

## PART E—CONCLUSIONS

# Environmental Assessment Certificate Application

## LNG Canada Export Terminal

### Section 19 – Summary of Project Residual Effects

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**LNG CANADA**  
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## **19 SUMMARY OF PROJECT RESIDUAL EFFECTS**

Table 19.0-1 summarizes the information for each environmental, economic, social, heritage, or health effect on the quality or sustainability of a valued component (VC) that cannot be avoided or mitigated through the redesign or relocation of the LNG Canada Export Terminal (the Project) or through other LNG Canada Development Inc. (LNG Canada) mitigation measures.

**Table 19.0-1: Summary of Project Residual Effects**

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
<b>Air Quality</b>				
Change in ambient air quality in the Kitimat region	<b>Facility Works and Activities</b>			<b>Not significant.</b> With implementation of the mitigation and environmental protection measures, the residual effects of the Project are assessed to be not significant.
	Operation	LNG production, storage, and loading	<ul style="list-style-type: none"> <li>▪ <b>Moderate</b> in magnitude (increase/decrease with regard to baseline but within regulatory levels and objectives)</li> <li>▪ <b>Local study area</b> in geographic extent (effect restricted to the LSA)</li> <li>▪ <b>Long term</b> in duration (effects are measurable for greater than 2 years)</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate</b> resilience in ecological context (occurs in a stable ecosystem and/or moderately disturbed environment)</li> </ul>	
Change in ambient air quality along the marine access route	<b>Shipping Activities</b>			<b>Not significant.</b> With implementation of the mitigation and environmental protection measures, the change in ambient air quality along the shipping LSA is assessed to be not significant.
	Operation	LNG shipping	<ul style="list-style-type: none"> <li>▪ <b>Low</b> in magnitude (within normal variability of baseline conditions)</li> <li>▪ <b>Local study area</b> in geographic extent (effect restricted to the LSA)</li> <li>▪ <b>Long term</b> in duration (effects are measurable for greater than 2 years)</li> <li>▪ <b>Multiple regular event in frequency</b> (occurs on a regular basis and at regular intervals throughout construction, operation, or decommissioning phases)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>High resilience</b> in ecological context (occurs in viable ecosystem and/or undisturbed environment)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
<b>Greenhouse Gas Management</b>				
GHG emissions	<b>Facility Works and Activities</b>		<ul style="list-style-type: none"> <li>▪ <b>Low</b> in magnitude (Negligible change in provincial, national, and global GHG emissions)</li> <li>▪ <b>Global</b> in geographic extent</li> <li>▪ <b>Short term</b> in duration (residual effect restricted to construction phase only)</li> <li>▪ <b>Multiple irregular event</b> in frequency (residual effect occurs sporadically at irregular intervals throughout construction, operation or decommissioning phases)</li> <li>▪ <b>Irreversible</b></li> <li>▪ <b>Disturbed</b> in ecological context (atmosphere has been previously disturbed by human activity [anthropogenic source])</li> </ul>	<p><b>Not significant.</b></p> <p>Project GHG emissions during construction will represent a &lt;0.0001% increase in total global GHG emissions relative to 2010 levels. This nominal change to global GHG levels from the Project alone are assessed as not significant.</p>
	Construction	Site preparation Onshore construction Dredging Marine terminal construction Vehicle and rail traffic Commissioning and start-up		
	<b>Shipping Activities</b>			
	Construction	Shipping equipment and materials		
GHG emissions	<b>Facility Works and Activities</b>		<ul style="list-style-type: none"> <li>▪ <b>High</b> in magnitude (based on CEA Agency guidance (2003), professional judgment, and the industry profile, a notable change in provincial and national emissions, while change to global emissions will still be small.)</li> <li>▪ <b>Global</b> in geographic extent</li> <li>▪ <b>Long term</b> in duration (residual effect extends through the lifetime of the Project and beyond decommissioning)</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Irreversible</b></li> <li>▪ <b>Disturbed</b> in ecological context (atmosphere has been previously disturbed by human activity [anthropogenic sources])</li> </ul>	<p><b>Not significant.</b></p> <p>Project GHG emissions during operation will represent a 0.009% increase in total global GHG emissions relative to 2010 levels. This contribution will cause a small material change to global GHG levels. In this context, the potential effects of the Project alone on GHG emissions are assessed as not significant.</p>
	Operation	LNG production, storage, and loading Vehicle and rail traffic		
	<b>Shipping Activities</b>			
	Operation	LNG shipping		

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
<b>Acoustic Environment</b>				
Change (increase) in overall noise levels and increase in low-frequency noise during facility construction and operation	<b>Facility Works and Activities</b>			<b>Not significant.</b> With mitigation, noise effects from construction and operation of the LNG processing facility and marine terminal will comply with provincial noise guideline and federal noise guidance. Therefore, residual effects are not significant.
	Construction	Site preparation Onshore construction Dredging Marine terminal construction	<ul style="list-style-type: none"> <li>▪ <b>Low to moderate</b> in magnitude (Low: the noise effect is barely perceptible where the combined sound level will not exceed the baseline sound level by more than 3 dB. Moderate: measurable change is perceptible, when the combined noise level exceeds the baseline sound level by more than 3 dB)</li> <li>▪ <b>Regional study area</b> in geographic extent (effect extends into the RSA)</li> <li>▪ <b>Medium term</b> in duration (effect extends through operation phase)</li> <li>▪ <b>Multiple irregular event</b> in frequency (no set schedule, occurs sporadically at irregular intervals throughout construction, operation, or decommissioning phases)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> in ecological context (moderate capacity for the VC to recover from a perturbation, with consideration of the baseline level of disturbance)</li> </ul>	
	Operation	LNG production, storage, and loading	<ul style="list-style-type: none"> <li>▪ <b>Low</b> in magnitude (the noise effect is barely perceptible where the combined sound level will not exceed the baseline sound level by more than 3 dB)</li> <li>▪ <b>Regional study area</b> in geographic extent (effect extends into the RSA)</li> <li>▪ <b>Medium term</b> in duration (effect extends through operation phase)</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> in ecological context (moderate capacity for the VC to recover from a perturbation, with consideration of the baseline level of disturbance)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
Change (increase) in overall noise levels and increase in low-frequency noise during facility construction and operation	<b>Shipping Activities</b>			<b>Not significant.</b> Noise effects from marine shipping activities are expected to comply with provincial noise guidelines and federal noise guidance. Therefore, residual effects on the acoustic environment during marine shipping are not significant.
	Operation	LNG shipping	<ul style="list-style-type: none"> <li>▪ <b>Low</b> in magnitude (the noise effect is barely perceptible where the combined sound level will not exceed the baseline sound level by more than 3 dB)</li> <li>▪ <b>Regional study area</b> in geographic extent (effect extends into the RSA)</li> <li>▪ <b>Medium term</b> in duration (effect extends through operation phase)</li> <li>▪ <b>Multiple regular events</b> in frequency (occurs on a regular basis and at regular intervals throughout construction, operation, or decommissioning phases)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> in ecological context (moderate capacity for the VC to recover from a perturbation, with consideration of the baseline level of disturbance)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
<b>Vegetation Resources</b>				
Change in abundance of plant species of interest	<b>Facility Works and Activities</b>		<ul style="list-style-type: none"> <li>▪ <b>Low/moderate</b> in magnitude (Low: measurable change in plant species or ecological communities of interest affecting a portion of the regional population or community; regional population density or community's extent sufficient to sustain that population or community without active management. Moderate: measurable change in plant species or ecological communities of interest affecting a portion of the regional population or community; uncertainty or risk associated with regional population density or community extent's ability to sustain that population or community; requires active management to ensure regional sustainability of population or community)</li> <li>▪ <b>Project footprint</b> in geographic extent (residual effects are restricted to the Project footprint)</li> <li>▪ <b>Medium term/permanent</b> in duration (Medium term: effect extends through the operational timeframe of the Project. Permanent: measureable parameter unlikely to recover to baseline)</li> <li>▪ <b>Single event</b> in frequency (occurs once)</li> <li>▪ <b>Reversible/irreversible</b></li> <li>▪ <b>Low resilience/high resilience</b> in ecological context (Low resilience: low capacity for vegetation resources to recover from a perturbation, with consideration of the baseline level of disturbance. High resilience: high capacity for vegetation resources to recover from a perturbation, with consideration of the baseline level of disturbance)</li> </ul>	<p><b>Not significant.</b></p> <p>With mitigation measures in place, the change in abundance of plant species of interest is assessed to be not significant. The viability of the listed plants and traditional use plants in the terrestrial RSA is not anticipated to be impaired.</p>
	Construction	Site preparation		



Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
Change in abundance or condition of ecological communities of interest	<b>Facility Works and Activities</b>			<b>Not significant.</b>  The residual effect on abundance or condition of ecological communities of interest is assessed as not significant. This determination takes into account the mitigation measures for all measurable parameters and the implementation of the Wetland Compensation Plan that will compensate for the loss of ecologically important wetlands and their associated functions. All measurable parameters are prevalent in the terrestrial RSA, as measured by the PEM or by the TEM extent; therefore, the Project is not anticipated to interfere with the regional persistence of these communities.
	Construction	Site preparation	<ul style="list-style-type: none"> <li>▪ <b>Low-moderate</b> in magnitude (Low: measurable change in plant species or ecological communities of interest affecting a portion of the regional population or community; regional population density or community's extent sufficient to sustain that population or community without active management. Moderate: measurable change in plant species or ecological communities of interest affecting a portion of the regional population or community; uncertainty or risk associated with regional population density or community extent's ability to sustain that population or community; requires active management to ensure regional sustainability of population or community)</li> <li>▪ <b>Project footprint/local study area</b> in geographic extent (Project footprint: residual effects are restricted to the Project footprint. LSA: residual effect extends into the LSA)</li> <li>▪ <b>Permanent</b> in duration (measurable parameter unlikely to recover to baseline)</li> <li>▪ <b>Single event</b> in frequency (occurs once)</li> <li>▪ <b>Irreversible</b></li> <li>▪ <b>Low resilience-high resilience</b> in ecological context (Low resilience: low capacity for vegetation resources to recover from a perturbation, with consideration of the baseline level of disturbance. High resilience: high capacity for vegetation resources to recover from a perturbation, with consideration of the baseline level of disturbance)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
Change in native vegetation health and diversity due to emissions	<b>Facility Works and Activities</b>			<b>Not significant.</b> All ecological communities potentially affected from emissions will continue to persist in the emissions RSA, although their health may be reduced within the areas where critical levels or loads for sulphur dioxide, nitrogen, sulphate and acid are exceeded during the period of operation. With these considerations, residual effects from sulphur dioxide fumigation and nitrogen, acid, and sulphate deposition are assessed as not significant.
	Operation	LNG production, storage, and loading	<ul style="list-style-type: none"> <li>▪ <b>Low</b> in magnitude (measurable change in plant species or ecological communities of interest affecting a portion of the regional population or community; regional population density or community's extent sufficient to sustain that population or community without active management)</li> <li>▪ <b>Local study area</b> in geographic extent (residual effect extends into the LSA)</li> <li>▪ <b>Long term</b> in duration (effect extends beyond closure)</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>High resilience</b> in ecological context (high capacity for vegetation resources to recover from a perturbation, with consideration of the baseline level of disturbance)</li> </ul>	
<b>Wildlife Resources</b>				
Loss or change in habitat (Terrestrial Wildlife)	<b>Facility Works and Activities</b>			<b>Not significant.</b> The loss or change in effective habitat of 12.7 to 119.9 ha (≤0.003% of facility RSA) is a single occurrence that will have residual effects over the life of the Project. With application of mitigation and environmental protection measures, the loss or change in habitat on key species occurring within the facility LSA is assessed as not significant.
	Construction	Site preparation Onshore construction Marine terminal construction	<ul style="list-style-type: none"> <li>▪ <b>≤0.01%</b></li> <li>▪ <b>Local study area</b> in geographic extent (effects occur within the terrestrial wildlife LSA and or marine bird LSA— both of which encompass the Project footprint)</li> <li>▪ <b>Long term</b> in duration (effect occurs across multiple breeding seasons or generations, or multiple Project phases [e.g., 6 to 30 years, or the lifetime of the Project])</li> <li>▪ <b>Single event</b> in frequency (effect occurs once)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Low resilience</b> in ecological context (occurs in a fragile ecosystem and/or the level of baseline disturbance can be a contributing factor to reduced sustainability of a local or regional wildlife population)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
Risk of injury and mortality (Terrestrial Wildlife)	<b>Facility Works and Activities</b>			<b>Not significant.</b>  With the application of mitigation and environmental protection measures, the risk of injury or mortality will not affect the sustainability of regional terrestrial wildlife populations. The residual effect on terrestrial wildlife in the facility LSA, due to potential risk of injury or mortality, is assessed as not significant.
	Construction	Site preparation Onshore construction Marine terminal construction Vehicle and rail traffic	<ul style="list-style-type: none"> <li>▪ <b>Moderate</b> in magnitude (residual effect is moderate but unlikely to affect sustainability of regional population)</li> <li>▪ <b>Local study area</b> in geographic extent (effects occur within the terrestrial wildlife LSA and or marine bird LSA—both of which encompass the Project footprint)</li> <li>▪ <b>Medium term</b> in duration (effect occurs for several breeding seasons or generations, or a Project phase [e.g., one to five years, or the Project construction phase])</li> <li>▪ <b>Multiple irregular event</b> in frequency (no set schedule, occurs sporadically at irregular intervals throughout construction, operation, or decommissioning phases)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> in ecological context (occurs in a stable ecosystem or the level of baseline disturbance is not likely to contribute to reduced sustainability of a local or regional wildlife population)</li> </ul>	
	Decommissioning	Dismantling of land-based and marine infrastructure Remediation and reclamation of the site	<ul style="list-style-type: none"> <li>▪ <b>Low in magnitude</b> (residual effect is negligible and will not affect sustainability of regional population)</li> <li>▪ <b>Local study area</b> in geographic extent (effects occur within the terrestrial wildlife LSA and or marine bird LSA—both of which encompass the Project footprint)</li> <li>▪ <b>Long term</b> in duration (effect occurs across multiple breeding seasons or generations, or multiple Project phases [e.g., 6 to 30 years, or the lifetime of the Project])</li> <li>▪ <b>Multiple irregular event</b> in frequency (no set schedule, occurs sporadically at irregular intervals throughout construction, operation, or decommissioning phases)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> in ecological context (occurs in a stable ecosystem or the level of baseline disturbance is not likely to contribute to reduced sustainability of a local or regional wildlife population)</li> </ul>	
Operation	Vehicle and rail traffic	<ul style="list-style-type: none"> <li>▪ <b>Low in magnitude</b> (residual effect is negligible and will not affect sustainability of regional population)</li> <li>▪ <b>Local study area</b> in geographic extent (effects occur within the terrestrial wildlife LSA and or marine bird LSA—both of which encompass the Project footprint)</li> <li>▪ <b>Long term</b> in duration (effect occurs across multiple breeding seasons or generations, or multiple Project phases [e.g., 6 to 30 years, or the lifetime of the Project])</li> <li>▪ <b>Multiple irregular event</b> in frequency (no set schedule, occurs sporadically at irregular intervals throughout construction, operation, or decommissioning phases)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> in ecological context (occurs in a stable ecosystem or the level of baseline disturbance is not likely to contribute to reduced sustainability of a local or regional wildlife population)</li> </ul>		

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
Risk of injury and mortality (Marine Birds)	<b>Facility Works and Activities</b>			<b>Not significant.</b>  With mitigation, the Project will result in a low risk of injury or mortality to marine birds. The residual effect will occur over the long-term, although will be sporadic and rare, and will be more likely to occur during nights of poor visibility at the LNG facility and during peak migratory periods (i.e., spring and fall). The number of individuals affected will be low to negligible in the context of the regional marine bird populations. The magnitude of residual effect is low. The potential risk of injury or mortality to marine birds in the facility RSA is assessed as not significant.
	Construction	Marine terminal construction	<ul style="list-style-type: none"> <li>▪ <b>Moderate</b> in magnitude (residual effect is moderate but unlikely to affect sustainability of regional population)</li> <li>▪ <b>Local study area</b> in geographic extent (effects occur within the terrestrial wildlife LSA and or marine bird LSA—both of which encompass the Project footprint)</li> <li>▪ <b>Medium term</b> in duration (effect occurs for several breeding seasons or generations, or a Project phase [e.g., one to five years, or the Project construction phase])</li> <li>▪ <b>Single event</b> in frequency (effect occurs once)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Low resilience</b> in ecological context (occurs in a fragile ecosystem and/or the level of baseline disturbance can be a contributing factor to reduced sustainability of a local or regional wildlife population)</li> </ul>	
	Operation	LNG production, storage, and loading	<ul style="list-style-type: none"> <li>▪ <b>Low in magnitude</b> (residual effect is negligible and will not affect sustainability of regional population)</li> <li>▪ <b>Local study area</b> in geographic extent (effects occur within the terrestrial wildlife LSA and or marine bird LSA—both of which encompass the Project footprint)</li> <li>▪ <b>Long term</b> in duration (effect occurs across multiple breeding seasons or generations, or multiple Project phases [e.g., 6 to 30 years, or the lifetime of the Project])</li> <li>▪ <b>Multiple irregular event</b> in frequency (no set schedule, occurs sporadically at irregular intervals throughout construction, operation, or decommissioning phases)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> in ecological context (occurs in a stable ecosystem or the level of baseline disturbance is not likely to contribute to reduced sustainability of a local or regional wildlife population)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
Sensory disturbance or behavioural alterations (Terrestrial Wildlife and Marine Birds)	<b>Facility Works and Activities</b>			<b>Not significant.</b>  There is a low probability that the loss or change in effective key species habitat will affect the sustainability of regional wildlife populations. The potential for sensory disturbance or behavioural alterations of terrestrial wildlife in the facility LSA is assessed as not significant.  With application of the mitigation and environmental protection measures, the risk of sensory disturbance or behavioural alterations of marine birds in the facility LSA is assessed as not significant.
	Construction	Site preparation Onshore construction Marine terminal construction Vehicle and rail traffic	<ul style="list-style-type: none"> <li>▪ <b>Moderate</b> in magnitude (effect presents a semi-permeable barrier, but unlikely to affect sustainability of regional population)</li> <li>▪ <b>Local study area</b> in geographic extent (effects occur within the terrestrial wildlife LSA and or marine bird LSA— both of which encompass the Project footprint)</li> <li>▪ <b>Medium term</b> in duration (effect occurs for several breeding seasons or generations, or a Project phase [e.g., one to five years, or the Project construction phase])</li> <li>▪ <b>Multiple irregular events</b> in frequency (occurs sporadically at irregular intervals through construction, operation, or decommissioning phases)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Low resilience</b> in ecological context (occurs in a fragile ecosystem or the level of baseline disturbance can be a contributing factor to reduced sustainability of a local or regional wildlife population)</li> </ul>	
	Operation	Vehicle and rail traffic	<ul style="list-style-type: none"> <li>▪ <b>Low in magnitude</b> (effect presents a permeable barrier and will not affect sustainability of regional population)</li> <li>▪ <b>Local study area</b> in geographic extent (effects occur within the terrestrial wildlife LSA and or marine bird LSA—both of which encompass the Project footprint)</li> <li>▪ <b>Long term</b> in duration (effect occurs across multiple breeding seasons or generations, or multiple Project phases [e.g., 6 to 30 years, or the lifetime of the Project])</li> <li>▪ <b>Multiple regular events</b> in frequency (occurs on a regular basis and at regular intervals through construction, operation, or decommissioning phases)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Low resilience</b> in ecological context (occurs in a fragile ecosystem or the level of baseline disturbance can be a contributing factor to reduced sustainability of a local or regional wildlife population)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
	Decommissioning	Dismantling of land-based and marine infrastructure Remediation and reclamation of the site	<ul style="list-style-type: none"> <li>▪ <b>Low in magnitude</b> (effect presents a permeable barrier and will not affect sustainability of regional population)</li> <li>▪ <b>Local study area</b> in geographic extent (effects occur within the terrestrial wildlife LSA and or marine bird LSA— both of which encompass the Project footprint)</li> <li>▪ <b>Medium term</b> in duration (effect occurs for several breeding seasons or generations, or a Project phase [e.g., one to five years, or the Project construction phase])</li> <li>▪ <b>Multiple irregular events</b> in frequency (occurs sporadically at irregular intervals through construction, operation, or decommissioning phases)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Low resilience</b> in ecological context (occurs in a fragile ecosystem or the level of baseline disturbance can be a contributing factor to reduced sustainability of a local or regional wildlife population)</li> </ul>	
Risk of injury and mortality (Marine Birds) Sensory disturbance or behavioural alterations (Marine Birds)	<b>Shipping Activities</b>			<b>Not significant.</b>  With application of the mitigation measures, the potential for sensory disturbances and the risk of injury or mortality will be reduced for marine birds. Residual effects on local populations will recover through natural recruitment (breeding and immigration); therefore, the sustainability of regional populations will not be adversely affected. Consequently, the potential for sensory disturbance or behavioural alterations, and risk of injury or mortality, are assessed as not significant. The combined residual effects of shipping during all Project phases are assessed as not significant.
	Construction	Shipping equipment and materials	<ul style="list-style-type: none"> <li>▪ <b>Low in magnitude</b> (residual effect is negligible and will not affect sustainability of regional population or effect presents a permeable barrier and will not affect sustainability of regional population)</li> <li>▪ <b>Local study area</b> in geographic extent (effects occur within the terrestrial wildlife LSA and or marine bird LSA—both of which encompass the Project footprint)</li> <li>▪ <b>Medium term</b> in duration (effect occurs for several breeding seasons or generations, or a Project phase [e.g., one to five years, or the Project construction phase])</li> <li>▪ <b>Multiple irregular events</b> in frequency (occurs sporadically at irregular intervals through construction, operation, or decommissioning phases)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> in ecological context (occurs in a stable ecosystem and/or level of baseline disturbance not likely to contribute to reduced sustainability of a local or regional wildlife population)</li> </ul>	
	Decommissioning	Shipping equipment and materials	<ul style="list-style-type: none"> <li>▪ <b>Low in magnitude</b> (residual effect is negligible and will not affect sustainability of regional population or effect presents a permeable barrier and will not affect sustainability of regional population)</li> <li>▪ <b>Local study area</b> in geographic extent (effects occur within the terrestrial wildlife LSA and or marine bird LSA—both of which encompass the Project footprint)</li> <li>▪ <b>Medium term</b> in duration (effect occurs for several breeding seasons or generations, or a Project phase [e.g., one to five years, or the Project construction phase])</li> <li>▪ <b>Multiple irregular events</b> in frequency (occurs sporadically at irregular intervals through construction, operation, or decommissioning phases)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> in ecological context (occurs in a stable ecosystem and/or level of baseline disturbance not likely to contribute to reduced sustainability of a local or regional wildlife population)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
	Operation	LNG shipping	<ul style="list-style-type: none"> <li>▪ <b>Low</b> in magnitude (residual effect is negligible and will not affect sustainability of regional population or effect presents a permeable barrier and will not affect sustainability of regional population)</li> <li>▪ <b>Local study area</b> in geographic extent (effects occur within the terrestrial wildlife LSA and or marine bird LSA—both of which encompass the Project footprint)</li> <li>▪ <b>Long term</b> in duration (effect occurs across multiple breeding seasons or generations, or multiple Project phases [e.g., 6 to 30 years, or the lifetime of the Project])</li> <li>▪ <b>Multiple irregular events</b> in frequency (occurs sporadically at irregular intervals through construction, operation, or decommissioning phases)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> in ecological context (occurs in a stable ecosystem and/or level of baseline disturbance not likely to contribute to reduced sustainability of a local or regional wildlife population)</li> </ul>	
<b>Freshwater and Estuarine Fish and Fish Habitat</b>				
Changes in fish habitat	<b>Facility Works and Activities</b>			<b>Not significant.</b>  PAD will be mitigated through offsetting, in accordance with a <i>Fisheries Act</i> authorization for the Project. Therefore, the potential effects on changes in fish habitat quality have a low likelihood of leading to residual effects. Given the legislative requirements of the <i>Fisheries Act</i> , changes in fish habitat are assessed as not significant.
	Construction	Site preparation	<ul style="list-style-type: none"> <li>▪ <b>Negligible</b> in magnitude (no measurable change)</li> <li>▪ <b>Local study area</b> in geographic extent (residual effects are restricted to the LSA)</li> <li>▪ <b>Short term</b> in duration (no measurable residual effect exists beyond construction or decommissioning phases [i.e., &lt; 6 years])</li> <li>▪ <b>Single event</b> in frequency (residual effect occurs once)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> in an ecological context (occurs in a moderately stable ecosystem or level of baseline disturbance not likely to contribute to reduced sustainability of a local or regional fish population)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
Change in risk of physical injury or mortality to fish	<b>Facility Works and Activities</b>			<b>Not significant.</b>  With the application of mitigation measures, the potential change in risk of physical injury or mortality to freshwater or estuarine fish species in the LSA will not affect the sustainability of fish populations during the construction or operation phases. Any such residual effect has a low likelihood of occurrence and is assessed to be not significant.
	Construction	Site preparation Onshore construction	<ul style="list-style-type: none"> <li>▪ <b>Negligible</b> in magnitude (no measurable change)</li> <li>▪ <b>Project footprint</b> in geographic extent (residual effects are restricted to the Project footprint)</li> <li>▪ <b>Short term</b> in duration (no measurable residual effect exists beyond construction or decommissioning phases [i.e., &lt; 6 years])</li> <li>▪ <b>Multiple irregular event</b> in frequency (occurs more than once but infrequently)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>High resilience</b> (occurs in a highly stable ecosystem or the level of baseline disturbance does not contribute to reduced sustainability of a local or regional fish population)</li> </ul>	
	Operation	LNG production, storage, and loading	<ul style="list-style-type: none"> <li>▪ <b>Negligible</b> in magnitude (no measurable change)</li> <li>▪ <b>Local study area</b> in geographic extent</li> <li>▪ <b>Long term</b> in duration (measurable residual effect persists beyond operational phase [&gt;25 years], but is not permanent)</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> (occurs in a moderately stable ecosystem or level of baseline disturbance not likely to contribute to reduced sustainability of a local or regional fish population)</li> </ul>	



Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
<b>Marine Resources</b>				
Change in fish habitat	<b>Facility Works and Activities</b>			<b>Not significant.</b> With implementation of the Fish Habitat Offset Plan, there will be no net loss in total area or productive capacity of fish habitat. Consequently, the change in fish habitat is expected to be negligible and reversible, and there is a low likelihood that the anticipated change in fish habitat will affect viability of fish populations that support or are part of CRA fisheries, or fish species at risk. With mitigation and offsetting measures, change in fish habitat as a result of Project activities is assessed as not significant.
	Construction	Dredging Marine terminal construction	<ul style="list-style-type: none"> <li>▪ <b>Negligible</b> in magnitude (no detectable or measurable change from existing baseline conditions)</li> <li>▪ <b>Regional study area</b> in geographic extent (residual effects extend into the RSA)</li> <li>▪ <b>Short term</b> in duration (residual effect restricted to Project construction and/or decommissioning phases and is predicted to return to existing baseline conditions with no lasting effect)</li> <li>▪ <b>Multiple regular events</b> in frequency (occurs on a regular basis and at regular intervals)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Low to high resilience</b> in ecological context (Low: low capacity for the VC to recover from a perturbation, with consideration of the baseline level of disturbance. High: high capacity for the VC to recover from a perturbation, with consideration of the baseline level of disturbance)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
Change in fish health as a result of toxicity	<b>Facility Works and Activities</b>			<b>Not significant.</b> Any adverse change in fish health will be short term and low in magnitude, and will not affect the population viability of any fish species (including species at risk), and no <i>endangered</i> or <i>threatened</i> fish species are likely to be harmed as a result of toxicity. Effects will be limited to the facility LSA and will be reversible. The natural deposition of clean material over any dispersed contaminants following dredging, combined with removal of sediment containing high PAH levels from the dredge area, will result in a net improvement in fish health due to reduced exposure to contamination. Therefore, change in fish health as a result of toxicity related to the LNG facility is assessed as not significant.
	Construction	Dredging Marine terminal construction	<ul style="list-style-type: none"> <li>▪ <b>Low</b> in magnitude (a measurable change from existing baseline conditions but is below environmental and/or regulatory thresholds and does not affect the ongoing viability of fish or marine mammal populations)</li> <li>▪ <b>Local study area</b> in geographic extent (residual effects extend into the LSA)</li> <li>▪ <b>Short term</b> in duration (residual effect restricted to Project construction and/or decommissioning phases and is predicted to return to existing baseline conditions with no lasting effect)</li> <li>▪ <b>Single event</b> in frequency</li> <li>▪ <b>High resilience</b> in ecological context (high capacity for the VC to recover from a perturbation, with consideration of the baseline level of disturbance)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
Harm to fish and marine mammals	<b>Facility Works and Activities</b>			<b>Not significant.</b>  The number of individual fish of CRA fishery species potentially harmed is anticipated to be only a small proportion of the total population sizes in the facility RSA (i.e., fish stocks managed in DFO FMA 6-1). Harm to a limited number of individual fish will not affect population viability of species that support or are part of CRA fisheries, and no harm to <i>endangered</i> or <i>threatened</i> fish species is anticipated. Consequently, harm to fish that support or are part of CRA fisheries, and to fish species at risk, is assessed as negligible and not significant.  Implementation of mitigation measures will reduce the potential for marine mammals to be exposed to noise above the injury threshold and the extent of noise and, combined with the low estimated abundance of marine mammals in the facility LSA, the number of individuals anticipated to be exposed to noise above injury thresholds is low. There is a lower likelihood of affecting <i>threatened</i> or <i>endangered</i> marine mammal species, given their estimated low abundance near the facility LSA. With mitigation, there is a low likelihood of harm and affecting the viability of marine mammal populations, and of causing harm to <i>threatened</i> or <i>endangered</i> species. The harm to marine mammals is assessed as not significant.
	Construction	Dredging Marine terminal construction	<ul style="list-style-type: none"> <li>▪ <b>Negligible-moderate</b> in magnitude (Negligible: no detectable or measurable change from existing baseline conditions. Moderate: a measurable change from existing baseline conditions that is above environmental and/or regulatory thresholds but does not affect the ongoing viability of fish or marine mammal populations)</li> <li>▪ <b>Local study area-regional study area</b> in geographic extent (residual effect extends from LSA to RSA)</li> <li>▪ <b>Short term</b> in duration (residual effect restricted to Project construction and/or decommissioning phases and is predicted to return to existing baseline conditions with no lasting effect)</li> <li>▪ <b>Multiple regular events</b> in frequency (occurs on a regular basis and at regular intervals)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Low to high resilience</b> in ecological context (Low: low capacity for the VC to recover from a perturbation, with consideration of the baseline level of disturbance. High: high capacity for the VC to recover from a perturbation, with consideration of the baseline level of disturbance)</li> </ul>	
	Decommissioning	Dismantling of land-based and marine infrastructure	<ul style="list-style-type: none"> <li>▪ <b>Negligible</b> in magnitude (no detectable or measurable change from existing baseline conditions)</li> <li>▪ <b>Local study area</b> in geographic extent (residual effects extend into the LSA)</li> <li>▪ <b>Short term</b> in duration (residual effect restricted to Project construction and/or decommissioning phases and is predicted to return to existing baseline conditions with no lasting effect)</li> <li>▪ <b>Multiple regular events</b> in frequency (occurs on a regular basis and at regular intervals)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Low to high resilience</b> in ecological context (Low: low capacity for the VC to recover from a perturbation, with consideration of the baseline level of disturbance. High: high capacity for the VC to recover from a perturbation, with consideration of the baseline level of disturbance)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
Change in behaviour of fish or marine mammals due to underwater noise or pressure waves	<b>Facility Works and Activities</b>			<b>Not significant.</b>  With mitigation, there is a medium likelihood that Project activities and works during the construction and operation phase will result in change in behaviour of fish that support or are part of CRA fishery species, and fish species at risk. The change in behaviour of fish is anticipated to be low magnitude, long term, and reversible. Temporary changes in behaviour of a limited number of individual fish in the facility RSA will not affect population viability of fish that support or are part of CRA fisheries, or fish species at risk. Consequently, change in behaviour of fish is assessed as not significant.  Even with mitigation, pile installation and dredging will increase underwater noise levels above baseline conditions and may exceed the NOAA marine mammal behavioural disruption threshold, leading to a high likelihood of a moderate magnitude residual effect, but in a smaller area than for unmitigated effects. There is a low likelihood that changes in behaviour will affect the population viability of marine mammals (including species at risk). With mitigation, change in behaviour from underwater noise and pressure waves from the LNG facility is assessed as not significant
	Construction	Dredging Marine terminal construction	<ul style="list-style-type: none"> <li>▪ <b>Low-moderate</b> in magnitude (Low: a measurable change from existing baseline conditions but is below environmental and/or regulatory thresholds and does not affect the ongoing viability of fish or marine mammal populations. Moderate: a measurable change from existing baseline conditions that is above environmental and/or regulatory thresholds but does not affect the ongoing viability of fish or marine mammal populations)</li> <li>▪ <b>Regional study area</b> in geographic extent (residual effects extend into the RSA)</li> <li>▪ <b>Long term</b> in duration (residual effect continues for more than two years after the Project construction phase, or continues during Project operation and decommissioning phases, before returning to existing baseline conditions)</li> <li>▪ <b>Multiple irregular events</b> in frequency (occurs sporadically at irregular intervals)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate to high resilience</b> in ecological context (Moderate: moderate capacity for the VC to recover from a perturbation, with consideration of the baseline level of disturbance. High: high capacity for the VC to recover from a perturbation, with consideration of the baseline level of disturbance)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
	Decommissioning	Dismantling of land-based and marine infrastructure	<ul style="list-style-type: none"> <li>▪ <b>Low-moderate</b> in magnitude (Low: a measurable change from existing baseline conditions but is below environmental and/or regulatory thresholds and does not affect the ongoing viability of fish or marine mammal populations. Moderate: a measurable change from existing baseline conditions that is above environmental and/or regulatory thresholds but does not affect the ongoing viability of fish or marine mammal populations)</li> <li>▪ <b>Regional study area</b> in geographic extent (residual effects extend into the RSA)</li> <li>▪ <b>Short term</b> in duration (residual effect restricted to Project construction and/or decommissioning phases and is predicted to return to existing baseline conditions with no lasting effect)</li> <li>▪ <b>Multiple regular events</b> in frequency (occurs on a regular basis and at regular intervals)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate to high resilience</b> in ecological context (Moderate: moderate capacity for the VC to recover from a perturbation, with consideration of the baseline level of disturbance. High: high capacity for the VC to recover from a perturbation, with consideration of the baseline level of disturbance)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
Change in behaviour of fish or marine mammals due to underwater noise or pressure waves	<b>Shipping Activities</b>			<b>Not significant.</b>  With implementation of mitigation measures, residual effects from shipping are not anticipated to affect the ongoing viability of marine fish or marine mammal populations (including species at risk), or to cause harm to endangered or threatened species. Mitigation measures will reduce the change in behaviour of fish and marine mammals due to underwater noise or pressure waves. Overall, residual effects from shipping are expected to be low to moderate in magnitude, long-term in duration, extend through the shipping RSA, and to be reversible. Residual effects on marine resources from shipping are assessed as not significant.
	Construction	Shipping equipment and materials	<ul style="list-style-type: none"> <li>▪ <b>Low-moderate</b> in magnitude (Low: a measurable change from existing baseline conditions but is below environmental and/or regulatory thresholds and does not affect the ongoing viability of fish or marine mammal populations. Moderate: a measurable change from existing baseline conditions that is above environmental and/or regulatory thresholds but does not affect the ongoing viability of fish or marine mammal populations)</li> <li>▪ <b>Local study area-regional study area</b> in geographic extent (residual effect extends from LSA to RSA)</li> <li>▪ <b>Short term</b> in duration (residual effect restricted to Project construction and/or decommissioning phases and is predicted to return to existing baseline conditions with no lasting effect)</li> <li>▪ <b>Multiple regular events</b> in frequency (occurs on a regular basis and at regular intervals)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate to high resilience</b> in ecological context (Moderate: moderate capacity for the VC to recover from a perturbation, with consideration of the baseline level of disturbance. High: high capacity for the VC to recover from a perturbation, with consideration of the baseline level of disturbance)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
	Operation	LNG shipping	<ul style="list-style-type: none"> <li>▪ <b>Low-moderate</b> in magnitude (Low: a measurable change from existing baseline conditions but is below environmental and/or regulatory thresholds and does not affect the ongoing viability of fish or marine mammal populations. Moderate: a measurable change from existing baseline conditions that is above environmental and/or regulatory thresholds but does not affect the ongoing viability of fish or marine mammal populations)</li> <li>▪ <b>Local study area-regional study area</b> in geographic extent (residual effect extends from LSA to RSA)</li> <li>▪ <b>Long term</b> in duration (residual effect continues for more than two years after the Project construction phase, or continues during Project operation and decommissioning phases, before returning to existing baseline conditions)</li> <li>▪ <b>Multiple regular events</b> in frequency (occurs on a regular basis and at regular intervals)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate to high resilience</b> in ecological context (Moderate: moderate capacity for the VC to recover from a perturbation, with consideration of the baseline level of disturbance. High: high capacity for the VC to recover from a perturbation, with consideration of the baseline level of disturbance)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
	Decommissioning	Shipping equipment and materials	<ul style="list-style-type: none"> <li>▪ <b>Low</b> in magnitude (a measurable change from existing baseline conditions but is below environmental and/or regulatory thresholds and does not affect the ongoing viability of fish or marine mammal populations)</li> <li>▪ <b>Local study area-regional study area</b> in geographic extent (residual effect extends from LSA to RSA)</li> <li>▪ <b>Short term</b> in duration (residual effect restricted to Project construction and/or decommissioning phases and is predicted to return to existing baseline conditions with no lasting effect)</li> <li>▪ <b>Multiple regular events</b> in frequency (occurs on a regular basis and at regular intervals)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>High resilience</b> in ecological context (high capacity for the VC to recover from a perturbation, with consideration of the baseline level of disturbance)</li> </ul>	
<b>Surface Water Quality</b>				
Change in acidification potential	<b>Facility Works and Activities</b>		<ul style="list-style-type: none"> <li>▪ <b>Low-moderate</b> in magnitude (Low: a measurable change from baseline but no critical load exceedance. Moderate: a measurable change from baseline conditions resulting in a critical load exceedance, and sites are considered acid sensitive or acidic at baseline.)</li> <li>▪ <b>Local study area</b> in geographic extent (effects extend into the LSA)</li> <li>▪ <b>Long term</b> in duration</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Low-moderate resilience</b> (Low: low capacity for the VC to recover from a perturbation, with consideration of the baseline level of disturbance. Moderate: moderate capacity for the VC to recover from a perturbation, with consideration of the baseline level of disturbance.)</li> </ul>	<b>Not significant.</b>  With mitigation and environmental protection measures, residual effects on acidification potential are not significant.
	Operation	LNG production, storage, and loading		



Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
Change in trophic status causing eutrophication	<b>Facility Works and Activities</b>			<b>Not significant.</b> With mitigation and environmental protection measures, residual effects on trophic status causing eutrophication are not significant.
	Operation	LNG production, storage, and loading	<ul style="list-style-type: none"> <li>▪ <b>Low</b> in magnitude (no change in trophic status )</li> <li>▪ <b>Local study area</b> in geographic extent (effects extend into the LSA)</li> <li>▪ <b>Long term</b> in duration</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Low-moderate resilience</b> (Low: low capacity for economic conditions to recover from a perturbation with consideration of the baseline conditions. Moderate: moderate capacity for economic conditions to recover from a perturbation, with consideration of baseline conditions.)</li> </ul>	
<b>Economic Conditions</b>				
Change in labour supply and demand	<b>Facility Works and Activities</b>			<b>Not significant.</b> In combination with initiatives undertaken by the province, the application of Project-specific mitigation measures is expected to mitigate adverse effects on the local labour supply. As a result the change in labour supply and demand is assessed as not significant.
	Construction	Site preparation Onshore construction Marine terminal construction Waste management Vehicle and rail traffic Commissioning and start-up	<ul style="list-style-type: none"> <li>▪ <b>High</b> in magnitude (measurable change that is likely to pose a serious risk to the selected VC and, if negative, represents a management challenge)</li> <li>▪ <b>Provincial</b> in geographic extent</li> <li>▪ <b>Short term</b> in duration (effect is restricted to the duration of the construction period or less)</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Low resilience</b></li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
	Operation	LNG production, storage, and loading Waste management Vehicle and rail traffic	<ul style="list-style-type: none"> <li>▪ <b>Moderate</b> in magnitude (measurable change but unlikely to pose a serious risk to the VC or to represent a management challenge)</li> <li>▪ <b>Local study area</b> in geographic extent</li> <li>▪ <b>Long term</b> in duration (effect is extends to the life of the Project)</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> (moderate capacity for economic conditions to recover from a perturbation, with consideration of baseline conditions)</li> </ul>	
	Decommissioning	Dismantling of land-based and marine infrastructure Remediation and reclamation of the site	<ul style="list-style-type: none"> <li>▪ <b>Moderate</b> in magnitude (measurable change but unlikely to pose a serious risk to the VC or to represent a management challenge)</li> <li>▪ <b>Local study area</b> in geographic extent</li> <li>▪ <b>Short term</b> in duration (effect is restricted to the duration of the construction period or less)</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> (moderate capacity for economic conditions to recover from a perturbation, with consideration of baseline conditions)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
Change in economic activity of other sectors	<b>Facility Works and Activities</b>			<b>Not significant.</b>  In consideration of market mechanisms, government-led initiatives to address the limited labour pool and housing availability in northwest BC, and Project-led mitigation measures, residual effects are assessed as not significant.
	Construction	Site preparation Onshore construction Dredging Marine terminal construction Waste management Vehicle and rail traffic Commissioning and start-up	<ul style="list-style-type: none"> <li>▪ <b>High</b> in magnitude (measurable change that is likely to pose a serious risk to the selected VC and, if negative, represents a management challenge)</li> <li>▪ <b>Local study area</b> in geographic extent</li> <li>▪ <b>Short term</b> in duration (effect is restricted to the duration of the construction period or less)</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Low resilience</b> (low capacity for economic conditions to recover from a perturbation with consideration of the baseline conditions)</li> </ul>	
	Operation	LNG production, storage, and loading Waste management Vehicle and rail traffic	<ul style="list-style-type: none"> <li>▪ <b>Moderate</b> in magnitude (measurable change but unlikely to pose a serious risk to the VC or to represent a management challenge)</li> <li>▪ <b>Local study area</b> in geographic extent</li> <li>▪ <b>Long term</b> in duration (effect is extends to the life of the Project)</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> (moderate capacity for economic conditions to recover from a perturbation, with consideration of baseline conditions)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
	Decommissioning	Dismantling of land-based and marine infrastructure Remediation and reclamation of the site	<ul style="list-style-type: none"> <li>▪ <b>Moderate</b> in magnitude (measurable change but unlikely to pose a serious risk to the VC or to represent a management challenge)</li> <li>▪ <b>Local study area</b> in geographic extent</li> <li>▪ <b>Short term</b> in duration (effect is restricted to the duration of the construction period or less)</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> (moderate capacity for economic conditions to recover from a perturbation, with consideration of baseline conditions)</li> </ul>	
Change in economic activity of other sectors	<b>Shipping Activities</b>			<b>Not significant.</b> With the application of mitigation measures, residual effects are assessed as not significant.
	Construction	Shipping equipment and materials	<ul style="list-style-type: none"> <li>▪ <b>Low</b> in magnitude (effect cannot be distinguished from baseline conditions; within normal range of variability)</li> <li>▪ <b>Local study area</b> in geographic extent</li> <li>▪ <b>Short term</b> in duration (effect is restricted to the duration of the construction period or less)</li> <li>▪ <b>Multiple irregular event</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> (moderate capacity for economic conditions to recover from a perturbation, with consideration of baseline conditions)</li> </ul>	
	Operation	LNG shipping	<ul style="list-style-type: none"> <li>▪ <b>Low</b> in magnitude (effect cannot be distinguished from baseline conditions; within normal range of variability)</li> <li>▪ <b>Local study area</b> in geographic extent</li> <li>▪ <b>Long term</b> in duration (effect is extends to the life of the Project)</li> <li>▪ <b>Multiple irregular event</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> moderate capacity for economic conditions to recover from a perturbation, with consideration of baseline conditions)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
	Decommissioning	Shipping equipment and materials	<ul style="list-style-type: none"> <li>▪ <b>Low</b> in magnitude (effect cannot be distinguished from baseline conditions; within normal range of variability)</li> <li>▪ <b>Local study area</b> in geographic extent</li> <li>▪ <b>Short term</b> in duration (effect is restricted to the duration of the construction period or less)</li> <li>▪ <b>Multiple irregular event</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> (moderate capacity for economic conditions to recover from a perturbation, with consideration of baseline conditions)</li> </ul>	
<b>Infrastructure and Services</b>				
Effects on community infrastructure and services	<b>Facility Works and Activities</b>			<b>Not significant.</b>  With the implementation of mitigation measures, as well as communication of Project requirements by LNG Canada to the municipal authorities and local agencies responsible for infrastructure and services, adverse residual effects are assessed as not significant.
	Construction	Site preparation Onshore construction Dredging Marine terminal construction Waste management	<ul style="list-style-type: none"> <li>▪ <b>Moderate</b> in magnitude (a measurable effect on a scale that nears the available capacity and may affect the viability or displace public access to or use of infrastructure and services)</li> <li>▪ <b>Regional study area</b> in geographic extent (effects extend into the RSA)</li> <li>▪ <b>Short term</b> in duration (effect restricted to the duration of construction phase or less)</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Reversible</b> (residual effect will no longer occur after Project closure and reclamation [or sooner])</li> <li>▪ <b>Moderate resilience</b> (infrastructure and services are able to accommodate changes, but with some impacts to available capacity)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
	Operation	Waste management	<ul style="list-style-type: none"> <li>▪ <b>Moderate</b> in magnitude (a measurable effect on a scale that nears the available capacity and may affect the viability or displace public access to or use of infrastructure and services)</li> </ul>	
	Decommissioning	Waste management	<ul style="list-style-type: none"> <li>▪ <b>Regional study area</b> in geographic extent (effects extend into the RSA)</li> <li>▪ <b>Medium term</b> in duration (effect extends through the construction and operation phases of the Project)</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> (infrastructure and services are able to accommodate changes, but with some impacts to available capacity)</li> </ul>	
Effects on traffic and pressure on transportation infrastructure	<b>Facility Works and Activities</b>			<b>Not significant.</b>  Given the existing capacity of transportation infrastructure in the LSA and the implementation of mitigation measures by LNG Canada, it is anticipated that the projected traffic volumes caused by Project activities and Project-related population growth will not exceed design capacity at any location. Therefore, these residual effects are assessed as not significant. Rail traffic volumes and the anticipated increase in traffic collisions are not expected to result in a substantial increase over the current conditions and are also assessed as not significant. While the increase in air traffic would exceed planned volumes for the terminal, direct effects will be managed through the use of chartered flights; therefore, these effects are also assessed as not significant.
	Construction	Vehicle and rail traffic	<ul style="list-style-type: none"> <li>▪ <b>Moderate</b> in magnitude (a measurable effect on a scale that nears the available capacity and may affect the viability or displace public access to or use of infrastructure and services)</li> <li>▪ <b>Local study area</b> in geographic extent (effects extend into the LSA)</li> <li>▪ <b>Short term</b> in duration (effect restricted to the duration of construction phase or less)</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> (infrastructure and services are able to accommodate changes, but with some impacts to available capacity)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
	Operation	Waste management Vehicle and rail traffic	<ul style="list-style-type: none"> <li>▪ <b>Moderate</b> in magnitude (a measurable effect on a scale that nears the available capacity and may affect the viability or displace public access to or use of infrastructure and services)</li> <li>▪ <b>Local study area</b> in geographic extent (effects extend into the LSA)</li> <li>▪ <b>Medium term</b> in duration (effect extends through the construction and operation phases of the Project)</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> (infrastructure and services are able to accommodate changes, but with some impacts to available capacity)</li> </ul>	
Change in housing availability	<b>Facility Works and Activities</b>			<b>Not significant.</b>  With the construction and use of a workforce accommodation centre(s) and a commitment by LNG Canada to provide housing for its operation workforce, limited direct Project effects on housing availability are anticipated. Given LNG Canada's commitments to address residual effects on housing availability from the indirect and induced workforce, residual effects of the Project on housing availability are assessed as not significant
	Construction	Site preparation Onshore construction Marine terminal construction	<ul style="list-style-type: none"> <li>▪ <b>High</b> in magnitude (measurable effect on a scale that will either affect the viability or displace public use of infrastructure and services)</li> <li>▪ <b>Local study area</b> in geographic extent (effects extend into the LSA)</li> <li>▪ <b>Short term</b> in duration (effect restricted to the duration of construction phase or less)</li> <li>▪ <b>Multiple irregular events</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> (infrastructure and services are able to accommodate changes with minor effects on available capacity or change in quality of service)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
<b>Visual Quality</b>				
Reduction in visual quality	<b>Facility Works and Activities</b>			<b>Not significant.</b>  Overall, the potential effects of the LNG facility on visual quality are likely to be minor because the LSA already has an average of maximum modification disturbance (28.9%) and VQOs on adjacent VSUs will still be met.
	Construction	Site preparation Onshore construction Marine terminal construction	<ul style="list-style-type: none"> <li>▪ <b>Low</b> in magnitude (a measurable change in the LSA's average EVC from moderate and high importance viewpoints, but EVC remains within the baseline visual quality class (VQC), and VQOs are achieved)</li> <li>▪ <b>Local study area</b> in geographic extent (effects extend into the LSA)</li> <li>▪ <b>Short term</b> in duration (measurable for the construction phase of the Project)</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> (moderate capacity for the VC to recover from a perturbation, with consideration of the baseline level of disturbance)</li> </ul>	
	Operation	LNG production, storage, and loading	<ul style="list-style-type: none"> <li>▪ <b>Moderate</b> in magnitude (measurable change in the LSA's average EVC from moderate and high importance viewpoints resulting in a change in VQC)</li> <li>▪ <b>Local study area</b> in geographic extent (effects extend into the LSA)</li> <li>▪ <b>Long term</b> in duration (measurable for the life of the Project)</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> (moderate capacity for the VC to recover from a perturbation, with consideration of the baseline level of disturbance)</li> </ul>	



Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
<b>Shipping Activities</b>				<b>Not significant.</b> While the frequency and duration of large vessels will increase considerably over baseline conditions with the addition of the Project's LNG carriers, prominence is limited across all viewpoints and the average duration across all viewpoints is 41 hours per month (1.4 hours per day). However, because some viewpoints will experience an increase of 2.5 hours of viewing duration per day, it will be important to implement and maintain effective communication with other marine users so that they may plan routing around the LNG carrier schedules and thus limit undesired views of large industrial marine traffic.
	Operation	LNG shipping	<ul style="list-style-type: none"> <li>▪ <b>Moderate</b> in magnitude (on average, views of an LNG carrier from viewpoints of moderate or high importance would be probable, the duration would be moderate and the prominence would be moderate)</li> <li>▪ <b>Local study area</b> in geographic extent (effects extend into the LSA)</li> <li>▪ <b>Long term</b> in duration (measurable for the life of the Project)</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Low resilience</b> (low capacity for the VC to recover from a perturbation, with consideration of the baseline level of disturbance)</li> </ul>	
<b>Marine Transportation and Use</b>				
Interference with marine navigation	<b>Facility Works and Activities</b>			<b>Not significant.</b> The Project will not cause substantial and persistent interference to marine navigation. The berths are already in use, and the modifications will continue to allow vessels to travel in and around Douglas Channel. Safety around the marine terminal will be refined through the implementation of small but effective safety zones. Project residual effects related to interference with marine navigation are, therefore, assessed as not significant.
	Construction	Dredging Marine terminal construction	<ul style="list-style-type: none"> <li>▪ <b>Low</b> in magnitude (small change relative to background conditions; character of the VC remains largely unaltered)</li> <li>▪ <b>Marine terminal area</b> in geographic extent</li> <li>▪ <b>Medium term</b> in duration (effects are persistent for up to 10 years after construction.)</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Low reliance</b> (area has low importance relative to others)</li> <li>▪ <b>High resilience</b> (area has high importance relative to others)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
Interference with marinas and moorage facilities	<b>Facility Works and Activities</b>			<b>Not significant.</b> Project residual effects on marinas and moorage facilities will not result in a persistent decrease in the level of services provided to the community. Residual effects on marinas and moorage facilities will be low in magnitude, restricted to the head of Kitimat Arm, and occur as multiple irregular events in an area with moderate resilience. Residual effects will be reversible at the end of the Project lifecycle. Overall, mitigation measures will reduce competition for moorage in Kitimat by managing demand and increasing supply. As a result, the Project's effect on marinas and moorage facilities is assessed as not significant.
	Construction	Site preparation Onshore construction Dredging Marine terminal construction Waste management Vehicle and rail traffic Commissioning and start-up	<ul style="list-style-type: none"> <li>▪ <b>Low</b> in magnitude (small change relative to background conditions; character of the VC remains largely unaltered.)</li> <li>▪ <b>Local study area</b> in geographic extent</li> <li>▪ <b>Medium term</b> in duration (effects are persistent for up to 10 years after construction)</li> <li>▪ <b>Multiple irregular events</b> in frequency (occurs sporadically at irregular intervals throughout the construction, operation, or decommissioning phases)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>High reliance</b> (area has high importance relative to others)</li> <li>▪ <b>Moderate resilience</b> (refers to the ability to incur a medium size disturbance without adverse effects)</li> </ul>	
Interference with marine fisheries and shoreline harvesting	<b>Shipping Activities</b>			<b>Not significant.</b> The Project will not result in a substantial and persistent decrease in fishing opportunities. Many fisheries will not interact with shipping traffic because of either the fishing grounds not being located in the shipping corridor or the use of fishing gear or practices that preclude interactions. With implementation of mitigation measures, potential interference with fishing operations will be avoided or reduced to negligible levels. Project residual effects related to fisheries and shoreline harvesting are, therefore, assessed as not significant.
	Construction	Shipping equipment and materials	<ul style="list-style-type: none"> <li>▪ <b>Low</b> in magnitude (small change relative to background conditions; character of the VC remains largely unaltered)</li> <li>▪ <b>Local study area</b> in geographic extent</li> <li>▪ <b>Medium term</b> in duration (effects are persistent for up to 10 years after construction)</li> <li>▪ <b>Multiple irregular events</b> in frequency (occurs sporadically at irregular intervals throughout the construction, operation, or decommissioning phases)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate reliance</b> (area has medium importance relative to others)</li> <li>▪ <b>Moderate resilience</b> (refers to the ability to incur a medium size disturbance without adverse effects)</li> </ul>	
	Decommissioning	Shipping equipment and materials	<ul style="list-style-type: none"> <li>▪ <b>Low</b> in magnitude (small change relative to background conditions; character of the VC remains largely unaltered)</li> <li>▪ <b>Local study area</b> in geographic extent</li> <li>▪ <b>Medium term</b> in duration (effects are persistent for up to 10 years after construction)</li> <li>▪ <b>Multiple irregular events</b> in frequency (occurs sporadically at irregular intervals throughout the construction, operation, or decommissioning phases)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate reliance</b> (area has medium importance relative to others)</li> <li>▪ <b>Moderate resilience</b> (refers to the ability to incur a medium size disturbance without adverse effects)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
	Operation	LNG shipping	<ul style="list-style-type: none"> <li>▪ <b>Low</b> in magnitude (small change relative to background conditions; character of the VC remains largely unaltered)</li> <li>▪ <b>Local study area</b> in geographic extent</li> <li>▪ <b>Medium term</b> in duration (effects are persistent for up to 10 years after construction)</li> <li>▪ <b>Multiple regular events</b> in frequency (occurs on a regular basis and at regular intervals)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate reliance</b> (area has medium importance relative to others)</li> <li>▪ <b>Moderate resilience</b> (refers to the ability to incur a medium size disturbance without adverse effects)</li> </ul>	
Interference with marine recreation and tourism	<b>Shipping Activities</b>			<b>Not significant.</b>  The Project will not result in a substantial and persistent decrease in recreation or tourism opportunities or quality of experience. In addition, the Project will not reduce access to important sites or routes (e.g., kayaking and boating routes, anchorages, scuba dive and fishing sites), nor change the quality of experience available to residents and tourists alike. The port of Kitimat has existed since the 1950s, and most visitors have been exposed to fluctuating levels of shipping traffic. Most recreation and tourism sites exist outside the LSA and will not be affected by Project activities. The quality of experiences and perceptions of the area are not expected to change with two additional LNG carrier transits along the access route per day. Consequently, Project residual effects related to recreation and tourism are assessed as not significant.
	Construction	Shipping equipment and materials	<ul style="list-style-type: none"> <li>▪ <b>Low</b> in magnitude</li> <li>▪ <b>Local study area</b> in geographic extent</li> <li>▪ <b>Medium term</b> in duration (effects are persistent for up to 10 years after construction)</li> <li>▪ <b>Multiple irregular events</b> in frequency (occurs sporadically at irregular intervals throughout the construction, operation, or decommissioning phases)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate reliance</b> (area has medium importance relative to others)</li> <li>▪ <b>Moderate resilience</b> (refers to the ability to incur a medium size disturbance without adverse effects)</li> </ul>	
	Decommissioning	Shipping equipment and materials		

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
	Operation	LNG shipping	<ul style="list-style-type: none"> <li>▪ <b>Low</b> in magnitude</li> <li>▪ <b>Local study area</b> in geographic extent</li> <li>▪ <b>Medium term</b> in duration (effects are persistent for up to 10 years after construction)</li> <li>▪ <b>Multiple regular events</b> in frequency (occurs sporadically at irregular intervals throughout the construction, operation, or decommissioning phases)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate reliance</b> (area has medium importance relative to others)</li> <li>▪ <b>Moderate resilience</b> (refers to the ability to incur a medium size disturbance without adverse effects)</li> </ul>	
<b>Community Health and Wellbeing</b>				
Change in community health and wellbeing	<b>Facility Works and Activities</b>			<b>Not significant.</b> Population change and employment and income associated with the Project will adversely affect community health and wellbeing through increasing demands on health care infrastructure and services, and changing community and family health, cohesion, and resilience. These changes will be greatest during Project construction and will continue, to a lesser degree, through operation and decommissioning. With the implementation of mitigation measures, the magnitude of residual effects on community health and wellbeing will be reduced. Residual effects on community health and wellbeing are assessed as not significant.
	Construction	Site preparation Onshore construction Marine terminal construction Vehicle and rail traffic	<ul style="list-style-type: none"> <li>▪ <b>High</b> in magnitude (above baseline conditions, and predicted to result in a change in human health and or deterioration of the capabilities of infrastructure OR has the potential to cause acute or chronic effects that are potentially disabling)</li> <li>▪ <b>Local study area</b> in geographic extent (effects extend into the LSA)</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> (vulnerable to moderate adverse changes from baseline conditions)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
	Operation	LNG production, storage, and loading Vehicle and rail traffic	<ul style="list-style-type: none"> <li>▪ <b>Moderate</b> in magnitude (above baseline conditions and predicted to result in a change in human health and or a deterioration of the capabilities of infrastructure OR has the potential to cause acute or chronic effects that substantially affect function, health, or wellbeing)</li> <li>▪ <b>Local study area</b> in geographic extent (effects extend into the LSA)</li> <li>▪ <b>Long term</b> in duration (residual effect extends through the life of the Project)</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Irreversible</b></li> <li>▪ <b>Moderate resilience</b> (vulnerable to moderate adverse changes from baseline conditions)</li> </ul>	Through mitigation measures, the local health care infrastructure and services will be able to cope with the added demand associated with the Project. Similarly, Project-related demand will not result in a substantial and persistent decline in the quality or accessibility of such services. The Project will not cause acute or chronic physical or mental health outcomes that are highly distinguishable and beyond the normal range of variability of baseline conditions.
	Decommissioning	Dismantling of land-based and marine infrastructure Remediation and reclamation of the site	<ul style="list-style-type: none"> <li>▪ <b>Moderate</b> in magnitude (above baseline conditions and predicted to result in a change in human health and or a deterioration of the capabilities of infrastructure OR has the potential to cause acute or chronic effects that substantially affect function, health, or wellbeing)</li> <li>▪ <b>Local study area</b> in geographic extent (effects extend into the LSA)</li> <li>▪ <b>Short term</b> in duration (residual effect restricted to the duration of the construction period or less)</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> (vulnerable to moderate adverse changes from baseline conditions)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
Change in diet and nutrition	<b>Facility Works and Activities</b>			<b>Not significant.</b>  Changes in access and availability of country foods in the LSA will occur over the life of the Project. However, with the implementation of planned mitigation, residual effects on the ongoing viability of wildlife and marine resources (see Section 5.6 and Section 5.8 for justification), as well as changes in access, are assessed as not significant. Public awareness and education about the Project will help to address concerns regarding the quality of country foods and limit the potential for consumers to forego consumption of country foods based on perceived contamination.  Changes in the consumption of country foods leading to change in diet and nutrition will not be highly distinguishable from baseline conditions. Therefore, residual effects on diet and nutrition are assessed as not significant.
	Construction	Site preparation Onshore construction Dredging Marine terminal construction Vehicle and rail traffic	<ul style="list-style-type: none"> <li>▪ <b>Moderate</b> in magnitude (above baseline conditions and predicted to result in a change in human health and or a deterioration of the capabilities of infrastructure OR has the potential to cause acute or chronic effects that substantially affect function, health, or wellbeing)</li> <li>▪ <b>Local study area</b> in geographic extent (effects extend into the LSA)</li> <li>▪ <b>Long term</b> in duration (residual effect extends through the life of the Project)</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> (vulnerable to moderate adverse changes from baseline conditions)</li> </ul>	
	Operation	Vehicle and rail traffic		

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
	<b>Shipping Activities</b>			<b>Not significant.</b>
	Construction	Shipping equipment and materials	<ul style="list-style-type: none"> <li>▪ <b>Low</b> in magnitude (above baseline conditions, but within normal variation of human health conditions or within current capabilities of infrastructure or service management systems OR has the potential to cause acute, short-term effects with limited and reversible effects on function, health, or wellbeing)</li> <li>▪ <b>Local study area</b> in geographic extent (effects extend into the LSA)</li> <li>▪ <b>Long term</b> in duration (residual effect extends through the life of the Project)</li> <li>▪ <b>Multiple regular events</b> in frequency (occurs on a regular basis and at regular intervals throughout construction, operation, or decommissioning phases)</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>Moderate resilience</b> (vulnerable to moderate adverse changes from baseline conditions)</li> </ul>	<p>Changes in access and availability of marine country foods in the LSA will occur over the life of the Project. However, with the implementation of planned mitigation, residual effects on the ongoing viability of marine resources, as well as changes in access, are assessed as not significant. Engagement with the public and Aboriginal Groups and education about the Project will help address concerns regarding the quality of country foods and limit the potential for consumers to forego consumption of country foods based on perceived contamination.</p> <p>Changes in the consumption of marine country foods leading to change in diet and nutrition will not be highly distinguishable from baseline conditions. Therefore, residual effects on diet and nutrition are assessed as not significant.</p>
	Operation	LNG shipping		
	Decommissioning	Shipping equipment and materials		

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
<b>Archaeological and Heritage Resources</b>				
Damage to or removal of culturally modified trees (CMTs)	<b>Facility Works and Activities</b>			<b>Not significant.</b> No CMTs have been recorded in the LSA. Because the potential for Project development to conflict with unidentified CMTs is low, the probability of significant adverse residual effects on CMTs is also low. With implementation of the mitigation measures, information regarding traditional CMT harvesting and use will not be lost. Therefore, residual effects on CMTs are assessed as not significant.
	Construction	Site preparation	<ul style="list-style-type: none"> <li>▪ <b>Negligible to low</b> in magnitude (Negligible: No measurable change. Low: A measurable change but is limited to small portions of archaeological or heritage sites of low significance<sup>1</sup> or to portions of archaeological or heritage sites already substantially disturbed by previous developments)</li> <li>▪ <b>Site specific</b> in geographic extent (potential measurable changes to archaeological and heritage resources are restricted to that portion of the site situated in the LSA)</li> <li>▪ <b>Permanent</b> in duration</li> <li>▪ <b>Single event</b> in frequency</li> <li>▪ <b>Irreversible</b></li> <li>▪ <b>Disturbed</b> (area relatively or not affected by human activity or natural disturbance factors)</li> </ul>	



Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
Alteration or removal of terrestrial archaeological or heritage sites	<b>Facility Works and Activities</b>			<b>Not significant.</b>  An Archaeological Impact Assessment for the Project identified two terrestrial archaeological sites. The potential for development to conflict with one of these sites, GaTe-5, is high. Project effects cannot be mitigated through avoidance. Additionally, a number of historical artifacts were identified; some of these may be collected and curated.  Project effects on site GaTe-5 will be mitigated through SDR and or archaeological monitoring of construction activities, to standards defined by the Archaeology Branch. Historical artifacts that cannot be avoided may be collected and curated at the Kitimat Centennial Museum. Therefore, residual effects on terrestrial archaeological and heritage resources are assessed as not significant.
	Construction	Site preparation Onshore construction	<ul style="list-style-type: none"> <li>▪ <b>Moderate to high</b> in magnitude (Moderate: a measurable change to intact portions of archaeological or heritage sites of moderate or high significance, or substantial, intact portions of archaeological or heritage sites of low significance. High: A measurable change to substantial, intact portions of one or more sites of moderate or high significance)</li> <li>▪ <b>Site specific</b> in geographic extent (potential measurable changes to archaeological and heritage resources are restricted to that portion of the site situated in the LSA)</li> <li>▪ <b>Permanent</b> in duration</li> <li>▪ <b>Single event</b> in frequency</li> <li>▪ <b>Irreversible</b></li> <li>▪ <b>Undisturbed to disturbed</b> (Undisturbed: area relatively or not affected by human activity or natural disturbance factors. Disturbed: area has been previously disturbed by human development or natural disturbance factors)</li> </ul>	

Potential Effect	Project Phase	Contributing Project Activity or Physical Works	Residual Effects	Significance
<b>Human Health</b>				
Change in human health risk from degraded air quality	<b>Facility Works and Activities</b>			<b>Not significant.</b> Project residual effects are not predicted to result in a change in human health as a result of changes in air quality related to SO <sub>2</sub> emissions or changes in air quality related to combined SO <sub>2</sub> and NO <sub>2</sub> emissions. Residual effects from the facility will be negligible, of long-term duration, limited to the LSA, and reversible and are assessed as not significant.
	Operation	LNG production, storage, and loading	<ul style="list-style-type: none"> <li>▪ <b>Low</b> in magnitude (a measurable change from existing baseline conditions but is below environmental and/or regulatory thresholds and affect human health)</li> <li>▪ <b>Local study area</b> in geographic extent (residual effects extend into LSA)</li> <li>▪ <b>Long term</b> in duration (residual effect continues for more than two years after the project decommissioning phase, before returning to existing baseline conditions)</li> <li>▪ <b>Continuous</b> in frequency</li> <li>▪ <b>Reversible</b></li> <li>▪ <b>High resilience</b> (high capacity for the VC to recover from a perturbation, with consideration of the baseline level of disturbance)</li> </ul>	