



Municipality of Skagway
**Port Environmental and
Regulatory Compliance**

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moffatt & nichol

ERRATUM TO
 PORT ENVIRONMENTAL AND REGULATORY COMPLIANCE REPORT
 MUNICIPALITY OF SKAGWAY
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ERRATUM TO THE PORT ENVIRONMENTAL AND REGULATORY COMPLIANCE REPORT, MUNICIPALITY OF SKAGWAY

This document lists corrections to the July 2017 Port Environmental and Regulatory Compliance Final Report for the Municipality of Skagway. The following table identifies the modification and its location within the document.

Page, Section, Etc.	Corrections
Page 8, Section 2.1.3.2, 1 st paragraph	Replace first introductory paragraph under the heading with: “The ADEC lists three sites on their contaminated site database (ADEC 2017d) within or near the tidelands and shoreline of Skagway that are open (Figure 1-2). A summary of these sites is described below and more detailed information is available on the ADEC website:”
Page 8, Section 2.1.3.2, 3 rd bullet, last two sentences	Replace the last two sentences of the 3 rd bullet with: “The existing concrete dock was built in 2000. The historical concentrate storage building was demolished in 2003 and completely rebuilt in 2007 for copper concentrates shipped from the Yukon’s Minto Mine. The Alaska Industrial Development and Export Authority (AIDEA) owns the Ore Terminal facility and leases the land from WP&YR.”
Page 8, Section 2.1.3.2, last paragraph, 1 st sentence	Replace the 1 st sentence of the last paragraph with: “Past ore dock basin site investigations have, for the most part, focused on sediment chemistry. Other types of studies on the bioavailability and toxicity of these metals have been more limited.”
Page 23, Table 3-1, Skagway Ore Terminal row, Reporting Requirements column	Replace text under “Reporting Requirements” with: “Applies to lead and zinc; DEC is reviewing closure of Compliance Order by Consent 88-11-09-299-01.”
Page 24, Section 3.1.1, 3 rd paragraph, 2 nd sentence	Replace 2 nd sentence of 3 rd paragraph with: “AIDEA signed a 7-year lease with Capstone in 2007 for the use of the terminal to handle and ship copper ore concentrate from the Minto Copper Mine in the Yukon Territory, near Carmacks, north of Whitehorse, Canada.”
Page 24, Section 3.1.1, last paragraph, 2 nd sentence	Replace 2 nd sentence of last paragraph with: “The Ore Dock Basin is also undergoing a sediment risk assessment as described in Section 2.1.3.2.”
Page 36, Section 4.3.1., 1 st paragraph, last sentence	Replace the last sentence of the 1 st paragraph with: “The Project includes demolition of timber pier structures, construction of a bulkhead wall and wharf structure (with the reuse of dredged material behind this wall if deemed appropriate), a new concrete floating dock and associated gangways, and upland improvements including a new post-2023 ore concentrate loader.”
Page 42, Section 4.3.2, section title	Replace the section title with: “Ore Dock Basin Legacy Contamination Cleanup”
Page 42, Section 4.3.2, 1 st sentence	Replace the 1 st sentence with: “Ongoing Ore Dock Basin investigations will continue pursuant to ADEC requirements. Investigations could lead to cleanup.”



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EXECUTIVE SUMMARY

This study, completed for the Municipality of Skagway, explores the regulatory environment for current and anticipated Port Area operations: cruise; ore concentrate; other bulk material; cargo; fuel; operations at the SBH; and ferry. A brief discussion of the Federal, State and Municipal regulations pertaining to key environmental topics identified as important to the Port Planning Area are described, and existing operational permits identified. Following data gathering and stakeholder interviews, M&N identified existing, potential or perceived data gaps that exist with current and/or possible future operations (short-term and long-term project scenarios) and industry best management practices for regulatory compliance and environmental stewardship of Skagway's waterfront to memorialize the research and recommend improvements for Port operations. Project scenarios include:

- General maintenance and repair;
- Short-term improvements or projects that could occur within the Port Planning Area over the next 5 years; and,
- Long-term improvements or projects that could occur within the Port Planning Area over the next 10 to 20 years.

Impacts to or from adjacent operations (airport, State roads, the US/Canada border land crossing, and nearby natural resources) were also considered.

The following recommendations were developed to support the Municipality with both short-term and long-term goals. They are suggestions and the level to which they could be selected for implementation is dependent on Municipality goals, resources, budget, and timing. They can also be modified to better suit Municipality and community needs.

Short-term (over the next 5 years):

- Continue to work with White Pass & Yukon Route Railway to address legacy contamination in the Ore Dock Basin.
- ***Work with all waterfront property owners and tenants to ensure ongoing environmental compliance with respect to both operations and construction.***
- Continue and increase communications with industrial and commercial tenants, community stakeholders, relevant agencies, and tribal governments, especially as a long-term waterfront planning effort begins.
- Consider a study to document the vehicle, pedestrian, and rail movements within the Port Area to support long-range waterfront development.
- Consider a baseline study to estimate current air emission rates from various sources.

Long-term (over the next 10 to 20 years):

- Continue to monitor Federal and State expansions in the long-term air quality monitoring efforts, share data, and coordinate with regulatory agencies.
- Increase frequency of communication with the US/Canadian land border agencies to ensure a common understanding of local community needs at the border and to communicate any anticipated future changes.
- Continue to assess and ensure capacity of all utilities, including energy, stormwater, and wastewater facilities.

One of the proposed short-term recommendations identified above was to consider ways in which the Municipality could work with their tenants to ensure ongoing environmental compliance with respect to both operations and construction. The Municipality may want to consider a proactive environmental compliance/stewardship program to avoid future compliance issues and ensure the quality of the environment. Compliance programs can be scaled to fit the needs of an individual property owner, tenant, or facility manager, it can be implemented in phases, and updated regularly. Such a program can be developed with input from the existing tenants and stakeholders to better support their operations in a supportive and cohesive way. A synopsis of several port programs is provided along with an outline for a phased implementation approach.



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DISCLAIMER

Moffatt & Nichol (M&N) devoted effort consistent with (i) the level of diligence ordinarily exercised by competent professionals practicing in the area under the same or similar circumstances, and (ii) the time and budget available for its work, to ensure that the data contained in this report is accurate as of the date of its preparation. This study is based on estimates, assumptions and other information developed by M&N from its independent research effort, general knowledge of the industry, and information provided by and consultations with the client and the client's representatives. No responsibility is assumed for inaccuracies in reporting by the Client, the Client's agents and representatives, or any third-party data source used in preparing or presenting this study. M&N assumes no duty to update the information contained herein unless it is separately retained to do so pursuant to a written agreement signed by M&N and the Client.

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This document may include "forward-looking statements". These statements relate to M&N's expectations, beliefs, intentions or strategies regarding the future. These statements may be identified by the use of words like "anticipate," "believe," "estimate," "expect," "intend," "may," "plan," "project," "will," "should," "seek," and similar expressions. The forward-looking statements reflect M&N's views and assumptions with respect to future events as of the date of this study and are subject to future economic conditions, and other risks and uncertainties. Actual and future results and trends could differ materially from those set forth in such statements due to various factors, including, without limitation, those discussed in this study. These factors are beyond M&N's ability to control or predict. Accordingly, M&N makes no warranty or representation that any of the projected values or results contained in this study will actually be achieved.

This study is qualified in its entirety by, and should be considered in light of, these limitations, conditions and considerations.



LIST OF ACRONYMS

AAC	Alaska Administrative Code
ACH	Alaska Clean Harbors
ACMP	Alaska Coastal Management Program
ADEC	Alaska Department of Environmental Conservation
ADFG	Alaska Department of Fish and Game
ADOT&PF	Alaska Department of Transportation and Public Facilities
AIDEA	Alaska Industrial Development & Export Authority
AMHS	Alaska Marine Highway Services
AML	Alaska Marine Lines
AMSA	Area Which Merit Special Attention
APDES	Alaska Pollutant Discharge Elimination System
ASTs	Aboveground storage tanks
BLM	Bureau of Land Management
BMPs	Best Management Practices
BOD	Biochemical Oxygen Demand
CAA	Clean Air Act
CATEX	Categorical Exclusion
CBP	US Customs and Boarder Protection
CLIA	Cruise Line International Association
CO	Carbon monoxide
Comprehensive Plan	Municipality of Skagway 2020 Comprehensive Plan
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
dB	decibels
dba	A-weighted decibel
DIPAC	Douglas Island Pink and Chum, Inc.
DNR	Alaska Department of Natural Resources
DOT	US Department of Transportation
DPS	Distinct Population Segment
DRO	Diesel range organics
EA	Environmental Assessment
ECAP	Environmental Compliance and Assessment Program
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact



FRA	Federal Railroad Administration
Ft	Feet
GHG	Greenhouse Gas
GP	Regional General Permit
GRO	Gasoline range organics
IHA	Incidental Harassment Authorization
LID	Low Impact Development
LOA	Letter of Authorization
LOP	Letter of Permission
MARAD	US Maritime Administration
MBTA	Migratory Bird Treaty Act
MMPA	Marine Mammal Protection Act
mm/yr	Millimeters per year
MARPOL	International Convention for the Prevention of Marine Pollution from Ships
Municipality	Municipality and Borough of Skagway
MPRSA	Marine Protection, Research and Sanctuaries Act
MSGP	Multi-Sector General Permit
MSI	Mineral Services Inc.
MT	Metric tons
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO ₂	Nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NPS	US National Park Service
NRC	National Response Center
NWP	Nationwide Permit
O ₃	Ozone
OHA	Office of History and Archaeology
PAH	Polycyclic aromatic hydrocarbons
PARN	Pacific and Arctic Railway and Navigation Company
Petro Marine	Petro Marine Services
Pb	Lead
PM _{2.5}	Particulate matter (2.5 micrometers or less)
PM ₁₀	Particulate matter (10 micrometers or less)
POLB	Port of Long Beach
PRPA	Prince Rupert Port Authority



RCRA	Resource Conservation and Recovery Act
Ro-ro	Roll-on/roll-off
RRO	Residual range organics
SBC	Skagway Bird Club
SBH	Small Boat Harbor
SCMP	Skagway Coastal Management Plan
SHPO	State Historic Preservation Office
SIP	State Implementation Plans
SLR	Sea Level Rise
SMC	Skagway Municipal Code
SO ₂	Sulfur dioxide
SOT	Skagway Ore Terminal
SPCC	Spill Prevention Control and Countermeasure
STC	Skagway Traditional Council
SWPPP	Stormwater Pollution Prevention Plan
TEMSCO	Timber, Exploration, Mining, Survey, Cargo Operations Helicopters Inc.
TIGER	Transportation Investment Generating Economic Recovery, Discretionary Grant
TIWC	Taiya Inlet Watershed Council
USACE	US Army Corps of Engineers
USC	US Code
USCG	US Coast Guard
USEPA	US Environmental Protection Agency
USFS	US Forest Service
USFWS	US Fish and Wildlife Service
UST	Underground storage tank
VGP	Vessel General Permit
WP&YR	White Pass & Yukon Route
WQC	Water Quality Certification
WWTP	Wastewater Treatment Plant
YED	Yukon's Department of Economic Development



1. INTRODUCTION

1.1. PROJECT SITE AND FACILITIES

The Municipality and Borough of Skagway (Municipality) is a first-class borough in southeast Alaska located at the southwestern end of the 2.5-mile long Skagway River valley (Figure 1-1). The Skagway River empties into the Taiya Inlet at the head of Lynn Canal. Skagway's developed waterfront runs from the south side of the Skagway River to the north side of the Railroad Dock up around the Municipality's Small Boat Harbor (SBH).

The Municipality's Port Area includes:

- A 70-acre lease, which includes both uplands and tidelands, with the Pacific and Arctic Railway and Navigation Company (PARN), herein referred to as the White Pass & Yukon Route (WP&YR) Railway. The lease began in 1968 and terminates in March 2023. This property is sub-leased out to other tenants described in more detail in Section 3.
- A 16-acre SBH and adjacent 3-acre RV Park.
- A small upland and tideland portion of the peninsula where Alaska Marine Highway Services (AMHS) Ferry Terminal is located. A portion of this peninsula is also owned by the Alaska Department of Transportation and Public Facilities (ADOT&PF) and there is a joint agreement in place to allow the Municipality to use a portion of ADOT&PF land.

To the extent applicable, this report focuses on Municipality owned properties and operations (as identified above) and immediately adjacent State or private properties and operations (Figure 1-2). Along the waterfront, the State owns about 11% and WP&YR owns about 6% (JDC 2017). Figure 1-2 defines the Port Planning Area for this report. This report also considers other properties and operations with key linkages to Port of Skagway (Port) activities (i.e. Skagway Airport and US Port of Entry).

1.2. PURPOSE

The purpose of this study is to explore the current and anticipated future regulatory environment for anticipated Port operations: cruise; ore concentrate; other bulk material; cargo; fuel; operations at the SBH; ferry; and other identified operations. The key regulations considered are those specific to environmental issues along the waterfront. The report excludes discussion pertaining to other regulations affiliated with labor, occupational health and safety, public safety, security, emergency services, and natural hazards.

This report has been completed in parallel with the *Port Governance Study* (M&N and Cordova 2017a) and the *Preliminary Economical Analysis Report* (M&N 2017b), both of which support the Municipality with exploration of available Port-related revenue streams and assessment of a Port operating structure for future Port Area governance. These reports follow a vote in October 2015, when Skagway residents turned down a proposed renewal of the tidelands lease between the Municipality and WP&YR. Without renewal, the present WP&YR tidelands lease terminates in March 2023.

M&N has identified existing, potential or perceived data gaps that exist with current and/or possible future operations (short-term and long-term project scenarios) and industry best management practices (BMPs) for regulatory compliance and environmental stewardship of Skagway's waterfront to memorialize the research and recommend improvements and ongoing BMPs for Port operations, irrespective of the governance model chosen by the Municipality for future Port operations.



1.3. DATA COLLECTION AND REVIEW

Methods used to gather and review data included the collection, review, and compilation of the following information and data:

- Pertinent Federal, State, and Municipal environmental regulations applicable to the Port Area, including the Skagway Municipal Code (SMC).
- Relevant State and Municipal planning documents including the Municipality of Skagway 2020 Comprehensive Plan (Comprehensive Plan) (Municipality 2009).
- Existing site reports, data, and mapping, including contaminated upland soil and in-water sediment site reports.
- Past and active project-related Federal, State, and Municipal construction permits, application materials, and monitoring reports, including those for the US Army Corps of Engineers (USACE), US Environmental Protection Agency (USEPA) and Alaska Department of Environmental Conservation (ADEC) for past or active projects.
- Communications with the Municipality, other waterfront tenants and stakeholders, tribal governments, and other applicable Federal and State regulatory agencies. A summary list of stakeholders contacted during the timeframe for this amendment work can be found in Appendix A.
- Additional information gathered from stakeholders as part of the Municipality of Skagway Short Term Needs (Phase I) Project being completed by M&N.
- Possible short-term options for the waterfront as identified in the Municipality of Skagway Short Term Needs (Phase 1) Report completed by M&N (M&N 2017c).

1.4. EXCEPTIONS AND LIMITATIONS

Exceptions and limitations to this report are as follows:

- This report is not meant to restate data already compiled in other studies and documents. To the extent practicable, data and studies gathered and reviewed as part of this effort will be referenced, and important information summarized.
- As stated in Section 1.2, this report focuses on key issues deemed most integral to existing and future Port operations. The report excludes discussion pertaining to regulations affiliated with labor, occupational health and safety, public safety, security, emergency services, and natural hazards.
- The report is limited by the timeframe to which data was collected. For example, a risk assessment is currently underway at the Ore Dock Basin, being completed by Golder Associates (Golder) for WP&YR. Results will be available in the fall of 2017, at which time they will also be submitted to ADEC.
- Some stakeholders may have been inadvertently missed, others were not available for discussion with the timeframe allotted for this effort.



FIGURE 1-1. SKAGWAY VICINITY MAP

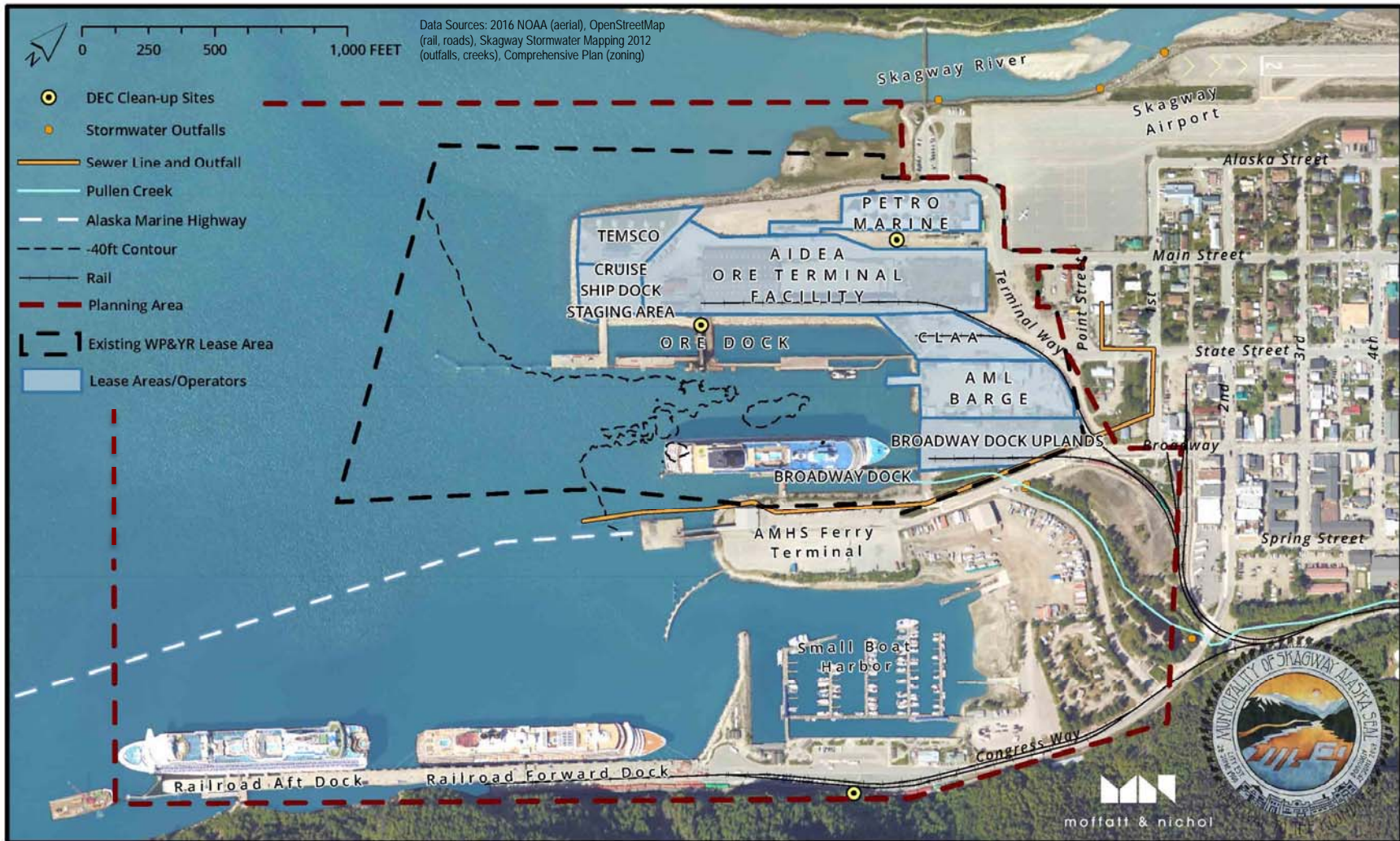


FIGURE 1-2. PORT OF SKAGWAY PLANNING AREA



2. REGULATORY COMPLIANCE OVERVIEW

This section provides a brief discussion of the Federal, State and Municipal regulations pertaining to key environmental topics identified as important to the Port Planning Area. Topics are listed in alphabetical order and are discussed in relation to Port operations and construction in later Sections 4, 5, and 6. As mentioned in Section 1.2, this report excludes discussion pertaining to other regulations affiliated with labor, occupational health and safety, public safety, security, emergency services, and natural hazards.

2.1. RESOURCES

2.1.1. AIR

An assessment of existing air quality conditions builds the foundation for evaluating how future activities may affect air quality. Presently, the Municipality is an area of interest for conducting an air quality assessment. Air quality refers to relative concentrations of pollutants in the ambient air. Air quality emission sources in Skagway include air and motor vehicle emissions, waste burning and incineration, emissions from cruise ships and diesel powered tourist buses and trains, and dust from historic ore concentrate transport operations. Based on air pollution emission research conducted by the US Forest Service (USFS), cruise ships are considered the largest contributor of air pollution emissions, regardless of being in a mobile state, or in a port operating diesel and bunker fuel generators state (USFS et al. 2010, Hood et al. 2006).

The Clean Air Act (CAA) (42 United States Code [USC] 7401 et seq.) is the principal Federal law that addresses air quality concerns. National air quality standards are set by the USEPA, for six common pollutants (also referred to as "criteria" pollutants). These standards, known as National Ambient Air Quality Standards (NAAQS) consist of standards for carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO₂), ozone (O₃), and sulfur dioxide (SO₂), and fugitive dust or particulate matter (PM_{2.5} and PM₁₀¹). The Federal and State standards have been set, with an adequate margin of safety, at levels above which concentrations could be harmful to human health and welfare (USEPA 2017a, ADEC 2017a). Secondary standards established under the NAAQS are to protect the public welfare and the environment. Failure to consistently meet these levels results in the area being designated as a Nonattainment Area. An area can also be designated as a Maintenance Area if it has a history of nonattainment, but is now consistently meeting the NAAQS. Activities, resulting in the discharge of air pollutants, must conform to NAAQS and State Implementation Plans (SIP), unless the activity is explicitly exempted by the USEPA.

The USEPA has separated Alaska into four separate geographic monitoring areas, which are rated based on compliance with the NAAQS standards. These regions include the Cook Inlet Intrastate Air Quality Control Region, Northern Alaska Intrastate Air Quality Control Region, South Central Alaska Intrastate Air Quality Control Region, and Southeast Alaska Intrastate Air Quality Control Region. The monitoring area that includes Skagway is located within the Southeast Alaska Intrastate Air Quality Control Region and is classified as a Class II area, which is defined by the ADEC as being generally free from air pollution, but with some industrial uses occurring. Skagway is not located within a Nonattainment or Maintenance Area.

The USEPA classification system is based on pollution weighted emissions of the area at large. It is a representative value, intended to estimate emission levels from various emission sources on a regional scale. In this instance, the classification may not fully represent air quality conditions at a specific point of reference or time (i.e. seasonal activities), as well as favorable conditions for air stagnation and overnight temperature inversions due to the steep mountainous topography of the study area. A temperature inversion, or a notable increase in pollutant emissions, such that could be experienced during a tourism season, can lead to temporary impacts to air quality and visibility, due to the trapping of pollutant emissions in concentrated layers over low-lying areas (i.e. downtown areas). Should this condition occur, notable haze and odors are

¹ Particulate matter refers to particles in the air. Those that are smaller than 10 micrometers in diameter are referred to as PM₁₀, and very fine particles smaller than 2.5 micrometers as PM_{2.5}. The different classifications help determine which will remain in suspension longer (i.e. PM_{2.5}) and how PM may influence human health.



likely to be most prevalent in the morning, and impacts most notable near the industrial and commercial areas closest to the major emitting sources (Molders, Gende, and Pirhalla 2013, Hood et al. 2006).

The ADEC, Division of Air Quality, has jurisdiction over the industrial operation air-quality permitting in Alaska. In addition, the US National Park Service (NPS) and USFS conduct ongoing air quality monitoring efforts in areas of Southeast Alaska, including Glacier Bay National Park, located southwest of Skagway and Juneau.

Recent air quality assessment conducted by the NPS indicated that the Klondike-Skagway air shed has relatively high levels of heavy metals and sulfur compared to other areas considered to be more pristine and natural in Southeast Alaska (Hood et al. 2006). The source of these emissions is believed to be linked to historic mining and transport in Skagway that began in the 1880s (Hood et al. 2006). The mines serviced by Skagway historically produced an average of 360,000 to 400,000 metric tons (MT) of ore concentrate per year, with some year's production reaching 600,000 MT. Operations stopped and started during the 1980s and 1990s depending on the mining industry. An extended break at the facility occurred between 1997 and 2007 (AIDEA 2008). Currently, approximately 60,000 MT of ore concentrate is moved per year (AIDEA 2017).

Cruise ships also visit Skagway, along with many other Alaskan ports. ADEC continues to monitor air emissions and enforce emission standards from the cruise industry (ADEC 2017b, 2016). Forty-eight air opacity readings were taken during the 2016 cruise season (between the beginning of May and end of September). ADEC also responds to public complaints regarding cruise ship pollution (for both air and water) and will follow up with vessel operators and owners so that mitigating steps can be taken. At the Municipal level, air and water quality concerns have been identified (Municipality 2009) and initiated the planning process for the Port to address increased tourism and future use requirements of the Port facilities by both cruise ships and industrial ore mining activities (M&N 2017c).

2.1.2. CLIMATE CHANGE AND SEA LEVEL RISE

The climate system is a complex, interactive system consisting of the atmosphere, land surface, snow and ice, oceans and other bodies of water, and living things. Solar radiation and its interaction with the atmosphere powers the climate system. This relationship can be altered through increases in solar radiation, change in atmospheric reflectance, and altering the amount of long-wave radiation emitted back into space. Atmospheric gases (i.e. greenhouse gases) intercept some of this long-wave radiation, absorbing it, which warms the Earth. From greatest influence on long-wave radiation absorption to the least, greenhouse gases (GHGs) include water vapor, carbon dioxide, methane, nitrous oxide and ozone. Human (anthropogenic) activities such as the burning of fossil fuels (releasing more GHGs to the atmosphere) and clearing of forests (removing a natural sink for carbon dioxide), have intensified the ability of the atmosphere to absorb long-wave radiation, contributing to an accelerated warming trend (Melillo et al. 2014). Carbon dioxide emissions from the burning of fossil fuels are the most substantial source of anthropogenic GHG emissions. Regional air temperatures have increased by an average of 1.6 degrees Fahrenheit (°F) since 1895 (Melisso et al. 2014) and warming trends are expected to continue.

Climate change impacts on coastal environments can involve a number of factors, two of which include increased sea level and changes in wind/weather/wave regimes. Both are important considerations during the design and permitting phases for waterfront development projects and are described briefly below:

- Sea level rise (SLR) is the relative increase in mean sea level, and is primarily caused by two processes: additional water in the ocean from glacial and land-based ice sheet melt, and thermal expansion of ocean waters due to warmer sea temperatures (Adelsman and Ekrem 2012). Along many coastlines, SLR is projected to accelerate over the next century. Conversely, Southeast Alaska (along with other northern landmasses and Antarctica) is also experiencing isostatic rebound where the landmass is uplifting. During the last ice age, the enormous weight of supporting nearly 3 kilometers of glacial ice caused the surface of the crust to deform and warp downward. Retreat of that ice mass and removal of that weight from the depressed land led to slow (and still ongoing) uplift or rebound of the land. On average typical uplift rates are of the order of 40 mm/year or less throughout Alaska (Larsen et al. 2004). The result of these two phenomena are that observed SLR is overwhelmed by isostatic rebound currently and likely for the foreseeable future resulting in a net reduction in sea level rise (increase in land elevation).



Estimates of vertical land movement for Skagway range from 16.3 to 19.0 millimeters per year (mm/yr) (Zervas et al. 2013). This far outpaces the global SLR rate for the 20th century of 1.2 to 1.7 mm/yr. While the rate of SLR is expected to increase globally, it will not outpace the rate at which Skagway is rising. By 2100, sea level near Skagway is expected to fall 3.1 feet (ft) (Adapted from Kopp et al. 2014 estimates for Juneau, AK).

- The wave climate in Skagway is more difficult to anticipate (Erickson et al. 2015). Climate change can potentially change the frequency and intensity of wind and rain events. These, in turn, can lead to coastal erosion through increase runoff from upland areas which directly affects the river/stream mouths causing erosion through periodic high volume events or creates saturated soils at the sea land interface through infiltration which makes them more susceptible to wave action. Increased wind, in turn, can cause more frequent and higher intensity wave action. While it is important to note this increased frequency and intensity, this condition is most damaging during high tide events where wind forcing in addition to tidal rise can subject soils not normally subject to wave action to very energetic erosional forces.

State and Municipal governments in Alaska are approaching climate change with mitigation (to measure GHGs and develop emission reduction strategies) and adaptation (ADEC 2017c, Municipality 2009).

2.1.3. HAZARDOUS MATERIALS

Hazardous materials and hazardous waste management activities are governed by specific environmental regulations. For this report, “hazardous materials” refer to those substances that,

“when it enters into or on the surface or subsurface land or water of the State, presents an imminent and substantial danger to the public health or welfare, or to fish, animals, vegetation, or any part of the natural habitat in which fish, animals, or wildlife may be found;” (Alaska Statute [AS] 46.09.900).

Hazardous wastes can be generated from many sources. To focus on those issues more applicable to the Port Area, regulations pertaining to the following are discussed:

- Contaminated sediments and soils;
- Petroleum storage tanks; and,
- Spills from shoreline facilities and vessels at berth.

2.1.3.1. Sediments and Soils

At the Federal level, the USEPA has responsibility for managing contaminated soils and sediments. In the case of sediments, the USACE and National Oceanic and Atmospheric Administration (NOAA) also have responsibility. Applicable regulations include the Resource Conservation and Recovery Act (RCRA); Clean Water Act (CWA), the Rivers and Harbors Act of 1899; the Marine Protection, Research and Sanctuaries Act (MPRSA); and the Coastal Zone Management Act (CZMA).

At the State level, the ADEC is responsible for regulating and controlling pollution on State lands. ADEC oversees the cleanup or conducts the cleanup of contaminated sites based on the potential risks to human health and the environment. Alaska water quality regulations include sediments (18 Alaska Administrative Code [AAC] 70.005). These regulations (18 AAC 70.020) also restrict,

“concentrations of toxic substances in water or in shoreline or bottom sediments, that singly or in combination, cause or reasonably can be expected to cause, toxic effects on aquatic life, except as authorized by this chapter.”

AS 46.03.822 creates “strict liability for the release of hazardous substances” for the owner of, and the person having control over, the hazardous substance at the time of the release; and the owner and the operator of a vessel or facility, from which there is a release of a hazardous substance.

The Municipality, along with Port Area stakeholders and community residents, continue to value and encourage ongoing cleanup efforts, while incorporating means to protect land and water quality within the Port Area (Municipality 2009, 2007).



2.1.3.2. Skagway Waterfront Cleanup Sites

The ADEC lists three State sites on their contaminated site database (ADEC 2017d) within or near the tidelands and shoreline of Skagway that are currently undergoing active cleanup efforts (Figure 1-2). A summary of these sites is described below and more detailed information is available on the ADEC website:

- **Petro Marine Skagway Truck Rack:** This site involves cleanup of impacted soil from a 265-gallon diesel spill in 2001. Petro Marine Services (Petro Marine) continues to have environmental specialists conduct annual monitoring following the clean-up effort as required pursuant to the site's Workplan. ADEC suggested "a rigorous sampling method for the synthetic precipitation leaching procedure to test the soil leachate for gasoline range organics (GRO), diesel range organics (DRO), residual range organics (RRO) and polycyclic aromatic hydrocarbons (PAHs)." Final monitoring and site closure is anticipated within the next few years given monitoring results. Any proposed site maintenance or development will be coordinated with ADEC.
- **Skagway Wharf Tank Area:** This site is located on property currently owned by WP&YR. The US Army built eleven aboveground storage tanks (ASTs) in 1942 to store petroleum hydrocarbon products. The facility was closed in 1995 with removal of the last AST in 1996.

Falling rock in the 1970s resulted in tank puncture and petroleum release at one of the ASTs. In 1999, ADEC requested that WP&YR begin to investigate soil and groundwater contamination. In 2004, the upland road and surface area for the listed site was expanded toward the SBH where a sheet pile retaining wall was installed.

Golder was hired by WP&YR to install monitoring wells and complete sampling of the site. Golder has also installed a system of subsurface wells within the site along with subsurface piping to pump air into and pull fuel vapors back out of the contaminated area. When fuel appears in groundwater wells it is recovered by pumping until the well is cleared. Active recovery of fuel and vapors and ongoing monitoring continues.

- **Skagway (Nahku) Ore Terminal.** The SOT was leased to WP&YR from the Municipality in the 1960s and used for, primarily lead and zinc, concentrate shipment from the Yukon's Faro Mine (Anchor 2015, ADEC 2017d). Transport of the ore concentrate from truck to vessel occurred using an open conveyor system between 1967 and 1982. The USEPA issued Compliance Order 1088-08-309 to Bowhead Equipment Company in 1988 to immediately cease the discharge of fugitive dust from ore into harbor surface waters. Less regular use of the facility occurred through 1991 when the conveyor system was enclosed. The existing concrete dock was built in 2000 and the historical ore concentrate building demolished and modified (updates to the roof and siding were completed in 2007) for copper concentrates shipped from the Yukon's Minto Mine. The Alaska Industrial Development & Export Authority (AIDEA) leases the facility from WP&YR and the facility includes a fuel depot operated by Petro Marine and a container facility operated by Alaska Marine Lines (AML), in addition to Mineral Services Inc. (MSI) and cruise ship operations.

Several studies have been completed to date (going as far back as 1984). In general, metals are the primary contaminant of concern, specifically lead, zinc, and copper (Golder 2017). In 2015, Anchor conducted sediment sampling and determined that material within the Ore Dock Basin proposed for dredging as part of the Gateway Intermodal Dock Redevelopment Reconstruction Project and Legacy Harbor Contaminant Mitigation Program (the Gateway Project)², would most likely not be suitable for open water disposal.

Past site investigations have, for the most part, focused on sediment chemistry. Other types of studies on the bioavailability and toxicity of these metals have been more limited. To date, ADEC has requested completion of an ecological and human health risk assessment and WP&YR has asked Golder to complete this effort during the summer of 2017. The risk assessment will determine whether there are unacceptable risks to human health associated with the site. If so, remedial management and actions will be identified to reduce that risk to safe levels.

² The Gateway Project is a Municipality project. The project is further described in Section 4.2.1. Permit applications have been submitted to the applicable regulatory agencies and issuance of the final permits and approvals is pending possible permit modifications.



The risk assessment will also try to determine the contribution of contaminants associated with ore concentrate versus PAHs often associated with broader harbor operations. A preliminary sediment transport assessment is also being completed, as concern regarding the transport of contaminants into Taiya Inlet has been identified (Gubala 2007). Results will likely be available in the fall of 2017.

2.1.3.3. Storage Tanks

Storage tanks used to store petroleum products or other hazardous materials ASTs are regulated by the USEPA, ADEC and the State of Alaska fire marshal. At the Federal level, the USEPA regulates ASTs with capacities greater than 1,320 gallons. The USEPA requires these facilities to follow the Spill Prevention Control and Countermeasure (SPCC) rule, which includes requirements for: personnel training, spill prevention systems, and inspection and maintenance programs in accordance with 40 CFR 112. Additionally, ASTs with capacities over 10,500 gallons used in marine transfer operations also require approval to operate from the US Coast Guard (USCG). In addition to USEPA regulations, AST facilities with total storage capacities of over 420,000 gallons and tank vessels/oil barges are also regulated by the ADEC on the State level and must have an approved oil discharge and spill contingency plan in place as defined by AS 46.04.030 and 18 AAC 75. All other ASTs, 1,320 gallons and smaller, are regulated at the State level by the State of Alaska Fire Marshal.

Underground storage tanks (USTs) used to store petroleum products and other hazardous materials are subject to both USEPA and ADEC regulations. ADEC regulations are generally more stringent than USEPA regulations and therefore govern registration, operations, and inspections of USTs facilities. ADEC requires USTs be registered and part of a 3-year inspection program as well as have leak detection, spill and overflow prevention, and cathodic protection systems as set forth in 18 AAC 78. Additionally, ADEC requires owners to have adequate financial responsibility coverage for most USTs.

2.1.3.4. Spills

Federal regulations require oil and other hazardous substance spills into navigable waters to be reported to the National Response Center (NRC) when the amount spilled exceeds Federally determined limits as defined in 40 CFR Part 302. Reporting to the NRC effectively notifies the USEPA and the USCG, however, spills can also be reported to USEPA Region 10 if they occur inland, or they can be reported to the USCG Juneau if they occur in coastal waters. Federal response and owner liability are governed by the CWA as amended by the Oil Pollution Act of 1990.

State level reporting requirements include notifying the ADEC of oil or hazardous substance spills under 18 AAC 75.300. Spills into water, spills of any hazardous material, and oil spills over 55 gallons must be reported to the ADEC immediately. Oil spills on land 10-55 gallons must be reported within 48 hours of the spill (18 AAC 75.300). Spill cleanup is subject to ADEC oversight per 18 AAC 75.320.

Table 2-1 summarizes key notification requirements for some hazardous substances (oil and fuel). More extensive requirements for different types of releases can be found at the USEPA and ADEC websites (these sites are also provided in Table 2-1).

**TABLE 2-1. SUMMARY OF KEY NOTIFICATIONS IN THE CASE OF AN OIL OR FUEL SPILL**

Trigger	Agency	Contact	Additional Information
More detailed spill information is available at the USEPA and ADEC websites.			USEPA: https://www.epa.gov/pesticide-incidents/how-report-spills-and-environmental-violations ADEC: http://dec.alaska.gov/spar/spillreport.htm
Spill into navigable waters	NRC	(800) 424-8802	Spills that require reporting by the vessel or facility are those that: violate water standards, cause a film or sheen, or cause a sludge or emulsion beneath the water surface or upon adjoin shorelines. Serves to notify both USEPA and USCG.
	ADEC, Juneau	(907) 465-5340	Report any release of oil to water immediately.
Spill onto land	USEPA, Region 10	(800) 424-4372	Federally determined limits vary by substance.
	ADEC, Juneau	(907) 465-5340	Report any release in excess of 55 gallons immediately. Report any release between 10 and 55 gallons within 48 hours of knowing about spill. Person in charge of a facility to report any release between 1 and 10 gallons on a monthly basis (written record).
Spill from a UST	ADEC, Juneau	(907) 465-5340	Report a suspected belowground release from a UST system, in any amount, within 24 hours.

2.1.4. HISTORICAL AND ARCHAEOLOGICAL RESOURCES

The first residents of Skagway were the Chilkoot Tlingits. The ocean provided food and a marine trade and transportation corridor, while the Chilkat, Chilkoot, and White Pass routes provided upland access to trade (Olson 1997, Thornton 2004). A small, likely seasonal settlement of Shgagw'ei ("rugged or roughed up place," referring to wind buckling the ocean) was located at the mouth of the Skagway River (Thornton 2004).

In the late 1800s, settlers arrived as part of the Klondike Gold Rush (approximately 1896) and by 1900, Skagway was Alaska's first incorporated city (Municipality 2009). During this time, the WP&YR railway was built. Their steamboat became the main supplier for the mining camps in the interior. In 1976 the US Congress authorized the Klondike Gold Rush National Historical Park and funded building and trail restoration.

Today, the Skagway Village conducts business as the Skagway Traditional Council (STC) and is a Federally recognized Indian Tribe, pursuant to the Indian Reorganization Act of 1934, for Skagway Tlingit and Haida Indians, Alaska Natives, and American Indians located in the area (STC 2017).

Both the Alaska Coastal Management Program (ACMP) and the Alaska Department of Natural Resources (DNR) may designate areas of National, State, or local history or prehistory. Areas, structures and artifacts important to the Klondike Gold Rush are well documented. The WP&YR Railroad was designated in 1994. Those areas and artifacts from outside of the Gold Rush era are less well known and potentially less protected (City of Skagway 2007). The Municipality also provides protections for the Skagway Historic District within the SMC (Title 19). In addition, Skagway residents have and still gather local resources for subsistence, including salmon and other fish, shrimp and crab, shellfish and waterfowl, and other upland and shoreline game and plants. ACMP regulation also protect these areas.

The complex nature of Skagway's past and present is not detailed further in this report. Regulations pertaining to historical and archaeological resources, and subsistence practices, must be adhered to in the planning and design phase for development prior to ensure that adverse impacts to these resources do not occur. These are further described in Section 2.2.



2.1.5. LAND USE

Land use within the Municipality dates back to the Chilkoot Tlingits and the Klondike Gold Rush to create a municipality of trade, tourism, and outdoor recreation. The existing Waterfront District supports a split use of both a Port for tourism and industrial uses, while still preserving surrounding natural resources including the Skagway River to the west, and Pullen Creek to the east. To accommodate future growth and maintain quality of life, land within the Municipality is managed and regulated by the following:

- Skagway's Comprehensive Plan;
- Skagway's Coastal Management Plan;
- Dyea Flats Land Management Plan;
- Dyea Management Plan;
- Dewey Lakes Recreation Area Management Plan;
- Skagway Comprehensive Trail Plan; and,
- Skagway Municipal Code.

These land management plans and regulations are described further in the Comprehensive Plan (Municipality 2009).

The Port is zoned in the Waterfront District and is categorized as three types of land uses (Figure 2-1):

- Industrial;
- Commercial; and,
- Public or Civic Facility, Park or Active Recreation.

The Comprehensive Plan (Municipality 2009) developed Future Growth Land Use Plans based on the current land use, emerging trends, and future land use needs. This plan designates the Port to be reserved for water-dependent, Waterfront Commercial Industrial uses.

The Port is within the Municipality coastal zone and is also regulated by the Skagway Coastal Management Plan (SCMP). Port growth is anticipated to promote transshipment use and water-based tourism, and would, therefore would be consistent with the SCMP regarding the Port AMSA (Area Which Merits Special Attention). The Port is also within the Skagway River floodplain and will be subject to regulations in the Municipality flood management ordinance described in the SMC Title 15 Buildings and Construction (Municipality 2017).

2.1.6. NOISE

The frequency at which a sound is emitted is measured in hertz (Hz), and the strength or intensity of the sound is measured in decibels (dB). In-water, the strength of sound is measured as dB re: 1 μ Pa rms (decibels referenced to 1 micropascal root mean square), while in-air noise is measured in an A-weighted decibels (dBA).

In-air noise within Skagway is regulated directly by SMC Title 9 Public Peace, Safety and Welfare. Noise is limited to different sound levels depending on the land use category. For example, more restrictive sound levels are required within residential areas (70 dBA between 7:00 am and 10:00 pm and 60 dBA outside of this timeframe), while the least restrictive is within industrial areas (80 dBA at all times). Noise permits can be applied for, for events and construction.

In-water noise is typically regulated at the project level on an individual basis with noise associated with construction being the most heavily regulated. Federal agencies typically issue guidelines and enforce regulations through the consultation/permit process. Construction of docks and even dredging projects will likely require modeling of the underwater noise environment as well as monitoring for marine mammals (whales, sea lions, and porpoises) and marine fish (eulachon, herring, and salmonids). Underwater noise currently generated from operations is not tightly regulated and noise generated by future operations will be evaluated during the consultation and may be subject to best management practices for especially noisy operations.



2.1.7. SPECIES AND HABITAT PROTECTION

The Taiya Inlet has a large input of fresh water and silt from the nearby rivers and streams (Municipality 2007). The area provides habitat for marine fish and shellfish, seabirds, marine mammals, and provides migratory habitat for anadromous fish such as salmonids and forage fish. Tideflats are located around some of the rivers, streams and coves, providing habitat for shellfish and seabirds.

The following streams and rivers are identified in the Alaska Department of Fish and Game (ADFG) *Catalog of Waters Important for the Spawning, Rearing and Migration of Anadromous Fishes* (ADFG 2017) and provide important habitat for anadromous fish:

- The Skagway River flows into Taiya Inlet west of the SOT and provides habitat for chinook and coho salmon, Dolly Varden, and eulachon (ADFG 2017).
- Pullen Creek runs through the downtown area into the harbor. While urbanized, it provides habitat for chum, coho, and pink salmon, and both anadromous and resident Dolly Varden. Chinook salmon have been introduced into the creek through a Municipality-Douglas Island Pink and Chum, Inc. (DIPAC) hatchery program (the program is currently not active).
- The Taiya River is located northwest of the Skagway Harbor but is important to note as it provides habitat for chum, coho, chinook, and pink salmon and both anadromous and resident Dolly Varden char.

Typical nearshore fish communities (which include the above listed salmonids) are considered less productive than other parts of Lynn Canal in Northern Southeast Alaska because of large amounts of freshwater and sediment input (City of Skagway 2007), and in fact, an inventory of marine and estuarine fishes conducted in summer 2001 documented low fish diversity (Table 1).

TABLE 2-2. NEARSHORE FISH SPECIES, ADAPTED FROM ARIMITSU ET AL. 2003

Family	Scientific Name	Common Name
Osmeridae	<i>Mallotus villosus</i>	Capelin
Salmonidae	<i>Oncorhynchus gorbuscha</i>	Pink salmon
Salmonidae	<i>Oncorhynchus tshawytscha</i>	Chinook salmon
Salmonidae	<i>Oncorhynchus keta</i>	Chum salmon
Salmonidae	<i>Oncorhynchus sp.</i>	Unidentified salmon
Salmonidae	<i>Salvelinus malma</i>	Dolly Varden char
Gadidae	<i>Theragra chalcogramma</i>	Pollock
Cottidae	<i>Leptocottus armatus</i>	Staghorn sculpin
Cottidae	<i>Myoxocephalus polyacanthocephalus</i>	Great sculpin
Cottidae	Unid. sculpin	Unidentified sculpin
Sticheaidae	<i>Anoplarchus purpurescens</i>	High Cockscomb
Pholidae	<i>Pholis laeta</i>	Crescent gunnel
Pholidae	<i>Pholis sp.</i>	Unidentified gunnel
Pleuronectidae	<i>Platichthys stellatus</i>	Starry flounder
Pleuronectidae	<i>Lepidopsetta sp.</i>	Unidentified rock sole



Marine invertebrates are a large part of the subsistence harvest for the project vicinity which include red king crab (*Paralithodes camtschaticus*), Dungeness crab (*Metacarcinus magister*), various pandalid shrimp as well as hard shell clams, cockles, and mussels harvested from the intertidal.

Upland species observed along the Skagway shoreline include waterfowl, seabirds, and terrestrial birds, upland mammals (mountain goat, coyote, fox and many other small animals), and some plant species. Estuarine and nearshore vegetation in vicinity of the nearshore and river mouths consists mainly of graminoids and forbs (yarrow [*Achillea millefolium* var. *borealis*], silverweed [*Potentilla anserine* var. *grandis*], beach pea [*Lathyrus japonicus* var. *glaber*], sedges [*Carex* spp.]), with shrubs and spruce moving in along the forested side of the estuary (Paustian et al. 1994).

Nearby wetlands are described by Bosworth (2000) and can be used as a guide for other isolated wetlands found within the area. Wetland types include riverine wetlands (alluvial fan, large river, and riverine floodplain sloughs), estuarine wetlands (wetlands associated with flats, river bar or islands and sloughs), fens, and human-caused wetlands (Bosworth 2000). Vegetation within wetlands ranges from grasses, herbs and aquatic plants to shrubs and trees, and dominant species are listed in Table 2-3.

TABLE 2-3. DOMINANT WETLAND SPECIES SKAGWAY, ADAPTED FROM BOSWORTH 2000

Aquatic	<i>Carex macrocheata</i>	<i>Rubus arcticus</i>
<i>Callitriche verna</i>	<i>Carex pluriflora</i>	<i>Rumex fenestratus Sanguisorba</i>
<i>Caltha palustris</i>	<i>Carex rostrata</i>	<i>stipulate</i>
<i>Caltha palustris asarifolia</i>	<i>Carex sitchensis</i>	<i>Stellaria crassifolia</i>
<i>Hippuris vulgaris</i>	<i>Eleocharis palustris</i>	<i>Tolmiea</i>
<i>Menyanthes trifoliata</i>	<i>Eriophorum russeolum</i>	<i>Menziesii</i>
<i>Montia fontana</i>	<i>Juncus alpinus</i>	<i>Triglochin maritime</i>
<i>Potamogeton gramineus</i>	<i>Juncus arcticus</i>	<i>Triglochin palustris</i>
<i>Ranunculus cymbalaria</i>	<i>Juncus bufonius</i>	<i>Viola glabella</i>
<i>Sparganium angustifolium</i>	<i>Juncus castaneus</i>	
<i>Sparganium hyperboreum</i>	<i>Juncus palustris</i>	Moss
		<i>Sphagnum</i> sp.
Grass	Herb	Shrub
<i>Agropyron violaceum</i>	<i>Caltha palustris</i>	<i>Alnus sinuate</i>
<i>Agrostis borealis</i>	<i>Chrysanthemum arcticum</i>	<i>Cornus stolonifera</i>
<i>Agrostis exarta</i>	<i>Cicuta douglassii</i>	<i>Echinopanax horidum</i>
<i>Alelocurus aequalis</i>	<i>Circaea alpine</i>	<i>Echinopanax horridum</i>
<i>Arctagrostis latifolia</i>	<i>Circium alpinum</i>	<i>Myrica gale</i>
<i>Arctagrostis latifolia arundinacea</i>	<i>Coneoselinum chinense</i>	<i>Ribes lacustre</i>
<i>Calamagrostis canadensis</i>	<i>Epilobium latifolium</i>	<i>Salix alexensis</i>
<i>Cinna latifolia</i>	<i>Epilobium</i> sp.	<i>Salix barclayi</i>
<i>Deschampsia beringensis</i>	<i>Equisetum variegatum</i>	<i>Salix sitchensis</i>
<i>Deschampsia</i>	<i>Galium triflorum</i>	<i>Viburnum edule</i>
<i>Caespitosa</i>	<i>Glaux maritime</i>	
<i>Elymus aerenarius</i>	<i>Gonkenya pepeloides</i>	Spore
<i>Festuca rubra</i>	<i>Iris eminens</i>	<i>Atherium felix-femina</i>
<i>Glyceria pauciflora</i>	<i>Iris setosa</i>	<i>Cystopteris fragilis</i>
<i>Hordeum brachyatherum</i>	<i>Lathyrus maritima</i>	<i>Equisetum arvense</i>
<i>Poa eminens</i>	<i>Lomatogonium rotatum</i>	<i>Equisetum variegatum</i>
<i>Poa palustris</i>	<i>Panassia palustris</i>	
<i>Puccinellia</i> sp.	<i>Plantago maritime</i>	Tree
	<i>Polygonum</i> sp.	<i>Alnus rubra</i>
Grass-Like	<i>Potentilla egedii</i>	<i>Betula papyrifera</i>
<i>Carex disperma</i>	<i>Potentilla palustris</i>	<i>Picea sitchensis</i>
<i>Carex gmelini</i>	<i>Ranunculus cymbalaria</i>	<i>Tree/shrub</i>
<i>Carex kelloggii</i>	<i>Rhinanthus minor</i>	<i>Alnus sinuata</i>
<i>Carex lyngbyei</i>	<i>Rorippa islandica</i>	



Upland species observed along the Skagway shoreline include waterfowl, seabirds, and terrestrial birds, upland mammals (coyote, fox and many other small animals), marine mammals (whales, porpoises, sea lions, seals) and some plant species. The protection of species and habitat comes from the Federal, State, and local level. A few that could impact operations within the Skagway Harbor area are listed below:

- **Migratory Bird Treaty Act:** It is illegal to take, possess, import/export, transport, sell, purchase, barter, parts, active nests, or eggs except under the terms of a valid Federal permit (USFWS 2017). A Federal depredation permit is not required to harass or scare birds protected under this Act, unless they are also protected under the Bald and Golden Eagle Protection Act or the Endangered Species Act (ESA).

A small colony of breeding Arctic terns is located on the SOT peninsula and is being monitored by the Skagway Bird Club (SBC).

Bald and Golden Eagle Protection Act: Prohibits the taking or possession of bald and golden eagles, parts, feathers, nests, or eggs with limited exceptions.

- **Endangered Species Act:** Protects listed species from “take” and from being sold. Take is defined to include “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Individual humpback whales have been observed in Taiya Inlet (Neilson et al. 2014) and are listed under the ESA. The Steller sea lion western distinct population segment (DPS) is also ESA-listed and could forage for fish within the Inlet (Hart Crowser 2015).
- **Marine Mammal Protection Act (MMPA):** Prohibits, with certain exceptions, the “take” of marine mammals in US waters and includes many common harbor species such as seals, sea lions, and whales.
- **Alaska Department of Fish and Game (ADF&G):** AS 16.20.190 protects State-listed species and habitat.

Other means to protect species and habitat includes the management of public lands (i.e. the ACMP and the Dyea Flats Management Plan). Many additional regulations protect species and habitat at the pre-development level through the Federal, State, and Municipal permitting processes. These are described in more detail in Section 2.2.

2.1.8. SURFACE WATERS

The Municipality is located within the Taiya Inlet Watershed in the sub-basin of Haines Borough (HUC 19010303). The Watershed is made up of the upper Taiya Inlet streams and rivers to the lower reaches of the Skagway River, Taiya River, and Pullen Creek. The watershed is mostly comprised of steep, mountainous terrain except for the Skagway and Taiya River valleys. Surface waters draining to Skagway Harbor include the Skagway River (northwest of the Port), Pullen Creek (southeast of the Port), and two spring fed tributaries to Pullen Creek.

Existing water quality regulations and requirements in Skagway include the following:

- CWA of 1972;
- Alaska Pollutant Discharge Elimination System (APDES);
- Multi-Sector General Permit (MSGP); and,
- SMC Title 8 Health and Safety and Title 10 Vehicles and Traffic (Municipality 2017).

Although there is no stormwater management plan for the Municipality, the Taiya Inlet Watershed Council (TIWC) has been gathering baseline information and community support to protect the watershed in support of a future stormwater management plan. The TIWC mapped the Skagway Stormwater System and developed a Stormwater BMP Manual for Pullen Creek in 2012 for use in developing and implementing the most effective temporary and permanent BMPs for future development of the Port.

Skagway Harbor and lower Pullen Creek are both 303(d) listed impaired water bodies for metals, including cadmium, copper, lead, mercury, and zinc (ADEC 2013, 2010). In 2008, Tetra Tech conducted an evaluation of Skagway Harbor and Pullen Creek and found that metal concentrations were lower than 1990 concentrations, likely contributed to source removal (ore



concentrate transfer and transport) and natural attenuation (Tetra Tech 2008). This study also introduced the possibility of petroleum products causing toxicity and a TMDL was prepared for Skagway Harbor in 2011. The TMDL suggested potential sources of petroleum based products including the following:

- Erosion from construction projects;
- Historic and recent surface water spills;
- Pullen Creek;
- Upland nonpoint sources (stormwater pollution); and,
- Harbor and vessel activities that include petroleum storage and transfer.

The STC collected water, sediment, soil, and tissue samples from Pullen Creek in 2015 and 2016 to compare to 2005 data and 2010/11 (STC 2016). Samples were tested for heavy metals and hydrocarbons and results showed continued exceedances for contaminants in both sediments and soils. BMPs and additional monitoring, especially during construction activities in Pullen Creek, were proposed to support the attenuation of heavy metals in sediments of Pullen Creek over time.

2.1.9. VESSELS AND NAVIGATION

Enforced by the USCG and USEPA, navigation within waters of the US is regulated by international, Federal, state, and local laws to preserve public safety. Vessels within the Port are subject to the following rules and regulations to maintain safe navigation and protect environmental resources within navigable waters:

- International Convention for the Prevention of Marine Pollution from Ships (MARPOL)
- Navigational Rules for International Waters (COMDTINST M16672.2D)
- National Pollutant Discharge Elimination System (NPDES) Vessel General Permit (VGP)
- Title I Permit Program of the Marine Protection, Research, and Sanctuaries Act (MPRSA)
- CWA
- SMC Title 12 Harbors and Ports

The Port Commission serves as the Port Authority for Skagway. Under SMC Title 12, the Harbormaster is responsible for the management, operation, and maintenance of the Small Boat Harbor and the municipality's side of the ferry/barge facility (Municipality 2017).

In addition to these regulations, vessel BMPs can reduce the potential for polluted discharge to leave a vessel. BMPs should be implemented for vessel operations and maintenance including but not limited to the following activities: hull cleaning, deck washdown, vessel maintenance, anti-fouling hull coating, and sewage handling. For proposed projects that maximize or increase the use of Port infrastructure, these rules and regulations should be understood and considered to minimize impacts to vessel traffic and reduce the risk of accidents.

2.1.10. VISUAL AESTHETICS

View corridors along the Skagway waterfront include those from the downtown corridor out into the harbor and incorporate:

- Cruise and commercial vessels at Ore and Broadway Docks
- Ferries and day activity tourism vessels at the AMHS Terminal
- Supply vessels at the AML Barge Dock and Broadway Dock
- Commercial fishing, tourism, and recreational boats from the SBH
- Cruise ships at the WP&YR Railroad Dock
- Helicopters arriving and departing from the TEMSCO Helicopters Inc. (TEMSCO is an acronym for Timber, Exploration, Mining, Survey, Cargo Operations) facility
- Small aircraft arriving and departing from the airport



- Upland industrial activities and storage (ore ship loader at Ore Dock, fuel tanks at Petro Marine, supplies and containers being loaded and unloaded by AML)
- Upland boat storage and SBH support facilities
- Upland TEMSCO and airport facilities
- Upland WP&YR rail tracks
- Pullen Creek Shoreline Park

Most regulations, with respect to view corridors, apply to proposed construction or reconstruction (i.e. SMC). For proposed projects where substantial changes to existing views are anticipated, further review may be required as outlined in Section 2.2.

2.1.11. WASTEWATER MANAGEMENT

Discharge of waste (pollutants) into a receiving body of water, landfill, etc. is regulated at the Federal level by the NPDES Program under the CWA. Examples of waste streams typically covered by NPDES include: municipal wastewater, industrial wastewater, municipal stormwater, and industrial stormwater. These permits are overseen by the USEPA and can be issued to an individual facility (individual permit) or to a group of facilities (general permit) with similar characteristics. NPDES permits are issued for a maximum five-year period, after which, facilities need to apply for renewal.

In 2012, the NPDES permitting authority was transferred to the ADEC under CWA section 402(b); the ADEC now has authority to administer the NPDES program with USEPA oversight. The ADEC administers this through the APDES Program with requirements set forth in 18 AAC 72. The APDES program includes the following:

- APDES permitting
- Compliance monitoring and enforcement
- Federal facility permitting
- Pretreatment program

Violation of APDES permit conditions and non-permitted waste discharges can result in civil or criminal liability under State law.

The Municipality owns and operates one municipal wastewater outfall under an NPDES permit within the Port Area, which is further described in Section 3.1.4. Other property owners and leasers must also ensure that NPDES coverage is acquired and maintained for operational and construction activities that require coverage (see Section 3 for more details).

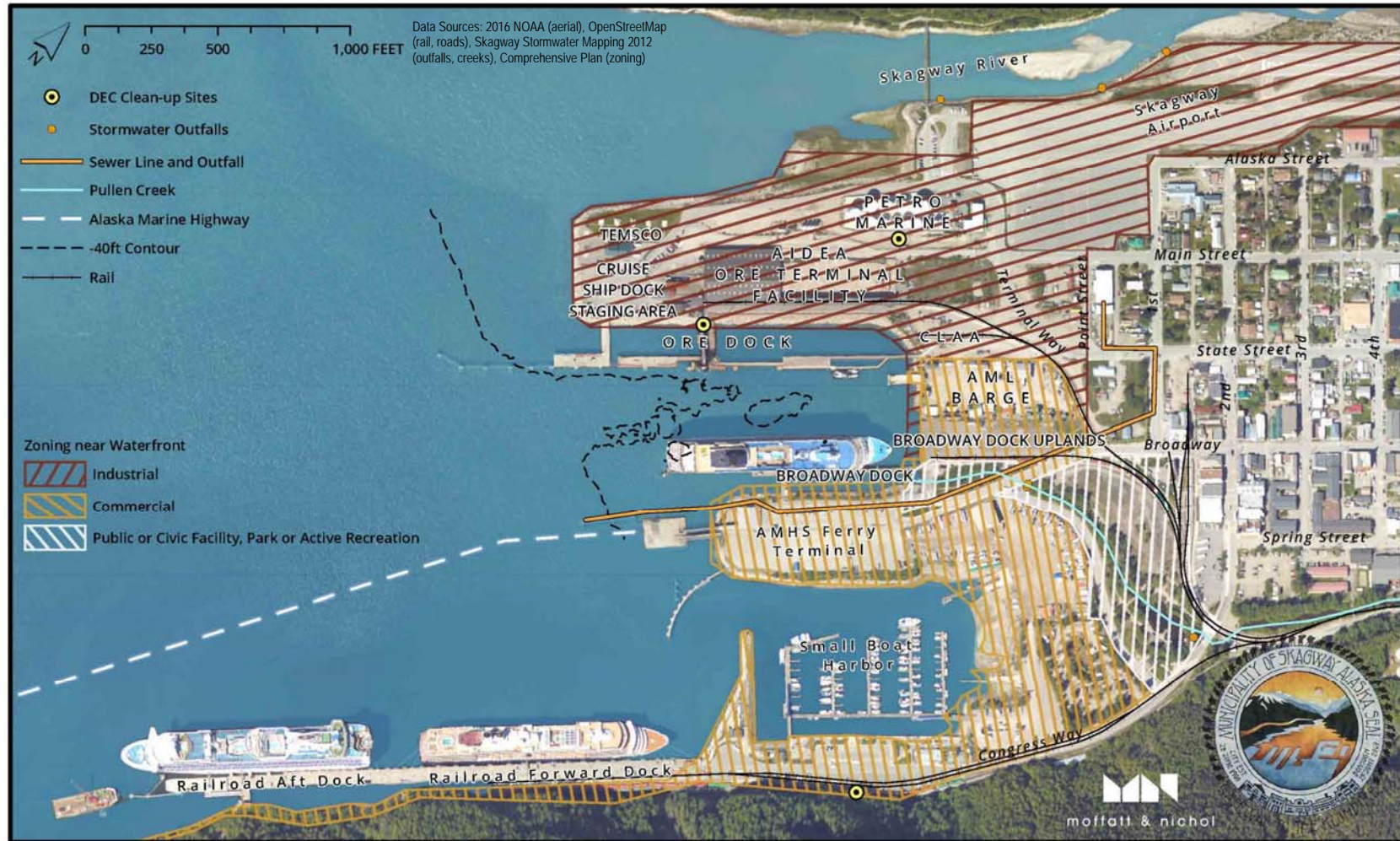


FIGURE 2-1. PORT AREA LAND USE ZONING



2.2. CONSTRUCTION AND DEVELOPMENT

In-water and shoreline construction activities, ranging from simple short-term repairs to more complex redevelopment, must comply with Federal, State, and Municipal regulatory laws before construction can begin. Each regulatory agency has statutory responsibility for certain aspects of environmental protection and for regulating activities to avoid, minimize or mitigate for potential adverse environmental impacts that could result during construction or eventual operation of the completed facility/infrastructure. Impacts include those that can affect not only the biological environment, but also the physical environment (existing shoreline and adjacent uses) and human environment (impacts to public access, in-air noise, existing traffic and parking patterns).

2.2.1. FEDERAL, STATE, AND MUNICIPAL REGULATIONS

At the Federal level, three critical regulations pertinent to waterfront projects include the National Environmental Policy Act (NEPA), CWA, and the CAA. Both the CWA and CCA have already been discussed in Section 2. NEPA was signed into law on January 1, 1970 due to a nationwide response that Federal agencies should provide greater protection to the environment and establishes a public process whereby parties are identified and opinions solicited on the proposed action. Federal agencies are required by NEPA to review proposed activities to assure consistency with NEPA.

For projects located on State, Municipal, or private property, NEPA review is required if there is a Federal nexus:

- If a project could affect air or water quality regulated by Federal law (i.e. if a permit is required from a Federal agency such as the USACE); or,
- If the project will be funded in part or in whole by Federal money.

Examples of Federal agencies that could or have taken lead NEPA roles include:

- Bureau of Land Management (BLM), NPS
- EPA, USFS, NOAA's National Marine Fisheries Service (NMFS), USACE
- US Department of Transportation (DOT), including US Maritime Administration (MARAD) and the Federal Highway Administration (FHWA)

An action may be "categorically excluded" (a Categorical Exclusion is also known as a CATEX) from a more detailed analysis if the action does not "individually or cumulatively have a significant effect on the human environment" (40 CFR 1508.4). If a CATEX does not apply to a proposed activity, a more detailed analysis may be required. An Environmental Assessment (EA) is completed to determine whether a Federal action could cause significant environmental effects. If not, a Finding of No Significant Impact (FONSI) is issued. If impacts will be significant, an Environmental Impact Statement (EIS) must be completed. An EIS can take substantially more time to complete than an EA and can extend a project schedule by many months or years. NEPA analysis must consider direct, indirect, and cumulative impacts on the affected environment. This can result in consideration of impacts on a broad range of resources, including (but not limited to): water and air quality; species and habitat; sediments and soils, vehicular traffic and pedestrian movement; vessel navigation; historic and cultural sites, and social and economic attributes (impacts to business, housing, property values, etc.).

In addition to NEPA, the CWA, and the CAA, other Federal regulations that have already been identified in this report include the Migratory Bird Treaty Act (MBTA), ESA, the MPRSA, and MMPA can all require analysis and project approval (i.e. a permit), prior to project construction. Regulations applicable to the waterfront, not already described in this report, include (but are not limited to):

- **Rivers and Harbors Act:** Section 10 of the Rivers and Harbors prohibits the obstruction or alteration of navigable waters of the US without a permit from the USACE.
- **Magnuson-Stevens Fishery Conservation and Management Act:** The Sustainable Fisheries Act of 1996 amended the Magnuson-Stevens Act establishes requirements for essential fish habitat (EFH) for commercially important fish. EFH is defined by the Act as "those waters and substrate necessary to fish for spawning, breeding,



feeding, or growth to maturity.” The Skagway River and Pullen Creek are designated as EFH, providing important habitat for spawning, breeding, and foraging fish.

- **National Historic Preservation Act (NHPA):** Section 106 of the NHPA requires that Federally assisted or permitted projects account for the potential effects on sites, districts, buildings, structures, or objects that are included in or eligible for inclusion in the National Register of Historic Places.

At the State level, DNR is responsible for management and regulation of State of Alaska Lands, including tidelands. The Office of History and Archaeology (OHA) and State Historic Preservation Office (SHPO) encourage protection of Alaska’s cultural and historic resources. The OHA reviews projects under Section 106 of the NHPA and the Alaska Historic Preservation Act (AS 41.35.070). ADF&G consults with DNR on habitat permits and authorizations and protects freshwater anadromous fish habitat.

Local governments are authorized under Alaska Title 29 and includes Comprehensive Planning documents and Municipal Codes.

2.2.2. REVIEWS, PERMITS AND AUTHORIZATIONS

Federal, State, and Municipal regulatory agencies, ensure that activities comply with applicable regulations. Relevant permits and approvals that could be required for waterfront construction, whether they be maintenance and repair, or short- or long-term activities, are discussed below and listed in Table 2-4.

2.2.2.1. Maintenance and Repair

Maintenance and repairs of an existing structure or facility, where the use is not anticipated to change and adverse impacts to the environment are likely to be minimal, can often be permitted relatively quickly. The following streamlined processes may apply:

- If a project has a Federal nexus (i.e. requires a Federal permit or is Federally funded) maintenance and repair activities may be categorically excluded under NEPA.
- Common in-water activities that require a USACE Permit can be permitted through a Regional General Permit (GP), Nationwide Permit (NWP), or a Letter of Permission (LOP). To qualify for a GP or NWP, applicants must comply with conditions and BMPs specified for that permit. Common NWPs include:
 - No. 3 Maintenance (applicable for some sediment removal, does not authorize maintenance dredging for the primary purpose of navigation, beach authorization, or new stream channelization/relocation).
 - No. 7 Outfall Structures and Associated Intake Structures
 - No. 13 Bank Stabilization
 - NWP 19 Minor Dredging (authorizes no more than 25 cubic yards of material).
 - No. 27 Aquatic Habitat Restoration, Enhancement, and Establishment Activities
 - No. 28 Modifications to Existing Marinas
 - No. 36 Boat Ramps
 - No. 38 Cleanup of Hazardous and Toxic Waste
 - No. 43 Stormwater Management Facilities
 - No. 54 Living Shorelines

An LOP is issued through a similar process to that for an Individual Permit but is expedited. LOPs are issued when the activity is determined to be relatively minor.

- ADEC reviews and issues Section 401 Water Quality Certifications (WQCs) on GPs and NWPs and individual project WQCs are waived.
- Local variances, conditional use, and building permits from the Municipality may also be required depending on project elements and location.



The timeframe to permit a maintenance and repair project can still, however, take time to complete (often between 3 and 8 months to develop, submit, and obtain permits) depending on the project site, elements, and potential impact. Emergency permits can be obtained in instances which qualify as an emergency. In the case of a USACE Permit, a situation which would result in an unacceptable hazard to life or property, and economic hardship if corrective action is not taken, may qualify for an Emergency Permit. Emergency authorizations are made on a case-by-case basis and cannot be used to authorize work if an applicant has known about the deficient condition and has not made reasonable attempts to secure repair permits.

2.2.2.2. Short- and Long-term Projects

For modifications to an existing use and/or structure that could result in short- or long-term impacts (from construction activities or future operations), more detailed analysis is required and avoidance measures and mitigation may be necessary. For example, if the footprint of the dock, or the number of existing piles, were to increase, justification for that increase and compensatory mitigation may be required. This can result in the need for field surveys to assess potential temporary and/or permanent impacts on biological resources in the area (i.e. macroalgae or benthic studies, sediment characterization, wetland delineations, in-air and in-water noise analysis, etc.). More complex projects can take upwards of 12 to 24 months to permit depending on the necessary investigations and reviews, which could include:

- A more extensive NEPA review involving an EA or EIS (if there is a federal nexus and NEPA is required).
- A USACE Individual Permit under Section 10 or 404. Section 404 of the CWA authorizes the USACE to permit the discharge of dredged or fill material into waters of the US at specified sites. Unpermitted placement sites are evaluated and authorized through Section 404(b)(1) guidelines.
- Informal consultation with NMFS and/or the US Fish and Wildlife Service (USFWS), required under Section 7 of the ESA may be required, and a Biological Assessment prepared. If adverse effects on ESA-listed species or their critical habitat are likely, formal consultation with NMFS and/or USFWS may be necessary (takes much longer than informal consultation).
- An Incidental Harassment Authorization (IHA) or Letter of Authorization (LOA) under the MMPA or ESA if “take” is likely. This is currently a common authorization for projects which propose pile driving of large piles where substantial behavioral take is likely.
- State permits may include: an ADEC WQC for discharges into waters of the US (i.e. excavation and fill or dredge material disposal), DNR tidelands leases or permits, an ADF&G Fish Habitat Permit for work within an anadromous stream, or an ADEC Construction General Permit for stormwater discharges.
- Local variances, conditional use, and building permits from the Municipality may also be required depending on project elements and location. Development is anticipated to promote transshipment use and water-based tourism and would be consistent with the SCMP regarding the Port AMSA. Consistency review with the CZMA may be required if in-water work or dredge/fill operations are proposed as they require State and Federal permits.

Dredging and Dredge Material Disposal

The MPRSA was introduced briefly in Section 2.1.3.1 with respect to contaminated sediments. However, the Act is applicable to the disposal of dredged material into ocean waters that are within about 3 miles of shore.

- Section 102 authorizes the Administrator of the USEPA to promulgate the ocean dumping criteria, to designate recommended ocean disposal sites, and to issue permits for dumping of materials into ocean waters (the USACE also permits dredged material disposal). Only the USEPA can designate a multi-episode, ocean dredged material disposal site (ODMDS) under Section 102 of the MPRSA. No existing ODMDS are located near Skagway.
- Section 103 of the MPRSA requires that the USACE use dredged material disposal sites designated by USEPA to the maximum extent feasible. If an EPA-designated site does not exist, it authorizes the Secretary of the Army with the concurrence of USEPA, to select an alternative site and issue a permit for a one-time action or project disposal



as a short-term solution. Disposal must meet the environmental criteria established by the USEPA (material must be deemed clean and acceptable for open water placement).

The USACE issues permits for dredge and disposal (or fill) activities under one or more of the following three separate authorities, with other federal and state agencies providing concurrence of the process.

- Section 10 of the Rivers and Harbors Act (also described above), which applies to work in navigable waters of the US defined as tidal waters seaward of the mean high tide elevation;
- Section 404 of the CWA, which applies to placement of fill or dredged material in wetlands or waters of the US, with particular emphasis on avoidance of degradation of water quality, aquatic vegetation or wildlife. The USEPA and other federal resource agencies including the USFWS and NMFS consider impacts to aquatic vegetation, shellfish, sediment transport, and water quality when conditioning this permit. In addition, ADEC regulates dredging and disposal through the Section 401 WQC program.
- Section 103 of the MPRSA, with particular emphasis on prevention of dumping that would adversely affect human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities.

If the disposal of dredge material can be shown to have a beneficial reuse potential (i.e. for use to stabilize a shoreline or for use at an upland site), then the Section 103 site designation could be replaced with Section 404 of the CWA. This is a much more streamlined process than permitting a new ODMS or a one-time use site using Section 103.

Sediment testing is often required to permit dredge material disposal (depends on the placement site), and, in some cases, field studies may also be required to assess how material placement may impact a site.

2.2.3. ENVIRONMENTAL CONSIDERATIONS FOR GRANTS

Projects awarded full or partial Federal funding require compliance with Federal regulations. Compliance with NEPA is required even if a Federal permit (i.e. USACE Permit) is not. This could be the case for upland-only improvements funded by Federal grants, such as the Transportation Investment Generating Economic Recovery, Discretionary Grant (TIGER) program.



TABLE 2-4. PERMITS AND AUTHORIZATIONS FOR WATERFRONT CONSTRUCTION ACTIVITIES

Process or Permit	Agency with Jurisdiction	Repairs and Maintenance	Short-term Projects	Long-term Projects
NEPA Review	Federal Agency such as (USACE, MARAD, NMFS, USEPA)	CATEX	CATEX or EA	EA or EIS
Section 10/404 USACE Permit	USACE	GP, NWP, LOP	GP, NWP, LOP, Individual Permit	
Section 401 WQC	ADEC – Division of Water	WQC may be required for in-water fill activities. NWP WQC waivers unlikely in 303(d) listed water bodies.		
IHA	NMFS or USFWS for ESA-listed species NMFS for species protected under the MMPA	–	Activity and location dependent. May be required for pile driving projects.	
NPDES Stormwater Construction Permit	ADEC – Division of Water	Required if land disturbance is greater than 1 acre and where discharges enter waters of the US.		
Air Permit for Construction	ADEC – Division of Air Quality	Required if fugitive dust from construction is anticipated.		
Fish Habitat Permit	ADF&G	Required for work within an anadromous stream.		
CZMA	No designated State agency. Agencies may review for consistency as part of other permits (i.e. USACE or ADEC, Municipality).	Consistency Review as part of the USACE Permit, or as part of the Municipality's Waterfront Zoning and Conditional Use Permits		
Tidelands Lease/Permit, Land Use Permit	DNR	Activity and location dependent.		
Municipal Permits	Municipality	Waterfront Zoning Permit, Conditional Use Permit, Variance Permit, Building Permit, etc.		



3. REGULATORY COMPLIANCE FOR EXISTING OPERATIONS

As stated in Section 1, the Municipality owns, manages, and/or leases property along the Skagway waterfront, including a year-round deep water and a small boat harbor. Several companies own docks or lease facilities from the Municipality or WP&YR within the waterfront (Figure 1-2). These facilities and the permits required to continue operations are described in the following sections. A summary of facility permits for waterfront facilities located on Municipality property can be found in Table 3-1.

Although not all facilities require permits for their ongoing operations, all are still required to comply with applicable Federal, State and Municipal regulations. This requirement is also stated in lease documents. Facilities continue to monitor their operations regularly to ensure ongoing compliance with environmental regulations.

TABLE 3-1. PERMITS/ORDERS/REGISTRATIONS FOR EXISTING WATERFRONT OPERATIONS

Facility	Permit/Order	Authorizing Agency	Reporting Requirements
<i>Air</i>			
Skagway Bulk Fuel Terminal	Owner Requested Limit	ADEC – Division of Air Quality	Annually as specific in the Permit. Report exceedances that create risks as soon as possible and excess emissions within 30 days of the end of the month of the occurrence.
Skagway Ore Terminal	Owner Requested Limit	ADEC – Division of Air Quality	Annually as specific in the Permit. Report exceedances that create risks as soon as possible and excess emissions within 30 days of the end of the month of the occurrence.
<i>Hazardous Materials</i>			
Petro Marine Skagway Truck Rack	Site Clean Up Plan	ADEC – Spill Prevention and Response, Contaminated Sites Program	Periodic reports of sampling.
Skagway Ore Terminal	Compliance Order	ADEC – Spill Prevention and Response, Contaminated Sites Program	Periodic reports of sampling.
<i>Water</i>			
Small Boat Harbor	MSGP	ADEC – Division of Water	Refer to facility SWPPP*
Skagway Bulk Plant	MSGP	ADEC – Division of Water	Refer to facility SWPPP*
Skagway Ferry Terminal	MSGP	ADEC – Division of Water	Refer to facility SWPPP*
Skagway Wastewater Treatment Plant (WWTP)	Individual NPDES Permit	USEPA Region 10, with reviews and approvals from ADEC – Division of Water and ADEC Division of Governmental Coordination	Monthly and annually as described in Permit. Non-compliance instances to be reported within 24 hours.
Skagway Ore Terminal	Registration	USEPA Registration for an Authorized by Rule Class V Injection Well via ADEC – Division of Water	–

* Reporting requirements are identified in different facility SWPPPs (available from individual facility managers or tenants).



3.1. BULK AND CARGO

3.1.1. ORE DOCK AND TERMINAL

The 40-ft draft Ore Dock is one of three docks within the Port Area that can accommodate large vessels. The Municipality owns the property and tidelands that the dock is located upon, while WP&YR owns the dock infrastructure.

The Ore Dock, originally constructed in 1969, is part of the SOT, which was reconstructed in the early and mid-2000s to offload, store, and load bulk mine products onto vessels. The SOT includes the following elements:

- About 6.7 acres of adjacent upland, leased by AIDEA from the Municipality, which includes a storage building, office, shop, laboratory, electrical buildings, and wash buildings.
- Enclosed materials-handling load out conveyors and a ship loader.
- An adjacent 0.37-acre lot. AIDEA owns a fueling facility and tank farm at this location.



Ore Dock at Skagway Ore Terminal and Shiploader

AIDEA is a public corporation of the State, created to promote prosperity and employment. AIDEA signed a 7-year contract with the Municipality in 2007 for use of the upland area to handle and ship copper ore concentrate from the Minto Copper Mine in the Yukon Territory, near Carmacks, north of Whitehorse, Canada. AIDEA has a sublease with WP&YR for use of the Ore Dock.

Mineral Services Inc. (MSI) is the terminal operator for Minto Explorations Ltd., a subsidiary of Capstone Mining Corp. (previously Sherwood Copper Corp.) who owns and operates the Minto Mine Site and the Ore Dock operations for AIDEA. The Minto Mine has been operational since 2007 and is expected to continue producing for at least another 4 years. The mine historically produced an average of 360,000 to 400,000 MT of ore concentrate per year, with some year's production reaching 600,000 MT. Currently, approximately 60,000 MT of ore concentrate is moved per year, 6 shipments of approximately 10,000 MT each. The ore concentrate is transported from the Minto Mine to the Ore Dock in side-dump trucks, with tarp covers, that carry 48 to 49 MT each. The loading rate for the shiploader is about 1,500 tons per hour. A bulldozer is used to level off the ore concentrate in the hold of the ships at berth.

The Minto Mine operates all year except for 6 weeks in the fall and spring when there is no access across the Yukon River. During the summer, ore concentrate is transported across the river in barges and in winter over an ice bridge. There is an existing shed located at the Ore Dock, which has a 26,000 MT capacity, adequate for slightly more than two shipments. The facility is walled with trucks dumping the ore concentrate over the wall into the shed.

Facility permits or registrations include:

- ADEC Air Permit (issued 2007) held by AIDEA as the owner and Minto Explorations Ltd; Sherwood Copper Corporation as the operator. The Owner Requested Limit of the Permit is for release to a maximum of 15 tons of fugitive dust (less than PM₁₀) per 12 consecutive months.
- USEPA Registration for an Authorized by Rule Class V Injection Well via ADEC (issued 2007) held by AIDEA as the owner. Wells are infiltration bed type, for stormwater runoff and treated stormwater infiltrating into site buildings and facilities. Treated discharge must meet ADEC limits. Class V wells are used to inject non-hazardous fluids underground.

In addition to the above operational permits, all vessels must comply with applicable vessel regulations (refer to section 2.1.9 for a description). The Ore Dock is also undergoing site investigation and cleanup, as described in Section 2.1.3.



Berthing conflicts do arise with cruise ships that need to use Ore Dock or Broadway Dock, and AML barges that use the AML Barge Dock, or Petro Marine fuel barges. These conflicts happen sporadically, usually between July and September (D. Hunz personal communications, April 26, 2017). The ore concentrate ships give priority to the cruise vessels and adjust their arrival time to ensure minimal waiting time. They do this by coordinating and visiting other regional ports to avoid the cruise ships at Ore Dock. Both the Ore Dock and Broadway Dock must be available to berth an ore concentrate ship at Ore Dock (D. Hunz personal communications, April 26, 2017). Berthing conflicts can also occur from tide conflicts and ships calling at the Broadway Dock.

3.1.2. ORE DOCK FUEL DEPOT

Petro Marine (d.b.a. Harbor Marine Services, Inc.) operates the marine fuel depot located near the mid-point of the Ore Dock. The Skagway facility consists of 12 above ground fuel tanks, which handle diesel fuel, gasoline, jet fuel, and aviation gasoline. Petro Marine moves 30 million gallons of fuel annually supplying bulk fuel to the community and local businesses, and ships fuel throughout Southeast Alaska. Petro Marine coordinates deliveries around cruise ship landings and they currently get deliveries roughly every 3-4 weeks (M. Lindsay personal communications, January 17, 2017). All fuel arrives in Skagway on barges and is loaded at pipeline infrastructure located close to the ore concentrate loader.



Petro Marine Services AGTs

Facility permits or registrations include:

- ADEC Air Permit (issued 2007) held by Petro Marine Services as the owner/operator. The Owner Requested Limit of the Permit is for no more than 9,000,000 gallons per 12 consecutive months.
- ADEC MSGP for stormwater discharge from the Skagway Bulk Plant. The conditions of this permit require Petro Marine to follow a SWPPP for their facility to reduce stormwater pollution.

Petro Marine is also required to meet USEPA and ADEC requirements for their aboveground storage tanks including following and maintaining a SPCC plan as well as an oil discharge and spill contingency plan. In addition to the above operational permits, all vessels must comply with applicable vessel regulations (refer to section 2.1.9 for a description). The final phase of site monitoring is ongoing for the Petro Marine Skagway Truck Rack as described in Section 2.1.3.

3.1.3. ALASKA MARINE LINES BARGE DOCK

AML operates at the north end of the Ore Dock area, at a separate dock situated between the Ore Dock and the Broadway Dock, specifically for their operations. The approach dock forming the AML ramp was constructed in 2001 to a high standard for loaded forklifts. AML subleases just over 2.5-acres of upland property from WP&YR along with the adjacent dock structure.

AML's weekly barge service arrives in Skagway every Monday. They provide service for a variety of commodities, serving both the local community with all foodstuffs, building materials, retail items for the shops, and other supplies.

Transports can also include helicopters, locomotives, and vehicles. They also work closely with the mining industry in the Yukon for materials and heavy equipment needed for construction and operation of the mines. AML has exported lead and zinc concentrate from the Keno Mine at the facility in the past. This activity is currently limited (although it may start up again in the future). At present, AML is used to import



AML Barge (located to the right of Ore Dock)



supplies to Skagway and for the mining companies. No facility-specific permits or registrations were identified and AML regularly monitors their facility to ensure ongoing compliance with existing environmental regulations (C. Bricker personal communications, July 12, 2017).

3.2. WATERBORNE TRANSPORTATION

3.2.1. ORE DOCK

The Ore Dock is also used to berth cruise ships visiting Skagway. No operational permits are required to specifically continue this use at this facility. During 2000, a construction project added a 235-foot by 50-foot HS20-44 concrete dock at the extreme south end of the dock to better serve cruise ships. The 2000 construction added additional breasting dolphins and a new end dolphin to the Ore Dock. The overall usable face length of the Ore Dock is about 1,600 ft. The older wood pile passenger platforms on the Ore Dock, dating from 1969, cannot be used for any cargo transfer due to light duty construction.

As stated in Section 3.1.1, berthing conflicts do arise, although the cruise ships are given priority. The Ore Dock is also undergoing site investigation and cleanup (described in Section 2.1.3).

No facility permits or registrations were identified although all vessels must comply with applicable vessel regulations (refer to section 2.1.9 for a description).

3.2.2. BROADWAY DOCK

The Broadway Dock was constructed as a light duty, 300-foot by 44-foot wide, cruise ship dock with limited capability for cargo. The dock is now only suitable for cruise ship berthing, the useable berth length extended to accommodate 960-foot long cruise ships in 2006. The Broadway Dock is also heavily used during the summer tourist season.

No facility permits or registrations were identified although all vessels must comply with applicable vessel regulations (refer to section 2.1.9 for a description).

3.2.3. ALASKA MARINE HIGHWAY DOCK AND FACILITIES

The AMHS provides an important marine link for Southeast Alaska communities, such as Skagway. This is particularly critical as flights in Skagway are often cancelled due to inclement weather. The Skagway AMHS facility is located on the Broadway Dock fill area and includes a parking lot, waiting-room and office-building, and a floating dock which is owned jointly with the Municipality. As of 2017, there are four AMHS ferry vessels serving the Municipality; MV Columbia, MV Fairweather, MV LeConte, and MV Matanuska (McDowell Group 2016).

Facility permits or registrations include:

- ADEC MSGP for stormwater discharge from terminal uplands. The conditions of this permit require AMHS to follow a Stormwater Pollution Prevention Plan (SWPPP) for their facility to reduce stormwater pollution.

A new Alaska Class ferry is under construction and is scheduled for delivery in 2018 (ADOT&PF 2017a). The ferries transport both passengers and vehicles. Long range plans are for a stern mooring arrangement in Skagway.

As part of the ADOT&PF has a state-wide Environmental Management Office responsible for environmental compliance of its facilities (ADEC 2017b).



Broadway Dock with AMHS Terminal in Background



3.2.5. COMMERCIAL FISHING AND RECREATION

3.2.5.1. *Small Boat Harbor*

The SBH is located at the south end of the Skagway waterfront, protected by land on one side and a breakwater on the other. The 127 slip SBH supports commercial fishing (about three local vessels) and tourism (charter fishing operations and tourism charters). There is additional linear moorage for transient day boats, fishing vessels, small cruise vessels, and sailboats. The SBH is used heavily during summer months for tourism related activities. In the winter, many users prefer to dry dock their vessels in the adjacent upland storage site.

The SBH handles storage for the fishing fleet for other parts of Alaska, Skagway having a more temperate climate compared to other areas, with both water and road access. Canadians and other transient vessel operators also use the SBH. Storage facilities include areas for boat maintenance (haul out), a new boat building facility to encourage marine trades, a boat wash, and a boat ramp. There is one sewage pump out facility located within the basin.

Facility permits or registrations are similar to other boat harbors in the State and include:

- ADEC MSGP for stormwater discharge from SBH uplands. The conditions of this permit require SBH to follow a SWPPP for their facility to reduce stormwater pollution.

All vessels must also comply with applicable vessel regulations (refer to section 2.1.9 for a description). Regulations pertaining to boat maintenance and repair must be adhered to by both the facility and users. Alaska Clean Harbors (ACH) will provide boat owners and harbor staff with ideas and suggestions on how to perform these activities while minimizing the impacts on our marine environment (ACH 2017).



Small Boat Harbor

3.3. OTHER

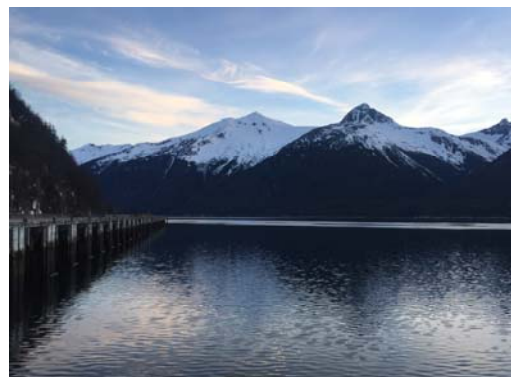
3.3.1. WHITE PASS & YUKON ROUTE

The WP&YR currently operates legacy excursion rail service out of Skagway. The excursion trips originate near the waterfront and extend north to Carcross, Yukon.

3.3.1.1. *Railroad Dock*

The WP&YR owns the Railroad Dock and leases some of the underlying tidelands beneath it. The dock is 1,825 ft long with additional breasting dolphins that provide for berthing of two cruise ships currently serving the Alaska market. The Railroad Dock is made up of two distinct docks (North Dock and South Dock), joined by a short steel plate.

- **Railroad Forward Dock:** The north 800 ft of the Railroad Dock is a heavy-duty freight dock (800 ft long by 100 ft wide) designed to sustain a HS20-44 truck loading (Alaska bridge loading) or the punching load of a 60-ton axle forklift load. A single railroad track with a third rail for standard gauge operations, is located on the back side of the dock constructed to the railroad Cooper E-80 loading (heavy railroad loads). The on-dock rail is connected to the WP&YR by a track north of Congress Way. The north portion of the Railroad Dock is well suited to the heavy



WP&YR Railroad Dock



freight transfer operations for ship to rail or truck. The minimum draft alongside the Railroad Dock is 36-ft at the head of the dock and becomes progressively deeper towards the open inlet end.

- **Railroad Aft Dock:** The South Dock is 784 ft long and is built to a lighter standard. It is still capable of HS20-44 loading, but not heavy forklift loading. There is no railroad track on this dock. The South Dock is only 50 ft wide, and is therefore constrained in its use by its width.

No facility-specific permits or registrations were identified for Municipality-owned properties leased to WP&YR although all vessels must comply with applicable vessel regulations (refer to section 2.1.9 for a description). Site cleanup and monitoring is ongoing for the Skagway Wharf Tank Area as described in Section 2.1.3. WP&YR also reviews operations for their properties and facilities (including rail) regularly to ensure environmental compliance.

3.3.1.2. Rail

Rail passenger service begins at the Skagway Depot on 2nd Avenue. Passenger rail cars are stored either south of 2nd or at the WP&YR shops on the north edge of the Town. A spur track extends behind the north section of the Ore Dock.

All street-railroad crossings in Skagway are at-grade. Crossings in the Port Area have crossbuck signage (“X” signs for traffic) for crossing protection. The railway does not have fencing or other obstructions to impede trespass or crossing of the railway.

Rail cars stored south of the Depot are moved across Broadway Street. Trains serving the Depot cross Congress Way north of the Depot. There is an existing pedestrian path along the south edge of the track to the south.

3.3.2. TEMSCO

TEMSCO leases upland property on the Ore Dock peninsula from WP&YR and have been located at this site since 2001. TEMSCO currently operates seven helicopters and offers two primary tours during the summer season. One pilot flies out of the Skagway facility year-round.

TEMSCO benefits from cruise ship use of the Ore Dock as passengers load and unload close to their facility. Conflicts between TEMSCO and other operations appear to be rare. The nearby Skagway Airport does not have a Federal Aviation Administration (FAA) tower but pilots for both the airport and TEMSCO communicate directly with each other over radio. In addition, site location provides adequate flight path room for the helicopters and minimizes noise disturbance to downtown residents (Healy and Reichert personal communications, April 28, 2017; M. Tyson personal communications, April 28, 2017).



TEMSCO Helicopters with Ore Terminal in Background

Facility permits or registrations include:

- FAA Operating Permit (inspections once a year)
- ADEC Permit for an onsite septic tank
- ADEC Permit for above-ground fuel storage

3.3.3. UTILITIES

3.3.3.1. Wastewater Outfalls

The Municipality owns and operates a wastewater treatment plant (WWTP) located on Point Street, Northeast of the Ore Dock. The plant was constructed in 2010 to replace an aging plant that had issues with BOD (biochemical oxygen demand) and fecal coliform levels. The WWTP discharges into Taiya Inlet through an outfall located Southwest of the AMHS Ferry Berth and currently accommodates up to 250,000 gallons/day with a maximum of 350,000 to 400,000 gallons/day. Compliance with NPDES discharge permit conditions is required for the continued operation of the plant.



The Municipality permit for this facility was originally issued in 1974 and has been updated since this time. The current permit was issued in 2002 through 2007 and was continued in October of 2007 (USEPA 2017b). The Municipality conducts ongoing monitoring as specified in their permit. Since the construction of the upgraded facility, no exceedances have occurred (Municipality 2017).

3.3.3.2. Stormwater Outfalls

The Municipality stormwater system discharges into Taiya inlet through (3) outfalls located near the airport and (11) outfalls discharging into Pullen Creek (Skagway Stormwater Mapping available in TIWC 2012). Additionally, Petro Marine and AMHS both hold MSGPs for industrial stormwater discharge in Skagway. These permits authorize both companies to discharge stormwater from their waterfront facilities into Taiya Inlet. Compliance with the MSGP for stormwater discharge is required for continued operations at these locations and requires implementation of SWPPPs previously approved by the ADEC as part of these permits.



Pullen Creek Outfall and Broadway Dock



4. REGULATORY COMPLIANCE FOR PROPOSED OPERATIONS

This section considers how proposed changes to the waterfront could impact environmental regulatory compliance. Projects and modifications to existing operations could include:

- General maintenance and repair;
- Short-term improvements or projects that could occur within the Port Planning Area over the next 5 years; and,
- Long-term improvements or projects that could occur within the Port Planning Area over the next 10 to 20 years.
- Considerations of adjacent operations.

Examples and scenarios of each are provided in the following sections to better describe:

- The different types of construction and development permits and approvals required to complete the work; and,
- How changes to existing uses may result in changes to approved thresholds under existing operational permits, thereby requiring additional or modified coverage for that permit or approval.

Possible construction (temporary) and operational (long-term) BMPs are identified and summarized in Table 4-1 and Table 4-2, and a brief discussion of how the regulatory environment may change in the future and how these changes could impact existing and proposed operations is included in Section 4.6.



TABLE 4-1. SUMMARY OF POSSIBLE OPERATIONAL BMPS

Possible BMPs That Could Be Included in an Operational Permit *	Triggering Activity	Regulating Agency/Permit, if Applicable
<i>Air</i>		
Minimize discharge to meet a specific threshold.	Operational activities that could exceed maximum discharge thresholds.	ADEC – Air, Operating Permit
Inspect air pollution control equipment prior to initial start-up to ensure effective system operations. Maintain maintenance logs on all equipment.	Operating equipment that emit or remove air pollutants	ADEC – Air, Operating Permit
Report all emissions or operations that exceed or deviate from the requirements of the permit conditions.	Operational activities that could exceed maximum discharge thresholds.	ADEC – Air, Operating Permit
<i>Hazardous Materials</i>		
Develop and implement a SPCC Plan in accordance with permit conditions.	Operational activities that could exceed stormwater thresholds.	ADEC – Division of Water, MSGP Permit ADEC – Division of Water; Individual NPDES Permits
Minimize exposure of manufacturing, processing, and material storage areas to rain, snow, snowmelt, and rainfall to the greatest extent practicable.	Operational activities that could exceed stormwater thresholds.	ADEC – Division of Water, MSGP Permit
Train employees who work in areas where industrial materials or activities are exposed in control measures, monitoring, inspecting, planning, reporting, and documentation requirements of permit conditions.	Discharges associated with industrial activity.	ADEC – Division of Water, MSGP Permit
<i>Water Quality</i>		
Monitor water quality using the parameters and frequency requirements of permit conditions.	Discharges to receiving waters.	ADEC – Division of Water, MSGP Permit
Develop and implement a SWPPP.	Discharges associated with industrial activity.	ADEC – Division of Water, MSGP Permit
Keep exposed areas that are potential sources of pollutants clean, orderly, and labeled.	Operational activities that could exceed stormwater thresholds.	ADEC – Division of Water, MSGP Permit
Regularly inspect, test, maintain, and repair all industrial equipment and systems to avoid leaks, spills, or releases to receiving waters.	Operational activities that could exceed stormwater thresholds.	ADEC – Division of Water, MSGP Permit
Stabilize exposed areas and contain runoff using structural and/or non-structural control measures to minimize onsite erosion and sedimentation.	Operational activities that could exceed stormwater thresholds.	ADEC – Division of Water, MSGP Permit
Divert, infiltrate, reuse, contain, or otherwise reduce stormwater runoff to the greatest extent practicable.	Operational activities that could exceed stormwater thresholds.	ADEC – Division of Water, MSGP Permit

* These operational BMPs provide examples of conditions that may be required on individual operational permits. The list is not all-inclusive, as BMPs vary depending on the facility and activity, agency with jurisdiction, and site. They can change as regulations are upgraded and can be modified.



TABLE 4-2. SUMMARY OF POSSIBLE CONSTRUCTION BMPs

Possible BMPs That Could Be Included in NEPA or Construction Permits *	Triggering Activity	Regulating Agency/Permit, if Applicable
<i>Air</i>		
Minimize fugitive dust emissions using the best available control measures.	Construction activities that could exceed air quality thresholds.	ADEC – Air, Construction Permit
Locate equipment and materials storage sites away from sensitive receptors to the greatest extent practicable.	Heavy diesel equipment operation.	ADEC – Air, Construction Permit
Avoid peak travel times, if possible, to reduce congestion and related air quality impacts from idling vehicles (example BMP from non-Skagway project).	Heavy truck traffic.	NEPA EA or EIS
<i>Hazardous Materials</i>		
Develop and implement a Spill Prevention, Control, and Countermeasures (SPCC) Plan.	Construction activities that disturb over 1 acre of ground (that could result in a leak to enter surface waters).	ADEC – Division of Water, NPDES Construction Permit
Contractors will be trained in hazardous material handling and spill response and will be equipped with <i>appropriate</i> response tools, including absorbent oil booms.	General construction activities	ADEC – Division of Water, NPDES Construction Permit
If working within a listed contaminated soil/sediment site, coordination with the regulatory agency throughout the design and permitting process is critical.	Construction within an ADEC-listed contaminated site.	ADEC – Contaminated Sites Program
Fill material for in-water placement shall be clean and free from pollutants in toxic amounts.	Dredge and fill activities.	USACE, USEPA, ADEC – Division of Water (401 WQC, NPDES), MSGP
<i>Historical and Archaeological</i>		
Coordinate with STC prior to construction and notify if previously unknown historic or archeological remains are found.	Excavation activities.	SHPO Office per USACE Permit
Notify appropriate agency (usually USACE) and tribe if previously unknown historic/archeological remains are found. USACE will initiate Federal and State coordination and next steps.	Excavation activities.	USACE Permit, NEPA EA or EIS
<i>Noise</i>		
Minimize noise impacts with noise attenuation measures, such as pile cushions and bubble curtains, or minimizing construction activity outside of normal working hours.	In-water pile driving activities (depends on size, type, location).	NMFS via USACE Permit and/or IHA

* These construction BMPs provide examples of conditions that may be required on individual construction permits. The list is not all-inclusive, as BMPs vary depending on the project, agency with jurisdiction, and site. They can change as regulations are upgraded and can be modified on a project-by-project basis.



TABLE 4-2. SUMMARY OF POSSIBLE CONSTRUCTION BMPs (CONTINUED)

Possible BMPs That Could Be Included in NEPA or Construction Permits *	Triggering Activity	Regulating Agency/Permit, if Applicable
<i>Species and Habitat Protection</i>		
Marine mammal monitoring before and during in-water construction activities.	In-water construction activities.	NMFS via USACE Permit and/or IHA
Use of negotiated in-water work windows to avoid peak migratory periods for salmon, eulachon.	In-water construction activities.	NMFS via USACE Permit and/or IHA
Avoid pile driving if marine mammals are observed within 200 meters of the sound source, and pile driving shall cease until the marine mammals leave the area.	In-water pile driving activities (depends on size, type, location).	NMFS via USACE Permit and/or IHA
Follow marine mammal monitoring protocols.	In-water pile driving activities (depends on size, type, location).	NMFS via USACE Permit and/or IHA
No stockpiling of dredged material on the seafloor.	Dredge activities.	ADEC – Division of Water (401 WQC), USACE Permit
<i>Water Quality</i>		
Use effective turbidity controls (i.e. silt curtains) around in-water or shoreline construction areas to ensure compliance with ADEC water quality standards.	In-water construction activities.	USACE Permit, ADEC – Division of Water (401 WQC)
Remove piles slowly/evenly to minimize pile breakage and impacts to water quality.	In-water pile driving activities (depends on size, type, location).	USACE Permit, ADEC – Division of Water (401 WQC)
Drive piles using a vibratory hammer. If conditions require the use of an impact hammer, drive piles as deep as possible with vibratory hammer first.	In-water pile driving activities (depends on size, type, location).	NMFS via USACE Permit and/or IHA
Avoid tidal extremes to reduce the distance the suspended sediments travel	Water adjacent construction activities.	USACE Permit, ADEC – Division of Water (401 WQC)
No seafloor leveling by dragging the bucket or other device.	Dredge activities.	USACE Permit, ADEC – Division of Water (401 WQC)
Use of filter fabric over the barge scuppers to clear return water.	Dredge activities.	USACE Permit, ADEC – Division of Water (401 WQC)
Equipment and vessels will be inspected daily for leaks of fuel and oil in surface waters.	Water adjacent construction activities.	USACE Permit, ADEC – Division of Water (401 WQC), SWPPP, NPDES Construction Permit)

* These construction BMPs provide examples of conditions that may be required on individual construction permits. The list is not all-inclusive, as BMPs vary depending on the project, agency with jurisdiction, and site. They can change as regulations are upgraded and can be modified on a project-by-project basis.



4.1. MAINTENANCE AND REPAIR

Regardless of the facility use (whether it be for the Ore Dock, Broadway Dock, or the SBH) maintaining existing facilities at the Port waterfront requires compliance with environmental regulations and permits and approvals from Federal, State, and Municipal agencies. Maintenance and repair does not substantially change the use of the facility. Examples of maintenance and repair projects include:

- Pile and decking repairs/replacement. This activity can include over-water work, pile removal and driving, and sediment disturbance.
- Repair or replacement of shoreline protection. This type of activity includes work along the shoreline, often on land and in the water. It usually includes some type of excavation or fill activity, replacing existing protection with in-kind material of similar size and footprint.
- Similar to shoreline protection work, the repair or replacement of stormwater and/or wastewater outfalls can include excavation and fill activities.
- Dredging of an existing and previously dredged basin, harbor, or berth area to a depth and width previously permitted and approved.

4.1.1. REGULATORY COMPLIANCE DURING CONSTRUCTION

The above types of projects are all likely to require a USACE Permit (a NWP or LOP is likely) as they would include work within waters of the US. Those activities that involve pile driving may require an assessment of the potential for in-water and/or in-air noise on nearby MMPA or ESA-listed species. A ADEC 401 WQC is likely to be required for projects that disturb sediment (i.e. shoreline protection repair or outfall replacement) or propose excavation and fill activities in the water. Some of these projects may also require Municipality permits. Typical permits and authorizations for maintenance and repair projects were identified in Table 2-4.

4.1.1.1. *Best Management Practices and Conservation Measures*

Repair or replacement may result in temporary and/or permanent construction impacts to receiving water bodies, important habitat, or protected species. Temporary construction impacts can be avoided or minimized through different construction BMPs and conservation measures (many are specified within the obtained project permit).

It is important to note that not all projects are required to use the same, or all possible, BMPs. Each project is different and may require a unique combination of BMPs to meet permit conditions (i.e. State water quality standards for turbidity, in-water noise thresholds for protected species during pile driving, etc.).

[Dock or Shoreline Construction](#)

Typical in-water or shoreline BMPs and/or conditions to protect regulated resources identified within different Federal, State, or Municipal permits can include (but are not limited to):

- Use of effective turbidity controls (i.e. silt curtains) around in-water or shoreline construction areas to ensure compliance with ADEC water quality standards.
- Selection of construction equipment, materials, and methods to minimize possible impacts (i.e. pile driving hammer and method, use of concrete piles in lieu of steel, use of noise attenuation measures, such as pile cushions and bubble curtains). In the case of pile removal, contractors may be required to remove the piles in a slow and even motion to minimize pile breakage and impacts to water quality.
- Selection of designated equipment and construction debris storage areas (can be located upland or on a barge).
- Marine mammal monitoring before and during pile driving activities.
- Use of negotiated in-water work windows to avoid peak migratory periods of salmon and eulachon.



- Avoiding tidal extremes to reduce the distance the suspended sediments travel can reduce water turbidity for bank stabilization or boat ramp work.
- For shoreline repair work, BMPs can be used to control erosion, maintain existing drainage on the site, and remove construction debris or contaminants prior to entering the existing stormwater conveyance systems or to Taiya Inlet. Although there is currently no stormwater management plan in place for Skagway, the 2012 Stormwater Best Management Practices Manual for Pullen Creek can be used as guidance for selection of site BMPs appropriate for proposed operations. If dewatering runoff must be discharged, silts must be removed prior.
- Maintain spill response equipment and supplies on site and report any construction-related spills (oil, fuel) immediately. An SPCC plan may be required to outline responsive actions.
- Equipment used in the water and along the shoreline, must not leak and must be inspected daily.
- Notification of the appropriate agency (usually the USACE) if previously unknown historic or archeological remains are found. The USACE will initiate Federal and State coordination to determine if recovery or listing is warranted.

These BMPs are summarized in Table 4-2 and should not take the place of carefully incorporating appropriate BMPs at the planning stage of a project, or of reviewing and adhering to the conditions required in each project permit.

Maintenance Dredging

In addition to any applicable BMP and/or condition listed above, other BMPs can be used to reduce impacts to water quality during dredging (also in Table 4-2):

- Use of a closed environmental bucket to reduce suspended sediments.
- Increase cycle times to reduce the velocity of a loaded dredge bucket through the water column.
- Real-time positioning to optimize operator control of the dredge cut and depth.
- No stockpiling of dredged material on the seafloor.
- No seafloor leveling by dragging the bucket or other device.
- Use of filter fabric over the barge scuppers to clear return water.

Maintenance dredging will require additional planning to determine where dredged material can be placed. In the past, the SBH has permitted dredge material for open-water placement outside Taiya Inlet. Sediment characterization is required to ensure that all dredged material being placed in open water is clean and meets applicable State standards.

Prior to dredging activities, a water quality monitoring plan can be developed if activities are anticipated to exceed water quality standards, or TMDLs, to ensure compliance with permit conditions and minimize impacts to the marine environment.

Contaminated Sites

Maintenance and repair activities must also comply with any remedial action plans and monitoring plans affiliated with a ADEC-listed cleanup site (refer to Section 2.1.3 for a list of those currently listed in Skagway). This may add additional design and agency review time to a project schedule. In many cases, more streamlined permits cannot be obtained for repairs within cleanup sites, requiring more analysis for potential adverse impacts.

4.1.2. REGULATORY COMPLIANCE POST-CONSTRUCTION

Ongoing operational permits do not necessarily require modification following maintenance and repair activities. For example, maintenance of any of the large docks within the waterfront is unlikely to result in increased vessel or truck traffic. Therefore, existing thresholds for air, stormwater, and wastewater permits are usually not exceeded. However, operations following project completion should be monitored as part of ongoing permit compliance responsibilities.



4.3. SHORT-TERM IMPROVEMENT PROJECTS

Short-term projects refer to those that could improve an existing facility, with construction being completed within the next five years. Two potential projects, identified in the Comprehensive Plan or by speaking with stakeholders, that could occur within this timeframe are discussed in further detail.

4.3.1. ORE DOCK REDEVELOPMENT

In the fall of 2015, design for the Gateway Project was halted to further assess uses and final design at the Ore Dock. Permit applications have been submitted to the applicable regulatory agencies and issuance of the final permits and approvals is pending possible permit modifications. The phased Gateway Project would facilitate existing and new industrial operations at Ore Dock, accommodate a wider variety of vessels, and improve environmental conditions in the Ore Dock Basin. The Project includes demolition of timber pier structures, construction of a bulkhead wall and wharf structure (with the reuse of dredged material behind this wall if deemed appropriate), a new concrete floating dock and associated gangways, and upland improvements including a new ore concentrate loader.

Since this time, the Municipality has initiated the short-term planning process for the Port to address increased tourism and future use requirements of the Port facilities by both cruise ships and industrial ore mining activities. M&N developed nine early concepts that could be completed within the next 15+ years. However, more recently, the Cruise Line International Association (CLIA) has indicated that the Port's current docking capabilities are not adequate to accommodate some of the larger cruise ships that are projected to call in 2019 and beyond.

To accommodate larger vessels by 2019, two options, which focus on improvements to the Ore Dock, have been evaluated in more detail (M&N 2017c). They are described below and are shown in Figure 4-1 and Figure 4-2:

- **Option 3A: Development of New Outer Vessel Float at Ore Dock.** This option would install a new floating dock at the seaward end of the existing Ore Dock. It requires demolition of three existing breasting dolphins and removal of three catwalks. New marine elements added under the scheme include:
 - A single mooring dolphin at the outer end (southern end) of the Ore Dock;
 - One catwalk;
 - One floating dock (50 ft wide by 175 ft long)³ complete with pneumatic fenders and reaction dolphins;
 - A steel gangway (20 ft wide by 160 ft long); and,
 - A concrete platform to land the gangway on the landside.
- **Option 3B: Development of New Inner Vessel Float at Ore Dock.** This option also adds a new floating dock, to the landward end of the existing Ore Dock extension. It requires demolition of the middle portion of the Ore Dock, the covered walkway, and one breasting dolphin. New elements to be added under this option include:
 - One floating dock (50 ft wide by 175 ft long)² complete with pneumatic fenders and reaction dolphins; and,
 - One steel gangway (20 ft wide by 160 ft long).

Both options 3A and 3B will allow for a larger type of cruise ship to berth at Ore Dock and for faster loading and unloading of those passengers. However, at stakeholder meetings held for M&N's recent short-term planning effort, Option 3B was felt to provide a safer position for the proposed second passenger gangway, and thus, was rated higher for "guest safety." Option 3B is also estimated to offer a savings of nearly \$3 million versus Option 3A (M&N 2017c). Initially, Option 3A was considered to provide an easier path to permitting—especially given ongoing Ore Dock Basin legacy contamination issues. However, review and detailed exploration of both options has led to the possibility that either option could occur irrespective of the on-going Ore Basin legacy contamination clean-up. Either project will need to demonstrate clear methods to avoid and

³ Lengthening the floating dock to as large as 50 ft by 200 ft has been discussed. There has also been discussion to include a ro-ro ramp on the float.



minimize disturbance of contaminated sediments during pile removal or driving and dock demolition and construction and ongoing communication and coordination with ADEC will be critical. Dredging is not proposed under either option 3A or 3B. In summary, both options provide a reliable approach to expanding the capability of Skagway to welcome a larger cruise vessel, replacing a smaller vessel that already visit the harbor.

Depending on available funding and community support, both options may also incorporate portions of the following elements:

- Incorporation of a roll-on/roll-off (ro-ro) ramp and/or similar facility as part of Ore Dock modifications, thereby, broadening the spectrum of users and activities that can occur from this location on a year-round basis.
- Development of improved corridors and walkways linking downtown to the Ore, Broadway and Railroad Docks.
- Development of a new, comprehensive signage and wayfinding program designed to better communicate pathways to/from the waterfront and improve the overall guest experience. A new signage and wayfinding program also holds promise to serve as a means to communicate Skagway's rich history and narratives. It could be incorporated with new gateway and other monumentation intended to increase the overall spirit of welcome for all arriving guests.
- Creation of improved buffers between tourism and industrial uses through use of landscape materials and other design approaches.

With the ability to berth a larger cruise vessel at this location, an increase in visiting tourists is anticipated. Both options are likely to result in more visitor use of downtown during the cruise season and an increase in affiliated tourism activities (bus tours, helicopter and airplane tours, smaller vessel day excursions) is anticipated. The upgrades would allow the Port to host an estimated additional 2,000 passengers per ship beginning in 2019 (M&N 2017b). Ongoing industrial operations would continue with minimal impacts during this development.

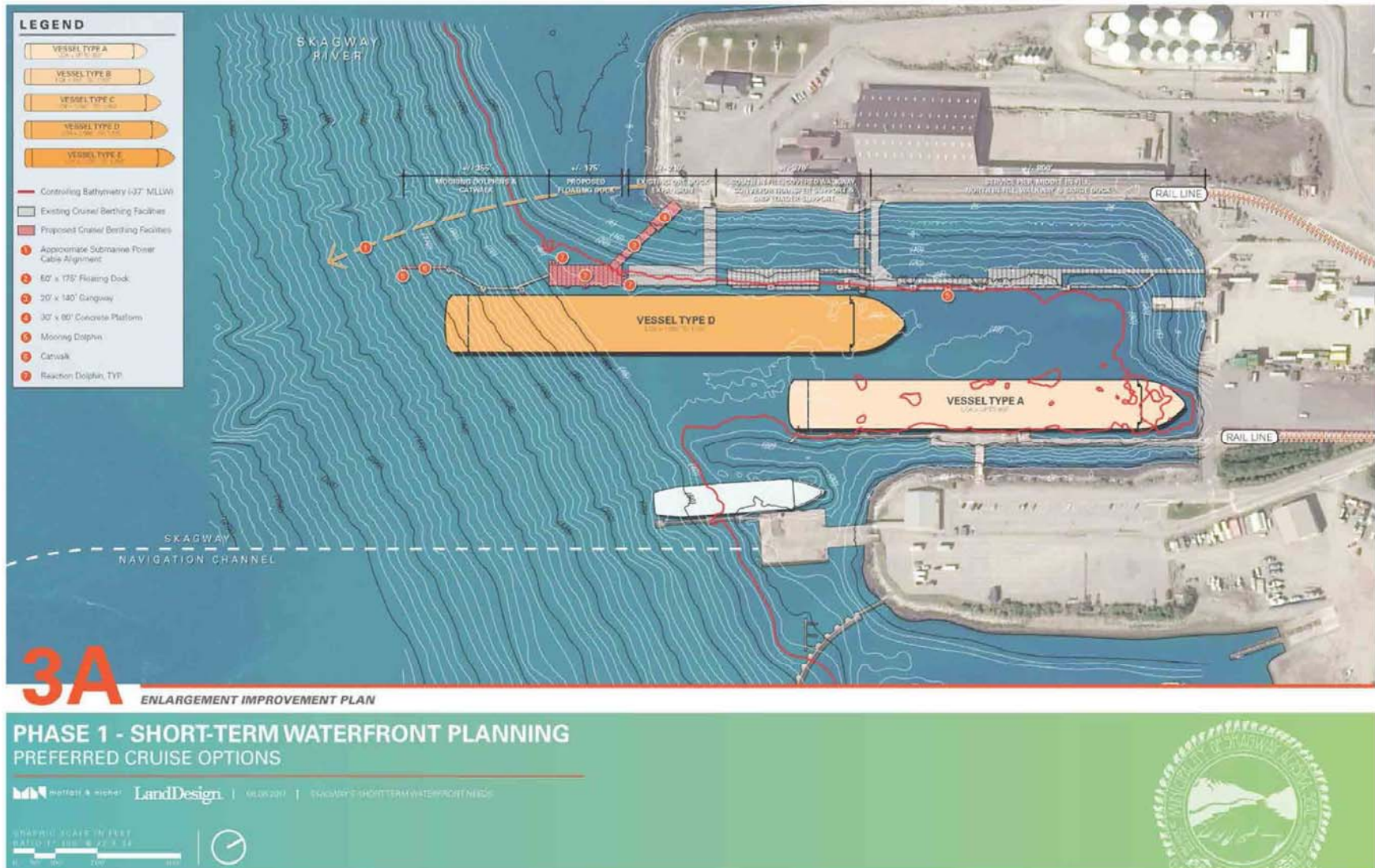


FIGURE 4-1. SHORT-TERM WATERFRONT PLANNING OPTIONS FOR ORE DOCK – OPTION 3A (M&N 2017c)

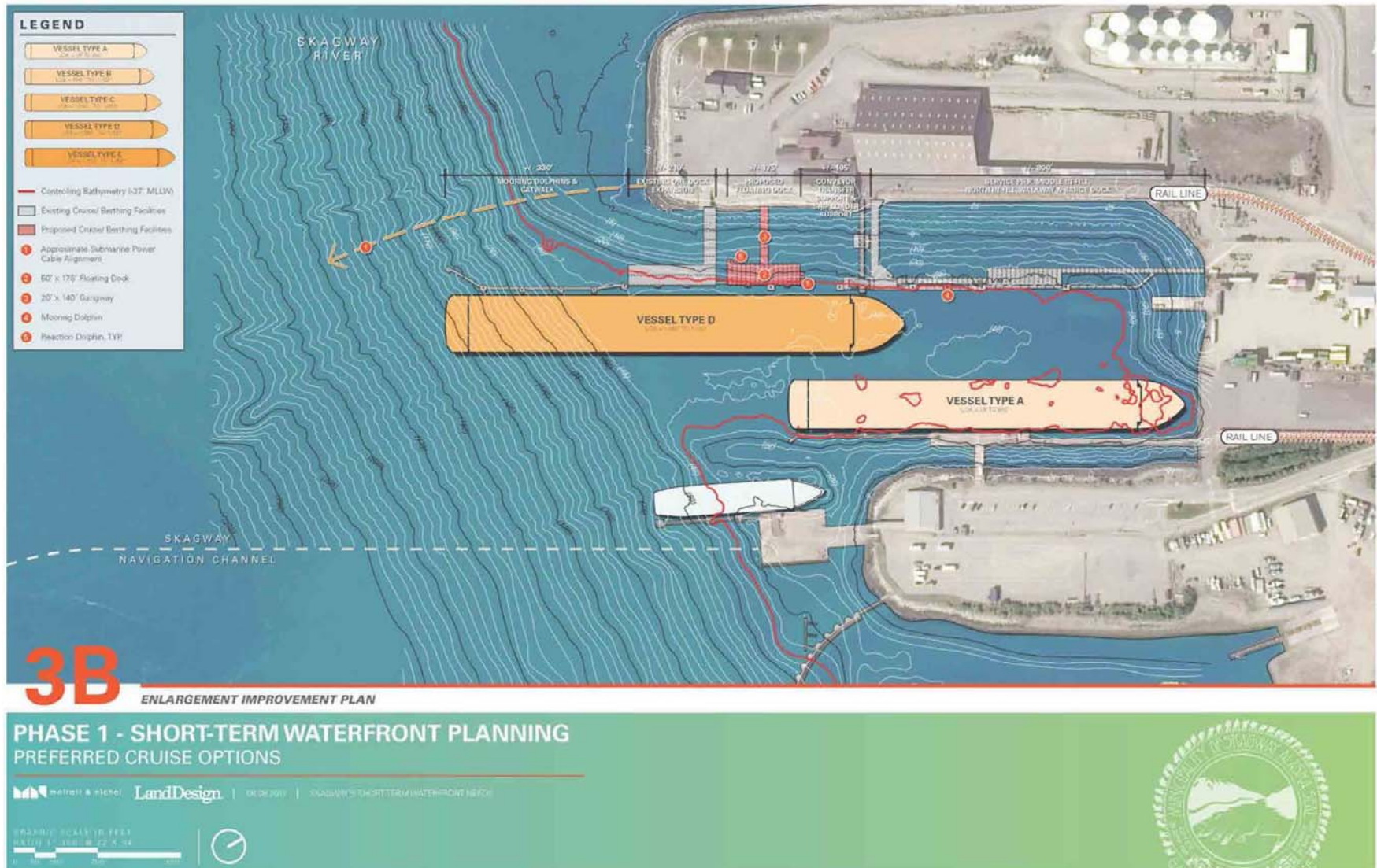


FIGURE 4-2. SHORT-TERM WATERFRONT PLANNING OPTIONS FOR ORE DOCK – OPTION 3B (M&N 2017c)



4.3.1.1. Regulatory Compliance During Construction

Changes to the Gateway Project Permit application documents would need to be made relatively quickly given the 2019 timeline. However, the modifications to the permit application materials do not incorporate additional adverse impacts to those already assessed for the Gateway Project (i.e. dredging and construction of a bulkhead and wharf would not be included, fewer and, likely, smaller piles will be installed thereby reducing in-water noise). Upland improvements could still be incorporated into the modifications, but could encompass more tourist-focused project elements. Likely, overall construction will take less time than that of the original Gateway Project. And while pedestrian, tour bus, and flight traffic may increase, increases in truck traffic associated with the Gateway project would not.

Coordination with other proposed or ongoing projects in the area (AMHS facility upgrades, Pullen Creek improvements) and stakeholders (adjacent operators and property owners, tribes, the community) will ensure a connected and functional waterfront over the short-term. Section 4.4 identifies potential issues or conflicts, and solutions, with adjacent or linked operations.

Anticipated reviews and permits could include:

- USACE/MARAD/NMFS/USFWS NEPA CATEX or EA review
- USACE Section 10 Individual Permit, Informal Consultation with NMFS and USFWS still anticipated
- ADEC Section 401 WQC
- ADEC NPDES Stormwater Construction Permit if upland work disturbs more than 1 acre of ground
- Municipality permits for construction (i.e. Building Permit)

Relevant resource issues to consider are described in more detail below.

- **Air:** Fugitive dust is a source of particulate matter (PM₁₀ and PM_{2.5}), CO and volatile organic compounds. It is often generated during earth moving activities or material transport operations. The emission of fugitive dust, within the confines of a construction site typically represent minor, short-term air quality impacts. The magnitude of exposure to fugitive dust is dependent on many factors including, prevailing meteorological conditions, the topological characteristics of the construction area, the type of construction equipment used and its duration, and the proximity of emission source to human receptors. Considering the types of possible improvements are known, construction vehicle use and equipment operation will likely be the greatest source of fugitive dust emissions during future construction activities. However, construction activity is not expected to increase airborne particulate matter in the area above regulations and standards. To be considered "regionally significant," emissions associated with construction activities must exceed 10% or more of the region's emissions for a pollutant. The temporary nature of construction work makes it likely that emissions stemming from these activities contribute far less than 10% for the area of pollutants such as particulate matter, CO and volatile organic compounds and NOx. NAAQS are not expected to be exceeded.
- **Climate Change and Sea Level Rise:** The design of new and repaired waterfront structures should consider changes to climate and sea level using the best available science.
- **Hazardous Materials (Sediments and Soils):** Ongoing Ore Dock Basin Cleanup will continue pursuant to ADEC requirements, regardless of the short-term project that is moved forward by the Municipality. Both can continue in parallel. Given the current work being completed by Golder, final cleanup of the site may not be permitted and designed by 2019.

If Options elements of 3A or 3B are moved forward for completion in 2019, ADEC will review the design and ensure BMPs are in place to minimize disturbance to Ore Basin sediments. Some design considerations include:

- Avoid areas where contaminants may be concentrated.
- Avoid dredging

- **Historical and Archaeological Resources:** The project location remains the same and is located within a previously developed area. Impacts to historical or archaeological sites are unlikely but coordination with the STC prior to construction and notification if previously unknown historic or archeological remains are found, can mitigate this risk.
- **Noise:** Noise from construction is likely to be localized to the area and time that construction would take place. Updates to the in-water noise analysis to support the IHA for the project would likely result in a smaller area of impact for marine mammals.
- **Species and Habitat Protection:** Impacts to sensitive and/or protected aquatic and shoreline species and habitat are anticipated to be localized and temporary (i.e. pile removal and driving during construction. These impacts are assessed as part of the USACE Permit process and a Permit will not be issued until impacts are avoided, minimized and/or mitigated. This is likely to be completed with the use of construction BMPs, similar to those described below and in Table 4-1. Table 4-1 is not all-inclusive as BMPs, and any additional mitigation, must be tailored for the identified impacts of a project (this usually occurs during preliminary design to about 30%).
- **Surface Waters (Water Quality):** Similar BMPs for in-water work proposed for the Gateway Project are anticipated, except for dredging. Project limits (both upland and in-water) could include a buffer from the Skagway River Mouth and Pullen Creek to minimize impacts to estuarine, wetland, and waters of spawning, rearing, and migration of anadromous fishes. Furthermore, opportunities to improve the existing drainage infrastructure, including the 6 most seaward stormwater outfalls, could be considered to maintain drainage and improve fish habitat. The Port is also within the Skagway River floodplain and will be subject to regulations in the Municipality flood management ordinance described in the Skagway Municipal Code, Chapter 15.12. New development or major redevelopments require a land use permit/building permit for the proposed structures and should be designed in accordance with the Municipality ordinance.
- **Vessel and Vehicular Traffic and Pedestrian Corridors:** Both Options 3A and 3B will enable a larger type of cruise vessel to berth at the Ore Dock than what berths at the facility now. Construction would not directly result in an increase in vessels, but would maintain the number of cruise ships visiting Skagway.

Close coordination with waterfront tenants and stakeholders will ensure that any additional improvements to the adjacent uplands (i.e. pedestrian corridors and signage) would benefit the waterfront area.

BMPs, are likely to be similar to those proposed as part of the Gateway Project (Hart Crowser 2015), but may be modified to ensure minimal sediment disturbance during pile removal and driving. BMPs specific to water and sediment quality, and aquatic species protection could include:

- Use of effective silt/turbidity curtains around the in-water construction area to ensure compliance with ADEC water quality standards.
- Monitoring and measurement of turbidity, and other water quality standards, to ensure State water quality standards.
- Avoid tidal extremes and ensure construction vessels and barges do not bottom out within the Ore Dock Basin.
- Contractors will be trained in hazardous material handling and spill response and will be equipped with appropriate response tools, including absorbent oil booms. If a spill occurs, spill cleanup and containment efforts will begin immediately and will take precedence over normal work.
- All equipment and vessels will be inspected daily for leaks of fuel and oil in surface waters.
- Selection of equipment, materials, and methods to minimize possible impacts. In the case of pile removal, contractors may be required to remove the piles in a slow and even motion.
- Selection of designated equipment and construction debris storage areas (can be located upland in bermed areas or on a barge).

- Maintain spill response equipment and supplies on site and report any construction-related spills (oil, fuel) immediately. An SPCC may be required to outline responsive actions.
- Follow any necessary marine mammal monitoring protocols.

Table 4-2 provides a summary of common construction BMPs. These BMPs should not take the place of carefully incorporating appropriate BMPs at the planning stage of a project, or of reviewing and adhering to the conditions required in each final permit.

For Federally-funded projects (i.e. TIGER) that propose only shoreline/upland pedestrian access improvements, compliance with NEPA is required even if a USACE Permit is not.

4.3.1.2. Regulatory Compliance Post-Construction

Following construction, mandatory compliance with operational regulations is still required and facility and vessel operators will still be required to ensure compliance.

Views are unlikely to change substantially, although a larger ship will be in berth at Ore Doc, one that has not berthed in Skagway previously.

The construction of new floating docks and/or any upland improvements from improved corridors or walkways, could be used to improve existing stormwater drainage conditions. Surfaces could be expanded that may allow for improved management of pollutants such as oil, grease, and trash. Permanent BMPs would ensure any new upland improvements are properly maintained and inspected.

4.3.2. ORE DOCK LEGACY CONTAMINATION CLEANUP

Ongoing Ore Dock Basin Cleanup will continue pursuant to ADEC requirements and Compliance Orders by Consent. Additional assessment by Golder this summer will support the design of a remedial action. Specific remedial actions are likely to be available in the fall of 2017 and could include dredging and removal of contaminated materials. All proposed remedial actions and construction BMPs will require approval from ADEC.

4.4. LONG-TERM IMPROVEMENT PROJECTS

Long-range waterfront planning for the Municipality is described in the Comprehensive Plan (Municipality 2009) and improvements to support both industrial- and tourism-based improvements have been further planned for in the Skagway Port Development Plan (KPMG et al. 2008) and as part of the Gateway Project.

The Municipality has asked M&N to begin the process of completing a long-term planning effort. The Economic Analysis (M&N 2017b) is a preliminary step in this process and looks at cases where either cruise or commodity ships (i.e. ore concentrate to support mining) expands. Advancing a long-range and strategic master planning effort, following market analysis, along with port governance and environmental compliance assessment, will better define long-term projects. At present, possible long-term plans were identified from the Comprehensive Plan, the Port Development Plan, and interviews with stakeholders.

Most likely, long-term projects will be related to the expansion of the mining industry, the cruise industry, or both. Although specifics of these potential projects have not yet been developed, several environmental considerations will need to be considered as part of the planning, preliminary design, and permitting processes. This section tries to encompass some of these key issues and can be used to feed ongoing Municipality long-term planning efforts.

4.4.1. ORE DOCK EXPANSION FOR BULK, CARGO, AND/OR CRUISE

Long-term projects are not specifically more complex than other projects. In the case of the Ore Dock, modification and expansion of the facilities will require similar considerations and permits as those described in Section 4.2. However, additional environmental considerations may be necessary if a future project at this site is more complex. This could be the case if:

- Improvements to Ore Dock result in a substantial increase in vessels, road use and traffic, and/or passengers.



- If dredging is proposed.
- Upland facilities or areas are substantially changed or modified.
- Possible impacts from a project could result in more substantial adverse environmental impacts.
- Pedestrian and vehicle corridor improvements could be completed to improve railroad track crossings (improvements identified in the Comprehensive Plan).

The 2008 Skagway Port Development Plan included one option proposing extensive rail expansion for freight in support of increased mining activities at Ore Dock, and the Gateway Project TIGER grant applications for 2009, 2010, and 2011 note that Port area ore concentrate expansion could justify reinstatement of freight rail service, rail expansion for freight is not considered in the following sections. However, even limited expansion could reach the community's tolerance for truck traffic. The 2008 Plan estimated a range of costs from \$160 to \$750 million to reestablish rail service for mining.

Coordination with other proposed projects and stakeholders (adjacent operators and property owners, tribes, the community) will ensure a connected and functional waterfront over the long-term. Section 4.4 identifies potential issues, conflicts, or opportunities with adjacent or linked operations.

4.4.1.1. Regulatory Compliance During Construction

More complex projects may need to conduct additional studies and investigations to support permit approval and long-term operational compliance with applicable regulations. If a NEPA EIS is required, in-depth analysis of project alternatives and impacts from each alternative on environmental resources must be completed. Analysis of air and water quality, important habitat and protected species, historical and archaeological resources, vessel navigation and upland traffic, utility capacity (for energy, stormwater, and wastewater), and visual corridor changes may require the completion of field investigations and modeling efforts. Consideration of cumulative impacts may also be required.

Like the short-term improvement projects, expansion and improvements to the Ore Dock and, either upland ore concentrate facilities or pedestrian and vehicle corridor improvements, may require in-water work including in-water structure repairs and upgrades, dredging, or demolition. Anticipated reviews and permits could include:

- USACE or other Federal agency as lead NEPA EA or EIS review (if the project has a federal nexus – by federal action, funding, or approval/permitting)
- USACE Section 10/404 Individual Permit (a 404 is required for excavation and fill activities), Informal or Formal Consultation with NMFS and USFWS, likely to require a Biological Assessment and EFH Assessment.
- ADEC Section 401 WQC
- NMFS IHA (required only if Formal Consultation with NMFS and/or USFWS is necessary)
- ADEC NPDES Stormwater Construction Permit if upland work disturbs more than 1 acre of ground
- Municipality permits (Waterfront Zoning Permit, Conditional Use Permit, Variance Permit, Building Permit, etc.)
- ADEC Air Permit

If dredging is proposed, disposal of the material will need to be considered. If the Ore Dock Cleanup has already been completed, other placement options may be an option (open water placement, upland placement, or beneficial reuse). In all cases, any sediments proposed for dredging, will need to meet the physical and chemical requirements of the proposed disposal site.

Relevant resource issues to consider are described in more detail:

- **Air:** Since Skagway is within an USEPA attainment area, the focus of any improvements to waterfront facilities or construction activities will be to prevent exceeding maximum allowable standards for CO, NO₂, Pb, ozone, PM_{2.5}, PM₁₀, and SO₂ set forth in Federal and State regulations (ADEC 2017a). The ADEC has published a set of Air Quality Control regulations that establish standards and thresholds that should not be exceeded, as well as

maximum allowable increases permissible under State regulations. The standards also include guidelines for air quality studies and how to handle emissions violations.

Like short-term improvements, construction activity associated with the implementation of Port improvements are not expected to increase airborne particulate matter in the project areas above those regulations and standards. Construction related emissions of fugitive dust are based on regionally-based NAAQS air quality thresholds. To be considered “regionally significant,” emissions associated with construction activities must exceed 10% or more of the region’s emissions for a pollutant. The temporary nature of construction work makes it likely that emissions stemming from these activities contribute far less than 10% for the area of pollutants such as particulate matter, CO and volatile organic compounds and NOx. NAAQS are not expected to be exceeded.

Air quality issues associated with construction activities may result in site-specific air quality concern in short duration under certain meteorological conditions further qualitative assessment and quantitative measure may be warranted once the magnitude of change in Port operations is known. The adherence to applicable Federal and State requirements would be expected to address short-term air-quality impacts. Future study is warranted to document any conflicts the potential risks due to increased or rerouted pedestrian movements near the Port. Such study could identify risk mitigation measures such as lights or gates as warranted to reduce the risk of accidents.

- **Climate Change and Sea Level Rise:** Over the next 20 years, the land in Skagway could rise about a foot, relative to mean sea level, due to localized effects. The design of new and repaired waterfront structures should consider changes to climate and sea level using the best available science.
- **Hazardous Materials (Sediments and Soils):** It is anticipated that the Ore Dock Basin Cleanup will be completed by this time.
- **Historical and Archaeological Resources:** The project location remains the same and is located within a previously developed area. Impacts to historical or archaeological sites are unlikely but coordination with the STC prior to construction and notification if previously unknown historic or archeological remains are found, can mitigate this risk.
- **Land Use:** The expansion of Ore Dock operations, whether it be for industrial purposes or tourism, meets the goals of the Comprehensive Plan and policies for the Port AMSA detailed in the Coastal Management Plan (Municipality 2007), as this waterfront area is reserved for water-dependent uses. Land use designations are not anticipated to be effected by Ore Dock expansions for commodities, as the western peninsula is designated for industrial uses. However, if the peninsula was further expanded for tourism, zoning may require modifications or a variance.
- **Noise:** With any expansion of the Ore Dock for bulk/cargo or cruise, changes in both operational and construction noise may need further consideration. If an increase in cruise vessels resulted from a project, additional visitors may result in increases in bus, train, and/or helicopter tours through Skagway. If an increase in bulk or cargo vessels occurred, the resulting operational noise is likely to be the product of more heavy trucks and product handling. Depending on the future project, the Municipality will likely need to consider these types of impacts within their community.

Noise from construction is likely to be similar to that for any short-term project, localized to the area. However, a larger project is likely to take more time to complete. In addition, if the project involved larger piles or dredging, additional noise analysis would be required to see what types of in-water permits (i.e. an IHA) or BMPs may be required to protect aquatic species.

- **Species and Habitat Protection:** Impacts to sensitive and/or protected aquatic and shoreline species and habitat will need to be assessed when the project is being designed. Similar to the Short-term Ore Dock Improvement described in Section 4.2.1, adverse impacts will need to avoid, minimize and/or mitigate any adverse impacts prior to obtaining Federal or Municipal permits. This is likely to be completed with the use of construction BMPs, similar



to those described below and in Table 4-1. Any additional mitigation deemed necessary, must be tailored for the identified impacts of a project (this usually occurs during preliminary design to about 30%). If dredging or fill is proposed, the impacts from this activity will also need to be considered.

- **Surface Waters (Water Quality):** Temporary construction impacts to water quality may include construction stormwater runoff, potentially modifying drainage characteristics, and construction vehicle pollution such as oil and grease. These impacts are likely to be avoided or reduced through BMPs and would be addressed in the SWPPP that is required to obtain a Construction General Permit.

Project limits (both upland and in-water) could include a buffer from the Skagway River Mouth and Pullen Creek to minimize impacts to estuarine, wetland, and waters of spawning, rearing, and migration of anadromous fishes. Furthermore, opportunities to improve the existing drainage infrastructure, including the 6 most seaward stormwater outfalls, could be considered to maintain drainage and improve fish habitat.

- **Vessel and Vehicular Traffic and Pedestrian Corridors:** Expansion could bring more and/or larger vessels to the harbor. Increases in bulk, cargo, and/or cruise passengers will likely result in increased vehicular use of adjacent roads. An increase in passengers could also result in increases in pedestrian traffic across and around existing rail tracks. These navigation and traffic issues may require further assessment in the future.

With respect to pedestrians and rail, risk is already partially mitigated by the low timetable speeds and operations in the downtown area. Federal Railroad Administration (FRA) reporting shows no recent accidents at crossings in Skagway (FRA 2017). Future study is warranted to document any conflicts the potential risks due to increased or rerouted pedestrian movements near the Port. Such study could identify risk mitigation measures such as lights, crossing protection, or gates as warranted to reduce the risk of accidents.

- **Visual Aesthetics:** A larger dock expansion could result in more substantial changes to existing views. If this is proposed in the future, further review and coordination with stakeholders may be required as part of the planning and permitting processes.
- **Utilities:** Similarly, a substantial expansion could require both design and appropriate capacity considerations for existing utilities.

Similar BMPs for in-water work and/or dredging, as identified in Sections 4.1 and 4.2 may be required and Table 4-2 provides a summary of common construction BMPs. Regulations and BMPs may have also been updated and modified.

For any proposed upland or shoreline improvements over an acre, a SWPPP will need to be prepared to obtain a Construction Permit prior to construction and upland development will need to be managed by construction site BMPs to treat all construction runoff prior to discharge into Taiya Inlet. Overall, these water quality considerations would be temporary during construction only and should improve the overall water quality of the site through newer facilities, improved transportation corridors, utility improvements, and new equipment (in the case of industrial use expansion).

Compensatory mitigation may be required for unavoidable impacts or loss to in-water or shoreline habitat and other resources. For example, if air or water quality could be significantly changed, the implementation of long-term conservation measures and BMPs may be necessary.



4.4.1.3. Regulatory Compliance Post-Construction

Following construction, mandatory compliance with operational regulations is still required and facility and vessel operators will still be required to ensure compliance.

Long-term improvements at Ore Dock could result in increased marine transport with associated increasing levels of air pollutant emissions stemming from seasonal or market-driven fluctuation in marine vessels transport. This trend could also be countered to some extent, by the fact that ports around the world are also experiencing fewer vessel calls with larger ships (larger ships may emit less pollution per ton of cargo/passengers carried). Further assessment of these variables for the considered long-term project would help to more accurately quantify these trends.

Skagway is located in a Class II air shed, meaning that regional air quality conditions are considered to be good in terms of Federal NAAQS threshold limits. The pollutant levels within the air shed, including Skagway, are periodically monitored at a regional air shed level and have been found to be below Federal and State human health based standards. Although, air monitoring conducted as part of the State's Commercial Passenger Vessel Environmental Compliance Program has resulted in some enforcement action requiring mitigation for visible emissions (opacity) exceedances in recent years (ADEC 2016).

The magnitude of change in marine transport is unknown yet it is assumed that some localized areas at the Port may experience fluctuation in pollutant emissions. Considering likely emission dispersion away from Port activities, it's likely that the increase in maritime activities would not contribute substantially to the exceedance of regional air quality standards. Air emissions may lead to site-specific air quality concerns that warrant further qualitative assessment and quantitative measurements once the magnitude of change in Port operations is known.

The maritime industry has taken positive steps towards minimizing air emissions through both engineering and operational controls at a national scale. Oversight from both Federal and State regulatory agencies helps to protect human health through the enforcement of air quality regulations, including opacity requirements for commercial passenger marine vessels. The State's Environmental Protection Cruise Ship Program which includes enforcement of the Marine Visible Emission Standards are set in 18 AAC 50.070. This regulation applies to all marine vessels, not just to cruise ships. Additionally, the ADEC Commercial Passenger Vessel Environmental Compliance program regularly monitors air emissions from cruise ships and ferries (ADEC 2017b and 2016, CLIA 2017, Municipality 2017).

The long-term magnitude of increasing mining activity is unknown, yet the assumption can be made that any increase in mining activities has the potential directly and cumulatively contribute to increasing levels of pollutant emissions at the Port which could compound site-specific air quality concerns. Other secondary source of air emissions includes potential seasonal increases in rail transport and traffic volumes of truck, and buses in Skagway.

Replaced berthing facilities at Ore Dock and/or any upland improvements could improve existing stormwater drainage conditions. Surfaces could be expanded that may allow for improvement management of pollutants such as oil, grease, and trash. Permanent BMPs would ensure any new upland improvements are properly maintained and inspected.

The expansion of operations at Ore Dock may increase the risk of spills due to more vessel traffic and increased congestion within industrial and tourism operations. Existing facility MSGPs can be modified to account for changes in acreages, industrial sectors, etc. To reduce impacts to water quality during Ore Dock operations, permanent BMPs should be implemented to control pollution sources and provide public safety. Removal of bulk ore concentrate infrastructure would eliminate the source of ore concentrate dust from entering the Inlet, therefore reducing the sources of surface water pollution.

Views may be altered with industrial or cruise improvements. Both could be designed to improve or, at a minimum maintain, existing view corridors.

4.4.2. ALTERNATIVE DOCK EXPANSION

If another dock were expanded for industrial and/or cruise use within the Port Area, similar impacts to those described for the Ore Dock are likely. In addition, consideration for the displaced use would need to be assessed. With projects proposed for



another site, upland and tideland property ownership, land use zoning, and communication and coordination with adjacent facility operators, stakeholders, tribal governments (STC), and the community becomes more critical.

Similar BMPs for in-water work and/or dredging, as identified in Sections 4.1 and 4.2 and Table 4 may also be required. Regulations and BMPs may also be modified over time.

4.4.3. SMALL BOAT HARBOR

Future expansion of the SBH is identified in the Comprehensive Plan. Further improvements are proposed to dredge the harbor back about 350 ft to accommodate additional floats and slips. This would require relocation of Pullen Creek RV Park. Although the Phase II plans for this site are extensive, the overall use of the site does not change.

The project location remains the same and is located within a previously developed area. Impacts to historical or archaeological sites are unlikely but coordination with the STC prior to construction and notification if previously unknown historic or archeological remains are found, can mitigate this risk.

In 2012, dredge material was permitted for open water placement about one mile southwest of the SBH in Taiya Inlet. Future disposal of dredge material could be permitted for placement at this site again. Other upland or shoreline options for dredge material placement could also be considered. Sediment characterization will likely be required to ensure that all dredged material being placed in open water is clean and meets applicable State standards.

Anticipated reviews and permits could include:

- USACE/ NEPA CATEX or EA review
- USACE Section 10/404 Individual Permit, Informal Consultation with NMFS and USFWS anticipated
- ADEC Section 401 WQC
- ADEC NPDES Stormwater Construction Permit if upland work disturbs more than 1 acre of ground
- Municipality permits for construction (i.e. Building Permit)

Similar BMPs, as those required for past construction within the SBH, are anticipated. Some of these past BMPs have included:

- Use of effective silt/turbidity curtains around the in-water construction area to ensure compliance with ADEC water quality standards.
- Piles shall be driven using a vibratory hammer when possible. If conditions require the use of an impact hammer, piles shall be driven as deep as possible with a vibratory hammer prior to the use of the impact hammer.
- A pile cushion could be used between the impact hammer and the pile to attenuate sound.
- Prior to beginning and during pile driving activities, observe the area for marine mammals. No pile driving shall occur if marine mammals are observed within 200 meters of the sound source, and pile driving shall cease until the marine mammals leave the area.
- All fill material for the authorized work shall be clean, free from toxic pollutants in toxic amounts.
- Avoid low stage tides.
- All equipment and vessels will be inspected daily for leaks of fuel and oil in surface waters.
- Maintain spill response equipment and supplies on site and report any construction-related spills (oil, fuel) immediately. An SPCC plan may be required to outline responsive actions.
- Notification of the appropriate agency (usually the USACE) if previously unknown historic or archeological remains are found. The USACE will initiate Federal and State coordination to determine if recovery or listing is warranted.

Table 4-2 provides a summary of common construction BMPs. These BMPs should not take the place of carefully incorporating appropriate BMPs at the planning stage of a project, or of reviewing and adhering to the conditions required in each final permit. Regulations and BMPs may also be modified over time.

4.4.3.1. Regulatory Compliance Post-Construction

Following construction, mandatory compliance with operational regulations is still required and facility and vessel operators will still be required to ensure compliance. Compliance with ADEC's MSGP for stormwater discharge from SBH uplands will still apply.

4.5. CONSIDERATIONS OF ADJACENT OR LINKED OPERATIONS

Adjacent or linked operations, not already described previously, that could be a factor for ongoing and existing Port Area operations are discussed below in relation to the environmental topics identified in Section 2.

4.5.1. AIRPORT

Skagway Airport is a State-owned facility, managed by the ADOT&PF, and is included in the National Plan of Integrated Airport Systems for 2015-2019, which categorized it as a nonprimary commercial service airport. The Airport has one runway designated 2/20 with an asphalt surface measuring 3,550 by 75 feet. It does not have an FAA tower, but does have a small



South End of Runway at Skagway Airport

passenger building at the south end. The Airport is situated in a north-south direction and against the west side of the valley next to the Skagway River. During the summer, the wind generally blows from the south and can be quite strong and gusty. In the winter the wind turns around and blows from the north.

The Airport services between 2,500 and 10,000 passengers per year (M. Tyson personal communications, April 28, 2017). One full-time commercial company and five to six private planes use the airport year-round. About two additional companies provide trips to tourists during the summer. FAA records show the airport had 3,800 air taxi operations and 500 local general aviation operations in 2015.

The Airport Manager is also the Manager for the Skagway Maintenance and Operations Station, responsible for maintaining ADOT&PF roads, up to the US Port of Entry with Canada (US side) and down to State Street in downtown Skagway. Maintenance includes snow removal and avalanche control in the winter.

ADOT&PF use urea (carbomide) and sand mix for the airport during winter months and sand, calcium chloride and salt for the State roads. The Airport does not have a site-specific SWPPP as discharges fall well below threshold criteria. This past year (2016/2017), the highway was closed 4 times due to snow.

Discussions with both the Airport Manager and TEMSCO have indicated that conflicts between planes and helicopters are rare. While the Skagway Airport does not have a tower, pilots for both the airport and TEMSCO communicate directly with each other over radio. In addition, adequate flight path room for both helicopters airplanes are available (M. Tyson personal communications, April 28, 2017; Healy and Reichert personal communications, April 28, 2017).

The airport was last expanded in the early 2000s and ample capacity remains for additional aircraft (M. Tyson personal communications, April 28, 2017). Currently, the western portion is designated for a combination of industrial and waterfront uses and will, pursuant to the Future Growth Plan, be designated for Waterfront Commercial Industrial growth (Municipality 2009), especially the area between 1st Ave. and Terminal Way.

4.5.2. STATE ROADS

The South Klondike Highway provides year-round access between Skagway and the Yukon. From Carcross, Yukon, the highway passes through British Columbia before crossing the international border into Alaska and Skagway. The highway

passes through a small section of the Klondike Gold Rush National Historical Park before entering Skagway. Within Skagway, the highway runs down State Street to 1st Avenue where it turns left and then right close to the Broadway Dock.

In a discussion with ADOT&PF (Southeast Region), it was noted that the Klondike Highway will be repaved and repaired within the next few years (ADOT&PF personal communications June 8, 2017c). The planning and permitting process for this project will include community input to assess needs for improvements to the highway, an important part of long-term waterfront planning.

4.5.3. CUSTOMS AND US-CANADA BORDER

The US Port of Entry with Canada for Skagway is located seven miles from Skagway along the Klondike Highway (Figure 1-1). All trucks, buses, vans and passenger vehicles are cleared at this station as they enter or re-enter the US.

The US Customs and Border Protection (CBP) collects US entry data for trucks, trains, buses, personal vehicles, pedestrians, and cruise ships. Data for trucks, personal vehicles, and pedestrians is collected year-round, whereas data for trains, buses, and cruise ships is collected during the tourist season (between the beginning of May and end of September). Figure 4-3 shows the cruise ship entry data from the tourist season of 2014. Figure 4-4 summarizes the available visitor statistics for the other modes of transportation.



US Port of Entry at Skagway

Currently, CBP process at the border crossing seems to be working relatively smoothly, when compared to other land border facilities (L. Reyes personal communications, June 7, 2017). Prior to the spring of 2015, the border crossing was open 24 hours a day, seven days a week, 365 days of the year. During peak daytime border crossing hours (between 9:30 and 10:00 in the morning and 3:00 and 4:00 in the afternoon during the cruise season), there could be lengthy delays. In 2014, CBP completed an assessment of current use (L. Reyes personal communications, June 7, 2017) and determined that the need for night-time crossings did not warrant the expense to keep personnel manning the station between midnight and 8:00 AM. Therefore, CBP closed the border for night-time crossings and re-assigned personnel to daytime shifts. This has resulted in a reduction in wait times at the border, with 30 minutes now considered the maximum wait time that is experienced during normal circumstances (peaks of up to an hour do still occur but less frequently). This has been reflected in some discussions with tour bus operators in the area.

The main issue currently faced at the border is the internet speed. The facilities use a T-1 line which does not provide adequate internet speed to process peak season traffic, which can cause some additional delays during peak traffic times. The internet providers for this remote area are not able to provide the same level of internet speed as experienced at other border locations due to the difficulty in serving this region with wireless technology. Although 2017 has seen some improvement since the cruise season began, wait times at the border into Canada tend to be longer during peak times than that of the US border, pursuant to discussions with some tour bus operators.

The M&N Team also discussed the border crossing situation with MSI and the Yukon's Department of Economic Development (YED), to determine any impacts the border crossing has on the mining industry. As the ore concentrate volumes are not as large as in previous periods of mining activity, the current border crossing schedule has not been an issue. The trucks use a separate lane from passenger vehicles, sharing that lane with the tour buses and other large vehicles. As the main volumes of tourist related traffic occur during certain periods, as noted above, the mining traffic can work around those peak times for their deliveries to the Ore Dock in Skagway. Both MSI and YED indicated that if there was a substantial increase in ore concentrate volumes to move to Skagway, the mining industry would work with both US and Canadian Customs to seek coverage of additional hours for crossing the border, depending on the volumes involved. Any

impact of additional trucks would also be discussed with Municipality and with ADOT&PF to identify all impacts of these increased truck movements and determine sufficient mitigation measures.

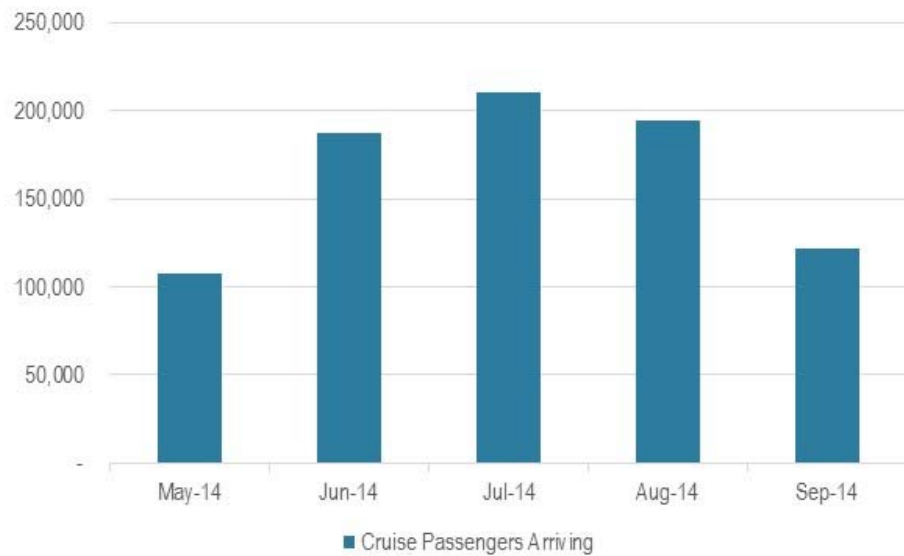


FIGURE 4-3. 2014 CRUISE SHIP PASSENGERS ENTERING US PORT OF ENTRY AT SKAGWAY (CBP 2017)

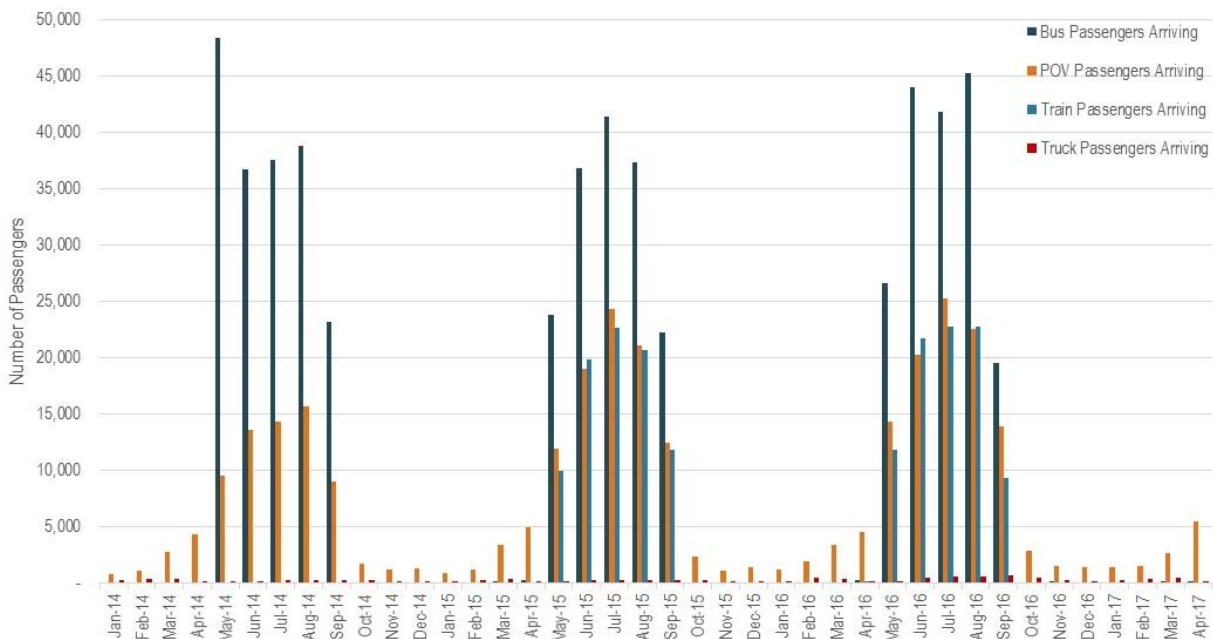


FIGURE 4-4. 2014 TO APRIL 2017 VISITORS ENTERING US AT SKAGWAY BY VEHICLE (CBP 2017)

Potential impacts and future challenges this border crossing may have could result from either increased tourist traffic from increased volumes of cruise passengers, or increased commercial truck traffic from additional mining activity. Both borders conduct routine assessments of their facilities and the need for changes in service, and both will coordinate with the local communities if needs are anticipated to change. Extended hours and additional staff are two ways that could support short-



term increases in traffic. The construction of additional lanes or faster internet speed are two options that are likely to require more long-term planning. Over the short-term it may be worthwhile for more frequent communication between the Municipality, CBP, and possibly ADOT&PF to ensure collected data is adequate and shared with agencies and stakeholders to better support long-range planning.

4.5.4. NATURAL RESOURCES

Skagway supports a variety of coastal and upland habitats. Pullen Creek runs through the Municipality with the Port situated just to the east of the Skagway River Mouth. These habitats and species are described in detail in Section 2. Efforts to improve drainage, erosion, and habitat protection within Pullen Creek are described in the Comprehensive Plan. These improvements included upgrading existing culverts, designated walkways, and interpretive signage. The Pullen Creek Streamwalk Project is an ongoing phased fish passage and restoration project. The project also provides a formal trail and viewing areas within the stream corridor (TIWC 2017). There is also ongoing community interest in re-establishing a hatchery program at Pullen Creek (Municipality 2009).

Active ongoing involvement from the TIWC in both the short- and long-term development of the Skagway waterfront would help to identify and implement opportunities to preserve, highlight, enhance or restore natural resources within the Municipality. Improvement and/or development of shoreline public access ways provide the Municipality an opportunity to connect the public with Skagway's natural resources and rich tribal history through observation points, interpretive signage, or habitat restoration along the shoreline. Furthermore, public access to waterways is highly valued to a variety of Federal, State, and local organizations, such that funding opportunities may be available.

Many of the above listed natural resource improvements could also be considered as mitigation components for different projects (depending on the type of project and its effects).

4.6. TRENDS IN THE CURRENT AND FUTURE REGULATORY ENVIRONMENT

It is difficult to speculate on possible changes that will occur in the future within the regulatory environment. We can, however, look at key environmental trends within the US and State, and consider what has happened at other waterfront cities and ports. General trends include:

- Waterfront community populations are generally increasing and becoming denser.
- Vessels, in general, are becoming larger. This is especially true in the cruise industry.
- As waterfronts experience growth pressure, whether to support industrial development or increased tourism and recreation, or both. Conflicts can result from how these different uses integrate and overlap.
- Air, water, and soil quality continues to be important to waterfront communities.
- Regulations on discharges, contamination, and protection of threatened and endangered species continue to become more restrictive especially with respect to nearshore development.
- Concern with respect for extreme weather events and climate change and how this may impact waterfront communities.

Given the ongoing importance of these issues, the regulatory framework that oversees the environment is likely to continue to consider new science, implement that information in the form of policy, and enforce compliance. In Skagway, ongoing waterfront development will continue to require operational permits for air and water quality. With larger/more vessels visiting the city, and increases in traffic, air emission and water quality studies are likely, especially during the planning for any long-term projects. Ports are also beginning to complete environmental and health risk assessments to try to better understand the potential harm that could be caused by pollution due to harbor operations and construction. The risk assessment being completed within the Ore Basin is one example of how regulatory agencies, in this case ADEC, are trying to better understand what possible impacts pollutants may have on habitat and species, rather than just trying to define the existing environmental conditions.

5. DATA GAPS AND RECOMMENDATIONS

This Environmental and Regulatory Compliance Report was completed to summarize key regulatory requirements applicable to existing and potential future operations. Data gathering and stakeholder interviews resulted in the following conclusions:

- There is a strong sense of community responsibility and involvement to, and with, the Skagway environment, the history, and the future.
- An overall goal that the community continue to work with WP&YR to address legacy contamination in the Ore Basin. This issue remains at the top of public priorities for the waterfront.
- Interest in the pursuit of both short- and long-term development along the waterfront.

The following recommendations have been identified to support the Municipality with both short-term and long-term goals. They are suggestions and the level to which they could be selected for implementation will be dependent on Municipality needs, resources, budget, and timing. They can also be modified to better suit Municipality and community needs.

Short-term (over the next 5 years):

- Continue to work with WP&YR to address legacy contamination in the Ore Dock Basin. This issue remains at the top of public priorities for the waterfront. Its resolution is fundamental in any movement forward with long-term improvement of the waterfront. The Skagway Port Planning Steering Committee and Municipality need to continue to take an active role in bringing legacy contamination clean-up to a close. The M&N Team recommended a goal for agreement completion with WP&YR for Ore Dock Basin clean-up on or before the end of 2017 that specifies the responsibilities of all parties, remedial action, and long-term plans for implementation.
- Work with all waterfront property owners and tenants to ensure ongoing environmental compliance with respect to both operations and construction (air, water, and hazardous waste permit compliance). In the past, the Municipality has checked with tenants and agencies to ensure compliance. Many ports conduct similar review on an annual basis and provide updates to tenants and stakeholders regarding changes in regulatory requirements and new available technologies and BMPs. An immediate short-term step is described in Section 5.1.2.1.
- Continue and increase communications with industrial and commercial tenants, community stakeholders (the public, TIWC), relevant agencies (AMHS, NPS) and tribal governments (STC), especially as a long-term waterfront planning effort begins. Increased communication with CBP and ADOT&PF would support adequate data collection to feed into long-term planning efforts. Active ongoing involvement from TIWC and STC would help to identify and implement opportunities to preserve and highlight natural shoreline resources within the Municipality. Improvement and/or development of shoreline public access ways provide the Municipality an opportunity to connect the public with Skagway's natural resources and rich tribal history through observation points, interpretative signage, or habitat restoration along the shoreline. Coordination with other stakeholders (i.e. TIWC and STC) could also identify opportunities for restoration that can be used to offset any natural resource impacts from nearshore development in the Port Area.
- Consider a future study to document the vehicle, pedestrian, and rail movements within the Port Area would support long-range waterfront development and identify areas for improvement (improved travel corridors for vehicles, pedestrians and bikes; clear signage; lights or gates for rail crossings).
- Estimating current air emission rates from various sources, including point-source (stationary) sources, marine crafts, air crafts, locomotives, and vehicles (both heavy and light duty), can be used as a starting point in assessing the short-term magnitude of change in future Port operation. Since existing emission sources also likely represent future emission sources, further air quality assessment, consisting of trend analysis and the consolidation of modeling data, government tables and air pollution emission inventories and indexes, can provide meaningful insight into how change in Port Area operations may impact air quality at a high level over a relatively short timeframe.

Long-term (over the next 10 to 20 years):

- Long-term Port development suggests the likelihood of increased marine transport with associated increasing levels of air pollutant emissions stemming primarily from the seasonal or market-driven fluctuation in marine vessels transport. The magnitude of change in marine transport is unknown yet it is assumed that some localized areas at the Port may experience fluctuation in pollutant emissions. Considering emission dispersion away from Port activities, it's likely that the increase in maritime activities would not contribute to the exceedance of regional air quality standards. However, air emissions may lead to site-specific air quality concerns that warrant further qualitative assessment and quantitative measurements once the magnitude of change in Port operations is known. Long-term ambient air quality is subject to comprehensive regional land use planning at a municipal level, which should consider potential short-term impacts on air quality resulting from land use change, transportation operations modification and activities at the Port. At both the State and Federal programming levels, air quality monitoring that quantitatively measures emissions is needed to identify sources of air pollution and to demonstrate conformity to NAAQS.
- Tourist traffic from increased volumes of cruise passengers, or increased commercial truck traffic from additional mining activity, could strain the US/Canadian land border. Both borders conduct routine assessments of their facilities and the need for changes in service, and both will coordinate with the local communities if needs are anticipated to change. More frequent communication of these anticipated needs in advance of future development would support all agencies and stakeholders that use the Klondike Highway.
- As Skagway grows continue to assess and ensure capacity of all utilities, including energy, stormwater and wastewater facilities.

5.1. ENVIRONMENTAL COMPLIANCE PROGRAM DEVELOPMENT

One of the proposed short-term recommendations identified above was to consider ways in which the Municipality could work with their tenants to ensure ongoing environmental compliance with respect to both operations and construction. In the past, the Municipality has checked with tenants and agencies to ensure compliance. Many ports conduct similar review on a regular basis. This section describes a general outline for establishing and implementing an environmental compliance/stewardship program that is based, in large part, on Skagway's philosophy of fostering a sustainable future while promoting the Municipalities' economic objectives.

The following narrative discusses the benefits of acting proactively towards the preservation the many resources that Skagway has to offer on a local, nation, tribal, and international scale. A synopsis of several similar programs, is discussed below as reference to possible program options for consideration.

5.1.1. COMPLIANCE PROGRAM BENEFITS

Past industry has resulted in an ongoing cleanup of the Ore Dock Basin as required by State ADEC standards. With the knowledge from a rich industrial past, a proactive approach to environmental sustainability can support early identification of ways the community can better sustain their valuable waterfront resources and uses. Two such examples are in the areas of air and water quality:

- **Air Quality:** As discussed in this report, Skagway has not been designated as an area with any substantial air quality issues at this time; however, the NPS has expressed concerns about air quality conditions. Data from ambient air monitoring has indicated the presence of relatively high levels of sulfur and heavy metals from historical industrial and mining activities in the area. With the growth of tourism in the area, other air pollutants may become more of a concern.

Water Quality: In addition, the State has developed two TMDL orders for the area – one for metals in Pullen Creek, and one for petroleum hydrocarbons in the harbor. The Pullen Creek TMDL from 2010 is for metals (cadmium, copper, lead, and zinc) in sediment of the creek, and from dust generated by ore and shipping

processing facilities (ADEC 2010). According to the TMDL, water contamination is permitted to be addressed through natural attenuation with some on-going sediment monitoring. The Harbor TMDL is more recent (USEPA 2011), and is for petroleum hydrocarbons that are also found primarily in the sediment. The varying levels of petroleum hydrocarbons are being reduced over time by natural attenuation, as well as spill management best practices. The western and central portions of the harbor were listed as areas of concern for total petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds, and oil and grease.

Since the two TMDLs for the area rely on natural attenuation to address water quality-related issues, it is important that new sources of these pollutants be limited as much as possible and addressed thoroughly.

In an effort to preserve a healthy environment for the community and in particular the Port Area, a resolution was passed in 2014 (Municipality 2014). Preservation of environmental quality in Skagway will also support economic prosperity for generations to come. This is especially meaningful to the tourism and industrial sectors of the economy on both a local and national scale.

5.1.2. EXAMPLES OF ENVIRONMENTAL COMPLIANCE/STEWARDSHIP PROGRAMS

Ports may have informal and/or formal compliance programs in place and these programs are not necessarily required by Federal or State law (although they are sometimes required as a condition of enforcement actions). However, they can be very helpful in proactively working with tenants to identify and remedy environmental issues before they become enforcement actions.

In order to examine options for Skagway to take to address environmental compliance and stewardship, M&N investigated the websites for a number of ports including Juneau, Ketchikan, and Seward, Alaska as well as Kitimat, British Columbia, Canada in addition to the six programs described below. Many ports rely on agency oversight for environmental compliance, others have less formal programs, while some are more comprehensive. All vary depending on the port, its location, goals and needs, staffing, budget, and the different types of operations provided to the community.

The Municipality may want to consider being proactive and initiating an environmental compliance/stewardship program for the Port in order to avoid future compliance issues and ensure the quality of the environment. Grant funds may also be available to assist in establishing such a program.

Six published examples (available on their websites) are outlined below:

- **Port of Anchorage, Alaska:** The Port of Anchorage has a comprehensive stormwater management program as part of their coverage as a Phase I Municipal Separate Stormwater System. As part of their SWPPP, regular meetings are scheduled between Port staff and tenants to collaborate on stormwater management, ensure frequent and open discussion of issues, to keep current with regulatory changes, and report and assist in violations (Port of Anchorage 2017).
- **Port of Bellingham, Washington:** The Port of Bellingham has a comprehensive environmental compliance and Low Impact Development (LID) program for stormwater management. Similar to many other port programs, it is a proactive program designed to assist tenants with environmental compliance and stormwater management in order to address issues before they become environmental enforcement concerns (Port of Bellingham 2017). The overall purpose of the program is stated as follows:

The Environmental Compliance and Assessment Program (ECAP) "is not an enforcement program; rather, ECAP team members work collaboratively with tenants to minimize environmental impacts in ways that also work with the tenant's business objectives. The ECAP program helps port tenants maintain compliance with increasingly complex stormwater regulations and consider the implementation of LID alternatives."

- **Port of Long Beach (POLB), Long Beach, California:** The POLB has an intensive compliance monitoring program. This comprehensive program contains a Water Resources Action Plan (with a master stormwater program, a vessel discharge program, sediment management program, and TMDL program with extensive sampling) and a Clean Air

Action Plan with components such as reductions in particulate matter, NO_x, and Sox from a wide variety of transportation-related sources (POLB 2017).

- **Port of Seattle, Washington:** Seattle has a large, proactive environmental compliance program designed to assist port tenants to ensure their environmental compliance and enhance communication with the tenants (Port of Seattle, 2017a). The Port has a comprehensive manual and data forms to document environmental spills and the associated clean-up procedures (Port of Seattle, 2017b). In addition, the program produces annual reports which summarize the environmental compliance and stewardship activities (Port of Seattle, 2017c). In 2010, this program won the national award for Environmental Achievement from the American Association of Port Authorities (Port of Seattle, 2010) in recognition of the comprehensive nature of the program.
- **Port of Tacoma, Washington:** Tacoma has a well-rounded environmental compliance and stewardship program with a full-time manager as well as a port biologist. As part of this effort, they have a proactive program to assist Port tenants with environmental compliance and conduct air and water quality monitoring. In addition, the Port has a stormwater management program and active restoration program as well (Port of Tacoma 2017).
- **Prince Rupert Port Authority (PRPA), Prince Rupert, British Columbia, Canada:** The PRPA is more similar to Skagway than others described above in terms of its size and location along the Pacific Northwest, as well as meeting the needs of similar industries (notably the cruise industry). The PRPA has a strong environmental stewardship program (PRPA 2017) which includes extensive water quality monitoring in the Port for parameters such as metals, nutrients, algae, bacteria, PAHs as well as physical/chemical parameters such as dissolved oxygen and pH. Grab samples are taken quarterly from 32 sites and monthly physical/chemical samples are taken as well. Air quality is monitored for particulates. In addition, noise measurements and monitoring are periodically conducted at the port facility.

While several of the above examples are quite extensive, compliance programs can be scaled to fit the needs of an individual property owner. The following is an example outline for a program at Skagway. It can be revised, refined, and/or further developed in the future to better fit the needs of the Municipality and its waterfront tenants and stakeholders. It is recommended that such a program be implemented with input from the existing tenants and stakeholders to better support their operations in a pro-active and cohesive way.

5.1.2.1. Example Outline

An initial environmental compliance/stewardship program for Skagway would be developed, managed and implemented by existing staff, and could also be expanded to include tenants, and the data they already collect and submit to the regulating agencies, and/or community volunteers. Coordination with other local groups (i.e. TIWC, NPS) could also support the program over the longer term. A comprehensive examination of incentives to tenants with respect to environmental compliance could be developed to include a proactive examination of the tenant's site, an awards program for environmental compliance, and (if feasible) a cost-sharing program to encourage tenant compliance.

The core lead or group could develop a file or database for longer term studies, and serve as a central contact point for the effort (to start this could include water and air quality monitoring for the Port and Pullen Creek areas). This could be as simple as coordinating with existing tenants and agencies and gathering data already being collected for the area. For example, data is already collected by a variety of sources, including water quality data collected by the State mainly to address TMDL issues and the Ocean Rangers Program (ADEC 2017e), which provides trained citizen monitors for cruise ship air emissions.

Example outlines include:

- **Immediate-term (0 to 2 years):** The Municipality could:
 - Set up a program in which it meets with its tenants and/or facility managers once a year (or more frequently to start) to discuss compliance requirements and future goals, and upcoming facility repairs or improvements that could support improved compliance. If tenants and managers are already in

compliance, the meeting could be used to promote this fact and record efforts that are already being carried out. An annual community meeting or open house could be used to share current findings and share what works, what doesn't, etc.

- Assign an existing staff member the responsibility to organize this effort and maintaining a database or spreadsheet of existing operations permits and compliance responsibilities. That staff member could then either contact some of the ports described above or visit them if possible, to more thoroughly understand these other programs.
- **Short term Program (2 to 3 years):** The Municipality could:
 - Further develop the environmental compliance/stewardship monitoring plan to involve contacts with local cruise ship operators, the Ocean Ranger program, interested local citizens, and related stakeholders.
 - Publicize the compliance program (using signage, announcements) to promote improved BMPs and technologies (i.e. this could be used for SBH boaters who use the harbor and adjacent upland boating facilities).
 - Develop a feedback mechanism to share new technologies and BMPs with facility operators and users.
- **Long-term Program (3 to 5 years):** A long-term approach could include any, all, or a combination of the following:
 - Create incentives for tenants to develop property/facility specific programs and to participate in an automated data acquisition network (donate equipment, positive signage, Clean/Green Tenant).
 - Partner with non-profit or university to share data useful to their research (e.g. sharing regional temperature data to marine mammal researchers).
 - Obtain funding for more frequent sampling for sediment metals (Pullen Creek) and petroleum hydrocarbons (Harbor) to supplement Alaska DEC data collection.
 - Design a water quality monitoring database to be consistent with the database utilized by the ADEC. Populate that database with existing data collected in the Skagway area.
 - Purchase an appropriate multi-probe instrument to use for ambient water quality monitoring. Begin monitoring on a quarterly (then monthly) basis for ambient water quality. Initial parameters to monitor via the multi-probe meter would include turbidity, dissolved oxygen, oil and grease, temperature, and salinity.
 - Collect grab samples at the harbor as well as Pullen Creek to analyze heavy metal and petroleum hydrocarbon content.
 - Recruit local volunteers to train for assistance with data collection, data entry, and analysis.
 - Obtain funding to install and maintain a permanent air quality monitoring station as well as a meteorological station to address long term air quality trends in the Skagway area.
 - Investigate the practicality of a wireless sensor network for particulate matter monitoring (Zheng et al. 2016).
 - Investigate the practicality of developing a volunteer water quality data collection network using cell phone probes to supplement the data collected by the Port Authority.
 - Prepare a website to display all the collected data for citizen and agency access and analysis. The City of Bergen, Norway (City of Bergen 2017) has a good website which displays the current data for air quality in a useful manner.
 - Develop a plan of action to address and mitigate adverse trends in environmental degradation.



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**APPENDIX****A-1. SUMMARY LIST OF STAKEHOLDERS CONTACTED FOR INPUT**

Stakeholder (Organization)	Date	Communication Type	Purpose of Organization	Main Topics
Alaska Marine Lines	April 28, 2017 and July 12, 2017	Meeting and follow up calls	Tenant at north end of Ore Dock	Operates a barge service at the north end of Ore Dock for local supplies, and to Yukon mining operations. They do not currently have ro-ro capabilities.
US Customs and Border Protection	April 19, 2017 and follow up dates	Calls	Manages land entry to the US from Canada	Assessment in 2014 to improve wait times. Border currently closed during evening hours. Need assessment conducted by both US and Canadian agencies regularly. Currently processing time is limited by cell service provider. Received monthly vehicular data since 2014.
Department of Transportation and Public Facilities	April 28, 2017 and follow up calls	Meeting and calls	State agency that designs, maintains, and operates State's transportation infrastructure	Discussed existing operations for the airport and ADOT&PF highways and streets. The Skagway Airport is owned, it is a non-certified small airport. One full-time commercial company, 5-6 private planes and two tour companies use the airport. State highway still in need of repairs from 1980s. Highway repairs planned to occur within next few years. Will include stakeholder input.
Mineral Services Inc.	April 26, 2017	Meeting	Terminal Operator for Ore Dock	Terminal operator for Capstone Mining Corp; owns and operates the Minto copper mine, expected to keep producing for 4 more years in Yukon Territory.
Municipality of Skagway	April 27, 2017	Meeting	Owens waterfront property	Discussed the Ore Dock Cleanup Site, ongoing waterfront operations, stormwater and wastewater outfalls that enter the harbor.
Municipality Small Boat Harbor	April 26, 2017	Meeting	Owens and operates the SBH	SBH supports fishing, tourism, recreational vessels. Provides storage facilities for boat maintenance.
Petro Marine Services	June 6, 2017	Call	Operates marine fuel depot at Ore Dock	Operational permits and ADEC listed cleanup site.
Skagway Traditional Council	May 26, 2017	Calls and Email		Water front area is within the traditional Tlingit territory for the Skagway Village tribe. Tribe's concerns include questions on development, Ore Dock cleanup, involvement of tribe in process, restitution.

**A-1. SUMMARY LIST OF STAKEHOLDERS CONTACTED FOR INPUT (CONTINUED)**

TEMSCO Helicopters Inc.	April 28, 2017	Meeting	Tenant on Ore Dock peninsula	Discussed existing operations and thoughts on any uses being moved to peninsula.
Tour Bus Operators	June 2017	Calls/Emails	Operate Skagway tour buses	Delays longer than 30 minutes less common in recent years.
White Pass & Yukon Route Railway	April 26, 2017 and follow up dates	Meeting and follow up calls	Owns and leases waterfront property	Discussed existing operations and Ore Dock Cleanup Site. WP&YR hired Golder Associates to evaluate all existing information (work to be finished in fall 2017), current sampling supports ecological and human health risk assessment for the Ore Dock Basin. Rail Dock and land under dock belong to WP&YR.
Yukon Economic Development Corporation	April 27, 2017	Meeting	Promotes Yukon economic development	Discussed existing operations, how transport occurs, future mining opportunities for Skagway. Skagway is still the lowest cost port of exit for ore concentrate.



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