

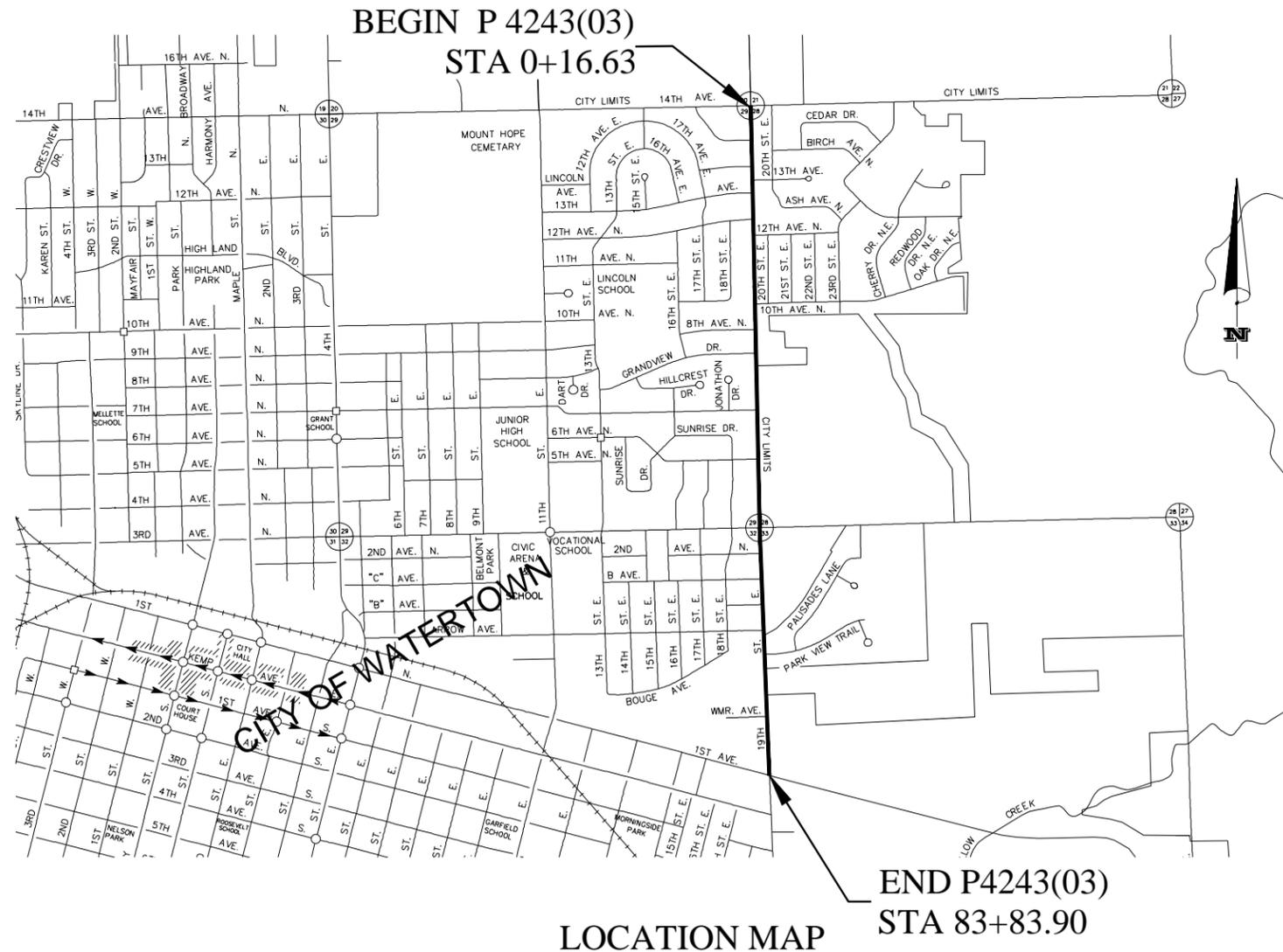
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STATE OF SOUTH DAKOTA	PROJECT P 4243(03)	SHEET D1	TOTAL SHEETS D16
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# SECTION D: EROSION CONTROL PLANS

## INDEX OF SHEETS

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- D2 ESTIMATE OF QUANTITIES WITH GENERAL NOTES AND TABLES
- D3-D5 GENERAL NOTES
- D6-D10 EROSION & SEDIMENT CONTROL PLANS
- D11-D13 SWPPP CHECKLIST
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**SECTION D ESTIMATE OF QUANTITIES**

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E1690	Remove Sediment	7	CuYd
110E1695	Remove Sediment Filter Bag	468	Ft
110E1700	Remove Silt Fence	152	Ft
120E6300	Water for Vegetation	41.9	MGal
230E0010	Placing Topsoil	1551	CuYd
730E0206	Type D Permanent Seed Mixture	880	Lb
731E0200	Fertilizing	0.14	Ton
732E0200	Fiber Mulching	2.9	Ton
734E0180	Sediment Filter Bag	468	Ft
734E0604	High Flow Silt Fence	609	Ft
734E0610	Mucking Silt Fence	42	CuYd
734E0620	Repair Silt Fence	152	Ft
734E0845	Sediment Control at Inlet with Frame and Grate	16	Each
734E0855	Interim Sediment Control at Inlet	16	Each
734E5010	Sweeping	30	Hour
900E1320	Construction Entrance	2	Each

**PLACING TOPSOIL**

The thickness will be approximately 6 inches within the right-of-way and 6 inches on temporary easements.

**MYCORRHIZAL INOCULUM**

Mycorrhizal inoculum shall consist of mycorrhizal fungi spores and mycorrhizal fungi-infected root fragments in a solid carrier. The carrier may include organic materials, calcinated clay, or other materials consistent with application and good plant growth. The supplier shall provide certification of the fungal species claimed and the live propagule count. The inoculum shall include the following fungal species:

<i>Glomus intraradices</i>	25%
<i>Glomus aggregatu</i>	25%
<i>Glomus mosseae</i>	25%
<i>Glomus etunicatum</i>	25%

All seed shall be inoculated with a minimum of 20,000 live propagules of mycorrhizal fungi per 1,000 square feet. All costs of inoculating the seed shall be incidental to the contract unit price per pound for the corresponding permanent seed mixture.

The mycorrhizal inoculum shall be from the list below or an approved equal:

Product	Manufacturer
MycApply	Mycorrhizal Applications, Inc. Grants Pass, OR Phone: 1-866-476-7800 <a href="http://www.mycorrhizae.com/">http://www.mycorrhizae.com/</a>

**FERTILIZING**

A commercial fertilizer with a minimum guaranteed analysis of 13-13-13, 18-46-0, 11-52-0, or an approved alternate fertilizer sold for use as a lawn starter fertilizer shall be applied to all areas designated for permanent seeding. The application rate of fertilizer shall be 100 pounds per acre.

**DRILLS**

In addition to the drills specified in Section 730 of the Specifications, other types of drills including no-till drills will be allowed as long as they have baffles, partitions, agitators, or augers which keep the seed distributed throughout the seed box and the seed is planted at a depth of 1/4" to 1/2".

**PERMANENT SEEDING**

The areas to be seeded consist of all newly graded areas within the project limits except for the top of roadways and temporary easements under cultivation.

All permanent seed shall be planted in the topsoil at a depth of 1/4" to 1/2".

All seed broadcast must be raked or dragged in (incorporated) within the top 1/4" to 1/2" of topsoil when possible. This requirement may be waived by the Engineer during construction when raking or dragging is deemed not feasible by conventional methods.

The varieties listed for the seed mixture are preferred varieties.

Native harvest seed will be allowed.

Type D Permanent Seed Mixture shall consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/1000 SqFt)
Kentucky Bluegrass	Alene, Avalanche	1.4
Perennial Ryegrass	Turf Type	1.4
Creeping Red Fescue	Epic	1.4
Chewings Fescue	Ambrose	1.4
Alkali Grass	Fults, Fults II, Quill, Salty	1.4
Total:		7



**WATER FOR VEGETATION**

Water for vegetation consists of applying water to seeded areas to enhance germination and/or root growth. When watering, use the following guidelines:

Immediately after seeding:

- Keep the topsoil moist but not excessively wet until the seed has germinated.
- Water a minimum of 3 days a week for 2 weeks preferably watering 2 or 3 times a day in small quantities.
- Use fine spray and low pressure to avoid topsoil wash and to prevent uncovering buried seeds.

After emergence:

- Topsoil shall be kept thoroughly moistened by sprinkling, as necessary, for 6 weeks. After the 6 week period, an inspection shall be made to determine if grass is established enough to suspend watering. Continue watering until grass has been thoroughly established.
- Never apply water at a rate faster than the topsoil can absorb.
- Water during early morning hours or early evening hours.
- Do not water when rain is forecasted for the area.
- If rainfall occurs, suspend watering according to rainfall amount.

An estimated 3 Gallons of water per square yard of seeding area was used to compute the quantity for the bid item "Water for Vegetation".

All costs for furnishing and applying the water including hauling, materials, equipment, labor, and incidentals necessary shall be paid for at the contract unit price per Mgal for "Water for Vegetation".

**FIBER MULCHING**

Fiber mulch shall be applied in a separate operation following permanent seeding.

An additional 2% by weight of tackifier shall be added to the fiber mulch product selected from the approved product list. If the product selected has guar gum tackifier included, then the additional 2% of tackifier shall be guar gum. If the product selected has synthetic tackifier included, then the additional 2% of tackifier shall be synthetic.

Fiber mulch shall be applied at the rate of 2000 pounds per acre.

The Contractor shall allow the fiber mulch to cure a minimum of 18 hours prior to watering or any storm event to ensure proper cohesion between the soil and fiber particles.

All costs for the additional tackifier added to the fiber mulch including labor, equipment, and materials shall be incidental to the contract unit price per pound for "Fiber Mulching".

The fiber mulch provided shall be from the approved product list. The approved product list for fiber mulch may be viewed at the following internet site:

<http://sddot.com/business/certification/products/Default.aspx>

**FOR BIDDING PURPOSES ONLY**

Sediment Filter Bag

**HIGH FLOW SILT FENCE**

The high flow silt fence fabric provided shall be from the approved product list. The approved product list for high flow silt fence may be viewed at the following internet site:

<http://sddot.com/business/certification/products/Default.aspx>

High flow silt fence shall be placed at the locations noted in the table and at locations that will minimize siltation of adjacent streams, lakes, dams, or drainage areas as determined by the Engineer during construction. Refer to Standard Plate 734.05 for details.

**MUCKING SILT FENCE**

Mucking silt fence shall consist of removing muck trapped by the silt fence and spreading the material evenly over the adjacent area to conform to the existing grade.

**REMOVE SILT FENCE**

Silt fence shall be removed when vegetation is established. Some or all of the silt fence may be left on the project until vegetation is established.

**INTERIM SEDIMENT CONTROL AT INLETS, MANHOLES, AND JUNCTION BOXES AFTER SURFACING REMOVAL AND BEFORE PLACEMENT OF SURFACING**

Refer to Standard Plate 734.05 for details of installation of high flow silt fence at drop inlets, manholes, and junction boxes.

The high flow silt fence fabric provided shall be from the approved product list. The approved product list for high flow silt fence may be viewed at the following internet site:

<http://sddot.com/business/certification/products/Default.aspx>

In addition, the Contractor shall do the following for this installation:

- A space of at least 1' shall be provided between the silt fence installation and the inlet. This space shall be filled completely with a 2" depth of aggregate, 2" minus or smaller.
- The top elevation of the silt fence shall be such that a 12" horizontal flap of silt fence will remain at the bottom.
- The base of the silt fence shall conform to the natural ground profile but does not need to be trenched in at the bottom.
- The extra 12" of the silt fence material may be cut so that the material will lay flat upon the subgrade.
- Sediment filter bags shall be placed on the 12" flap around the perimeter of the silt fence installation. The sediment filter bags shall overlap 6" at the ends and be placed tightly together.
- The sediment filter bags shall be filled with clean aggregate 2" minus or smaller.

<u>Product</u>	<u>Manufacturer</u>
Snake Bag	Sacramento Bag Manufacturing Co. Sacramento, CA Phone: 1-800-287-2247 <a href="http://www.sacbag.com">www.sacbag.com</a>

The sediment filter bag shall be the Snake Bag from Sacramento Bag Manufacturing Company or an approved equal.

All costs for furnishing and installing the sediment filter bags shall be incidental to the contract unit price per foot for "Sediment Filter Bag."

All costs for removing the sediment filter bags shall be incidental to the contract unit price per foot for "Remove Sediment Filter Bag".

Payment for high flow silt fence shall be as stated in Section 734.5 of the Specifications.

All costs for furnishing, installing, and removing the 2" depth of aggregate shall be incidental to other erosion and sediment control bid items.

All costs for removing and disposing of sediment collected by the sediment control device shall be incidental to the contract unit price per cubic yard for "Remove Sediment".

The removed sediment shall be placed at a location away from the drop inlet where the sediment will not be washed back into the drop inlet or other storm sewer system.

The Contractor and Engineer shall inspect and maintain the sediment control device once every week and within 24 hours after every rainfall event greater than 1/2".

**TABLE OF INTERIM SEDIMENT CONTROL AT INLETS, MANHOLES, AND JUNCTION BOXES AFTER SURFACING REMOVAL AND BEFORE PLACEMENT OF SURFACING**

Station	L/R	High Flow Silt Fence Quantity (Ft)	Sediment Filter Bag Quantity (Ft)	Remove Sediment Quantity (CuYd)
0+43	L	22	26	0.25
2+68	L	22	26	0.25
2+68	L	20	0	0.25
2+68	R	22	26	0.25
2+68	R	53	0	0.00
3+91	L	22	26	0.25
3+92	R	22	26	0.25
4+79	R	22	26	0.25
6+01	R	22	26	0.25
6+01	L	22	26	0.25
6+01	L	20	0	0.25
7+44	R	22	26	0.25
7+64	L	22	26	0.25
7+72	L	20	0	0.25
8+02	R	20	0	0.25
9+81	L	22	26	0.25
9+83	L	20	0	0.25
10+65	L	22	26	0.25
10+80	R	22	26	0.25
11+17	R	22	26	0.25
11+25	L	22	26	0.25
11+31	L	20	0	0.25
11+42	R	20	0	0.25
14+16	L	22	26	0.25
15+82	L	22	26	0.25
16+62	L	20	0	0.25
24+37	L	22	26	0.25
Totals:		609	468	6.50



**SEDIMENT CONTROL AT INLETS WITH FRAMES AND GRATES**

This type of sediment control device should be used where there is pavement in the vicinity of the drop inlets and storm water or sediment could possibly enter the frame and grate. Sediment Control at Inlets with Frame and Grates shall be installed prior to working in the vicinity of the drop inlets.

The Contractor shall be responsible for maintaining and repairing the sediment control device for the duration of the project for which sediment control measures are required. Maintenance shall be scheduled to prevent storm water from backing up into the driving lane.

“Sediment Control at Inlets with Frames and Grates” will be paid for one time at each location, regardless of the number of times the sediment control devices are installed, inspected, cleaned, removed, repaired, or replaced. All costs associated with furnishing, installing, inspecting, maintaining, cleaning, sediment removal, and repairing Sediment Control at Inlets with Frames and Grates shall be incidental to the contract unit price per each for “Sediment Control at Inlet with Frame and Grate”.

Sediment collection device shall be:

A commercial made sediment collection device from the “Sediment Control at Inlet with Frame and Grate” list or an approved equal. The device shall be installed in reinforced concrete drop inlets according to the manufacturer’s recommendations.

Sediment Control at Inlet with Frame and Grate Approved List:

<u>Product</u>	<u>Manufacturer</u>
InfraSafe Debris Collection Device with filter sock	Royal Environmental Systems, Inc. Stacy, MN Phone: 1-800-817-3240 <a href="http://www.royalenterprises.net">www.royalenterprises.net</a>
Dandy Curb Sack	Dandy Products Inc. Dublin, OH Phone: 1-800-591-2284 <a href="http://www.dandyproducts.com">www.dandyproducts.com</a>
Silt Trapper	Storm Water Solutions Lakeville, MN Phone: 1-952-461-4376 <a href="http://www.siltrapper.com">www.siltrapper.com</a>
DIP Basket	Skyview Construction Co., LLC Waubay, SD Phone: 1-605-520-0555 <a href="http://www.skyviewconst.com">www.skyviewconst.com</a>
FLEXSTORM Inlet Filters	Inlet and Pipe Protection, Inc. Naperville, IL Phone: 1-866-287-8655 <a href="http://www.inletfilters.com">www.inletfilters.com</a>
GR-8 Guard or Combo Guard	ERTEC Environmental Systems LLC Alameda, CA Phone: 1-866-521-0724 <a href="http://www.ertecsystems.com">www.ertecsystems.com</a>
Sediment Catchers	Shaun Jensen

Grate FX, Slammer, or VertPro

BX Inlet Sediment Boxes

Brookings, SD  
Phone: 1-605-690-4950  
Enviroscape ECM, Ltd.  
Oakwood, OH  
Phone: 1-419-594-3210  
[www.strawblanket.com](http://www.strawblanket.com)

BX Civil and Construction  
Dell Rapids, SD  
Phone: 1-605-428-5483  
[bx-cc.com](http://bx-cc.com)

**TABLE OF SEDIMENT CONTROL AT INLETS WITH FRAMES AND GRATES**

Station	L/R	Quantity (Each)
0+43	L	1
2+68	L & R	2
3+91	L	1
3+92	R	1
6+01	L	1
7+64	L	1
9+81	L	1
10+65	L	1
10+80	R	1
11+17	R	1
11+25	L	1
14+16	L	1
15+82	L	1
16+62	L	1
24+37	L	1
Total:		16

**FOR BIDDING PURPOSES ONLY**

**SEDIMENT CONTROL AT TYPE S REINFORCED CONCRETE DROP INLETS**

The sediment control device provided shall be from the list shown below. Refer to Standard Plate 734.11 for details.

<u>Product</u>	<u>Manufacturer</u>
Dandy Curb	Dandy Products Inc. Dublin, OH Phone: 1-800-591-2284 <a href="http://www.dandyproducts.com">www.dandyproducts.com</a>
Gutterbuddy	ACF Environmental Richmond, VA Phone: 1-800-448-3636 <a href="http://www.acfenvironmental.com">www.acfenvironmental.com</a>
SS-300	Silt-Saver, Inc. Conyers, GA Phone: 1-888-382-7458 <a href="http://www.siltsaver.com">www.siltsaver.com</a>
Curb Inlet Guard	ECTEC Environmental Systems LLC Alameda, CA Phone: 1-866-521-0724 <a href="http://www.ertecsystems.com">www.ertecsystems.com</a>

**STREET SWEEPING**

Vehicle tracking of sediment from the construction site shall be minimized. Street sweeping shall be used if erosion and sediment control best management practices are not adequate to prevent sediment from being tracked onto the street.

The Contractor shall use a pickup broom having integral self-contained storage to clean the roadway. The pickup broom used shall be a minimum of 6 feet wide and have working gutter brooms.

At a minimum, sweeping will be required:

1. Prior to opening any segment or roadway to traffic.
2. When sawing operations are underway in the inside driving lanes, the outside driving lanes and gutter may need to be swept to control dust.

All costs for cleaning the roadway with a pickup broom shall be incidental to the contract unit price per hour for “Sweeping”.



**CONSTRUCTION ENTRANCE**

The Contractor shall install a Construction Entrance at locations where there is a potential for mud tracking and sediment flow from the construction site and work area onto a paved public roadway.

It is the Contractor's option to use the SDDOT Construction Entrance (See SDDOT Construction Entrance notes and details), a product from the list provided in these notes, or other products or processes as approved by the Engineer during construction.

If the Contractor elects to use one of the products listed in the table, then the Contractor shall install the construction entrance product in accordance with the manufacturer's installation instructions or as directed by the Engineer.

The Contractor shall maintain the construction entrance such that mud tracking and sediment flow will not enter the roadway or adjacent drainage areas. The construction entrance shall be routinely inspected and the Contractor shall repair or replace material as deemed necessary by the Engineer.

All costs for furnishing, installing, maintaining, and removal of the construction entrance including equipment, labor, materials, and incidentals shall be included in the contract unit price per each for "Construction Entrance".

The following table is a list of known construction entrance products available for use:

<u>Product</u>	<u>Manufacturer</u>
Grizzly Rumble Grate (10' width and 24' length required)	Trackout Control, LLC Tempe, AZ Phone: 1-800-761-0056 <a href="http://www.trackoutcontrol.com">www.trackoutcontrol.com</a>
Rumble Grid (12' width and 24' length including combination of grids and ramps required)	Pro-Tec Equipment, Inc. Charlotte, MI Phone: 1-800-292-1225 <a href="http://www.pro-tecequipment.com">www.pro-tecequipment.com</a>

**SDDOT CONSTRUCTION ENTRANCE**

If the SDDOT Construction Entrance is utilized, then the Contractor shall install the SDDOT Construction Entrance in accordance with these notes and the detail drawings.

Pit run material shall be obtained from a granular source and shall conform to the following gradation:

<u>Sieve Size</u>	<u>Percent Passing</u>
6"	100%
#4	0-60%
#200	0-20%

The pit run material shall be compacted to the satisfaction of the Engineer.

The aggregate for the granular material shall conform to the following gradation requirements:

<u>Sieve Size</u>	<u>Percent Passing</u>
3"	100%
2 1/2"	90-100%
1 1/2"	25-60%
3/4"	0-10%
1/2"	0-5%

The granular material shall be placed in 6" maximum lifts.

It is anticipated that the granular material will need to be periodically removed and replaced as it becomes inundated with mud and sediment.

The MSE geotextile shall conform to Section 831 of the Specifications. The MSE geotextile shall be on the Approved Products List for this material or will be certified by the supplier to meet this specification prior to installation.

The MSE geotextile should be kept as taut as possible prior to placing.

Equipment shall not be allowed on the MSE geotextile until the first lift of granular material is in place.

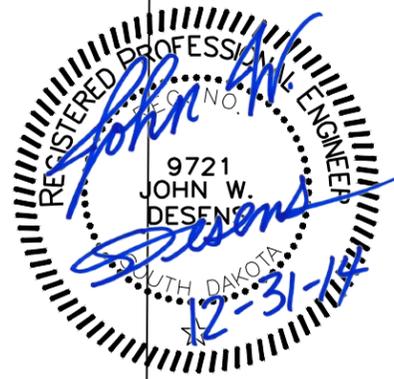
All seams in the MSE geotextile shall be overlapped at least 2' and shingled.



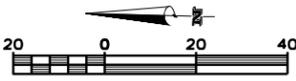
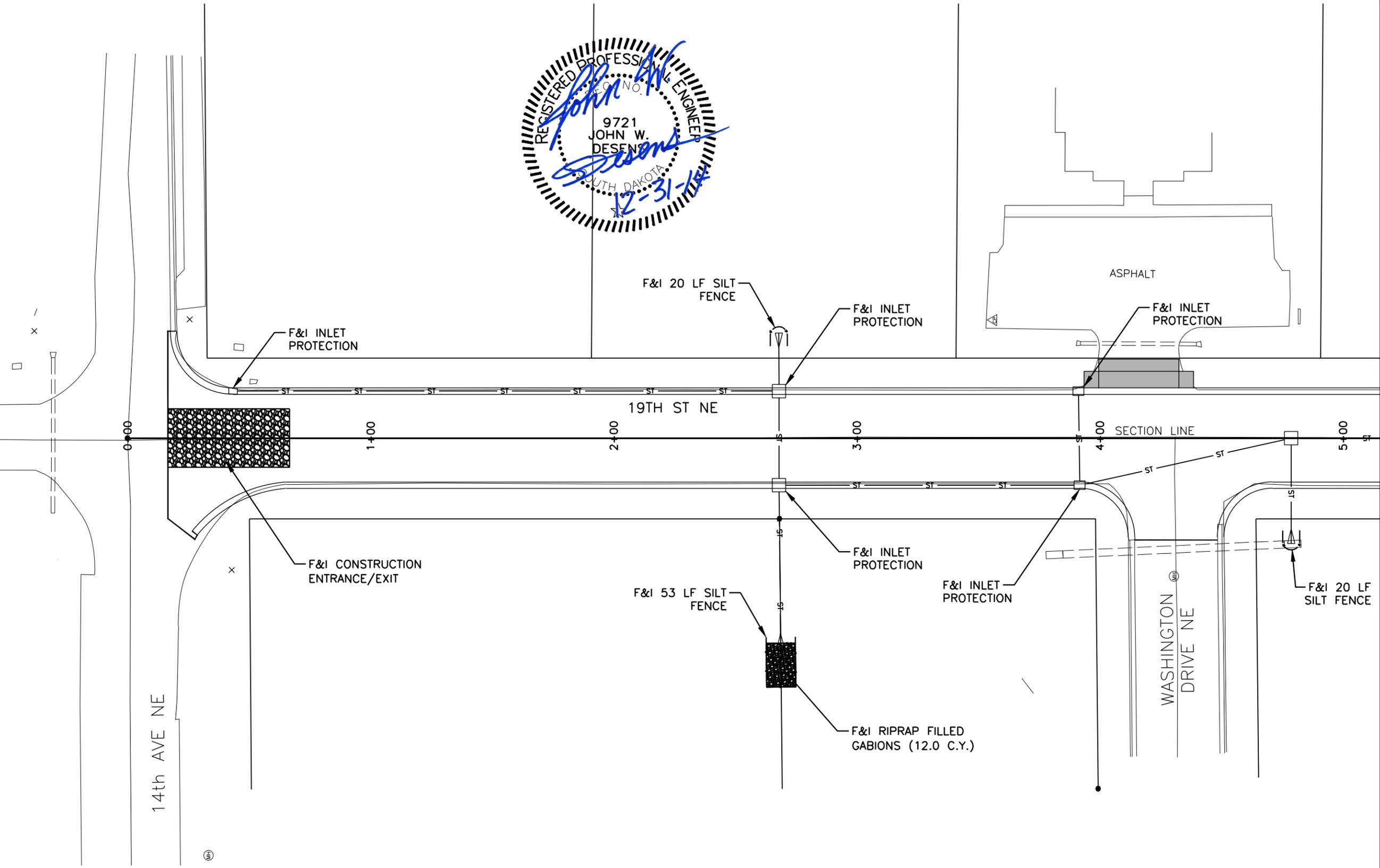
# EROSION AND SEDIMENT CONTROL PLANS

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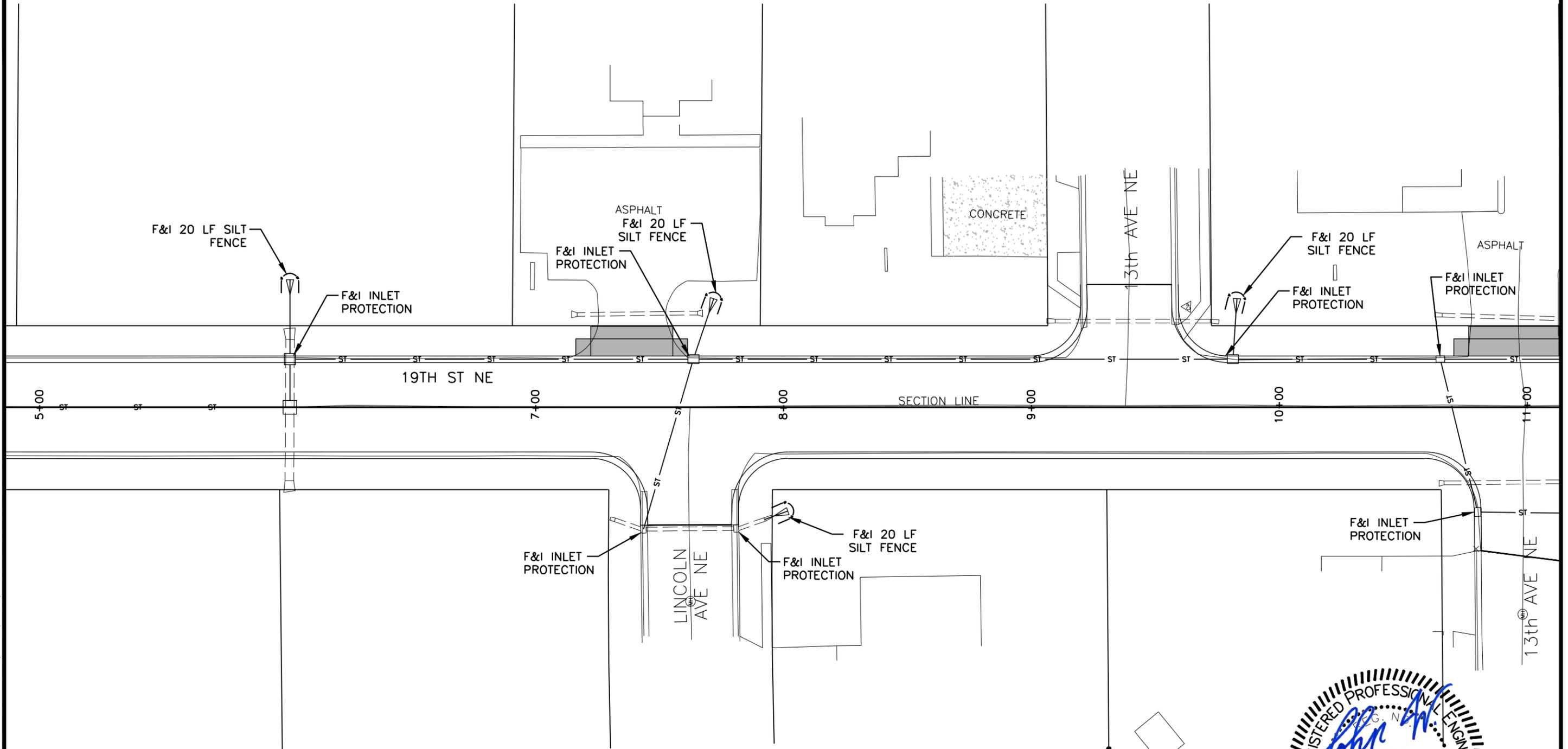
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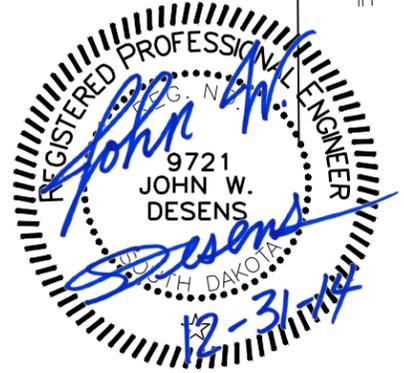
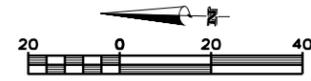
# EROSION AND SEDIMENT CONTROL PLANS

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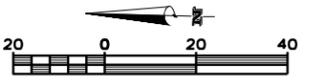
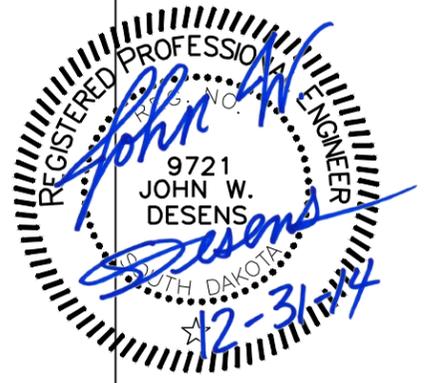
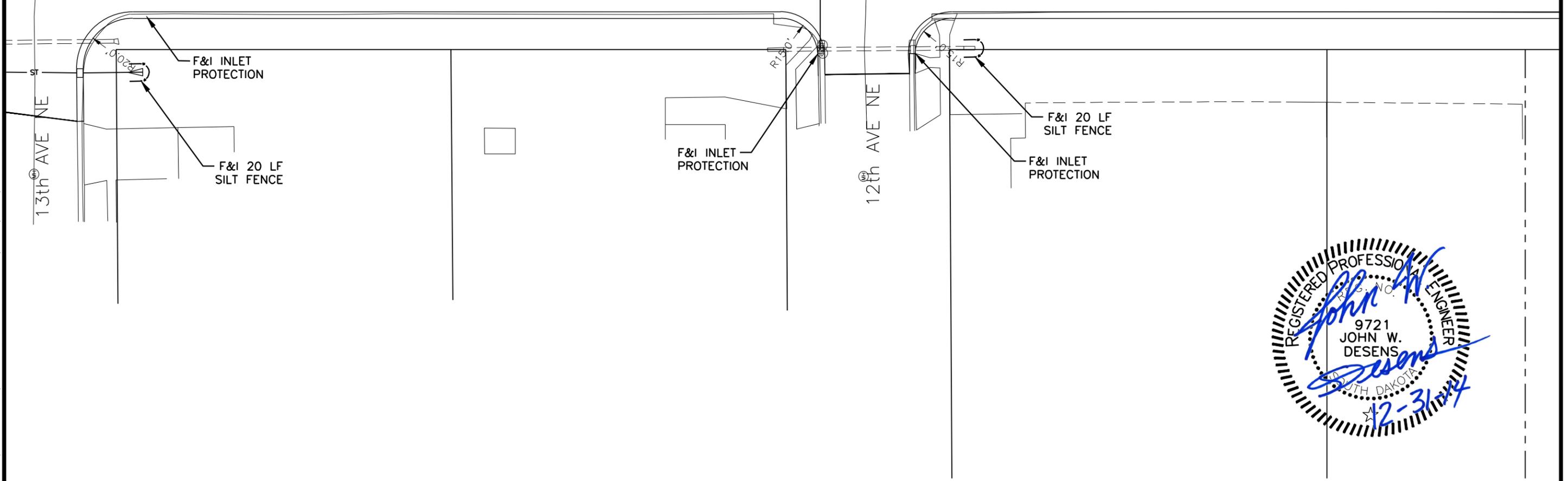
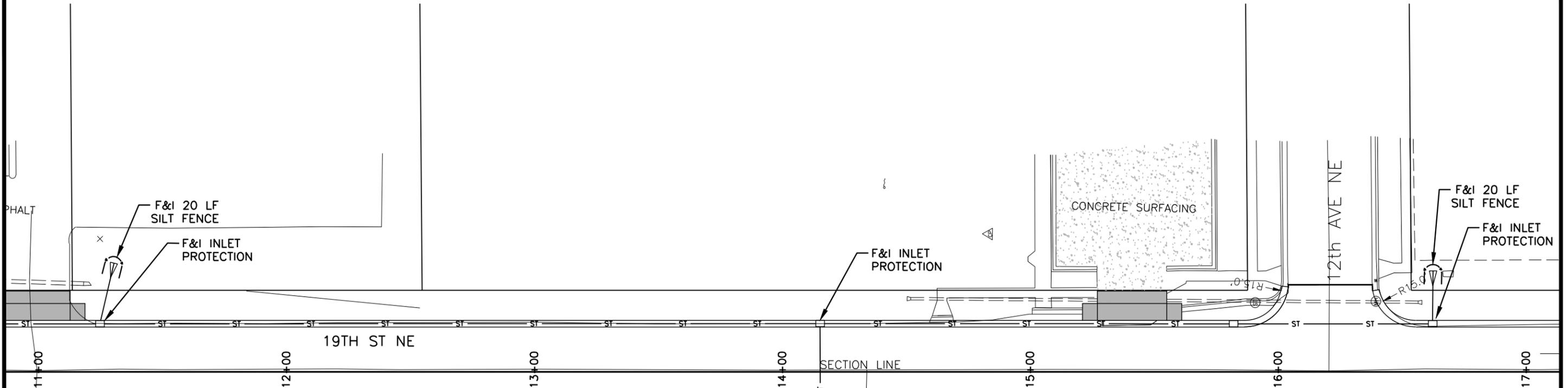
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# EROSION AND SEDIMENT CONTROL PLANS

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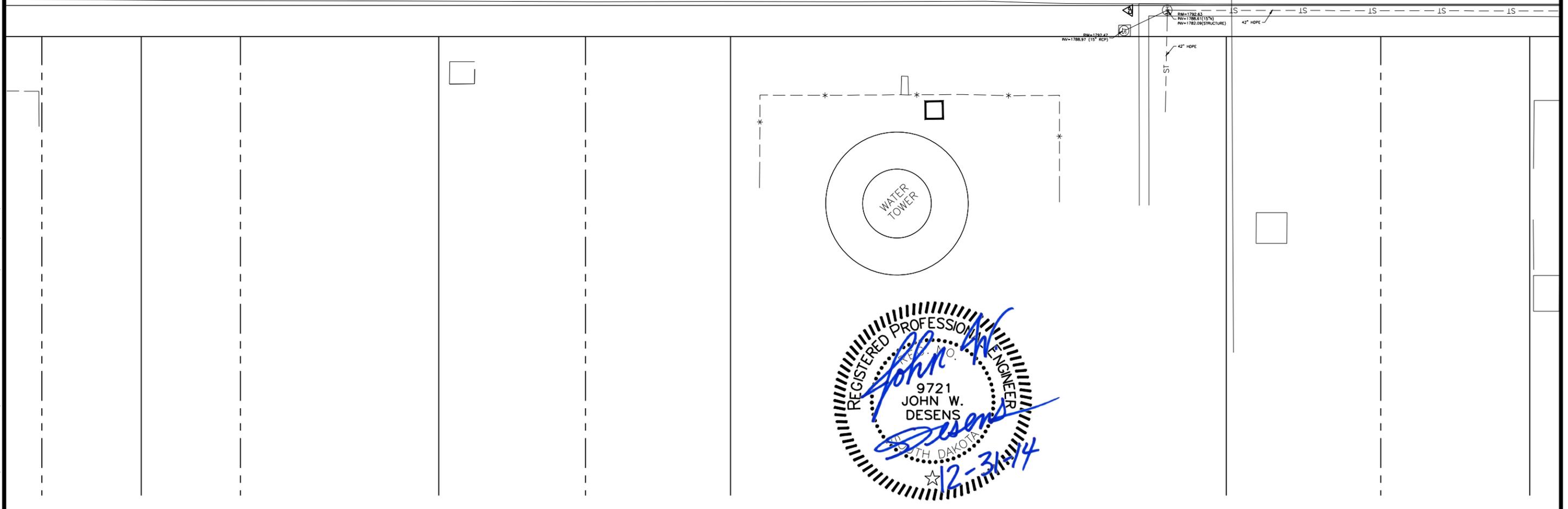
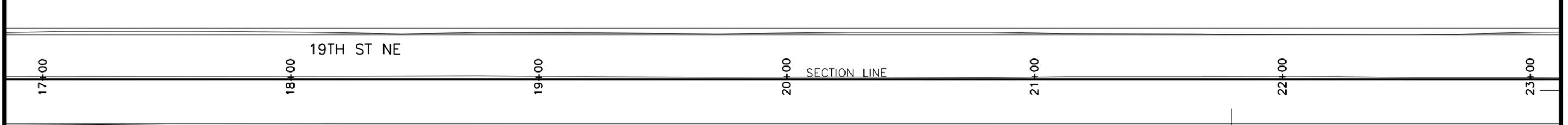
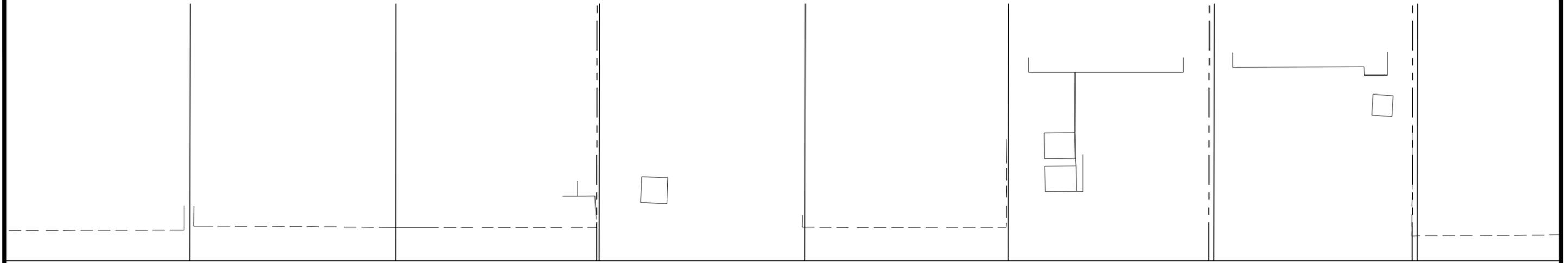


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# EROSION AND SEDIMENT CONTROL PLANS

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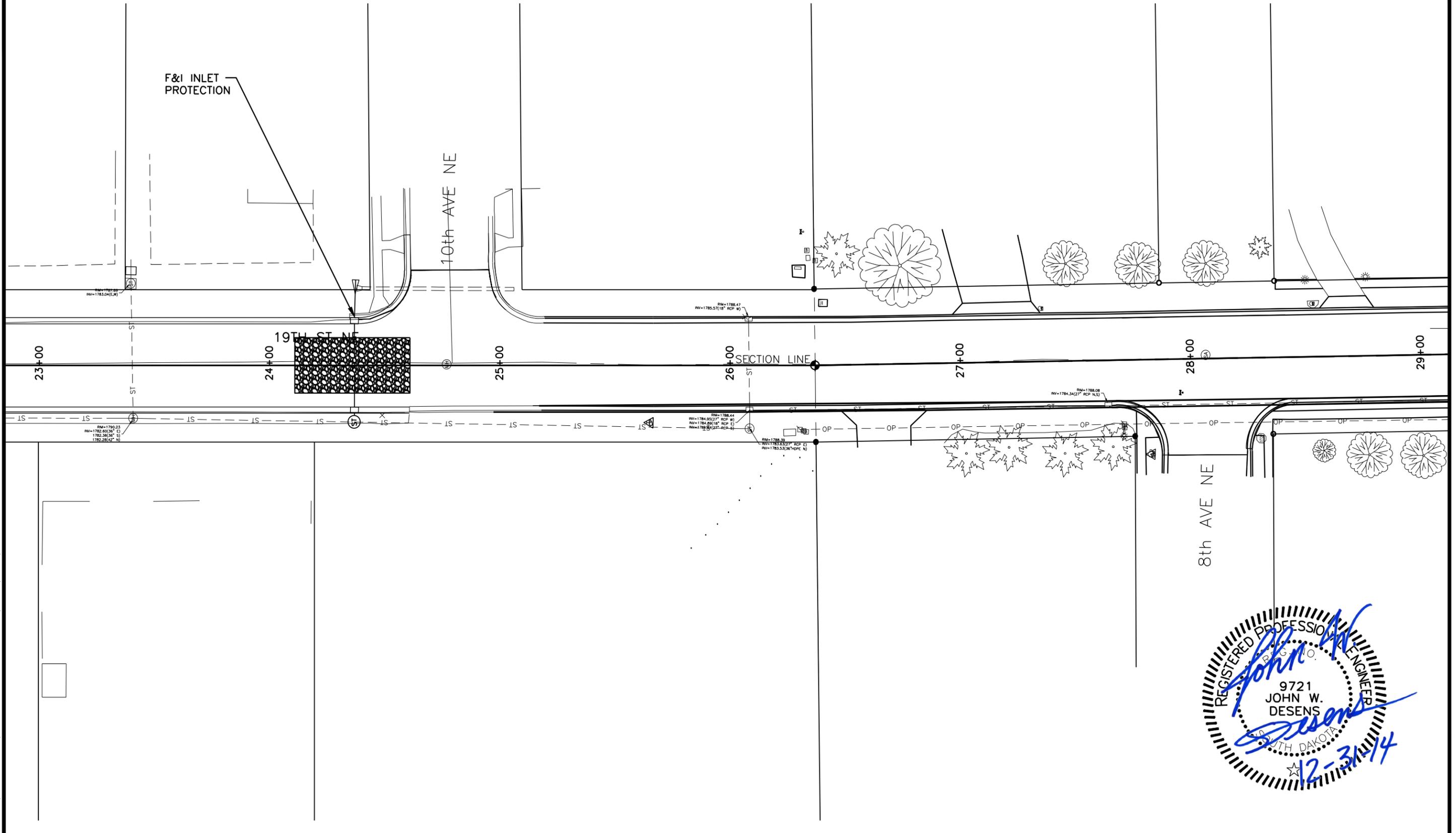
REGISTERED PROFESSIONAL ENGINEER  
9721  
JOHN W. DESENS  
SOUTH DAKOTA  
12-31-14

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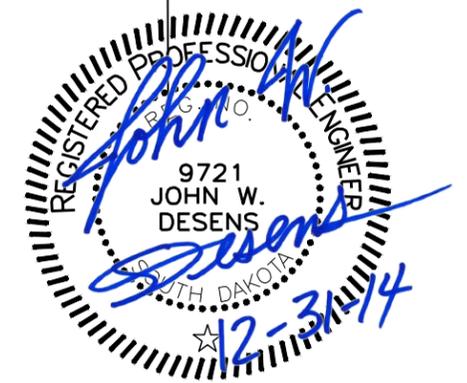
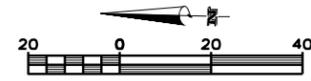
# EROSION AND SEDIMENT CONTROL PLANS

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**FOR BIDDING PURPOSES ONLY**

**STORM WATER POLLUTION PREVENTION PLAN CHECKLIST**  
*(The numbers right of the title headings are reference numbers to the GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES)*

- ❖ **SITE DESCRIPTION (4.2 1)**
  - **Project Limits: See Title Sheet (4.2 1.b)**
  - **Project Description: See Title Sheet (4.2 1.a.)**
  - **Site Map(s): See Title Sheet and Plans (4.2 1.f. (1)-(6))**
  - **Major Soil Disturbing Activities** (check all that apply)
    - Clearing and grubbing
    - Excavation/borrow
    - Grading and shaping
    - Filling
    - Cutting and filling
    - Other (describe):
  - **Total Project Area** 12.80 acres **(4.2 1.b.)**
  - **Total Area To Be Disturbed** 12.80 acres **(4.2 1.b.)**
  - **Existing Vegetative Cover (%)** 30%
  - **Soil Properties:** USDA-NRCS Soil Series Classification J128A, J143A, and J143B (Silty clay loams) **(4.2 1. d.)**
  - **Name of Receiving Water Body/Bodies** Unnamed Tributary **(4.2 1.e.)**
- ❖ **ORDER OF CONSTRUCTION ACTIVITIES (4.2 1.c.)**  
(Stabilization measures shall be initiated as soon as possible, but in no case later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Initiation of final or temporary stabilization may exceed the 14-day limit if earth disturbing activities will be resumed within 21 days.)
  - **Install stabilized construction entrance(s).**
  - **Install perimeter protection where runoff sheets from the site.**
  - **Remove and store topsoil.**
  - **Stabilize disturbed areas.**
  - **Install utilities, storm sewers, curb and gutter.**
  - **Install inlet and culvert protection after completing storm drainage and other utility installations.**
  - **Complete final grading.**
  - **Complete final paving and sealing of concrete.**
  - **Complete traffic control installation and protection devices.**
  - **Reseed areas disturbed by removal activities.**
- ❖ **EROSION AND SEDIMENT CONTROLS (4.2 2.a.(1)(a)-(f))**  
(Check all that apply)
  - **Stabilization Practices (See Detail Plan Sheets)**
    - Temporary Seeding (Cover Crop Seeding)
    - Permanent Seeding
    - Sodding
    - Planting (Woody Vegetation for Soil Stabilization)
    - Mulching (Grass Hay or Straw)
    - Hydraulic Mulch (Wood Fiber Mulch)
    - Soil Stabilizer
    - Bonded Fiber Matrix
    - Erosion Control Blankets or Mats
    - Vegetation Buffer Strips
    - Roughened Surface (e.g. tracking)
    - Dust Control
    - Other:

- **Structural Temporary Erosion and Sediment Controls**
  - Silt Fence
  - Floating Silt Curtain
  - Straw Bale Check
  - Temporary Berm
  - Temporary Slope Drain
  - Straw Wattles or Rolls
  - Turf Reinforcement Mat
  - Rip Rap
  - Gabions
  - Rock Check Dams
  - Sediment Traps/Basins
  - Inlet Protection
  - Outlet Protection
  - Surface Inlet Protection (Area Drain)
  - Curb Inlet Protection
  - Stabilized Construction Entrances
  - Entrance/Exit Equipment Tire Wash
  - Interceptor Ditch
  - Concrete Washout Area
  - Temporary Diversion Channel
  - Work Platform
  - Temporary Water Barrier
  - Temporary Water Crossing
  - Other:
- **Wetland Avoidance**  
Will construction and/or erosion and sediment controls impinge on regulated wetlands? Yes  No  If yes, the structural and erosion and sediment controls have been included in the total project wetland impacts and have been included in the 404 permit process with the USACE.
- **Storm Water Management (4.2 2.b., (1) and (2))**  
Storm water management will be handled by temporary controls outlined in "EROSION AND SEDIMENT CONTROLS" above, and any permanent controls needed to meet permanent storm water management needs in the post construction period. Permanent controls will be shown on the plans and noted as permanent.
- **Other Storm Water Controls (4.2 2.c., (1) and (2))**
  - **Waste Disposal**  
All liquid waste materials will be collected and stored in sealed metal containers approved by the project engineer. All trash and construction debris from the site will be deposited in the approved containers. Containers will be serviced as necessary, and the trash will be hauled to an approved disposal site or licensed landfill. All onsite personnel will be instructed in the proper procedures for waste disposal, and notices stating proper practices will be posted in the field office. The general contractor's representative responsible for the conduct of work on the site will be responsible for seeing waste disposal procedures are followed.
  - **Hazardous Waste**  
All hazardous waste materials will be disposed of in a manner specified by local or state regulations or by the manufacturer. Site personnel will be instructed in these practices, and the individual designated as the contractor's on-site representative will be responsible for seeing that these practices are followed.
  - **Sanitary Waste**  
Portable sanitary facilities will be provided on all construction sites. Sanitary waste will be collected from the portable units in a timely manner by a licensed waste management contractor or as required by any local regulations.

- ❖ **Maintenance and Inspection (4.2 3. and 4.2 4.)**
  - **Maintenance and Inspection Practices**
    - Inspections will be conducted at least one time per week and after a storm event of 0.50 inches or greater.
    - All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report.
    - Silt fence will be inspected for depth of sediment and for tears in order to ensure the fabric is securely attached to the posts and that the posts are well anchored. Sediment buildup will be removed from the silt fence when it reaches 1/3 of the height of the silt fence.
    - Sediment basins and traps will be checked. Sediment will be removed when depth reaches approximately 50 percent of the structure's capacity, and at the conclusion of the construction.
    - Check dams will be inspected for stability. Sediment will be removed when depth reaches 1/2 the height of the dam.
    - All seeded areas will be checked for bare spots, washouts, and vigorous growth free of significant weed infestations.
    - Inspection and maintenance reports will be prepared on form DOT 298 for each site inspection, this form will also be used to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents.
    - The SDDOT Project Engineer and contractor's site superintendent are responsible for inspections. Maintenance, repair activities are the responsibility of the contractor. The SDDOT Project Engineer will complete the inspection and maintenance reports and distribute copies per the distribution instructions on DOT 298.
- ❖ **Non-Storm Water Discharges (3.0)**  
The following non-storm water discharges are anticipated during the course of this project (check all that apply).
  - Discharges from water line flushing.
  - Pavement wash-water, where no spills or leaks of toxic or hazardous materials have occurred.
  - Uncontaminated ground water associated with dewatering activities.
- ❖ **Materials Inventory (4.2. 2.c.(2))**  
The following materials or substances are expected to be present on the site during the construction period. These materials will be handled as noted under the headings "EROSION AND SEDIMENT CONTROLS" and "SPILL PREVENTION" (check all that apply).
  - Concrete and Portland Cement
  - Detergents
  - Paints
  - Metals
  - Bituminous Materials
  - Petroleum Based Products
  - Cleaning Solvents
  - Wood
  - Cure
  - Texture
  - Chemical Fertilizers
  - Other:



❖ **Spill Prevention (4.2 2.c.(2))**➤ **Material Management**▪ **Housekeeping**

- Only needed products will be stored on-site by the contractor.
- Except for bulk materials the contractor will store all materials under cover and in appropriate containers.
- Products must be stored in original containers and labeled.
- Material mixing will be conducted in accordance with the manufacturer's recommendations.
- When possible, all products will be completely used before properly disposing of the container off site.
- The manufacturer's directions for disposal of materials and containers will be followed.
- The contractor's site superintendent will inspect materials storage areas regularly to ensure proper use and disposal.
- Dust generated will be controlled in an environmentally safe manner.
- Vegetation areas not essential to the construction project will be preserved and maintained as noted on the plans.

▪ **Hazardous Materials**

- Products will be kept in original containers unless the container is not resealable.
- Original labels and material safety data sheets will be retained in a safe place to relay important product information.
- If surplus product must be disposed of, manufacturer's label directions for disposal will be followed.
- Maintenance and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, degreasing operations, fuel tank drain down and removal, and other activities which may result in the accidental release of contaminants will be conducted on an impervious surface and under cover during wet weather to prevent the release of contaminants onto the ground.
- Wheel wash water will be collected and allowed to settle out suspended solids prior to discharge. Wheel wash water will not be discharged directly into any storm water system or storm water treatment system.
- Potential pH-modifying materials such as: bulk cement, cement kiln dust, fly ash, new concrete washings, concrete pumping, residuals from concrete saw cutting (either wet or dry), and mixer washout waters will be collected on site and managed to prevent contamination of storm water runoff.

➤ **Product Specific Practices (6.8)**▪ **Petroleum Products**

All on-site vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled.

▪ **Fertilizers**

Fertilizers will be applied only in the amounts specified by the SDDOT. Once applied, fertilizers will be worked into the soil to limit the exposure to storm water. Fertilizers will be stored in an enclosed area. The contents of partially used fertilizer bags will be transferred to sealable containers to avoid spills.

▪ **Paints**

All containers will be tightly sealed and stored when not required for use. The excess will be disposed of according to the manufacturer's instructions and any applicable state and local regulations.

▪ **Concrete Trucks**

Contractors will provide designated truck washout areas on the site. These areas must be self contained and not connected to any storm water outlet of the site. Upon completion of construction washout areas will be properly stabilized.

➤ **Spill Control Practices (4.2 2 c.(2))**

In addition to the previous housekeeping and management practices, the following practices will be followed for spill prevention and cleanup if needed.

- For all hazardous materials stored on site, the manufacturer's recommended methods for spill clean up will be clearly posted. Site personnel will be made aware of the procedures and the locations of the information and cleanup supplies.
- Appropriate cleanup materials and equipment will be maintained by the contractor in the materials storage area on-site. As appropriate, equipment and materials may include items such as brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for clean up purposes.
- All spills will be cleaned immediately after discovery and the materials disposed of properly.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- After a spill a report will be prepared describing the spill, what caused it, and the cleanup measures taken. The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring, as well as clean up instructions in the event of reoccurrences.
- The contractor's site superintendent, responsible for day-to-day operations, will be the spill prevention and cleanup coordinator. The contractor is responsible for ensuring that the site superintendent has had appropriate training for hazardous materials handling, spill management, and cleanup.

➤ **Spill Response (4.2 2 c.(2))**

The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize migration into storm water runoff and conveyance systems. If the release has impacted on-site storm water, it is critical to contain the released materials on-site and prevent their release into receiving waters. If a spill of pollutants threatens storm water or surface water at the site, the spill response procedures outlined below must be implemented in a timely manner to prevent the release of pollutants.

- The contractor's site superintendent will be notified immediately when a spill or the threat of a spill is observed. The superintendent will assess the situation and determine the appropriate response.
- If spills represent an imminent threat of escaping erosion and sediment controls and entering receiving waters, personnel will be directed to respond immediately to contain the release and notify the superintendent after the situation has been stabilized.
- Spill kits containing appropriate materials and equipment for spill response and cleanup will be maintained by the contractor at the site.
- If oil sheen is observed on surface water (e.g. settling ponds, detention ponds, swales), action will be taken immediately to remove the material causing the sheen. The contractor will use appropriate materials to contain and absorb the spill. The source of the oil sheen will also be identified and removed or repaired as necessary to prevent further releases.
- If a spill occurs the superintendent or the superintendent's designee will be responsible for completing the spill reporting form and for reporting the spill to SD DENR.
- Personnel with primary responsibility for spill response and clean up will receive training by the contractor's site superintendent or designee. The training must include identifying the location of the spill kits and other spill response equipment and the use of spill response materials.
- Spill response equipment will be inspected and maintained as necessary to replace any materials used in spill response activities.



FOR BIDDING CONTACT INFORMATION ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 4243(03)	D13	D16

❖ **Spill Notification**

In the event of a spill, the contractor's site superintendent will make the appropriate notification(s), consistent with the following procedures:

- A release or spill of a regulated substance (includes petroleum and petroleum products) must be reported to DENR immediately **if any one of the following** conditions exists:
  - The discharge threatens or is in a position to threaten the waters of the state (surface water or ground water).
  - The discharge causes an immediate danger to human health or safety.
  - The discharge exceeds 25 gallons.
  - The discharge causes a sheen on surface water.
  - The discharge of any substance that exceeds the ground water quality standards of ARSD (Administrative Rules of South Dakota) chapter 74:51:01.
  - The discharge of any substance that exceeds the surface water quality standards of ARSD chapter 74:51:01.
  - The discharge of any substance that harms or threatens to harm wildlife or aquatic life.
  - The discharge of crude oil in field activities under SDCL (South Dakota Codified Laws) chapter 45-9 is greater than 1 barrel (42 gallons).

To report a release or spill, call DENR at 605-773-3296 during regular office hours (8 a.m. to 5 p.m. Central time). To report the release after hours, on weekends or holidays, call State Radio Communications at 605-773-3231. Reporting the release to DENR does not meet any obligation for reporting to other state, local, or federal agencies. Therefore, the responsible person must also contact local authorities to determine the local reporting requirements for releases. DENR recommends that spills also be reported to the National Response Center at (800) 424-8802.

❖ **Construction Changes (4.4)**

When changes are made to the construction project that will require alterations in the temporary erosion controls of the site, the Storm Water Pollution Prevention Plan (SWPPP) will be amended to provide appropriate protection to disturbed areas, all storm water structures, and adjacent waters. The SDDOT Project Engineer will modify the SWPPP plan (DOT 298) and drawings to reflect the needed changes. Copies of changes will be routed per DOT 298. Copies of forms and the SWPPP will be retained in a designated place for review over the course of the project.

❖ **CERTIFICATIONS**

➤ **Certification of Compliance with Federal, State, and Local Regulations**

The Storm Water Pollution Prevention Plan (SWPPP) for this project reflects the requirements of all local municipal jurisdictions for storm water management and sediment and erosion control as established by ordinance, as well as other state and federal requirements for sediment and erosion control plans, permits, notices or documentation as appropriate.

➤ **South Dakota Department of Transportation**

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



Authorized Signature (See the General Permit, Section 6.7.1.C.)

➤ **Prime Contractor**

This section is to be executed by the General Contractor after the award of the contract. This section may be executed any time there is a change in the Prime Contractor of the project.

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

Authorized Signature

➤ **Contractor Information:**

- Prime Contractor Name:
- Contractor Contact Name:
- Address:
- Address:
- City: State: Zip:
- Office Phone: Field:
- Cell Phone: Fax:

➤ **Erosion Control Supervisor**

- Name:
- Address:
- Address:
- City: State: Zip:
- Office Phone: Field:
- Cell Phone: Fax:

➤ **SDDOT Project Engineer**

- Name:
- Business Address:
- Job Office Location:
- City: State: Zip:
- Office Phone: Field:
- Cell Phone: Fax:

➤ **SD DENR Contact Spill Reporting**

- Business Hours Monday-Friday (605) 773-3296
- Nights and Weekends (605) 773-3231

➤ **SD DENR Contact for Hazardous Materials.**

- (605) 773-3153

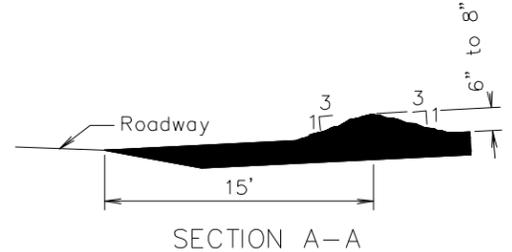
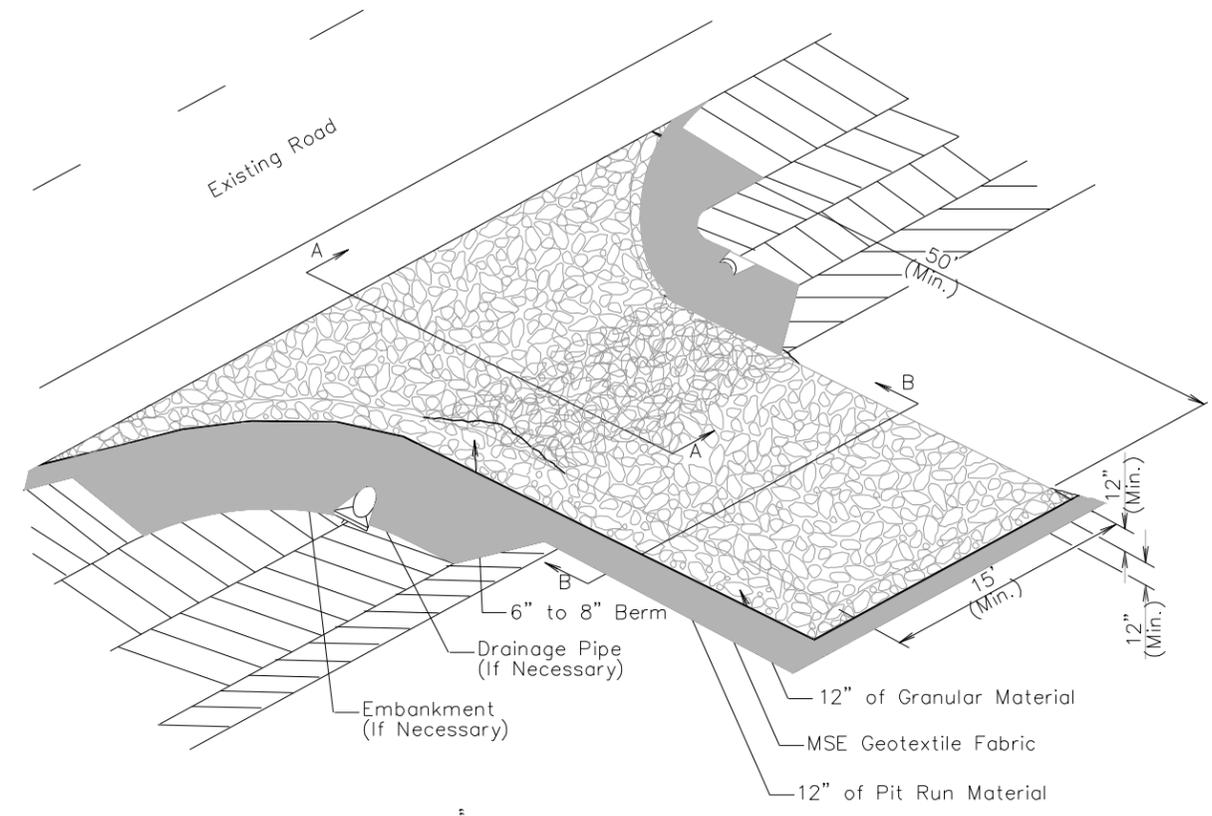
➤ **National Response Center Hotline**

- (800) 424-8802.

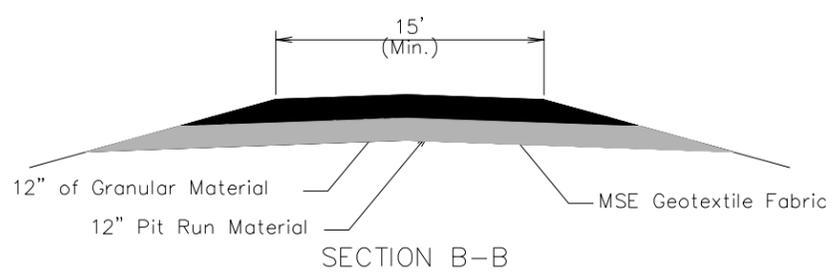


# CONSTRUCTION ENTRANCE/EXIT FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 4243(03)	D14	D16



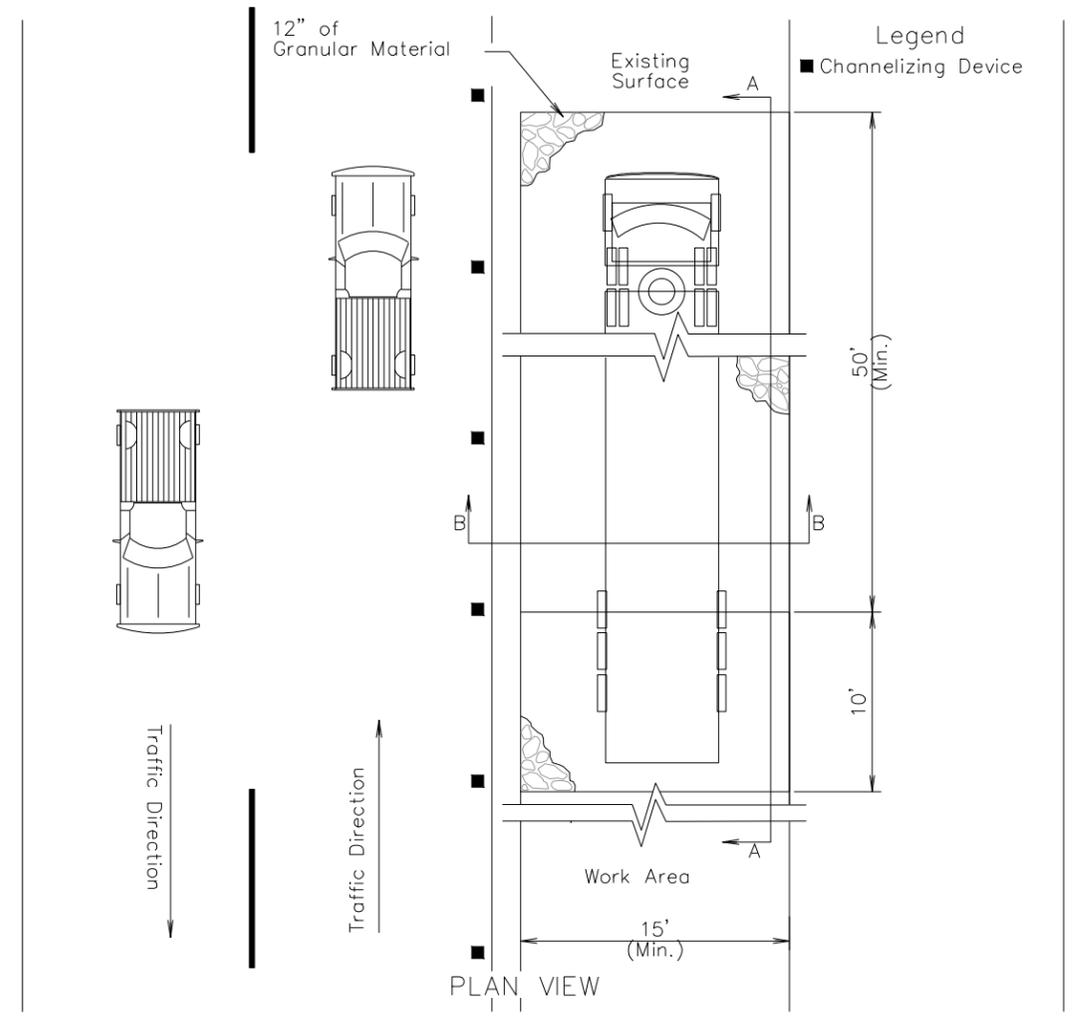
SECTION A-A



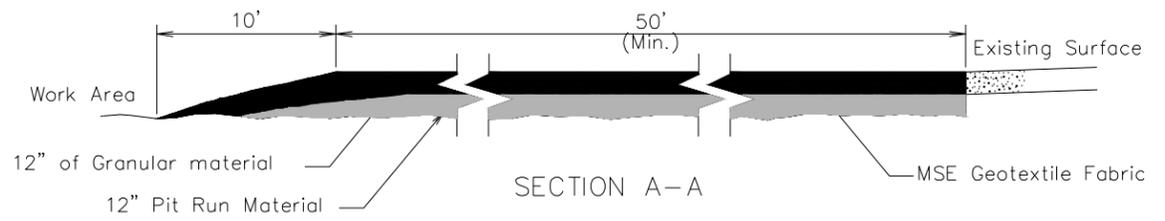
SECTION B-B

**GENERAL NOTES:**

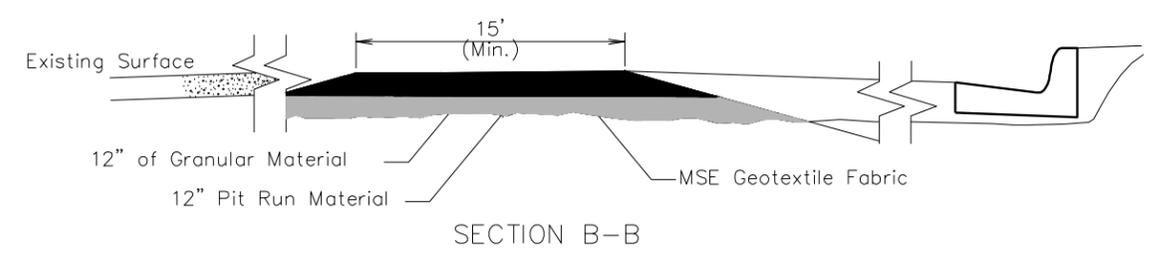
- If the grade of the entrance slopes down to the roadway, a berm of extra rock shall be used to prevent sediment or mud from being deposited on the roadway. See SECTION A-A.
- If a drainage pipe is necessary the size and type shall be determined by the Contractor to meet field conditions. All cost shall be incidental to the various bid items.
- If embankment is necessary it shall be pit run material.



PLAN VIEW



SECTION A-A



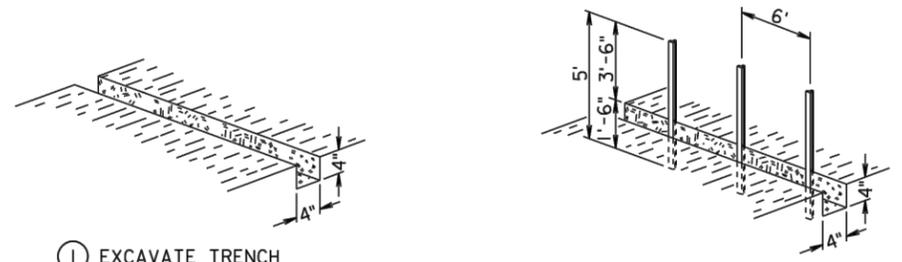
SECTION B-B

TRANSVERSE TO ROADWAY

PARALLEL TO ROADWAY

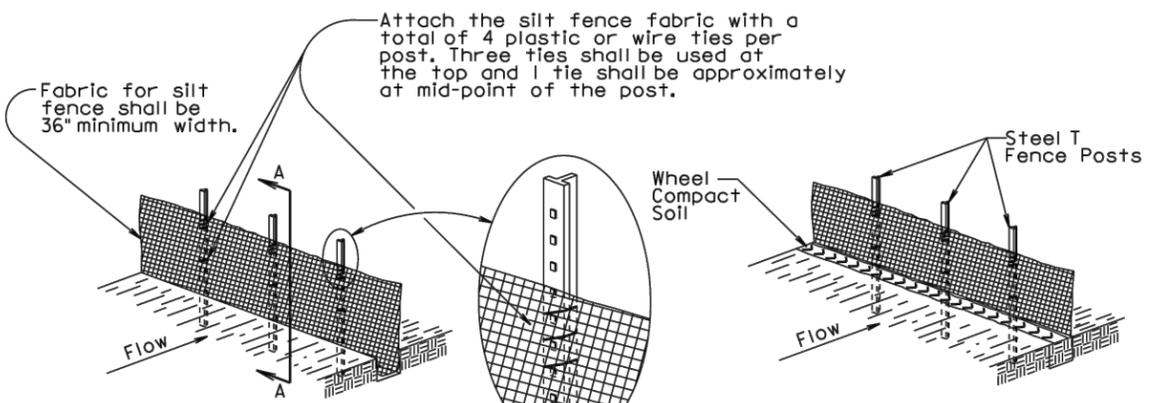
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MANUAL HIGH FLOW SILT FENCE INSTALLATION



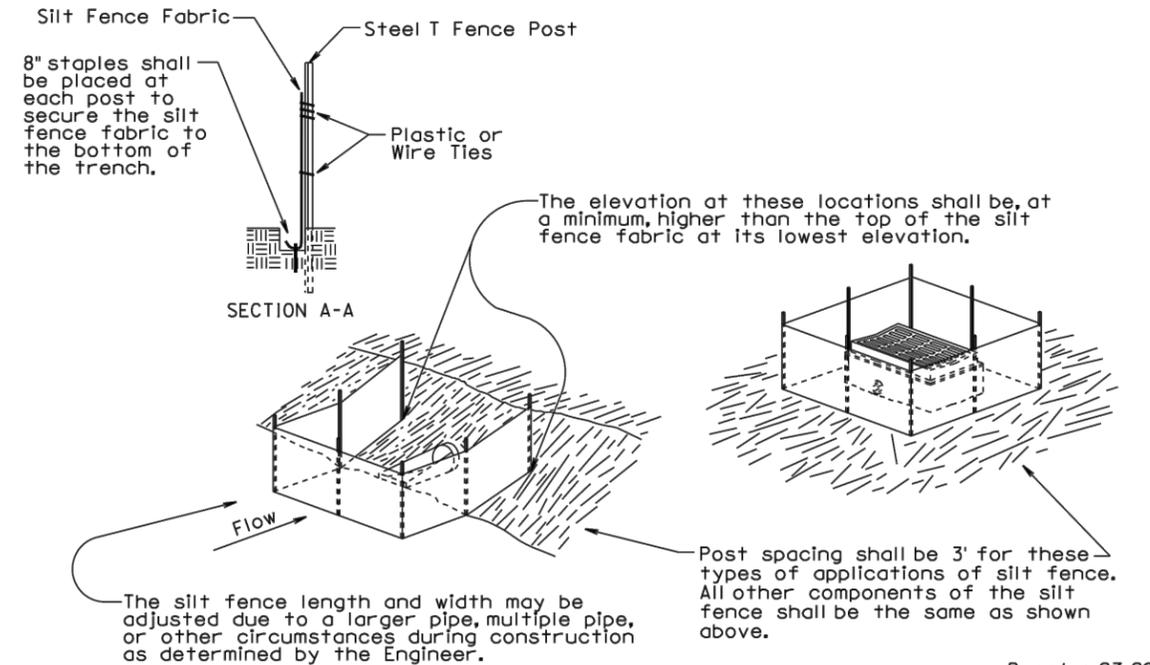
① EXCAVATE TRENCH

② DRIVE STEEL T FENCE POSTS



③ ATTACH SILT FENCE FABRIC

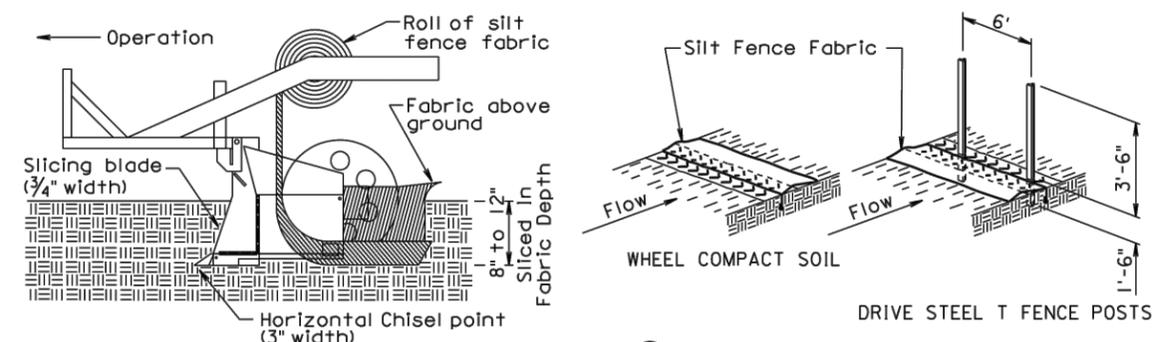
④ BACKFILL TRENCH AND WHEEL COMPACT SOIL



December 23, 2003

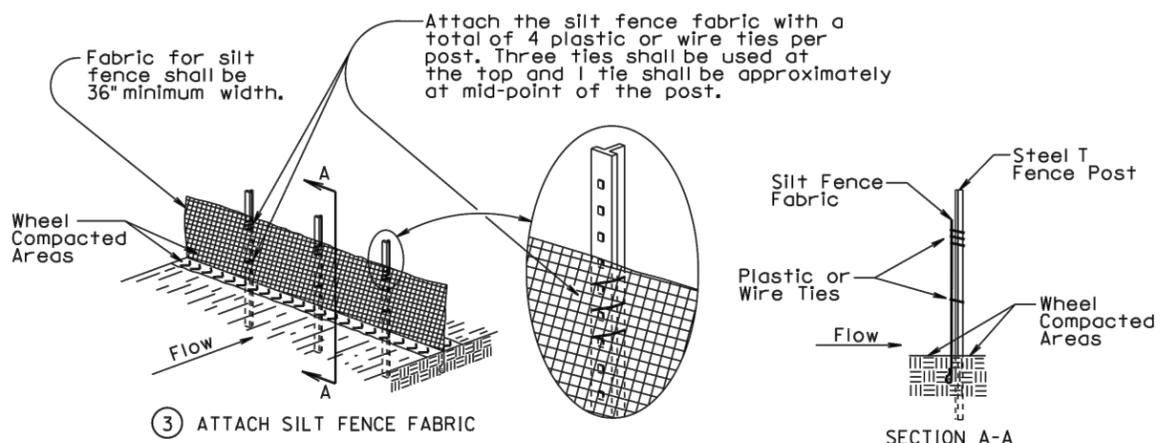
Published Date: 4th Qtr. 2014	S D D O T	HIGH FLOW SILT FENCE	PLATE NUMBER 734.05
			Sheet 1 of 2

MACHINE SLICED HIGH FLOW SILT FENCE INSTALLATION

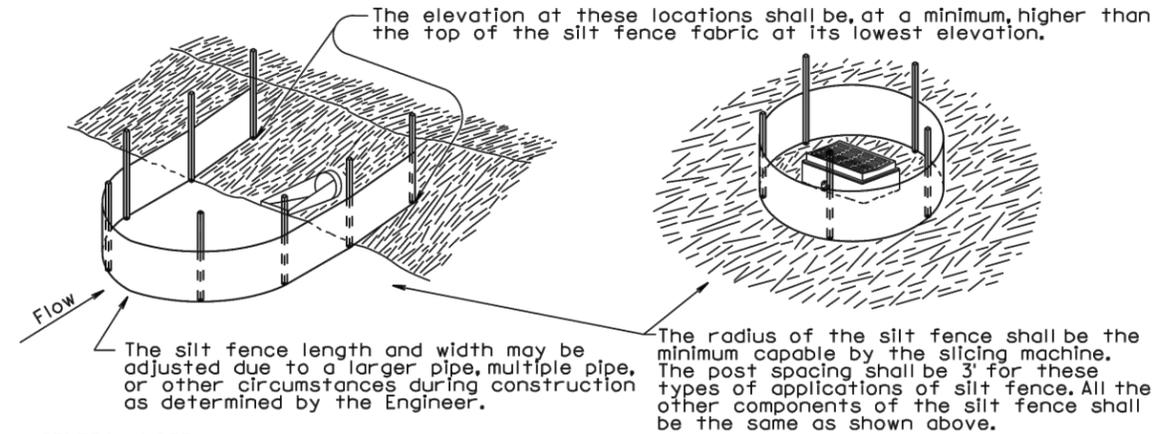


① INSTALL SILT FENCE FABRIC BY MACHINE SLICING METHOD.

② WHEEL COMPACT SOIL ABOVE SLICED IN PORTION OF FABRIC AND THEN DRIVE STEEL T FENCE POSTS.



③ ATTACH SILT FENCE FABRIC



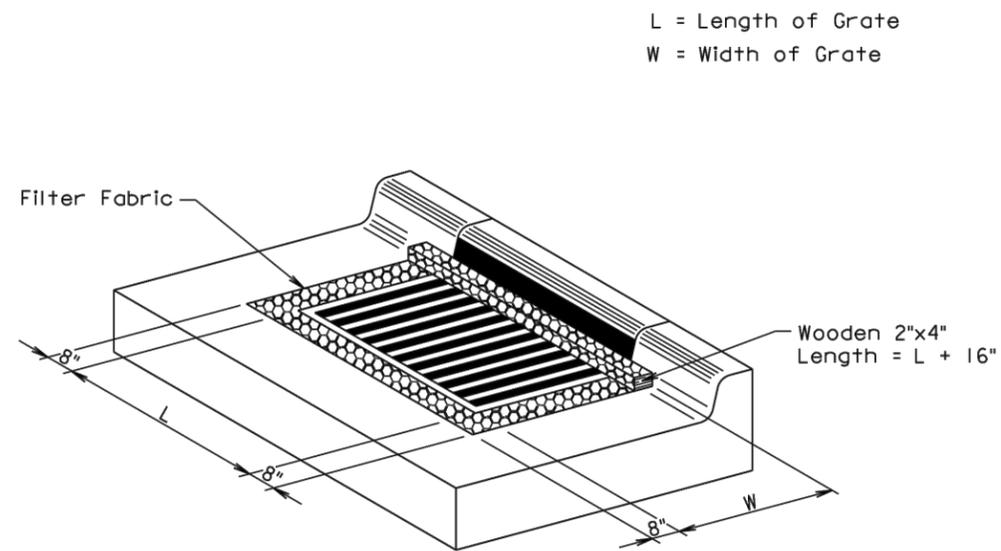
GENERAL NOTE:

If a trench can not be dug or the silt fence fabric can not be sliced in due to the type of earthen material (such as rock), then a row of 30 to 40 pound sandbags butted end to end shall be provided on top of the extra length of silt fence fabric to prevent underflow.

December 23, 2003

Published Date: 4th Qtr. 2014	S D D O T	HIGH FLOW SILT FENCE	PLATE NUMBER 734.05
			Sheet 2 of 2

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ISOMETRIC VIEW

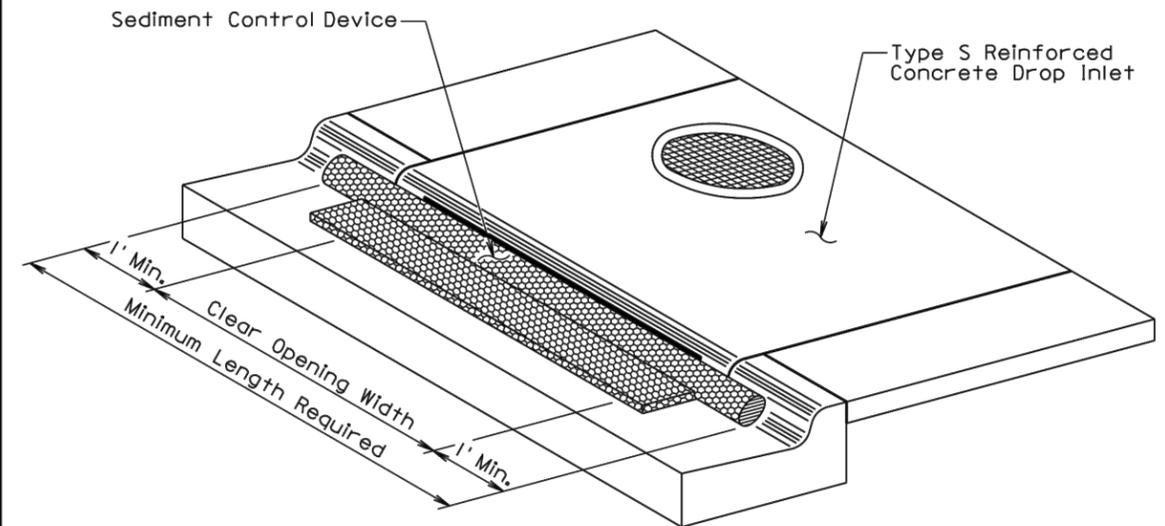
**GENERAL NOTES:**

- The grate and curb and gutter shown are for illustrative purposes only.
- The sediment control at inlet with frame and grate shall be placed at locations stated in the plans or at locations determined by the Engineer.
- The filter fabric shall be the type specified in the plans.
- The filter fabric shall be placed in the inlet opening prior to placing the grate. Approximately 18 inches of excess filter fabric shall be wrapped around the 2"x4" and stapled securely to the 2"x4" after the grate has been placed.
- The Contractor shall inspect and maintain the sediment control device once every week and within 24 hours after every rainfall event. The Contractor shall maintain the sediment control device by removing accumulated sediment and replacing torn filter fabric with new filter fabric.
- The removed sediment shall be placed at a location away from the drop inlet where the sediment will not be washed back into the drop inlet or other storm sewer system.
- All costs for furnishing, installing, inspecting, maintaining, removing, and replacing the sediment control device at the inlet including labor, equipment, and materials shall be incidental to the contract unit price per each for "Sediment Control at Inlet with Frame and Grate".

September 14, 2005

<b>S D D O T</b>	<b>SEDIMENT CONTROL AT INLETS WITH FRAMES AND GRATES</b>	PLATE NUMBER <b>734.10</b>
		Sheet 1 of 1

Published Date: 4th Qtr. 2014



ISOMETRIC VIEW

**GENERAL NOTES:**

- The type of sediment control device shown is for illustrative purposes only.
- The type of sediment control device used shall be one of the types as specified in the plans.
- The sediment control device shall be placed at the drop inlets according to the manufacturers' installation instructions.
- The sediment control at inlet for type S reinforced concrete drop inlet shall be placed at locations stated in the plans or at locations determined by the Engineer.
- The Contractor shall inspect and maintain the sediment control device once every week and within 24 hours after every rainfall event. The Contractor shall maintain the sediment control device by removing the device, removing accumulated sediment, and resetting the device.
- The removed sediment shall be placed at a location away from the drop inlet where the sediment will not be washed back into the drop inlet or other storm sewer system.
- Payment for the "Sediment Control at Type S Drop Inlet" shall be based on the minimum length required at the drop inlets. Some of the sediment control devices specified in the plans will have to be longer due to available length.
- All costs for furnishing, installing, inspecting, maintaining, removing, and resetting the sediment control device at the drop inlet including labor, equipment, and materials shall be incidental to the contract unit price per foot for "Sediment Control at Type S Reinforced Concrete Drop Inlet".

September 14, 2005

<b>S D D O T</b>	<b>SEDIMENT CONTROL AT INLETS FOR TYPE S REINFORCED CONCRETE DROP INLETS</b>	PLATE NUMBER <b>734.11</b>
		Sheet 1 of 1

Published Date: 4th Qtr. 2014