

**Supplemental Specification
2012 Standard Specification Book**

SECTION 01571

TEMPORARY ENVIRONMENTAL CONTROLS

Delete Section 01571 and replace with the following:

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Requirements for controlling erosion and preventing sediment laden runoff from leaving the construction site and areas under the Contractor's control.
- B. Requirements for installing, inspecting, maintaining, and removing temporary erosion and sediment control measures.
- C. Materials and procedures for installing and removing temporary environmental fencing.

1.2 RELATED SECTIONS Not Used

1.3 REFERENCES

- A. AASHTO M 288: Geotextile Specifications for Highway Applications
- B. UDOT Erosion and Sediment Control Field Guide
- C. Utah General Permit for Discharges from Construction Activities No. UTRC00000.

1.4 DEFINITIONS

- A. Check Dam – A fiber roll or stone structure placed across a ditch to slow velocity and intercept and trap sediment.
- B. Drop Inlet Barrier – A fiber roll or silt fence placed around a drop inlet that intercepts and traps sediment.
- C. Fiber Roll – A tube-like structure of encased natural materials used to intercept and trap sediment in a sheet flow situation.

- D. Gutter Inlet Barrier – A protective barrier placed around a gutter inlet that intercepts and traps sediment before it enters the inlet.
- E. Pipe Inlet Barrier – A barrier protecting a pipe inlet that intercepts and traps sediment before it enters the pipe.
- F. Sediment Trap – An excavated basin usually installed at low points on a construction site that intercepts and traps sediment.
- G. Silt Fence – A geotextile fabric fence used to intercept and trap sediment in a sheet flow situation.
- H. Slope Drain – A polyethylene pipe placed on a slope to collect and transport storm runoff down the face of a slope until permanent drainage facilities are installed or vegetation growth is adequate.
- I. Stabilized Construction Entrance – A layer of rock placed at a construction site entrance or exit that removes mud from vehicle tires to prevent tracking onto a paved road.
- J. Straw Bale Barrier – Straw bales placed end to end, used where a silt fence would fail. Install to intercept and trap sediment.
- K. Temporary Berm – A ridge of compacted soil with or without a shallow ditch that diverts storm runoff from a slope to a controlled release point.
- L. Temporary Environmental Fence – A visual barrier used to delineate and prevent encroachment on sensitive areas.

1.5 SUBMITTALS

- A. Submit a signed copy of the Notice of Intent (NOI) to the Engineer before beginning any earth disturbing activities on projects that disturb more than one acre.
- B. Environmental Control Supervisor (ECS), Certificate of Training
 1. Certification to the Engineer that the ECS selected for the project has completed Department's online ECS training and passed the ECS examination.

1.6 PAYMENT PROCEDURES

- A. Payment for the items associated with this section includes all costs for labor, equipment, and materials for installation, inspection, maintenance, and removal as required.

- B. Work required by the ECS will be paid under that item when a bid item has been included in the contract for an ECS. Work listed in this Section will still need to be performed by the Contractor and paid under the individual erosion and sediment control measures when a bid item for an ECS is not included on the project.
- C. Penalties
 - 1. Penalties are assessed against the Contractor in the amount of \$500 for each calendar day or portion thereof the project is not in compliance with all required permits and regulations. The penalties assessed are increased to \$1,000 per day if the Contractor remains in non-compliance after three days and increased to \$1,500 per day if the Contractor remains not in compliance after seven days.
 - 2. Any fines issued by regulatory agencies against the Department are added to the penalty assessed to the Contractor.
 - 3. No extension of contract time is allowed for any delay resulting directly or indirectly from a violation of environmental requirements.

PART 2 PRODUCTS

2.1 MATERIALS

- A. Check Dams
 - 1. Fiber Roll
 - a. Use 12 inch diameter fiber roll selected from products included on the Department Approved Products List for Fiber Rolls.
 - b. Wood Stakes – 1 inch square by 18 inches long.
 - c. Channel Liner – Use products included on the Department Approved Products List for Channel Liners.
 - 2. Stone
 - a. Angular, well-graded, within 2 to 6 inches in diameter.
- B. Silt Fence
 - 1. Silt Fence Fabric – Refer to AASHTO M 288, Table 7 – Temporary Silt Fence Property Requirements
 - 2. Wood Post – Nominal 2 inch square by 4 ft long.
 - 3. Fasteners – Staples, wire, zip ties, or nails sufficient to maintain fabric attachment to post.
- C. Fiber Roll
 - 1. Use 12 inch diameter fiber roll selected from products included on the Department Approved Products List for Fiber Rolls.
 - 2. Wood Stakes – Nominal 1 inch square by 18 inches long.

- D. Slope Drain
 - 1. 12 inch diameter single wall polyethylene pipe
 - 2. Polyethylene end section
 - 3. Loose Riprap
 - 4. Wood Stakes – Nominal 2 inch square by 3 ft long.

- E. Temporary Berm
 - 1. Existing Soil

- F. Drop Inlet Barriers
 - 1. Fiber Roll
 - a. Use 18 inch diameter fiber roll selected from products included on the Department Approved Products List for Fiber Rolls.
 - b. Wood stakes – Nominal 2 inch square by 2 feet long.
 - 2. Stone – Angular, well-graded within 2 to 6 inch diameter.
 - 3. Silt Fence – Refer to AASHTO M 288, Table 6 – Temporary Silt Fence Property Requirements.
 - a. Wood stud: 2 inches x 4 inches nominal.

- G. Pipe Inlet Barrier
 - 1. Stone – Well-graded within 2 to 6 inch in diameter.
 - 2. Fiber Roll
 - a. Use 18 inch diameter fiber roll selected from products included on the Department Approved Products List for Fiber Rolls.
 - b. Wood stakes – Nominal 2 inch square by 2 ft long.

- H. Curb Inlet Barrier
 - 1. Fiber Roll – 9 inch minimum diameter selected from products included on the Department Approved Products List for Fiber Rolls.
 - 2. Sand Bags – 14 inch x 26 inch, UV stabilized polypropylene bags, 50 lb capacity with attached ties.
 - 3. Sand

- I. Sediment Trap
 - 1. Loose Riprap – Refer to Section 02373.

- J. Stabilized Construction Entrance
 - 1. Stone – 2 to 3 inch diameter.

- K. Straw Bale Barrier
 - 1. Straw Bales – Obtained from weed-free fields that have been certified by the Utah Department of Agriculture.

- L. Temporary Environmental Fence
 - 1. Fence Fabric
 - a. Polyethylene, high-density, UV stabilized
 - b. Width, 4 ft minimum
 - c. Color, Orange
 - 2. Posts
 - a. Wood Post – Nominal 2 inch square by 4 ft long.
 - b. Fasteners – Staples, wire, zip ties, or nails sufficient to maintain fabric attachment to post.

PART 3 EXECUTION

3.1 PERMIT COMPLIANCE

(Only for projects disturbing one or more acres of ground)

- A. Complete the remaining sections of the Storm Water Pollution Prevention Plan (SWPPP) provided by the Department and sign the SWPPP before submitting the Notice of Intent (NOI).
- B. Obtain permit coverage and renewals at the Contractor's expense under the Utah General Permit for Discharges from Construction Activities by completing and submitting the online NOI form located on the Utah Division of Water Quality web site. Refer to <http://www.udot.utah.gov/go/standardsreferences>.
- C. Post documentation of permit coverage on the project site in a publicly assessable location.
 - 1. Include permit tracking number and contractor's contact name, phone number or email address or both.
- D. Do not begin any earth-disturbing activity until the NOI form has been completed online and submitted to the Division of Water Quality.
- E. Comply with the requirements of Utah General Permit for Discharges from Construction Activities – Permit No. UTRC00000. Refer to <http://www.udot.utah.gov/go/standardsreferences>
- F. Modify the SWPPP whenever changes are made to the construction plans, stormwater control measures, pollution prevention measures, or other activities at project site that are no longer accurately reflected in the SWPPP.
 - 1. Document and sign the modifications in the SWPPP within 7 calendar days.

- G. Install sediment control measures along the project perimeter and those protecting surface waters and wetlands before starting earth-disturbing activity.
- H. Provide and maintain a 50-foot no disturbance buffer around surface waters or equivalent sediment control measures (See Permit 2.1.2) unless the project qualifies under a compliance alternative.
- I. Obtain written approval from the Engineer to change the SWPPP.
- J. Designate an ECS to work directly with the Engineer's designated ECS and be available as needed to coordinate the SWPPP, inspect and maintain erosion control devices, and resolve other sediment and erosion control issues.
- K. Maintain a copy of the prepared SWPPP on the project site at all times and attach the following items as they occur through project construction:
 - 1. Any changes made to the SWPPP
 - 2. Inspection forms
 - 3. Corrective Actions
- L. Minimize sediment trackout onto offsite streets, other paved surfaces, or sidewalks from vehicles exiting the construction site.
- M. Follow the Permit if a conflict occurs between erosion and sediment control plans or specifications and the Utah General Permit for Discharges from Construction Activities.

3.2 INSTALLATION

- A. The control measures in the SWPPP are illustrative.
 - 1. Adapt measures in the field to meet their intended purpose and implement appropriate control measures through all phases of the project.
 - 2. Make required changes to the SWPPP to accommodate construction sequencing with the approval of the Engineer.
- B. Install additional control measures as directed by the Engineer.
- C. Follow installation procedures outlined in the EN Series Standard Drawings and the UDOT Erosion and Sediment Control Field Guide.
- D. Provide or construct control measures such as check dams, silt fence, slope drains, drop inlet barriers, sediment traps, and other sediment and erosion control devices or methods to reduce construction site erosion and prevent sediment laden runoff from leaving the site.

- E. Initiate soil stabilization measures whenever earth-disturbing activities have permanently ceased on any portion of the site but in no case longer than 14 days.
- F. Initiate soil stabilization measures whenever earth-disturbing activities have temporarily ceased on any portion of the site where grading, excavation, or topsoil placement operations will not resume for a period of 14 or more calendar days but such activities will resume in the future.
- G. Document on the inspection form the date when earth-disturbing activities temporarily ceased on an area.
- H. Refer to the Utah General Permit for Discharges from Construction Activities Part 2.2 for what defines initiation of stabilization.
- I. Install temporary environmental fence in the required locations before construction activities begin.
 - 1. Install posts at a 12 ft maximum spacing so the fence does not sag more than 2 inches between posts.
 - 2. Weave the fence over the support posts alternating every two loops and secure it to the posts with fasteners.

3.3 INSPECTION

- A. Inspect all denuded areas during construction to determine potential erosion problems. Apply control measures as required.
- B. Conduct SWPPP inspections at least once a week upon beginning earth-disturbing activities and within 24 hours after any storm event $\frac{1}{2}$ inch or greater. Conduct inspections at least once a month for areas that are temporarily or permanently stabilized and in cases where the ground is frozen, suspend inspections until thawing conditions begin to occur.
 - 1. Include the Engineer's ECS on all inspections.
 - 2. Complete a Division of Water Quality inspection form during each inspection and submit it to the Engineer within 24 hours of the inspection. Include the following information:
 - a. Names of personnel attending and date of the inspection.
 - b. List of problems identified in the previous inspection and note whether or not corrections have been made.
 - c. List by location, all earth-disturbing activities since previous inspection.
 - d. List by location, erosion and sediment control measures installed since previous inspection.

- e. List by location, new and unresolved problems encountered with specific erosion control measures. Describe solutions to be implemented.
 - f. Sign the inspection form.
- C. Accommodate inspections requested by regulatory agencies.

3.4 MAINTENANCE

- A. Maintain sediment control devices to function properly until all disturbed areas draining to them are stabilized.
- B. Remove and properly dispose of sediment when it has accumulated half way up the overall structure height or when it interferes with the performance of the structure.
- C. Dispose of sediment removed from erosion control structures in a manner acceptable to the Engineer.

3.5 REMOVAL

- A. Remove temporary sediment and erosion control devices as indicated below:
 - 1. Remove check dams in cut ditches when the areas draining to the cut ditch have been seeded and mulched or blanketed and the ditch has been permanently lined.
 - 2. Remove drop inlet and curb inlet protection when the areas draining to them have been stabilized.
 - 3. Remove silt fence and fiber rolls when the areas draining to them have been seeded and mulched or blanketed. Do not remove silt fence or fiber rolls protecting a wetland or waterway unless the surrounding area meets final stabilization requirements.
- B. Remove temporary environmental fence and posts upon completion of construction.
 - 1. Temporary environmental fence and all components become property of the Contractor when construction is complete.

3.6 PERMIT CLOSE-OUT

(Only for projects that obtained a permit)

- A. Obtain approval from Engineer through the Region Landscape Architect that all permit requirements for final close-out under the Contractor's control have been met before terminating the permit.

- B. Close-out the Utah General Permit for Discharges from Construction Activities by submitting a Notice of Termination (NOT) form to the Division of Water Quality along with a signed copy to the Engineer on project locations that receive less than 20 inches of average annual precipitation.
- C. Transfer the permit to the Department as directed by procedures identified in the permit on project locations that receive more than 20 inches of average annual precipitation and the project has not met final stabilization requirements upon project close-out.

END OF SECTION