

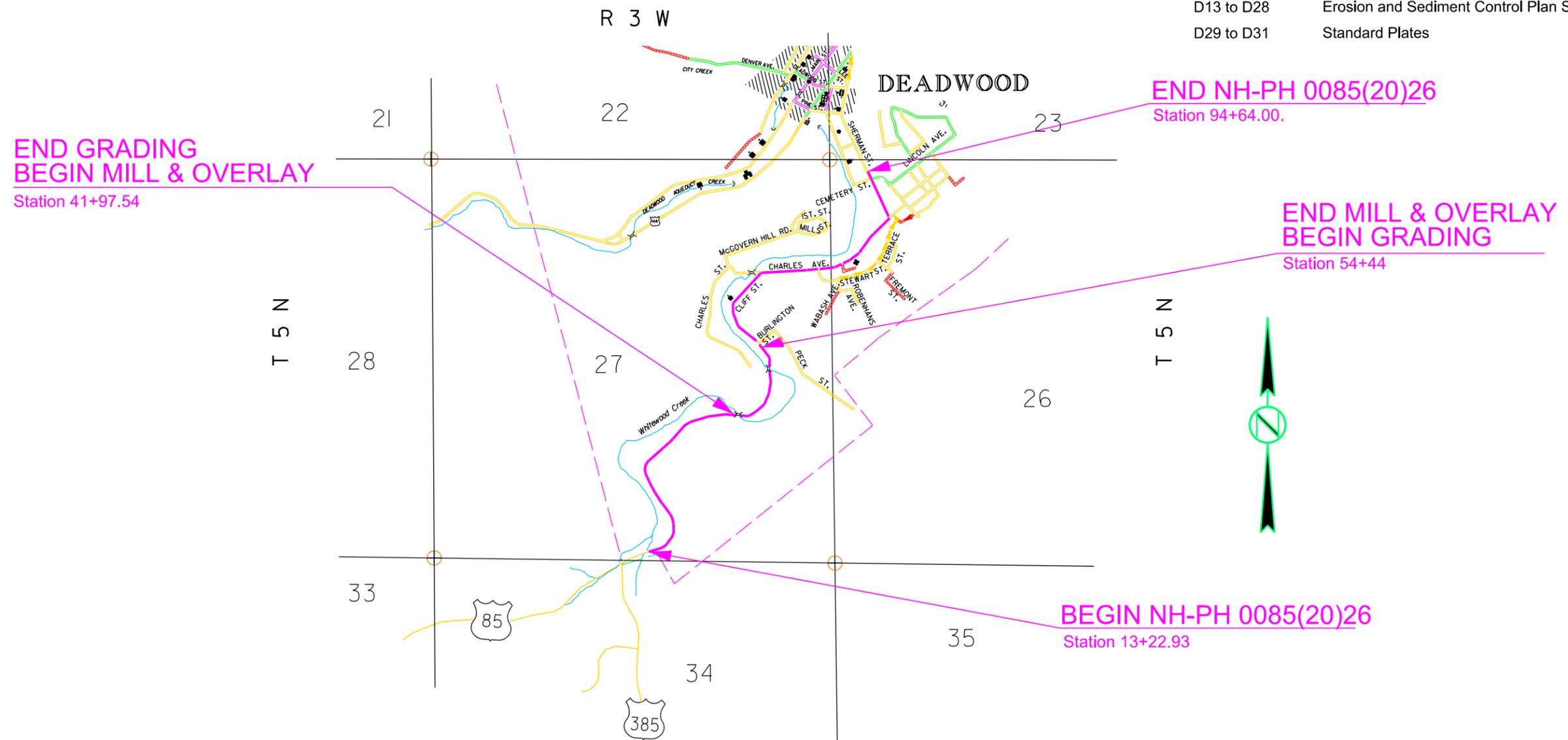
SECTION D: EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0085(20)26	D1	D31

Plotting Date: 06/13/2014

INDEX OF SHEETS

D1	General Layout with Index
D2 to D7	Estimate with General Notes and Tables
D8 to D10	Stormwater Pollution Prevention Plan Checklist
D11	Dewatering and Sediment Collection System Details
D12	Erosion and Sediment Control Legend
D13 to D28	Erosion and Sediment Control Plan Sheets
D29 to D31	Standard Plates



Plot Scale - 1:200

Plotted From - trpr13525

PLOT NAME -

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SECTION D ESTIMATE OF QUANTITIES

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0085(20)26	D2	D31

Plotting Date: 06/19/2014

Bid Item Number	Item	Quantity	Unit
110E1690	Remove Sediment	30.0	CuYd
110E1695	Remove Sediment Filter Bag	2,880	Ft
110E1700	Remove Silt Fence	2,256	Ft
120E6300	Water for Vegetation	15.4	MGal
230E0010	Placing Topsoil	1,675	CuYd
230E0020	Placing Contractor Furnished Topsoil	800	CuYd
230E0050	Soil Amendment	7,875	Lb
730E0206	Type D Permanent Seed Mixture	378	Lb
730E0251	Special Permanent Seed Mixture 1	12	Lb
730E0252	Special Permanent Seed Mixture 2	2	Lb
731E0100	Fertilizing	3,395	Lb
733E0100	Sodding	855	SqYd
734E0042	Soil Stabilizer	11,000.0	SqYd
734E0103	Type 3 Erosion Control Blanket	4,500	SqYd
734E0131	Type 1 Turf Reinforcement Mat	2,705.0	SqYd
734E0170	Temporary Sediment Barrier	2,000	Ft
734E0180	Sediment Filter Bag	2,880	Ft
734E0604	High Flow Silt Fence	2,500	Ft
734E0610	Mucking Silt Fence	170	CuYd
734E0620	Repair Silt Fence	625	Ft
734E0845	Sediment Control at Inlet with Frame and Grate	109	Each
734E0847	Sediment Control at Type S Reinforced Concrete Drop Inlet	195	Ft
734E3000	Water Pollution Control	Lump Sum	LS
734E5000	Dewatering	144	Hour

PLACING TOPSOIL AND CONTRACTOR FURNISHED TOPSOIL

The thickness will be approximately 4 inches within the right-of-way and on temporary easements. Topsoil will not be placed on rock cut slopes.

The estimated amount of topsoil to be placed is 1,675 CuYd. Approximately 800 CuYd of Contractor Furnished Topsoil has been included in the estimate in the event there isn't enough soil available to cover areas to be vegetated with 4" of soil.

Satisfactory topsoil for this project may be material that would otherwise be wasted. This material may not contain cobbles or stones and must appear to be more silt, clay, and fine sand than gravel, although 25% of the total composition may be gravelly. To compensate for lower quality topsoil material, topsoil amendment has been added to the plans. If material meeting the above specifications is not available on site, Contractor Furnished Topsoil may be used.

If Contractor Furnished Topsoil is used, the topsoil must contain any visible amount of gravel, stone, rocks, or debris. Areas receiving Contractor Furnished Topsoil do not require an application of Topsoil Amendment and should only be fertilized and sodded or fertilized and seeded and covered with Soil Stabilizer.

TOPSOIL AMENDMENT

The Contractor will be required to furnish and place 3,500 lbs/acre of topsoil amendment on all areas to be seeded.

All costs for furnishing and applying the topsoil amendment including hauling, materials, equipment, labor, and incidentals necessary shall be paid for at the contract unit price per pound for "Soil Amendment".

The topsoil amendment shall be from the list below or an approved equal hydraulic growth medium:

<u>Product</u>	<u>Manufacturer</u>
Biotic Earth Black HGM	Verdyol Riverton, Manitoba Canada Phone: 1-866-280-7327 http://www.bioticearth.com
Earth Essence Beta	Organic Earth Industries Fort Collins, Colorado Phone: 1-970-223-9772 http://www.OrganicEarthIndustries.com

Topsoil amendment shall be applied as described below:

Type D Permanent Seed Mixture Application Process:
The amendment, fertilizer, and seed shall be mixed and applied in one step.

Special Permanent Seed Mixtures Application Process:
The first step is applying 20% of the topsoil amendment with the fertilizer and Special Permanent Seed Mixture 1. The second step is applying 80% of the topsoil amendment and Special Permanent Seed Mixture 2.

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 on areas to be seeded. The application rate is 9 pounds per 1,000 square feet on areas to be sodded.

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

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

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 in Special Permanent Seed Mixtures shall be inoculated by the seed supplier with a minimum of 100,000 live propagules of mycorrhizal fungi per acre. All costs of inoculating the seed shall be incidental to the contract unit price per pound for the corresponding permanent seed mixture.

All seed shall in Type D Permanent Seed Mixture shall be inoculated by the seed supplier 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.

Prior to placing sod, apply a minimum of 25,000 live propagules of inoculum per 1,000 square feet on bare soil. All costs of inoculating for the sod shall be incidental to the contract unit price per square yard for "Sodding".

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

<u>Product</u>	<u>Manufacturer</u>
MycoApply	Mycorrhizal Applications, Inc. Grants Pass, OR Phone: 1-866-476-7800 http://www.mycorrhizae.com/

SODDING

Bluegrass sod shall be placed behind curb and gutter sections in boulevards at locations shown in the plans and at locations determined by the Engineer during construction. Peat sod is not permitted. Sod is being placed for immediate erosion control. It is only being placed in boulevards because the boundaries are definite, unlike blending sod into residential yards.

An estimated 18 Gallons of water per square yard of sod was used to compute the quantity for the bid item "Water for Vegetation". All costs involved for watering the sod shall be incidental to the contract unit price per Mgal for "Water for Vegetation".

TABLE OF SODDING

Approximate Boulevard Stationing	Square Yards
25+50 to 30+35 R	255
31+15 to 31+78 R	35
32+22 to 34+50 R	117
68+02 to 68+30 L	15
68+04 to 68+33 R	7
68+44 to 68+67 L	5
68+45 to 69+02 R	11
69+11 to 69+42.6 L	14
69+30 to 69+84 R	24
69+82.6 to 70+27.8 L	20
69+96 to 70+05 R	4
70+27.8 to 70+63.9 L	4
70+57 to 71+62 R	28
70+91.9 to 71+07.7 L	7
71+39.7 to 71+54.8 L	7
71+60.8 to 71+84 L	11
71+71 to 71+79 R	4
71+81 to 72+00 R	8
71+89 to 72+00 L	5
72+05 to 72+09 L	1
72+05 to 72+09 R	1
72+41 to 72+93 L	23
72+41 to 72+54 R	6
72+66 to 73+17 R	20
73+21 to 73+36 L	6
73+72 to 73+92 L	9
73+96 to 73+99 L	2
73+98 to 74+53 R	15
74+24 to 74+34 L	5
74+93 to 74+97 L	5
74+89 to 74+49.5 L	2
74+89 to 75+49.5 R	26
75+01 to 75+49.5 L	21
75+54.5 to 75+59 L	2
75+54.5 to 75+67.5 R	4
86+41 to 86+93 R	126
Total:	855

PERMANENT SEEDING

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

Seeding shall be completed when applying the soil amendment (if applicable). See the Topsoil and Soil Amendment notes.

The varieties listed for seed mixtures are preferred varieties.

Native harvest seed will be allowed.

Type D Permanent Seed Mixture shall be used on all areas not covered with sodding or the Special Permanent Seed Mixtures.

Type D Permanent Seed Mixture shall consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/1000 SqFt)
Kentucky Bluegrass	Avalanche, Appalachian, Wildhorse, Blue Bonnet	1.4
Perennial Ryegrass	Turf Type Varieties	1.4
Creeping Red Fescue	Epic, Boreal	1.4
Chewings Fescue	Ambrose, K2, VNS, Zodiac	1.4
Alkali Grass	Fults, Fults II, Quill, Salty	1.4
Total:		7

Both Special Permanent Seed Mixtures shall be used along the Mickelson Trail from 20+16 to 36+83 L. See the Soil Amendment Notes for application instructions.

Special Permanent Seed Mixture 1 shall consist of the following:

GRASS SPECIES 11% of each = 77% grass	PREFERRED VARIETY Native harvest seed allowed	Pure Live Seed (PLS) Pounds/Acre
Prairie/Arctic Brome <i>Bromus kalmii</i>		2.5
Slender Wheatgrass Agropyron trachycaulum/ Elymus trachycaulus		3
Canada Wildrye <i>Elymus canadensis</i>	Mandan	2
Sideoats Grama <i>Bouteloua curtipendula</i>	Butte, Killdeer, Pierre, Trailway	2
Little Bluestem <i>Schizachyrium scoparium</i>	Blaze, Camper, Badlands, Itasca	1.5
Prairie Dropseed <i>Sporobolus heterolepis</i>		1
Total:		12

Special Permanent Seed Mixture 2 shall consist of the following:

WILDFLOWERS 23% of seeded area	Pure Live Seed (PLS) Pounds/Acre
<i>Achillea millefolium var. occidentalis</i> Western White Yarrow	0.03
<i>Amorpha canescens</i> Lead Plant	0.14
<i>Artemisia frigida</i> Fringed Sage	0.03
<i>Coreopsis tinctoria</i> Plains Coreopsis	0.08
<i>Dalea candidum</i> White Prairie Clover	0.20
<i>Gaillardia aristata</i> Blanket Flower	0.42
<i>Krascheninnikovia lantana</i> Winter Fat	0.60
<i>Linum lewisii</i> Lewis Flax	0.24
<i>Potentilla arguta</i> Prairie Cinquefoil	0.04
<i>Ratibida columnifera</i> Prairie (Longheaded) Coneflower	0.08
<i>Ratibida pinnata</i> Grayhead (Yellow) Coneflower	0.14
Total:	2.00

SOIL STABILIZER

An estimated quantity of 11,000 square yards of soil stabilizer has been included in the Estimate of Quantities. The soil stabilizer shall be applied on permanently seeded areas after the application of the topsoil amendment and on areas deemed necessary by the Engineer. An estimated 110 square yards may be used for temporary stabilization during construction.

The Contractor shall apply soil stabilizer according to the manufacturer's application instructions and at the rate specified in the list of approved soil stabilizers.

Wood fiber mulch that contains a green dye shall be mixed with the soil stabilizer to be used as a tracer when the soil stabilizer is applied hydraulically. Wood fiber mulch shall be added at a rate of 300 pounds per acre to all of the approved soil stabilizers listed in the table except for the Pam-12 Plus product. The wood fiber mulch shall be a 100% wood fiber product and does not need to contain a tackifier.

All costs for furnishing and applying the soil stabilizer including wood fiber mulch, hauling, materials, equipment, labor, and incidentals necessary shall be paid for at the contract unit price per Square Yard for "Soil Stabilizer".

The soil stabilizer shall be from the list below or an approved equal:

Product	Manufacturer
StarTak 600 Applied at a rate of 150 Lb/Acre	Chemstar Products Company Minneapolis, MN Phone: 1-800-328-5037 www.chemstar.com
M-Binder Applied at a rate of 150 Lb/Acre	Ecology Controls Carpinteria, CA Phone: 1-805-684-0436 www.ssseeds.com
FiberRX Applied at a rate of: Slope None to 4:1 50 Lb/Acre 3:1 60 Lb/Acre 2:1 70 Lb/Acre 1:1 or steeper 80 Lb/Acre	Hydrostraw, LLC Manteno, IL Phone: 1-800-545-1755 http://hydrostraw.com/
HydraTack, Tack Plus, Tack-P, or Tack-P Plus Applied at a rate of 30 Lb/Acre	Innovative Turf Solutions, LLC Cincinnati, OH Phone: 1-513-317-8311 www.innovativeturfsolutions.com
HF5000 Tack Applied at a rate of 60 Lb/Acre	Rantec Corporation Ranchester, WY Phone: 1-307-655-9565 www.ranteccorp.com
R-Tack Applied at a rate of 150 Lb/Acre	Rantec Corporation Ranchester, WY Phone: 1-307-655-9565 www.ranteccorp.com
Super Tack Applied at a rate of 60 Lb/Acre	Rantec Corporation Ranchester, WY Phone: 1-307-655-9565 www.ranteccorp.com

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TEMPORARY SEDIMENT BARRIER

Temporary sediment barriers shall be installed at locations noted in the table and at locations determined by the Engineer during construction.

All costs for furnishing, installing, and maintaining the temporary sediment barrier including hauling, materials, equipment, labor, and incidentals necessary shall be paid for at the contract unit price per foot for "Temporary Sediment Barrier".

An additional quantity of Temporary Sediment Barrier has been added to the Estimate of Quantities for erosion and sediment control on slopes and along the project perimeter.

The products selected shall be appropriate for the locations where they are installed. The products shall be installed according to the manufacturer's installation instructions.

The temporary sediment barriers shall be from the list below or an approved equal:

Product	Manufacturer
Perimeter Guard (Only to be used along the back of sidewalks)	ERTEC Environmental Systems LLC Alameda, CA Phone: 1-866-521-0724 www.ertecsystems.com
Compost Filter Sock 9" and 12"	Dioten Engineering, Inc. Rapid City, SD Phone: 1-605-430-7213 www.dioten.com/
SedimentSTOP Or SediMax-FR Filtration Rolls	North American Green Poseyville, IN Phone: 1-800-772-2040 www.tensarnagreen.com
Typar Geocells	Fiberweb Inc. Old Hickory, TN Phone: 1-615-847-7500 www.typargeocells.com
Silt Sock 8" and 12"	Aspen Ridge Lawn and Landscaping, LLC Rapid City, SD Phone: 1-605-415-0695 www.siltsocksd.com
Terra-Tubes	Profile Products LLC Buffalo Grove, IL Phone: 1-800-366-1180 www.profileproducts.com
Erosion Control Wattles	Visit the SDDOT approved products list: http://apps.sd.gov/HC60ApprovedProducts/main.aspx

TABLE OF TEMPORARY SEDIMENT BARRIERS

Station	Location	Quantity (Ft)
121+00 to 127+50 L	Downslope Boundary	700
22+00 to 28+00 R	Ditch Channel Bottom	110
24+25-34'R	Type L Median Drain	20
25+75-43.7'R	Type L Median Drain	20
28+00 R	Downslope Boundary	90
30+38-38' R	Type C Drop Inlet	20
32+33-38' R	Type C Drop Inlet	20
32+50 to 35+00 R	Ditch Channel Bottom	60
38+98-30.5'R	Type C Drop Inlet	20
37+00 R	Ditch Channel Bottom	10
37+50 R	Ditch Channel Bottom	10
40+41-30'R	Type C Drop Inlet	20
56+68-35'R	Type C Drop Inlet	20
62+30-33'R	Type L Median Drain	20
63+50-34.5'R	Type L Median Drain	20
61+00 to 64+00 R	Ditch Channel Bottom	60
64+25-33'R	Type L Median Drain	20
65+57 R	Around existing Inlet	20
	Additional Quantity:	740
Total:		2,000

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 interim sediment control 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.

An additional quantity of 325 feet of high flow silt fence has been added to the Estimate of Quantities for temporary sediment control. This is in addition to the 2,175 feet from the interim sediment control table.

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.

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 www.dandyproducts.com
Gutterbuddy	ACF Environmental Richmond, VA Phone: 1-800-448-3636 www.acfenvironmental.com
SS-300	Silt-Saver, Inc. Conyers, GA Phone: 1-888-382-7458 www.siltsaver.com
Curb Inlet Guard	ECTEC Environmental Systems LLC Alameda, CA Phone: 1-866-521-0724 www.ertecsystems.com

TABLE OF SEDIMENT CONTROL AT TYPE S REINFORCED CONCRETE DROP INLETS

Stationing	Clear Opening Width (Ft)	Quantity* (Ft)
15+11-23.63' R	11	13
16+88-23.63' R	11	13
18+40-23.63' R	11	13
19+48-21.63' R	11	13
19+96-21.63' R	11	13
20+22-21.63' R	11	13
20+22-21.63' L	11	13
32+33-21.63' L	11	13
32+33-21.63' R	11	13
69+90 -21.63'R	11	13
72+60-21.63' R	11	13
73+53-21.63' R	11	13
81+34-22.27'R	11	13
83+60-21.63' R	11	13
85+91-23.63' R	11	13
Total:		195

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

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.

The sediment filter bag shall be from the list below or an approved equal:

Product	Manufacturer
Snake Bag	Sacramento Bag Manufacturing Co. Sacramento, CA Phone: 1-800-287-2247 www.sacbag.com

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 Standard 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.

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

Stationing	High Flow Silt Fence Quantity (Ft)	Sediment Filter Bag Quantity (Ft)
15+11-23.63' R	38	48
16+21-21.17' R	18	24
16+88-23.63' R	38	48
17+25-21.17' L	18	24
17+25-21.17' R	18	24
17+75-21.17' R	18	24
18+40-23.63' R	38	48
19+48-21.63' R	38	48
19+96-21.63' R	38	48
20+22-21.63' R	38	48
20+22-21.63' L	38	48
24+25-19.17' L	18	24
24+25-19.17' R	18	24
25+75-19.17' R	18	24
27+35-19.17' L	18	24
27+35-19.17' R	18	24
28+90-19.17' R	18	24
30+28-19.17' L	18	24
30+28-19.17' R	18	24
32+33-21.63' L	38	48
32+33-21.63' R	38	48
39+00-19.17' L	18	24
39+00-19.17' R	18	24
40+41-19.17' R	18	24
42+04.5-19.67' R	18	24
53+42.5-29.67'L	18	24
54+39-19'L	22	32
54+39-19'R	22	32
54+63.9-49.5' R	18	24
54+95-41.3'R	22	32
55+00.5-21.4'R	22	32
56+19.5-19.17' L	18	24
56+25-19.17'R	22	32
56+68-19.17' R	18	24
57+56-19.17' R	18	24
58+20-19.17' L	18	24
58+20-19.17' R	18	24
58+62.63-40.42' R	18	24
58+85.22-45.5' R	18	24
59+25-19.17' R	18	24
61+25-21.17' L	18	24
61+25-21.17' R	18	24
Subtotal:	956	1,264

Stationing	High Flow Silt Fence Quantity (Ft)	Sediment Filter Bag Quantity (Ft)
62+30-21.17'R	18	24
63+50-19.17' L	18	24
63+50-19.17' R	18	24
64+25-19.17'R	18	24
65+37 -19.17' L	18	24
65+37 -19.17' R	18	24
67+23 -19.17' R	18	24
68+04 -21.17' L	18	24
68+04 -21.17' R	18	24
68+82 -19.89' R	18	24
69+90 -19.17' L	18	24
69+90 -21.63'R	38	48
72+25-19.17'L	18	24
72+29.32-32.12'R	18	24
72+29.50-19.17'R	18	24
72+60-21.63' R	38	48
73+53-21.63' R	38	48
74+32-19.17'R	18	24
74+32-19.17' L	18	24
75+61-19.17'R	18	24
75+90.2-19.17'R	18	24
75+95.7 -20' R	22	32
77+65-19.17' R	18	24
79+21-19-17' R	18	24
79+21-19.17' L	18	24
80+51-21.17' R	18	24
80+65-21.17'L	30	32
81+29-21.15'L	30	32
81+34-22.27'R	38	48
81+63-19.17'R	24	32
83+60-19.17' L	18	24
83+60-21.63' R	38	48
84+25-19.17' R	18	24
85+91-21.17' L	18	24
85+91-23.63' R	38	48
86+77.5-21.17' R	18	24
86+99.5-43.77'R	18	24
87+15.69-46.86'L	18	24
87+18-21.17' L	18	24
87+26.3-22.9'R	22	32
87+70-21.5'R	22	32
88+38-19.60' R	22	32
89+23-19.17' L	18	24
89+43.17-38.5'L	18	24
89+80.48-38.5'L	18	24
Subtotal:	976	1,280

Plotting Date: 06/19/2014

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

Stationing	High Flow Silt Fence Quantity (Ft)	Sediment Filter Bag Quantity (Ft)
90+00-19.17' L	18	24
90+00-19.17' R	22	32
92+13.5-19.17' L	18	24
92+13.5-26.08' R	22	32
92+41.23-48.1' R	18	24
92+53-18'R	36	48
92+54.6-36.8'L	22	32
92+58.1-158.7'L	22	32
92+59.6-214.7'L	22	32
92+69.09-48.1'R	25	32
93+81.09-26.97'R	18	24
Subtotal:	243	336
Total:	2,175	2,880

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 INLETS WITH FRAMES AND GRATES

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 www.royalenterprises.net
Dandy Curb Sack	Dandy Products Inc. Dublin, OH Phone: 1-800-591-2284 www.dandyproducts.com
Silt Trapper	Storm Water Solutions Lakeville, MN Phone: 1-952-461-4376 www.silttrapper.com
DIP Basket	Skyview Construction Co., LLC Waubay, SD Phone: 1-605-520-0555 www.skyviewconst.com
FLEXSTORM Inlet Filters	Inlet and Pipe Protection, Inc. Naperville, IL Phone: 1-866-287-8655 www.inletfilters.com
GR-8 Guard or Combo Guard	ERTEC Environmental Systems LLC Alameda, CA Phone: 1-866-521-0724 www.ertecsystems.com
Sediment Catchers	Shaun Jensen Brookings, SD Phone: 1-605-690-4950
Grate FX, Slammer, or VertPro	Enviroscape ECM, Ltd. Oakwood, OH Phone: 1-419-594-3210 www.strawblanket.com
BX Inlet Sediment Boxes	BX Civil and Construction Dell Rapids, SD Phone: 1-605-428-5483 bx-cc.com

TABLE OF SEDIMENT CONTROL AT INLETS WITH FRAMES AND GRATES

Station	Quantity (Each)
16+21-21.17' R	1
17+25-21.17' L	1
17+25-21.17' R	1
17+75-21.17' R	1
19+95-32' R	1
19+96-17' L	1
24+25-19.17' L	1
24+25-19.17' R	1
25+75-19.17' R	1
27+35-19.17' L	1
27+35-19.17' R	1
28+90-19.17' R	1
30+28-19.17' L	1
30+28-19.17' R	1
39+00-19.17' L	1
39+00-19.17' R	1
40+41-19.17' R	1
42+04.5-19.67' R	1
42+05-20'R	1
45+05-19'L	1
45+39 L	1
45+39 R	1
47+89 L	1
47+89 R	1
50+44 L	1
50+44 R	1
53+42.5-29.67'L	1
54+39-19'L	1
54+39-19'R	1
54+63.9-49.5' R	1
54+66-38'R	1
54+95-41.3'R	1
55+00.5-21.4'R	1
56+19.5-19.17' L	1
56+25-19.17'R	1
56+68-19.17' R	1
57+56-19.17' R	1
58+20-19.17' L	1
58+20-19.17' R	1
Subtotal:	39

TABLE OF SEDIMENT CONTROL AT INLETS WITH FRAMES AND GRATES (continued)

Plotting Date: 06/19/2014

Station	Quantity (Each)
58+62.63-40.42' R	1
58+85.22-45.5' R	1
59+25-19.17' R	1
61+25-21.17' L	1
61+25-21.17' R	1
62+30-21.17'R	1
63+50-19.17' L	1
63+50-19.17' R	1
64+25-19.17'R	1
65+37 -19.17' L	1
65+37 -19.17' R	1
67+23 -19.17' R	1
68+04 -21.17' L	1
68+04 -21.17' R	1
68+82 -19.89' R	1
69+90 -19.17' L	1
72+25-19.17'L	1
72+29.32-32.12'R	1
72+29.50-19.17'R	1
74+32-19.17'R	1
74+32-19.17' L	1
75+61-19.17'R	1
75+90.2-19.17'R	1
75+95.7 -20' R	1
75+95-18'R	1
77+65-19.17' R	1
79+21-19.17' R	1
79+21-19.17' L	1
80+51-21.17' R	1
80+65-21.17'L	1
81+23-24'L	1
81+29-21.15'L	1
81+63-19.17'R	1
81+64-15'R	1
83+60-19.17' L	1
84+25-19.17' R	1
85+91-21.17' L	1
86+69-43'R	1
86+77.5-21.17' R	1
86+99.5-43.77'R	1
87+15.69-46.86'L	1
87+18-21.17' L	1
87+26.3-22.9'R	1
87+56-40'R	1
87+70-21.5'R	1
88+22-g)	1
88+38-19.60' R	1
89+23-19.17' L	1
89+43.17-38.5'L	1
89+80.48-38.5'L	1
89+91-18'R	1
89+96-20'L	1
90+00-19.17' L	1
90+00-19.17' R	1
92+13.5-19.17' L	1
92+13.5-26.08' R	1
Subtotal:	56

Station	Quantity (Each)
92+34-19'L	1
92+37-19'R	1
92+41.23-48.1' R	1
92+56-36'L	1
92+54.6-36.8'L	1
92+58.1-158.7'L	1
92+57-160'L	1
92+59-214'L	1
92+59.6-214.7'L	1
92+69.09-48.1'R	1
92+69-43'R	1
93+81-19'R	1
93+82-20'L	1
93+81.09-26.97'R	1

Subtotal: 14
Total: 109

EROSION CONTROL BLANKET

Erosion control blanket shall be installed at the locations noted in the table and at locations determined by the Engineer during construction.

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

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

The Contractor shall install erosion control blanket according to the manufacturer's installation instructions.

An additional quantity of Type 3 Erosion Control Blanket has been added to the Estimate of Quantities for temporary erosion control.

TABLE OF TYPE 3 EROSION CONTROL BLANKET

Stationing	Location	Quantity (SqYd)
20+00 to 21+00 L	Inslope	210
121+02.85 to 127+50 L	Inslope of Trail	1,575
24+50 to 27+86 L	Inslope	1,660
27+21 to 28+25 L	Inslope	205
32+10 to 32+55 L	Inslope	240
32+10 to 32+55 L	Trail Inslope	100
44+13 to 45+00 L	Backslope	150
	Additional Quantity	360
	Total:	4,500

TURF REINFORCEMENT MAT

Turf Reinforcement Mat shall be installed 16' wide at locations shown in the table and at locations determined by the Engineer during construction. The Contractor shall use a turf reinforcement mat from the approved products list. The approved product list for turf reinforcement mat may be viewed at the following internet site:

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

Installation of the Turf Reinforcement Mat shall be according to the manufacturer's installation instructions.

TABLE OF TYPE 1 TURF REINFORCEMENT MAT

Stationing	Location	Quantity (SqYd)
22+00 to 28+00 R	Ditch Channel	1,120
32+16 to 35+25 R	Ditch Channel	570
36+50 to 37+80 R	Ditch Channel	240
38+76 to 39+22 R	Ditch Channel	50
40+20 to 40+50 R	Ditch Channel	55
60+50 to 64+38 R	Ditch Channel	670
	Total:	2,705

DEWATERING

The hourly bid shall be based on using a 3" gas pump with a 250 gpm flow rate. The hourly rate will be adjusted if another size pump is used. All costs for pumping the water off the site shall be incidental to the contract price per hour for "Dewatering".

Water pumped off the site shall either be treated or disposed of according to the Water Pollution Control Bid Item. Sediment laden or otherwise contaminated water is not allowed to enter waterways or discharge from storm sewers without being treated.

WATER POLLUTION CONTROL

When sediment laden water needs to be removed from the site the Contractor has the following options:

- The Contractor has the option of hauling the water off site to an Engineer approved area where it will not be released into waterways,
- The Contractor has the option of using the water to irrigate turf adjacent to the project with permission from the landowner.
- The Contractor has the option of treating the water on site with the use of flocculants as shown on the DEWATERING AND SEDIMENT COLLECTION SYSTEM detail. Various options are noted on the detail sheet.

All costs related to the treatment or disposal of sediment laden water trapped on the project shall be paid for under the lump sum bid item for "Water Pollution Control".

Plot Scale - 1:200

Plotted From - Inr13525

File - ...:\p\l\awr0555\Notes\SectionD.dgn

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 21 (4.2 1.b.)**
- **Total Area To Be Disturbed 13 (4.2 1.b.)**
- **Existing Vegetative Cover (%) 75**
- **Soil Properties: A-2, A-3, A-4, A-6 (gravel, sand, silt, clay) Name of Receiving Water Body/Bodies Whitewood Creek (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 Section C).
- **Install temporary sediment barriers where runoff sheets from the site.**
- **Install sediment control at existing inlets and leave in place until inlets are removed or surfacing is complete.**
- **Remove and store topsoil (reserve silty, clayey soils for topsoil)**
- **Stabilize disturbed areas during construction using soil stabilizer, temporary sediment barriers, and high flow silt fence.**
- **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.**
- **Reseed or sod 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 (Topsoil Amendment)
 - 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 $\frac{1}{3}$ 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:

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❖ 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.

❖ 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.

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❖ **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.

DEWATERING AND SEDIMENT COLLECTION SYSTEM

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GENERAL NOTES

If the Contractor chooses to treat stormwater instead of disposing of the water off-site or using it for irrigation, there are three options available. Suggestions for dewatering and sediment collection are shown on the plan sheets as blue symbols and notes. Suggestions are a combination of methods, which is the third option below.

The purpose of a dewatering and sediment collection system is to collect turbid storm water on the project, treat it with a flocculant, and then capture the sediment that falls out of suspension before the water is discharged into Whitewood Creek. This means the Contractor will have to intercept and treat the stormwater before the storm sewer outfall. Water may be released into Whitewood Creek if it has 90 mg/L of suspended solids or less and a pH between 6.1 and 8.5, with a pH of 7.0 preferred.

It is in the Contractor's best interest to stabilize areas with sod or seed and cover as soon as possible to reduce runoff and the need for excessive stormwater treatment. The Contractor will need more than one dewatering and sediment collection system to capture and treat stormwater at multiple outfalls simultaneously during each phase of the project.

The estimated price for this bid item should be based on treating 1,500,000 gallons of water at three locations (500,000 gallons at each location). All three sediment collection systems/methods will be paid for at the lump sum price for "Water Pollution Control". Dewatering will be paid for at the lump sum price for "Dewatering".

THE FIRST OPTION is detailed on this sheet to the left. The drawing of the cascade system is for conceptual purposes only; however, the cascade system shall at a minimum incorporate the use of 2 flocculent housing units and 2 water and sediment storage units. Design and construction of the water and sediment storage units are project site specific and shall be the Contractor's responsibility. A water and sediment storage unit may consist of a storage bin lined with plastic, the bed of a dump truck lined with plastic, a sediment basin, or other Engineer approved unit.

The 500,000 gallon treatment flocculent bag shall be a BIOSTAR CH product or approved equal. Information concerning the product may be found on the Internet at the following location: <http://www.biostar-ch.com>. All costs for the dewatering and sediment collection system including furnishing the 500,000 gallon treatment flocculent bags, furnishing the flocculent housing units, disposing of sediment collected in the water and sediment storage units, furnishing and using the water and sediment collection units, labor, materials, and incidentals necessary for sediment collecting shall be incidental to the contract lump sum price for "Water Pollution Control".

THE SECOND OPTION is to use the Eco Pond Rescue Water Wagon. Information for this option can be found at www.ecopondrescue.com or by using the contact information to the right.

Eco Pond Rescue LLC
Seminole, Florida 33775
Phone: 727-412-4323

THE THIRD OPTION is a combination of systems and methods. This may include systems mentioned above as well as systems or methods developed by the Contractor and approved by the Engineer.

For example, the Contractor may elect to use a flocculant listed below to treat water coming into the storm sewer, use a pump to remove that water, and then use a lined dumpster to allow the sediment to fall out of suspension before water is released. If stormwater is treated in the storm sewer, accumulations of sediment and debris in the sumps will need to be removed.

The Contractor may also elect to use dewatering bags to capture sediment. Water slowly seeps through the bags and bags are usually placed on pavement, vegetated areas, or gravel. No matter what the Contractor and Engineer agree to use to intercept and treat stormwater, the payment will remain as mentioned above. Payment for additional sites and/or treatment of over 1,500,000 gallons will be made.

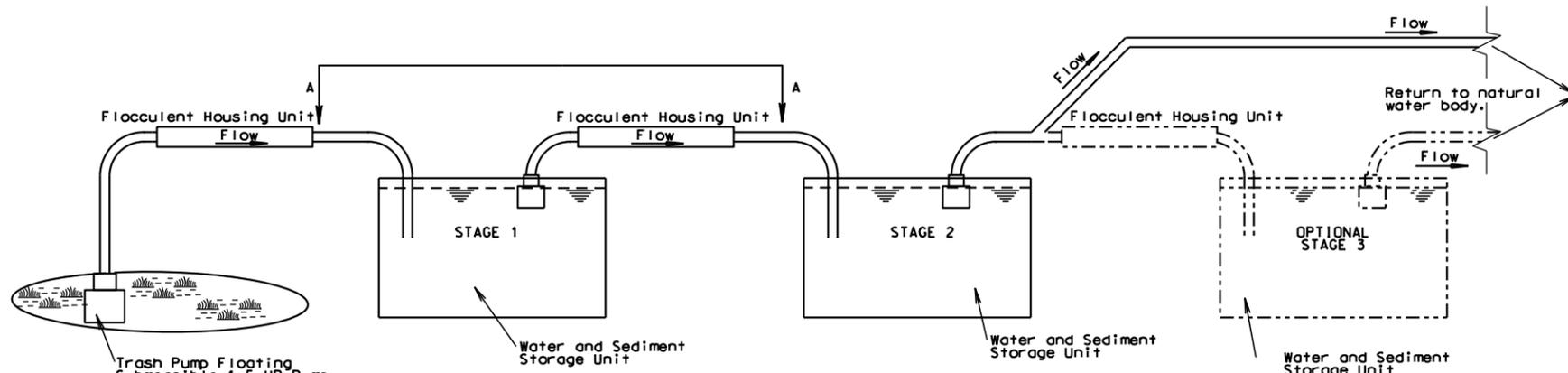
The Contractor may use a flocculant listed below or an approved equal:

Product	Manufacturer
Terra-Tubes	ACF Environmental Buffalo Grove, IL Phone: 1-800-366-1180 www.terratubes.com
APS 700 Series Flocc Logs	Applied Polymer Systems, Inc. Woodstock, GA Phone: 1.866.200.9868 http://www.siltstop.com
Erosion Guard Products Logs/Flats/Powder	Innovative Turf Solutions Cincinnati, OH Phone: 1.513.317.8311 http://www.innovativeturfsolutions.com/index.html
Floc	Innovative Turf Solutions Cincinnati, OH Phone: 1.513.317.8311 http://www.innovativeturfsolutions.com/index.html
FI-3500 Tablets	JRM Chemical, Inc. Cleveland, OH Phone: 1.216.475.8488 http://www.soilmoist.com/

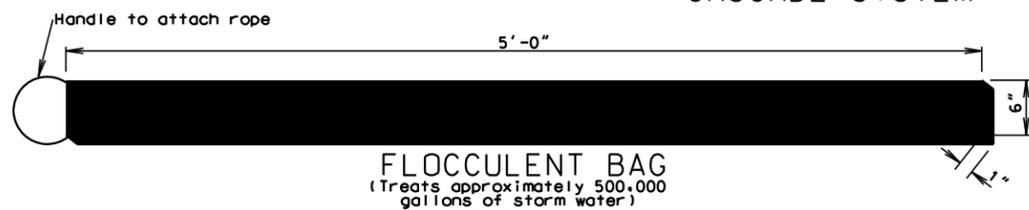
The Contractor may elect to use dewatering bags to capture sediment. Known products available are listed below:

Product	Manufacturer
Dandy Dewatering Bag	Dandy Products, Inc. Powell, OH Phone: 1-800-591-2284 www.dandyproducts.com
Ultra-Dewatering Bag	UltraTech International, Inc. Jacksonville, FL Phone: 1-800-764-9563 www.spillcontainment.com
Taurus Dewatering Bags	SolHuTec Group, Inc. 1-888-703-9889 www.solhutec.com
Non-woven Sediment Filter Bags	Indian Valley Industries, Inc. Johnson City, NY 1-800-659-5111 www.ivindustries.com
Heavy Duty Dirtbag 55	ACF Environmental Richmond, VA 1-800-223-9021 www.acfenvironmental.com

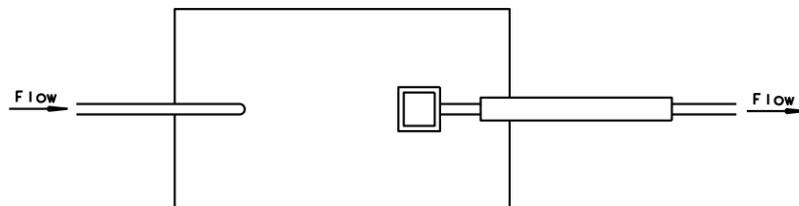
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ELEVATION VIEW
CASCADE SYSTEM



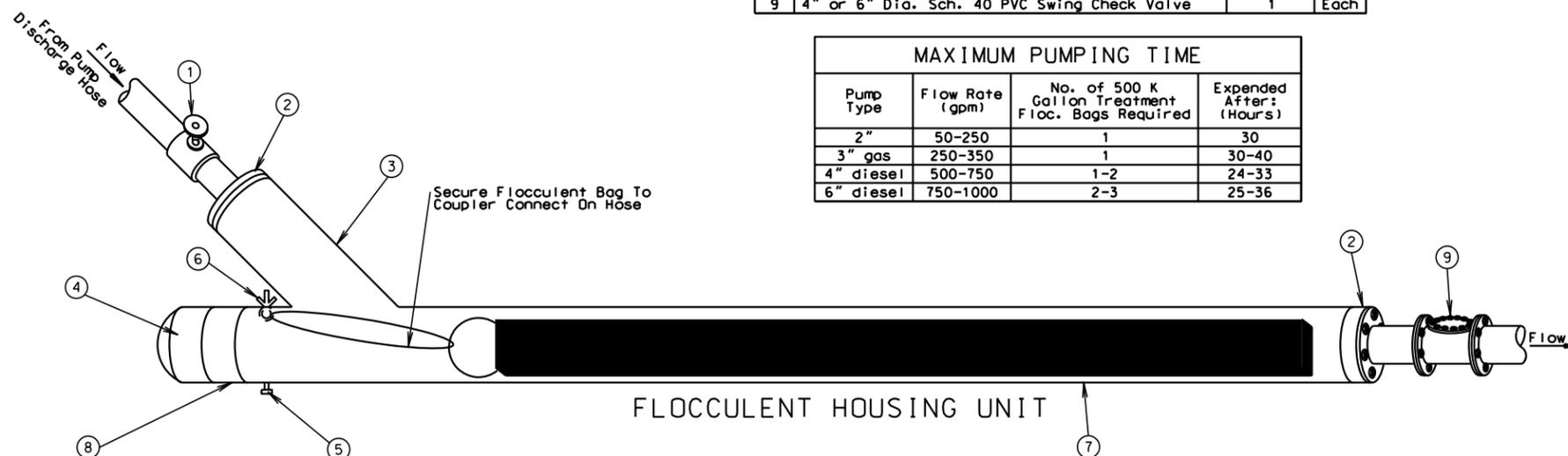
FLOCCULENT BAG
(Treats approximately 500,000 gallons of storm water)



VIEW A-A

FLOCCULENT HOUSING UNIT (Estimated Quantities) (For Information Only)			
NO.	DESCRIPTION	QUANTITY	UNIT
1	4" or 6" Dia. Sch. 40 Gate Valve	1	Each
2	4" X 6" or 6" X 8" Sch. 40 PVC Bushing	2	Each
3	6" or 8" Dia. Sch. 40 PVC "Y"	1	Each
4	6" or 8" Dia. Sch. 40 PVC Female Threaded Cap	1	Each
5	1" Dia. Sch. 80 PVC Drain Valve	1	Each
6	1/2" Eye Bolt With Wing Nut and Rubber Gromets	1	Each
7	6" or 8" Dia. Sch. 40 PVC Pipe	10	Ft.
8	6" or 8" Dia. Sch. 40 PVC Male Adapter	1	Each
9	4" or 6" Dia. Sch. 40 PVC Swing Check Valve	1	Each

MAXIMUM PUMPING TIME			
Pump Type	Flow Rate (gpm)	No. of 500 K Gallon Treatment Floc. Bags Required	Expended After: (Hours)
2"	50-250	1	30
3" gas	250-350	1	30-40
4" diesel	500-750	1-2	24-33
6" diesel	750-1000	2-3	25-36



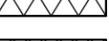
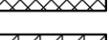
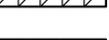
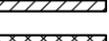
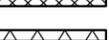
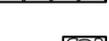
FLOCCULENT HOUSING UNIT

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EROSION AND SEDIMENT CONTROL LEGEND

SYMBOLOLOGY FOR BEST MANAGEMENT PRACTICES

-  STORM WATER DISCHARGE POINT
-  SEDIMENT CONTROL AT INLET BEFORE PLACEMENT OF SURFACING
-  SEDIMENT CONTROL AT TYPE S DROP INLETS
-  SEDIMENT CONTROL AT DROP INLETS WHEN FRAME AND GRATE IS IN PLACE
-  TEMPORARY FLOCCULANT INSTALLATION IN OR AROUND INLETS
-  LOCATIONS FOR CAPTURING AND TREATING STORMWATER
-  TEMPORARY SEDIMENT BARRIER
-  HIGH FLOW SILT FENCE
-  HIGH FLOW SILT FENCE AT PIPE INLET
-  LOW FLOW SILT FENCE
-  SILT TRAP
-  EROSION CONTROL WATTLES ON SLOPES
-  EROSION CONTROL WATTLES AT INLETS
-  EROSION CONTROL WATTLES IN DITCHES
-  SOIL STABILIZER / TEMPORARY MULCH
-  SURFACE ROUGHENING
-  HYDRAULIC MULCHES
-  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
-  ROCK CHECK DAM
-  SYNTHETIC CHANNEL PROTECTION
-  CUT INTERCEPTOR DITCH
-  TRIANGULAR SILT BARRIERS
-  EROSION BALES
-  TEMPORARY SLOPE DRAIN
-  FLOATING SILT CURTAIN
-  TEMPORARY WATER BARRIER

BEST MANAGEMENT PRACTICES

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

INITIAL PHASE

BMPs from the Legend shown as Orange Symbols on the Erosion and Sediment Control Plan Sheets are to be installed in the Initial Phase prior to earth disturbing activities. Other BMPs installed during the initial phase, like inlet protection on existing inlets, may remain in place, be removed, or be replaced depending on the fate of the inlet it is protecting. Most BMPs installed during this phase should remain in place until water is diverted or until Final Phase BMPs are installed.

INTERMEDIATE PHASE

BMPs from the Legend shown as Blue Symbols on the Erosion and Sediment Control Plan Sheets are to be installed during the Intermediate Phase to do one of the following:

--Dewater and/or collect sediment and debris from storm water

--Temporarily stabilize soil to reduce the need for excessive sediment capture

Sediment control BMPs should remain in place until Final Stabilization is achieved unless they are replaced by another BMP.

FINAL PHASE

BMPs from the Legend shown as Green Symbols on the Erosion and Sediment Control Plan Sheets are to be installed in the Final Phase to do one of the following:

--Achieve final stabilization through permanent erosion control.

--Capture sediment during final stabilization. BMPs used to capture sediment, such as inlet protection, should be removed once the vegetation reaches 75% of the background level. Other BMPs, like erosion control wattles, can be left to decompose.

If these items are applicable they are to be shown in the updated SWPPP using the Symbols given.

- | | |
|---|---|
|  TOPSOIL STOCKPILES |  ON-SITE CONSTRUCTION MATERIAL STORAGE AREAS |
|  BORROW AREAS |  SPILL KIT |
|  STABILIZED CONSTRUCTION ENTRANCES |  WORK PLATFORM |
|  VEGETATED BUFFER STRIPS |  CONCRETE PLANT SITES |
|  CONCRETE WASHOUTS |  VEHICLE AND EQUIPMENT PARKING, FUELING, AND MAINTENANCE AREAS |
|  ASPHALT PLANT SITES |  DUMPSTER OR OTHER TRASH AND DEBRIS CONTAINERS |

EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0085(20)26	D13	D31
Plotting Date:		06/13/2014	

Install Interim Sediment Control at the 4' x 11' Type S Drop Inlets at the following locations:
 15+11-23.63' R 38 Ft HFSF 48 Ft Sed. Filter Bags
 16+88-23.63' R 38 Ft HFSF 48 Ft Sed. Filter Bags

Install Sediment Control at the 4' x 11' Type S Drop Inlets at the following locations:
 15+11-23.63' R 13 Ft
 16+88-23.63' R 13 Ft

Install Interim Sediment Control at the 2' x 3' Type B Drop Inlet at the following location:
 16+21-21.17' R 18 Ft HFSF 24 Ft Sed. Filter Bags

Install Sediment Control at the 2' x 3' Type B Drop Inlet at the following location:
 16+21-21.17' R 1 each

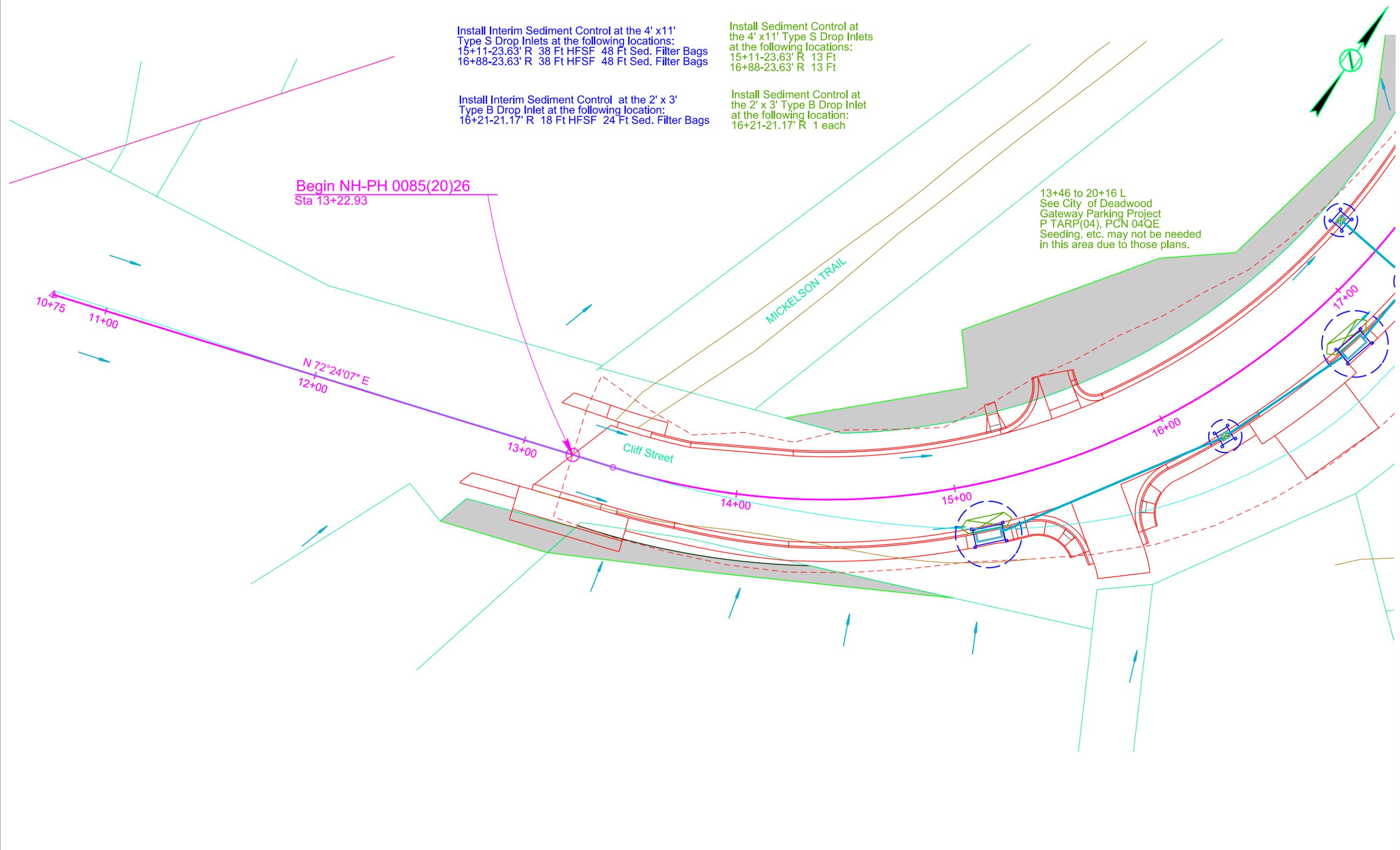
Begin NH-PH 0085(20)26
 Sta 13+22.93

13+46 to 20+16 L
 See City of Deadwood Gateway Parking Project P TARP(04), PCN 04QE Seeding, etc. may not be needed in this area due to those plans.

Plot Scale - 1"=40'

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EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0085(20)26	D14	D31
Plotting Date: 06/13/2014			

13+46 to 20+16 L
See City of Deadwood Gateway Parking Project P TARP(04), PCN 04QE
Seeding may not be needed in this area due to those plans.

In addition to Interim Sediment Control at Inlets and Sediment Control at Inlets, other methods will need to be used to capture and/or treat storm water before it outfalls into Whitewood Creek.

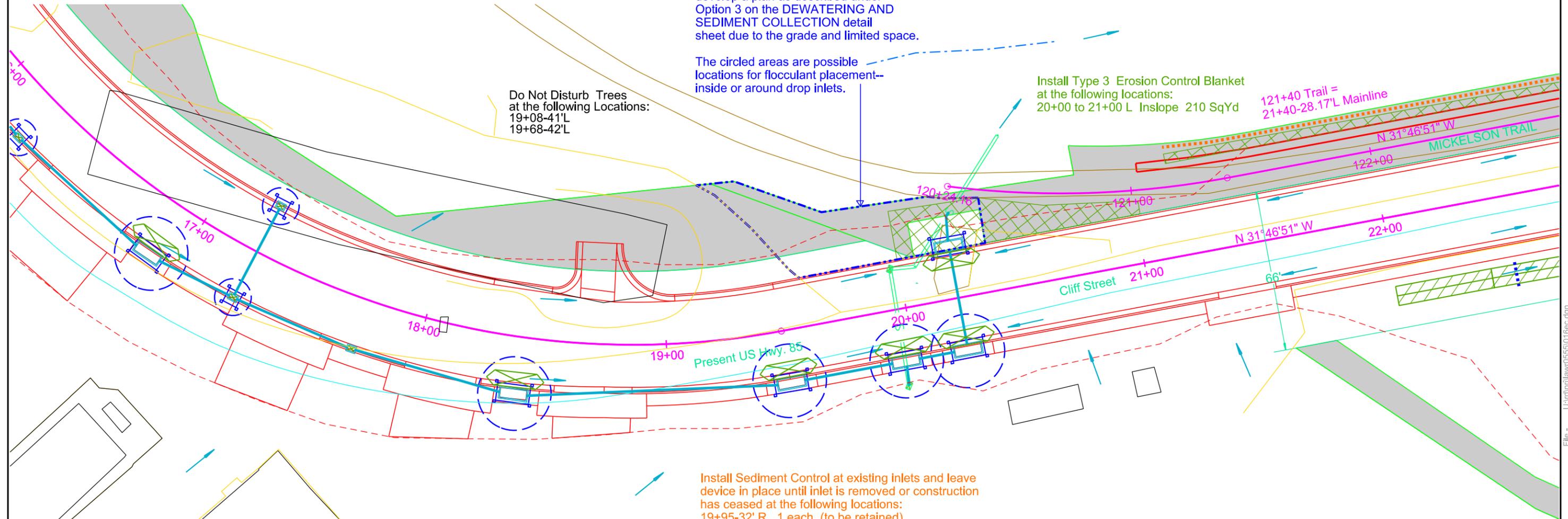
The outlined area is believed to be a good place to capture and treat storm water. The Contractor will have to develop a plan as described under Option 3 on the DEWATERING AND SEDIMENT COLLECTION detail sheet due to the grade and limited space.

The circled areas are possible locations for flocculant placement--inside or around drop inlets.

Do Not Disturb Trees at the following Locations:
19+08-41'L
19+68-42'L

Install Type 3 Erosion Control Blanket at the following locations:
20+00 to 21+00 L Inslope 210 SqYd

121+40 Trail = 21+40-28.17'L Mainline



Install Sediment Control at existing inlets and leave device in place until inlet is removed or construction has ceased at the following locations:
19+95-32' R 1 each (to be retained)
19+96-17' L 1 each (to be removed)

Install Interim Sediment Control at the 4' x 11' Type S Drop Inlets at the following locations:
18+40-23.63' R 38 Ft HFSF 48 Ft Sed. Filter Bags
19+48-21.63' R 38 Ft HFSF 48 Ft Sed. Filter Bags
19+96-21.63' R 38 Ft HFSF 48 Ft Sed. Filter Bags
20+22-21.63' R 38 Ft HFSF 48 Ft Sed. Filter Bags
20+22-21.63' L 38 Ft HFSF 48 Ft Sed. Filter Bags

Install Sediment Control at the 4' x 11' Type S Drop Inlets at the following locations:
18+40-23.63' R 13 Ft
19+48-21.63' R 13 Ft
19+96-21.63' R 13 Ft
20+22-21.63' R 13 Ft
20+22-21.63' L 13 Ft

Install Interim Sediment Control at the 2' x 3' Type B Drop Inlets at the following locations:
17+25-21.17' L 18 Ft HFSF 24 Ft Sed. Filter Bags
17+25-21.17' R 18 Ft HFSF 24 Ft Sed. Filter Bags
17+75-21.17' R 18 Ft HFSF 24 Ft Sed. Filter Bags

Install Sediment Control at the 2' x 3' Type B Drop Inlets at the following Locations:
17+25-21.17' L 1 each
17+25-21.17' R 1 each
17+75-21.17' R 1 each

Plot Scale - 1"=40'

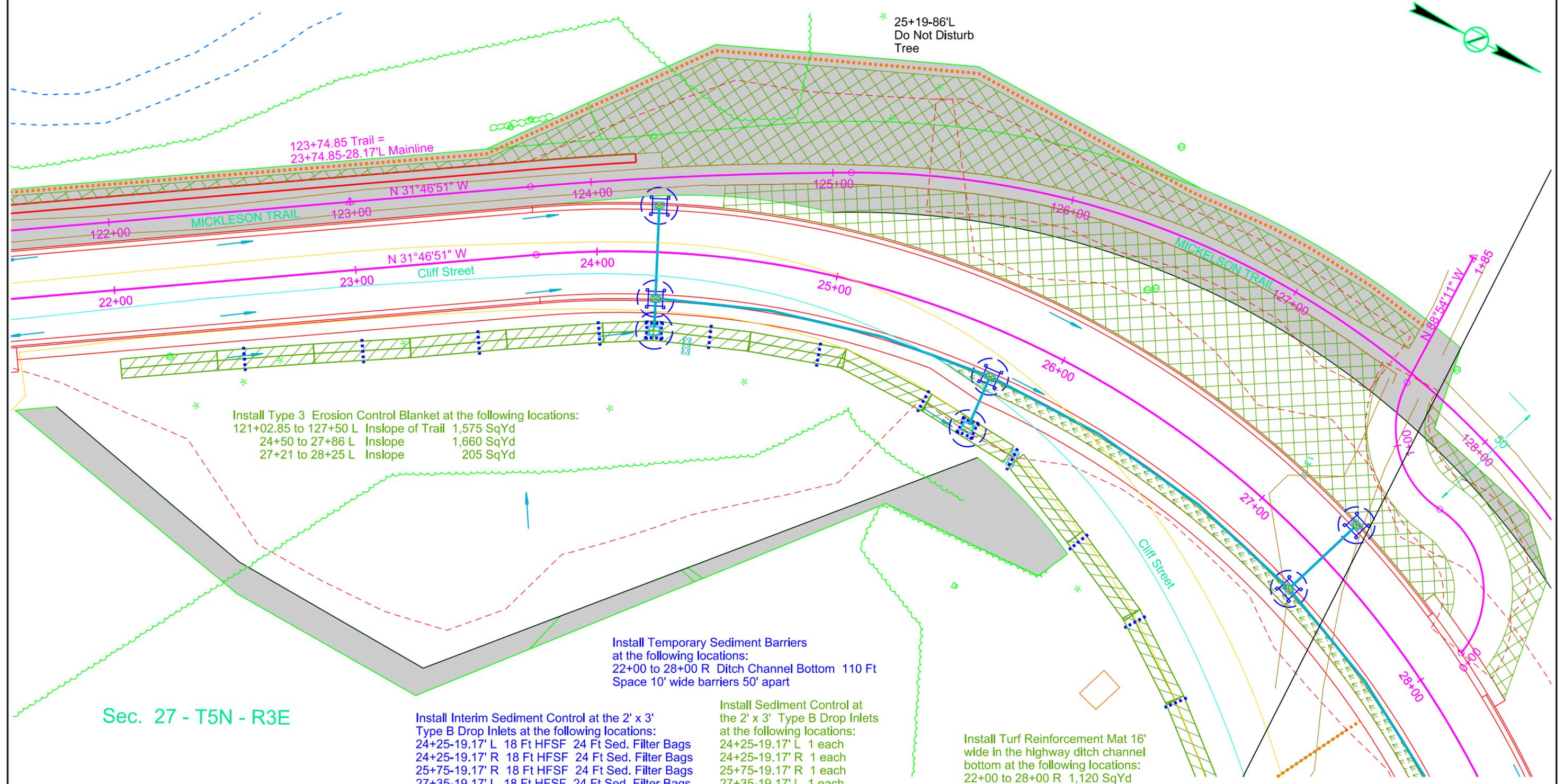
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EROSION AND SEDIMENT CONTROL PLAN

Install Temporary Sediment Barriers
at the following locations:
121+00 to 127+50 L Downslope boundary 700 Ft

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0085(20)26	D15	D31
Plotting Date: 06/13/2014			



Install Type 3 Erosion Control Blanket at the following locations:
121+02.85 to 127+50 L Inslope of Trail 1,575 SqYd
24+50 to 27+86 L Inslope 1,660 SqYd
27+21 to 28+25 L Inslope 205 SqYd

Install Temporary Sediment Barriers
at the following locations:
22+00 to 28+00 R Ditch Channel Bottom 110 Ft
Space 10' wide barriers 50' apart

Install Interim Sediment Control at the 2' x 3' Type B Drop Inlets at the following locations:
24+25-19.17' L 18 Ft HFSF 24 Ft Sed. Filter Bags
24+25-19.17' R 18 Ft HFSF 24 Ft Sed. Filter Bags
25+75-19.17' R 18 Ft HFSF 24 Ft Sed. Filter Bags
27+35-19.17' L 18 Ft HFSF 24 Ft Sed. Filter Bags
27+35-19.17' R 18 Ft HFSF 24 Ft Sed. Filter Bags

Install Sediment Control at the 2' x 3' Type B Drop Inlets at the following locations:
24+25-19.17' L 1 each
24+25-19.17' R 1 each
25+75-19.17' R 1 each
27+35-19.17' L 1 each
27+35-19.17' R 1 each

Install Turf Reinforcement Mat 16' wide in the highway ditch channel bottom at the following locations:
22+00 to 28+00 R 1,120 SqYd

26+00 to 28+00 R
Obliterate Old Road (2.0 Sta)

Sec. 27 - T5N - R3E

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0085(20)26	D16	D31

Plotting Date: 06/13/2014

EROSION AND SEDIMENT CONTROL PLAN

Install Temporary Sediment Barriers around the 3' x 4' Type C Drop Inlets at the following locations:
 30+38-38' R 20 Ft
 32+33-38' R 20 Ft

Install Interim Sediment Control at the 4' x 11' Type S Drop Inlets at the following locations:
 32+33-21.63' L 38 Ft HFSF 48 Ft Sed. Filter Bags
 32+33-21.63' R 38 Ft HFSF 48 Ft Sed. Filter Bags

Install Interim Sediment Control at the 2' x 3' Type B Drop Inlets at the following locations:
 28+90-19.17' R 18 Ft HFSF 24 Ft Sed. Filter Bags
 30+28-19.17' L 18 Ft HFSF 24 Ft Sed. Filter Bags
 30+28-19.17' R 18 Ft HFSF 24 Ft Sed. Filter Bags

Install Sediment Control at the 4' x 11' Type S Drop Inlets at the following locations:
 32+33-21.63' L 13 Ft
 32+33-21.63' R 13 Ft

Install Sediment Control at the 2' x 3' Type B Drop Inlets at the following locations:
 28+90-19.17' R 1 each
 30+28-19.17' L 1 each
 30+28-19.17' R 1 each

In addition to Interim Sediment Control at Inlets and Sediment Control at Inlets, other methods will need to be used to capture and/or treat storm water before it outfalls into Whitewood Creek.

The outlined area is believed to be a good place to capture and treat storm water. The Contractor will have to develop a plan as described under Option 3 on the DEWATERING AND SEDIMENT COLLECTION detail sheet due to the grade and limited space.

The circled areas are possible locations for flocculant placement--inside or around drop inlets.

Install Type 3 Erosion Control Blanket at the following locations:
 32+10 to 32+55 L Inslope 240 SqYd
 32+10 to 32+55 L Trail Inslope 100 SqYd

Install Turf Reinforcement Mat 16' wide in the highway ditch channel bottom at the following locations:
 32+16 to 35+25 R 570 SqYd

Install Temporary Sediment Barriers at the following locations:
 32+50 to 35+00 R Ditch Channel 60 Ft
 10' Pieces spaced 50' apart

Install Temporary Sediment Barriers for sediment control at 28+00 R 90 Ft

28+00 to 33+04 R Retain Existing Asphalt Pavement outside work limits

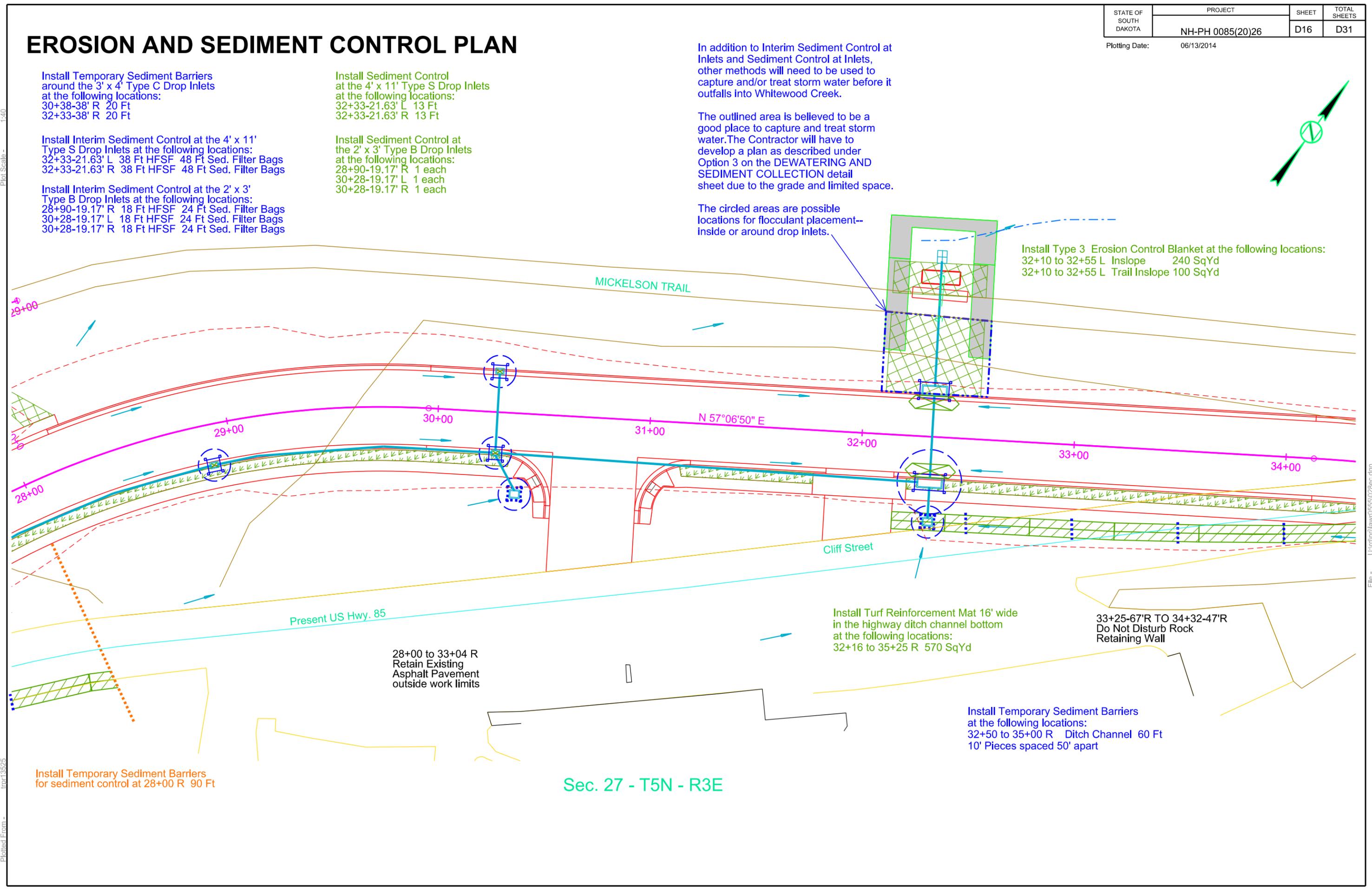
33+25-67'R TO 34+32-47'R Do Not Disturb Rock Retaining Wall

Sec. 27 - T5N - R3E

Plot Scale - 1"=40'

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EROSION AND SEDIMENT CONTROL PLAN

Install Interim Sediment Control at the 2' x 3' Type B Drop Inlets at the following locations:
 39+00-19.17' L 18 Ft HFSF 24 Ft Sed. Filter Bag
 39+00-19.17' R 18 Ft HFSF 24 Ft Sed. Filter Bag

Install Temporary Sediment Barriers around the 3' X 4' Type C Drop Inlet at the following location:
 38+98-30.5'R 20 Ft

Install Sediment Control at the 2' x 3' Type B Drop Inlets at the following locations:
 39+00-19.17' L 1 each
 39+00-19.17' R 1 each

Install Temporary Sediment Barriers in the highway ditch channel bottom at the following locations:
 37+00 R 10 Ft
 37+50 R 10 Ft

36+67-29'L
 Do Not Disturb Sign

37+28 to 37+53 L
 Do Not Disturb Canopy, Columns, and raised concrete base.

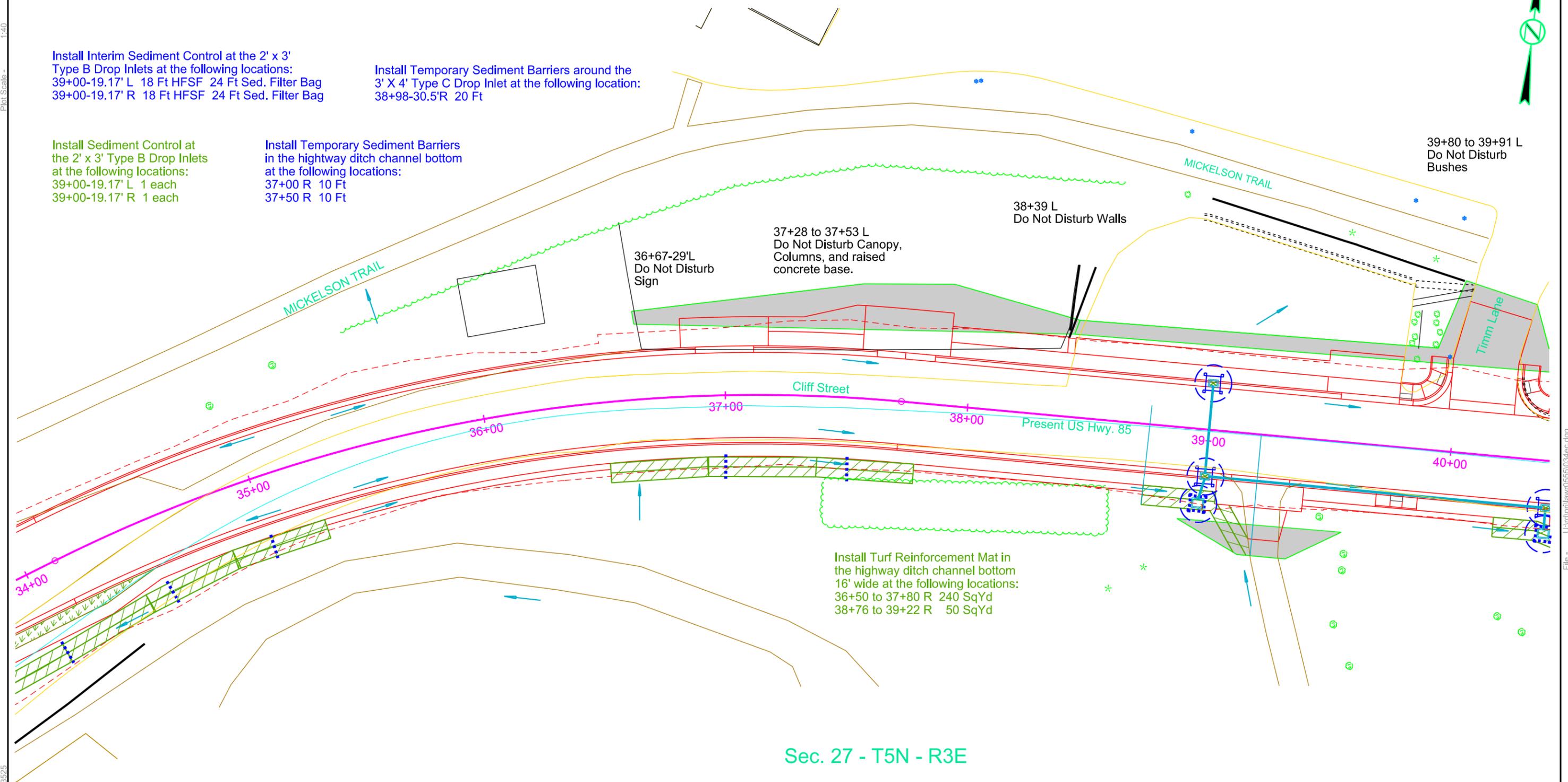
38+39 L
 Do Not Disturb Walls

39+80 to 39+91 L
 Do Not Disturb Bushes

Install Turf Reinforcement Mat in the highway ditch channel bottom 16' wide at the following locations:
 36+50 to 37+80 R 240 SqYd
 38+76 to 39+22 R 50 SqYd

Plot Scale - 1"=40'

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Sec. 27 - T5N - R3E

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EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0085(20)26	D18	D31

Plotting Date: 06/13/2014

Install Turf Reinforcement Mat in the highway ditch channel bottom 16' wide at the following locations:
40+20 to 40+50 R 55 SqYd

Install Sediment Control at existing inlets and leave in place until the inlet is removed or grading has ceased:
42+05-19'L 1 each (retaining)
42+05-20' R 1 each (replacing)

Install Interim Sediment Control at the 2' X 3' Type B Drop Inlets at the following locations:
40+41-19.17' R 18 Ft HFSF 24 Ft Sed. Filter Bags
42+04.5-19.67' R 18 Ft HFSF 24 Ft Sed. Filter Bags

Install Temporary Sediment Barriers around the 3' X 4' Type C Drop Inlet at the following location:
40+41-30'R 20 Ft

Install Sediment Control at the 2' X 3' Type B Drop Inlets at the following locations:
40+41-19.17' R 1 each
42+04.5-19.67' R 1 each

Install Type 3 Erosion Control Blanket at the following locations:
44+13 to 45+00 L Backslope 150 SqYd

43+68 to 45+30 L
Do Not Disturb
Mickelson Trail Surfacing

End Grading
Begin Mill & Overlay
Sta 41+97.54

42+33 R
Install Bank and Channel Protection Gabions (4.5 CY)

42+25.91 to 42+33.48 R
Reconstruct Retaining Wall (See Section E)

42+09 R
Do Not Disturb Sign

In addition to Interim Sediment Control at Inlets and Sediment Control at Inlets, other methods will need to be used to capture and/or treat storm water before it outfalls into Whitewood Creek.

The outlined area is believed to be a good place to capture and treat storm water. The Contractor will have to develop a plan as described under Option 3 on the DEWATERING AND SEDIMENT COLLECTION detail sheet due to the grade and limited space.

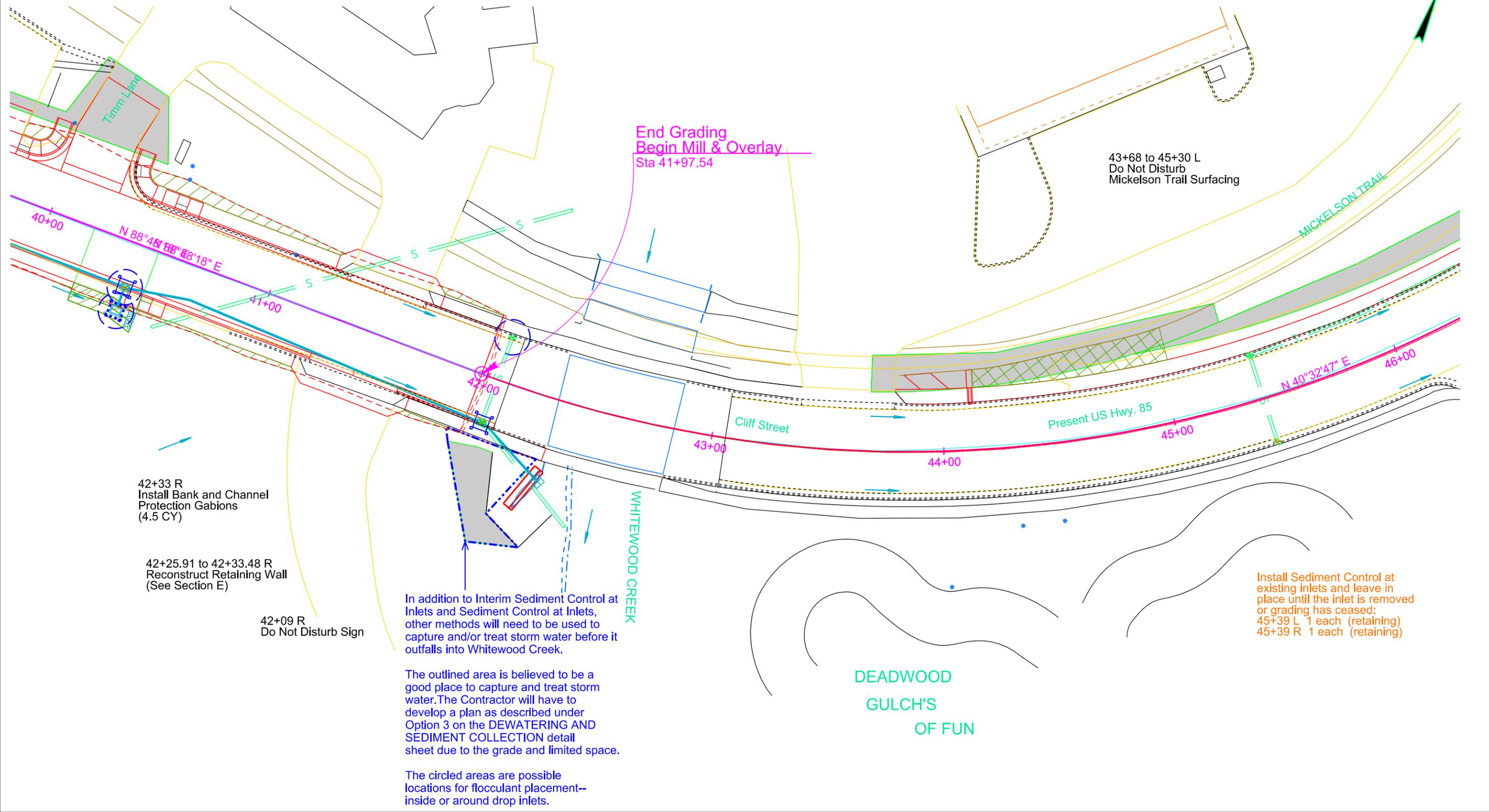
The circled areas are possible locations for flocculant placement-- inside or around drop inlets.

Install Sediment Control at existing inlets and leave in place until the inlet is removed or grading has ceased:
45+39 L 1 each (retaining)
45+39 R 1 each (retaining)

Plot Scale - 1"=40'

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EROSION AND SEDIMENT CONTROL PLAN

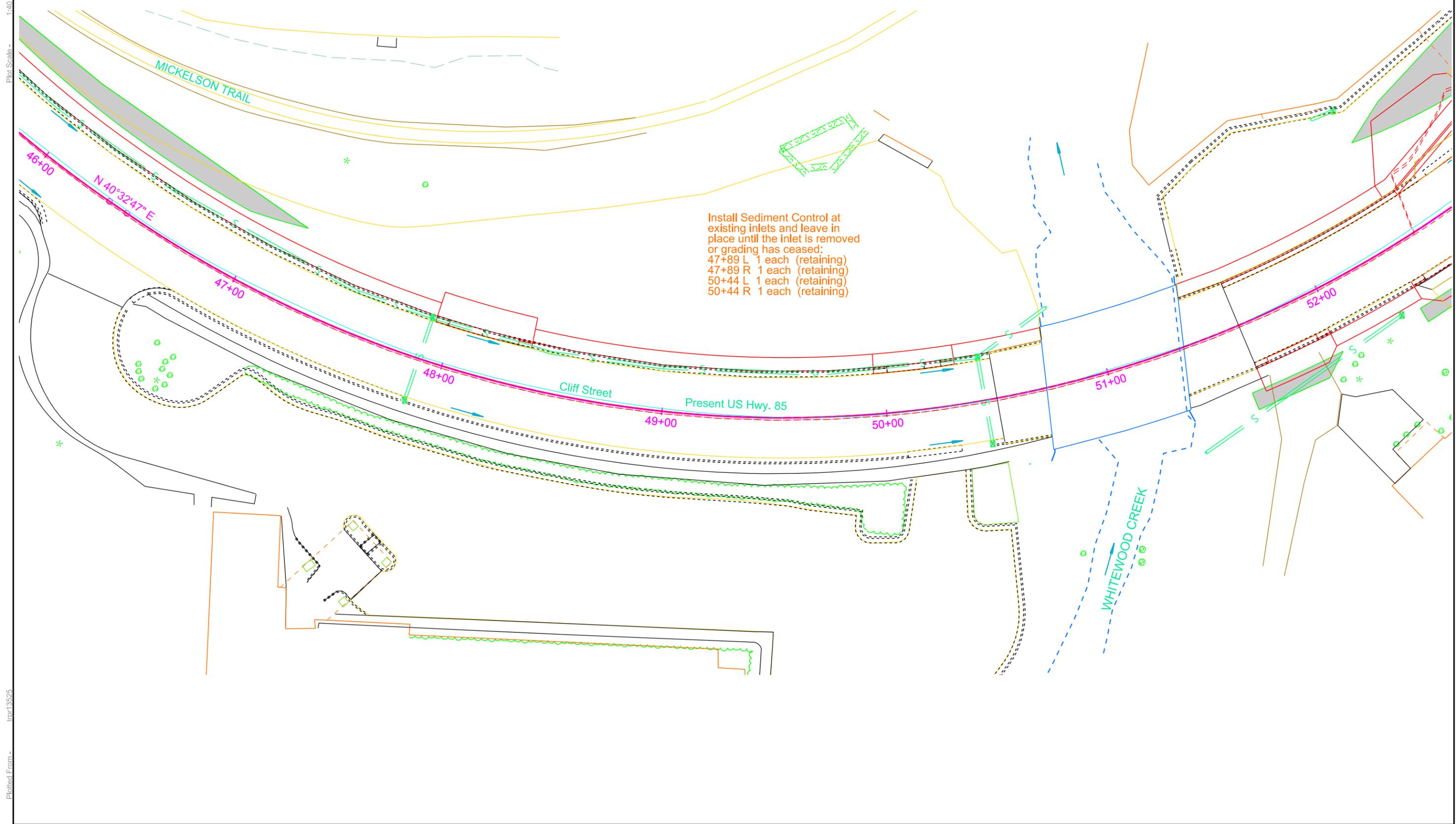
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0085(20)26	D19	D31
Plotting Date: 06/13/2014			



Plot Scale - 1"=40'

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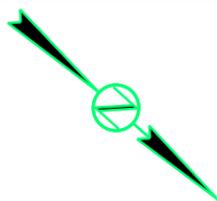
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EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0085(20)26	D20	D31

Plotting Date: 06/13/2014



Install Sediment Control at existing inlets and leave in place until the inlet is removed OR a new frame and grate assembly is in place (then replace the device) at the following locations:
 54+39-19'L 1 each (retaining)
 54+39-19'R 1 each (retaining)
 54+66-38'R 1 each (removing)
 54+95-41.3'R 1 each (retaining)

Install Interim Sediment Control at existing inlets after the frame and grate has been removed and leave in place until the new frame and grate can be installed at the following locations:
 54+39-19'L 22 Ft HFSF 32 Ft Sed. Filter Bags
 54+39-19'R 22 Ft HFSF 32 Ft Sed. Filter Bags
 54+95-41.3'R 22 Ft HFSF 32 Ft Sed. Filter Bags

Install Sediment Control at the 2' x 3' Type B Drop Inlets at the following locations:
 53+42.5-29.67'L 18 Ft HFSF 24 Ft Sed. Filter Bags
 54+63.9-49.5' R 18 Ft HFSF 24 Ft Sed. Filter Bags
 56+19.5-19.17' L 18 Ft HFSF 24 Ft Sed. Filter Bags
 56+68-19.17' R 18 Ft HFSF 24 Ft Sed. Filter Bags
 57+56-19.17' R 18 Ft HFSF 24 Ft Sed. Filter Bags

In addition to Interim Sediment Control at Inlets and Sediment Control at Inlets, other methods will need to be used to capture and/or treat storm water before it outfalls into Whitewood Creek.

The outlined area is believed to be a good place to capture and treat storm water. This area may be sufficient for all options on the DEWATERING AND SEDIMENT COLLECTION detail sheet.

The circled areas are possible locations for flocculant placement--inside or around drop inlets.

Install Temporary Sediment Barriers around the 3'x4' Type C Drop Inlet at the following location:
 56+68-35'R 20 Ft

Install Sediment Control at the 2' x 3' Type B Drop Inlets at the following locations:
 53+42.5-29.67'L 1 each
 54+63.9-49.5' R 1 each
 56+19.5-19.17' L 1 each
 56+68-19.17' R 1 each
 57+56-19.17' R 1 each

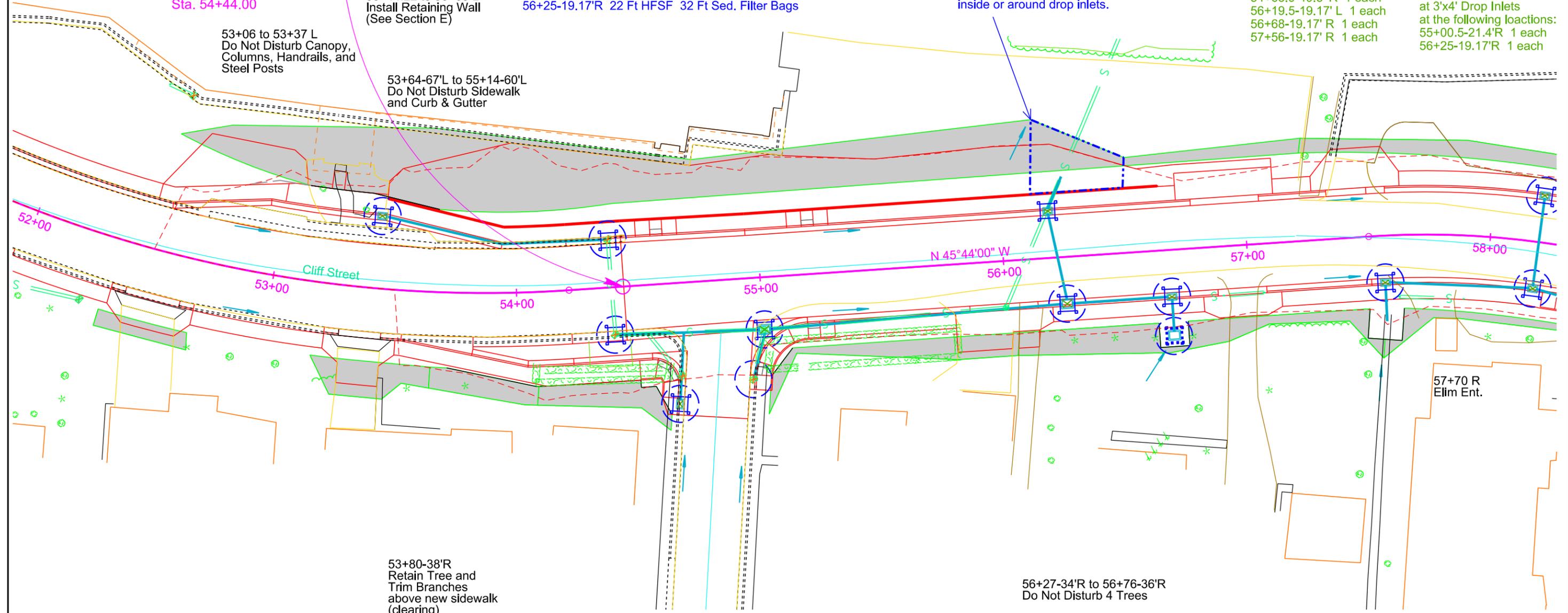
Install Sediment Control at 3'x4' Drop Inlets at the following locations:
 55+00.5-21.4'R 1 each
 56+25-19.17'R 1 each

End Mill & Overlay
 Begin Grading
 Sta. 54+44.00

53+44.22 to 56+65 L
 Install Retaining Wall
 (See Section E)

53+06 to 53+37 L
 Do Not Disturb Canopy,
 Columns, Handrails, and
 Steel Posts

53+64-67'L to 55+14-60'L
 Do Not Disturb Sidewalk
 and Curb & Gutter



53+80-38'R
 Retain Tree and
 Trim Branches
 above new sidewalk
 (clearing)

56+27-34'R to 56+76-36'R
 Do Not Disturb 4 Trees

56+89-31'R & 57+04-31'R
 Do Not Disturb
 Brick Columns

57+83-34'R
 Do Not Disturb
 Shed

Plot Scale - 1"=40'

Plotted From -

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EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0085(20)26	D21	D31
Plotting Date: 06/13/2014			

Install Interim Sediment Control at the 2' x 3' Type B Drop Inlets at the following locations:
 58+20-19.17' L 18 Ft HFSF 24 Ft Sed. Filter Bags
 58+20-19.17' R 18 Ft HFSF 24 Ft Sed. Filter Bags
 58+62.63-40.42' R 18 Ft HFSF 24 Ft Sed. Filter Bags
 58+85.22-45.5' R 18 Ft HFSF 24 Ft Sed. Filter Bags
 59+25-19.17' R 18 Ft HFSF 24 Ft Sed. Filter Bags
 61+25-21.17' L 18 Ft HFSF 24 Ft Sed. Filter Bags
 61+25-21.17' R 18 Ft HFSF 24 Ft Sed. Filter Bags
 62+30-21.17' R 18 Ft HFSF 24 Ft Sed. Filter Bags
 63+50-19.17' L 18 Ft HFSF 24 Ft Sed. Filter Bags
 63+50-19.17' R 18 Ft HFSF 24 Ft Sed. Filter Bags

Install Sediment Control at the 2' x 3' Type B Drop Inlets at the following locations:
 58+20-19.17' L 1 each
 58+20-19.17' R 1 each
 58+62.63-40.42' R 1 each
 58+85.22-45.5' R 1 each
 59+25-19.17' R 1 each
 61+25-21.17' L 1 each
 61+25-21.17' R 1 each
 62+30-21.17' R 1 each
 63+50-19.17' L 1 each
 63+50-19.17' R 1 each

60+30 to 60+70 L
 Install Retaining Wall
 (See Section E)

62+48 L
 Do Not Disturb
 Planter & Sign

59+17 L
 Do Not Disturb Sign,
 Bushes, & Landscaping

59+72.4 to 59+82.4 L
 Install Retaining Wall
 (See Section E)

59+30-34'R
 Do Not Disturb tree

60+72-81'R
 Do Not Disturb
 Steel Post

Install Turf Reinforcement Mat in the highway ditch channel bottom 16' wide at the following locations:
 60+50 to 64+38 R 670 SqYd

ORIGINAL TOWN OF DEADWOOD

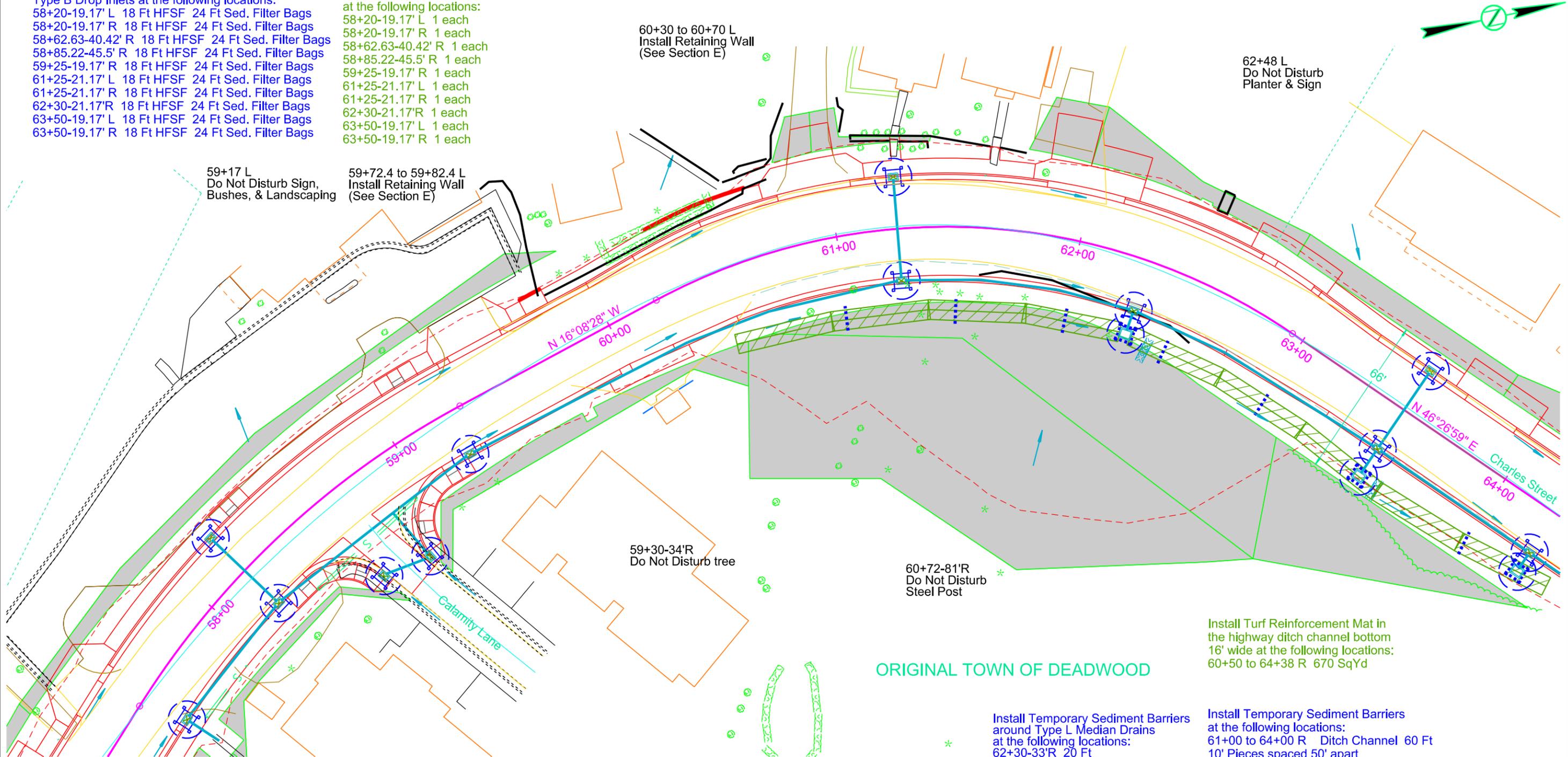
Install Temporary Sediment Barriers around Type L Median Drains at the following locations:
 62+30-33'R 20 Ft
 63+50-34.5'R 20 Ft

Install Temporary Sediment Barriers at the following locations:
 61+00 to 64+00 R Ditch Channel 60 Ft
 10' Pieces spaced 50' apart

Plot Scale - 1"=40'

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EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0085(20)26	D22	D31

Plotting Date: 06/13/2014



Install Temporary Sediment Barriers around the Type L Median Drain at the following location:
64+25-33'R 20 Ft

Install Interim Sediment Control at the 4'x11' Type S Drop Inlet at the following location:
69+90 -21.63'R 38 Ft HFSF 48 Ft Sed. Filter Bags

Install Interim Sediment Control at the 2' x 3' Type B Drop Inlets at the following locations:
64+25-19.17'R 18 Ft HFSF 24 Ft Sed. Filter Bags
65+37 -19.17' L 18 Ft HFSF 24 Ft Sed. Filter Bags
65+37 -19.17' R 18 Ft HFSF 24 Ft Sed. Filter Bags
67+23 -19.17' R 18 Ft HFSF 24 Ft Sed. Filter Bags
68+04 -21.17' L 18 Ft HFSF 24 Ft Sed. Filter Bags
68+04 -21.17' R 18 Ft HFSF 24 Ft Sed. Filter Bags
68+82 -19.89' R 18 Ft HFSF 24 Ft Sed. Filter Bags
69+90 -19.17' L 18 Ft HFSF 24 Ft Sed. Filter Bags

Install Sediment Control at the 2' x 3' Type B Drop Inlets at the following locations:
64+25-19.17'R 1 each
65+37 -19.17' L 1 each
65+37 -19.17' R 1 each
67+23 -19.17' R 1 each
68+04 -21.17' L 1 each
68+04 -21.17' R 1 each
68+82 -19.89' R 1 each
69+90 -19.17' L 1 each

65+44 L Reconstruct Retaining Wall (See Section E)
65+47 to 65+61 L Install Handrail (See Section E)

65+45 L Install Bank and Channel Protection Gabions (4.5 CY)

Install Temporary Sediment Barriers around the existing inlet and leave in place until the inlet is removed at the following location:
65+57 R 20 Ft

67+48 to 67+56 L Install Retaining Wall (See Section E)

Install Sediment Control at the 4'x11' Type S Drop Inlet at the following location:
69+90 -21.63'R 13 Ft

In addition to Interim Sediment Control at Inlets and Sediment Control at Inlets, other methods will need to be used to capture and/or treat storm water before it outfalls into Whitewood Creek.

The outlined area is believed to be a good place to capture and treat storm water. The Contractor will have to develop a plan as described under Option 3 on the DEWATERING AND SEDIMENT COLLECTION detail sheet due to the grade and limited space.

The circled areas are possible locations for flocculant placement--inside or around drop inlets.

66+03.36 to 67+55.41 L Install Concrete Barrier (See Section E)

69+37 L Do Not Disturb Wall & Fence

69+79 to 70+36 L Do Not Disturb Bushes & Trees

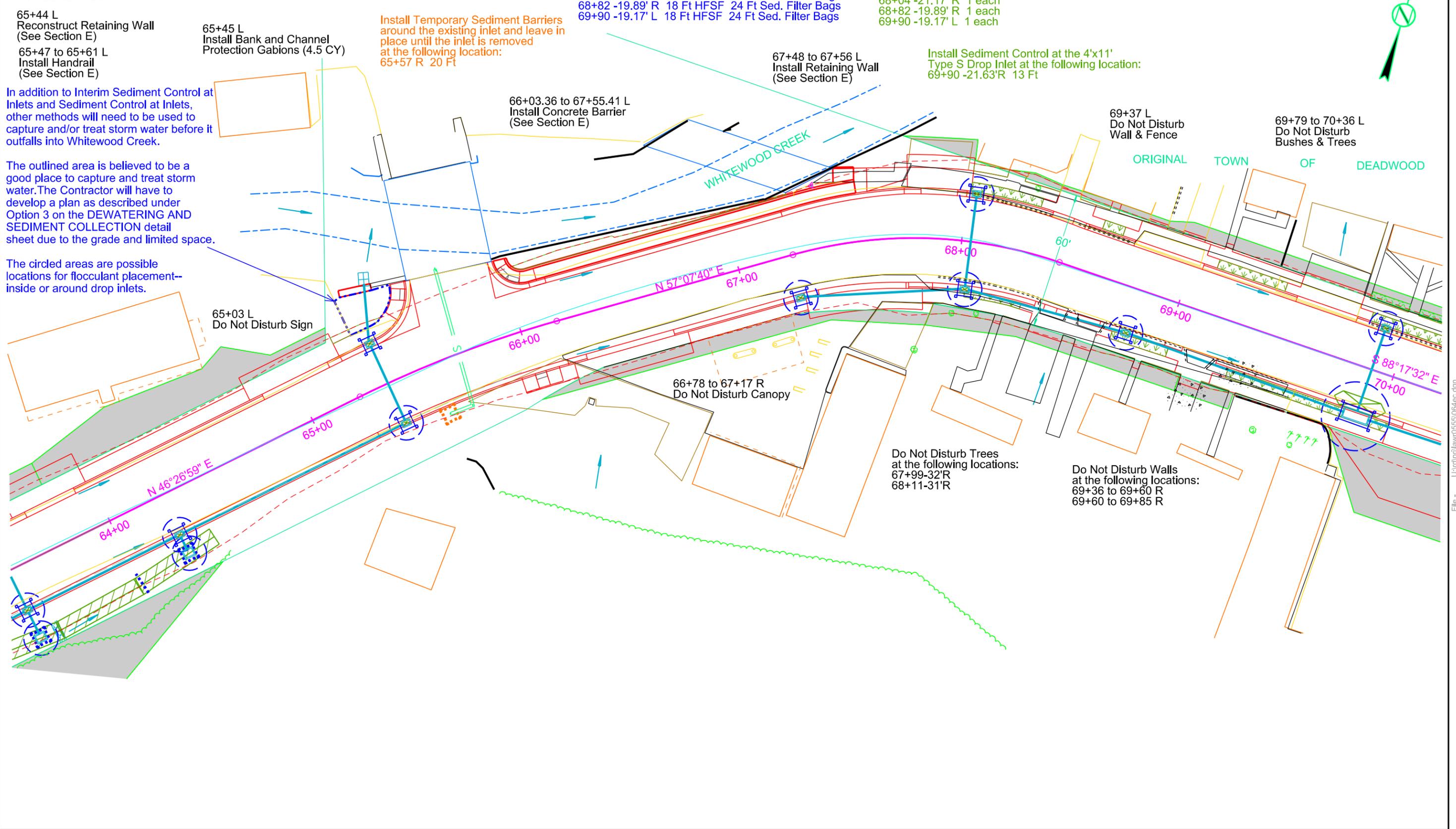
ORIGINAL TOWN OF DEADWOOD

65+03 L Do Not Disturb Sign

66+78 to 67+17 R Do Not Disturb Canopy

Do Not Disturb Trees at the following locations:
67+99-32'R
68+11-31'R

Do Not Disturb Walls at the following locations:
69+36 to 69+60 R
69+60 to 69+85 R



Plot Scale - 1"=40'

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EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0085(20)26	D23	D31
Plotting Date: 06/13/2014			

In addition to Interim Sediment Control at Inlets and Sediment Control at Inlets, other methods will need to be used to capture and/or treat storm water before it outfalls into Whitewood Creek.

The outlined areas are believed to be good places to capture and treat storm water. These areas combined may be large enough for all options on the DEWATERING AND SEDIMENT COLLECTION detail sheet.

The circled areas are possible locations for flocculant placement--inside or around drop inlets..

Install Interim Sediment Control at the 2' X 3' Type B Drop Inlets at the following locations:
 72+25-19.17'L 18 Ft HFSF 24 Ft Sed. Filter Bags
 72+29.50-19.17'R 18 Ft HFSF 24 Ft Sed. Filter Bags
 72+29.32-32.12'R 18 Ft HFSF 24 Ft Sed. Filter Bags
 74+32-19.17'R 18 Ft HFSF 24 Ft Sed. Filter Bags
 74+32-19.17' L 18 Ft HFSF 24 Ft Sed. Filter Bags
 75+61-19.17'R 18 Ft HFSF 24 Ft Sed. Filter Bags
 75+90.2-19.17'R 18 Ft HFSF 24 Ft Sed. Filter Bags

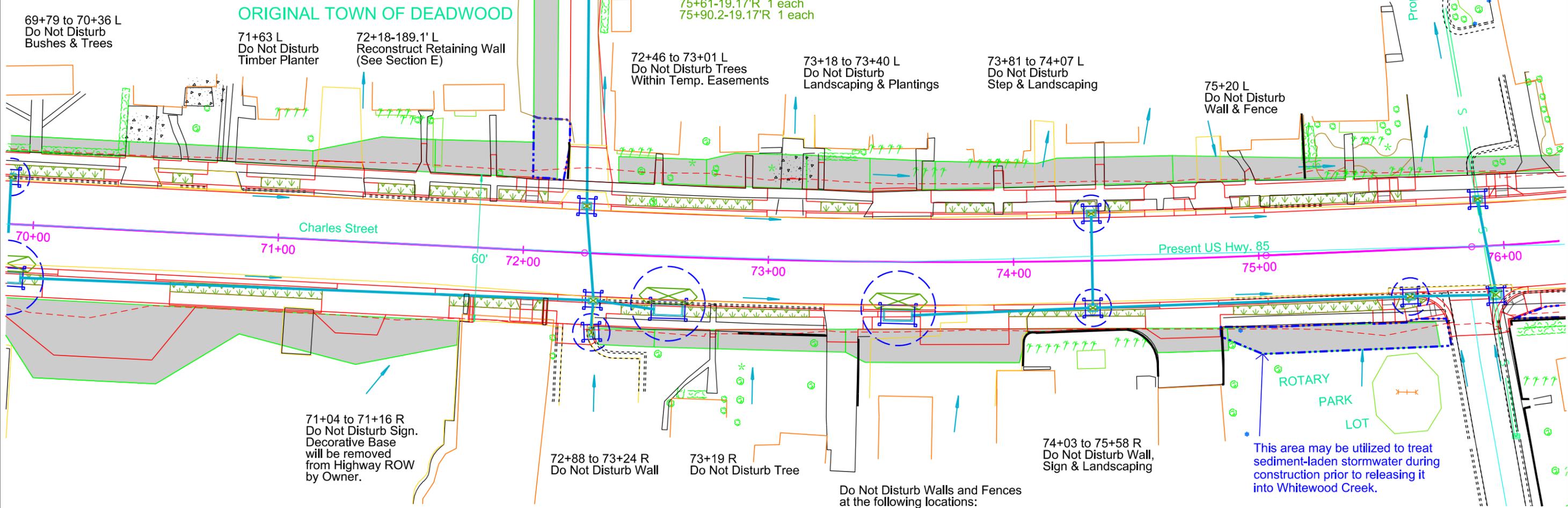
Install Interim Sediment Control at the 3' x 4' Type C Drop Inlet at the following location:
 75+95.7 -20' R 22 Ft HFSF 32 Ft Sed. Filter Bags

Install Interim Sediment Control at the 4'x11' Type S Drop Inlets at the following locations:
 72+60-21.63' R 38 Ft HFSF 48 Ft Sed. Filter Bags
 73+53-21.63' R 38 Ft HFSF 48 Ft Sed. Filter Bags

Install Sediment Control at the 2' X 3' Type B Drop Inlets at the following locations:
 72+25-19.17'L 1 each
 72+29.50-19.17'R 1 each
 72+29.32-32.12'R 1 each
 74+32-19.17'R 1 each
 74+32-19.17' L 1 each
 75+61-19.17'R 1 each
 75+90.2-19.17'R 1 each

Install Sediment Control at the 3' x 4' Type C Drop Inlet at the following location:
 75+95.7 -20' R 1 each

Install Sediment Control at the 4'x11' Type S Drop Inlets at the following locations:
 72+60-21.63' R 13 Ft
 73+53-21.63' R 13 Ft



69+79 to 70+36 L
Do Not Disturb
Bushes & Trees

ORIGINAL TOWN OF DEADWOOD

71+63 L
Do Not Disturb
Timber Planter

72+18-189.1' L
Reconstruct Retaining Wall
(See Section E)

72+46 to 73+01 L
Do Not Disturb Trees
Within Temp. Easements

73+18 to 73+40 L
Do Not Disturb
Landscaping & Plantings

73+81 to 74+07 L
Do Not Disturb
Step & Landscaping

75+20 L
Do Not Disturb
Wall & Fence

71+04 to 71+16 R
Do Not Disturb Sign.
Decorative Base
will be removed
from Highway ROW
by Owner.

72+88 to 73+24 R
Do Not Disturb Wall

73+19 R
Do Not Disturb Tree

Do Not Disturb Walls and Fences
at the following locations:
73+37 R
74+84 R

74+03 to 75+58 R
Do Not Disturb Wall,
Sign & Landscaping

This area may be utilized to treat
sediment-laden stormwater during
construction prior to releasing it
into Whitewood Creek.

Install Sediment Control at
the existing inlet and leave in
place until the inlet is removed
at the following location:
75+95-18' R 1 each (removing)



Plot Scale - 1"=40'

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EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0085(20)26	D24	D31

Plotting Date: 06/13/2014

Plot Scale - 1"=40'

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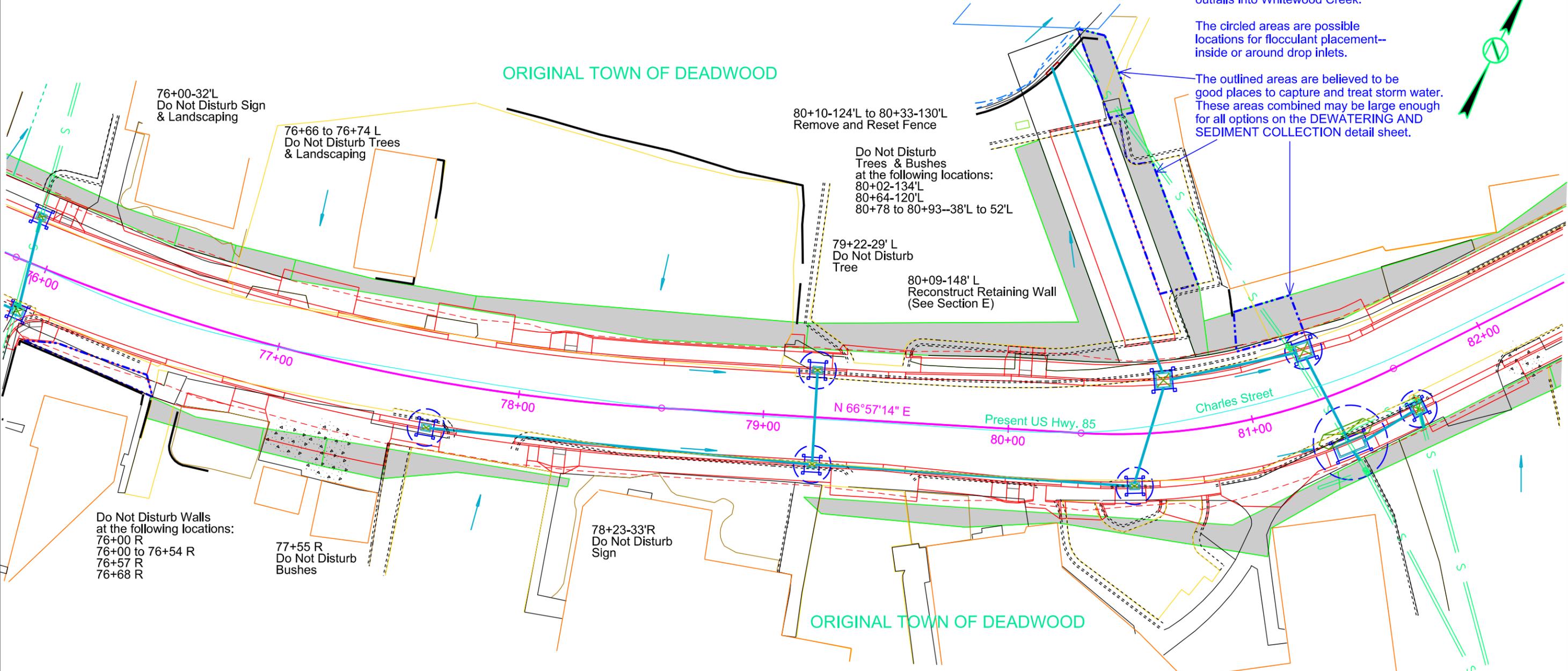
ORIGINAL TOWN OF DEADWOOD

ORIGINAL TOWN OF DEADWOOD

In addition to Interim Sediment Control at Inlets and Sediment Control at Inlets, other methods will need to be used to capture and/or treat storm water before it outfalls into Whitewood Creek.

The circled areas are possible locations for flocculant placement--inside or around drop inlets.

The outlined areas are believed to be good places to capture and treat storm water. These areas combined may be large enough for all options on the DEWATERING AND SEDIMENT COLLECTION detail sheet.



76+00-32'L
Do Not Disturb Sign & Landscaping

76+66 to 76+74 L
Do Not Disturb Trees & Landscaping

80+10-124'L to 80+33-130'L
Remove and Reset Fence

Do Not Disturb Trees & Bushes at the following locations:
80+02-134'L
80+64-120'L
80+78 to 80+93--38'L to 52'L

79+22-29' L
Do Not Disturb Tree

80+09-148' L
Reconstruct Retaining Wall (See Section E)

Do Not Disturb Walls at the following locations:
76+00 R
76+00 to 76+54 R
76+57 R
76+68 R

77+55 R
Do Not Disturb Bushes

78+23-33'R
Do Not Disturb Sign

80+80 to 81+09 R
Do Not Disturb Sign, Lights, Lightpole, and Flagpole

Install Interim Sediment Control at the 2' x 3' Type B Drop Inlets at the following locations:
77+65-19.17' R 18 Ft HFSF 24 Ft Sed. Filter Bags
79+21-19.17' R 18 Ft HFSF 24 Ft Sed. Filter Bags
79+21-19.17' L 18 Ft HFSF 24 Ft Sed. Filter Bags
80+51-21.17' R 18 Ft HFSF 24 Ft Sed. Filter Bags

Install Interim Sediment Control at the 5.5' X 5.5' Type B Drop Inlets at the following locations:
80+65-21.17'L 30 Ft HFSF 32 Sed. Filter Bags
81+29-21.15'L 30 Ft HFSF 32 Sed. Filter Bags

Install Interim Sediment Control at the 4' X 11' Type S Drop Inlet at the following location:
81+34-22.27'R 38 Ft HFSF 48 Ft Sed Filter Bags

Install Interim Sediment Control at the 4' X 4' Type B Drop Inlet at the following locations:
81+63-19.17'R 24 Ft HFSF 32 Ft Sed. Filter Bags

Install Sediment Control at existing inlets and leave device in place until inlet is removed or construction has ceased at the following locations:
81+23-24'L 1 each (to be removed)
81+64-15'R 1 each (to be removed)

Install Sediment Control at the 2' x 3' Type B Drop Inlets at the following locations:
77+65-19.17' R 1 each
79+21-19.17' R 1 each
79+21-19.17' L 1 each
80+51-21.17' R 1 each

Install Sediment Control at the 5.5' X 5.5' Type B Drop Inlets at the following locations:
80+65-21.17'L 1 each
81+29-21.15'L 1 each

Install Sediment Control at the 4' X 11' Type S Drop Inlet at the following location:
81+34-22.27'R 13 Ft

Install Sediment Control at the 4' X 4' Type B Drop Inlet at the following locations:
81+63-19.17'R 1 each

EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0085(20)26	D25	D31

Plotting Date: 06/13/2014

Install Sediment Control at existing inlets and leave in place until the inlet is removed at the following locations:
 86+69-43'R 1 each
 87+56-40'R 1 each

Install Interim Sediment Control at the 2' x 3' Type B Drop Inlets at the following locations:
 83+60-19.17' L 18 Ft HFSF 24 Ft Sed. Filter Bags
 84+25-19.17' R 18 Ft HFSF 24 Ft Sed. Filter Bags
 85+91-21.17' L 18 Ft HFSF 24 Ft Sed. Filter Bags
 86+77.5-21.17' R 18 Ft HFSF 24 Ft Sed. Filter Bags
 86+99.5-43.77'R 18 Ft HFSF 24 Ft Sed. Filter Bags
 87+15.69-46.86'L 18 Ft HFSF 24 Ft Sed. Filter Bags
 87+18-21.17' L 18 Ft HFSF 24 Ft Sed. Filter Bags

Install Interim Sediment Control at the 4'x11' Type S Drop Inlets at the following locations:
 83+60-21.63' R 38 Ft HFSF 48 Ft Sed. Filter Bags
 85+91-23.63' R 38 Ft HFSF 48 Ft Sed. Filter Bags

Install Interim Sediment Control at the 4'X3' Type B Drop Inlet at the following location:
 87+70-21.5'R 22 Ft HFSF 32 Ft Sed. Filter Bags

Install Sediment Control at the 4'x11' Type S Drop Inlets at the following locations:
 83+60-21.63' R 13 Ft
 85+91-23.63' R 13 Ft

Install Interim Sediment Control at the 3'x4' Type C Drop Inlet at the following location:
 87+26.3-22.9'R 22 Ft HFSF 32 Ft Sed. Filter Bags

Install Sediment Control at the 3'x4' Type C Drop Inlet at the following location:
 87+26.3-22.9'R 1 each

Install Sediment Control at the 4'X3' Type B Drop Inlet at the following location:
 87+70-21.5'R 1 each

82+24 to 83+04-L
 Do Not Disturb Building & Air Conditioner

Install Sediment Control at the 2' x 3' Type B Drop Inlets at the following locations:
 83+60-19.17' L 1 each
 84+25-19.17' R 1 each
 85+91-21.17' L 1 each
 86+77.5-21.17' R 1 each
 86+99.5-43.77'R 1 each
 87+15.69-46.86'L 1 each
 87+18-21.17' L 1 each

87+40 to 89+42 L
 Do Not Disturb Trees, Shrubs, Rocks, Landscaping, and 2 Handrails outside of Worklimits.

87+41-22'L
 Sign to be moved by others

87+16 L
 Elim Ent.

83+68-33'R
 Do Not Disturb Sign

84+93 to 85+33 R
 Retain Bushes and Trim Branches above New Sidewalk (Clearing)

84+86 R
 Elim Ent.

85+87-30'R
 Do Not Disturb Sign & Planter

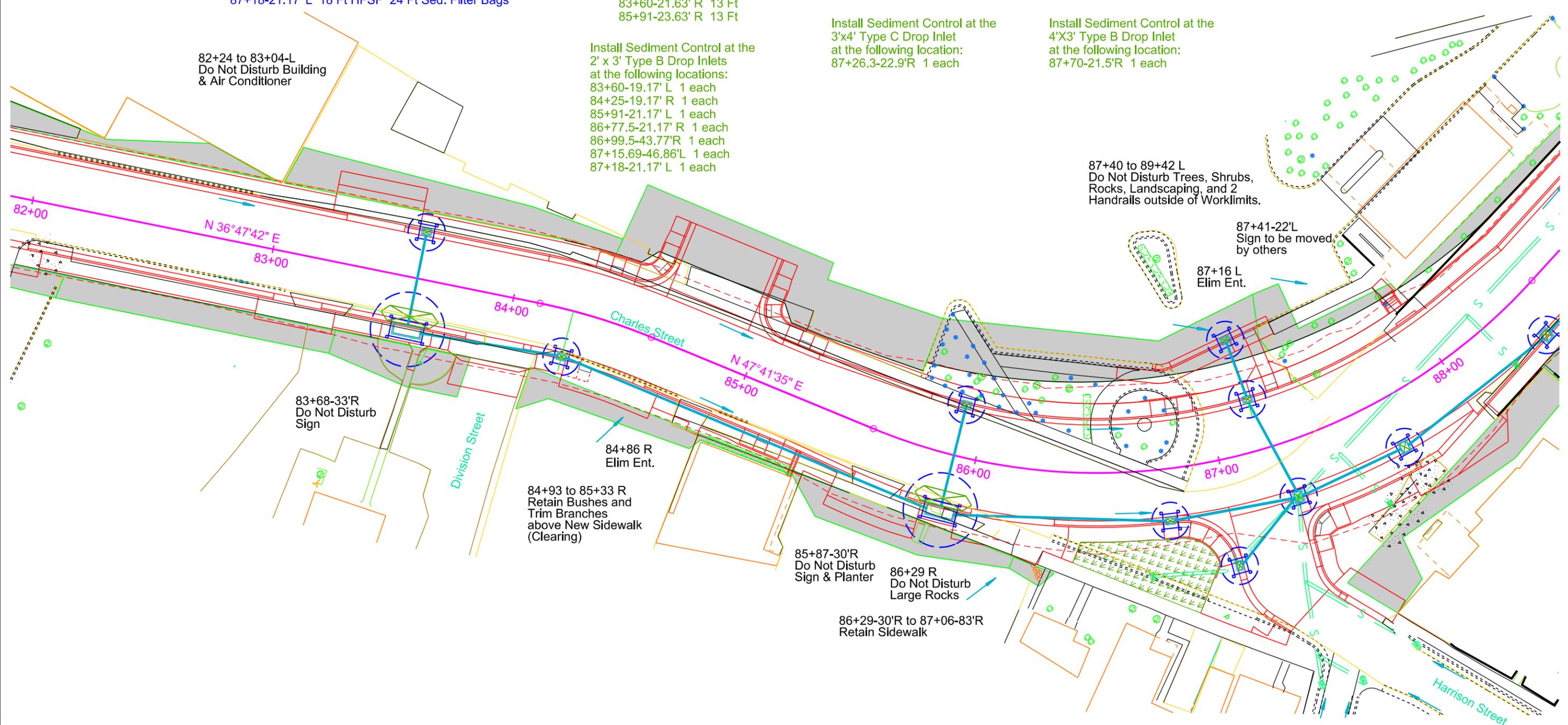
86+29 R
 Do Not Disturb Large Rocks

86+29-30'R to 87+06-83'R
 Retain Sidewalk

Plot Scale - 1"=40'

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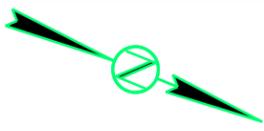
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EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0085(20)26	D26	D31

Plotting Date: 06/13/2014



Install Sediment Control at existing inlets and leave in place until the inlet is removed or grading has ceased:

- 88+22-20'R 1 each (removing)
- 89+91-18'R 1 each (removing)
- 89+96-20'L 1 each (removing)
- 92+34-19'L 1 each (removing)
- 92+37-19'R 1 each (removing)
- 92+69-43'R 1 each (removing)
- 93+81-19'R 1 each (removing)
- 93+82-20'L 1 each (retaining)

Install Interim Sediment Control at the 2' x 3' Type B Drop Inlets at the following locations:

- 89+23-19.17' L 18 Ft HFSF 24 Ft Sed. Filter Bags
- 89+43.17-38.5'L 18 Ft HFSF 24 Ft Sed. Filter Bags
- 89+80.48-38.5'L 18 Ft HFSF 24 Ft Sed. Filter Bags
- 90+00-19.17' L 18 Ft HFSF 24 Ft Sed. Filter Bags
- 92+13.5-19.17' L 18 Ft HFSF 24 Ft Sed. Filter Bags
- 92+41.23-48.1' R 18 Ft HFSF 24 Ft Sed. Filter Bags
- 93+81.09-26.97'R 18 Ft HFSF 24 Ft Sed. Filter Bags

Install Interim Sediment Control at the 7'x7' Junction Box at the following location:

- 92+53-18'R 36 Ft HFSF 48 Ft Sed. Filter Bags

Install Interim Sediment Control at the 5.5'x3' Type B Drop Inlet at the following location:

- 92+69.09-48.1'R 25 Ft HFSF 32 Ft Sed. Filter Bags

Install Interim Sediment Control at the 4'x3' Type B Drop Inlets at the following locations:

- 88+38-19.60' R 22 Ft HFSF 32 Ft Sed. Filter Bags
- 90+00-19.17' R 22 Ft HFSF 32 Ft Sed. Filter Bags
- 92+13.5-26.08' R 22 Ft HFSF 32 Ft Sed. Filter Bags

Install Sediment Control at the 2' x 3' Type B Drop Inlets at the following locations:

- 89+23-19.17' L 1 each
- 89+43.17-38.5'L 1 each
- 89+80.48-38.5'L 1 each
- 90+00-19.17' L 1 each
- 92+13.5-19.17' L 1 each
- 92+41.23-48.1' R 1 each
- 93+81.09-26.97'R 1 each

Install Sediment Control at the 4'x3' Type B Drop Inlets at the following locations:

- 88+38-19.60' R 1 each
- 90+00-19.17' R 1 each
- 92+13.5-26.08' R 1 each

Install Sediment Control at the 5.5'x3' Type B Drop Inlet at the following location:

- 92+69.09-48.1'R 1 each

87+40 to 89+42 L
Do Not Disturb Trees, Shrubs, Rocks, Landscaping, and 2 Handrails outside of Worklimits.

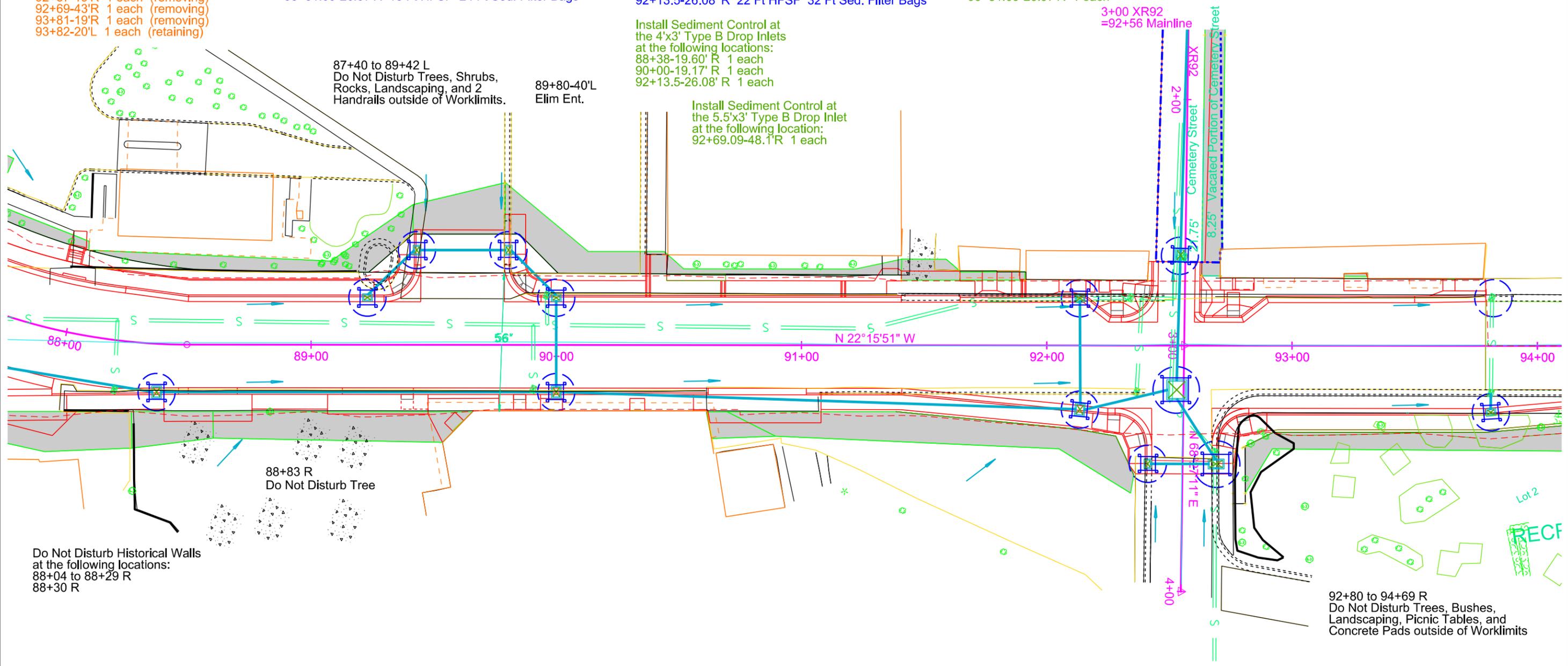
89+80-40'L
Elim Ent.

88+83 R
Do Not Disturb Tree

Do Not Disturb Historical Walls at the following locations:

- 88+04 to 88+29 R
- 88+30 R

92+80 to 94+69 R
Do Not Disturb Trees, Bushes, Landscaping, Picnic Tables, and Concrete Pads outside of Worklimits



Plot Scale - 1"=40'

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EROSION AND SEDIMENT CONTROL PLAN

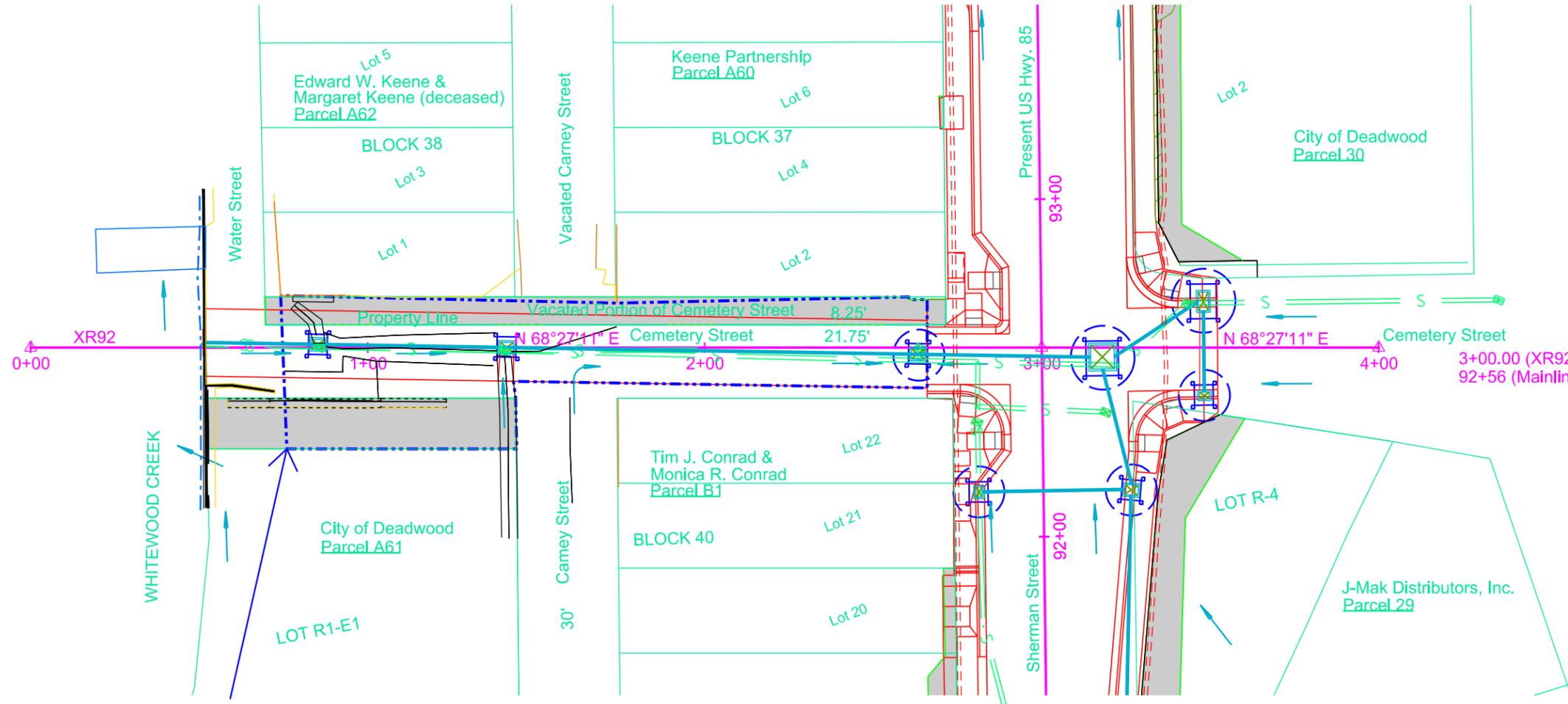
STATE OF SOUTH DAKOTA	PROJECT NH-PH 0085(20)26	SHEET D27	TOTAL SHEETS D31
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Plotting Date: 06/19/2014

Install Sediment Control at existing inlets and leave in place until the inlet is removed or grading has ceased at the following locations:
 92+56-36'L 1 each
 92+57-160'L 1 each
 92+59-214'L 1 each

Install Interim Sediment Control at 3' x 4' Type C Drop Inlets at the following Locations:
 92+54.6-36.8'L 22 Ft HFSF 32 Ft Sed. Filter Bags
 92+58.1-158.7'L 22 Ft HFSF 32 Ft Sed. Filter Bags
 92+59.6-214.7'L 22 Ft HFSF 32 Ft Sed. Filter Bags

Install Sediment Control at 3' x 4' Type C Drop Inlets at the following Locations:
 92+54.6-36.8'L 1 each
 92+58.1-158.7'L 1 each
 92+59.6-214.7'L 1 each



XR92
 PI 3+00.00
 N 219079.75
 E 994049.25
 Del 0°00'00" L

In addition to Interim Sediment Control at Inlets and Sediment Control at Inlets, other methods will need to be used to capture and/or treat storm water before it outfalls into Whitewood Creek.

The outlined area is believed to be a good place to capture and treat storm water. This area may be large enough for all options on the DEWATERING AND SEDIMENT COLLECTION detail sheet.

The circled areas are possible locations for flocculant placement-- inside or around drop inlets.

Plot Scale - 1"=40'

Inpr 135/25

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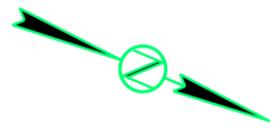
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EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH-PH 0085(20)26	D28	D31

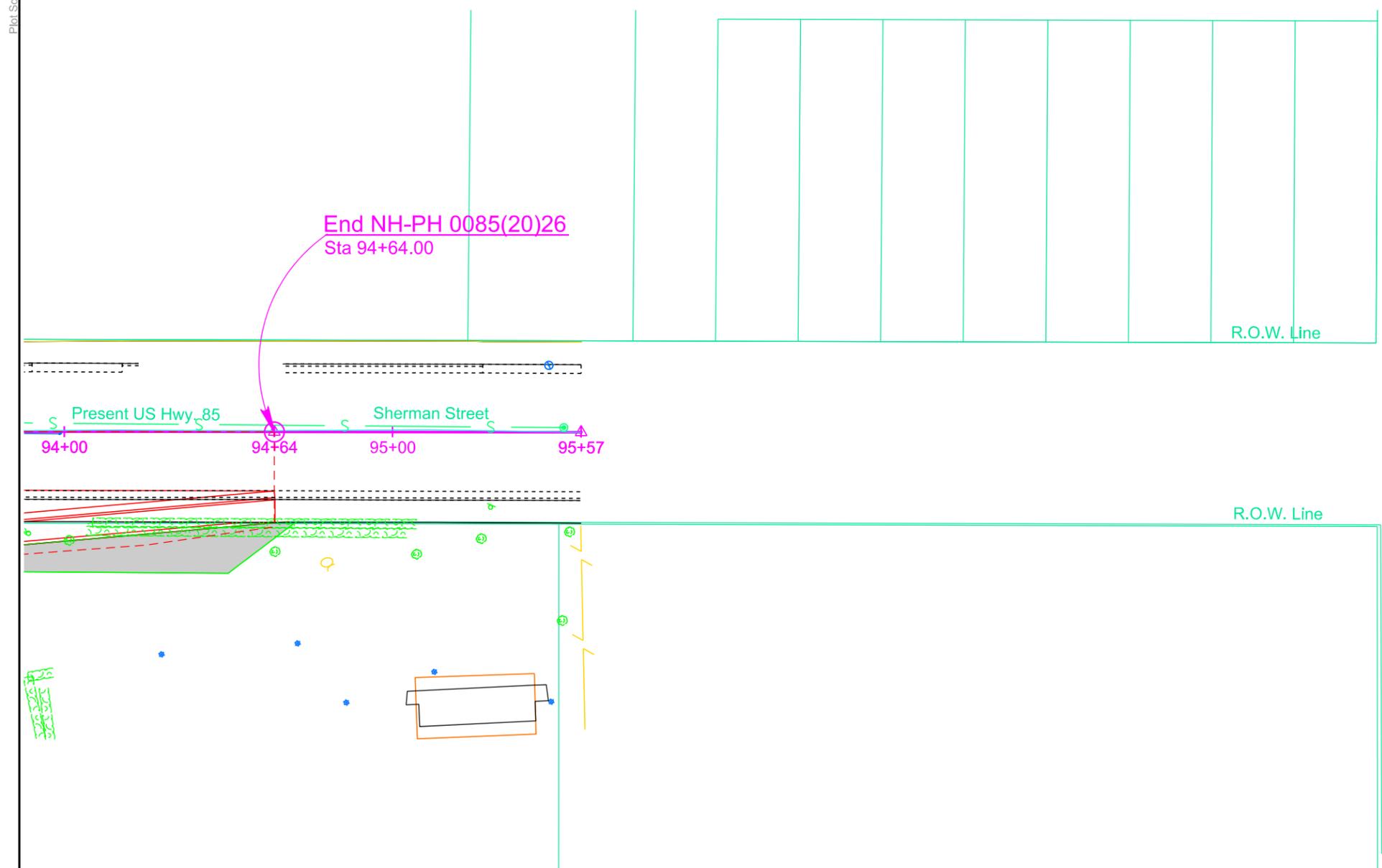
Plotting Date: 06/13/2014

DEADWOOD

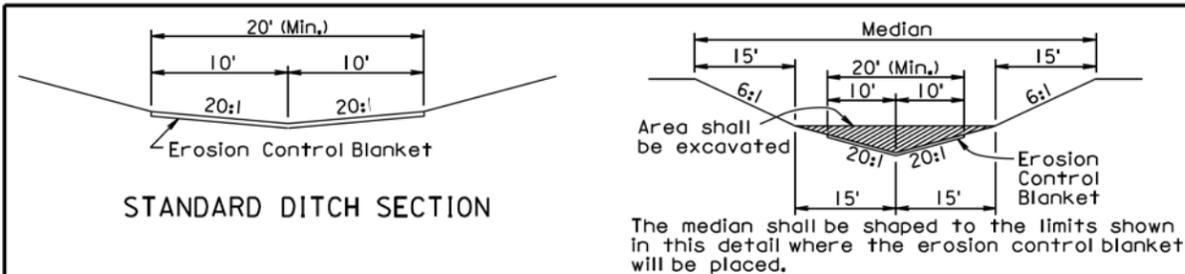


Plot Scale - 1:40

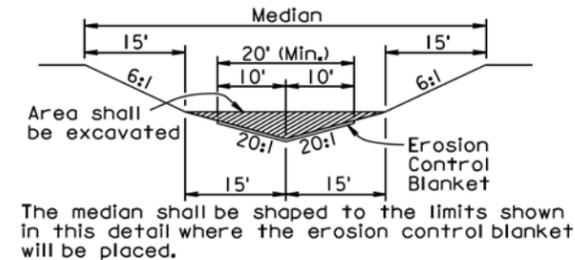
Plotted From - tpr13525



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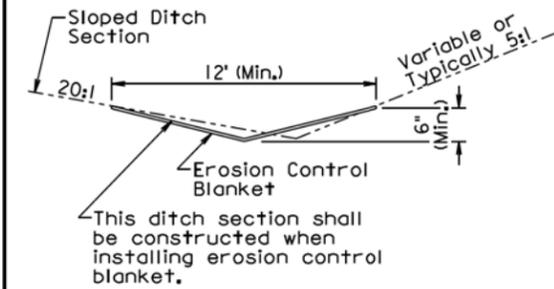


STANDARD DITCH SECTION

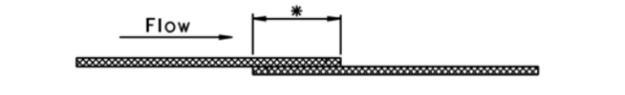


MEDIAN SECTION

The median shall be shaped to the limits shown in this detail where the erosion control blanket will be placed.



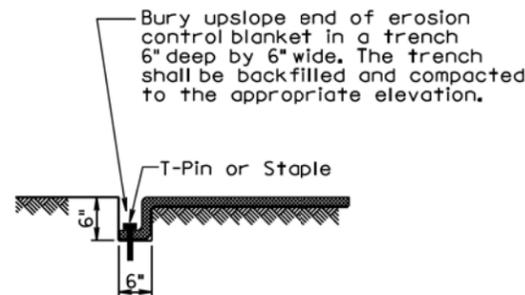
SLOPED DITCH SECTION



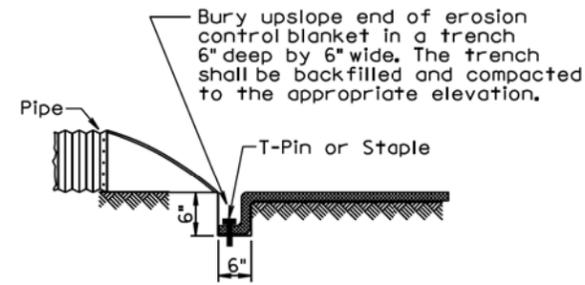
OVERLAP DETAIL

* Use a 4" (Min.) overlap wherever two widths of erosion control blanket are applied side by side.

* Use a 6" (Min.) overlap wherever one roll of erosion control blanket ends and another begins.



TRENCH DETAIL



PIPE END DETAIL

GENERAL NOTES:

Prior to placement of the erosion control blanket, the areas shall be properly prepared, shaped, seeded, and fertilized.

Erosion control blanket shall be unrolled in the direction of the flow of water when placed in ditches and on slopes. The upslope end of the erosion control blanket shall be buried in a trench 6" wide by 6" deep. There shall be at least a 6" overlap wherever one roll of erosion control blanket ends and another begins, with the upslope erosion control blanket placed on top of the downslope erosion control blanket.

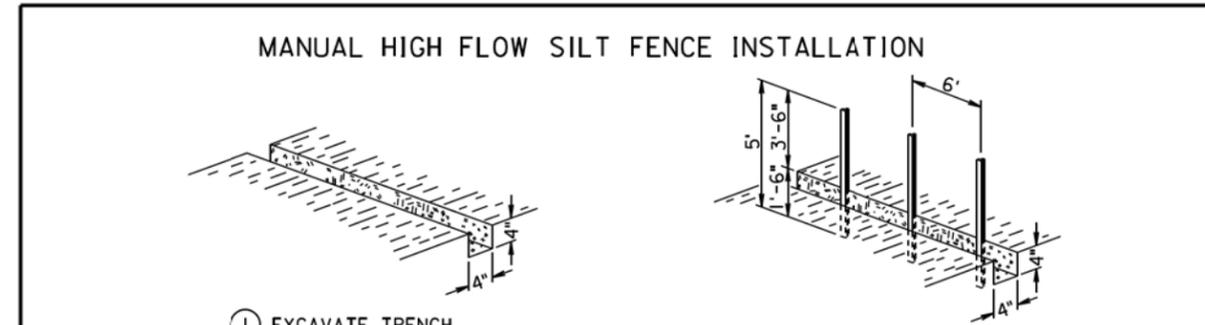
The erosion control blanket shall be pinned to the ground according to the manufacturer's installation recommendations.

After the placement of the erosion control blanket, the Contractor shall fine grade along all edges of the blanket to maintain a uniform slope adjacent to the blanket and level any low spots which might prevent uniform and unrestricted flow of side drainage directly onto the erosion control blanket.

All ditch sections shall be shaped when installing the erosion control blanket. All costs for shaping the ditches shall be incidental to the contract unit price per foot for "Shaping for Erosion Control Blanket".

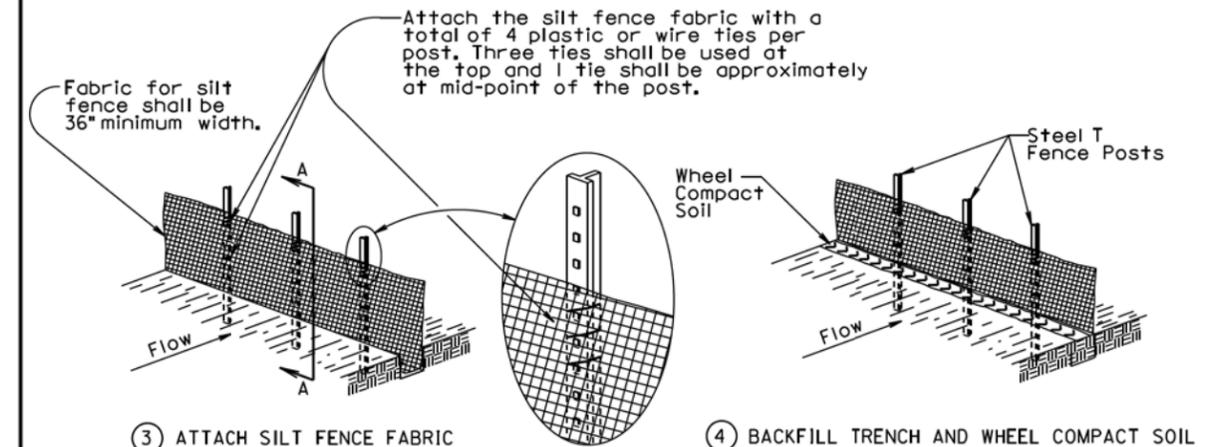
December 23, 2004

S D D O T	EROSION CONTROL BLANKET	PLATE NUMBER 734.01
	Published Date: 2nd Qtr. 2014	Sheet 1 of 1



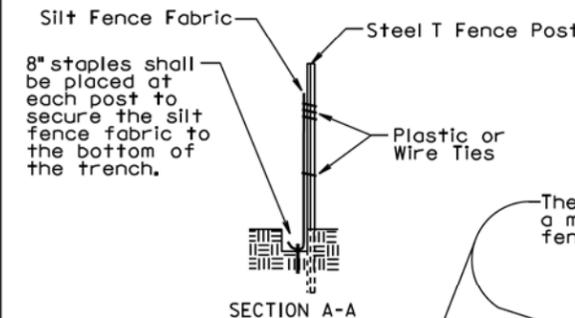
1 EXCAVATE TRENCH

2 DRIVE STEEL T FENCE POSTS



3 ATTACH SILT FENCE FABRIC

4 BACKFILL TRENCH AND WHEEL COMPACT SOIL

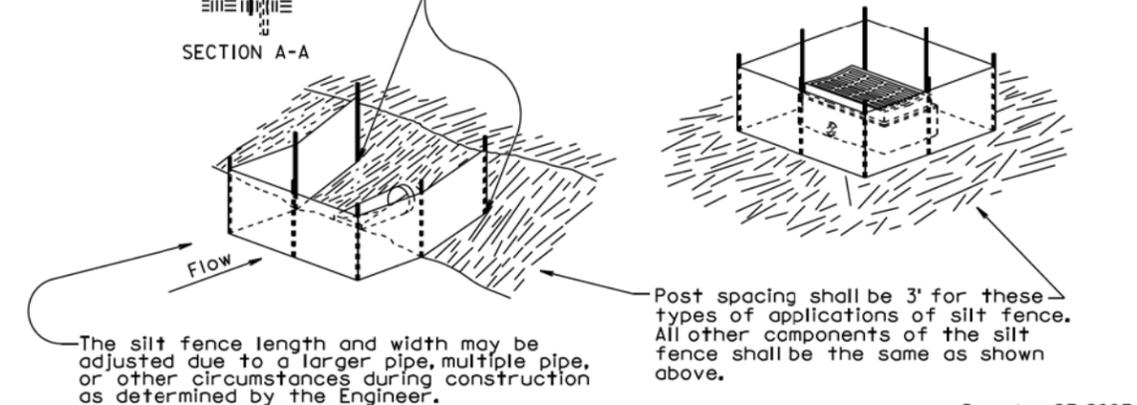


SECTION A-A

8" staples shall be placed at each post to secure the silt fence fabric to the bottom of the trench.

Attach the silt fence fabric with a total of 4 plastic or wire ties per post. Three ties shall be used at the top and 1 tie shall be approximately at mid-point of the post.

The elevation at these locations shall be, at a minimum, higher than the top of the silt fence fabric at its lowest elevation.



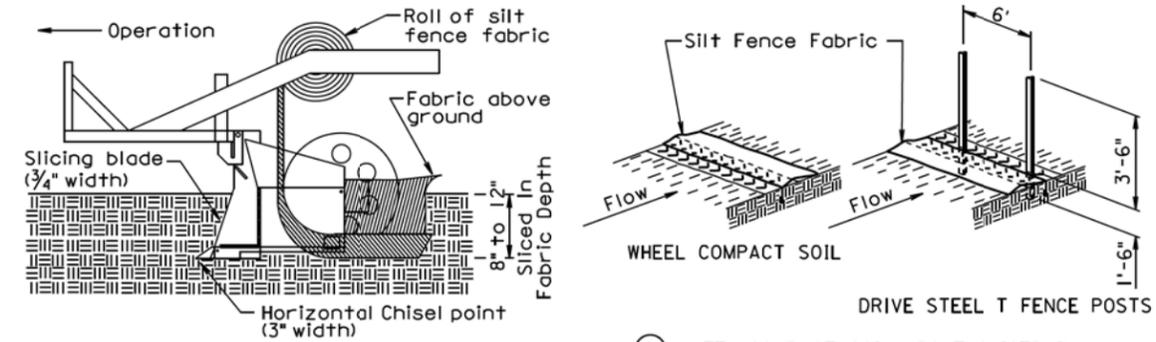
Post spacing shall be 3' for these types of applications of silt fence. All other components of the silt fence shall be the same as shown above.

The silt fence length and width may be adjusted due to a larger pipe, multiple pipe, or other circumstances during construction as determined by the Engineer.

December 23, 2003

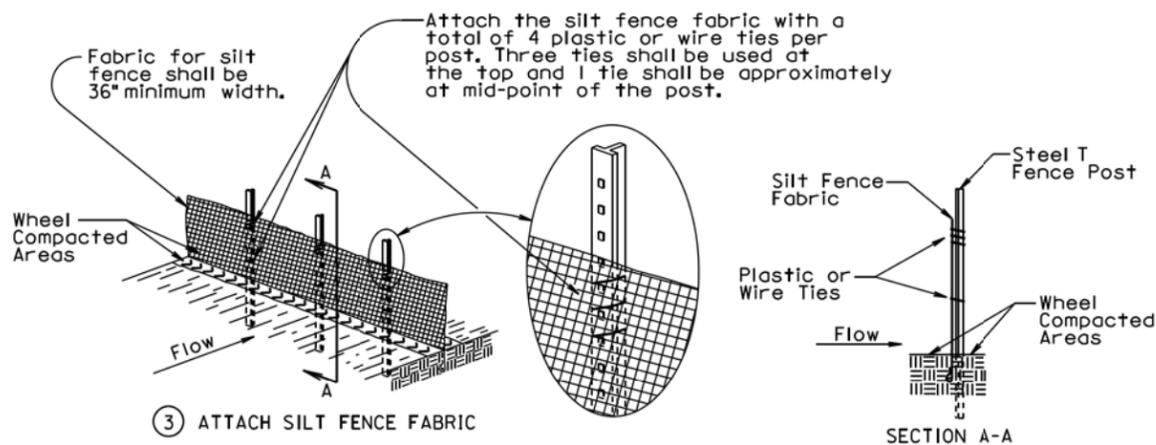
S D D O T	HIGH FLOW SILT FENCE	PLATE NUMBER 734.05
	Published Date: 2nd Qtr. 2014	Sheet 1 of 2

MACHINE SLICED HIGH FLOW SILT FENCE INSTALLATION

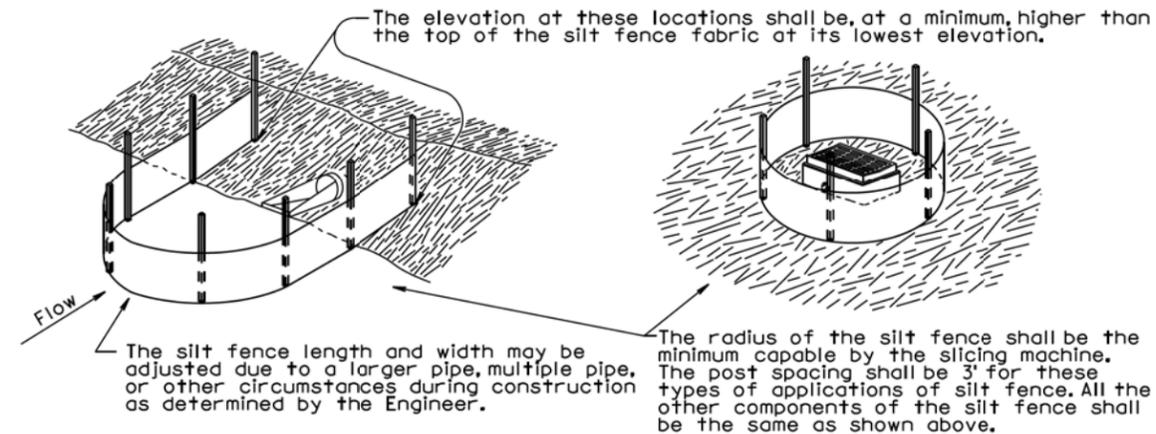


① INSTALL SILT FENCE FABRIC BY MACHINE SLICING METHOD.

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



③ ATTACH SILT FENCE FABRIC



GENERAL NOTE:

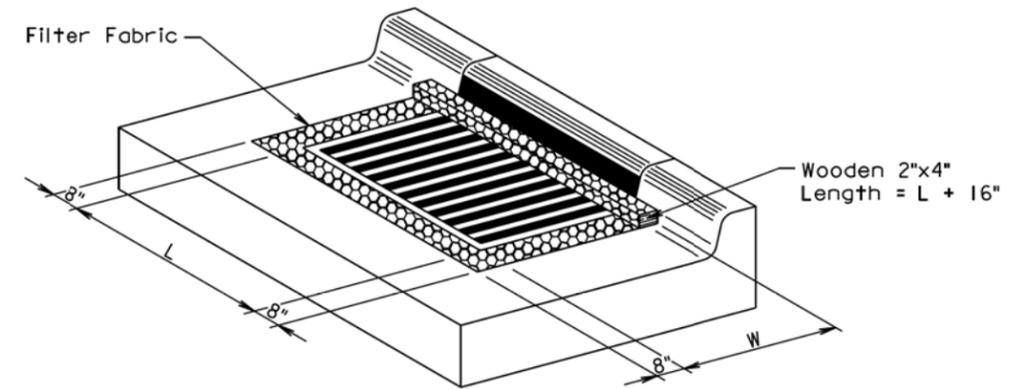
If a trench can not be dug or the silt fence fabric can not be sliced in due to the type of earthen material (such as rock), then a row of 30 to 40 pound sandbags butted end to end shall be provided on top of the extra length of silt fence fabric to prevent underflow.

December 23, 2003

S D D O T	HIGH FLOW SILT FENCE	PLATE NUMBER 734.05
		Sheet 2 of 2

Published Date: 2nd Qtr. 2014

L = Length of Grate
W = Width of Grate



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.

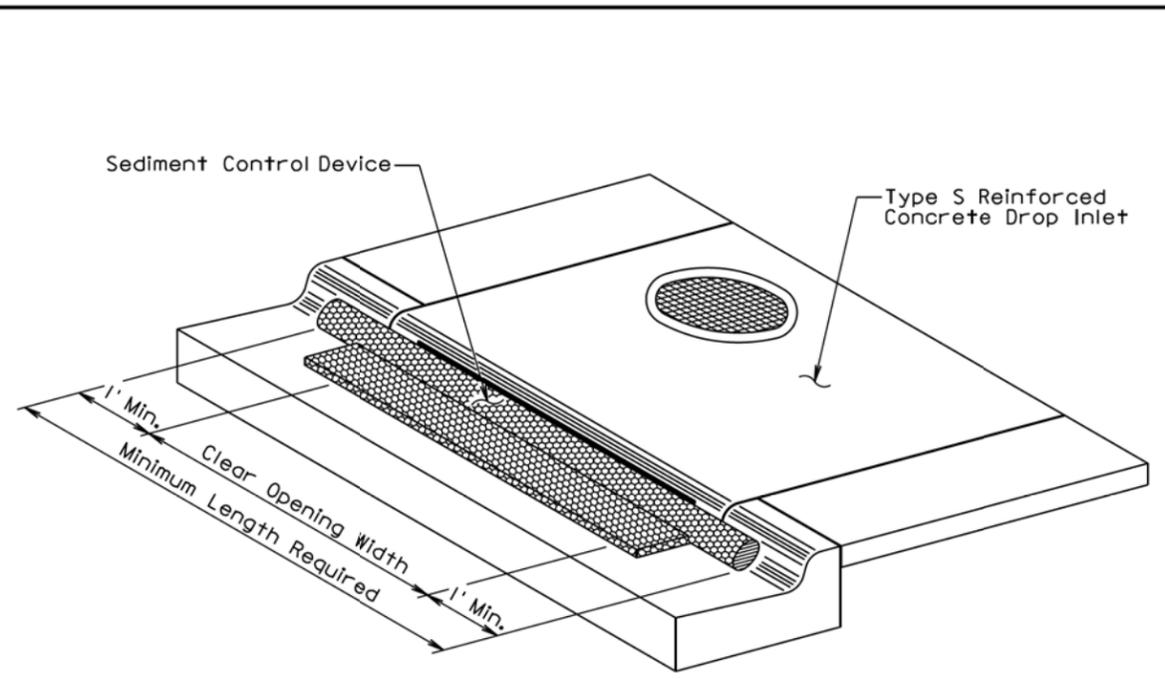
The removed sediment shall be placed at a location away from the drop inlet where the sediment will not be washed back into the drop inlet or other storm sewer system.

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

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

Published Date: 2nd 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

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

Published Date: 2nd Qtr. 2014

Plot Scale - 1:200

Plotted From - tpr13525

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