the anticipated potential residual effect will be felt for a limited period of time greater than two years, generally corresponding to the operations phase and closure phase.
Long-term: the anticipated potential residual effect will be felt beyond closure.</td></tr>
<tr><td>Reversibility</td><td>Whether or not the residual effect on the valued component can be reversed once the physical work or the activity causing the effects stop or mitigation measures take effect to eliminate the effect.</td><td>Fully reversible: may fully recover and return to its pre-project state.
Partially reversible: may partially recover from project changes.
Irreversible: will not recover and return to its pre-project state.</td></tr>
<tr><td>Frequency</td><td>How often or how many times the anticipated residual effect may occur.</td><td>Once: the effect is confined to one discrete event.
Regular: the effect occurs at consistent intervals.
Irregular: the effect occurs at sporadic intervals.
Continuous: effects occur constantly.</td></tr>
<tr><td>Affected Populations</td><td>A subset of the population being affected disproportionately by certain valued components. Examples of affected populations could include different groups within the Indigenous nation who may experience the effects in a different way, such as youth, Elders, or women.</td><td>Even: the potential effect is experienced by any or all sub-populations.
Disproportionate: the potential effect is experienced only by certain populations or experienced more acutely by certain sub-populations.</td></tr>
<tr><td>Risk (likelihood and consequences)</td><td>The likelihood (probability) of an event (incident) occurring and its consequences. Likelihood is whether a residual effect is likely to occur. It may be influenced by a variety of factors, such as the likelihood of a causal disturbance occurring or the likelihood of mitigation being successful. The consequences are the residual effect, positive or negative. The magnitude and extent of the residual effect provides information on the consequence, which in conjunction with likelihood, informs the understanding of risk.</td><td>Likelihood
Low: less than 40 percent chance of effect occurring
Medium: 40 to 80 percent chance of effect occurring
High: more than 80 percent chance of effect occurring
Consequence
Consequence can be assessed as minor, moderate or major based on the combination of magnitude and extent.
<table>
<tr><th colspan="2" rowspan="2">Consequence</th><th colspan="3">Magnitude</th></tr>
<tr><th>High</th><th>Medium</th><th>Low/Negligible</th></tr>
<tr><td rowspan="2">Extent</td><td>Regional</td><td>Major</td><td>Major</td><td>Moderate</td></tr>
</table>
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<table>
<tr><th>Criteria</th><th>General Description</th><th>Assessment Definitions</th></tr>
<tr><td></td><td></td><td>
<table>
<tr><td rowspan="2"></td><td>Local</td><td>Moderate</td><td>Moderate</td><td>Moderate</td></tr>
<tr><td>Limited</td><td>Moderate</td><td>Minor</td><td>Minor</td></tr>
</table>

Risk
Risk is consequence multiplied by likelihood.
<table>
<tr><th colspan="2" rowspan="2">Risk</th><th colspan="3">Consequence</th></tr>
<tr><th>Major</th><th>Moderate</th><th>Minor</th></tr>
<tr><td rowspan="3">Likelihood</td><td>High</td><td>High</td><td>Moderate</td><td>Low</td></tr>
<tr><td>Medium</td><td>High</td><td>Moderate</td><td>Low</td></tr>
<tr><td>Low</td><td>Moderate</td><td>Low</td><td>Low</td></tr>
</table>
</td></tr>
<tr><td>Uncertainty</td><td>The natural variation in complex biophysical environments or the statistical variation in data sets and models that arises from the imperfection of unknown information. Where uncertainty is unable to be reduced, how it affects valued components needs to be described so that it can be considered in decision making</td><td>Low: there is a good understanding of the cause-effect relationship between the project and the valued component, and sufficient data are available to support the assessment. The effectiveness of the selected mitigation measures is moderate to high. There is a low degree of uncertainty associated with data inputs and/or modelling techniques, and variation from the predicted effect is expected to be low.

Moderate: the cause-effect relationships between the project and a valued component are not fully understood (e.g., several unknown external variables or data for the project area are incomplete). The effectiveness of mitigation measures may be moderate or high. Modelling predictions are relatively confident.

High: the cause-effect relationships between the project and a valued component are poorly understood. There may be several unknown external variables and/or data for the project area that are incomplete. The effectiveness of the mitigation measures may not yet be proven. Modelling results may vary considerably given the data inputs. There is a high degree of uncertainty in the conclusions of the assessment.

To consider when determining confidence: the reliability of data inputs and analytical methods used to predict project effects, the confidence regarding the effectiveness of mitigation measures, and the certainty of the predicted outcome.</td></tr>
<tr><td>Importance</td><td>Have any issues been identified as an interest/priority by potentially affected Indigenous nations, local governments, provincial and federal government agencies, or stakeholders.</td><td>Low: previously identified by some individuals, but not by Indigenous nations, community members, or government agencies.

Moderate: previously identified as an interest by Indigenous nations, community members, the public, local governments, and/or provincial and federal government agencies, but not stated as a top interest.

High: identified repeatedly as a top interest by Indigenous nations, community members, the public, local governments, and/or provincial or federal government agencies.</td></tr>
</table>

6.10. Cumulative Effects

The Application must include a separate section or chapter that provides an assessment of cumulative effects from the Project and past, present, and reasonably-foreseeable projects and activities. This assessment should follow the methods described in the EAO's *Effects Assessment Policy*.

The Application must:

- Identify and provide a rationale for the VCs from the Project identified in the Application to have residual effects, that now have the potential to act cumulatively with other projects and activities;
- Provide a rationale to justify the exclusion of any VCs that will experience residual effects when assessing cumulative effects (e.g. if there are no projects or activities that may interact cumulatively with residual effect of the project);
- Identify and justify the spatial and temporal boundaries for assessing cumulative effects, including any Indigenous territorial or temporal perspectives as applicable;
- Identify all past, present, and reasonably foreseeable projects and activities[7] that the project may interact with cumulatively should then be identified. For each reasonably foreseeable project or activity identified, the following general characteristics must be described, where available, in order to understand how its effects might act cumulatively with the Project:
    - Location, physical size of project components and activities;
    - Expected duration and timing of activities, including seasonal variations;
    - Transportation routes and modes of transport;
    - Emissions, wastes and discharges; and
    - Observed or predicted effectiveness of mitigation measures.
- The availability (or lack) of information about the residual effects of other projects and activities should also be considered. Any assumptions or uncertainty about other projects and activities and their effects should be documented;
- Identify the methods used to determine potential cumulative effects, including data sources[8] and collection methods, data analysis, and any other relevant assessment information;
- Identify potential cumulative effects to each VC selected by describing existing conditions then comparing the current and future conditions. The effects of past and current activities (activities that have been carried out) are to be used to contextualize the current state of the VC. Climate change is to be considered as part of future conditions. Ecological, Indigenous, or social context also supports the understanding of the existing conditions;
- Determine potential cumulative effects to each VC selected by comparing of the existing condition of a VC to predicted future condition of a VC with the Project in combination with other identified projects and activities;

[7] Activities are not limited to other reviewable projects, if those activities are likely to affect the indicator cumulatively (for example, forestry, agriculture, recreational activity).

[8] Consider all of the following: relevant policies and programs supporting better management of cumulative effects; land use management plans in the region; collaborative efforts among governments, Indigenous groups, and stakeholders; existing regional monitoring or management frameworks (including but not limited to the B.C. Cumulative Effects Framework); existing permitting or other regulatory applications or reports. Where reports describing predicted effects are not available, proponents should describe likely effects based on existing knowledge of the effects of similar activities or reference cases as described in scientific literature or other reports. Reasonably foreseeable future projects and activities with similar predicted effects may be grouped in broad categories, such as forest harvesting or mineral exploration.

- Propose measures that are technically and economically feasible to mitigate any identified adverse cumulative effects[9], including:
    - The criteria or rationale used to determine technically and economically feasible mitigation measures;
    - The predicted effectiveness of the measures and adaptive management measures applied to mitigate the cumulative effects;
    - In cases where measures to mitigate these effects are beyond the control of the proponent, what parties have authority to act on the measures and commitments made by the other parties regarding the implementation of the measures and any associated plans; and
- Characterize residual cumulative effects by describing their magnitude, severity, likelihood, risk, and uncertainty, as well as the nature of the cumulative effect (e.g. incremental, additive, synergistic). Where possible and appropriate, quantifiable benchmarks or thresholds identified in provincial and regional Cumulative Effects Framework protocols or other regional assessments should be applied, including any ecological thresholds where known (e.g., the points at which small changes to the indicator could cause a major shift in an ecosystem) for biophysical factors that support ecosystems.

6.11. Monitoring and Mitigation Effectiveness

Where a positive or negative residual effect and/or cumulative effect has been identified for a VC and where there is moderate to high uncertainty in the predicted effect or in the effectiveness of the mitigation proposed, the Application must include a plan, that:

- Identifies the measures to ensure that mitigation measures are implemented as planned and evaluates the accuracy of the predicted effects;
- Identifies the measures to evaluate the effectiveness of proposed mitigation measures to meet the intended mitigation commitments and goals;
- Identifies the regulatory instruments that include a monitoring requirement for the VC;
- Proposes an appropriate strategy (for example, adaptive management) to apply if predicted effects and mitigation effectiveness are not as expected. The strategy must include a plan that follows the Plan-Do-Check-Act/Adjust model or trigger action response plan rather than a commitment to simply apply adaptive management. The adaptive management plan must include quantified thresholds for monitoring and specific actions that will be implemented for each monitored threshold, involvement of consultative parties such as First Nations and government agencies, and any other measures deemed necessary to manage the issue;
- Identifies a mechanism to disseminate follow-up results among interested parties;
- Describes the specific monitoring methods, frequency and duration and if monitoring activities could result in adverse effects (e.g. lethal sampling), monitoring report outline, and plans to provide funding to any monitoring participants;
- Identifies duration of follow-up activities and who is responsible, if not only the proponent;
- Identifies a follow-up program for environmental, economic, social, cultural, or health effects, as applicable, including disproportionate effects to discreet populations; and
- Identifies the involvement of First Nations in the follow-up strategy design and the implementation, evaluation of

[9] Where available, some B.C. Cumulative Effects Framework reports identify management responses to be considered by the proponent when selecting mitigation for a project.

the follow-up results, as well as any updates, including a communication mechanism between the Nations and the proponent.

7.0 Other Assessment Matters

7.1. Greenhouse Gas Emissions

The Application must provide the results of an assessment of the GHG emissions of the project. If the project is an LNG facility or a project that would, once completed, produce greater than 10,000 tonnes per year of carbon dioxide equivalents of GHGs, the Application must include a credible net-zero plan to achieve net-zero GHG emissions by 2030 in the case of LNG facilities, and by 2050 for other projects.

If the project is not either of these, the Application must:

- Describe the project's main source(s) of GHG emissions by GHG type;
- Update the estimate of the annual GHG emissions by project phase as identified during Early Engagement;
- Describe the project's potential positive or negative effects on carbon sinks as identified during Early Engagement;
- Describe measures identified to minimize and mitigate GHG emissions, including using Best Available Technologies and project design; and
- Describe the potential effects of the project on the province being able to meet its targets in the *CleanBC Roadmap to 2030* and under the *Climate Change Accountability Act*.

The information requirements and effects assessment for GHG emissions will be scaled to each project based on estimated GHG emissions and the potential for effects on carbon sinks. Additional information may include:

- Description of the GHG emissions intensity;
- Description of monitoring, follow-up and reporting requirements to confirm findings from the EA;
- Description of emissions offsetting options;
- Description of other relevant emissions targets, including those of a local, federal, or Indigenous government and how the project would affect those targets;
- Description of carbon capture and storage options; and
- Any other information requirements identified during Process Planning.

Where there is uncertainty in the GHG emissions identified, the source and level of uncertainty should be identified and discussed. In some cases, it may be appropriate to provide a range of values or identify different possible emissions scenarios. See the Effects Assessment Policy found *here* for more information.

If a net-zero plan is required, it must include:

- A description of the Project's main source(s) of GHG emissions by GHG type;
- A quantitative description of the project's estimated annual GHG emissions by Project phase, over the lifetime of the Project;
- The relative contribution of each emission source to the Project's overall GHG profile;

- A description of how the proponent will reduce the GHG emissions from the Project, during its lifetime, as much as reasonably practicable through:
    - (1) Ensuring that the emissions intensity (measured by tonnes of carbon dioxide equivalent per the unit of production or activity) of the Project, during its lifetime, will be similar to the lowest in the world when compared against similar facilities under comparable conditions, and
    - (2) Implementing changes in technology that have arisen that would allow the Project to exceed the standard set out in (1) or explaining why it would not be practicable to do so.
- A description of estimated operational GHG emissions intensity;
- A set of emissions intensity targets every five years, or as otherwise agreed with the Climate Action Secretariat, until the project achieves net-zero emissions – targets must align with applicable target timelines (i.e., 2030 for LNG or 2050 for other facilities);For LNG facilities, a net-zero plan must demonstrate how the project will achieve net-zero emissions by 2030; where a facility is reliant on grid electricity to achieve net-zero emissions, and, for reasons outside of the proponent's control, grid electricity is unable to be provided by 2030, the LNG project must demonstrate how it will be net-zero ready;
- An analysis of the Best Achievable Technologies and Best Environmental Practices to minimize and mitigate project GHG emissions, the reason(s) why a particular technology was selected, and planned timeline for technology implementation.
    - Where a BAT that could further reduce emissions is not selected, a rationale for not selecting that technology must be provided along with a timeline for reviewing its potential for application in the future.
- A description of how on-site GHG emissions reductions were prioritized;
- A description of any additional GHG mitigation measures that will be implemented (e.g., Carbon Capture and Storage) and the percentage of each mitigation measure relative to projected annual emissions;
- A description of emissions that cannot be netted out and are expected to remain in 2050 (or 2030 for LNG projects) and for each year thereafter, if applicable, and the proposed approach to netting these emissions to zero using B.C. Offset Units;
- An acknowledgement that this plan must be reviewed and updated every five years considering current Best Achievable Technologies and Best Environmental Practices, including any updates to newly available technologies.
    - Using the most recent *Provincial Inventory Data*, include quantification of how much the Project will increase the current gap to Provincial targets, expressed as a percentage; and
    - Using the most recent value published in the *Climate Change Accountability Report*, a quantification of how much the Project is expected to increase the forecast gap between emissions in 2030 and the 2030 target, expressed in tonnes carbon dioxide equivalent and as a percentage.

7.2. Malfunctions and Accidents

The Application must provide an assessment of the risk of unplanned events that could arise from malfunctions and accidents that could impact VCs and Indigenous Interests.

7.2.1. Relevant Statutes, Policies and Frameworks

Statutes, policies and frameworks that may be relevant to the assessment of potential effects from malfunction and accidents:

- *Environmental Management Act*, including the Hazardous Waste Regulation and Spill Reporting Regulation*;*
- Province of B.C. Risk Management Branch and Government Security Office, April 2019;
- [*Additional sector-specific statues, policies and frameworks as applicable*] such as:
    - *Canada Shipping Act;*
    - *Canadian Navigable Waters Act;*
    - *Canada Marine Act;*
    - *Canada Environmental Protection Act;*
    - *Canadian Transportation Accident Investigation and Safety Board Act;*
    - *Marine Liability Act;*
    - *Migratory Birds Convention Act;*
    - *Pilotage Act;*
    - Emergency Management Regulation, under the *Energy Resource Activities Act;*
    - *Public Health Act;*
    - *Transportation of Dangerous Goods Act*;
    - B.C. Marine Oil Spill Prevention Preparedness Strategy; and
    - Environmental protection and safety procedures in accordance with international codes and standards.

7.2.2. Assessment Approach

The assessment approach must evaluate the risk of malfunctions and accidents (including scenarios) by examining the likelihood of an incident (for example, malfunction or accident) and the consequences of the incident to each relevant VC and Indigenous Interests. The assessment approach must consider incidents related, but not limited to: human and operator error; design, technological, and equipment malfunction or failure; and environmental factors. The results of the risk-based assessment should be used to develop plans to reduce or eliminate the likelihood of an incident or reduce the consequence of incidents. All phases of the project must be considered.

The Application must:

- Describe all potential incidents that may result in physical harm, damage or severe effects during all phases of the project, including:
    - An explanation of how those potential incidents were identified;
    - The circumstances under which the incidents could occur;
    - A summary of mitigation measures that are assumed to apply to potential incidents and would be considered in their risk ratings.

- Identify and justify the spatial and temporal boundaries for the effects assessment of malfunctions and accidents;
- Describe the methods for assessing the potential risk of each incident, including definitions for classifications of likelihood, consequence and risk, and identification of threshold for incidents that will be carried forward for detailed analysis (for example, incidents determined to be moderate or high-risk);
- Provide an assessment of the likelihood, frequency and extent of each incident occurring, based on, for example, historical trends and predictive models;
- Describe the consequences of each incident in quantifiable terms to the extent possible considering potential environmental, economic, social, cultural and health effects and effects to Indigenous Interests;
- Provide a classification of the risk of each incident based on its likelihood and consequence;
- Identify all the incidents that will be carried forward for further assessment based on the criteria identified in the methods;
- Provide detailed information on the potential effects of each incident carried forward including:
    - Most likely and worst-case scenarios of the effects of incidents on VCs and Indigenous Interests within spatial boundaries described for the assessment area;
    - Information from historical incidents from similar operations and conditions, where applicable;
    - If applicable, the quantity and characteristics of the contaminants and other materials likely to be released into the environment from an incident.
- Provide detailed information on proposed mitigation measures to reduce the likelihood and consequence to VCs and Indigenous Interests for incidents carried forward including:
    - Safety protocols, and mitigation measures to reduce the likelihood of incidents;
    - Contingency and emergency response procedures if such events do occur;
    - Communication and notification procedures for the public and First Nations;
    - Monitoring, evaluation, and adaptive management system to identify, proactively avoid, and rectify any malfunction and/or accident;
    - Likelihood of mitigation being successful and the time lag for mitigation to become effective, informed by previous incidents of a similar nature; and
- Provide conclusions on the potential risks of the incidents carried forward.

The following additional malfunctions or accidents must be considered in the Application:

- [*Insert project-specific list here*]

7.3. Effects of the Environment on the Project

The Application must:

- Describe the environmental factors deemed to have possible consequences on the project, including, but not necessarily limited to, consideration of natural hazards and influences of nature such as:
    - [*Provide a preliminary list of possible effects of the environment that will be assessed in the Application. Factors may include, but are not limited to, snow avalanches, landslides, geohazards, seismic hazards/earthquakes, geomorphic processes (e.g., mass-wasting events), flooding, wildfire, and forest insects and diseases*].
- Describe how climate change might increase the likelihood and severity of the above-mentioned environmental factors;
- Describe any changes or effects on the project that may be caused by the above-mentioned environmental factors;
- Provide the likelihood (based on future climate change projections) and consequence of the changes or effects to relevant VCs, including on the VC mitigation measures;
- Provide practical mitigation measures, including design strategies, environmental contingency plans, and climate risk plans to avoid or minimize the likelihood and consequence of the negative effects of the environment on the project;
- Provide a conclusion about the potential risk of an effect of the environment on the project and to relevant VCs; and
- Describe how climate change has been incorporated into the project design and planning over the lifetime of the project and a description of the climate data and projections used.

Additional information related to assessing climate risk is available in the *Preliminary Strategic Climate Risk Assessment for B.C.* led by the Climate Action Secretariat at the Ministry of Environment and Climate Change Strategy.

8.0 Effects of the Project on First Nations

The Application must contain one chapter or section for the assessment of the effects of the Project on each First Nation. The name of the specific First Nation should be the title of each chapter, and it must include the headings and information in sections 8.1 through 8.4.

This assessment must be informed by engagement with each First Nation, as required in the Assessment Plan and in *Appendix 14.4* of the AIR. Efforts should be made to incorporate Nation-specific information and requirements below, based on work with each First Nation.

The Indigenous Interests that must also be assessed for each First Nation are provided in Tables 6 through 7 below. The name of each Indigenous Interest must be the title of a section and include the subsections in section 8.3.

Table 6. Indigenous Interests of First Nation 1

Indigenous Interest	Subcomponents	Assessment Boundaries	Guiding Questions	Information Sources
e.g. Hunting	e.g. species of importance, cultural aspects, specific sites, etc.		See Process Planning Guide Appendix.	

Table 7. Indigenous Interests of First Nation 2

Indigenous Interest	Subcomponents	Assessment Boundaries	Guiding Questions	Information Sources

8.1. Context

This section provides an understanding of the First Nation, its Section 35 Rights and the current context. This section must include background information on the First Nation including the First Nation's use of the area, ethnography, language, governance, economy, population, communities, reserves, Indigenous land use plans (as required under Section 2.3), health and social conditions and any other contextual information the First Nation views as important to understanding the impacts of the project on each First Nation and their Section 35 Rights.

This section should also outline any treaties or agreements that may apply to the area including agreements between First Nations and any other known information regarding First Nation governance roles in relation to the area.

Summarize any past, present and anticipated future use of the project area by each First Nation over time and practices in the project area regarding the Section 35 Rights and other interests identified. This summary must include any site-specific use values present in the Local Assessment Area which are areas identified and/or mapped by each First Nation as having environmental, cultural, spiritual, transportation, subsistence and habitation value.

8.2. Overview of Engagement

The Application must:

- Provide an overview of engagement activities that were conducted including describing the efforts taken in relation to the following:

  - The engagement activities required by the Assessment plan including the timeframe, means and results of engagement;
  - Each First Nation's views on the proponent's engagement approach and resolution of issues raised.
- Provide an overview of the input received from each First Nation with respect to the project including:
  - Description of how the proponent responded to questions, comments and issues raised by each First Nation , each First Nation's perspective on the resolution of issues, how unresolved issues have been addressed in the Application and/or how unresolved input will be addressed through the EA or another regulatory process or government initiative;
  - Where and how each First Nation's perspectives were integrated into or contributed to decisions regarding the project, including:
    - Development and collection of baseline information;
    - Plans for construction, operation, closure and post closure or decommissioning;
    - Identification of VCs;
    - Development of mitigation measures; and
- Describe any arrangement or agreement between the proponent and each First Nation for collaboration on the development of the Application or delivery of the proposed project. This includes agreements related to the delivery of studies and capacity funding agreements.

8.3. Indigenous Interests

The application must include a subsection for each Indigenous Interest listed in section 8.0 according to the requirements outlined in that section (i.e. subcomponents, assessment boundaries, guiding questions, and information sources. This section must be developed in accordance with the First Nation consultation requirements outlined in the Assessment Plan.

8.3.1. Background

Describe each Indigenous Interest in detail. Describe any specific species that are of importance in relation to the interest, specific sites and places of importance, experiential components of importance and any social, cultural or spiritual matters of importance. Include any other contextual information identified by the First Nation as important to understanding the Indigenous Interest.

8.3.2. Current Conditions

The Application must:

- Describe historical and current use of the Assessment Area by the First Nation in relation to each Indigenous Interest.
- Describe how each Indigenous Interest has been affected by past and present effects.

8.3.3. Potential Project Effects

The Application must provide an analysis of effects in relation to the guiding questions outlined in section 8.0. This analysis must make reference to the information sources outlined in section 8.0. The analysis of effects should clearly outline the perspectives of the First Nation and how the proponent considered and responded to those perspectives.

8.3.4. Effects Management

The Application must:

- Provide project design accommodations that are proposed to address effects on each Indigenous Interest including mitigations proposed in relation to related VCs. Accommodation measures include actions to avoid impacts, minimize impacts, or otherwise accommodate a First Nation for an impact;
- Provide proposed monitoring initiatives or review processes related to the effect on each Indigenous Interest ; and
- Ensure proposed project design and accommodations consider the current conditions of each Indigenous Interest. If Indigenous Interests have already been affected by past or present effects, the proposed project design and mitigations should account for this to seek to reduce or prevent incremental erosion of the Indigenous Interest.

The First Nation's perspectives on the effectiveness of the accommodation options must be presented as well as the relative level of uncertainty or risk associated with the accommodation options.

Proponents should consider:

1. Have the proposed measures to reduce or avoid impacts been used before? If so, how successful were they?
2. What is the participating Indigenous nation's opinion on the likelihood of effect occurring?
3. What is the participating Indigenous nation's opinion on the effectiveness of the accommodation measures?
4. Is it necessary to propose additional accommodations for impacts that may not be adequately avoided or minimized? Additional measures can include actions such as land transfers, employment agreements, compensation for impacts, etc.
5. What is the professional opinion regarding the effectiveness of the proposed measures to avoid or minimize measures?

8.3.5. Characterization of Residual Effects

The Application must provide a characterization of negative residual effects of the project to each First Nation after consideration for the proposed accommodations. The intent is to identify the residual effects of most significance to inform engagement between the EAO and the First Nation during the Effects Assessment phase. These conversations will focus on understanding the First Nation's perspective on proposed accommodations, identify potential additional accommodations and in some cases proposed certificate conditions. Proponents should consider these criteria as a starting point to inform dialogue with the First Nation with full consideration of the First Nation's perspectives and Indigenous knowledge.

8.3.6. Positive Effects

The Application must describe any positive effects to each Indigenous Interest that are anticipated as a result of the project and its associated effects management approaches. The Application must describe how the First Nation's perspectives informed the assessment in relation to positive effects on each Indigenous Interest and outline the views and perspectives provided by the First Nation.

8.3.7. Cumulative Effects

The Application must provide an analysis of cumulative effects where there are anticipated residual effects from the project. This includes an analysis of reasonably foreseeable future effects of the project and other anticipated activities on the First Nation and their interests within the regional assessment area. This is intended to ensure decision makers are informed of the context within which the project will be proceeding to ensure provincial decision makers can make informed decisions with consideration of their constitutional obligations to First Nations. The proponent may wish to

identify additional actions or modifications to project design in response to consideration of these broader contextual factors to demonstrate how their project has been designed in a manner to minimize overall cumulative effects to the First Nation.

8.4. Indigenous Knowledge

Regarding the collection and use of Indigenous knowledge, the Application must:

- Provide an outline of the steps taken by the proponent to work with each First Nation to incorporate Indigenous knowledge including a summary of any arrangements with the First Nation regarding the use and application of Indigenous knowledge;
- Provide a statement indicating that the First Nation supports the characterization and application of any Indigenous knowledge contained within the Application and gives permission for its public disclosure;
- Describe how Indigenous knowledge informed project design, analysis, and proposed mitigation measures; and
- If applicable, provide a plan for future cooperation between the proponent and the First Nation to further incorporate Indigenous knowledge into project implementation (for example, monitoring and management plans).

Refer to the Guide to Indigenous Knowledge in Environmental Assessments found *here* for further information.

8.5. Summary

The Application must include a summary of the assessment for the First Nation outlining:

- The characterized residual effects organized by Indigenous Interests for the EAO to consider when determining the overall seriousness of effect to the Indigenous Interests;
- Any major points of agreement or disagreement with the First Nation; and
- Efforts taken to address any points of disagreement.

The Application should not conclude on the seriousness of the effect of the project on the Indigenous Interests. This step will be taken by the EAO during the Effects Assessment phase.

9.0 SUMMARY OF STATUTORY REQUIREMENTS UNDER THE FEDERAL *IMPACT ASSESSMENT ACT* (FOR SUBSTITUTED PROJECTS ONLY)

Given the approval of substitution for the Project, the Application must contain information that addresses the statutory requirements under the *Impact Assessment Act* (IAA). This section must describe the location within the Application of where Federal requirements have been addressed, namely the effects within Federal jurisdiction (example layout in Table 2) and each of the factors set out in Section 22 of the IAA (example layout in Table 3). The Application must also contain the additional factors set out in the Notice of Substitution Approval under the IAA issued by the federal Minister of Environment and Climate Change.

This section is not intended to reiterate the assessment or restate findings for each aspect of the IAA. Where specific requirements of the IAA have not been considered within the Application, they are marked as not applicable, and a rationale should be provided.

Table 8. Effects within Federal Jurisdiction – Section 2 of the *Impact Assessment Act*

Effects within Federal Jurisdiction	Section of AIR where the Requirements have been included	Section of Application Where the Effect is Assessed	Assessment Findings
List as defined in Section 2 of the IAA	*Section reference*	*Cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed*	*Summary of the assessment findings for effects within Federal jurisdiction*

Table 9. Factors to be Considered – Section 22 of the *Impact Assessment Act*

Effects within Federal Jurisdiction	Section of AIR where the Requirements have been included	Section of Application Where the Effect is Assessed	Assessment Findings
List as defined in Section 22 of the IAA	*Section reference*	*Cross-reference to the section of the Application where a description of the assessment for effects within Federal jurisdiction are addressed*	*Summary of the assessment findings for effects within Federal jurisdiction*

10.0 SUMMARY OF BIOPHYSICAL FACTORS THAT SUPPORT ECOSYSTEM FUNCTION

The intent of this section is to provide a holistic assessment of the project effects to ecosystem function recognizing the interdependence of components of an ecosystem and that impacts to specific biophysical factors within an ecosystem can have impacts to the function of the ecosystem. Refer to the Effects Assessment Policy, found *here*, for additional details on the assessment of biophysical factors that support ecosystem function.

The Application must consider project effects on biophysical factors that support ecosystem function based on the results of the VC assessments, including the cumulative effects assessments. The Application must:

- Provide an overview of the current ecosystem function in the vicinity of the project at a landscape-and watershed level;
- Identify the key biophysical factors that support ecosystem function that the project effects may interact with;
- Discuss how the VC assessments and cumulative effects assessments considered effects on these biophysical factors;
- Describe the positive and negative effects, including adverse cumulative effects, on biophysical factors that support ecosystem function based on appropriate information from the VC assessments;
- Identify proposed measures required to manage potential effects on biophysical factors that support ecosystem function; and
- Describe any predicted changes to ecosystem function as a result of the project.

The following bullets must be added for substituted projects only:

- Achieve no net loss or a net gain by identifying the mitigation measures required to manage potential effects on biophysical factors that support ecosystem function using the mitigation hierarchy of:
    - Avoid (e.g., re-design or re-locate project);
    - Minimize (e.g., adjust project construction schedule to protect critical life stages of species, implement erosion control measures, implement sediment control measures);
    - Restore on-site (e.g., revegetation disturbed areas post-construction); and
    - Offset (e.g., habitat restoration, enhancement, creation or protection);
- For offset scenarios, describe how the scenario will be designed and implemented based on the concepts of:
    - Equivalency – quantify losses, quantify anticipated gains from offsets, scale the offset activity so that the total increase is greater than or equal to the losses;
    - Multipliers – if applicable, describe how multipliers have been employed to achieve equivalency;
    - Additionality – the offsets must provide ecological outcomes beyond what would have been provided under a "business-as-usual" scenario;
    - Location – describe how an offset aligns/supports regional objectives and fits into the landscape, including implications to local biodiversity at the impact site and implications to Indigenous and local communities;
    - Timing – describe how offsetting measures will be implemented and in effect prior to impacts to the biophysical environment being experienced or, if this is not possible, provide justification and describe how multipliers have been applied to allow for a larger amount of total offsetting;
    - Duration – describe the length of time the offsets will be in place, and justify the estimated duration if they will not be permanent;
    - Monitoring and evaluation – describe the monitoring programs that will be applied and how the effectiveness of these programs will be evaluated;
    - Accountability – identify the party responsible for adverse effects is accountable for the delivery, success and protection of the offset measure (e.g., habitat banking); and
    - Governance – describe the governing body responsible for management, oversight, review and evaluation of an offset program;
- Describe effects to the biophysical environment that affect current and/or tradition use of lands and resources First Nations and the offsets developed to address these effects, including how Indigenous knowledge will be factored into the offset plans;
- Justify any offset scenarios where there is a potential to be unable to achieve no net loss or net-gain due to limitations (e.g., specific ecosystem unable to be replaced), termed partial offsets, including:
    - Comparison to any applicable national, provincial, regional and local objectives; and
    - Potential complementary measures to apply to supplement the offset plan (e.g., scientific and Indigenous-based research).

11.0 Summary of Impacts to Current and Future Generations

The analysis of the effects of the project on current and future generations will provide the decision makers with greater insight into the project, particularly if it's consistent with the promotion of sustainability, by protecting the environment and fostering a sound economy and the well-being of British Columbians and their communities.

For guidance on the assessment of project effects on current and future generations refer to the Effects Assessment Policy, found *here*.

The Application must summarize the analysis and conclusions for environmental, economic, social, cultural and health VCs and Indigenous Interests that contribute to the project's positive or negative effects on current and future generations. The Application must:

- Describe how input from engagement related to effects on current and future generations was incorporated and how the project has changed as a result;
- Demonstrate how any strategic direction from the Province of B.C. regarding sustainable development was considered;
- Provide any mitigation measures proposed to more equitably distribute positive and negative effects over time (e.g., across generations);
- Discuss the potential outcome that residual effects to VCs and Indigenous Interests will have on both current and future generations;
- Discuss the type(s) of economic growth that would be generated by the project and how this growth would be distributed, both within the population and over time; and
- Identify any relevant regional or provincial growth strategies and describe how the project is or is not aligned with them.

12.0 EVALUATION OF SUSTAINABILITY

The Application must include an evaluation of the Project's contributions to sustainability in B.C. The purpose of this evaluation is to understand the context of the Project in B.C. and how the Project will contribute to, or detract from, the protection of the environment, the fostering of a sound economy, and the supporting of the well-being of British Columbians and their communities.

The evaluation of sustainability for the Project must include:

- The context in which this Project is being proposed, including descriptions of global, national, provincial, local, and Indigenous needs, goals and values – and the extent to which this Project supports these needs, goals, and values;
- A summary of the positive and adverse effects the Project would have on the provincial and local environment, economy, and society;
- How the key positive effects of the Project have been enhanced;
- How the key adverse effects of the Project have been minimized;
- How the Project would affect the interconnectedness and interdependence of human-ecological systems;
- How the Project would affect the well-being of present and future generations;
- How the precautionary principle was applied in the development of the proposed Project, including consideration of uncertainty and risk of irreversible harm; and
- How Indigenous knowledge was applied in the development of this sustainability assessment.

For substituted projects, refer also to the federal guidance for what needs to be included in this section: *Considering the Extent to which a Project Contributes to Sustainability* (2021).

13.0 REFERENCES

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14.0 APPENDICES

14.1. Summary of Mitigation Measures

The Application must include a summary table of mitigations for potential project effects by VC and indicate where each mitigation would be listed (i.e., which plan or document listing requirements) including the proponent's proposed EA level commitments and requirements associated with permitting authorizations. This table may be used by the EAO during issues resolution, in updating the Regulatory Coordination Plan to describe how issues are being addressed in the EA or could be further addressed in permitting, and in the development of the draft Environmental Assessment Certificate including proposed conditions.

14.2. Requested Project for Certification

The Application must provide the proponent's requested project description for the Environmental Assessment Certificate including maps and the requested duration of the Environmental Assessment Certificate.

See the Environmental Assessment Certificate Policy found *here* for further guidance on the project description. See the *Spatial Data Submission Standards Guidelines* to ensure maps are submitted according to the EAO requirements. The EAO will use the proponent's requested project description as the starting place for engagement with participating Indigenous nations, the TAC and any Community Advisory Committees, and make refinements as appropriate through the Effects Assessment phase. The draft Environmental Assessment Certificate Environmental Assessment Certificate including the project description is made available to the public for comment prior to referral to ministers.

The project description maps and spatial data provided by the proponent through the assessment will be used by the EAO to capture a spatial representation of the project in the EAC decision referral package and may also be used by permitting agencies to inform permitting considerations.

14.3. Authorship

The Application must identify key personnel responsible for preparing the Application including, their employers, qualifications and the sections for which they were contributors.

The Application must identify key information, reports and data used to support the development of the Application and the associated contributing organization and relevant qualifications. The Application must demonstrate that a qualified individual has prepared the information or studies provided. A qualified individual would include someone who, through education, experience or knowledge relevant to a matter, may be relied on by the proponent to provide advice within his or her area of expertise. Knowledge relevant to a matter may include Indigenous and local knowledge.

Documents prepared by Qualified Professionals, including designs, must represent final documents (i.e., not drafts) and must be signed and sealed.

14.4. Reviews of Information

The Application must provide a summary of the reviews of information from the TAC that have supported the development of the Application, in a tracking table showing:

- The reviewer;
- The date information was provided to the reviewer;
- The information that was provided to the reviewer;
- The date comments were received from the reviewer;
- The comments received from the reviewer; and
- How comments were addressed.

The AIR must provide a plan for the review of information supporting the development of the Application that meets the following specifications:

- Information must be provided to reviewers for a review period that is a minimum of four (4) weeks in duration;
- Reviewers and the EAO must be provided with two (2) weeks of advance notice before the proponent sends information for review;
- Information for different VCs may be provided at different times; however, proponents should consider sending information in packages that make efficient use of reviewer's time and support their understanding of materials and the effects of the project;
- The proponent must track comments received from reviewers and its responses in a tracking table and provide this table to the EAO;
- The reviewers, by an organization, for information must be identified (see example table below), considering the following factors:
    - Reviewers will vary based on the composition of the TAC for the project;
    - The EAO can provide guidance based on the organizations and specific participants to represent organizations for individual projects;
    - Information to be reviewed will depend on the VCs identified for the project; and
    - First Nations reviewers should be identified based on their identified Indigenous Interests and based on their interest in reviewing information;
- The expected timelines for providing information to reviewers must be identified.

Table 10. Reviews of Information

Information	Potential Reviewers*
Acoustic baseline and predictive studies	Relevant Health Authorities, Health Canada, BCER
Agriculture Impact Assessments	Ministry of Agriculture and Food
Air Quality baseline and predictive studies, including monitoring, selection of monitoring equipment for air quality and meteorological data, and development of air quality modelling plans[10]	Ministry of Environment and Climate Change Strategy (ENV) - Air Quality Section, BC Energy Regulator (BCER), Metro Vancouver, Relevant Health Authorities
Alternatives assessment, including tailings alternatives assessment, where applicable	MCM, BCER, EAO+
Archaeology Impact Assessments	FOR - Heritage Branch, BCER

[10] For more information, see the *Water and Air Baseline Monitoring Guidance document for Mine Proponents and Operators* and the *Air Quality Dispersion Modelling Guideline*

Information	Potential Reviewers*
Cultural studies	Applicable First Nation
Employment and Economy baseline and predictive studies	JEG, PSFS, EAO+
Freshwater Fish and aquatic life baseline and predictive studies	WLRS, DFO
Geoscience studies	Ministry of Mines and Critical Minerals (MCM)
Geotechnical studies	MCM
Greenhouse Gas predictive studies	Environment and Climate Change Canada (ECCC), Climate Action Secretariat
Human Health Risk Assessment	Relevant Health Authorities, Health Canada, Ministry of Health
Hydrogeology baseline and predictive studies	MCM, BCER
Infrastructure and Services studies	EAO, local governments
Land Use Plan consistency	FOR/WLRS, local governments, First Nations
Malfunction and Accidents analyses	MCM, ENV, BCER, EAO+
Marine Resource studies	DFO
Marine water and sediment baseline and predictive studies	Fisheries and Oceans Canada (DFO), ECCC, ENV
Reclamation plans	MCM
Soil studies	MCM, ENV, BCER
Surficial hydrology baseline and predictive studies	ENV, Ministry of Water, Land and Resource Stewardship (WLRS), BCER
Unique Geological Landform studies	EAO+
Vegetation baseline and predictive studies	WLRS, ENV, ECCC, BCER
Visual Resource predicted impacts	Ministry of Forests (FOR)
Water Quality baseline and predictive studies	ENV, Environment and Climate Change Canada (ECCC)
Wildlife baseline and predictive studies	WLRS, ENV, ECCC, BCER
Notes: *First Nations may be reviewers for any type of information, based on their identified interest. + Other ministries may also be identified.	

Table 3. Example of table showing information to be reviewed and reviewers to be identified in the AIR

14.5. Proposed Assessment Boundaries

This section is required to present the proposed Local Assessment Area and Regional Assessment Area boundaries for the identified VCs, as described in *Section 6.3*.

See the *Spatial Data Submission Standards Guidelines* to ensure including maps are submitted according to the EAO requirements.