



TYEE LAKE THIRD TURBINE CONSTRUCTION PROJECT

ADDENDUM NO. 4

Date: September 29, 2026

Bids Due: October 12, 2026 @ 4:00 p.m. AKDT (no change)

Page(s): 119 Pages Total: Includes 4 pages of this Addendum + Attachments 1 - 3 (115 pages)

TO ALL PROSPECTIVE BIDDERS:

This Addendum modifies, clarifies, or supplements the bidding documents for the Tyee Lake Third Turbine Construction Project and is hereby made part of the Request for Proposals (RFP). Prospective bidders must acknowledge receipt of this Addendum on the Bid Schedule and Addendum Acknowledgment Form (Attachment No. 10), and also provides information on FERC License Alignment.

A. INQUIRIES AND CLARIFICATIONS:

1. The Owner's bridge crane is rated for 35 tons (70,000 lb), while Canyon Hydro Drawing 253059-1002 lists the generator rotor at an estimated 68,500 lb, leaving only 1,500 lb for the lifting device and rigging. Please confirm the final certified rotor weight, the total weight of the required lifting device and rigging, and that the combined suspended load is within the crane's certified capacity. If it is not, please identify an Owner-approved lifting method and clarify responsibility for any required crane modifications or supplemental lifting equipment.

SEAPA RESPONSE: The equipment supplier and generator manufacturer are aware of the powerhouse bridge crane load rating and are designing major components to be within the capabilities of the bridge crane. Refer to Ideal Electric drawings 430900-A42, 430900-A43, and 530009-A70, Sheets 1 and 2 (pages 162-165 of the reference drawing .pdf). The rotor is intended to be installed in two major components, meaning the combined weight of the rotor will not be picked by the bridge crane at the same time. **Note: The combined weight of the item being lifted plus all associated rigging and lifting equipment must remain within the 35-ton crane limit for every individual lift.**

Certified weights of the generator components will be provided to the Contractor when available. The Contractor will be responsible for rigging between the crane hook and rotor lifting devices."

2. Can SEAPA please confirm the 13'x16' concrete opening dimensions for the existing rollup door on the west side of the building. Additionally, please confirm that there are no permanent building materials or piping (such as rollup door framing or header mechanism, or exterior vent piping) that would restrict the concrete opening.

SEAPA RESPONSE: The concrete opening is confirmed to be 13' x 16' for the roll up door on the west side. There is no restriction that would prevent full use of the opening.

3. Please confirm finish floor slope in the Erection Area adjacent to the west roll up door and advise if any elevations are greater than that of the west rollup door threshold finish floor height.

SEAPA RESPONSE: The finished floor elevation of the Erection Area is the same as the roll up door threshold.

4. Drawing TY-41-111 shows cable conduit underground near the west roll up door. Please advise of any weight restrictions in this area or any other areas known.

SEAPA RESPONSE: The bidder is referred to drawing H02-D-42-1010-R49 (TY-41-180). This drawing indicates that the cable conduit under the rollup door was filled with concrete after the conduits were placed.

The original International Engineering Company, Inc. (IECO) final design report from May 1984 indicates that the erection area floor was designed with a 1000 psf live load capacity. Screenshot of the final design report is included for reference below:

E. Floor Live Loads
o Areas with Truck Traffic (Erection Area): 1000 psf.
o Office Area: 50 psf or 2000 psf concentrated on any 2-1/2 sq ft. space (UBC, page 141).
o Living Quarters: 40 psf
o All Other Areas: 500 psf or actual equipment loads when known.
o For the maintenance building: 32 kips axle load (H20 truck).

For clarification purposes, the 1,000 psf rating is the design live load. Contractor remains responsible for evaluating concentrated wheel/outrigger loads and load distribution.

5. Supplier drawing 530009-A70 annotates bottom of rotor to top of lifting device is approximately 15'-9"; giving only 3" of clearance through the existing roll up door. What is the design intent for transporting the rotor through the 13'x16' existing roll-up door?

SEAPA RESPONSE: The generator rotor and shaft will be shipped horizontally. A special crane pick will be needed once inside the power house to tip the rotor upright. **Note: The Contractor will be responsible for developing a critical lift plan to pick the rotor from a horizontal position and move it to a vertical position.**

6. Are there any weld details available for the turbine distribution piping?

SEAPA RESPONSE: Segments of the turbine distributor piping that are to field welded are to be welded with complete joint penetration welds. Per specification 40 17 26.00 20, the Contractor is to prepare and submit welding procedure specifications, procedure qualification records, and welder and welding operator performance qualifications in accordance with ASME BPVC Section IX.

7. Is there a list of spare parts or special tools to be provided with vertical turbine pump P-300?

SEAPA RESPONSE: All special tools required to operate or maintain pump P-300 shall be provided by the Owner. Provide spare parts as recommended by the pump manufacturer. Refer to Specification Section 40 05 13, paragraph 1.8 for additional details.

8. Are there any additional details on the requirements for equipment start-up and training for P-300?

SEAPA RESPONSE: Training requirements can be found in specification section 01 78 23, paragraph 3.1. In general, the Contractor's start-up testing for P-300 and associated systems shall demonstrate that P-300 can pump approximately 763 gallons per minute from the Unit 2 tailrace channel through sumps 3 and 4, and discharge to the Unit 3 tailrace channel. Water levels in sumps 3 and 4 should be monitored during P-300 operation, and the operations of the cooling water system for Units 1 and 2 should not be affected.

9. What are the warranty requirements for P-300?

SEAPA RESPONSE: Unless the pump manufacturer offers a standard manufacturer's warranty of a longer duration, the standard construction warranty period of 12 months will apply to P-300. Refer to specification Section 01 78 00 for additional information pertaining to warranties and warranty management.

B. FERC LICENSE ALIGNMENT

On April 14, 2026, the Federal Energy Regulatory Commission (FERC) issued an Order Amending License for the Tyee Hydroelectric Project (Project No. 3015). Contractor shall comply with the following FERC requirements:

1. Construction Spill Prevention, Control, and Countermeasure (SPCC) Plan developed specifically for this construction project to satisfy FERC requirements. A Construction SPCC Plan must be developed by the successful Contractor as a pre-construction submittal (see note 16 on Drawing H02-D-51-0112-R00). If the successful Contractor stores more than 1,320 gallons of oil, fuel, or petroleum products on site as part of their construction activities, then the Contractor must prepare and submit an SPCC Plan in accordance with the Alaska Department of Transportation guidelines and 40 CFR 112.

2. Draft Erosion and Sediment Control Plan, prepared by McMillen, September 2026 (**Attachment 1** hereto). Contractor must comply with all applicable requirements of this Attachment 1.

3. Humpback Whale Mitigation Measures (**Attachment 2** hereto). Contractor must comply with all applicable requirements of this Attachment 2.

Attached for Bidder's reference is FERC's April 14, 2026 Order Amending License, Revising Project Description, Revising Annual Charges, and Approving Revised Exhibit L and M for Project No. 3015-019 (**Attachment 3** hereto).

All other terms, conditions, and specifications of the original solicitation and addendums remain unchanged.

Attachments:

- 1:** *Draft Erosion & Sediment Control Plan (83 pages)*
- 2:** *Humpback Whale Mitigation Measures (4 pages)*
- 3:** *04/14/2026 FERC Order (28 pages)*

End of Addendum No. 4



Southeast Alaska Power Agency

Tyee Lake Hydroelectric Project (FERC No. P-3015)

Draft Erosion and Sediment Control Plan



September 2026

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1.0 Introduction

1.1 Project Background

This document provides Southeast Alaska Power Agency's (SEAPA) proposed Erosion and Sediment Control Plan (ESCP) for the Tyee Lake Hydroelectric Project (Project), Federal Energy

Regulatory Commission (FERC) Project No. 3015. SEAPA has developed the guidelines in this ESCP to reduce the potential for Project-related activities potentially causing erosion and sedimentation during planned Project construction and upgrades as described below.

SEAPA applied for a capacity amendment of license on January 27, 2025, due to the alterations in the Project description that would result from the planned construction and upgrade activities including installation of a third generating unit at the Project (Unit 3) (SEAPA 2025). Previously, the Project consisted of two generating units with a total installed capacity of 22.50 megawatts (MW). The upgraded Project will consist of a new third generating unit installed in the powerhouse with an installed capacity of 11.25 MW. After the third unit is installed, the Project will have a total installed capacity of 33.75 MW. The reasons for the proposed changes are to meet the current and future demands of the communities of Wrangell, Petersburg, and Ketchikan; to reduce the need for and reliance on diesel generation; to increase operational flexibility; to increase reserves and system reliability; and to provide redundancy to the two existing units. The proposed changes to Project generating equipment would result in an increase in the maximum hydraulic capacity of more than 15 percent and an increase in name-plate capacity of more than 2 megawatts (MW). Therefore, SEAPA applied for a non-capacity amendment of the existing Project license under 18 CFR § 4.201(b).

Ground-disturbing activities associated with the proposed Project construction and upgrades will occur in three small areas:

1. In and around the switchyard area for the installation of an underground oil-water separator, piping, and appurtenances, and foundations for a new generator set-up transformer and circuit switcher, which will involve excavation, concrete placement, and backfill activities;
2. In the gravel drive and parking area between the powerhouse and switchyard for the installation of conductor cables between the Unit 3 generator and generator step-up transformer, which will involve trench excavation, cable placement, and backfill activities.

Total ground disturbance for construction is less than 1 acre, such that coverage is not required under the State of Alaska Construction General Permit. These activities are scheduled to occur between May and November 2027.

These temporary and permanent construction activities may involve soil, rock, and vegetation removal, which could mobilize sediment resulting in soil erosion and/or sedimentation in the construction areas. This increases the risk of loose soil particles entering into the tailrace channel and/or Airstrip Slough. Implementing the principles contained in this ESCP will greatly reduce that risk.

The Project (FERC No. 3015) was originally licensed in 1981 for a 50-year term ending July 27, 1931. In response to SEAPA's license amendment application, FERC issued an order amending the license on April 14, 2026. The license is subject to the terms and conditions of the Federal Power Act (FPA), which is incorporated by reference as part of the license and is subject to the regulations FERC issues under the provisions of the FPA.

According to the amended FERC license, the Project consists of the following components:

1. Tyee Lake with a surface area of 481 acres and a usable storage capacity of 52,400 acre-feet between the natural surface elevation of 1,396 feet mean lower low water (mllw) and a minimum surface elevation of 1,250 feet.
2. A power tunnel, approximately 8,300 feet long and 10 feet in diameter leading from an intake structure in Tyee Lake to the powerhouse where it connects to a steel 1,350-foot-long penstock that trifurcates into 3 penstocks leading to each unit bay.
3. A powerhouse constructed out of steel and concrete that is 122 feet long by 38 feet wide.
4. Three 16,750-horsepower Pelton-type (impulse) turbines connected to three 11.25-megawatt generators.
5. A 1,100-foot-long tailrace channel discharging into Airstrip Slough.
6. A 13.8/138-kV switchyard adjacent to the powerhouse.
7. A 3-phase, 138 kV transmission system that includes 68.1 miles of overhead transmission circuit and 11.4 miles of submarine line, the transmission system extends from the powerhouse switchyard to the Wrangell substation for 40 miles and then about 40 miles to the Petersburg switchyard.
8. Appurtenance facilities.

Power from the Project is transmitted via SEAPA's transmission system to the communities of Wrangell, Petersburg, and Ketchikan.

The Project diverts water from Tyee Lake. Tyee Lake (Figure 1-1) is drawn down in the summer months (minimum lake elevation is 1,250 feet MSL) to meet power needs. Excess flow spills down Tyee Creek over the natural lake outlet.

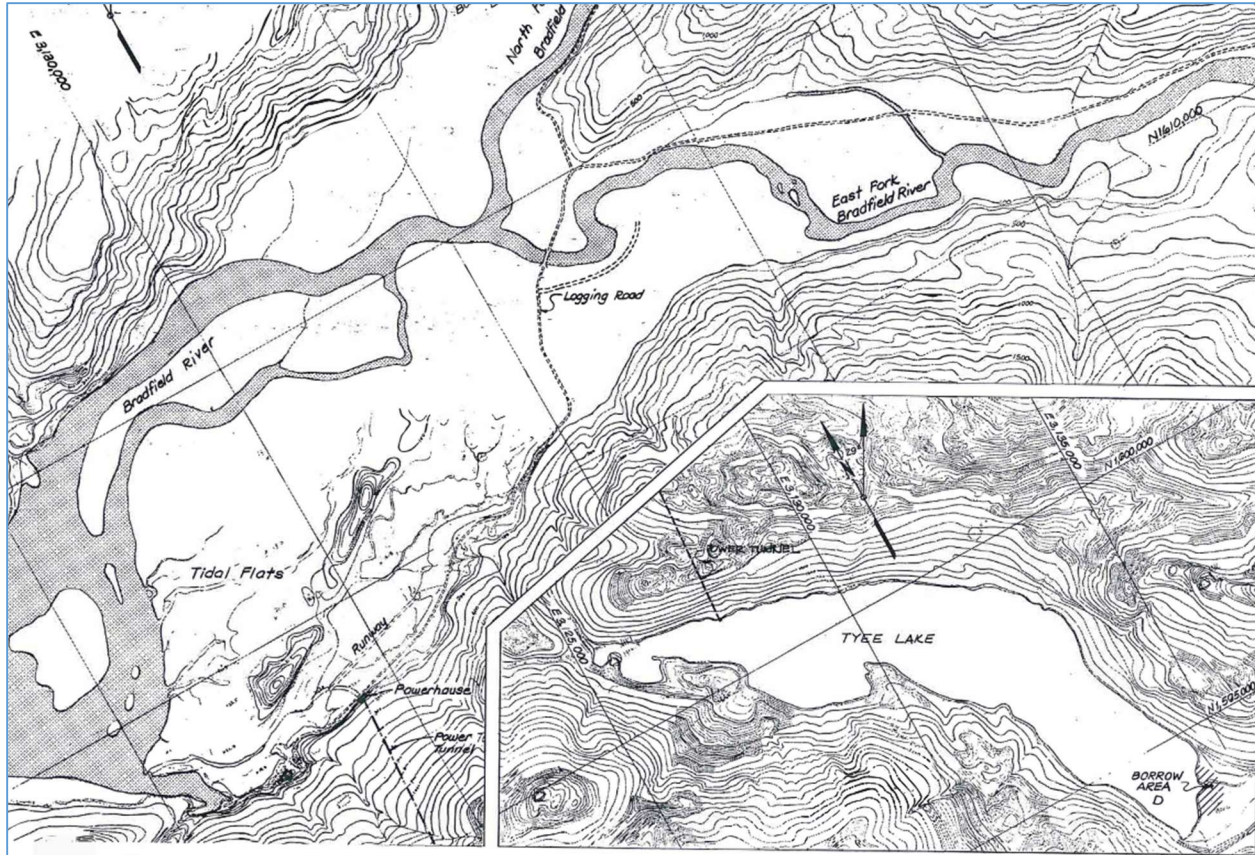


Figure 1-1. Project location and vicinity map (SEAPA drawing H02-D-10-1006-R01).

1.2 Proposed Project Equipment Upgrades

The current Project was designed and constructed in the early 1980s with commercial generation starting in March of 1984. The powerhouse was originally designed with accommodations for three identical generating units. Units 1 and 2 were installed as part of the original construction and placed into service in 1984. The bay for the third generating unit was left unfinished with the intent that the unit would be added at some time in the future when SEAPA's load demand required additional generation. An isolation valve and energy dissipation piping was installed in the Unit 3 bay.

1.2.1 Third Unit Powerhouse Installation

The existing Units 1 and 2 will remain in service during most of the Unit 3 installation period. The existing isolation ball valve that isolated the penstock trifurcation to Unit 3 will remain in place, and that will allow Units 1 and 2 to remain in service. If the existing isolation ball valve were removed, the entire penstock and tunnel would require de-watering, which would take Units 1 and 2 out of service for long periods of time.

The existing energy dissipator piping in the Unit 3 bay will be demolished to make room for the new Unit 3 generating equipment. See Figure 1-2 for an isometric view of the exiting powerhouse arrangement.

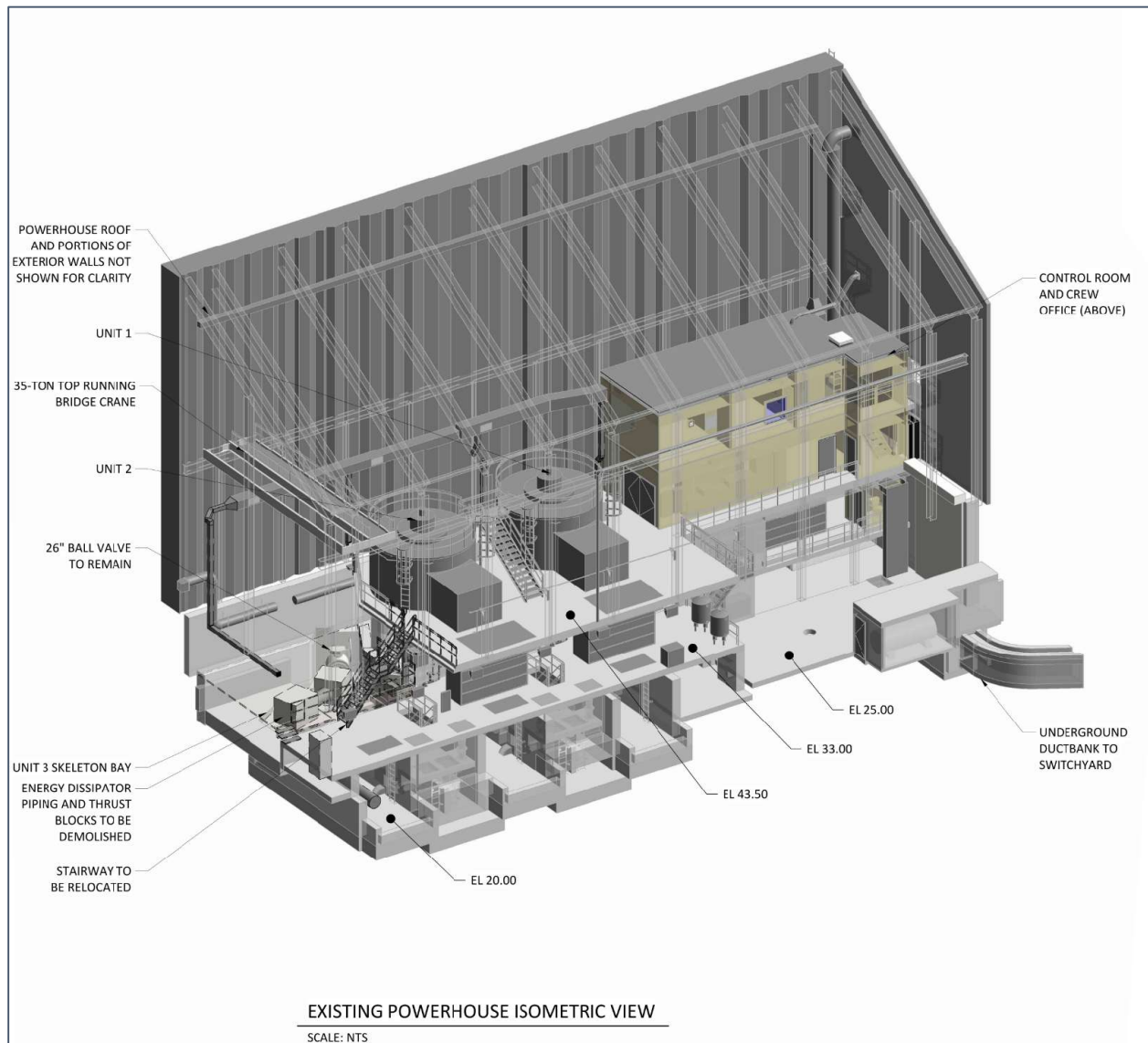


Figure 1-2. Existing Powerhouse Isometric View

The third turbine will be installed at the same centerline elevation as Units 1 and 2. A new turbine isolation valve will be connected directly downstream of the existing isolation ball valve. The third turbine housing and distributor piping will be encased in reinforced concrete after installation. Unlike Units 1 and 2, the third generator will be close coupled to the turbine runner and will therefore be at a lower elevation than the Unit 1 and 2 generators. All unit installation work will be within the confines of the existing powerhouse. See Figure 1-3 for an isometric view of the powerhouse arrangement with the third unit installed.

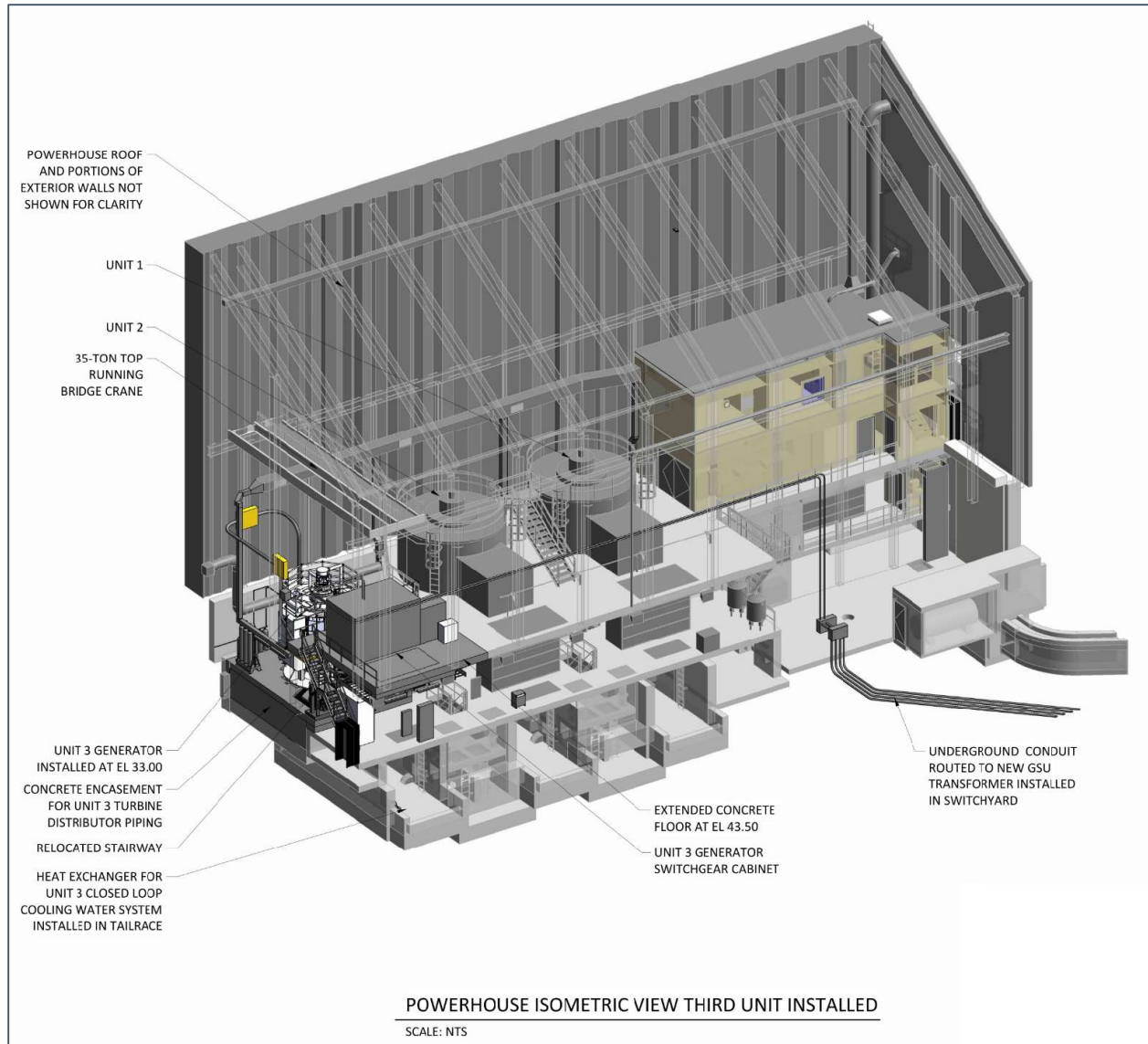


Figure 1-3. Powerhouse Isometric View with Third Unit Installed

1.2.2 Third Unit Switchyard Installation

As part of the third unit installation, a new third generator step-up transformer will be installed in the existing switchyard. Power cables in an underground duct bank will be installed below the existing gravel drive and parking area to connect the Unit 3 generator to the step-up transformer. An underground oil-water separator will also be installed in the switchyard to treat runoff from the containment areas of all transformers. A new circuit switcher will also be installed to connect the step-up transformer to SEAPA's transmission system. This work comprises the third unit installation work outside of the powerhouse, and is of the most relevance to erosion and sediment control. Thus the erosion and sediment control measures depicted in the contract drawings focus on these work areas.

Features of work to be monitored for erosion and sediment controls include the excavation of a trench through the existing gravel drive and parking area between the powerhouse and switchyard for the installation of the underground duct bank. Within the switchyard, an excavation is required for the installation of the oil-water separator, and new drain piping which routes containment area drainage to the oil-water separator. After the oil-water separator is installed, less extensive excavations will be made for the construction of concrete foundations for the circuit switcher and generator step-up transformer. It is important to note that the switchyard was sized with the future installation of a third generator step-up transformer in mind, and the entire area of the switchyard built and disturbed as part of the original construction of the Project.

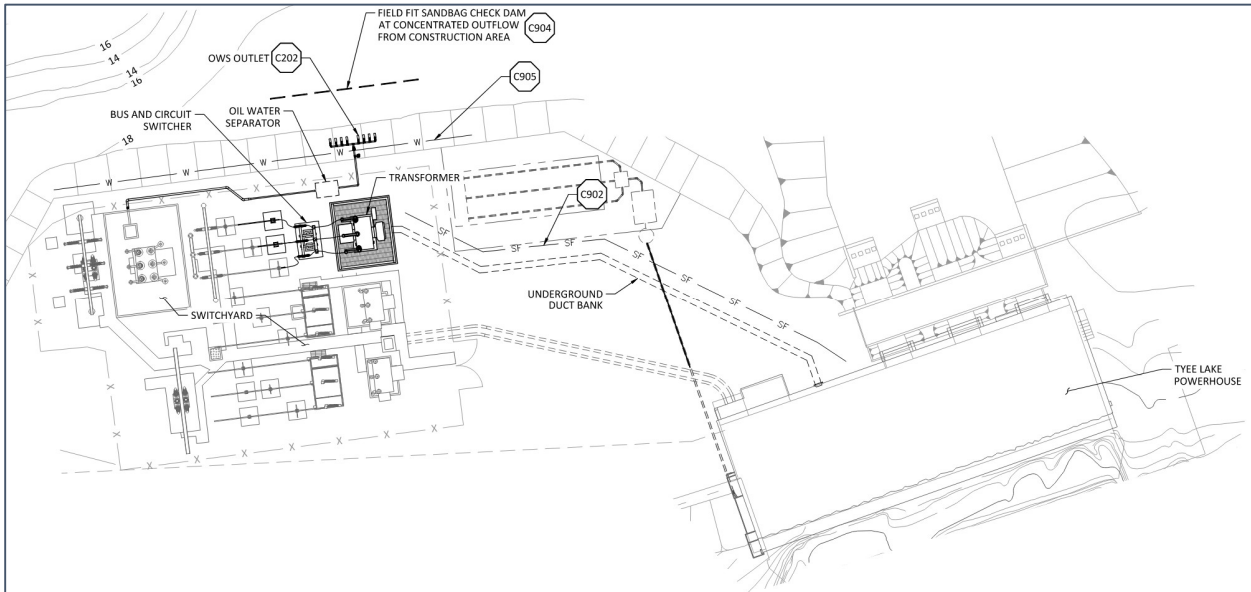


Figure 1-4. Project Site Plan

2.0 Proposed Project Schedule

All Unit 3 installation work, including demolition, equipment installation, excavation and switchyard work, unit startup and commissioning will be combined into a single coordinated construction project to minimize outages. The proposed Project equipment upgrade schedule is shown in Table 2-1.

Table 2-1. Proposed Project equipment upgrade schedule (tentative).

Timeframe	Project Activity
February 2027	Mobilize on-site
March-April 2027	Demolition activities in Unit 3 bay
April-May 2027	Excavate and install oil-water separator
June-September 2027	Install Unit 3 in powerhouse, Install Circuit Switcher and GSU
September – November 2027	Project startup & commissioning
December 2027	Unit 3 online

3.0 Site Drainage, Erosion Control, and Revegetation Overview

All areas disturbed during construction will be regraded and vegetated following construction. Storm drainage will generally either infiltrate into native marshy soils or be routed to current low-lying areas for further infiltration and enhancement of existing wetlands. The vegetated areas will stabilize the underlying soils, preventing erosion and migration of soil particles into Airstrip Slough.

Prior to initiating construction activities, temporary erosion and sediment control measures will be implemented to prevent migration of sediment and material from the construction sites. Following construction, permanent erosion and sediment control measures will be installed to aid in vegetation re-establishing naturally. The construction contractor will be required to prepare a Stormwater Pollution Prevention Plan prior to initiating construction activities at the site and adopt this ESCP.

4.0 Erosion and Sediment Control BMPs

4.1 BMPs Introduction

The following section details the erosion and sediment control BMPs identified for the construction of the Project. Erosion and Sediment Control plan drawings are provided in Appendix A. The selected measures are based on Alaska Department of Transportation Best Management Plans as detailed in the Alaska Storm Water Pollution Prevention Plan Guide (Alaska Department of Transportation 2017) and included in Appendix B. A brief description, installation schedule, maintenance schedule, and designated person responsible are also listed for each BMP in the associated table.

4.2 Mark Clearing Limits

Efforts will be made to reduce the impact of construction activities by keeping the limits of clearing and grubbing to a minimum. BMPs supporting these activities are listed in Table 4.1.

Table 4-1. Site Delineation.

BMP:	BMP-54.00 – Site Delineation
Description:	Site delineation measures are intended to mark (1) all areas where land disturbing activities will occur, including clearing and grading, and (2) specific area that will be left undisturbed, such as trees, boundaries of sensitive areas, or environmental buffer zones, prior to work beginning.
Installation Schedule:	Project Start
Maintenance and Inspection:	As Needed
Responsible Staff:	Site Superintendent

4.3 Establish Perimeter Controls and Sediment Barriers

Construction fencing and silt fencing will be installed prior to exposing any bare soil to reduce storm water runoff from the Project site. Silt fences and/or straw wattles will be installed in the low points of the site where stormwater could escape. Additionally, fiber rolls or temporary berms may be installed in locations where construction fencing is deemed to be impractical, such as stockpile boundaries on hard surfaces. Straw bales will be installed as needed to prevent sediment laden water from leaving the Project area during a storm event. Straw used in perimeter controls and sediment barriers will be made in Alaska or certified weed free. BMPs supporting these activities are listed below.

Table 4-2. Fiber Rolls.

BMP:	BMP-10.01.a – Fiber Rolls for Erosion and Sediment Control
Description:	A straw wattle consists of straw, flax, or other similar materials bound into a biodegradable tubular plastic or similar encasing material. When fiber rolls are placed at the toe and on the face of slopes, they intercept runoff, reduce its flow velocity, release the runoff as sheet flow, and provide removal of sediment from the runoff. By interrupting the length of a slope, fiber rolls can also reduce erosion.
Installation Schedule:	As Needed
Maintenance and Inspection:	Minimum inspections once every 7 days.
Responsible Staff:	Site Superintendent

Table 4-3. Silt Fence.

BMP:	BMP-20.00 - Silt Fence
Description:	A silt fence is a temporary sediment barrier consisting of a filter fabric stretched and attached to supporting posts. Wire fence backing is necessary with several types of filter fabric commonly used. Silt fences assist in sediment control by retaining some of the eroded soil particles and slowing the runoff velocity to allow particle settling.
Installation Schedule:	Prior to excavation or staging activities.
Maintenance and Inspection:	Minimum inspections once every 7 days.
Responsible Staff:	Site Superintendent

Table 4-4. Temporary Check Dam.

BMP:	BMP-33.00 – Temporary Check Dam (Sandbag)
Description:	Temporary check dams are used to reduce scour, reduce velocity, dissipate energy, prevent erosion, and settle sediment behind the weir structure in an unlined channel or vegetative swale. A temporary check dam is placed perpendicular to flow in a ditch or channel. It is placed so that it extends higher than the water level on both sides of the flow path and is lower in the center to allow water to flow through a controlled path.
Installation Schedule:	Prior to excavation activities.
Maintenance and Inspection:	Minimum inspections once every 7 days.
Responsible Staff:	Site Superintendent

5.0 Construction Control BMPs

5.1 BMPs Introduction

The following sections detail the BMPs identified for further construction controls of the proposed Project. A brief description, installation schedule, maintenance and inspection schedule, and designated person responsible are listed for each BMP. BMPs listed in this Plan but shown as “As Needed” on the Erosion and Sediment Control Plan Drawings (Appendix A) will be used only if the proposed BMPs are not adequate.

5.2 Designated Washout Area

A concrete washout area will be designated to eliminate discharge from the Project site following the cleaning of mixers and paint equipment. The following BMP provides general guidance. All concrete mixing and washout activities will occur minimum of 50-ft away from open ditches, localized drainages, and water bodies.

Table 5-1. Concrete Washout Area.

BMP:	BMP-06.00 – Concrete Washout
Description:	Prevent or reduce the discharge of pollutants to stormwater from concrete waste by conducting off-site washout, performing on-site washout in a designated area, and training employees and subcontractors.
Installation Schedule:	Project Start
Maintenance and Inspection:	As Needed
Responsible Staff:	Site Superintendent

5.3 Proper Equipment/Vehicle Fueling and Maintenance Practices

Proper equipment and vehicle fueling and maintenance practices will be employed to contain pollutants on site. Vehicles will be washed off-site before delivery to the site. If site conditions warrant on-site washing, it will be performed near the concrete washout area so that any excess wastewater will be collected and disposed appropriately. The following BMP provides general guidance for washing and maintaining vehicles.

Table 5-2. Washing and Maintenance.

BMP:	BMP-42.00 – Vehicle/Equipment Storage, Maintenance & Fueling
Description:	Established procedures and recommendations for vehicle/equipment storage, maintenance, fueling, and washing activities. Such activities are to take place as far away from stormwater drainage systems and waters of the U.S. as practicable. Also includes recommendations for equipment to have on hand to prevent or control leaks.
Installation Schedule:	As Needed
Maintenance and Inspection:	As Needed
Responsible Staff:	Site Superintendent

6.0 Post-Construction Control BMPs

Post-construction BMPs include erosion and sediment control measures designed to protect disturbed soils after construction efforts have been completed. The materials for post-construction control BMPs are usually left on site permanently, and include final stabilization, seeding, erosion control blankets, etc. The Contractor will be required to stabilize the site according to the Issued for Construction design for the Project.

The landscaping phase will provide final stabilization of the site. The Project will not install permanent stormwater systems, so final stabilization will be achieved partially through the use of an Alaska approved native herbaceous seed mix to all disturbed areas, or by allowing

natural vegetation to re-establish within disturbed areas. Due to future operations and maintenance of Project components, wood plantings will not be installed as final stabilization measures. All temporary construction BMPs should remain in place and be maintained until final stabilization has been installed and accepted according to contract requirements.

Following construction, the site will be stabilized by removing all construction equipment and associated materials from the Project site and staging area. Any disturbed areas where bare soil is exposed, including the spoils placement area, will be repaired according to the Issued for Construction drawings or pre-construction conditions. These activities will provide the final stabilization of the Project area.

7.0 Monitoring, Maintenance, and Recordkeeping

7.1 Introduction

The Contractor will be responsible for site compliance and will conduct inspections for all areas of the site disturbed by construction activities, as well as areas used for storage of materials that are exposed to precipitation.

7.2 Monitoring

The erosion, sedimentation, and slope instability control measures identified in this Plan, and additionally described pursuant to a construction specific SWPPP prepared by the Contractor, will be inspected at a minimum each 14 days during minimal precipitation periods (less than 2 inches per week, on average), weekly during period of moderate precipitation (greater than 2 inches per week, on average) and after a heavy rain event, defined as more than 1 inch of precipitation within 24-hours. Precipitation events will be measured by the nearest National Weather Service rain gauge (Identifier PAWG; [Wrangell \(weather.gov\)](http://Wrangell.weather.gov)).

The Contractor will routinely monitor the erosion control measures and report any failure. Required inspections will be properly documented and kept on file at the construction site office with the SWPPP. The inspection should determine whether or not the BMPs described in SWPPP are adequate and effective in minimizing erosion, sedimentation, and transportation offsite of other pollutants such as petroleum projects, trash, and construction debris. The inspection should also determine what maintenance is required for the existing BMPs and where additional or different BMPs are necessary to adequately minimize offsite transport of pollutants.

Once construction is complete and the Project is operating, the permanent erosion control measures will be inspected as part of regular inspections of the Project facilities.

7.3 Inspections

Inspections will occur bi-monthly (every 14 days) during active construction, or more often if accordance with inspection schedules indicated for each BMP. Inspections should occur under the following timelines:

- Minimum of once every 14 days during construction;
- Within 24 hours of a significant rain event during construction, defined as more than 1-inch of precipitation within 24 hours;
- Once per month if the site is inactive and stabilized during the construction period.
- Once per month during Project operations

The inspection frequency may be increased based on weather, site conditions, or other factors. The Contractor will remedy any issues within 7 calendar days upon notification by the

responsible person. A copy of an inspection report is provided in Appendix C. Additionally, all inspection efforts during construction activities would be managed by the Contractor. The Contractor will be responsible for ensuring that the BMPs are implemented as needed. The Contractor will confirm that all methods and associated data collection activities were occurring as scheduled and all associated data was appropriately entered and reported on. If visual turbidity is observed in the Project tailrace or Airstrip Slough adjacent to the Project site during construction, the Contractor will immediately cease construction activities, identify the source of the sediment release, contain the release, and modify BMPs as needed to prevent future turbidity events. No in-water work is planned during the proposed Project construction activities, and no flow into the Project tailrace will occur during Project construction.

7.4 BMP Maintenance During Construction

During construction, all BMPs will be maintained in effective operating condition. Maintenance should also occur whenever periodic inspections identify that BMPs are not operating effectively. The proposed erosion, sedimentation, and slope instability control measures will be maintained on a regular basis as required by results of monitoring. Many of the proposed measures are passive systems and should not require maintenance; however, sediment accumulations at silt fences and sediment barriers should be removed according to BMP specifications. The excavated sediment will be disposed of upland on-site and stabilized against subsequent erosion.

7.5 Recordkeeping

The Contractor will maintain records of major grading activities, when construction activities temporarily or permanently cease on a portion of the site, and dates when an area is either temporarily or permanently stabilized. A log is provided in Appendix D to detail such activities. Records should be maintained throughout construction and transferred to SEAPA after construction is complete. Records will be maintained for a period of 3 years post-construction.

7.6 Corrective Action Log

A corrective action log is provided in Appendix E to document any repair, replacement, or maintenance of the BMP measures that have been undertaken following an inspection.

7.7 Maintaining an Updated Plan

Any failures or deficiencies found during the regular inspections and routine monitoring of the erosion control measures during construction will be immediately reported to the Contractor, who will be responsible for making the necessary corrections. If any of the control measures are found to be ineffective, new control measures will be instituted. A record of changes to Contractor's SWPPP should be documented on the SWPPP Amendment Log provided in Appendix F.

7.8 Training Log

A log of Contractor Project staff that has been trained on the SWPPP should be kept onsite. A log is provided in Appendix G.

8.0 Communications

8.1 Coordination and Documentation

The erosion and sediment control measures will be coordinated with the Contractor to include all ground disturbing activities. The Contractor will oversee construction activities and monitoring throughout the life of the construction. The appropriate agencies will be notified in the case of a high turbidity event discharging from the Project site as described in the Plan.

9.0 References

Alaska Department of Transportation and Public Facilities. 2021. Alaska Storm Water Pollution Prevention Plan Guide. March 2021.

Southeast Alaska Power Agency (SEAPA). 2025. Application for Capacity Amendment of License for the Tyee Lake Hydroelectric Project (P-3015). January 27, 2025; supplemented June 12, 2025 and March 23, 2026.

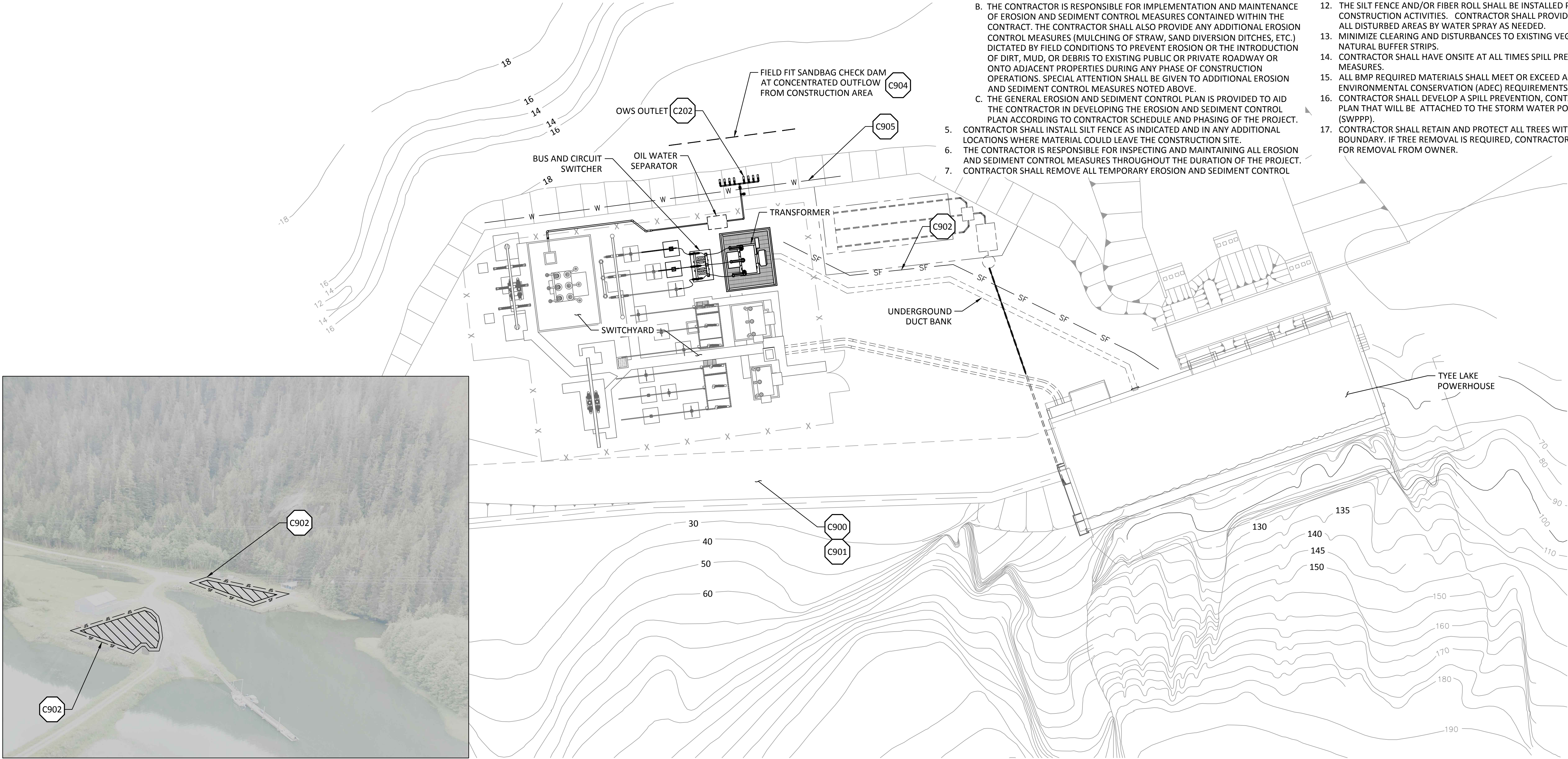
Appendix A

Erosion and Sediment Control Plan Drawings

1. VERTICAL DATUM: MEAN LOWER LOW WATER FOR NOAA STATION 9451012, BRADFIELD CANAL, AK = 0.00 FT. PROJECT BENCHMARK IS THE POWERHOUSE SERVICE FLOOR LEVEL (ERECTION AREA) ACCEPTED ELEVATION = 25.00 FT.
2. SWITCHYARD FENCE TO BE REMOVED DURING CONSTRUCTION. REFER TO SPECIFICATION SECTION 01 35 26 FOR INTERIM SAFETY AND CONTROL MEASURES.

1. ALL EROSION AND SEDIMENT CONTROL MEASURES OR BMPs MUST CONFORM TO THE ALASKA DOT&PF BMP GUIDE.
2. INSTALLATION, INSPECTION, MAINTENANCE, AND REMOVAL OF BMPs MUST CONFORM TO THE ALASKA DOT&PF STANDARD SPECIFICATIONS.
3. EROSION AND SEDIMENT CONTROL STANDARD DETAILS ARE SHOWN ON SHEETS H02-D-51-0002 THRU H02-D-51-0004.
4. THE CONTRACTOR SHALL SUBMIT AN EROSION AND SEDIMENT CONTROL PLAN FOR WORK DURING CONSTRUCTION THAT MEETS ALL FEDERAL, STATE AND LOCAL REQUIREMENTS.
 - A. ALL SLOPES SHALL BE PROTECTED FROM EROSION DURING ROUGH GRADING OPERATIONS.
 - B. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTATION AND MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES CONTAINED WITHIN THE CONTRACT. THE CONTRACTOR SHALL ALSO PROVIDE ANY ADDITIONAL EROSION CONTROL MEASURES (MULCHING OF STRAW, SAND DIVERSION DITCHES, ETC.) DICTATED BY FIELD CONDITIONS TO PREVENT EROSION OR THE INTRODUCTION OF DIRT, MUD, OR DEBRIS TO EXISTING PUBLIC OR PRIVATE ROADWAY OR ONTO ADJACENT PROPERTIES DURING ANY PHASE OF CONSTRUCTION OPERATIONS. SPECIAL ATTENTION SHALL BE GIVEN TO ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES NOTED ABOVE.
 - C. THE GENERAL EROSION AND SEDIMENT CONTROL PLAN IS PROVIDED TO AID THE CONTRACTOR IN DEVELOPING THE EROSION AND SEDIMENT CONTROL PLAN ACCORDING TO CONTRACTOR SCHEDULE AND PHASING OF THE PROJECT.
5. CONTRACTOR SHALL INSTALL SILT FENCE AS INDICATED AND IN ANY ADDITIONAL LOCATIONS WHERE MATERIAL COULD LEAVE THE CONSTRUCTION SITE.
6. THE CONTRACTOR IS RESPONSIBLE FOR INSPECTING AND MAINTAINING ALL EROSION AND SEDIMENT CONTROL MEASURES THROUGHOUT THE DURATION OF THE PROJECT.
7. CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL

- FACILITIES, FENCING, AND STAGING AREA MATERIALS WHEN CONSTRUCTION IS COMPLETE. NO CONSTRUCTION DEBRIS, DEMOLITION MATERIALS, OR EXCESS EQUIPMENT SHALL BE LEFT ON SITE.
8. CONTRACTOR SHALL REGRADE DISTURBED SLOPES TO NEAR EXISTING CONDITION AS APPROVED BY THE OWNER.
 9. ALL RUNOFF FROM SITE CONSTRUCTION ACTIVITIES AND FROM RAINFALL EVENTS SHALL BE DETAINED ON SITE AND FILTERED PRIOR TO DISCHARGE.
 10. CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO PREVENT:
 - A. ACCUMULATION OF CONSTRUCTION WASTE AND LITTER ON SITE.
 - B. NO GRADING OR CONSTRUCTION ACTIVITIES SHALL OCCUR OUTSIDE OF THE IMPROVEMENTS SHOWN ON THE CONSTRUCTION PLANS FOR THE PROJECT.
 11. STOCKPILED EXCAVATION MATERIALS SHALL BE PROTECTED FROM WATER AND WIND EROSION BY COVERING AS APPROPRIATE.
 12. THE SILT FENCE AND/OR FIBER ROLL SHALL BE INSTALLED PRIOR TO ANY CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL PROVIDE DUST ABATEMENT OVER ALL DISTURBED AREAS BY WATER SPRAY AS NEEDED.
 13. MINIMIZE CLEARING AND DISTURBANCES TO EXISTING VEGETATION - UTILIZE AS NATURAL BUFFER STRIPS.
 14. CONTRACTOR SHALL HAVE ONSITE AT ALL TIMES SPILL PREVENTION AND CONTROL MEASURES.
 15. ALL BMP REQUIRED MATERIALS SHALL MEET OR EXCEED ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION (ADEC) REQUIREMENTS.
 16. CONTRACTOR SHALL DEVELOP A SPILL PREVENTION, CONTAINMENT AND RESPONSE PLAN THAT WILL BE ATTACHED TO THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
 17. CONTRACTOR SHALL RETAIN AND PROTECT ALL TREES WITHIN THE PROJECT BOUNDARY. IF TREE REMOVAL IS REQUIRED, CONTRACTOR SHALL OBTAIN APPROVAL FOR REMOVAL FROM OWNER.



1 CONSTRUCTION LAYDOWN AREA
SCALE: NTS

1 EROSION AND SEDIMENT CONTROL PLAN
SCALE: 1"= 20'

0" 20' 40'

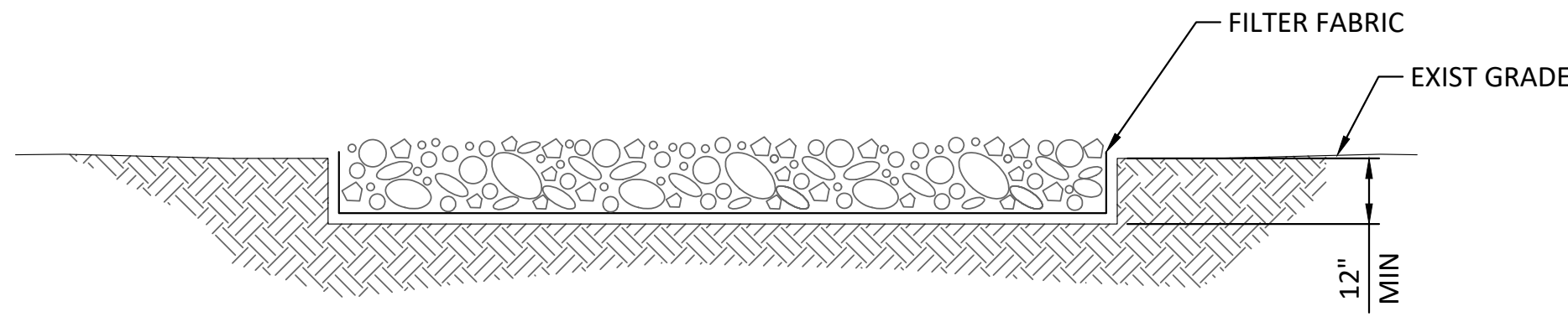


PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation			
DESIGNER/PROJECT ENGINEER: McMillen Inc		JOB #: T.O. 24017	
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026

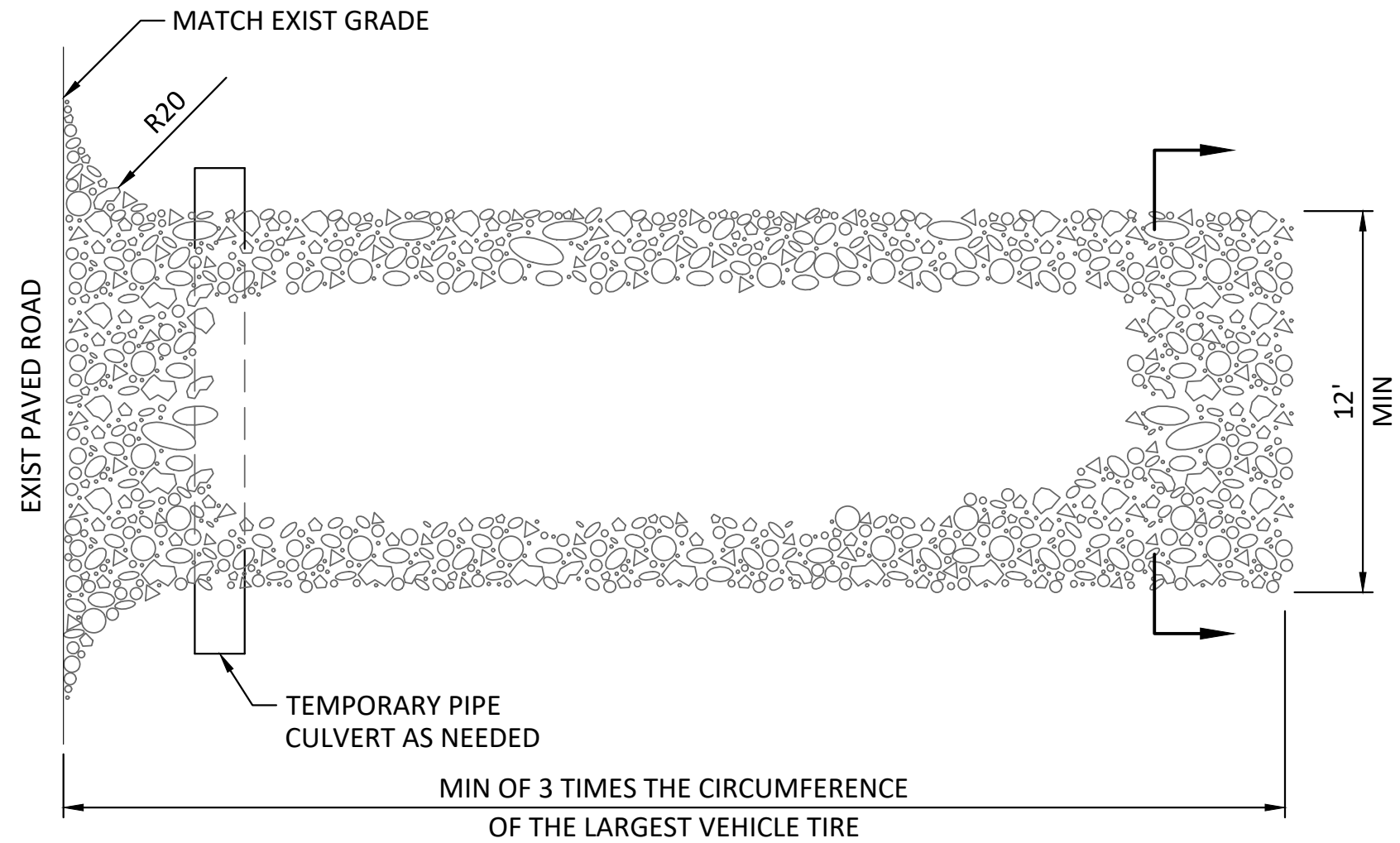


NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME:	SOUTHEAST ALASKA POWER AGENCY TYEE 3rd TURBINE & GENERATOR INSTALLATION SWITCHYARD EROSION AND SEDIMENT CONTROL PLAN AND NOTES
REF DWG(S):	
DRAWING NO.:	H02-D-51-0112-R00
SHEET	127 OF 144



SECTION A



PLAN

ROCK CONSTRUCTION EXIT NOTES:

MATERIALS
ROCK: TO MEET SURFACE COURSE SPECIFICATIONS.

INSTALLATION

1. IF DIRECTED BY THE ENGINEER, PLACE THE FILTER FABRIC AS SHOWN IN SECTION A.

MAINTENANCE

1. REMOVE ACCUMULATED SEDIMENT OR MUD.
2. REPLACE ROCK MATERIAL WHEN SURFACE VOIDS ARE FILLED WITH SEDIMENT. REPLACE FABRIC AS NEEDED.
3. TOP DRESS WITH 2 TO 3 INCHES OF SURFACE COURSE WHEN THE PAD BECOMES LADEN WITH SEDIMENT.

INSPECTION

1. INSPECT FOR ROCK THAT HAS BEEN DISPLACED FROM THE PAD.

STABILIZED CONSTRUCTION EXIT GENERAL NOTES:

INSTALLATION

1. INSTALL STABILIZED CONSTRUCTION EXIT PRIOR TO EARTH WORK.
2. CLEAR THE EXIT AREA OF ALL VEGETATION, ROOTS, AND OTHER MATERIAL.
3. PROVIDE DRAINAGE TO CARRY WATER TO A SEDIMENT TRAP, VEGETATIVE SEDIMENT FILTER OR OTHER PROTECTED OUTLET.
4. EXCAVATE AND GRADE THE AREA FOR ROCK PLACEMENT.
5. INSTALL SIGNS, FENCING OR BARRICADES TO CHANNEL OUTGOING TRAFFIC TO THE STABILIZED CONSTRUCTION EXIT.

INSPECTION

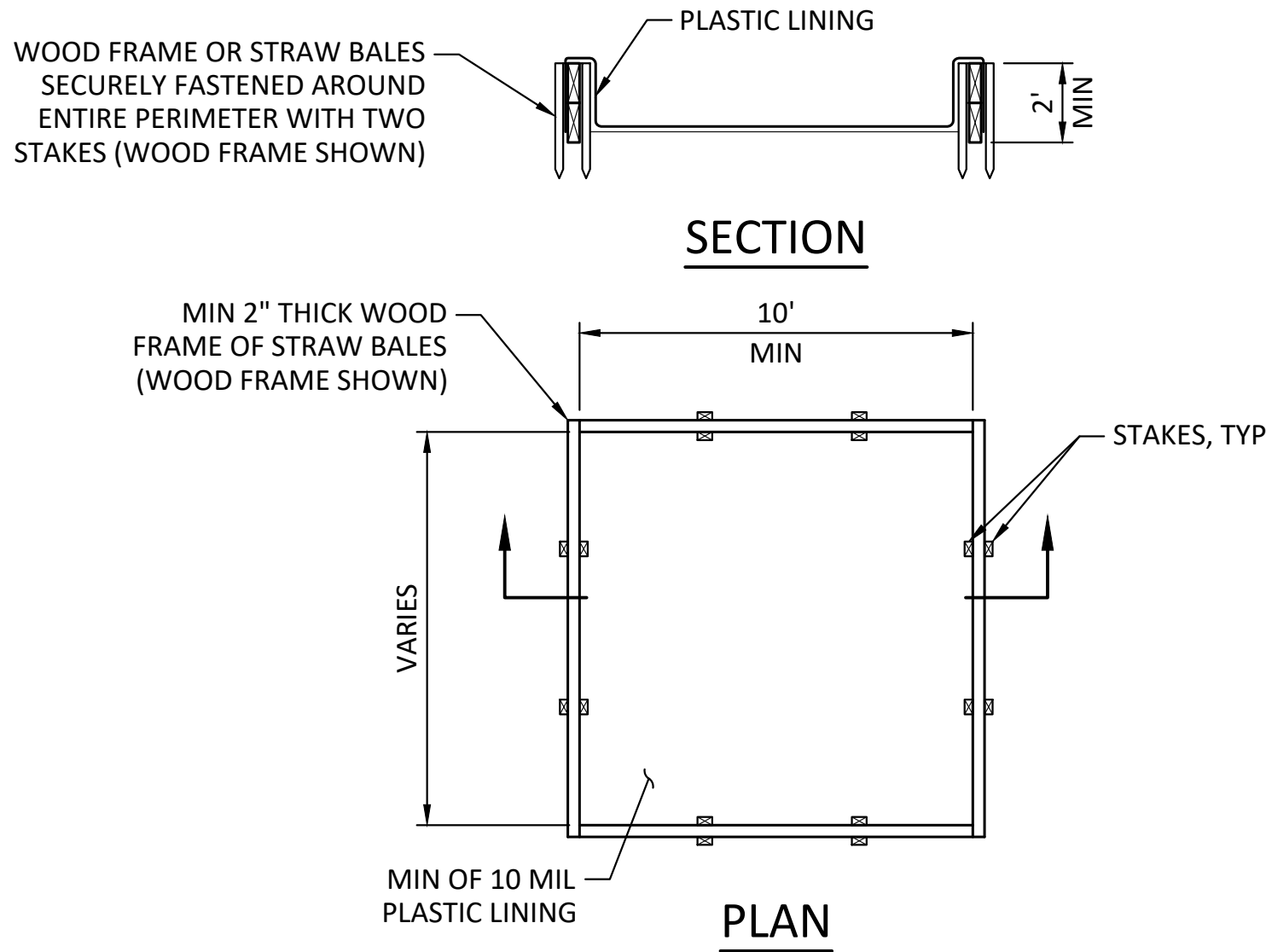
1. INSPECT STABILIZED CONSTRUCTION EXIT FOR SEDIMENT ACCUMULATION AND MATERIAL DISPLACEMENT.
2. INSPECT ROADWAY FOR SEDIMENT TRACK-OUT.
3. INSPECT DITCHES TO ENSURE NO SEDIMENT ACCUMULATION.

MAINTENANCE

1. MAINTAIN EACH EXIT IN A CONDITION THAT WILL PREVENT TRACKING OF MUD OR SEDIMENT ONTO PUBLIC RIGHT-OF-WAY.
2. REPAIR AND/OR CLEAN OUT ANY STRUCTURES USED TO TRAP SEDIMENT.
3. REMOVE ALL MUD AND SEDIMENT DEPOSITED ON PAVED ROADWAYS.
4. ADD MORE SIGNS, FENCING OR BARRICADES WHEN VEHICLES ARE EXITING THE PROJECT WITHOUT USING THE STABILIZED CONSTRUCTION EXIT. INSTALL ADDITIONAL STABILIZED CONSTRUCTION EXITS IF NEEDED, YET USE SIGNS AND BARRICADES TO MINIMIZE THE NUMBER OF STABILIZED CONSTRUCTION EXITS.
5. PREVENT TRACK-OUT BY USING ADDITIONAL BMPs, SUCH AS A TIRE WASH.

REMOVAL

1. REMOVE THE STABILIZED CONSTRUCTION EXIT AND ANY SEDIMENT TRAPPING STRUCTURES AFTER THEY ARE NO LONGER NEEDED, OR WITH FINAL SITE STABILIZATION.
2. REGRADE AND PERMANENTLY STABILIZE THE REMAINING DISTURBED AREAS ACCORDING TO THE PLANS.



CONCRETE WASHOUT GENERAL NOTES:

MATERIALS
PRE-FABRICATED CONTAINERS: MADE OF STURDY MATERIALS THAT ARE WATER TIGHT.

FABRICATED ON-SITE CONTAINMENT:

1. BARRIER/SIDEWALLS: MAKE SIDEWALLS OF AN ABOVE-GRADE CONTAINMENT AREA FROM EARTHEN BERMS, BARRIER WALLS, WOOD PLANKS, OR OTHER MATERIALS THAT WILL BE STRUCTURALLY SOUND WHEN FILLED WITH WASTE MATERIALS.
2. LINER: IMPERMEABLE PLASTIC SHEETING OF AT LEAST 10 MIL THICKNESS, AND FREE OF HOLES, TEARS, AND OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.
3. ANCHORS: SECURE THE LINER FOR ABOVE-GRADE CONTAINMENT AREAS AND SIDEWALL MATERIALS OTHER THAN BERMS WITH ANCHORS. USE SANDBAGS, 6-INCH WIRE STAPLES, AND WOOD OR METAL STAKES AS ANCHORS, BUT NOT LIMITED TO ONLY THEM.

INSTALLATION

1. IF THE WASHOUT IS LOCATED ON UNDEVELOPED PROPERTY OR OFF-PAVEMENT, PROVIDE A STABILIZED CONSTRUCTION EXIT.
2. PLACE CONCRETE WASHOUT CONTAINMENT A MINIMUM OF 50 FEET FROM STORM DRAINS, OPEN DITCHES, OR WATERBODIES, OR PROVIDE SECONDARY CONTAINMENT FOR THE WASHOUT.
3. PROVIDE SUFFICIENT CAPACITY TO HANDLE THE EXPECTED VOLUME OF SOLIDS AND WASH WATER AT 50% MAX CAPACITY AND ALLOW 12 INCHES MINIMUM OF FREEBOARD.
4. PRE-FABRICATED WASHOUT CONTAINERS ARE USUALLY DELIVERED ASSEMBLED. IF ASSEMBLY IS REQUIRED, FOLLOW MANUFACTURER'S INSTRUCTIONS.
5. SELF-INSTALLED CONTAINMENT:
 - a. ABOVE-GRADE WASHOUT: CONSTRUCT THE SIDEWALLS TO THE DIMENSIONS SHOWN ON THE DRAWINGS. IF NOT USING AN EARTHEN BERM FOR THIS PURPOSE, ENSURE THAT THE SIDEWALL MATERIAL IS SECURE AND EACH UNIT IS BUTTED TIGHTLY END TO END. LINE THE ENTIRE AREA WITH THE LINING MATERIAL, BRINGING THE SHEETING UP OVER THE SIDEWALLS AND SECURING THE ENDS WITH SANDBAGS, STAPLES OR OTHER APPROPRIATE ANCHORS.

INSPECTION

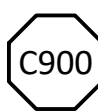
1. INSPECT AND VERIFY THAT CONCRETE WASHOUT BMPs ARE IN PLACE PRIOR TO THE COMMENCEMENT OF CONCRETE WORK.
2. DETERMINE IF THE CONCRETE WASHOUT IS FILLED TO 50 PERCENT CAPACITY.
3. FOR SELF-INSTALLED CONTAINMENT:
 - a. INSPECT THE PLASTIC LINER TO ENSURE IT IS SECURELY ANCHORED AND INTACT.
 - b. INSPECT THE SIDEWALLS FOR LEAKS. ENSURE THE CONSTRUCTION DOESN'T DAMAGE THE SIDEWALLS.
4. FOR PRE-FABRICATED CONTAINMENT, INSPECT THE UNIT FOR LEAKS AND POTENTIAL DAMAGE.
5. IF THERE IS EVIDENCE THAT WASHOUTS ARE OCCURRING IN LOCATIONS OTHER THAN THE DESIGNATED WASHOUT: IMPROVE EXISTING SIGNAGE, INSTALL ADDITIONAL SIGNAGE, INCREASE COMMUNICATION WITH CONCRETE TRUCK DRIVERS, AND PROVIDE CONCRETE TRUCK DRIVERS WITH MAPS OF WASHOUT LOCATIONS WITH RESPECT TO POUR LOCATIONS.

MAINTENANCE

1. CLEAN EXISTING WASHOUTS BEFORE THE WASHOUT IS 50 PERCENT FULL. SOLIDIFY WITH BAGGED GROUT, VACUUM AND DISPOSE OF LIQUIDS IN AN APPROVED MANNER, OR ALLOW FOR EVAPORATION (CHECK WITH THE LOCAL SANITARY SEWER AUTHORITY TO DETERMINE IF THERE ARE SPECIAL DISPOSAL REQUIREMENTS FOR CONCRETE WASH WATER).
2. IF NECESSARY, PROVIDE AN ALTERNATE WASHOUT DURING EXISTING WASHOUT CLEANING.
3. RELINE SELF-INSTALLED CONTAINERS AFTER EACH CLEANING, BECAUSE EQUIPMENT CAN DAMAGE THE LINER. BEFORE RELINING, INSPECT THE CONTAINMENT STRUCTURE FOR SIGNS OF WEAKENING OR DAMAGE AND MAKE ANY NECESSARY REPAIRS. THEN LINE THE STRUCTURE WITH NEW PLASTIC SHEETING, CHECKING THAT IT IS FREE OF HOLES, TEARS, AND OTHER DAMAGE.
4. REPAIR DAMAGED WASHOUTS BEFORE THE NEXT CONCRETE POUR. IF NECESSARY, PROVIDE NEW WASHOUTS UNTIL THE EXISTING WASHOUTS ARE OPERATIONAL.
5. CONTAIN ANY SPILL OR DISCHARGE OF CONCRETE WASTE MATERIALS.

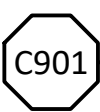
REMOVAL

1. AN OPERATIONAL CONCRETE WASHOUT SHOULD REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT (OR PHASE OF THE PROJECT) IS POURED. WHEN THE CONCRETE WASHOUT IS NO LONGER NEEDED, THE LIQUID MUST BE EVAPORATED OR VACUUMED FOR DISPOSAL AND THE HARDENED SOLIDS MUST BE BROKEN UP, REMOVED, AND PROPERLY DISPOSED OF. DISPOSAL LOCATION TO BE APPROVED BY ENGINEER.
2. REMOVE FROM THE SITE PRE-FABRICATED WASHOUTS AND MATERIALS USED TO CONSTRUCT ABOVE-GRADE CONTAINMENT AREA AND PROPERLY DISPOSE OF THEM.
3. BACKFILL AND STABILIZE HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE CREATION OR REMOVAL OF THE WASHOUT WITH AN APPROVED BMP.



ROCK CONSTRUCTION EXIT

SCALE: NTS



ABOVE GRADE CONCRETE WASHOUT FABRICATED ON-SITE

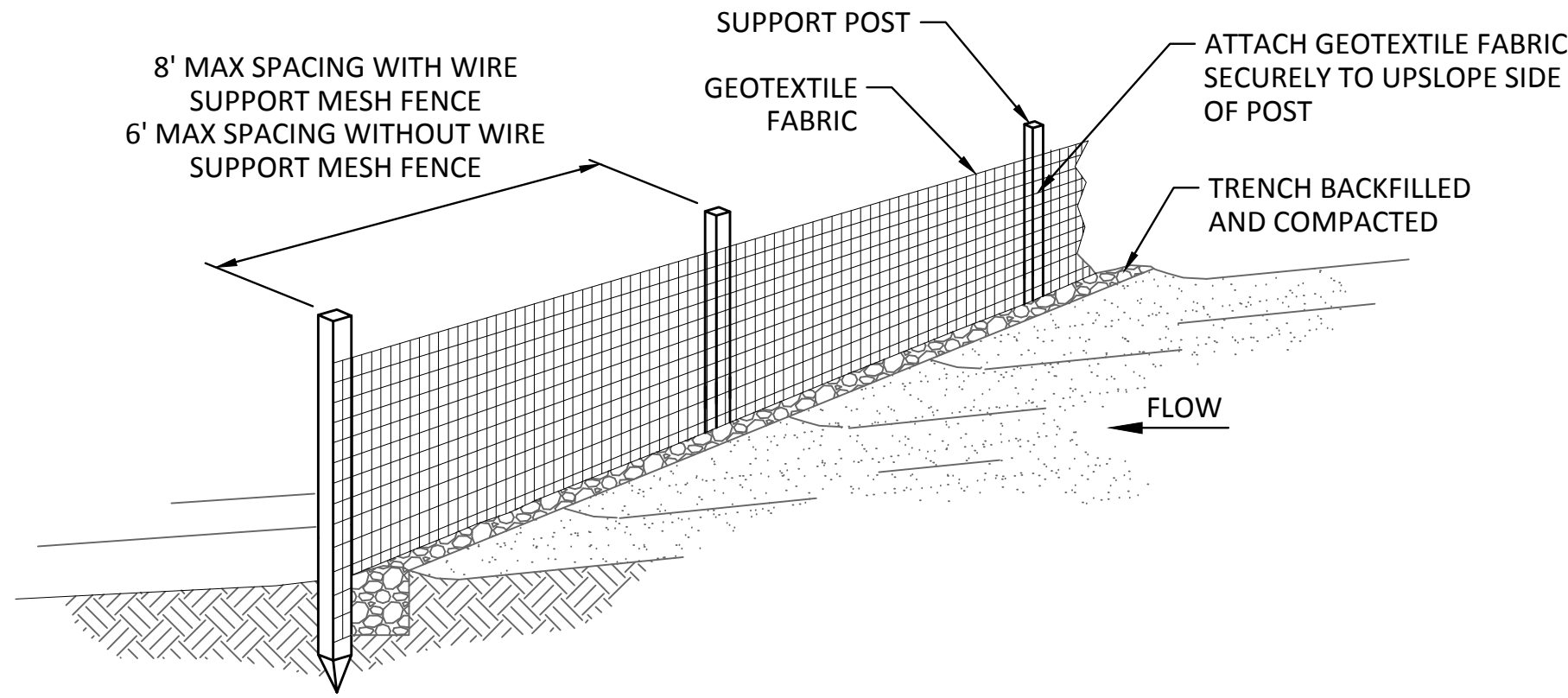
SCALE: NTS

PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation			
DESIGNER/PROJECT ENGINEER: McMillen Inc		JOB #: T.O. 24017	
NO.	DESIGN/CONSTRUCTION/ASBUILT REVISION	DWN BY/DATE	REVIEWED BY/DATE
0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026



NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY TYEE 3rd TURBINE & GENERATOR INSTALLATION EROSION AND SEDIMENT CONTROL STANDARD DETAILS 2	
REF DWG(S):	
DRAWING NO.: H02-D-51-0032-R00	SHEET 122 OF 144



SILT FENCE GENERAL NOTES:

MATERIALS
REFER TO ALASKA DOT SPECIFICATION SECTION 633, SILT FENCE.

INSTALLATION

1. INSTALL FENCELINE ALONG A LEVEL CONTOUR AND PERPENDICULAR TO ANTICIPATED SHEET FLOW DRAINAGE PATH(S).
2. ORIENT END SECTIONS UPHILL SLIGHTLY IN A J-HOOK TO PREVENT WATER FROM GOING AROUND THE SILT FENCE.
3. DO NOT EXCEED 100 FEET FOR EACH 1/4-ACRE OF DRAINAGE AREA AND DO NOT EXCEED 500 FEET REGARDLESS OF DRAINAGE AREA.
4. THE DIFFERENCE IN ELEVATION BETWEEN THE HIGHEST AND LOWEST POINT ALONG THE TOP OF THE SEDIMENT FENCE SHALL NOT EXCEED ONE-THIRD THE FENCE HEIGHT.
5. WHERE GROUND SURFACES ARE UNEVEN, INSTALL SHORTER FENCES FOLLOWING CONTOURS (RATHER THAN INSTALLING ONE LONG, CONTOUR-CROSSING FENCE THAT DIRECTS DRAINAGE TO ACCUMULATE IN LOW SPOTS).
6. LOCATE FENCE 3 TO 10 FEET BEYOND TOE OF FILL TO LEAVE ROOM FOR A BROAD, SHALLOW SEDIMENTATION POOL AND FOR EQUIPMENT ACCESS DURING FENCE MAINTENANCE AND REMOVAL.
7. IF FEASIBLE, LEAVE A MINIMUM OF 3.5-FOOT BUFFER BETWEEN FENCING AND SENSITIVE RECEIVING AREAS.
8. PLACE GEOTEXTILE ON THE UPSLOPE SIDE OF POSTS OR, WHEN USING SILT FENCE WITH SEWN-IN POCKETS, PLACE POCKETS ON THE UPSLOPE SIDE OF THE FENCE.
9. EXCAVATE TRENCHES NOT WIDER OR DEEPER THAN NECESSARY FOR PROPER INSTALLATION OF THE SILT FENCE. DO NOT EXCAVATE TRENCHES IN PERMAFROST.
10. AT JOINTS, ROLL ENOUGH OF THE ENDS OF SECTIONS TOGETHER AT SUPPORT POST SUCH THAT THE JOINT PREVENTS SILT-LADEN WATER FROM ESCAPING THROUGH THE FENCE.
11. IF USING THE FRONT WHEEL OF A TRACTOR OR ROLLER, COMPACT THE UPSTREAM SIDE FIRST, THEN EACH SIDE TWICE (A TOTAL OF FOUR TRIPS).
12. KEEP FENCE FABRIC TAUT.
13. WHEN USING SUPPORT MESH, ATTACH GEOTEXTILE TO THE SUPPORT MESH WITH FASTENERS SPACED EVERY 24 INCHES AT THE TOP AND MIDSECTION.

MACHINE SLICE INSTALLATION (NOT IN PERMAFROST)

1. USE A SILT FENCE INSTALLATION MACHINE OR ATTACHMENT TO PLOW OR SLICE THE FABRIC DIRECTLY INTO THE SOIL.
2. BACKFILL SOIL LOOSENED BY THE BLADE INTO THE SLICE AND USE THE TRACTOR TO MECHANICALLY COMPACT THE SOIL.
3. TUCK FABRIC DEEPER INTO THE GROUND WHERE NECESSARY.
4. INSTALL SUPPORT POSTS ALONG THE LENGTH OF THE FENCE FOLLOWING SIMILAR PROCEDURES FOR THE TRENCH METHOD.

WINTER INSTALLATION (NOT IN PERMAFROST)

1. DIG A TRENCH.
2. BACKFILL TRENCH WITH THE LOOSENED SOIL AND COMPACT SOIL PRIOR TO POST INSTALLATION.
3. MOISTEN THE BACKFILLED SOIL SO IT WILL FREEZE UP AND GRIP THE SILT FENCE FABRIC IN PLACE.
4. DO NOT LEAVE LARGE FROST CHUNKS AS THE BACKFILL.

INSPECTION

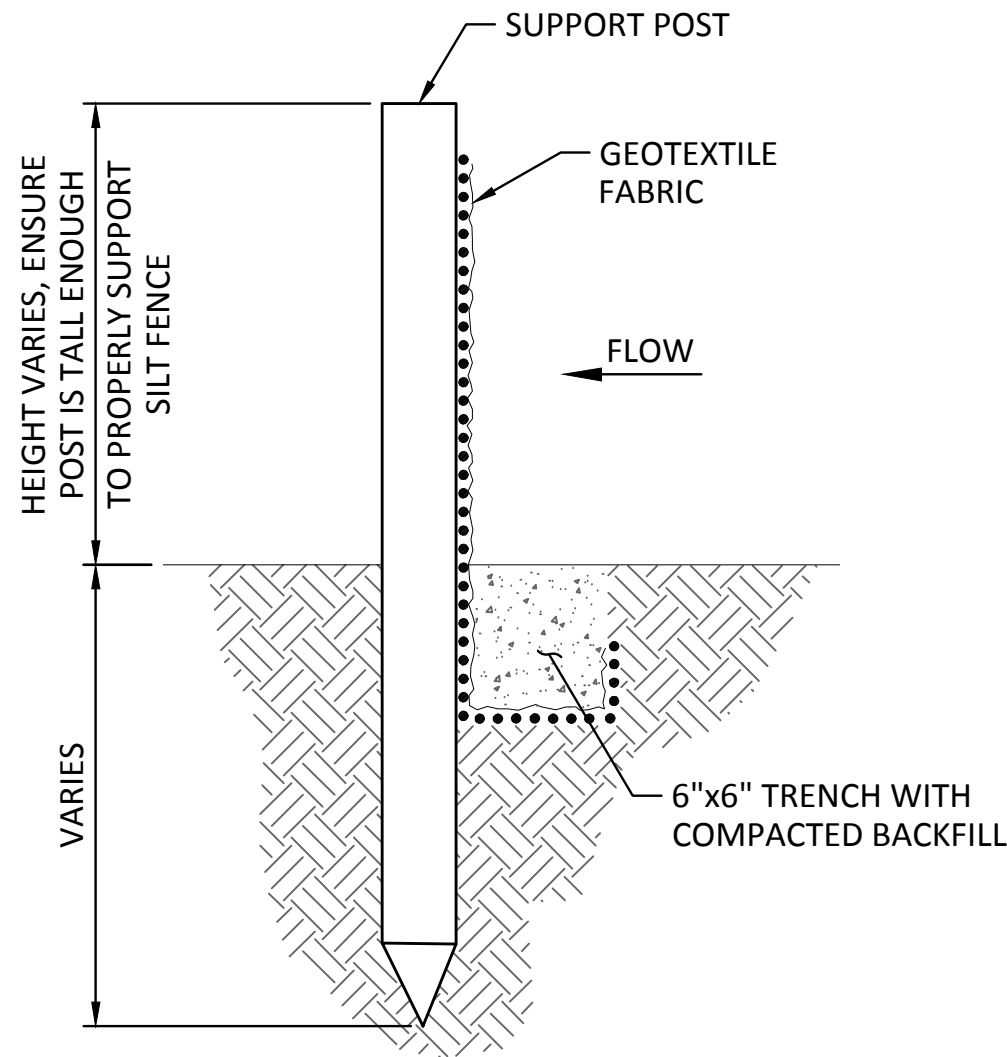
1. INSPECT FENCELINE FOR CONTINUITY, COLLAPSE, UNDERMINED AREAS, AND DAMAGE. DO NOT EXCAVATE TRENCHES IN PERMAFROST.
2. INSPECT FABRIC FOR TEARS, PUNCTURES, FRAYING, WEATHERING, AND COMPROMISED INTEGRITY.
3. CONFIRM THAT THE FENCE POSTS ARE SECURE.
4. ENSURE THE FENCE IS KEYED IN AND THAT THERE IS NO UNDERCUTTING.
5. LOOK FOR EVIDENCE OF SEDIMENT OR EROSION FLOW LEADING OFF THE DOWNHILL EDGE OF THE FENCE. (THIS MAY BE AN INDICATOR OF DRAINAGE BYPASS OR FENCE UNDERMINE.)
6. NOTE DEPTH OF SEDIMENT BUILD UP AT THE FENCE.
7. LOOK FOR SIGNS OF INADEQUATE PROTECTION OF OFF-SITE SENSITIVE AREAS.
8. CHECK FOR SEDIMENT FLOWING THROUGH THE FENCE.
9. CHECK FOR HOLES IN FENCE WHERE WIRE TIES ARE USED TO SECURE GEOTEXTILE FABRIC TO THE SUPPORT POST.

MAINTENANCE

1. INSTALL ALTERNATE OR ADDITIONAL BMPS AS NEEDED TO PREVENT UNDESIRABLE SEDIMENTATION OF SENSITIVE AREAS.
2. REPLACE DAMAGED FABRIC.
3. REMEDY FENCE SAGS AS NEEDED.
4. REMOVE ACCUMULATED SEDIMENT BEFORE IT ACCUMULATES TO ONE-HALF THE CAPACITY, OR ONE-THIRD OF THE AVAILABLE STORAGE IF PROTECTING A WATER BODY OR STORM DRAIN INLET.
5. DISPOSE OF SILT WASTE IN APPROVED MANNER/LOCATION (TYPICALLY IN A NON-EROSION AREA).
6. IF THERE IS EVIDENCE OF EXCESSIVE SEDIMENTATION AGAINST THE SILT FENCE, PROVIDE INCREASED EROSION CONTROL UPSLOPE.

REMOVAL

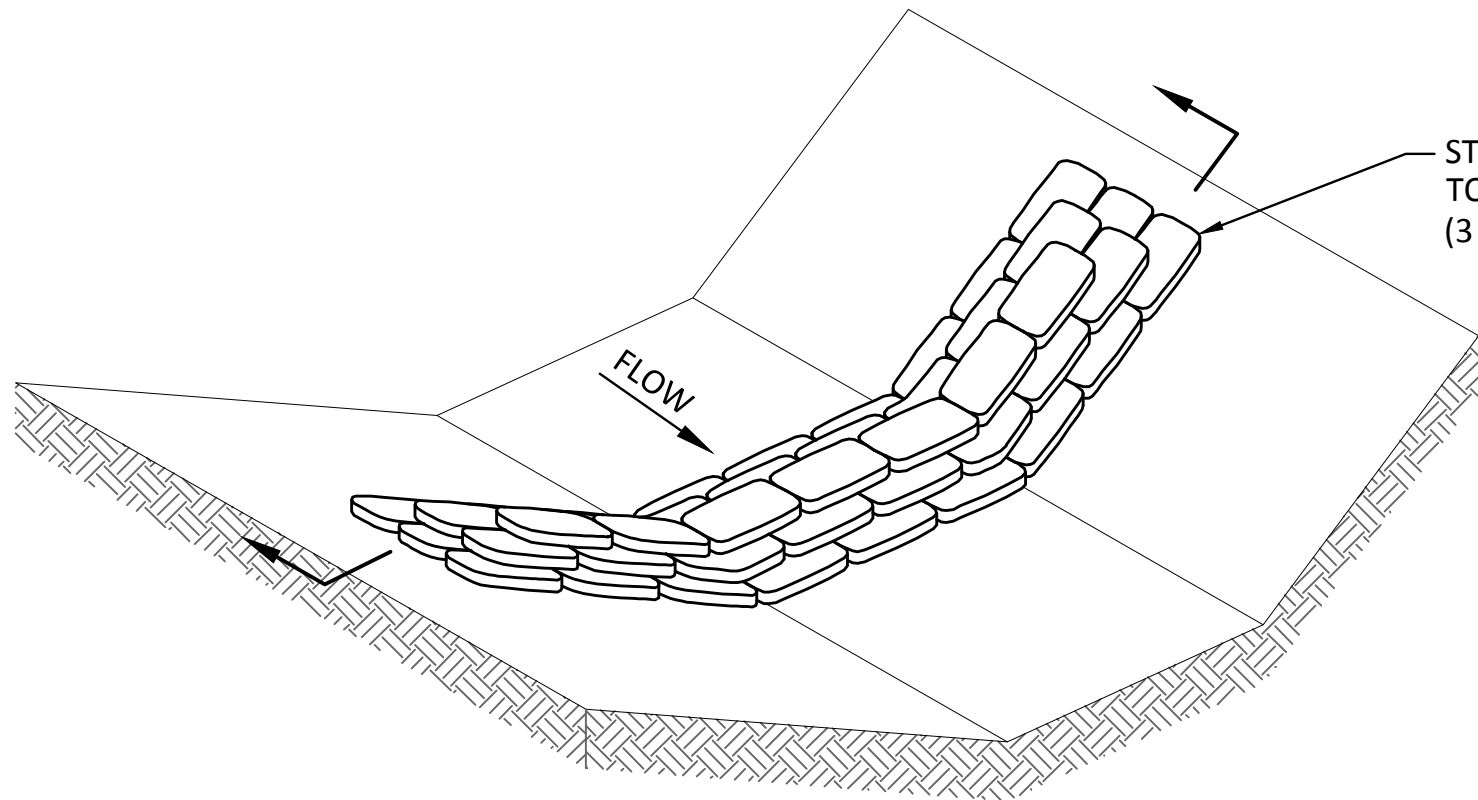
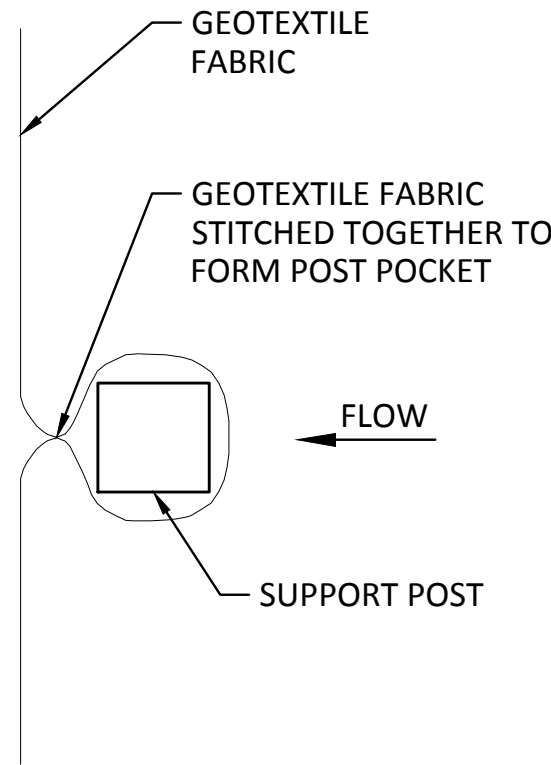
1. WHEN DISTURBED AREAS ARE PERMANENTLY STABILIZED OR SEDIMENT PROTECTION IS NO LONGER NEEDED, COLLECT AND PROPERLY DISPOSE OF ACCUMULATED SEDIMENT OR SEED IN PLACE.
2. CUT FABRIC AT GROUND LEVEL AND REMOVE SUPPORTS.
3. DISCARD FILTER FENCE AS APPROVED. AVOID DAMAGE TO SENSITIVE AREAS (E.G. WETLAND OR SURFACE WATER).



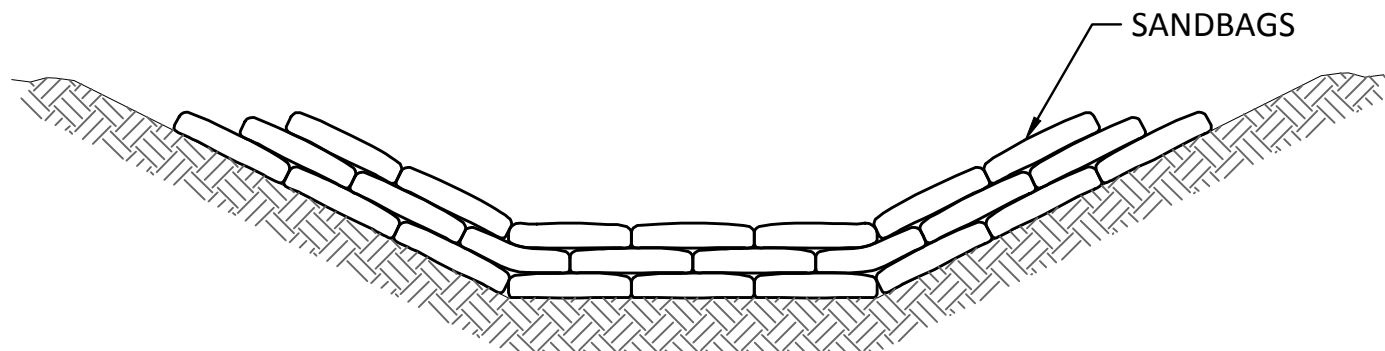
SILT FENCE TRENCH DETAIL

SCALE: NTS

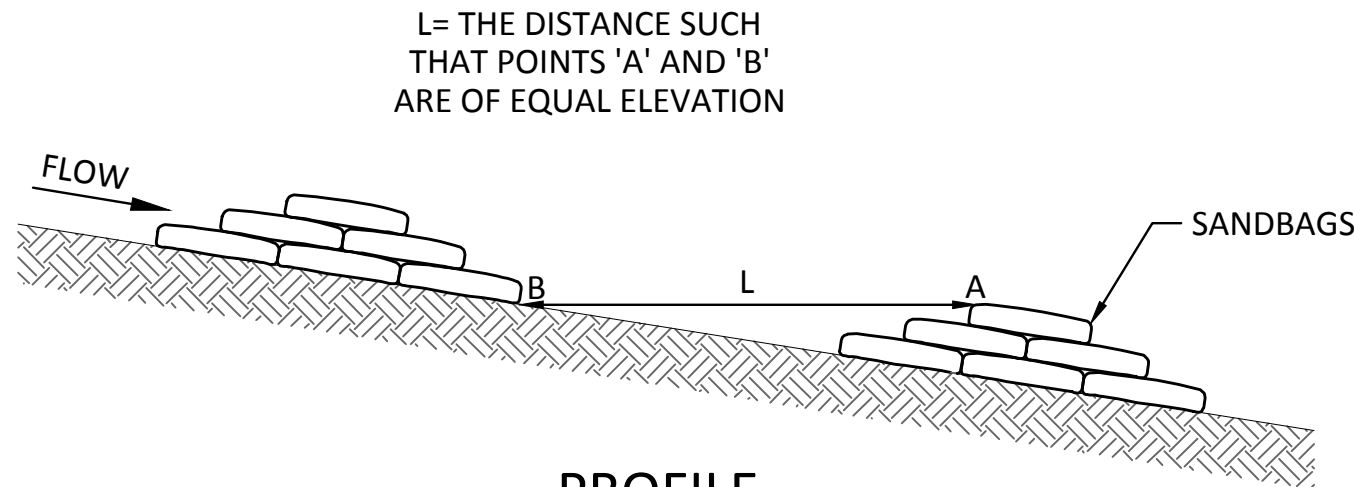
SEWN-IN POCKET DETAIL



PERSPECTIVE



SECTION



PROFILE

SANDBAG NOTES:

MATERIALS
SANDBAG BARRIER: TIGHTLY WOVEN BURLAP OR WOVEN GEOTEXTILE BAG MATERIAL THAT IS SUFFICIENTLY DURABLE TO REMAIN INTACT FOR THE TIME INTENDED. FILL BAGS 3 FULL OF GRAVEL OR SAND WITH A GRADATION SUCH THAT NO FINE SEDIMENT PASSES THROUGH THE BAG. IF THE SANDBAGS ARE NEEDED FOR MORE THAN ONE SUMMER SEASON, PROVIDE BAG MATERIAL THAT HAS ULTRAVIOLET STABILITY OF AT LEAST 70% IN CONFORMANCE WITH ASTM D4355 REQUIREMENTS. SECURELY CLOSE THE SAND BAGS.

INSTALLATION

1. PLACE SANDBAGS SO THAT THE INITIAL ROW MAKES TIGHT CONTACT WITH THE DITCH LINE FOR THE LENGTH OF THE DAM.
2. TIGHTLY ABUT ALL SANDBAGS.
3. STAGGER SANDBAG LIFTS SO THAT THE CENTER OF THE BAG IS PLACED ON THE SPACE BETWEEN BAGS ON THE PREVIOUS LIFT.

INSPECTION

1. ENSURE THE SANDBAGS ARE IN TIGHT CONTACT WITH THE SOIL.
2. LOOK FOR SPLIT, TORN, OR UNRAVELING BAGS.

MAINTENANCE

1. REPLACE DAMAGED SANDBAGS AS NECESSARY.



SILT FENCE GENERAL INSTALLATION

SCALE: NTS



SANDBAG CHECK DAM

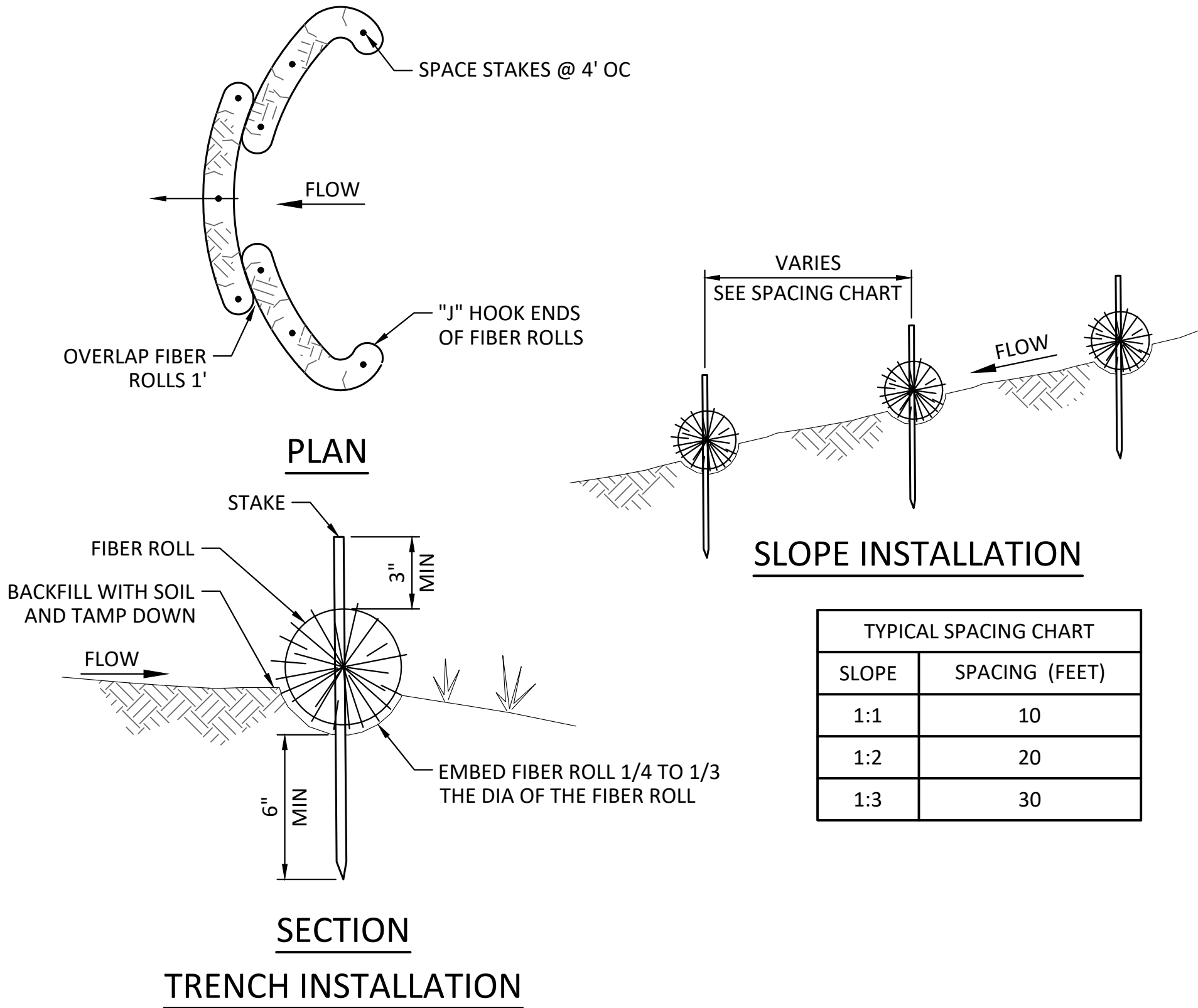
SCALE: NTS

PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation			
DESIGNER/PROJECT ENGINEER: McMillen Inc		JOB #: T.O. 24017	
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0	ISSUED FOR CONSTRUCTION	DCJ 05/18/2026	JMD 05/18/2026



NO.	DRAWING NO./SHEET	REFERENCE DRAWING/DETAIL/PLAN/SECTION DESCRIPTION

DRAWING NAME: SOUTHEAST ALASKA POWER AGENCY TYEE 3rd TURBINE & GENERATOR INSTALLATION EROSION AND SEDIMENT CONTROL STANDARD DETAILS 3	
REF DWG(S):	
DRAWING NO.: H02-D-51-0033-R00	SHEET 123 OF 144



TRENCHED INSTALLATION NOTES:

1. DIG TRENCHES AND PLACE FIBER ROLLS IN THE TRENCHES.
2. CURVE BACK THE UPSLOPE END OF THE FIBER ROLL IN A "J" HOOK.
3. SPREAD EXCAVATED MATERIAL EVENLY ALONG THE UPHILL SLOPE AND COMPACT USING HAND TAMPING OR OTHER METHODS.
4. STAKE THE ROLL EVERY 4 FEET AND WITHIN 1-FOOT OF THE ENDS. LEAVE 3 INCHES OF THE STAKE ABOVE THE ROLL.
5. DRIVE STAKES THROUGH THE MIDDLE OF THE FIBER ROLL.
6. IF REQUIRED, PILOT HOLES FOR THE STAKES MAY BE CREATED BY DRIVING A STRAIGHT BAR THROUGH THE ROLL.

SLOPE INSTALLATION NOTES:

1. INSTALL ON A SLOPE TO SHORTEN THE SLOPE LENGTH.
2. START INSTALLATION DOWNSLOPE.
3. SPACE ROLLS ACCORDING TO THE SPACING CHART AND DECREASE SPACING ON MORE ERODIBLE SOILS AND INCREASE SPACING ON ROCKY SOILS.

C905 FIBER ROLLS FOR EROSION AND SEDIMENT CONTROL

SCALE: NTS

PROJECT: Southeast Alaska Power Agency - Tyee 3RD Turbine & Generator Installation			
DESIGNER/PROJECT ENGINEER: McMillen Inc		JOB #: T.O. 24017	
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DRAWING NAME:		SOUTHEAST ALASKA POWER AGENCY TYEE 3rd TURBINE & GENERATOR INSTALLATION EROSION AND SEDIMENT CONTROL STANDARD DETAILS 4	
REF DWG(S):			
DRAWING NO.:		H02-D-51-0034-R00	SHEET 124 OF 144

Appendix B

Best Management Practices



Alaska Department of Transportation and Public Facilities

Alaska Storm Water Pollution Prevention Plan Guide

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List of Acronyms

AASHTO	American Association of State Highway and Transportation Officials
ATS	Active Treatment System
ADF&G	Alaska Department of Fish and Game
AK-CESCL	Alaska Certified Erosion and Sediment Control Lead
APDES	Alaska Pollutant Discharge Elimination System
BMP	Best Management Practice
CGP	Construction General Permit
CISEC	Certified Inspector of Sediment and Erosion Control
COE	Corps of Engineers
CPESC	Certified Professional in Erosion and Sediment Control
CWA	Clean Water Act
DEC	Department of Environmental Conservation
DOT&PF	Department of Transportation and Public Facilities
EPA	U.S. Environmental Protection Agency
ESCP	Erosion and Sediment Control Plan
FHWA	Federal Highway Administration
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register of Historic Places
NOI	Notice of Intent
NOT	Notice of Termination
MLLW	Mean Lower Low Tide
MS4	Municipal Separate Storm Sewer System
PAM	Polyacrylamide
PS&E	Plans, Specifications, and Estimate
SWPPP	Storm Water Pollution Prevention Plan
TMDL	Total Maximum Daily Load
USFWS	U.S. Fish and Wildlife Service

1 Introduction

- 1.1 Purpose of Guide
- 1.2 Summary of Applicable Water Quality Laws and Regulations

1.1 Purpose of Guide

The Alaska Department of Transportation and Public Facilities (DOT&PF) is committed to preventing stormwater runoff from polluting the nearby environment at Department properties, facilities, and activities. This stormwater construction guide is designed to assist contractors, consultants, and the public understand and comply with the requirements of the Alaska Pollutant Discharge Elimination System (APDES) Storm Water Construction General Permit (CGP) for small and large construction sites. Specifically it assists in developing an effective Storm Water Pollution Prevention Plan (SWPPP) required for coverage under the CGP. Any reference to “you” or “the contractor” in this guide refers to the contractor or contractor’s designee.

There may be rare cases where a DOT&PF project may require coverage under the National Pollutant Discharge Elimination System (NPDES) CGP (e.g. projects within the Metlakatla Indian Reservation or within Denali National Park or Preserve). In these cases, please note that this guide may not adequately address the permit requirements, as there may be slight differences between the state and federal permits.

Erosion is a natural process that can be accelerated by human activity. Construction activities such as removing vegetation, disturbing soil, and redirecting drainage can increase the natural rate of erosion and allow soil particles (sediment) to easily wash away during a storm.

A SWPPP describes all planned controls for erosion and sediment on site. The SWPPP lays out the steps and techniques, in addition to inspection and maintenance procedures, used to reduce pollutants in stormwater runoff leaving the construction site.

You may use a variety of control measures referred to as Best Management Practices (BMPs). The BMPs form the basis of the SWPPP, and the contractor must select them based on the conditions at the construction location. Design, construct, inspect, and maintain the BMPs properly during the life of the project to assure

that the SWPPP is effective (see: Section 2.2.3 of this *Manual*).

1.2 Summary of Applicable Water Quality Laws and Regulations

Federal and state laws exist to minimize environmental harm from stormwater discharge at construction sites. Some laws and their associated regulations require implementing erosion and sediment control measures while others mandate that construction activities maintain water quality. Two important water quality related laws and regulations are the amended Federal Water Pollution Control Act (Clean Water Act or CWA) and the Alaska Water Quality Standards, found in Title 18 of the Alaska Administrative Code (*18 AAC 70.005*).

1.2.1 Clean Water Act

The Clean Water Act is intended to restore and maintain the chemical, physical and biological integrity of U.S. waters. CWA sections related to regulating construction storm water are outlined below.

Section 401: Authorizes states to comment on any federal permit when it has the potential to affect water quality. The Alaska Department of Environmental Conservation (DEC) can add conditions to the federal permit. These conditions would be found in the “401 Certification.”

Section 402: Authorizes the National Pollutant Discharge Elimination System (NPDES), a wastewater discharge program that includes regulating stormwater runoff. Most states have delegated authority to manage the NPDES on behalf of the Environmental Protection Agency (EPA). Alaska began managing this program as the Alaska Pollutant Discharge Elimination System (APDES) in October 2009 (*See: AS 46.03 and 18 AAC 83*). DEC manages the Construction General Permit (CGP).

For complete regulatory information on the Storm Water General Permit for Large and Small Construction Activities, visit the following website: https://dec.alaska.gov/water/wastewater/stormwater/c_onstruction **Section 404:** Authorizes the Army Corps of Engineers (COE) to issue permits to place dredged or fill material in all waters and tributaries of waters used for interstate or foreign commerce, territorial seas, tidal waters, interstate wetlands, and waters with a significant ecological nexus to the any of the above

waters. The EPA produces guidelines for permitting criteria under Section 404.

1.2.2 Water Quality Standards

Water quality standards developed by DEC are found in *18 AAC 70*. The standards are based on the use of the water body. The use categories are:

- water supply,
- recreation, and
- growth and propagation of fish, shellfish, other aquatic life, and wildlife.

Standards vary based on whether they affect fresh or marine water. The CGP requires that erosion, sediment, and pollution control measures be selected so that pollutant discharges are minimized as necessary to meet the applicable water quality standards. The current water quality standards are available on the DEC's website at:

<https://dec.alaska.gov/water/water-quality/>

The next sections cover other federal and state laws and regulations concerning stormwater discharges from construction activities.

1.2.3 The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)

ISTEA Sec. 1057 requires erosion control guidelines be developed for all federally funded highway construction projects. To comply, the Federal Highway Administration (FHWA) adopted the American Association of State Highway and Transportation Officials' (AASHTO) "*Highway Drainage Guidelines*." All state highway agencies adhere to these AASHTO guidelines for their federal highway projects.

The *Alaska Highway Drainage Manual* describes DOT&PF's adoption of the AASHTO guidelines in Chapter 16. The *Alaska Aviation Preconstruction Manual* also uses these guidelines for FAA-sponsored aviation projects.

Chapter 16 requires a SWPPP for all projects that disturb earth, regardless of project size. For projects disturbing less than 1 acre of land, the detail of the SWPPP may be commensurate with the complexity and water quality risk of the project. Water quality standards must be met regardless of project size.

1.2.4 Alaska Statutes 16.05.841 and 16.05.871, Fish Passage and Anadromous Fishes

The Alaska Department of Fish and Game (ADF&G) regulates construction and other activities in specified

streams designated as important for the spawning, rearing or migration of anadromous fish or that affect fish passage in streams with resident fish. A Fish Habitat Permit (Title 16 Permit) may be required for any activity that:

- involves a hydraulic project,
- uses, diverts, obstructs, pollutes, or changes the natural flow or bed of specified river, lake or stream, or
- uses wheeled, tracked, or excavating equipment or log-dragging equipment in the bed of a river, lake, or stream.

Examples of such activities include bridge and culvert work, stream diversions, bank stabilization, water withdrawals, and repetitive crossing of anadromous streams by vehicles.

Title 16 generally does not apply to activities in a marine environment. However, projects affecting the mouth of a stream, defined by a line drawn between the seaward extremities of the exposed tideland banks at Mean Lower Low Tide (MLLW), will require a Fish Habitat Permit.

ADF&G's jurisdictional boundaries are depicted in the following diagram:

http://www.adfg.alaska.gov/static/license/uselicense/pdfs/ord_hi_wtr.pdf

2 SWPPP Process and Plan Requirements

2.1 Introduction 2.2 General Process

2.1 Introduction

The Storm Water Pollution Prevention Plan (SWPPP) complies with the DEC Construction General Permit (CGP). The CGP incorporates the provisions of the effluent limitations guidelines for the construction and development industry.

The SWPPP is an important part of the planning process. It is a site-specific written storm water management plan that demonstrates how the applicant intends to comply with each requirement in the CGP. It must be prepared before a Notice of Intent (NOI) for permit coverage can be issued under the CGP (See: Sec. 2.2.8. of this manual). The DOT&PF *Standard Specifications for Highway Construction* requires that in most cases a SWPPP be approved before any construction activities commence (*Standard Specifications Sec. 641*).

Any earth-disturbing activities associated with a DOT&PF project must address erosion and sediment control. The CGP defines an “Earth-disturbed area” as a portion of any site that has been altered from pre-existing conditions, including but not limited to:

- providing access to a site,
- grubbing and clearing of vegetation (including the roots),
- grading and earth moving,
- altering land forms, or
- other construction-related activities including stockpiles.

A SWPPP2 is used when construction activity outside the Project Zone requires permit coverage per *Standard Specification 641-1.03.4*. The Project Zone is defined in the *Standard Specifications* as:

“The physical area provided by the Department for construction. The Project Zone includes the area of highway or facility under construction, project staging and equipment areas, and material and disposal sites; when those areas, routes and sites, are provided by the Contract.”

Material sites including material processing sites, disposal sites, haul routes, staging and equipment storage areas furnished by the contractor or commercial operator, are not included in the Project

Zone. For all contractor-furnished material sources that are not a commercial plant, the contractor will certify to the engineer that all permits and clearances relating to the use of the material source have been obtained prior to any clearing or ground disturbance in the material source.

This chapter describes the planning process for projects that disturb one or more acres of land or smaller parcels that are part of a larger plan of development and that drain to U.S. waters.

The flowchart in **Figure 1** illustrates the stormwater permitting process for DOT&PF projects.

2.2 General Process

The success of a SWPPP requires a cooperative effort between DOT&PF and the contractor to meet their responsibilities in making the plan effective. The contractor and the Department are co-permittees as both meet the definition of operator on a DOT&PF construction project.

The EPA guidance publication *Developing Your Stormwater Pollution Prevention Plan: A Guide for Construction Sites* outlines the process for developing and implementing a SWPPP for construction activities in the following general steps:

1. Site assessment and planning
2. Selecting erosion and sediment control and good housekeeping BMPs
3. Inspections, Maintenance and Recordkeeping
4. Certification and Notification
5. SWPPP Implementation
6. Final Stabilization and Permit Termination

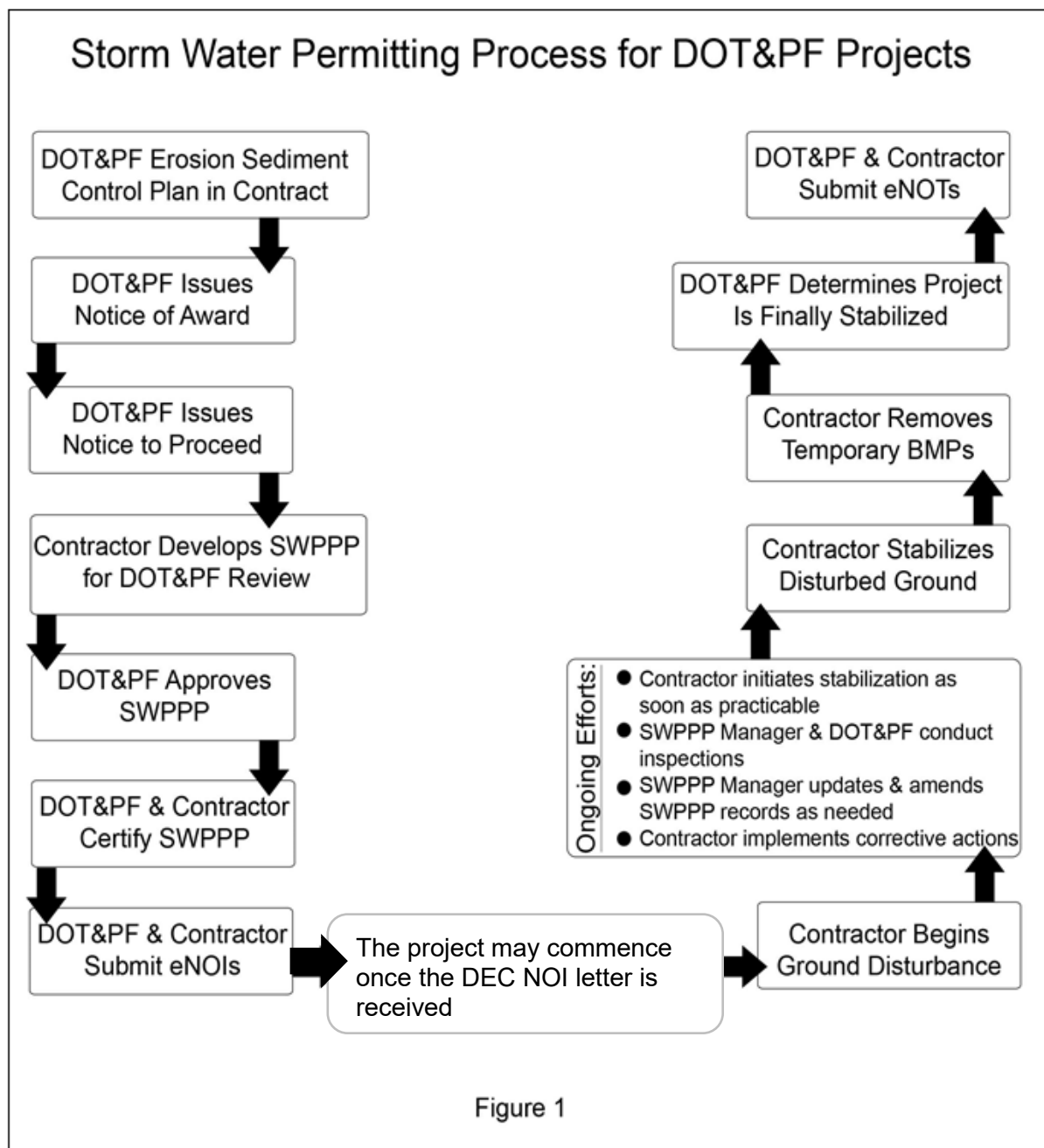
The EPA SWPPP Guide is available here:

https://www3.epa.gov/npdes/pubs/sw_swppp_guide.pdf

2.2.1 Site Assessment and Planning

An Erosion and Sediment Control Plan (ESCP) is a planning document developed by the DOT&PF Design Section that gives bidders a basis for estimating costs and developing an acceptable SWPPP. It is included in the Plans, Specifications, and Estimate (PS&E) package.

An ESCP explains site conditions and illustrates measures to control erosion and pollution. It provides a workable plan that still allows the contractor latitude



to develop a sequence of operations based on season, site conditions, personnel, and equipment.

Using the ESCP and their own construction sequence, the contractor submits the SWPPP to the Department. The project engineer reviews the SWPPP within 14 days after received. If the SWPPP is rejected, the engineer will list the reasons for its denial. When the contractor submits a revised SWPPP, the 14 day review period starts again. This is repeated until the project engineer approves the SWPPP.

The SWPPP must address all sections of the DEC SWPPP Template and added requirements of the

DOT&PF SWPPP template, with careful attention to the sequence of major earth-disturbing activities and the installation sequence of all controls specified for the project. Note that a typical project schedule does not contain enough detail about the erosion and control measures to meet this SWPPP requirement.

The contractor's SWPPP preparer conducts a preconstruction site visit to assess the existing site conditions, and identify stormwater systems, receiving waters, pollutant sources, and non-stormwater discharges. The preconstruction site visit must be documented on DOT&PF Form 25D-106. The

preconstruction site visit must occur before construction activities begin, and it should identify:

1. Opportunities to phase construction to minimize exposed ground and erosion potential,
2. Appropriate BMPs and BMP sequencing, and
3. Sediment controls that must be installed prior to starting earth-disturbing work.

If the SWPPP is prepared when the ground is snow-covered, the site visit may be postponed and conducted after the SWPPP is written. If this is the case, use the site visit to verify that the three considerations listed above are adequately addressed in the SWPPP. If they are not, amend the SWPPP accordingly.

The SWPPP must be completed, approved and certified prior to seeking coverage under the CGP, as described in Section 2.2.8. Once the SWPPP is certified approved the contractor must provide one electronic copy and one hard copy of the SWPPP to the project engineer at least 21 calendar days before the planned start of construction activities.

The contractor's certified SWPPP becomes the project's SWPPP of Record.

2.2.2 Plan Contents

For projects requiring CGP coverage (one acre or more of ground disturbance and drains to the waters of the U.S.), DOT&PF requires that the SWPPP preparer use both the DOT&PF SWPPP Template and the DEC SWPPP template. The DOT&PF SWPPP Template explains how to modify the DEC Template to meet both DOT&PF requirements and CGP. The most current version of the DOT&PF SWPPP Template is provided in Appendix A. It is also available online at: <http://dot.alaska.gov/stwddes/dcsconst/index.shtml>

The SWPPP preparer should use the SWPPP Checklist in Appendix A of this Guide to review the draft SWPPP and ensure all requirements are met. Using a template ensures that the SWPPP is complete and prepared in a consistent order and format. However, you are cautioned to start every SWPPP with a blank template rather than one completed for a different project in order to avoid errors of mixing projects.

This section provides some general information for preparing the SWPPP content; however, the SWPPP Template and the checklist are the best resources for preparing the SWPPP.

All SWPPP related forms and form instructions mentioned in this guide are found at:

http://www.dot.state.ak.us/stwddes/dcsconst/pop_consfirms.shtml

Endangered Species

Review the documentation obtained by the DOT&PF on endangered and threatened species as defined by the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS).

The SWPPP must evaluate whether stormwater discharges will affect listed species. Use the DOT&PF environmental document as a source of information to avoid any duplication of effort. For contractor-supplied support areas (such as material sources, staging yards and disposal areas) or contractor expansion of footprint of DOT&PF-supplied areas, consult either the USFWS website at <http://endangered.fws.gov> or <http://alaska.fws.gov> or the NMFS website at <http://www.fakr.noaa.gov/protectedresources/default.htm>, or one of their field offices listed in Appendix D.

All other regulatory or agency environmental documents and permits should be added to the SWPPP under Appendix D.

Total Maximum Daily Loads (TMDLs)

If there are any identified discharges into a water body with an EPA-approved or established Total Maximum Daily Load (TMDL), these must be identified on the NOI. Incorporate control measures into the SWPPP to ensure discharges of pollutants from construction activities are consistent with the TMDL.

Usually, it is assumed that if DOT&PF is compliant with the CGP, then the discharges will be consistent with the TMDL. If the TMDL specifically precludes construction site discharges, the project is not eligible for coverage under the CGP.

Other Applicable Requirements

The DOT&PF environmental document and other applicable permits may be used as a source of information to show compliance with applicable federal, state, tribal, or local requirements, in order to avoid any duplication of effort.

The SWPPP must summarize how the stormwater control measures will be implemented in compliance with other applicable requirements. This may include, but is not limited to, measures necessary to protect Outstanding Natural Resource Waters, wetlands, migratory birds, historic properties, archeological

sites, and other sensitive resources adjacent to the project.

All other regulatory or agency environmental documents and permits should be added to the SWPPP in Appendix D.

If a sensitive resource such as a historic or archeological resource are discovered during construction, stop work immediately at the location and notify the project engineer or manager. If human remains are encountered;

1. The contractor must immediately stop operations at the encounter site and notify the project engineer.
2. The project engineer will stop all project work and contact the local law enforcement to provide all known information related to the discovery.
3. The project engineer will appoint one or more individuals to stay with the remains until responsible state or local agencies' arrive.
4. The project engineer must contact the region cultural resources specialist and REM.
5. Do not disturb any ground, touch the remains, move the remains, or in any way cause the human remains to change position.
6. Keep all information to the discovery confidential and do not take pictures.
7. For all cases, only the DOT&PF project engineer can resume operations at the encounter site.

Control Measures

Describe the appropriate control measures and BMPs to implement at the construction site and at off-site areas. Include BMPs for erosion control, sediment control, stormwater management measures and good housekeeping practices. Both erosion control and sediment control measures are required. An effective erosion (source) control program reduces the expense and maintenance of the sediment control program.

Describe the installation schedule for all identified BMPs and general sequence of stabilization practices to be implemented at the construction site and the off-site areas where the DOT&PF is a co-permittee. The narrative should describe the installation and

sequencing in relation to the intended major activities that disturb soils (excavating, grading, filling).

Do not provide dates in the narrative. Instead, use language such as “installation will occur prior to...” or “...will occur concurrent with...” or “...will occur upon completion of...” The goal is to sequence activities to minimize the amount of time soil is exposed.

2.2.3 Selecting Erosion and Sediment BMPs

Two key ways to prevent erosion and reduce sediment transport are to (1) ensure existing vegetation is preserved wherever possible and (2) to minimize the amount of disturbed land at any one time. The sooner stabilization is achieved in areas where work has stopped, the less disturbed ground there is to work to stabilize.

Essential to the success of the BMPs is understanding the interaction or codependency of the BMP to control stormwater into, through and off the construction site.

The correct BMP for the situation, and the timing of the BMP installation for the particular site situation, is paramount to whether the BMPs will work.

Evaluate each BMP by its contribution to the entire system and not simply as a measure to meet a DOT&PF standard.

Appendix B provides a list of detailed BMPs to consider during the construction of DOT&PF projects. This list of BMPs include the application, design, construction, inspection, maintenance, and removal guidelines.

The following websites provide additional current BMP information:

- *Alaska Storm Water Guide* (DEC) at <https://dec.alaska.gov/water/wastewater/stormwater/guidance>
- “National Menu of Best Management Practices(BMPs) for Stormwater” (EPA) at <https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater#edu>
- International Erosion Control Association at <http://www.ieca.org/ieca>
- Alaska Certified Erosion & Sediment Control Lead Certification Training Program at <http://www.ak-cescl.com>

The SWPPP must include the description and location of all BMPs to be implemented at the construction site as well as listing the contractor, subcontractor, utility company, etc. responsible for implementing each.

Types of BMPs

The greatest water pollution threat from soil-disturbing activities is the introduction of sediment from the construction site into storm drain systems or natural receiving waters. Soil-disturbing activities such as clearing, grubbing, and earthwork increase the exposure of soils to wind, rain, and concentrated flows that cause erosion. There are four primary types of BMPs necessary to combat storm water:

1. Erosion control measures (stabilization) to control erosion at the source.
2. Sediment control measures, trap, infiltrate, or settle out mobilized sediments before it leaves the site.
3. Stormwater management when structures or practices are employed to divert, infiltrate, reuse, or otherwise reduce stormwater runoff to reduce discharge of pollutants.
4. Good housekeeping are simple practices of keeping all materials, supplies, and containers well organized, storing materials securely when not in use, and only having materials that are needed for the current work activity in the work area.

The contractor selects BMPs based on the soil properties, terrain characteristics, intensity and duration of rainfall, volume and characteristics of the stormwater flow at the location and the duration that the BMP is required to function. The next section presents a brief description of the types of BMPs and examples of each.

Erosion Control BMPs are measures to prevent or minimize the loss of soil from land surfaces. This can be accomplished through preventative practices and stabilization measures.

Preventative practices include:

- Site delineation
- Scheduling
- Perseveration of Existing Vegetation
- Phasing Construction Activities.

The CGP requires natural buffer areas be maintained at stream crossings and around the edge of any identified U.S. waters within or immediately adjacent to the site.

Stabilization measures use ground cover to protect soils. Initiate stabilization measures immediately after temporarily or permanently ceasing construction activity on a portion of the site. The CGP sets the maximum number of days allowed before initiating stabilization. In addition, the CGP requires that permanent stabilization measures be completed, or maintained, within seven calendar days of initiating those measures.

Examples of stabilization measures include:

- Temporary or permanent seeding and mulching (BMP-52.00, 53.00, 57.00)
- Tackifier (BMP-56.00)
- Rolled erosion control products (BMP-18.00)
- Compost blanket (BMP-50.00)
- Preserving existing grass, trees, or other vegetation (BMP-38.00)

While temporary or permanent seeding and surface roughening are erosion controls, neither are considered sufficient by themselves. They must be implemented in conjunction with other compatible stabilization BMPs to effectively control erosion.

Applying mulch to disturbed soils provides water retention, soil retention, and protection for germinating seeds. Mulch should completely cover the soil surface. Mulch and Rolled Erosion Control Product (RECP) or blankets are rated for longevity and very effective.

A tackifier is a biodegradable adhesive for soil, compost, seed, and mulch to aid in the soil stabilization process. A tackifier must be applied from more than one direction to ensure complete coverage. Surface roughening of slopes should occur before applying tackifier. Tackifiers can be applied alone, but are frequently pre-mixed with mulch fiber blends used in Hydraulic Erosion Control Products (HECP).

Multiyear projects and over-wintering projects require fall stabilization at sites in a manner that minimizes pollution during spring thaw.

For more information about seeding methods and species, see A Revegetation Manual for Alaska and the Alaska Coastal Revegetation and Erosion Control Guide, at: <http://www.plants.alaska.gov/>

Preserving existing vegetation is the best and cheapest preventative measure against erosion at a construction site. Vegetation limits the capacity of flowing water to detach soil particles and transport sediment in two

ways. It decreases the velocity of raindrops as they hit the ground and decreases runoff volume.

Sediment Control BMPs are temporary measures that minimize the amount of sediment travelling in runoff and discharges from the project.

Sediment controls that fill up too quickly indicate that the erosion controls are not functioning adequately, are installed in the wrong place or are an inappropriate BMP for the task. Sediment control examples include:

- Check dam (BMP-31.00, 32.00, 33.00)
- Rock Filter Berm (BMP-16.00)
- Prefabricated barrier system (BMP-13.00)
- Fiber rolls (BMP-10.00)
- Silt fence (BMP-20.00)
- Tracking control at exits and entrances (BMP-23.00 & 24.00)
- Drain inlet protection (BMP-25.00, 26.00, 27.00, 28.00, & 29.00)
- Silt curtain (BMP 19.00)
- Temporary Sediment Traps, Ponds and Basins

Temporary Check Dams reduce scour, reduce velocity, dissipate energy, prevent erosion, and settle sediment behind the weir structure in an unlined channel or vegetative swale.

A Rock Filter Berm is a perimeter sediment control device to prevent sediment in silt-laden sheet flow from leaving the construction site. A properly installed berm intercepts sheet drainage, contains sediment on-site, and does not permit spillover or bypass.

A Prefabricated Barrier System slows and spreads overland flows and to trap sediment and prevent it from being transported out to the project area.

The purpose of Fiber Rolls is to shorten the slope and help to slow, filter, and spread overland flows. They capture sediment, organic matter, and seeds that might otherwise be washed downslope. They are used as a down-gradient barrier intended to intercept sheet flow runoff.

Silt Fence traps sediment, preventing it from being transported away. Silt fencing is a geotextile fabric, usually 36 inches wide, with even spaced pockets for supporting posts. The main benefit of silt fencing is to slow runoff and cause heavier particles in the runoff to settle.

Stabilized Construction Exits are used to remove soils from vehicle tires to minimize sediment transportation onto paved roads by vehicles.

Storm Drain Inlet Sediment Protection is used prior to permanent stabilization of the disturbed area. They prevent sediment from entering down-gradient storm drainage systems, by surrounding or covering the inlet with a filtering material.

Silt Curtains isolate work areas within or adjacent to water bodies. When properly installed silt curtains function as a floating silt fence, retaining sediment within their boundaries.

The CGP requires temporary or permanent sediment basins for projects that have a common drainage area of 10 or more disturbed acres where practicable. It must provide storage for a calculated volume of runoff from the drainage area from a 2-yr, 24-hr storm or provide 3,600 cubic feet per acre drained if the calculation is not performed. Sediment basins should not be installed in areas known to have permafrost.

Storm water management BMPs avoids or minimizes erosion by diverting stormwater around or within a project site. Water within the project can be carried so that it does not come in contact with the disturbed ground. Storm water management BMPs include:

- Contained silt control system (BMP-07.00)
- Temporary diversion conveyance (BMP-34.00 & 35.00)
- Slope drain (BMP-21.00 & 22.00)
- Interception ditch (BMP-11.00)

Good Housekeeping BMPs address the practice of keeping all materials, supplies and containers well organized, storing materials securely when not in use, and only having materials that are needed for the current work activity in the work area. In addition, they prevent pollution by addressing chemicals, sanitary waste, fuel and other pollutants, and administration practices or procedures. These BMPs include:

- Vehicle/Equipment storage, maintenance and fueling (BMP-42.00)
- Tire wash (BMP- 36.00 & 37.00)
- Sanitary waste management (BMP-41.00)
- Concrete washout (BMP-06.00)
- Street sweeping (BMP-55.00)
- Construction waste management (DEC stormwater guide)

Some of the CGP required SWPPP elements are contained in the DOT&PF-required *Hazardous Material Control Plan* (HMCP). Incorporate the HMCP into the SWPPP as an appendix and reference it where appropriate. The HMCP Template is available online at:

<http://dot.alaska.gov/stwddes/dcsconst/index.shtml> .

BMP Manual or Publication Citations

Fully describe all selected BMPs in the SWPPP, including their purpose, applicability, limitations, design specifications, installation, maintenance requirements, and removal procedures. This information is typically provided in a BMP manual or other publication. Consider including the DOT&PF contract specifications and plan sheets or the manufacturer's specifications, though these resources do not always provide all the necessary information. Any missing information must be incorporated by the SWPPP preparer.

Reference all manuals or publications used to select and design BMPs described in the SWPPP. Include the author's name, the title of the publication, the publisher, and the date of publication in the citation.

If no published source exists for a BMP designed for a project specific situation, then note in the SWPPP "No published BMP manual was used for this design."

A caution about BMPs from other State manuals, when reviewing BMP requirements and obligations refer to the details and make sure the Department is not liable for items that do not apply with the Alaska CGP. If a SWPPP preparer alters the specification of a BMP, the SWPPP preparer **must** sign and date the altered BMP. Guidance for citing BMP manuals and other BMP publications is included in the DOT&PF SWPPP Template.

Release of Reportable Quantities of Oil or Hazardous Substances

Because construction personnel may handle and store, use, and dispose of petroleum and certain hazardous substances related to construction activities and equipment, all spills must be reported in accordance with the CGP.

If a spill of oil reaches any surface waters or a hazardous substances spill exceeds the Reportable Quantity level, notify the project engineer and the DEC Spill Prevention and Response program as soon as the spill becomes known. Any release of a hazardous substance must be reported as soon as the person has knowledge of the discharge.

The following list delineates classifications of petroleum spills and the mechanism and timing of notification:

- **1 to 10 gallon spill:** A person in charge of a facility or operation shall maintain, and provide to DEC on a monthly basis, a written record of all releases of oil.
- **10 gallons but less than 55 gallon spill:** Any release of oil must be reported within 48 hours after the person has knowledge of the discharge.
- **A spill 55 gallons or more:** Any release of oil must be reported as soon as the person has knowledge of the discharge.

Prior to disposal of contaminated material or debris, submit a Contaminated Media Transport and Treatment Disposal Approval Form to DEC Spill Prevention and Response for disposal approval.

Refer to Appendix E in this guide for additional reporting requirements.

Non-Storm Water Discharges

The CGP allows a limited number of non-stormwater discharges. Within the SWPPP, identify any allowable sources of non-stormwater that will be combined with stormwater discharges from the construction activity. Do not include flows from fire-fighting activities.

The following examples are common non-stormwater discharges associated with construction activity. These discharges must meet water quality standards and cannot contain pollutants, such as petroleum.

- Water used to control dust,
- Potable water including uncontaminated water line flushing's,
- Water used to wash vehicles and equipment (no detergents are permitted),
- Pavement wash waters (where no spills or leaks of toxic or hazardous materials have occurred and no detergents used),
- Water from uncontaminated excavation dewatering activities that are treated by an appropriate control measure, and
- Landscape irrigation

Identify and implement pollution prevention measures for the allowable non-stormwater discharges and eliminate or reduce them to the extent feasible.

Describe prevention efforts for non-stormwater discharges barred by the CGP from release into U.S. waters.

Stormwater Discharges

If there has been an incident of non-compliance with the CGP that may endanger health or the environment, immediately report the incident to the project engineer and the DEC according to the CGP, *Appendix A, Part 3.0*.

An incident of non-compliance is considered any type of pollutant, such as turbidity or petroleum that enters storm water runoff and flows into a receiving water body, MS4, or wetland that is connected to waters of the U.S..

An oral report to DEC must be made within 24 hours after the permittee becomes aware of the circumstance. In addition, complete the DOT&PF Noncompliance Form 25D-143 within five days after the permittee becomes aware of the circumstance, and coordinate filing the written report with the project engineer. The report must include:

- A description of the noncompliance and its causes,
- The exact dates and times of noncompliance,
- If not yet corrected the anticipated time the project will be brought back into compliance, and
- The corrective action taken or planned to reduce, eliminate and prevent reoccurrence.

The Contractor is responsible for their own reporting. The DOT&PF *standard specification 641-3.01.3* requires that the contractor to the extent possible coordinate reports with DOT&PF prior to DEC submittal. The best coordination would be when the DOT&PF and contractor reports use the same language, time and date.

Notify the project engineer immediately if there is incident of non-compliance with a COE Permit.

2.2.4 Treatment Chemicals and Active Treatment Systems

The CGP allows for the use of treatment chemicals and Active Treatment Systems (ATS). Treatment chemicals use coagulation or flocculation can reduce sediment in stormwater discharges. An ATS utilizes a mechanical, or active, means for reducing turbidity in stormwater caused by fine sediment

Treatment Chemicals

Anyone handling the treatment chemicals must have an AK-CESCL certification, and it must be documented in the SWPPP.

Cationic polymers (with the exception of chitosan as part of an ATS) are prohibited, as is the application of treatment chemicals directly to waters of the U.S.

The selected treatment chemical must be appropriate for the site topography, soil types, amount of precipitation and type of use. This is confirmed either by testing the chemical with on-site soils or evaluating the product's data for use on similar soils.

Apply treatment chemicals in conjunction with downstream physical control measures. When applied through the use of a manufactured product (e.g. gel bars, floc blocs, etc.), there must be at least 100 feet of ditch length downstream of the last manufactured product prior to reaching U.S. waters. Anyone handling the treatment chemicals must be AK-CESCL certified.

Active Treatment Systems

If you anticipate using an ATS, submit the required documentation to DEC 14-days prior to its use. DEC submittal requirements are online at: http://www.dec.state.ak.us/water/wnpspc/stormwater/sw_construction.htm.

The SWPPP must also include the required documentation in accordance with the CGP.

2.2.5 Permanent Storm Water Management Controls

The DOT&PF project design will include measures to control pollutants in storm water after construction is completed. Discuss these permanent controls in the SWPPP and describe how they will be protected during construction. Examples:

- Biofilteres
- Detention/Retention Devices
- Earth Dikes, Drainage Swales, and Lined Ditches
- Infiltration Basins
- Vegetated Strips and/or Swales

If the project is located in a Municipal Separate Storm Sewer System (MS4) consult with the MS4 operator. Operators of a regulated MS4 must comply with applicable design criteria for a variety of structural storm water management controls or Low Impact

Development (LID) elements. A variety of stormwater controls and LID elements that are not discussed here may be applicable to site specific situations.

2.2.6 Winter Considerations

The CGP has provisions for winter shutdown, winter construction and winter clearing activities.

Winter Shutdown

If winter shutdown is anticipated for a project, the project must be 100 percent stabilized before shutdown.

Document the anticipated dates of fall freeze-up and spring thaw in the SWPPP. Provide acceptable control measures prior to, during, and at the conclusion of winter shutdown to stabilize:

- conveyance channels,
- disturbed soils,
- slopes, and
- soil stockpiles.

Frozen ground by itself is not considered adequate stabilization.

Erosion and sediment controls must be capable of maintaining soil stability throughout the duration of spring thaw.

Winter Construction

Winter construction activities must utilize control measures that will minimize erosion or sediment runoff during spring thaw. CGP coverage is unnecessary for constructing ice roads or placing sand or gravel on frozen tundra with no excavation or potential to pollute waters of the U.S.

Winter Clearing

Cutting trees and brush on frozen ground must be done in accordance with the USFWS Migratory Bird Treaty Act. That act describes a “migratory bird window,” which is a period of time when birds are nesting. Clearing is not recommended without USFWS-authorized avoidance measures. The vegetative mat must be left undisturbed.

Use the DOT&PF environmental document as a source of information for DOT&PF-supplied areas to avoid any duplication of effort. In the case of contractor-supplied support areas or contractor expansion of DOT&PF supplied areas, notify the project engineer and consult with the USFWS.

If clearing is anticipated after spring thaw, or current temperatures are causing snowmelt, then CGP coverage is required. A SWPPP must be developed and NOI must be filed prior to clearing.

2.2.7 Discharging to an Impaired Water

The CGP requires turbidity sampling for projects that disturb 20 acres or more at one time and discharge into a (Category 5 waterbody). Projects meeting these criteria must develop, implement, and modify a monitoring plan, as necessary. If a monitoring plan is required for a project, it will be provided by DOT&PF and must be included as part of the SWPPP.

An AK-CESCL certified person “knowledgeable in the principles and practices of water quality monitoring” must implement the plan.

All monitoring data collected must be submitted to DEC in an annual report. If a discharge exceeding the water quality standard for turbidity is discovered, corrective action must be implemented within seven days of the date of discharge. A Corrective Action Report must be sent to DEC no later than 14 days after receiving the monitoring results.

2.2.8 Certification and Notification

The contractor and DOT&PF are “co-permittees” and each must receive coverage under the CGP. To receive coverage, each must submit an electronic NOI form to DEC. For a copy of the form, complete instructions on filing and to file the NOI online, go to <https://dec.alaska.gov/water/wastewater/stormwater/apdesenoi/>

The eNOI form requires the following information:

1. Applicable permit number for which you are requesting coverage (the permit number is AKR100000).
2. Operator name, contact person, address, telephone number Billing contact information
3. Project/site name, address, and latitude/longitude
4. Whether the SWPPP precedes the filing of the NOI (required by the permit), and location for viewing the applicable SWPPP
5. Name of the water(s) of the U.S. into which your site discharges (see NOI instructions for further explanation)
6. Whether the project discharges into a waterbody that is impaired or has a TMDL and if the discharge is consistent with the assumptions and requirements of applicable EPA approved or established TMDLs.

7. Estimated dates of commencement of construction activity and final stabilization (i.e., project start and completion dates)
8. Total acreage (to the nearest tenth of an acre) to be disturbed for which you are requesting coverage
9. A certifying statement signed and dated by both a corporate officer including name and title (as defined by the Standard Permit Conditions of the CGP) and the DOT&PF regional director

DEC established the use of the eNOI to avoid the delay involved in mailed paper NOIs. A “myAlaska” account is needed to use the DEC eNOI system.

The eNOI requires the same information as the standard NOI. Staff will prepare a hardcopy NOI for the certifying official’s use when submitting the eNOI. The appropriate corporate officer signs the hardcopy NOI and it is placed in the SWPPP.

DEC requires that only one of the co-permittees pay the required NOI fee. DOT&PF contracts require that the contractor pay the fee.

DOT&PF and the contractor should submit their NOIs as simultaneously as possible since construction activities cannot begin until DEC activates both NOIs. The CGP defines construction activities in terms of land disturbance. For example, mobilizing equipment may disturb land if moved over unstable soils, but would not disturb land if moved over paved areas. No land disturbance may occur prior to the acceptance of both NOIs, but non-land disturbing activities are still allowed.

The SWPPP must be certified by the DOT&PF and the contractor before submitting the NOI using Form 25D-109 for DOT&PF and Form 25D-111 for the contractor.

The DOT&PF Regional Director delegates signature authority to the position of project engineer (delegation to a position rather than an individual allows another person to sign in the case of changes of personnel during vacation or turnover) using Form 25D-107. The project engineer then certifies the SWPPP using Form 25D-109.

DOT&PF requires the contractor’s corporate officer to delegate signature authority for SWPPP certification to the superintendent, using DOT&PF Form 25D-108. Either the contractor’s corporate officer or the superintendent (only after being delegated) can certify the SWPPP using Form 25D-111. The contractor

must also have each subcontractor read and certify the SWPPP using Form 25D-105 before they commence work at the project site.

The contractor compiles and retains the following records with the SWPPP:

1. SWPPP Certification Form, original copies, one for each operator DOT&PF Form 25D-109 and 25D-111
2. Delegation of Signature Authority, original copies, one for each operator DOT&PF Form 25D-107 and 25D-108
3. DOT&PF Form 25D-105 for each subcontractors

Notice of Intent (NOI)

Include the signed and certified NOI forms that were submitted to DEC. Include both DOT&PF’s and the contractor’s NOIs. Also, include a copy of the DEC email notifying you of both their receipt of the administratively completed NOI and the date it becomes active.

DEC and Local Requirements

If a project disturbs five acres or more of ground outside the area of a MS4 permitted municipality, submit both the DOT&PF- and contractor-certified SWPPP to DEC at the same time the NOI is filed.

Current MS4 permitted municipalities include Anchorage, Joint Base Elmendorf-Richardson, Port of Anchorage, Fairbanks North Star Borough, City of Fairbanks, and North Pole.

Use the address below:

Alaska Department of Environmental Conservation
Wastewater Discharge Authorization Program
Storm Water
555 Cordova Street
Anchorage, AK 99501

For projects within the MS4 that disturb one acre or more (or in some locations, 10,000 square feet or greater), the SWPPP must be submitted to the appropriate MS4 entity *prior* to filing the NOI.

MS4 SWPPP review requirements vary by permit and municipality, so identify the requirements specific to the MS4 permit for that project location.

Local governments may have ordinances regarding stormwater. Your SWPPP should demonstrate compliance with applicable local requirements.

Main Entrance Signage Post the following in a publicly accessible, noticeable location near the construction site's main entrance:

- APDES permit authorization numbers Name and phone number of contractor's local contact (if different from the NOI)
- Location of the SWPPP or the name and telephone number of the contact person for scheduling a SWPPP reviewing time.

2.2.9 SWPPP Implementation

DOT&PF offers SWPPP Forms and Form Instructions to help the SWPPP Manager in maintaining the SWPPP and completing the forms. These are available electronically at:

<http://dot.alaska.gov/stwddes/dcsconst/index.shtml>

The SWPPP Forms and Instructions are the best resource for ensuring a compliant SWPPP. The information in this section is intended to provide some general background on SWPPP content.

SWPPP Modifications

The contractor is responsible for amending or updating the SWPPP as conditions dictate (i.e., changes in design, construction, site conditions, or BMPs). For a construction activity to comply fully with the CGP, and for the SWPPP to be effective, the plan must accurately reflect current site features and operations.

Most SWPPP amendments require additional documentation attached to them. However, not all SWPPP updates require an amendment. The next two sections help differentiate the importance between when a SWPPP amendment is needed.

SWPPP Amendments

A SWPPP amendment is necessary if there are any changes in the construction or if the previous plan is ineffective in controlling pollutants. The CGP requires an amendment to be added to the SWPPP within seven days from the day a problem is identified.

The following actions are a few examples that require a SWPPP amendment:

- Addition of a structural BMP not shown on the original SWPPP.
- Deletion of a structural BMP that is shown on the original SWPPP.
- Addition of different manufactured BMP.

- Change in named personnel (SWPPP Manager, Superintendent).
- Change in inspection frequency.
- Addition of support facility site.

Amendments may be done by adding new pages of text or drawings, or by markups in the margins of text or on the plan sheets.

Amendments are dated, initialed, easy-to-read, approved by an AK-CESCL (or equivalently) certified individual, and listed in the SWPPP Amendment Log DOT&PF Form 25D-114.

Only the contractor's Superintendent and SWPPP manager may amend the SWPPP per *Standard Specification 641-3.03*. Both must have a current AK-CESCL certification. Only the DOT&PF project engineer can approve amendments. To signify approval of a SWPPP Amendment, the AK-CESCL can sign the Amendment Log and date and initial the actual page the amendment is on. The signature must be the full name of the approving individual. The certification number and expiration date of the approving individual must also be included on the amendment log.

SWPPP Updates

Updates simply record actions that were planned for in the SWPPP. They include dates of installation, removal, or regular maintenance of BMPs that occur as per the SWPPP.

These notes are typically hand-written on the plan sheets, with each entry dated and signed or initialed.

When a plan sheet becomes too full to be read easily, fold and date it, transfer the current conditions to a new sheet and continue to document amendments and updates to the new sheet. Place the new page after the old page in the SWPPP binder.

In addition, the permit and DOT&PF contract require continually recording updates on logs, such as the rainfall, grading and stabilization activities and corrective actions.

Plan Location and Availability

You must keep a copy of the SWPPP at the construction site from the time construction begins until final stabilization is achieved. The permit allows the SWPPP to be kept off-site during winter shutdown provided the NOI posting sign contains the winter location.

The SWPPP must be made available upon request by DEC, EPA, or other agencies as identified in the permit. If DEC requests information related to the CGP, the information must be provided to them within 30 days. The contractor's copy is the project's active SWPPP of Record.

Inspections

Identify the personnel responsible for these inspections and describe their qualifications. The permit requires all inspectors to be qualified in the following; erosion and sediment control and storm water quality protection. For DOT&PF projects, inspectors meet both requirements if they are current in one of the following certifications: Alaska Certified Erosion and Sediment Control Lead (AK-CESCL), Certified Professional in Erosion and Sediment Control (CPESC) and Certified Inspector of Sediment and Erosion Control (CISEC).

Place copies of the certifications in the appropriate appendix of the SWPPP.

Describe the plan and frequency for inspection of the project in accordance with the CGP and contract. If the site is eligible for reduced inspection frequency indicate why it is eligible and provide the beginning and end dates. When changing from the regular inspection frequency to a reduced inspection frequency, or waiving inspections during winter shutdown, amend the SWPPP before the next regular inspection before conducting inspections on the new schedule.

Be sure the scope of the inspection is thorough enough to meet the CGP requirements. Inspections must include:

- all project areas disturbed by construction activities,
- observation of all of the discharge points (where collected and concentrated storm water exits the project, such as a drain inlet, ditch, stream, gully, swale, etc.),
- all of the installed control measures BMPs,
- areas where temporary stabilization measures have been placed,
- areas where permanent stabilization measures have been initiated but not yet reached "final stabilization,"
- locations where vehicles enter and exit,
- locations where vehicles are stored, fueled or maintained to check for leaks or spills, and

- locations where materials are stored and exposed to precipitation.

Use Inspection Report Form 25D-100 and follow the Inspection Report Form Instructions to ensure it meets CGP and DOT&PF requirements.

Joint Inspections

SWPPP inspections must be conducted jointly by the SWPPP Manager or Superintendent titles and the Departments Stormwater Inspector per *Standard Specification Section 641-2.04 and 641-3.03*, unless approved by the engineer.

If the current SWPPP Manager is unavailable for an inspection, then an alternative SWPPP Manager may be assigned during the time of absence through a SWPPP amendment. Similarly, DOT&PF may have someone fill in for an absent stormwater inspector.

For the above paragraph, "engineer approval" means when both inspectors must fly to a remote area in the winter, or when one inspector is sick, or unable to travel to the site due to weather, or when the project engineer determines a safety concern which makes the joint inspection impracticable. A memo explaining the situation is amended to the SWPPP. The operator who conducts the inspection must provide a copy of the Inspection Report to the other operator within three days of the inspection date and document the date of the report transmittal.

Inspection reports are certified by the project engineer and the superintendent, both must have a current AK-CESCL certification or its equivalent.

Corrective Actions

Corrective action is required when an inspection reveals a problem such as the need for a new BMP, the need to fix a BMP, a BMP being overdue for maintenance, a leak needs to be fixed and cleaned up, or a noncompliance with the CGP.

Corrective actions identified through the inspection must be described in the inspection report form, including the date by which the corrective action must be completed. This date must conform to CGP and contract requirements.

If control measures are not working effectively and water quality is threatened, take immediate action.

Each action item must be transferred to the Corrective Action Log (Form 25D-112), which documents the cause of the corrective action, the response, and date completed.

Corrective actions found outside of an inspection must also be documented in the Corrective Action Log and need to be corrected within the corrective action deadlines per the CGP *Section 8.2 and Standard Specification Section 641-3.01 and 641-3.03*. The Corrective Action Log provides a means to distinguish these corrective actions from those identified during an inspection.

Regular Maintenance

Describe the procedures to regularly maintain temporary soil stabilization measures, existing vegetation, erosion and sediment control measures, and other protective measures.

Such practices may include removing sediment from structural controls (such as sediment ponds/traps, silt fences, or check dams), reinforcing and repairing silt fences or wattles, or reseeding areas as needed.

For sediment control BMPs such as inlets, check dams, berms, or other control measures the CGP requires maintenance before sediment accumulates to more than one-half the distance up the above-ground height.

The CGP requires maintenance for silt fence when accumulations reach one-third the distance of the above-ground height for silt fence.

For sediment traps or sediment ponds, the CGP requires the removal of sediment when the design capacity has been reduced by fifty percent.

Maintenance procedures for other BMPs should be described in the SWPPP and may be specified in the contract.

Describe in the SWPPP winter shutdown maintenance procedures to ensure all control measures will remain functional during that time. It is particularly important for the control measures to be effective at the time of spring thaw.

The SWPPP documents regular maintenance including the date the maintenance need was discovered, the date the maintenance occurred, and the date the control measure returned to full function. The documentation should be specified on site maps and the corrective action log.

Recordkeeping

Include in the SWPPP a copy of the CGP that is current at the time the NOI is filed.

Keep all the forms that are included in Appendix A of this Guide in the SWPPP. Keep the forms up-to-date, preferably a daily basis, but at least on a weekly basis.

Other records to keep with the SWPPP include:

- A copy of the signed NOI from every permittee (usually the contractor and the DOT&PF, but there may be others).
- Copies of the DEC acknowledgement of receipt of each NOI.
- Correspondence related to storm water with regulatory authorities.
- Records of non-storm water discharges.
- Documentation of the SWPPP preparer's stormwater inspector's, Superintendent's and Project Engineer's erosion and sediment control certification(s). Be careful to update these records anytime there is either personnel turnover or someone goes on leave and is temporarily replaced. In the latter case, include a SWPPP amendment that delegates the position responsibilities and update the staff tracking log.
- Copy of the DOT&PF Letter of Non-Objection from DEC regarding the permanent storm water management (when it is required).

SWPPP Records are legal documents and need to be prepared and kept with care.

Do not white-out mistakes on any SWPPP records (including inspections and logs). Simply cross-out the erroneous information, provide the correct information, and date and initial the correction.

For Inspection Reports, consult the 25D-100 Inspection Report Instructions for special guidance on all SWPPP site inspection related items.

Regulatory Inspection

When a regulatory inspector (local government, DEC, or EPA) visits a site, the contractor's SWPPP is the SWPPP of Record.

Based on the reason for the inspection (routine or compliance), the permittee may or may not be contacted ahead of time to schedule the inspection. Do the following for these inspections:

- Be courteous, professional and comply with all inquiries and requests for information.

- Notify the project engineer as soon as possible when a regulatory inspector contacts you or arrives on site.
- Request a business card or ask to see the inspector's credentials.
- During the inspection take your own photos/notes of items the inspector points out.
- Document all items mentioned and photographs.
- Ask for the exit meeting to review site visit and document everything.

Retention of Records

Retain the following SWPPP documents for three years after filing the NOT:

1. A copy of the SWPPP, including any modifications made.
2. Inspection records detailing dates of earth-disturbing activities, BMP corrective action dates, the end of construction, and stabilization dates.
3. A copy of all monitoring information and reports (if applicable).
4. A copy of the NOI and NOT.
5. Any other reports and certifications required by the CGP.

2.2.10 Contractor and Subcontractor

The SWPPP describes the roles and responsibilities of the various entities that are active at a project.

Identify the personnel of the prime contractor (and subcontractor, if applicable) responsible for implementing the SWPPP. List all contractors (prime or sub) who perform earth-disturbing activities or install and maintain erosion and sediment control measures.

If applicable, include a description of the utility company's role and responsibilities. If they have their own SWPPP, just reference that document in your SWPPP.

If the contractor has provided support activities, such as disposal or material sites that are covered in a separate SWPPP, then the project SWPPP must reference the other SWPPP plans.

2.2.11 Final Stabilization and Permit Termination

The SWPPP remains in effect until NOTs are filed. Final stabilization means all earth-disturbing activities at the project site are complete and all disturbed land is stabilized through mechanical or vegetative means.

Non-vegetative Stabilization includes:

- Paving
- Riprap
- Retaining structures
- Clean gravel
- Any naturally non-erodible surfaces such as bedrock and porous parent material

Vegetative stabilization means planting a uniform perennial vegetative cover with a density of 70 percent of the native background cover within the total disturbed area. In arid and semi-arid areas, temporary erosion control measures (e.g. degradable rolled erosion control product) should be used to provide erosion control for at least three years without active maintenance. A 70 percent vegetative cover needs to be established within those three years.

When background cover is less than 100 percent (e.g.: beaches or arid areas), the stabilization requirement is adjusted (see the Definitions in the CGP).

The project engineer will verify final stabilization. An operator cannot file for termination of permit coverage until there is stabilization for all disturbed areas and all temporary BMPs are removed.

If the contractor or subcontractor's responsibility for final stabilization is complete or another subcontractor or DOT&PF has assumed responsibility for all areas of the site for final stabilization, the contractor may submit an electronic Notice of Termination (eNOT) to DEC. The NOT must be submitted within 30 days of the project engineer confirming final stabilization.

The NOT must include:

1. The APDES tracking number.
2. The basis for submitting the NOT (i.e. completed final stabilization or permittee no longer has responsibility over the site).
3. Your name, address, and telephone number.
4. Name of project, address, and location.
5. A certification statement signed and dated by the corporate officer.

Submit NOTs to DEC in the same manner as the NOI (see 2.2.5). Provide a paper copy of the NOT to project engineer. For a stabilized project, the DOT&PF Regional Director submits an NOT, terminating the Department's coverage under the CGP.

Provide a complete and true copy of the contractor's SWPPP and all associated records to DOT&PF when the NOTs are officially terminated by DEC.

BMP 06.00. Concrete Washout

DESIGN CONSIDERATIONS

Objectives

Concrete Washout Containment prevents the discharge of concrete waste pollutants to stormwater by providing on-site washout containment in a designated and contained area.

Description

Concrete Washout Containment contains concrete and fluids from the chutes of concrete mixers and hoppers of concrete pumps when they are rinsed out after delivery. Containment areas allow for easier disposal of consolidated solids and prevent pollution from run-off or infiltration to groundwater. A washout facility can consist of a pre-fabricated container or self-installed (fabricated on-site) lined containment area, which can be above- or below-grade. Containment areas require sufficient volume to completely contain all liquid and waste concrete materials.

Applicability

Concrete Washout Containment is required on projects where concrete, stucco, mortar, grout, and/or cement are used as construction materials.

Selection Considerations

The number and size of containment areas provided should be based on the expected demand for storage capacity.

- *Pre-fabricated Washout Containers:* Pre-fabricated washout containments can be any watertight unit that can contain all liquids and solid waste generated by washout operations. When available, pre-fabricated containers are delivered to the site and minimize installation efforts. They are also resistant to damage and protect against spills and leaks. Some companies will also offer complete service with their product, such as providing maintenance and regular disposal of waste materials. Such full-service options could relieve the superintendent of these responsibilities. However, when a contractor selects a company that provides such an option, they must also ensure that the company is properly disposing of materials and it would be prudent to give preference to companies that recycle collected materials.

- *Below-grade Containment:* Use of below-grade containment areas helps prevent breaches and reduces the likelihood of run-off. This option is recommended for projects expecting extensive concrete work or for airport projects. However, this option is not recommended for areas with high water tables or shallow groundwater; such as near natural drainages, springs, or wetlands.
- *Above-grade Containment:* Above-grade containment areas must be sized and installed correctly, and diligently maintained in order to be effective. However, particularly if a pre-fabricated container is unavailable, this option is better suited in areas with potentially high water tables to prevent leaching of wash water into groundwater, or in areas where excavation is not practical.

Design

Location: Concrete Washout Containment should be placed in a location that provides convenient access for concrete trucks, preferably near the area where the concrete is being poured. Place Concrete Washout Containment a minimum of 50 feet from storm drains, open ditches, or waterbodies, or provide secondary containment for the Concrete Washout Containment.

Number of Containments: Larger sites with extensive concrete work should have Concrete Washout Containment at multiple locations for ease of use. Multiple Washout Containments are also required if a single containment unit is not adequate for the volume of waste material generated before the containment structure is cleaned.

Capacity: Concrete Washout Containment should provide sufficient capacity to handle the expected volume of solids, wash water, and rainfall to prevent overflow and allow 12 inches of freeboard. To estimate capacity, assume 7 gallons of wash water and solids are generated from washing one truck chute, and 50 gallons are generated in washing out the hopper of a concrete ready-mix or pump truck. Estimate the number of trucks based on the total volume of concrete in the project, the hopper capacity of each concrete pump truck, the expected number of loads, and the planned maintenance interval.

Containment Area: For larger sites, it is recommended that self-installed containment (both above- and below-grade) areas be at least 10 feet wide with sufficient length and depth to provide the required capacity. Above-grade self-installed containment areas shall be limited to a size and capacity for which the selected outside barrier is designed to remain structurally sound when filled with waste materials.

Cover: A temporary cover should be provided to prevent rain or other precipitation from filling the containment area and causing wash water overflow. The cover should be a secure, non-collapsing, non-water collecting cover.

Signage: Each on-site facility must have highly visible signage to indicate washout containment locations. Signs should be at least 48 by 24 inches and have 6-inch high contrasting letters, placed at a height of at least 3 feet above ground level and within 30 feet of the facility.

Relationship to Other Erosion and Sediment Control Measures

Operator Education: Use of Concrete Washout Containment as a best management practice (BMP) is only successful if concrete truck operators utilize them. Operators need to be made aware of the presence of these containments. All concrete truck operators, including those of subcontractors, should be trained on the importance of managing concrete waste, washout procedures, and washout locations.

Common Failures or Misuses

- Overflow and discharge of waste when the containment area is not covered prior to anticipated rainfall and/or when accumulated liquid wastes have not been removed.
- Leaking resulting from torn or damaged liners going unnoticed or not being replaced, with consequent discharge of washout liquid or slurry to waterways, storm drains, or directly onto the ground.
- Lack of communication to truck drivers of the necessity of using the containment area for washout.
- Compromised structural integrity due to miscalculated capacity and installation,

particularly for self-installed, above-grade containment.

- Insufficient quantity and/or size to contain all liquid and concrete waste generated by washout operations.

SPECIFICATIONS

Standard Specification

- 665 – Concrete Washout

Drawing

- BMP – 06.00 Concrete Washout, Sheets 1 & 2

CONCRETE WASHOUT GENERAL NOTES:
MATERIALS

PRE-FABRICATED CONTAINERS: MADE OF STURDY MATERIALS THAT ARE WATER TIGHT.

FABRICATED ON-SITE CONTAINMENT:

1. BARRIER/SIDEWALLS: MAKE SIDEWALLS OF AN ABOVE-GRADE CONTAINMENT AREA FROM EARTHEN BERMS, BARRIER WALLS, WOOD PLANKS, OR OTHER MATERIALS THAT WILL BE STRUCTURALLY SOUND WHEN FILLED WITH WASTE MATERIALS.
2. LINER: IMPERMEABLE PLASTIC SHEETING OF AT LEAST 10 MIL THICKNESS, AND FREE OF HOLES, TEARS, AND OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.
3. ANCHORS: SECURE THE LINER FOR ABOVE-GRADE CONTAINMENT AREAS AND SIDEWALL MATERIALS OTHER THAN BERMS WITH ANCHORS. USE SANDBAGS, 6-INCH WIRE STAPLES, AND WOOD OR METAL STAKES AS ANCHORS, BUT NOT LIMITED TO ONLY THEM.

SIGNS: DURABLE, RIGID MATERIAL WITH 6-INCH HIGH CONTRASTING LETTERS, PLACED AT A HEIGHT OF AT LEAST 3 FEET ABOVE GROUND LEVEL.

RAIN COVER: SECURE, NON-COLLAPSING, NON-WATER COLLECTING RAIN COVER, REQUIRED PRIOR TO PREDICTED WET WEATHER TO PREVENT ACCUMULATION AND OVERFLOW OF PRECIPITATION.

INSTALLATION

1. INSTALL SIGNS WITHIN 30 FEET OF THE WASHOUT.
2. IF THE WASHOUT IS LOCATED ON UNDEVELOPED PROPERTY OR OFF-PAVEMENT, PROVIDE A STABILIZED CONSTRUCTION EXIT.
3. PLACE CONCRETE WASHOUT CONTAINMENT A MINIMUM OF 50 FEET FROM STORM DRAINS, OPEN DITCHES, OR WATERBODIES, OR PROVIDE SECONDARY CONTAINMENT FOR THE WASHOUT.
4. PROVIDE SUFFICIENT CAPACITY TO HANDLE THE EXPECTED VOLUME OF SOLIDS AND WASH WATER AT 50% MAX CAPACITY AND ALLOW 12 INCHES MINIMUM OF FREEBOARD.
5. PRE-FABRICATED WASHOUT CONTAINERS ARE USUALLY DELIVERED ASSEMBLED. IF ASSEMBLY IS REQUIRED, FOLLOW MANUFACTURER’S INSTRUCTIONS.
6. SELF-INSTALLED CONTAINMENT:
 - a. ABOVE-GRADE WASHOUT: CONSTRUCT THE SIDEWALLS TO THE DIMENSIONS SHOWN ON THE DRAWINGS. IF NOT USING AN EARTHEN BERM FOR THIS PURPOSE, ENSURE THAT THE SIDEWALL MATERIAL IS SECURE AND EACH UNIT IS BUTTED TIGHTLY END TO END. LINE THE ENTIRE AREA WITH THE LINING MATERIAL, BRINGING THE SHEETING UP OVER THE SIDEWALLS AND SECURING THE ENDS WITH SANDBAGS, STAPLES OR OTHER APPROPRIATE ANCHORS.
 - b. BELOW-GRADE WASHOUT: EXCAVATE A FLAT, SUBSURFACE PIT TO THE DESIRED SIZE AND CAPACITY FOR THE CONTAINMENT AREA. THE RESULTING SIDEWALL SHOULD NOT EXCEED 3:1 SLOPES. PREVENT DAMAGE TO THE LINER BY KEEPING THE BASE OF THE PIT FREE OF ROCKS AND DEBRIS. USE THE EXCAVATED MATERIAL TO CREATE A BERM ALONG THREE SIDES OF THE PIT, LEAVING THE SIDE PROVIDING ACCESS RELATIVELY FLAT. IT IS RECOMMENDED THAT THE BERM BE AT LEAST 1-FOOT HIGHER THAN EXISTING GROUND. LINE THE ENTIRE AREA WITH THE LINING MATERIAL, BRINGING THE SHEETING UP OVER THE SIDEWALLS AND BERM, AND SECURING THE ENDS WITH SANDBAGS OR OTHER APPROPRIATE ANCHORS.

INSPECTION

1. INSPECT AND VERIFY THAT CONCRETE WASHOUT BMPS ARE IN PLACE PRIOR TO THE COMMENCEMENT OF CONCRETE WORK.
2. DETERMINE IF THE CONCRETE WASHOUT IS FILLED TO 50 PERCENT CAPACITY.
3. FOR SELF-INSTALLED CONTAINMENT:
 - a. INSPECT THE PLASTIC LINER TO ENSURE IT IS SECURELY ANCHORED AND INTACT.
 - b. INSPECT THE SIDEWALLS FOR LEAKS. ENSURE THE CONSTRUCTION DOESN’T DAMAGE THE SIDEWALLS.
4. FOR PRE-FABRICATED CONTAINMENT, INSPECT THE UNIT FOR LEAKS AND POTENTIAL DAMAGE.
5. CHECK TO ENSURE THAT EACH WASHOUT SIGN IS STILL SECURE AND VISIBLE.
6. IF THERE IS EVIDENCE THAT WASHOUTS ARE OCCURRING IN LOCATIONS OTHER THAN THE DESIGNATED WASHOUT: IMPROVE EXISTING SIGNAGE, INSTALL ADDITIONAL SIGNAGE, INCREASE COMMUNICATION WITH CONCRETE TRUCK DRIVERS, AND PROVIDE CONCRETE TRUCK DRIVERS WITH MAPS OF WASHOUT LOCATIONS WITH RESPECT TO POUR LOCATIONS.

MAINTENANCE

1. CLEAN EXISTING WASHOUTS BEFORE THE WASHOUT IS 50 PERCENT FULL. SOLIDIFY WITH BAGGED GROUT, VACUUM AND DISPOSE OF LIQUIDS IN AN APPROVED MANNER, OR ALLOW FOR EVAPORATION (CHECK WITH THE LOCAL SANITARY SEWER AUTHORITY TO DETERMINE IF THERE ARE SPECIAL DISPOSAL REQUIREMENTS FOR CONCRETE WASH WATER).
2. IF NECESSARY, PROVIDE AN ALTERNATE WASHOUT DURING EXISTING WASHOUT CLEANING.
3. RELINE SELF-INSTALLED CONTAINERS AFTER EACH CLEANING, BECAUSE EQUIPMENT CAN DAMAGE THE LINER. BEFORE RELINING, INSPECT THE CONTAINMENT STRUCTURE FOR SIGNS OF WEAKENING OR DAMAGE AND MAKE ANY NECESSARY REPAIRS. THEN LINE THE STRUCTURE WITH NEW PLASTIC SHEETING, CHECKING THAT IT IS FREE OF HOLES, TEARS, AND OTHER DAMAGE.
4. REPAIR DAMAGED WASHOUTS BEFORE THE NEXT CONCRETE POUR. IF NECESSARY, PROVIDE NEW WASHOUTS UNTIL THE EXISTING WASHOUTS ARE OPERATIONAL.
5. CONTAIN ANY SPILL OR DISCHARGE OF CONCRETE WASTE MATERIALS.
6. REPLACE OR INSTALL NEW SIGNAGE AS NEEDED.

REMOVAL

1. AN OPERATIONAL CONCRETE WASHOUT SHOULD REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT (OR PHASE OF THE PROJECT) IS POURED. WHEN THE CONCRETE WASHOUT IS NO LONGER NEEDED, THE LIQUID MUST BE EVAPORATED OR VACUUMED FOR DISPOSAL AND THE HARDENED SOLIDS MUST BE BROKEN UP, REMOVED, AND PROPERLY DISPOSED OF. DISPOSAL LOCATION TO BE APPROVED BY ENGINEER.
2. REMOVE FROM THE SITE PRE-FABRICATED WASHOUTS AND MATERIALS USED TO CONSTRUCT ABOVE-GRADE CONTAINMENT AREA AND PROPERLY DISPOSE OF THEM.
3. BACKFILL AND STABILIZE HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE CREATION OR REMOVAL OF THE WASHOUT WITH AN APPROVED BMP.

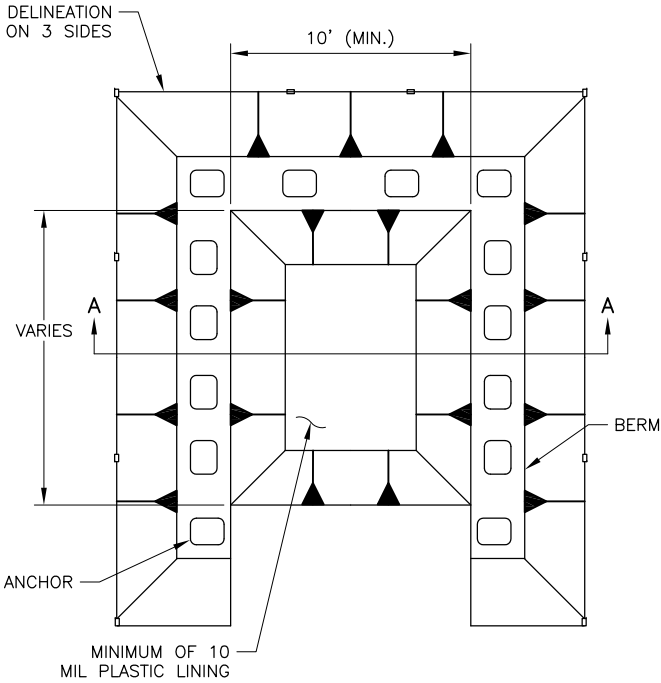
REVISIONS		
Date	Description	By

State of Alaska DOT&PF

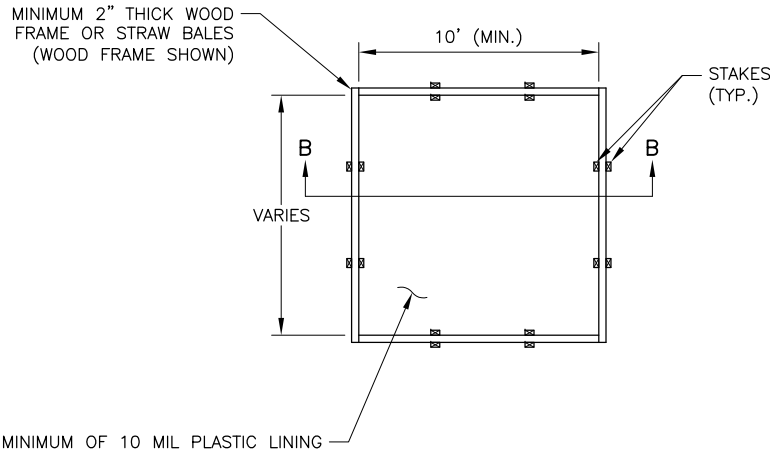
CONCRETE WASHOUT
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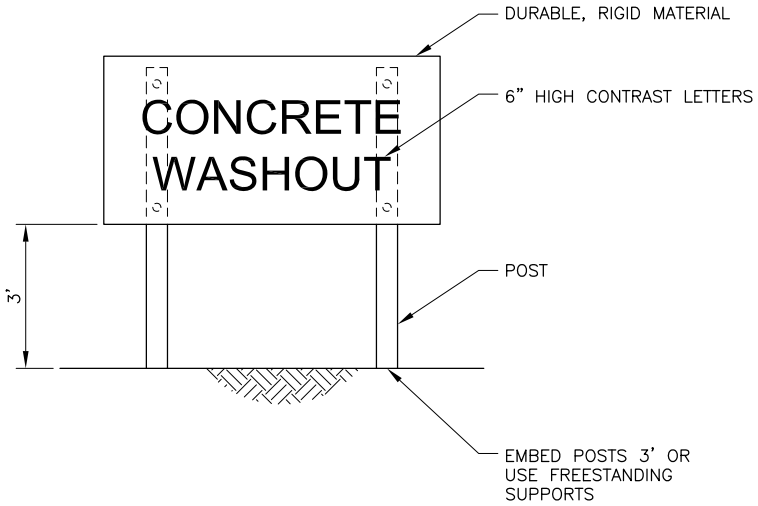
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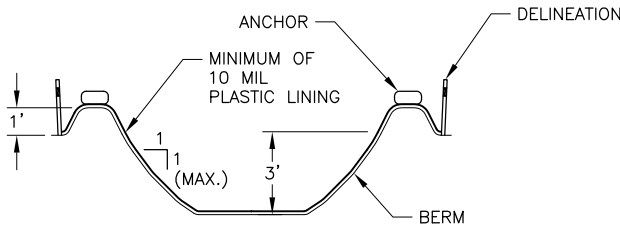
PLAN



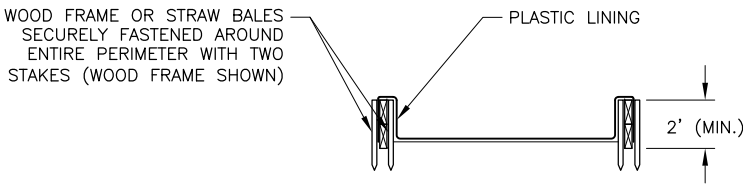
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WASHOUT SIGN
NOT TO SCALE

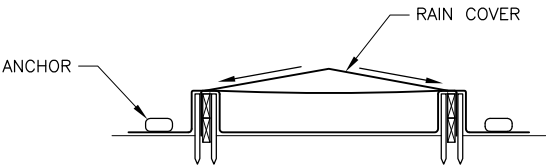


SECTION A-A



SECTION B-B

BELOW-GRADE CONCRETE WASHOUT
FABRICATED ON-SITE
NOT TO SCALE



SECTION B-B
WITH PLASTIC RAIN COVER

ABOVE GRADE CONCRETE WASHOUT
FABRICATED ON-SITE
NOT TO SCALE

REVISIONS		
Date	Description	By

State of Alaska DOT&PF

CONCRETE WASHOUT
(FABRICATED ON-SITE)

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Date XX/XX/XX

BMP 10.01.a. Fiber Rolls for Erosion Control

DESIGN CONSIDERATIONS

Objectives

The purpose of Fiber Rolls for Erosion Control is to shorten the slope and help to slow, filter, and spread overland flows. They capture sediment, organic matter, and seeds that might otherwise be washed downslope.

Description

Fiber Rolls are long rolls of material such as wood excelsior, rice or wheat straw, flax, coconut fibers, or compost, which is rolled or bound in a tight tubular roll and wrapped in plastic or biodegradable netting. They are typically about 8 inches in diameter and under 30 feet long.

They may come pre-fabricated or they can be fabricated on-site.

Other Names

Wattles, Straw Wattles, Straw Rolls, Coir Logs, Excelsior Log, Straw Log, Filter Logs, Fiber Logs.

Applicability

Fiber Rolls can be applied to steep or long slopes and slopes that are susceptible to freeze/thaw activity, sheet and rill erosion, or dry ravel. They can be placed along the toe, top, face, and at grade-breaks on disturbed or erodible slopes. They can be used as a temporary berm to direct flow around exposed soils or to a sediment trap and as a check dam in unlined ditches. They can be used at other locations at the project site for sediment control.

Selection Considerations

- Use in areas of low shear stress.
- Avoid use on slopes that could build up ice; for instance, where seepage occurs.
- They are effective for one to two seasons.
- Fiber Rolls can be staked to the ground using willow cuttings to increase the revegetation effort. Since the fiber roll will retain moisture, it will provide a good site for the willow cuttings to root. The Alaska Department of Fish and Game (ADF&G) has prepared guidance for willow cuttings and dormant cuttings in the

Streambank Revegetation and Protection: A Guide for Alaska at:

<http://www.adfg.alaska.gov/index.cfm?adfg=streambankprotection.staking>

and

<http://www.adfg.alaska.gov/index.cfm?adfg=streambankprotection.cuttings>

- The quantity of sediment that a roll can capture prior to maintenance is limited to one-half the exposed height of the roll.
- Rolls will be difficult to move once they are saturated. Determine whether Fiber Rolls must be removed at the end of the project based on the use of the area. If removal is required, specify in the plan set and require removal of netting upon final stabilization.

Relationship to Other Erosion and Sediment Control Measures

Fiber Rolls are best used in combination with seeding, mulch, hydraulic erosion control products (HECPs), and/or rolled erosion control products (RECPs). They can be used to stabilize slopes until the permanent vegetation becomes established.

Common Failures or Misuses

- Unless they are placed in a trench, run-off can flow underneath Fiber Rolls and cause failure.
- Unless they are properly staked, Fiber Rolls can be transported by high flows.
- Water can flow between Fiber Rolls if they are not overlapped.
- Fiber Rolls must be placed perpendicular to flow (parallel to the slope contour).
- Fiber Rolls will not work if the slope is slumping, creeping, or sliding.

SPECIFICATIONS

Standard Specification

- 669 – Fiber Rolls for Erosion and Sediment Control

Drawings

- BMP-10.00 Fiber Rolls for Erosion and Sediment Control
- BMPs -31.00, 32.00 and 33.00 Temporary Check Dam

BMP 10.01.b. Fiber Rolls for Sediment Control

DESIGN CONSIDERATIONS

Objectives

The purpose of Fiber Rolls for Sediment Control is to trap sediment and prevent it from being transported out of the project area, to another area, or to waters of the U.S.

Description

Fiber Rolls are long rolls of material such as wood excelsior, rice or wheat straw, flax, coconut fibers, or compost, which is rolled or bound in a tight tubular roll and wrapped in plastic or biodegradable netting. They are typically about 8 inches in diameter and under 30 feet long.

They may come pre-fabricated or they can be fabricated on-site.

Other Names

Wattles, Straw Wattles, Straw Rolls, Coir Logs, Excelsior Log, Straw Log, Filter Logs, Fiber Logs.

Applicability

Fiber Rolls can be placed at the perimeter of a project, below the toe of exposed and erodible slopes, and around temporary stockpiles. They may also be used for inlet protection. They can be used at other locations at the project site for erosion control.

Selection Considerations

- Use in areas of low shear stress.
- Avoid use on slopes that could build up ice; for instance, where seepage occurs.
- They are effective for one to two seasons.
- Fiber Rolls can be staked to the ground using willow cuttings to increase revegetation efforts. Since the Fiber Roll will retain moisture, it will provide a good site for the willow cuttings to root. The Alaska Department of Fish and Game has prepared guidance for willow cuttings and dormant cuttings in the *Streambank Revegetation and Protection: A Guide for Alaska* at:
<http://www.adfg.alaska.gov/index.cfm?adfg=streambankprotection.staking>

and

<http://www.adfg.alaska.gov/index.cfm?adfg=streambankprotection.cuttings>

- The quantity of sediment that a roll can capture prior to maintenance is limited to one-half the exposed height of the roll.
- Rolls will be difficult to move once they are saturated. Determine whether Fiber Rolls must be removed at the end of the project based on the use of the area. If removal is required, specify in the plan set and require removal of netting upon final stabilization.

Relationship to Other Erosion and Sediment Control Measures

Fiber Rolls are best used in combination with seeding, mulch, hydraulic erosion control products (HECPs), and/or rolled erosion control products (RECPs).

- Fiber Rolls can be used in place of silt fence. The advantage of fiber rolls over silt fence is that installation is much easier, they do not have to be removed, and hydroseeding can be done after their installation.
- Compost socks can be used in place of Fiber Rolls and do not require trenching. Compost socks are also heavy enough that they can be placed on paved surfaces.
- A prefabricated barrier system can be used in place of fiber rolls and requires a smaller trench. A prefabricated barrier system can also be adhered to paved surfaces.

Common Failures or Misuses

- Unless they are placed in a trench and have tamped backfill in the trench on the uphill side, runoff can flow underneath Fiber Rolls and cause failure.
- Unless they are properly staked, Fiber Rolls can be transported by high flows.
- Water can flow between Fiber Rolls if they are not overlapped.

- Fiber Rolls must be placed perpendicular to flow (parallel to the slope contour).
- Fiber Rolls will not work if the slope is slumping, creeping, or sliding.

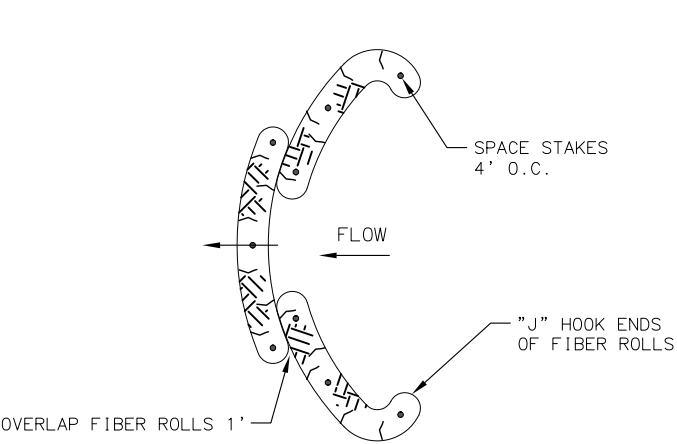
SPECIFICATIONS

Standard Specification

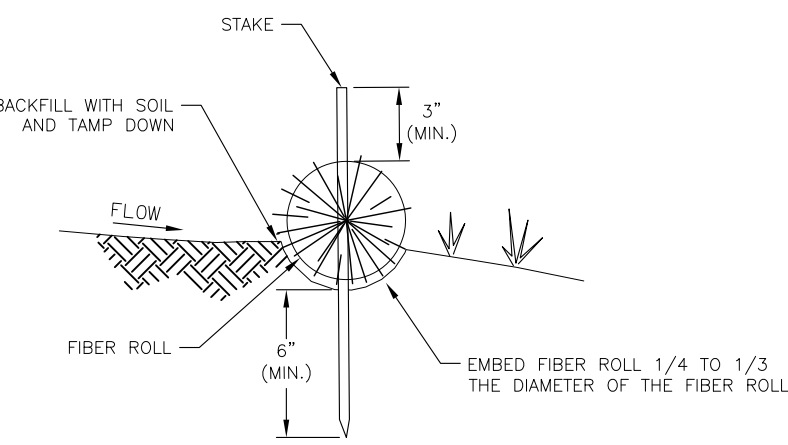
- 669 – Fiber Rolls for Erosion and Sediment Control

Drawings

- BMP-10.00 Fiber Rolls for Erosion and Sediment Control
- BMP-08.00 Culvert Inlet Protection
- BMPs -25.00, 26.00, 27.00, 28.00 and 29.00 Storm Drain Inlet Sediment Protection



PLAN

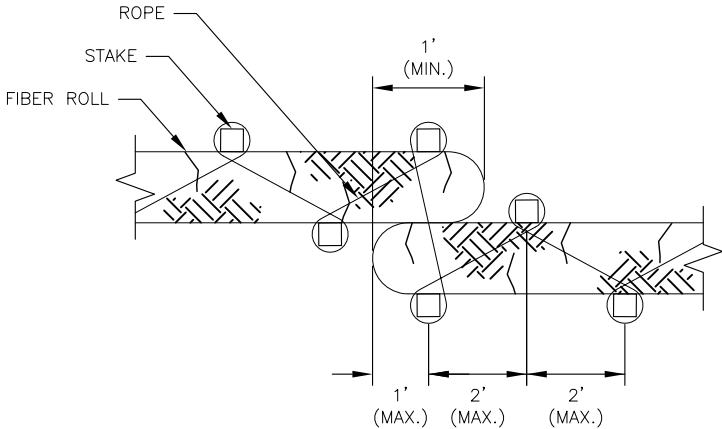


SECTION

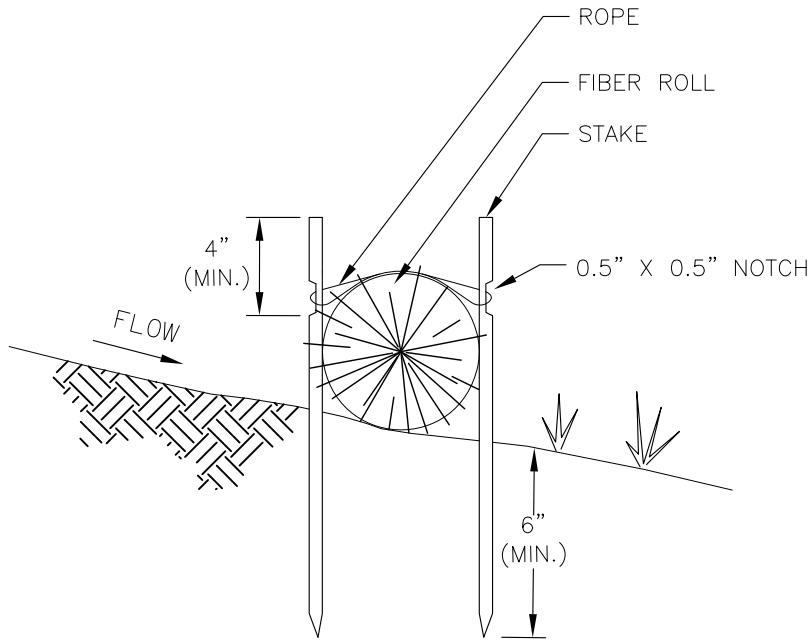
TRENCHED INSTALLATION

NOT TO SCALE

- TRENCHED INSTALLATION NOTES:
1. DIG TRENCHES AND PLACE FIBER ROLLS IN THE TRENCHES.
 2. CURVE BACK THE UPSLOPE END OF THE FIBER ROLL IN A "J" HOOK.
 3. SPREAD EXCAVATED MATERIAL EVENLY ALONG THE UPHILL SLOPE AND COMPACT USING HAND TAMPING OR OTHER METHODS.
 4. STAKE THE ROLL EVERY 4 FEET AND WITHIN 1-FOOT OF THE ENDS. LEAVE 3 INCHES OF THE STAKE ABOVE THE ROLL.
 5. DRIVE STAKES THROUGH THE MIDDLE OF THE FIBER ROLL.
 6. IF REQUIRED, PILOT HOLES FOR THE STAKES MAY BE CREATED BY DRIVING A STRAIGHT BAR THROUGH THE ROLL.



PLAN

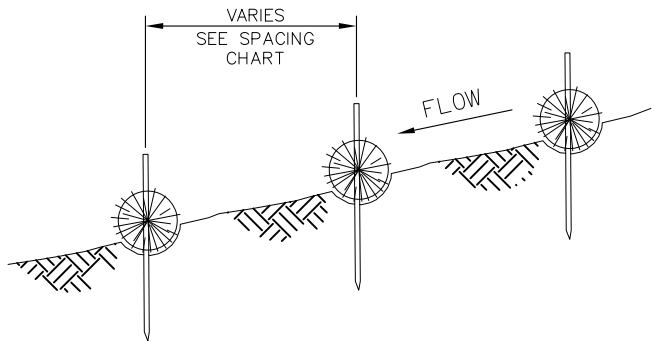


SECTION

ROPE INSTALLATION

NOT TO SCALE

ALL-PURPOSE BIODEGRADABLE
ROPE 3/8 OR LARGER



TYPICAL SPACING CHART	
SLOPE	SPACING (FEET)
1:1	10
2:1	20
3:1	30

SLOPE INSTALLATION

NOT TO SCALE

- SLOPE INSTALLATION NOTES:
1. INSTALL ON A SLOPE TO SHORTEN THE SLOPE LENGTH.
 2. START INSTALLATION DOWNSLOPE.
 3. SPACE ROLLS ACCORDING TO THE SPACING CHART AND DECREASE SPACING ON MORE ERODIBLE SOILS AND INCREASE SPACING ON ROCKY SOILS.

FIBER ROLL GENERAL NOTES:

MATERIALS

FIBER ROLLS: THE NETTING MAY BE UV-DEGRADABLE POLYPROPYLENE, BIODEGRADABLE BURLAP, JUTE OR COIR. THE FILLINGS MAY BE STRAW, FLAX, RICE, OR COCONUT-FIBER. MINIMUM DIAMETER OF 6 INCHES.

STAKES: 1-INCH BY 1-INCH WOODEN STAKES 24 INCHES LONG (18 INCHES IF SOILS ARE ROCKY) OR 3/8-INCH REBAR WITH SAFETY CAPS OR 3/4-INCH TO 1 1/2-INCH DIAMETER LIVE WILLOW CUTTINGS. IF USING LIVE WILLOW CUTTINGS, DO NOT INSTALL ROPE.

INSTALLATION

1. PLACE FIBER ROLLS PERPENDICULAR TO FLOW AND PARALLEL TO THE SLOPE CONTOUR.
2. AT THE END OF THE ROLL, TURN THE END UPSLOPE TO PREVENT RUN-OFF FROM GOING AROUND THE ROLL END.

INSPECTION

1. ENSURE THAT THE ROLLS ARE IN CONTACT WITH THE SOIL AND THOROUGHLY ENTRENCHED.
2. LOOK FOR SCOURING UNDERNEATH THE ROLLS.
3. LOOK FOR SPLIT, TORN, UNRAVELING, OR SLUMPING FIBER ROLLS.
4. ENSURE EQUIPMENT HAS NOT DRIVEN OVER THE INSTALLED FIBER ROLLS.

MAINTENANCE

1. REPLACE DAMAGED SECTIONS OF FIBER ROLL.
2. REMOVE ACCUMULATED SEDIMENT UPSLOPE OF THE ROLL BEFORE IT REACHES ONE-HALF THE DISTANCE BETWEEN THE TOP OF THE FIBER ROLL AND THE GROUND SURFACE. WHEN PROTECTING A WATER BODY OR STORM DRAIN INLET. REMOVE ACCUMULATED SEDIMENT UPSLOPE OF THE ROLL WHEN IT REACHES ONE-THIRD OF THE DISTANCE BETWEEN THE TOP OF THE FIBER ROLL AND THE GROUND SURFACE.

REMOVAL

1. REMOVE FIBER ROLLS WHEN THE AREA IS STABILIZED OR WHEN THEY ARE NO LONGER NECESSARY.
2. COLLECT AND DISPOSE OF THE ACCUMULATED SEDIMENT.
3. REMOVE AND DISPOSE OF FIBER ROLLS.
4. FILL THE TRENCHES AND STAKE HOLES TO BLEND WITH THE ADJACENT GROUND AND REVEGETATE AS NECESSARY.

RETENTION

1. LEAVE FIBER ROLLS IN PLACE WHEN THE AREA IS STABILIZED OR WHEN THEY ARE NO LONGER NECESSARY.
2. COLLECT AND DISPOSE OF THE ACCUMULATED SEDIMENT.
3. REMOVE AND DISPOSE OF THE NETTING, STAKES, AND ROPE.

REVISIONS		
Date	Description	By
7/6/2018	Adjusted Stake Spacing from 4' to 2' in Rope Plan	Missler

State of Alaska DOT&PF

FIBER ROLLS FOR EROSION
AND SEDIMENT CONTROL

APPROVED

Date 7/06/2018

BMP 20.00. Silt Fence

DESIGN CONSIDERATIONS

Objectives

The purpose of Silt Fence is to trap sediment and prevent it from being transported out of the project area to another area, or to a water body.

Description

Silt Fence is geotextile fabric secured to posts and secured in a trench, and/or with sandbags or drain rock.

Other Names

Geotextile for Sediment Control, Sediment Barrier.

Applicability

Silt Fence is used downslope from erosion-susceptible terrain to trap sheet flow run-off before the drainage exits the project site. Adequate space must be provided for pooled water on the uphill side of the fence.

Barrier locations are chosen based on site features and conditions (e.g. soil types, climate, terrain features, sensitive areas, etc.), design plans, existing and anticipated drainage courses, and other available erosion and sediment controls. Typical barrier sites are catchpoints beyond the toe of fill, or on sideslopes above waterways or drainage channels.

Although drainage in contact with the fence is to some degree filtered by the geotextile, the fabric's small pores not only block larger-sized eroded particles but also severely restrict water exfiltration rates and behaves like a dam. For this reason, Silt Fences are not to be used for concentrated flows in continuous flow streams or ditches; or as check dams.

Silt Fence can be installed in standing water to provide time for particles to settle.

Silt Fences are used to encircle stockpiled erodible material to prevent off-site sediment transport.

Since Silt Fence installation can cause significant damage, alternative best management practices (BMPs) should be considered for installation instead of Silt Fence. Use Fiber Rolls, compost socks, brush bundles to filter small amounts of sediment in shallow gullies or ditches. Temporary settlement

basins, gravel berms, or foam barriers can be used as alternatives to Silt Fence.

Do not use Silt Fence on airport runways, taxiways, aprons, or within the Runway Safety Areas.

Selection Considerations

Use of sediment control measures and the level of effort should be commensurate with the potential problem. Silt Fence is not to be used solely as a project delineator (see Site Delineation, BMP-55).

- Use of a Silt Fence sediment control measure is usually more complex, expensive, and maintenance-prone than other sediment control measures.
- Consider impacts of the fence installation, maintenance, and removal on sensitive areas needing protection (e.g. avoid equipment encroachment on wetlands).
- Consider potential undesirable effects of fence placement (e.g. a trench in ground that will not readily "heal" after fence removal; undesirable effects of extent or depth of ponded water, etc.)
- An equipment access route and space for fence installation, maintenance, and removal must be available without encroaching into sensitive areas or off the project limits.
- Wire reinforcement can be used with Silt Fence by backing the geotextile fabric with chain link, polymeric mesh, or welded wire fencing. Below is a list of considerations for adding wire reinforcement to Silt Fence installation:
 - Consider using wire reinforcement and longer posts to resist overturn.
 - Consider using wire reinforcement in areas of high wind.
 - Consider using wire reinforcement for standing water installations.

Types of Silt Fence for Purchase:

- *With Pockets:* Sewn-in pocket Silt Fence is geotextile that has factory-sewn pockets for the posts and does not require post fasteners.
- *Without Pockets:* Silt Fence without pockets is geotextile fabric that requires fasteners to attach

the fabric to the posts or Silt Fence that is available with posts pre-attached.

- **Wire Reinforcement:** When Silt Fence is wire reinforced, the geotextile fabric is backed with chain link or welded wire fencing.

Methods of Installation:

- **Trenchless:** Drive support posts into the ground, attach geotextile on the upslope side of the line of stakes with a portion lying flat on the ground, and place clean rock or sandbags on the geotextile. Using sandbags to anchor the fence bottom is a less desirable method because of the tendency for undermining. Require removal of the rock or sandbags when the fence is removed.
- **Trench Key:** Drive support posts into the ground, excavate a trench on the uphill side along the line of the stakes, attach geotextile, and bury fence bottom. Use soil to backfill trench and compact to secure fence bottom. Compacted soil is preferred to gravel fill.
- **Machine Slice:** This method requires a Silt Fence installation machine or attachment. The machine utilizes a blade that plows or slices the fabric directly into the soil minimizing soil disturbance. Displaced soil must be manually backfilled into the slice before the tractor is used to mechanically compact the soil.

Design

Locate Silt Fence at a distance from the base of the slope or pile such that there is space for temporary storage of potential accumulated material. Consider a space of 4 feet for worker access if feasible. The grade and length of slope as well as soil erodibility must be considered when specifying silt fence. If the slope is steep or long, consider intermediate slope breaks.

Below are design considerations for Silt Fence that is not wire-reinforced:

- **Design Life:** 1 season (6 months) or less.
- **Contributing Sheet Flow Drainage Area:** Not to exceed 0.25 acres/100 ft. of fence.
- **Maximum Height of Ponding Water:** 18 in.

Guidelines for Maximum Slope Length for Silt Fence:

Slope (H:V)	Length of Slope Above Fence, Assumes 30 In High Fence
10:1	150 ft.
6:1	85 ft.
5:1	70 ft.
4:1	55 ft.
3:1	40 ft.
2:1	25 ft.
1:1	15 ft.

Relationship to Other Erosion and Sediment Control Measures

Sediment control measures are secondary to erosion prevention or soil stabilizing measures. Silt Fence may be used as part of a sequential system with other temporary or permanent measures such as vegetation, check dams, settling ponds, etc. Occasional flow velocity increases may be offset using corrective measures such as rock berms or other redirecting energy absorbers.

Common Failures or Misuses

- Inappropriate for intended function (e.g. used for check dam, flow diversion, diversion dam, etc.).
- Installation of Silt Fence in streams or concentrated flow.
- Use as a mid-slope protection on slopes greater than 4:1.
- Use as a perimeter control in high flow areas.
- Field-sewn seams.
- Use of incorrect type of fabric.
- Loose or sagging fabric between posts.
- Fence improperly attached or fastened to posts.
- Posts not driven deep enough into the ground.
- Posts spaced too far apart.
- Posts installed on incorrect side of fence.
- Placement of overlapped joints across pooled drainage areas.
- Fence allows spillover or bypass.
- Soil is not compacted next to fence after backfilling trench, allowing water to flow underneath.

- Trenches are too shallow to anchor the Silt Fence below ground or trenchless construction failure.
- Slope erosion occurs below the fenceline due to drainage that bypasses the barrier end, or water build-up that “blows out” a poorly-secured fence bottom.
- Fence function impairment due to sediment build-up, maintenance neglect, etc.
- Fence topples due to poor installation and/or high levels of impounded backup water or sediment.
- Uneven distribution of pooled drainage along non-level fenceline surface reduces efficiency.
- End of fence is not “J-hooked” upslope allowing water to run around the end.
- Poor support system (e.g. soil too rocky to secure posts, fabric stapled to trees, etc.).
- Installation of Silt Fence in a long continuous run.

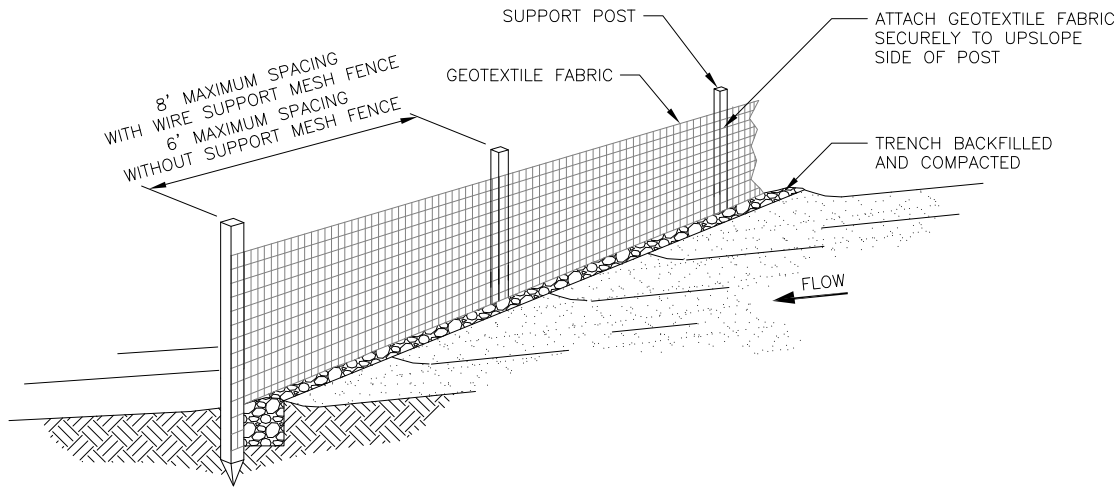
SPECIFICATIONS

Standard Specification

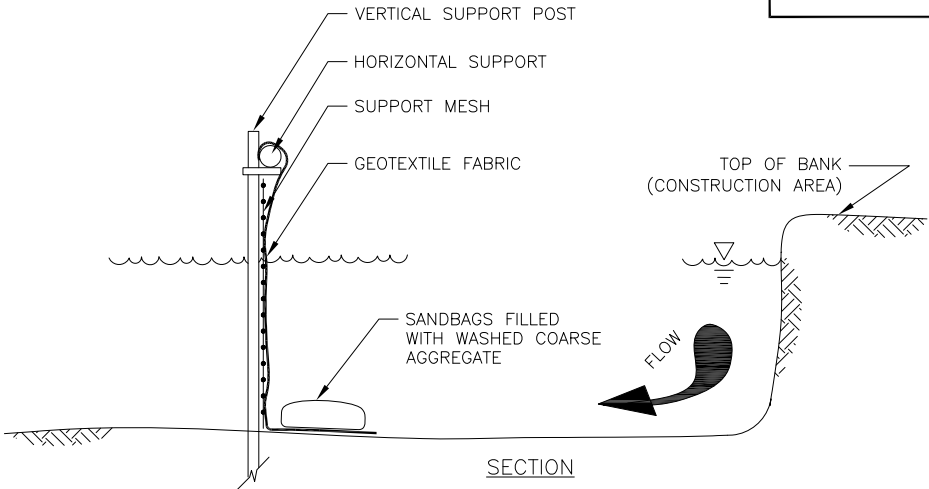
- 633 – Silt Fence
- 729-2.04 - Geosynthetics

Drawing

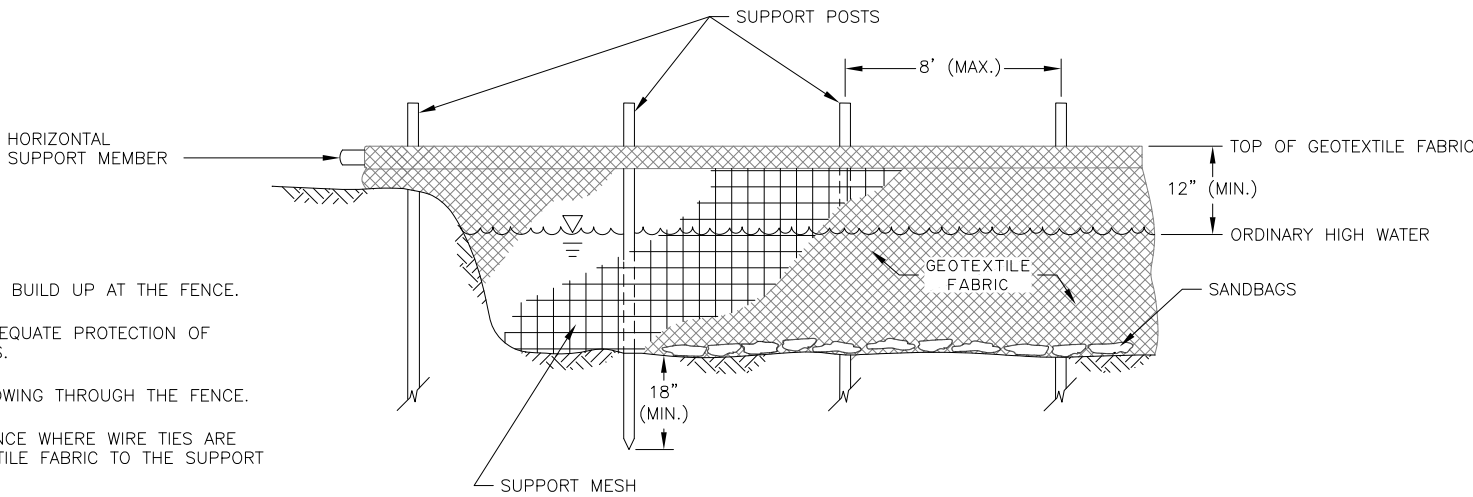
- BMP-20.00 Silt Fence (Sheets 1 and 2)



GENERAL INSTALLATION
NOT TO SCALE



SECTION



PROFILE

STANDING WATER INSTALLATION
NOT TO SCALE

SILT FENCE GENERAL NOTES:

MATERIALS

SILT FENCE: SEE SPECIFICATION SECTION 633, SILT FENCE.

INSTALLATION

1. INSTALL FENCELINE ALONG A LEVEL CONTOUR AND PERPENDICULAR TO ANTICIPATED SHEET FLOW DRAINAGE PATH(S).
2. ORIENT END SECTIONS UPHILL SLIGHTLY IN A J-HOOK TO PREVENT WATER FROM GOING AROUND THE SILT FENCE.
3. DO NOT EXCEED 100 FEET FOR EACH 1/4-ACRE OF DRAINAGE AREA AND DO NOT EXCEED 500 FEET REGARDLESS OF DRAINAGE AREA.
4. THE DIFFERENCE IN ELEVATION BETWEEN THE HIGHEST AND LOWEST POINT ALONG THE TOP OF THE SEDIMENT FENCE SHALL NOT EXCEED ONE-THIRD THE FENCE HEIGHT.
5. WHERE GROUND SURFACES ARE UNEVEN, INSTALL SHORTER FENCES FOLLOWING CONTOURS (RATHER THAN INSTALLING ONE LONG, CONTOUR-CROSSING FENCE THAT DIRECTS DRAINAGE TO ACCUMULATE IN LOW SPOTS).
6. LOCATE FENCE 3 TO 10 FEET BEYOND TOE OF FILL TO LEAVE ROOM FOR A BROAD, SHALLOW SEDIMENTATION POOL AND FOR EQUIPMENT ACCESS DURING FENCE MAINTENANCE AND REMOVAL.
7. IF FEASIBLE, LEAVE A MINIMUM OF 3.5-FOOT BUFFER BETWEEN FENCING AND SENSITIVE RECEIVING AREAS.
8. PLACE GEOTEXTILE ON THE UPSLOPE SIDE OF POSTS OR, WHEN USING SILT FENCE WITH SEWN-IN POCKETS, PLACE POCKETS ON THE UPSLOPE SIDE OF THE FENCE.
9. EXCAVATE TRENCHES NOT WIDER OR DEEPER THAN NECESSARY FOR PROPER INSTALLATION OF THE SILT FENCE. DO NOT EXCAVATE TRENCHES IN PERMAFROST.
10. AT JOINTS, ROLL ENOUGH OF THE ENDS OF SECTIONS TOGETHER AT SUPPORT POST SUCH THAT THE JOINT PREVENTS SILT-LADEN WATER FROM ESCAPING THROUGH THE FENCE.
11. IF USING THE FRONT WHEEL OF A TRACTOR OR ROLLER, COMPACT THE UPSTREAM SIDE FIRST, THEN EACH SIDE TWICE (A TOTAL OF FOUR TRIPS).

12. KEEP FENCE FABRIC TAUT.

13. WHEN USING SUPPORT MESH, ATTACH GEOTEXTILE TO THE SUPPORT MESH WITH FASTENERS SPACED EVERY 24 INCHES AT THE TOP AND MIDSECTION.

MACHINE SLICE INSTALLATION (NOT IN PERMAFROST)

1. USE A SILT FENCE INSTALLATION MACHINE OR ATTACHMENT TO PLOW OR SLICE THE FABRIC DIRECTLY INTO THE SOIL.
2. BACKFILL SOIL LOOSENED BY THE BLADE INTO THE SLICE AND USE THE TRACTOR TO MECHANICALLY COMPACT THE SOIL.
3. TUCK FABRIC DEEPER INTO THE GROUND WHERE NECESSARY.
4. INSTALL SUPPORT POSTS ALONG THE LENGTH OF THE FENCE FOLLOWING SIMILAR PROCEDURES FOR THE TRENCH METHOD.

WINTER INSTALLATION (NOT IN PERMAFROST)

1. DIG A TRENCH.
2. BACKFILL TRENCH WITH THE LOOSENED SOIL AND COMPACT SOIL PRIOR TO POST INSTALLATION.
3. MOISTEN THE BACKFILLED SOIL SO IT WILL FREEZE UP AND GRIP THE SILT FENCE FABRIC IN PLACE.
4. DO NOT LEAVE LARGE FROST CHUNKS AS THE BACKFILL.

INSPECTION

1. INSPECT FENCELINE FOR CONTINUITY, COLLAPSE, UNDERMINED AREAS, AND DAMAGE. DO NOT EXCAVATE TRENCHES IN PERMAFROST.
2. INSPECT FABRIC FOR TEARS, PUNCTURES, FRAYING, WEATHERING, AND COMPROMISED INTEGRITY.
3. CONFIRM THAT THE FENCE POSTS ARE SECURE.
4. ENSURE THE FENCE IS KEYED IN AND THAT THERE IS NO UNDERCUTTING.
5. LOOK FOR EVIDENCE OF SEDIMENT OR EROSION FLOW LEADING OFF THE DOWNHILL EDGE OF THE FENCE. (THIS MAY BE AN INDICATOR OF DRAINAGE BYPASS OR FENCE UNDERMINE.)

6. NOTE DEPTH OF SEDIMENT BUILD UP AT THE FENCE.

7. LOOK FOR SIGNS OF INADEQUATE PROTECTION OF OFF-SITE SENSITIVE AREAS.

8. CHECK FOR SEDIMENT FLOWING THROUGH THE FENCE.

9. CHECK FOR HOLES IN FENCE WHERE WIRE TIES ARE USED TO SECURE GEOTEXTILE FABRIC TO THE SUPPORT POST.

MAINTENANCE

1. INSTALL ALTERNATE OR ADDITIONAL BMPS AS NEEDED TO PREVENT UNDESIRABLE SEDIMENTATION OF SENSITIVE AREAS.
2. REPLACE DAMAGED FABRIC.
3. REMEDY FENCE SAGS AS NEEDED.
4. REMOVE ACCUMULATED SEDIMENT BEFORE IT ACCUMULATES TO ONE-HALF THE CAPACITY, OR ONE-THIRD OF THE AVAILABLE STORAGE IF PROTECTING A WATER BODY OR STORM DRAIN INLET.
5. DISPOSE OF SILT WASTE IN APPROVED MANNER/LOCATION (TYPICALLY IN A NON-EROSION AREA).
6. IF THERE IS EVIDENCE OF EXCESSIVE SEDIMENTATION AGAINST THE SILT FENCE, PROVIDE INCREASED EROSION CONTROL UPSLOPE.

REMOVAL

1. WHEN DISTURBED AREAS ARE PERMANENTLY STABILIZED OR SEDIMENT PROTECTION IS NO LONGER NEEDED, COLLECT AND PROPERLY DISPOSE OF ACCUMULATED SEDIMENT OR SEED IN PLACE.
2. CUT FABRIC AT GROUND LEVEL AND REMOVE SUPPORTS.
3. DISCARD FILTER FENCE AS APPROVED. AVOID DAMAGE TO SENSITIVE AREAS (E.G. WETLAND OR SURFACE WATER).

STANDING WATER NOTES:

INSTALLATION

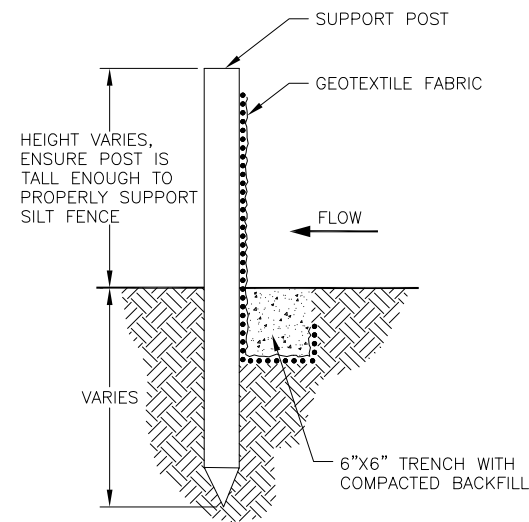
1. DRIVE SUPPORT POSTS INTO THE GROUND AND ATTACH A HORIZONTAL SUPPORT MEMBER.
2. ATTACH SUPPORT MESH AND GEOTEXTILE ON THE UPSLOPE SIDE OF THE STAKES, EXTEND GEOTEXTILE ON THE GROUND UPSLOPE OF THE FENCE, AND ANCHOR THE GEOTEXTILE WITH SANDBAGS OR EQUIVALENT TO PREVENT GAPS.
3. SPACE SUPPORT POSTS A MAXIMUM OF 8 FEET APART.
4. KEEP FENCE FABRIC TAUT.

REVISIONS		
Date	Description	By

State of Alaska DOT&PF
SILT FENCE
(NOTES, GENERAL
INSTALLATION, & STANDING
WATER INSTALLATION)

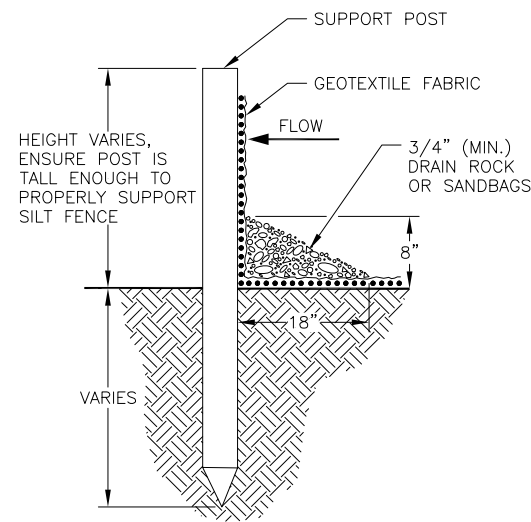
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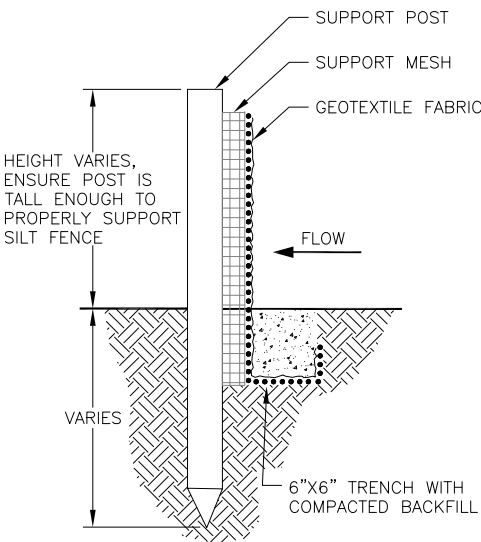
TRENCH DETAIL
NOT TO SCALE

- TRENCH NOTES:
INSTALLATION
1. DRIVE SUPPORT POSTS INTO THE GROUND.
 2. FOLLOW MANUFACTURER'S SPECIFICATIONS FOR POST BURIAL DEPTH.
 3. EXCAVATE A TRENCH ON THE UPHILL SIDE ALONG THE LINE OF THE STAKES.
 4. ATTACH GEOTEXTILE TO STAKES AND BURY GEOTEXTILE BOTTOM.
 5. BACKFILL TRENCH AND COMPACT TO SECURE FENCE BOTTOM.



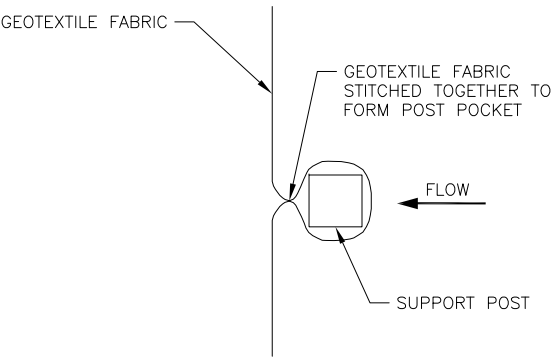
TRENCHLESS DETAIL
NOT TO SCALE

- TRENCHLESS NOTES:
MATERIALS
CLEAN ROCK OR SANDBAGS.
- INSTALLATION
1. DRIVE SUPPORT POSTS INTO THE GROUND.
 2. ATTACH GEOTEXTILE ON THE UPHILL SIDE ALONG THE LINE OF THE STAKES.
 3. EXTEND GEOTEXTILE ON THE GROUND UPHILL OF THE FENCE.
 4. PLACE DRAIN ROCK ON GEOTEXTILE.
- REMOVAL
1. WHEN SILT FENCE IS LOCATED IN WETLANDS OR SENSITIVE AREAS, REMOVE CLEAN ROCK OR SANDBAGS WHEN THE SILT FENCE IS REMOVED.



SUPPORT MESH REINFORCED
FABRIC DETAIL
NOT TO SCALE

- SUPPORT MESH REINFORCED FABRIC NOTES:
INSTALLATION
1. DRIVE SUPPORT POSTS INTO THE GROUND.
 2. EXCAVATE A TRENCH ON THE UPHILL SIDE ALONG THE LINE OF THE STAKES. DO NOT EXCAVATE TRENCHES IN PERMAFROST.
 3. EXTEND SUPPORT MESH A MINIMUM OF 3 INCHES INTO THE TRENCH.
 4. ATTACH GEOTEXTILE TO STAKES AND BURY GEOTEXTILE BOTTOM.
 5. BACKFILL TRENCH AND COMPACT TO SECURE FENCE BOTTOM.



SEWN-IN POCKET DETAIL
NOT TO SCALE

REVISIONS		
Date	Description	By

State of Alaska DOT&PF

SILT FENCE
(DETAILS)

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Date X/XX/XX

BMP 31.00 – 33.00. Temporary Check Dam

These instructions include BMP 31.00, 32.00, and 33.00.

DESIGN CONSIDERATIONS

Objectives

Temporary Check Dams are used to reduce scour, reduce velocity, dissipate energy, prevent erosion, and settle sediment behind the weir structure in an unlined channel or vegetative swale.

Description

A Temporary Check Dam can be constructed of a variety of materials and is placed perpendicular to flow in a ditch or channel. It is placed so that it extends higher than the water level on both sides of the flow path and is lower in the center to allow water to flow through a controlled path.

Temporary Check Dams can be constructed from angular rock, fiber rolls, prefabricated foam barriers, sandbags, or compost socks. When rock is used, small sediment particles become lodged in the check dam's interior.

Other Names

In-Stream/Channel Energy Dissipater, Velocity Control Device, Sediment Trap, Ditch Check

Applicability

Temporary Check Dams are placed in series in ditches, swales, or other minor drainageways that require velocity checks, are not yet vegetated, or are intended to be filled or stabilized at a later time. When placed in a lined channel, check dams dissipate velocity, settle sediment, and anchor the liner.

Check dams may also be used as permanent measures for gradient control structures in ditches adjacent to elevated roadway sections.

Selection Considerations

Dependent on materials available, best management practices (BMPs) being used on the project and the durability required, Temporary Check Dams can be constructed from rock, fiber rolls, prefabricated barrier systems, sandbags, or compost socks. The Standard Drawing for Temporary Check Dams has details for the installation of each type of check dam.

- Check dams are used in narrow ditches.
- Steep channel slopes reduce effectiveness.
- Coupling check dams with a small adjacent upstream sump improves velocity slowing and sediment trapping ability.
- The area downstream from the last dam should be stabilized or flow diverted.
- Check dam rocks interfere with the establishment of vegetation.
- Some Temporary Check Dams are left as a permanent control measure. Removal may be indicated because of unsightliness or interference with maintenance (grass mowing) activities.

Design

The design of Temporary Check Dams (high at channel banks, lower in the middle) directs overtopping flows centrally to avert scouring of channel surfaces. The check dam is keyed into channel slopes to prevent bank undercut and erosion.

Check dam structures are sized to stay in place during peak flow. The check dam height or weir depth should pass 2-year, 24-hour storm runoff without overtopping the roadway or ditch sideslopes. Generally, check dams are not constructed higher than recommended since excessive weir depth seriously impacts the flow characteristics of the ditch.

- Design flow: 2-year, 24-hour
- Spacing:
 - Align the base of the upstream check dam with the top of the next downstream check dam.
 - Space check dams evenly in the drainageway, adjust spacing for grade breaks.
 - Use the spacing chart below to determine the distance between check dams based on slope and check dam height.

Maximum Spacing for Temporary
Check Dams (Feet)

Ditch Grade	Minimum Weir Depth	
	12 inches	18 inches
6%	15	25
5%	20	30
4%	25	40
3%	30	50
2%	50	80

This table is used to estimate the number of check dams. Actual spacing should be based on field conditions and meet the requirement that the top elevation is equal to the bottom elevation of the next upstream check dam. Spacing is also a function of the ditch erodibility, the flow, and the velocity.

Relationship to Other Erosion and Sediment Control Measures

Temporary Check Dams are used for channel protection prior to establishment of permanent or stabilized erosion controls. Although check dams perform some sediment filtering, they are not intended to replace filters or sediment basins. A depression in the bottom of the channel at the upstream edge of a check dam augments velocity slowing and sediment removal; however, digging a sump through stabilized in-channel protection (e.g. grassed lining) should be avoided.

Protective channel linings (e.g. grassed waterway, concrete or rock-lined ditch, erosion control blankets, or matings), sediment settling ponds, permanent ditch blocks, brush barriers, diversions, slope drains, or combinations of these measures can be used in conjunction with or as an alternative to Temporary Check Dams.

Common Failures or Misuses

- Improper spacing of check dams.
- Undercut/washout of channel banks beside the structure due to improper installation (e.g. dam not built high enough onto the banks).
- Increased bank erosion (e.g. at channel bends) or inadequate protection of channel surfaces due to improper location or installation of check dams.

- Water backup and bank overflow due to overly tall dam structure.
- Use of check dams for soil stabilization.
- Placement of check dams at abrupt bends causing erosive waters to be misdirected by the check dam into channel banks.
- Check dams installed in grass-lined structures may kill the vegetative lining if siltation is excessive or the check dam remains submerged for extended periods of time.
- Placement in waters of the U.S. or wetlands without appropriate agency permitting.
- Placement of check dams below the expected backwater from a salmonid bearing water causing a loss of high flow refuge habitat for overwintering juvenile salmonids and emergent fry.
- Improperly anchored check dams causing the check dam to wash away.
- When rock is used, inadequate rock size or angularity.
- When rock is used, rocks washed downstream causing culvert clogs, misdirecting flow, etc.
- Use of silt fence or straw bales as check dams.

SPECIFICATIONS

Standard Specification

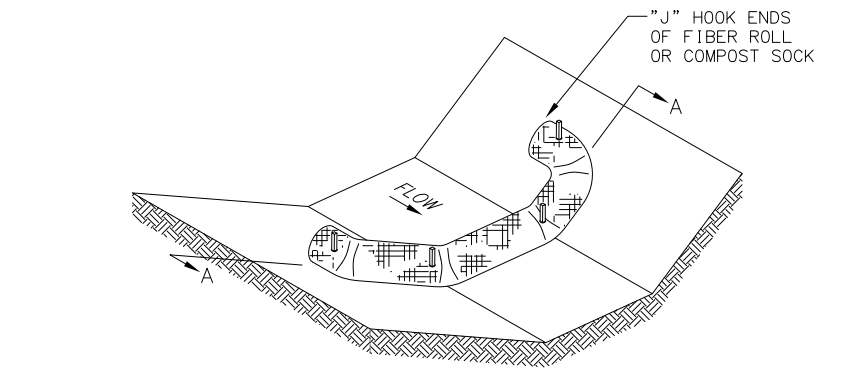
- 685- Temporary Check Dam

Drawings

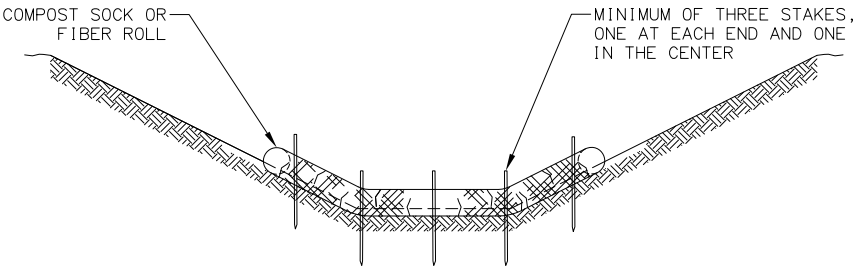
- BMP-31.00 Temporary Check Dam (Notes & Fiber Roll or Compost Sock)
- BMP-32.00 Temporary Check Dam (Prefabricated Barrier System & Rock)
- BMP-33.00 Temporary Check Dam (Sandbag)

Reference Drawings

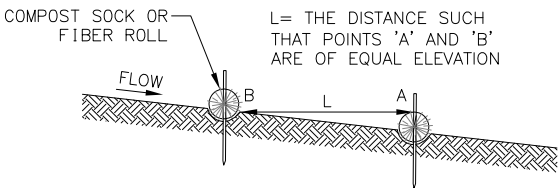
- BMP-04.00 Compost Berm
- BMP-05.00 Compost Sock
- BMP-10.00 Fiber Rolls for Erosion and Sediment Control
- BMP-13.00 Prefabricated Barrier System



PERSPECTIVE



SECTION A-A



PROFILE

FIBER ROLL OR COMPOST SOCK

NOT TO SCALE

- FIBER ROLL OR COMPOST SOCK NOTES:
- FOR USE OF FIBER ROLLS SEE BMP-10.00 FIBER ROLLS FOR EROSION AND SEDIMENT CONTROL.
 - FOR USE OF COMPOST SOCKS SEE BMP-05.00 COMPOST BERM & SOCK.
- INSTALLATION, INSPECTION, MAINTENANCE, AND REMOVAL
- SEE TEMPORARY CHECK DAM NOTES, THIS SHEET.

- TEMPORARY CHECK DAM GENERAL NOTES:
- MATERIALS
- TEMPORARY CHECK DAM: USE ONLY CLEAN MATERIALS.
- INSTALLATION
- INSTALL CHECK DAMS AS SOON AS DRAINAGE ROUTES ARE ESTABLISHED.
 - PLACE CHECK DAMS PERPENDICULAR TO THE FLOW OF WATER.
 - IF NECESSARY, IMPOUND OR BYPASS UPSTREAM WATER FLOW PRIOR TO INSTALLING CHECK DAMS.
 - EXTEND CHECK DAMS ONTO THE CHANNEL BANKS TO A HEIGHT ABOVE ANTICIPATED HIGH WATER LEVEL TO PREVENT LOCALIZED UNDERMINING AND EROSION.

- INSPECTION
- VISUALLY COMPARE UPSTREAM AND DOWNSTREAM FLOWS TO DETERMINE RELATIVE TURBIDITY LEVELS AND EFFECTIVENESS OF CHECK DAMS.
 - INSPECT CHANNEL BANKS FOR EVIDENCE OF UNDERMINING AND EROSION.
 - INSPECT FOR DAM DETERIORATION AND FOR MIGRATION OF STRUCTURAL COMPONENTS DOWNSTREAM.
 - ENSURE THE CENTER OF THE DAM IS LOWER THAN THE EDGES AND THAT WATER IS NOT RUNNING AROUND THE ENDS.

- MAINTENANCE
- REPAIR BANK UNDERCUTS.
 - REMOVE ACCUMULATED SEDIMENT BEFORE IT REACHES HALF THE HEIGHT OF THE DAM OR ONE-THIRD OF THE AVAILABLE STORAGE IF PROTECTING A WATER BODY OR STORM DRAIN INLET.
 - REPAIR UNDERCUTTING AND FLOW AROUND THE EDGES OR, IF NECESSARY, REPOSITION THE CHECK DAM.
 - INSTALL ADDITIONAL DAMS OR OTHER EROSION AND SEDIMENT CONTROL MEASURES AS NEEDED.

- REMOVAL
- AFTER THE DISTURBED AREA IS PERMANENTLY STABILIZED OR WHEN THE GRASS IN THE CHANNEL HAS MATURED SUFFICIENTLY TO PROTECT THE DITCH OR SWALE, REMOVE TEMPORARY CHECK DAMS.
 - TAKE CARE DURING CHECK DAM REMOVAL, SINCE THE WATERWAY SURFACE IS SUSCEPTIBLE TO DAMAGE.
 - IMMEDIATELY SEED OR PROVIDE OTHER FORMS OF PROTECTION FOR DAMAGED OR UNPROTECTED AREAS.

REVISIONS		
Date	Description	By

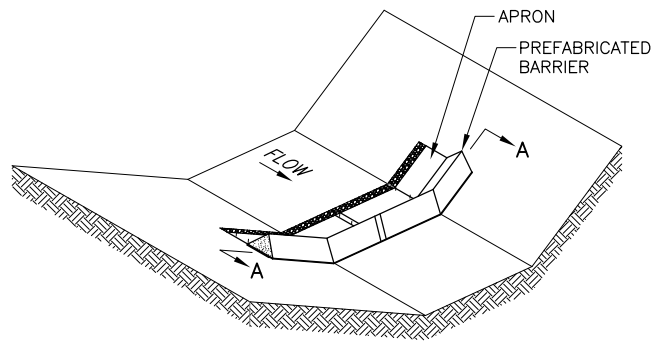
State of Alaska DOT&PF

TEMPORARY CHECK DAM

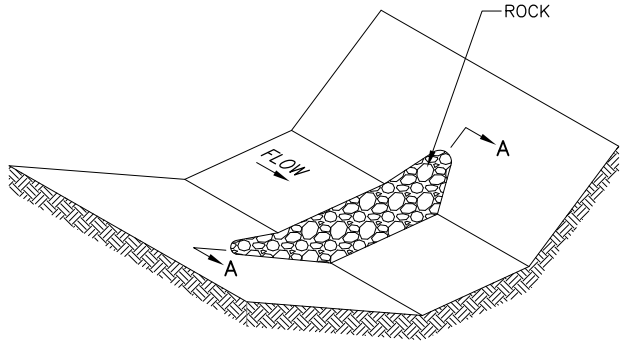
(NOTES & FIBER ROLL OR COMPOST SOCK)

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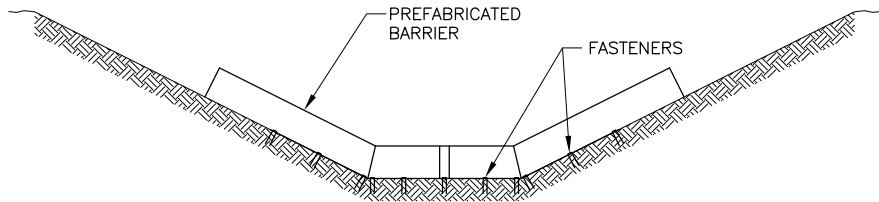
Date 12/2015 X/XX/XX



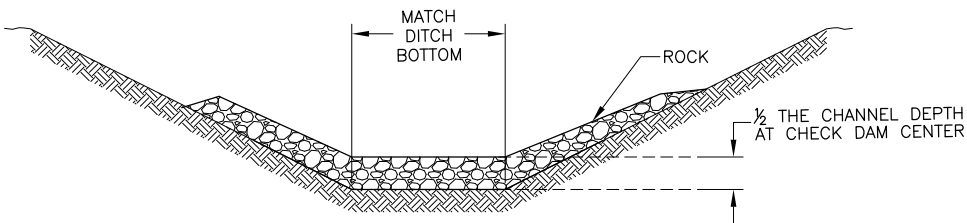
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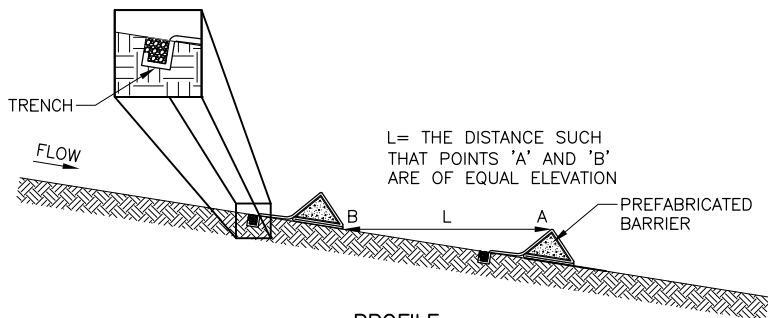
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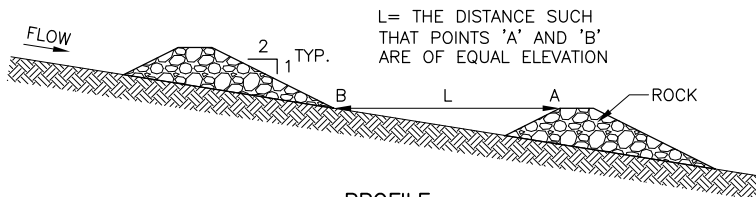
SECTION A-A



SECTION A-A



PROFILE



PROFILE

PREFABRICATED BARRIER SYSTEM CHECK DAM
NOT TO SCALE

PREFABRICATED BARRIER SYSTEM NOTES:

1. FOR USE OF PREFABRICATED BARRIER, SEE BMP-13.00 PREFABRICATED BARRIER SYSTEM

INSTALLATION, INSPECTION, MAINTENANCE, AND REMOVAL

1. SEE TEMPORARY CHECK DAM GENERAL NOTES ON BMP-31.00 (TEMPORARY CHECK DAM SHEET 1) – NOTES FOR INSTALLATION, INSPECTION, MAINTENANCE, AND REMOVAL.

ROCK CHECK DAM
NOT TO SCALE

ROCK NOTES:

MATERIALS

BERM: CLEAN HARD ANGULAR (E.G. CRUSHED, SHOT) ROCK GRADED ACCORDING TO EXPECTED FLOWS; 3- TO 6-INCH DIAMETER ROCK IS USUALLY ADEQUATE.

INSTALLATION

1. PLACE ROCK BY HAND OR MECHANICAL MEANS, DISTRIBUTING SMALLER ROCKS TO THE UPSTREAM SIDE TO PREVENT TRANSPORT.

MAINTENANCE

1. REPAIR VOIDS.
2. FORTIFY DISINTEGRATING DAMS. CONSIDER WHETHER ROCK SIZE IS SUFFICIENT FOR FLOWS.
3. CORRECT EFFECTS OF ROCK MIGRATION (E.G. CLOGGED CULVERT, FLOW CONSTRICTION) OR ANY DOWNSTREAM EROSION. IDENTIFY THE ORIGIN OF THE PROBLEM AND REPAIR, REPLACE OR ADD BMPS TO CORRECT IT.

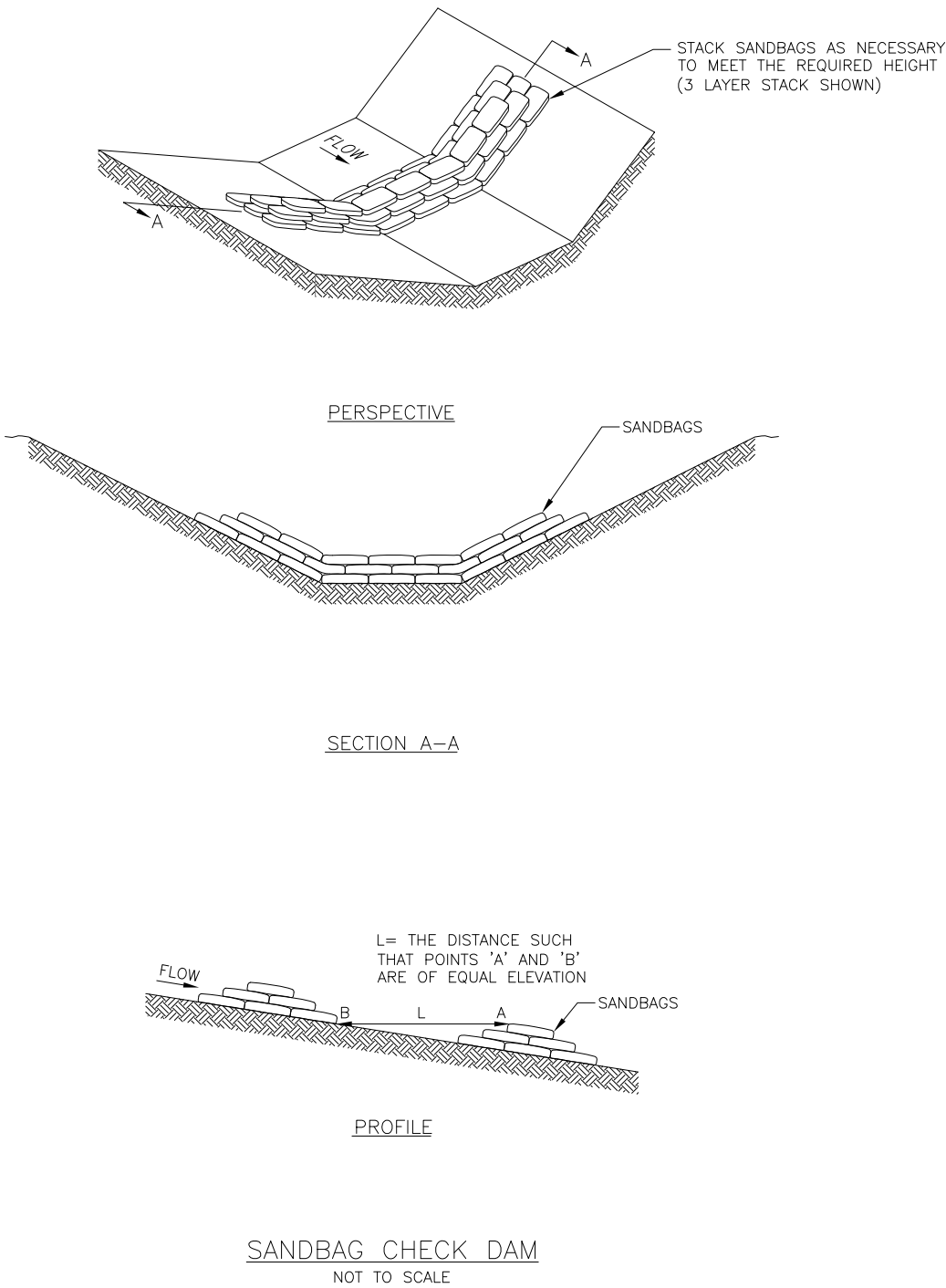
ADDITIONAL NOTES

1. SEE TEMPORARY CHECK DAM GENERAL NOTES ON BMP-31.00 (TEMPORARY CHECK DAM SHEET 1) – NOTES FOR INSTALLATION, INSPECTION, MAINTENANCE, AND REMOVAL.

REVISIONS		
Date	Description	By

State of Alaska DOT&PF
TEMPORARY CHECK DAM
(PREFABRICATED BARRIER
SYSTEM & ROCK)

APPROVED
Date 12/2015 X/XX/XX



- SANDBAG NOTES:
- MATERIALS
- SANDBAG BARRIER: TIGHTLY WOVEN BURLAP OR WOVEN GEOTEXTILE BAG MATERIAL THAT IS SUFFICIENTLY DURABLE TO REMAIN INTACT FOR THE TIME INTENDED. FILL BAGS $\frac{3}{4}$ FULL OF GRAVEL OR SAND WITH A GRADATION SUCH THAT NO FINE SEDIMENT PASSES THROUGH THE BAG. IF THE SANDBAGS ARE NEEDED FOR MORE THAN ONE SUMMER SEASON, PROVIDE BAG MATERIAL THAT HAS ULTRAVIOLET STABILITY OF AT LEAST 70% IN CONFORMANCE WITH ASTM D4355 REQUIREMENTS. SECURELY CLOSE THE SAND BAGS.
- INSTALLATION
1. PLACE SANDBAGS SO THAT THE INITIAL ROW MAKES TIGHT CONTACT WITH THE DITCH LINE FOR THE LENGTH OF THE DAM.
 2. TIGHTLY ABUT ALL SANDBAGS.
 3. STAGGER SANDBAG LIFTS SO THAT THE CENTER OF THE BAG IS PLACED ON THE SPACE BETWEEN BAGS ON THE PREVIOUS LIFT.
- INSPECTION
1. ENSURE THE SANDBAGS ARE IN TIGHT CONTACT WITH THE SOIL.
 2. LOOK FOR SPLIT, TORN, OR UNRAVELING BAGS.
- MAINTENANCE
1. REPLACE DAMAGED SANDBAGS AS NECESSARY.
- ADDITIONAL NOTES
1. SEE TEMPORARY CHECK DAM GENERAL NOTES ON BMP-31.00 (TEMPORARY CHECK DAM SHEET 1) – NOTES FOR INSTALLATION, INSPECTION, MAINTENANCE, AND REMOVAL.

REVISIONS		
Date	Description	By
State of Alaska DOT&PF		
TEMPORARY CHECK DAM		
(SANDBAG)		
APPROVED		
Date	12/2015	X/XX/XX

BMP 42.00. Vehicle/Equipment Storage, Maintenance and Fueling

SPECIFICATIONS

Objectives

Minimize or eliminate the discharge of pollutants and hazardous materials into storm drain systems, waters of the U.S., or groundwater.

Applicability

- Procedures and practices are used where on-site storage, maintenance, and fueling takes place.
- When practical, storage, maintenance, and fueling must be done off-site.

GENERAL VEHICLE/EQUIPMENT PRACTICES

- Designate areas to be used for storage, washing, maintenance, and fueling of equipment and vehicles. Locate these areas as far away from stormwater drainage systems and waters of the U.S. as practicable. Use paved surfaces if practicable.
- Provide appropriate perimeter best management practices (BMPs) to divert clean stormwater runoff from the storage, maintenance, or fueling area and to protect stormwater from maintenance area runoff (i.e. berms, silt fence or fiber rolls.)
- Place drip pans or absorbent pads under vehicles or equipment to contain potential drips or leaks that may develop during storage, maintenance, or fueling.
- Have drip pans, absorbent pads, and spill kits located near or within the storage, maintenance or fueling area.
- Properly dispose of any used absorbent pads or any wastes collected in drip pans.
- Check ground under vehicles and equipment for evidence of leaks or drips.
- Clean up any leaks, spills, or contaminated surfaces immediately. Use absorbent pads to clean small spills and properly dispose of used pads.
- Make sure spill kit is adequately stocked and replace used supplies promptly.

- Check perimeter BMPs according to their specified inspection guidelines.

VEHICLE/EQUIPMENT STORAGE

Description

If overnight storage of vehicles and equipment on-site is necessary, follow these procedures:

Procedures

- Inspect vehicles and equipment to be stored on-site for leaks. If leaks are found, either immediately repair the leak or contain the leak and repair as soon as possible.

VEHICLE/EQUIPMENT MAINTENANCE

Description

If maintenance or washing of vehicles and equipment on-site is necessary, follow these procedures:

Procedures

- Store waste fluids in labeled, sealable, leak-proof containers. Check containers used to store waste fluids and other liquids used for maintenance to make sure they are sealed and free of leaks.
- Properly dispose of fuels, lubricants, and other materials used for maintenance in accordance with manufacturer's instructions and state, federal, and local regulations.
- Any maintenance materials stored on-site must be protected from exposure to precipitation. Use secondary containment designed to prevent spills or leaked chemicals from mixing with stormwater.
- Detergents, soaps and solvents are prohibited from use by the CGP for any equipment washing.
 - All wash water must be treated through an appropriate control measure (i.e. sediment basin or equivalent) prior to discharge to stormwater drainage systems or waters of the U.S.

- Check vehicles and equipment for excess buildup of oil and grease. Clean vehicle or equipment and properly dispose of excess oil and grease.

VEHICLE/EQUIPMENT FUELING

Description

If fueling on-site is necessary, follow these procedures:

Procedures

- Fuel on a level grade area as far away from stormwater drainage systems and waters of the U.S., as practicable.
- Place drip pans or absorbent pads under vehicles or equipment to contain drips or leaks.
- Have drip pans, absorbent pads, and spill kits located nearby.
- During mobile fueling of equipment, properly protect the fueling hose from any damage.
- Fueling operations shall be attended at all times.
- Automatic shut-off nozzles are preferred. Do not “top off” fuel tanks. Leave adequate space for fuel expansion and movement in the tank while equipment is in operation.

BMP 54.00. Site Delineation

DESIGN CONSIDERATIONS

Objectives

Site delineation measures are intended to mark (1) all areas where land disturbing activities will occur, including clearing and grading, and (2) specific areas that will be left undisturbed, such as trees, boundaries of sensitive areas, or environmental buffer zones, prior to work beginning. Buffer zones may include those at stream crossings and around the edges of any wetlands or waters of the U.S. that are located within or immediately adjacent to the property where the construction activity will take place.

This measure is intended to comply with the requirements of Alaska Construction General Permit.

Description

Site delineation measures may be physical barriers, such as temporary fencing, or visual indications, such as staking and flagging, used to delineate specific areas. They are intended to remain until construction activity is completed. The most common measures include temporary fencing, survey flagging tape, stakes, paint on asphalt or concrete, and signs.

Other Names

Flagging, temporary fencing, high-visibility fencing, staking, signs, paint markings.

Applicability

Site delineation applies to all construction projects involving land disturbing activities.

Selection Considerations

Choose marking materials that have high visibility and contrast with the natural surroundings. Select materials based on ability to last for the duration of construction. This is especially important for construction that will span multiple seasons, or last several years.

Sensitive areas and their buffers may require more substantial protection, such as work zone safety fences. Silt fence, in combination with survey flagging, can be an acceptable method of marking sensitive areas and buffers. However, silt fencing

should only be used for this purpose if it is also needed for, and properly installed and maintained as, a sediment control measure.

If fencing other than orange fencing is used, provide signage with wording describing the purpose of the fence.

If signs are to be used, specify the type and spacing of signs and the wording on the sign, such as 'No Entry,' 'Keep Out,' 'No Grade Change', 'No Work, Storage Of Materials or Equipment Permitted Beyond This Point,' or other appropriate directive. Specify minimum lettering size for signs.

For long linear projects that are constructed in phases, consider the following:

- Provide delineation to protect adjacent out-of-phase areas that are not part of the current phase of construction.
- Specify installation of site delineation to coincide with phases of construction so that the length of time the site delineation must be inspected and maintained is sufficient but no longer (too far in advance) than necessary.

Common Failures or Misuses

- Failure to install prior to land disturbing activities.
- Inappropriately using materials intended for other purposes. For example, silt fencing material should not be used unless it is properly installed as a sediment control measure (BMP-20).
- Installing markers too close to areas of construction activity; failure to provide adequate maneuvering room for construction activities.
- Damage to markings and flagging cut down during clearing activities.
- Using products that are easily vandalized by humans or disturbed by animals.

SPECIFICATIONS

Standard Specification

655 – Site Delineation

Appendix C

Inspection Report

Stormwater Construction Site Inspection Report

General Information			
Project Name			
NPDES Tracking No.		Location	
Date of Inspection		Start/End Time	
Inspector's Name(s)			
Inspector's Title(s)			
Inspector's Contact Information			
Describe present phase of construction			
Type of Inspection ☐ Regular ☐ Pre-storm event ☐ During storm event ☐ Post-storm event			
Weather Information			
Has it rained since the last inspection? ☐ Yes ☐ No			
If yes, provide: Storm Start Date & Time: Storm Duration (hrs): Approximate Rainfall (in):			
Weather at time of this inspection?			
Do you suspect that discharges may have occurred since the last inspection? ☐ Yes ☐ No			
Are there any discharges at the time of inspection? ☐ Yes ☐ No			

Site-specific BMPs

Number the structural and non-structural BMPs identified in your SWPPP on your site map and list them below (add as many BMPs as necessary). Carry a copy of this numbered site map with you during your inspections. This list will help ensure that you are inspecting all required BMPs at your site. Customize this section as needed.

	BMP Description	BMP Installed and Operating Properly?	Corrective Action Needed	Date for corrective action/responsible person
1	Clearing Limits	☐ Yes ☐ No		
2	Preserve Vegetation	☐ Yes ☐ No		
3	Timing of Construction	☐ Yes ☐ No		
4	Temporary Check Dams	☐ Yes ☐ No		
5	Dust Control	☐ Yes ☐ No		
6	Stockpile Management	☐ Yes ☐ No		

	BMP Description	BMP Installed and Operating Properly?	Corrective Action Needed	Date for corrective action/responsible person
7	Mulching	☐ Yes ☐ No		
8	Geotextiles	☐ Yes ☐ No		
9	Matting	☐ Yes ☐ No		
10	Silt Fence	☐ Yes ☐ No		
11	Fiber Rolls	☐ Yes ☐ No		
12	Earth Dike	☐ Yes ☐ No		
13	Stabilized Entrances	☐ Yes ☐ No		
14	Street Sweeping	☐ Yes ☐ No		
15	Sanitary / Septic Waste Management	☐ Yes ☐ No		
16	Waste Management	☐ Yes ☐ No		
17	Staging Areas	☐ Yes ☐ No		
18	Covers for Materials/Equipment	☐ Yes ☐ No		
19	Concrete Waste Management	☐ Yes ☐ No		
20	Vehicle Fueling and Maintenance	☐ Yes ☐ No		
21	Spill Prevention and Control	☐ Yes ☐ No		
22	Concrete Cutting Waste Management	☐ Yes ☐ No		

Below are some general site issues that should be assessed during inspections. Please customize this list as needed for conditions at your site.

Overall Site Issues

	BMP/activity	Implemented?	Maintained?	Corrective Action	Date for corrective action/responsible person
1	Are all slopes and disturbed areas not actively being worked properly stabilized?	☐ Yes ☐ No	☐ Yes ☐ No		
2	Are natural resource areas (e.g., streams, wetlands, mature trees, etc.) protected with barriers or similar BMPs?	☐ Yes ☐ No	☐ Yes ☐ No		
3	Are perimeter controls and sediment barriers adequately installed	☐ Yes ☐ No	☐ Yes ☐ No		

	BMP/activity	Implemented?	Maintained?	Corrective Action	Date for corrective action/responsible person
	(keyed into substrate) and maintained?				
4	Are discharge points and receiving waters free of sediment deposits?	☐ Yes ☐ No	☐ Yes ☐ No		
5	Are storm drain inlets properly protected?	☐ Yes ☐ No	☐ Yes ☐ No		
6	Is there evidence of sediment being tracked into the street?	☐ Yes ☐ No	☐ Yes ☐ No		
7	Is trash/litter from work areas collected and placed in covered dumpsters?	☐ Yes ☐ No	☐ Yes ☐ No		
8	Are washout facilities (e.g., paint, stucco, concrete) available, clearly marked, and maintained?	☐ Yes ☐ No	☐ Yes ☐ No		
9	Are vehicle and equipment fueling, cleaning, and maintenance areas free of spills, leaks, or any other deleterious material?	☐ Yes ☐ No	☐ Yes ☐ No		
10	Are materials that are potential stormwater contaminants stored inside or under cover?	☐ Yes ☐ No	☐ Yes ☐ No		
11	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	☐ Yes ☐ No	☐ Yes ☐ No		
12	(Other)	☐ Yes ☐ No	☐ Yes ☐ No		
13	(Other)	☐ Yes ☐ No	☐ Yes ☐ No		

Certification statement:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Print name: _____

Signature: _____

Date: _____

Appendix D

Construction Activity Log

Appendix E

Corrective Action Log

Appendix F
Amendment Log

Appendix G

Training Log

SWPPP Training Log

Stormwater Pollution Prevention Plan Training Log

Project Name:

Project Location:

Instructor’s Name(s):

Instructor’s Title(s):

Course Location: _____ Date: _____

Course Length (hours): _____

Stormwater Training Topic: *(check as appropriate)*

- ☐ Erosion Control BMPs
- ☐ Emergency Procedures
- ☐ Sediment Control BMPs
- ☐ Good Housekeeping BMPs
- ☐ Non-Stormwater BMPs

Specific Training Objective: _____

Attendee Roster: *(attach additional pages as necessary)*

No.	Name of Attendee	Company
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

APPENDIX A

Humpback Whale Mitigation Measures for the Tyee Lake Hydroelectric Project No. 3015

General Mitigation Measures

1. The project proponent will inform the National Marine Fisheries Service (NMFS) of impending in-water activities a minimum of one week prior to the onset of those activities (email information to akr.prd.records@noaa.gov).
2. Consistent with AS 46.06.080, trash will be disposed of in accordance with state law. The project proponent will ensure that all closed loops (e.g., packing straps, rings, bands, etc.) will be cut prior to disposal. In addition, the project proponent will secure all ropes, nets, and other marine mammal entanglement hazards so they cannot enter marine waters.

Project-Dedicated Vessels

3. Vessel operators will:
 - a. Maintain a watch for marine mammals at all times while underway;
 - b. Stay at least 91 meters (100 yards) away from listed marine mammals, except that they will remain at least 460 meters (500 yard) away from endangered North Pacific right whales;
 - c. Travel at less than 5 knots when within 274 meters (300 yards) of a whale;
 - d. Avoid changes in direction and speed within 274 meters (300 yards) of a whale, unless doing so is necessary for maritime safety;
 - e. Not position vessel(s) in the path of a whale, and will not cut in front of a whale in a way or at a distance that causes the whale to change direction of travel or behavior (including breathing/surfacing pattern);
 - f. Reduce vessel speed to 10 knots or less when weather conditions reduce visibility to 1.6 kilometers (1 mile) or less; and
 - g. Adhere to the Alaska Humpback Whale Approach Regulations when vessels are transiting to and from the project site: (see 50 C.F.R. §§ 216.18, 223.214, and 224.103(b); these regulations apply to all humpback whales).

Specifically, pilot and crew will not:

- i. Approach, by any means, including by interception (i.e., placing a vessel in the path of an oncoming humpback whale), within 100 yards of any humpback whale;
 - ii. Cause a vessel or other object to approach within 100 yards of any humpback whale; or
 - iii. Disrupt the normal behavior or prior activity of a humpback whale by any other act or omission.
4. If a whale's course and speed are such that it will likely cross in front of a vessel that is underway, or approach within 91 meters (100 yards) of the vessel, and if maritime conditions safely allow, the engine will be put in neutral and the whale will be allowed to pass beyond the vessel, except that vessels will remain 460 meters (500 yards) from North Pacific right whales.
5. Vessels will not allow lines to remain in the water unless both ends are under tension and affixed to vessels or gear.
6. Project-specific barges will travel at 12 knots or less.

Reporting

Unauthorized Take

7. If a listed marine mammal is injured or killed as a direct or indirect result of the action, the licensee will report the incident to NMFS within one business day, with information submitted to akr.prd.records@noaa.gov. These records will include:
 - a. Digital, queryable documents containing observations and records, and digital, queryable reports;
 - b. The date, time, and location of each event (provide geographic coordinates);
 - c. Description of the event;
 - d. Number of individuals of each listed marine mammal species affected;
 - e. The time the animal(s) was first observed, and, if known, the time the animal was last seen, and the fate of the animal;
 - f. Mitigation measures implemented prior to and after the animal was taken;

- g. If a vessel struck a listed marine mammal, the contact information for individual piloting the vessel; and
- h. Photographs or video footage of the animal(s), if available.

Stranded, Injured, Sick or Dead Listed Species (not associated with the project)

- 8. If the individual piloting the vessel observes an injured, sick, or dead marine mammals (i.e., stranded), they will notify the Alaska Marine Mammal Stranding Hotline at 877-925-7773. If possible, the individual piloting the vessel will submit photos and available data to aid NMFS in determining how to respond to the stranded animal. If possible, data submitted to NMFS in response to stranded marine mammals will include date/time, location of stranded marine mammal, species and number of stranded individuals, description of the stranded marine mammal's condition, event type (e.g., entanglement, dead, floating), and behavior of live-stranded marine mammals.

Illegal Activities

- 9. If the individual piloting the vessel observes listed marine mammals or other marine mammals being disturbed, harassed, harmed, injured, or killed (e.g., feeding or unauthorized harassment), these activities will be reported to NMFS Alaska Region Office of Law Enforcement (Table 2: 1-800-853-1964).
- 10. Data submitted to NMFS will include date/time, location, description of the event, and any photos or videos taken.

Extralimital Sightings

- 11. All observations of Endangered Species Act-listed marine mammal species not considered in this consultation will be reported to NMFS within 24 hours. Photographs and/or video should be taken if possible to aid in Photo ID of individual animals. Reports will include all applicable information that would be included in a final report.

Final Report

- 12. A final report will be submitted to NMFS within 90 calendar days of the completion of the project summarizing the data recorded by emailing it to akr.prdr.records@noaa.gov. The report will summarize all in-water activities associated with the proposed action.

13. The final report for projects will include:

- a. Dates, times, and geographic coordinates of listed marine mammals observed by the individual piloting the vessel, including water depth, species, age/size/gender (if determinable), and group sizes; and
- b. Any photos or videos taken of marine mammals.

Reason for Contact	Contact Information
Consultation Questions & Unauthorized Take	akr.prd.records@noaa.gov
Reports & Data Submittal	akr.prd.records@noaa.gov
Stranded, Injured, or Dead Marine Mammals	Stranding Hotline (24/7 coverage) 1-877-925-7773
Oil Spill & Hazardous Materials Response	U.S. Coast Guard National Response Center: 1-800-424-8802 and AKRNMFSspillResponse@noaa.gov
Illegal Activities (<i>not related to project activities, e.g., feeding, unauthorized harassment, or disturbance to marine mammals</i>)	NMFS Office of Law Enforcement (AK Hotline): 1-800-853-1964
In the event that this contact information becomes obsolete	NMFS Anchorage Maine Office: 907-271-5006 or NMFS Juneau Maine Office: 907-586-7236

195 FERC ¶ 62,028
UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Southeast Alaska Power Agency

Project No. 3015-019

ORDER AMENDING LICENSE, REVISING PROJECT DESCRIPTION, REVISING
ANNUAL CHARGES, AND APPROVING REVISED EXHIBIT L AND M

(Issued April 14, 2026)

1. On January 27, 2025, as supplemented on June 12, 2025 and March 23 2026, Southeast Alaska Power Agency (licensee or SEAPA), filed an application for a capacity amendment of its license for the Tyee Lake Hydroelectric Project No. 3015.¹ The licensee proposes to install a third turbine-generator unit (Third Unit), which would increase the total installed capacity of the project from 22.50 megawatts (MW) to 33.75 MW.² The licensee included with the application a revised Exhibit L and a revised Exhibit M for Commission approval.³ The project is located on the Tyee Creek in Wrangell-Peterson, Alaska. The project occupies land within the Tongass National Forest, administered by the U.S. Forest Service (Forest Service).
2. Commission staff prepared an Environmental Assessment (EA) for the licensee's proposed amendment. The EA, issued on January 22, 2026,⁴ addressed the

¹ *Alaska Power Authority*, 16 FERC ¶ 61,112 (1981).

² During the review process a discrepancy between the authorized installed capacity and nameplate capacities of the units was identified. The authorized installed capacity was listed as 10 MW per unit, with each unit having a rated capacity of 12,500 kilovolt-amperes (kVA) and a power factor of 0.9. However, according to 18 C.F.R §11.1 (i), a generating unit with those specifications corresponds to an authorized installed capacity of 11.25 MW. The licensee corrected this discrepancy in its revised application, submitted on June 12, 2025.

³ The Exhibit M (project description) and Exhibit L (general design drawings) are identified as Exhibits A and G, respectively, in the Commission's current regulations; however, for the purpose of consistency, Commission staff will continue to use the naming conventions in effect at the time the project was licensed.

⁴ Commission staff issued a Notice of Availability of Environmental Assessment on January 22, 2026, for the amendment. 91 *Fed Reg.* 17, 3489 (2026).

environmental effects of the amendment request, and any changes to the environment that may have occurred since Commission staff issued an Environmental Impact Statement on licensing the project on June 17, 1981. The EA for the proposed amendment addressed the effects to geology and soils; water resources; fish and aquatic resources; wildlife, botanical, and wetland resources; threatened and endangered species; recreation, land use, and aesthetic resources; and cultural and historic resources. In the EA, Commission staff concluded that the licensee's proposed amendment would not constitute a major federal action significantly affecting the quality of the human environment.

I. Background

3. On August 5, 1981, the Commission issued a new license to construct, operate, and maintain the project. The Tyee Lake project works include: (1) Tyee Lake with a surface area of 481 acres at normal full pool elevation 1,398.3 feet North American Vertical Data of 1988 (NAVD88); (2) an intake structure fitted with a trash rack at approximately 1,228.9 feet NAVD88, which directs water into a drop shaft; (3) an unlined power tunnel approximately 8,300-foot-long and 10 feet in diameter; (4) a 1,350-foot-long steel penstock that trifurcates into three penstocks in the powerhouse; (5) a 122-foot-long by 38-foot-wide concrete and steel powerhouse containing two 11.25-MW generating units for a total installed capacity of 22.50 MW, and provisions for a Third Unit; (6) a 1,100-foot-long tailrace discharging into Airstrip Slough; (7) a 13.8/115-kilovolt (kV) switchyard 200-foot west of the powerhouse which was designed and constructed with room to accommodate the equipment associated with a Third Unit; (8) a three-phase, 138-kV transmission system consisting of 68.1 miles of overhead line and 11.4 miles of submarine line, leading approximately 40 miles to the Wrangell Switchyard then approximately 40 miles to the Petersburg Switchyard; and (9) appurtenant facilities.

II. Licensee's Proposal

4. The 22.50-MW Tyee Lake Project was designed and constructed with two 11.25-MW turbine-generator units and an empty bay within the powerhouse for the future installation of a third 11.25-MW turbine-generator unit. To meet the current and future demands of the communities of Wrangell, Petersburg, and Ketchikan; reduce the need for and reliance on diesel generation; increase operational flexibility; increase reserves and system reliability; and provide redundancy to the two existing units; the licensee proposes to install a Third Unit in the empty bay in the existing powerhouse at the project. The proposal to add the Third Unit would increase the total installed capacity of the project from 22.50 MW to 33.75 MW.

5. All activities associated with the installation of the Third Unit would occur within the existing powerhouse and project facilities already used for maintenance, repair, and other activities related to project operation, with no ground disturbing activities anticipated. However, the licensee would require the use of barges to transport

equipment and supplies during high tide from Wrangell, travelling along the east side of Wrangell Island to the head of Bradfield Canal and the existing bulkhead on site. The licensee estimates that it would use five to six barge trips from Wrangell to the project site in the late spring/early summer of 2026 to complete the proposed amendment. Barges would be off-loaded by forklift or front-end loader already present on site. Equipment and materials would be temporarily placed in the existing staging area near the barge bulkhead or transported directly to the powerhouse area using the existing road. The licensee further notes that up to approximately 15 workers would be on site at one time. Construction workers would either be flown to the Tyee Lake airstrip or transported to the dock or barge bulkhead by private ferry. The licensee would house construction crew and engineers in an existing onsite bunkhouse or at existing Forest Service cabins under the licensee's Special Use Permit.

III. Pre-Filing Consultation and Public Comment

A. Pre-Filing Consultation

6. On August 15, 2024, the licensee held an initial conference call with representatives from the National Marine Fisheries Service (NMFS), U.S. Fish and Wildlife Service (FWS), and Alaska Department of Fish and Game (Alaska DFG) to discuss the proposed amendment. The licensee held a second meeting on September 25, 2024, with a representative of the Forest Service. During each call, the licensee provided an overview of the project, the proposed amendment and schedule, and presented a proposed expedited license amendment process.

7. On October 9, 2024, the licensee requested to be designated as the Commission's non-federal representative for the purposes of consultation under section 7 of the Endangered Species Act (ESA), section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), and section 106 of the National Historic Preservation Act (NHPA). In a letter dated November 1, 2024, the Commission designated the licensee as its non-federal representative.

8. On October 9, 2024, the licensee provided state and federal resource agencies,⁵

⁵ State and federal resource agencies included the following: Alaska Department of Environmental Conservation (Alaska DEC), Alaska DFG, Alaska Department of Natural Resources (Alaska DNR), Alaska Energy Authority, Alaska State Historic Preservation Office (Alaska SHPO), Forest Service, FWS, NMFS, and the U.S. Army Corps of Engineers.

local governments,⁶ Tribes,⁷ Alaska Native Claims Settlement Act corporations, utilities and power purchasers, and other interested parties with an initial consultation document in the format of a draft amendment application, which included engineering exhibits and a draft of the preliminary draft EA (PDEA), and requested review prior to a Joint Agency and Public Meeting (JAPM).⁸

9. On November 14, 2024, the licensee held a JAPM, hosting both morning and afternoon sessions, to present the Third Unit proposal to stakeholders, resources agencies, and interested members of the public. Notice of the JAPM was published in three newspapers serving the area: the Wrangell Sentinel and Ketchikan Daily News on October 16 and October 30, 2024, and the Petersburg Piper on October 17 and October 31, 2024.⁹ At the JAPM, the licensee provided an overview of the proposed amendment and expedited amendment process, reviewed baseline conditions and anticipated environmental effects, and discussed the requests to waive the requirements of second stage consultation and to substitute the PDEA for the Exhibit E. Resource agencies in attendance included Alaska DFG, Alaska DNR, and NMFS.¹⁰ A public review period was open for 60 days following the submittal of the draft amendment application and the JAPM. During this time, the licensee continued to engage in conversations with state and federal resource agencies.

10. By letter dated November 27, 2024, Alaska DFG supported the licensee's request to waive second stage consultation and use the PDEA in lieu of an Exhibit E. On December 4, 2024, NMFS notified the licensee that, if it agrees to monitor the lower 460 feet of Hidden Creek after the Third Unit becomes operational to ensure that the reduction in spill does not affect salmon or salmon habitat, then it would agree to waive a

⁶ Local governments consulted with included the City and Borough of Petersburg, City and Borough of Wrangell, City of Ketchikan, City of Saxman, and the Ketchikan Gateway Borough.

⁷ The licensee provided the initial consultation document to the following Tribes: Ketchikan Indian Community; Metlakatla Indian Community, Annette Island Reserve; Organized Village of Kake; Organized Village of Saxman; Petersburg Indian Association; and the Wrangell Cooperative Association.

⁸ The licensee filed a copy of the initial consultation document with the Commission on October 9, 2024.

⁹ The licensee provided copies of the public notices in Appendix A of the application.

¹⁰ The licensee filed a summary of the meeting and meeting materials with the Commission on January 14, 2025, and made this information available to the public on its website.

second stage of consultation and for the licensee to use the PDEA in lieu of an Exhibit E. By email dated December 9, 2024, the FWS provided a letter waiving second stage consultation and supporting the licensee's use of a PDEA in lieu of an Exhibit E.

11. On January 21, 2025, Alaska DNR reviewed its water rights casefile database for water rights associated with the Tyee Lake Project. Alaska DNR identified two water rights casefiles issued for the project, ADL 100887 and LAS 27405, that authorize a cumulative water use of 135,000 acre-feet per year at a maximum diversion rate of 254 cubic feet per second sourced from Tyee Lake.

12. On January 21, 2025, Alaska DFG reviewed the proposed amendment in accordance with Alaska's Anadromous Fish Act¹¹ and Fishway Act.¹² Alaska DFG provided the licensee with an amended Fish Habitat Permit (FH10-I-0160), subject to the project description, permit terms, terms of the original permit, and the following stipulation: the licensee will complete shutdown maintenance activities May 1 to July 31.

13. By email dated May 8, 2025, the licensee provided the Forest Service with a project status update and requested comments or recommendations from the Forest Service pertaining to the proposed amendment and resource areas including, but not limited to, the use of Forest Service land, and wildlife, botanical, and wetland resources. The licensee subsequently contacted the Forest Service by voicemail on June 10, 2025. As of the June 12, 2025 filing, the licensee had not received a response to the email or voicemail.

14. By email dated May 9, 2025, the licensee provided Alaska DEC with an overview of the proposed amendment and requested consultation, comments, and recommendations. On May 22, 2025, Alaska DEC confirmed that it had issued a waiver for the project license and did not intend to revoke that waiver. Alaska DEC had no further comments on the proposed amendment.

B. Public Notice

15. On July 18, 2025, the Commission issued a public notice that the licensee's amendment application was accepted for filing, soliciting comments, motions to intervene and protests.¹³ The notice established a 30-day deadline, or August 19, 2025, for filing responses to the notice. On August 19, 2025, the U.S. Department of

¹¹ AS 16.05.871(b).

¹² AS 16.05.841.

¹³ 90 *Fed. Reg.* 139, 34647-34648 (2025).

Agriculture, through the Forest Service, filed a motion to intervene. No other comments or motions to intervene were received.

16. In the notice, Commission staff additionally noted that the documentation of consultation in the initial application and supplemental materials adequately addresses the issues such that no additional agency consultation is necessary.

C. Notice of Intent

17. On October 6, 2025, the Commission issued a notice of intent to prepare an EA for the proposed amendment. The notice provided a proposed schedule for completion of the EA and invited federal, state, local, and Tribal agencies with jurisdiction and/or special expertise with respect to environmental issues affected by the proposal to cooperate in the preparation of the EA. No parties sought to cooperate on the preparation of the EA.

IV. Tribal Consultation

18. On November 26, 2024, the licensee requested consultation pursuant to section 106 of the NHPA with the Cape Fox Corporation, Hydaburg Cooperative Association, Kake Tribal Corporation, Organized Village of Kake, Ketchikan Indian Community, Petersburg Indian Association, Organized Village of Saxman, Wrangell Cooperative Association, Metlakatla Indian Community – Annette Island Reserve, and Sealaska Corporation. By emails dated November 26, 2024, the Metlakatla Indian Community – Annette Island Reserve and the Sealaska Corporation acknowledged receipt of the request. No other comments were received.

19. In a December 13, 2024 email, Alaska SHPO recommended that the licensee conduct outreach to the Central Council of the Tlingit and Haida Indian Tribes of Alaska, and the Sealaska Heritage Institute as potential consulting parties. In a letter dated April 7, 2025, Commission staff additionally directed the licensee to consult with the Craig Tribal Association and the Klawock Cooperative Association. The licensee subsequently provided documentation that on November 26, 2024, it requested consultation with the Craig Tribal Association. In separate emails dated May 5, 2025, the licensee requested consultation with the Central Council of the Tlingit and Haida Indian Tribes of Alaska, the Sealaska Heritage Institute, Craig Tribal Association, and Klawock Cooperative Association, and provided the Tribes with the finding that no historic properties would be affected by the proposed amendment. No comments were received.

20. Pursuant to the Commission's Tribal Consultation Policy,¹⁴ Commission staff consulted with the federally recognized Tribes that have interests within the project's area of potential effect (APE). On August 8, 2025, Commission staff issued a letter to the

¹⁴ <https://www.ferc.gov/sites/default/files/2020-04/tribal-policy.pdf>.

federally-recognized Native American Tribes¹⁵ requesting comments on the licensee's amendment application within 30 days of letter issuance, or September 8, 2025. In emails dated September 29, 2025 and November 12, 2025, Commission staff reached out to the federally-recognized Tribes to follow-up on its letter requesting comments. No comments were received. In this regard, Commission staff has completed its consultation obligations pursuant to section 106 of the NHPA and the Commission's Tribal Consultation Policy.

V. Environmental Review

21. The National Environmental Policy Act (NEPA) requires federal agencies to consider the environmental impacts of their actions in the decision-making process and provide a detailed statement on proposals for major federal actions significantly affecting the quality of the human environment.¹⁶

22. To satisfy the requirements of the NEPA, Commission staff reviewed the proposed amendment and agency comments, and issued an EA addressing the potential environmental effects of the amendment request on the following resources: geology and soils; water resources; fish and aquatic resources; wildlife, botanical, and wetland resources; threatened and endangered species; recreation, land use, and aesthetic resources, and cultural and historic resources. In the EA, Commission staff noted that all activities associated with the installation of the Third Unit would occur within the existing powerhouse and project facilities already used for maintenance, repair, or other activities related to project operation, and would not require any ground-disturbing activities or in-water construction. Project operations following the installation of the Third Unit would not change from existing conditions, and the project would continue to be operated between the natural pool elevation and the minimum surface elevation of the project.

23. In the EA, Commission staff, concluded that, with the implementation of best management practices (BMPs), including, but not limited to, erosion and sediment control measures, a spill prevention and control plan, and ensuring that refueling does not occur adjacent to waterbodies, the proposed amendment would have no effects to

¹⁵ Addressees included: Craig Tribal Association; Hydaburg Cooperative Association; Klawock Cooperative Association; Metlakatla Indian Community, Annette Island Reserve; Organized Village of Kake; Petersburg Indian Association; Wrangell Cooperative Association; Ketchikan Indian Community; Organized Village of Saxman; and Central Council of the Tlingit and Haida Indian Tribes.

¹⁶ 42 U.S.C. §§ 4321 *et seq.*; *see also* 18 C.F.R. pt. 380 (Commission's regulations implementing NEPA).

geology and soil resources.¹⁷ Additionally, Commission staff concluded in the EA that, while the proposed amendment would result in no effects to botanical or wetland resources, the construction and operation of the Third Unit, with the implementation of BMPs and mitigation measures to protect sensitive species, including minimizing the duration of noise disturbing activities and timing restrictions, would have temporary and minor effects on wildlife.¹⁸ Though noise levels would increase slightly during the construction period, the remote nature of the project and limited recreational use in the project vicinity would limit these effects to land use, recreation, and aesthetic resources. Therefore, Commission staff concluded in the EA that the effects on land use, recreation, and aesthetics from the construction and installation of the Third Unit would be temporary and minor. However, following installation of the Third Unit, the licensee's continued operation of the project between the natural full pool elevation and the minimum surface elevation of the project would result in no effects to land use, recreation, or aesthetic resources.¹⁹

24. The EA's findings for water resources, fish and aquatic resources, threatened and endangered species, and cultural and historic resources are summarized below.

25. On February 23, 2026, Alaska DFG filed comments in response to the Commission's Notice of Availability and the EA issued for the proposed amendment. Alaska DFG stated that staff reviewed the EA and had no comments.

26. On March 23, 2026, the licensee filed a supplement to the amendment application which included revised Exhibits L and M, as well as additional documentation of agency consultation with Alaska DNR by letter dated February 27, 2026.²⁰

A. Water Resources

27. As discussed in the EA, construction activities associated with the proposed amendment would not affect the quantity of water flowing from Tyee Lake into Tyee or Hidden Creeks, or into Bradfield Canal. Work would be limited to transporting and installing the new Pelton-style turbine at the powerhouse and associated equipment at the

¹⁷ See Section 5.3.1 of the EA.

¹⁸ See Section 5.3.4 of the EA.

¹⁹ See Section 5.3.6 of the EA.

²⁰ Southeast Alaska Power Agency submits revised Exhibit L as supplemental information to the Application for Capacity Amendment to License re the Tyee Hydroelectric Project under P-3015 (P-3015-019). Accession No. 20260323-5228. See https://elibrary.ferc.gov/eLibrary/filelist?accession_number=20260323-5228.

switchyard. Existing units would be shut down for approximately 7–10 days during installation, similar to the routine annual maintenance period. During this time, unused water would be stored in Tyee Lake for later generation. A small amount of water would be withdrawn from the powerhouse outflow for concrete mixing.^{21,22} However, the short-term and low-volume withdrawal would have no measurable effect on water quantity in the tailrace or Airstrip Slough. Therefore, Commission staff concluded in the EA that the effects on water quantity from construction and installation of the proposed Third Unit would be temporary and minor.²³

28. The frequency and magnitude of spill events into Tyee Creek may decline slightly with the additional generating capacity. However, as noted in the EA, Commission staff does not expect this change to significantly affect overall water quantity. There is no instream flow requirement for Tyee Creek under the current project license. Under current operations, spill does not occur every year and has historically occurred only during above-average water years. Therefore, Commission staff concluded in the EA that the construction and operation of the Third Unit would not result in any significant changes in water quantity relative to the conditions and effects authorized under the current project license.²⁴ By letter dated February 27, 2026, Alaska DNR confirmed that they will amend the existing water rights permits to reflect the increased maximum diversion rate upon issuance of the amended project license.

29. While installation of the Third Unit would not require any ground-disturbing activities or in-water construction, the presence and operation of construction equipment and the barge operations would increase the potential for fuel and hazardous substance spills. To mitigate effects to water quality, the licensee would implement BMPs, including, but not limited to, an erosion and sediment control plan, spill prevention and control plan, and ensuring that refueling does not occur adjacent to waterbodies. Commission staff, therefore, concluded in the EA that, with the implementation of such BMPs, the effects to water quality due to construction activities would be negligible.²⁵

²¹ The licensee would obtain a temporary water use permit from Alaska DNR and a Fish Habitat Permit from Alaska DFG's Division of Habitat.

²² Because the powerhouse was originally designed to accommodate the Third Unit, concrete requirements are minimal and expected to be completed within two weeks.

²³ See Section 5.3.2.1 of the EA.

²⁴ See Section 5.3.2.1 of the EA.

²⁵ See Section 5.3.2.2 of the EA.

30. As no significant operational changes are proposed, Commission staff stated in the EA that it is unlikely that operation of the Third Unit would affect water quality. However, the introduction of more freshwater into the tailrace would result in minor changes to water temperature and salinity, while dissolved oxygen (DO) levels would increase slightly due to the typically higher oxygen content in freshwater, as compared to brackish or saline water. The licensee anticipates that full mixing of freshwater with saline water would continue to occur before reaching Airstrip Slough. Because the additional generation from the Third Unit would have less of an incremental effect on the existing baseline water quality of Airstrip Slough compared to the project as currently licensed, Commission staff does not anticipate water quality to be diminished.²⁶

31. As discussed in the EA, while no scour is anticipated in Airstrip Slough, higher flow velocities would occur in the tailrace when all three units are operating and would result in minor scouring of the tailrace channel bed, temporarily increasing suspended sediment and exposing more suitable spawning gravel in the tailrace. However, Commission staff anticipates that the deposition of this sediment in the intertidal area at the lower tailrace would mirror the natural sedimentation processes typical of the intertidal area. To ensure that the environment in the tailrace channel is responding as expected to an increase in flow, including the potential changes in bed scour and downstream deposition of fine suspended sediments in the tailrace resulting from the operation of all three turbines, the licensee proposes to develop and implement a final Tailrace Scour and Deposition Monitoring Plan (Tailrace Monitoring Plan). As proposed, the licensee would monitor the tailrace three times (August, December/January, and April/May) once prior to operation of the Third Unit (establishing baseline conditions) and once post-operation.²⁷ Data collection at the tailrace transects would include the following: channel and wetted dimensions, discharge, velocity, surface water quality parameters (temperature, DO, conductivity, salinity, pH), and spawning habitat quality (substrate composition). The Tailrace Monitoring Plan would include annual reporting and consultation with resource agencies, including FWS, NMFS, and Alaska DFG, to review results and discuss plans for subsequent sampling and any proposed changes. Ordering paragraph (J) requires the licensee to develop the Tailrace Monitoring Plan, in coordination with FWS, NMFS, and Alaska DFG, and to file the plan, for Commission approval, within 60 days of order issuance.

32. The licensee also anticipates that the addition of the Third Unit would result in decreased spill over the weir and decreased flow from lower Tyee Creek into Hidden

²⁶ See Section 5.3.2.2 of the EA.

²⁷ The licensee intends for the Tailrace Monitoring Plan to build upon tailrace monitoring previously completed by Alaska DFG in 2010-2011 and again in 2015-2016 by collecting similar parameters at the same tailrace transects established by Alaska DFG.

Creek. To demonstrate that year-round flow continues into Hidden Creek without spill from Tyee Lake, the licensee proposes to develop and implement a final Hidden Creek Flow Monitoring Plan (Flow Monitoring Plan).²⁸ As proposed, the licensee would monitor the flow in Hidden Creek at a suitable location, based on access and channel morphometry, in the reach between its confluence with Tyee Creek located at approximately river mile (RM) 0.6 and the upstream end of the anadromous barrier located near its mouth (RM 0.1). Monitoring of discharge would occur during the open water period of approximately April through October, one year prior to the operation of the Third Unit and one-year post-operation to confirm continual flow in Hidden Creek. The Flow Monitoring Plan would also include annual reporting and consultation with resource agencies, including FWS, NMFS, and Alaska DFG, to review results and discuss plans for subsequent sampling and any proposed changes. Ordering paragraph (K) requires the licensee to develop the Flow Monitoring Plan, in coordination with FWS, NMFS, and Alaska DFG, and to file the plan, for Commission approval, within 60 days of order issuance.

33. Following the installation and operation of the Third Unit, sediment deposition would be comparable to the sedimentation processes for the intertidal area. Commission staff concluded in the EA that, with the implementation of the proposed BMPs, and the development and implementation of the final Tailrace Monitoring Plan and Flow Monitoring Plan, any effects to water quality due to the construction and operation of the Third Unit would be minor and would not vary significantly from the effects of the project under the current license.²⁹

B. Fish and Aquatic Resources

34. Bradfield Canal has designated essential fish habitat (EFH) for various life stages of Chinook (*Oncorhynchus tshawytscha*), sockeye (*O. nerka*), coho (*O. kisutch*), chum (*O. keta*), and pink (*O. gorbuscha*) salmon. By email dated November 21, 2024, the licensee requested consultation with NMFS pursuant to the Magnuson-Stevens Act. The licensee stated that there is an anadromous fish passage barrier in Hidden Creek located approximately 460 feet upstream from Bradfield Canal, and that the head of Bradfield Canal has been designated EFH for various life stages of Chinook, chum, coho, pink, and sockeye salmon. The licensee noted that all areas of EFH associated with the proposed amendment, including Hidden Creek, the tailrace, and Hydro Creek, are intertidal, and that the proposed amendment would not affect EFH in Bradfield Canal or the listed anadromous waters.

²⁸ The licensee provided a draft Flow Monitoring Plan as Attachment 4 in the June 12, 2025 filing.

²⁹ See Section 5.3.2 of the EA.

35. As previously noted, by letter dated December 4, 2024, NMFS reviewed the licensee's proposed application and stated that it did not object to the installation of the Third Unit. However, NMFS noted that it would be important to monitor the lower 460 feet of Hidden Creek after the turbine is operational to ensure that the reduction in spill does not affect salmon or salmon habitat. Therefore, a monitoring plan, developed in consultation with NMFS, should be established.

36. In a September 10, 2025 letter to NMFS, Commission staff stated that the licensee's PDEA discussed the potential effects to EFH in Bradfield Canal for various life stages of Chinook, chum, coho, pink, and sockeye salmon due to the proposed amendment. To mitigate effects to EFH, the licensee proposed to develop and implement a Flow Monitoring Plan to monitor the lower 460 feet of Hidden Creek after the turbine is operational to ensure that the reduction in spill does not affect salmon or salmon habitat. Commission staff, therefore, notified NMFS that EFH for Chinook, chum, coho, pink, and sockeye salmon may be affected by the proposed amendment.

37. By letter dated September 25, 2025, NMFS reviewed the project plans and information provided, and concurred with Commission staff's conclusion that the proposed amendment would not adversely affect EFH for all five species of Pacific salmon in the project area. The potential adverse effects to EFH would be mitigated if the identified mitigation measures and BMPs are implemented. Therefore, NMFS had no conservation recommendations for the proposed action, and stated that no additional EFH consultation is necessary.

38. In the EA, Commission staff stated that, because the project was originally designed for the Third Unit, construction effects on fish and aquatic resources due to the proposed amendment would be limited. All proposed construction activities would occur within the powerhouse or switchyard, outside of the ordinary high-water mark (OHWM), and would not require ground disturbing activities that would affect fish and aquatic resources. As previously discussed, as a BMP, the licensee would ensure that fuel, lubricants, or other hazardous substances are not used or stored below the OHWM, and would implement an erosion and sediment control plan, and spill prevention and control plan to mitigate effects to fish and aquatic resources. With the implementation of such BMPs, Commission staff concluded in the EA that the construction of the proposed Third Unit would have no effect on fish and aquatic resources within the project tailrace. However, in the event that unexpected work occurs below the OHWM, the licensee would consult with Alaska DFG and would limit any work to within the "fish window" (May 15 to July 15) to avoid any potential effects on salmonids.³⁰

39. Commission staff also stated in the EA that scouring from the increased flow in the tailrace due to the Third Unit would improve spawning habitat by removing sand and

³⁰ See Section 5.3.3 of the EA.

sediment that may be covering spawning gravel. The potential for increased flow resulting from the proposed amendment would improve pink salmon spawning habitat quality, resulting in a permanent net beneficial change. However, increased velocities would affect spawning suitability.³¹

40. The installation and operation of the Third Unit would reduce flow from Tyee Lake to Hidden Creek, particularly during low precipitation years. This reduction of flow would affect EFH and salmonid species. As discussed under *Water Resources* above, to evaluate the effects of the Third Unit on Hidden Creek, the licensee proposes to develop and implement a Flow Monitoring Plan. The licensee would additionally develop and implement a Tailrace Monitoring Plan to evaluate the potential changes in bed scour and downstream deposition of fine suspended sediments. Commission staff, therefore, concluded in the EA that, with the implementation of the proposed BMPs, and the development and implementation of the Flow Monitoring Plan and Tailrace Monitoring Plan, any effects to fish and aquatic resources due to the construction and operation of the Third Unit would be minor and would not vary significantly from the effects of the project under the current license.³²

C. Threatened and Endangered Species

41. As documented in the amendment application, by email dated November 8, 2024, the licensee provided the FWS with a request for informal consultation pursuant to section 7 of the ESA. The licensee stated that the FWS's Information for Planning and Consultation (IPaC) database indicated that the endangered short-tailed albatross (*Phoebastria albatrus*) may be present in the project vicinity, but that no critical habitat has been designated for this species. Therefore, the licensee requested informal consultation on this species, as well as any plant and animal species of concern that are known or suspected to occur in the project area and, as appropriate, mapped locations of known occurrences of these species in the region of the project. On November 14, 2024, the FWS acknowledged receipt of the licensee's request, and provided additional information on developing species determinations, and the location of range maps for the listed species.

42. By email dated November 21, 2024, the licensee requested informal consultation with NMFS pursuant to section 7 of the ESA.³³ The licensee stated that it developed a preliminary list of ESA-listed species under the jurisdiction of NMFS, and identified that

³¹ See Section 5.3.3 of the EA.

³² See Section 5.3.3 of the EA.

³³ The licensee attached a letter dated November 20, 2024 to the email, which provided a description of the proposed amendment.

the threatened Mexico Distinct Population Segment (DPS) of humpback whale (*Megaptera novaeangliae*) may be present in the waters between Wrangell and the project site during the summer, however no critical habitat has been designated for this species. The licensee stated, in part, that the proposed amendment would include five to six barge trips from Wrangell to the project barge bulkhead at the head of Bradfield Canal to transport equipment and materials to the powerhouse area, and that workers would be transported to the site via private ferry. However, the licensee stated that the limited number of barge or ferry trips between Wrangell and Bradfield Canal would not adversely affect the Mexico DPS of humpback whale. As such, the licensee requested informal consultation on the Mexico DPS of humpback whale, as well as any other ESA-listed species or species of concern that are known or suspected to occur in the project area, and clarification on if a Biological Assessment would need to be prepared for these species.

43. On December 6, 2024, NMFS requested additional information and provided the licensee with suggested mitigation measures to incorporate into the proposed action to ensure the safety of listed marine mammals. By email dated December 6, 2024, the licensee notified NMFS that it would follow the suggested mitigation measures by including them as requirements in construction contracts, and stated that it would add these as protection, mitigation, and enhancement measures in the final amendment application to be filed with the Commission. Given the licensee's written agreement to implement the recommended mitigation measures, NMFS initiated consultation on December 6, 2024. By letter dated December 13, 2024, NMFS reviewed the proposed amendment and concurred with the licensee's determination that the proposed amendment may affect, but is not likely to adversely affect, the ESA-listed Mexico DPS of humpback whale.

44. On August 1, 2025, and January 7, 2026, Commission staff accessed the FWS's IPaC database and determined that one federally listed species, the endangered short-tailed albatross, may occur within the area affected by the proposed amendment. No

critical habitat was identified within the project's action area.^{34,35} Commission staff noted in the EA that, as the short-tailed albatross is rare, spends much of its time at sea, and only has a few active breeding colonies remaining (none of which are near the project area), it is unlikely to occur within the project area.³⁶ Therefore, Commission staff concluded that the construction and operation of the proposed amendment would have no effect on short-tailed albatross.

45. Though the Mexico DPS of humpback whale was not identified in the IPaC database, based on the information provided in the licensee's application, Commission determined that the proposed amendment may affect, but is not likely to adversely affect, the Mexico DPS of humpback whale. Therefore, in the September 10, 2025 letter to NMFS, Commission staff also requested informal consultation with NMFS for the proposed amendment. Commission staff subsequently provided NMFS with additional information in support of this request by emails dated September 26, 2025 and September 30, 2025.

46. By email dated November 28, 2025, NMFS notified Commission staff that the previous effects determinations from NMFS are still valid, and that NMFS still concurs with the effects determinations based on the slight change in megawatts. NMFS stated that the email serves as notice of the reinitiation request, and that the Commission can close out consultation on the ESA section 7 request.³⁷

47. In the EA, Commission staff noted that, while all activities associated with the installation of the Third Unit would occur within the existing powerhouse and project facilities, the potential effects to the Mexico DPS of humpback whale associated with the

³⁴ See Commission staff's August 1, 2025 and January 7, 2026 memorandums on List of Threatened, Endangered, Candidate, and Proposed Species under the ESA.

³⁵ The FWS's IPaC database further identified the Southeast Alaska Stock of northern sea otter (*Enhydra lutris kenyoni*) as a marine mammal that may occur within the area affected by the proposed amendment. This stock is not designated as depleted under the Marine Mammal Protection Act (MMPA), nor is it listed as threatened or endangered under the ESA. Per the MMPA, the stock is currently classified as non-strategic. As discussed in Appendix A, *Statutory and Regulatory Requirements*, of the EA, given the minimal increase in vessel traffic required to transport materials to the project site, Commission staff concluded that the northern sea otter would not be affected by vessel strikes or disturbance.

³⁶ See Section 5.3.5 of the EA.

³⁷ See emails between NMFS and Commission staff. Communication memorandum filed December 1, 2025.

licensee's proposed use of barges and private ferries include the following: (1) vessel noise; (2) vessel strike; and (3) entanglement in vessel lines and marine debris. To minimize the potential effects to the humpback whale, the licensee developed mitigation measures in coordination with NMFS. Those mitigation measures are attached to this order as Appendix A. Such mitigation measures include, but are not limited to, the following: (1) maintaining a watch for marine mammals at all times while underway; (2) staying at least 91 meters (100 yards) away from listed marine mammals; (3) travelling at less than 5 knots when within 274 meters (300 yards) of a whale; (4) avoiding changes in direction and speed within 274 meters (300 yards) of a whale; (5) not positing vessels in the path of a whale or cutting in front of a whale in a way or at a distance that causes the whale to change direction of travel or behavior; (6) reducing vessel speed to 10 knots or less when weather conditions reduce visibility to 1.6 kilometers (1 mile) or less; (7) adhering to the Alaska Humpback Whale Approach Regulations when vessels are transiting to and from the project site; and (8) project-specific barges would travel at 12 knots or less. In the EA, Commission staff concluded that the implementation of the agreed upon mitigation measures would ensure that the effects from vessel noise would be insignificant, and that the potential risks for vessel strikes and entanglement are extremely unlikely to occur.³⁸ Therefore, ordering paragraph (K) requires the licensee to implement the humpback whale mitigation measures.

48. To keep NMFS informed of interactions with marine mammals during project activities, the proposed mitigation measures include reporting requirements for: (1) unauthorized take; (2) stranded, injured, sick, or dead listed species (not associated with the project); (3) illegal activities; and (4) extralimital sightings. The licensee would additionally submit a final report to NMFS within 90 calendar days of the completion of the project that summarizes all in-water activities associated with the proposed amendment, including dates, times, and geographic coordinates of listed marine mammals observed by the individual piloting the vessel, as well as water depth, species, age/size/gender (if applicable), group sizes, and any photos or videos taken of marine mammals. So the Commission remains informed, ordering paragraph (L) of this order requires the licensee to file a copy of any report or notification for which it is responsible under the humpback whale mitigation measures.

D. Cultural and Historic Resources

49. On November 8, 2024, the licensee requested consultation with the Alaska SHPO pursuant to section 106 of the NHPA for the proposed capacity amendment. By email dated December 13, 2024, the Alaska SHPO acknowledged receipt of the November 8, 2024 consultation request, and stated that it had no objections to the level of

³⁸ See Section 5.3.5 of the EA.

effort to identify historic properties at that time. The Alaska SHPO additionally recommended defining the APE with a 100-foot buffer around the proposed use areas.

50. By email dated May 5, 2025, the licensee provided the Alaska SHPO with a finding that no historic properties would be affected by the proposed amendment and requested concurrence with this finding. By letter dated June 10, 2025, the Alaska SHPO reviewed the licensee's May 5, 2025 correspondence and concurred that no historic properties would be affected by the proposed amendment.³⁹

51. In the EA, Commission staff noted that a cultural resources review of existing information identified no archaeological, historic, or other cultural resources located within the APE, and that no Tribal resources have been identified in the vicinity of the APE.⁴⁰ While construction would result in no ground-disturbing activities, as a BMP, and pursuant to Article 40 of the project license, the licensee would incorporate an inadvertent discovery provision into construction contracts, whereby the contractor would stop work and notify the licensee immediately if any archaeological significant materials or sites are discovered during construction activities. Accordingly, Commission staff concluded in the EA that the construction and operation of the Third Unit would have no effect on cultural and historic resources.⁴¹

VI. Administrative Provisions

A. Installed Capacity and Annual Charges

52. During the review process, Commission staff identified a discrepancy between the authorized installed capacity and the nameplate capacities of the units. Under 18 C.F.R. § 11.1(i), authorized installed capacity is defined as “the lesser of the ratings of the generator or turbine units.” The rating of a turbine is the product of the turbine's capacity in horsepower (hp) at best gate opening under the manufacturer's rated head times a conversion factor of 0.75 kilowatt (kW)/hp. The rating of a generator is the product of the continuous-load capacity rating of the generator in kilovolt-amperes (kVA) and the system power factor in kW/kVA. Based on the information provided by the licensee, the current authorized installed capacity is 22.50 MW.

³⁹ A copy of the Alaska SHPO's June 10, 2025 letter was filed with the Commission on July 11, 2025.

⁴⁰ The licensee defined the APE as the project action area (including all material and equipment landing and staging areas, housing, affected existing structures, and access roads) in addition to a 100-foot buffer zone surrounding the affected area.

⁴¹ See Section 5.3.7 of the EA.

53. The licensee's proposal to install the Third Unit at the Tyee Lake Hydroelectric Project would result in an 11.25 MW increase in the total installed capacity of the project, from 22.50 MW to 33.75 MW. Therefore, Article 33 of the license should be updated to reflect the current authorized installed capacity and the increase due to the proposed installation of the Third Unit. Accordingly, ordering paragraph (C) of this order revises Article 33 to reflect the changes to the authorized installed capacity. The change in annual charges will be effective as of the issuance date of this order for the current authorized installed capacity, and from the date the Third Unit becomes operational for the additional capacity resulting from the proposed upgrades.⁴² Ordering paragraph (I) of this order requires the licensee to submit a report specifying the date when the Third Unit begins operation.

B. Revised Exhibits L and M

54. On March 23, 2026, the licensee filed a revised Exhibit M to reflect the proposed design modifications and to revise the referenced datum elevation. The Exhibit M conforms to the Commission's rules and regulations and should be approved, as shown in ordering paragraph (D) of this order. Ordering paragraph (B) of this order revises the project description in ordering paragraph (B)(ii) of the license consistent with the revised Exhibit M.

55. In addition, the licensee included 6 revised Exhibit L drawings for Commission approval to reflect the proposed changes. On March 23, 2026, the licensee submitted revised Exhibit L drawings to revise the proposed exhibit drawing numbers. Commission staff reviewed the drawings and determined they conform to the Commission's rules and regulations. Ordering paragraph (E) of this order approves the drawings filed on March 23, 2026. Ordering paragraph (F) of this order requires the licensee to file the approved exhibit drawing in electronic file format. Furthermore, ordering paragraph (I) of this order requires the licensee to file revised Exhibits K, L, and M, as necessary, to reflect as-built conditions. The filing must also include photographs of the turbine-generator units' nameplates.

C. Dam Safety

56. The licensee may not begin construction until the Commission's Division of Dam Safety and Inspections (D2SI) – Portland Regional Engineer has reviewed and commented on the plans and specifications, determined that all preconstruction requirements have been satisfied, and authorized start of construction. Ordering paragraph (G) of this order requires the licensee to submit final design documents prior to

⁴² 18 C.F.R. § 11.1(d)(6) (2025).

receiving approval to start construction from the Commission's D2SI – Portland Regional Engineer.

D. Construction Articles

57. Commission staff reviewed the amendment application and concludes that the proposed modifications would not adversely impact the safety of the project when constructed, operated, and maintained in accordance with the Commissions standards and oversight. The licensee plans to commence the installation of the Third Unit at the Tyee Lake Hydroelectric Project, starting in May of 2026, and completing installation of the Third Unit by fall 2027. Nevertheless, Commission staff is requiring in ordering paragraph (H) of this order that the licensee starts and completes the upgrades within two and five years, respectively, from the issuance date of this order.

VII. Discussion and Conclusion

58. The proposed amendment and installation of the Third Unit would not constitute a major federal action significantly affecting the quality of the human environment. Under the proposed amendment, the licensee would install a Third Unit in the existing empty bay, which would increase the total installed capacity of the project to 33.75-MW. This proposed Third Unit would allow the licensee to meet the current energy demands of the communities of Petersburg, Wrangell, and Ketchikan, and significantly reduce the licensee's reliance on diesel generation. Therefore, the licensee's application for amendment of the license should be approved.

The Director orders:

(A) Southeast Alaska Power Agency's (licensee) application to amend the license for the Tyee Lake Hydroelectric Project No. 3015, filed on January 27, 2025, as supplemented on June 12, 2025, and March 23, 2026, is approved, subject to the requirements in the ordering paragraphs below.

(B) This order revises ordering paragraph (B)(ii) of the license to read as follows:

(ii) The Tyee Lake project works include: (1) Tyee Lake with a surface area of 481 acres and a usable storage capacity of 52,400 acre-feet between the natural surface elevation of 1,396 feet mean lower low water (mllw) and a minimum surface elevation of 1,250 feet; (2) a power tunnel, approximately 8,300 feet long and 10 feet in diameter leading from an intake structure in Tyee Lake to the powerhouse where it connects to a steel 1,350-foot-long penstock that trifurcates into 3 penstocks leading to each unit bay; (3) a powerhouse constructed out of steel and concrete that is 122 feet long by 38 feet wide; (4) three 16,750-horsepower Pelton-type (impulse) turbines connected to three 11.25-megawatt generators; (5) a 1,100-foot-long tailrace channel discharging into

Airstrip Slough; (6) a 13.8/138-kV switchyard adjacent to the powerhouse; (7) a 3-phase, 138-kV transmission system that includes 68.1 miles of overhead transmission circuit and 11.4 miles of submarine line, the transmission system extends from the powerhouse switchyard to the Wrangell Substation for 40 miles and then about 40 miles to the Petersburg Switchyard; and (8) appurtenant facilities.

(C) This order revises Article 33 of the license, in part, to read as follows:

Article 33. The licensee shall pay the United States annual charges, as determined in accordance with provisions of the Commission's regulations in effect from time to time, for the purposes of:

- a) reimbursing the United States for the cost of administration of Part I of the Federal Power Act, a reasonable amount as determined in accordance with the provisions of the Federal Energy Regulatory Commission's regulations in effect from time to time. The authorized installed capacity for that purpose is 22.5 MW, effective the issuance date of this order, and will increase to 33.75 MW, effective as of the date by which the third unit authorized by this order becomes operational;
- b) recompensing the United States for the use, occupancy, and enjoyment of 0 acres of its lands exclusive of those used for transmission line right-of-way, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The project occupies 1,162 acres of section 24 lands outside a transmission line right-of-way. Under the Commission's policy currently in effect, projects occupying section 24 lands will not be assessed an annual charge for use of those lands; and
- c) recompensing the United States for the use, occupancy, and enjoyment of 1,174 acres of its lands for transmission line right-of-way only, a reasonable amount as determined in accordance with the provisions of the Commission's regulations in effect from time to time. The project occupies 1,430 acres of federal lands (256 acres of which are section 24 lands). Under the Commission's policy currently in effect, projects occupying section 24 lands will not be assessed an annual charge for use of those lands.

(D) The revised Exhibit M filed on March 23, 2026, conforms to the Commission's rules and regulations and this order approves the Exhibit M and makes it part of the license. The previous Exhibit M is eliminated from the license.

(E) This order approves the revised Exhibit L drawings filed on March 23, 2026, as shown in the table below. The previous Exhibits L-4B through L-4D, L-5B through L-5C, and L-6A, drawing Numbers P-3015-54 through P-3015-56 and P-3015-58 through P-3015-60, are superseded and deleted from the license.

Exhibit No.	FERC Drawing No.	Drawing Title	Filename Title ⁴³
L-4B	P-3015-72	Powerhouse General Arrangement Plan at CL Turbine EL 29.00 ft mllw	Powerhouse General Arrangement Plan EL29
L-4C	P-3015-73	Powerhouse General Arrangement Plan Machine Floor EL 33.00 ft mllw	Powerhouse General Arrangement Plan EL33
L-4D	P-3015-74	Powerhouse General Arrangement Plan Generator Floor EL 43.50 ft mllw	Powerhouse General Arrangement Plan EL43.5
L-5B	P-3015-75	Powerhouse General Arrangement Longitudinal Section	Powerhouse General Arrangement Longitudinal Section
L-5C	P-3015-76	Powerhouse General Arrangement Transverse Section – Unit 3	Powerhouse General Arrangement Transverse Section Unit 3
L-6A	P-3015-77	Switchyard General Arrangement Plan	Switchyard General Arrangement Plan

(F) Within 45 days of the date of issuance of this order, as directed below, the licensee must file the approved exhibit drawings in electronic file format.

The licensee must prepare digital images of the approved exhibit drawings in electronic format. Prior to preparing each digital image, the licensee must add the FERC Project-Drawing Number (i.e., P-3015-72 through P-3015-77) in the margin below the title block of the corresponding approved drawing. The licensee must **label and file the Exhibit L drawings as Critical Energy Infrastructure Information (CEII) material under 18 C.F.R. § 388.113** (The submission should consist of: 1) a public portion consisting of a cover letter; and 2) a CEII portion containing only the Exhibit L drawings). Each drawing must be a separate electronic file, and the file name must include: FERC Project-Drawing Number, FERC Exhibit Number, Filename Title, date of this order, and file extension in the

⁴³ These exact drawing titles must be used in the filename when filing the electronic file format drawings required in ordering paragraph (E). Commission staff shortened the drawing titles due to filename character limits. There is no need to modify the titles as they appear on the drawings.

following format [P-3015-72, L-4B, Powerhouse General Arrangement Plan EL29, MM-DD-YYYY.TIFF]. All digital images of the exhibit drawings must meet the following format specification:

IMAGERY:	black & white raster file
FILE TYPE:	Tagged Image File Format, (TIFF) CCITT Group 4 (also known as T.6 coding scheme)
RESOLUTION:	300 dots per inch (dpi) desired, (200 dpi minimum)
DRAWING SIZE:	22" x 34" (minimum), 24" x 36" (maximum)
FILE SIZE:	less than 1 megabyte desired

(G) *Final Design Documents.* At least 60 days prior to the start of any construction, the licensee must file final design documents with the Commission by eFiling to the Portland Regional Office. The design documents must include final plans and specifications, and the following items as appropriate: supporting design report, Quality Control and Inspection Program, Temporary Construction Emergency Action Plan, and Soil Erosion and Sediment Control Plan. The licensee may not begin construction until the Division of Dam Safety and Inspections – Portland Regional Engineer has reviewed and commented on the documents, determined that all preconstruction requirements have been satisfied, and authorized start of construction.

(H) The licensee must start construction of the proposed work authorized in this order within two years and complete all construction within five years from the issuance date of this order. Within 90 days of the date of completion of construction authorized in this order, the licensee must file with the Commission, the date of commencement and completion of construction.

(I) Within 90 days of completion of construction of the improvements authorized by this amendment, the licensee must file for Commission approval, revised Exhibits K, L, and M, as applicable, to reflect as-built conditions at the Tyee Lake Hydroelectric Project. If the licensee determines the previously approved exhibits reflect the as-built facilities and no revisions are necessary, the licensee must file a letter stating the approved exhibits reflect the as-built project facilities. Additionally, the letter must include the specific date on which the Third Unit begins operation. This certification process ensures that the Commission has accurate documentation of the project and its operational status. The filing must include photographs of the nameplates for the turbines and generators.

(J) To monitor potential changes in bed scour and downstream deposition of fine suspended sediments in the tailrace that may result from operating all three turbines at higher rates than current operations, the licensee must develop a Tailrace Scour and Deposition Monitoring Plan and file the plan, for Commission approval, within 60 days

of order issuance. The plan must identify baseline data, monitoring locations, the type of data to be collected, and operational flows of interest.

The plan must be developed after consultation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and the Alaska Department of Fish and Game. The licensee must include documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the comments are accommodated by the plan. The licensee must allow a minimum of 30 days for the agencies to comment and make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing must include the licensee's reasons, based on project-specific information.

(K) To ensure Hidden Creek receives enough flow to maintain essential fish habitat in the lowermost approximately 460 feet of Hidden Creek, the licensee must develop a Hidden Creek Flow Monitoring Plan and file the plan, for Commission approval, within 60 days of order issuance. The plan must identify the location, duration, and frequency of monitoring efforts to ensure there is no effect to salmon or salmon habitat in lower Hidden Creek.

The plan must be developed after consultation with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and the Alaska Department of Fish and Game. The licensee must include documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the comments are accommodated by the plan. The licensee must allow a minimum of 30 days for the agencies to comment and make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing must include the licensee's reasons, based on project-specific information.

(L) To mitigate the potential for disturbance to humpback whales due to activities associated with the proposed amendment, the licensee must implement the humpback whale mitigation measures developed with the National Marine Fisheries Service. Those mitigation measures are set forth in Appendix A to this order.

(M) The licensee must file with the Commission copies of any reports or notifications for which it is responsible, or to which it contributes, under the humpback whale mitigation measures, as developed with the National Marine Fisheries Service (NMFS). The licensee must allow NMFS a minimum of 30 days to comment and make recommendations before filing the reports with the Commission. For any agency recommendations that the licensee does not incorporate into the reports filed with the Commission, the licensee must provide its reasons using project-specific information.

(N) This order constitutes final agency action. Any party may file a request for rehearing of this order within 30 days from the date of its issuance, as provided in § 313(a) of the Federal Power Act, 16 U.S.C. § 825I, and the Commission's regulations at 18 C.F.R. § 385.713 (2025). The filing of a request for rehearing does not operate as a stay of the effective date of this order, or of any other date specified in this order. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

Jot Splenda, Chief
Environmental Project and Review Branch
Division of Hydropower Administration
and Compliance

APPENDIX A

Humpback Whale Mitigation Measures for the Tyee Lake Hydroelectric Project No. 3015

General Mitigation Measures

1. The project proponent will inform the National Marine Fisheries Service (NMFS) of impending in-water activities a minimum of one week prior to the onset of those activities (email information to akr.prd.records@noaa.gov).
2. Consistent with AS 46.06.080, trash will be disposed of in accordance with state law. The project proponent will ensure that all closed loops (e.g., packing straps, rings, bands, etc.) will be cut prior to disposal. In addition, the project proponent will secure all ropes, nets, and other marine mammal entanglement hazards so they cannot enter marine waters.

Project-Dedicated Vessels

3. Vessel operators will:
 - a. Maintain a watch for marine mammals at all times while underway;
 - b. Stay at least 91 meters (100 yards) away from listed marine mammals, except that they will remain at least 460 meters (500 yard) away from endangered North Pacific right whales;
 - c. Travel at less than 5 knots when within 274 meters (300 yards) of a whale;
 - d. Avoid changes in direction and speed within 274 meters (300 yards) of a whale, unless doing so is necessary for maritime safety;
 - e. Not position vessel(s) in the path of a whale, and will not cut in front of a whale in a way or at a distance that causes the whale to change direction of travel or behavior (including breathing/surfacing pattern);
 - f. Reduce vessel speed to 10 knots or less when weather conditions reduce visibility to 1.6 kilometers (1 mile) or less; and
 - g. Adhere to the Alaska Humpback Whale Approach Regulations when vessels are transiting to and from the project site: (see 50 C.F.R. §§ 216.18, 223.214, and 224.103(b); these regulations apply to all humpback whales).

Specifically, pilot and crew will not:

- i. Approach, by any means, including by interception (i.e., placing a vessel in the path of an oncoming humpback whale), within 100 yards of any humpback whale;
 - ii. Cause a vessel or other object to approach within 100 yards of any humpback whale; or
 - iii. Disrupt the normal behavior or prior activity of a humpback whale by any other act or omission.
4. If a whale's course and speed are such that it will likely cross in front of a vessel that is underway, or approach within 91 meters (100 yards) of the vessel, and if maritime conditions safely allow, the engine will be put in neutral and the whale will be allowed to pass beyond the vessel, except that vessels will remain 460 meters (500 yards) from North Pacific right whales.
5. Vessels will not allow lines to remain in the water unless both ends are under tension and affixed to vessels or gear.
6. Project-specific barges will travel at 12 knots or less.

Reporting

Unauthorized Take

7. If a listed marine mammal is injured or killed as a direct or indirect result of the action, the licensee will report the incident to NMFS within one business day, with information submitted to akr.prd.records@noaa.gov. These records will include:
 - a. Digital, queryable documents containing observations and records, and digital, queryable reports;
 - b. The date, time, and location of each event (provide geographic coordinates);
 - c. Description of the event;
 - d. Number of individuals of each listed marine mammal species affected;
 - e. The time the animal(s) was first observed, and, if known, the time the animal was last seen, and the fate of the animal;
 - f. Mitigation measures implemented prior to and after the animal was taken;

- g. If a vessel struck a listed marine mammal, the contact information for individual piloting the vessel; and
- h. Photographs or video footage of the animal(s), if available.

Stranded, Injured, Sick or Dead Listed Species (not associated with the project)

- 8. If the individual piloting the vessel observes an injured, sick, or dead marine mammals (i.e., stranded), they will notify the Alaska Marine Mammal Stranding Hotline at 877-925-7773. If possible, the individual piloting the vessel will submit photos and available data to aid NMFS in determining how to respond to the stranded animal. If possible, data submitted to NMFS in response to stranded marine mammals will include date/time, location of stranded marine mammal, species and number of stranded individuals, description of the stranded marine mammal's condition, event type (e.g., entanglement, dead, floating), and behavior of live-stranded marine mammals.

Illegal Activities

- 9. If the individual piloting the vessel observes listed marine mammals or other marine mammals being disturbed, harassed, harmed, injured, or killed (e.g., feeding or unauthorized harassment), these activities will be reported to NMFS Alaska Region Office of Law Enforcement (Table 2: 1-800-853-1964).
- 10. Data submitted to NMFS will include date/time, location, description of the event, and any photos or videos taken.

Extralimital Sightings

- 11. All observations of Endangered Species Act-listed marine mammal species not considered in this consultation will be reported to NMFS within 24 hours. Photographs and/or video should be taken if possible to aid in Photo ID of individual animals. Reports will include all applicable information that would be included in a final report.

Final Report

- 12. A final report will be submitted to NMFS within 90 calendar days of the completion of the project summarizing the data recorded by emailing it to akr.prdr.records@noaa.gov. The report will summarize all in-water activities associated with the proposed action.

13. The final report for projects will include:

- a. Dates, times, and geographic coordinates of listed marine mammals observed by the individual piloting the vessel, including water depth, species, age/size/gender (if determinable), and group sizes; and
- b. Any photos or videos taken of marine mammals.

Reason for Contact	Contact Information
Consultation Questions & Unauthorized Take	akr.prd.records@noaa.gov
Reports & Data Submittal	akr.prd.records@noaa.gov
Stranded, Injured, or Dead Marine Mammals	Stranding Hotline (24/7 coverage) 1-877-925-7773
Oil Spill & Hazardous Materials Response	U.S. Coast Guard National Response Center: 1-800-424-8802 and AKRNMFSspillResponse@noaa.gov
Illegal Activities (<i>not related to project activities, e.g., feeding, unauthorized harassment, or disturbance to marine mammals</i>)	NMFS Office of Law Enforcement (AK Hotline): 1-800-853-1964
In the event that this contact information becomes obsolete	NMFS Anchorage Maine Office: 907-271-5006 or NMFS Juneau Maine Office: 907-586-7236