ALASKA POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT FACT SHEET – PROPOSED FINAL

Permit Number: **AKR100000**

GENERAL PERMIT FOR DISCHARGES FROM LARGE AND SMALL CONSTRUCTION ACTIVITIES (Construction General Permit)

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Wastewater Discharge Authorization Program
555 Cordova Street
Anchorage, AK 99501

Public Comment Period Start Date: October 9, 2015
Public Comment Expiration Date: November 9, 2015
Alaska Online Public Notice System

Technical Contact: Jim Rypkema
Alaska Department of Environmental Conservation
Division of Water
Wastewater Discharge Authorization Program
555 Cordova Street
Anchorage, AK 99501
907-334-2288
Fax 907-269-3487
Jim.Rypkema@alaska.gov

Proposed reissuance of the Alaska Pollutant Discharge Elimination System (APDES) General Permit for Discharges from Large and Small Construction Activities within the State of Alaska

The Alaska Department of Environmental Conservation (Department or DEC) proposes to reissue an APDES Construction General Permit (CGP) for discharges from large and small construction activities. The permit authorizes and sets conditions on the discharge of pollutants from construction projects to waters of the United States. In order to ensure protection of water quality and human health, the permit describes control measures that must be used to control the types and amounts of pollutants discharged from construction sites.

This fact sheet explains the nature of potential discharges from construction activities and of the development of the permit including:

- information on public comment, public hearing, and appeal procedures;
- a listing of proposed control measures and other conditions for construction activities;
- technical material supporting the conditions in the permit; and
- proposed inspection, monitoring, and reporting requirements in the permit.

Public Comment

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.

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The Department has both an informal review process and a formal administrative appeals process for final APDES permit decisions. An informal review request must be delivered within 15 days after receiving the Departments 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://dec.alaska.gov/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://dec.alaska.gov/commish/ReviewGuidance.htm for information regarding appeals of Department decisions.

Documents are Available

The permit, fact sheet, 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, and other information can also be located on the Departments Wastewater Discharge Authorization Program website http://dec.alaska.gov/water/wwdp/index.htm

Dept of Environmental Conservation
Division of Water
Wastewater Discharge Authorization Program
555 Cordova Street
Anchorage, AK 99501
(907) 269-6285

Dept of Environmental Conservation
Division of Water
Wastewater Discharge Authorization Program
610 University Ave.
Fairbanks, AK 99709
(907) 451-2183

Dept of Environmental Conservation
Division of Water
Wastewater Discharge Authorization Program
410 Willoughby Ave.
Juneau, AK 99811
(907) 465-5300

Dept of Environmental Conservation
Division of Water
Wastewater Discharge Authorization Program
43335 Kalifornsky Beach Rd.
Soldotna, AK 99615
(907) 262-5210

Dept of Environmental Conservation
Division of Water
Wastewater Discharge Authorization Program
1700 E. Bogard Road #B
Wasilla, AK 99654
(907) 376-1850

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1.0 INTRODUCTION

The Alaska Department of Environmental Conservation (Department or DEC) is proposing to reissue an Alaska Pollutant Discharge Elimination System (APDES) Program general permit that authorizes the discharge of pollutants in storm water from construction activity (referred to as the "Construction General Permit" or "CGP"). The 2016 CGP will replace the 2011 CGP that will expire on January 31, 2016.

DEC's goals in revising the permit and fact sheet are to provide clarification of the requirements and update the permit to comply with new federal requirements and current practices. The 2016 CGP maintains the same basic structure as the 2011 permit, but contains revised language and minor organizational changes. The 2016 CGP contains many of the same provisions as the 2011 permit, but also contains new and modified provisions. Notable changes include

- removal of the seven day waiting period after authorization to begin construction activities,
- and a reduced number of inspection frequency options.

Refer to Section 3.2 of the fact sheet for a detailed description of changes.

The permit and fact sheet reference various state and federal regulations. The state regulations are found in the Alaska Administrative Code (AAC), Chapter 83 "Alaska Pollutant Discharge Elimination System Program" (18 AAC 83). The federal regulations are incorporated by reference into the state APDES regulations in 18 AAC 83.010. As an aid to readers, however, the permit and fact sheet in some areas cite the federal regulations where specific regulatory language can be found.

If this permit is not reissued or replaced (or revoked or terminated) prior to its expiration date, then an existing permittee will be covered under an administrative extension, in accordance with 18 AAC 83.155 (i.e., their authorization continues in force and effect until a new authorization is issued under a new or reissued permit). If coverage is provided to a permittee prior to the expiration date of the permit, the permittee is authorized to discharge under the permit until the earliest of the following occurs:

- the authorization for coverage under a reissuance or replacement of the permit, following timely and appropriate submittal of a complete and accurate Notice of Intent (NOI);
- submittal of a Notice of Termination;
- issuance or denial of an individual permit for the permittee's discharge; or
- a formal permit decision by DEC not to reissue the general permit, at which time DEC will identify a reasonable time period for authorized permittees to see coverage under an alternative general permit or an individual permit.

1.1 Basis for Permit

Section 301(a) of the Clean Water Act (CWA) and Alaska Administrative Code (AAC) 18 AAC 83.015 provide that the discharge of pollutants to waters of the U.S. is unlawful except in accordance with an APDES permit. Section 402(p) of the CWA provides the basis for regulating storm water from certain

categories of industries, including stormwater discharges from construction activity as defined in 40 CFR 122.26(b)(14)(x) and (15). Although such permits are usually issued to individual discharges, DEC regulations also authorize the issuance of general permits to storm water point sources (18 AAC 83.205(b)(1)).

1.2 Permit Issuance History

EPA developed a general permit for storm water discharges associated with construction activity in 2003 and reissued the permit in 2008 with an expiration date of June 30, 2010. On October 19, 2009, just prior to the transfer of the storm water program permitting authority to the state, EPA issued a notice in the Federal Register (Vol. 74, No. 200, Monday October 19, 2009, page 53494-53498) proposing a modification to the National Pollutant Discharge Elimination System (NPDES) general permit for storm water discharges associated with construction activity in order to extend by one year the expiration date of the permit (to June 30, 2011). The EPA 2008 CGP was on public notice at the time authority to administer the storm water program transferred to DEC. In October 2009, EPA transferred authority to administer the storm water portion of the NPDES Program to the state.

Following the close of the public review period, DEC developed a proposed final permit. No comments were received on the proposed final permit. After the close of the proposed final permit review, the Department issued a final permit that became effective on January 31, 2010 with an expiration date of June 30, 2011. The 2010 CGP was subsequently reissued on July 1, 2011 with an expiration date of January 31, 2016.

2.0 PROPOSED PERMIT CHANGES

2.1 New Applicable Federal Requirements

Existing national storm water regulations at 40 CFR 122.26 require dischargers engaged in construction activity to obtain NPDES permit coverage and to implement control measures to manage discharges associated with construction activity. On December 1, 2009, EPA promulgated effluent limitations guidelines (ELGs) and new source performance standards (NSPS) for the Construction and Development (C&D) point source category. These requirements are commonly known as the "Construction and Development Rule" or "C&D rule", see 40 CFR 450. The ELG and NSPS are intended to work in concert with existing state and local programs that may have more stringent requirements or intend to develop more stringent requirements in the future.

The 2009 C&D ELG required all permittees to implement a range of erosion and sediment controls and pollution prevention measures at construction sites. DEC has elected to use the phrase "good housekeeping measures" in the CGP instead of the phrase "pollution prevention measures" that is used in the ELG; however, the measures are the same and reflect the legal mandates of the ELG. The 2009 C&D ELG also established a numeric effluent limit for the pollutant sediment, measured as turbidity and required all permittees at construction sites that disturb 10 or more acres of land at one time to monitor discharges from the site and comply with a numeric effluent turbidity limit of 280 Nephelometric Turbidity Units (NTU).

Following promulgation of the 2009 C&D ELGs, several parties petitioned the court to review the final rule and grant relief from the ELG requirement for meeting the numeric effluent limit of 280 NTU. EPA

reviewed its administrative record and concluded that it improperly interpreted the data and, as a result, the calculations in the existing administrative record are no longer adequate to support the 280 NTU numeric limit. In 2010, EPA issued a final rule staying (or stopping) the implementation of the 280 NTU numeric limit until the number is re-calculated. EPA continued to consult with stakeholders and in December 2012 entered into a settlement agreement with petitioners to resolve the litigation over the rule. To fulfill their obligations under the settlement agreement, EPA issued a proposed rulemaking to amend the rule. In 2014, EPA finalized the proposed rule that contains changes to the non-numeric requirements and withdrew the numeric limitation. The specific changes to the rule are described in more detail below.

Added the Definition of "Infeasible". Several of the provisions in the rule require permittees to implement controls unless "infeasible". In the 2009 rule, EPA provided a brief explanation of what they meant by infeasible in the preamble, but did not provide a specific definition of infeasible in the rule. Because the description is contained in the preamble instead of the rule, there is concern that there may be inconsistent interpretation by permitting authorities of what constitutes infeasibility. EPA concluded that including a definition of infeasible in the rule would provide clarity and consistency for permittees as to when it is appropriate to apply certain exceptions to the rule. They derived the definition from the 2009 final rule preamble language and the 2012 EPA CGP. The definition has been added to the 2016 CGP in Appendix C.

Revised Non-Numeric Requirements

Erosion and Sediment Controls. EPA made minor revisions to the four following erosion and sediment control requirements to provide clarity and allow for additional flexibility. These revisions provide additional details on areas where buffers are required and clarify requirements for soil stabilization, preservation of topsoil, and pollution prevention measures.

- 40 CFR 450.21(a)(1)
  - *2009 Rule:* "Control stormwater volume and velocity within the site to minimize soil erosion."
  - *2014 Rule:* "Control stormwater volume and velocity to minimize soil erosion and pollutant discharges."
  - *Rationale:* EPA made this change to link the requirements to control soil erosion to the discharge of pollutants. Also, they eliminated the phrase "within the site" because it is unnecessary as the regulation applies by definition to all discharges from the entire construction site.
- 40 CFR 450.21(a)(2)
  - *2009 Rule:* "Control stormwater discharges, including both peak flowrates and total stormwater volume, to minimize erosion at outlets and to minimize downstream channel and stream bank erosion".
  - *2014 Rule:* "Control stormwater discharges, including both peak flowrates and total stormwater volume, to minimize channel and stream bank erosion in the immediate vicinity of discharge points."

  - *Rationale:* EPA made this change because the 2009 requirement did not differentiate between any contribution to increased erosion caused by the construction site discharges and those caused by other sources. It is not EPA's intention to require permittees to address stream bank and channel erosion that it cause by sources outside the construction site.

- 40 CFR 450.21(a)(6)
  - *2009 Rule:* "Provide and maintain natural buffers around surface waters, direct stormwater to vegetated areas to increase sediment removal and maximize stormwater infiltration, unless infeasible."
  - *2014 Rule:* "Provide and maintain natural buffers around waters of the United States, direct stormwater to vegetated areas, and maximize stormwater infiltration to reduce pollutant discharges, unless infeasible'.
  - *Rationale:* EPA made these changes because 1) "surface waters" is not defined in the context of the CWA and EPA always intended this to simply mean waters of the U.S., and 2) to provide clarity that the goal of the requirement to direct stormwater to vegetated areas and to maximize stormwater infiltration to reduce pollutant discharges.

- 40 CFR 450.21(a)(7)
  - *2009 Rule:* "Minimize soil compaction and, unless infeasible, preserve topsoil"
  - *2014 Rule (a)(7)* "Minimize soil compaction. Minimizing soil compaction is not required where the intended function of a specified area of the site dictates that it be compacted" and *(a)(8)* "Unless infeasible, preserve topsoil. Preserving topsoil is not required where the intended function of a specific area of the site dictates that the topsoil be disturbed or removed."
  - *Rationale:* EPA made these changes to acknowledge that certain areas of the site may require compaction and removal of topsoil, such as foundation pads for building or road subgrade material.

Soil Stabilization [(40 CFR 450.21(b)]. The changes to this provision include re-arranging the requirements for clarity as well as providing a potential exemption from stabilization for certain areas of a site that the permitting authority has determined must remain disturbed (e.g., a motocross track).

Pollution Prevention Measures [40 CFR 450.21(d)(2)]. Changes were made to this provision to acknowledge that there are circumstances where it may not be necessary or environmentally beneficial to minimize exposure of materials to precipitation and to stormwater and to provide permitting authorities additional flexibility to address site specific considerations.

Numeric Turbidity Limitation

EPA removed the numeric discharge standard (i.e., turbidity effluent limitation) and monitoring requirements, but reserved the paragraphs in the event that a numeric standard is proposed and finalized in the future.

It is important to note that this permit does not include the 280 NTU numeric effluent limit but does include the requirement for monitoring for compliance with Alaska Water Quality Standards (WQS) for sites (1) disturbing 20 or more acres that discharge into an impaired water body or those that have a Total Maximum Daily Load (TMDL) for sediment or turbidity or (2) discharging into a high quality water that DEC has determined constitutes an outstanding natural resource via a Tier III designation.

2.2 Summary of Proposed Changes in the APDES 2016 CGP

One of the reasons Alaska assumed the NPDES program from EPA was to adapt permits to fit unique Alaskan conditions to the extent allowable under state and federal regulations. For the CGP, this means modifying some of the definitions for the mix of urban and rural types of construction projects and operators of these projects, allowing the use of treatment chemicals, and adapting the permit to seasonal conditions as they affect construction. The table below highlights the changes between DEC's 2011 CGP and 2016 CGP. Most of the changes are discussed in more detail in the Section 4 of the fact sheet.

Table 2-1: Summary of Proposed Changes to the 2016 CGP

Permit Condition	Location of Topic/Change		
	2011 CGP Part #	Proposed 2016 CGP Part #	2016 CGP Fact Sheet Section #
Revised Table 1 to include submittal requirement, submit to, and separate into actions done prior to, during, or post construction	Table 1	Table 1	N/A
Added hyperlinks to webpages and additional information on numerous topics	N/A	Throughout	Throughout
Revised to include specific person(s) responsible	1.2	1.2	4.1.2
Added more specific list of eligibility requirements	1.4	1.4	4.1.4
Included three waiver criteria in text of permit	1.5	1.5	4.1.9
Removed seven day waiting period for date of authorization.	2.5	2.5	4.2.5
Continuation of expired permit	2.6	2.6	4.2.6
Refined requirements for submitting NOT instead of modification	2.7.2	2.7.2	4.2.7
Modification can be submitted electronically instead of only paper copy	2.7.3	2.7.1	4.2.7
Revised to more clearly state when monitoring is required; moved monitoring instructions to Part 7	3.2	3.2	4.3.2
Added Control Measure Selection and Design Considerations	N/A	4.1	4.4.1
Added clarification on clearing vegetation	4.10.3	4.2.4	4.4.2
Updated General Permit for Excavation Dewatering requirements to be consistent with 2014 General Permit	4.3	4.4	4.4.4
Revised soil stabilization requirements to be consistent with ELG	4.4.2.1.1	4.5	4.4.5
Updated good housekeeping/pollution prevention measures to be consistent with ELG	4.7	4.8	4.4.8
Moved spill notification details to Part 9.3	4.8	9.3	4.4.9
Added requirements for projects near a public water system	N/A	4.10 and 5.3.5.16	4.4.10
Additional requirements for the site map	5.3.5	5.3.5	4.5.3
Added option of storing the SWPPP at another location easily accessible during normal business hours.	5.10.3.1	5.10.3.1	4.5.10

Table 2-1: Summary of Proposed Changes to the 2016 CGP

Permit Condition	Location of Topic/Change		
	2011 CGP Part #	Proposed 2016 CGP Part #	2016 CGP Fact Sheet Section #
Added clarification for public access to portions of the SWPPP to a member of the public upon request.	N/A	5.10.3.5	4.5.10
Reduced the number of inspection frequency options to once every seven calendar days or once every 14 calendar days and within 24 hours of the end of a storm event that results in a discharge from the site.	6.1	6.1	4.6.1
Added option to reduce inspection frequency during seasonal arid or semi-arid periods to at least once every month and within two business days of a storm event that results in discharge from site.	N/A	6.2.1	4.6.2
Added requirements for corrective actions for Substantially Identical Outfalls	N/A	8.5	4.8.5
Added or updated definitions – actively staffed, bypass, borrow area, Hazardous Materials or Hazardous Substances or Hazardous or Toxic Waste, infeasible, temporary stabilization, upset	N/A	Appendix C	N/A
Revised definitions for maintenance and Waters of the U.S.	Appendix C	Appendix C	N/A

3.0 DESCRIPTION OF INDUSTRY AND RECEIVING WATERS

3.1 Construction and Development Industry

3.1.1 Industry Summary

Construction activity – measured by total spending, jobs, payroll, or gross product – has experienced strong growth in Alaska for more than a decade, driven largely by growing federal capital grants to the state, large federal agency capital budgets, oil and gas spending, and more recently, large state capital budgets (Goldsmith and Killorin, 2009). These large external sources of construction funds not only fuel public spending and oil patch spending but also give a general boost to the economy and add to the aggregate demand for new residential, commercial, and private infrastructure spending. Construction spending is one of the important contributors to overall economic activity in Alaska (Goldsmith and Killorin, 2009).

Construction spending generates activity in a number of industries that supply inputs to the construction process, such as sand, gravel, equipment, leasing, design, administration, construction finance, and management. The payrolls and profits from these activities support businesses in every community in the state. As this income is spent and circulates through local economies, it generates other jobs in businesses as diverse as restaurants, consumer products, appliances, and other sectors.

The total value of construction spending in Alaska in 2014 is estimated at nearly $9.2 billion, up 18% from 2013. Wage and salary employment in the construction industry has declined somewhat since 2006, but remains above the long-term average for the industry. See APPENDIX A of the Fact Sheet for a detailed description of the construction industry. APPENDIX A, Table A-1 summarizes projected spending in the public and private sectors in Alaska during 2010.

Construction directly accounts for six percent of the total jobs in Alaska. Spin-off employment in trade, transportation, manufacturing, services, and other sectors produce jobs and related spending in these and other sectors. An assessment of the economic and/or social benefits of construction activities may consider a wide range of activities, such as:

- Linear projects – highways, pipelines, power lines, etc.
- Spatial development – residential subdivisions, commercial buildings, institutional facilities, infrastructure projects, etc.
- Urban projects – those listed above that occur within the jurisdictional area of an entity that owns a regulated MS4.
- Rural infrastructure development projects – those listed above that occur in rural Alaska.

3.1.2 Potential Industry Impact on Water Quality

C&D activity typically involves site selection and planning and land-disturbing tasks such as clearing, excavating, and grading. Disturbed soil, if not managed properly, can be easily washed off-site during storm and snow melt events. Storm water discharges from construction activities may contain sediment that may cause an array of physical, chemical and biological impacts on receiving waters and potential violations of the turbidity water quality standard. In addition to sediment, a number of other pollutants (e.g., metals, organic compounds and nutrients) are preferentially absorbed or adsorbed onto mineral or organic particles found in fine sediment. These pollutants can cause an array of chemical and biological water quality impairments. The interconnected processes of erosion (e.g., detachment of soil particles by water), sediment transport, and delivery to receiving waters are the primary pathways for the addition of pollutants from C&D sites; construction sites; or sites into aquatic systems.

A primary concern at most C&D sites is the erosion and transport process related to fine sediment because rain splash, rills (small channels typically less than one foot deep) and sheet flow or sheet wash (thin sheets of water flowing across a surface) can facilitate the detachment and transport of sediment to water bodies. Although streams and rivers naturally carry sediment loads, discharges associated with construction activity can elevate these loads to levels above those in undisturbed watersheds. In addition, discharges from C&D sites can increase the proportion of silt, clay, and colloidal particles in receiving streams because these fine-grained particles may not be effectively managed by conventional erosion and sediment controls utilized at C&D sites that rely on simple settling. See Appendix C for a detailed discussion of the potential impacts from construction activity on water quality and potential control measures to prevent these impacts.

3.1.3 General Alaskan Climatic Regions

Alaska has a wide range of climatic and geographic conditions that lead to streamflow and water quality in its receiving waters. This wide range of climatic and geographic conditions has an effect on the C&D industry and the potential for pollutants that may be discharged from a construction site. The climatic regions range from the moisture-laden, mountainous Gulf of Alaska coastal areas to the dry, relatively flat arctic coastal areas. Average annual precipitation ranges from more than 200 inches in southeastern Alaska to less than 10 inches in areas near the Arctic Ocean (Curran et. al., 2003). To address this climatic diversity, DEC has divided Alaska into five broad climatic regions for the purposes of the

permit that loosely follow the precipitation zone classification found in the *Precipitation Frequency Atlas of the Western United States*, referred to as NOAA Technical Publication (TP)-47 (Miller 1963) and Shulski and Wendler (2007).

The **Coastal Region** contains the southeast panhandle, Gulf of Alaska, and extending west, including the Aleutian Islands and has a strong maritime influence. Consequently, it experiences high annual rainfall (60 to 150 inches), moderate to very high annual snowfall (40 to 200 inches), but a low ratio of snow to rain (2 to 20 percent).

The **Southcentral Region** includes communities around Cook Inlet, such as Anchorage, that experience moderate rainfall (15 to 25 inches), moderate to high snowfall (55 to 70 inches) and moderate split between snow to rain ratio (25 to 45 percent). The primary difference between this region and the Western Region is that winter temperatures are higher, and consequently, permafrost is largely absent from much of the region.

The **Western Region** includes the western coastal, lower Yukon, and lower Kuskokwim areas that experience moderate rainfall (15 to 25 inches), moderate to high snowfall (50 to 80 inches) and a moderate split between snow to rain ratio (30 to 50 percent).

The **Interior Region** includes the a major portion of the Yukon River basin, Fairbanks and south to the Copper River Basin, and is typified by low annual rainfall (10 to 15 inches), moderate annual snowfall (40 to 70 inches) and a high ratio of snow to rain ratio (40 to 60 percent).

The **Arctic Region** includes the area north of the Brooks Range and northwest Alaska and is typified by extremely low annual rainfall (4 to 8 inches), low snowfall (20 to 30 inches) and a high snow to rain ratio (60 to 70 percent).

Other key climatic factors that affect snowmelt and storm water include the length of the growing season, the presence of permafrost, average minimum air temperatures for the coldest month, and soil drainage. Depending on the ratio of snowfall to annual rainfall, runoff will be generated at different times of year. For example, regions dominated by snowfall will have their peak runoff events in the spring, whereas regions dominated by rainfall will experience peak runoff at other times of the year corresponding to maximum rainfall events. Each of these factors has a strong influence on the design of erosion and sediment control measures.

3.2 Receiving Waters

3.2.1 Water Quality Standards

The protection of surface water occurs primarily through the development, adoption, and implementation of WQS and the use of the WQS in APDES permits. The WQS designate specific uses for which water quality must be protected. Alaska WQS designate seven uses for fresh waters (drinking water; agriculture; aquaculture; industrial; contact recreation; non-contact recreation; and growth and propagation of fish, shellfish, other aquatic life, and wildlife) and seven uses for marine waters (aquaculture; seafood processing; industrial; contact recreation; non-contact recreation; growth and propagation of fish, shellfish, other aquatic life, and wildlife; and harvesting raw mollusks or other raw aquatic life for human consumption).

To prevent unnecessary lowering of water quality, 40 CFR § 131.12 requires Alaska to develop and adopt an antidegradation policy, which the Department has done in 18 AAC 70.015. The general purpose of the antidegradation policy is to protect the quality of the state's waters. The Department conducts an antidegradation analysis to determine the permitted activities' potential effect on water quality and whether the permitted activities meet the antidegradation policy and Alaska's WQS. The basic purpose of the antidegradation policy is to maintain and protect existing water quality. Many waterbodies have natural water quality that is better than the criteria established by the WQS at 18 AAC 70. In such cases, a wastewater (or storm water) discharge could meet WQS but still cause some degradation of the waterbody. See Appendix C for the Antidegradation Analysis conducted as part of this permit issuance.

3.2.2 Potential C&D Pollutants of the Receiving Waters

Storm water discharges can have highly variable levels of pollutants. According to EPA, turbidity levels in discharges from C&D sites may range from as low as 10-50 NTU to several thousand NTU (Fed. Reg. Vol. 73, No. 230 p. 72572). Sediment from construction projects that discharge to clear-water tributaries can have the greatest impact on fisheries.

Sediment in water is generally considered in two broad categories. First, settleable solids rapidly settle out of the water and move downstream or down a ditch if rolled along the bottom or re-suspended by currents. Second, suspended sediment remains in the water column due water turbulence, particle shape, and/or low specific gravity of individual particles. EPA selected turbidity as a measure of the fine-material fraction of suspended sediment for use in the C&D ELG as the pollutant to sample for at C&D sites. EPA defined turbidity as "an expression of the optical property that causes light to be scattered and absorbed rather than transmitted with no change in direction of flux level through the sample caused by suspended and colloidal matter such as clay, silt, finely divided organic and inorganic matter, and plankton and other microscopic organisms." One unit of measure of turbidity is the NTU. NTU is based on the use of nephelometer, an instrument that measures the amount of light scattered by a water sample at 90º to the path of incident light. This measurement is calibrated against the scattering of light in a standard suspension of formazin polymer and is reported in NTU.

Increases in turbidity in streams and rivers from timber harvest, placer mining, or road construction reduces light penetration and are associated with decreased production of plant material (primary production), decreased abundance of fish food organisms (secondary production), and ultimately with decreased production and abundance of fish (Lloyd, 1986). The fact that turbid waters produce fewer fish may, at first glance, appear inconsistent with knowledge that large, turbid rivers such as the Copper, Susitna, Kuskokwim, Kenai, and Yukon Rivers contain large salmon runs. The way fish use the rivers and their tributaries is an important factor in understanding the potential impact of turbid storm water runoff on fish in turbid rivers and streams. Pacific salmon and other anadromous fish migrate from the ocean to fresh water to spawn. As the fish journey up the turbid rivers they seek out the clear-water tributaries, sloughs, and areas of groundwater upwelling to deposit their eggs. Juvenile fish that hatch from these eggs generally remain in clear-water habitats for periods ranging from days to years and then descend through the turbid rivers to reach the ocean

Turbidity in Alaska's streams and rivers ranges from extremely low values of less than 1 NTU in clear-water drainages to intermediate levels of 50 NTU, to naturally high levels of 50-4,000 NTU in several

major rivers (Lloyd, 1986). Sampling at 46 sites in wadeable streams in the Tanana River basin found a range in turbidity from 0.1 to 716 NTU, with a median value of 1.7 NTU (Rinella, et.al, 2009).

4.0 PERMIT CONDITIONS

DEC formatted this fact sheet to make it as a readable reference so that the more than 200 organizations that operate under the CGP can use it to understand the rationale that supports specific permit conditions. DEC uses an informal style that does not necessarily reflect verbatim the actual provisions established in the permit, especially if the provision is straightforward and easily understood. This format is intended to help the regulated community and members of the public understand the intent and basis of the actual permit language. If any discrepancy exists between the fact sheet and the actual CGP language, the permittee must comply with the CGP as written.

4.1 Coverage under the permit (Part 1)

4.1.1 Introduction (Part 1.1)

The CGP authorizes storm water discharges from large and small construction-related activities that result in a total land disturbance of equal to or greater than one acre, where those discharges enter waters of the U.S. (directly or through a storm water conveyance system) or a Municipal Separate Storm Sewer System (MS4). DEC is also making the permit available, consistent with 40 CFR 122.26(b)(15)(ii), for storm water discharges from certain construction support activities designated by DEC based on the potential for contribution to a violation of a WQS or for significant contribution of pollutants to waters of the U.S., and some non-storm water discharges. The goal of the permit is to minimize erosion and reduce or eliminate storm water pollution from construction activity through implementation of appropriate control measures. Throughout the permit and fact sheet, DEC uses the term “control measure” to refer to any BMP or other method used to prevent or reduce the discharge of pollutants to waters of the U.S.

4.1.2 Person(s) Responsible for Obtaining Authorization under the permit (Part 1.2)

All owners or operators of large and small construction activities who meet the conditions listed in Part 1.4 are subject to the conditions set forth in the permit and are required to obtain coverage. The permit uses the terms “permittee” or “operator” to identify the accountable person(s) once coverage is authorized under the permit by DEC. In this context, the “operator” means any person associated with a construction project who meets either of the following two criteria:

1. The person has operational control over construction plans and specifications, including the ability to make modifications to those plans and specifications; or
2. The person has day-to-day operational control of those activities at a site which are necessary to ensure compliance with a SWPPP for the site or other permit conditions (e.g., the person is authorized to direct workers at a site to carry out activities required by the SWPPP or comply with other permit conditions).

In instances where more than one party at a site is performing tasks related to “operational control” each operator must submit an NOI. Depending on the site and the relationship between the parties (e.g., owner, developer, general contractor), there can either be a single party acting as site operator and consequently be responsible for obtaining permit coverage, or there can be two or more operators all

needing permit coverage. Exactly who is considered an operator is largely controlled by how the "owner" of the project chooses to structure the contracts with the "contractors" hired to design and/or build the project. Where your activity is part of a larger common plan of development or sale, you are only responsible for the portions of the project for which you meet the definition of "operator". The following are three general operator scenarios (variations on any of these three are possible, especially as the number of "owners" and contractors increases):

- "**Owner" as sole permittee**: The property owner designs the structures for the site, develops and implements the SWPPP, and serves as general contractor (or has an on-site representative with full authority to direct day-to-day operations). The "Owner" is the only party that needs permit coverage, in which case everyone else on the site may be considered subcontractors and not need permit coverage.
- **"Contractor" as sole permittee**: The property owner hires one company (i.e., a contractor) to design the project and oversee all aspects of the construction project, including preparation and implementation of the SWPPP and compliance with the permit (e.g., a "turnkey" project). Here, the contractor would likely be the only party needing a permit. For example, an individual having a personal residence built for his own use (e.g., not those to be sold for profit or used as rental property) generally would not be considered an operator under this permit. DEC believes that in this scenario the general contractor for the owner, being a professional in the building industry, is better equipped to meet the requirements of both applying for permit coverage and developing and properly implementing a SWPPP and therefore is the entity that must apply for the permit coverage. However, individuals that meet the definition of "operator" will also require permit coverage in those instances where they perform general contracting duties for construction of their personal residences.
- **"Owner and contractor" as co-permittees**: The owner retains control over any changes to site plans, SWPPPs, or storm water conveyance or control designs, but the contractor is responsible for overseeing actual earth disturbing activities and daily implementation of SWPPP and other permit conditions. In this case, which is a common scenario, both parties need to apply for coverage.

However, a person is probably not an operator and subsequently does not need permit coverage if:

- You are a subcontractor hired by, and under the supervision of, the owner or a general contractor (i.e., if the contractor directs your activities on-site, you probably are not an operator); or
- Your activities on site result in earth disturbance and you are not legally a subcontractor, but a SWPPP specifically identifies someone other than you (or your subcontractor) as the party having operational control to address the impacts your activities may have on storm water quality (i.e., another operator has assumed responsibility for the impacts of your construction activities). The DEC anticipates that this will be the case for many, if not most, utility service line installations.

In addition, for purposes of the permit and determining who is an operator, "owner" refers to the party that owns the structure being built or the property where the construction activities take place. Ownership of the structure or land where construction is occurring does not necessarily imply the property owner is an operator (e.g., a landowner whose property is being disturbed by construction of a gas pipeline) for purposes of coverage under the permit. Likewise, if the erection of a structure has been contracted for, but possession of the title or lease to the land or structure is not to occur until after

construction, the would-be owner may not be considered an operator (e.g., having a house built by a residential homebuilder).

4.1.3 Permit Area (Part 1.3)

The CGP provides coverage within the State of Alaska, except lands within the Metlakatla Indian Reservation and the Denali National Park and Preserve. EPA retains authority to permit discharges in the Metlakatla Indian Reservation and Denali National Park and Preserve. Operators in these areas must apply for permit coverage through EPA.

4.1.4 Eligibility (Part 1.4)

Part 1.4.1 of the permit describes the eligibility requirements that are a pre-condition to obtaining coverage under the permit and specifies the types of storm water and non-storm water discharges authorized under the permit. Only those projects that meet all of the conditions listed in Part 1.4 or are notified by DEC may be covered under the permit.

If an applicant is not eligible for coverage under the permit, but files an NOI requesting coverage and discharges without authorization, those discharges are considered to be unpermitted and in violation of the CWA. If authorization is granted, and the permittee does not comply with the requirements of the permit, the permittee may also be in violation of the permit for otherwise eligible discharges.

Clarification of a Common Plan of Development or Sale

A common plan of development or sale is a contiguous area where multiple separate and distinct construction activities may be taking place simultaneously or on different schedules, but under one master plan. A construction activity is typically part of a common plan of development if it is completed in separate phases in combination with other construction activities. A “common plan” is broadly defined as any announcement or piece of documentation (including a sign, public notice or hearing, sales pitch, advertisement, drawing, permit application, zoning request, computer design, etc.) or physical demarcation (including boundary signs, lot stakes, surveyor markings, etc.) indicating construction activities may occur on a specific plot.

Examples of Projects that are Part of a Common Plan of Development

- Building on six half-acre residential lots in a 10 acre development;
- Putting in a fast food restaurant on a ¾ acre pad that is part of a 20 acre retail center;
- A developer buys a 20 acre lot and builds roads, installs pipes, and runs electricity with the intention of constructing homes or other structures sometime in the future.

Examples of Projects that are Typically **Not** Part of a Common Plan of Development

- Long range master plans of development where some portions of the master plan are a conceptual rather than a specific plan of future development and the future construction activities would, if they occur at all, happen over an extended period of time. (e.g., a university or an airport);

- Construction projects conducted by public entities (e.g., municipality, state, tribe, or federal agency) within specific jurisdictions provided they are not interconnecting or overlapping projects;
- Construction projects within a common plan of development or sale are located ¼ mile or more apart and the area between the projects is not being disturbed provided any interconnecting road, pipeline, or utility is not concurrently being disturbed.

Clarification of Common Projects Not Requiring Authorization

The following sections provide additional discussion about some common activities that are not required to submit an NOI to obtain permit authorization under the permit:

***Discharges of Storm Water from Construction Sites That Disturb Less Than One Acre Of Land, Unless Part of a Common Plan of Development*:** Construction sites that result in a total land disturbance of less than one acre of land are not required to obtain authorization under the permit unless the site is part of a common plan of development or sale that will ultimately disturb one or more acres of land. Although some projects that are part of a common plan or development or sale disturb less than once acre and seem minor in nature, the combined impact of each development could result in substantial effects to water quality.

DEC wants to clarify that individuals who buy lots in subdivisions in Alaska where the developer sells lots to individuals who then build houses over a period of time that is spread out relative to the initial platting and initial road building for the subdivision is not considered part of the "common plan of development" of the initial subdivision. This means an owner of an individual lot in a residential subdivision where the initial developer of the subdivision sought and received coverage under an NOI, completed all permit requirements, and filed an NOT for the subdivision is not required to obtain coverage under this permit for the individual lot that is less than one acre. This is the case where at least one-calendar year has passed since the initial developer filed the NOT, the lot owner intends to reside in a house on the lot, and the lot owner is not a developer or contractor building the house for speculative resale within two years. These individual homeowners do not have to develop a SWPPP or file an NOI if they do not disturb more than one acre of land.

Discharges of Storm Water Associated with Maintenance Activities: Depending on the purpose and nature of the maintenance project, some of them may not be required to submit an NOI under the permit. To be considered a maintenance project, the project must maintain the original line and grade, hydraulic capacity of conveyance channels, or original purpose of the site. Maintenance projects typically involve the repair, rehabilitation, or replacement of existing structures or facilities with no new ground disturbance beyond the original footprint. Maintenance projects may involve minor deviations in the size, configuration, or alignment of the structure or facility. Such activities include mowing or clearing vegetation without disturbing the vegetative mat (i.e., grubbing), repaving a road with no surface expansion or disturbance of surrounding soils, replacing a bridge without widening it, or replacing a culvert with the same size and composition.

Discharges of Storm Water Associated with Oil and Gas Projects: Section 402(*l*)(2) of the CWA states that permits are not required for discharges of uncontaminated stormwater runoff from oil and gas exploration, production, processing, treatment operations, or transmission facilities unless the facility's

subject discharge is entirely composed of storm water and has had a discharge of a reportable quantity of oil or hazardous materials at any time since November 16, 1987.

Section 323 of the Energy Policy Act of 2005 added a new provision to the CWA defining the term "oil and gas exploration, production, process, or treatment operations, or transmission facilities" to mean "all field activities or operations associated with exploration, production, processing, or treatment operations, or transmission facilities, including activities necessary to prepare a site for drilling and for the movement and placement of drilling equipment, whether or not such field activities or operational may be considered to be construction activity" [33 U.S.C. 1362(24)].

The 2005 provision exempts the oil and gas industry, including associated construction activities, from federal NPDES storm water permits, except in very limited instances. Only oil and gas facilities that have a discharge of a reportable quantity release or that contribute pollutants which have the potential to violate a water quality standard are required to obtain an APDES permit authorization for storm water discharges. Oil and gas facilities on the North Slope and Cook Inlet that do not meet the exemption may be eligible for an alternative APDES general permit. Refer to the DEC, APDES, Oil and Gas webpage for additional information and permitting requirements:
http://dec.alaska.gov/water/wwdp/oilgas/index.htm.

Construction of Ice Roads: Construction of ice roads over frozen tundra in areas of the state dominated by permafrost are excluded from the requirement to obtain permit coverage, provided no soil is exposed during construction.

4.1.5 Authorized Storm Water Discharges (Part 1.4.2)

Part 1.4.2 of the permit lists the types of storm water discharges from large and small construction activities that are allowed under the permit. Operators should use this section to determine which storm water discharges from their site can be covered under this permit.

Clarification of Construction Support Activities

Construction support activities are construction-related activities that specifically supports the primary construction activity and involves earth disturbance or pollutant-generating activities of its own. Examples of common construction support activities include concrete or asphalt batch plants, equipment staging yards, material storage areas, excavated material disposal areas, and borrow areas. Only those support activities that meet all of the following conditions may be authorized under the permit:

- The support activity is directly related to the construction project;
- The support activity is not a commercial operation serving multiple, unrelated construction projects by different permittees;
- The support activity is not operating beyond the completion of the last related construction project it serves; and
- Appropriate control measures are identified in the SWPPP covering the discharges from the support activity areas.

The term "commercial operation" as used above, and in Part 1.4.2 of the permit, refers to a concrete or asphalt batch plant, equipment staging yard, or material storage area that does not serve multiple unrelated construction projects and not operating beyond the completion of the last related construction project it serves.

4.1.6 Authorized Non-Storm Water Discharges (Part 1.4.3)

Part 1.4.3 of the permit lists the non-storm water discharges authorized under the permit. The permit conditionally allows certain non-storm water discharges associated with construction activity, provided that the non-storm water component is in compliance with the SWPPP requirements in Part 5.3.9 of the permit. These discharges are not authorized if they are contaminated with pollutants of concern, such as petroleum, or do not meet water quality standards. DEC considers groundwater to be potentially contaminated if it is located in close proximity (generally 1,500 feet) to a DEC identified contaminated site.

Excavation dewatering activities authorized under the CGP that occur within 1,500 feet of an "Active DEC identified contaminated site" or "contaminated groundwater plume" also require authorization under DEC's Excavation Dewatering General Permit (AKG002000). The additional permitting requirement will assure that dewatering activities conducted at a construction project covered under the CGP account for the potential of the pollutant of concern from the contaminated site. The permit authorization is required since the CGP only authorizes discharges of uncontaminated groundwater from dewatering activities managed through control measures. This is the only situation where permit coverage under two permits that authorize excavation dewatering discharges will be required on the same project.

If you are unsure if the groundwater is potentially contaminated or you need coverage under the Excavation Dewatering General Permit, contact DEC (Permit Appendix A, Part 1.1.1) for clarification and to determine if additional conditions or permits apply to your project.

4.1.7 Limitations on Coverage (Part 1.4.4)

Part 1.4.4 of the permit lists the types of discharges that are **not authorized** under the permit. Unauthorized discharges include:

***Post-Construction Discharges (Part 1.4.4.1)*:** Post-construction storm water discharges are discharges that originate from a project after construction activities have ceased, from a site that has achieved final stabilization, or for a project where a NOT has been submitted. If there will be a discharge of storm water associated with industrial activity, or some other regulated discharge from the completed project (e.g., wastewater from a newly-constructed chemical plant), coverage under another APDES permit must be obtained for those discharges.

Discharges that May Exceed Water Quality Standards (Part 1.4.4.2.). Any time before or after authorization, DEC may determine that the applicant's storm water discharges will cause, have reasonable potential to cause, or contribute to an excursion above any applicable water quality standard in accordance with Permit Part 3.1. If such a determination is made, DEC will notify the applicant to discuss possible options for modifying the project and/or storm water control measures so that storm water discharges meet water quality standards. If that is not possible, DEC may require the permittee to

obtain authorization under an individual or alternative general permit as required in Part 2.8 of the permit.

Discharges into Water Quality Impaired Waters (Part 1.4.4.3). Storm water discharges into receiving waters with an approved or established TMDL are prohibited, unless the discharges are in accordance with Permit Part 3.2. Permittees must prevent exposure to storm water of pollutions for which the water body is impaired and retain documentation of the procedures taken to prevent exposure. Permittees may also provide DEC with technical information or other documentation to demonstrate that the pollutant of concern is not present on site or that the discharge is not expected to cause or contribute to an exceedance of a WQS or wasteload allocation.

Comingled Discharges (Part 1.4.4.4). Storm water discharges that are mixed with non-storm water sources, other than those identified in and complying with the permit are not authorized for coverage under the permit. Non-storm water discharges that are authorized under a different APDES permit may be commingled with discharges authorized under the permit.

Discharges Currently or Previously Covered by another Permit (Part 1.4.4.5). Storm water discharges associated with construction activity that is covered under an individual permit, discharges required to be covered under an alternative general permit, and discharges from sites where any APDES permit has been or is in the process of being denied, terminated, or revoked are not authorized for coverage under the permit.

Discharges of Dredged or Fill Material (Part 1.4.4.6). Discharges of dredged or fill material into waters of the U.S. are not authorized under the permit. Discharges of dredged or fill material typically require U.S. Army Corps of Engineers authorization under Section 404 of the CWA and applicants must avoid, minimize, or mitigate adverse impacts on aquatic resources. However, the acreage of wetland fill must be included in the "Estimated Area to be Disturbed" in the Section IV of the project's NOI because these areas generally have exposed soils.

Discharges from a Nondomestic Wastewater Treatment Works (Part 1.4.4.7). Storm water discharges to the land or ground water from a nondomestic wastewater treatment works using permanent storm water management controls are not required to obtain coverage under the CGP, but must be authorized under another APDES or state permit for the discharge. Additionally, some permanent storm water management controls that place storm water or snow melt below the land surface may be defined as a Class V injection well and subject to EPA's Underground Injection Control regulations due to their potential to impact underground drinking water sources. Class V injection wells are any bored, drilled, or driven shaft, or dug hole that is deeper than its widest surface dimension. Some examples include French drains, tile drains, and infiltration sumps. If you are unsure about the classification of your infiltration system, contact EPA's UIC program representative for clarification. Refer to EPA's Storm Water and Underground Injection Control Program web page for more information and the current Region 10 representative's contact information:
http://yosemite.epa.gov/r10/water.nsf/UIC/Stormwater+&+UIC.

4.1.8 Emergency Repairs or Reconstruction of a Facility (Part 1.4.5)

DEC automatically authorizes projects that are conducted specifically to repair facilities damaged by disasters (such as floods, fires, earthquakes) that need to be completed in an emergency time frame to

save life or property. In the event of a disaster that causes the need for emergency repairs to a facility (e.g. roads, airports, harbors, etc.), a person may commence repairs without filing for coverage under this permit. A person planning reconstruction of a facility must file for coverage within thirty (30) calendar days following the commencement of construction activities. During the thirty (30) days the operator must comply with the terms and conditions of this permit to the extent practicable, depending on the disaster. Some examples of ways operators can demonstrate compliance are to install erosion and sediment control meausres, initiate soil stabilization, and documenting in the project SWPPP the circumstances related to the emergency (e.g., text description, photos, actions taken to address the emergency).

4.1.9 Waivers for Certain Small Construction Activities (Part 1.5)

In compliance with EPA's Phase II storm water rule, DEC has the option of providing small construction activities (as defined in Appendix C) a waiver from the requirement to obtain authorization under the CGP. The intent of the provision is to waive only those sites that are highly unlikely to have a negative effect on water quality. Before applying for a waiver, operators of small construction activities are encouraged to consider the potential water quality impacts that may result from their project and to carefully examine such factors as proximity to water resources and sensitivity of receiving waters.

Part 1.5 states that an operator may qualify for a waiver in lieu of obtaining permit coverage and describes the three criteria available to operators (described below): 1) the project has a low predicted rainfall potential where the rainfall erosivity factor is less than 5 during the period of construction; 2) DEC or EPA has established or approved a TMDL that addresses the pollutants(s) of concern (i.e., sediment) and has determined that storm water controls are not needed to protect water quality; or 3) For projects that discharge to non-impaired waters, the operator develops an equivalent analysis that determines allocations for the pollutants of concern or determines that such allocations are not needed to protect water quality. DEC must provide written approval of the waiver prior to commencement of construction activities.

Project has a Rainfall Erosivity Factor Less than 5 (Part 1.5.1.1). A construction site's potential for erosion, or erosivity, is determined by the soil type, geology of the site, and amount and force of precipitation. Site erosivity is determined using the Revised Universal Soil Loss Equation (RUSLE). The rainfall erosivity factor (i.e., "R" in the RUSLE; referred to as the R-Factor) is time-sensitive and is dependent on when during the year a construction activity takes place, how long it lasts, and the expected rainfall and intensity during that time. Small construction sites that qualify for the waiver generally take place during a relatively short time in arid or semi-arid areas. For additional information on calculating a project's R-Factor, refer to EPA's Stormwater Phase II Final Rule, Fact Sheet 3.1, *Construction Rainfall Erosivity Waiver*. An erosivity calculator is available on EPA's webpage at http://water.epa.gov/polwaste/npdes/stormwater/Welcome-to-the-Rainfall-Erosivity-Factor-Calculator.cfm.

A small construction activity may qualify for the rainfall erosivity waiver when, the value of the R-Factor is less than 5 during the construction activity. The start and end dates used for the construction activity will be the initial date of disturbance and the anticipated date when the site will have achieved final stabilization. If the construction activity extends past this period, the applicant must recalculate the R-Factor using the original start date and a new ending date. If the R-Factor is still under 5, a new waiver certification form must be submitted. If the recalculated R-Factor is greater than 5, the project is

no longer eligible to use the waiver and an NOI must be submitted prior to the end of the waiver period for the applicant to be covered by the permit. Details of procedures for determining eligibility for the rainfall erosivity waiver are provided in Appendix D of the permit.

TMDL Determines Stormwater Controls are Not Required (Part 1.5.1.2). The DEC or EPA-approved TMDL must address sediment (i.e., total suspended solids, turbidity, or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the construction activity. Additional TMDLs addressing common pollutants from construction sites such as nitrogen, phosphorus, and oil and grease also may be necessary to ensure water quality protection. The applicant must certify that the construction activity and the drainage area are addressed by the TMDL. Details of procedures for determining eligibility for these waivers are provided in Appendix D of the permit and Section 4.1.9 of this fact sheet.

Equivalent Analysis Determine Stormwater Control are Not Required (Part 1.5.1.3). If the small construction activity discharges to a non-impaired water that does not require a TMDL, an operator may develop an equivalent analysis that determines allocations are not needed to protect water quality. This equivalent analysis must be based on consideration of existing in-stream concentrations, expected growth in pollutant contributions from all sources, and a margin of safety.

4.2 Authorizations under the General Permit (Part 2.0)

4.2.1 Submittal Requirements Prior to Construction (Part 2.1)

Depending on the type and location of the project, the operator may be required to submit information to DEC and/or an MS4 operator for review prior to filing the NOI or the commencement of construction activities. The following is a summary of the information to be submitted to each agency by project type and area of jurisdiction.

Permanent Storm Water Managmenet Controls (Outside MS4) (Part 2.1.1)

An operator proposing Permanent Storm Water Management Controls in accordance with Part 4.10 where the project is located outside the area of an APDES permitted MS4 must submit information required by the DEC at least thirty (30) calendar days prior to filing the NOI and must receive DEC's written reply prior to the commencement of construction.

Permanent Storm Water Management Controls (Inside MS4) (Part 2.1.2)

An operator proposing Permanent Storm Water Management Controls in accordance with Part 4.10 where the project is located inside the area of an APDES permitted MS4 must submit information required by the MS4 operator prior to filing the NOI for the project and must receive the MS4 operator's approval prior to the commencement of construction. Addresses are provided for the respective APDES permitted MS4 operators. Check with the respective MS4 operator for their particular submittal requirements.

SWPPP Submittal to DEC (Part 2.1.3)

An operator developing a project that disturbs five or more acres of land where the project is located outside the area of an APDES permitted MS4 must submit a copy of the SWPPP to DEC at the time the NOI is filed (electronic attachments to the eNOI is preferred).

SWPPP Submittal to MS4 (Part 2.1.4)

An operator developing a project that is located inside the area of an APDES permitted MS4 must submit a copy of the SWPPP to the respective local government at the addresses listed in Part 2.1.2 prior to the time the NOI is filed with DEC. Check with the respective MS4 operator for their specific submittal requirements. DEC also maintains a current contact list of MS4 operators at http://dec.alaska.gov/water/ wnpspc/stormwater/SWPPPSubmittalRqmts.htm.

Projects Using Active Treatment Systems (Part 2.1.5)

An operator using an active treatment system shall submit engineering plans and project details listed in Part 4.6.3.3 to DEC at least 14 calendar days pror to the use of the active treatment system at the construction site.

Site-Specific Antidegradation Analysis (Part 2.1.6)

An operator for a construction activity, that may discharge to a high quality water that constitutes an Outstanding National Resource, such as a water of a national or state park or wildlife refuge, or a water of exceptional recreational or ecological significance (as described in Appendix C), must contact DEC at the address in Appendix A, Part 1.1.1 thirty (30) calendar days prior to the planned start of construction activities to discuss additional submittal requirmenets. As of the date of issuance of this permit, no Outstanding Natural Resource Waters (i.e., Tier 3 waters) are designated in the Alaska. In the event a water is designated as an Outstanidng Natural Resource Water, additional submittal requirements may include but are not limited to:

1. Develop a site-specific antidegradation analysis using DEC Policy *Interim Antidegradation Implementation Methods* dated July 14, 2010 or a subsequent version;
2. Submit the antidegration analysis and the SWPPP to DEC at least 14 calendar days prior to filing the NOI for the project, and
3. Receive DEC's written approval according to Part 2.5 prior to commencement of construction.

4.2.2 How to Obtain Authorization (Part 2.2)

Part 2.2 of the permit specifies that to be covered under the CGP as a permittee, the operator must meet the requirements in Part 2.2.1, and submit to DEC a complete and accurate NOI prior to commencing construction (see 18 AAC 83.210). Submission of a complete and accurate NOI eliminates the need to apply for an individual permit for a regulated discharge, unless DEC specifically notifies the applicant that an individual permit application must be submitted. DEC also clarifies that authorization is not valid if the NOI is incomplete or inaccurate, or if the discharge is not eligible for permit coverage. DEC has included these provisions in the CGP to establish the fundamental principle that discharges of storm

water are not authorized until permit coverage is obtained, and that permit coverage is obtained for the CGP through the submission of a complete and accurate NOI.

A complete NOI shall include the following information. If the information is incorrect or is missing the NOI will be deemed incomplete and permit authorization will not be granted.

- Operator information: organization name, contact person, complete mailing address, telephone number and fax and email address if available.
- Billing contact information: organization name, contact person, complete mailing address, telephone number and fax and email address if available. If the billing contact information is the same as the operator information, check the box on the NOI indicating that it is the same.
- Project/site information: project/site name, brief description, a physical location, the city and zip code, the borough, latitude and longitude, how the latitude and longitude were determined, estimated project start date and completion date, and an estimate of the area to be disturbed.
- SWPPP information: acknowledgement of whether a SWPPP has been prepared in advance of filing the NOI, the location of the SWPPP- either with the operator, the project/site, or other location the name of SWPPP contact if different than the operator contact.
- Discharge information: the name(s) of the waterbodies to which the project discharges, does the project/site discharge to a waterbody that is impaired or have a TMDL, if it does then is the discharge consistent with the assumptions and requirements of the TMDL.
- Treatment chemical information: the name(s) of the polymers, flocculants, or other treatment chemicals used.
- Signatory information in compliance with Appendix A, Part 1.12.

4.2.3 How to Submit an NOI (Part 2.3)

Part 2.3.1 requires operators to either use DEC's electronic NOI system (accessible at http://www.ADEC.state.ak.us/water/wnpspc/stormwater/stormwater.htm) or use a paper form (included at this website) and then submit that paper form to the appropriate address. DEC requires that the applicant submit the NOI at least five business days prior to discharge to allow sufficient lead time to process the NOI. DEC may waive the five business days on a case-by-case basis.

The DEC encourages operators to submit an NOI via the electronic filing system and emphasizes that filing via the electronic filing system will be the quickest way to obtain permit coverage because the system will automatically process the information, disallow incomplete submissions, and flag certain entries as possibly incorrect.

When estimating the area of disturbance, consider the planned area of soil disturbance in total for all construction activity associated with the project. Area of disturbance includes but is not limited to:

- Clearing of the land both for access (i.e., access roads) to the site as well as preparing the site for constructing the project,
- Constructing access roads to the site,

- Grading of the project site in total,
- Equipment staging area, maintenance are, and construction easement if they occur atop a soil surface which has not been included in the calculation for area of soil disturbance,
- Material and/or soil stockpiles if atop a soil surface (not if atop an impervious surface such as concrete or asphalt),
- Area of asphalt or concrete pavement removal if it is removed entirely to the soil surface,
- Area that is related to demolition and removal of existing structures if that demolition and removal is to the soil surface,
- Concrete truck clean-out areas if atop a soil surface.

Small construction activity (one or two homes) will not see the extensive grading operation that occurs with major housing developments. However, any clearing or grading activity would need to enter into calculating the amount of disturbed soil. If no clearing or grading takes place, then the building area footprint must be included. This includes areas of soil disturbance to construct driveways and parking stalls, areas for stockpiling soil and material as well as the areas dedicated to parking construction equipment and trucks would be included in the calculation if the activity takes place atop a soil surface. Construction of access roads also enters into the calculation of soil disturbance area.

4.2.4 Submission Deadlines (Part 2.4)

Part 2.4 specifies the deadline for submitting a NOI for permit coverage. These deadlines vary depending on whether the construction project can be classified as a new project, a permitted ongoing project, or an unpermitted ongoing project.

New Projects (Part 2.4.1). A "new project" is a construction project that commences after the effective date of the permit. The operator of a new project must submit a complete and accurate NOI form before the anticipated start of construction activities, consistent with Parts 2.2.1 and 2.3 of the permit. The operator can submit either a paper copy or file the NOI electronically. In accordance with 40 CFR 450.11(a), a new project is considered a "new source." In accordance with Part 2.1, if a new project is located outside an APDES permitted MS4 area and disturbs five or more acres of land, the permittee is required to submit to DEC a copy of the project's SWPPP when they file the NOI. If the new project is located inside an APDES permitted MS4 area and disturbs one or more acres of land, the permittee is required to contact the MS4 operator to determine if they have any additional submittal requirements.

Permitted Ongoing Projects (Part 2.4.2). A "permitted ongoing project" is a construction project that commenced prior to the effective date of this permit and received permit coverage under a previous effective permit, such as the 2011 CGP. A permittee of an ongoing project, who received authorization under a previous general permit, is eligible for coverage under the 2016 CGP and must continue to comply with the terms and conditions of the previous permit until the permittee has been granted coverage under the 2016 CGP or an alternative APDES permit. To obtain coverage under the 2016 CGP, the permittee must update their SWPPP as necessary to comply with the requirements in Part 5.0 of the 2016 CGP and submit a new NOI within 90 days after the effective date of the permit; a 2011 CGP NOT will be required when filing for coverage under the 2016 CGP.

If the permittee is eligible to submit an NOT (e.g., the construction activities are completed, the site is finally stabilized) within 90 days after the effective date of the permit, a new NOI is not required to be submitted provided that the NOT is submitted consistent with the requirements of the previous permit.

Change of Permittee for a Authorized Ongoing Project (Part 2.4.3). A permittee who submitted a complete and accurate new NOI consistent with Part 2.4.2 for a permitted project must file an NOI modification form consistent with Part 2.7 if there is a change in the permittee after filing the updated new NOI.

For authorized ongoing projects, or a portion of an on-going project, where the permittee will change due to a transfer of ownership (e.g., a construction company is purchased by another company during the course of an ongoing project), or projects where a secondary permittee is added after the initial NOI submittal and SWPPP development, the new applicant must submit an NOI.

Unpermitted Ongoing Project/Late Notification (Part 2.4.4). An "unpermitted ongoing project" is a construction project that commenced without obtaining permit coverage. To minimize the time discharges are unauthorized, DEC requires operators of unpermitted ongoing projects to immediately update or develop a SWPPP and submit an NOI to obtain permit authorization. DEC may take enforcement action for any unpermitted discharges or permit non-compliance that occurs prior to permit authorization.

4.2.5 Date of Authorization to Begin Discharge (Part 2.5)

In the 2016 CGP, DEC removed the 2011 CGP requirement of the 7-day waiting period after DEC's acknowledgement of receipt of the operators complete and paid for NOI. The date of the authorization to begin discharge will be the date specified in the DEC authorization letter. DEC will provide written authorization in a letter addressed to each operator stating that they are authorized to begin discharging storm water under the terms and conditions of this permit (and any special conditions) after DEC's acknowledgement of receipt that a complete NOI, unless DEC notifies that applicant that authorization has been delayed. This letter is sent to permittees via email even if the NOI was submitted using a paper form. The operator must receive written notification of authorization from DEC that coverage has been granted, and that a specific authorization number has been assigned prior to discharging.

To confirm a project is authorized under this permit, permittees should search for their project (using the permit tracking number) on DEC's Water Permit Search webpage at http://dec.alaska.gov/Applications/Water/WaterPermitSearch/Search.aspx. If the project is not found on the Water Permit Search, authorization typically has not been granted. Permittees should contact the DEC if they believe their project should be authorized but are unable to find it on the Water Permit Search.

Permit coverage is typically granted once a NOI is determined to be complete and the general permit fee is paid, unless there is evidence indicating the storm water discharge has the reasonable potential to cause or contribute to an exceedance above state water quality standards. Actions to be taken depend on the nature of the eligibility concern (e.g., water quality or impaired receiving water). Additional actions may include a request to review the SWPPP, a requirement to revise the SWPPP, or a requirement to submit an application of for an individual permit or an alternative APDES general permit. In those cases,

DEC will notify the permittee to discuss corrective actions or project modifications so that it meets state water quality standards. The permit will remain in effect until midnight on the day the permit expires.

For NOIs that are submitted using the paper form, DEC cannot guarantee the NOI will be processed as quickly as NOIs that are submitted electronically. The DEC strongly encourages applicants to use the electronic, or eNOI, system to speed processing. The DEC will attempt to contact the NOI submitter directly regarding potential delays as soon as possible but it is the applicant's responsibility to ensure that authorization has been granted.

4.2.6 Continuation of the Expired General Permit (Part 2.6)

If the permit is not reissued or replaced (or revoked or terminated) prior to its expiration date, then an existing permittee will be covered under an administrative continuance, in accordance with 18 AAC 83.155.

A permittee who is authorized to discharge under the permit prior to the expiration date, will automatically remain covered by the permit until the earliest of:

- Authorization for coverage under a reissued permit or replacement of this permit following a permittee's timely and appropriate submittal of a complete NOI requesting authorization to discharge under the new permit and compliance with the requirements of the new permit;
- Submit a NOT;
- Issuance of an individual permit for the project's discharges; or
- A formal permit decision by DEC to not reissue this general permit or not cover a particular discharger previously covered by the general permit, at which time DEC will identify a reasonable time period for covered dischargers to seek coverage under an alternative general permit or an individual permit. Coverage under this permit will cease at the end of this time period.

Per 18 AAC 83.155(c) the conditions of an expired permit continue in force until the effective date of a new permit if (1) the permittee has submitted a timely application for a new permit under 18 AAC 83.110, and the department determines the application is complete under 18 AAC 83.110(d); and (2) the department, because of time, resource, or other constraints, but through no fault of the permittee, does not issue a new permit with an effective date on or before the expiration date of the previous permit. For an APDES general permit, an application is not required but a NOI must be submitted as set out in 18 AAC 83.210(b). A complete and timely NOI in compliance with the requirements of the general permit fulfills a discharger's duty to apply for a permit. If a permittee fails to submit a timely NOI for coverage under the reissued or replacement permit, the permittee's coverage will expire on midnight on the date that the NOI is due.

However, should the permit expire prior to a replacement permit being issued, the existing permit will only cover those permittees authorized to discharge under the administratively extended general permit. DEC does not have the authority to provide coverage to new construction projects after the expiration date of the permit.

4.2.7 Submittal of a Modification to Original NOI (Part 2.7)

A permittee must file an NOI modification form with DEC to update or correct information on the original NOI. Common examples of when permittees should modify the NOI include updating the owner/operator address and contact information, site information, project start or end dates, changes in number of acres to be disturbed, or location of storm water pollution prevention plan (SWPPP).

DEC removed the 2011 CGP requirement for filing a NOT if the size of the project area has increased by more than 50%. For the 2016 CGP, if the original project disturbance was between one and less than five acres, and will now disturb five acres or more, a SWPPP must be submitted with the modification NOI.

For more significant modifications, permittees must file a NOT instead of a modification. A common example of when permittees should file a NOT and a new NOI include changes in the operator.

Modifications can be submitted electronically or by completing a paper form. The electronic system and paper form are available on DEC's website http://dec.alaska.gov/water/wnpspc/stormwater/index.htm. No general permit authorization fee is required when submitting an NOI modification. Submit the paper form to the Department at the address in the permit.

4.2.8 Alternative Permits (Part 2.8)

DEC Requiring Authorization under an Alternative Permit (Part 2.8.1). DEC may require a permittee covered under the general permit to apply for and/or obtain an APDES individual permit in accordance with 18 AAC 83.215 or coverage under an alternative APDES general permit instead of the 2016 CGP. These regulations also provide that any interested party may petition DEC to take such an action. Part 2.8.1 clarifies that DEC may terminate or revoke a permittee's authorization under this permit at any time a determination is made that the project exceeds, or has the potential to cause and exceedance of, water quality standards or numeric effluent limitations resulting from a TMDL.

If DEC determines that APDES individual permit coverage or an alternative APDES general permit coverage is necessary, written notification of this required change in permit coverage, including the reason for this decision, an application form, and a deadline for filing the application, will be provided to the permittee. DEC may grant additional time to submit the application upon request. However, if the permittee fails to submit an application or supporting documentation in a timely manner, then the coverage under the permit is automatically terminated at the end of the day specified by DEC as the deadline for application submittal.

Operator Requesting Authorization under an Alternative Permit (Part 2.8.2). Any operator may apply for authorization under an APDES individual permit or alternative APDES general permit rather than apply for coverage under this general permit, in accordance with 18 AAC 83.215. An individual or alternative general permit application must be submitted for coverage under such a permit with reasoning supporting the request within 90 days of the effective date of this general permit. If such reasoning is considered adequate by DEC, the request will be granted and an APDES individual permit will be issued or authorization to discharge under an alternative APDES general permit will be provided.

If a permittee is issued an APDES individual permit or is authorized to discharge under an alternative APDES general permit, the applicability of the general permit is automatically terminated on the effective date of the individual permit or the date of authorization of coverage under the alternative general permit, whichever the case may be. If a large or small construction activity is denied an APDES individual permit or an alternative APDES general permit, the applicability of the general permit is automatically terminated on the date of such denial, unless otherwise specified by DEC.

4.3 Compliance with Standards and Limits (Part 3.0)

4.3.1 Requirements for all Projects (Part 3.1)

APDES regulations at 18 AAC 83.435 state that permits must contain conditions to achieve Water Quality Standards (WQS). The permit requirements in Part 3.1.1 are intended to ensure that those seeking coverage under the general permit select, install, implement, and maintain control measures at their construction site that will be adequate and sufficient to meet WQS for all pollutants of concern.

Permittees determine whether their discharges are eligible for authorization under the general permit and, if so, certifies to that determination and implements control measures to achieve the protections described in Part 4.0 of the permit. Based on EPA's *1996 Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits (EPA 833-D-96-001),* DEC determined that control measures, when properly selected, installed, implemented, and maintained do provide effluent quality that can meet WQS. However, because proper selection, installation, implementation, and maintenance are so critical to the success of control measures the effectiveness of simply "installing control measures" at a construction site will often not provide adequate water quality protection. Unless notified otherwise by DEC, compliance with the permit requirements is determined to be as the most effective and reasonable approach necessary to ensure that discharges do not cause or contribute to an excursion above any applicable WQS.

However, Part 3.1.2 of the permit specifies that DEC may determine that the permittee's discharge will cause, have reasonable potential to cause, or contribute to an excursion above WQS, including failure to protect and maintain existing designated uses of receiving water. Where such a determination is made, DEC may require the permittee to take one of three actions (Part 3.1.3):

- Take corrective actions and modify storm water controls to adequately address the identified water quality concerns;
- Submit to DEC valid and verifiable data and information that are representative of ambient conditions and indicate that the receiving water is attaining WQS; or
- Minimize discharges from the construction activity and apply for an individual permit.

DEC expects permittees to use an iterative adaptive management strategy throughout their project to ensure the continued effectiveness of control measures. For example, if erosion occurs on a slope after a minor storm event, the applicant should modify or add additional erosion control measures at that location to prevent or minimize erosion during future storm events. Similarly, permittees may find they need to construct or expand a sediment pond to further reduce turbidity in the discharge waters. If additional control measures are required, DEC expects the permittee to follow in-good-faith and

document the process for control measure selection, installation, implementation and maintenance, and cooperate to eliminate the identified problem within a time frame stipulated by DEC.

4.3.2 Discharges to Impaired Water Body (Part 3.2)

The CWA mandates that states monitor and report on the quality of their waters. Section 305(b) requires that the quality of all waterbodies be characterized and Section 303(d) requires that states list any waterbodies that do not meet WQS. DEC develops and publishes an integrated water quality assessment report every two years as required by the CWA. The most recent EPA-approved report is the *Alaska's Final 2010 Integrated Water Quality Monitoring and Assessment Report* (DEC, 2010). For a detailed description of Alaska's waters see APPENDIX A of the Fact Sheet.

Waters that do not meet the numeric/narrative criteria for their use designation(s) are listed as impaired, in compliance with the federal CWA and state rules. DEC currently lists approximately 65 waters as impaired, with about 30 listed as candidates for development of a TMDL (DEC, 2010). TMDLs are a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet WQS and an allocation of that amount of pollutant to the source of the pollutant. Section 303(d) of the federal CWA requires states to identify waters that do not meet applicable WQS applying technology-based controls alone. DEC identifies and prioritizes the water quality-limited waters and then develops TMDLs at a level necessary to achieve the applicable WQS. Table 4-1 summarizes the water bodies in Alaska listed as impaired for sediment or turbidity.

Table 4-1: Waterbodies Impaired for Sediment or Turbidity – 2010

Pollutant Source	Waterbody	Location	Category
Urban Runoff	Duck Creek	Juneau	4a
Urban Runoff	Jordan Creek	Juneau	4a
Urban Runoff	Lemon Creek	Juneau	4a
Urban Runoff	Vanderbilt Creek	Juneau	4a
Urban Runoff	Chena River	Fairbanks	5
Urban Runoff	Chena Slough	Fairbanks	5
Urban Runoff	Noyes Slough	Fairbanks	5
Gravel Mining	Granite Creek	Sitka	4a
Placer Mining	Birch Creek drainage, Upper Birch Creek, Eagle Creek, Golddust Creek	North of Fairbanks	4a
Placer Mining	Crooked Creek Watershed: Bonanza, Crooked, Deadwood, Ketchem, Mammoth, Mastodon, Porcupine Creeks	North of Fairbanks	5
Placer Mining	Goldstream Creek	Fairbanks	5
Timber Harvest	Fubar Creek	Prince of Wales Island	4b
Timber Harvest	Katlian River	North of Sitka, Baranof Island	5

Source: *Alaska's Final 2010 Integrated Water Quality Monitoring and Assessment Report* (July 2010)
Note: Category 4a – Impaired water with a final/approved TMDL
Category 4b – Impaired water with other pollution controls
Category 5 – Impaired water, Section 303(d) list, require TMDL

Part 3.2 of the permit requires a permittee to determine whether an approved or established TMDL exists that specifically addresses its discharge and if so, to implement measures consistent with the assumptions and requirements of that approved TMDL, including any specific wasteload allocation that

has been established that would apply to the discharge. To make this determination, the eligible permittee will need to:

1) Determine the receiving waterbody into which it discharges;
2) Identify if there is an approved or established TMDL for that waterbody;
3) Determine if that TMDL includes specific requirements (e.g., wasteload allocation or load allocation) applicable to its construction site, and
4) If so, implement necessary steps to comply with them.

To find this information, refer to DEC's state or regional contact, DEC's TMDL website at http://dec.alaska.gov/water/tmdl/tmdl_index.htm, and the latest EPA-approved version of *Alaska's Final Integrated Water Quality Monitoring and Assessment Report.*

DEC recognizes that TMDLs vary in the complexity of their assumptions and quantification. A TMDL may include supplemental documents, such as an implementation plan, that indicate the TMDL writer's intent to allocate a load for an individual discharger or for a class of dischargers. If the TMDL specifically identifies measures or controls, the permittee must implement these. If specific measures or controls are not required in the TMDL, the permittee should continue to apply the control measures in Part 4.0. To the extent that such documents are available, the permittee should consider these materials when determining whether the discharge will be consistent with the TMDL. DEC encourages the operator to seek clarification if significant concerns exist over whether its activity will be consistent with a TMDL. If necessary, DEC may notify the permittee that additional requirements are necessary to be consistent with the assumptions and requirements of the TMDL or that an individual permit is required.

DEC is not requiring that construction activities be delayed until such time as a TMDL can be revised to incorporate short-term discharges from construction sites. DEC has utilized a framework that allows the eligible permittee to obtain clarification from the TMDL authority on discharge provisions that would allow authorization under the permit.

Discharging to an Impaired Water for Turbidity or Sediment (Category 5) (Part 3.2.1). This permit part requires a permittee to develop, implement, and modify a monitoring plan for turbidity consistent with Part 7.0 if they (1) discharge to a water body listed on Alaska's 303(d) List of Impaired Waters for turbidity or sediment and (2) disturb 20 acres or more of land at one time, which includes non-contiguous land disturbances that take place at the same time and are part of a larger common plan of development or sale, that drains to an impaired water. Note that if only a portion of your project drains to an impaired water, you are not required to conduct monitoring for sediment or turbidity. Monitoring must be conducted at representative locations up and downstream from the discharge point or location it leaves the construction site (see Part 7 of permit). The discharge must meet the WQS for turbidly as stated in 18 AAC 70.020. The WQS at the issuance of this permit depends on the natural turbidity of the site and must meet either one of the following two standards:

1) Natural turbidity is 50 NTU or less: discharges may not exceed 5 NTU above natural conditions
2) Natural turbidity is more than 50 NTU: discharges may not have more than a 10% increase in turbidity, not to exceed a maximum increase of 25 NTU.

Sampling must be collected and analyzed during any storm event or snowmelt event that results in a discharge from the site and conducted by a qualified person (as defined in Appendix C). The monitoring plan must be included in the SWPPP. Refer to Part 7 of the CGP and Section 4.5.5 of the fact sheet for more detailed information on the monitoring requirements and plan.

Discharging into an Impaired Water Body with an Approved or Established TMDL for Turbidity or Sediment (Category 4a or 4b) (Part 3.2.2). Part 3.2.2 of the permit specifies that applicants are not eligible for authorization under the CGP if (1) an EPA-approved or established TMDL specifically precludes such discharges or (2) they discharge pollutants of concern to waterbodies with an approved or established TMDL for turbidity or sediment unless they implement control measures to meet the requirements of the TMDL.

After determining the specific requirements of the TMDL applicable to construction site activities, permittees are expected to implement the measures recommended in the TMDL, if feasible and reasonable based on-site conditions. This may include additional sampling and/or monitoring requirements. If no specific requirements are included in the TMDL, permittees are expected to contact DEC's state or regional contact to discuss control measures that may be necessary for consistency with the TMDL.

DEC assumes that compliance with Part 3.0 and 4.0 of the CGP will be consistent with the TMDL in situations where an approved TMDL has not specified a wasteload or load allocation for construction storm water discharges, but has not specifically excluded these discharges. Similarly, where an EPA approved or established TMDL has specified a general wasteload allocation for construction storm water discharges, but no specific requirements for individual construction sites have been identified, either in the TMDL, a watershed plan, or other similar document, then compliance with the requirements in Parts 3.0 and 4.0 will generally be assumed to be consistent with the approved TMDL.

4.4 Control Measures (Part 4.0)

4.4.1 Control Measure Selection and Design Considerations (Part 4.1)

Part 4.1 requires the operator to select, design, install, and implement control measures to meet the technology-based effluent limits listed in Parts 4.2 and 4.3. The selection, design, installation, and implementation must be in accordance with good engineering practices and manufacturer's specification. If operators find their control measures are not reducing pollutant discharges adequately, the control measures must be modified as expeditiously as practicable.

The permit requires the permittee to comply with non-numeric technology-based standards (found in Part 4.0 of the permit) by implementing control measures. The achievement of these non-numeric standards will result in the reduction or elimination of pollutants from the permittee's storm water discharge. Such standards constitute the permit's technology-based standards, expressed narratively and are based on the ELG and New Source Performance Standards (NSPS) that apply to the C&D point source category found at 40 CFR 450.

DEC notes that the permit uses the term "control measures" more often than "best management practices" and "BMPs". This better describes the range of pollutant reduction practices that may be employed, whether they are structural, non-structural or procedural. In addition, the definition of

"control measures" in Appendix C of the permit includes both BMPs and "other methods" used to prevent or reduce the discharge of pollutants to receiving waters.

Most pollution controls at construction sites are not installed in isolation but instead are part of a suite of control measures that are all designed to work together. Designers use the treatment train approach to design a series of practices that minimize storm water pollution and achieve compliance with APDES construction general permit requirements. For example, a designer may use as a series of control measures to prevent sediment discharges from a site – a diversion ditch at the top of a disturbed slope (to minimize storm water flowing down the slope), mulching on the slope (to minimize erosion), and silt fence at the bottom of the slope (to capture sediment). This treatment train would help protect the slope better than relying on a single control measure, such as silt fence.

The Department developed the *Alaska Storm Water Guide* to assist permittees with selecting, installing and maintaining the majority of control measures they may use for projects in Alaska. The selection, design, installation, maintenance, and removal of control measures must address site-specific conditions such as: precipitation - including the amount, frequency, intensity and duration; the nature of resulting storm water runoff (e.g., does the runoff last for a few hours or several days); site topography - such as flat, sloped, hilly, or mountainous; soil characteristics - including the soil types, range of soil particle sizes, and thermal conditions; and growing season - such as start, end, and length of growing season.

4.4.2 Erosion Control Measures (Part 4.2)

A permittee is required to contain runoff from exposed soils to minimize on-site erosion and sediment creation, and the accompanying discharge of pollutants (other pollutants can bind to soil and other particles and be discharged along with the sediment). To meet the standards in Part 4.1, permittees must select, design, install and implement control measures to address the on-site exposed areas prone to soil erosion. There may be exposed areas of construction sites, such as steep slopes, sandy soils or other factors that are prone to soil erosion. Construction activities typically remove grass and other protective ground covers resulting in the exposure of underlying soil to wind and rain. Similarly, steep slopes or sandy soils may not be able to hold plant life so that soils are continually exposed. Because the soil surface is unprotected, dirt and sand particles are easily picked up by wind or washed away by rain. This erosion process can be controlled or prevented through the use of control measures in this Part.

Delineation of Site (Part 4.2.1). Since little soil erosion occurs on areas covered with undisturbed natural vegetation, permittees must delineate and clearly mark off areas of disturbance, areas of no-disturbance and natural vegetation to be preserved so that soils and vegetation outside of the immediate area of construction activity are protected. In addition, wetlands, steep slopes, trees, boundaries of sensitive areas, and buffers that are intended to be preserved must be clearly marked so that they are not damaged inadvertently during construction activity. Permittees can use flags, stakes, signs, stakes or wire or fabric fencing material to mark these specific areas at construction sites.

Minimize the Amount of Soil Exposed during Construction Activity (Part 4.2.2). A permittee is required to preserve native topsoil, unless infeasible. Preserving the native topsoil and natural vegetation will help prevent erosion without the cost or effort of other methods. Another cost effective way to prevent erosion is to minimize the length of time disturbed areas are exposed before implementing temporary or final stabilization practices. If the construction project will take place over a wide area, the permittee should sequence or phase the construction activities so that only a small portion of the site will

be disturbed at any one time. For example, if the permittee is developing a 30-acre parcel, rather than clear the entire 30 acres at the start of construction, the permittee could clear only a 10-acre parcel and complete all construction in that area, before moving on to the next 10-acre parcel.

Maintain Natural Buffer Areas (Part 4.2.3). A permittee must maintain natural buffer areas at stream crossings and around the edge of any waters of the U.S. that are located within or immediately adjacent to the construction site, unless infeasible, in accordance with the following:

- A permittee must maintain or establish a vegetated buffer around the edge of any waters of the U.S. that are located within or immediately adjacent to the construction site.
- The buffer must be a minimum of twenty-five (25) feet wide or the width as required by local ordinance.
- Exceptions are allowed for water dependent activities, specific water access activities, or necessary water crossings.
- A permittee should direct storm water sheet flow to buffer areas to increase sediment removal and maximize storm water infiltration, unless it is infeasible.

If the buffer zone between any disturbance and the edge of the receiving water cannot be maintained, an adequately protective alternate practice may be employed. The SWPPP must explain any alternate practices and how these practices are adequately protective. Such cases include but are not limited to water dependent activities, water access and water crossings. The Department of Commerce, Community and Economic Development, Division of Community and Regional Affairs has collected all the local ordinances from communities in Alaska that address nonpoint source pollution. See http://www.commerce.state.ak.us/dca/nonpoint/ordUr.cfm

Scientists at the University of California Davis reviewed and analyzed more than 300 papers and developed statistical models describing the mitigation efficacies of vegetated buffers. Specifically they established the relationships between buffer pollutant removal efficacy and buffer width, slope with the buffer, and soil and vegetation types. Based on the analysis, a 100-foot buffer with slope conditions at 10 % or less removes more than 85 % of all the studied pollutants. Buffers with trees have higher nitrogen and phosphorus removal efficacy than buffers with grasses or mixtures of grasses and trees. Soil drainage type did not show a significant effect on pollutant removal. The Department chose the minimum buffer width of 25 feet and relies on local ordinances to expand the buffer width based on individual municipal conditions.

Clearing Vegetation (Part 4.2.4). DEC recognizes that some operators may want to clear vegetation from their project areas early in the spring time to avoid adversely affecting migratory birds or their nests in accordance with U.S. Fish and Wildlife Service's Land Clearing Timing Guidance for Alaska (refer to http://www.fws.gov/alaska/fisheries/fieldoffice/anchorage/pdf/vegetation_clearing.pdf). It is often the case that in order to meet these recommendations, clearing needs to take place before a project-specific SWPPP is developed or an NOI is filed, which may violate the terms of the CGP depending on the type of clearing that is performed.

In this permit revision, DEC clarified that clearing – cutting of trees and brush while the ground is frozen that does not disturb the vegetative mat and expose soil is allowed prior to obtaining coverage

under the permit as it does not violate the terms of the CGP. If a project involves any form of clearing that disturbs the vegetative mat and exposes soil, it is subject to the terms of the CGP if the project as a whole would disturb over one acre of land. In such cases, operators must prepare a project-specific SWPPP, install control measures, and obtain authorization under the CGP before initiating clearing.

Control Storm Water Discharges and Flow Rates (Part 4.2.5). A permittee is required to control storm water discharges and flow rates from the construction site. Construction activity may involve clearing vegetation, removing or compacting native soils, modifying slopes and drainage patterns, and installing impervious surfaces such as rooftops or roads. Any of these activities may increase the volume, velocity, and peak flow rate of storm water discharges from the site. These hydrologic changes can cause erosion, scouring, and down-cutting in channels located downstream of the construction site, ultimately increasing turbidity and suspended solids in affected water bodies and damaging aquatic habitat.

Structural controls may be necessary to contain concentrated flows of storm water running onto the site and within the site, because vegetative controls cannot be employed where soil is continually disturbed, and because of the lag time before vegetation becomes effective. Options for such controls include silt fences, earth dikes, drainage swales, check dams, subsurface drains, pipe slope drains, level spreaders, storm water inlet protection, rock outlet protection, sediment traps, gabions, and temporary or permanent sediment basins. Placement of structural controls in flood plains should be avoided.

In addition, land development can significantly increase storm water runoff volume and peak velocity if appropriate control measures are not implemented and increased discharge velocities can greatly accelerate erosion near the outlet of structural measures. To mitigate these effects, velocity dissipation devices should be placed at discharge points and along the length of a runoff conveyance, as necessary, to provide a non-erosive flow. Velocity dissipation devices help protect a water body's natural, pre-construction physical and biological uses and characteristics (e.g., hydrologic conditions such as the hydro period and hydrodynamics).

Properly designed flow control facilities, such as retention or detention structures that discharge at pre-disturbance peak flow rates and durations, can protect downstream waterways from increased bank erosion, channel instability, and water quality degradation. These structures must be constructed as one of the first steps in the construction sequence so that all runoff from construction activity is treated and controlled. If permanent infiltration facilities are used for flow control during construction, these facilities must be protected from siltation during the construction phase through the use of sediment traps/basins and/or other appropriate control measures.

Protect Steep Slopes (Part 4.2.6). Steep slopes are especially susceptible to erosion and, where steep slopes will be disturbed on the construction site, a permittee is required to design and construct cut-and-fill slopes in a manner that will minimize erosion, divert concentrated flows of storm water away from and around the disturbed portion of the slope, and stabilize exposed areas of the slope in accordance with Part 4.4 of the permit. Applicable practices to minimize erosion from steep slopes include, but are not limited to, reducing continuous length of slope with terracing and diversions, reducing slope steepness, roughening slope surfaces (e.g., track walking), and temporary or permanent stabilization. Additionally, permittees can use interceptor dikes and swales, grass-lined channels, pipe slope drains, subsurface drains, and/or check dams to divert concentrated flows of storm water away from disturbed portions of the slope. These measures will minimize the amount of runoff flowing across the face of the slope and decrease the erosion of that slope.

4.4.3 Sediment Control Measures (Part 4.3)

Sediment control measures are used to keep sediment from leaving a construction site. A sediment control measure is any mechanism that removes sediment from water by filtration, gravity or other means. Unlike erosion controls, sediment controls treat the soil as a waste product that must be continually removed and disposed of properly. Sediment control is the least cost-effective means to meet erosion and sediment control (ESC) objectives, because removing sediment from runoff is more costly and less effective than keeping soil in place.

Storm Water Inlet Protection Measures (Part 4.3.1). Appropriate sediment control measures must be installed and maintained at all operational storm water inlets located on-site or immediately downstream of the site that discharge or may discharge to waters of the U.S. either directly or via an MS4. The control measures are to be provided at all times until all sources discharging to that inlet are stabilized.

Water Body Protection Measures (Part 4.3.2). Appropriate sediment control measures must be installed and maintained at all discharge points located on-site or immediately downstream of the site that discharge or may discharge to waters of the U.S. either directly or via an MS4. The control measures are to be provided at all times until all sources discharging to that discharge point are stabilized.

Down Slope Sediment Controls (Part 4.3.3). At a minimum, the permittee shall design, install, and maintain in effective working order, sediment control measures on all down-slope and side-slope perimeters where storm water will be discharged from disturbed areas. Examples of these control measures include vegetative buffer strips and silt fences; however, it is the responsibility of the permittee to design, install and maintain BMPs that are appropriate to site conditions.

Stabilized Construction Access and Exit Points (Part 4.3.4). The location(s) where construction vehicles and equipment enter and exit the project site inherently receive a lot of traffic. A common issue with vehicles and equipment exiting the project site onto public streets is the tracking of sediment and debris from the site onto these streets. The permit requires a permittee to minimize tracking of sediment and debris onto the roadway to the extent possible using control measures such as a stabilized drive constructed of rock to remove dirt and mud from tires. Another option may be a vehicle wash-down area, which may also be used in concert with a stabilized drive. Any wash-down area should be designed and constructed to capture wash down waters, sediments, debris, and other pollutants in accordance with Part 4.7.1.

Dust Generation and Track-Out from Vehicles (Part 4.3.5). Dust control practices can reduce the activities and air movement that cause dust to be generated. Airborne particles pose a dual threat to the environment and human health. Dust carried off-site increases the likelihood of water pollution. Control measures to minimize the generation of dust include but are not limited to vegetative cover, mulch, application of water, wind breaks, stone, or spray-on chemical soil treatments.

Sediment and debris that is tracked onto roadways must be cleaned up as soon as possible (e.g., sweeper truck) to prevent it from getting into storm sewers and waters of the U.S. and from becoming a physical hazard to vehicular traffic.

Soil Stockpiles (Part 4.3.6). The permittee must install erosion and sediment control measures around soil stockpiles and effectively manage the control measures. Soil stockpiles must be located away from

storm water inlets, surface waters, or storm water conveyances (including streets) that discharge or may discharge to waters of the U.S. either directly or via a MS4. Soil stockpiles are considered a pollutant source and increase the surface area of exposed soils, as well as increase the potential for erosion. Therefore, when the soil stockpile is not being actively worked, erosion and sediment control measures and stabilization practices are necessary to reduce potential increases in pollutant discharge.

Authorized Non-Storm Water Discharges (Part 4.3.7). The permittee must identify appropriate control measures to be used where any of the authorized non-storm water discharge activities are to take place. The permittee must direct flows from these activities to sediment controls to prevent pollution of the storm water discharges associated with the construction activities when mixing may occur.

Sediment Basins (Part 4.2.8). A site disturbing 10 acres or more at a time, all of which are served by a common drainage location, must have installed a sediment basin where attainable that provides a minimum of 3,600 cubic feet of storage per acre drained. The sediment basin must be maintained until final stabilization of the site is completed. In lieu of the default 3,600 cubic feet/acre, the permittee can calculate the basin size based on the expected runoff volume from the local two-year, 24-hour rain event and local runoff coefficient. In this case, the SWPPP must include the calculations to demonstrate the basin is adequately sized. Flows from off-site or on-site areas that are undisturbed or have undergone final stabilization may be diverted around both the sediment basin and the disturbed area. The permit does not require that the diverted flows be included when designing the size of the sediment basin. However, flows from these areas must be included when they are not diverted and will contribute flow to the basin.

'Attainable' in this context of basin installation means that there is room at the site, and the soils and the terrain allow construction. Basins are to be installed where attainable unless such installation would prove a safety hazard. The permittee is to document in the SWPPP why a required sediment basin is not being installed either due to non-attainability or safety concerns. For the drainage locations which serve 10 or more disturbed acres at a time and where the sediment basin design is unattainable, smaller sediment basins or traps should be used, with diversion structures installed on upland boundaries of disturbed areas to prevent run-on from impacting disturbed areas.

For linear projects and drainage locations serving less than 10 acres, smaller sediment basins or sediment traps are to be used and, at a minimum, silt fences or equivalent sediment controls are required for all down slope and appropriate mid-slope boundaries of the construction area. Alternatively, the permittee may install a sediment basin providing storage for 3,600 cubic feet (or the alternative calculated volume) of storage per acre drained. In addition, where the permittee will discharge from basins or impoundments, the permittee must use outlet structures that withdraw water from the surface, unless infeasible.

4.4.4 Dewatering (Part 4.4)

Untreated water from construction dewatering operations may contain pollutants that if discharged to a storm water conveyance system or water of the U.S, would violate WQS in the receiving water. Since the CGP only authorizes discharges of uncontaminated ground water from dewatering activities, construction activities that include discharges associated with excavation dewatering that may adversely impact a local drinking water well, a DEC-identified contaminated site or groundwater plume, or a waters of the U.S., may be required to obtain authorization under the DEC General Permit for

Excavation Dewatering (AKG002000 or most current version) in addition to the CGP. The current version as of issuance of the general permit states that excavation dewatering activities that are covered under the APDES CGP that occur within 1,500 feet of an "active DEC identified contaminated site" or "contaminated groundwater plume" must also obtain authorization under the General Permit for Excavation Dewatering. A permittee must review the current General Permit for Excavation Dewatering to determine eligibility under that permit for the wastewater discharged from a dewatering activity, determine if an NOI is required, and identify limitations, inspections, and monitoring requirements.

4.4.5 Soil Stabilization (Part 4.5)

Minimum Requirements for Soil Stabilization (Part 4.5.1). The permit requires a permittee to stabilize disturbed portions of the site and to initiate such measures within required timeframes. Stabilization practices are critical to preventing erosion. The permittee must ensure that existing vegetation is preserved wherever possible and that disturbed portions of the site are stabilized as quickly as practicable. Stabilization practices include seeding of temporary vegetation, seeding of permanent vegetation, mulching, geotextiles, sod stabilization, vegetative buffer strips, preservation of trees and mature vegetative buffer strips, and other appropriate measures. Temporary stabilization can be the single most important factor in reducing erosion at construction sites.

Stabilization also involves preserving and protecting selected trees on the site prior to development. Mature trees have extensive canopy and root systems, which help to hold soil in place. Shade trees also keep soil from drying rapidly and becoming susceptible to erosion. Measures taken to protect trees can vary significantly, from simple ones such as installing tree armoring and fencing around the drip line, to more complex measures such as building retaining walls and tree wells.

See the Alaska Plant Materials Center's *A Revegetation Manual for Alaska* at http://plants.alaska.gov for help in efforts to select appropriate seed mixes and some information on methods for revegetation. Also, refer to the manuals *Interior Alaska Revegetation & Erosion Control Guide* and *Coastal Revegetation & Erosion Control Guide* for information on planning, techniques, conservation and protection, and adapted plant species at http://plants.alaska.gov.

Note, for the purposes of this permit, "disturbed areas of the site" means areas of exposed soil that are required to be stabilized. Note that DEC does not expect that temporary or permanent stabilization measures to be applied to areas that are intended to be left unvegetated or unstabilized following construction (e.g., dirt access roads, utility pole pads, areas being used for storage of vehicles, equipment, or materials).

Deadline to Initiate Stabilization. (Part 4.5.1.1). The permit specifies that the permittee must initiate soil stabilization measures as soon as practicable whenever earth-disturbing activities have permanently or temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days. The term "as soon as practicable" is used to define the deadline for "initiating" stabilization measures. In the context of this provision, "as soon as practicable" means immediately, but no later than the end of the next work day, following the day when the earth-disturbing activities have temporarily or permanently ceased. The permit also lists a number of example activities that are considered to constitute initiation of stablization.The requirement to immediately initiate stabilization when disturbed soils will not be worked on for 14 or more days implements the C&D rule requirement with the same deadline. See 40 CFR 450.21(b).

The 14 calendar day timeframe begins as soon as it is known that construction work on a portion of a site will be temporarily ceased. In circumstances when unplanned or unanticipated delays in construction due to circumstances beyond the permittees control (e.g., sudden work stoppage due to unanticipated problems associated with construction labor, funding, or other issues related to the ability to work on the site, weather conditions rendering the site unsuitable for continuation of construction work) and you do not know at first how long the work stoppage will continue, your requirement to immediately initiate stabilization is triggered as soon as you know with reasonable certainty that work will be stopped for 14 or more additional calendar days.

DEC believes it is important to clarify the rule by specifying what it means to have earth-disturbing activities temporarily or permanently cease. It is important for construction operators to understand that stabilization must begin immediately when there is no justification for leaving areas exposed. For example, if 14 days will pass between the time when clearing and grading has been completed and further earth-disturbing activities will occur, there is no reason why the exposed portions of the site cannot be stabilized temporarily to prevent erosion and sediment discharge during the time of inactivity on any portion of the site. DEC clarifies that the initiation of stabilization means that the permittee has taken action to implement the stabilization measures, including, for example, finalizing arrangements to have the stabilization product delivered, scheduling the installation of the product, and/or prepping the soil.

Deadline to Complete Stabilization Activities. (Part 4.5.1.2). The permit requires as soon as practicable, but no later than 14 calendar days after the initiation of stabilization measures in Part 4.5.1.1, the permittee must have completed: (a) for vegetative stabilization, all activities necessary to initially seed or plant the area to be stabilized (e.g., soil conditioning, application of seed or sod, planting of seedlings or other vegetation, application of fertilizer, and, as deemed appropriate); and/or (b) for non-vegetative stabilization, the installation or application of all such non-vegetative measures. The C&D rule, at 40 CFR 450.21(b), requires that a deadline to complete stabilization be established by each permit authority. As the permit authority for this CGP, DEC has included in the 2016 CGP what it believes to be a reasonable and unambiguous deadline for completing stabilization procedures. In arriving at the 14-day deadline, DEC gave consideration to the differences between vegetative and non-vegetative stabilization techniques. While it is infeasible to define with any certainty a deadline for when vegetative stabilization must be established and operating effectively, it is possible to require that some of the basic steps for planting vegetative cover in an area take place within a certain period of time, which is what DEC included in this section. By comparison to vegetative stabilization, it is feasible to define when non-vegetative practices must be installed and made operational, since the establishment of non-vegetative practices is typically more straightforward in terms of their application or installation.

Exceptions to the Deadlines for Initiating and Completing Stabilization. (Part 4.5.1.3)

Deadlines for projects occurring in arid or semi-arid area, or drought-stricken areas. (Part 4.5.1.3.1). The 2016 CGP provides flexibility in terms of the stabilization deadlines for sites located in arid areas, semi-arid areas, or drought-stricken areas. In Part 4.5.1.3.1, for those areas of the state with a mean annual precipitation is less than or equal to 20 inches and where initiating perennial vegetative stabilization measures is infeasible within 14 calendar days after construction activity has temporarily ceased, vegetative or non-vegetative stabilization measures must be initiated as soon as practicable. If construction is occurring during the seasonally dry period, indicate in the SWPPP the beginning and ending dates of the seasonally dry period and your site conditions. Include the schedule for initiating and

completing vegetative stabilization. The C&D rule allows for the fact that "alternative stabilization measures" can be used for arid and semi-arid areas (see 40 CFR 450.21(b)). This provision is consistent with the C&D rule.

- Deadlines for projects that are affected by circumstances beyond the control of the permittee that delay the initiation and/or completion of vegetative stabilization as required in Parts 4.5.1.1 and/or 4.5.1.2. (Part 4.5.1.3.3) and Winter Considerations (Part 4.5.1.3.2). If the permittee is unable to meet the deadlines due to circumstances beyond the permittee's control, and is using vegetative cover for temporary or permanent stabilization, the permittee may comply with the an alternative stabilization deadlines instead which are detailed in Part 4.5.1.3, and for Winter Conditions in Part 4.12. These sections are provided for flexibility for projects that are affected by circumstances beyond the control of the permittee (e.g., problems with the supply of seed stock or with the availability of specialized equipment). For sites with unsuitable site conditions, the permit still requires that temporary non-vegetative stabilization measures be immediately initiated and completed within 14 days in order to prevent erosion during the period of unsuitable site conditions. For winter shutdown purposes, Part 4.1.2 provides measures the permittee is to complete prior to fall freeze-up and maintained until construction activities resumes.

Final Stabilization (Part 4.5.2). Within seven days of initiating stabilization, the permittee is required to have completed: (1) for vegetative cover, all soil conditioning, seeding, watering, mulching, and any other required activities for the establishment of vegetation; and/or (2) for non-vegetative cover, the installation or application of all such measures.

Stabilization Requirements for Terminating Permit Coverage (Part 4.5.3). A permittee may terminate coverage under the permit if construction activity has been completed and all portions of the site have achieved final stabilization, as defined in Appendix C. Final stabilization of portions of the site that have been disturbed is generally accomplished by installing the final landscaping (e.g., trees, grass, gardens, or permanent storm water controls). Once the entire site has achieved final stabilization, the permittee can then submit an NOT to terminate permit coverage.

4.4.6 Treatment Chemicals (Part 4.6)

The permit allows the use of anionic treatment chemicals in manufactured products and active and passive treatment systems to reduce the turbidity level of construction storm water. Active treatment systems collect and filter storm water by accumulating sediment-laden water in a basin or tank and adding a chemical flocculent (which causes the sediment to settle out) then mechanically pumping the water through a filtration system prior to discharge. These systems require electricity and regular maintenance to run effectively. In comparison, passive treatment systems use non-mechanical methods to collect and clean storm water. These systems use the flow of storm water to dissolve treatment chemicals prior to entering a catchment basin or settling system. Active systems are typically more effective than passive treatment systems, but they are more complex and generally more expensive.

Treatment chemicals commonly used on construction sites include polyacrylamide (PAM), chitosan, alum, polyaluminum chloride and gypsum. The term PAM is a generic term that refers to a broad class of compounds that have unique properties depending on length and chemical structure of the polymer. Depending on their chemical structure, PAMs can either have a net positive, neutral, or negative charge. This net charge is responsible for PAM effectiveness at aggregating or binding soil particles. Chitosan is

a positively charged (cationic) polymer made from chitin, which is derived from crab, shrimp, or other crustacean shells. Cationic polymers can be toxic to aquatic organisms and are only authorized in active treatment systems. Alum, polyaluminum chloride and gypsum are mineral compounds that are also effective at aggregating soil particles.

Selection of Treatment Chemicals (Part 4.6.1). Treatment chemicals are typically developed, tested, and approved in regions of the country with different site conditions and aquatic species than Alaska. Similarly, physical conditions within Alaska vary widely. The state has over 30 different ecoregions each with distinct physical conditions. To ensure the continued effectiveness of treatment chemicals, the permittee must consider the differences between site conditions where the product has been tested or used and whether the product will have similar effectiveness at the specific site. The permittee is responsible for ensuring that the selected chemical is appropriate for soils at the project site. It is recommended that permittees test each treatment chemical and/or product with local soils or ensure that the product has been used on projects with similar soils.

The permit allows the use of anionic treatment chemicals in accordance with good engineering practices and manufacturer specifications. Treatment chemicals must be approved by EPA or another state environmental agency in California, Minnesota, Oregon, Washington, or Wisconsin for use in controlling erosion or sediment runoff from agricultural land or construction projects.

To ensure protection of Alaska's aquatic species, only treatment chemicals that are proven to be non-toxic to aquatic organisms are authorized under this permit. A permittee is responsible for obtaining documentation from the manufacturer and/or supplier that demonstrates the project is non-toxic to aquatic organisms. This documentation usually consist of the results of scientific tests conducted by the manufacturer or a third party, such as a university or environmental agency, showing the chemical is non-toxic.

If an operator plans to use cationic treatment chemicals (as defined in Appendix C), they are **ineligible** for coverage under this permit, except for the use of chitosan as part of an active treatment system. Cationic treatment chemicals are polymers, flocculants, or other chemicals that contain an overall positive charge. They are used to reduce turbidity in storm water discharges by chemically bonding to the overall negative charge of suspended silts and other soil materials and causing them to bind together and settle out. Due to this chemical action, cationic treatment chemicals can be highly toxic to aquatic species. One study conducted on rainbow trout found that the majority of fish died within 24 hours after exposure to 0.75 ppm of acidified chitosan[1]. The lethality in fish species results when the positive charge of the cationic chemical binds to the negative charge of the fish gills interfering with oxygen uptake resulting in suffocation. In contrast, another study found that non-oil based PAM had minimal toxicity even at 10 times the normal erosion control concentrations (10ppm)[2].

Use of Treatment Chemicals (Part 4.6.2). While authorized anionic treatment chemicals are relatively non-toxic, it is important to adhere to sound engineering practices and product-specific specifications for proper handling, application, storage, and disposal. A permittee must use appropriate physical erosion

[1] Bullock et. al., Toxicity of Acidified Chitosan for Cultured Rainbow Trout, Aquaculture, Vol 185 (2000)

[2] Weston et. al., Toxicity of Anionic Polyacrylamide Formulations When Used for Erosion Control in Agriculture, Journal of Environmental Quality, Vol. 38 (2009), p. 238-247.

and sediment control measures prior to chemical addition to ensure effective treatment. A permittee is expected to comply with the manufacturer recommendations and application rates. A permittee must handle, store and dispose of treatment chemicals, waste chemicals, or flocculants in appropriate sealed containers under a storm-resistant cover or surrounded by secondary containment structures so as to prevent their discharge to the waters of the U.S.

It is important to note that DEC may **prohibit** the permittee (under permit condition Part 3.1 or 8.1) from further use of treatment chemicals at the construction activity if they exceed the manufacturer and/or supplier recommendations in the use of treatment chemicals.

A permittee is responsible for ensuring that all employees who handle treatment chemicals are trained to comply with the information required by Part 4.5.1 and manufacturer recommendations. At a minimum, training must cover proper handling, storage, application, and disposal of treatment chemicals. Training documentation must be included in the project's SWPPP.

Application of Treatment Chemicals (Part 4.6.4). The application of treatment chemicals shall be in combination with appropriate physical control measures such as mulches, tackifiers, rolled erosion control products, fiber or rock ditch check dams, sediment basins or bags, or filtration systems. The use of the treatment chemical is not a substitute for appropriate physical control measures.

There are three primary ways treatment chemicals may be applied: solid form, such as floc blocks or gel logs, granular form, or liquid form through a feed system in an active treatment system. The application must always be a sufficient distance upgradient or upstream to allow adequate mixing and reaction prior to reaching a pre-constructed sediment trap, basin inflow structure, or filtering device of sufficient width to ensure adequate removal of sediments laden with treatment chemicals before discharges reach waters of the U.S.

Land Application (Part 4.6.4.1).The permittee shall follow the manufacturer and/or supplier's written recommended application rate, taking into account site-specific conditions. The permittee shall use an application method that provides uniform coverage of the target area and avoids drift to non-target areas. The application must always be upstream from a pre-constructed sediment trap, basin inflow structure, filtering device, or a vegetated buffer of sufficient width to ensure adequate removal of sediments laden with treatment chemicals. The reason for the Department's conservative approach to the use of polymers in passive treatment systems is because EPA's analysis for developing the ELG is based on for soil and aquatic conditions that are significantly different from Alaskan soils and fisheries.

Water Application (Part 4.6.4.2). Treatment chemicals shall not be applied directly to a water of the U.S. Application through the use of manufactured products (e.g., gel bars, gel logs, floc blocks, etc.) must be used in combination with ditch check dams or other physical control measures and provide at least 100 feet of ditch length without the use of a manufactured product prior to reaching a water of the U.S.

Active Treatment Systems (Part 4.6.4.3). There are instances on construction sites where traditional erosion and sediment controls do not effectively control accelerated erosion. Under such circumstances, or under circumstances where storm water discharges leaving the site may cause or contribute to an exceedance of a WQS, the use of an Active Treatment System (ATS) may be necessary. Additionally, it may be appropriate to use an ATS when site constraints inhibit the ability to construct a correctly sized

sediment basin, when clay and/or highly erosive soils are present, or when the site has very steep or long slope lengths. The effective design of an ATS requires a detailed survey and analysis of site conditions. With proper planning, ATS performance can provide exceptional water quality discharge and prevent significant impacts to surface water quality, even under extreme environmental conditions.

The primary treatment process in an ATS is coagulation/flocculation. An ATS operates on the principle that the added coagulant is bound to suspended sediment, forming floc, which is gravitationally settled in tanks or a basin or removed by sand filters. A typical installation utilizes an injection pump upstream from the clarifier tank, basin, or sand filters, which is electronically metered to both flow rate and suspended solids level of the influent to assure a constant dose. The coagulant mixes and reacts with the influent, forming a dense floc. The floc may be removed by gravitational setting in a clarifier tank or basin or by filtration. Water from the clarifier tank, basin, or sand filters may be routed through cartridge(s) and/or bag filters for final polishing. Vendor-specific systems use various methods of dose control, sediment/floc removal, filtration, etc., that are detailed in project-specific documentation. The particular coagulant/flocculant to be used for a given project is determined based on the water chemistry of the site because the coagulants are specific in their reactions with various types of sediments. Appropriate selection of dosage must be carefully matched to the characteristics of each site. ATS can also use electrocoagulation as a treatment process, where an electrical charge is used to destabilize particles, allowing removal by settling or filtration.

ATS's are operated in two differing modes, either Batch or Flow-Through. Batch treatment can be defined as Pump-Treat-Hold-Test-Release. In Batch treatment, water is held in a basin or tank and is not discharged until treatment is complete. Batch treatment involves holding or recirculating the treated water in a holding basin or tank(s) until treatment is complete or the basin or storage tank(s) is full. In Flow-Through treatment, water is pumped into the ATS directly from the runoff collection system or storm water holding pond where it is treated and filtered as it flows through the system and is then directly discharged. "Flow-Through treatment" is also referred to as "Continuous Treatment."

A permittee who uses an ATS as a control measure must submit information required by the Department for review at least fourteen (14) days prior to start of operation of the active treatment system at the project. At a minimum, the information must provide details on the following: engineering plans, description of treatment process, site conditions (including soil types), treatment chemicals, dose rates, monitoring to be conducted, expected residual chemical, proper operator training, methods for storage, procedures for spill prevention and containment, operation, and maintenance, and record keeping and reporting. Specific submittal requirements can be found at the DEC storm water website at http://dec.alaska.gov/water/wnpspc/stormwater/sw_construction.htm.

4.4.7 Prohibited Discharge (Part 4.7)

The C&D ELGs require an NPDES permit for storm water discharges from construction activity to prohibit certain discharges. A permittee covered under the permit is prohibited from discharging the following from the construction site:

- Wastewater from washout of concrete, unless managed by an appropriate control;
- Wastewater from washout and cleanout of stucco, paint, form release oils, curing compounds and other construction materials;

- Fuels, oils, or other pollutants used in vehicle and equipment operation and maintenance;
- Soaps or solvents used in vehicle and equipment washing; and

4.4.8 Good Housekeeping/Pollution Prevention Measures (Part 4.8)

Part 4.8 consists of a set of non-numeric effluent limitations requiring permittees to provide and maintain effective good housekeeping measures to minimize, control or prevent the discharge of pollutants (e.g., construction waste, solid waste, trash, and other pollutants) in storm water and other wastewater for activities that occur on-site or at an off-site location. These provisions are based on 40 CFR 450.22(d). DEC provides a greater level of specificity in this Part in order to better inform permittees of the types of activities on construction sites they should be concerned about. This requirement will also provide a permittee with a better understanding of the type of good housekeeping measure that should occur at the site, which will help them to plan for the types of good housekeeping measures (referred to as 'pollution prevention measures' in the ELG) necessary to meet the effluent limitations.

A permittee is required to comply with the good housekeeping requirements for any of the following activities that occur at the site or at an off-site location. If a construction site does not have any of the following activities then this section does not apply to the project. For each of these construction activities, the primary good housekeeping concepts are to designate an area for the activity, locate the designated area away from a location where storm water collects, and use pollution prevention concepts to avoid creating polluted storm water. The six construction support activities covered by the permit are:

- Washing of Equipment and Vehicles and Wheel Wash-Down (Part 4.8.1)
- Fueling and Maintenance Areas (Part 4.8.2)
- Staging and Material Storage Areas (Part 4.8.3)
- Washout of Applicators/Containers used for Paint, Concrete, and Other Materials (Part 4.8.4)
- Fertilizer or Pesticide Use (Part 4.8.5)
- Storage, Handling, and Disposal of Construction Waste (Part 4.8.6)

4.4.9 Spill Notification (Part 4.9)

A permittee is prohibited from discharging hazardous substances or oil resulting from a spill or other release, consistent with Part 1.4.3 of the permit. Furthermore, where a leak, spill, or other release contains a toxic or hazardous substance in an amount equal to or in excess of a reportable quantity established under either 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302 during a 24-hour period, the permittee is subject to federal reporting requirements of 40 CFR Part 110, 40 CFR Part 117, or 40 CFR Part 302 relating to spills or other releases of oils or hazardous substances. The construction site must have the capacity to control, contain, and remove such spills if they are to occur. Spills in excess of reportable quantities must be reported. Also Section 311 of the CWA and certain provisions of Sections 301 and 402 of the CWA are also applicable.

4.4.10 Projects near a Public Water System (PWS) (Part 4.10)

A permittee is required to notify the PWS point of contact if the project intersects a PWS drinking water protection area (springs, wells, or other surface water intakes) and spill notification, and to restrict project activities that could significantly change the natural surface water drainage or groundwater gradient, and pollution prevention measures. A requirement was also added to Permit Part 5.3.5.16 to include locations of existing PWS to the SWPPP site map.

4.4.11 Permanent Storm Water Management Control (Part 4.11)

A permittee is required to comply with applicable federal, state, tribal, or local requirements regarding the design and installation of permanent storm water management controls. The permit addresses only the installation of these measures; not the ongoing operation and maintenance of them after cessation of construction activities and final stabilization. A permittee is responsible only for the installation and maintenance of storm water management measures until final stabilization of the site. When selecting permanent storm water management controls, the permittee should consider the amount of required maintenance and whether there will be adequate resources for maintaining them over the longer term. Some discharges of pollutants from permanent storm water management controls may need to be authorized under another APDES permit (e.g., the construction project was an industrial facility in a sector covered by the APDES multi-sector general permit).

Permanent storm water management controls installed during the construction process can control the volume and velocity of runoff, as well as reduce the quantity of pollutants discharged post-construction. Reductions in peak discharge velocity and volume can reduce pollutant loads, as well as diminish physical impacts such as stream bank erosion and stream bed scour. Permanent storm water management controls that mitigate changes to pre-development runoff characteristics assist in protecting and maintaining the physical and biological characteristics of receiving streams and wetlands.

Structural measures should be installed on upland areas to the extent feasible. The installation of such measures may be subject to section 404 of the CWA if they will be located in wetlands or other waters of the U.S. Options for storm water management measures include:

- On-site infiltration of precipitation,
- Flow attenuation by use of open vegetated swales and natural depressions,
- Storm water retention/detention structures (including wet ponds), and
- Sequential systems using multiple methods.

The SWPPP must include an explanation of the technical basis used to select permanent storm water management controls, where flows exceed pre-development levels. This explanation should address how a number of factors were evaluated, including the pollutant removal efficiencies of the measures, costs of the measures, site-specific factors that will affect the utility of the measures, whether the measures are economically achievable at a particular site, and any other relevant factors.

Permanent storm water management controls should be designed in accordance with any requirements established by the appropriate local, state, or tribal authority. DEC also strongly encourages permittees

to use low impact development or green infrastructure practices that promote infiltration and reduce storm water volumes after development. Additional information on green infrastructure practices can be found at www.epa.gov/npdes/greeninfrastructure.

In selecting permanent storm water management controls, the permittee should consider the impacts of each method on other water resources, such as ground water. Although SWPPPs focus primarily on storm water management of construction activity flow, DEC encourages activities at sites that avoid the potential for creating groundwater pollution problems. For example, if the water table is high in an area or soils are especially porous, an infiltration pond may contaminate the groundwater unless special preventive measures are taken. In fact, certain storm water control practices may meet EPA's definition of underground injection, triggering responsibilities under the Safe Drinking Water Act, as codified in 40 CFR Parts 144-146. Storm water controls, such as wet ponds, should also be designed to have minimal safety risks, especially to children. Specific requirements for submitting engineering plans for nondomestic wastewater treatment systems can found in 18 AAC 72.600.

4.4.12 Winter Considerations (Part 4.12)

The permit includes a section on winter considerations to specifically address Alaska conditions. Given the short growing season, relatively milder winters, and adoption of new building techniques in Alaska, construction may now extend or even be initiated in the winter season. Even when construction ceases in the winter, soils may be exposed until building conditions improve in the spring. Given frozen soils, it may be difficult or impossible to stabilize soils with sprays, mulch or vegetative cover. In addition, many common erosion and sediment control practices that work well during the growing season perform much worse during winter conditions, which often means that soils and slopes are left bare throughout the winter only to be exposed to the erosive forces of melt-water and spring runoff when little protection is in place. Consequently, sediment delivery from construction sites can become extremely high, unless aggressive measures are made before, during, and after winter to keep soil in its place. DEC included the following provisions in the permit for winter shutdown and winter construction to prevent pollutants from leaving the construction site during the winter season and spring thaw.

Winter Shutdown (Part 4.12.1). The permit requires the permittee to provide temporary and permanent stabilization to ditches and channels, disturbed slopes, disturbed soils, and soil stockpiles, and implement erosion or sediment control measures in anticipation of spring thaw. DEC is providing greater clarity on the requirements for winter shutdown to help the permittee prepare the site for winter shutdown, to consider how to maintain erosion and sediment controls during the winter, and how to restore the ability to handle sediment discharges when construction resumes at the onset of spring. For the purpose of planning ahead frozen ground by itself is not considered an acceptable control measure for stabilization. In addition, the permittee should consider the following prior to, during, and at the conclusion of winter shutdown:

- Stop land disturbing activities until warm weather returns. Sequence work so land disturbing activities occur prior to freeze up;
- Stabilize all exposed soil surfaces with vegetation, mulch, blankets or other BMPs before the ground freezes;
- Maintain construction entrance control measures to limit tracking during snow melts;

- If new land disturbing activities occur, proper control measures must be installed;
- Inlet protections may be removed after freeze up, as appropriate, because they can pose problems in the winter (flooding, damaged by plows). These control measures must be installed in the spring appropriately to weather conditions and/or resuming work;
- Perimeter control devices may need to be moved or enhanced to avoid winter damage.

Winter Construction (Part 4.12.2). DEC realizes that in several areas of Alaska winter construction provides opportunities for construction not available during summer months. Construction projects that are specifically planned for winter construction must use appropriate control measures to minimize sediment runoff during spring thaw.

A series of recommended erosion and sediment control practices to apply to winter construction sites can be found in the *Alaska Storm Water Guide*. These Fall-Winter-Spring practices are particularly important for all climatic regions other than the Coastal Region. For example, construction projects occurring during the winter season should consider the following:

- Site access points should be enlarged and stabilized to enable snow stockpiling;
- Modify the limits of disturbance to reflect the smaller boundary of the winter work, if applicable;
- Where practicable, provide a minimum 15-foot wide buffer around all perimeter controls to prevent damage from snow clearing or a 25-foot wide buffer from snow storage areas;
- Sediment barriers that are installed during frozen conditions should consist of erosion control mix berms, continuous contained berms, or sand bag berms; and
- Installation of erosion control blankets on frozen ground. If more than one inch of snow is present, erosion control blankets are not recommended.

DEC also clarifies in the permit that coverage is not required for ice roads or the placement of sand or gravel on frozen tundra with no excavation.

4.4.13 Maintenance of Control Measures (Part 4.13)

Erosion and sediment controls can become ineffective if they are damaged or not properly maintained. The permit requires all erosion and sediment controls to be maintained in effective operating condition. If site inspections identify control measures that are not operating effectively, the permittee must document the problem pursuant to Part 8.3 of the permit and initiate maintenance in accordance with Part 8.2 of the permit. The permit also requires that the permittee remove sediment from sediment traps or sedimentation ponds when design capacity of that device has been reduced by 50 % or more. In addition, the permittee is required to remove trapped sediment from a silt fence before the deposit reaches one-third of the above-ground fence height, and one-half the above-ground height (or before it reaches a lower height based on manufacturer's specifications for berms, check dams, or other control measures.

4.4.14 Storm Water Lead and Training of Employees (Part 4.14)

A permittee is required to train employees and subcontractors as necessary to make them aware of the applicable control measures implemented at the site so that they follow applicable procedures. This provision also clarifies that it is the permittee's responsibility to inform such subcontractors of their responsibilities while operating at a permitted site.

Employee training programs should thoroughly educate the storm water lead, as well as employees and subcontractors, on their roles in implementing the control measures employed to meet the requirements in the permit. Training should address the processes and materials on the construction site, pollution prevention measures for preventing discharges, and procedures for responding properly and rapidly to spills or other incidents. The training program should also address other requirements in the permit such as inspections, record-keeping and where applicable, monitoring.

Given the range in size and types of projects in Alaska the following is a description of the experience and skills of a "qualified person" for the different roles typically required at a site to ensure compliance with the permit. The recommended experience or educational requirements for each of these "roles" is described below. The required training is described in Table 4-2. Projects that disturb 1 to less than 5 acres may have one person carry out all the roles described below. Larger projects may need to have one person responsible for each role (this is a project-specific choice by the permittee).

Storm Water Lead. The storm water lead is a person knowledgeable in the principles and practice of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact storm water quality, and to assess the effectiveness of any erosion and sediment control measures selected to control the quality of storm water discharges from the construction activity. Such person shall have the authority to prepare the SWPPP, stop and/or modify construction activities as necessary to comply with the SWPPP and the terms and conditions of the permit, and modify the SWPPP. Such a person shall be responsible for inspections and record keeping. Such a person shall have the authority to supervise or initiate corrective actions identified by inspections, monitoring, or observation to fix control measures and minimize the discharge of pollutants.

SWPPP Preparer. The SWPPP preparer is a person knowledgeable in the principles and practice of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact storm water quality, the effectiveness of any erosion and sediment control measures selected to control the quality of storm water discharges from the construction activity, and is familiar with Part 5.0 of the CGP as a means to implement the permit.

Storm Water Inspector. The inspector is a person knowledgeable in the principles and practice of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact storm water quality, the effectiveness of any erosion and sediment control measures selected to control the quality of storm water discharges from the construction activity, and is familiar with Part 6.0 of the CGP as a means to ensure compliance with the permit. The person is familiar with the project specific inspection forms and how to fill them out, responsible for conducting and signing inspection reports, and responsible for reporting the need for follow up corrective action to the Storm Water Lead or site supervisor.

Monitoring Person. The monitoring person is a person knowledgeable in the principles and practices of water quality monitoring who is familiar with Part 7.0 of the CGP and the monitoring plan for the site and how to conduct water quality sampling, testing, and reporting.

Active Treatment System Operator. The Active Treatment System Operator is a person knowledgeable in the principles and practices of treatment systems that employs chemical coagulation, chemical flocculation, or electrocoagulation to aid in the treatment of storm water runoff who is familiar with Part 4.5 of the CGP as a means to implement and comply with the permit.

(Table 4-2: Recommended Experience or Required Training for Specific Roles for Projects Covered by the 2016 ACGP is located on the following page.)

Table 4-2: Recommended Experience or Required Training for Specific Roles for Projects Covered by the 2016 ACGP

Storm Water Role	Total Project Disturbed Acreage		
	1 to < 5 acres	5 acres to <20 Acres	> 20 Acres
Storm Water Lead	Recommend AK-CESCL training, but not required	Be AK-CESCL certified	Be AK-CECSL certified
SWPPP Preparer	Familiar with permit.	Recommend to take a course in SWPPP preparation.	Be AK-CECSL certified. Visit the site prior to writing the SWPPP or soon after project start and revised the SWPPP based on site conditions. Recommend taking a course in SWPPP preparation.
Storm Water Inspector	Be familiar with permit and SWPPP.	Be AK-CESCL certified	Be AK-CECSL certified
Monitoring	Not Required	Not Required	Be AK-CECSL certified
Active Treatment System Operator	Be AK-CECSL certified and have general experience and knowledge of storm water control measures. Have operational experience with the specific equipment used on-site.	Be AK-CECSL certified and have general experience and knowledge of storm water control measures. Have operational experience with the specific equipment used on-site.	Be AK-CECSL certified and have general experience and knowledge of storm water control measures. Have operational experience with the specific equipment used on-site.

Note: The following training and certifications may substitute for AK-CESCL training and certification: CPESC, CESSWI, or CPSWQ by EnviroCert International, Inc. (ECI, http://envirocertintl.org) or CISEC by CISEC, Inc. (http://cisecinc.org).

4.4.15 Applicable Federal, State, Tribal, or Local Requirements (Part 4.15)

Many municipalities and boroughs and some tribes have developed control measure requirements for construction activities. A significant number have also developed storm water management requirements. The permit requires that storm water controls for sites that discharge storm water from construction activities be consistent with procedures and requirements of state/tribal and local control measure plans and storm water management plans. The construction site's storm water control practices may incorporate portions of a state, tribe, or local program's requirements if these requirements are at least as strict as the permit. If a construction site is located in an area covered by such a local program,

then compliance with various aspects of the local program would constitute compliance with these aspects of the permit.

The SWPPP must be updated as necessary to reflect any revisions to applicable federal, state, tribal, or local requirements that affect the storm water controls implemented at the site. The ability to reference other programs in the SWPPP is intended to reduce confusion between overlapping and similar requirements, while still providing for both local and state regulatory coverage of the construction site.

4.5 Storm Water Pollution Prevention Plan (Part 5.0).

4.5.1 Storm Water Pollution Prevention Plan (Part 5.1)

The permit requires the permittee to develop a SWPPP that documents how storm water control measures will be implemented to comply with the standards in the permit. The SWPPP must contain: (1) a site description that identifies sources of pollutants to storm water discharges associated with construction activity on site, and (2) a description of storm water control measures used at the site to reduce pollutants in storm water discharges to ensure compliance with the standards in Part 3.0 and the control measures in Part 4.0.

The permit clarifies that the SWPPP does not contain effluent limitations; the water quality-based and technology-based effluent limitations are contained in Parts 3.0 and 4.0, respectively. DEC emphasizes in Part 5.1 that the SWPPP is intended to document the selection, design, installation, and implementation of control measures that are being used to comply with the standards set forth in Part 3.0 and the control measures in Part 4.0. In addition, the permittee may choose to reference other documents in the SWPPP rather than recreating the same text in the SWPPP; however, when referencing other documents, the permittee is responsible for ensuring that the SWPPP and other documents together contain all the necessary elements for a complete SWPPP, as specified in Part 5.3. In addition, the permittee must ensure that copies of the referenced documents are located on site consistent with the requirement in Part 5.9.3 of the permit.

To ensure that the preparation, implementation and oversight of the SWPPP is sufficient for effective pollution prevention, DEC requires that the SWPPP be developed by a qualified person, as defined in Appendix C of the permit, and be implemented as written, including any modifications for changes in design or field conditions until submittal of the NOT.

4.5.2 Deadlines for SWPPP Preparation (Part 5.2)

To be covered under the permit, the SWPPP must be completed by the permittee prior to submitting an NOI for permit coverage. Doing so helps to ensure that the permittee has (1) taken steps to identify all sources of pollutant discharges in storm water and (2) implemented appropriate control measures to control these discharges in advance of permit coverage. Part 5.3 of the permit contains the required elements to be documented in the SWPPP. A permittees covered under a previous permit must review and modify the existing SWPPP as necessary, prior to submitting a new NOI.

Additionally, a permittee must provide a copy of the applicable portions of the SWPPP or site –specific training to each subcontractor who engages in ground-disturbing activities prior to the subcontractor

conducting any ground-disturbing activity. Any significant revisions to the SWPPP that affect the subcontractor's ground-disturbing activities must be provided to the subcontractor in a timely manner.

4.5.3 SWPPP Contents (Part 5.3)

Permittee (Part 5.3.1). The SWPPP must identify the permittee of the project site, any subcontractors, and those areas of the site over which the permittee has operational control. DEC clarifies that the purpose of requiring identification in the SWPPP of the permittee and any subcontractors on the site is to provide both staff members and DEC notice of any other parties that are responsible for specific areas of the site and other parties that are responsible for permit compliance.

Storm Water Contact(s) (Part 5.3.2). The SWPPP must identify an individual who will serve as the storm water lead or team of individuals responsible for updating or revising the facility's SWPPP. The permittee must assign a storm water lead to oversee the SWPPP and to ensure compliance with the permit, such as installing and maintaining control measures, conducting inspections or monitoring. The storm water lead should be chosen based on expertise in the relevant construction storm water management activities required to be documented in the SWPPP to ensure that all aspects are considered in developing the plan. The SWPPP must identify the employees or subcontractors that will be working on the site and clearly describe their individual responsibilities. Each person identified must have ready access to a copy of the SWPPP as well as other documents or information that must be kept with the SWPPP. The storm water lead may be responsible for every activity related to storm water at a small construction site.

Project Site-Specific Conditions (Part 5.3.3). The SWPPP must generally describe the existing site-specific conditions of the project, including (1) the amount, frequency, duration, and seasonal occurrence of rainfall; (2) site conditions such as soils, topography, drainage patterns, and vegetation; and (3) receiving waters, such as impaired waters or waters listed in the ADF&G Anadromous Waters Catalog. DEC believes that this provision will provide permittees with an understanding of the areas impacted by construction within their project and will also assist permittees with selecting and designing the control measures necessary to meet requirements in Part 4.0 of the permit.

Nature of Construction Activity (Part 5.3.4). The SWPPP must be based on an accurate assessment of the potential for generating and discharging pollutants from the site. Hence, the permit requires a description of the site and intended construction activities in the SWPPP (to provide a better understanding of site runoff characteristics). At a minimum, the SWPPP must describe the nature of the construction activity, including:

- The function of the project (e.g., low-density residential, shopping mall, highway, etc.);
- The intended significant activities, presented sequentially, that disturb soil over major portions of the site (e.g., grubbing, excavation, grading);
- Estimates of the total area of the site and the total area of the site that is expected to be disturbed by excavation, grading or other activities, including off-site borrow/fill areas. It may be preferable to separately describe portions of the site as they are disturbed at different stages of the construction process;

- A general location map able to identify the location of the activity and the waters of the U. S. within one mile of the project; and
- Identification of all potential sources of pollutants that may reasonably be expected to affect the quality of storm water discharges from the construction site.

The purpose of requiring a description of the nature of the construction activities taking place on the construction site to be documented in the SWPPP is to provide general information about the construction project, which can be readily understood by a DEC inspector or other third party who may be unfamiliar with the purpose and general layout of the project. Identification of the type of development and the size of the property and area of land expected to be disturbed assists permittees with the identification of the specific types of control measures that may be necessary. Estimating the total area expected to be disturbed by construction activities provides, among other things, information for determining the applicability of the monitoring requirement in Part 3.2. Identification of the general location of the site and any waters of the U.S. within one mile (as shown on a USGS map of the area) provides the permittee with information to support permit compliance, such as the establishment of a buffer or potentially compliance with requirements pertaining to nearby impaired waters.

Site Map (Part 5.3.5). This Part lists the site-specific information that must be identified on the site map, or series of site maps. DEC included as a parenthetical clarification that it is acceptable to include a statement that all areas of the site will be disturbed unless otherwise noted. This was added to clarify what is considered acceptable for indicating areas of soil disturbance and areas that will not be disturbed on the site map. DEC also included a requirement for identifying on the site map locations of existing public water system drinking water protection areas (DWPA) for public water supply sources (e.g., springs, wells, or surface water intakes) that intersect the boundary of the proposed project. The DWPAs can be found using the interactive web map application, "*Alaska DEC Drinking Water Protection Areas*", located at http://dec.alaska.gov/das/GIS/apps.htm.

Control Measures (Part 5.3.6). A permittee must describe in the SWPPP the control measures it has implemented at the site to demonstrate compliance with the requirements of Parts 3.0 and 4.0 as well as to address discharges composed of allowable discharges listed in Parts 1.4.1 and 1.4.2 commingled with a discharge authorized by a separate APDES permit and/or a discharge that does not require APDES permit authorization.

Types of Control Measures (5.3.6.1). The description of the control measures implemented to meet the requirements of the permit must include:

- The type of control measure to be installed and maintained and location on the site for installation;
- The general sequence during the construction process in which the control measures will be installed and made operational; and
- Include the manufacturer's specifications for installation or maintenance of the appropriate control measures.

Construction Sequence (5.3.6.2). DEC recognizes that many factors can impact the actual construction schedule, so the permittee need not include specific dates. For example, the plan could state to install silt

fence for area "A" before rough grading, rather than put up silt fences on August 15. Good site planning and preservation of mature vegetation are imperative for controlling pollution in storm water discharges both during and after construction activities. Properly staging major earth disturbing activities can also dramatically decrease the costs of control measures.

As described above, DEC added new language to specify in the SWPPP any manufacturer's specifications for installation and maintenance. In addition, the details about the control measures used during construction will provide permittees with a written record to support these decisions in terms of the placement and design of the on-site control measures, and it will give potential inspectors a way of verifying that the control measures described in the SWPPP were installed and are being maintained as indicated in that document.

Stabilization (Part 5.3.6.3). The SWPPP must include a description of temporary and permanent stabilization practices for the site, including a schedule of when the practices will be implemented.

Treatment Chemicals (Part 5.3.6.4). The SWPPP must provide a description of the locations on your site where polymers, flocculants, or other treatment chemicals will be applied, the periods of construction activity during which chemical treatments will be applied and expected duration of the chemical treatments. DEC believes that greater specificity is warranted because of the requirements for monitoring in Part 3.3 that correspond to the new C&D rule requirements at 40 CFR 450.22.

Active Treatment System (Part 5.3.6.5). The SWPPP must provide a description of the active treatment system used at the site. A permittee who uses an Active Treatment System as a control measure must submit information required by the Department for review at least 14 days prior to start of operation of the active treatment system at the project. At a minimum, the information must provide details on the following: engineering plans, description of treatment process, site conditions (including soil types), treatment chemicals, dose rates, monitoring to be conducted, expected residual chemical, proper operator training, methods for storage, procedures for spill prevention and containment, operation and maintenance, and record keeping and reporting.

Good Housekeeping Measures (Part 5.3.6.6). A permittee is required to comply with the good housekeeping requirements for any of the following activities that occur at the site or at an off-site location. This section does not apply to a construction site that does not have any of the six support activities listed below. For each of these construction activities, the primary good housekeeping concepts are to designate an area for the activity, locate the designated area away from a location where storm water collects, and use pollution prevention concepts to avoid creating polluted storm water. The six construction support activities covered by the permit are:

- Washing of Equipment and Vehicles and Wheel Wash-Down (Part 4.8.1);
- Fueling and Maintenance Areas (Part 4.8.2);
- Staging and Material Storage Areas (Part 4.8.3);
- Washout of Applicators/Containers used for Paint, Concrete, and Other Materials (Part 4.8.4);
- Fertilizer or Pesticide Use (Part 4.8.5); and
- Storage, Handling, and Disposal of Construction Waste (Part 4.8.6).

Spill Prevention and Response Procedures (5.3.6.7). The SWPPP must document the procedures that will be followed in the event of a spill or a leak, including:

- Procedures for material storage and handling;
- Procedures for plainly labeling containers (e.g., "Used Oil," "Spent Solvents," "Fertilizers and Pesticides," etc.) that could be susceptible to spillage or leakage of toxic or hazardous chemicals to encourage proper handling and facilitate rapid response if spills or leaks occur;
- Procedures for expeditiously stopping, containing, and cleaning up spills, leaks, and other releases. Identify the name or title of the employee(s) responsible for detection and response of spills or leaks; and
- Procedures for notification of appropriate facility personnel, emergency response agencies, and regulatory agencies where a leak, spill, or other release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity, in accordance with Part 4.5.

DEC included this provision to provide documentation of the permittee's plans for preventing spills from occurring and assist the permittee with planning for appropriate measures to prevent spills from occurring and, if they do occur, adequately responding to them in order to minimize the potential discharge of any pollutants from the site. The more detailed requirements in Part 5.3.6.6 reflect the need to require the permittee to document plans for compliance with the pollution prevention measure requirements in Part 4.7, which derive from the C&D ELG in 40 CFR 450.21(d)(3) and (e).

Permanent Storm Water Management Controls (5.3.6.8). Describe the permanent storm water management controls being installed at the site.

Winter Shutdown (Part 5.3.6.9). The SWPPP must document winter shutdown activities for projects that are not completed during the summer construction season. The SWPPP must document (1) the anticipated dates of fall freeze-up and spring thaw, (2) activities leading up to fall freeze-up, (3) activities at fall freeze-up, and (4) activities to reestablish control measures prior to and immediately after spring thaw. See Section 4.4.10 of this fact sheet for additional discussion of winter shutdown.

Maintenance Procedures (5.3.6.10). The SWPPP must include preventative maintenance procedures, including regular inspections, maintenance, removal of sediment and repair of control measures to avoid situations that may result in leaks, spills, or other releases.

Employee Training (5.3.6.11). The SWPPP must document procedures to comply with the training requirements in Part 4.12 including procedures for how the training will be conducted, which members of the storm water team or what positions will receive training, and approximate dates of training.

Construction and Waste Materials (5.3.7). The SWPPP must document procedures for handling and disposing of waste on the site, including clearing and demolition debris or other sediment removed from the site, construction and domestic waste, hazardous or toxic waste, and sanitary waste. This provision provides documentation showing how the permittee will comply with the pollution prevention requirements relating to the management of construction wastes. In addition, DEC believes that greater specificity is warranted in Part 5.3.7 because of the new, more specific good housekeeping measure requirements in Part 4.7 that correspond to the new C&D ELG in 40 CFR § 450.21(d).

Locations of Other Industrial Storm Water Discharges (Part 5.3.8). The SWPPP must provide a description of any discharge associated with industrial activity other than construction (including storm water discharges from dedicated asphalt plants, concrete plants, etc.) and the location of that activity on the construction site.

Non-Storm Water Discharges (Part 5.3.9). The SWPPP must identify appropriate pollution prevention measures for each of the eligible non-storm water components of the discharge covered by the permit when combined with storm water discharges associated with construction activity. The SWPPP must also include a description of the pollution prevention measures used to eliminate or reduce non-storm water discharges consistent with Part 3.3.

4.5.4 Inspections (Part 5.4)

The permit requires that the SWPPP document the procedures for conducting site inspections and, where necessary, taking corrective actions. The following must be documented in the SWPPP, at a minimum:

- Person(s) or positions of person(s) responsible for conducting site inspections;
- Schedules to be followed for conducting inspections;
- Any inspection checklist or form that will be used; and
- How conditions found that require corrective action will be addressed.

DEC is requiring these documentation provisions to help ensure that appropriate inspection procedures consistent with permit requirements are implemented. DEC believes documenting these activities will help to improve construction site compliance with the permit requirements.

In addition, the permittee is required to retain with the SWPPP a record of each inspection for at least three years from the date that permit coverage expires or is terminated. The report must also identify any actions taken in accordance with the inspection requirements in Part 6.0 and must identify any triggering conditions requiring corrective action in accordance with Part 8.0 of the permit.

4.5.5 Monitoring Plan (Part 5.5)

For permittees subject to the monitoring requirements in Part 7.1, the project's SWPPP must include a copy of the monitoring plan that complies with Part 7.0, and must document the following:

- Person(s) or positions of person(s) responsible for conducting monitoring;
- Schedules to be followed for conducting the monitoring;
- Any monitoring checklist or form that will be used to record monitoring results; and
- How conditions found that require corrective action will be addressed.

The following documents must be retained in the SWPPP for at least three years from the date permit authorization expires or is terminated:

- A record of each monitoring event,

- Any form used to collect and summarize data,
- The annual report submitted to DEC in accordance with Part 9.1, and
- Any corrective actions taken in accordance with Part 8.0.

4.5.6 Documentation of Permit Eligibility Related to Total Maximum Daily Load (Part 5.6)

The SWPPP must include documentation supporting a determination of permit eligibility with regard to waters that have an EPA-established or approved TMDL. The SWPPP must include the following:

- Identification of whether the discharge is identified, either specifically or generally, in an EPA-established or approved TMDL and any associated allocations, requirements, and assumptions identified for the discharge;
- Summaries of consultation with state or federal TMDL authorities on consistency of SWPPP conditions with the approved TMDL; and
- Measures taken by the permittee to ensure that the discharge of pollutants from the site is consistent with the assumptions and requirements of the EPA-established or approved TMDL, including any specific wasteload allocation that has been established that would apply to the discharge.

4.5.7 Documentation of Permit Eligibility Related to Endangered Species (Part 5.7)

The SWPPP must include documentation supporting a determination of permit compliance with regard to the Endangered Species Act, including:

- Information on whether federally-listed endangered or threatened species or federally-designated critical habitat may be in the project area;
- Whether such species or critical habitat may be adversely affected by storm water discharges or storm water discharge-related activities from the project;
- Results of the listed species and critical habitat screening determinations;
- Any correspondence for any stage of project planning between the USFWS, EPA, NMFS, or others and the permittee regarding listed species and critical habitat, including any notification that delays the permittee's authorization to discharge under this permit; and
- A description of measures necessary to protect federally-listed endangered or threatened species or federally-designated critical habitat.

4.5.8 Post-Authorization Records (Part 5.8)

Copy of Permit Requirements (Part 5.8.1). Copies of the CGP, the signed and certified NOI submitted to DEC, and a copy of the letter from DEC indicating that a complete NOI has been received must be included in the SWPPP. This condition in the permit is intended to stress the importance of these documents in helping permittees understand permit responsibilities.

Additional Documentation Requirements (Part 5.8.2). Part 5.8.2 of the permit includes a list of documents, findings, activities, and other information that must be kept with the permittee's SWPPP. The SWPPP requires that specific construction dates be documented and maintained as a way for the permittee as well as DEC, to determine applicability and implementation status. Important dates include when grading activities occur, when construction activities temporarily or permanently cease on a portion of the site, when stabilization measures are initiated, and beginning and ending period for winter shutdown. In addition, a permittee is required to maintain documentation with the SWPPP of any inspection reports, discharge monitoring reports, SWPPP modifications, employee training, maintenance activities, corrective actions, and any other reports or certifications required by the permit. The purpose of this added documentation is to be able to demonstrate to any DEC inspector that the permit is being complied with and that the permittee is making the effort to comply with the permit.

4.5.9 Maintaining an Updated SWPPP (Part 5.9)

SWPPP Modifications (Part 5.9.1). The permit requires that the SWPPP be updated, including site maps, in response to any of the triggering conditions listed in the Part occur. It is important to note that failure to update the SWPPP in accordance with this Part is a recordkeeping violation, not a violation of an effluent limit. For example, if the permittee changes is maintenance procedure, but fails to update its SWPPP to reflect these changes, a recordkeeping violation will result. The permittee must revise its SWPPP to reflect the new maintenance procedures and include documentation of the corrective action (in accordance with Part 8) to return to full compliance.

Log of SWPPP Modifications (Part 5.9.2). The permittee must maintain a log showing the dates of all SWPPP modifications, which must include the name of the person authorizing each change and a brief summary. The requirement to log SWPPP modifications is to ensure that the SWPPP is kept up to date.

Deadlines for SWPPP Modifications (Part 5.9.3). Part 5.9.3 of the permit requires the permittee to complete revisions to the SWPPP within seven (7) calendar days following the occurrence of any conditions listed in Part 5.9.1. DEC clarifies that requiring any SWPPP revisions to be complete within seven days is to ensure that any necessary revisions made to the SWPPP are incorporated in a timely matter so that the SWPPP is kept up to date.

4.5.10 Additional SWPPP Requirements (Part 5.10)

Retention of SWPPP (Part 5.10.1). A copy of the SWPPP must be kept at the construction site or other location easily accessible during normal business hours from the date of project initiation to the date of final stabilization. A permittee with day-to-day operational control over the plan's implementation must keep a copy of the plan readily available whenever on site (a central location, such as a construction trailer or truck accessible by all on-site personnel is sufficient). If an on-site location is unavailable to store the SWPPP when no personnel are present, notice of the plan's location must be posted near the main entrance at the construction site. A copy of the SWPPP must be readily available to authorized inspectors during normal business hours.

Main Entrance Signage (Part 5.10.2). A notice about the permit and SWPPP must be posted conspicuously near the main entrance of the site. If display near the main entrance is infeasible, the notice can be posted in a local public building such as the town hall or public library. For linear projects, the notice must be posted at a publicly accessible location near the active part of the construction project

(e.g., where a pipeline project crosses a public road). The permit notice must include the following information:

- A copy of the completed Notice of Intent as submitted to DEC;
- The current location of the SWPPP (if different than that submitted to DEC in the NOI); and
- The current contact person and telephone number for scheduling times to view the SWPPP (if different than that submitted to DEC in the NOI).

The permit does not require that the general public have access to the construction site nor does it require that copies of the plan be available or mailed to members of the public. However, DEC strongly encourages permittees to provide public access to SWPPPs at reasonable hours. Upon request, DEC intends to assist members of the public in obtaining access to permitting information, including SWPPPs. DEC believes this approach will create a balance between the public's need for information on projects potentially impacting their water bodies and the site permittee's need for safe and unimpeded work conditions.

Availability of SWPPP (Part 5.10.3). A permittee must provide a copy of the SWPPP or portion thereof to each subcontractor on-site. In addition, a permittee must make SWPPPs available, upon request, to DEC, state, tribal or local agencies approving sediment and erosion plans, grading plans or storm water management plans; local government officials; the operator of an MS4 receiving discharges from the site; and representatives of the Alaska Department of Fish & Game, U.S. Fish and Wildlife Service or the National Marine Fisheries Service. Also, a permittee must make the SWPPP available to DEC or its authorized representative for review and copying during any on-site inspection. Electronic storage of documents can be used as long as they are accessible when a DEC inspector conducts an on-site inspection.

If a member of the public wishes to have access to the permittee's SWPPP, they must first contact DEC. DEC may require that a copy be sent to DEC so that it can be provided to the requester. The mechanism for providing DEC with a copy of the SWPPP is at the discretion of the permittee (e.g., web-based or hard copy) though DEC strongly encourages that SWPPPS be provided electronically.

The SWPPP must identify an alternative off-site location during the period of winter shut down for a multi-season project that goes through a winter shutdown. The SWPPP must then be returned to the site once the winter shutdown is over.

Signature and Certification (Part 5.10.4). The SWPPP must be signed and certified in accordance with the signatory requirements in the Standard Permit Conditions section of the permit (Appendix A).

4.5.11 Requirements for Different Types of Operators (Part 5.11)

Operational Control over Construction Plans and Specifications (Part 5.11.1). If the permittee has operational control over construction plans and specifications, the permittee must ensure that: the project specifications meet the minimum requirements of this Part and all other applicable permit conditions; the SWPPP indicates the areas of the project where the permittee has operational control over project specifications, including the ability to make modifications in specifications; all other permittees implementing portions of the SWPPP (or their own SWPPP) who may be impacted by a change to the

construction plan are notified of such changes in a timely manner; and the SWPPP indicates the name of the party(ies) with day-to-day operational control of those activities necessary to ensure compliance with the SWPPP or other permit conditions.

Operational Control over Day-to-Day Activities (Part 5.11.2). If the permittee has operational control over day-to-day activities, the permittee must ensure that: the SWPPP meets the minimum requirements of this Part and identifies the parties responsible for implementation of control measures identified in the plan; the SWPPP indicates areas of the project where the permittee has operational control over day-today activities; and the SWPPP indicates the name of the party(ies) with operational control over project specifications (including the ability to make modifications in specifications).

Control of a Portion of a Larger Project (Part 5.11.3). If the permittee has operational control over only a portion of a larger common plan of development (e.g., one of four homebuilders in a subdivision), the permittee is responsible for compliance with all applicable effluent limits, terms, and conditions of this permit as it relates to the activities on the permittee's portion of the construction site, including protection of endangered species, critical habitat, and historic properties and implementation of control measures described in the SWPPP. The permittee must ensure, either directly or through coordination with other permittees, that activities do not render another party's pollutant discharge controls ineffective. The permittee must either implement a portion of a common SWPPP or develop and implement its own SWPPP.

For more effective coordination of BMPs and opportunities for cost sharing, a cooperative effort by the different operators at a site to prepare and participate in a comprehensive SWPPP is encouraged. Individual operators at a site may, but are not required to, develop separate SWPPPs that cover only their portion of the project provided reference is made to other operators at the site. In instances where there is more than one SWPPP for a site, cooperation between the permittees is encouraged to ensure the storm water discharge control measures are consistent with one another (e.g., provisions to protect listed species and critical habitat).

4.6 Inspections (Part 6.0)

4.6.1 Inspection Frequency (Part 6.1)

- In response to feedback from site operators that providing three options based on mean annual precipitation was too cumbersome, DEC simplified the requirements for how often an operator must conduct inspections. The permit now requires the permittee to inspect designated areas at one of the following intervals:
    - Inspect at least once every seven calendar days or
    - Inspect at least once every 14 calendar days and within 24 hours of the end of a storm event (including snowmelt events) that results in a discharge from the site.

This provision provides greater clarity for the permittee so that inspection procedures are clearly stated and understood. DEC believes that inspections should occur more frequently in areas of the state with higher mean annual precipitation. DEC also recommends that the permittee perform a "walk through" inspection of the construction site before anticipated storm events (or series of events such as intermittent showers over a period of days) that could potentially yield a significant amount of runoff. In

exchange for committing to more frequent inspections, the permittee could plan and budget for one inspection per week and would not have to deal with uncertainties associated with an unknown number of additional inspections triggered by rain events and the need to have inspectors on standby. This flexibility would be especially valuable for unstaffed locations. Proper operation and maintenance of storm water control measures is independently required by Part 4.11 of the permit, so the inspection schedule used is expected to provide adequate environmental protection.

4.6.2 Case-by-Case Reductions in Inspection Frequency (Part 6.2)

Part 6.2 provides exception to the required inspection frequencies in Part 6.1 for actively staffed sites. DEC believes it is important to continue periodically inspecting the construction site to ensure that control measures are maintained and the site is in compliance with the terms and limits in the permit.

4.6.3 Qualified Person (Part 6.3)

Inspections must be performed by qualified personnel, either the permittee's own personnel or a third party hired to perform the inspections. The inspectors must be knowledgeable and possess the skills to assess conditions at the construction site that could impact storm water quality and assess the effectiveness of sedimentation and erosion control measure chosen to control the quality of the sites storm water discharges.

4.6.4 Site Inspection (Part 6.4)

Part 6.4 of the permit specifies the areas that need to be checked during the site inspection and what conditions to inspect.

Location of Inspections (Part 6.4.1). This Part identifies the areas, at a minimum, that must be regularly inspected. Depending on site-specific conditions, permittees are encouraged to inspect any additional areas potentially susceptible to erosion.

Scope of Inspection (Part 6.4.2). This Part describes the conditions, at a minimum, inspectors must check during site inspections. The permit requires that inspections cover all areas of the site and include a review of all control measures, areas of potential or existing erosion, areas of accumulated sediment and pollutants, all discharge points, and incidents of noncompliance be included in the inspection. Because some equipment, processes, and procedures may require more frequent inspections, the relevant inspection schedules must be documented in the SWPPP. For example, inspection of staging areas may require more frequent inspection to ensure that the site is swept, garbage is picked up, and drips and spills are cleaned.

4.6.5 Linear Project Inspections (Part 6.5)

Linear construction projects (e.g., utility line installation, pipeline construction) must inspect the construction site at the same frequency as other construction projects, but representative inspections may be performed in certain situations. Part 6.5.1 states that representative inspections may be performed at linear projects if the inspection locations are inaccessible, unsafe for personnel, would compromise stabilized soils or would cause additional disturbance of soils.

To conduct representative inspections, qualified personnel must inspect controls along the construction site for 0.25 mile above and below each access point where a roadway, undisturbed right-of-way, or other similar feature intersects the construction site and allows access to the areas described above. The conditions of the controls along each inspected 0.25-mile segment may be considered as representative of the condition of controls along that reach extending from the end of the 0.25-mile segment to either the end of the next 0.25-mile inspected segment or to the end of the project, whichever occurs first. DEC believes that this will provide specific flexibility to linear construction projects conducting inspections and limit additional disturbance to soils that may increase the erosion potential resulting from vehicles compromising stabilized areas.

4.6.6 Inspections by DEC or Applicable Local Government Authority (Part 6.6)

The permit requires the permittee to allow an authorized representative of DEC, EPA, or the MS4 operator to enter the site premises, access and copy records that must be kept in accordance with this permit, inspect the site, and sample or monitor to ensure compliance with the permit. These inspections may or may not be announced and coordinated in advance.

4.6.7 Inspection Report (Part 6.7)

Once an inspection has been performed, the permittee is required to prepare an inspection report and retain it for up to three years from the date of coverage under the permit expires or is terminated. The inspection report must contain all elements listed in Part 6.7 of the permit and the report must be signed in accordance with the signatory requirements in Appendix A, Part 1.12 of the permit.

4.7 Monitoring (Part 7.0)

4.7.1 General Requirements (Part 7.1)

A permittee subject to the monitoring requirements in Parts 3.2 Discharge to Impaired Water Body or 7.1.2 DEC directed, is required to develop a written site-specific monitoring plan for analytical monitoring, in accordance with Part 7.0. Analytical monitoring is a means by which to measure the concentration of a pollutant in a storm water discharge. Analytical results are quantitative and therefore can be used to compare discharge results and to quantify the effectiveness of storm water control measures. The monitoring plan must comply with DEC requirements for a quality assurance project plan. It is important to note that DEC may require a permittee conduct additional monitoring in situations where the discharge from the project has the potential to exceed WQS or does not meet the requirements of a TMDL.

Most all monitoring projects should fall under the Tier 2 Water Quality Monitoring Quality Assurance Project Plan (QAPP) criteria. A *Generic Tier 2 Quality Assurance Project Plan* (http://dec.alaska.gov/water/wqapp/Generic_Tier_2_WQ_QAPP_Rev_1.pdf) has been developed to assist applicants in developing a project specific Water Quality Monitoring QAPP. Also see the DEC storm water website (http://dec.alaska.gov/water/wnpspc/stormwater/index.htm) for information to use in developing the monitoring plan.

4.7.2 Qualified Person (Part 7.2)

Monitoring must be performed by a qualified person; either the permittee's own personnel or a third party hired to perform the monitoring. The person collecting the samples and analyzing them must be knowledgeable and possess the skills to assess conditions at the construction site that could impact storm water quality and assess the effectiveness of sedimentation and erosion control measure chosen to control the quality of the sites storm water discharges.

4.7.3 Discharge Monitoring Requirements (Part 7.3)

Sampling Parameter (Part 7.3.1). The sampling parameter is turbidity.

Sampling Frequency (Part 7.3.2). The permittee must sample during any storm event or snow melt condition that results in a discharge of storm water from the site. Samples are only required to be taken during normal business hours and when conditions are safe to sampling personnel.

Sampling Locations (Part 7.3.3)

The permittee is to conduct sampling upstream and downstream from the point of discharge into the receiving water. When sampling downstream, the sample may be taken at the point it leaves the construction site, rather than when it is in the receiving water body (inside the area of influence of the discharge). The permittee is to conduct sampling at all discharge points when storm water is discharged off-site, except for linear projects. These sampling locations must be identified on the SWPPP site map and must be clearly marked in the field with a flag, tape, take or other visible marker.

Representative Discharge Point for a Linear Projects (Part 7.3.4). A permittee of a linear project is allowed to sample from just one of the discharge points when multiple discharge points are substantially identical, provided the requirements of Part 7.0 are met.

Commingled Discharges (Part 7.3.5). If prior to discharging, storm water flow commingles with sources of storm water that originate outside of the construction site on property that is not owned or operated by the permittee, the following applies:

- The permittee is required to take samples of discharges from the construction site that consist in part of storm water that originates outside of the construction site and discharges from the site; or
- The permittee is not required to sample a discharge if storm water originates outside of the construction site then discharges from the permittee's property but does not come into contact with the site construction activities.

Sample Type (Part 7.3.6). The permittee must collect a sample of the discharge that is representative of the flow and characteristics of the discharge. The Department expects that most samples collected will be grab samples, but automatic sampling is allowed, in accordance with Part 7.3.7.

Sampling and Analysis Methods (Part 7.3.7). Part 7.3.7 requires that the turbidity analysis must be performed with a field-calibrated nephelometer or turbidity meter (turbidimeter). Automated sampling is

allowed, but the Department expects that most samples collected will be grab samples. When collecting samples:

- Sample containers should be labeled prior to collecting the samples;
- Samples should be well mixed before transferring to a secondary container;
- Large-mouth, well cleaned and rinsed glass or plastic jars should be used for collecting samples. The jars should be cleaned thoroughly to avoid contamination;
- Samples must be taken from the horizontal and vertical center of the discharge point(s) or other sources of concentrated flow;
- Hold sampling container so that the opening faces the upstream direction of the discharge point in which samples are taken;
- Do not overfill the sampling container, and
- Keep the samples free from floating debris.

Rainfall Monitoring (Part 7.3.8). The permittee must also use a rain gauge on-site or utilize the nearest National Weather Service precipitation gauge station to determine the amount of rainfall during a storm event. The permittee must maintain records of rainfall amounts and dates in the SWPPP.

Recording Monitoring Data (Part 7.3.9). Part 7.3.9 requires the permittee to maintain records of all sampling information. For each sample taken, the records must include the date, location, method and time of sample, name of individual who performed the sampling, dates the analyses were performed, and analytical techniques used, results of the analysis in NTUs, and the arithmetic mean of all samples for each day.

Reporting Monitoring Results (Part 7.3.10). Part 7.3.10 requires the permittee to report monitoring results to DEC in accordance with the Annual Reports in Part 9.1. Note: The monitoring data collected under this Part does not need to conform to Appendix A Part 3.2.).

4.7.4 Visual Monitoring for a Linear Project (Part 7.4)

Visual Monitoring Frequency (Part 7.4.1). A permittee of a linear project subject to the monitoring requirements of Parts 3.2 of the permit is required to visually monitor the project at least once every seven calendar days.

Visual Monitoring Locations (Part 7.4.2). As described in Part 7.3.4, a permittee of a linear project with substantially identical effluent is required to collect samples from only one of those substantially identical outfalls. The visual monitoring applies to all discharge points in portions of the site where temporary or final stabilization has been initiated and each drainage area of the project and must be conducted during, or subsequent to, a storm event or snowmelt condition that results in a discharge of storm water.

Visual Monitoring Requirements (Part 7.4.3). The purpose of visual monitoring is to observe the visual quality and characteristics of the discharge, including color, odor, solids, foam, or other indicators of storm water pollutants.

Recording Visual Monitoring Data (Part 7.4.4). The visual monitoring must also document whether control measures are operating effectively or are in need of maintenance. Records of the visual monitoring do not need to be submitted to DEC, unless specifically requested, but must be maintained with the SWPPP.

4.8 Corrective Actions (Part 8.0)

The provisions in Part 8.0 specify the types of conditions at the construction site that trigger corrective action requirements, what must be completed to eliminate such conditions or conduct further inquiries into their cause, and the deadlines for completing corrective action. This provision requires the permittee to review and revise the selection, design, installation, and implementation of the permittee's control measures to ensure that the condition is eliminated and will not be repeated in the future or to determine if modifications are necessary to meet the requirements in Parts 3.0 and 4.0 of the permit.

4.8.1 Corrective Action Conditions (Part 8.1)

Part 8.1 specifies conditions that, should they occur, trigger the need to review and modify the selection, design, installation, and implementation of control measures to resolve any deficiencies. These conditions include control measures that are not designed, installed, and/or maintained as required in Part 4.0 or a prohibited discharge as specified in Part 4.7 is occurring or will occur if effective corrective actions are not taken. Specific conditions triggering the need for corrective action are detailed in Part 8.1.1. The DEC believes that a review and revision of the condition is necessary in order to review and revise the selection, design, installation, and implementation of control measures to address the condition.

4.8.2 Deadlines for Corrective Actions (Part 8.2)

The permit includes specific deadlines for permittees to review the design, installation, and maintenance of control measures, upon detecting either condition in Parts 8.1.1, and document any corrective action(s) to be taken to eliminate or further investigate the deficiency. This provision stipulates time limits for implementing corrective actions to remedy the Part 8.1 conditions. The time limits are those that DEC considers reasonable for documenting that a problem has been identified and then making any necessary repairs or modifications. These timeframes are included to ensure that deficiencies are corrected expeditiously. In addition, where the permittee takes corrective actions that could affect subcontractors the primary permittee must provide notification to all affected subcontractors within three (3) days of taking the corrective action.

4.8.3 Corrective Action Log (Part 8.3)

The permittee must document basic information describing the triggering condition described in Part 8.1 and the permittee's response to that condition. DEC included this language to clarify that a permittee must document deficiencies immediately (e.g., within 24 hours) as a way to more clearly provide a starting point on which corrective actions are to be based. Subcontractors must also notify the permittee within 24-hours of becoming aware of any of conditions listed in Part 8.1 and provide documentation for the corrective action log, in accordance with this Part. The documentation must contain all of the elements contained in Part 8.3.1. As described in Part 9.3 of the permit, a permittee is required to maintain a copy of this documentation with the SWPPP.

4.8.4 Corrective Action Report (Part 8.4)

If a monitoring result pursuant to Part 3.2 Discharge to Impaired Water Body exceeds the WQS, the permittee must submit a corrective action report consistent with Part 9.2. DEC is requiring submission of this report as a way to assess the potential impact of these discharges on water quality and also as a way to assess the adequacy of the permittee's response to the exceedance.

4.8.5 Substantially Identical Outfalls (Part 8.5)

If the event triggering corrective action is linked to an outfall that represents other substantially identical outfalls, the permittee's review must assess the need for corrective action for each outfall represented by the outfall the triggered the review. Any necessary changes to control measures that affect these other outfalls must also be made before the next storm event if possible or as soon as practicable following the storm event.

4.9 Reporting and Recordkeeping (Part 9.0)

4.9.1 Annual Report (Part 9.1)

A permittee who is required to monitor a discharge per Part 3.2 Discharge to Impaired Water Body must submit all monitoring data to DEC using a paper annual report form with the NOT or by December 31 of the year if the project is a multi-year project. Monitoring results submitted as a paper annual report must be in a clearly legible format. Upon written notification, DEC may require the permittee to submit the monitoring results on a more frequent basis. Monitoring and analysis of any storm water discharge(s) or the receiving water(s) beyond the minimum frequency stated in the permit must be reported in a similar manner to DEC. The paper annual report must be signed and certified in accordance with the signatory requirements in Appendix A, Part 1.12.

4.9.2 Corrective Action Report (Part 9.2)

If monitoring data collected pursuant to Part 3.2 exceeds the WQS, the permittee must submit a corrective action report containing the information listed in Part 9.2. DEC is requiring submission of this report as a way to assess the potential impact of these discharges on water quality and also as a way to assess the adequacy of the permittee's response to the exceedance.

4.9.3 Spill of Hazardous Substances Report (Part 9.3)

The permit requires that permittees report of any spill of oil or hazardous substances to water and any release to land in excess of 55 gallons. Permittees must submit a written report of the spill within seven calendar days of knowledge of the spill. Reports must include a description of the release, the circumstances leading to the release, and the date of the release. Spill reporting placards can be found at DECs Spill Prevention and Response Report a Spill webpage: http://dec.alaska.gov/spar/spillreport.htm.

4.9.4 Retention of Records (Part 9.4)

The permit requires that all records and reports required by the CGP be retained, including SWPPPs and information used to complete the NOI, for at least three years from the termination of coverage. This period may be extended by written notification from DEC.

4.9.5 Request for Submittal of Records (Part 9.5)

The permit requires the permittee to submit a copy of plans or records to DEC within 30 calendar days of receipt of a written request from DEC.

4.10 Termination of Coverage (Part 10.0)

Part 10 of the permit details the requirements that must be met before a permittee of a construction project may be authorized to terminate coverage under the permit.

4.10.1 Submitting a Notice of Termination (Part 10.1)

Part 10.0 indicated that permittees should use either the eNOI system or the paper form to file NOTs. The permittee's authorization to discharge under the permit terminates at midnight of the day that a complete and accurate NOT is signed. DEC requires permittees to file a NOT to notify DEC that its obligation to manage storm water no longer is necessary.

4.10.2 When to Submit a Notice of Termination (Part 10.2)

The NOT must be filed within 30 days after one or more of the conditions listed in Part 10.2 have been met. Where a new permittee has assumed control over all areas of the site that have not been fully stabilized, that new permittee must submit an NOI for coverage. A permittee that has submitted and is covered by a low erosion potential waiver or TMDL waiver does not have to comply with the permit requirement to submit an NOT. A permittee may face enforcement action if an NOT is submitted without meeting one of the requirements unless there has been authorization under an alternative permit or a waiver for coverage under the permit has been approved.

4.10.3 Submitting a Notice of Termination (Part 10.3)

A permittee must submit a completed NOT either electronically (strongly encouraged) or by paper using the NOT form when one or more of the conditions listed in Part 10.2 of the permit are met. The NOT includes:

- An APDES permit tracking number for the storm water discharge;
- The basis for submission of the NOT, including: final stabilization has been achieved on all portions of the site for which the permittee is responsible; another person or entity has assumed control over all areas of the site that have not been finally stabilized; coverage under an alternative APDES permit has been obtained; for residential construction only, temporary stabilization has been completed and the residence has been transferred to the homeowner; or the planned construction activity identified on the original NOI was never initiated (e.g., no grading

or earthwork was ever started) and plans for the construction have been permanently abandoned or indefinitely postponed ;

- The permittee's name, address, and telephone number;
- The name of the project and street address (or a description of location if no street address is available) of the construction site for which the notification is submitted; and
- A certification statement signed and dated by an authorized representative as defined in Appendix E, Part 1.12 and the name and title of that authorized representative.

Once a valid NOT is submitted, the permittee's authorization to discharge terminates at midnight of the day the NOT is signed and the permit no longer applies to storm water discharges associated with construction at the site. If DEC determines that the NOT is incomplete or the permittee has not satisfied one of the conditions in Part 10.1 for being able to submit an NOT, then the notice is not valid and the permittee must continue to comply with the conditions of the permit until authorization is terminated. DEC will notify the permittee if the department finds the NOT incomplete.

4.11 Reopener Clause (Part 11.0)

The permit contains a re-opener clause allowing the permit to be re-opened and modified during the term of the permit consistent with the APDES regulations at 18 AAC 83.130, 18 AAC 83.135, 18 AAC 83.140, or 18 AAC 83.145. Generally, this would be triggered by a water quality concern, a change in NPDES statutes, or to incorporate new procedures or requirements developed by DEC. Indication that a permittee is contributing to a water quality concern or generally not fulfilling his or her obligations under the permit, may result in a review of the permit and requirement to obtain an individual permit or alternative general permit or have the limitations and/or requirements under the permit be modified.

4.12 Appendices

Standard Conditions (Appendix A). 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, and reporting requirements, compliance responsibilities, and other general requirements.

Acronyms (Appendix B). Appendix B is a list of acronyms found in the permit and fact sheet which aids in the understanding of the permit and its requirements. To better clarify permit-specific terms, DEC added abbreviations for Alaska Department of Environmental Conservation (DEC) and Alaska Pollutant Discharge Elimination System (APDES).

Definitions (Appendix C). Appendix C contains definitions of statutory, regulatory and other terms important for understanding the permit and its requirements. To better clarify permit-specific terms, DEC has revised, deleted or added several definitions to Appendix C. The DEC added definitions for the terms actively staffed, bypass, infeasible, and upset and clarified definitions for the terms maintenance and exceptional recreational or ecological significance.

Small Construction Waivers and Instructions (Appendix D). As described in Section 4.1.5 of this fact sheet, EPA's Phase II storm water regulations allow waivers from permitting requirements for some construction projects in the 1-5 acre range that do not pose a potential threat to water quality.[3] The DEC adopted three types of waivers that construction sites may qualify for in lieu of needing to obtain coverage under a construction general permit.

Rainfall-Erosivity Waiver. The Rainfall-Erosivity Waiver at 40 CFR §122.26(b)(15)(i)(A), is based on the "R" factor from the Revised Universal Soil Loss Equation (RUSLE) and applies to projects where (and when) negligible rainfall/runoff-erosivity is expected. The basis of the rainfall erosivity factor "R" was determined by EPA in the Phase II Rule in accordance with Chapter 2 of Agriculture Handbook Number 703, *Predicting Soil Erosion by Water: A Guide to Conservation Planning with the Revised Universal Soil Loss Equation (RUSLE)*, pages 21–64, dated January 1997; United States Department of Agriculture (USDA), Agricultural Research Service. DEC developed Alaska-specific R factor information for Alaska from RUSLE2 Version 1.26.6.4 http://fargo.nserl.purdue.edu/rusle2_dataweb/RUSLE2_Index.htm (Database last modified on Feb, 28, 2008).

If a small construction project's rainfall erosivity factor is less than 5 during the period of construction activity, the applicant must certify to DEC that construction activity will occur only when the rainfall erosivity factor is less than 5 (see Table 4-5). The period of construction activity begins at initial earth disturbance and ends with final stabilization. Where vegetation will be used for final stabilization, the date of installation of a stabilization practice that will provide temporary non-vegetative stabilization can be used for the end of the construction period, provided the applicant commits (as a condition of waiver eligibility) to periodically inspect and properly maintain the area until the criteria for final stabilization as defined in the construction general permit have been met. If use of this temporary stabilization eligibility condition was relied on to qualify for the waiver, signature on the waiver with its certification statement constitutes acceptance of and commitment to complete the final stabilization process. The applicant must submit a waiver certification to DEC prior to commencing construction activities.

If the construction activity is eligible for a waiver based on low erosivity potential, the applicant may submit a rainfall erosivity waiver certification form to the address listed in Part 2.3 of the CGP and provide the following information on the waiver certification form in order to be waived from permitting requirements:

1. Name, address and telephone number of the applicant;
2. Name (or other identifier), address, county or similar governmental subdivision, and latitude/longitude of the construction project or site;
3. Estimated construction start and completion (e.g., final stabilization) dates, and total acreage (to the nearest quarter acre) to be disturbed; and
4. The rainfall erosivity factor calculation that applies to the active construction phase at your project site; and

[3] For more background on designation of small construction activity and available waivers, see discussion on "Discharges Associated with Small Construction Activity" starting on page 68771 of the December, 8 1999 Federal Register (64 FR 68771).

5. A statement, signed and dated by an authorized representative as provided in Appendix A, Part 1.12 that certifies that the construction activity will take place during a period when the value of the rainfall erosivity factor is less than five.

An applicant can access the waiver certification form from DEC's Web site at: (http://dec.alaska.gov/water/wnpspc/stormwater/2016CGPforms.htm). The form must be sent to the addresses listed in Appendix A of the permit. If the R factor is 5 or greater, the rainfall erosivity waiver is not available, and the applicant must apply for permit coverage per Part 2.2 of the permit, unless the project can qualify for one of the Water Quality Waivers described below. Also, if the small construction project continues beyond the projected completion date given on the waiver certification, the applicant must recalculate the rainfall erosivity factor for the new project duration. If the R factor is below 5, the applicant must update all applicable information on the waiver certification and retain a copy of the revised waiver as part of the site SWPPP. The new waiver certification must be submitted prior to the projected completion date listed on the original waiver form to assure exemption from permitting requirements is uninterrupted. If at that time the new R factor is 5 or above, the applicant must submit an NOI per Part 2.0 of the permit.

TMDL or Equivalent Analysis Waiver. The next two waivers are water quality waivers allowed at 40 CFR 122.26(b)(15)(i)(B) that are based on an analysis that storm water discharges from small construction activities would not be expected to cause or contribute to exceedances of WQS. As described in Appendix D, applicants may use these water quality waivers, where it is anticipated that the analysis would demonstrate that control measures for small construction activity were not needed based on: 1) an approved TMDL for impaired waters addresses pollutant(s) of concern; or 2) for non-impaired waters, an equivalent analysis that either determines pollutant load allocations for small construction or determines that such load allocations were not necessary to protect water quality.

Table 4-3: Accumulating Rainfall Erosivity Values for Representative Key Alaskan Communities Urban Areas

Indicator Stations/Urban Locations	1/1-4/15	4/16-4/30	5/1-5/15	5/16-5/31	6/1-6/15	6/16-6/30	7/1-7/15	7/16-7/31	8/1-8/15	8/16-8/31	9/1-9/15	9/16-9/30	10/1-10/15	10/16-12/31
Talkeetna	0.0	1.0	**22.0**	**45.0**	**68.0**	**90.0**	**109.0**	**125.0**	**134.0**	**141.0**	**146.0**	**151.0**	**160.0**	170.0
Homer	0.0	0.0	0.3	0.9	1.8	3.0	**6.8**	**10.6**	**13.6**	16.6	19.3	21.8	22.6	23.0
Anchorage/ Kenai	0.0	0.0	0.3	1.0	2.0	4.0	**11.0**	**19.0**	21.0	22.0	23.0	23.0	23.0	23.0
Palmer	0.0	0.0	0.3	1.1	2.1	3.8	**9.1**	**14.5**	**19.1**	**23.6**	**27.5**	30.8	31.6	32.0
Gulkana	0.0	0.0	0.3	1.3	3.9	**8.9**	**23.1**	**37.7**	**41.5**	44.3	46.0	46.9	46.9	46.9
Healy	0.0	0.5	**14.1**	**31.6**	**50.9**	**69.9**	**88.2**	**106.6**	**114.2**	**120.4**	**124.1**	**128.1**	133.9	140.4
Aniak/ Crooked Creek Kuskokwim/ McGrath	0.0	0.5	**13.0**	**26.0**	**39.0**	**53.0**	**66.0**	**79.0**	**86.0**	**91.0**	**93.0**	**95.0**	99.0	103.0
Galena/ Norway	0.0	0.5	2.1	**5.9**	**12.8**	**19.4**	**23.2**	**25.9**	**27.2**	28.1	28.2	28.4	28.7	29.1
Big Delta	0.0	0.5	2.0	6.0	**9.0**	**13.0**	**16.0**	**18.0**	**19.0**	20.0	21.0	21.0	22.0	23.0
Fairbanks - Key	0.0	0.2	4.8	**11.9**	**21.4**	**30.4**	**38.7**	**46.4**	**50.2**	52.8	53.7	54.6	55.8	57.1
Fort Yukon	0.0	0.1	2.0	5.4	**11.3**	**16.7**	**21.1**	**24.8**	**27.0**	28.6	29.0	29.6	30.3	31.0
Bettles	0.0	0.3	9.8	**21.7**	**34.9**	**47.8**	**60.1**	**72.4**	**78.2**	**82.4**	**84.2**	86.4	89.6	93.2
Dillingham/ Illiamna	0.0	0.8	**26.9**	**52.6**	**69.1**	**83.2**	**95.8**	**106.8**	**113.7**	**119.3**	**122.5**	**125.7**	**132.7**	140.4
Bethel - Key	0.0	0.4	**12.5**	**25.3**	**37.3**	**49.1**	**59.8**	**70.1**	**76.6**	**81.5**	**83.6**	**86.1**	89.9	94.2
Nome	0.0	0.3	**9.1**	**18.9**	**28.3**	**38.1**	**48.9**	**60.5**	**66.6**	**71.2**	**73.5**	**76.0**	79.4	83.2
Kotzebue	0.0	0.3	**8.6**	**17.0**	**23.3**	**29.7**	**38.0**	**47.0**	**51.9**	**55.7**	**57.5**	59.5	62.2	65.2
Galbraith Lake Camp	0.0	0.3	**9.2**	**21.1**	**34.6**	**47.9**	**60.2**	**71.9**	**78.4**	**82.9**	**84.2**	**85.9**	89.7	94.0
Barrow/ Prudhoe Bay/ Barter Island - Key	0.0	0.2	4.2	**10.0**	**17.0**	**23.8**	**29.7**	**34.9**	**37.8**	**39.8**	**40.6**	41.5	43.7	46.1

NOTE: Values in Bold indicate a period with a rapid increase in R values that would make it difficult to obtain a low rainfall erosivity waiver.

Appendix E: Forms:

Notice of Intent (NOI) Form. The DEC will modify the existing NOI form and modify the eNOI system as needed to accommodate the final permit conditions of the permit. The new NOI form will be posted on DEC's website.

NOI Modification Form. The DEC will modify the existing NOI modification form and modify the eNOI system as needed to accommodate the final permit conditions of the permit. The new NOI modification form will be posted on DEC's website.

Notice of Termination (NOT) Form. The DEC will modify the existing NOT form and modify the eNOI system as needed to accommodate the final permit conditions of the permit. The new NOT will be posted on DEC's website.

Annual Report Form. The DEC will develop an annual report form for those permittees who are required to conduct turbidity monitoring at their site. The annual report form will be posted on DEC's website.

APDES Permitted MS4 Operators, 2015. DEC maintains a list of APDES permitted MS4 operators and their contact information on DEC's website. Permittees must refer to the MS4 operator for current requirements and contact information.

5.0 REISSUED PERMIT

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." The effluent limitations in the permit reissuance are consistent with 18 AAC 83.480. The permit effluent limitations, standards, and conditions are as stringent as in the previous permit. 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, water quality-based effluent limitations may be revised as long as the revision is consistent with the State's antidegradation policy.

6.0 OTHER REQUIREMENTS

6.1 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). Section 7 of the ESA requires a federal agency to consult with the NMFS and USFWS to determine whether their authorized actions may harm threatened and endangered species or their habitats. As a state agency, DEC is not required to consult with NMFS or NMFS regarding permitting actions;

however, DEC interacts voluntarily with these federal agencies to obtain listing of threatened and endangered species and critical habitat.

The general permit covers construction storm water discharges into all potential marine and freshwater surface water bodies in the State of Alaska. DEC reviews the listing periodically for updates. The NMFS and USFWS Endangered, Threatened, Proposed, Candidate, and Delisted Species in Alaska may be accessed through the following webpages: http://alaskafisheries.noaa.gov/protectedresources/esa and http://www.fws.gov/alaska/fisheries/fieldoffice/anchorage/endangered/consultation.htm.

6.2 Essential Fish Habitat

The Magnuson-Stevens Fishery Conservation and Management Act designates Essential Fish Habitat (EFH) in waters used by anadromous salmon and various life stages of marine fish under NMFS jurisdiction. EFH refers to those water and associated river bottom substrates necessary for spawning, breeding, feeding, or growth the maturity – including aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include aquatic areas historically used by fish. Spawning, breeding, feeding, or growth to maturity covers a species' full life cycle necessary for fish from commercially-fished species to spawn, breed, feed, or grow to maturity.

EFH regulations define an adverse effect as any impact which reduced quality and/or quantity of EFH and may include direct (e.g., contamination or physical disruption), indirect (e.g., loss of prey, reduction in species' fecundity), site-specific, or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

Section 305(b) of the Magnuson-Stevens Act [(16 USC 1855(b)] requires federal agencies to consult with the NMFS when any activity proposed to be permitted, funded, or undertaken by a federal agency may have an adverse effect on designated EFH as defined by the CWA. As a state agency, DEC is not required to consult with NMFS regarding permitting actions, but interacts voluntarily with NMFS to identify EFH. EFH for Alaska marine waters may be accessed at http://www.alaskafisheries.noaa.gov/habitat. Alaska Department of Fish and Game also maintains regulatory and interactive map that identify anadromous streams, fish passage, and fish inventory at: http://www.adfg.alaska.gov/sf/SARR/AWC/index.cfm?ADFG=maps.maps.

6.3 Permit Expiration

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

7.0 REFERENCES

ADEC. 2009. Alaska Storm Water Guide. Alaska Department of Environmental Conservation Division of Water. Anchorage, AK.

ADEC. 2009. Alaska Pollutant Discharge Elimination System General Permit for Discharges from Large and Small Construction Activities. Permit number AKR100000. Department of Environmental Conservation, Wastewater Discharge Authorization Program, Juneau, AK.

ADEC. 2010. Alaska's Final 2010 Integrated Water Quality Monitoring and Assessment Report, July 15, 2010. Department of Environmental Conservation, Wastewater Discharge Authorization Program, Juneau, AK.

Curran, J.H., Meyer, D.F., and Tasker, G.D., 2003, *Estimating the Magnitude and Frequency of Peak Streamflows for Ungaged Sites on Streams in Alaska and Conterminous basins in Canada*: U.S. Geological Survey Water-Resources Investigations Report 03-4188, 101p.

Lloyd. Denby. 1986. Turbidity in Freshwater Habitats of Alaska: A Review of Published and unpublished Literature Relevant to the use of Turbidity as a Water Quality Standard. Report No. 85-1. Prepared by the Alaska Department of Fish & Game, Habitat Division. Juneau, AK.

NMFS, 2005. Appendix G: Non-fishing Impacts to Essential Fish Habitat and Recommended Conservation Measures. Prepared by the National Marine Fisheries Service, April 2005.

Rinella, Daniel, Daniel Bogan and Doug Dasher. 2009. Ecological Condition of Wadeable Streams in the Tanana River Basin, Interior Alaska. Prepared for the U.S. Environmental Protection Agency, Seattle, WA.

8.0 APPENDICES

APPENDIX A - Antidegradation Analysis

A.1 Introduction

The following Antidegradation Analysis addresses the requirements of Alaska's Antidegradation Policy (18 AAC 70.015) using the *Interim Antidegradation Implementation Methods (Methods)*, July 14, 2010, for the proposed Alaska Construction General Permit (CGP). The CGP authorizes pollutant discharges from construction sites with a disturbed area of one acre or more. Alaska's Antidegradation Policy requires that certain activities that might degrade water quality be evaluated and managed to ensure that surface water degradation is avoided or minimized, and that all waters support their beneficial use designations.

This analysis consists of background information, an overview of Alaska's construction industry, a summary of Alaska's surface water resources, details on the Alaska's antidegradation implementation approach, and specific practices designed to fulfill the requirements of 18 AAC 70.015. The control measures contained in Part 4.0 of the proposed CGP are the pollution controls required to prevent degradation of the state's waters (as required in 18 AAC 70.015(a)(2)(D)). These control measures are described in the *Alaska Storm Water Guide* (see http://dec.alaska.gov/water/wnpspc/stormwater/Guidance.html). The Guide provides an approach for the selection, installation, implementation, maintenance, and removal of control measures that can prevent or minimize water quality degradation. In general, the approach described for controlling construction site storm water impacts is based on:

- The development of site-specific storm water pollution prevention plans (SWPPPs) for each regulated construction site, which will contain information on the site, proposed site activities, receiving waters, and pollution control practices;
- Implementation of the SWPPPs throughout the construction period, including the selection, sizing, sitting, installation, and operation of management practices to prevent or control pollutant discharges;
- Maintenance of the management practices in a manner that avoids or minimizes adverse water quality impacts linked to site activities; and
- Implementation of corrective actions to address any conditions found during inspections that could lead to a water quality impact.

The site-specific nature of the SWPPP, the requirement that it be implemented in a manner that addresses storm water impacts to the maximum extent practicable, and provisions that the approach be adjusted to ensure ongoing storm water management effectiveness provide the implementation methods needed to appropriately support the antidegradation policy.

The basic purpose of the antidegradation policy is to maintain and protect existing water quality. Many waterbodies have natural water quality that is better than the criteria set by the Water Quality Standards (WQS) at 18 AAC 70. In such cases, a wastewater (or storm water) discharge might meet WQS but still cause some degradation of the waterbody.

A.2 Antidegradation Analysis

There are three ascending levels of protection offered by the Antidegradation policy; commonly referred to as "tiers." The level of protection afforded to a particular water body depends upon which tier applies to it. Alaska has not classified any waters using multiple tier designations (such as Tier 1, Tier 2, or Tier 3). The existing regulation is listed in italics followed by the Department rationale and Decision. Tier 1 waters must be maintained and protected to ensure that, "the existing water uses and the level of water quality necessary to protect existing uses must be maintained and protected." [18 AAC 70.015 (a)(1)]

In order to acquire and maintain coverage under the CGP, operators of construction sites are required to comply with all permit conditions. Among the conditions is a requirement to comply with state water quality standards, which include protecting water body uses (i.e., Tier 1 protection). Construction site operators whose activities result in a violation of water quality criteria (Tier 1) limits in the receiving waters are – by definition – in violation of the proposed CGP. Thus, the proposed CGP provides Tier 1 protection of Alaska's waters by disallowing activities that would degrade water quality to the point of violating the minimum water quality criteria limits that define beneficial use support for the state's waters.

The proposed CGP "does not authorize discharges that DEC . . . determines will cause, have the reasonable potential to cause, or contribute to an excursion above any applicable water quality standard" (Part 3.1.3 of the permit). This provision of the proposed CGP ensures compliance with the antidegradation policy.

A.2.1 Tier 2 Discussion

For the purposes of the Antidegradation Analysis, the Department assumed that all waters that could be potentially impacted by construction activities are classified as Tier 2 waters. The WQS state that "If the quality of a water exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality must be maintained and protected unless the department, in its discretion, upon application, allows the reduction of water quality for a short-term variance under 18 AAC 70.200, a zone of deposit under 18 AAC 70.210, a mixing zone under 18 AAC 70.240, or another purpose as authorized in a department permit, certification, or approval; the department will authorize a reduction in water quality only after the applicant submits evidence in support of the application and the department finds that items 1 through 5 have been met." [18 AAC 70.015(a)(2)]

For Tier 2 protection, further analysis is required. Antidegradation rules require that waters with better-than-minimum quality be protected unless allowing lower water quality is necessary to accommodate important economic or social development in the area where the water is located. Ensuring compliance with the state's antidegradation requirements means that the proposed activity must:

- Demonstrate that "important economic or social development" will result from activities that may degrade water quality, such as building homes, businesses, schools, hospitals, industrial facilities, roads, and so on;

- Examine alternative pollution control strategies, and select those which will provide the "highest statutory and regulatory requirements" for point sources, and "all cost-effective and reasonable best management practices" for nonpoint sources;

- Ensure that the methods of pollution prevention, control, and treatment be "the most effective and reasonable" for "all wastes and other substances to be discharged;"
- Provide to DEC "all information reasonably necessary for a Decision on the application," in terms of its effect on water quality;
- Be "subject to the public participation and intergovernmental review procedures applicable to the permit," which can include requests for information, public hearings, and public reviews; and
- Ensure that Tier 1 protection is assured, i.e., that the receiving waters will fully support their designated uses.

To conduct the analysis for Tier 2 waters, the antidegradation policy of the WQS states that the existing water uses and the level of water quality necessary to protect existing uses must be maintained and protected. The DEC may allow reduction of water quality only after finding that five specific criteria are met (18 AAC 70.015(a)(2)(A-E). The following discussion lists the regulation followed by the Department's rationale and the Department's determination.

A.2.1.1 Economic and Social Development

> *Lowering water quality is necessary to accommodate important economic or social development in the area where the water is located [18 AAC 70.015(a)(2)(A)].*

Rationale

The Alaskan economy in general, and the construction industry in particular, provide economic and/or social benefits of construction activities that might affect water quality. Alaska's economy has experienced steady growth over the past 20 years. In 2012, Alaska's Gross Domestic Product totaled 51.9 billion. The state's population grew by 2.4 percent from 2010-2013, placing the total number of Alaska residents at 735,132. The annual natural growth rate is expected to decline as the population ages over the next several decades.

Overall employment continues to grow annually for most industries. Between 2012 and 2013, total nonfarm employment increased by about 0.5 percent, with the highest increases in natural resources and mining (4.1 percent), oil and gas (3.6 percent) and wholesale trade (4.8 percent). Alaska added almost 16,000 jobs since 2009 and is expected to gain more than 36,000 jobs by 2022. Demand for health care and social assistance workers remains strong with projected increases of about 25 percent. Mining jobs are projected to increase 24.8 percent, with oil and gas extraction increasing 15.3 percent. In 2014, construction activity is estimated to increase by 18 percent from 2013 to a total of $9.2 billion.

Annual wage and salary employment in the construction industry in 2013 was about 16, 300 workers with average annual earnings of $70,000 per worker. This does not include construction

workers employed in other industries, such as oil, gas, mining, and government force account workers, nor does it include an estimated 9,000 self-employed construction workers in 2011.

Construction spending generates activity in a number of industries that supply inputs to the construction process, such as sand, gravel, equipment, leasing, design, administration, construction finance, and management. The payrolls and profits from these activities support businesses in every community in the state. As this income is spent and circulates through local economies, it generates other jobs in businesses as diverse as restaurants, consumer products, appliances, and other sectors.

The total value of construction spending in Alaska in 2014 has been estimated at nearly $9.2 billion. Wage and salary employment in the construction industry has declined somewhat since 2006, but remains above the long-term average for the industry. Table A-1 summarizes projected spending in the public and private sectors in Alaska during 2014.

Table A-1: Alaska Construction Spending – 2014 Forecast.

Category	Level	Change
Total	$9,176,000,000	+18%
Total without Oil and Gas	$4,921,000,000	+7%
Private	**$6,267,000,000**	**+24%**
Oil and Gas	4,255,000,000	+33%
Mining	205,000,000	-34%
Other Rural Basic Industry	76,000,000	-280%
Utilities	851,000,000	+17%
Hospitals	230,000,000	0%
Other Commercial	170,000,000	+13%
Residential	480,000,000	+9%
Private without Oil and Gas	1,371,000	-3%
Public	**$2,909,000,000**	**+6%**
National Defense	395,000,,000	+89%
Highways	765,000,000	-5%
Airports and Ports	425,000,000	-4%
Alaska Railroad	23,000,000	+41%
Denali Commission	9,000,000	-31%
Education	477,000,000	-2%
Other Federal	300,000,000	+20%
Other State and Local	515,000,000	+4%

Source: Goldsmith,Killorin, and Leask 2014.

An assessment of the economic and/or social benefits of construction activities may consider a wide range of the type of construction activity, such as:

- Linear projects – highways, pipelines, power lines, etc.;
- Spatial development – residential subdivisions, commercial buildings, institutional facilities, infrastructure projects, utility and energy projects, and sanitation projects, etc.

Then the location of the construction activity, such as:

- Urban projects – projects listed above that occur within the jurisdictional area of an entity that is a regulated MS4;
- Urban projects – projects listed above that occur within a developed or urbanized area with paved streets that are not regulated as an MS4; and
- Rural infrastructure development projects – those listed above that occur in rural Alaska.

Figure A-1 depicts the overall portion of total employment in Alaska represented by the construction sector. While construction directly accounts for six percent of the total jobs in Alaska, spin-off employment in trade, transportation, manufacturing, services, and other sectors produce jobs and related spending in these and other sectors.

Determination

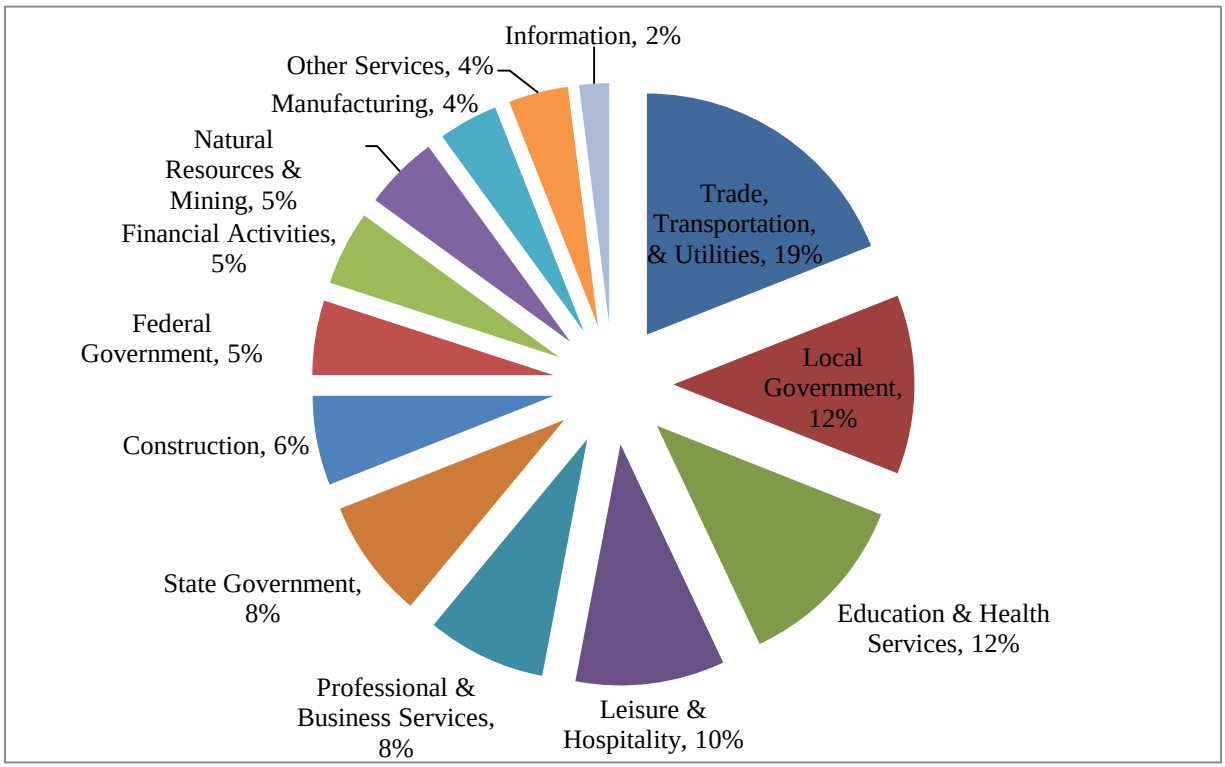

Figure A-1: Construction Industry Percentage of Total Alaska Employment

The Department determined that the construction industry and the project specific activities provide important economic and social benefits in Alaska. The Department concludes that criterion one is satisfied.

A.2.1.2 Applicable Criteria

> *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 [18 AAC 70.015 (a)(2)(B)]*

Rationale

Construction activities such as linear or spatial projects may receive approval from DEC to degrade water quality in waters protected at the Tier 2 level under certain conditions. Protecting all waters at a minimum Tier 2 protection means that a permittee must provide information to DEC and be subject to public participation and intergovernmental review procedures as standard requirements for both the construction site SWPPPs and for coverage under the CGP

The pollutant typically discharged from construction activity is sediment. Sediment in water is generally considered in two broad categories: first- settleable solids, which rapidly settle out of the water and move downstream or down a ditch if rolled along the bottom or resuspended by currents; second- suspended sediment, which remains in the water column due to water turbulence, particle shape, and/or low specific gravity of individual particles. Turbidity was selected by EPA as a measure of the fine-material fraction of suspended sediment for use in the Effluent Limitation Guidelines as the pollutant to sample at construction sites.

EPA defined turbidity as "an expression of the optical property that causes light to be scattered and absorbed rather than transmitted with no change in direction of flux level through the sample … caused by suspended and colloidal matter such as clay, silt, finely divided organic and inorganic matter and plankton and other microscopic organisms." One unit of measure of turbidity is the Nephelometric Turbidity Unit (NTU). The NTU is based on the use of nephelometer, an instrument that measures the amount of light scattered by a water sample at 90º to the path of incident light. This measurement is calibrated against the scattering of light in a standard suspension of formazin polymer and is reported in NTU. Table A-2 summarizes DEC's water quality criterion for turbidity.

Table A-2: 18 AAC 70.20(b)(12) Turbidity, for Fresh Water Uses
(Criteria are not applicable to groundwater)

Designated Use	Criteria
(A) Water Supply (i) drinking, culinary, and food processing	May not exceed 5 nephelometric turbidity units (NTU) above natural conditions when the natural turbidity is 50 NTU or less, and may not have more than 10% increase in turbidity when the natural turbidity is more than 50 NTU, not to exceed a maximum increase of 25 NTU.
(A) Water Supply (ii) agriculture, including irrigation and stock watering	May not cause detrimental effects on indicated use.
(A) Water Supply (iii) aquaculture	May not exceed 25 NTU above natural conditions. For all lake waters, may not exceed 5 NTU above natural conditions.
(A) Water Supply (iv) industrial	May not cause detrimental effects on established water supply treatment levels.
(B) Water Recreation (i) contact recreation	May not exceed 5 NTU above natural conditions when the natural turbidity is 50 NTU or less, and may not have more than 10% increase in turbidity when the natural turbidity is more than 50 NTU, not to exceed a maximum increase of 15 NTU. May not exceed 5 NTU above natural turbidity for all lake waters.
(B) Water Recreation (ii) secondary recreation	May not exceed 10 NTU above natural conditions when natural turbidity is 50 NTU or less, and may not have more than 20% increase in turbidity when the natural turbidity is greater than 50 NTU, not to exceed a

Table A-2: 18 AAC 70.20(b)(12) Turbidity, for Fresh Water Uses
(Criteria are not applicable to groundwater)

Designated Use	Criteria
	maximum increase of 15 NTU. For all lake waters, turbidity may not exceed 5 NTU above natural turbidity.
(C) Growth and Propagation of Fish, Shellfish, Other Aquatic Life, and Wildlife	May not exceed 25 NTU above natural conditions. For all lake waters, may not exceed 5 NTU above natural conditions.

The turbidity WQS is based on the natural conditions of the receiving water. Table A-3 provides examples of the allowable turbidity in a storm water discharge for receiving waters with different natural levels of turbidity.

Table A-3: Allowable Storm Water discharge that would comply with Alaska Water Quality Standard for Turbidity for Selected Natural Conditions

Natural Condition in Stream (NTU)	Allowable Storm Water Discharge that would comply with 18 AAC 70.20 (b)(12) (NTU)
2	7
5	10
10	15
25	30
50	55
100	110
200	220
250	275
500	525
1000	1025

Turbidity in Alaska's streams and rivers range from extremely low values of less than 1 NTU in clear-water drainages, to intermediate levels of 50 NTU, and to naturally high levels of 50-4,000 NTU in several major rivers (Lloyd, 1986). Sampling at 46 sites in wadeable streams in the Tanana River basin found a range in turbidity from 0.1 to 716 NTU, with a median value of 1.7 NTU (Rinella, et. al, 2009).

Storm water discharges can have highly variable levels of pollutants. EPA's Federal Register Notice states that turbidity levels in discharges from construction activity may range from as low as 10-50 NTU to several thousand NTU. (Fed. Reg. Vol. 73, No. 230 p. 72572) Sediment from construction projects that discharge to the clear-water tributaries that can have the greatest impact on the fisheries. Studies of sediment from placer mines in Alaska have little relevance to storm water considerations because most of the concern at placer mines has to deal with are low flow discharges whereas at construction sites the main concern is high flow discharges: these are two different flow regimes and require two different data sets to understand the impact on the fishery.

No detailed studies have been conducted of the turbidity values in discharges from C&D sites in Alaska or the relationship of the increase in natural turbidity levels in streams during high flows.

There is very limited data on the variability in the change to the natural condition of turbidity in a stream during storm events. For example, when considering the impact of sediment laden runoff from construction sites it is important to understand the flow regime of the stream and when the sediment laden water from a construction site may enter the stream. Typically storm water is caused by storm events that rain on exposed soil, create erosion, collect in rivulets, and cause a sediment laden discharge from the site into a receiving water. At the same time the streamflow in the receiving water is increasing. This increase in streamflow will cause some scour of the streambed, thus increasing the natural condition of sediment in the water – leading to a natural increase in turbidity.

In Alaska large, turbid rivers such as the Copper, Susitna, Kuskokwim, Kenai, and Yukon Rivers, contain large salmon runs. The way the fish use the rivers and the tributaries is important to understanding the potential impact of turbid storm water runoff into tributaries on fish in turbid rivers and streams. Pacific salmon and other anadromous fish migrate from the ocean to fresh water to spawn. As the fish journey up the turbid rivers they seek out the clear-water tributaries, sloughs, and areas of groundwater upwelling to deposit their eggs. Juvenile fish that hatch from these eggs generally remain in clear-water habitats for periods ranging from days to years and then descend through the turbid rivers to reach the ocean.

For example a stream in Interior Alaska with a watershed of 100 acres that flows through a road construction project during periods of no precipitation the stream may flow relatively clear with a natural turbidity of 1 to 10 NTU. During this period the site would probably not have a storm water discharge into the stream because there is no rainfall to generate storm water. Assume there is a rain event intense enough to generate a storm water discharge from the site. This rain event would also lead to an increase in streamflow in the stream. In this example assume that the rain event causes the natural stream turbidity to increase from approximately 1 to 10 NTU to approximately 100 to 200 NTU then the construction site, in order to meet the water quality standard, would need to have the storm water discharged from the site on the order of 110 to 220 NTU. With the diverse natural of climate and soils in Alaska there is a very wide range of possibilities to consider. EPA did not consider this wide range of possibilities in the development of the Effluent Limitation Guidelines.

Determination

The Department determined compliance with the permit, will ensure any reduction in water quality from the types of pollutants expected from this industry will not violate applicable criteria of 18 AAC 70. The department concludes that criterion two is satisfied.

A.2.1.3 Protect Existing Uses

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

Rationale

Alaska's water resources are extensive and the state is rich in water quantity, water quality, and aquatic resources – almost half of the total surface waters of the United States are located in

Alaska (see Table A-4). Because of the state's size, sparse population, and remote character, the vast majority of Alaska's water resources are in pristine condition. More than 99.9% of Alaska's waters are considered unimpaired. Alaska's shoreline makes up more than 50% of the total United States coastline. The surface area of coastal bays and estuaries in Alaska is 33,211 square miles, almost three times the estuarine area of the contiguous 48 states.

Table A-4: Alaska Water Resources Summary

Category	Statistics
State population	736,399
State surface area (square miles)	656,425
Total miles of rivers and streams	714,004
Number of lakes/reservoirs/ponds	3,000,000+
Acres of lakes/reservoirs/ponds	12,787,200
Miles of coastal shoreline	44,000
Palustrine wetlands –non-tidal: muskegs, bogs, tundra, etc.	172,503,400
Estuarine wetlands—bays, salt marshes, beaches	2,131,900
Marine intertidal wetlands—ocean shoreline	48,600
Total wetland acres	174,683,900

Alaska contains over 40% of the United States freshwater resources, with hundreds of glaciers, over 20,000 navigable rivers traversing over 714,000 miles, over 3 million lakes, nearly 175 million acres of wetlands, and 45,000 miles of coastal marine shoreline. They include over 15,000 salmon streams – an important resource to sport, subsistence and commercial fishing. Historically, Alaska's water quality assessments have focused on areas with known or suspected water quality impairments.

The protection of surface waters occurs primarily through the development, adoption, and implementation of WQS and the use of the WQS in an APDES discharge permit. The WQS designate specific uses for which water quality must be protected. Seven uses for fresh waters and seven uses for marine waters are designated. Table A-5 identifies these uses.

Table A-5: Designated uses of fresh and marine waterbodies in Alaska

Designated Use	Fresh Water	Marine
Drinking Water	√	
Agriculture	√	
Aquaculture	√	√
Industrial	√	√
Contact Recreation	√	√
Non-contact Recreation	√	√
Growth & Propagation of Fish, Shellfish, Other Aquatic Life, Wildlife	√	√
Seafood Processing		√
Harvesting Raw Mollusks or Other Aquatic Life		√

Waters that do not meet the numeric/narrative criteria for their use designation(s) are listed as impaired, in compliance with the federal CWA and state rules. DEC currently lists approximately 64 waters as impaired, with about 30 listed as candidates for development of a total maximum daily load (TMDL) (DEC, 2010). Section 303(d) of the CWA requires states to

identify waters that do not meet applicable WQS with technology-based controls alone. After identifying and priority ranking their water quality-limited waters, states must develop TMDLs at a level necessary to achieve the applicable WQS. TMDLs are a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet WQS along with an allocation of that amount to the pollutants' sources. Table A-6 summarizes the waterbodies listed in the Departments report entitled *Alaska's Final 2010 Integrated Water Quality Monitoring and Assessment Report* (ADEC, 2010)

Table A-6: Waterbodies Impaired for Sediment or Turbidity – 2010

Pollutant Source	Waterbody	Location	Category
Urban Runoff	Duck Creek	Juneau	4a
Urban Runoff	Jordan Creek	Juneau	4a
Urban Runoff	Lemon Creek	Juneau	4a
Urban Runoff	Vanderbilt Creek	Juneau	4a
Urban Runoff	Chena River	Fairbanks	5
Urban Runoff	Chena Slough	Fairbanks	5
Urban Runoff	Noyes Slough	Fairbanks	5
Gravel Mining	Granite Creek	Sitka	4a
Placer Mining	Birch Creek drainage, Upper Birch Creek, Eagle Creek, Golddust Creek	North of Fairbanks	4a
Placer Mining	Crooked Creek, Bonanza, Crooked, Deadwood, Ketchem, Mammoth, Mastodon, Porcupine	North of Fairbanks	5
Placer Mining	Goldstream Creek	Fairbanks	5
Timber Harvest	Katlian River	North of Sitka, Baranof Island	5

Source: *Alaska's Final 2010 Integrated Water Quality Monitoring and Assessment Report* (ADEC, 2010)
Note: Category 4a – Impaired water with a final/approved TMDL
Category 4b – Impaired water with other pollution controls
Category 5 – Impaired water, Section 303(d) list, require TMDL

Determination

The Department determined that the permit will be adequate so that the resulting water quality will fully protect existing uses of the water. The department concludes that criterion three is satisfied.

A.2.1.4 *Treatment Methods*

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

Rationale

An antidegradation analysis is traditionally developed for an individual permit applicants discharging to single receiving waters. Due to an estimated number of over 200 potential permittees each year for the five-year period of the permit operating throughout the entire state, a thorough evaluation of each applicant's antidegradation demonstration is impractical under a general permit. However, the process required for coverage under the CGP provides a framework for an analysis that ensures water resources are protected and that permit coverage is provided in a timely, efficient and consistent manner.

Control measures that prevent or minimize water quality impacts from construction activities are described in Part 3.0 and 4.0 of the proposed CGP and in Chapter 4 of the *Alaska Storm Water Guide* (ADEC, 2011). The *Guide* provides detailed information on temporary storm water controls for active construction sites. The storm water management process outlined in that chapter consists of the development of a storm water pollution prevention plan (SWPPP) which provides the basis for all pollutant discharge prevention/minimization activities. As noted below, development of the SWPPP requires a comprehensive evaluation of the site, the proposed construction activities, and possible pollutant discharges. This information is used to create the storm water management plan, which contains structural and non-structural management practices; specifications for selecting, sizing, siting, operating, and maintaining them; and procedures for inspecting the management practices and repairing or replacing them as needed.

The site-specific, activity-specific process of developing, implementing, and adjusting the pollution control practices contained in the SWPPP constitutes the type of alternatives analysis and use of "the most effective and reasonable" . . . "methods of pollution, prevention, control, and treatment" cited as requirements under Alaska's antidegradation policy for activities that would degrade water quality.

The CGP contains additional provisions that create a mechanism for the permittee to inspect and correct control measures that are not adequate in protecting water quality. Part 3.1.3 states that "(a)t any time after authorization, DEC may determine that the permittees storm water discharges may cause, have reasonable potential to cause, or contribute to an excursion above any applicable water quality standard. If such a determination is made, DEC will require the permittee to . . . (m)odify storm water controls in accordance with Part 8.0 to address adequately the identified water quality concerns . . . (s)ubmit valid and verifiable data and information that are representative of ambient conditions and indicate that the receiving water is attaining water quality standards; or . . . "(c)ease discharges of pollutants from construction activity and submit an individual permit application according to Part 2.8."

Construction sites contain a number of substances which may become part entrained in storm water discharges, such as sediment, nutrients, chemicals, and other substances. Table A-7 summarizes typical storm water pollutants, their sources, and potential impacts on water quality.

Table A-7: Typical storm water pollutants, sources and impacts

Storm water pollutant and sources	Impacts
Increased runoff Land alterations increase the rate and amount of runoff from the watershed entering the stream.	Carries pollutants, erodes stream channel and banks, destroys in-stream habitat and increases flood potential.
Sediment and Turbidity Dirt and sand on roads, driveways and parking lots or eroded sediment from disturbed ground (e.g., construction sites) enters a stream with storm water runoff.	Smothers aquatic habitat, depletes oxygen, reduces water clarity, degrades aesthetics and carries nutrients and toxic contaminants.
Nutrients Excess fertilizers on lawns or fields, failing septic systems, and animal waste.	Stimulates excessive plant growth, lowers dissolved oxygen levels, degrades aesthetics and destroys native aquatic life.
Temperature Warmer water caused by runoff from impervious surfaces, removal of streamside vegetation, and reduction in groundwater flows.	Harmful to salmon and other cold water species, promotes spread of invasive species and excessive plant growth, reduces dissolved oxygen levels in water and increase disease in fish.
Bacteria Potentially pathogenic microscopic organisms in failing septic systems, sewer overflows, and animal (including pet) waste.	Harmful to humans; untreated waste can cause numerous diseases.
Toxic contaminants/heavy metals Heavy metals such as mercury, cleaning compounds, pesticides and herbicides, industrial by-products such as dioxin, and vehicle leakage of oil, gas, and such.	Harmful to humans and aquatic life at fairly low levels; many resist break down and some accumulate in fish and other animal tissues (including human), and can lead to mutations, disease or cancer.

Source: Adapted from Duluth Streams, 2008.

A permittee is required to implement erosion, sediment, and other storm water management practices to avoid or minimize pollutant discharges, as detailed in Part 4.0 of the permit. Many of these control measures are added to the permit because of the new ELGs that apply to the C&D industry (40 CFR Part 450) or to ensure compliance with the Essential Fish Habitat Recommended Conservation Measures. Alternative control measures that may provide equal or better water quality protection are also allowable, and encouraged, especially where those alternatives would provide better water quality and environmental protection at a lesser cost.

The Department uses an integrated approach in the permit for developing and implementing "methods of pollution, prevention, control, and treatment" required by Alaska's antidegradation policy. This integrated approach includes requirements for

- Erosion and sediment control, pollution prevention measures and prohibiting certain discharges (Part 4.0),

- Revised and expanded requirements for the SWPPP (Part 5.0),
- Monitoring of storm water discharges at sites that discharge to an impaired waterbody (Part 7.0); and
- Carrying out corrective actions based on the results of inspections (Part 8.0).

Table A-8 summarizes the pollution prevention and control measures identified for minimizing the discharge of pollutants at construction sites. The list of construction site pollution prevention and control practices in Table A-8 is not exhaustive; i.e., site operators may choose other management measures that can address potential discharges from the site if they are described in the SWPPP and approved by DEC.

The practices listed in Table A-8 fall into the general categories of erosion and sediment control, good housekeeping measures and prohibited discharges. Brief descriptions of each of these categories are included in the following section. More details can be found in Chapter 4 of the *Alaska Storm Water Guide*.

Table A-8: Selected Control Measures to Minimize the Discharge of Pollutants at Construction Sites

Erosion Control	Sediment Control	Good Housekeeping Measures	Prohibited Discharges
Preserving natural vegetation	Install sediment basin/ Sediment trap	Manage washing of equipment and vehicles	Wastewater from concrete washout
Temporary vegetative buffers	Install outlet protection	Manage vehicle fueling and maintenance	Wastewater from paint, stucco and other construction materials
Surface roughing	Install storm water inlet protection	Manage material staging and storage	Fuels, oils or other pollutants used in vehicles
Mulching	Install perimeter control	Manage washout of applicators/ containers used for paint, concrete and other materials	Soaps or solvents from equipment or vehicle washing
Temporary seeding	Vehicle tracking entrance/Exit	Manage use of fertilizers or pesticides	
Install rolled erosion control product	Water application of treatment chemicals	Manage storage, handling, and disposal of construction waste	
Rock flume	Active treatment systems		
Rock check dam			
Land application of treatment chemicals			

Erosion Prevention

Erosion prevention is any means used to keep soil particles in place. Erosion prevention is the least expensive option of all Erosion and Sediment Control (ESC) practices and should be the first line of defense employed. Many erosion prevention efforts can occur without physically

modifying a site, and include planning, training, scheduling, sequencing and land management practices. The easiest and most cost-effective erosion prevention measure is to minimize the area of disturbance and retain existing vegetation.

Erosion Control

Erosion control is a practical complement to the exclusive use of erosion prevention and should be the primary ESC practice employed on construction sites. In its simplest form, erosion control consists of preventing soils in construction areas from moving downslope. Erosion control minimizes the forces from raindrops, concentrated runoff flows, and wind, each of which detach and transport soil particles. Erosion controls treat the soil as a valued resource that must be conserved in place.

Sediment Control

Sediment controls are used to keep sediment from leaving a construction site. Sediment control is any mechanism that removes sediment from water by filtration, gravity or other means. Unlike erosion controls, sediment controls treat the soil as a waste product that must be continually removed and disposed of properly. Sediment control is the least cost-effective means to meet ESC objectives, because removing sediment from runoff is more costly and less effective than keeping soil in place.

Good Housekeeping Measures

Good housekeeping measures focus on 1) securely covering materials that might leach contaminants, 2) siting potential contaminants well away from storm drains, pavement, and surface waters, 3) handling materials in a manner that avoids spills, and cleaning them up promptly when they occur, and 4) containing solid, sanitary, and other wastes appropriately to prevent release into the environment. Housekeeping measures include material storage measures, vehicle fueling and maintenance procedures, spill response and cleanup practices, concrete washout containers, and other measures that address non-sediment pollutant discharges.

Adapting Management Practices with Control Measure Treatment Trains

Most pollution controls at construction sites are not installed in isolation, but instead are part of a suite of control measures that are all designed to work together. Designers use the treatment train approach to design a series of practices that minimize storm water pollution and achieve compliance with APDES construction general permit requirements. For example, a designer may use as a series of control measures to prevent sediment discharges from a site – a diversion ditch at the top of a disturbed slope (to minimize storm water flowing down the slope), mulching on the slope (to minimize erosion), and silt fence at the bottom of the slope (to capture sediment). This treatment train would help protect the slope better than relying on a single control measure, such as silt fence.

Determination

The Department determined that the permit includes the most effective and reasonable methods for control, treatment, and prevention of pollution through required control measures, good housekeeping techniques, and certain prohibited activities for the types of pollutants expected from this industry. The department concludes that criterion four is satisfied.

A.2.1.5 *Statutory and Regulatory Requirements*

> *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 [18 AAC 70.015 (a)(2)(E)]*

Rationale

The permit addresses the new federal effluent limitation guidelines that the C&D industry has to comply with (40 CFR Part 450). The permit also addresses the Recommended Conservation Measures for Non-Fishing Impacts to Essential Fish Habitat (NMFS, 2005). These two federal requirements are the highest statutory and regulatory requirements that new and existing point sources (e.g. construction sites) would have to comply with to ensure proper treatment and control of all wastes, other substances, and pollutants. Storm water management alternatives that may provide equal or better water quality protection are also allowable and encouraged, especially where those alternatives would provide better water quality and environmental protection at a lesser cost. The following section summarizes how the permit, through the development, implementation, and maintenance of control measures and good housekeeping measures detailed in Part 4.0 of the CGP and the required corrective actions ensures that these requirements are met.

The construction general permit contains additional provisions that create a mechanism for interceding when a permittee's control measures are not adequate in protecting water quality. Part 3.1.3 states that "(a)t any time after authorization, DEC may determine that the permittees storm water discharges may cause, have reasonable potential to cause, or contribute to an excursion above any applicable water quality standard. If such a determination is made, DEC may require the permittee to . . . take corrective action and modify storm water controls in accordance with Part 8 to adequately address the identified water quality concerns . . . (s)ubmit valid and verifiable data and information that are representative of ambient conditions and indicate that the receiving water is attaining water quality standards; or . . . "(c)ease discharges of pollutants from construction activity and submit an individual permit application according to Part 2.8." This provision of the construction general permit ensures compliance with the antidegradation policy's Tier 1 antidegradation standard.

The requirements contained in the construction general permit, the SWPPP development process (Part 5 of the permit), the control measures and good housekeeping measures (Part 4 of the permit), and description provided in the *Alaska Storm Water Guide* (Chapter 4) comprise a

comprehensive, integrated approach for developing and implementing "methods of pollution, prevention, control, and treatment" required by Alaska's antidegradation policy. The permit specifically addresses how a permittee will use the results of the required inspections (see Part 6 of the permit) to instigate corrective actions (see Part 8 of the permit).

Table A-9 provides a summary the federal requirements that the construction industry has to comply with, the accepted industry practices and the difference between the existing construction general permit and the reissued permit. The comparison of the existing permit with the permit demonstrates that the permit complies with the antidegradation policy. The list of construction control measures and good housekeeping measures in Table A-8 is not exhaustive; i.e., site operators may choose other management measures that can address potential discharges from the site if they are described in the SWPPP and approved by DEC.

Table A-9: Summary of How the Highest Statutory and Regulatory Requirements are being Met Using Construction Industry Practices and Treatment Methods and Their Location in the Permit.

Highest Statutory and Regulatory Requirements		Construction Industry Practices and Treatment Methods		Comparison from Existing Permit to Reissued Permit	
Section of 40 CFR § Part 450.21	EFH Appendix G Conservation Measure	Type of Practice	Control Measure	Citation in Existing Permit	Citation in Permit
Not/Included (N/I)	G.2.2.2 (1) G.2.3.2 (8)	Good Housekeeping and Erosion Control	Preserving Natural Vegetation	4.1.1	4.2.1
(a)(3) & (a)(7)	G.2.2.2 (1, 3, 4 & 5) G.2.3.2 (2)	Erosion Control	Preserving Natural Vegetation	4.1.2	4.2.2
(a)(6)	G.2.2.2 (1, 3, 4 & 5) G.2.3.2 (1, 2,6 & 7)	Erosion Control	Preserving Natural Vegetation	4.1.3	4.2.3
(a)(2)	G.2.2.2 (1 & 6) G.2.3.2 (2)	Erosion Control	Interception/Diversion Ditch, Slope Drain, Rock Flume, Rock Check Dam, Sediment Basin/ Sediment Trap	4.1.4	4.2.5
(a)(2)	G.2.2.2 (1) G.2.3.2 (1 & 2)	Erosion Control	Surface Roughing, Interception/Diversion Ditch, Slope Drain, Rock Flume, Rock Check Dam,	4.1.5	4.2.6
(a)(5)	G.2.2.2 (1 & 6) G.2.3.2 (2)	Sediment Control	Storm Water Inlet Protection	4.2.1	4.3.1
(a)(5)	G.2.2.2 (1 & 6) G.2.3.2 (2)	Sediment Control	Water Body Inlet Protection	4.2.2	4.3.2
(a)	G.2.2.2 (1 & 6) G.2.3.2 (2)	Sediment Control	Perimeter Controls	4.2.3	4.3.3
(a)	G.2.2.2 (1 & 6) G.2.3.2 (2)	Sediment Control	Vehicle Tracking Entrance/ Exit	4.2.4	4.3.4

Table A-9: Summary of How the Highest Statutory and Regulatory Requirements are being Met Using Construction Industry Practices and Treatment Methods and Their Location in the Permit.

Highest Statutory and Regulatory Requirements		Construction Industry Practices and Treatment Methods		Comparison from Existing Permit to Reissued Permit	
Section of 40 CFR § Part 450.21	EFH Appendix G Conservation Measure	Type of Practice	Control Measure	Citation in Existing Permit	Citation in Permit
(a)	G.2.2.2 (1 & 6) G.2.3.2 (2)	Sediment Control	Dust Suppression/ Dust Control	4.2.5	4.3.5
(a)(3)	G.2.2.2 (1 & 6) G.2.3.2 (2)	Sediment Control	Temporary Seeding, Rolled Erosion Control Products	4.2.6	4.3.6
N/I	G.2.2.2 (1) G.2.3.2 (2)	Erosion or Sediment Control	A wide selection of methods, see *Alaska Storm Water Guide*	4.2.7	4.3.7
N/I	G.2.2.2 (1) G.2.3.2 (2)	Sediment Control	Sediment Basin/ Sediment Trap	4.2.8	4.3.8
(c)	G.2.2.2 (1) G.2.3.2 (2)	Dewatering	Dewatering	4.3	4.4
(b)	G.2.2.2 (1 & 6) G.2.3.2 (2)	Erosion Control	Surface Roughing, Mulching, Temporary Seeding, Rolled Erosion Control Products	4.4.1	4.5.1
(b)	G.2.2.2 (1 & 6) G.2.3.2 (2)	Erosion Control	Surface Roughing, Mulching, Temporary Seeding, Rolled Erosion Control Products	4.4.2	4.5.2
(b)	G.2.2.2 (1 & 6) G.2.3.2 (2)	Erosion Control	Final Seeding, Non-Vegetative Permanent Stabilization Measures	4.4.3	4.5.3
N/I	G.2.2.2 (1& 6) G.2.3.2 (2)	Erosion or Sediment Control	Material Storage and Handling, Specific Training Requirements, Land Application, Water Application, or Active Treatment System	4.5	4.6
e(1)	G.2.3.2 (9)	Prohibited Discharge	Concrete Washout Basin	4.6.1.1	4.7.1.1
e(2)	G.2.3.2 (9)	Prohibited Discharge	Concrete Washout Basin, Material Storage and Handling	4.6.1.2	4.7.1.2
e(3)	G.2.3.2 (9)	Prohibited Discharge	Vehicle Fueling and Maintenance Practices	4.6.1.3	4.7.1.3
e(4)	G.2.3.2 (9)	Prohibited Discharge	Vehicle and Equipment Maintenance Practices	4.6.1.4	4.7.1.4
d(1) & e(4)	G.2.3.2 (9)	Good Housekeeping	Vehicle and Equipment Maintenance Practices	7.7.1	4.8.1
d(2) & e(3)	G.2.3.2 (9)	Good Housekeeping	Vehicle Fueling and Maintenance Practices	4.7.2	4.8.2
d(2)	G.2.3.2 (9)	Good Housekeeping	Material Storage and Handling	4.7.3	4.8.3
d(1), e(1), & e(2)	G.2.3.2 (9)	Good Housekeeping	Concrete Washout Basin, Material Storage and Handling	4.7.4	4.8.4
d(2)	G.2.3.2 (9)	Good Housekeeping	Material Storage and Handling	4.7.5	4.8.5
d(2)	G.2.3.2 (9)	Good Housekeeping	Material Storage and Handling	4.7.6	4.8.6

Table A-9: Summary of How the Highest Statutory and Regulatory Requirements are being Met Using Construction Industry Practices and Treatment Methods and Their Location in the Permit.

Highest Statutory and Regulatory Requirements		Construction Industry Practices and Treatment Methods		Comparison from Existing Permit to Reissued Permit	
Section of 40 CFR § Part 450.21	EFH Appendix G Conservation Measure	Type of Practice	Control Measure	Citation in Existing Permit	Citation in Permit
N/I	G.2.3.2 (9)	Good Housekeeping	Material Storage, Handling, and Response	4.8	4.9
N/I	G.2.2.2 (1, 3, 4, 5, & 6) G.2.3.2 (2)	Sediment Control	A wide selection of methods, see *Alaska Storm Water Guide*	4.9	4.10
N/I	G.2.2.2 (1) G.2.3.2 (2)	Erosion or Sediment Control	A wide selection of methods, see *Alaska Storm Water Guide*	4.10	4.11
N/I	G.2.2.2 (1) G.2.3.2 (9)	Good Housekeeping	Provide for Active Maintenance of Control Measures to ensure maintenance of treatment effectiveness	4.11	4.12
N/I	G.2.2.2 (1) G.2.3.2 (2 & 9)	Erosion and Sediment Control and Good Housekeeping	Identify person responsible for storm water management at site and provide employee training	4.12	4.13
N/I	G.2.2.2 (1) G.2.3.2 (2 & 9)	Erosion and Sediment Control and Good Housekeeping	Comply with MS4 requirements or other local ordinances	4.13	4.14

Construction sites contain a number of substances which may become entrained in storm water discharges, such as sediment, nutrients, nutrients, chemicals, and other substances. Table A-7 summarizes many of the pollutants typically found on construction sites. Table A-9 describes how the permit addresses these pollutants using specific control measures. The Alaska construction general permit, the SWPPP requirements, and the Alaska Storm Water Guide provide a framework for complying with Alaska's antidegradation requirements to analyze alternative pollution prevention/control measures and implement those that prevent or minimize water quality to the maximum extent practicable.

Determination

The Department has determined that the permit complies with the highest statutory and regulatory requirements for the industry and types of pollutants expected from this industry. The department concludes that criterion five is satisfied.

C.2.2 Tier 3 Discussion

The Department has not designated any Tier 3 waters in Alaska. The regulation states, "High quality water constitutes an outstanding national resource, such as a water of a national or state park or wildlife refuge or a water of exceptional recreational or ecological significance, the quality of that water must be maintained and protected." [18 AAC 70.015 (a)(3)]

The Department included in the CGP a requirement that construction projects that discharge to a high quality water that constitutes as an outstanding national resource, submits a site-specific antidegradation analysis and the SWPPP prior to submitting the Notice of Intent (Part 2.1.6 of the permit). The Department will use this information to review and evaluate the potential effect of the specific project on the high quality waters.

A.3 References

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