Standard Specifications for Environmental Compliance

This document serves as a reference guide to standard specifications with environmental components. It provides a collection of specification numbers along with a short summary of the standard specification. This document is intended to assist users in quickly locating standard specifications for ensuring environmental compliance.

Please note that these summaries are designed to highlight core aspects of each specification, but they do not encompass all important details and requirements. Readers are strongly encouraged to consult the full language of each standard specification for comprehensive understanding and to ensure all requirements are met.

For the complete specification language, go to: http://www.wsdot.wa.gov/Publications/Manuals/M41-10.htm.

This is a living document that will be updated annually to align with the current WSDOT Standard Specifications manual.

If you wish to submit additional environmentally focused standard specifications for inclusion in this list, please complete the form at the following link: https://forms.office.com/g/TSPSUMdNhz.

Division 1 General Requirements

1-02 Bid Procedures and Conditions

1-02.4 Examination of Plans, Specifications, and Site of Work

1-02.4(1) General

The Bidder must investigate and satisfy itself regarding general and local conditions affecting the Work, including uncertainties related to weather, river stages, tides, or similar physical conditions at the site.

1-04 Scope of the Work

1-04.10 Use of Materials Found on the Project

With the Engineer's written approval, the Contractor may use on the project: stone, gravel, sand, other materials from on-site excavation, or timbers removed in the course of the Work.

1-05 Control of Work

1-05.1 Authority of the Engineer

The Engineer shall be satisfied that all the Work is being done in accordance with the requirements of the Contract. The Engineer represents the Contracting Agency on the project and has full authority to enforce Contract requirements.

1-05.2 Authority of Assistants and Inspectors

Assistants and Inspectors have the authority to reject defective material and suspend Work performed improperly, subject to the final say of the Engineer. They are not authorized to accept Work, to accept materials, to issue instructions, or to give advice that is contrary to the Contract.

1-05.3 Working Drawings

The Contract may require the Contractor to submit Working Drawings for the performance of the work.

1-05.4 Conformity with and Deviations from Plans and Stakes

All Work performed shall be in conformity with the lines, grades, slopes, cross-sections, superelevation data, and dimensions as shown in the Plans, or as staked. The Contractor shall not deviate from the approved Plans and Working Drawings unless the Engineer approves in writing.

1-05.6 Inspection of Work and Materials

The Engineer can order the Contractor to remove and replace materials used without inspection. The Contractor shall correct any substandard Work or materials. The Engineer will reject unsuitable Work or materials even though inspected or paid for in a progress estimate.

1-05.7 Removal of Defective and Unauthorized Work

The Contracting Agency will not pay for unauthorized or defective Work, which includes Work and materials that do not meet Contract requirements, work done outside specified lines and grades, and extra Work or materials provided without written approval. The Contractor must immediately report and remedy unauthorized or defective Work at their own expense.

1-05.9 Equipment

The Contractor must remove all loose dirt and debris from equipment before and after mobilizing on site, or the Engineer will reject it until cleaned. Any equipment that fails or does not meet specifications will be rejected.

1-05.13 Superintendents, Labor, and Equipment of Contractor

The Contractor must keep a set of the Plans, Specifications, Special Provisions, and Addenda at the Work site and appoint an experienced Superintendent knowledgeable about the Contract to supervise the work. 1-06 Control of Material

1-06.1 Approval of Materials Prior to Use

All equipment, materials, and articles used in the permanent Work must meet Contract requirements, be approved by the Engineer, and be listed on the Qualified Product List (QPL). They must not be used if they become unfit after prior approval.

1-06.1(1) Qualified Products List (QPL)

The QPL identifies approved products and must be used according to the Standard Specification for which they are listed. The Contractor must follow QPL requirements and notify the Engineer of intended QPL products. In case of conflict, the Contract provisions take precedence over the QPL.

1-06.4 Handling and Storing Materials

In storage and handling, the Contractor shall protect materials against damage from careless handling, from exposure to weather, from mixture with foreign matter, and from all other causes.

1-06.6 Recycled Materials

The Contractor must use recycled materials, including recycled concrete aggregate, as specified. A Recycled Material Utilization Plan is required within 30 days of Contract execution, and a report of actual recycled concrete aggregate usage must be submitted within 30 days of Physical Completion.

1-07 Legal Relations and Responsibilities to the Public

1-07.1 Laws to be Observed

1-07.1(1) General

The Contractor must adhere to all applicable laws, ordinances, and regulations. If a violation is identified, the Engineer will notify the Contractor to ensure compliance and may also inform the relevant enforcement agency if necessary.

1-07.1(4) Wells

When wells are part of the contract or encountered, the Contractor must adhere to WAC 173-160 Minimum Standards for Construction and Maintenance of Wells and follow all environmental guidelines for their installation, protection, decommissioning, or abandonment.

1-07.3 Fire Prevention and Merchantable Timber Requirements

1-07.3(1) Fire Prevention Control and Countermeasures Plan

The contractor must develop and implement a project-specific Fire Prevention, Control, and Countermeasures (FPCC) Plan for the project's duration. A Type 2 Working Drawing must be submitted by the preconstruction conference date.

1-07.3(1)A FPCC Implementation Requirements

The contractor must continuously implement and update the FPCC Plan to reflect current site conditions, with updates made at least annually and a copy available for inspection on-site. Revisions to the FPCC Plan and the Industrial Fire Precaution Level (IFPL) must be addressed in weekly project safety meetings.

1-07.3(1)A1 FPCC Plan Element Requirements

The FPCC Plan must include personnel responsible for the plan, contact information for relevant agencies, potential fire-causing activities, the location of firefighting equipment, and fire response procedures. The contractor must adhere to the IFPL system, verify jurisdiction, obtain waivers for prohibited activities if necessary, and comply with these requirements without additional cost to the contracting agency.

1-07.3(1)A2 Forest Fire Prevention

The contractor must adhere to all fire prevention and sanitation laws when working near state or federal forests, obtaining necessary guidance and permits from forest officials. In the event of a forest fire, the contractor must promptly notify forest headquarters, assist in suppression efforts, and involve employees and subcontractors as directed by forest officials.

1-07.3(2) Merchantable Timber Requirements

The Contractor must obtain a permit from the State Department of Natural Resources for cutting merchantable timber and comply with the State Forest Practices Act. Timber cannot be exported, and the Contractor must follow the Forest Resources Conservation and Shortage Relief Amendments Act and Washington State Log Export Regulations.

1-07.5 Environmental Regulations

1-07.5(1) General

Work within resource agency jurisdictions requires authorization in the Contract. Resource agencies may add rules to protect game, fish, or the environment. The Contractor must report any deviations from environmental compliance, such as spills or unauthorized fill, to the Engineer immediately.

1-07.5(2) State Department of Fish and Wildlife

The Contractor must ensure that water quality and aquatic habitats are protected by avoiding degradation, controlling material placement and equipment entry, and preventing silt buildup. All project debris must be properly disposed of, and any impacts to fish must be reported immediately, with work halted if necessary.

1-07.5(3) State Department of Ecology

The Contractor must adhere to Washington State Water Quality Standards and ensure that no unauthorized materials enter State waters. This includes keeping equipment clean, managing waste properly, and complying with stormwater regulations, including submitting required forms and notices.

1-07.5(4) Air Quality

1-07.5(4)A General

The Contractor must adhere to all regional air quality regulations and State Department of Ecology rules, including any additional SEPA requirements. It is the Contractor’s responsibility to contact the regional air pollution control authority before starting work and to comply with applicable Federal air quality regulations.

1-07.5(4)B Fugitive Dust

The Contractor shall use Best Management Practices (BMPs) for fugitive dust control as outlined in the "Guide To Handling Fugitive Dust From Construction Projects" by the Associated General Contractors of Washington Education Foundation and Fugitive Dust Task Force.

1-07.5(4)C Asbestos Containing Material

The Contractor shall comply with the National Emission Standards for Hazardous Air Pollutants (NESHAP) when demolishing or renovating facilities or structures containing Asbestos Containing Material (ACM) or Presumed Asbestos-Containing Material (PACM).

1-07.5(5) U.S. Army Corps of Engineers

When temporary fills are allowed, the Contractor shall completely remove them and restore affected areas to pre-construction elevations. If a U.S. Army Corps of Engineers permit is required, the Contractor must keep a copy of the permit or verification letter on-site and provide copies to all relevant subcontractors before they start work in U.S. waters.

1-07.5(6) U.S. Fish and Wildlife Service and National Marine Fisheries Service

The Contracting Agency will provide fish exclusion and handling services if necessary. If the Contractor finds stranded fish and a biologist is unavailable, they must immediately release the fish into a flowing stream or open water.

1-07.5(7) U.S. Environmental Protection Agency

1-07.5(7)A Waste Manifests

If waste manifests are required, they must be submitted using the EPA's e-Manifest system, and the Hybrid Manifest method is not permitted. For paper copies during transit, the Contractor must use Data+Image, Scanned Image, or mailed paper processes.

1-07.6 Permits and Licenses

Contractors must secure all required permits and licenses. The Contracting Agency will assist in obtaining a temporary operating permit if local rules prevent issuance to a private firm, the permit benefits the public, is for Contract Work only, and the Contractor agrees to comply with all conditions and cover any liabilities.

1-07.15 Temporary Water Pollution Prevention

1-07.15(1) Spill Prevention, Control and Countermeasures Plan

The Contractor must prepare and implement a Type 2 Working Drawing for a project-specific Spill Prevention, Control, and Countermeasures (SPCC) Plan, updating it as needed to reflect actual site conditions. Construction activities cannot begin until the Contracting Agency approves the SPCC Plan.

1-07.16 Protection and Restoration of Property

1-07.16(1) Private/Public Property

1-07.16(1)A General

The Contractor must protect all private or public property near the Work site from damage or interference, including land, utilities, and structures. If property is damaged or interfered with, the Contractor is responsible for restoring it to its original condition and must halt any further interference. If the Contractor fails to address the damage, the Engineer may restore the property and deduct the costs from the Contractor's payment.

1-07.16(1)B Contracting Agency Property

The Contractor must obtain the Engineer's approval to use Contracting Agency property not directly affected by the Contract Work. If approved, the Contractor must vacate the property when directed by the Engineer, and such approval does not entitle the Contractor to further use or compensation for any conditions imposed.

1-07.16(1)C Private Property

The Contractor may access the worksite from adjacent properties but must ensure it does not merge with public traffic. A secure barrier must be in place during non-working hours, and the Contractor must manage animals, prevent unauthorized access, and maintain any required Trails or Pathways. The Contractor is responsible for all related permits, costs, and site restoration.

1-07.16(2) Vegetation Protection and Restoration

The Contractor must not disturb vegetation that Engineer displays to be protected. The Contractor must also repair any damage to these areas.

1-07.16(2)A Wetland and Sensitive Area Protection

The Contractor must protect areas identified by WSDOT in the Contract by using high visibility fencing and keeping them free from construction activities, materials, and debris. No access or work is allowed within these protected areas.

1-07.16(4) Archaeological and Historic Objects

If the Contractor encounters archaeological or historical objects, they must immediately notify the Engineer and avoid further disturbance. Work may be suspended in the area until the Engineer determines whether the materials should be salvaged and may be adjusted in cost or time based on the impact of the discovery.

1-07.16(4)A Inadvertent Discovery of Human Skeletal Remains

The Contractor is instructed to not dis- turb human remains, to immediately notify the Engineer, and cease all work adjacent to the discovery.

1-07.16(5) Wells

1-07.16(5)A Protection of Wells

The Contractor must save and protect existing wells at the locations shown in the Plans and ensure they are not disturbed during construction. For well definitions, refer to WAC 173-160-111 and WAC 173-160-410.

1-07.16(5)B Discovery of Unidentified Wells

If unidentified wells are encountered, the Contractor must protect them from all construction activities, including spills, and follow the procedures in Section 1-04.7. The Engineer will decide whether to protect or decommission the well as outlined in Sections 1-07.1, 1-07.5(3), and 1-07.16, or the well will be decommissioned as part of the Work.

1-08 Prosecution and Progress

1-08.3 Progress Schedule

1-08.3(2) General Requirements

1-08.3(2)E Weekly Look-Ahead Schedule

On a weekly basis, the Contractor must supply a Look-Ahead Schedule the covers all Work for the following three weeks to the Engineer. This also applies to Work planned for any Subcontractor.

1-08.4 Prosecution of Work

Identifies the installation of high visibility fence as the first order of work to protect sensitive areas. The Contractor requests the Engineer to inspect the fence and No other Work (other than traffic control) shall be performed until the Contracting Agency accepts the installation.

1-08.6 Suspension of Work

The Engineer may suspend any part of the Work if unsuitable weather prevents satisfactory and timely performance of the Work or if the Contractor does not comply with the Contract or it is in the public interest. For example, the Engineer does not have to let the Contractor continue working if precipitation is causing noncompliance with water quality requirements.

1-08.7 Maintenance During Suspension

Before and during suspensions the Contractor shall protect the Work from damage or deterioration. Suspension shall not relieve the Contractor from anything the Contract requires unless this section states otherwise.

Division 2 Earthwork

2-01 Clearing, Grubbing, and Roadside Cleanup

2-01.1 Description

The Contractor shall clear, grub, and clean up those areas staked or described in the Special Provisions. This Work includes protecting from harm all trees, bushes, shrubs, or other objects selected to remain.

2-01.2 Disposal of Usable Material and Debris

The Contractor shall meet all requirements of state, county, and municipal regulations regarding health, safety, and public welfare in the disposal of all usable material and debris. Subsections describe varying disposal methods.

2-01.2(1) Disposal Method No. 1 – Open Burning

Open burning of land clearing residue is restricted by Chapter 173-425 of the Washington Administrative Code. Commercial burning requires authorization from the Washington State Department of Ecology or the local air pollution control authority and must adhere to these authorizations.

2-01.2(2) Disposal Method No. 2 – Waste Site

Debris shall be hauled to a waste site obtained and provided by the Contractor in accordance with Section 2-03.3(7)C.

2-01.2(3) Disposal Method No. 3 – Chipping

Wood chips may be disposed of on-site if they are no larger than 6 square inches and no thicker than ½ inch. They should be placed outside sensitive areas and conflicts with permanent work, not used in embankments, but spread on slopes up to 2 inches deep and tractor-walked into the ground.

2-01.3 Construction Requirements

2-01.3(1) Clearing

The Contractor shall only fell trees within the designated cleared area, close-cut or trim stumps as specified, leave and trim certain trees or native growth as directed by the Engineer, and protect all trees or native growth from construction damage. Fencing may be required for protection.

2-01.3(2) Grubbing

The Contractor shall grub deeply to remove all stumps, large roots, buried logs, and vegetative material in specified areas, including those to be excavated, terraced, or where structures and subdrainage trenches will be built. If the contract includes grubbing without clearing or roadside cleanup, the Contractor must also remove upturned stumps and roots within the cleared area of the Right of Way.

2-01.3(4) Roadside Cleanup

Roadside cleanup, as directed by the Engineer, involves removing debris, thinning vegetation, filling holes, shaping terrain, and obliterating abandoned roads to enhance the area's appearance, with all methods and equipment subject to Engineer approval.

2-02 Removal of Structures and Obstructions

2-02.3 Construction Requirements

With certain exceptions, the Contractor shall demolish and dispose of all buildings, foundations, structures, fences, and obstructions within the Right of Way. Waste material disposal on Contracting Agency-owned sites is permitted if allowed by the Special Provisions or Engineer. Otherwise, the Contractor shall arrange disposal and must comply with Section 2-03.3(7)C.

2-03 Roadway Excavation and Embankment

2-03.3 Construction Requirements

2-03.3(5) Slope Treatment

Roadway cut slopes, except solid rock cuts, must be rounded and treated to prevent erosion, with any voids from stump or material removal backfilled and stabilized. All related work is included in the unit Bid price for Roadway excavation.

2-03.3(7) Disposal of Surplus Material

2-03.3(7)C Contractor-Provided Disposal Site

If no waste site is provided by the Contracting Agency, the Contractor must arrange disposal and acquire all necessary permits and approvals, including a Section 404 permit for wetlands and local agency approval. The Contractor must submit a Type 1 Working Drawing with copies of these permits and bear all associated costs.

Division 3 Aggregate Production and Acceptance

3-03 Site Reclamation

3-03.2 General Requirements

3-03.2(1) Contracting Agency-Provided Sites

Borrow, quarry, or pit sites over 3 acres or with pit walls higher than 30 feet must be reclaimed according to the Plans and Engineer's designation. Sites not meeting these criteria or involving stockpiles and waste must still be reclaimed to control erosion and ensure a satisfactory appearance.

3-03.2(2) Contractor-Provided Sites

Borrow, quarry, and pit sites larger than 3 acres or with walls over 30 feet must be reclaimed as per permit requirements. All sites must be reclaimed to control erosion, and SEPA compliance is needed for excavations over 100 cubic yards; material cannot be wasted in wetlands.

3-03.2(3) Out-of-State Sites

All out-of-State borrow, quarry or pit, stockpile, and waste sites that are furnished by the Contractor exclusively for use on this Contract shall be reclaimed in accordance with an approved reclamation plan that is in compliance with local area restrictions.

3-03.3 Reclamation Plans

3-03.3(1) Contracting Agency-Provided Sites

Reclamation plans for Contracting Agency-owned or furnished sites will typically be provided in the Contract documents. If additional operations are required, the Contractor must follow a reclamation plan provided by the Engineer.

3-03.4 Construction Requirements

3-03.4(1) Erosion Control

Sites owned or furnished by the Contracting Agency will include specified erosion control requirements in the Contract documents. Contractor-owned or furnished sites must follow erosion control measures or plant materials as specified in an approved reclamation plan.

3-03.4(2) Deviations from Approved Reclamation Plans

Reclamation of sites deviating from the approved reclamation plan will not be permitted without first revising the approved reclamation plan and obtaining the approval of the Engineer.

Division 5 Surface Treatments and Pavements

5-01 Cement Concrete Pavement Rehabilitation

5-01.3 Construction Requirements

5-01.3(11) Concrete Slurry and Grinding Residue

This section explains the Contractor's obligations for collecting and disposing of concrete slurry and grinding residue.

5-02 Bituminous Surface Treatment

5-02.3 Construction Requirements

5-02.3(5) Application of Aggregates

The Contractor must use water for dust control during brooming operations when necessary for safety or environmental reasons, as directed by the Engineer. They are responsible for protecting surface waters, riparian habitats, and sensitive areas affected by brooming, and must dispose of removed materials according to Section 2-03.3(7).).

5-04 Hot Mix Asphalt

5-04.3 Construction Requirements

5-04.3(3) Equipment

5-04.3(3)B Hauling Equipment

Spray metal beds of hauling equipment with environmentally benign release agents to prevent hot mix asphalt from adhering to hauling equipment

5-04.3(4) Preparation of Existing Paved Surfaces

5-04.3(4)B Soil Residual Herbicide

When shown in the Plans, apply approved herbicide that complies with Section 8-02.3(3)B and is registered with Washington State Department of Agriculture for use under pavement. Before use, obtain the Engineer's approval of the herbicide and the proposed rate of application.

Division 6 Structures

6-02 Concrete Structures

6-02.3 Construction Requirements

6-02.3(11) Curing Concrete

When continuous wet curing, runoff water shall be collected and disposed of in accordance with all applicable regulations. In no case shall runoff water be allowed to enter lakes, streams, or other surface waters.

6-07 Painting

6-07.3 Construction Requirements

6-07.3(2) Submittals

6-07.3(2)D Hazardous Waste Containment, Collection, Testing, and Disposal Submittal Component

The hazardous waste containment, collection, testing, and disposal shall meet all Federal and State requirements, and the submittal component of the painting plan meet requirements of items listed in specification language.

6-07.3(2)F Paint Application Equipment and Operations Submittal Component

The paint application equipment and operations submittal component of the painting plan shall include details of jobsite material storage facilities, including location, security, and environmental control.

6-07.3(9) Painting New Steel Structures

6-07.3(9)H Containment for Field Coating

The Contractor shall use a containment system in accordance with Section 6-07.3(10)A. The Contractor shall furnish, install, and maintain drip tarps below the areas to be painted to contain all spilled paint, buckets, brushes, and other deleterious material, and prevent such materials from reaching the environment below.

6-07.3(10) Painting Existing Steel Structures

Painting existing steel structures includes providing containment, cleaning, preparing the surface, painting metal surfaces, and disposal of generated waste.

6-07.3(10)A Containment

The containment system shall be in accordance with SSPC Technology Guide No. 6, Guide for Containing Surface Preparation Debris Generated During Paint Removal Operations Class 1. The containment system shall fully enclose the steel to be painted and not allow materials to escape the containment system. The Contractor shall protect the surrounding environment from all debris or damage resulting from the Contractor's operations.

6-07.3(10)B Bird Guano, Fungus, and Vegetation Removal

Bird guano and nesting materials must be removed when dry, contained, and disposed of at an approved land disposal site. The Contractor must submit a Type 1 Working Drawing with the disposal receipt and a description of the disposed material.

6-07.3(10)C Dry Cleaning

Collected dirt and debris shall be disposed of at a land disposal site accepted by the Engineer. The Contractor shall submit a Type 1 Working Drawing consisting of the disposal receipt, which shall include a description of the disposed material.

6-07.3(10)F Collecting, Testing, and Disposal of Containment Waste

The Contractor must label sealed waste containers per State and Federal laws, secure confined materials daily, and test debris for lead contamination using TCLP and EPA Methods 1311 and 6010. Waste disposal must comply with WAC 173-303 for "Dangerous Waste" and WAC 173-350 for "Solid Waste." A Type 1 Working Drawing with transmittal documents or a bill of lading for waste material shipped to the disposal site must be submitted.

6-07.3(10)Q Cleanup

Cleaning of equipment shall not be done in State waters nor shall resultant cleaning runoff be allowed to enter State waters. No paint cans, lids, brushes, or other debris shall be allowed to enter State waters. Solvents, paints, paint sludge, cans, buckets, rags, brushes, and other waste associated with this project shall be collected and disposed of off-site. Paint products, petroleum products, or other deleterious material shall not be wasted into, or otherwise enter, State waters as a result of project activities.

6-19 Shafts

6-19.3 Construction Requirements

6-19.3(4) Slurry Installation Requirements

6-19.3(4)F Disposal of Slurry and Slurry Contacted Spoils

Mentions that the Contractor is required to dispose slurry and slurry-contacted spoils as specified in the shaft installation narrative. Lists disposal requirements for water-based slurry, synthetic slurry, and mineral slurry.

6-21 Modified Concrete Overlay - Microsilica or Fly Ash

6-21.1 Description

6-21.1(1) Definitions

Process Wastewater = means all non-stormwater which, during manufacturing or processing, comes into direct contact with or results from the production or use of raw material, intermediate product, finished product, byproduct, or waste product. If stormwater commingles with Process Wastewater, the commingled water is considered Process Wastewater.

6-21.3 Construction Requirements

6-21.3(2) Equipment

6-21.3(2)E Vacuum Machine

Vacuum machines shall be capable of collecting all dust, concrete chips, freestanding water and other debris encountered while cleaning after Scarifying and after Type 1 and Type 2 Deck Repair. The machines shall be equipped with collection systems that allow the machines to be operated in air pollution sensitive areas and shall be equipped to not contaminate the deck during final preparation for concrete placement.

6-21.3(3) Submittals

A Type 2 Working Drawing of the Debris Containment and Disposal Plan. This plan shall describe the methods and materials used to contain, collect, and dispose of all concrete debris generated by all operations

6-21.3(6) Scarifying Concrete Surface

6-21.3(6)E Requirements for Hydro-Demolishing

All water used in the Hydro-Demolition process shall be potable. Stream or lake water will not be permitted. All bridge drains and other outlets within 100 feet of the Hydro-Demolition machine shall be temporarily plugged during the Hydro-Demolition operation.

6-22 Modified Concrete Overlay – Latex

6-22.1 Description

6-21.1(1) Definitions

The Contractor shall comply with 6-21.1(1) – Definitions and requirements of process water.

6-22.3 Construction Requirements

6-22.3(2) Equipment

6-22.3(2)E Vacuum Machine

The Contractor shall comply with Section 6-21.3(2)E – Vacuum Machine requirements.

Division 7

7-07 Cleaning Existing Drainage Structures

7-07.3 Construction Requirements

The contractor must clean all identified pipes and drainage structures, ensuring unobstructed drainage throughout the project's duration and upon final acceptance. Contaminated sediment must be disposed of at licensed facilities, unusual materials require work stoppage and engineer notification, and clean materials may be placed in upland areas with no surface runoff. All work must comply with best management practices and Section 1-07.5 requirements.

7-09 Water Mains

7-09.3 Construction Requirements

7-09.3(24) Disinfection of Water

New water mains, repaired sections, or extensions must be chlorinated and cleared by a satisfactory bacteriological report before use. If two unsatisfactory reports are received, the contractor must adjust their disinfection method and chlorine application.

7-09.3(24)A Flushing

The contractor must flush and disinfect pipes to remove contaminants, using taps to achieve required flow velocities if hydrants are unavailable. The contractor must properly dispose of treated water from mains and neutralize wastewater to protect aquatic life before discharging it into natural drainage channels, state waters, or wetlands.

7-09.3(24)N Final Flushing and Testing

After chlorination, the newly-laid pipe must be flushed until tests confirm no residual chlorine. The lines can only be placed into service after receiving a satisfactory report from the health department, and chlorinated water must be dechlorinated and pH adjusted before discharging to waters of the State or to storm sewers.

Division 8

8-01 Erosion Control and Water Pollution Control

8-01 Erosion Control and Water Pollution Control

This work involves furnishing, installing, maintaining, removing, and disposing of Best Management Practices (BMPs) for erosion and water quality management as per WAC 173-201A. The Contracting Agency may hold or transfer a National Pollution Discharge Elimination System Construction Stormwater General Permit (CSWGP) to the Contractor, or the project may be subject to other water quality permits or applicable laws as specified in the Contract Special Provisions.

8-01.1(1) Definitions

pH Affected Stormwater: Stormwater that contacts green or recycled concrete requires pH monitoring and can be neutralized and discharged or infiltrated according to CSWGP or WQS.

pH Affected Non-Stormwater: Uncontaminated water contacting similar materials needs pH adjustment and may be treated and discharged or infiltrated, except for water-only shaft drilling slurry.

Cementitious Wastewater/Concrete Wastewater: Water that contacts cementitious materials is considered wastewater and must be managed without discharge or infiltration.

8-01.3 Construction Requirements

8-01.3(1) General

The Contractor must manage erosion and water pollution control, adhering to WAC and CSWGP standards, with BMPs in place before ground disturbance and immediate corrective action for non-compliance. Erodible earth exposure is limited by season and location, with ongoing compliance required throughout the project, including during work suspensions.

8-01.3(1)A Submittals

8-01.3(1)A1 Temporary Erosion and Sediment Control Plan

The Contractor must create or adopt a TESC Plan compliant with Ecology's SWPPP or a simplified version for surface water, aligning with WSDOT and WAC standards. The plan, reflecting construction methods, must be submitted as Type 2 Working Drawings and updated as Type 1 if needed.

8-01.3(1)B Erosion and Sediment Control (ESC) Lead

The Contractor must appoint a certified ESC Lead to manage the TESC Plan, conduct inspections, and ensure compliance throughout the project. The ESC Lead is responsible for updating the plan, conducting discharge sampling, maintaining records, repairing damaged BMPs immediately, and resolving issues within 10 days. Weekly and post-runoff inspections are required, with reduced frequency for inactive sites, and CSWGP projects must submit inspection forms to the Engineer promptly.

8-01.3(1)C Water Management

Unless site water is to be managed in accordance with the conditions of a waste discharge permit from a local permitting authority, site water shall be managed as follows:

8-01.3(1)C1 Disposal of Dewatering Water

Turbid dewatering water onsite must be treated through BMPs before discharge, with options including on-site dispersion, off-site disposal, or chemical treatment. Clean dewatering water can be discharged to surface waters if it meets standards and does not cause erosion or flooding.

8-01.3(1)C2 Process Wastewater

Construction-generated wastewater must not be discharged to surface waters but may be infiltrated or disposed of according to CSWGP guidelines and relevant regulations.

8-01.3(1)C3 Shaft Drilling Slurry Wastewater

Wastewater from shaft drilling must not be discharged to surface waters and must be managed according to specific guidelines. Water-only slurry may be infiltrated on-site if it meets pH and infiltration location requirements, while mineral or synthetic slurry must be contained and disposed of at an approved facility.

8-01.3(1)C4 Management of Off-Site Water

The Contractor must intercept and divert off-site surface water before clearing and grubbing to prevent construction-related pollution and protect nearby properties and waterways from erosion. A Type 2 Working Drawing outlining the diversion method must be submitted.

8-01.3(1)C5 Water Management for In-Water Work Below Ordinary High Water Mark (OHWM)

Work over surface waters or below the Ordinary High Water Mark (OHWM) must comply with Washington State's water quality standards.

8-01.3(1)C6 Environmentally Acceptable Hydraulic Fluid

Equipment containing hydraulic fluid that extends over surface waters or below the OHWM must use biodegradable hydraulic fluid meeting specific environmental standards. The Contractor must submit documentation of the fluid used and respond to any spills according to regulations.

8-01.3(1)C7 Turbidity Curtain

All turbidity curtain work must follow the manufacturer's recommendations, with careful removal procedures to minimize silt release. The Contractor must submit a detailed plan, notify the Engineer 10 days before removal, and ensure all components are removed from the project.

8-01.3(1)D Dispersion/Infiltration

Water must be conveyed only to designated dispersion or infiltration areas as specified in the TESC Plan or approved by the Engineer. The conveyance rate should ensure that runoff meets turbidity standards when entering state waters and prevents surface runoff in infiltration areas.

8-01.3(1)E Detention/Retention Pond Construction

The Contractor needs to construct ponds before starting grading and excavation work in the area.

8-01.3(2) Temporary Seeding and Mulching

8-01.3(2)A Preparation for Application

A cleated roller, crawler tractor, or similar equipment must be used to create 2-inch deep longitudinal depressions perpendicular to the slope's natural water flow for soil compaction and preparation before seeding. The soil should be adequately moistened to ensure the depressions remain until seeding is completed.

8-01.3(2)B Temporary Seeding

Temporary grass seed must be a low-growing, commercially prepared mix approved by the Engineer, applied at a rate of two pounds per 1,000 square feet. Seeding should begin immediately after the Engineer's acceptance, using methods like hydroseeding, blower equipment, drills, or hand seeding where needed.

8-01.3(2)D Temporary Mulching

Temporary mulch, including straw, wood strand, or HECP, is used for erosion control and must cover at least 95% of the soil surface, but it should not be applied below anticipated water levels. Specific mulches like Short Term, Moderate Term, and Long Term Mulch have different application rates and conditions, with non-HECP mulches needing removal or anchoring if used below water levels.

8-01.3(2)E Tackifiers

Tackifiers applied with a hydroseeder must include a non-harmful mulch tracer, using 125-250 pounds per acre of Short-Term Mulch. Polyacrylamide (PAM) for soil binding can be applied either dissolved in water or as a dry powder, with specific rates and conditions for each method, and should only be used in areas draining to completed sedimentation control BMPs, avoiding application during rainfall or on saturated soils.

8-01.3(3) Placing Erosion Control Blanket

Erosion Control Blankets are installed to prevent erosion and support vegetation growth, following the manufacturer's guidelines. Seeding and fertilizing should occur before blanket installation, and the material must be chosen based on site-specific factors like soil, slope, and exposure, ensuring it aligns with manufacturer recommendations for slopes and ditches.

8-01.3(4) Placing Compost Blanket

Compost blankets are applied for erosion control on slopes steeper than 3:1, with steeper areas reinforced by wattles or compost socks. A 3-inch layer of medium compost is spread over bare soil, and an organic tackifier is immediately applied in dry or windy conditions to keep the compost in place.

8-01.3(5) Plastic Covering –

Erosion Control - Plastic coverings for stockpiles, slopes, or bare soils must be securely installed with a 12-inch seam overlap, at least 6 mils thick, and managed to prevent water intrusion and erosion.
Containment - Plastic coverings for concrete washout areas, wastewater containment, or secondary containment must be seamless, at least 10 mils thick, and prevent infiltration.
Vegetation Management - Plastic coverings must be clear over seeded areas and black over areas where vegetation growth is to be inhibited, with a minimum thickness of 4 mils.

8-01.3(6) Check Dams

Check dams, used for erosion and sediment control in channels, should be installed as soon as possible or as directed by the Engineer. They must create a ponding area for pollutant settlement, channel increased flows over a spillway, and prevent water from bypassing or causing erosion; straw bales cannot be used, and wattles, coir logs, and compost socks must be installed per the Standard Plans and measured accordingly.

8-01.3(6)A Coir Log

Coir logs, used for erosion control or bank stabilization, must be installed according to the Standard Plans and can be supplemented with live stakes, though they do not replace wooden stakes.

8-01.3(7) Stabilized Construction Entrance

Temporary stabilized construction entrances must be built according to the Standard Plans before construction begins to prevent sediment track-out. If the entrance fails to control sediment, it must be either rehabilitated or replaced, and if a tire wash is required, it must be detailed in the TESC Plan and used to clean sediment from vehicle tires.

8-01.3(8) Street Cleaning

Self-propelled street sweepers must collect and dispose of sediment and debris without causing fugitive dust or contaminating waters of the State. Power broom sweepers may be used in non-sensitive areas, and street washing requires Engineer approval.

8-01.3(9) Sediment Control Barriers

Sediment control barriers must be installed according to the TESC Plan or manufacturer’s recommendations before starting clearing, grubbing, earthwork, or drainage activities, and maintained until soil stabilization is achieved.

8-01.3(9)A Fencing

8-01.3(9)A1 High Visibility Fencing

High visibility fencing (HVF) shall be orange, installed along the site preservation lines per the Plans or Engineer's specifications, with post spacing and attachment as shown in the Standard Plans, and not fastened to trees.

8-01.3(9)A2 Silt Fence

Silt fence, black in color, shall be installed at locations shown in the Plans to control sediment, manage stormwater, or create detention areas. Geotextile must be securely attached to wood or steel posts with sewn seams at support posts; sediment deposits reaching ⅓ the height of the fence must be removed and stabilized. If trenching isn't feasible, an alternative sediment control device must be used, and backup support with wire mesh may be required in high-stress areas.

8-01.3(9)A3 High Visibility Silt Fence

High visibility silt fence (HVSF) is orange and used for marking site preservation lines and sediment control. It must meet Section 9-33.2(1), Table 6 requirements, and be supported as needed; sediment deposits must be removed when reaching ⅓ the fence height or 8 inches.

8-01.3(9)B Gravel Filter, Wood Chip, or Compost Berm

Filter berms must retain sediment and direct flows. Gravel filter berms should be at least 1 foot high and use rock meeting Section 9-03.9(2) grading requirements, excluding recycled materials. Wood chip berms must be at least 2 feet high, and compost berms must follow Plan details using Medium Compost.

8-01.3(9)D Inlet Protection

Inlet protection must be installed as specified in the Plans before starting earthwork. Devices should meet geotextile fabric requirements and be removed when sediment reaches half the height for internal or one-third for external devices. Below Inlet Grate devices must stay attached when full, Above Inlet Grate devices can be silt fences or sandbags, and Inlet Grate Covers must be prefabricated with lifting devices and orange fabric. Check dams are also an option with Engineer approval.

8-01.3(10) Wattles

Wattles should be installed from the base of slopes upward, with trenches 2-5 inches deep depending on soil type and slope. Follow Standard Plans for layout and staking; use compost socks if trenching is not feasible. Ensure installation minimizes disturbance and pollutant discharge.

8-01.3(11) Outlet Protection

Outlet protection must prevent scour at the outlets of ponds, pipes, ditches, or other conveyances. Quarry spall material used for outlet protection must be free of extraneous material and meet the gradation requirements specified in Section 9-13.1(5).

8-01.3(12) Compost Sock

Compost socks must be installed before erosive flows occur, and prior to mulching. They should be laced end-to-end or securely overlapped, with terminal ends curved up the slope. Installation must follow Standard Plans, using Medium Compost, and be secured with stakes or heavy blocks. Care must be taken to minimize disturbance and prevent sediment discharge.

8-01.3(13) Temporary Curb

Temporary curbs, with a minimum height of 4 inches, shall be installed along pavement edges to divert water around erodible soils and prevent runoff onto erodible slopes. They must direct water to areas where erosion control is feasible and be installed to prevent ponding in the adjacent roadway.

8-01.3(14) Temporary Pipe Slope Drain

Temporary pipe slope drains shall be constructed of Corrugated Polyethylene Drain Pipe as per the Plans. Water interceptor dikes or temporary curbs will direct water into the drain, with discharge directed to a stabilized area to prevent erosion and maintain water quality.

8-01.3(15) Maintenance

Erosion and sediment control BMPs shall be maintained and adapted as required until deemed unnecessary by the Engineer, with deficiencies addressed immediately. BMPs shall be inspected regularly for damage and sediment, with repairs made as needed, and erosion control functions of grasses overseeded if compromised. Quarry spalls at construction entrances shall be refreshed or replaced to maintain effectiveness, and sediment deposits shall be removed when they reach approximately ⅓ the height of the BMP, with disposal following applicable regulations.

8-01.3(16) Removal

The Contractor must remove all temporary BMPs, hardware, and sediment before Physical Completion, except natural fiber BMPs if permitted by the Engineer. Soil must be stabilized and rehabilitated if BMPs have compromised it. The CSWGP can be transferred back to the Contracting Agency if all required work is completed and a Transfer of Coverage form is submitted, and the Contractor will not need to submit the Notice of Termination form to Ecology if approved.

8-02 Roadside Restoration

8-02.1 Description

The Work involves preserving and maintaining vegetation on roadsides and mitigation areas, including weed and pest control, soil preparation, and planting various forms of plant materials and seeds. This encompasses all activities related to plant establishment and soil bioengineering as outlined in the Specifications, Plans, or as directed by the Engineer. Plant materials include trees, shrubs, and other types of plantings, while seed refers to grasses, wildflowers, and similar materials.

8-02.3 Construction Requirements

8-02.3(1) Responsibility During Construction

The Contractor is responsible for preparing, installing, and maintaining all roadside seeded, planted, and lawn areas until the plant establishment periods are complete or the project reaches Physical Completion. This includes watering, pruning, pest control, weed management, and keeping the area clean and in proper condition. Existing desirable vegetation must be preserved unless removal is specified or approved by the Engineer.

8-02.3(2) Work Plans

The Contractor must submit three Work Plan documents:
Roadside Work Plan: Required for disturbance beyond 20 feet from pavement or removal of trees/native vegetation. Submit a Type 3 Working Drawing 15 days before earth disturbance.
Weed and Pest Control Plan: Required if using chemicals or for "Project Area Weed and Pest Control." Submit as a Type 3 Working Drawing alongside the Roadside Work Plan, with approval needed before starting selective clearing, surface preparation, or pesticide application.
Plant Establishment Plan: Required for "PSIPE__" items and before completing Initial Planting. Submit as a Type 2 Working Drawing.

8-02.3(2)A Roadside Work Plan

The Roadside Work Plan must outline strategies for minimizing impacts to roadsides, including vegetation protection, topsoil handling, and access routes. It should also detail plans for roadside restoration, including plant installation and soil compaction prevention, and schedule lawn installation and maintenance activities.

8-02.3(2)B Weed and Pest Control Plan

The Weed and Pest Control Plan must be prepared by a licensed pest control operator and include details on control methods, schedule, and pesticide use. It should also cover worker safety, pest management, equipment sterilization, and traffic control for site access.

8-02.3(2)C Plant Establishment Plan

The Plant Establishment Plan must outline activities for maintaining plant health and vigor, and include scheduling for inspections, adaptive management strategies, a contact person, and irrigation management. If the plan becomes ineffective, a revised plan must be submitted before continuing work.

8-02.3(3) Weed and Pest Control

The Contractor must manage weeds and pests using integrated pest management principles, including mechanical, biological, and chemical methods as outlined in the Weed and Pest Control Plan or as directed by the Engineer. Weed control involves killing and removing weeds through chemical, mechanical, and hand methods.

8-02.3(3)A Chemical Pesticides

Chemical pesticides, including insecticides and herbicides, must be applied according to label instructions and state regulations, with only approved pesticides allowed for use. Applicators must be licensed, and the Contractor is responsible for handling chemicals properly, repairing any damage caused by pesticide use at no extra cost.

8-02.3(3)B Roadside Seeding, Planting and Lawn Area Weed Control

Weed and pest control for seeding, planting, and lawn areas must ensure that all areas are free of unwanted species and debris from planting until project completion. Post-emergent herbicides should be applied to green tissue, and any vegetation reaching seed stage must be removed and disposed of off-site at no cost to the Contracting Agency.

8-02.3(3)C Project Area Weed and Pest Control

When "Project Area Weed and Pest Control" is included in the Contract, the Contractor must control all noxious weeds within the project limits as directed by the Engineer. Noxious weeds are specified by the Washington State Department of Agriculture, local Weed District, or County Noxious Weed Control Board.

8-02.3(4) Topsoil

Topsoil shall not be worked or placed when frozen or excessively wet, and must be protected from erosion and weed growth during stockpiling. The subsoil must be tilled to a depth of 1 foot, and topsoil should be evenly spread to the depth specified, placed in lifts no more than 6 inches deep, and lightly tamped between lifts. All large clods, rocks, and litter must be removed and disposed of after spreading the topsoil.

8-02.3(5) Roadside Seeding, Lawn and Planting Area Preparation

This Work involves preparing areas for permanent erosion control planting while maintaining flow lines in drainage channels. Any material displaced by the Contractor that obstructs drainage must be removed and disposed of as permitted by the Engineer.

8-02.3(5)A Seeding Area Preparation

The Contractor shall prepare roadside seeding areas by removing excess materials, debris, and rocks over 3 inches in diameter, and disposing of them offsite. The area must be weed-free, brought to uniform grade with topsoil or compost, and compacted to create a friable seedbed with 2-inch longitudinal depressions. Seeding and mulching must occur within two days of preparation.

8-02.3(5)B Lawn Area Preparation

The Contractor shall prepare lawn areas by ensuring they are weed-free and bare, removing excess materials and rocks over 3 inches in diameter, and installing topsoil or soil amendments to achieve a uniform grade. The soil must be tilled to an 8-inch depth, smoothed, and compacted, with the finished grade 1 inch below adjacent structures. Seeding or sodding must be completed within two days of preparation.

8-02.3(5)C Planting Area Preparation

The Contractor shall prepare planting areas by ensuring they are weed-free and bare, decompacting soil to 18 inches if specified, and removing excess materials and rocks over 3 inches in diameter. Topsoil, compost, or soil amendments must be installed, tilled to a depth of 12 inches, and returned to a uniform grade. Planting and mulching must begin within two days of final preparation.

8-02.3(6) Mulch and Amendments

The Contractor shall place soil amendments as specified in the Plans or Special Provisions on bare or vegetation-free soil. Amendments must be installed within 30 calendar days of delivery to the project site.

8-02.3(6)A Compost

Soil amendment shall be Fine Compost unless specified otherwise in the Plans. When used as a compost blanket for temporary erosion control, it may be incorporated into the soil immediately before planting. The area must be prepared according to Section 8-02.3(5) before placing the compost.

8-02.3(6)B Fertilizers

The Contractor shall apply fertilizer as specified in the Special Provisions or as directed by the Engineer, following manufacturer's recommendations. A guaranteed fertilizer analysis label must be submitted one week prior to application for acceptance. Fertilizer should be applied concurrently with seeding and compost, or tablet form fertilizer with plant installation, and any fertilizer on signs must be removed the same day; a second application is required the following March, April, or May.

8-02.3(7) Layout of Planting, Lawn and Seeding Areas

The Contractor must layout and prepare planting and lawn areas and obtain Engineer acceptance before installation begins, staking trees larger than 1-inch caliper and the perimeter of planting areas for approval. Trees should be placed at least 10 feet from edges, other trees, fences, and ditches, with specific distances from irrigation sprinklers and power lines, and planting areas near roadways must adhere to specified distances from the shoulder and ditches.

8-02.3(8) Planting

8-02.3(8)A Dates and Conditions for Planting

Plant material must be inspected and accepted by the Engineer upon delivery to the site, with rejected plants removed immediately. Planting is restricted to specified periods based on irrigation status and regional guidelines, and all plants must be protected and stored properly before planting.

8-02.3(8)B Plant Installation

The Contractor must keep plant roots covered and moist, avoid bending them, and dip bare roots in slurry before planting. Plants should be placed with crowns at grade and roots no more than 1 inch below, with planting holes three times the container diameter and roughened if glazed.

8-02.3(8)C Pruning, Staking, Guying, and Wrapping

Plants should be pruned only to remove minor damage at planting and only with sharp tools to encourage natural growth. Trees must be staked or guyed as specified in the Plans, with commercial ties allowed if approved by the Engineer, and wrapped if noted in the Plans.

8-02.3(9) Seeding, Fertilizing, and Mulching

The Contractor must provide the Engineer with the state or provincial seed dealer license and endorsements, copies of WSDA test results for each seed lot dated within six months of application, and written evidence of seed mix procurement within 30 days of contract execution.

8-02.3(9)A Dates for Application of Seed

Unless otherwise permitted by the Engineer, seeding for permanent erosion control must occur during the specified periods: March 1 through May 15 in Western Washington and October 1 through November 15 in Eastern Washington. If environmental conditions are unsuitable, the Engineer may suspend seeding until conditions improve, and temporary erosion control measures must be used in the meantime.

8-02.3(9)B Seeding and Fertilizing

The Contractor must prepare the seeding area according to Section 8-02.3(5)A and apply seed at the specified rate and mix in the Special Provisions. Seeding should not commence until the Engineer has accepted the prepared areas, and must not be done during windy, frozen, or excessively wet conditions. When seeding by hand, the seed must be incorporated into the top ¼ inch of soil, and for hydroseeding, a tracer must be added to ensure uniform application.

8-02.3(9)C Seeding with Fertilizers and Mulches

When the Proposal includes variations of seeding, fertilizing, and mulching, seed and fertilizer must be applied together before mulching. In Western Washington, all three may be applied in a single step, while in Eastern Washington, this combined application requires prior written approval from the Engineer.

8-02.3(9)D Inspection

Seeded areas will be inspected after seeding, fertilizing, and mulching are completed. Payment will not be made until the materials are uniformly distributed at the specified rates; any areas lacking uniformity must be re-seeded, re-fertilized, or re-mulched before payment is processed.

8-02.3(9)E Protection and Care of Seeded Areas

The Contractor must establish a stable, weed-free grass stand with 70% canopy cover in Western Washington and 50% in Eastern Washington within 3 months, ensuring the grass is healthy and free from weeds. Any eroded areas must be restored, including cleanup, topsoil application, and re-seeding, at no additional cost to the Contracting Agency.

8-02.3(10) Lawn Installation

8-02.3(10)A Dates and Conditions for Lawn Installation

Lawn installation in irrigated areas shall not commence until the irrigation system is fully operational. Seeding periods are March 1 through May 15 and September 1 through October 1 in Western Washington, and October 1 through November 15 in Eastern Washington, unless otherwise permitted by the Engineer.

8-02.3(10)B Lawn Seeding and Sodding

The Contractor shall prepare lawn areas per Section 8-02.3(5) and apply seed or sod as specified. Sod can replace seeding at no extra cost, and must be laid within 48 hours, rolled, and protected from pedestrian traffic during establishment.

8-02.3(10)C Lawn Establishment

The Contractor shall maintain new lawn areas from the acceptance of seeding or sodding until the end of four mowings or 20 working days, whichever is longer. This includes regular care such as mowing, trimming, fertilizing, and repairing damaged areas, with final acceptance based on a uniform grass stand and grade.

8-02.3(11) Mulch

Mulch for seeding and planting must be applied according to the type and rates specified in the Plans or Special Provisions. Mulch should not be placed in areas below the anticipated water level or in locations with standing or flowing water.

8-02.3(11)A Mulch for Seeding Areas

HECP Long Term Mulch must be applied at 3500 pounds per acre, with no more than 2000 pounds per lift, and should not be used within the Ordinary High Water Mark. Mulch on signs must be removed daily, and inaccessible areas must be mulched by hand; west of the Cascade Range, seed and fertilizer can be mixed with mulch, while east of the range, they must be applied separately.

8-02.3(11)B Bark or Woodchip Mulch

The Contractor shall apply bark or wood chip mulch to a uniform depth of 3 inches over planting areas, ensuring it does not exceed specified depths or cover plant crowns. Final grading and soil amendments must be completed before mulching, with any contamination or excess corrected at no additional cost.

8-02.3(11)C Bark or Woodchip Mulch Rings

The Contractor shall apply bark or wood chip mulch rings with a 3-inch depth and 2-foot radius around plants in designated areas, ensuring the soil is free of vegetation before application.

8-02.3(12) Inspection and Completion of Initial Planting

After initial planting, the Engineer will inspect the planting areas with the Contractor present and provide written notice of any required replacements or corrections. Completion of planting includes full installation of specified plant materials, cleanup of the planting area, repair and operation of the irrigation system, complete mulch coverage, and weed control.

8-02.3(13) Plant Establishment

Plant establishment requires maintaining planting areas for at least one year, including watering, weeding, and replacing unsatisfactory plants. Monthly inspections with the Engineer are needed, with corrections made within 10 days. Subsequent plant establishment years are also one year long, with water costs covered under the plant establishment item.

8-02.3(14) Plant Replacement

The Contractor must provide and install replacement plants for any rejected plant material during the first year of plant establishment. Replacement plants must be of the same species and meet the specified requirements, with size variations allowed if grown an additional year under nursery conditions.

8-02.3(15) Bioengineering

8-02.3(15)A Live Fascines

Live fascines, made from live cuttings and up to 40 percent dead branches, must be at least 5 feet long and installed horizontally in a trench half their diameter deep. They should be secured with live stakes, covered with 6 inches of soil, and any section lacking live shoots longer than 3 feet must be replaced with live stakes.

8-02.3(15)B Brush Mattress

Live brush mattresses, constructed with live and up to 20 percent dead branches, must have overlapping layers and be anchored with stakes and jute rope. Sections lacking live shoots over 25 square feet must be replaced with live stakes of the same species, spaced 3 feet apart, according to the specified requirements.

8-02.3(15)C Brush Layer

Brush layers, made of live branch cuttings from specified plant species, should be buried two-thirds to three-fourths in a trench and tamped securely. For PSIPE Brush Layer, areas with no live shoots for 3 feet or more must be replaced, following the specified requirements.

8-02.3(16) Roadside Maintenance Under Construction

When the Contract includes "Roadside Maintenance Under Construction," the Work involves roadside mowing, ditch maintenance, and noxious weed control outside of planting areas per Section 8-02.3(3).

8-03 Irrigation Systems

8-03.1 Description

8-03.1(1) Definitions

Critical Root Zone – The International Society of Arboriculture (ISA) defines CRZ as an area equal to 1 foot radius from the base of the tree's trunk for each 1 inch of the tree's diameter at 4.5 feet above grade (referred to as diameter at breast height).

8-03.3 Construction Requirements

8-03.3(6) Excavation

8-03.3(6)A Trenches

8-03.3(6)A2 Within Critical Root Zone

Mechanical trenching within the Critical Root Zone of existing trees shall not be allowed.

8-30 Water Crossings

8-30.3 Construction Requirements

8-30.3(1) General Requirements

8-30.3(1)A Streambed Preconstruction Conference

A streambed preconstruction conference will be held at least 7 days before construction, with the Contractor notifying the Engineer 14 days in advance. The meeting will cover construction plans, material use, and involve key personnel from the Contractor, Engineer, WSDOT, and relevant agencies.

8-30.3(1)B Onsite Streambed Evaluation Meeting

An onsite streambed evaluation meeting will be held 7 days before reintroducing flows or removing the temporary stream diversion, with 14 days' prior notice to the Engineer, to assess compliance with the project requirements.

8-30.3(3) Placement of Streambed Aggregates

8-30.3(3)B Placing Blended Streambed Aggregates in Streambed

Blended streambed aggregate shall be placed in 12-inch lifts, ensuring a well-graded mix. Water applied at 30 gallons per minute to fill voids must be free from contaminants to protect fish and other ecological life, with placement verified by visual inspection.

8-31 Temporary Stream Diversion

8-31.1 Description

This work shall include planning, designing, installing, operating, maintaining, removing, and disposing of the temporary stream diversion (TSD), environmental compliance and other Work as detailed in these Specifications.

8-31.3 Construction Requirements

8-31.3(1) General

8-31.3(1)A General TSD Requirements

The work requires compliance with water quality standards, continuous monitoring of stream diversions to maintain flow rates, and immediate implementation of contingency plans if needed. Backup systems must be operational within 2 hours.

8-31.3(1)B TSD Plan Implementation Meeting

Before implementing a TSD, the Contractor must arrange a TSD Plan Implementation Meeting with the Engineer at least 7 days before the start of related work. The meeting will include the Contractor's key personnel, WSDOT representatives, and invited permitting agencies and affected Tribes. The TSD must be operational before any work begins below the ordinary high-water line to ensure permit compliance.

8-31.3(2) Temporary Stream Diversion Plan

8-31.3(2)A General Plan Requirements

The Contractor must submit and implement a TSD plan, updating it as needed throughout the project to comply with regulations. A copy of the plan must be kept on-site.

8-31.3(2)B Plan Requirements

The TSD Plan must include: description and location of the diversion, schedule and sequence of activities, details on calculations and materials, methods for stream flow blocking and dewatering, contingency plans, inspection and maintenance procedures, rewatering methods, removal procedures, and any additional required work.

8-31.3(3) Fish Block Net Installation and Fish and Aquatic Species Exclusion

The Contractor must notify the Engineer in writing at least 14 calendar days before installing fish block nets and starting in-water work. The Contracting Agency requires 7 calendar days to install fish block nets and relocate trapped aquatic species. No in-water work may commence until these activities are completed.

8-31.3(3)A Fish Exclusion Assistance

As directed by the Engineer, the Contractor shall assist the Contracting Agency with fish and aquatic species exclusion.

8-31.3(3)B Contracting Agency Provided Materials

The Contracting Agency will provide and install the fish exclusion materials as listed in the Special Provisions or Plans.

8-31.3(4) Dewatering Work Areas

Dewatering must be slow enough to allow safe relocation of fish and aquatic organisms. Pumps must have fish screens with openings no larger than 0.094 inch and a minimum open area of 27 percent, and must remain in place until all fish are confirmed removed by the Contracting Agency.

8-31.3(5) Inspection and Maintenance

The Contractor must inspect and maintain fish block nets daily, including weekends and holidays. Additionally, nets must be inspected and cleared of debris three times per day, with impinged fish reported immediately to the Contracting Agency for removal. Records of all activities must be kept and available upon request.

8-31.3(6) Channel Rewatering and Removal of TSD Components (Except Nets)

The Contractor must notify the Engineer 7 days before rewatering the stream and provide a schedule for rewatering to diversion removal. Water must be introduced slowly to avoid downstream loss and meet turbidity standards before removing temporary diversions. Any turbidity increases require immediate corrective action, and all channel work must be completed before the Contracting Agency removes the fish block nets.

8-31.3(7) Removal of Fish Block Nets

The Contractor shall allow 7 calendar days for Contracting Agency removal of the fish block nets.

8-31.3(7)A Contractor Provided Labor

The Contracting Agency will remove the fish block nets.

8-31.3(7)B Contracting Agency-Provided Materials

All materials used for the diversion shall become the property of the Contractor and removed from the project limits, except for the materials supplied by the Contracting Agency.

Standard Specifications for Environmental Compliance

Division 9 Materials

9-13 Riprap, Quarry Spalls, Slope Protection, and Rock for Erosion and Scour Protection and Rock Walls

9-13.4 Rock for Erosion and Scour Protection

The use of recycled materials and concrete rubble is not permitted for this application.

9-14 Erosion Control and Roadside Planting

9-14.2 Topsoil

Topsoil must be free of recycled or foreign materials and noxious weeds. Aggregate in topsoil must be no more than 10 percent by volume and not exceed two inches in diameter.

9-14.3 Seed

Seed must be certified per WAC 16-302 and supplied in sealed containers with labels showing the common and botanical names, lot number, net weight, pounds of pure live seed, and origin. Vendors must have a state or provincial business license with a "seed dealer" endorsement.

9-14.4 Fertilizer

Fertilizer must be a standard commercial grade, either organic or inorganic, and supplied in unopened containers with clear labeling of weight, nutrient content, and manufacturer's guaranteed analysis. It may be in the form of dry granular, soluble, homogeneous pellet, controlled-release tablet, or liquid, suitable for various application methods.

9-14.5 Mulch and Amendments

All amendments must be delivered in original, unopened containers with the manufacturer's guaranteed chemical analysis and name. Bulk deliveries are allowed if accompanied by a Manufacturer's Certificate of Compliance. Compost and organic amendments must also include relevant health certificates and permits.

9-14.5(1) Straw

Straw must be air-dried, free of noxious weeds, seeds, and other harmful materials, and cannot be hay. It must be Certified Weed-Free according to NAWMA or the WWHAM program. If not certified, the Contractor must provide documentation showing no viable seeds from within 90 days prior to application.

9-14.5(2) Hydraulically Applied Erosion Control Products (HECPs)

The HECP must be free from contaminants and suitable for hydroseeder use, premixed with tackifier, and hydrated per manufacturer instructions. The Contractor must provide lab test results for toxicity and contamination, and if it contains cotton or straw, proof of seed treatment. The HECP should create a uniform slurry, form a moisture-holding mat, and any dye used must be nontoxic and non-staining.

9-14.5(2)A Long-Term Mulch

Long-Term Mulch must create a continuous, flexible erosion-resistant blanket that supports seed germination and plant growth, meeting specified test requirements.

9-14.5(2)C Short-Term Mulch

Short-Term Mulch must provide effective erosion control for at least 2 months or until temporary vegetation is established, whichever is sooner, and should not be used with permanent seeding.

9-14.5(3) Bark or Wood Chip Mulch

Bark or wood chip mulch must come from fir, pine, or hemlock species and be free of harmful compounds, with sawdust and mulch from finished wood products or construction debris not allowed. It must meet the gradation requirements specified in WSDOT T 123.

9-14.5(4) Wood Strand Mulch

Wood strand mulch must consist of angular, long, thin, frayed wood pieces from native conifer or deciduous trees. It must be free of harmful substances like salt, preservatives, glue, or resin, and must not contain sawdust, wood chips, or shavings.

9-14.5(7) Tackifier

Tackifiers are used to secure soil, compost, seed, and mulch. They must be free of growth inhibitors, not reduce infiltration rates, and hydrate and blend easily with slurry materials. They should include a visible mulch tracer for uniform application and must be safe for plants, animals, and aquatic life.

9-14.5(7)A Organic Tackifier

Organic tackifiers shall be derived from natural plant sources and shall not be harmful to plants, animals, and aquatic life.

9-14.5(7)B Synthetic Tackifier

Synthetic tackifiers shall not be harmful to plants, animals, and aquatic life.

9-14.5(8) Compost

Compost must be biologically stable and mature, with no visible free water or dust, and comply with WAC 173-350. It must meet specific physical criteria including gradation, pH, contaminants, organic matter, soluble salts, maturity, and stability as outlined by U.S. Composting Council standards, and must be derived from approved organic feedstocks.

9-14.6 Erosion Control Devices

9-14.6(1) Polyacrylamide (PAM)

PAM must meet ANSI/NSF Standard 60 for drinking water, contain less than 0.05 percent AMD, be anionic, linear with a molecular weight over 5 mg/mole, and a charge density of 15-30 percent. It should have at least 80 percent active ingredients, less than 10 percent moisture, and be supplied in dry granular or powder form.

9-14.6(2) Biodegradable Erosion Control Blanket

Biodegradable erosion control blankets must be made from natural plant fibers and free of synthetic materials. They should remain in place until permanent vegetation is established or for at least 6 months.

9-14.6(3) Plastic Covering

Plastic covering shall meet the requirements of ASTM D4397 for polyethylene sheeting.

9-14.6(4) Check Dams

All materials used for check dams shall be non-toxic and not pose a threat to wildlife when installed.

9-14.6(4)A Biodegradable Check Dams

Biodegradable check dams must be made of natural plant fibers without synthetic materials and perform erosion control until vegetation is established or for at least 6 months. Substitutes are allowed if they meet these requirements and are approved by the Engineer. Straw bales and wattles are not acceptable as check dams.

9-14.6(4)B Non-biodegradable Check Dams

Non-biodegradable check dams must use geotextile materials conforming to Section 9-33 for silt fence and other devices approved by the Engineer that meet Section 9-14.6(4) requirements.

9-14.6(5) Wattles

Wattles must be at least 8 inches in diameter, made from plant materials like straw or wood chips, and encased in netting of natural plant fibers. Netting must be clean and free from defects, and wattles should control erosion for at least 6 months. Fillers and stakes must meet specific material requirements.

9-14.6(6) Compost Socks

Compost socks must be at least 8 inches in diameter, made of natural plant fiber fabric, and filled with Medium Compost. The fabric should be clean, free of defects and preservatives, and perform erosion control for at least 6 months. stakes must meet specific material requirements.

9-14.6(7) Coir Log

Coir logs must be 100 percent coconut fiber in woven netting with a tensile strength of 80 lbs and 2 by 2-inch openings, up to 20 feet long and with a minimum diameter as specified, and a density of 7 lbs/cf. Use untreated Douglas fir, hemlock, or pine stakes with notches for ¼-inch hemp rope ties.

9-14.6(8) High Visibility Fencing

High visibility fences must be UV stabilized, orange, high-density polyethylene or polypropylene mesh. Support posts should be wood or steel, as per Standard Plan I-10.10, and strong enough to support the fence throughout the project.

9-14.6(9) High Visibility Silt Fence

High visibility silt fences must be at least 5 feet tall, orange, UV stabilized, and meet geotextile requirements in Section 9-33 Table 6. Support posts should follow Standard Plans and be strong and durable for the project's duration.

9-14.7 Plant Materials

9-14.7(1) Description

Bareroot plants are harvested without soil, container plants are grown in pots, and balled and burlapped plants come with soil and are wrapped for support. Cuttings are live plant material collected from dormant plants, and they must meet specific requirements for branch flexibility, diameter, and pruning.

9-14.7(2) Quality

Plant material must meet ANSI Z60.1 standards, be free of pests and foreign plants, and comply with state and federal regulations. Plants should be vigorous, well-formed, with healthy roots, and free from damage; container plants must not be root-bound, and balled and burlapped plants must have secure root balls.

9-14.7(3) Handling and Shipping

Plants must be shipped carefully with a notice detailing the shipper, date, commodity, and other key information. They should be acclimated outdoors north of the 42nd Latitude from August 1 of the previous year and protected from adverse conditions during transport.

9-14.7(4) Sod

The sod must be field grown for at least one year, with a well-developed root system and free of weeds, diseases, and insects. It should be green and actively growing before cutting, mowed to a height of no more than 1 inch, and cut with at least 1 inch of soil attached.

9-14.8 Stakes, Guys, and Wrapping

Guying wire shall be 12-gauge, soft drawn. Hose for guying must be at least 1 inch in diameter and made of nylon, rubber, or reinforced plastic. Tree wrap shall be crinkled waterproof paper, weighing at least 4 pounds per 100 square feet, with two sheets cemented together with asphalt.