



**ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM
PERMIT FACT SHEET –DRAFT**

Permit Number: AK0053635

North Tongass Car Wash

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Wastewater Discharge Authorization Program

555 Cordova Street

Anchorage, AK 99501

Public Comment Period Start Date: February 15, 2017

Public Comment Period Expiration Date: March 17, 2017

[Alaska Online Public Notice System](#)

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Proposed issuance of an Alaska Pollutant Discharge Elimination System (APDES) permit to:

NORTH TONGASS CAR WASH

For wastewater discharges from

North Tongass Car Wash
5559 North Tongass Highway
Ketchikan, AK 99901

The Alaska Department of Environmental Conservation (the Department or DEC) proposes to issue an APDES individual permit (permit) to North Tongass Car Wash. The permit authorizes and sets conditions on the discharge of pollutants from this facility to waters of the United States. In order to ensure protection of water quality and human health, the permit places limits on the types and amounts of pollutants that can be discharged from the facility and outlines best management practices to which the facility must adhere.

This fact sheet explains the nature of potential discharges from North Tongass Car Wash and the development of the permit including:

- information on public comment, public hearing, and appeal procedures
- a listing of proposed effluent limitations and other conditions
- technical material supporting the conditions in the permit
- monitoring requirements in the permit

Public Comment

Persons wishing to comment on, or request a public hearing for the draft permit for this facility, may do so in writing by the expiration date of the public comment period.

Commenters are requested to submit a concise statement on the permit condition(s) and the relevant facts upon which the comments are based. Commenters are encouraged to cite specific permit requirements or conditions in their submittals.

A request for a public hearing must state the nature of the issues to be raised, as well as the requester's name, address, and telephone number. The Department will hold a public hearing whenever the Department finds, on the basis of requests, a significant degree of public interest in a draft permit. The Department may also hold a public hearing if a hearing might clarify one or more issues involved in a permit decision or for other good reason, in the Department's discretion. A public hearing will be held at the closest practicable location to the site of the operation. If the Department holds a public hearing, the Director will appoint a designee to preside at the hearing. The public may also submit written testimony in lieu of or in addition to providing oral testimony at the hearing. A hearing will be tape recorded. If there is sufficient public interest in a hearing, the comment period will be extended to allow time to public notice the hearing. Details about the time and location of the hearing will be provided in a separate notice.

All comments and requests for public hearings must be in writing and should be submitted to the Department at the technical contact address, fax, or email identified above (see also the public comments section of the attached public notice). Mailed comments and requests must be postmarked on or before the expiration date of the public comment period.

After the close of the public comment period and after a public hearing, if applicable, the Department will review the comments received on the draft permit. The Department will respond to the comments received in a Response to Comments document that will be made available to the public. If no substantive comments are received, the tentative conditions in the draft permit will become the proposed final permit.

The proposed final permit will be made publicly available for a five-day applicant review. The applicant may waive this review period. After the close of the proposed final permit review period, the Department will make a final decision regarding permit issuance. A final permit will become effective 30 days after the Department's decision, in accordance with the state's appeals process at 18 AAC 15.185.

The Department will transmit the final permit, fact sheet (amended as appropriate), and the Response to Comments to anyone who provided comments during the public comment period or who requested to be notified of the Department's final decision.

The Department has both an informal review process and a formal administrative appeal process for final APDES permit decisions. An informal review request must be delivered within 15 days after receiving the Department's decision to the Director of the Division of Water at the following address:

Director, Division of Water
Alaska Department of Environmental Conservation
410 Willoughby Street, Suite 303
Juneau, AK 99811-1800

Interested persons can review 18 AAC 15.185 for the procedures and substantive requirements regarding a request for an informal Department review.

See <http://www.dec.state.ak.us/commish/InformalReviews.htm> for information regarding informal reviews of Department decisions.

An adjudicatory hearing request must be delivered to the Commissioner of the Department within 30 days of the permit decision or a decision issued under the informal review process. An adjudicatory hearing will be conducted by an administrative law judge in the Office of Administrative Hearings within the Department of Administration. A written request for an adjudicatory hearing shall be delivered to the Commissioner at the following address:

Commissioner
Alaska Department of Environmental Conservation
410 Willoughby Street, Suite 303
Juneau AK, 99811-1800

Interested persons can review 18 AAC 15.200 for the procedures and substantive requirements regarding a request for an adjudicatory hearing. See <http://www.dec.state.ak.us/commish/ReviewGuidance.htm> for information regarding appeals of Department decisions.

Documents are Available

The permit, fact sheet, application, and related documents can be obtained by visiting or contacting DEC between 8:00 a.m. and 4:30 p.m. Monday through Friday at the addresses below. The permit, fact sheet, application, and other information are located on the Department's Wastewater Discharge Authorization Program website: <http://www.dec.state.ak.us/water/wwdp/index.htm>.

Alaska Department of Environmental Conservation Division of Water Wastewater Discharge Authorization Program 555 Cordova Street Anchorage, AK 99501 (907) 269-6285	Alaska Department of Environmental Conservation Division of Water Wastewater Discharge Authorization Program 410 Willoughby Avenue, Suite 310 Juneau, AK 99801 (907) 465-5180
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TABLE OF CONTENTS

1.0	APPLICANT	6
2.0	FACILITY INFORMATION	6
2.1	Permit Background	7
2.2	Pollutants of Concern.....	7
3.0	EFFLUENT LIMITS AND MONITORING REQUIREMENTS.....	7
3.1	Basis for Permit Effluent Limits	7
3.2	Basis for Effluent Monitoring	8
3.3	Effluent Monitoring Requirements	8
3.4	Whole Effluent Toxicity Monitoring	9
4.0	RECEIVING WATER BODY.....	10
4.1	Description of Receiving Waterbody.....	10
4.2	Outfall Location	10
4.3	Water Quality Standards	10
4.4	Water Quality Status of Receiving Water.....	11
5.0	ANTIBACKSLIDING	11
6.0	ANTIDegradation	11
7.0	OTHER PERMIT CONDITIONS	13
7.1	Electronic Reporting (E-Reporting) Rule	13
7.2	Quality Assurance Project Plan	13
7.3	Operations and Maintenance Plan	13
7.4	Standard Conditions.....	14
8.0	OTHER LEGAL REQUIREMENTS	14
8.1	Endangered Species Act	14
8.2	Ocean Discharge Criteria.....	14
8.3	Essential Fish Habitat	15
8.4	Permit Expiration	15
9.0	References.....	16

TABLES

Table 1: Effluent Monitoring Data Submitted with Permit Application7

Table 2: Outfall 001 Effluent Limits and Monitoring Requirements9

FIGURES

Figure 1: North Tongass Car Wash Map17

Figure 2: North Tongass Car Wash Process Flow Diagram18

APPENDICES

APPENDIX A. Facility Information..... 17

APPENDIX B. Basis For Effluent Limitations 19

1.0 APPLICANT

This fact sheet provides information on the Alaska Pollutant Discharge Elimination System (APDES) permit for the following entity:

Name of Facility:	North Tongass Car Wash
APDES Permit Number:	AK0053635
Facility Location:	5559 North Tongass Highway
Mailing Address:	Ketchikan, AK 99901
Facility Contact:	Jim and Nicole Church

Figure 1 in APPENDIX A to the Fact Sheet shows the location of the facility and the discharge location.

2.0 FACILITY INFORMATION

The North Tongass Car Wash (NTCW) is located on the North Tongass Highway in Ketchikan, Alaska. The NTCW was purchased by current owners Jim and Nicole Church (permittee) in 1992. It is a three bay vehicle wash consisting of two automatic tunnel wash bays and one self-service wash bay. In the automatic bays, a vehicle is pulled by a conveyor through separate washing, rinsing, and/or waxing operations. The self-service bay operates a high-pressure wand system to clean vehicles.

Water for the NTCW is obtained from an existing roof catchment system and supplemented by a water truck from the City of Ketchikan. The water is stored in two galvanized steel tanks located on-site. The NTCW uses up to 336,000 gallons of water per year. Based on recorded water flow data, summer use (April 1 to September 30) accounts for approximately 70% of the annual water usage. The facility is closed during freezing weather for about 2-3 weeks per year. NTCW utilizes the following products in the vehicle wash process; Simoniz® Kleen Rite Kleen Seal, Powdered Heavy Duty Whitewall, and Super Dri.

Each wash bay is equipped with a three and one half foot wide, seven foot long, and four foot deep catch basin centered in the bay and covered with a steel grate. Individual catch basins each contain a sump to allow large particles to settle out. An 18 inch wide, six inch deep trench covered with steel grating transverses each bay to collect and convey washwater from the individual sumps to a single collection point in the building's mechanical room. Settled material from the catch basins and trenches are removed as required and stored on-site. The NTCW adds a gallon of Hydro Engineering biodigesters to the catch basin and trench drains on a monthly basis.

Washwater collected in the mechanical room is delivered to a Utility Vault Company model 660-SA oil/water separator (OWS) via an eight inch PVC pipe. The OWS consists of a four foot wide, six foot long, and six foot deep concrete vault with three compartments. The compartments are separated by galvanized steel oil retainer baffles spanning from the vault lid to nine inches from the bottom of the vault. The OWS has a capacity of 450 gallons and treats at a rate of 30 gallons per minute, with a retention time of fifteen minutes. The lid is six inch thick concrete with an access door or inspection cover over each compartment. A 12 inch high galvanized steel grit/sludge retainer weir is located at the bottom of the center compartment. Oil-absorbent socks are installed in all compartments. The socks are removed and disposed of at the Ketchikan landfill when saturated.

Effluent from the OWS is discharged to a PVC pipe that is approximately 355 feet long, which traverses other properties before reaching the Tongass Narrows shoreline. Pipe material transitions to 15 feet of four inch diameter ductile iron pipe at the shoreline prior to discharge to Tongass Narrows.

2.1 Permit Background

The permittee first applied for an APDES permit in July of 2011. The permittee submitted additional information and application Form 2D to constitute a technically complete application in April 2016. Anecdotal evidence exists of the facility being visited by Compliance and Enforcement staff in 2011, however, no written documentation, such as an inspection report or other field notes, are available to supplement the alleged site visit. As such, and given this is a first-time permit issuance, there is no further compliance history information to describe.

2.2 Pollutants of Concern

Potential numeric and narrative pollutants of concern expected in the process wastestream of the NTCW are pH, total suspended solids (TSS), oil and grease, chemical oxygen demand (COD), total aqueous hydrocarbons (TAqH), total aromatic hydrocarbons (TAH), foam, and sheen. These parameters are commonly associated with wastewater discharges from vehicle washes (Environmental Protection Agency [EPA], 1982) and are included in many vehicle wash discharge general permits administered by other states. Table 1 depicts effluent monitoring data submitted with the permittee's initial APDES permit application in July 2011 and subsequent submittal in April 2016. Foam is included as a pollutant of concern because vehicle washes can produce foam from the detergents/soaps used in the wash process. TAH and TAqH are included as pollutants of concern due to the use of products containing petroleum hydrocarbons and presence in vehicle wash water, as well numeric criteria for these pollutants in the water quality standards (WQS) for petroleum hydrocarbons, oil and grease. The basis for effluent limits is further discussed in Section 3.1 and APPENDIX B.

Table 1: Effluent Monitoring Data Submitted with Permit Application

Pollutant	Value	Units
Ammonia as Nitrogen	Non-Detect (ND)	Milligrams per liter (mg/L)
COD	265	mg/L
Five Day Biochemical Oxygen Demand (BOD ₅)	62.04	mg/L
Maximum Flow	1,440	Gallons per day (GPD)
Oil and Grease	20	mg/L
pH	7.31	Standard Units (SU)
Temperature (summer)	13	Degrees Celsius (°C)
Temperature (winter)	6.7	°C
Total Organic Carbon	48.6	mg/L
TSS	53	mg/L

3.0 EFFLUENT LIMITS AND MONITORING REQUIREMENTS

3.1 Basis for Permit Effluent Limits

The Clean Water Act (CWA) and its implementing regulations requires that the limits for a particular pollutant be the more stringent of either technology-based effluent limits (TBELs) or water quality-based effluent limits (WQBELs). TBELs are set according to the level of treatment that is achievable using available technology. EPA nationally promulgates TBELs for selected industrial categories via Effluent Limitation Guidelines (ELG). There currently are no promulgated TBELs that apply to vehicle wash facilities. A WQBEL is designed to ensure that the WQS of a water body are met and may be more

stringent than TBELs. WQBELs and case-by-case Best Professional Judgement (BPJ) TBELs are included in the permit. A detailed discussion of the basis for the effluent limits is provided in APPENDIX B.

3.2 Basis for Effluent Monitoring

In accordance with AS 46.03.110(d), the Department may specify in a permit the terms and conditions under which waste material may be disposed. Monitoring in a permit is required to determine compliance with effluent limits. The permittee is responsible for conducting the monitoring and for reporting results on Discharge Monitoring Reports (DMRs) or on the application for permit reissuance, as appropriate, to the Department. Section 3.3 summarizes monitoring requirements DEC determined appropriate.

3.3 Effluent Monitoring Requirements

The permit contains limits that are both BPJ TBELs and WQBELs. Pollutants of concern were determined by BPJ TBELs, WQBELs, pollutants identified as present in the effluent through monitoring, and pollutants otherwise expected to be in the discharge.

The permit requires monitoring of the effluent once per year in the summer months (while the facility is discharging) for oil and grease, pH, TSS, COD, TAH, and TAqH. Monitoring is required to determine compliance with the effluent limitations and to inform future permit reissuances. The permit requires that the daily maximum flow be measured or estimated and reported. Visual observation of the receiving water for the presence of foam or sheen caused by the discharge is required on a monthly basis during the months of April-September when the NTCW experiences its highest use. The date, time, and result of visual observations for foam and sheen shall be logged. The visual observation log shall be retained on site and made available to the Department upon request. The presence of observable foam or sheen caused by the discharge in the receiving water at any time shall be reported as non-compliance.

The permit requires TSS and oil and grease monitoring once per year to determine compliance with BPJ TBELs. These effluent limits are consistent with vehicle wash discharge general permits administered by other states and the yearly monitoring will serve to ensure that the treatment technology at the NTCW is being properly operated and maintained. TAH, TAqH, and pH monitoring is required in the permit to determine compliance with WQBELs. The permit also requires daily maximum discharge flow to be measured or estimated and reported once per year. There is no daily maximum flow limit. The basis for all effluent limits is discussed in APPENDIX B.

COD measures all pollutants that are measured by BOD₅, as well as many pollutants that are slowly biodegradable or non-biodegradable. Thus, it provides an upper-bound estimate of the oxygen demand that may be exerted on receiving water by the vehicle wash effluent. A 1982 EPA study of vehicle washes contained monitoring results for COD from 24 vehicle wash establishments that ranged from a minimum COD concentration of 61 mg/L to a maximum of 1,120 mg/L. Three of the ten vehicle washwater discharge general permits administered by other states included COD as an effluent limit. Effluent limits for COD ranged from 20 mg/L to 300 mg/L. One state's vehicle wash general permit contained an effluent limit and monitoring requirements for BOD₅. The Department is requiring monitoring for COD due to the high concentration of COD (265 mg/L) reported in the application submitted by the applicant. COD monitoring and effluent limits (BPJ TBELs) may or may not be required in the next permit issuance.

Monitoring frequencies are based on the nature and effect of a pollutant, as well as a determination of the minimum monitoring necessary to adequately monitor the facility's performance. Regulations at

40 CFR 122.44(i)(2) require that in no case are discharges allowed to be monitored less frequently than once per year. The Department surveyed ten vehicle wash surface water discharge general permits administered by other states. Monitoring frequencies ranged from monthly to once per year. All general permits that differentiate monitoring frequencies based on a facility's design flow require facilities with design flows that range from less than 1,500 to 5,000 GPD to sample once per year. General permits that did not categorize facilities by design flow required monthly or quarterly monitoring. The Department selected once per year monitoring with the sample event occurring in the summer when the NTCW experiences its highest use. Table 2 depicts the effluent limits and monitoring requirements.

Table 2: Outfall 001 Effluent Limits and Monitoring Requirements

Parameter	Effluent Limits		Monitoring Requirements		
	Daily Minimum	Daily Maximum	Units	Sample Frequency	Sample Type
Total Discharge Flow	N/A	Report	GPD	Once per Year ^b	Estimated or Recorded
Oil and Grease	N/A	15	mg/L		Grab
		0.18 ^a	Pounds per Day (lbs/day)		
pH	6.5	8.5	SU		Grab
TAH	N/A	10	Micrograms per liter (µg/L)		Grab
		0.00012	lbs/day		
TAqH	N/A	15	µg/L		Grab
		0.00018	lbs/day		
COD	N/A	Report	mg/L		Grab
TSS	N/A	60	mg/L		Grab
		0.78	lbs/day		
Residues	The permittee must not discharge any floating solids, debris, sludge, deposits, foam, scum or other residues that cause a film, sheen, or discoloration on the surface of the receiving water or adjoining shorelines; cause leaching of toxic or deleterious substances; or cause a sludge, solid, or emulsion to be deposited beneath or upon the surface of the water, within the water column, on the bottom, or upon adjoining shorelines.		1/Month (April-September)		Visual ^c
Footnotes: a. All mass-based limits calculated using maximum observed flow from permit application; 1,440 GPD. b. Once per year means taking one sample per year during the time period April 1-September 30 while the NTCW is washing vehicles and discharging effluent to Tongass Narrows. c. If a visible sheen or foam is noted in the receiving water at any time, a letter of noncompliance shall be submitted in accordance with permit APPENDIX A, Standard Conditions, Section 3.4. The date, time, and result of visual observations for foam and sheen shall be logged. The visual observation log shall be retained on site and made available to the Department upon request.					

3.4 Whole Effluent Toxicity Monitoring

18 AAC 83.435 requires that a permit contain limitations on whole effluent toxicity (WET) when a discharge has reasonable potential to cause or contribute to an exceedance of a WQS. WET tests use

small vertebrate and invertebrate species and/or plants to measure the aggregate toxicity of an effluent. The discharge from the NTCW must meet water quality criteria at the end of pipe, therefore, the Department has determined that compliance with the terms and conditions of the permit is designed to ensure that reasonable potential for WET does not exist subject to permit compliance. Accordingly, WET testing is not required at this time. However, the Department has established permit requirements for other specific indicator pollutants (TAH, TAqH, oil and grease, COD) to evaluate expected pollutants of concern associated with the wastestream that have the highest likelihood of imparting toxicity.

4.0 RECEIVING WATER BODY

4.1 Description of Receiving Waterbody

Tongass Narrows is a Y-shaped channel that extends approximately 14 miles in a generally northwest direction from the eastern side near Revillagigedo Channel to Gravina Island in Clarence Strait on the western side. The width of the narrowest portion of Tongass Narrows is approximately 0.125 miles. Water depths rarely exceed 150 feet. The average water depth in the vicinity of the discharge is approximately 5.3 feet (1.63 meters). Average water temperature during 2016 was 10.3 degrees Celsius (°C) (National Oceanic and Atmospheric Association [NOAA], 2016). Tongass Narrows is generally characterized by steep bedrock or coarse gravel-cobble-boulder shoreline. Lower intertidal and shallow subtidal areas are often sandy or mixed gravel, sand, and shell with varying amounts of silt (Alaska Department of Transportation [ADOT], 2013). Tongass Narrows has a semi-diurnal tide with a pronounced diurnal inequality. Tidal currents generally flow parallel to the channel to the southeast (120°) on ebb and to the northwest (310°) on the flood. Current speeds in the vicinity of the discharge (data collected approximately 2.75 miles southeast of the discharge) can be significant and range from a minimum of 0.3 centimeters per second (cm/s) to a maximum of 97.3 cm/s (NOAA 2007). The tidal range in the vicinity of the vehicle wash is approximately 23 feet.

4.2 Outfall Location

NTCW discharges treated vehicle wash water effluent into marine waters of Tongass Narrows at latitude 55.386956° North by longitude 131.738704° West at -4 feet MLLW. The outfall line extends approximately 15 feet from the shoreline and is comprised of a four inch diameter ductile iron pipe with no diffuser.

4.3 Water Quality Standards

Regulations in 18 AAC 70 require that the conditions in permits ensure compliance with WQS. The State's WQS are composed of use classifications, numeric and/or narrative water quality criteria, and an antidegradation policy. The use classification system identifies the designated uses that each water body is expected to achieve. The numeric and/or narrative water quality criteria are the criteria deemed necessary by the state to support the designated use classification of each water body. The antidegradation policy ensures that the designated and existing uses and the level of water quality necessary to protect the uses are maintained and protected.

Water bodies in Alaska are protected for all uses unless the water has been reclassified under 18 AAC 70.230 as listed under 18 AAC 70.230(e). Some water bodies in Alaska can also have site-specific water quality criterion per 18 AAC 70.235, such as those listed under 18 AAC 70.236(b).

The receiving water for the discharge, Tongass Narrows near the NTCW outfall, has not been reclassified, nor have site-specific water quality criteria been established. Therefore, Tongass Narrows must be protected for all marine water use classes listed in 18 AAC 70.020(a)(2). These marine water designated use classes consist of the following: water supply for aquaculture, seafood processing and

industrial; water recreation for contact and secondary recreation; growth and propagation of fish, shellfish, other aquatic life, and wildlife; and harvesting for consumption of raw mollusks or other raw aquatic life.

4.4 Water Quality Status of Receiving Water

Any part of a water body for which the water quality does not or is not expected to meet applicable WQS is defined as a “water quality limited segment” and placed on the state’s impaired water body list. The specific area the NTCW discharges to Tongass Narrows is not included on the *Alaska’s Final 2010 Integrated Water Quality Monitoring and Assessment Report*, July 15, 2010, nor is the water body in the area of the NTCW discharge subject to a pending or approved Total Maximum Daily Load.

5.0 ANTIBACKSLIDING

18 AAC 83.480 requires that “effluent limitations, standards, or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit.” 18 AAC 83.480(c) also states that a permit may not be reissued “to contain an effluent limitation that is less stringent than required by effluent guidelines in effect at the time the permit is renewed or reissued.” This is the initial APDES permit for the facility; therefore, further antibacksliding analysis is not warranted.

6.0 ANTIDEGRADATION

Section 303(d)(4) of the CWA states that, for water bodies where the water quality meets or exceeds the level necessary to support the water body’s designated uses, WQBELs may be revised as long as the revision is consistent with the State’s Antidegradation Policy. The Antidegradation Policy of the WQS (18 AAC 70.015) states that the existing water uses and the level of water quality necessary to protect existing uses must be maintained and protected. This section analyzes and provides rationale for the Department’s decisions in the permit issuance with respect to Antidegradation Policy.

The Department’s approach to implementing the Antidegradation Policy, found in 18 AAC 70.015, is based on the requirements in 18 AAC 70 and the Department’s *Policy and Procedure Guidance for Interim Antidegradation Implementation Methods*, dated July 14, 2010. Using these procedures and policy, the Department determines whether a waterbody, or portion of a waterbody, is classified as Tier 1, Tier 2, or Tier 3, where a higher numbered tier indicates a greater level of water quality protection. At this time, no Tier 3 waters have been designated in Alaska. Tongass Narrows is not listed as impaired on DEC’s most recent *Alaska’s Final 2010 Integrated Water Quality Monitoring and Assessment Report*; therefore, a Tier 1 designation is not appropriate. Accordingly, this antidegradation analysis conservatively assumes that the discharge is to a Tier 2 waterbody.

The State’s Antidegradation Policy in 18 AAC 70.015(a)(2) states that if the quality of water exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water (i.e., Tier 2 waters), that quality must be maintained and protected. The Department may allow a reduction of water quality only after making five specific findings per the Antidegradation Policy at 18 AAC 70.015(a)(2)(A – E) are met. The Department’s findings follow:

1. **18 AAC 70.015 (a)(2)(A).** *Allowing lower water quality is necessary to accommodate important economic or social development in the area where the water is located.*

Consistent with finding four below, the Department finds the most effective and reasonable methods of prevention, control, and treatment are the practices and requirements set out in the APDES permit and the localized lowering of water quality in necessary.

The NTCW is one of the few facilities providing vehicle wash services to residents of the community of Ketchikan. Vehicle washes provide a venue for residents who do not own homes to wash their vehicles.

The NTCW is located in an area that is not connected to a public sewer system or publically owned treatment works. Accordingly, wastewater discharges in the area must discharge to the subsurface or surface waters. Subsurface discharge on the NTCW site is not feasible due to unsuitable surface and subsurface materials. The Department concludes that the operation of the facility and the authorization of the discharge accommodates important social or economic development and that the finding is met.

2. **18 AAC 70.015 (a)(2)(B).** *Except as allowed under this subsection, reducing water quality will not violate the applicable criteria of 18 AAC 70.020 or 18 AAC 70.235 or the whole effluent toxicity limit in 18 AAC 70.030.*

Discharge allowed by the permit conforms to the requirements of 18 AAC 70.020. No water quality variance or mixing zone is authorized and all water quality criteria are required to be met at the end of pipe prior to discharge. Site-specific criteria as allowed by 18 AAC 70.235 have not been established for Tongass Narrows. It is not anticipated that the discharge is toxic (See section 3.4 for additional information). Adherence to permit limitations and conditions will ensure there are not violations of the WET limit in 18 AAC 70.030. The Department determined that the reduction in water quality will not violate the criteria of 18 AAC 70.020, 18 AAC 70.235, or 18 AAC 70.030, and that the finding is met.

3. **18 AAC 70.015(a)(2)(C).** *The resulting water quality will be adequate to fully protect existing uses of the water.*

The WQS, upon which the permit effluent limits are based, serve the specific purposes of protecting the existing and designated uses of the receiving water. No water quality variance or mixing zone is authorized and all water quality criteria shall be met at the end of pipe prior to discharge. After a review of the expected volume of discharge, the types and amounts of regulated pollutants, and the effluent limits imposed in the permit, the Department concludes that the resulting water quality will be adequate to fully protect existing uses and that the finding is met.

4. **18 AAC 70.015(a)(2)(D).** *The methods of pollution prevention, control, and treatment found by the department to be most effective and reasonable will be applied to all wastes and other substances to be discharged.*

The Department finds the most effective and reasonable methods of prevention, control, and treatment are the practices and requirements set out in the APDES permit. This type of treatment (e.g., catch basins, trench drains and OWS) and associated discharge are similar in nature to other like facilities and associated discharges throughout the United States. While more effective treatment devices and methods conceivably exist, the cost of additional treatment is not commensurate with the scale of operations at the NTCW. The permittee is required to develop and implement a Quality Assurance Project Plan (QAPP) to ensure proper monitoring protocols. The permit requires the development and implementation of an Operations and Maintenance Plan to ensure the proper operation and maintenance of the collection infrastructure and OWS. The Department concludes that the methods of pollution prevention, control, and treatment to be the most effective and reasonable and the finding is met.

5. **18 AAC 70.015(a)(2)(E).** *All wastes and other substances discharged will be treated and controlled to achieve (i) for new and existing point sources, the highest statutory and regulatory requirements; and (ii) for nonpoint sources, all cost-effective and reasonable best management practices.*

The applicable “highest statutory and regulatory treatment requirements” are defined in 18 AAC 70.990(30) (as amended June 26, 2003) and in the Implementation Methods. Accordingly, there are three parts to the definition, which are:

- (A) any federal technology-based effluent limitation guidelines (ELG) identified in 40 CFR § 125.3 and 40 CFR § 122.29, as amended through August 15, 1997, adopted by reference at 18 AAC 83.010(c)(9);
- (B) minimum treatment standards in 18 AAC 72.040; and

- (C) any treatment requirement imposed under another state law that is more stringent than a requirement of this chapter.

The first part of the definition includes all federal technology-based ELGs. There are no technology-based ELGs for vehicle wash facilities.

The second part of the definition 18 AAC 70.990(B) (2003) appears to be in error, as 18 AAC 72.040 describes discharges to sewers and not minimum treatment. The correct reference appears to be the minimum treatment standards found at 18 AAC 72.050, which refers to domestic wastewater discharges only. As the facility does not discharge domestic wastewater, this does not apply.

The third part includes any more stringent treatment required by state law, including 18 AAC 70 and 18 AAC 72. The correct operation of equipment and effluent monitoring will control the discharge and satisfy all applicable state requirements. Neither the regulations in 18 AAC 15 and 18 AAC 72, nor another state law that the Department is aware of impose more stringent requirements than those found in 18 AAC 70.

After review of the applicable statutory and regulatory requirements, including 18 AAC 70, 18 AAC 72, and 18 AAC 83, the Department finds that NTCW's wastewater discharge meets the highest applicable statutory and regulatory requirements and that this finding is met.

7.0 OTHER PERMIT CONDITIONS

7.1 Electronic Reporting (E-Reporting) Rule

The Permittee is responsible for electronically submitting DMRs and other reports in accordance with 40 CFR §127. The start dates for e-reporting are provided in 40 CFR §127.16. DEC has established a website at <http://dec.alaska.gov/water/Compliance/EReportingRule.htm> that contains general information. As DEC implements the E-Reporting Rule, more information will be posted on this webpage. The permittee will be further notified by DEC in the future about how to implement the conditions in 40 CFR §127.

7.2 Quality Assurance Project Plan

The permittee is required to develop procedures to ensure that the monitoring data submitted are accurate and to explain data anomalies if they occur. The permittee is required to develop and implement the Quality Assurance Project Plan (QAPP) within 120 days of the effective date of the final permit. Additionally, the permittee must submit a letter to the Department within 120 days of the effective date of the permit stating that the plan has been implemented within the required time frame. The QAPP shall consist of standard operating procedures the permittee must follow for collecting, handling, storing and shipping samples; laboratory analysis; precision and accuracy requirements; data reporting; and quality assurance/quality control criteria. The plan shall be retained on site and made available to the Department upon request.

7.3 Operations and Maintenance Plan

In addition to requirements specified in APPENDIX A, Part 1.6 of the permit (Proper Operation and Maintenance), the permit requires the permittee to properly operate and maintain all facilities and systems of treatment and control. Proper operation and maintenance is essential to meeting discharge limitations, monitoring requirements, and all other permit requirements at all times. The Operation and Maintenance (O & M) Plan will specifically address the OWS, catch basins and trench drain in terms of required maintenance and intervals for solids removal. The permittee is required to develop or update, and implement an O & M Plan for its facility within 180 days of the effective date of the permit. If an O & M Plan has already been developed and implemented, the permittee need only to review the existing

plan to make sure it is up to date and all necessary revisions are made. Additionally, the permittee must submit a written notice to the Department within 180 days of the effective date of the permit stating that the O & M Plan has been implemented within the required time frame. The plan shall be retained on site and made available to the Department upon request.

7.4 Standard Conditions

APPENDIX A of the permit contains standard regulatory language that must be included in all APDES permits. These requirements are based on the regulations and cannot be challenged in the context of an individual APDES permit action. The standard regulatory language covers requirements such as monitoring, recording, reporting requirements, compliance responsibilities, and other general requirements.

8.0 OTHER LEGAL REQUIREMENTS

8.1 Endangered Species Act

The National Marine Fisheries Service (NMFS) is responsible for administration of the Endangered Species Act (ESA) for listed cetaceans, seals, sea lions, sea turtles, anadromous fish, marine fish, marine plants, and corals. All other species (including polar bears, walrus, and sea otters) are administered by the U.S. Fish and Wildlife Service (USFWS).

The ESA requires federal agencies to consult with the National Oceanic and Atmospheric Administration (NOAA), NMFS and the USFWS if their actions could beneficially or adversely affect any threatened or endangered species. As a state agency, DEC is not required to consult with these federal agencies regarding permitting actions; however, DEC voluntarily referenced the respective interactive map websites to identify potentially affected species.

DEC consulted the NOAA Marine Mammal Species Range and Critical Habitat Interactive map located online at <https://alaskafisheries.noaa.gov/mapping/esa/>. The Department used this website to gain an approximate determination that the area surrounding the NTCW outfall may contain endangered Steller sea lions and humpback whales.

DEC also consulted the USFWS Information, Planning, and Conservation System website at <https://ecos.fws.gov/ipac/project/N7NRRLK2JRFSVMFY6F2FZDPJU4/resources>. The Department used this website to gain an approximate determination that the area surrounding the NTCW outfall would not likely contain USFWS-managed endangered species.

8.2 Ocean Discharge Criteria

Section 403(a) of the CWA, Ocean Discharge Criteria, prohibits the issuance of a permit under Section 402 of the CWA for a discharge into the territorial sea, the water of the contiguous zone, or the oceans except in compliance with Section 403. Permits for discharges seaward of the baseline of the territorial seas must comply with the requirements of Section 403, which include development of an Ocean Discharge Criteria Evaluation (ODCE). An interactive map depicting Alaska's baseline plus additional boundary lines is available at:

https://alaskafisheries.noaa.gov/mapping/arcgis/rest/services/NOAA_Baseline/MapServer

The map is provided for information purposes only. The U.S. Baseline committee makes the official determinations on baseline.

A review of the baseline line maps revealed that the NTCW outfall terminus is positioned seaward of the baseline of the territorial sea; therefore, Section 403 applies to the permit. However, EPA regulations at 40 CFR 125.122(b) and adopted by reference at 18 AAC 83.010(C)(8), state that discharges found to be in compliance with CWA section 303 WQS will be presumed to also be in compliance with CWA

section 403 ocean discharge criteria.; therefore, no further analysis is conducted pursuant to 40 CFR 125.122.

8.3 Essential Fish Habitat

Essential fish habitat (EFH) includes the waters and substrate (sediments, etc.) necessary for species to spawn, breed, feed, or grow to maturity. The Magnuson-Stevens Fishery Conservation and Management Act (January 21, 1999) requires federal agencies to consult with NOAA when a proposed discharge has the potential to adversely affect (reduce quality and/or quantity of) EFH.

As a state agency, DEC is not required to consult with NOAA on EFH; however, DEC voluntarily referenced the online EFH information via use of NOAA's Habitat Conservation Interactive EFH Mapper located at: <http://www.habitat.noaa.gov/protection/efh/efhmapper/index.html>. The tool did not identify Habitat Areas of Particular Concern in the vicinity of the discharge, but the discharge area does contain EFH for dover sole, chum salmon, pink salmon, chinook salmon and coho salmon.

8.4 Permit Expiration

The permit will expire five years from the effective date of the permit.

9.0 References

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2. DEC, 2014. "Alaska Pollutant Discharge Elimination System (APDES) Permits Reasonable Potential Analysis and Effluent Limits Development Guide", June 30, 2014.
3. DEC, 2008. "Alaska Water Quality Criteria Manual for Toxics and Other Deleterious Organic and Inorganic Substances", as amended through December 12, 2008.
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<<http://www.habitat.noaa.gov/protection/efh/efhmapper/index.html>>, accessed on October 12, 2016.
5. NOAA (National Oceanic and Atmospheric Administration), National Marine Fisheries Service "Endangered Species Mapper" <https://alaskafisheries.noaa.gov/mapping/esa/>, accessed on October 12, 2016.
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7. USEPA, 2010. "National Pollutant Discharge Elimination System Permit Writer's Manual", EPA-833-K-10-001, USEPA Office of Water Management, Water Permits Division, Washington, DC, September 2010.
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15. Oldcastle Precast, 2012. Oil/Water Separator (SA-API Style) "Clean Out and Maintenance". March 22, 2012.
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17. State of Connecticut Department of Environmental Protection, 2011. "General Permit for the Discharge of Vehicle Maintenance Wastewater", 860-424-3018, January 23, 2011.
18. Louisiana Department of Environmental Quality, Office of Environmental Services, 2014. "General Permit for Discharges of Exterior Vehicle Wash Wastewater", LAG750000, March 15, 2014.
19. Missouri Department of Natural Resources, 2013. "General Permit MO-G750000", August 1, 2013.
20. Oklahoma Department of Environmental Quality, 2013. "General Wastewater Disposal Permit for Vehicle Wash Facilities General Permit no. OKG75", January 2, 2013.
21. Oregon Department of Environmental Quality, 2003. "General Permit 1700A", January 31, 2003.
22. South Carolina Department of Health and Environmental Control, 2006. "General Permit for Vehicle Wash Water Discharges, SCG750000", December 1, 2006.
23. Virginia Department of Environmental Quality, 2012. "Vehicle Wash Facilities and Laundry Facilities, VAG75", March 1, 2012.
24. West Virginia Department of Environmental Protection, 2012. "Vehicle Washing Establishments, WV0078743", July 19, 2012.
25. State of Wisconsin Department of Natural Resources, 2009. "Wastewater from the Outside Washing of Vehicles, Equipment and other Objects, WI-0059153-3", April 1, 2009.

APPENDIX A. Facility Information

Figure 1: North Tongass Car Wash Map

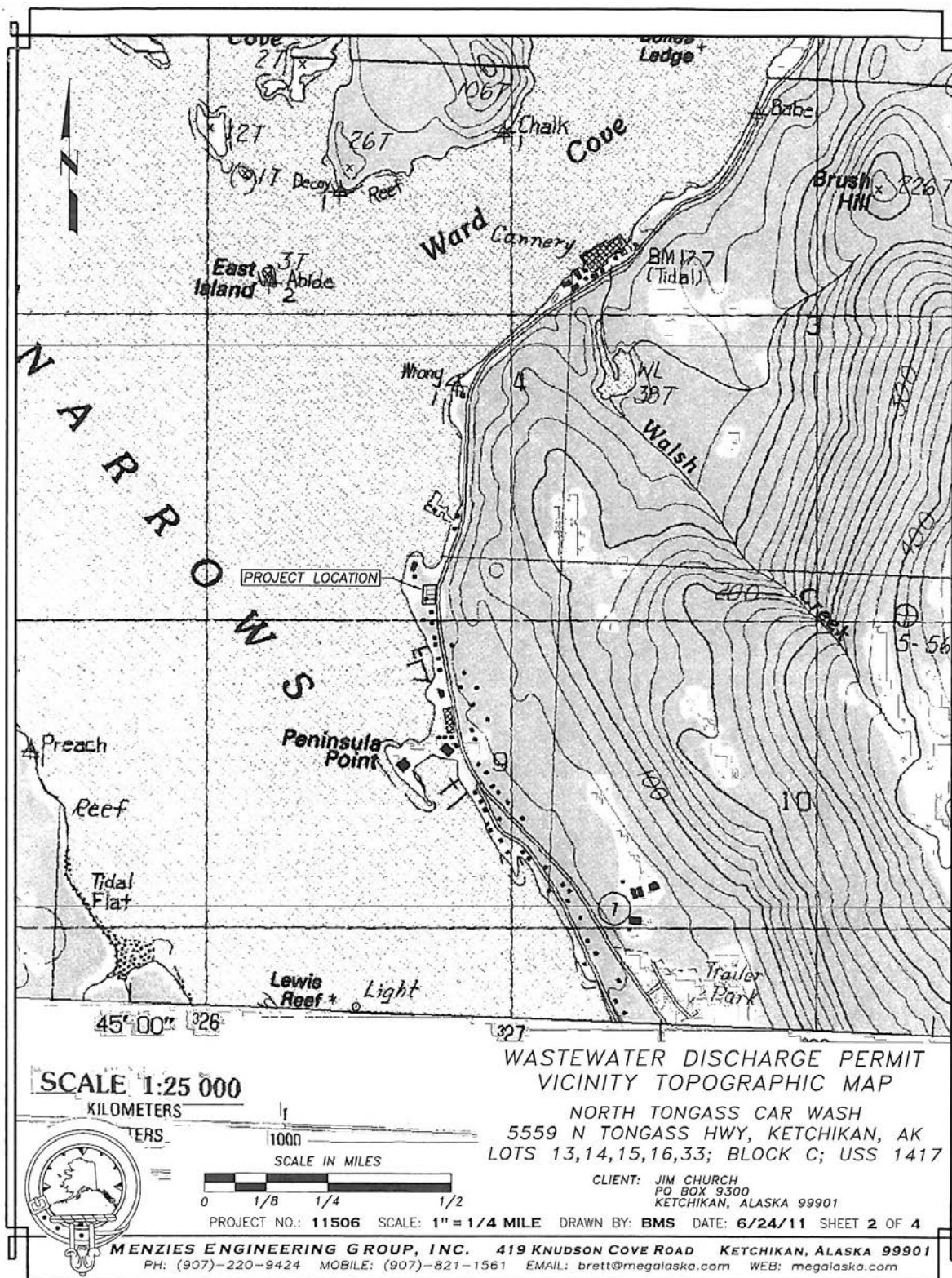
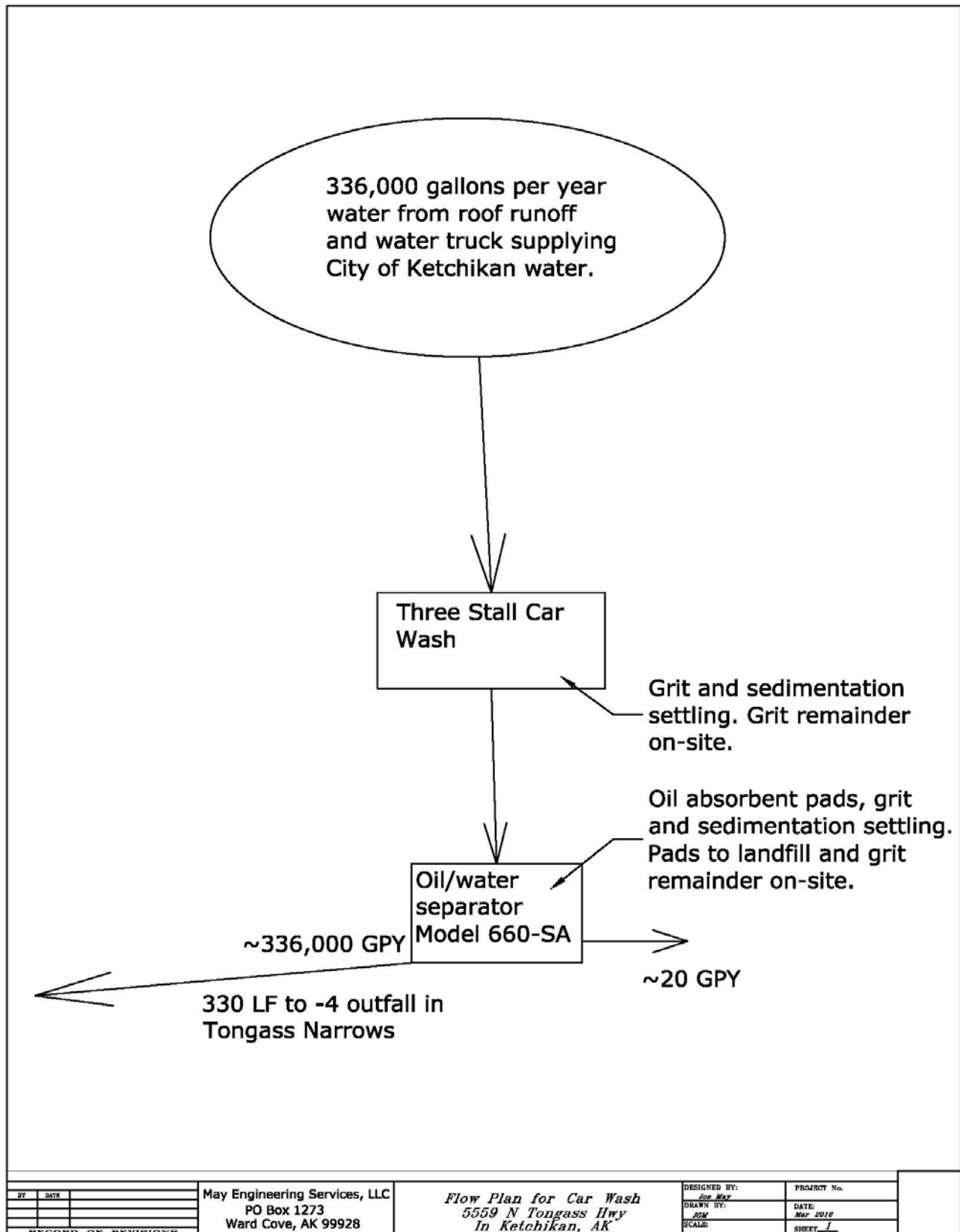


Figure 2: North Tongass Car Wash Process Flow Diagram



APPENDIX B. Basis For Effluent Limitations

The Clean Water Act (CWA) requires that the effluent limit for a particular pollutant be the more stringent of either technology-based effluent limits (TBELs) or water quality-based effluent limits (WQBELs). TBELs are established by the Environmental Protection Agency (EPA) for many industries in the form of Effluent Limitation Guidelines (ELG) and are based on available pollution control technology. The Department adopts the subject ELGs by reference in 18 AAC 83.010. TBELs are national in scope and establish performance standards for all facilities within an industrial category or subcategory. The Department may find, by analyzing the effect of an effluent discharge on the receiving water body, that TBELs are not sufficiently stringent to meet water quality standards (WQS). In such cases, the Department is required to develop more stringent water quality-based effluent limits (WQBELs), which are designed to ensure that the WQS of the receiving water body are met.

TBELs for vehicle wash facilities have not been promulgated. In February 1982, the EPA studied developing effluent limit guidelines (ELGs) for the Auto and Other Laundries point source category in their *Guidance Document for Effluent Discharges from the Auto and Other Laundries Point Source Category*. Vehicle wash establishments were a subcategory of the laundry industries studied by EPA. The EPA concluded that toxic pollutants, both organic and inorganic, occur in the wastewaters from all subcategories, including vehicle washes. However, the EPA also concluded that the amount and toxicity of these pollutants were considered insignificant in all subcategories except industrial laundries and linen supply. Contributing to the decision to not regulate vehicle washes was the fact that at the time, over 99% of the facilities discharged to publically owned treatment works (POTW), which the ELG development document considered to adequately treat vehicle wash effluent. When TBELs do not exist for a particular pollutant expected to be in the effluent, the Department must determine if the pollutant may cause or contribute to an exceedance of a WQS for the water body. If a pollutant causes or contributes to an exceedance of a WQS, a WQBEL for the pollutant must be established in the permit.

B.1 Best Professional Judgement Technology Based Effluent Limits

Regulations at 40 CFR §125.3(c)(2), which are adopted by reference in 18 AAC 83.010(c), allow the Department, using best professional judgment (BPJ) under section 402(a)(1) of the CWA, to implement case-by-case technology-based limits in the permit. Case-by-case BPJ limits are often appropriate because pollutants are present in the discharge in amounts that can be treated or otherwise removed. The approach the Department used to develop appropriate BPJ TBELs was to evaluate known vehicle wash surface water discharge general permits developed and administered by other states. Ten general permits for surface water discharge of vehicle wash effluent were evaluated. Effluent limits for pH, oil and grease and total suspended solids (TSS) were specified in almost all general permits reviewed. These pollutants mirrored those discussed and characterized by EPA's ELG development document and were also present in the effluent monitoring results submitted by the permittee for the NTCW. While some of these pollutants have corresponding WQS numeric criteria (such as pH), some do not (such as oil and grease and TSS). Consequently, case-by-case limits were determined appropriate. Additionally, during the engineering plan review conducted pursuant to regulations at 18 AAC 72, the permittee's registered professional engineer provided certification that the treatment technology installed would meet the permit effluent limits.

The regulation at 18 AAC 83.540 requires that effluent limits be expressed in terms of mass, if possible. The mass based limits are expressed in pounds per day and are calculated as follows:

Mass based limit (lb/day) = concentration limit (mg/L) × design flow² (mgd) × 8.34¹

B.1.1 Total Suspended Solids

The NTCW facility process involves washing/removing the dirt from vehicles. TSS includes all organic and inorganic materials that are insoluble in wastewater. Nine of the ten vehicle wash general permits administered by other states reviewed by the Department contained TSS effluent limits and monitoring requirements. The TSS effluent limits ranged from 30 mg/L to 100 mg/L and some permits contained both monthly average and daily maximum effluent limits. The 1982 EPA study of vehicle washes contained monitoring results for TSS from 29 vehicle wash establishments that ranged from a minimum TSS concentration of 30 mg/L to a maximum of 2,970 mg/L.

Treatment of TSS typically includes either slowing the velocity of the washwater or holding the washwater for a period of time to allow solids to settle out. Treatment can also involve filtering the solids out prior to discharge. Most vehicle washes utilize a treatment scheme that consists of in-bay grit traps, a multi-chamber sedimentation/separation tank and a multi-media filter bed. The NTCW provides treatment for TSS via trench drains, catch basins and a baffled OWS that employs a sediment weir. Per the OWS manufacturer's instructions, the OWS must be inspected and cleaned regularly to perform properly. If excessive sludge buildup in the OWS occurs, the catch basins upstream of the OWS may require maintenance to perform properly. A TSS daily maximum limit of 60 mg/L sampled at a frequency of once per year is a reasonable performance-based limit to ensure the treatment system at the NTCW is properly operated and maintained and is consistent with requirements for similar facilities.

B.1.2 Oil and Grease

Oil and grease is a term that includes a wide variety of fatty acids, soaps, ester, fats, waxes and various petroleum products that can be extracted from wastewater by certain organic solvents. Oil and grease has various sources and may be free (floating) or dispersed in wastewater. In the vehicle wash industry, most oil and grease present in the wastewater is highly dispersed. Vehicle wash water may contain oil, grease, metal (paint chips), phosphates, detergents, soaps, cleaners, road salts, and other chemicals. The 1982 EPA study of vehicle washes contained monitoring results from 29 wand, rollover and tunnel vehicle wash establishments for oil and grease. The concentrations of oil and grease ranged from a minimum of 5.7 mg/L to a maximum of 404 mg/L.

Treatment to remove oil and grease from vehicle wash effluent involves the use of an OWS. OWS tanks collect oily vehicle wash water that flows along corrugated plates to encourage separation of solids and oil droplets. There are two types of oil/water separators commonly used to treat vehicle wash effluent. One removes free oil via absorbent material that selectively absorbs petroleum from water. This material is either placed directly in the water channel through which the washwater is discharged or placed directly on the surface where the oil and grease has accumulated prior to discharge. The absorbent materials need periodic servicing which could mean replacing the media. The second type of OWS is a gravity OWS, which provides a tank where washwater flow is reduced and allows oil, grease, and other petroleum products to float to the top. The oil and grease is skimmed off, collected, and disposed of properly while the treated washwater is discharged. Both types of OWS also require periodic maintenance to remove otherwise collected oil and grease, oily solids and sludge. The oily solids

or sludge may be pumped out of the system through a separate pipe and hauled off-site for disposal.

The OWS employed by the NTCW is a gravity style OWS, which segregates petroleum, oils, and lubricants from settleable solids. As oily water flows through the OWS, oily waste lighter than water rises to the surface and is held in the separation chamber by baffles. The NTCW also employs oil-absorbent materials (socks) placed in the top of the chambers to selectively absorb the oily waste.

All ten vehicle wash surface water discharge general permits administered by other states contained an oil and grease effluent limit. Nine of the ten permits contained a maximum daily limit of 15 mg/L. Compliance with the effluent limit indicates the treatment system is being operated and maintained properly and is producing an effluent of acceptable quality. An oil and grease daily maximum limit of 15 mg/L sampled at a frequency of once per year is a reasonable performance-based limit to ensure the treatment system at the NTCW is properly operated and maintained. In addition to the numeric oil and grease effluent limit, there is a visual observation for sheen permit requirement and an Operation and Maintenance Plan is required to document the correct operation and the required maintenance procedures and frequency of the OWS.

B.2 Water Quality – Based Effluent Limitations

B.2.1 Statutory and Regulatory Basis

18 AAC 70.010 prohibits conduct that causes or contributes to a violation of the WQS.

18 AAC 15.090 requires that permits include terms and conditions to ensure criteria are met, including operating, monitoring, and reporting requirements.

The regulations require the permitting authority to make this evaluation using procedures that account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant in the effluent, species sensitivity (for toxicity), and where appropriate, dilution in the receiving water body. The limits must be stringent enough to ensure that WQS are met and must be consistent with any available waste load allocation (WLA).

B.2.2 Reasonable Potential Analysis

When evaluating the effluent to determine if WQBELs based on chemical-specific numeric criteria are needed, the Department projects the receiving water body concentration for each pollutant of concern downstream of where the effluent enters the receiving water body. The chemical-specific concentration of the effluent and receiving water body and, if appropriate, the dilution available from the receiving water body, are factors used to project the receiving water body concentration. If the projected concentration of the receiving water body exceeds the numeric criterion for a limited parameter, then there is a reasonable potential that the discharge may cause or contribute to an excursion above the applicable WQS, and a WQBEL must be developed.

The Department evaluated the one effluent sample result available that was submitted with the permittee's application to determine pollutants of concern as described in section 2.2 of the fact sheet. The pollutants present in the effluent of the NTCW are conventional pollutants (as opposed to toxic pollutants). Per section 2.2.3.2 of the *Alaska Pollutant Discharge Elimination System (APDES) Permits Reasonable Potential Analysis and Effluent Limits Development Guide*,

rather than performing an RPA on the one result for the conventional pollutants, the permit writer consults the corresponding WQS numeric or narrative criteria and applies it directly as an effluent limit. This was the approach for developing WQBELs for pH, petroleum hydrocarbons and oil and grease, and residues.

B.2.3 Specific Water Quality-Based Effluent Limits

B.2.3.1 Petroleum Hydrocarbons, Oils and Grease, for Marine Water Uses

The WQS for floating, suspended or submerged matter, including oil and grease, are largely narrative. The most stringent standard, water supply/aquaculture, found at 18 AAC 70.020(b)(17)(A)(i), require that for marine waters, “Total aqueous hydrocarbons (TAqH) in the water column may not exceed 15 µg/L. Total aromatic hydrocarbons (TAH) in the water column may not exceed 10 µg/L. There may be no concentrations of petroleum hydrocarbons, animal fats, or vegetable oils in shoreline or bottom sediments that cause deleterious effects to aquatic life. Surface waters and adjoining shorelines must be virtually free from floating oil, film, sheen or discoloration.” Sheen is defined in 18 AAC 70.990(53) as an iridescent appearance on the water surface.

TAqH is defined as “collective dissolved and water-accommodated monoaromatic and polynuclear aromatic petroleum hydrocarbons that are persistent in the water column; does not include floating surface oil and grease”. TAH is defined as “...the sum of the following volatile monoaromatic hydrocarbon compounds: benzene, ethylbenzene, toluene, and the xylene isomers, commonly called BTEX.”

B.2.3.2 pH

The most stringent WQS for pH in marine water, water supply/aquaculture, found at 18 AAC 70.020(b)(18)(A)(i), state that pH “May not be less than 6.5 or greater than 8.5, and may not vary more than 0.2 pH unit outside of the naturally occurring range.”

The 1982 EPA development document contains sample results from 15 wand, rollover and tunnel vehicle wash establishments. pH minimums ranged from 6.2 - 7.5 SU and pH maximums ranged from 7.7 - 9.0 SU. All ten vehicle wash general permits administered by other states contained effluent limits for pH that ranged from a minimum of 6 SU to a maximum of 11 SU. This WQS was directly implemented as a WQBEL in the permit restricting the discharge to the range of 6.5 - 8.5 SU.

B.2.3.3 Residues

The most stringent WQS for floating solids, debris, sludge, deposits, foam, scum or other residues in marine water, growth and propagation of fish, shellfish, other aquatic life and wildlife, found at 18 AAC 70.020(b)(20)(C), state that the discharge “May not, alone or in combination with other substances or wastes, make the water unfit or unsafe for the use, or cause acute or chronic problem levels as determined by bioassay or other appropriate methods. May not, alone or in combination with other substances, cause a film, sheen, or discoloration on the surface of the water or adjoining shorelines; cause leaching of toxic or deleterious substances; or cause a sludge, solid, or emulsion to be deposited beneath or upon the surface of the water, within the water column, on the bottom, or upon adjoining shorelines.” The subject WQS was

implemented as a visual observation for foam or sheen conducted on a monthly basis during the months April-September, when the NTCW experiences its highest use. Visual observations are required to be logged. Logging of visual observations is to include the date, time and result of the visual observation. The visual observation log shall be retained on site and made available to the Department upon request. Observable foam or sheen is to be reported as non-compliance if at any time the discharge is causing observable foam or sheen in the receiving water.

B.2.4 Selection of Most Stringent Limitations

B.2.4.1 Oil and Grease

Because the Department is including oil and grease effluent limits developed as BPJ TBELs, the Department compared the oil and grease BPJ TBEL of a maximum daily discharge of 15 mg/L to the largely narrative oil and grease WQS. The comparison reveals that numeric criteria for TAH and TAqH are included in the oil and grease WQS and accordingly must be implemented in the permit as WQBELs. Additionally, the permit implements the narrative component of the oil and grease WQS as a visual observation for sheen, conducted on a monthly basis during the months April-September, when the NTCW experiences its highest use. Visual observations are required to be logged. Logging of visual observations is to include the date, time and result of the visual observation. The visual observation log shall be retained on site and made available to the Department upon request. Observable sheen is to be reported as non-compliance if at any time the discharge is causing observable sheen in the receiving water. Sheen is also a component of the narrative WQS for residues.