

**SECTION 01300
EROSION AND DUST CONTROL**

PART 1 GENERAL

1.01 - Section Includes

- A. Temporary Erosion and Sediment Control.
- B. Temporary Seeding.
- C. Dust Control.

1.02 - Description of Work

- A. Temporary Erosion and Sediment Control: includes the installation, **monitoring**, and maintenance of temporary structural control measures as specified in the Contract Documents to reduce or eliminate the erosion of soil and transport of sediment offsite. This may include, but not be limited to, **vegetation**, silt fences, ditch checks, sediment basins, erosion control mats, stabilized construction entrance, temporary diversions, inlet protection, sediment traps, and slope drains.
- B. Temporary Seeding **and Mulching**: includes the furnishing of seed and seeding **and mulching** of areas as specified in the Contract Documents. No seedbed preparation is required as part of this Work.
- C. Dust Control: includes the management of operations and the application of water or dust palliatives in order to reduce or eliminate the spread of dust from the Project limits.

1.03 - Submittals

- A. Certification and Sampling: The Contractor shall furnish a manufacturer's certification, stating that the material supplied conforms to the requirements of these Specifications. The certification shall include or have attached typical results of tests for the specified properties, representative of the materials supplied.
- B. Submit sequence of construction items, if not included in Contract Drawings or in Erosion Control Permit.

1.04 - Special Requirements

- A. The **Owner** shall be responsible to secure a National Pollutant Discharge Elimination System General Permit No. 2 from the Iowa Department of Natural Resources, if one is required. The Engineer shall prepare the permit application and the **Owner** shall be responsible to schedule the required advertising, submit the application, and pay any applicable fees.
- B. **The Owner and Contractor shall perform all requirements under General Permit No. 2.**
- C. **The Contractor shall co-sign the Storm Water Pollution Prevention Plan (SWPPP) with the Owner's Engineer.**
- D. **The Contractor is responsible to perform inspections required under the SWPPP. The Owner's Engineer shall monitor inspections.**
- E. **The Owner is responsible to file a letter of discontinuance of the SWPPP after land-disturbing activities are completed.**
- F. **In accordance with General Permit No. 2, disturbed areas shall receive a minimum of four (4) inches of topsoil unless it is certified there was less than four (4) inches of topsoil prior to construction.**

PART 2 PRODUCTS

2.01 - Temporary Erosion and Sediment Structural Controls - General

The materials incorporated into this Project as part of this item shall conform to the requirements of the Iowa DOT Standard Specifications 4169, 4122, and 4196.01A, and Instructional Memoranda 469.10 and 496.01.

2.02 - Temporary Seeding

- A. The materials utilized for temporary seeding shall be the following with a minimum certified germination rate of 85 percent:
 - 1. Oats

2. Rye/Wheat
3. Millet
4. Sudangrass
5. Annual Ryegrass
6. Perennial Ryegrass

2.03 - Mulch for Temporary Seeding

- A. **Mulch material for areas of temporary seeding shall be threshed plant residue of oats, wheat, barley or rye from which grain has been removed.**
- B. **Mulch for hydraulic seeding or bonded fiber matrix (BFM), soil stabilizer per Section 02900 may be used.**
- C. **Mechanical Bonded Fiber Matrix (MBFM)**
 1. **Produced from long-strand wood fibers and crimped, interlocking synthetic fibers.**
 2. **Within two (2) hours of application, form continuous, 100% coverage, flexible, absorbent, porous, erosion-resistant blanket that encourages seed germination.**
 3. **Applied hydraulically.**
 4. **Physical Properties:**
 - a. **Wood fibers: 73% minimum**
 - b. **Tackifier: 10% ±1%**
 - c. **Crimping, interlocking synthetic fibers: 5% ±1%**
 - d. **Moisture content: 12% ±3%**
 - e. **Water-holding capacity: 1.2 gal./lb.**
 - f. **Minimum pH: 4.8**
 - g. **Dyed green to facilitate visual metering**

2.04 - Dust Control

- A. Water shall be clear and free from suspended fine sediment.
- B. Calcium chloride shall meet the requirements of the Iowa DOT Standard Specification 4194.01.
- C. **Lignosulfonate (Tree Sap): Use commercially available product with known lignin content.**
- D. **Soapstock (Soybean Oil):**
 1. **Use commercially available, undiluted soybean oil soapstock emulsion.**
 2. **Conform to manufacturer's specific storage, transportation, temperature, and application equipment requirements.**

2.05 - Temporary Slope Drains

Shall be constructed of stone, concrete or asphalt gutters, half round pipe, metal pipe, plastic pipe or flexible rubber pipe with a minimum length of six feet adequate to carry water down slopes to reduce erosion.

2.06 - Ditch Checks

- A. Rock ditch checks shall be constructed of macadam base rock in accordance with Section 4122.02 of the Iowa DOT Standard Specifications.
- B. **Silt fence ditch checks shall be constructed from posts, fabric, and appurtenances as detailed in these specifications.**

2.07 - Erosion Control Mats

Erosion control mats consist of wood excelsior mats, jute mesh, glass fiber or other materials with the following material properties:

Mat Type	Min. Unit Weight (lb/sq.yd)	Min Roll Width (inches)
Straw blanket	0.5	42
Wood excelsior blanket	0.8	42
30 percent coconut/70 percent straw or wood excelsior	0.5	42
Coconut fiber	0.5	42

2.08 - Silt Fence

- A. This Specification and the Standard Details for Public Improvements provide criteria for wire-supported geotextile silt fence as well as self-supporting geotextile silt fence.
- B. The geotextile shall be free of any treatment or coating which might adversely alter its physical properties after installation. Unless otherwise specified, geotextile shall be furnished in 36-inch width rolls.
- C. Geotextile rolls shall be furnished with suitable wrapping for protection against moisture and extended ultraviolet exposure prior to placement. Each roll shall be labeled or tagged to provide product identification sufficient for inventory and quality control purposes.
- D. Posts: Either steel or synthetic posts may be used. Posts shall have a minimum length of 60 inches and be of sufficient strength to resist damage during installation and to support applied loads. Steel posts shall be standard "T" sections weighing not less than 1.3 pounds per foot.
- E. **Wire or plastic ties with minimum 50 lbs tensile strength.**
- F. Prefabricated fence systems may be used provided they meet all of the above material requirements.
- G. Geotextile fabric will have the following physical properties:
 - 1. Grab strength shall be 100 pounds minimum in accordance with IDOT Test 913.
 - 2. Filter efficiency shall be 50 percent maximum in accordance with IDOT Test 909.
 - 3. Ultraviolet degradation at 500 hours shall not be less than 50 percent strength retained in accordance with IDOT Test 913.

2.09 - Temporary Pipe

Temporary pipe shall be 16-gauge corrugated metal, **PVC or HDPE pipe** with minimum pipe stiffness of 46 psi.

2.10 - Stabilized Construction Entrance

- A. Course aggregate (crushed rock or gravel), measuring 2 to 2½ inches in diameter.
- B. Non-woven polypropylene geotextile filter fabric in accordance with AASHTO-M-288 Specifications for separation and high survivability.

2.11 - Erosion Control Stone

- A. **Description: Iowa DOT Standard Specification 4130.03 applies.**
- B. **Gradation: Iowa DOT Standard Specification 4130.04 applies.**
- C. **Quality: Iowa DOT Standard Specification 4130.05 applies.**

2.12 - TEMPORARY ROLLED EROSION CONTROL PRODUCTS (RECP)

- A. Use temporary rolled erosion control products that are classified and having material properties according to the Erosion Control Technology Council's (ECTC) guidelines.
- B. **Material Classification:**
 - 1. **RECP Type 1 (Ultra Short-Term): Functional longevity of three months or less and classified as follows:**
 - a. **RECP Type 1.A: Mulch control net, consisting of a photodegradable synthetic mesh or woven biodegradable natural fiber netting.**

Classification	Slope Application	Channel Application	Min. Tensile Strength
	Max. Grade*	Permissible Shear Stress	
RECP Type 1.A	5:1 (H:V)	0.25 lb/ft ²	5 lb/ft
RECP Type 1.B	4:1 (H:V)	0.50 lb/ft ²	5 lb/ft
RECP Type 1.C	3:1 (H:V)	1.50 lb/ft ²	50 lb/ft
RECP Type 1.D	2:1 (H:V)	1.75 lb/ft ²	75 lb/ft
RECP Type 2.A	5:1 (H:V)	0.25 lb/ft ²	5 lb/ft
RECP Type 2.B	4:1 (H:V)	0.50 lb/ft ²	5 lb/ft
RECP Type 2.C	3:1 (H:V)	1.50 lb/ft ²	50 lb/ft
RECP Type 2.D	2:1 (H:V)	1.75 lb/ft ²	75 lb/ft
RECP Type 3.A	5:1 (H:V)	0.25 lb/ft ²	25 lb/ft
RECP Type 3.B	1.5:1 (H:V)	2.00 lb/ft ²	100 lb/ft
RECP Type 4	1:1 (H:V)	2.25 lb/ft ²	125 lb/ft
*Product tested according to ECTC Test Method No. 2 and meeting the ECTC Standard Specifications for "C" factor.			

- D. RECP Anchors: Stakes or staples as recommended by manufacturer, with a minimum length of 6 inches.

2.13 - TURF REINFORCEMENT MATS (TRM)

A. Material Classification:

1. TRM Type 1: Use a TRM constructed of a web of mechanically or melt-bonded polymer netting, monofilaments, or fibers that are entangled to form a strong and dimensionally stable mat. Bonding methods include polymer welding, thermal or polymer fusion, or the placement of synthetic fibers between two high-strength, biaxially-oriented nets, mechanically bound by parallel stitching with polyolefin thread. Products may contain a degradable component.
2. TRM Type 2 and 3: Use a TRM constructed of a web of mechanically or melt-bonded polymer netting, monofilaments, or fibers that are entangled or woven to form a strong and dimensionally stable mat. Non-woven bonding methods include polymer welding, thermal or polymer fusion, or the placement of fibers between two high-strength, biaxially oriented nets, mechanically bound by parallel stitching with polyolefin thread. Use only components that are 100% synthetic and resistant to biological, chemical, and ultraviolet degradation.
3. TRM Type 4: Use a high performance/survivability TRM composed of monofilament yarns woven into a resilient uniform configuration. Use a mat that has a matrix exhibiting very high interlock and reinforcement capacities with both soil and root systems and demonstrating a high tensile modulus. TRMs manufactured from discontinuous or loosely held together by stitched or glued, netting, or composites are not allowed in this category. Use only components that are 100% synthetic and resistant to biological, chemical, and ultraviolet degradation. Use this category when field conditions exist with high loading and/or high survivability requirements.

- B. Properties and Performance:** Meet the following minimum material and performance requirements:

Property ¹		Test Method	Type 1	Type 2	Type 3	Type 4
Material	Thickness	ASTM D 6525	0.25 in	0.25 in	0.25 in	0.25 in
	Tensile Strength ²	ASTM D 6818	125 lb/ft	240 lb/ft	750 lb/ft	3,000
	UV Resistance ³	ASTM D 4355	80% @ 500 Hrs	80% @ 1,000 Hrs	80% @ 1,000 Hrs	90% @ 3,000 Hrs
Performance	Maximum Shear Stress ⁴ (Channel Applications)	ASTM D 6460	7 lb/ft ²	10 lb/ft ²	12 lb/ft ²	15 lb/ft ²
	Maximum Slope Gradient (Slope Applications)	N/A	1:1 (H:V) or flatter	1:1 (H:V) or flatter	1:1 (H:V) or greater	1:1 (H:V) or greater

- 1 For TRMs containing degradable components, all values must be obtained on the non-degradable portion of the matting.
- 2 Minimum Average Roll Values, machine direction only.
- 3 Tensile strength of structural components retained after UV exposure.
- 4 Minimum shear stress that fully-vegetated TRM can sustain without physical damage or excess erosion (0.5 in soil loss) during a 30 minute flow event in large scale testing. Acceptable large scale testing protocol includes ASTM D 6460 or independent testing conducted by the Texas Transportation Institute, Colorado State University, Utah State University, or other approved testing facility. Bench scale testing is not acceptable.

2.14 - FLOW TRANSITION MATS

- A. Use in lieu of revetment or erosion stone, subject to approval of jurisdiction engineer, or as indicated in contract documents.
- B. **PROPERTIES**
 1. UV-Stabilized HDPE plastic sheet or equivalent with openings for vegetation growth and energy dissipation.
 2. Nominal sheet size 4-foot square by 0.5-inch thickness.
 3. Anchors as specified by manufacturer.

2.15 – FILTER SOCKS

- A. For slope and sediment control applications, use continuous tubular, knitted mesh netting with 3/8-inch openings, constructed of 5 mil thickness, photodegradable HDPE.
- B. For inlet protection (open ground or on-street), use continuous, tubular, knitted mesh netting with 3/8-inch openings, constructed of 500 denier polypropylene.
- C. For open ground installations, use 1-inch by 2-inch (minimum) hardwood stakes or stakes of equivalent strength.
- D. For on-street installations, fill sock with heavy wood mulch. Additionally, use sandbags or similar to hold filter sock in proper position. Use of concrete blocks is not allowed.

2.16 – MATERIAL FOR USE IN FILTER SOCKS, FILTER BERMS AND OTHER SPECIFIC AREAS

- A. Use material derived from wood, bark or other non-toxic vegetative feed stocks.
- B. Use material with no visible admixture, refuse or other physical contaminants, nor any material toxic to plant growth.

C. Use material meeting the following particle sizes:

Sieve Size	Percent Passing ¹
2"	100
1"	90-100
3/8"	0-30

¹Target flow rate of in-place material is 10 gal/min/LF. The Engineer may approve alternative materials meeting throat flow rate.

PART 3 EXECUTION

3.01 - Temporary Erosion and Sediment Control – General

- A. The Contractor shall minimize the amount of disturbed land that is susceptible to erosion.
- B. The Contractor is responsible for maintaining the Storm Water Pollution Prevention Plan (SWPPP) during the entire period of land-disturbing activities.
- C. The Contractor is responsible to follow all terms of the SWPPP including but not limited to:
 - 1. Inspection
 - 2. Repairs
 - 3. Documentation
- D. The Contractor shall incorporate all temporary and permanent erosion control features into the project prior to commencement of land-disturbing activities.
- E. The Contractor shall provide immediate permanent or temporary pollution control measures to prevent contamination of adjacent streams or other watercourses, lakes, ponds, or other areas of water impoundment, or the delivery and deposition of sediment onto adjacent roads or properties.
- F. The Contractor shall install the appropriate temporary erosion and sediment structural controls measures in accordance with approved sequence of construction. Clearing and grubbing operations shall be so scheduled and performed that grading operations and permanent erosion control features can follow immediately thereafter.
- G. The Contractor may request approval for modifications to the erosion and sediment control plan from the Engineer.
- H. The surface area of erodible earth material exposed at one time by clearing and grubbing, by excavating, by fill, or by borrow shall not exceed one-half of the project length without written approval of the Engineer.
- I. The Contractor shall be responsible to inspect temporary erosion and sediment control measures **every seven (7) days** and within 24 hours following a rainfall of ½ inch or more **or an equivalent snowfall or snow melt**. If a control measure has been reduced in capacity by 50 percent or more, the Contractor shall restore such features to their original condition **within three (3) days**.
- J. If sediment is deposited outside the Project limits, or within newly constructed storm sewer facilities within the Project limits, the Contractor shall be responsible to remove the sediment from the location(s) in which it is deposited within 24 hours of the occurrence. **All repairs shall be documented in the on-site SWPPP.**
- K. Upon final acceptance of the Project and establishment of permanent erosion control measures, the Contractor shall remove all temporary **sediment** control measures **within thirty (30) days**.
- L. The Contractor shall be responsible to clean and dust control haul routes to the Project Site.
- M. Existing intakes, manholes, and sewer lines shall be kept clean of debris and sediment originating from the Project.
- N. The Contractor shall maintain adequate soil erosion and sediment control documentation until final stabilization of the entire area of disturbance. Final stabilization is achieved

when the entire disturbed area is stabilized to an equivalent of minimum of 70% vegetative cover as determined by the Engineer.

3.02 - Temporary Seeding

- A. The Contractor shall seed areas in locations as required by the Engineer, or which are disturbed and operations will not commence or permanent seeding will not be completed for a period of 14 days.
- B. No seedbed preparation is required as long as there is 2-3 inches of loose soil.
- C. The seed may be spread using a manual broadcast seeder, a drill, or some other means which will spread the seed evenly.
- D. **Temporary seeding placed hydraulically shall be applied at minimum 145 lbs/acre.**
- E. Seeding rates and dates shall be as follows:

Seeding Rate			
Species	Lbs/acre	Lbs/1000 sq. ft.	Seeding Date
Oats	120	3	March 1 – May 15
Rye/Wheat	120	3	Sept 15 – Nov 1
Millet	40	1	May 15 – Aug 15
Sudangrass	40	1	May 15 – Aug 15
Annual Ryegrass	40	1	Sept 15 – Nov 1
Perennial Ryegrass	40	1	Sept 15 – Nov 1

- F. **Covering Temporary Seeding**
 - 1. **Wood cellulose mulch if temporary seed applied hydraulically.**
 - 2. **Conventional mulch, tucked in, and placed at nominal rate of 1.5 tons/acre.**
 - 3. **In lieu of the above methods, use hand rake, harrow or other means to provide ½-inch of loose soil cover over ryegrass seeds and 1-1/2” of loose soil cover over other seeds.**
- G. Prior to seedbed preparation for permanent seeding or sodding, the vegetation from the growth of the temporary seeding shall be removed by mowing and disking, or by disking the existing surface.
- H. The Engineer shall measure the area temporarily seeded upon completion of seeding.

3.03 - Dust Control

- A. Water or water combined with **dilute tree sap or similar approved non-fecal biodegradable organic material** shall be applied to the construction Site as appropriate to reduce or eliminate the spread of dust outside the Project limits.
- B. Water shall be applied at a rate of 1 to 2 gallons per square yard of roadbed or disturbed area.

3.04 - Ditch Checks

- A. Construction: Refer to Standard Details for Public Improvements
 - 1. Rock Ditch Checks: Remove existing vegetation from ditch or channel banks prior to placing rock ditch checks.
 - 2. Straw bale ditch checks **are not permitted.**
 - 3. **Silt fence ditch checks shall be constructed in accordance with paragraph 3.05. Use silt fence ditch checks only if estimated ditch flows are less than one (1) CFS.**
 - 4. **Other measures may be approved by the engineer.**
- B. Maintenance

1. Sediment shall be removed once per month or when it reaches one-half of the original height.
2. Sediment removal will include disposal in a location where it will not erode into construction areas, offsite properties or watercourses.
3. Regular inspections shall be made to insure that the center of the check is lower than the edges. Erosion around the edges of the check shall be corrected immediately.

3.05 - Silt Fence

- A. The Contractor shall install temporary silt fence according to the Standard Details for Public Improvements, at locations shown in the drawings or as required by the Engineer. Fence construction shall handle the stress from hydraulic and sediment loading. Geotextile at the bottom of the fence shall be buried in a trench. The trench shall be backfilled and the soil compacted over the geotextile. Overlapping geotextile shall be spliced together.
- B. Install silt fence **along** existing ground contours. Flare fence uphill at end of fence.
- C. **If silt fence length exceeds 200-feet, install fence in "J-hook" pattern per Standard Details for Public Improvements.**
- D. Closer post spacing, greater embedment depth and/or wider posts shall be used as necessary in low areas and soft or swampy ground to provide adequate resistance to applied loads. **Minimum embedment of posts is 20-inches.**
- E. Secure the fabric to the upstream side of the sedimentation device.
- F. Clean the fabric by tapping when it is dry.
- G. When support fence is used, the mesh shall be fastened securely to the up-slope of the post.
- H. When self-supported fence is used, the geotextile shall be securely fastened to fence posts.
- I. Should the fabric cease to function due to clogging, damage, or deterioration, replace with a new fabric, when and as required.
- J. Inspect and repair fence after each storm event and remove sediment where necessary.
- K. Sediment trapped by the silt fence shall be used to repair the eroded areas or deposited to an area unlikely to contribute sediment offsite.

3.06 - Temporary Pipe

- A. **Verify with Engineer that temporary pipe is of sufficient size and/or number to handle potential runoff.**
- B. Construction Requirements: **Install temporary pipe** in same manner as permanent pipe. Backfill material shall be placed in 6-inch lifts and mechanically compacted.

3.07 - Construction in Waterways

- A. Construction operations in rivers, streams, and impoundments shall be restricted to those areas which must be entered for the construction of temporary or permanent structures.
- B. Frequent fording of live streams with construction equipment shall be minimized.
- C. **Work within waterways must allow for adequate flow capacity.**

3.08 - Stabilized Construction Entrance

- A. Stabilized construction entrances shall be placed as set forth in the Contract Documents or as required by the Engineer.
- B. The entrance/exit shall be located to provide maximum use by all construction vehicles.
- C. Compact subgrade to 95 percent maximum dry density.
- D. Cover subgrade with non-woven, polypropylene filter fabric. Ensure a smooth surface exists that is free of protrusions before laying the geotextile. Roll out the geotextile in a continuous length. Width of fabric shall equal the width of the entrance/exit to avoid seams. Any required overlaps shall be a minimum of one foot.
- E. The entrance shall be maintained to prevent tracking or flowing of sediment onto existing pavements.

3.09 - Temporary Slope Drains

- A. Anchor slope drain to ground.
- B. If flexible tubing is used for the drop section, it shall be the same diameter as the inlet pipe and shall be constructed of a durable material, securely fastened to the inlet pipe with metal strapping or watertight connection collars and secured with hold-down grommets.
- C. The diversions directing runoff to the drop structure shall be at least 1 foot higher than the top of the inlet of the slope drain. This includes soil placed around and over the top of the inlet section. To help accomplish this the invert of the inlet may be set lower than the top of fill.
- D. The soil around and under the inlet pipe shall be placed in 4-inch layers and hand compacted to the top of the earth dike or gravel bedding.
- E. Class D riprap shall be placed at the outlet side of the embankment.

3.10 - Temporary Diversion

- A. The diversion shall be constructed according to the dimension, line, and grade shown on the Contract Documents.
- B. Earthen material shall be compacted by traversing with tracked earthmoving equipment. The fill material shall be free of frozen material and accumulations of brush, roots, and other objectional material which will interfere with the proper functioning of the diversion channel and prevent proper compaction.
- C. Diversions shall not be breached or lowered to allow construction traffic to cross; instead the top width may be made wider and side slopes made flatter than specified on the erosion and sediment control plan.
- D. The diversion shall be constructed on a non-frozen foundation.
- E. All diversions shall have an outlet stabilized with vegetation, rock, concrete, or a level spread.
- F. Fertilizing, seeding, and mulching of the diversion shall conform to paragraphs 2.02 and 3.02.

3.11 - Storm Sewer Inlet Protection

- A. To extent possible, install inlet protection before land disturbing activities begin.**
- B. Install inlet protection devices according to the manufacturer's recommendations, and in accordance with the Standard Details for Public Improvements.**
- C. Remove accumulated sediment as required to maintain inlet protection in working order. Remove accumulated sediment from streets open to traffic.**
- D. Install per Standard Details for Public Improvements.**

3.12 - Sediment Basins

- A. The area under the embankment shall be cleared, grubbed, and stripped of any vegetation and root mat. The pool area shall be cleared as needed to facilitate sediment cleanout. Gullies and sharp breaks shall be sloped to no steeper than 2:1. The surface of the foundation area shall be thoroughly scarified before placement of the embankment material.
- B. A cutoff trench shall be excavated along the centerline of the embankment. The minimum top width shall be wide enough to permit operation of compaction equipment. The trench shall be kept free of standing water during backfill operations.
- C. The fill material shall be free of all sod, roots, frozen soils, stones over 6 inches in diameter, and other objectionable material. The placing and spreading of the fill material shall be started at the lowest point of the foundation and the fill shall be brought up in approximately 8-inch horizontal layers or of such thickness that the required compaction can be obtained with the equipment used. Construction equipment shall be operated over each layer in a way that will result in the required compaction. Special equipment shall be used when the required compaction cannot be obtained without it. The moisture content of fill material shall be such that the required degree of compaction can be obtained with the equipment used.
- D. The pipe conduit barrel shall be placed on a firm foundation to the lines and grades shown on the drawings. Connections between the riser and barrel, the anti-seep collars and barrel, and all pipe joints shall be watertight. Selected backfill material shall be placed around the conduit in layers

and each layer shall be compacted to at least the same density as the adjacent embankment. All compaction within 2 feet of the pipe spillway will be accomplished with hand-operated tamping equipment.

- E. Both the top of the riser and the dewatering orifice shall be fitted with trash racks firmly fastened to the riser pipe.
- F. The emergency spillway shall be cut in undisturbed ground. Accurate construction of the spillway elevation and width is critical and shall be within a tolerance of 0.2 foot.
- G. Sediment shall be removed and the sediment basin restored to its original dimensions when the sediment has filled one-half the pond's original depth or as indicated on the plans. Sediment removed from the basin shall be placed so that it will not erode.

3.13 - Erosion Control Mats

Install according to manufacturer's instructions and/or Section 2601.15 of the Iowa DOT Standard Specifications.

END OF SECTION 01300