

## **APPENDIX 1-B: IMPACT CRITERIA TABLES**

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## APPENDIX 1-B: IMPACT CRITERIA TABLES

The impact assessment methodology used in this Draft EIS included the following:

- Identification of the potential impacts of the proposed project.
- Characterization of the potential impacts of the proposed project.
- Assessment of the significance of potential impacts.
- Development of strategies to reduce/eliminate potential impacts of the proposed project (i.e., mitigation).

Preparation of an EIS is an integrated process that identifies a project's potential adverse impacts to resources and develops mitigation measures to reduce these potential adverse impacts. The characterization of impacts starts with understanding how environmental changes caused by a project might result in direct, indirect and cumulative impacts to a particular resource.

Once the type of impact has been identified, the EIS assesses the characteristics of the potential impact by analyzing the magnitude, geographic extent, and duration of the impact and then assigning a significance of the impact based on the results of the analysis. The characterization of potential impacts accounts for the following parameters:

- Positive or Negative – whether the potential impact would be positive or negative (adverse)
- Magnitude or Intensity – the size or scale of the impact, including an assessment of the sensitivity, vulnerability, and/or importance of the resource or receptor affected
- Geographic Extent – the geographic area or the full area over which the impact would occur for each resource
- Duration or Frequency – the temporal scope of the impact, including short-term and/or temporary impacts such as during construction or long-term and/or permanent impacts during operation

Based on the characteristics of the impact, the significance of each potential adverse impact is then assigned to one of two categories: *less than significant* or *potentially significant*. In addition, the category of no impact is presented in the tables below to identify conditions under which no impacts would occur. The categories are defined as:

- ***No impact*** – would result in no impacts or impacts that are indistinguishable from natural background variations.
- ***Less than significant*** – would result in a less than moderate adverse impact on the environmental quality of the resource.
- ***Potentially significant*** – would result in a greater than moderate adverse impact on the environmental quality of the resource.

Criteria for evaluating the characteristics of adverse impacts were developed for each resource in the Draft EIS and included here as follows:

- Table 1-B.1 Geologic Resources
- Table 1-B.2 Air Quality and Climate Change
- Table 1-B.3 Freshwater Resources
- Table 1-B.4 Terrestrial Vegetation and Wildlife
- Table 1-B.5 Marine and Nearshore Resources
- Table 1-B.6 Energy and Natural Resources
- Table 1-B.7 Environmental Health
- Table 1-B.8 Land Use and Shoreline Use
- Table 1-B.9 Social and Economic Environment
- Table 1-B.10 Cultural Resources
- Table 1-B.11 Marine Transportation

**Table 1-B.1: Impact Assessment Criteria for Geologic Resources**

Type of Impact	Impact Characteristics	Impact Level		
		Potentially Significant	Less than Significant	No Impact
Soil Erosion	Magnitude or Intensity	Construction and/or operation activities creating unprotected gradients greater than or equal to 30%, or exposing soil to wind and stormwater in such amounts as to cause sedimentation and/or contamination of receiving waters (such as wetlands, drainages or receiving waters of Fidalgo or Padilla Bay). Violation of applicable regulations such as: Clean Water Act (CWA), International Building Code, state/local soil and water quality standards, sediment management standards or development standards.	Loss of soil horizon and/or potential for sediment or contaminants from soil erosion to impact water quality, impacts do not violate the SWMMWW or applicable regulations and would naturally balance back to baseline conditions.	Soil kept within construction boundaries, no sedimentation or contamination of stormwater affecting waters of the U.S.
	Geographic Extent	Loss of soil beyond construction area leading directly or via stormwater to wetlands or receiving waters of Fidalgo Bay, Padilla Bay.	Loss of soil beyond construction area but does not impact wetlands, or receiving waters of Fidalgo Bay or Padilla Bay.	No loss of soil beyond construction boundaries and no sedimentation or contamination of stormwater.

Type of Impact	Impact Characteristics	Impact Level		
		Potentially Significant	Less than Significant	No Impact
Soil Erosion contd.	Duration or Frequency	Long- term soils loss resulting in ongoing sedimentation and/or contamination of receiving waters with impacts not likely to be reversed over several years or season.	The impact is temporary, lasting no more than six months.	No loss of soil beyond construction boundaries and no sedimentation or contamination of stormwater.
Soil Quality	Magnitude or Intensity	Soil contamination, including a spill to bare ground or backfilling of contaminated sediment, creating a soil quality violation, or otherwise poses a threat to human health or the environment. Violation of applicable regulations including: CWA, International Building Code, state/local soil and water quality standards, sediment management standards and development standards	Soil contamination, including a spill to bare ground from failure of individual equipment or backfilling with contaminated sediment, where potential impacts do not violate applicable regulations and would not pose a threat to the human environment, biodiversity, or ecological integrity.	Spill that is immediately cleaned up such that there are no impacts on soil quality. Sediment used for backfilling is not contaminated.
	Geographic Extent	Contamination of soil in and beyond the proposed project area which impacts wetlands or receiving waters of Fidalgo or Padilla Bay.	Contamination of local, isolated soil within the proposed project area which does not impact groundwater, wetlands or receiving waters of Fidalgo or Padilla Bay.	No change to soil resources.
Soil Quality contd.	Duration or Frequency	Chronic and long-term contamination of soil, not likely to be reversed over several years or seasons.	The impact is temporary, not lasting more than 6 months.	No change to soil resources.

Type of Impact	Impact Characteristics	Impact Level		
		Potentially Significant	Less than Significant	No Impact
Slope Destabilization	Magnitude or Intensity	Construction and/or operation activities causing a slope failure, destabilizing existing slopes, or creating unprotected gradients of 40% or steeper with a vertical relief of 10 feet or more in or adjacent to the proposed project area that could result in the loss of life or damage property, equipment or sensitive species and habitats in the path of the slope failure. Violation of applicable regulations such as International Building Code, SCC 15.04 or SCC 14.24.410(2).	Construction and/or operation activities increase slope angles but do not create a geologic hazard area and would naturally balance back to baseline conditions.	No change in slope angle.
	Geographic Extent	Impact occurs on March Point.	Impact occurs within the construction limits of the proposed project area.	No change in slope angle.
	Duration or Frequency	Chronic and long-term slope instability, not likely to be reversed over several years.	The impact is temporary, not lasting more than six months.	No change in slope angle.
Type of Impact	Impact Characteristics	Impact Level		
		Potentially Significant	Less than Significant	No Impact
Earthquake	Magnitude or Intensity	Magnitude 6.0 or greater shallow earthquake, along Cascadia Subduction Zone (CSZ) or along local crustal faults (the Darrington-Devils Mountain fault zone, the Strawberry Point fault, and the Utsalady Point fault), causing ground shaking and slope failure including landslides, settlement, soil liquefaction, or surface faulting. Potential impacts include: loss of life, damage to infrastructure (process units, pipelines, utilities, secondary containment structures, tanks, docks, roads) and/or local and regional transportation and communication disrupted.	Magnitude 5.9 or less shallow earthquake along the CSZ or local faults (Darrington-Devils Mountain, Strawberry Point, or Utsalady) that is felt indoors by many, unstable objects overturned, heavy furniture moved, roads blocked, and damage negligible to infrastructure.	Magnitude 2.5 shallow earthquake along CSZ or local faults (Darrington-Devils Mountain, Strawberry Point, or Utsalady) that is not felt or felt only by persons indoors; no injuries or damage.

	Geographic Extent	Great moment earthquake along the northwest Washington portion of the CSZ, or great earthquake along one of the local crustal faults.	Deep or shallow earthquake within Puget Sound Region	Localized, shallow, earthquake.
	Duration or Frequency	Chronic and long-term changes to landscape and infrastructure not likely to be reversed over several years or seasons.	The impact is temporary, lasting no more than six months.	No change to landscape or damage to infrastructure.
Tsunami	Magnitude or Intensity	Great moment earthquake along the CSZ triggers subsequent tsunami waves which cause substantial and measurable changes in landscape characteristics, including destruction of infrastructure and shoreline.	Earthquake along the CSZ triggers tsunamis waves; however, potential impacts on landscape are insignificant, with no residual impacts.	March Point does not experience flooding due to tsunami(s).
	Geographic Extent	Wide-ranging flooding in Fidalgo and Padilla Bays.	Tsunami wave does not reach the proposed project area.	March Point does not experience flooding due to tsunami(s).
	Duration or Frequency	Chronic and long-term changes to landscape and infrastructure not likely to be reversed over several years or seasons.	The impact is temporary, lasting no more than six months.	March Point does not experience flooding due to tsunami(s).
<b>Type of Impact</b>	<b>Impact Characteristics</b>	<b>Impact Level</b>		
		<b>Potentially Significant</b>	<b>Less than Significant</b>	<b>No Impact</b>
Landslides, Liquefaction, and Lahars	Magnitude or Intensity	Substantial and measurable changes in landscape characteristics, including destruction of infrastructure and shoreline due to landslides, liquefaction or lahar inundation.	Potential impacts on landscape and infrastructures are insignificant, with no residual impacts.	March Point does not experience damage due to landslides, liquefaction or lahars.
	Geographic Extent	Landslide or liquefaction occurs on March Point. Lahar inundates March Point.	Landslide or liquefaction occurs on March Point but outside of proposed project area. Lahar reaches edges of March Point.	March Point does not experience damage due to landslides, liquefaction or lahars.
	Duration or Frequency	Chronic and long-term changes to landscape and infrastructure not likely to be reversed over several years or season.	The impact is temporary, not lasting more than six months.	March Point does not experience damage due to landslides, liquefaction or lahars.



**Table 1-B.2: Impact Assessment Criteria for Air Quality and Climate Change**

Type of Effect	Effect Characteristics	Impact Level		
		Potentially Significant	Less than Significant	No Impact
<i>Air Quality</i>				
Increased air emissions due to construction & operations	Magnitude or Intensity	Emissions would prevent progress toward meeting one or more AAQS in nonattainment areas. Emissions in attainment or maintenance areas would cause an exceedance for any AAQS. Emission would cause an exceedance of an ASIL and require a Tier 2 analysis. Emissions exceed one or more major source permitting thresholds. Projects do not conform to SIP.	Negligible emission would occur for any pollutant within an attainment area, but would not cause a AAQS or ASIL exceedance and would not trigger major source permitting. Emissions exceed one or more major source permitting thresholds but modeling demonstrates compliance with AAQS and ASIL.	Emission increases would be infrequent or absent, mostly immeasurable. Projects conform to SIP.
	Geographic Extent	Impacts are observed within 100 km of the facility.	Impacts are observed within 100 km of the facility.	Impacts are observed within 100 km of the facility.
	Duration or Frequency	Permanent or long-term	Short-term	Temporary
<i>Climate Change</i>				
Contribution to climate change through GHG emissions	Magnitude or Intensity	Exceedance of 25,000 <sup>a</sup> metric tons of CO <sub>2</sub> e/year without BACT,	Only slight change observed.	There would be no increase in GHG emissions or related changes to the climate as a result of proposed project activities.
	Geographic Extent	NA	NA	No increase in GHG emissions or related changes to the climate
	Duration or Frequency	NA	NA	No increase in GHG emissions or related changes to the climate

Type of Effect	Effect Characteristics	Impact Level		
		Potentially Significant	Less than Significant	No Impact
Effect of climate change on proposed project-related impacts	Magnitude or Intensity	Local impacts from global climate change effects are observed in air temperature rise, precipitation increases (severe storm events), and/or sea level rise.	Only slight change observed.	There would be no measurable changes in global average temperature, precipitation events, or sea level rise.
	Geographic Extent	Local impacts from global climate change effects are observed.	Local impacts from global climate change effects are observed.	There would be no measurable changes in global average temperature, precipitation events, or sea level rise.
	Duration or Frequency	Long-term changes; changes cannot be reversed in a short term.	Long-term changes; changes cannot be reversed in a short term.	There would be no measurable changes in global average temperature, precipitation events, or sea level rise.

CO<sub>2</sub>e/year = carbon dioxide equivalents per year; GHG = greenhouse gas; NA = not applicable

Notes:

a Washington State SEPA potentially significant threshold for GHG emissions

**Table 1-B.3: Impact Assessment Criteria for Freshwater Resources**

Type of Impact	Impact Characteristics	Impact Level		
		Potentially Significant	Less than Significant	No Impact
<i>Surface Water</i>				
Surface Water Quality	Magnitude or Intensity	Water quality would be degraded to the extent that it would no longer meet state of Washington Water Quality Standards for Surface Waters of the State of Washington and/or would pose a threat to humans, the environment, biodiversity, or ecological integrity.	Changes in water quality would not result in degradation of water quality below Washington Water Quality Standards for Surface Waters of the State of Washington and would not pose a threat to humans, the environment, biodiversity, or ecological integrity.	No changes to water quality; no change in sedimentation or water temperature, or the presence of pollutants or nutrients.
	Geographic Extent	Watershed-scale impacts, affecting waters of the U.S., such as Fidalgo Bay or Padilla Bay.	Subwatershed scale impacts, affecting local isolated streams or rivers that would not reach waters of the U.S., receiving waters such as Fidalgo Bay or Padilla Bay.	No change to surface water resources.
	Duration or Frequency	Chronic and long-term changes not likely to be reversed over several years or seasons.	The impact is temporary, lasting no more than six months.	No change to freshwater resources.
Drainage pattern alteration	Magnitude and Intensity	Alteration of the course of a natural and/or high quality stream or river (i.e., supports or provides habitat for sensitive or listed species, support a wide variety of species, are rare or a high-quality example, provide high quality habitat, etc.), including stream geomorphological conditions, or a substantial and measurable increase in the rate or amount of surface water or changes to the hydrologic regime.	Alterations to the drainage pattern are minor and mimic natural processes or variations and/or affect lower quality waters (e.g., not rare or unique, that have low support functions and species diversity, and those that are already impaired or impacted by human activity such as a man-made or a low quality stream or ditch).	No change to drainage patterns.
Drainage pattern alteration	Geographic Extent	Watershed-scale impacts, affecting waters of the U.S., such as Fidalgo Bay or Padilla Bay.	Subwatershed scale impacts, affecting local isolated streams or rivers (such as the small channels that occur in the proposed project area or vicinity).	No change to drainage patterns.
	Duration and Frequency	Impact occurs in perennial streams, and is ongoing and permanent.	Impact is temporary, not lasting more than six months.	No change to drainage patterns.

Type of Impact	Impact Characteristics	Impact Level		
		Potentially Significant	Less than Significant	No Impact
<i>Floodplains</i>				
Floodplain alteration	Magnitude and Intensity	Change to floodplain boundaries or loss of floodplain storage, which result in increases in erosion, in flood heights or flood velocities.	Minor change to floodplain boundaries or loss of floodplain storage that can be rectified or compensated for.	No change to floodplain boundaries or loss of floodplain storage.
	Geographic Extent	Wholly within a frequently flooded area or special flood hazard area.	Partially within a frequently flooded area or special flood hazard area.	Not within a frequently flooded area or special flood hazard area.
	Duration and Frequency	Impact occurs within the floodplain and is permanent.	Impact is temporary, not lasting more than six months.	No change to floodplain boundaries or loss of floodplain storage.
Flow alteration	Magnitude and Intensity	Consumptive use of surface water flows or diversion of surface water flows such that there is a measurable reduction in discharge.	Minor or no consumptive use with negligible impact on discharge.	No change to discharge or stage of waterbody.
Flow alteration contd.	Geographic Extent	Watershed-scale impacts affecting waters of the U.S., such as Fidalgo Bay or Padilla Bay.	Subwatershed scale impact, affecting local isolated streams or rivers (such as the small channels that occur in the proposed project area or vicinity).	No change in flows.
	Duration and Frequency	Impact occurs in perennial streams, and is ongoing and permanent.	Impact is temporary, not lasting more than six months.	No change in flows.
<i>Groundwater</i>				
Groundwater or aquifer water quality	Magnitude and Intensity	Water quality would be degraded to the extent that it would no longer meet state of Washington primary drinking water quality standards (i.e., would not meet standards for primary contaminants, radionuclides, or carcinogens) and/or could pose a threat to human health, the environment, biodiversity, or ecological integrity.	Potential impacts could include an increase in secondary drinking water contaminants; however, these impacts would not pose a threat to human health, the environment, biodiversity, or ecological integrity.	No changes to groundwater or aquifer water quality.
	Geographic Extent	Watershed-scale impacts affecting groundwater across March Point.	Sub-watershed scale impacts affecting localized groundwater.	No change in groundwater or aquifers quality.

Type of Impact	Impact Characteristics	Impact Level		
		Potentially Significant	Less than Significant	No Impact
	Duration and Frequency	Impact is ongoing and permanent, and is unlikely to be reversed over several years without intervention	Impacts are short-term in duration (less than six months) and, over time, groundwater quality would return to pre-disturbance conditions.	No change in groundwater or aquifers quality.
Physical changes in groundwater or aquifer characteristics	Magnitude and Intensity	Substantial and measurable changes in groundwater or aquifer characteristics, including volume, timing, duration, and frequency of groundwater flow, and other physical changes to the groundwater hydrologic regime.	Changes to groundwater or aquifer characteristics are temporary, lasting no more than a few days, with no residual impacts.	No change in groundwater or aquifers characteristics.
Physical changes in groundwater or aquifer characteristics contd.	Geographic Extent	Watershed-scale impacts affecting groundwater across March Point.	Subwatershed scale impacts affecting localized groundwater.	No change in groundwater or aquifers characteristics.
	Duration and Frequency	Impact is ongoing and permanent.	Potential impact is temporary, not lasting more than six months.	No change in groundwater or aquifers characteristics.
<i>Wetlands</i>				
Direct wetland loss	Magnitude and Intensity	Loss of jurisdictional wetland, particularly high-quality wetlands (e.g., those that provide critical habitat for sensitive or listed species, are rare or a high-quality example of a wetland type, are not fragmented, support a wide variety of species, etc.).	Loss of non-jurisdictional wetland, particularly lower quality wetlands (e.g., not rare or unique, that have low productivity and species diversity, and those that are already impaired or impacted by human activity).	No direct loss of wetlands.
	Geographic Extent	Watershed-scale impacts, affecting waters of the U.S., such as interconnected wetlands or mosaic of wetlands across March Point.	Subwatershed scale impacts, affecting local isolated wetlands or non-mosaic wetlands.	No direct loss of wetlands.
	Duration and Frequency	Long-term or permanent loss, degradation, or conversion to non-wetland.	Periodic and/or temporary loss reversed over one to two growing seasons with or without active restoration.	No direct loss of wetlands.

Type of Impact	Impact Characteristics	Impact Level		
		Potentially Significant	Less than Significant	No Impact
Other Direct Wetland Impacts (vegetation clearing, ground disturbance, direct hydrologic changes such as flooding or direct soil changes, water quality degradation through spills or sedimentation)	Magnitude and Intensity	Substantial and measurable changes to hydrological regime of the wetland impacting salinity, pollutants, nutrients, biodiversity, ecological integrity, or water quality. Introduction and establishment of invasive species to high quality wetlands.	Impacts to lower quality wetlands affecting the hydrological regime including salinity, pollutants, nutrients, biodiversity, ecological integrity, or water quality. Introduction and establishment of invasive species to high quality wetlands.	No direct impacts to wetlands affecting vegetation, hydrology, soils, or water quality.
	Geographic Extent	Watershed-scale impacts, affecting waters of the U.S., such as interconnected wetlands or mosaic of wetlands across March Point.	Subwatershed scale impacts, affecting local isolated wetlands or non-mosaic wetlands.	No direct impacts to wetlands affecting vegetation, hydrology, soils, or water quality.
	Duration and Frequency	Long-term or permanent alteration that is not restored within several growing seasons.	Periodic and/or temporary loss reversed over one to two growing seasons with or without active restoration.	No direct impacts to wetlands affecting vegetation, hydrology, soils, or water quality.
Indirect Impacts <sup>2</sup> (change in function(s) <sup>3</sup> or change in wetland type)	Magnitude and Intensity	Changes to the functions or type of high quality wetlands (e.g., those that provide critical habitat for sensitive or listed species, are rare or a high-quality example of a wetland type, are not fragmented, support a wide variety of species, etc.).	Impacts to lower quality wetlands (e.g., not rare or unique, that have low productivity and species diversity, and those that are already impaired or impacted by human activity).	No changes in wetland function or type.
	Geographic Extent	Watershed-scale impacts, affecting waters of the U.S., such as interconnected wetlands or mosaic of wetlands across March Point.	Subwatershed scale impacts, affecting local isolated wetlands or non-mosaic wetlands.	No changes in wetland function or type.
	Duration and Frequency	Long-term or permanent change in function or type that is not restored within two or more growing seasons.	Periodic and/or temporary loss reversed over one to two growing seasons with or without active restoration.	No changes in wetland function or type.

**Table 1-B.4: Impact Assessment Criteria for Terrestrial Vegetation and Wildlife**

Type of Impact	Impact Characteristics	Impact Level		
		Potentially Significant	Less than Significant	No Impact
<b>All Terrestrial Vegetation and Wildlife Resources</b>				
Injury or mortality	Magnitude or Intensity	Injury or mortality of individual plants or animals reduces the viability of the plant or wildlife species, plant community or wildlife habitat.	Injury or mortality of individual plants or animals that would not reduce the viability of the plant or wildlife species, plant community or wildlife habitat.	No wildlife will be injured or killed and no plants damaged or removed.
	Geographic Extent	The geographic extent varies between species and vegetation communities. For populations with a large range, the geographic extent for an impact will be larger than for populations with a smaller home range.	The geographic extent varies between species and vegetation communities. For populations with a large range, the geographic extent for an impact will be larger than for populations with a smaller home range.	No wildlife will be injured or killed and no plants damaged or removed.
	Duration or Frequency	Impacts to the population would not resolve within a few breeding/growing cycles.	Any impacts to the population are temporary, and likely to resolve within a few breeding/growing cycles.	No wildlife will be injured or killed and no plants damaged or removed.
Disruption to lifecycle	Magnitude or Intensity	Disruption to the life cycles of plants and animals reduces the viability of the broader population.	Disruption occurs to the life cycles of individual plants and animals but does not impact the viability of the broader population.	No disruption to plant or animal life cycles.
	Geographic Extent	The geographic extent varies between species and vegetation communities. For populations with a large range, the geographic extent for an impact will be larger than for populations with a smaller home range.	The geographic extent varies between species and vegetation communities. For populations with a large range, the geographic extent for an impact will be larger than for populations with a smaller home range.	No disruption to plant or animal life cycles.

Type of Impact	Impact Characteristics	Impact Level		
		Potentially Significant	Less than Significant	No Impact
	Duration or Frequency	Impacts to the population would not resolve within few breeding cycles.	Any impacts to the population are temporary, and likely to resolve within a few breeding cycles.	No disruption to plant or animal life cycles.
Reduced availability or access to habitat	Magnitude or Intensity	Habitat loss, fragmentation, and degradation reduces the viability of a population of plant or animal.	Habitat loss, fragmentation and degradation impacts individual plants or animals, but does not impact the broader population.	No habitat loss, fragmentation or degradation.
	Geographic Extent	The geographic extent varies between species and vegetation communities. For populations with a large range, the geographic extent for an impact will be larger than for populations with a smaller home range.	The geographic extent varies between species and vegetation communities. For populations with a large range, the geographic extent for an impact will be larger than for populations with a smaller home range.	No habitat loss, fragmentation or degradation.
	Duration or Frequency	The population is impacted beyond the construction phase.	If a population is impacted, impacts do not continue beyond the construction phase.	No habitat loss, fragmentation or degradation.
Loss of ecological function of a vegetation community or habitat. Examples of	Magnitude or Intensity	Impacts result in loss of ecological function.	Impacts result in loss of ecological function.	No loss of function.



Type of Impact	Impact Characteristics	Impact Level		
		Potentially Significant	Less than Significant	No Impact
ecological function include habitat provision, stormwater filtration, nutrient cycling and shoreline protection.	Geographic Extent	The loss of function occurs at a landscape scale, for example, throughout Padilla Bay.	The loss of function occurs at a local scale, for example at the scale of the refinery.	No loss of function.
	Duration or Frequency	The loss of function is permanent, and will not return over time without human intervention.	The loss of function is temporary, and will return over time without human intervention.	No loss of function.
<b>Threatened and Endangered Species</b>				
Impacts to federally threatened or endangered species	Magnitude or Intensity	Any adverse impact on a state endangered or state threatened species that may occur as a direct or indirect result of the proposed action or its interrelated or interdependent actions; and the impact is not: discountable, insignificant, or beneficial.	Effects on listed species are expected to be discountable, or insignificant, or completely beneficial. Insignificant effects relate to the size of the impact and should never reach the scale where take occurs. Discountable effects are those extremely unlikely to occur.	No affect to a listed species or critical habitat.
	Geographic Extent	Any geographic extent that may trigger the magnitude above.	Any geographic extent that may trigger the magnitude above.	No affect to a listed species or critical habitat.
	Duration or Frequency	Any duration or frequency that may trigger the magnitude above.	Any duration or frequency that may trigger the magnitude above.	No affect to a listed species or critical habitat.

Type of Impact	Impact Characteristics	Impact Level		
		Potentially Significant	Less than Significant	No Impact
<b>State Sensitive and State Candidate Species</b>				
Impacts to state candidate or state sensitive species	Magnitude or Intensity	An impact that is likely to results in mortality of an individual.	An impact that is unlikely to result in mortality of an individual, or result in sub-fatal impacts, such as illness or injury.	No mortality is expected to occur.
	Geographic Extent	Mortality could occur at any geographic extent.	Mortality could occur at any geographic extent.	No mortality is expected to occur.
	Duration or Frequency	This criteria relates to an individual, not a population, and therefore mortality would be permanent.	This criteria relates to an individual, not a population, and therefore mortality would be permanent.	No mortality is expected to occur.

**Table 1-B.5: Impact Assessment Criteria for Marine and Nearshore Resources**

Type of Impact	Impact Characteristics	Impact Level		
		Potentially Significant	Less than Significant	No Impact
Direct Injury/ Mortality	Magnitude or Intensity	Injury, mortality or harassment of a non-special status species reduces the viability of a population of a species; or an individual special status species or marine mammal is injured, killed or harassed.	Injury or mortality of individuals of non-special status species that would not reduce the viability of the broader population.	No wildlife will be injured or killed and no marine vegetation will be damaged.
	Geographic Extent	The geographic extent varies between species. For populations with a large range, the geographic extent for an impact will be larger than for populations with a smaller home range.	The geographic extent varies between species. For populations with a large range, the geographic extent for an impact will be larger than for populations with a smaller home range.	No wildlife will be injured or killed and no marine vegetation will be damaged.
	Duration or Frequency	Impacts to the population would not resolve within a few breeding/growing cycles.	Any impacts to the population are temporary, and likely to resolve within a few breeding/growing cycles.	No wildlife will be injured or killed and no marine vegetation will be damaged.
Loss or degradation of habitat	Magnitude or Intensity	Habitat loss or degradation reduces the viability of a population of marine vegetation or wildlife.	Habitat loss or degradation occurs, but does not reduce the viability of a population of marine vegetation or wildlife.	No habitat loss or degradation occurs.
	Geographic Extent	The geographic extent varies between species and vegetation communities. For populations with a large range, the geographic extent for an impact will be larger than for populations with a smaller home range.	The geographic extent varies between species and vegetation communities. For populations with a large range, the geographic extent for an impact will be larger than for populations with a smaller home range.	No habitat loss or degradation occurs.
	Duration or Frequency	Impacts to the population would not resolve within a few breeding/growing cycles.	If a population is impacted, any impacts are temporary, and likely to resolve within a few breeding/growing cycles.	No habitat loss or degradation occurs.
Degradation of water quality	Magnitude or Intensity	Water quality is degraded to the point that: it threatens the viability of a population of a species; or exceeds an applicable water quality standard.	Water quality is degraded, but does not threaten the viability of a population of a species; or exceeds an applicable water quality standard.	No change to water quality occurs.
	Geographic Extent	Impact occurs within the acute or chronic mixing zones, or to the extent that will affect a population of a species.	Impact occurs within the acute or chronic mixing zones, or to the extent that will affect a population of a species.	No change to water quality occurs.

Type of Impact	Impact Characteristics	Impact Level		
		Potentially Significant	Less than Significant	No Impact
	Duration or Frequency	Impact occurs beyond the construction phase.	Impact is temporary, for example restricted to the construction phase.	
Introduction of an invasive species	Magnitude or Intensity	The introduction of an invasive species reduces the viability of a population.	The introduction of an invasive species has some effect on native marine vegetation and wildlife, however does not threatened the viability of a population.	No invasive species are introduced.
	Geographic Extent	The geographic extent varies between species and vegetation communities. For populations with a large range, the geographic extent for an impact will be larger than for populations with a smaller home range.	The geographic extent varies between species and vegetation communities. For populations with a large range, the geographic extent for an impact will be larger than for populations with a smaller home range.	No invasive species are introduced.
	Duration or Frequency	Impacts to the population would not resolve within a few breeding/growing cycles.	If a population is impacted, any impacts are temporary, and likely to resolve within a few breeding/growing cycles.	No invasive species are introduced.
Loss or degradation of critical habitat designated under the ESA	Magnitude or Intensity	Loss or degradation of critical habitat designated under the ESA.	No loss or degradation of critical habitat.	No loss or degradation of critical habitat.
	Geographic Extent	The geographic extent would depend on the species that rely on critical habitat.	The geographic extent would depend on the species that rely on critical habitat.	No loss or degradation of critical habitat.
	Duration or Frequency	The loss or degradation of habitat would be permanent, without human intervention	The loss or degradation of habitat would recovery within approximately one year, without human intervention.	No loss or degradation of critical habitat.
Loss or degradation of saltwater habitats of special concern	Magnitude or Intensity	Loss or degradation of saltwater habitats of special concern removes the ecosystem function of those habitats	Loss or degradation of saltwater habitats of special concern that does not remove the ecosystem function of that habitat.	No loss or degradation of saltwater habitats of special concern.
	Geographic Extent	Landscape scale, for example, at the scale of a bay.	Landscape scale, for example, at the scale of a bay.	No loss or degradation of saltwater habitats of special concern.
	Duration or Frequency	The loss of ecosystem function would be permanent, without human intervention.	No loss to ecosystem function occurs, however direct loss or degradation of habitat could be permanent.	No loss or degradation of saltwater habitats of special concern.

**Table 1-B.6: Impact Assessment Criteria for Energy and Natural Resources**

Type of Impact	Impact Characteristics	Impact Level		
		Potentially Significant	Less than Significant	No Impact
Strain on Local Water Utility Service	Magnitude or Intensity	Access to or quality of water service severely constrained, potentially threatening public health or safety; Changes in water pricing constituting a significant market shift.	Access to or quality of water services constrained to a minimally perceptible degree; Indiscernible economic change.	No perceptible change to baseline conditions.
	Geographic Extent	Regional impacts observed throughout the county.	Impacts realized at one or multiple isolated locations.	No perceptible change to baseline conditions.
	Duration or Frequency	Impacts persist during or beyond the life of the proposed project.	Persists for as long as the entire construction phase or a portion of the operations phase.	No perceptible change to baseline conditions.
Strain on Local Electricity Service	Magnitude or Intensity	Access to or quality of electricity service severely constrained, potentially threatening public health or safety; Changes in electricity pricing constituting a significant market shift.	Access to or quality of electricity services constrained to a minimally perceptible degree; Indiscernible economic change.	No perceptible change to baseline conditions.
	Geographic Extent	Regional impacts observed throughout the county.	Impacts realized at one or multiple isolated locations.	No perceptible change to baseline conditions.
	Duration or Frequency	Impacts persist during or beyond the life of the proposed project.	Persists for as long as the entire construction phase or a portion of the operations phase.	No perceptible change to baseline conditions.
Strain on Local Gasoline and Diesel Service	Magnitude or Intensity	Access to or quality of natural gas service severely constrained, potentially threatening public health or safety; Changes in fuel pricing constituting a significant market shift.	Access to or quality of natural gas services constrained to a minimally perceptible degree; Indiscernible economic change.	No perceptible change to baseline conditions.
	Geographic Extent	Regional impacts observed throughout the county.	Impacts realized at one or multiple isolated locations.	No perceptible change to baseline conditions.

Type of Impact	Impact Characteristics	Impact Level		
		Potentially Significant	Less than Significant	No Impact
Strain on Local Gasoline and Diesel Service contd.	Duration or Frequency	Impacts persist during or beyond the life of the proposed project.	Persists for as long as the entire construction phase or a portion of the operations phase.	No perceptible change to baseline conditions.
Strain on Local Natural Gas Service	Magnitude or Intensity	Access to or quality of natural gas service severely constrained, potentially threatening public health or safety; Changes in natural gas pricing constituting a significant market shift.	Access to or quality of natural gas services constrained to a minimally perceptible degree; Indiscernible economic change.	No perceptible change to baseline conditions.
	Geographic Extent	Regional impacts observed throughout the county.	Impacts realized at one or multiple isolated locations.	No perceptible change to baseline conditions.
	Duration or Frequency	Impacts persist during or beyond the life of the proposed project.	Persists for as long as the entire construction phase or a portion of the operations phase.	No perceptible change to baseline conditions.
Strain on Supply of Construction Materials	Magnitude or Intensity	Access to construction materials to the public severely constrained; Changes in building supply prices constituting a significant market shift.	Minor disruptions to the availability of construction materials to the public; Indiscernible economic change.	No perceptible change to baseline conditions.
	Geographic Extent	Regional impacts observed throughout the county.	Impacts realized at one or multiple isolated locations.	No perceptible change to baseline conditions.
	Duration or Frequency	Impacts to other users would be seen throughout the entire life of the proposed project.	Impacts to other users would be of short duration (minutes to hours) and would occur sporadically during the life of the proposed project.	No perceptible change to baseline conditions.

NA = not applicable

**Table 1-B.7: Impact Assessment Criteria for Environmental Health**

Type of Impact	Impact Characteristics	Impact Level		
		Potentially Significant	Less than Significant	No Impact
Air Emissions and Health	Magnitude or Intensity	Air emissions exceeding or approaching health-based regulatory limits.	Air emissions below health-based regulatory limits.	No change in air quality. Emission increases would be infrequent or absent, mostly immeasurable.
	Geographic Extent	Dispersion of air emissions affecting one or more residential communities or other areas frequented by health receptors.	Dispersion of air emissions in remote uninhabited areas with infrequent presence of health receptors.	No change to air quality.
	Duration or Frequency	Long-term changes that would remain over several years.	The impact is short-term, lasting less than one year.	No change in air quality.
Spills and Health	Magnitude or Intensity	Exposure of health receptors to quantities of substances known to be hazardous above health-based levels.	Exposure of health receptors to quantities of substances known to be hazardous below health based levels.	No exposure of health receptors to hazardous substances.
	Geographic Extent	Spills of substances in populated places or areas frequented by health receptors.	Spills of substances in remote uninhabited areas with infrequent presence of health receptors.	No exposure of health receptors to hazardous substances.
	Duration or Frequency	Long-term changes that would remain over several years.	The impact is short-term, lasting less than one year.	No exposure of health receptors to hazardous substances.
Traffic Safety	Magnitude or Intensity	Proposed project traffic would constitute a noticeable change (twenty five percent or more) to current baseline traffic on public roads near the site.	Proposed project traffic would not constitute a noticeable change (above zero and less than twenty five percent) e to current baseline traffic on public roads near the site.	No change in traffic levels.

Type of Impact	Impact Characteristics	Impact Level		
		Potentially Significant	Less than Significant	No Impact
Traffic Safety contd.	Geographic Extent	Proposed project traffic would occur on roads used daily by the public to access residences, services, workplaces and recreation.	Proposed project traffic would occur on roads used primarily for industrial activity and used minimally by the general public.	No change in traffic levels.
	Duration or Frequency	Long-term changes that would remain over several years.	The impact is short-term, lasting less than one year.	No change in traffic levels.
Noise	Magnitude or Intensity	The proposed project activities would generate noise levels above 5 dBA of baseline noise levels in noise sensitive areas (NSAs) <sup>1</sup> .	The proposed project activities would generate less than 5 dBA change in NSAs.	No change in noise levels.
	Geographic Extent	Proposed project-generated noise affecting one or more NSA.	Proposed project-generated noise affecting areas not considered an NSA.	No change in noise levels.
	Duration or Frequency	Long-term changes that would remain over several years.	The impact is short-term, lasting less than one year.	No change in noise levels.

<sup>1</sup> Noise sensitive areas (NSAs) include residences, hotels/motels/inns, hospitals, places of worship, schools, recreational areas, and wilderness/protected.



**Table 1-B.8: Impact Assessment Criteria for Land Use and Shoreline Use**

Type of Impact	Impact Characteristics	Impact Level		
		Potentially Significant	Less than Significant	No Impact
Land use or shoreline use change	Magnitude or Intensity	Change in land/shoreline use that conflicts with “designated” uses, requires a change in zoning, causes substantial restriction of use options for surrounding lands/shorelines, or causes conversion of agricultural lands of long-term commercial significance to non-agricultural land use.	Change in land/shoreline use that differs from “existing” uses, but is consistent with adopted designated use policies and regulations (i.e., permitted by-right, allowed by discretionary permit), and results in minimal restriction of use options for surrounding lands/shorelines.	No changes to or conflicts with existing development or land/shoreline use.
	Geographic Extent	Use impacts occur throughout the study area.	Effects realized at one or multiple isolated locations.	No changes to or conflicts with existing development or land/shoreline use.
	Duration or Frequency	Permanent alteration of “designated” land/shoreline use.	Short-term alteration of “existing” land/shoreline use.	No changes to or conflicts with existing development or land/shoreline use.
Loss of access to public or private recreation area or activities	Magnitude or Intensity	Permanent loss or physical change of a recreation area or loss of access to or use of a recreation area or activities.	Short-term restricted access to or use of a recreation area or activities.	No disruption or loss of access to recreation areas or activities.
	Geographic Extent	Effects realized at one or more recreation areas throughout the study area that are of local, regional or national significance.	Effects realized at one or more isolated locations; recreation areas that are not of local, regional or national significance.	No disruption or loss of access to recreation areas or activities.
	Duration or Frequency	Permanent and/or persists during the life of the proposed project.	Persists during construction phase or a portion of the operations phase.	No disruption or loss of access to recreation areas or activities.
Loss of enjoyment of public or private recreation area (due to noise, emissions, visual or other impacts that make	Magnitude or Intensity	Total loss of enjoyment of recreational activities; substantial reduction in the factors that contribute to the value of the recreational resource, resulting in avoidance of activity at one or more sites.	Small reductions in visitation or duration of recreational activity.	No loss of enjoyment of recreational activities or areas; no change to factors that contribute to the value of the resource.

Type of Impact	Impact Characteristics	Impact Level		
		Potentially Significant	Less than Significant	No Impact
recreational activity (less desirable)	Geographic Extent	Most or all recreational land/sites throughout the study area; recreational lands/sites that are of national significance.	Effects realized at one or multiple isolated locations; recreational lands that are not nationally significant, but that are significant within the state.	No loss of enjoyment of recreational activities or areas; no change to factors that contribute to the value of the resource.
	Duration or Frequency	Persists during or beyond the life of the proposed project.	Persists for as long as the entire construction phase or a portion of the operations phase.	No loss of enjoyment of recreational activities or areas; no change to factors that contribute to the value of the resource.
Adverse change in aesthetic character of visual resources	Magnitude or Intensity	The landscape appears heavily and negatively altered and changes to the existing views or aesthetic character are visually disruptive and incompatible with existing views and aesthetic conditions.	Minor to moderate alterations in existing views or aesthetic character that are similar to and compatible with existing views and aesthetic conditions such that the change is similar to the general form, line, color, texture, and pattern common to existing conditions.	Existing views and aesthetic character of the landscape remain unaltered.
	Geographic Extent	Regional impacts observed throughout the study area or from one or more visually sensitive area.	Effects realized at one or more isolated locations that are not of visual importance.	Existing views and aesthetic character of the landscape remain unaltered.
	Duration or Frequency	Permanent or persistent alteration of views or aesthetic character of the landscape.	Temporary alteration of views or aesthetic character of landscape persisting only during the construction phase of the proposed project, or a portion of the operation phase.	Existing views and aesthetic character of the landscape remain unaltered.
Adverse change in aesthetic character from nighttime lighting	Magnitude or Intensity	Lighting heavily and negatively alters existing nighttime views and aesthetic character conditions and changes to lighting are visually disruptive and incompatible with existing conditions.	Lighting causes minor to moderate alterations to existing nighttime views or aesthetic character, such that the change is comparable and compatible with the existing nighttime lighting and aesthetic character.	Existing nighttime views and aesthetic character of the landscape remain unaltered.
	Geographic Extent	Regional impacts observed throughout the study area.	Effects realized at one or multiple isolated locations.	Existing nighttime views and aesthetic character of the landscape remain unaltered.

Type of Impact	Impact Characteristics	Impact Level		
		Potentially Significant	Less than Significant	No Impact
	Duration or Frequency	Permanent or persistent alteration of nighttime views or aesthetic character of the landscape.	Temporary alteration of nighttime views or aesthetic character of landscape persisting only during the construction phase of the proposed project, or a portion of the operation phase.	Existing nighttime views and aesthetic character of the landscape remain unaltered.

**Table 1-B.9: Impact Assessment Criteria for Social and Economic Resources**

Type of Impact	Impact Characteristic	Impact Level		
		Potentially Significant	Less than Significant	No Impact
Impacts to Housing	Magnitude or Intensity	Changes in housing availability or property values and/or rental rates, constituting a significant market shift.	Impacts to housing availability or property values and/or rental rates are not significant enough to create a market shift.	No perceptible change in baseline conditions.
	Geographic Extent	Impacts observed throughout City of Anacortes or Skagit County.	Impacts realized in portions of the City of Anacortes or Skagit County.	No perceptible change in baseline conditions.
	Duration or Frequency	Persists during or beyond the life of the proposed project.	Persists for as long as the entire construction phase or a portion of the operations phase.	No perceptible change in baseline conditions.
Increased Demand on Existing Public Services	Magnitude or Intensity	Access to or quality of public services severely constrained, potentially threatening public safety.	Access to or quality of public services constrained to a minimally perceptible degree.	No perceptible change in baseline conditions.
	Geographic Extent	Impacts observed throughout City of Anacortes or Skagit County.	Impacts realized at one location.	No perceptible change in baseline conditions.
	Duration or Frequency	Persists during or beyond the life of the proposed project.	Persists for as long as the entire construction phase or a portion of the operations phase.	No perceptible change in baseline conditions.
Reduction in Employment Income	Magnitude or Intensity	Measureable reduction in employment income impacting multiple industries, distinguishable from variations associated with business cycles and other non-project factors.	Measureable reduction in employment income impacting a single industry, or in multiple industries, indistinguishable from variations associated with business cycles and other non-project factors.	No perceptible change in baseline conditions.
	Geographic Extent	Impacts observed for the entire study area.	Impacts realized at one location or in a portion of the study area.	No perceptible change in baseline conditions.
	Duration or Frequency	Persists during or beyond the life of the proposed project.	Persists for as long as the entire construction phase or a portion of the operations phase.	No perceptible change in baseline conditions.
Reduction in Tax Receipts	Magnitude or Intensity	Reduction in tax receipts beyond usual differences between actual and budgeted receipts.	Reduction in tax receipts within the usual differences between actual and budgeted receipts.	No perceptible change in baseline conditions.

Type of Impact	Impact Characteristic	Impact Level		
		Potentially Significant	Less than Significant	No Impact
	Geographic Extent	Impacts observed for City of Anacortes, Skagit County, or potentially additional counties (Clallam, Island, Jefferson, San Juan).	Impacts realized at one location or in a portion of the study area.	No perceptible change in baseline conditions.
	Duration or Frequency	Persists during or beyond the life of the proposed project.	Persists for as long as the entire construction phase or a portion of the operations phase.	No perceptible change in baseline conditions.
Disproportionate adverse impacts on minority and/or low-income communities (environmental justice)	Magnitude or Intensity	Environmental, social, or health impacts that fundamentally alter life, livelihood, health, and/or safety for one or more communities with disproportionately high minority and/or low-income populations.	Impacts affect, but do not disproportionately affect minority or low-income communities.	No perceptible change in baseline conditions.
	Geographic Extent	Impacts observed for City of Anacortes, Skagit County, or potentially additional counties (Clallam, Island, Jefferson, San Juan).	Impacts realized at one location or in a portion of the study area.	No perceptible change in baseline conditions.
	Duration or Frequency	Persists during or beyond the life of the proposed project.	Persists for as long as the entire construction phase or a portion of the operations phase.	No perceptible change in baseline conditions.

**Table 1-B.10: Impact Assessment Criteria for Cultural Resources**

Type of Impact	Impact Characteristics	Impact Level		
		Potentially Significant	Less than Significant	No Impact
Direct or indirect disturbance of cultural resources including an archaeological or architectural site listed or eligible for listing in the NRHP or in the WHR; locations with traditional value to Native American or other groups; and cemeteries and burial sites.	Magnitude or Intensity	Disturbance that diminishes the significance or integrity of cultural resource site.	Disturbance of a significant resource that does not diminish the significance or integrity of the site.	No disturbance of cultural resources.
	Geographic Extent	The majority or all the cultural resource or site is affected (greater than 50 percent).	Part of the cultural resource site is affected (less than 50 percent).	No disturbance of cultural resources.
	Duration or Frequency	Long-term or Permanent	Impact lasting within the construction period or short-term.	No disturbance of cultural resources.

**Table 1-B.11: Impact Assessment Criteria for Marine Transportation**

Type of Impact	Impact Characteristic	Impact Level		
		Potentially Significant	Less than Significant	No Impact
Impacts to non-project waterway users due to increased proposed project-related vessel traffic	Magnitude or Intensity	Substantial travel delays, a material change in non-project-related user access, strains service providers, critical maritime infrastructure, or non-project related (nonbeneficiary) economic interests.	Minor travel delays or changes in vessel traffic patterns and schedules, minor strains on service providers, critical maritime infrastructure, or non-project-related (nonbeneficiary) economic interests.	Imperceptible to barely perceptible changes in vessel traffic patterns and schedules, minimal strain on service providers, critical maritime infrastructure, or non-project related (nonbeneficiary) economic interests.
	Geographic Extent	Some impact on all waterways and port areas used by the proposed project, or acute impact on specific waterways or port areas.	Some impact on multiple (but not all) waterways and/or port areas used by the proposed project.	No impact on waterways or port areas used by the proposed project.
	Duration or Frequency	Long-term or potentially permanent impacts; impacts that occur continuously or daily.	Impacts that last only for the construction period and/or a portion of the operations period; impacts that occur regularly but not frequently.	Impacts lasting for a portion of the construction period; impacts that occur rarely or irregularly.
Risk of marine casualty <sup>a</sup> or accident due to proposed project activities	Magnitude or Intensity	Substantially increased risk of marine casualty or incident due to proposed project activities.	Some potential for increased risk of marine casualty or navigation hazard due to proposed project activities.	Proposed project activities do not increase the likelihood of marine casualty.
	Geographic Extent	Some impact on all primary waterways and port areas used by the proposed project, and acute impact on specific waterways or port areas.	Some impact on all primary waterways and/or port areas ( <b>or</b> acute impact on specific waterways or port areas) used by the proposed project.	No impact on waterways or port areas used by the proposed project.
	Duration or Frequency	Permanent or continuous increased risks of marine casualty.	Increased risk of marine casualty that lasts (at most) only for the construction period and/or a portion of the operations period.	No discernable increase in the risk of marine casualty.
Marine Spill	Magnitude or Intensity	Potential for environmental damage to fish (narcotic) and wildlife (respiratory, neurological), as well as humans (respiratory, neurological), or exposure to petroleum product spills 1 micrometer (µm) or thicker.	Potential impacts to air and water quality, but potential impacts would be below toxicological limits, or exposure to petroleum product spills between 0.1 and 1 µm thick.	Little to no measurable impacts are observed or expected, or exposure to petroleum product spills less than 0.1 thick.

Type of Impact	Impact Characteristic	Impact Level		
		Potentially Significant	Less than Significant	No Impact
	Geographic Extent	Localized impacts within a several mile radius under worst-case conditions within the Salish Sea and portions of the adjacent shorelines.	The impact is limited to a small area, and does not reach sensitive habitats.	Spill size contained to a very small location.
	Duration or Frequency	Rapid degradation of spilled materials such that stress to environment eliminated within 3 days or less. Full recovery of affected resources	The impact is temporary, lasting 24 hours or less.	The duration is limited to a few hours or less.