

Section 2602. Water Pollution Control (Soil Erosion)

2602.01 DESCRIPTION.

- A.** Temporary control measures for projects to control water pollution caused by soil erosion. Additional measures are described in [Section 2601](#).
- B.** Projects that are regulated by the requirements of Iowa DNR National Pollutant Discharge Elimination System (NPDES), General Permit No. 2, for Storm Water Discharge Associated with Industrial Activity for Construction Activities, will be identified in the contract documents. The Prime Contractor for these projects will be required to complete, sign, and return, along with the signed contract, a certification statement for storm water discharge associated with industrial activity for construction activities. Affected Subcontractors for the project will be required to sign and return an affidavit identifying them as co-permittees with the Contracting Authority prior to starting work.
- C.** Coordinate temporary water pollution control work with permanent erosion control work to ensure economical, effective, and continuous erosion control throughout the construction and post construction period.

2602.02 MATERIALS.

Use materials complying with [Division 41](#).

2602.03 CONSTRUCTION.

- A.** Prior to the preconstruction conference furnish the Engineer an initial Erosion Control Implementation Plan (ECIP) for accomplishment of temporary and permanent erosion control. In addition, furnish the proposed method of erosion control on haul roads and borrow pits as well as the plan for the removal of excess materials from the project.

In the ECIP, include stages for erosion control work to address Contractor's timetable and sequence for major activities or stages on the contract, including:

- Initial controls required prior to land disturbing activities,
 - Number of earthwork balances for the contract,
 - Sensitive areas requiring special consideration,
 - Anticipated suspension of work,
 - Compliance with Pollution Prevention Plan (PPP),
 - Method of erosion control on haul roads and borrow pits, and
 - Removal of excess materials from project.
- B.** Obtain the Engineer's acceptance for the ECIP and methods before commencing work. Schedule and perform all operations so erosion control features are placed according to accepted ECIP. Update ECIP as needed to address changes in schedule of operations or staging, weather changes, or other changes required in order to comply with applicable permit requirements.

- C. Provide immediate, permanent or temporary, water pollution control measures to prevent contamination of adjacent watercourses and property. This work may involve:
- Constructing or installing silt fence, silt fence for ditch checks, silt ditches, silt dikes, silt basins, and slope drains,
 - Constructing or installing perimeter and slope sediment control devices (straw wattles, wood excelsior logs, or filter socks filled with compost filter material), and
 - Using temporary mulches, mats, seeding, or other control devices or methods, as necessary to control erosion and sediment pollution.
- D. Unless otherwise specified, use compost as a filter medium in filter socks, filter berms, or filter blankets for sediment control.
- E. Stabilize disturbed areas, in which construction activity will not occur for a period of 21 calendar days, no later than the 14th calendar day after no construction activity has occurred. Stabilization measures include temporary seeding, permanent seeding, mulching, sod, or other methods the Engineer approves.
- F. Incorporate all erosion control features into the project at the earliest practical time, as outlined in the accepted schedule. Construct water pollution control measures:
- At locations shown in the contract documents and as determined by the Contractor,
 - At locations where conditions develop during construction that were unforeseen during design, or
 - Where needed to control water pollution that develops during normal construction practices.
- G. Maintain water pollution control features in appropriate functional condition from initial construction through completion of the project. Restore siltation control features to their original condition where siltation has reduced their capacity by 50% or more.
- H. Maintenance of Silt Fence and Silt Fence for Ditch Check includes excavation and disposal of silt material trapped by the silt fence or silt fence for ditch checks. Shaping of the ditch bottom to the original ditch template is incidental to this item. Dispose of the silt material off the project unless Engineer approves a suitable site within the project limits. Maintenance also includes repair of silt fence due to undermining, leaning, or fabric becoming unattached from posts. Repair requiring new fabric will be paid for under type of silt fence properly installed and will not be considered maintenance.
- I. Limit clearing and grubbing, excavation, borrow, and embankment operations in progress to an area commensurate with their capability. Progress in keeping the finish grading, mulching, seeding, and other pollution control measures current according to the accepted work schedule. The Engineer may suspend operations if the Contractor fails to provide adequate erosion control measures in a timely manner.

- J. In the event of conflict between these requirements and water pollution control laws, rules, or regulations of other Federal, State, or local agencies, the more restrictive laws, rules, or regulations will apply.
- K. The Contractor is responsible for water pollution control for work outside the right-of-way or easement obtained by the Contracting Authority.

L. Mobilizations, Erosion Control.

1. Mobilizations, Erosion Control, applies to projects not identified as erosion control or landscaping and containing at least one of the following items:
 - Stabilizing crop seeding and fertilizing: 1 acre (0.4 ha) or more,
 - Stabilizing crop seeding and fertilizing (urban): 1 acre (0.4 ha) or more,
 - Silt fence: 250 feet (75 m) or more, or
 - Silt fence for ditch checks: 250 feet (75 m) or more.
2. Only one mobilization will be paid for each stage of work described in the ECIP. Within the scope of work defined for each single mobilization described in the ECIP, additional movement due to weather delays or at the option of the Contractor will not be counted as a mobilization.
3. Separate mobilizations needed for different crews performing work such as silt fence, seeding, or ditch checks will be counted, however, multiple mobilizations will not be paid for a single crew performing different items of erosion control work.
4. Payment for mobilization applies to contract items from [Sections 2601](#) and 2602, excluding watering, mowing, debris pickup, monitoring well, or removal items.
5. Additional mobilizations not outlined in the ECIP must be approved by the Engineer.
6. Payment for mobilization to correct items not properly installed will not be approved. Payment for mobilization will also not be approved if labor, equipment, and materials to perform erosion control are used for other non-erosion control work onsite.
7. Mobilize with sufficient labor, equipment, and materials to perform erosion control included in ECIP or as ordered or approved by Engineer. Failure to mobilize when erosion control work is needed to comply with the ECIP or PPP, will result in the Engineer, by written order, direct mobilization within 72 hours of a written order.
8. Failure to mobilize within such time period, will result in a deduction of \$750.00 per calendar day from payment due under the contract, except when Engineer extends such time period.
9. Mobilizations, Erosion Control, will not include work provided under the item of Mobilizations, Emergency Erosion Control.

M. Mobilizations, Emergency Erosion Control.

An emergency will be considered to be a sudden occurrence of a serious and urgent nature which is beyond normal maintenance of erosion control items. Emergency work requires immediate mobilization and movement of necessary labor, equipment, and materials to the emergency site, followed by immediate installation of temporary erosion control measures.

1. Mobilize with sufficient labor, equipment, and materials on job site within eight hours of Engineer's written order to install temporary erosion control items on an emergency basis. Engineer's written order will include a description of required work. Only one mobilization will be paid for work described in the written order.
2. Failure to mobilize within eight hours of written order, will result in a deduction of \$1500.00 per calendar day from payment due under the contract, except when Engineer extends such time period.

2602.04 METHOD OF MEASUREMENT.

Measurement for water pollution control items will be as follows:

A. Silt Ditches.

Linear feet (meters) to the nearest 0.1 foot (0.1 m).

B. Silt Fence.

Linear feet (meters) to the nearest 0.1 foot (0.1 m).

C. Silt Fence for Ditch Checks.

Linear feet (meters) to the nearest 0.1 foot (0.1 m).

D. Silt Dikes.

Linear feet (meters) to the nearest 0.1 foot (0.1 m).

E. Silt Basins.

By count for each silt basin.

F. Removal of Silt Fence or Silt Fence for Ditch Check.

Linear feet (meters) to the nearest foot (0.1 m).

G. Removal of Silt Basins.

Cubic yards (cubic meters) as Class 10 Excavation according to [Article 2102.04](#) for material used to fill silt basins.

H. Maintenance of Silt Fence or Silt Fence for Ditch Check.

Linear feet (meters) to the nearest foot (meter).

I. Perimeter and Slope Sediment Control Device.

Linear feet (meters) to the nearest foot (meter) of each size.

J. Mobilizations, Erosion Control.

By count for each mobilization in the accepted ECIP and acceptably performed, as well as additional mobilizations ordered or approved by Engineer and acceptably performed.

K. Mobilizations, Emergency Erosion Control.

By count for each mobilization directed in writing by Engineer and acceptably performed.

2602.05 BASIS OF PAYMENT.

A. Payment for water pollution control items will be the contract unit price as described below. Payment for construction of water pollution control items is full compensation for labor, equipment and materials necessary to construct the items according to the contract documents.

1. Silt Ditches.

Per linear foot (meter) for the length of silt ditches properly constructed.

2. Silt Fence.

Per linear foot (meter) for the length of silt fence properly installed.

3. Silt Fence for Ditch Checks.

Per linear foot (meter) for the length of silt fence for ditch checks properly installed.

4. Silt Dikes.

Per linear foot (meter) for the length of silt dikes properly constructed.

5. Silt Basins.

Each for properly constructed silt basins.

6. Removal of Silt Fence or Silt Fence for Ditch Check.

Per linear foot (meter) for the length of silt fence or silt fence for ditch check properly removed.

7. Removal of Silt Basins.

Per cubic yard (cubic meter) for Class 10 Excavation, according to [Article 2102.05](#), for each silt basin properly filled.

8. Maintenance of Silt Fence or Silt Fence for Ditch Check.

Per linear foot (meter) for silt fence or silt fence for ditch check properly cleaned out or repaired.

9. Perimeter and Slope Sediment Control Device.

Per linear foot (meter) for length of device of each size properly installed.

B. Payment for Mobilizations, Erosion Control, and Mobilizations, Emergency Erosion Control, will be at unit prices stipulated in the proposal. If bid items are not included in the proposal then mobilizations for erosion control will be paid at unit prices stipulated below. Mobilization for Erosion Control costs are not included as part of the contract item for "Mobilization" described in [Section 2533](#).

1. Mobilizations, Erosion Control.

The quantity will be paid for at the unit price of \$500.00 each for Mobilizations, Erosion Control, which is full compensation for staged movement of labor, equipment, and materials; and labor, tools, equipment, and incidentals necessary to complete the movement.

2. Mobilizations, Emergency Erosion Control.

The quantity will be paid for at the unit price of \$1000.00 each for Mobilizations, Emergency Erosion Control, which is full compensation for movement of labor, equipment and materials; and for labor, tools, equipment, and incidentals necessary to complete the movement.

B C. When it is necessary for the Contractor to clean out, repair, or reconstruct a silt ditch, dike, or basin, the additional payment will be 100% of the contract unit price for construction of that item. When applicable bid items are not in the contract documents, payment for clean out, repair, or reconstruction will be according to [Article 1109.03, B](#).

C D. If water control measures are required due to the Contractor's negligence, carelessness, or failure to install the controls as a part of the work as scheduled, and are ordered by the Engineer, perform this work at no additional cost to the Contracting Authority.

D E. All water pollution control features are to be in functional condition before final acceptance of the contract.