

FOR BIDDING PURPOSES ONLY

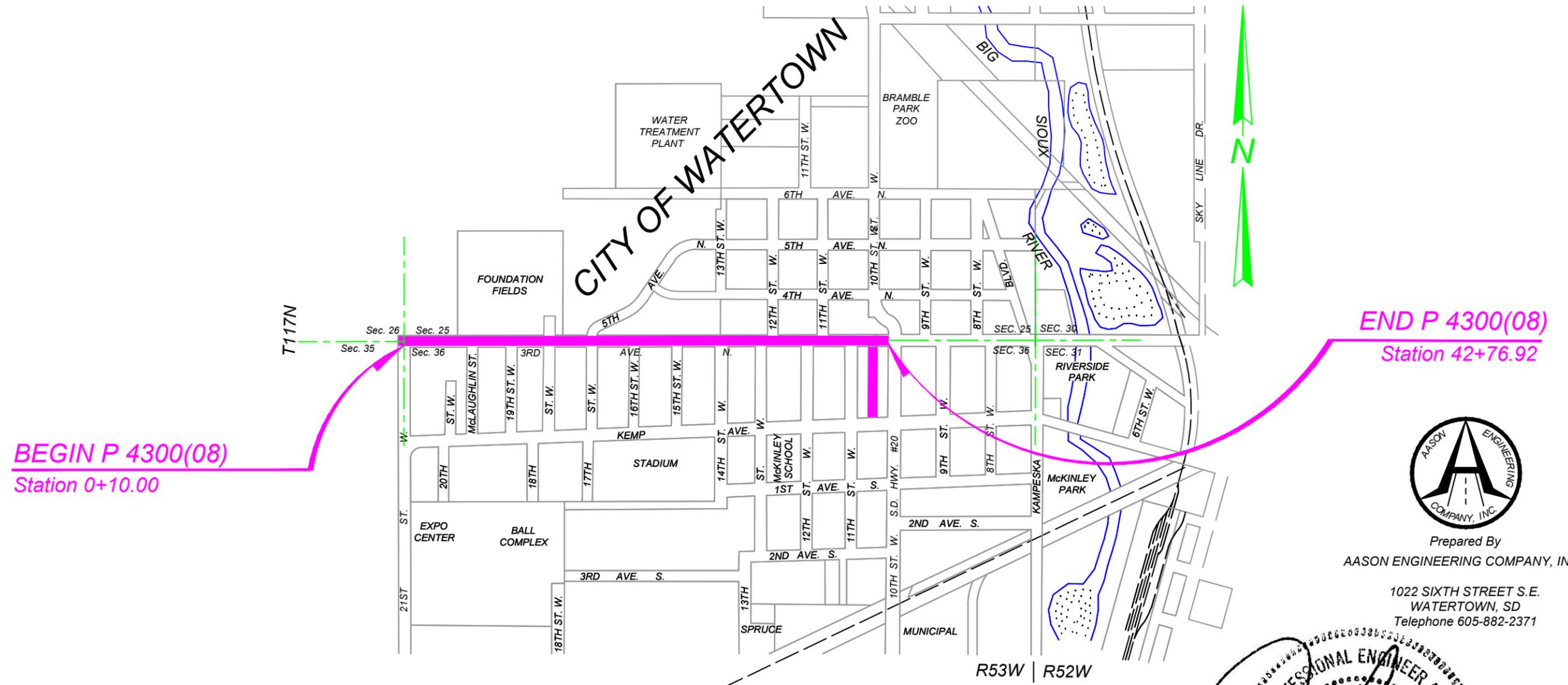
State of SD	PROJECT	Sheet No.	Total Sheets
	P 4300(08)	D1	D24

Rev 2-28-14 by RSD Plot Date - 1-27-14

### INDEX OF SHEETS

- D1 General Layout with Index
- D2 to D5 Estimate with General Notes and Tables
- D6 to D8 Stormwater Pollution Prevention Plan
- D9 Stabilized Construction Entrance Details
- D10 Erosion and Sediment Control Legend
- D11 to D21 Erosion and Sediment Control Plan Sheets
- D22 to D24 Standard Plates

# Section D: Erosion Control Plans



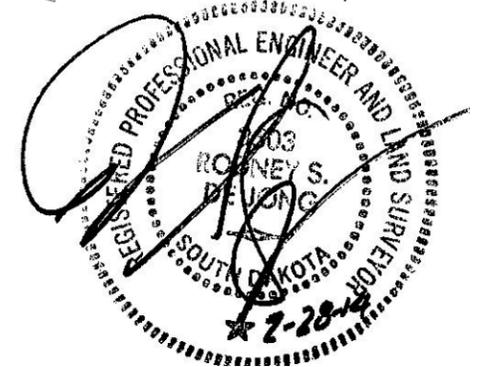
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Station 0+10.00

END P 4300(08)  
Station 42+76.92



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**SECTION D ESTIMATE OF QUANTITIES**

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E1690	Remove Sediment	14	CuYd
230E0010	Placing Topsoil	1101	CuYd
730E0206	Type D Permanent Seed Mixture	519	Lb
731E0100	Fertilizing	2518	Lb
732E0550	Fiber Reinforced Matrix	5025	Lb
734E0154	12" Diameter Erosion Control Wattle	60	Ft
734E0160	20" Diameter Erosion Control Wattle	100	Ft
734E0165	Remove and Reset Erosion Control Wattle	40	Ft
734E0845	Sediment Control at Inlet with Frame and Grate	51	Each
734E0847	Sediment Control at Type S Reinforced Concrete Drop Inlet	52	Ft
734E0855	Interim Sediment Control at Inlet	57	Each
900E1320	Construction Entrance	1	Each

**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 Standard 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.

**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. Following pavement grooving operations and prior to the application of the pavement marking tape.

No separate payment will be made for street sweeping. All costs for the cleaning of the roadway with a pickup broom shall be incidental the various contract items.

**FOR BIDDING PURPOSES ONLY**

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 4300(08)	D2	D24

Rev 2-28-14 by RSD Plotting Date: 1-27-14

**EROSION CONTROL WATTLE**

Erosion control wattles for restraining the flow of runoff and sediment shall be installed at locations noted in the table and at locations determined by the Engineer during construction. Refer to Standard Plate 734.06 for details.

The Contractor shall provide certification that the erosion control wattles do not contain noxious weed seeds.

Erosion control wattles shall remain on the project until vegetation has been established.

The erosion control wattle provided shall be from the approved product list. The approved product list for erosion control wattle may be viewed at the following internet site:

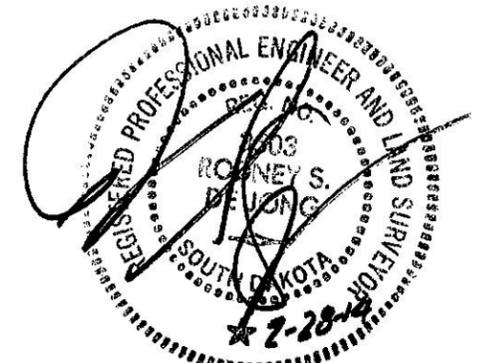
<http://sddot.com/business/certification/products/Default.aspx>

**TABLE OF EROSION CONTROL WATTLE**

Station	L/R	Diameter (Inch)	Location	Quantity (Ft)
5+00	L	20	Pipe Inlet	20
8+70	R	20	Pipe Inlet	20
12+21	R	20	Pipe Inlet	20
13+61	L	20	Pipe Inlet	20
15+71	R	20	Pipe Inlet	20
Channel Outlet				
1+00		12	CL Channel	25
3+00		12	CL Channel	20
5+00		12	CL Channel	15
Total 20" Diameter:				100
Total 12" Diameter:				60

**REMOVE AND RESET EROSION CONTROL WATTLE**

Erosion control wattles may be removed and reset as necessary as work progresses. The erosion control wattles removed and reset shall be in useable condition. All costs for removing and resetting the erosion control wattles shall be incidental to the contract unit price per foot for "Remove and Reset Erosion Control Wattle".



**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 devices 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 devices 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:

Product	Manufacturer
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  
Grate FX, Slammer, or VertPro

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

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 4300(08)	D3	D24

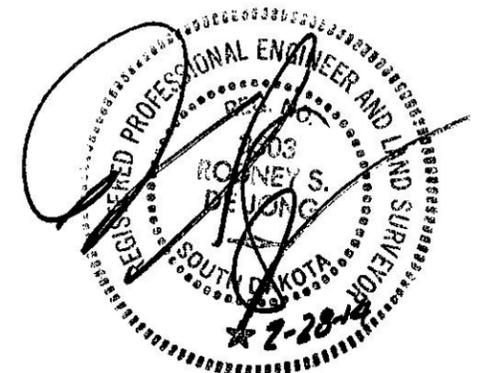
Rev 2-28-14 by RSD Plotting Date: 1-27-14

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

Alley		
0+80.6	L	1
1+76.1	L	1
2+62.3	L	1
4+53.5	L	1
4+53.5	R	1
Total:		51

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

Station	L/R	Quantity (Each)
5+00.0	L	1
5+10.0	R	1
6+57.0	L	1
6+57.0	R	1
7+15.1	R	1
8+70.0	R	1
10+10.0	R	1
10+28.2	R	1
10+65.5	R	1
10+83.0	R	1
12+21.0	R	1
13+61.0	R	1
13+79.1	R	1
14+16.4	R	1
15+71.0	R	1
17+26.0	L	1
17+26.0	R	1
17+63.2	L	1
17+63.5	R	1
17+80.5	L	1
17+80.7	R	1
24+11.0	R	1
24+18.8	L	1
26+10.0	R	1
27+64.0	R	1
27+81.9	R	1
28+08.0	L	1
28+08.0	R	1
28+20.6	R	1
30+85.0	R	1
31+02.9	R	1
31+41.7	R	1
31+58.5	R	1
32+59.5	L	1
32+59.5	R	1
34+81.0	R	1
34+88.0	L	1
36+79.5	L	1
36+79.5	R	1
38+70.0	L	1
38+70.0	R	1
38+94.5	R	1
39+31.8	R	1
40+27.0	R	1
40+37.0	L	1
41+15.6	R	1



**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.

Product	Manufacturer
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>

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

Station	L/R	Clear Opening Width (Ft)	Quantity* (Ft)
6+72.9	R	10	12
8+70.0	L	6	8
10+83.0	L	6	8
12+21.0	L	6	8
13+61.0	L	6	8
15+71.0	L	6	8
Total:			52

\* Quantity shown is the minimum length required and shall be the basis of payment.

**PLACING TOPSOIL**

The thickness will be approximately 4 inches within the right-of-way and 6 inches on temporary easements.

The estimated amount of topsoil to be placed is as follows:

Station	to Station	Topsoil (CuYd)
0+00	6+00	201
6+00	12+00	224
12+00	18+00	325
Includes Outlet Ditch Area @ 15+71-L		
18+00	24+00	92
24+00	30+00	73
30+00	36+00	85
36+00	42+75	54
Alley		
0+00	6+86	47
Total:		1101

**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.

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**FERTILIZING**

The Contractor shall apply an all-natural slow release fertilizer prior to seeding or placing sod. The all-natural fertilizer shall have a minimum guaranteed analysis of 4-6-4 and be USDA Certified BioBased. It should provide a minimum of 4% (N) nitrogen with a minimum water insoluble nitrogen (WIN) fraction of 3.2%, a minimum of 6% (P2O5) available phosphate, a minimum of 4% (K2O) soluble potash, and a maximum carbon to nitrogen ratio (C:N ratio) of 5:1. The all-natural fertilizer shall be free of weed-seed and pathogens accomplished through thermophilic composting, and not mechanical or chemical sterilization, to assure presence of beneficial soil microbiology. The fertilizer shall have a near neutral pH, a low salt index, a low biological oxygen demand, contain organic humic and fulvic acids, and have high aerobic organism counts. The fertilizer shall also be stable, free of bad odors, and be unattractive as a food source for animals. It should also be in a granular form that is easily spread.

The all-natural slow release fertilizer shall be applied according to the manufacturer's application recommendations.

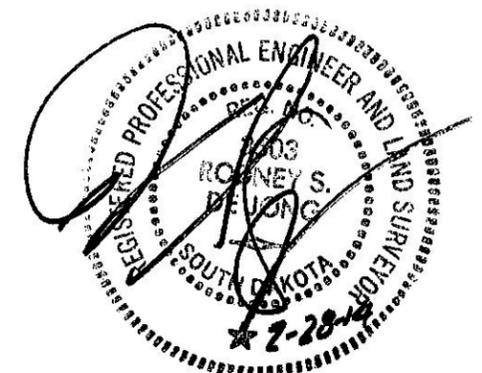
The application rate is 34 pounds per 1,000 square feet.

The all-natural slow release fertilizer shall be from the list below or an approved equal:

Product	Manufacturer
Sustane	Sustane Corporate Headquarters Cannon Falls, Minnesota Phone: 1-800-352-9245 <a href="http://www.sustane.com/">http://www.sustane.com/</a>

**DRILLS**

In addition to the drills specified in Section 730 of the Standard 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 comprise of all newly graded areas within the project limits except for the top of roadways and temporary easements under cultivation estimated at 1.7 acres.

All permanent seed shall be planted in the topsoil at a depth of ¼" to ½".

All seed broadcast must be raked or dragged in (incorporated) within the top ¼" to ½" 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, Ascend	1.4
Creeping Red Fescue	Epic	1.4
Chewings Fescue	Ambrose	1.4
Alkali Grass	Fults, Fults II, Quill, Salty	1.4
Total:		7

**FIBER REINFORCED MATRIX**

Fiber reinforced matrix shall be applied to the areas noted in the table. Fiber reinforced matrix shall not be placed in channels. Fiber reinforced matrix shall be applied after seeding. Areas designated for fiber reinforced matrix application do not require a grass hay or straw mulch application. Fiber reinforced matrix is effective upon application. The application rate is 3,000 pounds per acre.

All costs for furnishing and applying the fiber reinforced matrix including hauling, materials, equipment, labor, and incidentals necessary shall be paid for at the contract unit price per pound for "Fiber Reinforced Matrix".

The fiber reinforced matrix shall be from the list below:

Product	Manufacturer
Flexterra FGM or CocoFlex ET-FGM	Profile Products LLC Buffalo Grove, IL Phone: 1-800-508-8681 <a href="http://www.profileproducts.com">www.profileproducts.com</a>
Flex Guard	Mat, Inc. Floodwood, MN Phone: 1-888-477-3028 <a href="http://www.matinc.biz">www.matinc.biz</a>

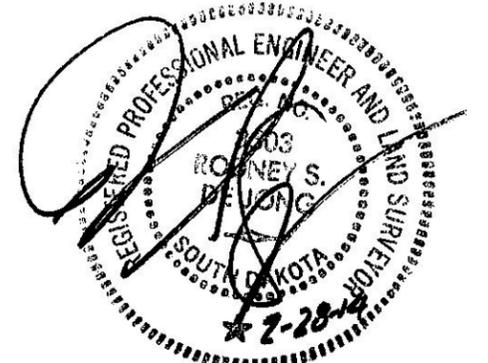
**TABLE OF FIBER REINFORCED MATRIX**

Station	to	Station	L/R	Area (Acre)	Quantity (Lb)
0+00		6+00	L	0.25	765
0+00		6+00	R	0.03	86
6+00		12+00	L	0.21	641
6+00		12+00	R	0.13	405
12+00		18+00	L	0.33	989
12+00		18+00	R	0.10	289
18+00		24+00	L	0.08	248
18+00		24+00	R	0.07	224
24+00		30+00	L	0.06	187
24+00		30+00	R	0.06	180
30+00		36+00	L	0.06	181
30+00		36+00	R	0.05	162
36+00		42+75	L	0.04	127
36+00		42+75	R	0.09	277
Alley					
0+00		6+86	L & R	0.09	264
Total:					5025

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 4300(08)	D5	D24

Rev 2-28-14 by RSD Plotting Date: 1-27-14



**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 9.5 Acres (4.2 1.b.)**
- **Total Area To Be Disturbed 7.2 Acres (4.2 1.b.)**
- **Existing Vegetative Cover (%)**
- **Soil Properties: Classification Silt Loam (4.2 1. d.)**
- **Name of Receiving Water Body/Bodies Big Sioux River (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.)

- **Special sequencing requirements** (see sheet).
- **Install stabilized construction entrance(s).**
- **Install perimeter protection where runoff sheets from the site.**
- **Install channel and ditch bottom protection.**
- **Clearing and grubbing.**
- **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: Fiber Reinforced Matrix

➤ **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.

**FOR BIDDING PURPOSES ONLY**

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 4300(08)	D6	D24

Rev 2-28-14 by RSD Plotting Date: 1-27-14

❖ **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  $\frac{1}{3}$  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  $\frac{1}{2}$  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, de-greasing 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.

❖ **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.

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 4300(08)	D8	D24

Rev 2-28-14 by RSD Plotting Date: 1-27-14

❖ **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

❖ **CONTACT INFORMATION**

➤ **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**

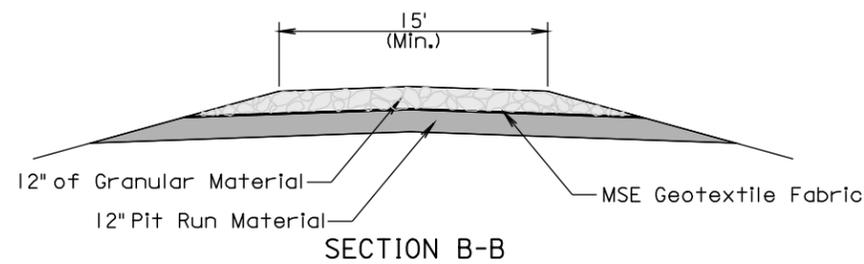
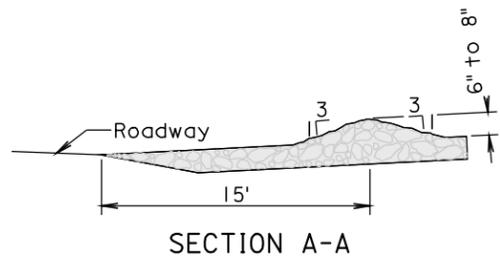
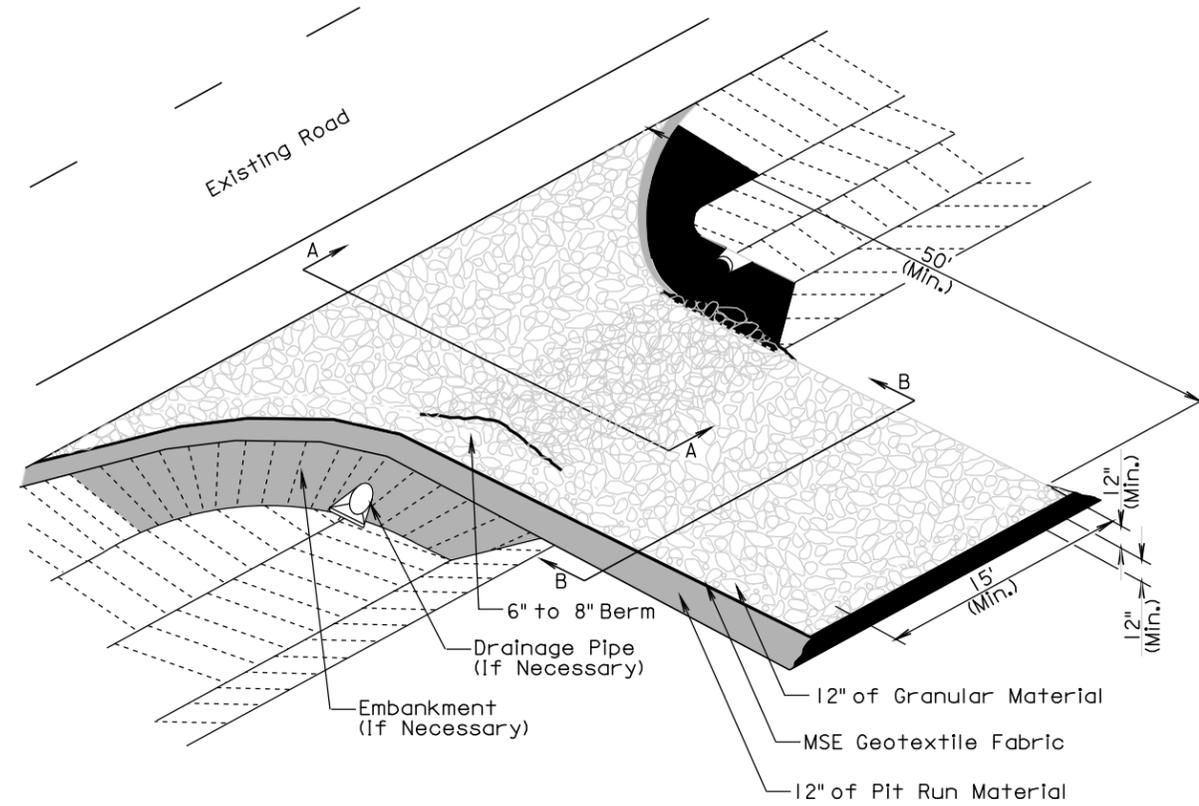
- (800) 424-8802.

# CONSTRUCTION ENTRANCE

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 4300(08)	D9	D24

Rev 2-28-14 by RSD Plot Date: 1-27-14



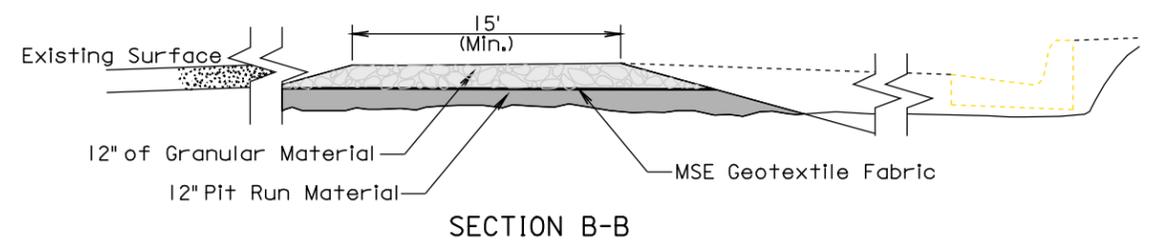
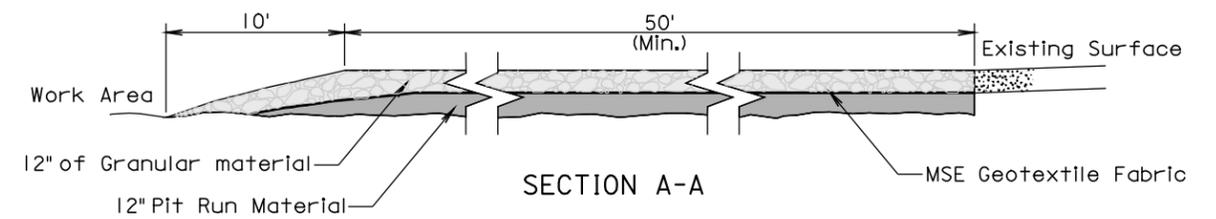
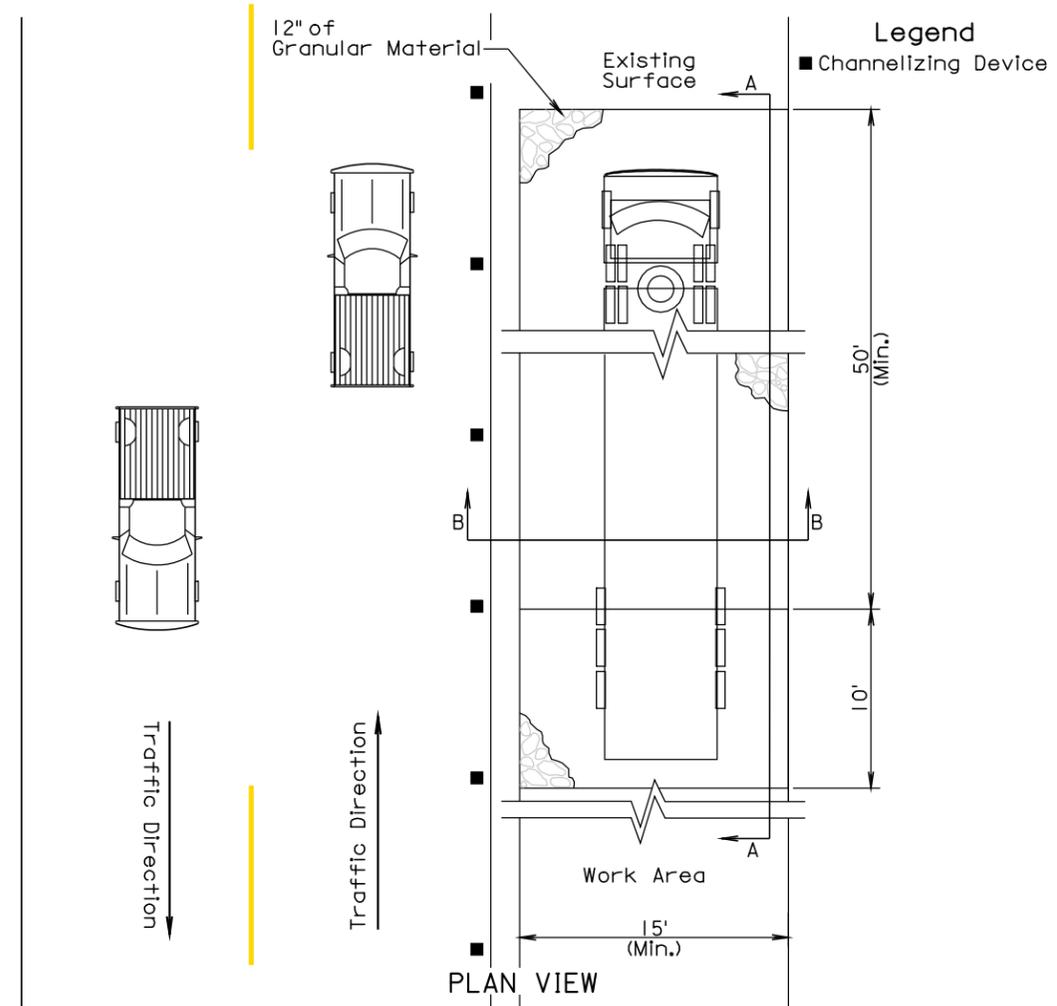
**GENERAL NOTES:**

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.

**TRANSVERSE TO ROADWAY**

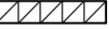


**PARALLEL TO ROADWAY**

# EROSION AND SEDIMENT CONTROL LEGEND

FOR BIDDING PURPOSES ONLY

## SYMBOLOLOGY FOR BEST MANAGEMENT PRACTICES

-  STORM WATER DISCHARGE POINT
-  LOW FLOW SILT FENCE
-  HIGH FLOW SILT FENCE
-  HIGH FLOW SILT FENCE AT PIPE INLET
-  SILT TRAP
-  SEDIMENT CONTROL AT INLET WHEN SURFACING IS IN PLACE
-  TEMPORARY SEDIMENT BARRIER
-  TEMPORARY WATER BARRIER
-  FLOATING SILT CURTAIN
-  SEDIMENT FILTER BAGS
-  TRIANGULAR SILT BARRIERS
-  EROSION CONTROL WATTLES ON SLOPES
-  EROSION CONTROL WATTLES AT INLETS
-  EROSION CONTROL WATTLES IN DITCHES
-  EROSION BALES
-  PERMANENT SEEDING AND FIBER REINFORCED MATRIX
-  SOIL STABILIZER / TEMPORARY MULCH / DUST CONTROL
-  CUT INTERCEPTOR DITCH
-  TEMPORARY SLOPE DRAIN
-  SEDIMENT CONTROL AT INLET BEFORE PLACEMENT OF SURFACING
-  SURFACE ROUGHENING
-  ROCK CHECK DAM
-  SODDING
-  TYPE 1 EROSION CONTROL BLANKET
-  TYPE 2 EROSION CONTROL BLANKET
-  TYPE 3 EROSION CONTROL BLANKET
-  TYPE 4 EROSION CONTROL BLANKET
-  TYPE 1 TURF REINFORCEMENT MAT
-  TYPE 2 TURF REINFORCEMENT MAT
-  TYPE 3 TURF REINFORCEMENT MAT
-  SYNTHETIC CHANNEL PROTECTION
-  TYPE 1 SEDIMENT TRAP
-  TYPE 2 SEDIMENT TRAP
-  TYPE 3 SEDIMENT TRAP

## BEST MANAGEMENT PRACTICES

Best Management Practices (BMPs) are split into three categories and are to be used throughout construction.

Orange BMPs keep sediment from leaving the site or direct water around the site. They are to be installed BEFORE earth moving activities begin. They are to be left in place until temporary or permanent stabilization measures are in place or until the vegetation has reached 70% of the background level.

Blue BMPs are used to minimize erosion DURING CONSTRUCTION by temporarily stabilizing the soil or by dissipating the velocity of water during rain events. Inlet protection devices are also blue BMPs installed to prevent sediment from leaving the site via drop inlets and culverts. They are to be left in place until permanent stabilization measures are in place or until the vegetation has reached 70% of the background level.

Green BMPs are used to minimize erosion and capture sediment while vegetation is establishing, to help vegetation establish quicker, and to supplement vegetative cover in preventing future erosion from occurring. Green BMPs are never removed.

BMPs without symbology\* are listed below. Notes and details are shown in the plans if it has been determined the BMP is needed. In the event notes and details are needed for a particular BMP, contact the Road Design Office. If additional BMPs are required other than what is included in the plans, be sure to indicate they were added by updating the Storm Water Pollution Prevention Plan (SWPPP) / Section D.

Dewatering and Sediment Collecting--Water that needs to be removed for construction to progress can either be pumped into the sanitary sewer (with the City's permission), onto a long flat vegetated area, or through a filtration system as detailed in the plans.

Street Sweeping--Used to prevent sediment from tracking or blowing off the site.

Cover Crop--Typically seeded on all topsoil stockpiles and disturbed areas where grading is complete but permanent seeding cannot be done within 14 days due to seasonal limitations. Usually followed with Grass Hay/Straw Mulching.

Permanent Seeding--Done on all disturbed areas that are not going to be paved, graveled, or sodded. Permanent seeding can be done after mulching has been applied using a no-till drill.

Grass Hay/Straw Mulching--Usually follows Permanent Seeding. Mulching is done on all disturbed areas not covered with pavement, sodding, erosion control blanket, fiber mulching, bonded fiber matrix, or fiber reinforced matrix. It is not shown on the plan sheets unless it is put down as a temporary/Blue BMP.

Sediment Basins--Usually added to the plans if space is available on the construction site. It is preferred that they be installed prior to earth moving activities when possible. The Engineer determines whether or not a sediment basin will remain on the site or be removed after construction done.

\*Gabions and Rip Rap have symbology but are typically shown in other sections of the plan set if needed on the project.

Recommendations for maintaining a manageable site that meets the requirements of the Storm Water Permit are listed below.

Do not disturb more area than is needed to complete work.

Complete work near wet or sensitive areas of the project during the winter or dry seasons.

Keep the area disturbed under 10 acres at a time. The storm water construction permit requires us to install a sediment basin for every 10 acres of common drainage disturbed.

Areas that have been temporarily or permanently stabilized with cover crop or permanent seeding and the appropriate mulch, blanket, or matrix are no longer considered disturbed--so stabilize as soon as possible.



# EROSION AND SEDIMENT CONTROL PLAN

**FOR BIDDING PURPOSES ONLY**

State of	PROJECT	Sheet No.	Total Sheets
SD	P 4300(08)	D12	D24

Rev 2-28-14 by RSD Plot Date - 1-27-14

Install 20" Diameter Erosion Control Wattles around the pipe inlet at the following location:  
8+70.0-35.8'R  
"Remove & Reset Wattles" as needed.

Install Sediment Control at Inlets with Frames and Grates after the placement of surfacing at the following locations:

6+57.0-19.7'L	3X4	1 each
6+57.0-19.7'R	2X3	1 each
7+15.1-41.0'R	2X3	1 each
8+70.0-19.7'R	2X3	1 each
10+10.0-19.7'R	2X3	1 each
10+28.3-37.0'R	2X3	1 each
10+65.5-37.0'R	2X3	1 each
10+83.0-19.7'R	2X3	1 each

Install Interim Sediment Control at Inlets with Frames and Grates at the following locations:

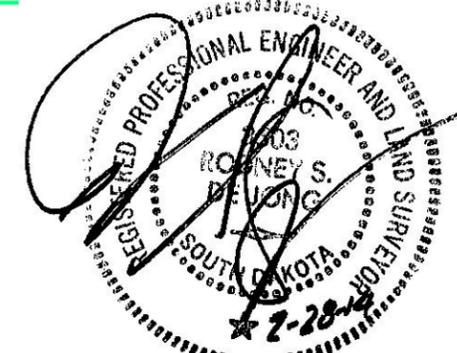
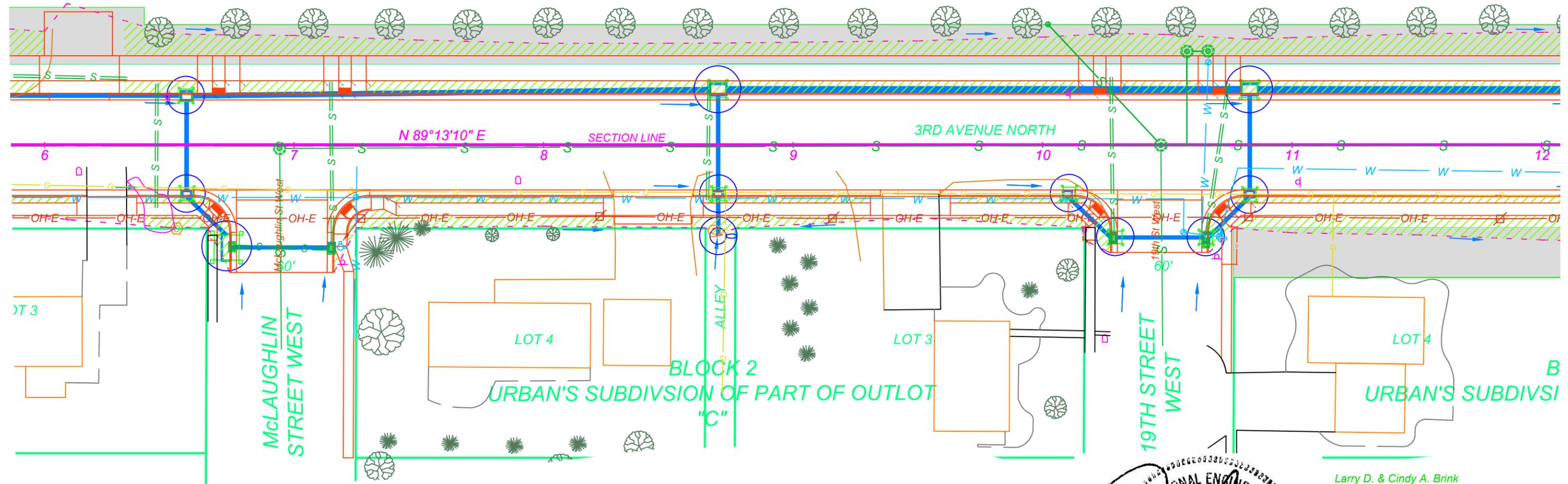
6+57.0-19.7'L	3X4	1 each
6+57.0-19.7'R	2X3	1 each
6+72.9-41.0'R	4X11	1 each
7+15.1-41.0'R	2X3	1 each
8+70.0-22.1'L	4X6	1 each
8+70.0-19.7'R	2X3	1 each
10+10.0-19.7'R	2X3	1 each
10+28.3-37.0'R	2X3	1 each
10+65.5-37.0'R	2X3	1 each
10+83.0-22.1'L	4X6	1 each
10+83.0-19.7'R	2X3	1 each

Install Sediment Control at Type S Drop Inlet after the placement of surfacing at the following locations:

6+72.9-41.0'R	4X11	12 ft
8+70.0-22.1'L	4X6	7 ft
10+83.0-22.1'L	4X6	7 ft

CITY LANDS  
SW 1/4 25-117-53

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Larry D. & Cindy A. Brink  
Parcel A4

SCALES:  
1" = 40' HOR

# EROSION AND SEDIMENT CONTROL PLAN

FOR BIDDING PURPOSES ONLY

State of	PROJECT	Sheet No.	Total Sheets
SD	P 4300(08)	D13	D24

Rev 2-28-14 by RSD Plot Date - 1-27-14

Install 20" Diameter Erosion Control Wattles around the pipe inlets at the following locations:

- 12+21.0-37.2'R
- 13+61.0-44.4'L
- 15+71.0-36.6'R
- "Remove & Reset Wattles" as needed.

Install Sediment Control at Type S Drop Inlet after the placement of surfacing at the following locations:

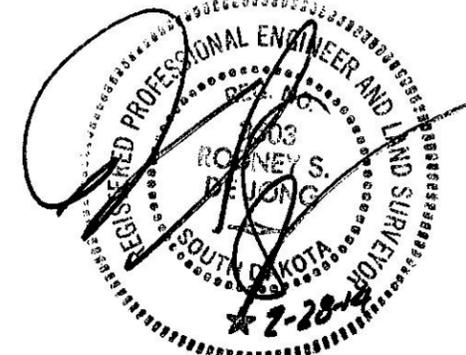
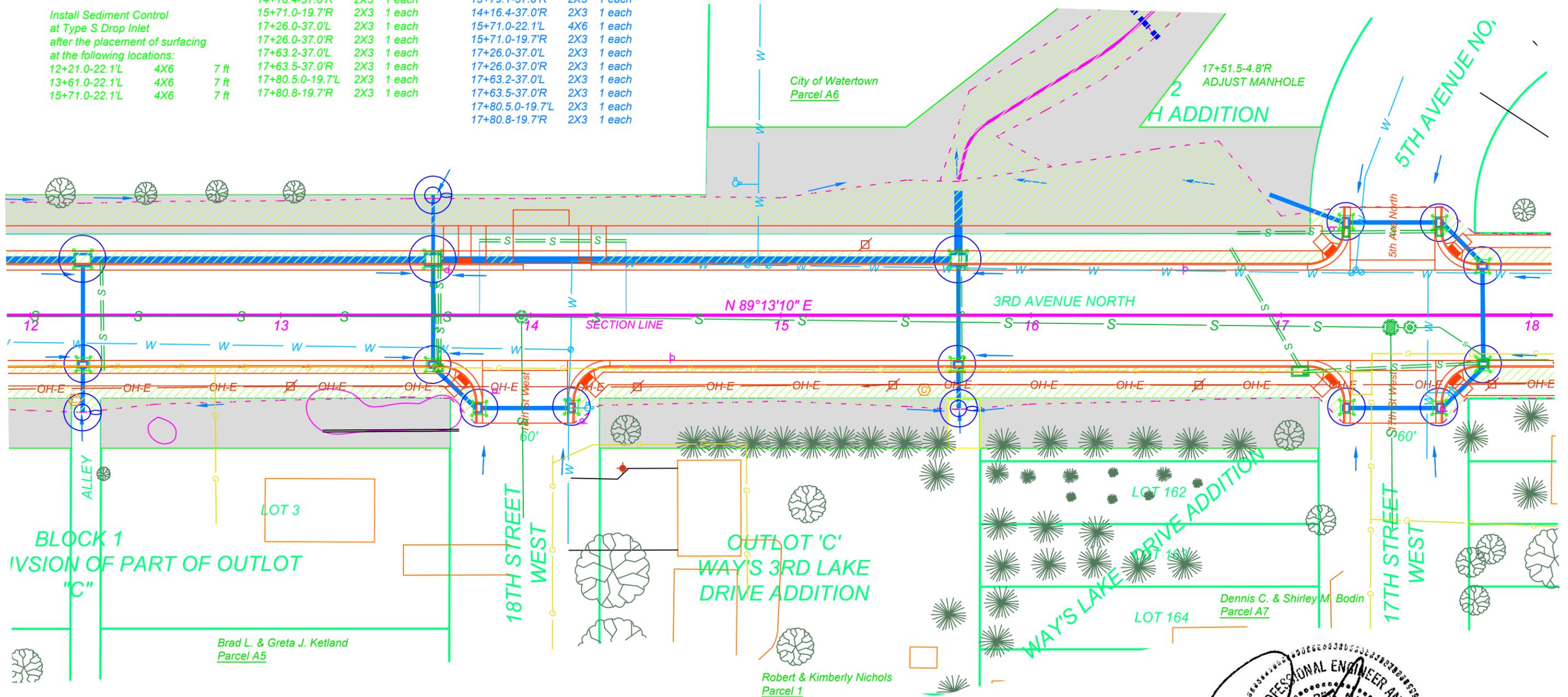
- 12+21.0-22.1'L 4X6 7 ft
- 13+61.0-22.1'L 4X6 7 ft
- 15+71.0-22.1'L 4X6 7 ft

Install Sediment Control at Inlets with Frames and Grates after the placement of surfacing at the following locations:

- 12+21.0-19.7'R 2X3 1 each
- 13+61.0-19.7'R 2X3 1 each
- 13+79.1-37.0'R 2X3 1 each
- 14+16.4-37.0'R 2X3 1 each
- 15+71.0-19.7'R 2X3 1 each
- 17+26.0-37.0'L 2X3 1 each
- 17+26.0-37.0'R 2X3 1 each
- 17+63.2-37.0'L 2X3 1 each
- 17+63.5-37.0'R 2X3 1 each
- 17+80.5-0-19.7'L 2X3 1 each
- 17+80.8-19.7'R 2X3 1 each

Install Interim Sediment Control at Inlets with Frames and Grates at the following locations:

- 12+21.0-22.1'L 4X6 1 each
- 12+21.0-19.7'R 2X3 1 each
- 13+61.0-22.1'L 4X6 1 each
- 13+61.0-19.7'R 2X3 1 each
- 13+79.1-37.0'R 2X3 1 each
- 14+16.4-37.0'R 2X3 1 each
- 15+71.0-22.1'L 4X6 1 each
- 15+71.0-19.7'R 2X3 1 each
- 17+26.0-37.0'L 2X3 1 each
- 17+26.0-37.0'R 2X3 1 each
- 17+63.2-37.0'L 2X3 1 each
- 17+63.5-37.0'R 2X3 1 each
- 17+80.5-0-19.7'L 2X3 1 each
- 17+80.8-19.7'R 2X3 1 each



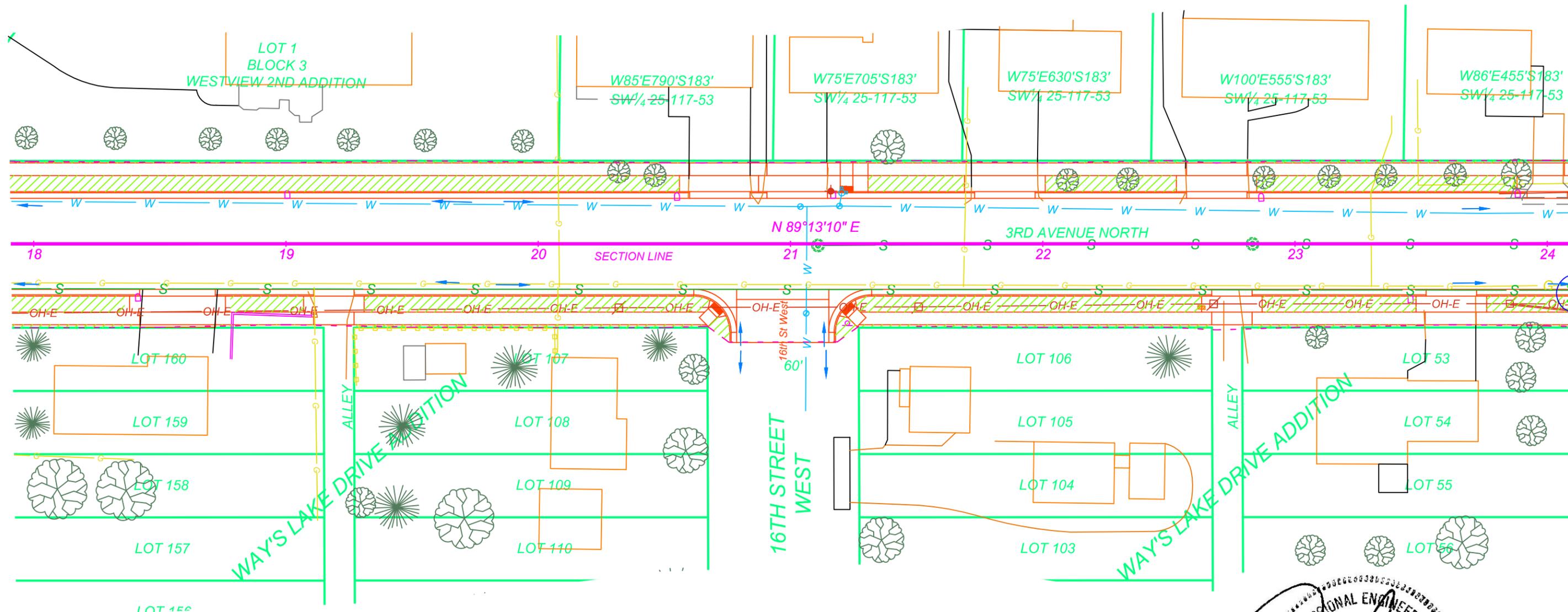
SCALES:  
1" = 40' HOR

# EROSION AND SEDIMENT CONTROL PLAN

FOR BIDDING PURPOSES ONLY

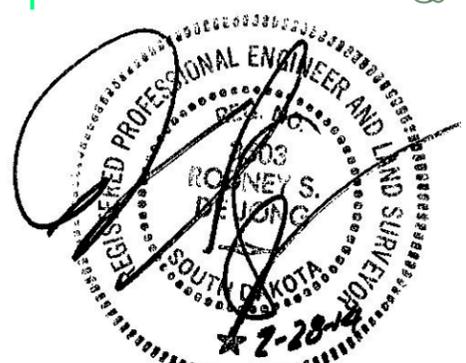
State of	PROJECT	Sheet No.	Total Sheets
SD	P 4300(08)	D14	D24

Rev 2-28-14 by RSD Plot Date - 1-27-14



WAYS LAKE DRIVE ADDITION

WAYS LAKE DRIVE ADDITION



SCALES:  
1" = 40' HOR

# EROSION AND SEDIMENT CONTROL PLAN

FOR BIDDING PURPOSES ONLY

State of	PROJECT	Sheet No.	Total Sheets
SD	P 4300(08)	D15	D24

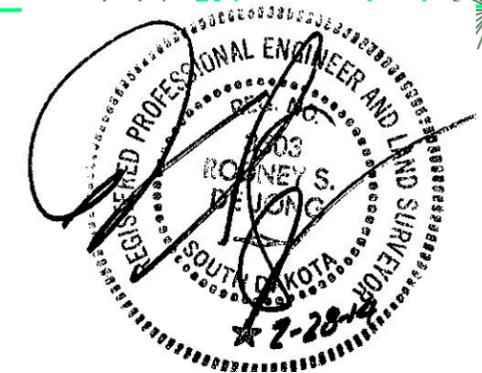
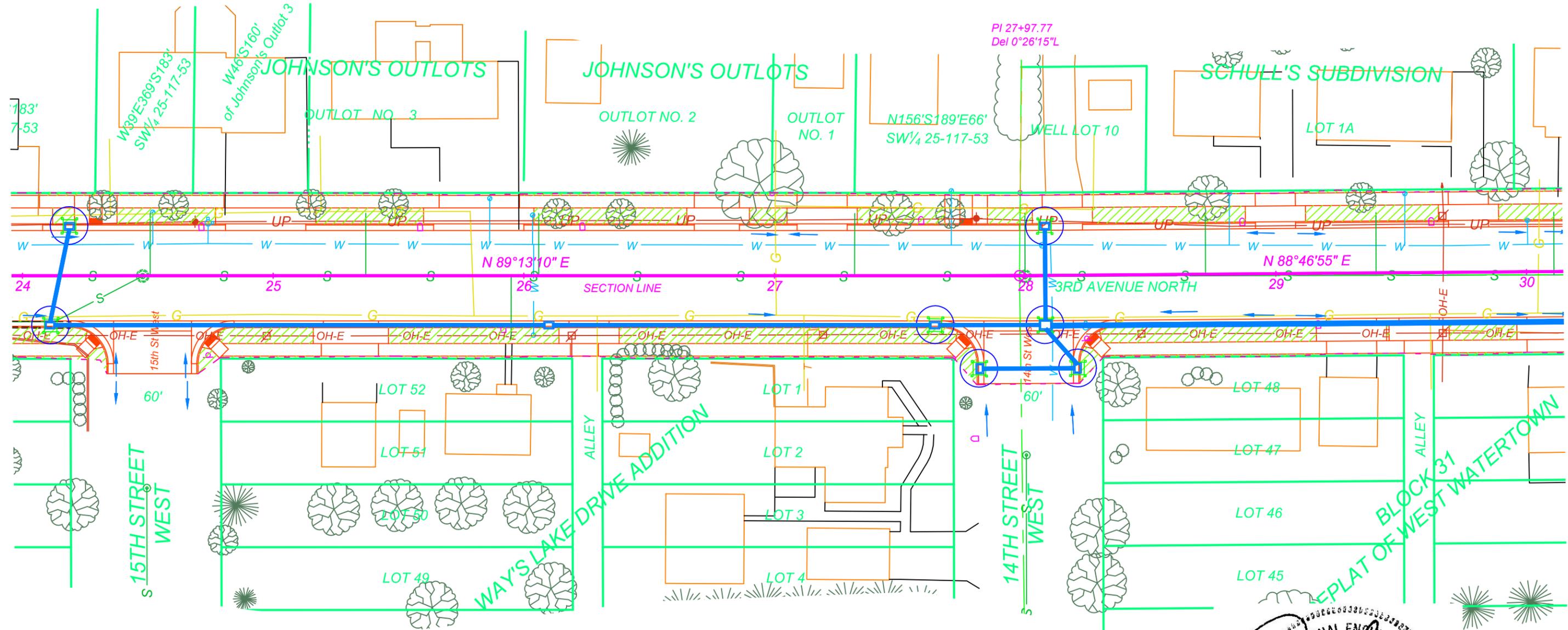
Rev 2-28-14 by RSD Plot Date - 1-27-14

Install Sediment Control at Inlets with Frames and Grates after the placement of surfacing at the following locations:

- 24+11.0-19.7'R 2X3 1 each
- 24+18.8-19.7'L 2X3 1 each
- 26+10.0-19.7'R 2X3 1 each
- 27+64.0-19.7'R 2X3 1 each
- 27+81.9-37.0'R 2X3 1 each
- 28+08.0-19.7'L 2X3 1 each
- 28+08.0-19.7'R 3X4 1 each
- 28+20.6-37.0'R 2X3 1 each

Install Interim Sediment Control at Inlets with Frames and Grates at the following locations:

- 24+11.0-19.7'R 2X3 1 each
- 24+18.8-19.7'L 2X3 1 each
- 26+10.0-19.7'R 2X3 1 each
- 27+64.0-19.7'R 2X3 1 each
- 27+81.9-37.0'R 2X3 1 each
- 28+08.0-19.7'L 2X3 1 each
- 28+08.0-19.7'R 3X4 1 each
- 28+20.6-37.0'R 2X3 1 each



SCALES:  
1" = 40' HOR

# EROSION AND SEDIMENT CONTROL PLAN

FOR BIDDING PURPOSES ONLY

State of	PROJECT	Sheet No.	Total Sheets
SD	P 4300(08)	D16	D24

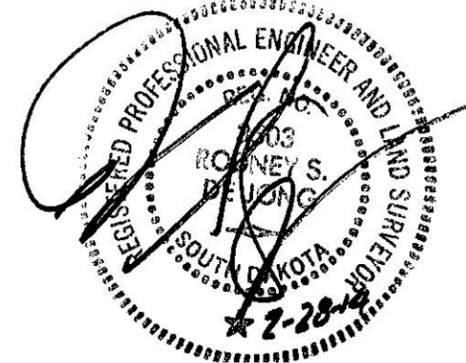
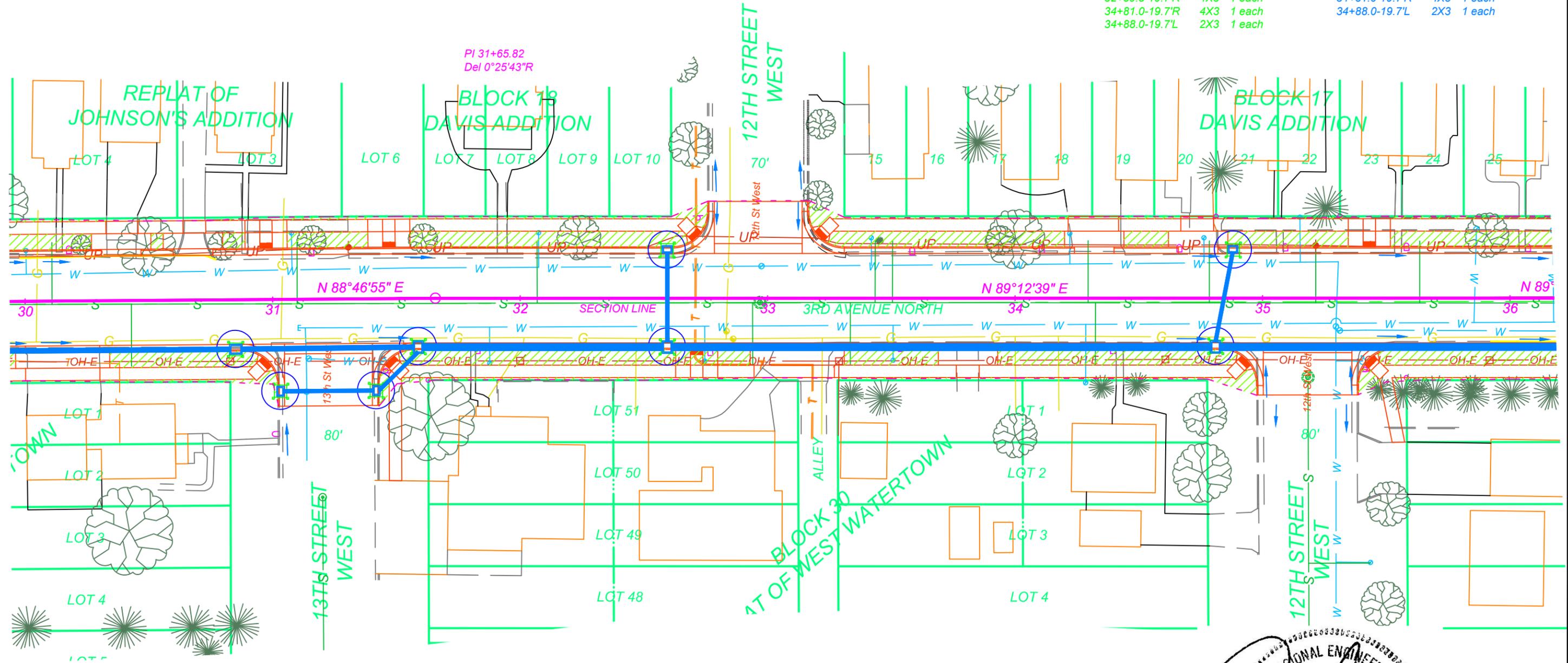
Rev 2-28-14 by RSD Plot Date - 1-27-14

Install Sediment Control at Inlets with Frames and Grates after the placement of surfacing at the following locations:

30+85.0-19.7'R	3X4	1 each
31+02.9-37.0'R	2X3	1 each
31+41.7-37.0'R	2X3	1 each
31+58.5-19.7'R	4X3	1 each
32+59.5-19.7'L	2X3	1 each
32+59.5-19.7'R	4X3	1 each
34+81.0-19.7'R	4X3	1 each
34+88.0-19.7'L	2X3	1 each

Install Interim Sediment Control at Inlets with Frames and Grates at the following locations:

30+85.0-19.7'R	3X4	1 each
31+02.9-37.0'R	2X3	1 each
31+41.7-37.0'R	2X3	1 each
31+58.5-19.7'R	4X3	1 each
32+59.5-19.7'L	2X3	1 each
32+59.5-19.7'R	4X3	1 each
34+81.0-19.7'R	4X3	1 each
34+88.0-19.7'L	2X3	1 each



SCALES:  
1" = 40' HOR

# EROSION AND SEDIMENT CONTROL PLAN

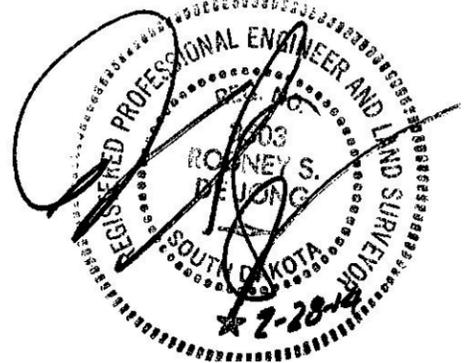
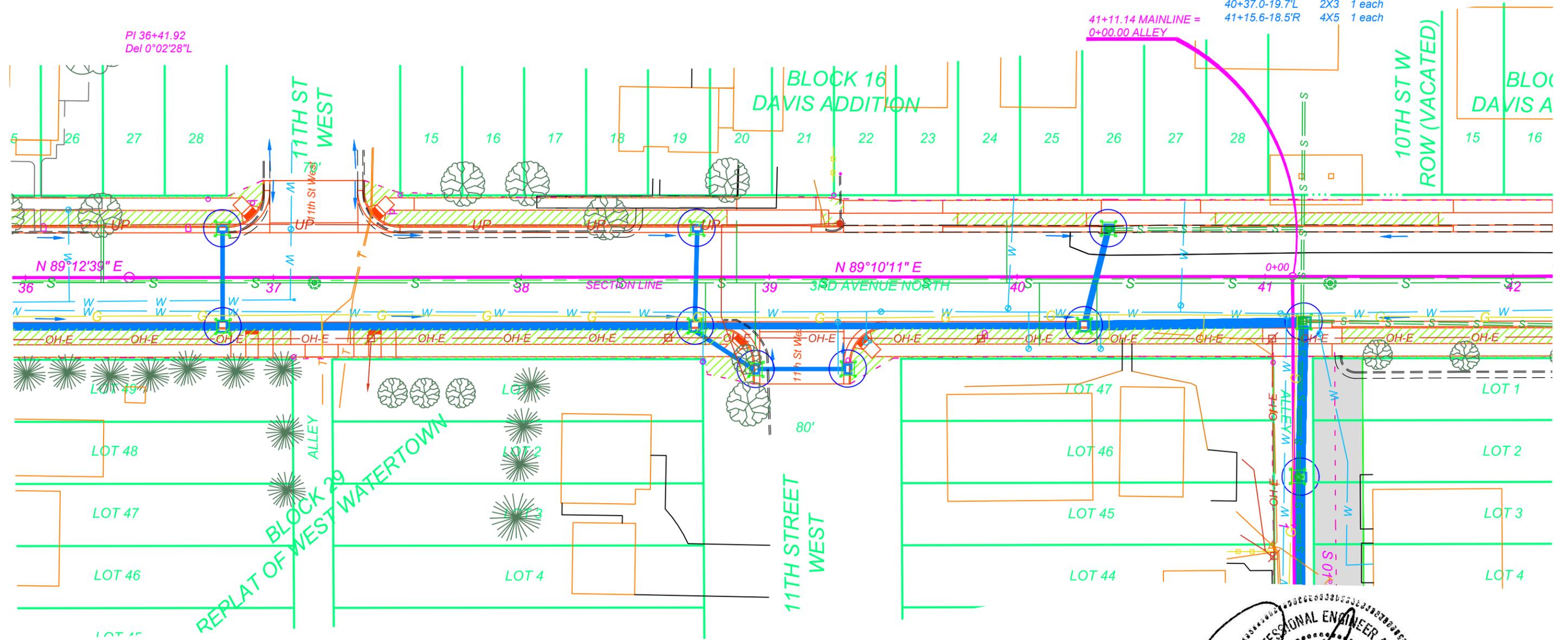
**FOR BIDDING PURPOSES ONLY**

State of	PROJECT	Sheet No.	Total Sheets
SD	P 4300(08)	D17	D24

Rev 2-28-14 by RSD Plot Date - 1-27-14

- Install Sediment Control at Inlets with Frames and Grates after the placement of surfacing at the following locations:
- 36+79.5-19.7'L 2X3 1 each
  - 36+79.5-19.7'R 4X3 1 each
  - 38+70.0-19.7'L 2X3 1 each
  - 38+70.0-19.7'R 4X3 1 each
  - 38+94.5-37.0'R 2X3 1 each
  - 39+31.8-37.0'R 2X3 1 each
  - 40+27.0-19.7'R 4X3 1 each
  - 40+37.0-19.7'L 2X3 1 each
  - 41+15.6-18.5'R 4X5 1 each

- Install Interim Sediment Control at Inlets with Frames and Grates at the following locations:
- 36+79.5-19.7'L 2X3 1 each
  - 36+79.5-19.7'R 4X3 1 each
  - 38+70.0-19.7'L 2X3 1 each
  - 38+70.0-19.7'R 4X3 1 each
  - 38+94.5-37.0'R 2X3 1 each
  - 39+31.8-37.0'R 2X3 1 each
  - 40+27.0-19.7'R 4X3 1 each
  - 40+37.0-19.7'L 2X3 1 each
  - 41+15.6-18.5'R 4X5 1 each



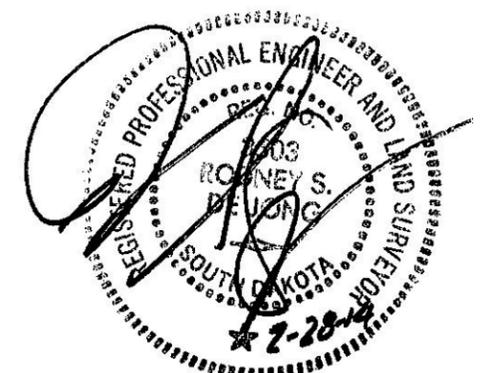
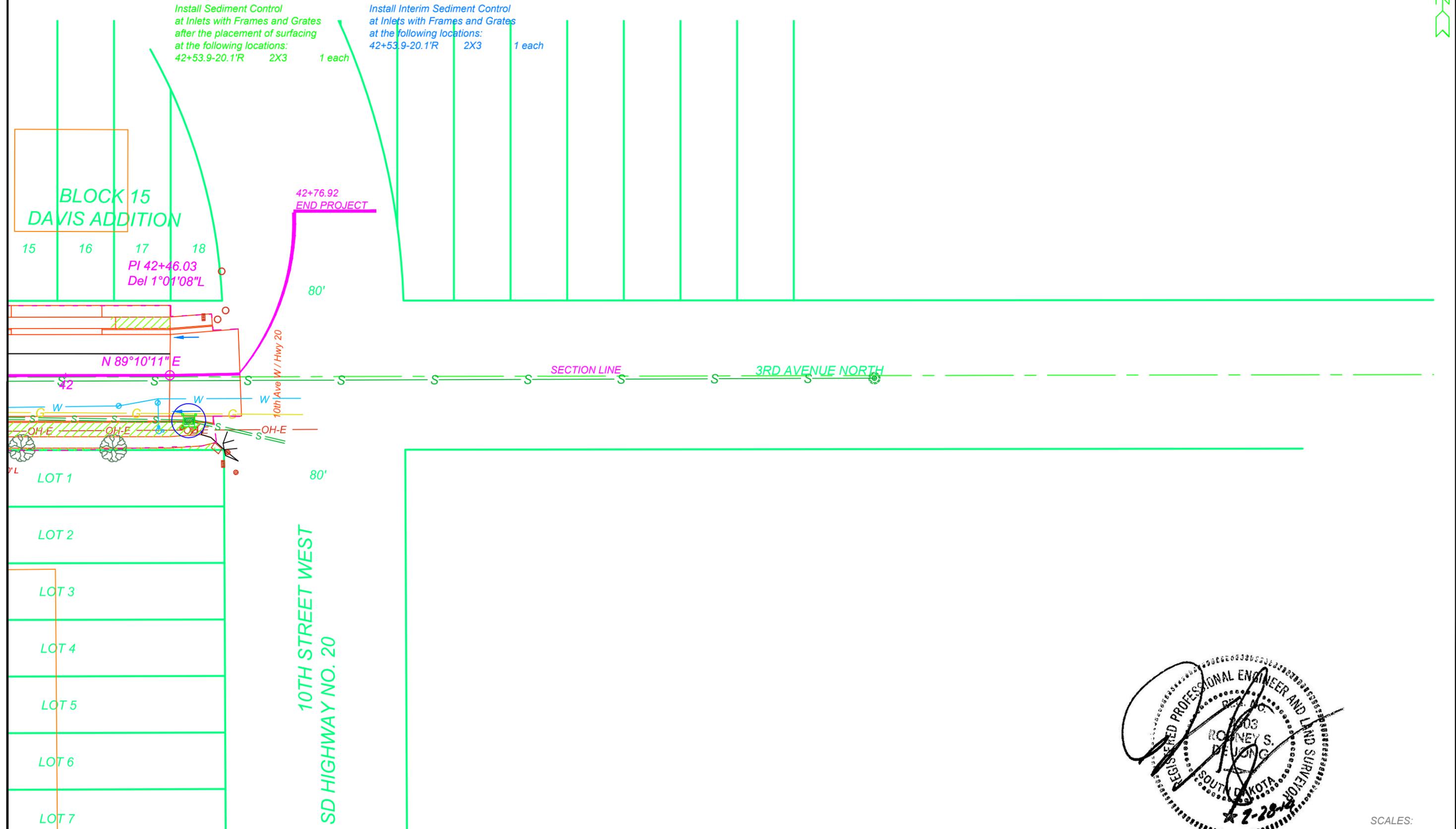
SCALES:  
1" = 40' HOR

# EROSION AND SEDIMENT CONTROL PLAN

FOR BIDDING PURPOSES ONLY

State of	PROJECT	Sheet No.	Total Sheets
SD	P 4300(08)	D18	D24

Rev 2-28-14 by RSD Plot Date - 1-27-14



SCALES:  
1" = 40' HOR

# EROSION AND SEDIMENT CONTROL PLAN

FOR BIDDING PURPOSES ONLY

State of	PROJECT	Sheet No.	Total Sheets
SD	P 4300(08)	D19	D24

Rev 2-28-14 by RSD Plot Date - 1-27-14

Install Sediment Control at Inlets with Frames and Grates after the placement of surfacing at the following locations:

0+80.6-2.7'L	4X5	1 each
1+76.1-2.3'L	6X6	1 each
2+62.3-2.1'L	6X6	1 each
4+53.5-2.1'L	6X6	1 each
4+53.5-9.9'R	4X5	1 each

Install Interim Sediment Control at Inlets with Frames and Grates at the following locations:

0+80.6-2.7'L	4X5	1 each
1+76.1-2.3'L	6X6	1 each
2+62.3-2.1'L	6X6	1 each
4+53.5-2.1'L	6X6	1 each
4+53.5-9.9'R	4X5	1 each



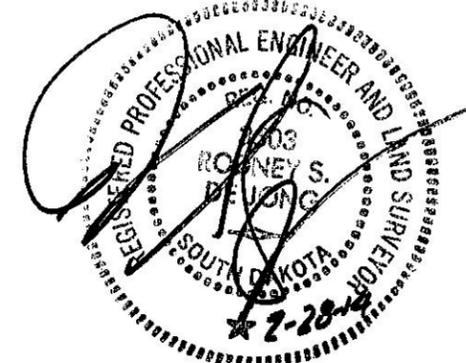
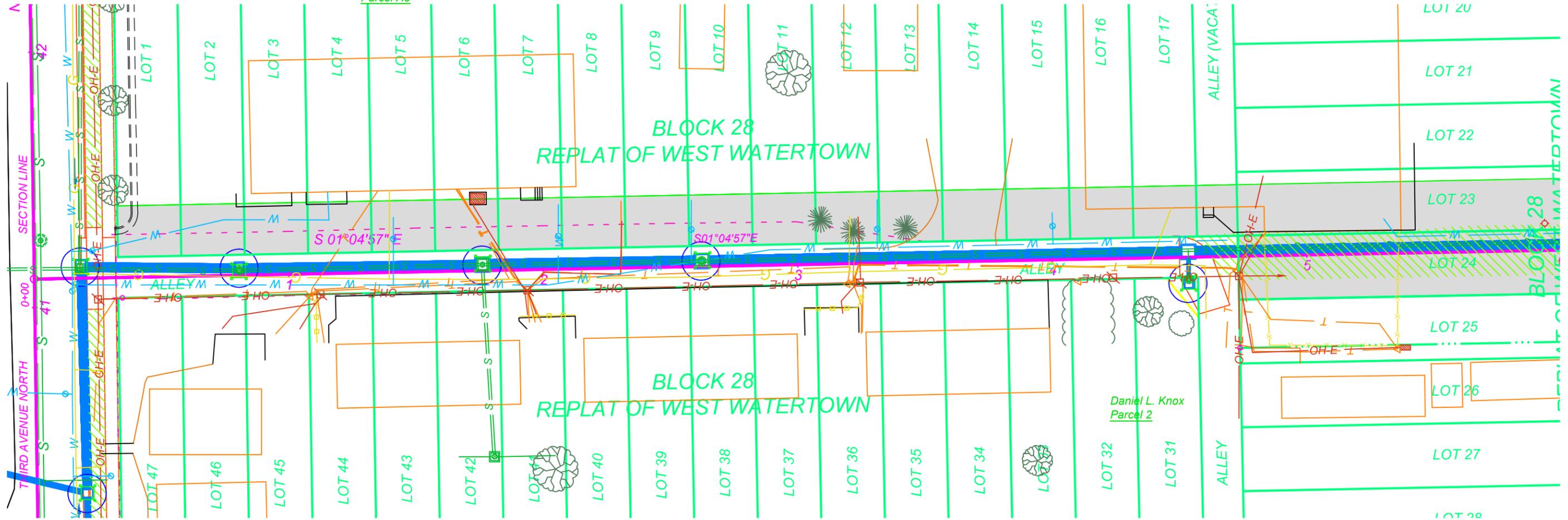
PI 0+00.00  
N:16316064.32  
E:2124223.57

Watertown OK Corral, LLC  
Parcel A8

Edward & Amy Kangas  
Parcel A10

Earle D. Johnson  
% Virginia West  
Parcel A9

Pommier Properties, LLC  
Parcel A11



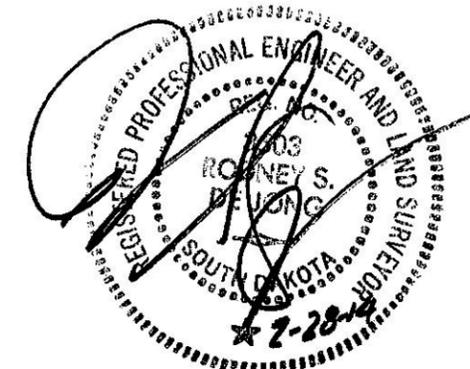
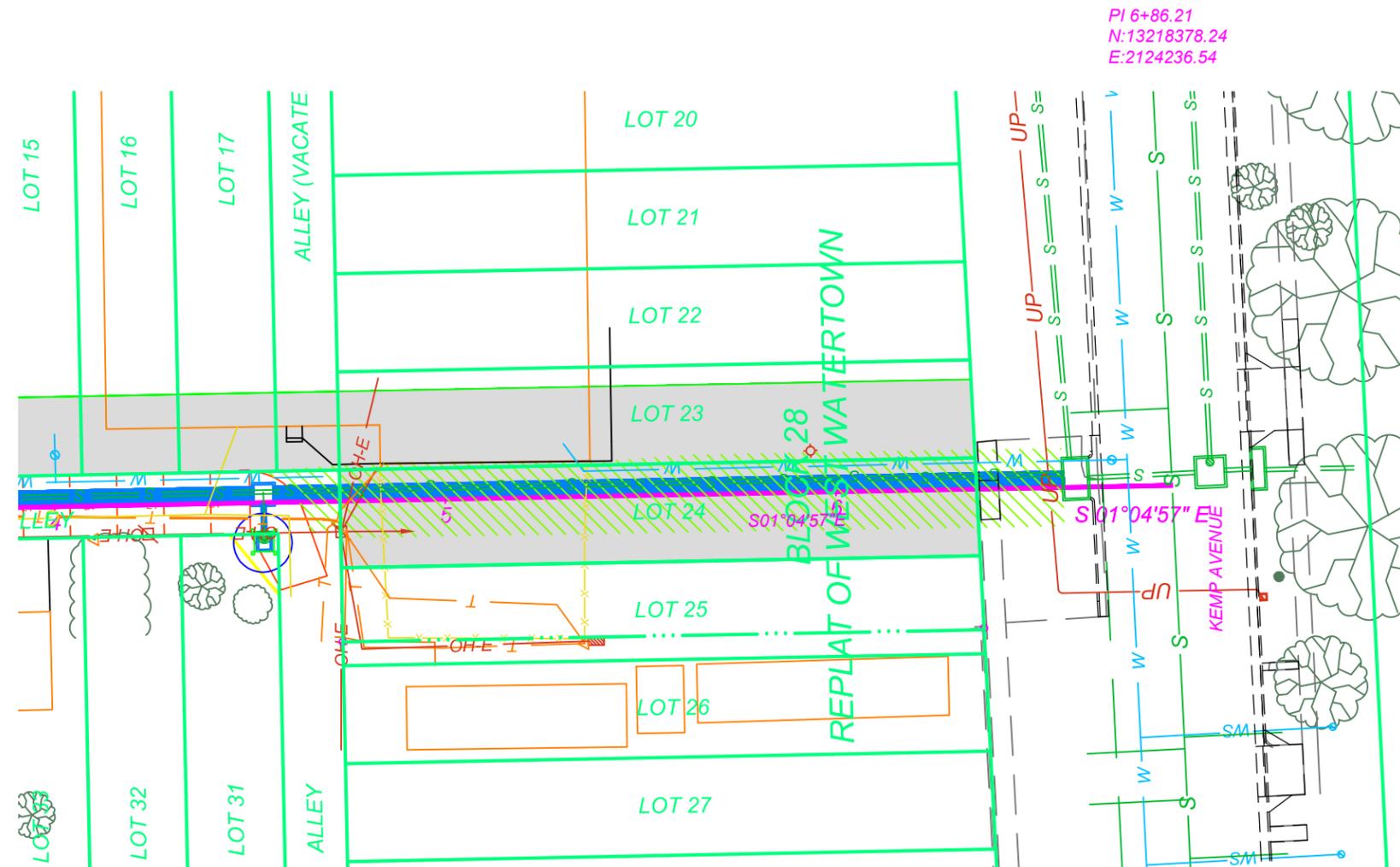
SCALES:  
1" = 40' HOR

# EROSION AND SEDIMENT CONTROL PLAN

FOR BIDDING PURPOSES ONLY

State of	PROJECT	Sheet No.	Total Sheets
SD	P 4300(08)	D20	D24

Rev 2-28-14 by RSD Plot Date - 1-27-14



SCALES:  
1" = 40' HOR

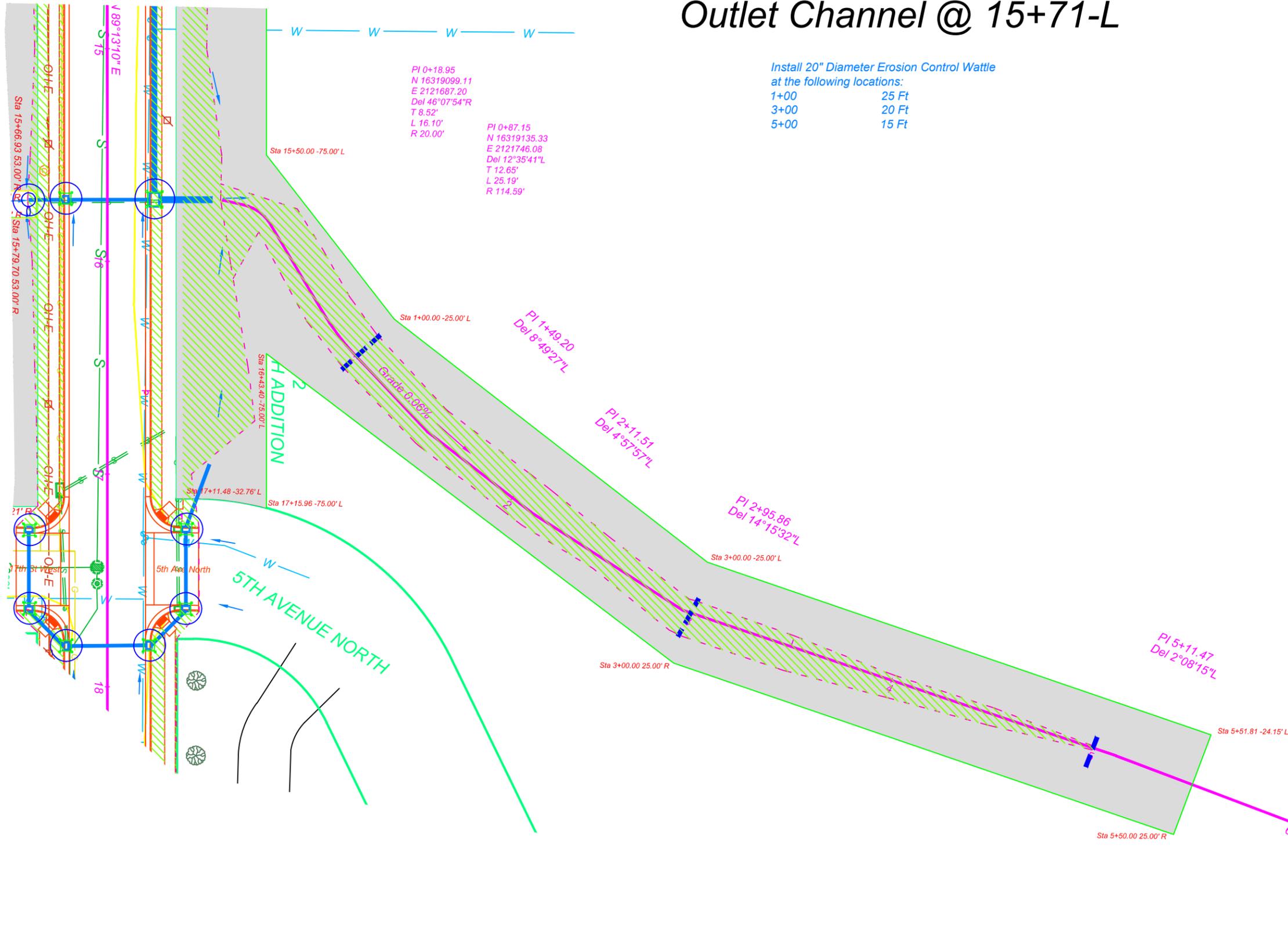
# EROSION AND SEDIMENT CONTROL PLAN

FOR BIDDING PURPOSES ONLY

State of	PROJECT	Sheet No.	Total Sheets
SD	P 4300(08)	D21	D24

Rev 2-28-14 by RSD Plot Date - 1-27-14

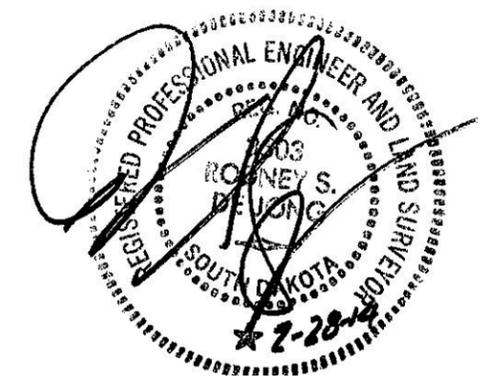
## Outlet Channel @ 15+71-L



PI 0+18.95  
N 16319099.11  
E 2121687.20  
Del 46°07'54"R  
T 8.52'  
L 16.10'  
R 20.00'

PI 0+87.15  
N 16319135.33  
E 2121746.08  
Del 12°35'41"L  
T 12.65'  
L 25.19'  
R 114.59'

Install 20" Diameter Erosion Control Wattle  
at the following locations:  
1+00        25 Ft  
3+00        20 Ft  
5+00        15 Ft

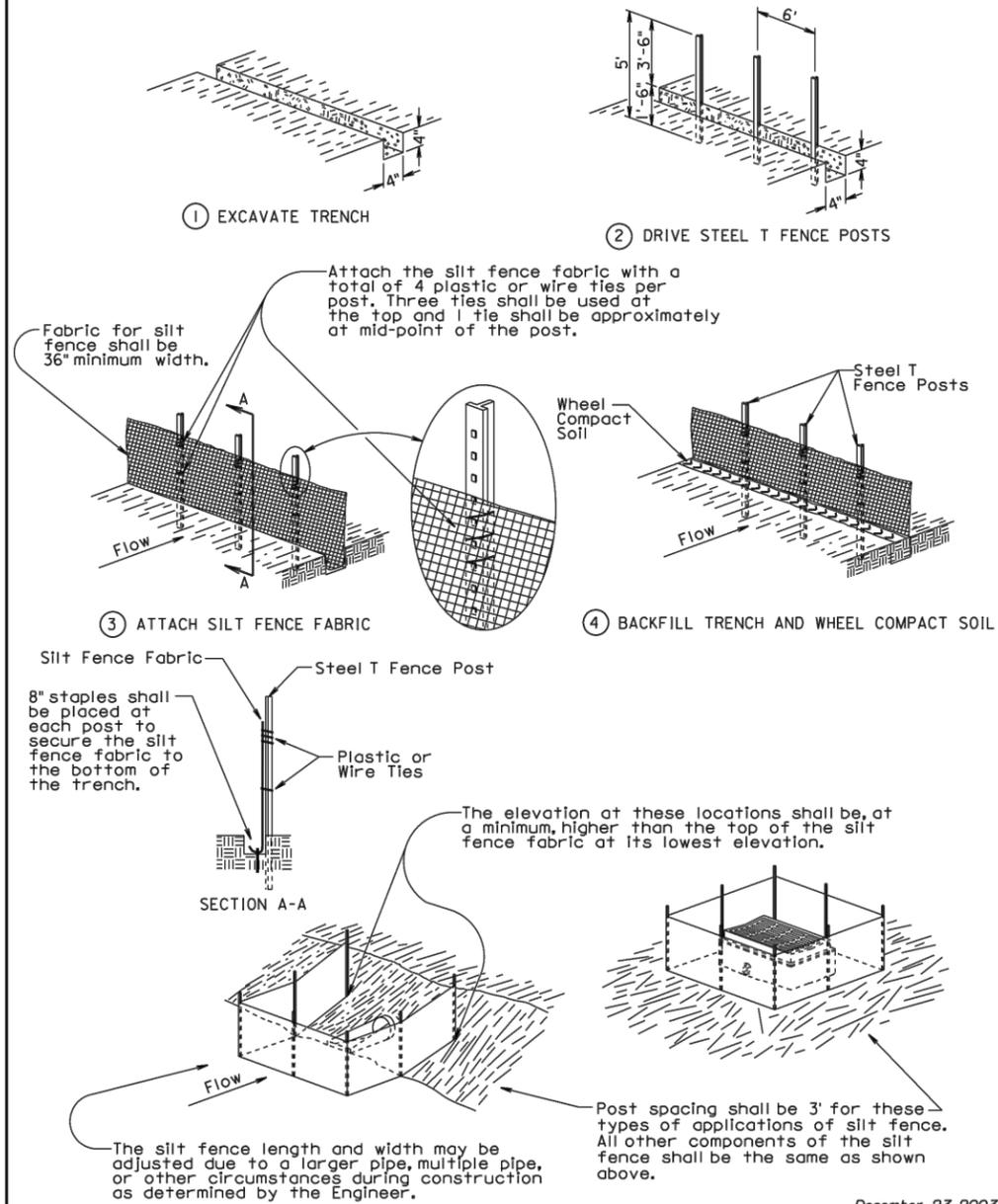


SCALES:  
1" = 50' HOR

State of	PROJECT	Sheet No.	Total Sheets
SD	P 4300(08)	D22	D24

Rev 2-28-14 by RSD Plot Date - 1-27-14

MANUAL HIGH FLOW SILT FENCE INSTALLATION



December 23, 2003

Published Date: 1st Qtr. 2014

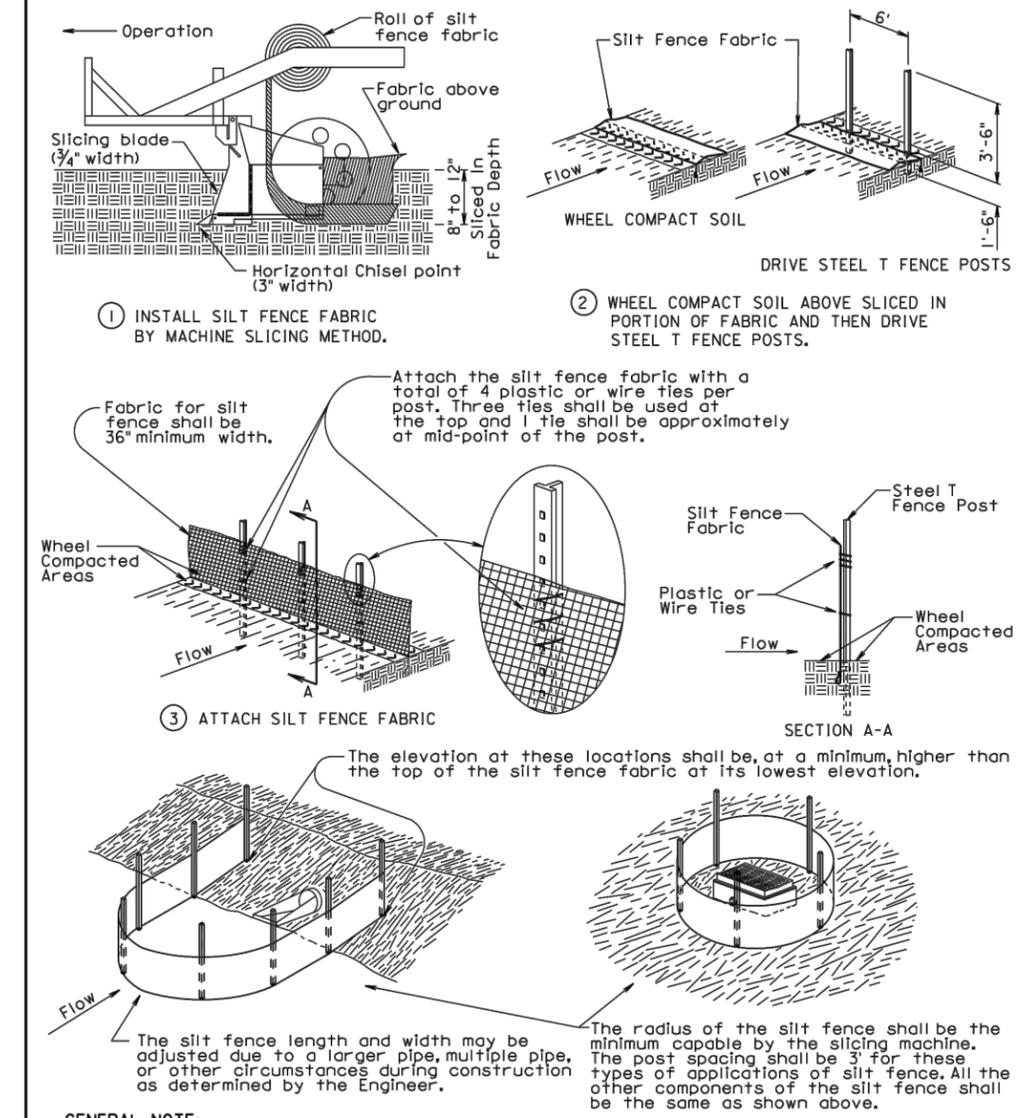
SD  
DOT

HIGH FLOW SILT FENCE

PLATE NUMBER  
734.05

Sheet 1 of 2

MACHINE SLICED HIGH FLOW SILT FENCE INSTALLATION



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: 1st Qtr. 2014

SD  
DOT

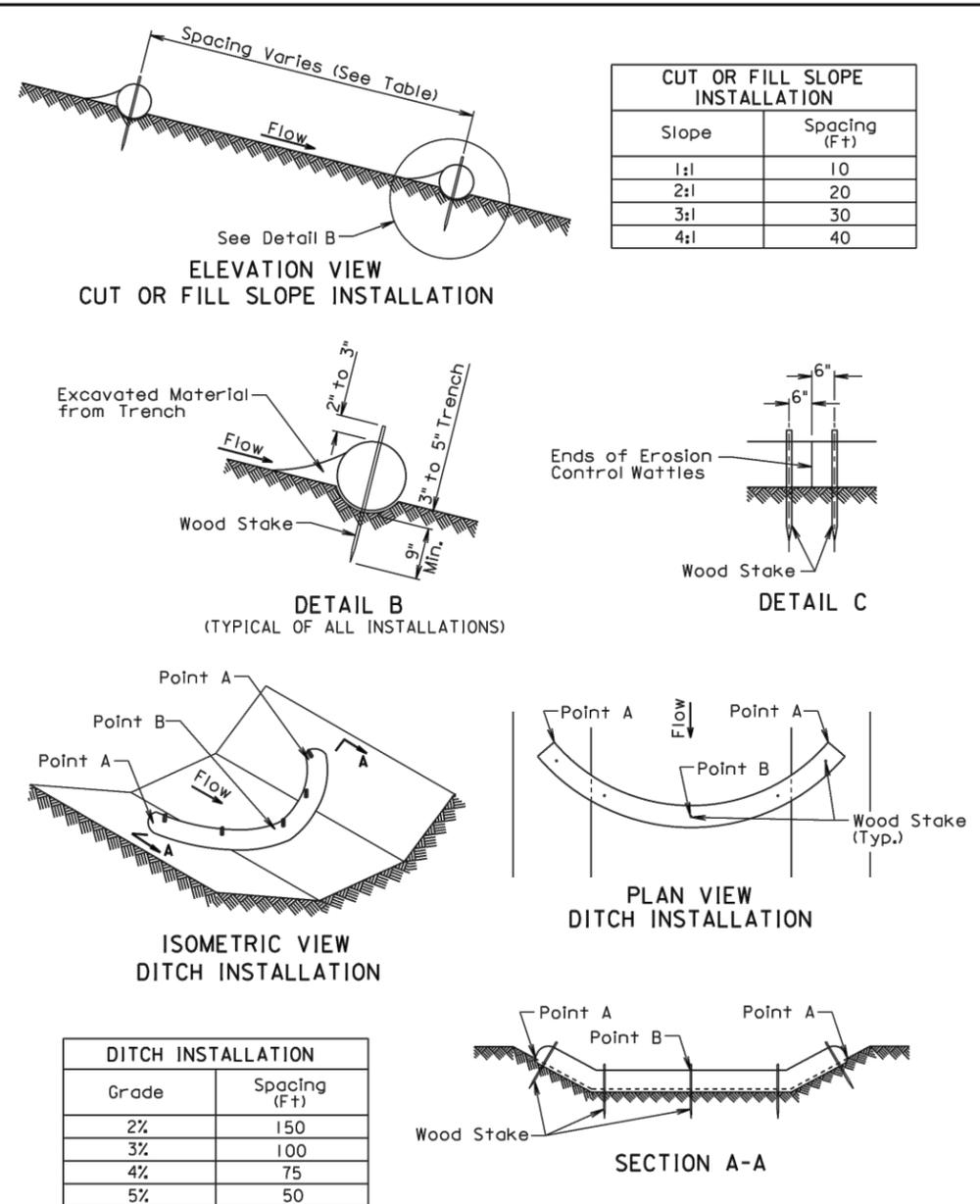
HIGH FLOW SILT FENCE

PLATE NUMBER  
734.05

Sheet 2 of 2

State of	PROJECT	Sheet No.	Total Sheets
SD	P 4300(08)	D23	D24

Rev 2-28-14 by RSD Plot Date - 1-27-14



December 23, 2004

Published Date: 1st Qtr. 2014	S D D O T	EROSION CONTROL WATTLE	PLATE NUMBER
			734.06
			Sheet 1 of 2

**GENERAL NOTES:**

At cut or fill slope installations, wattles shall be installed along the contour and perpendicular to the water flow.

At ditch installations, point A must be higher than point B to ensure that water flows over the wattle and not around the ends.

The Contractor shall dig a 3" to 5" trench, install the wattle tightly in the trench so that daylight can not be seen under the wattle, and then compact the soil excavated from the trench against the wattle on the uphill side. See Detail B.

The stakes shall be 1"x2" or 2"x2" wood stakes, however, other types of stakes such as rebar may be used only if approved by the Engineer. The stakes shall be placed 6" from the ends of the wattles and the spacing of the stakes along the wattles shall be 3' to 4'.

Where installing running lengths of wattles, the Contractor shall butt the second wattle tightly against the first and shall not overlap the ends. See Detail C.

The Contractor and Engineer shall inspect the erosion control wattles once every week and within 24 hours after every rainfall event greater than 1/2". The Contractor shall remove, dispose, or reshape the accumulated sediment when necessary as determined by the Engineer.

Sediment removal, disposal, or necessary shaping shall be as directed by the Engineer. All costs for removing accumulated sediment, disposal of sediment, and necessary shaping shall be incidental to the contract unit price per cubic yard for "Remove Sediment".

All costs for furnishing and installing the erosion control wattles including labor, equipment, and materials shall be incidental to the contract unit price per foot for the corresponding erosion control wattle bid item.

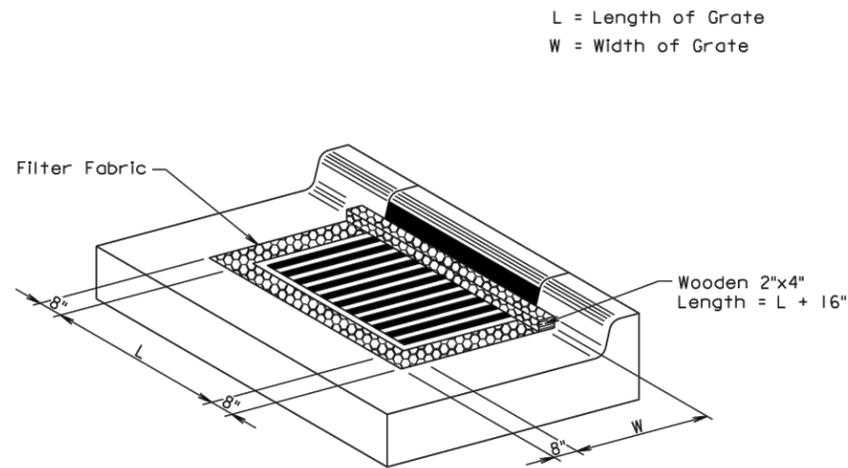
All costs for removing the erosion control wattle from the project including labor, equipment, and materials shall be incidental to the contract unit price per foot for "Remove Erosion Control Wattle".

December 23, 2004

Published Date: 1st Qtr. 2014	S D D O T	EROSION CONTROL WATTLE	PLATE NUMBER
			734.06
			Sheet 2 of 2

State of	PROJECT	Sheet No.	Total Sheets
SD	P 4300(08)	D24	D24

Rev 2-28-14 by RSD Plot Date - 1-27-14



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

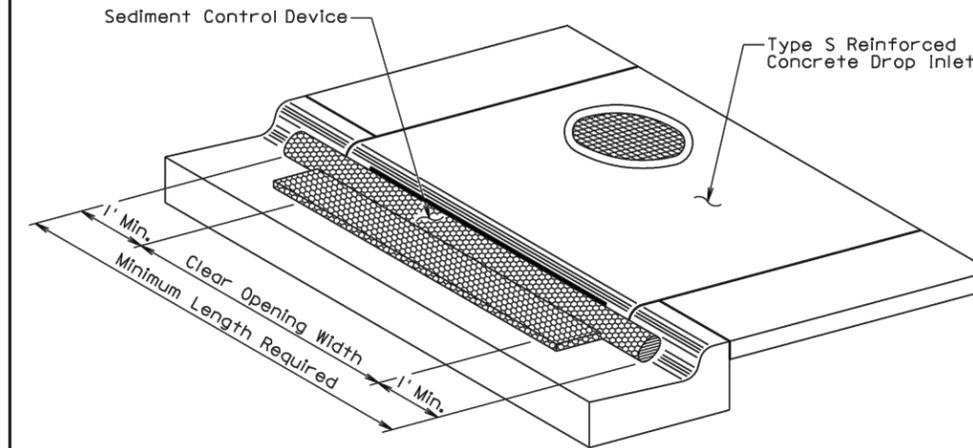
Published Date: 1st Qtr. 2014

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

PLATE NUMBER  
734.10

Sheet 1 of 1



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

Published Date: 1st Qtr. 2014

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

PLATE NUMBER  
734.11

Sheet 1 of 1