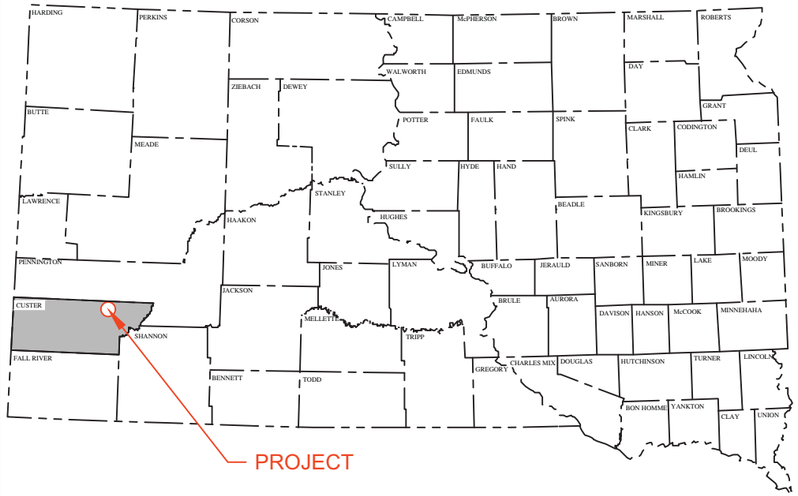
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PSRTS(18) & PTAPR(09)	i	63

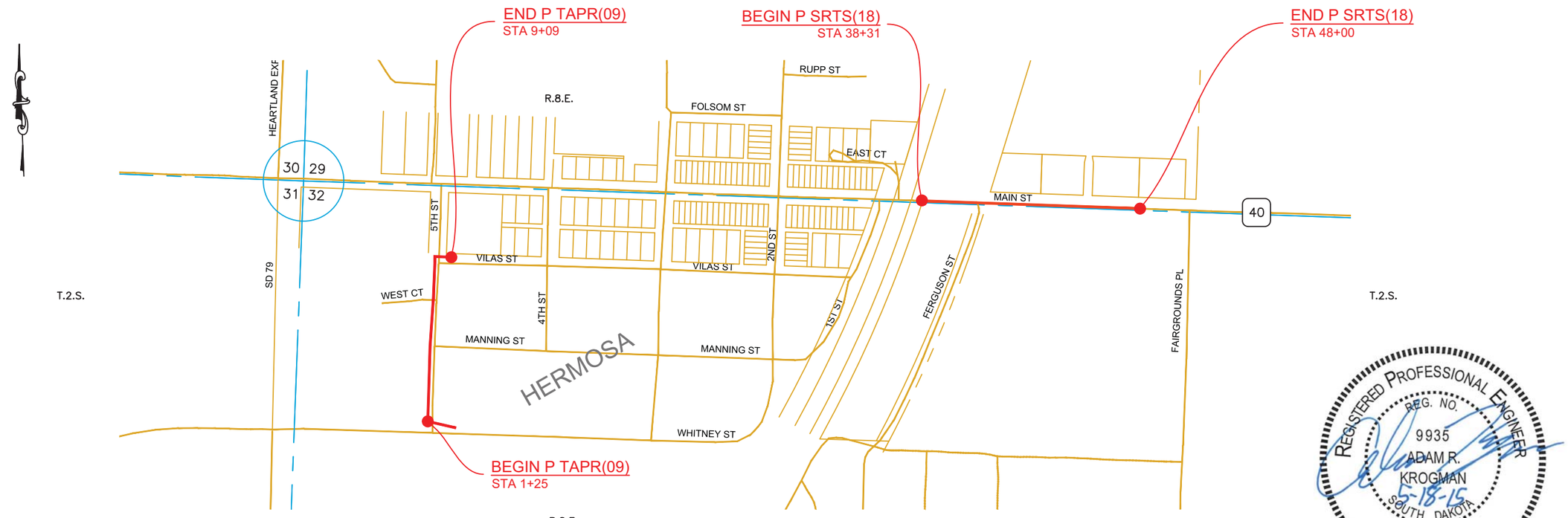
PLOTTING DATE: 05-18-15

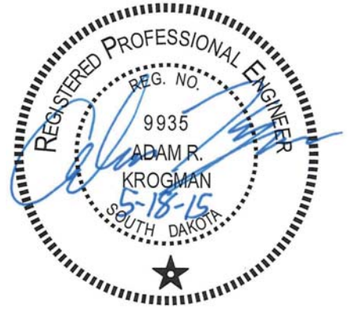


STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
PROJECT P SRTS(18)
PROJECT P TAPR(09)

CITY OF HERMOSA
CUSTER COUNTY
PCN 03C2
PCN 04UG

Ferber Engineering Company, Inc.
Civil Engineering • Water Resources • Transportation • Land Surveying • GIS
729 East Watertown St, Rapid City, SD 57701 ~ www.ferberengineering.com
Phone: (605) 343-3311 ~ Fax: (605) 343-3399





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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PSRTS(18) & PTAPR(09)	ii	63

PSRTS(18) - 03C2 ESTIMATE OF QUANTITIES

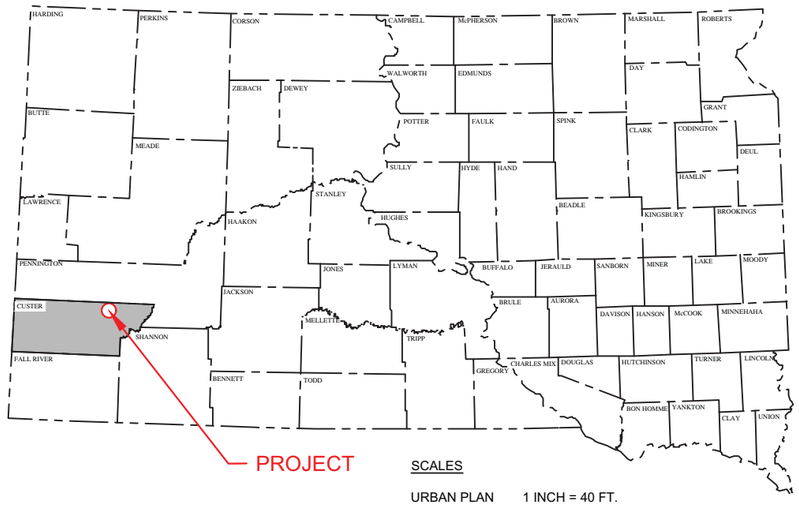
BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3200	Construction Staking	Lump Sum	LS
009E3300	Three Man Survey Crew	10	Hour
100E0100	Clearing	Lump Sum	LS
110E1010	Remove Asphalt Concrete Pavement	1198	SqYd
110E1690	Remove Sediment	0.5	Cuyd
110E1695	Remove Sediment Filter Bag	64	Ft
110E1700	Remove Silt Fence	76	Ft
120E0600	Contractor Furnished Borrow	405	CuYd
230E0100	Remove and Replacing Topsoil	Lump Sum	LS
250E0020	Incidental Work, Grading	Lump Sum	LS
260E1010	Base Course	446.0	Ton
320E1200	Asphalt Concrete Composite	70.0	Ton
380E4010	6" PCC Fillet Section	78.0	SqYd
450E0103	12" RCP Class 3, Furnish	48	Ft
450E0110	12" RCP, Install	48	Ft
450E2000	12" RCP Flared End, Furnish	2	Each
450E2001	12" RCP Flared End, Install	2	Each
632E3520	Remove, Salvage, Relocate, and Reset Traffic Sign	3	Each
634E0010	Flagging	160	Hour
634E0100	Traffic Control	497	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
650E0060	Type B66 Concrete Curb And Gutter	636	Ft
651E0040	4" Concrete Sidewalk	3736	SqFt
651E7000	Type 1 Detectable Warnings	40	SqFt
670E1010	2' x 3' Type B Drop Inlet	2	Each
700E0110	Class A Riprap	10.8	Ton
730E0210	Type F Permanent Seed Mixture	8	Lb
732E0100	Mulching	1	Ton
734E0101	Type 1 Erosion Control Blanket	1107	SqYd
734E0180	Sediment Filter Bag	64	Ft
734E0604	High Flow Silt Fence	76	Ft
734E0845	Sediment Control At Inlet With Frame And Grate	2	Each
734E5010	Sweeping	32	Hour
831E0110	Type B Drainage Fabric	22	SqYd
900E0012	Refurbish Double Mailbox	1	Each
900E1080	Orange Plastic Safety Fence	100	Ft
900E5110	Bike Rack	1	Each
998E0100	Railroad Protective Insurance	Lump Sum	LS

PTAPR(09) - 04UG ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3200	Construction Staking	Lump Sum	LS
009E3300	Three Man Survey Crew	10	Hour
100E0100	Clearing	Lump Sum	LS
110E1690	Remove Sediment	2	CuYd
110E1693	Remove Erosion Control Wattle	100	Ft
110E1700	Remove Silt Fence	65	Ft
120E6300	Water for Vegetation	11	Mgal
205E0010	Dust Control Chloride	65	Lb
230E0100	Remove and Replace Topsoil	Lump Sum	LS
250E0020	Incidental Work, Grading	Lump Sum	LS
260E3010	Gravel Surfacing	85	Ton
450E4758	18" CMP 14 Gauge, Furnish	132	Ft
450E4760	18" CMP, Install	132	Ft
450E5211	18" CMP Flared End, Furnish	2	Each
450E5212	18" CMP Flared End, Install	2	Each
632E1320	2.0"x2.0" Perforated Tube Post	44.0	Ft
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	25.9	SqFt
633E1430	Pavement Marking Paint, 24" White	184	Ft
634E0010	Flagging	20	Hour
634E0100	Traffic Control	391	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
651E0040	4" Concrete Sidewalk	2948	SqFt
651E0160	6" Reinforced Concrete Sidewalk	1064	SqFt
651E7000	Type 1 Detectable Warnings	60	SqFt
733E0100	Sodding	595	SqYd
734E0154	12" Diameter Erosion Control Wattle	100	Ft
734E0604	High Flow Silt Fence	65	Ft

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PSRTS(18)	1	37

PLOTTING DATE: 05-12-15 REV 05-12-15 ARK



SCALES

URBAN PLAN 1 INCH = 40 FT.

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
PROJECT P SRTS(18)
CITY OF HERMOSA, CUSTER COUNTY
SAFE ROUTES TO SCHOOL
PCN 03C2

INDEX OF SHEETS

CIVIL PLANS PREPARED BY:

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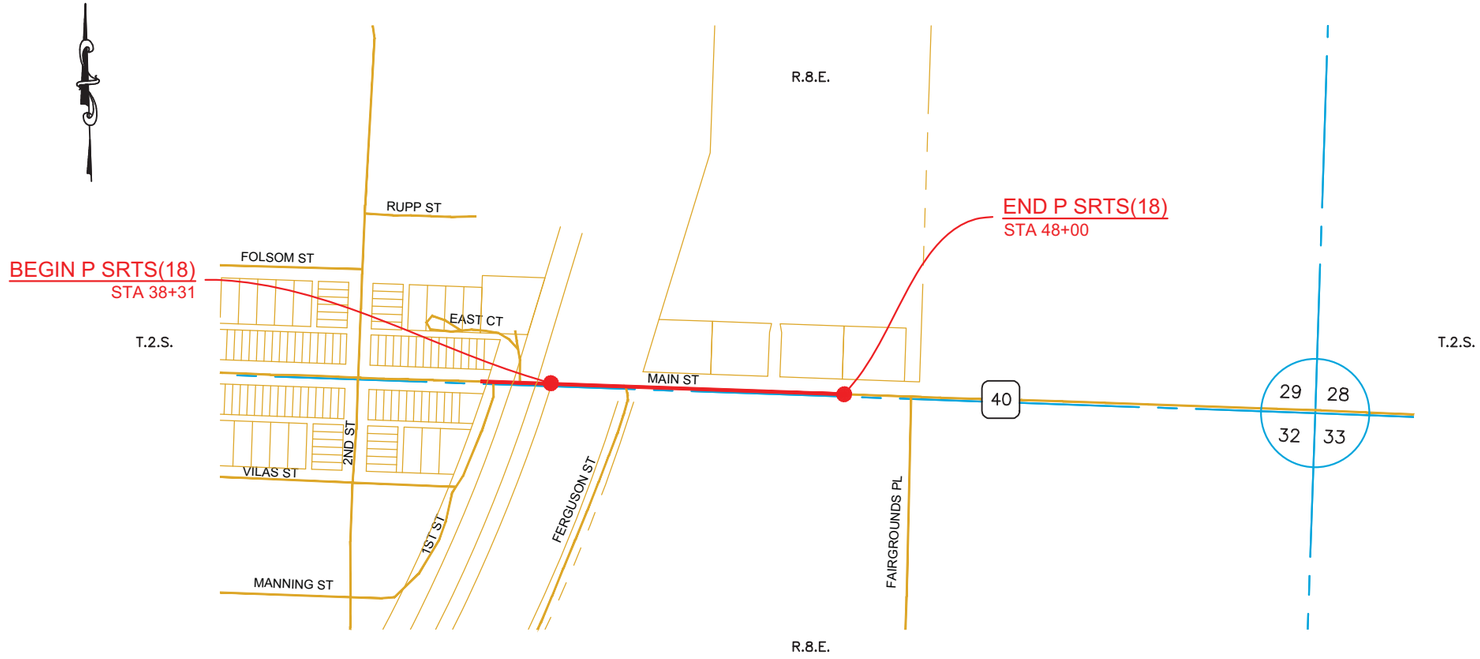
REGISTERED PROFESSIONAL ENGINEER
REG. NO. 9935
ADAM R. KROGMAN
5-12-15
SOUTH DAKOTA



DESIGN DESIGNATION

ADT (2008)	890
ADT (2028)	1140
DHV	170
D	50%
T DHV	1.7%
T ADT	3.7%
V	35 mph

STORM WATER PERMIT

Major Receiving
Body of Water: Battle Creek & Billover Creek
Area Disturbed: 0.51 Acres
Total Project Area: 0.51 Acres

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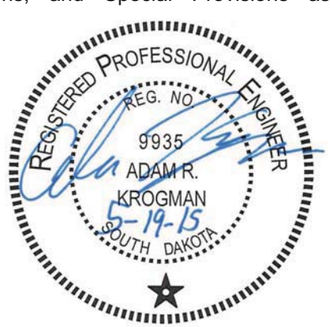
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P SRTS(18)	2	37

ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3200	Construction Staking	Lump Sum	LS
009E3300	Three Man Survey Crew	10	Hour
100E0100	Clearing	Lump Sum	LS
110E1010	Remove Asphalt Concrete Pavement	1198	SqYd
110E1690	Remove Sediment	0.5	Cuyd
110E1695	Remove Sediment Filter Bag	64	Ft
110E1700	Remove Silt Fence	76	Ft
120E0600	Contractor Furnished Borrow	405	CuYd
230E0100	Remove and Replacing Topsoil	Lump Sum	LS
250E0020	Incidental Work, Grading	Lump Sum	LS
260E1010	Base Course	446.0	Ton
320E1200	Asphalt Concrete Composite	70.0	Ton
380E4010	6" PCC Fillet Section	78.0	SqYd
450E0103	12" RCP Class 3, Furnish	48	Ft
450E0110	12" RCP, Install	48	Ft
450E2000	12" RCP Flared End, Furnish	2	Each
450E2001	12" RCP Flared End, Install	2	Each
632E3520	Remove, Salvage, Relocate, and Reset Traffic Sign	3	Each
634E0010	Flagging	160	Hour
634E0100	Traffic Control	497	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
650E0060	Type B66 Concrete Curb And Gutter	636	Ft
651E0040	4" Concrete Sidewalk	3736	SqFt
651E7000	Type 1 Detectable Warnings	40	SqFt
670E1010	2' x 3' Type B Drop Inlet	2	Each
700E0110	Class A Riprap	10.8	Ton
730E0210	Type F Permanent Seed Mixture	8	Lb
732E0100	Mulching	1	Ton
734E0101	Type 1 Erosion Control Blanket	1107	SqYd
734E0180	Sediment Filter Bag	64	Ft
734E0604	High Flow Silt Fence	76	Ft
734E0845	Sediment Control At Inlet With Frame And Grate	2	Each
734E5010	Sweeping	32	Hour
831E0110	Type B Drainage Fabric	22	SqYd
900E0012	Refurbish Double Mailbox	1	Each
900E1080	Orange Plastic Safety Fence	100	Ft
900E5110	Bike Rack	1	Each
998E0100	Railroad Protective Insurance	Lump Sum	LS

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2004 Edition and Required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.



ENVIRONMENTAL COMMITMENTS

An Environmental Commitment is a measure that SDDOT commits to implement in order to avoid, minimize, and/or mitigate a real or potential environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency mentioned below with permitting authority can influence a project if perceived environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office. The environmental commitments associated with this project are as follows:

COMMITMENT E: STORM WATER

Construction activities constitute less than 1 acre of disturbance.

Action Taken/Required:

At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site.

COMMITMENT H: WASTE DISPOSAL SITE

The Contractor shall furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

Action Taken/Required:

Construction and/or demolition debris may not be disposed of within the ROW.

The waste disposal site(s) shall be managed and reclaimed in accordance with the following from the General Permit for Highway, Road, and Railway Construction/Demolition Debris Disposal Under the South Dakota Waste Management Program issued by the Department of Environment and Natural Resources.

The waste disposal site(s) shall not be located in a wetland, within 200 feet of surface water, or in an area that adversely affects wildlife, recreation, aesthetic value of an area, or any threatened or endangered species, as approved by the Project Engineer.

If the waste disposal site(s) is located such that it is within view of any ROW, the following additional requirements shall apply:

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials shall be buried in a trench completely separate from wood debris. The final cover over the construction and/or demolition debris shall consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the ROW shall be seeded in accordance with Natural Resources Conservation Service recommendations.
The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor shall control the access to waste disposal sites not within the ROW through the use of fences, gates, and placement of a sign or signs at the entrance to the site stating "No Dumping Allowed".

COMMITMENT H: WASTE DISPOSAL SITE (CONTINUED) REV 05-19-15 ARK

2. Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period of time not to exceed the duration of the project. Prior to project completion, the waste shall be removed from view of the ROW or buried and the waste disposal site reclaimed as noted above.

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.

Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

All costs associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence, gates, and signs), and reclamation of the waste disposal site(s) shall be incidental to the various contract items.

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historical Preservation Office (SHPO or THPO) for all work included within the project limits and all designated option borrow sites provided within the plans.

Action Taken/Required:

All earth disturbing activities not designated within the plans require review of cultural resources impacts. This work includes, but is not limited to: staging areas, borrow sites, waste disposal sites, and all material processing sites.

The Contractor shall arrange and pay for a cultural resource survey and/or records search. The Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record search might be sufficient for review; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor shall provide ARC with the following: a topographical map or aerial view on which the site is clearly outlined, site dimensions, project number, and PCN. If applicable, provide evidence that the site has been previously disturbed by farming, mining, or construction activities with a landowner statement that artifacts have not been found on the site.

The Contractor shall submit the records search or cultural resources survey report and if the location of the site is within the current geographical or historic boundaries of any South Dakota reservation to SDDOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3180). SDDOT will submit the information to the appropriate SHPO/THPO. Allow **30 Days** from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P SRTS(18)	3	37

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES (CONTINUED)

If evidence for cultural resources is uncovered during project construction activities, then such activities shall cease and the Project Engineer shall be immediately notified. The Project Engineer will contact the SDDOT Environmental Engineer in order to determine an appropriate course of action.

SHPO/THPO review does not relieve the Contractor of the responsibility for obtaining any additional permits and clearances for staging areas, borrow sites, waste disposal sites, or material processing sites that affect wetlands, threatened and endangered species, or waterways. The Contractor shall provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

GRADING OPERATIONS

Water for Embankment is estimated at the rate of 10 gallons of water per cubic yard of Embankment minus Waste. The estimated quantity of Water for Embankment is 5 MGal. No separate payment will be made for the Water for Embankment and all costs associated shall be incidental to the project

Sections of the roadway different than the typical section shall be constructed to the limits shown on the cross sections. If significant changes to the cross sections are necessary during construction, the Engineer shall contact the Designer for the proposed change.

UTILITIES

The Contractor shall be aware that the existing utilities shown in the plans were surveyed prior to the design of this project and might have been relocated or replaced by a new utility facility prior to construction of this project, might be relocated or replaced by a new utility facility during the construction of this project, or might not require adjustment and may remain in its current location. The Contractor shall contact each utility owner and confirm the status of all existing and new utility facilities. The utility contact information is provided elsewhere in the plans or bidding documents.

With the exception of adjusting the Electrical Junction Box elevations, utilities are not planned to be affected on this project. If utilities are identified near the improvement area through the SD One Call Process as required by South Dakota Codified Law 49-7:00 AM and Administrative Rule Article 20:25, the Contractor shall Contact the Project Engineer to determine modifications that will be necessary to avoid utility impacts.

CLEARING

Before clearing activities begin, the Contractor shall contact the Engineer to determine the limits of clearing for the project. If items that are supposed to remain within the limits of work are damaged or destroyed by the Contractor, the Contractor shall replace them with the same size and type at the Contractor's expense.

INSLOPE TRANSITIONS

Inslope transitions will be required at various pipe locations. Refer to Standard Plate 120.05 for details.

UNCLASSIFIED EXCAVATION

Any excavation required for the construction of the improvements shown in this plan set shall be considered incidental to the project. No separate payment will be made.

CONTRACTOR FURNISHED BORROW

An estimated 405 cubic yards of Contractor furnished borrow will be required to construct the project. The Contractor shall provide a suitable site for Contractor furnished borrow material. The Contractor is responsible for obtaining all required permits and clearances for the borrow site. The borrow material shall be approved by the Engineer. The plans quantity for "Contractor Furnished Borrow" as shown in the Estimate of Quantities will be the basis of payment for this item no separate measurement will be made.

Restoration of the Contractor furnished borrow site shall be the responsibility of the Contractor.

INCIDENTAL WORK, GRADING

Station	L/R	Remarks
41+36	L	Adjust Electrical Junction Box Elevation
41+89	L	Adjust Electrical Junction Box Elevation
43+97	L	Relocate Reflector

TABLE OF ASPHALT CONCRETE PAVEMENT REMOVAL

Station	To	Station	L/R	Quantity (SqYd)
38+31		45+56	L	1,198
			Total:	1,198

STORM SEWER

Reinforced concrete pipe may be either bell and spigot or tongue and groove. The pipe sections shall be adjoined such that the ends are fully entered and the inner surfaces are reasonably flush and even.

Lift holes in the reinforced concrete pipe shall be plugged with grout.

TABLE OF PIPE QUANTITIES

Station		Offset		L/R	12" RCP Cl 3 (Ft)	12" RCP Flared End (Ea)
40+57.9	13.7'	to	41.5'	L	28	
40+57.9		47.5'		L		1
45+27.5	13.7'	to	33.4'	L	20	
45+27.5		39.4'		L		1
				Total:	48	2

DROP INLETS

The plan shown quantities of "2'x3' Type B Drop Inlet" per each will be the basis of payment for these items. Payment will be full compensation for furnishing and installing all cast iron grates, concrete, reinforcing steel, precast collars and all other items necessary for a complete drop inlet structure.

TABLE OF RIPRAP AND DRAINAGE FABRIC

REV 05-12-15 ARK

Station	L/R	Class A Riprap (Ton)	Type B Drainage Fabric (SqYd)
40+58	L	5.4	11
45+28	L	5.4	11
	Totals:	10.8	22

TABLE OF TYPE B66 CONCRETE CURB AND GUTTER

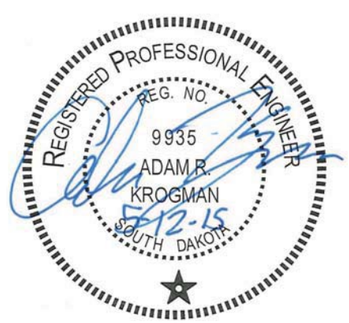
Station	To	Station	L/R	Quantity (Ft)
38+33.2		40+63.2	L	230
41+37.2		45+29.5	L	393
45+54.5		45+54.5	L	13
			Total:	636

6" PCC FILLET SECTIONS

Payment for "6" PCC Fillet Section" shall be based on plans quantity. If additions or reductions to the area of PCC fillet sections are ordered by the Engineer, payment will be made in accordance with the contract unit price per square yard for "6" PCC Fillet Section".

TABLE OF 6" PCC FILLET SECTION

Station	To	Station	L/R	Radius (Ft)	Quantity (SqYd)
40+63.2		40+88.3	L	25	26.0
41+12.2		41+37.2	L	25	26.0
45+29.5		45+54.5	L	25	26.0
				Total:	78.0



STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P SRTS(18)	4	37

TYPE 1 DETECTABLE WARNINGS

Detectable warnings shall be in compliance with the Americans with Disability Act regulations.

The detectable warnings shall be installed according to the manufacturer's installation instructions.

A concrete thickness equal to the adjacent concrete sidewalk thickness and 2 inches of granular cushion material shall be placed below the Type 1 Detectable Warnings. When concrete is placed below the detectable warnings then the concrete thickness shall be transitioned at the rate of 1" per foot to match the adjacent concrete sidewalk thickness.

The detectable warnings shall be a brick red color for application in concrete curb ramps.

When Type 1 Detectable Warnings are specified, the Contractor shall furnish and install only one of the products listed in the Type 1 Detectable Warnings table.

Type 1 Detectable Warnings

Product	Manufacturer
Detectable Warning Plate Cast Iron Plate	Neenah Foundry Company Neenah, WI 800-558-5075 http://www.neenahfoundry.com/
Detectable Warning Plate Cast Iron Plate	Deeter Foundry Lincoln, NE 800-234-7466 http://www.deeter.com/
Detectable Warning Plate Cast Iron Plate	East Jordan Iron Works, Inc. 301 Spring Street East Jordan, MI 49727 800-626-4653 http://www.ejiw.com

TABLE OF TYPE 1 DETECTABLE WARNINGS

Station	L/R	Quantity (SqFt)
38+33.2	21.2' L	10
40+78.9	21.3' L	10
41+21.5	21.3' L	10
45+45.2	21.3' L	10
	Total:	40

CONCRETE SIDEWALK

The concrete sidewalk shall be constructed in accordance with Section 651 of the Standard Specifications. The sidewalk details are typical of this project with the exception of all sidewalk cross slopes shall be 1% rather than the 2% max as shown, the sidewalk widths, boulevard widths, and other special details are shown on the Curb and Gutter Layout sheets.

TABLE OF 4" CONCRETE SIDEWALK

Station	To	Station	L/R	Quantity (SqFt)
38+33.2		40+81.8	L	1,308
41+18.5		45+51.8	L	2,428
			Total:	3,736

BICYCLE RACK

A bicycle rack shall be furnished and delivered to the Hermosa Elementary School with this project. The bicycle rack shall be a "Total Coat Bike Rack," 12 bike capacity, portable model, color yellow, as manufactured by Park It Bike Racks, or approved equal. http://www.parkitbikeracks.com

Upon delivery, the bicycle rack shall be unloaded, assembled and placed at the Hermosa Elementary School at an area designated by a representative of the school district or by the Engineer.

MAILBOXES

The Contractor shall reset the existing mailboxes on new a post with the necessary support hardware for double mailbox assemblies. The local Postmaster will determine the recommended mounting height of the mailboxes throughout the project. The Contractor shall coordinate with the Engineer on the proper postal representative to contact.

All costs for removing existing mailboxes, providing temporary mailboxes, and resetting mailboxes with new posts and necessary support hardware shall be incidental to the contract unit price per each for "Refurbish Double Mailbox".

One double mailbox shall be refurbished at Sta. 38+70 L.

TRAFFIC CONTROL – GENERAL NOTES

1. During working hours, when it is necessary to close the westbound lane of Highway 40, the traffic control shall be set up per standard plate 634.23 and flaggers shall be provided. During non-working hours, and at times when the lane closure is not necessary, the traffic control shall be pulled to the edge of the roadway and two-way traffic shall be restored.

2. The intent of the traffic control plan is to have the least amount of impact on the traveling public and adjacent businesses. Requests to deviate from the plan shall be submitted in writing to the Engineer for review. Approval of an alternate plan will only be allowed when the proposed changes meet with the Department's intent for traffic control and sequencing of the work. An alternate plan shall be submitted for review a minimum of two weeks prior to potential implementation.

3. Traffic control shall at all times be maintained in accordance with applicable MUTCD Standards, Section 634 of the Standard Specifications and these plans.

4. All taper lengths shall be according to the standard plates in these plans and the MUTCD. Taper lengths shall be laid out and verified by the Engineer prior to installation.

5. Traffic shall be maintained in 11 ft. minimum lane widths at all times.

TRAFFIC CONTROL – GENERAL NOTES (CONT'D)

REV 05-12-15 ARK

6. The Contractor shall be required to have a person available 24 hours/day, 7 days/week to maintain traffic control devices. The name and cellular telephone number of this individual shall be given to the Engineer at the preconstruction meeting.

7. The contractor or designated traffic control subcontractor shall make night inspections at the initial set up of traffic control and every week thereafter to ensure the adequacy, legibility and reflectivity of each sign and device. A written summary of each inspection shall be given to the Engineer within 24 hours after completion of the inspection. The cost for the nighttime inspection work shall be incidental to the related contract items.

8. Non-applicable signing, including construction signing, shall be covered completely or removed from shoulder during periods of in-activity. Period of inactivity is defined as 1 day. All costs to perform this work shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

9. The bottom of all signs on portable or temporary supports shall not be less than seven feet above the pavement in urban areas and one foot above the pavement in rural areas. Portable sign supports may be used as long as the duration is less than 3 days. If the duration is more than 3 days, the signs shall be mounted on fixed location, breakaway supports during the time of initial installation, except portable sign supports will be allowed where surfacing prohibits installation.

10. The quantity of signs paid for will be for the greatest number of installations per sign in place at any one time regardless of the number of set-ups on the project.

11. The Contractor shall provide documentation that all breakaway sign supports comply with NCHRP 350 and/or MASH crash-worthy requirements. The Contractor shall provide installation details at the preconstruction meeting for all breakaway sign support assemblies.

12. Traffic approaching the project from intersecting roadways and approaches must be adequately accommodated. Intersections or large commercial entrances may require additional signing, flaggers, and channelizing devices on a temporary basis until work activities pass these areas.

TRAFFIC CONTROL – GENERAL NOTES (CONT'D)

13. Driveways, streets, and roadways that enter the project shall be delineated such that they are clearly visible during all hours. Freestanding, reflective traffic control barrels shall be used. Cost for this delineation shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

14. The Contractor shall keep the portion of the project being used by public traffic in a condition that will adequately and safely accommodate traffic. A power broom (a pickup type street sweeper with sufficient water), will be required to clean all loose debris off of paved surfacing.

15. At no time during construction shall a vertical drop-off of greater than 16" be left overnight adjacent to the traveled way. The Contractor may utilize embankment material or existing gravel cushion to ensure a 16" vertical drop-off is not exceeded. Vertical drop-offs greater than 16" shall be shouldered to a 3:1 minimum slope. No separate payment will be made for constructing these slopes.

16. Grading operations shall be conducted such that access to individual business entrances shall be maintained throughout the duration of the project. Entrances shall be graded simultaneously with roadway embankment and excavations.

17. Parking of equipment during non-working hours shall be in locations that do not hinder the visibility of accesses to adjacent businesses.

18. Storage of vehicles and equipment shall be as near to the right-of-way as possible. Contractor's employees should mobilize at a location off the right-of-way and arrive at the work sites in a minimum number of vehicles necessary to perform the work. Indiscriminate driving and parking of vehicles within the right-of-way will not be permitted. Any damage to the vegetation, surfacing, embankment, delineators and existing signs resulting from such indiscriminate use shall be repaired and/or restored by the Contractor, at no expense to the State, and to the satisfaction of the Engineer.

19. All truck hauling shall be restricted to the State Highway System.

20. Hauling material to and from the project site shall be conducted in a safe manner by utilizing flaggers and appropriate traffic control devices to control traffic.

21. All equipment and vehicles entering and exiting closed lanes of traffic in addition to working in traffic or alongside traffic shall display a flashing amber light visible from all directions at a minimum distance of ¼ mile.

22. Construction equipment and materials shall not be unloaded from lanes open to traffic.

23. Barrels or 42" grabber cones shall be spaced every 25' when used for edgelines for separation between traffic and the work zone as shown on the traffic control sheets. Barrels and cones shall be incidental to the contract Lump Sum price for Traffic Control, Miscellaneous.

24. Permanent traffic control items shall be installed prior to opening the completed roadway to traffic.

MAINTENANCE OF DRAINAGE ON THE PROJECT SITE

All earthwork and pipe installation shall be completed in such a manner that drainage is maintained throughout the project. This work may involve installation of temporary tie-ins, dikes, pumping of water, plugging inlets, and temporary diversion of water utilizing pipes.

The Contractor shall coordinate embankment operations and pipe installations so that drainage is continuous, but does not damage new or existing grading sections. If necessary, temporary pipe, temporary connections, plugs, and channels may be used to avoid damage to new or existing grade or partial omission of permanent drainage features may be required. In addition, permanent drainage features may need to be installed in phases to match sequencing. The cost to install, maintain, and remove temporary items and any incidentals necessary for partial installations of permanent drainage features shall be incidental to the various pipe bid items.

MAINTENANCE OF LANDSCAPING

Vegetation that has been damaged or disturbed by the Contractor outside the ROW or grading limits shown on the plans shall be replaced at no cost to the State.

MAINTENANCE OF BUSINESS ACCESS

The Contractor shall be responsible for maintaining access to all businesses throughout the duration of the project. Accesses shall be open at all times.

Cost of furnishing, hauling, placing, compacting, maintaining, removing and disposing of temporary material for accesses shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

CONTRACTOR FURNISHED PROGRESS SCHEDULES

The Progress Schedule is an integral part of the project. It is used as a resource for both the Owner and the Contractor to monitor work progress. The Contractor shall ensure operations are conducted such that the Progress Schedule is adhered to by all contracting parties involved. The Contractor shall ensure the Progress Schedule meets specified interim and overall contract completion dates for all scheduled activities. The Progress Schedule shall consist of a bar chart method construction schedule using the most current version of Microsoft Project scheduling software, or approved equal, and a written narrative.

At least two weeks prior to the Preconstruction Meeting the Contractor shall furnish the Engineer two copies of the Progress Schedule. Within 7 calendar days after the Preconstruction Meeting the Engineer will review the initial schedule and will either accept the initial schedule or ask for more information. If more information is required, the Contractor shall submit the requested information within 7 calendar days of the Engineer's request. The Engineer will accept or reject the schedule based solely on completeness of criteria listed below. Acceptance does not modify the contract or constitute endorsement or validation by the Engineer of the Contractor's logic, activity durations, or assumptions in creating the schedule. Nor does acceptance of the schedule relieve the Contractor of his obligation to complete all work within interim and overall contract completion dates. The Contractor shall not begin work until the Engineer accepts the Progress Schedule in writing.

CONTRACTOR FURNISHED PROGRESS SCHEDULES (CONT'D)

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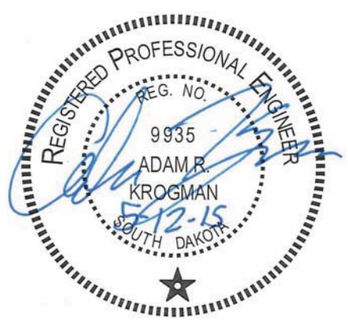
At a minimum, the bar chart method construction schedule shall contain the following information:

1. All work activities needed to perform and complete the work, and critical activities shown on a time scale.
2. The planned start and completion dates for each activity, the duration of each activity (stated in working days, and with activities of more than 15 working days in duration broken into two or more activities distinguished by location or some other feature), and the sequencing of all activities.
3. Days when work is not expected to be performed, i.e. weekends, holidays, etc.
4. The quantity and estimated daily production rate for critical activities.
5. Dates related to the procurement of materials, equipment, articles of special manufacture, etc.
6. Dates related to the submission of working drawings, plans, and other data specified for review or approval by the Department.
7. Dates related to required inspection of structural steel fabrication, etc.
8. Dates related to specified activities by the Department and third parties.
9. Definition and relation of work activities to contract pay items.

At a minimum, the written narrative shall contain the following information:

1. The proposed work progress sequence describing the relationship of the work activities listed in the bar chart schedule to complete the contract, including utility coordination, Tier 1 Certifications, shop drawing submittals (including estimated maximum waiting periods for all required shop drawings), permits (including estimated maximum waiting periods for all required permits), and fabrication and delivery activities.
2. A detailed description and the progress time of each work activity listed in the bar chart schedule, measured by working day or calendar day, as appropriate.



CONTRACTOR FURNISHED PROGRESS SCHEDULES (CONT'D)

3. A detailed description of the bar chart schedule, including holidays, planned workdays per week, number of crews per activity, number of shifts per day per activity, hours per shift, size of work crews, equipment utilization, including type and quantity, and other resources used, and resultant production rate per activity.
4. A detailed description of how the schedule accommodates adverse weather days for each month and consideration for how work activities could be adjusted to meet the schedule if above average adverse weather is encountered.
5. A detailed description of how operations will be adjusted in order to meet or exceed the scheduled activity completion for delays not authorized by Contract Change Orders.

The schedule shall be updated and resubmitted on a bi-weekly interval until the project is substantially complete. The Contractor shall include on the schedule updates planned start and finish dates for each activity shown on the most recent accepted schedule. For newly started or finished activities, include the actual start or finish date. For activities previously started and still ongoing, show the remaining duration and planned finish dates. Next to each activity on the update show the planned or "target" dates of performance from the most recent accepted schedule.

Progress Schedule Revisions are revisions made to the Progress Schedule that reflect changes to the Contractor's operations in order to meet the requirements of the contract. The Engineer may request in writing a Progress Schedule Revision to be submitted for approval due to, but not limited to, the following:

1. A delay (actual or projected) of interim or overall contract completion dates by 21 calendar days or more.
2. A difference between the actual rate of progress and that depicted in the schedule.
3. The issuance of a Contract Change Order that, by adding, deleting, or revising activities, changes the planned sequence of work or the method and manner of its performance.

If it is determined that a Progress Schedule Revision is required, it shall be provided to the Engineer for review within 10 calendar days of written notification. The Engineer's review of the revised schedule will not exceed 7 calendar days. Revisions required as a result of the Engineer's review shall be submitted within 7 calendar days. When written acceptance is provided by the Engineer, the Revised Schedule shall become the project Progress Schedule.

There will be no direct payment for the contractor-furnished schedule. All costs associated with the schedule shall be incidental to the related items. Failure to properly submit the required construction schedules will result in the withholding of progress payments until an approved schedule is received.

ORANGE PLASTIC SAFETY FENCE

The Contractor shall install orange plastic safety fence around all unattended excavations in areas where pedestrians may exist. Pedestrian traffic shall be protected from open excavations and other hazards in and around the construction site to comply with the Americans with Disabilities Act.

The Contractor shall maintain and make repairs to the fence until directed to remove it by the Engineer.

All costs associated with furnishing, installing, maintaining, repairing, removing and replacing the safety fence shall be paid for at the contract unit price per foot for "Orange Plastic Safety Fence."

INVENTORY OF TRAFFIC CONTROL DEVICES

SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
G20-2A	36 x 18	END ROAD WORK	3	17	51
R9-9	24 x 12	SIDEWALK CLOSED	2	15	30
R9-11a	24 x 12	SIDEWALK CLOSED CROSS HERE	2	15	30
W20-1	48 x 48	ROAD WORK #### FT. OR AHEAD	3	34	102
W20-4	48 x 48	ONE LANE ROAD #### FT. OR AHEAD	2	34	68
W20-7a	48 x 48	FLAGGER	2	34	68
W21-5	48 x 48	SHOULDER WORK	2	34	68
******	** x **	TYPE III BARRICADE-8 FT SINGLE SIDED	2	40	80
				TOTAL UNITS	497

REMOVE AND REPLACE TOPSOIL

The thickness will be approximately 4 inches.

The estimated amount of topsoil to be placed (for information only) is as follows:

Station	to	Station	Topsoil (CuYd)
38+27		40+95	51
41+15		45+49	105
		Total:	161

MYCORRHIZAL INOCULUM

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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:

Glomus intraradices	25%
Glomus aggregatu	25%
Glomus mosseae	25%
Glomus etunicatum	25%

All seed shall be inoculated 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.

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

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

PERMANENT SEEDING

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

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

All seed broadcast must be raked or dragged in (incorporated) within the top ¼" to ½" of topsoil when possible. This requirement may be waived by the Engineer during construction when raking or dragging is deemed not feasible by conventional methods.

The varieties listed for the seed mixture are preferred varieties.

Native harvest seed will be allowed.

Type F Permanent Seed Mixture shall consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Flintlock, Rodan, Rosana	7
Green Needlegrass	Lodorm	4
Sideoats Grama	Butte, Killdeer, Pierre, Trailway	3
Blue Grama	Bad River, Willis	2
Oats or Spring Wheat: April through May; Winter Wheat: August through November		10
	Total:	26

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DRILLS

In addition to the drills specified in Section 730 of the Standard Specifications, other types of drills including no-till drills will be allowed as long as they have baffles, partitions, agitators, or augers which keep the seed distributed throughout the seed box and the seed is planted at a depth of ¼" to ½".

MULCHING (GRASS HAY OR STRAW)

Bales with noxious weed contamination will be rejected and the Contractor will be required to remove the contaminated bales from the project.

Grass hay or straw mulch shall be applied at the rate of 2 Tons per acre on areas that receive permanent seeding, excluding those areas where erosion control blanket is to be installed.

HIGH FLOW SILT FENCE

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

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

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

TABLE OF HIGH FLOW SILT FENCE

Station	L/R	Location	Quantity (Ft)
46+05	L	Pipe Outlet	32
		Total:	32

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.

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.

TABLE OF EROSION CONTROL BLANKET

Station	to	Station	L/R	Location	Type	Quantity (SqYd)
38+31		40+95	L	Inslope	1	347
41+14		45+50	L	Inslope	1	760
				Total Type 1 Erosion Control Blanket:		1107

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.

Sediment Filter Bag

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

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

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

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

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

INTERIM SEDIMENT CONTROL AT INLETS, MANHOLES, AND JUNCTION BOXES AFTER SURFACING REMOVAL AND BEFORE PLACEMENT OF SURFACING (CONT'D)

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

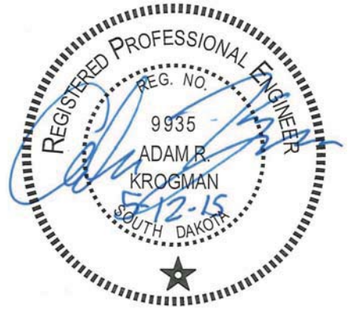
All costs for removing and disposing of sediment collected by the sediment control device shall be incidental to the contract unit price per cubic yard for "Remove Sediment".

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

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

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

Station	L/R	High Flow Silt Fence Quantity (Ft)	Sediment Filter Bag Quantity (Ft)	Remove Sediment Quantity (CuYd)
40+58	L	22	32	0.25
45+27	L	22	32	0.25
	Totals:	44	64	0.5



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	P SRTS(18)	8	37

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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 sediment control device as shown on Standard Plate 734.10. Filter fabric used for constructing the sediment control at inlets with frames and grates shall be the same type of fabric that is used in high flow silt fence from the approved product list. The approved product list may be viewed at the following internet site:

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

STREET SWEEPING

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

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

At a minimum, sweeping will be required:
1. Prior to opening any segment or roadway to traffic.

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

SAWING IN EXISTING SURFACING

Where new asphalt concrete is placed adjacent to existing asphalt concrete, the existing pavement shall be sawed full depth to a true line with a vertical face. No separate payment shall be made for sawing.

ASPHALT CONCRETE COMPOSITE

Mineral aggregate for the Asphalt Concrete Composite shall conform to the requirements of the Standard Specifications for Class E, Type 1;

All other requirements in the Standard Specifications for Asphalt Concrete Composite shall apply.

The asphalt binder used in the mixture shall be either a PG 64-22, PG 64-28, or PG 64-34 Asphalt Binder.

TABLE OF ADDITIONAL QUANTITIES STA 38+31 TO STA 45+55

*Water For Granular Material	Base Course	Asphalt Concrete Composite	Compacted Depth of Granular Material	Compacted Depth of Asphalt Concrete
Gal	Ton	Ton	Inches	Inches
2,220.0	446	70	12	4

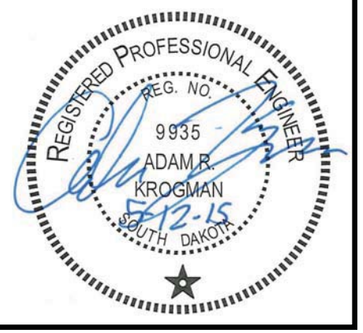
* The quantity of "Water for Granular Material" shown is for informational purposes only. No separate payment will be made for "Water for Granular Material."

PERMANENT SIGNING

The Contractor shall remove, salvage and reset existing traffic signs as called for in the following table. All costs associated to the removal. salvage, storage and resetting of traffic signs shall be paid for per each under the bid item for "Remove, Salvage, Relocate, and Reset Traffic Sign.

TABLE OF REMOVING AND REPLACING SIGNS

Station	Description
40+07.04-33.80' L	Railroad Crossing
40+77.58-32.84' L	Stop
45+40.78-34.63' L	Stop



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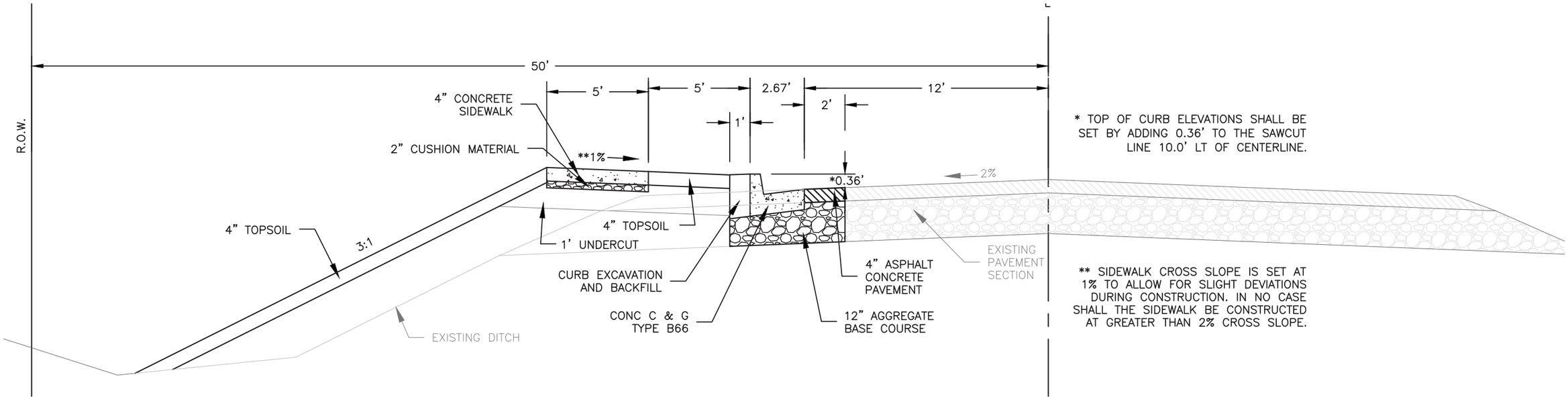
TYPICAL SECTION



* TOP OF CURB ELEVATIONS SHALL BE SET BY ADDING 0.36' TO THE SAWCUT LINE 10.0' LT OF CENTERLINE.

** SIDEWALK CROSS SLOPE IS SET AT 1% TO ALLOW FOR SLIGHT DEVIATIONS DURING CONSTRUCTION. IN NO CASE SHALL THE SIDEWALK BE CONSTRUCTED AT GREATER THAN 2% CROSS SLOPE.

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 9935
ADAM R. KROGMAN
SOUTH DAKOTA
5-12-15

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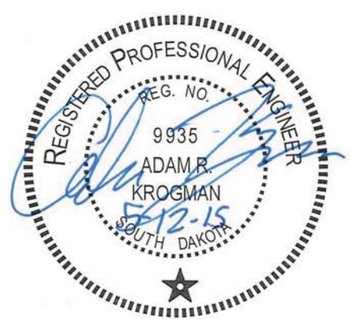
EROSION AND SEDIMENT CONTROL LEGEND

- STORM WATER DISCHARGE POINT
- LOW FLOW SILT FENCE
- HIGH FLOW SILT FENCE
- SILT TRAP
- SEDIMENT CONTROL AT INLET WHEN SURFACING IS IN PLACE
- TEMPORARY SEDIMENT BARRIER
- TEMPORARY WATER BARRIER
- FLOATING SILT CURTAIN
- SEDIMENT FILTER BAGS
- TRIANGULAR SILT BARRIERS
- EROSION CONTROL WATTLES
- EROSION BALES
- SURFACE ROUGHENING
- SOIL STABILIZER / TEMPORARY MULCH / DUST CONTROL
- CUT INTERCEPTOR DITCH
- TEMPORARY SLOPE DRAIN
- SEDIMENT CONTROL AT INLET BEFORE PLACEMENT OF SURFACING
- HYDRAULIC STRAW MULCH / FIBER MULCHING / BONDED FIBER MATRIX / FIBER REINFORCED MATRIX
- ROCK CHECK DAM
- SODDING
- PERMANENT SEEDING
- TYPE 1 EROSION CONTROL BLANKET
- TYPE 2 EROSION CONTROL BLANKET
- TYPE 3 EROSION CONTROL BLANKET
- TYPE 4 EROSION CONTROL BLANKET
- TYPE 1 TURF REINFORCEMENT MAT
- TYPE 2 TURF REINFORCEMENT MAT
- TYPE 3 TURF REINFORCEMENT MAT
- SYNTHETIC CHANNEL PROTECTION
- (TS) TOPSOIL STOCKPILES
- (B) BORROW AREAS
- (CE) STABILIZED CONSTRUCTION ENTRANCES
- (CW) CONCRETE WASHOUTS
- (BS) VEGETATED BUFFER STRIPS
- (AP) ASPHALT PLANT SITE
- (CP) CONCRETE PLANT SITE
- (M) ON-SITE CONSTRUCTION MATERIAL STORAGE AREAS
- (SK) SPILL KIT
- (WP) WORK PLATFORM
- (TP) PORTABLE TOILET
- (V) VEHICLE AND EQUIPMENT PARKING, FUELING, AND MAINTENANCE AREAS
- (D) DUMPSTER OR OTHER TRASH AND DEBRIS CONTAINERS



BEST MANAGEMENT PRACTICES

BEST MANAGEMENT PRACTICES (BMP'S) SHOULD BE USED THROUGHOUT CONSTRUCTION. TO REMIND CONTRACTORS AND FIELD PERSONNEL THAT BMP'S FOR WATER QUALITY SHOULD BE UTILIZED THROUGHOUT THE CONSTRUCTION PROCESS. THE SYMBOLOGY IS COLORED AS FOLLOWS:

RED BMPS ARE TO BE INSTALLED BEFORE EARTH MOVING ACTIVITES COMMENCE. RED BMPS ARE USED FOR PERIMETER CONTROL. THEY PREVENT SEDIMENT FROM LEAVING THE SITE OR ENTERING FROM ANOTHER SITE. THEY MAY ALSO DETER WATER AWAY FROM OR AROUND THE SITE. THEY MAY BE LEFT IN PLACE AND MAINTAINED FOR THE REMAINDER OF CONSTRUCTION OR UNTIL VEGETATION HAS REACHED 70% OF THE BACKGROUND LEVEL.

BLUE BMPS ARE TO BE INSTALLED DURING CONSTRUCTION. BLUE BMPS ARE USED FOR TEMPORARY STABILIZATION. THEY PREVENT EROSION DURING CONSTRUCTION. THEY MAY ALSO BE SEDIMENT CONTROLS UTILIZED AFTER DRAIN PIPES AND STORM SEWERS ARE IN PLACE. THEY MAY BE LEFT IN PLACE AND MAINTAINED FOR THE REMAINDER OF CONSTRUCTION OR UNTIL VEGETATION HAS REACHED 70% OF THE BACKGROUND LEVEL.

GREEN BMPS ARE TO BE INSTALLED WHEN GRADING IS COMPLETE. GREEN BMPS ARE USED FOR FINAL STABILIZATION. THEY ARE PERMANENT EROSION CONTROL MEASURES THAT ARE NOT REMOVED.

IF THE CONTRACTOR OR ENGINEER DECIDE TO USE ADDITIONAL BEST MANAGEMENT PRACTICES OR LABEL THE LOCATIONS OF THEM THEY SHOULD USE THE SYMBOLOGY SHOWN. OTHER BEST MANAGEMENT PRACTICES FOR WHICH THERE IS NO SYMBOLOGY INCLUDE:

PERMANENT SEEDING IS DONE BEFORE THE APPLICATION OF ALL TYPES OF MULCHING AND HYDRAULICALLY APPLIED SOIL MULCHES AND MATRIXS. PERMANENT GRASS HAY/ STRAW MULCH IS NOT SHOWN ON PLAN SHEETS, BUT IT CAN BE ASSUMED THAT ALL AREAS THAT ARE NOT ROADWAYS ON RURAL PROJECTS WILL BE SEEDED THEN MULCHED. AREAS WHERE AN ALTERNATE TO GRASS HAY /STRAW MULCH IS USED WILL BE SHOWN WITH THE APPROPRIATE SYMBOLOGY.

SEDIMENT BASINS UTILIZED DURING CONSTRUCTION WILL BE SHOWN ON PLAN SHEETS AND IN SECTION X.

GEOTEXTILE FABRIC USUALLY SUPPLEMENTS OTHER BMPS, BUT IT MAY BE USED TO TEMPORARILY COVER AREAS FOR EROSION PROTECTION UNTIL IT IS PERMANENTLY INSTALLED.

STREET SWEEPING SHOULD BE DONE AS NEEDED TO KEEP SEDIMENT ON ROADWAYS FROM LEAVING THE SITE.

DEWATERING AND SEDIMENT COLLECTING IS SHOWN ON A DETAIL SHEET WHEN IT IS NEEDED. DEWATERING WITHOUT SEDIMENT COLLECTING DOES NOT HAVE A DETAIL, JUST A DETAILED NOTE. SEDIMENT LADEN WATER SHOULD NEVER BE PUMPED OFF THE SITE.

GABIONS AND RIP RAP AT PIPE AND CULVERT OUTLETS ARE DETAILED IN SECTION B.

PROJECT PHASING

PROJECT PHASING MAY BE ONE OF THE MOST IMPORTANT BMPS. DURING PHASING REMEMBER THE FOLLOWING:

ALWAYS INSTALL PERIMETER CONTROLS BEFORE BEGINNING EARTH MOVING ACTIVITIES.

DO NOT DISTURB MORE AREA THAN WHAT IS NEEDED TO COMPLETE EACH PHASE OF CONSTRUCTION.

IF POSSIBLE CONSTRUCT SEDIMENT BASINS AND STABILIZE THEM BEFORE BEGINNING ROADWAY GRADING.

TEMPORARILY STABILIZE AREAS THAT WILL NOT BE TOUCHED WITHIN 14 DAYS.

PERMANENTLY STABILIZE AREAS WHEN GRADING IN THAT AREA IS COMPLETE. PERMANENT STABILIZATION CAN BE COMPLETED IN PHASES AND DOES NOT HAVE TO WAIT UNTIL THE WHOLE ROADWAY HAS BEEN CONSTRUCTED.

CONTINUALLY MAINTAIN ALL SEDIMENT CONTROLS AND MONITOR AREAS WHERE EROSTION CONTROL HAS BEEN INSTALLED.

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EROSION AND SEDIMENT CONTROL PLAN

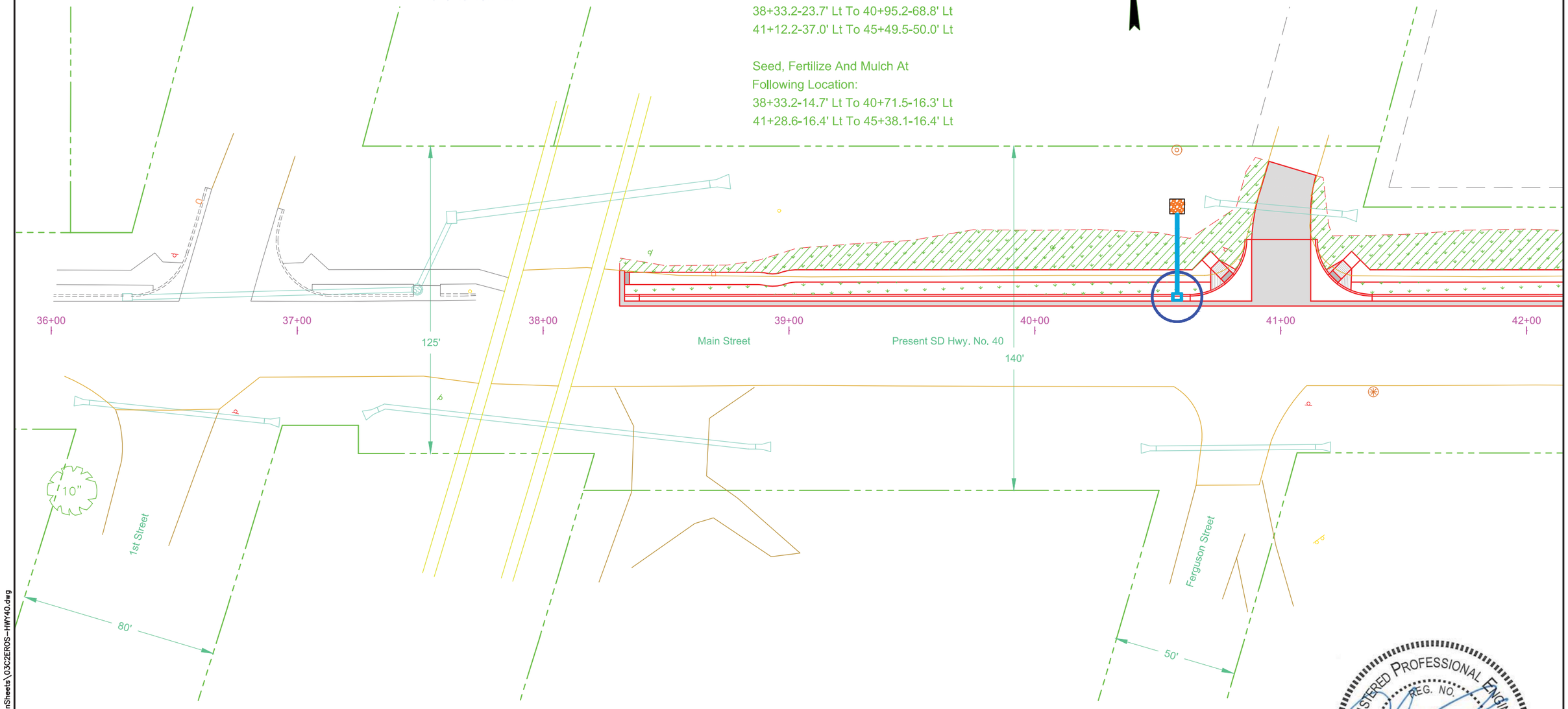
Temporary Stabilization.

Install Sediment Control At Inlet
At The Following Location:
40+57.9-13.7' Lt

Final Stabilization

Install Type 1 Erosion Control Blanket
and Seed, Fertilize and Mulch At
Following Locations:
38+33.2-23.7' Lt To 40+95.2-68.8' Lt
41+12.2-37.0' Lt To 45+49.5-50.0' Lt

Seed, Fertilize And Mulch At
Following Location:
38+33.2-14.7' Lt To 40+71.5-16.3' Lt
41+28.6-16.4' Lt To 45+38.1-16.4' Lt



REGISTERED PROFESSIONAL ENGINEER
REG. NO.
9935
ADAM R.
KROGMAN
5-12-15
SOUTH DAKOTA

05-12-15 P:\12-127\AutoCAD\PlanSheets\03C2EROS-HWY40.dwg

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PSRTS(18)	12	37

PLOTTING DATE: 05-12-15 REV 05-12-15 ARK

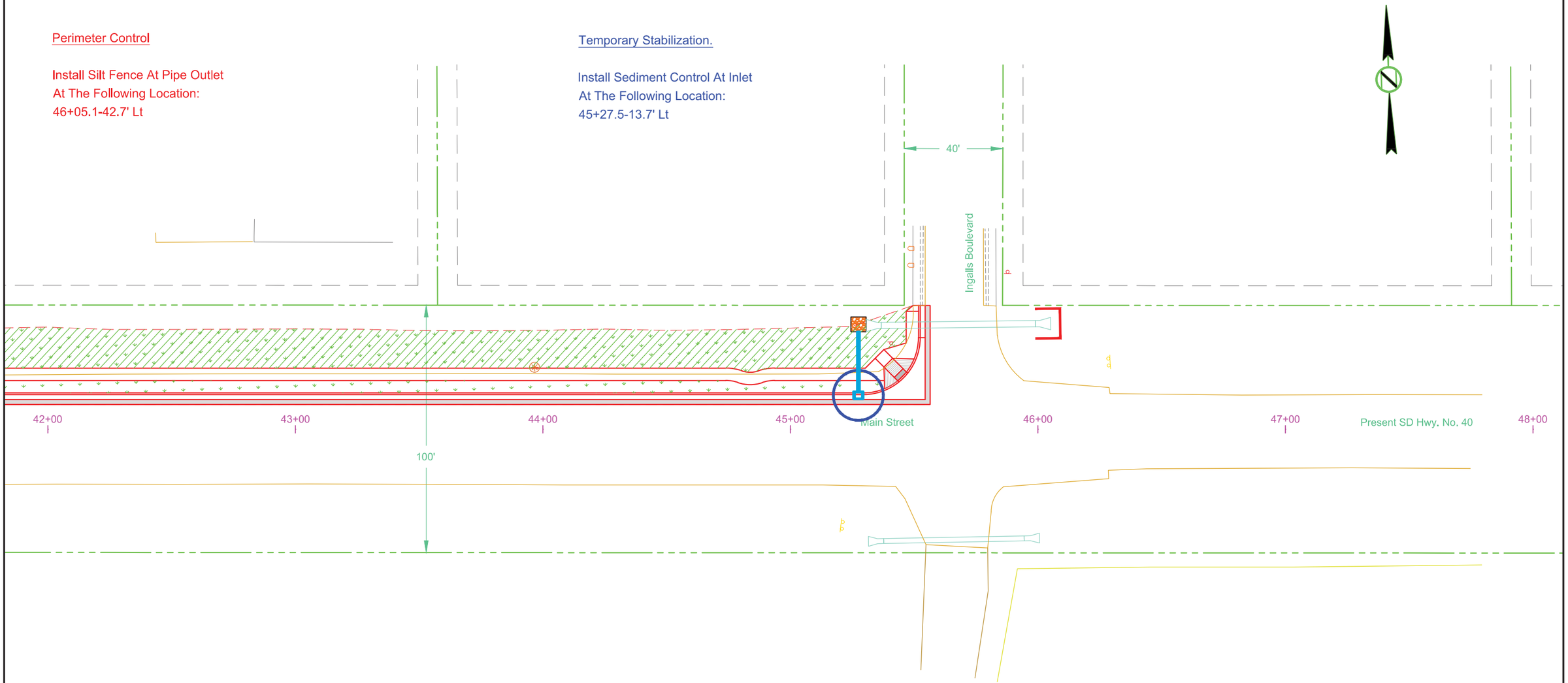
EROSION AND SEDIMENT CONTROL PLAN

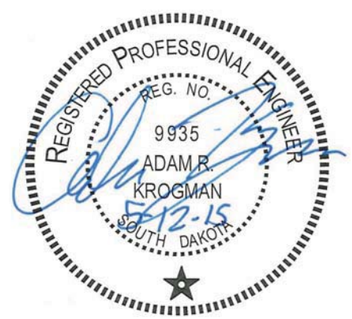
Perimeter Control

Install Silt Fence At Pipe Outlet
At The Following Location:
46+05.1-42.7' Lt

Temporary Stabilization.

Install Sediment Control At Inlet
At The Following Location:
45+27.5-13.7' Lt





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HORIZONTAL ALIGNMENT DATA

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PSRTS(18)	13	37

REV 05-12-15 ARK

HWY 40 MAINLINE				
TYPE	STATION		NORTHING	EASTING
PI	0+00.00	TL = 1000.00' S87°57'59"E	562110.05	1211508.71
PI	10+00.00	TL = 570.25' S88°46'21"E	562074.56	1212508.08
PC	15+70.25		562062.34	1213078.2
PI	18+53.08	R = 20000.00 Delta = 1°37'13.40"	562056.28	1213360.97
PT	21+35.88		562042.23	1213643.45
PI	21+35.88	TL = 277.15' S87°09'07"E	562042.23	1213643.45
PC	24+13.03		562028.46	1213920.25
PI	26+97.31	R = 40000.00 Delta = 0°48'51.86"	562014.33	1214204.19
PT	29+81.59		562004.25	1214488.3
PI	29+81.59	TL = 2065.24' S87°57'59"E	562004.25	1214488.3
PI	50+46.83	TL = 1320.54' S87°56'28"E	561930.96	1216552.24

The coordinates shown on this sheet are based on the South Dakota State Plane Coordinate System. South Zone (NAD 83/11) SF = 0.999753877

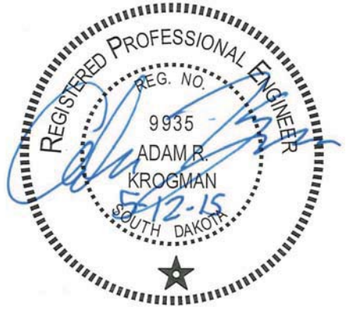
CONTROL DATA

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PSRTS(18)	14	37

REV 05-12-15 ARK

HORIZONTAL AND VERTICAL CONTROL POINTS				
POINT	DESCRIPTION	NORTHING	EASTING	ELEVATION
BM #8	Brass Cap in Cement Monument Old Train Station	561721.6838	1215138.3884	3304.14
BM #7	Brass Cap in Cement Monument N. 500' of Intersection R/R Tracks Hwy #40 W. Side	562510.7407	1215414.5028	3304.34
CP 10	Plastic Cap 360’ NE of Intersection of Hwy #40 and Hwy #79	562352.0270	1212677.8960	3420.83
CP 20	Plastic Cap 150’ SW of Intersection of Fifth Street and Manning Street	561177.5650	1213155.8350	3320.256
CP 30	Plastic Cap 68’ NW of Intersection of Fifth Street and Manning Street	561392.7220	1213165.6740	3329.528
CP 40	Plastic Cap 35’ NW of Intersection of Fifth Street and Vilas Street	561704.0670	1213161.5180	3345.678

The coordinates shown on this sheet are based on the South Dakota State Plane Coordinate System.
South Zone (NAD 83/11) SF = 0.999753877
The elevations shown on this sheet are based on NAVD 88.



STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PSRTS(18)	15	37

PLOTTING DATE: 05-12-15 REV 05-12-15 ARK

EXISTING TOPOGRAPHY SYMBOLOGY AND LEGEND

- Anchor
- Antenna
- Approach
- Assumed Corner
- Azimuth Marker
- Bbq Grill/ Fireplace
- Bearing Tree
- Bench Mark
- Box Culvert
- Bridge
- Brush
- Buildings
- Bulk Tank
- Cattle Guard
- Cemetery
- Centerline
- Cistern
- Clothes Line
- Commercial Sign Double Face
- Commercial Sign One Post
- Commercial Sign Overhead
- Commercial Sign Two Post
- Concrete Symbol
- Creek Edge
- Curb/Gutter
- Curb
- Dam Grade/Dike/Levee
- Ditch Block
- Drainage Profile
- Drop Inlet
- Edge Of Asphalt
- Edge Of Concrete
- Edge Of Gravel
- Edge Of Other
- Edge Of Shoulder
- Elec. Trans./Power Jct. Box
- Fence Barbwire
- Fence Chainlink
- Fence Electric
- Fence Misc.
- Fence Rock
- Fence Snow
- Fence Wood
- Fence Woven
- Fire Hydrant
- Flag Pole
- Flower Bed
- Gas Valve Or Meter
- Gas Pump Island
- Grain Bin
- Guardrail
- Gutter
- Guy Pole
- Haystack
- Hedge
- Highway R.O.W. Marker
- Information Sign One Post
- Information Sign Two Post
- Interstate Close Gate
- Iron Pin
- Irrigation Ditch
- Lake Edge
- Lawn Sprinkler
- Mailbox
- Manhole Electric
- Manhole Gas
- Manhole Misc
- Manhole Sanitary Sewer
- Manhole Storm Sewer
- Manhole Telephone
- Manhole Water
- Merry-Go-Round
- Microwave Radio Tower
- Misc. Property Corner
- Misc. Post
- Overhang Or Encroachment
- Overhead Utility Line — OH —
- Parking Meter
- Pipe With End Section
- Pipe With Headwall
- Pipe Without End Section
- Playground Slide
- Playground Swing
- Power And Light Pole
- Power And Telephone Pole
- Power Meter
- Power Pole
- Power Pole And Transformer
- Power Tower Structure
- Propane Tank
- Property Pipe
- Property Pipe With Cap
- Property Stone
- Public Telephone
- Railroad Crossing Signal
- Railroad Milepost Marker
- Railroad Profile
- Railroad R.O.W. Marker
- Railroad Signs
- Railroad Switch
- Railroad Track
- Railroad Trestle
- Rebar
- Rebar With Cap
- Reference Mark
- Retaining Wall
- Riprap
- River Edge
- Rock And Wire Baskets
- Rockpiles
- Route Sign One Post
- Route Sign Two Post
- Satellite Dish
- Septic Tank
- Shrub Tree
- Sidewalk
- Sign Face
- Sign Post
- Slough Or Marsh
- Spring
- Stream Gauge
- Street Marker
- Telephone Fiber Optics — T/F —
- Telephone Junction Box
- Telephone Pole
- Television Cable Jct Box
- Television Tower
- Test Wells/Bore Holes
- Traffic Signal
- Trash Barrel
- Tree Belt
- Tree Coniferous
- Tree Deciduous
- Tree Stumps
- Triangulation Station
- Underground Electric Line — P —
- Underground Gas Line — G —
- Underground Sanitary Sewer — S —
- Underground Storm Sewer = S =
- Underground Tank
- Underground Telephone Line — T —
- Underground Television Cable — TV —
- Underground Water Line — W —
- Warning Sign One Post
- Warning Sign Two Post
- Water Fountain
- Water Hydrant
- Water Meter
- Water Tower
- Water Valve
- Water Well
- Weir Rock
- Windmill
- Wingwall
- Witness Corner

- State and National Line
- County Line
- Section Line
- Quarter Line
- Sixteenth Line
- Property Line
- Construction Line
- R. O. W. Line
- New R. O. W. Line
- Cut and Fill Limits
- Control of Access
- New Control of Access

05-12-15 P:\12-127\AutoCAD\PlanSheets\03C2TOPOG SYMB & LEGEND.dwg

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PSRTS(18)	16	37

PLOTTING DATE: 05-12-15 REV 04-14-15 ARK REV 05-12-15 ARK

Install 2'x3' Type B Drop Inlet With Type B Frame and Grate At The Following Locations:

40+57.9-13.67' L

40+57.9 - 13.7' L to 40+57.9 - 41.5' L
Install 12" - 28' RCP & 1 Flared End
(Between Drop Inlet & Flared End)

40+57.9 - 50.5' L
Install 2' Thick
Class A Riprap &
Type B Drainage Fabric
(See Riprap Detail Sheets)

Sec. 29 - T2S - R8E

Sta 41+36 - 25' L
Adjust Electrical
Junction Box Elevation
(Incidental Work, Grading)

Sta 41+89 - 24' L
Adjust Electrical
Junction Box Elevation
(Incidental Work, Grading)

Joseph R. Doyle & Audrey T. Doyle

Dakota Minnesota & Eastern Railroad Co.

Dakota Minnesota & Eastern Railroad Co.

1/4 Line

Lot 21

Lot 22

OH

T

36+00 37+00 Sec. Line 38+00 39+00 40+00 41+00 42+00

S87°57'59"E

S87°57'59"E

Main Street

Present SD Hwy. No. 40

125'

140'

Lot 21

10"

1st Street

80'

Dakota Minnesota & Eastern Railroad Co.

TRACT A

Joseph St. Dennis

Sec. 32 - T2S - R8E

Ferguson Street

50'

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 9935
ADAM R. KROGMAN
SOUTH DAKOTA
5-12-15

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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PSRTS(18)	17	37

PLOTTING DATE: 05-12-15 REV 05-12-15 ARK

Sta 43+97 - 25' L
Relocate Delineator
(Incidental Work, Grading)

Sec. 29 - T2S - R8E

G & G SUBDIVISION

Install 2'x3' Type B Drop Inlet With Type B Frame and Grate At The Following Locations:

45+27.5-13.67' L

45+27.5 - 42.4' L
Install 2' Thick
Class A Riprap &
Type B Drainage Fabric
(See Riprap Detail Sheets)

45+27.5 - 13.7' L to
45+27.5 - 33.4' L
Install 12" - 20' RCP
& 1 Flared End
(Between Drop Inlet & Flared End)

40'

Daniel C. Martin &
Shelly Martin

Lot 1

Gary Hunsaker &
Greg Lester

Lot 2

Gary Hunsaker &
Greg Lester

Lot 3

Ingalls Boulevard

OH OH OH OH OH OH OH OH OH OH OH

T T T T T T T T T T T

42+00 43+00 Sec. Line 44+00 S87°57'59"E 45+00 Main Street 46+00 S87°57'59"E 47+00 Present SD Hwy. No. 40 48+00

100'

Town of Hermosa

Sec. 32 - T2S - R8E

OUTLOT D

REGISTERED PROFESSIONAL ENGINEER
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KROGMAN
SOUTH DAKOTA
5-12-15

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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PSRTS(18)	18	37

PLOTTING DATE: 05-12-15 REV 05-12-15 ARK

CURB & GUTTER, SURFACING AND SIDEWALK LAYOUT

* LANDING WITH 1% SLOPE EACH DIRECTION
** RAMP WITH 8.3% MAX SLOPE
*** SIDEWALK WITH 5% MAX. LONG. SLOPE

4" ASPHALT ON 12" AGGREGATE BASE COURSE

NOTE: ALL CURB & GUTTER IS TYPE B66.

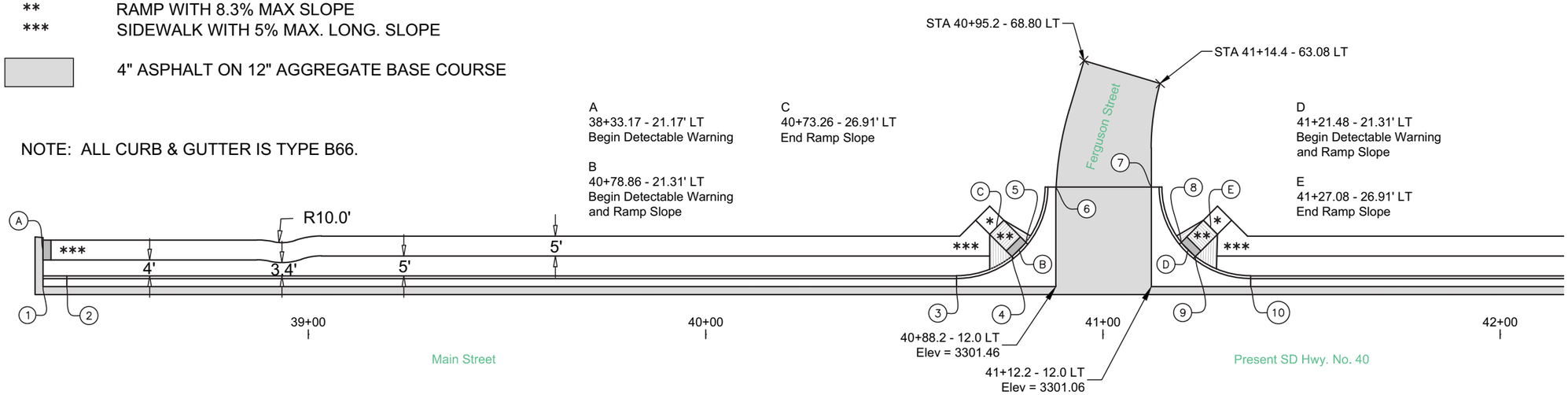
A
38+33.17 - 21.17' LT
Begin Detectable Warning

B
40+78.86 - 21.31' LT
Begin Detectable Warning
and Ramp Slope

C
40+73.26 - 26.91' LT
End Ramp Slope

D
41+21.48 - 21.31' LT
Begin Detectable Warning
and Ramp Slope

E
41+27.08 - 26.91' LT
End Ramp Slope



1
38+33.17 - 12.00' LT
Begin Curb Taper
TC El 3305.86

2
38+39.17 - 12.00' LT
End Curb Taper
Begin Str Type B66 C & G
TC El 3305.76

3
40+63.17 - 12.00' LT
End Str Type B66 C & G
Begin 25' Rad Fillet
TC El 3302.30

4
40+77.09 - 19.54' LT
Grade Break
Theor TC El 3301.46

5
40+80.63 - 23.08' LT
Grade Break
Theor TC El 3301.38

6
40+88.17 - 37.00' LT
End 25' Rad Fillet
TC El 3300.54

7
41+12.17 - 37.00' LT
Begin 25' Rad Fillet
TC El 3299.88

8
41+19.71 - 23.08' LT
Grade Break
Theor TC El 3300.43

9
41+23.25 - 19.54' LT
Grade Break
Theor TC El 3300.51

10
41+37.17 - 12.00' LT
End 25' Rad Fillet
Begin Str Type B66 C & G
TC El 3301.06

11
45+29.48 - 12.00' LT
End Str Type B66 C & G
Begin 25' Rad Fillet
TC El 3297.13

12
45+43.40 - 19.54' LT
Grade Break
Theor TC El 3296.76

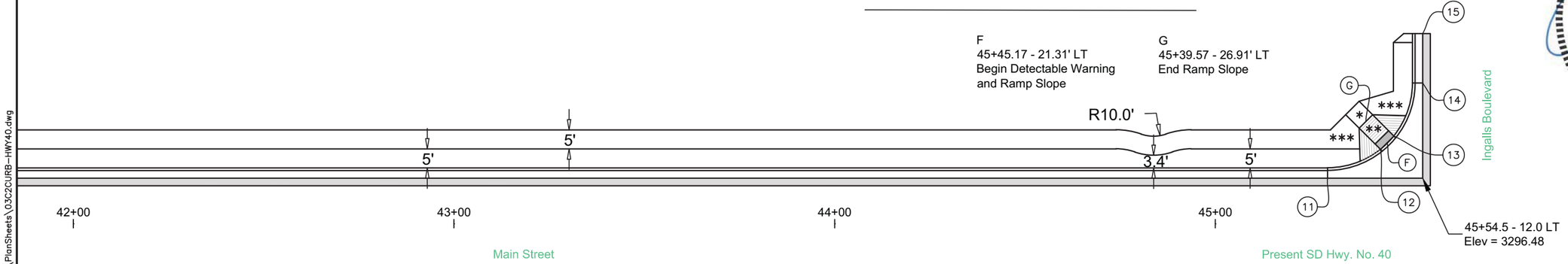
13
45+46.93 - 23.08' LT
Grade Break
Theor TC El 3296.68

14
45+54.48 - 37.00' LT
End 25' Rad Fillet
Begin Str Type B66 C & G
TC El 3296.31

15
45+54.48 - 50.00' LT
End Str Type B66 C & G
TC El 3296.26

F
45+45.17 - 21.31' LT
Begin Detectable Warning
and Ramp Slope

G
45+39.57 - 26.91' LT
End Ramp Slope



REGISTERED PROFESSIONAL ENGINEER
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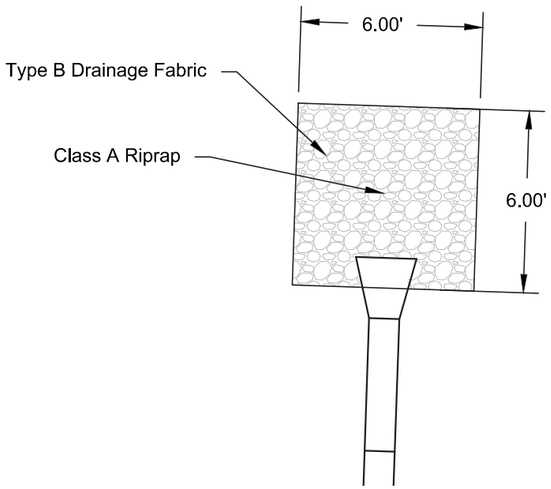
ADAM R. KROGMAN
SOUTH DAKOTA
5-12-15

05-12-15 P:\12-127\AutoCAD\PlanSheets\03C2CURB-HWY40.dwg

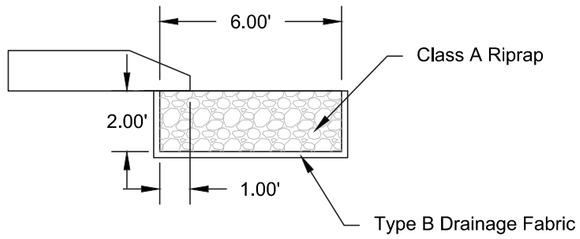
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PSRTS(18)	19	37

PLOTTING DATE: 05-12-15 REV 05-12-15 ARK

12" RCP STORM SEWER OUTLET AT 40+58 L

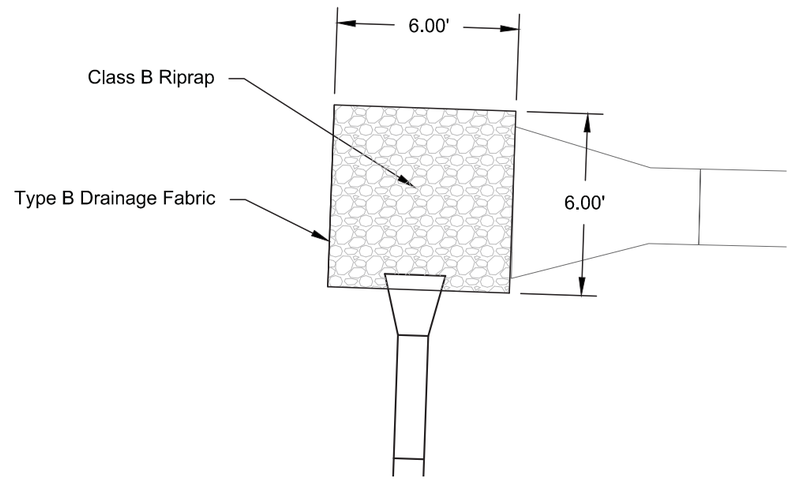


PLAN



ELEVATION

12" RCP STORM SEWER OUTLET AT 45+28 L



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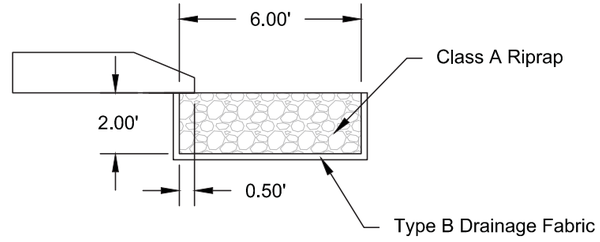
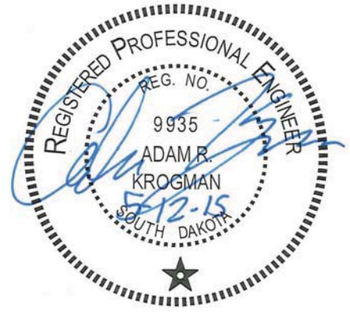


ELEVATION



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Published Date: 1st Qtr. 2015

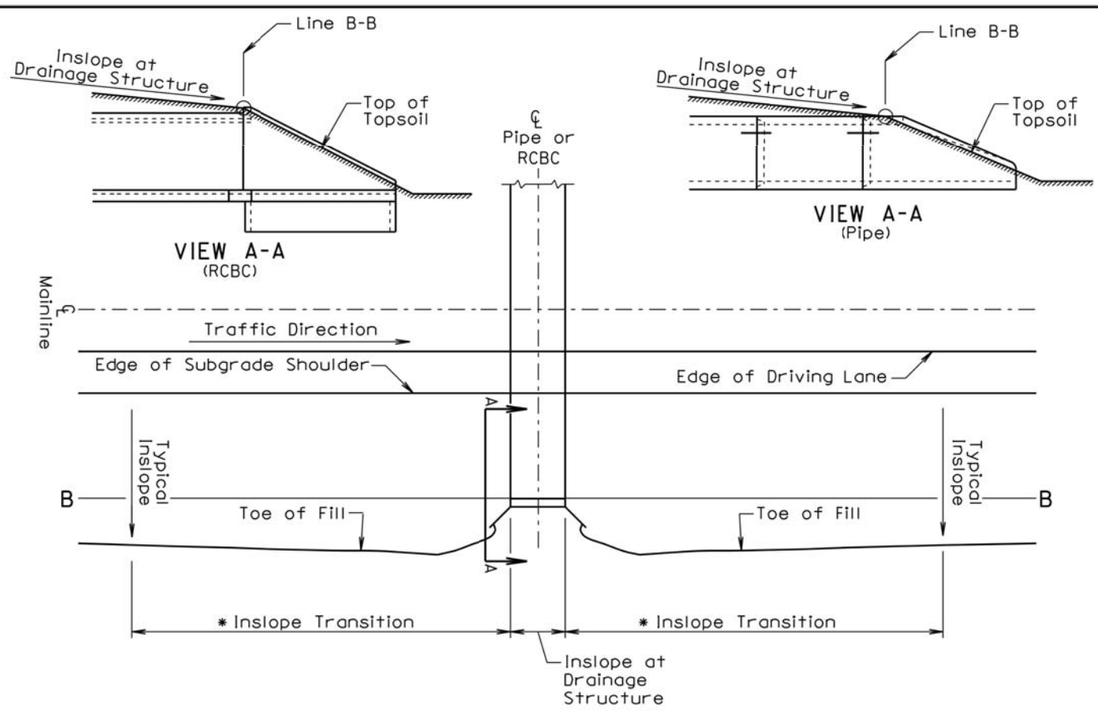
SDDOT

INSLOPE TRANSITIONS AT PIPE CULVERTS OR REINFORCED CONCRETE BOX CULVERTS

PLATE NUMBER 120.05

Sheet 1 of 2

February 14, 2011



TYPE 1 INSLOPE TRANSITION

GENERAL NOTES:

This Type 1 Inslope Transition is used when the specified inslope at the drainage structure is flatter than the typical inslope and the inslope at the drainage structure is between a 4:1 slope and 6:1 slope.

Line B-B represents the clear zone line, the location where soil intercepts the parapet on an RCBC, the location where the soil intercepts the top of the pipe adjacent to the opening of the pipe end section, or may represent a change in slope.

* Transition from the typical inslope to the inslope at the drainage structure. Within the clear zone (area from edge of subgrade shoulder to line B-B) use 100' length for each 1:1 slope change. Example: transition from a 4:1 to a 6:1 would require a 200' length transition. The typical inslope outside of the clear zone shall be transitioned gradually to the slope necessary adjacent to the RCBC wing wall or pipe culvert end section within the transition length necessary for the transition within the clear zone.

Published Date: 1st Qtr. 2015

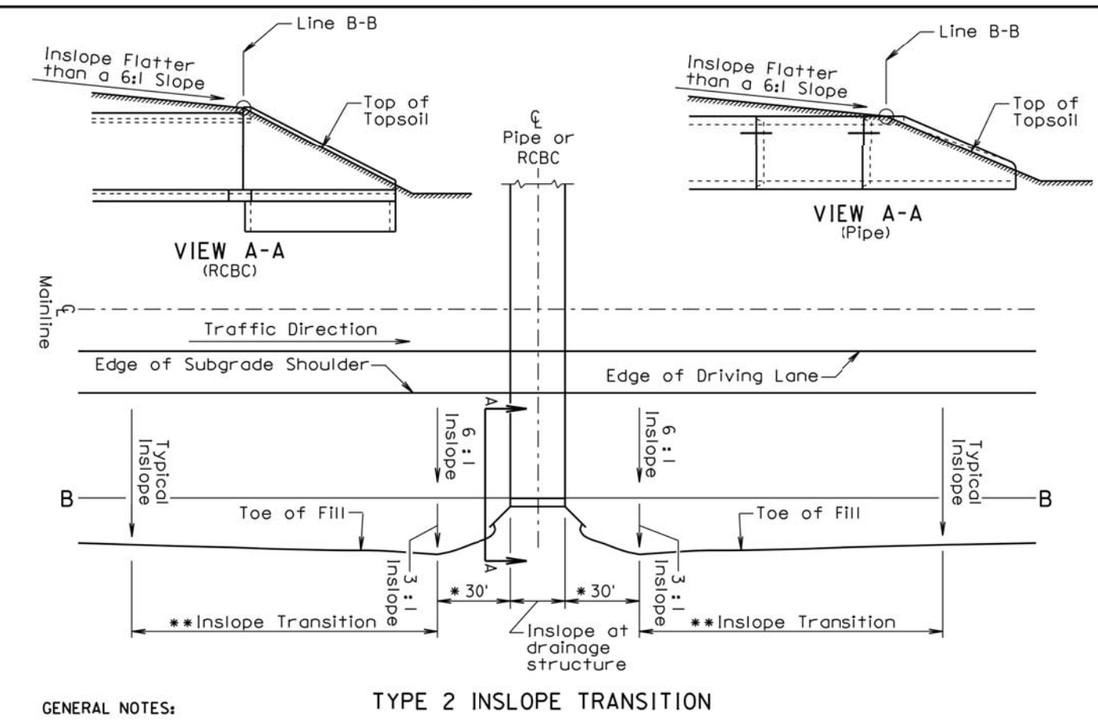
SDDOT

INSLOPE TRANSITIONS AT PIPE CULVERTS OR REINFORCED CONCRETE BOX CULVERTS

PLATE NUMBER 120.05

Sheet 2 of 2

February 14, 2011



TYPE 2 INSLOPE TRANSITION

GENERAL NOTES:

This Type 2 Inslope Transition is used when the specified inslope at the pipe or RCBC is flatter than a 6:1 slope.

Line B-B represents the clear zone line, the location where soil intercepts the parapet on an RCBC, the location where the soil intercepts the top of the pipe adjacent to the opening of the pipe end section, or may represent a change in slope.

* Transition from inslope at drainage structure to a 6 : 1 inslope and 3:1 inslope.

** Transition from typical inslope to the inslopes adjacent to the drainage structure. Within the clear zone (area from edge of subgrade shoulder to line B-B) use 100' length for each 1:1 slope change. Example: transition from a 4:1 to a 6:1 would require a 200' length transition. The typical inslope outside of the clear zone shall be transitioned to a 3:1 inslope within the transition length necessary for the transition within the clear zone.

STATE OF SOUTH DAKOTA

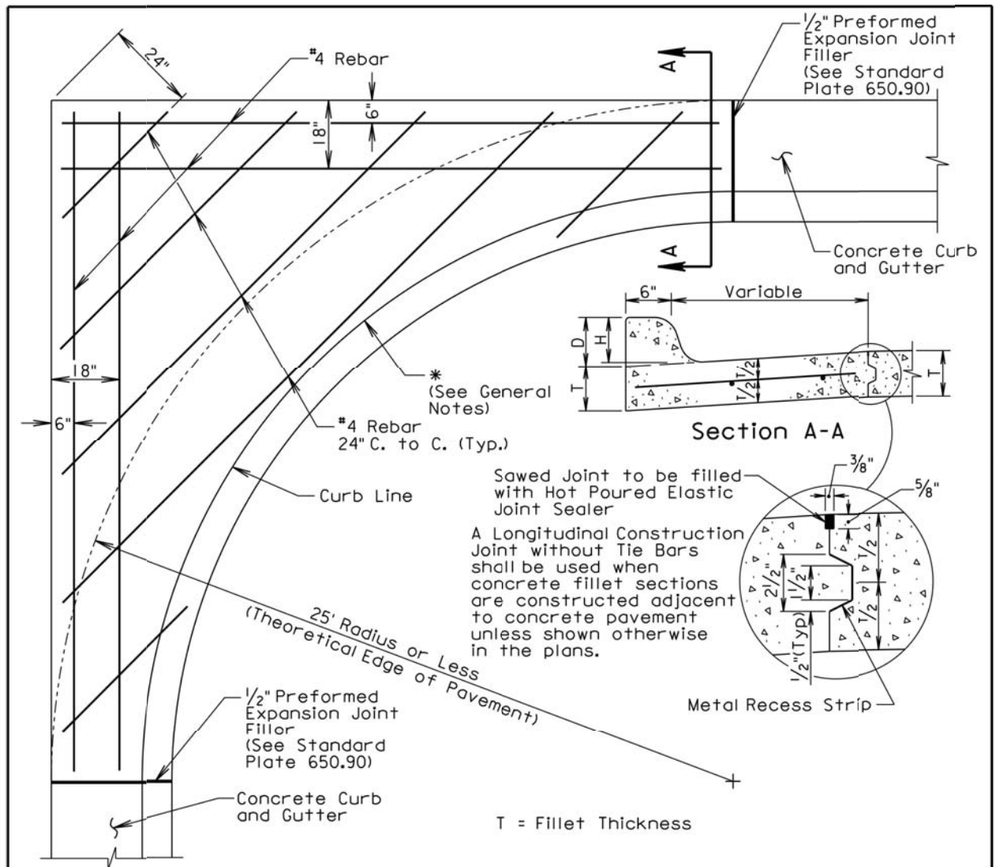
PROJECT PSRTS(18)

SHEET NO. 20

TOTAL SHEETS 37

PLOTTING DATE: 05-12-15

REV 05-12-15 ARK



GENERAL NOTES:

* If a curb ramp is constructed adjacent to a PCC fillet section, the curb will need to be modified. Refer to the corresponding curb ramp standard plate or other special details in the plans for modification of the PCC fillet section.

Dimensions D, H, and T shall conform to those shown on the appropriate curb and gutter standard plate.

All rebar shall conform to A.S.T.M. A615 Grade 60 and the Standard Specifications Sections 480 and 1010. All rebar shall have a minimum of 3" clear cover.

Class M6 Concrete shall be used in construction of the fillets.

The concrete curb shall be monolithic with the concrete fillet. No separate payment for this curb will be made as the curb is considered a part of the fillet.

Joints shall be constructed at 10' intervals except when fillets are constructed adjacent to PCC Pavement. If there is adjacent PCC Pavement the joints shall be extended from edge of pavement through the fillet section as directed by the Engineer.

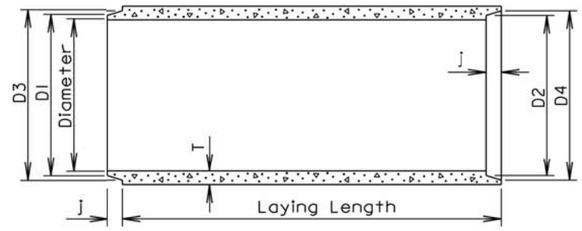
The cost for all materials, labor, and incidentals necessary to construct the PCC fillet section with curb and gutter shall be incidental to the contract unit price per square yard for the corresponding PCC fillet section bid item.

September 6, 2013

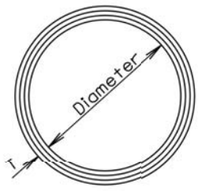
Published Date: 1st Qtr. 2015	SDDOT	PCC FILLET SECTION WITH TYPE B CURB AND GUTTER	PLATE NUMBER 380.16
			Sheet 1 of 1

TOLERANCES IN DIMENSIONS

Diameter: ±1.5% for 24" Dia. or less and ±1% or 3/8" whichever is more for 27" Dia. or greater.
Diameters at Joints: ±3/16" for 30" Dia. or less and ±1/4" for 36" or greater.
Length of joint (j): ±1/4".
Wall thickness (T): not less than design T by more than 5% or 3/16", whichever is greater.
Laying length: shall not underrun by more than 1/2".



LONGITUDINAL SECTION



END VIEW

GENERAL NOTES:

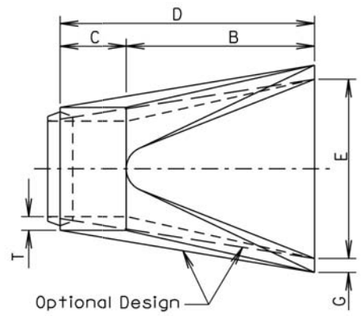
Construction of R.C.P. shall conform to the requirements of Section 990 of the Standard Specifications for Roads and Bridges.

Not more than 2 four foot sections shall be permitted near the ends of any culvert. Four foot lengths shall be used only to secure the required length of culvert.

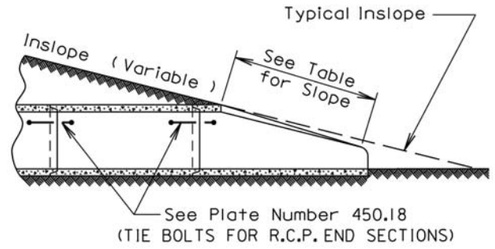
Diam. (in.)	Approx. Wt. /Ft. (lb.)	T (in.)	J (in.)	D1 (in.)	D2 (in.)	D3 (in.)	D4 (in.)
12	92	2	1 3/4	13 1/4	13 5/8	13 7/8	14 1/4
15	127	2 1/4	2	16 1/2	16 7/8	17 1/4	17 5/8
18	168	2 1/2	2 1/4	19 5/8	20	20 3/8	20 3/4
21	214	2 3/4	2 1/2	22 7/8	23 1/4	23 3/4	24 1/8
24	265	3	2 3/4	26	26 3/8	27	27 3/8
27	322	3 1/4	3	29 1/4	29 5/8	30 1/4	30 5/8
30	384	3 1/2	3 1/4	32 3/8	32 3/4	33 1/2	33 7/8
36	524	4	3 3/4	38 3/4	39 1/4	40	40 1/2
42	685	4 1/2	4	45 1/8	45 5/8	46 1/2	47
48	867	5	4 1/2	51 1/2	52	53	53 1/2
54	1070	5 1/2	4 1/2	57 7/8	58 3/8	59 3/8	59 7/8
60	1296	6	5	64 1/4	64 3/4	66	66 1/2
66	1542	6 1/2	5 1/2	70 5/8	71 1/8	72 1/2	73
72	1810	7	6	77	77 1/2	79	79 1/2
78	2098	7 1/2	6 1/2	83 3/8	83 7/8	85 5/8	86 1/8
84	2410	8	7	89 3/4	90 1/4	92 1/8	92 5/8
90	2740	8 1/2	7	95 3/4	96 1/4	98 1/8	98 5/8
96	2950	9	7	102 1/8	102 5/8	104 1/2	105
102	3075	9 1/2	7 1/2	109	109 1/2	111 1/2	112
108	3870	10	7 1/2	115 1/2	116	118	118 1/2

March 31, 2000

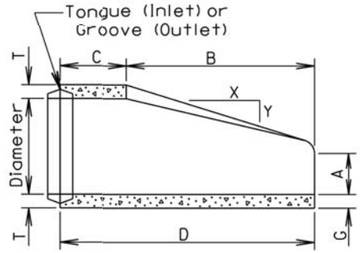
Published Date: 1st Qtr. 2015	SDDOT	REINFORCED CONCRETE PIPE	PLATE NUMBER 450.01
			Sheet 1 of 1



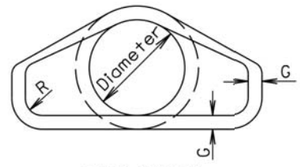
TOP VIEW



SLOPE DETAIL



LONGITUDINAL SECTION



END VIEW

GENERAL NOTES:

Lengths of concrete pipe shown on Plan Sheets are between flared Ends only.

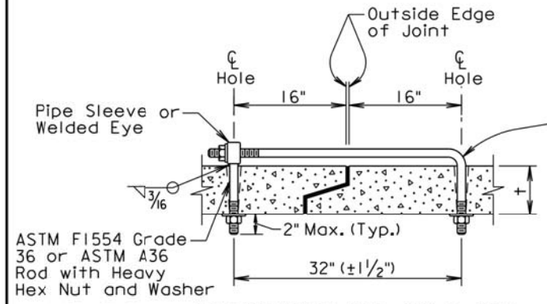
Construction of R.C.P. Flared End shall conform to the requirements of Section 990 of the Standard Specifications for Roads and Bridges.

Dia. (in.)	Approx. Wt. of Section (lbs.)	Approx. Slope (X to Y)	T (in.)	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	G (in.)	R (in.)
12	530	2.4: 1	2	4	24	48 7/8	72 7/8	24	2	1 1/2
15	740	2.4: 1	2 1/4	6	27	46	73	30	2 1/4	1 1/2
18	990	2.3: 1	2 1/2	9	27	46	73	36	2 1/2	1 1/2
21	1280	2.4: 1	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	1 1/2
24	1520	2.5: 1	3	9 1/2	43 1/2	30	73 1/2	48	3	1 1/2
27	1930	2.5: 1	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	1 1/2
30	2190	2.5: 1	3 1/2	12	54	19 3/4	73 3/4	60	3 1/2	1 1/2
36	4100	2.5: 1	4	15	63	34 3/4	97 3/4	72	4	1 1/2
42	5380	2.5: 1	4 1/2	21	63	35	98	78	4 1/2	1 1/2
48	6550	2.5: 1	5	24	72	26	98	84	5	1 1/2
54	8240	2: 1	5 1/2	27	65	33 1/4	98 1/4	90	5 1/2	1 1/2
60	8730	1.9: 1	6	35	60	39	99	96	5	1 1/2
66	10710	1.7: 1	6 1/2	30	72	27	99	102	5 1/2	1 1/2
72	12520	1.8: 1	7	36	78	21	99	108	6	1 1/2
78	14770	1.8: 1	7 1/2	36	90	21	111	114	6 1/2	1 1/2
84	18160	1.6: 1	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2
90	20900	1.5: 1	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	6

March 31, 2000

Published Date: 1st Qtr. 2015	SDDOT	R. C. P. FLARED ENDS	PLATE NUMBER 450.10
			Sheet 1 of 1

Wall "t" (in.)	Rod Dia. (in.)	Pipe Sleeve Dia. (nominal)
≤ 3 1/4	5/8	3/4
3 1/2-6 1/2	3/4	1
≥ 7	1	1 1/4



ADJUSTABLE EYE BOLT TIE

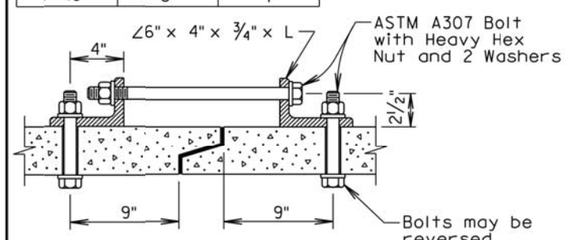
GENERAL NOTES:

Tie bolts shall conform to ASTM F1554 Grade 36 or ASTM A36. Nuts shall be heavy hex conforming to ASTM A563. Washers shall conform to ASTM F436.

Pipe Sleeve shall conform to ASTM A500 or A53, Grade B.

Galvanize adjustible eye bolt tie assembly in accordance with ASTM A153.

Pipe Dia. (in.)	"L" (in.)	Bolt Dia. (in.)
≤ 48	4	3/4
> 48	6	1



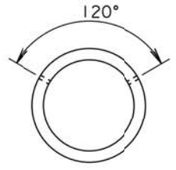
ANGLE AND BOLT TIE

GENERAL NOTES:

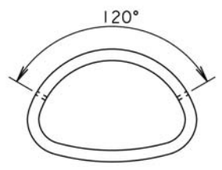
Angles shall conform to ASTM A36.

Bolts shall conform to ASTM A307. Nuts shall be heavy hex conforming to ASTM A563. Washers shall conform to ASTM F436.

Galvanize angles, bolts, nuts, and washers in accordance with ASTM A153.



END VIEW "CIRCULAR"



END VIEW "ARCH"

GENERAL NOTES:

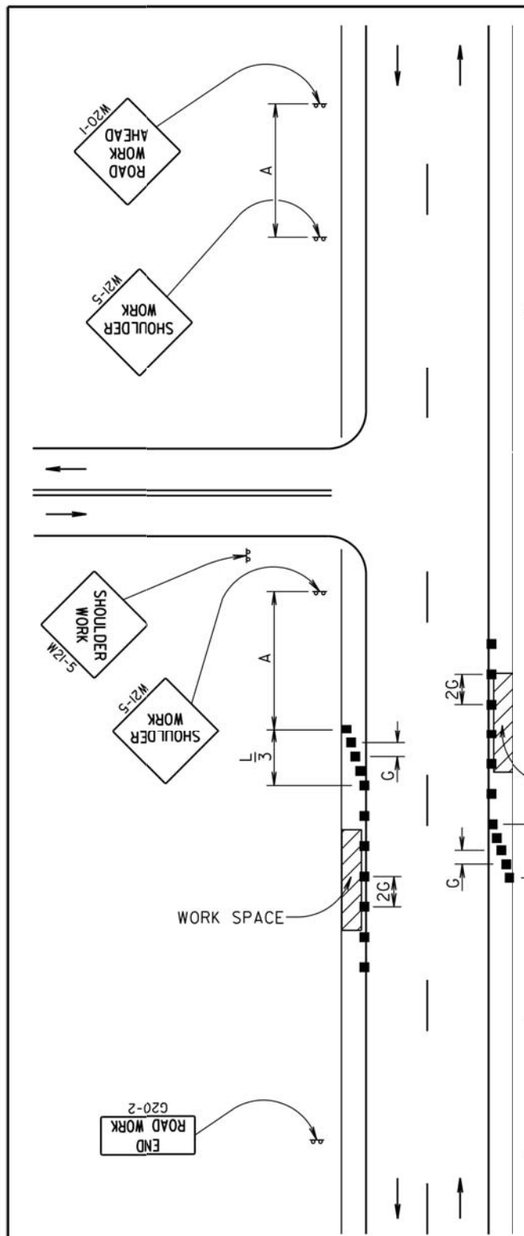
In lieu of the tie bolts detailed above other types of tie bolt connections may be installed as approved by the Office of Bridge Design.

All pipe sections of R.C.P. and R.C.P. Arch shall be tied with tie bolts except for pipe located between drop inlets, manholes, and junction boxes. All pipe sections of pipes that only enter or exit drop inlets, manhole, and junction boxes shall be tied with tie bolts.

There will be no separate measurement or payment for the tie bolts. The cost for furnishing and installing the tie bolts shall be incidental to the contract unit price per foot for the corresponding bid item for R.C.P. or R.C.P. Arch.

February 28, 2013

Published Date: 1st Qtr. 2015	SDDOT	TIE BOLTS FOR R.C.P. AND R.C.P. ARCH	PLATE NUMBER 450.18
			Sheet 1 of 1



Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Taper Length (Feet) (L)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	180	25
35 - 40	350	320	25
45 - 50	500	600	50
55	750	660	50
60 - 65	1000	780	50

■ Channelizing Device

END ROAD WORK G20-2

The channelizing devices shall be drums or 42" cones if traffic control must remain overnight.

For short duration operations (1 hour or less) all channelizing devices may be eliminated if a vehicle with an activated flashing or revolving yellow light is used.

Worker signs (W21-1 or W21-1a) may be used instead of SHOULDER WORK signs.

A SHOULDER WORK sign should be placed on the left side of a divided or one-way roadway only if the left shoulder is affected.

The SHOULDER WORK sign on an intersecting roadway is not required if drivers emerging from that roadway will encounter another advance warning sign before they reach a work activity area.

September 22,2014

Published Date: 2nd Qtr. 2015	SDDOT	GUIDES FOR TRAFFIC CONTROL DEVICES WORK ON SHOULDERS	PLATE NUMBER 634.03 Sheet 1 of 1

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	25
35 - 40	350	25
45 - 50	500	50
55	750	50
60 - 65	1000	50

Flagger

■ Channelizing Device

For low-volume traffic situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger may be used.

The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

For tack and/or flush seal operations, when flaggers are not being used, the FRESH OIL sign (W21-2) shall be displayed in advance of the liquid asphalt areas.

Flashing warning lights and/or flags may be used to call attention to the advance warning signs.

The channelizing devices shall be drums or 42" cones.

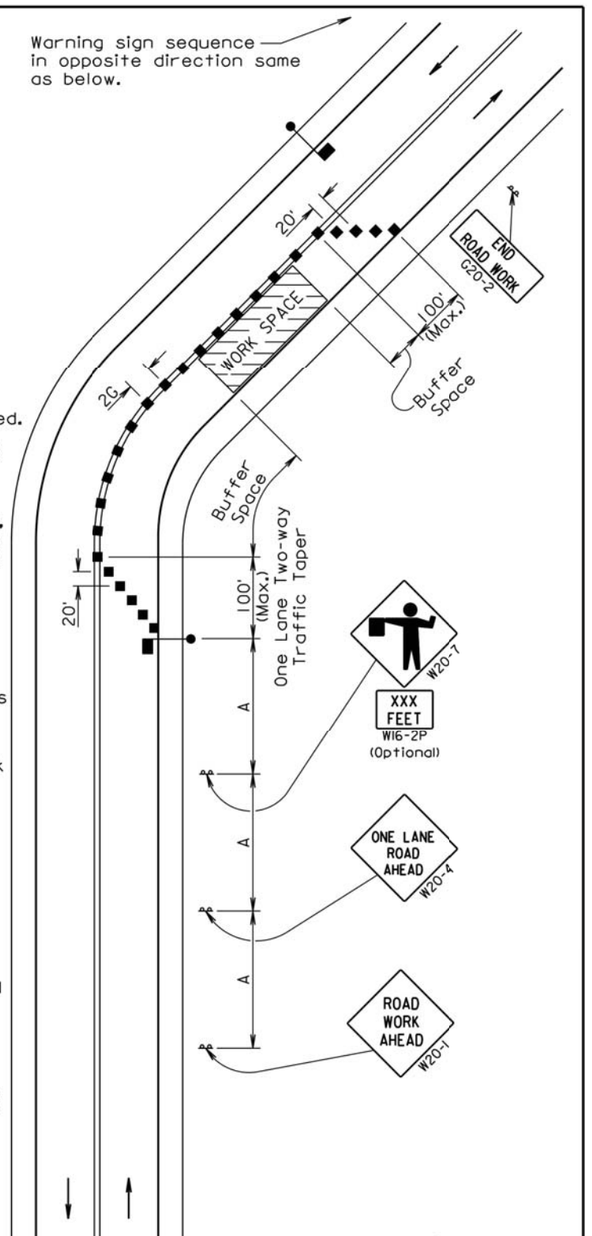
Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.

END ROAD WORK G20-2

Channelizing devices and flaggers shall be used at intersecting roads to control intersecting road traffic as required.

The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.

The length of A may be adjusted to fit field conditions.



September 22,2014

Published Date: 1st Qtr. 2015	SDDOT	GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23 Sheet 1 of 1

Only the traffic control devices controlling pedestrian flows are shown. Other devices may be needed to control traffic on the streets. Use lane closure signing or ROAD NARROWS signs, as needed.

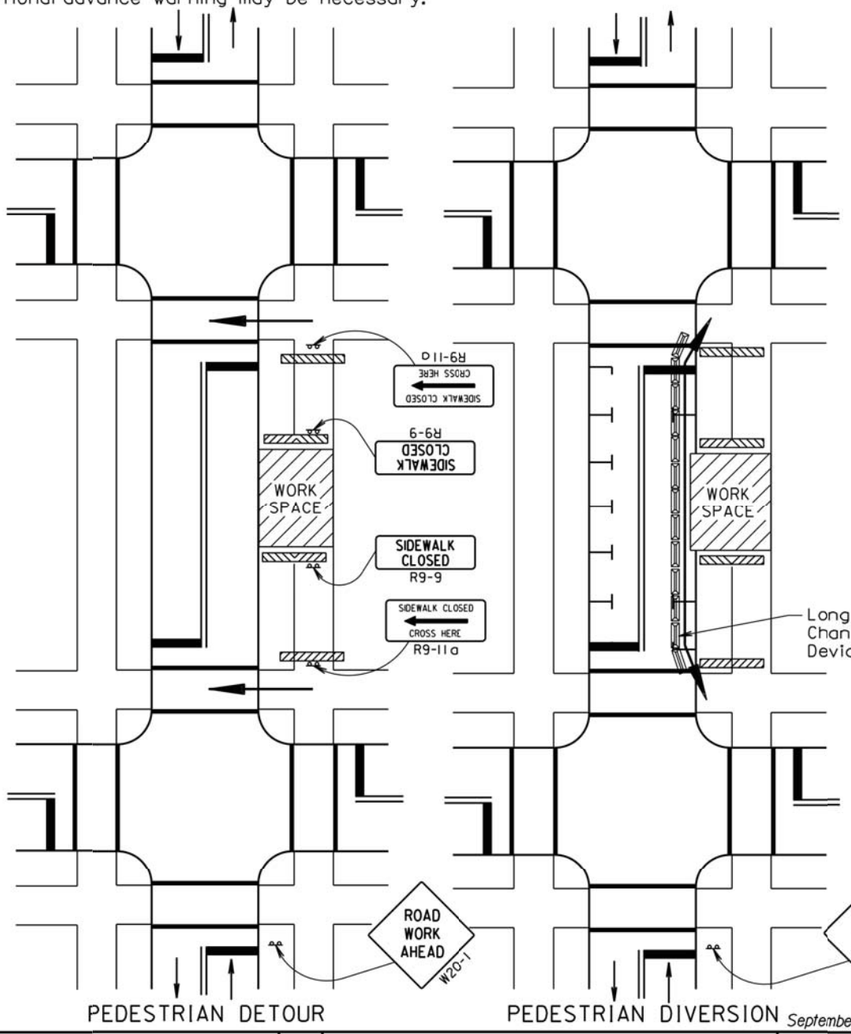
Signs may be placed along a temporary diversion to guide or direct pedestrians. Examples include KEEP RIGHT and KEEP LEFT signs.

Additional advance warning may be necessary.

For nighttime closures, Type A flashing warning lights may be used on barricades supporting signs and closing sidewalks. Type C steady-burn lights may be used on channelizing devices separating the temporary pedestrian diversion from vehicular traffic.

Street lighting should be considered.

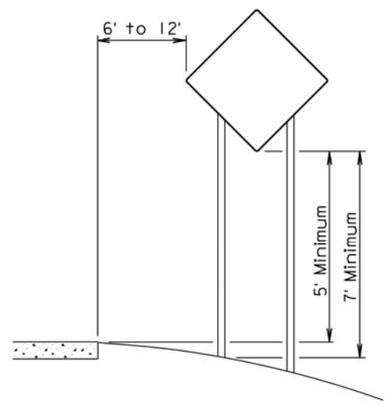
Type I Barricade and



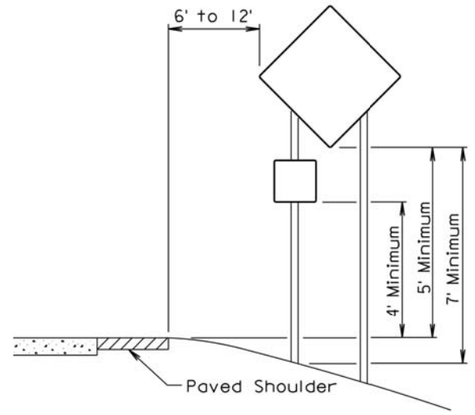
PEDESTRIAN DETOUR PEDESTRIAN DIVERSION

September 22,2014

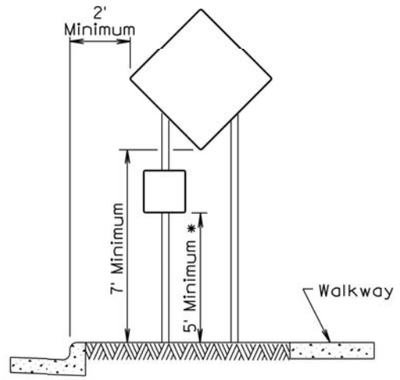
Published Date: 2nd Qtr. 2015	SDDOT	GUIDES FOR TRAFFIC CONTROL DEVICES PEDESTRIAN DETOUR AND PEDESTRIAN DIVERSION	PLATE NUMBER 634.34
			Sheet 1 of 1



RURAL DISTRICT

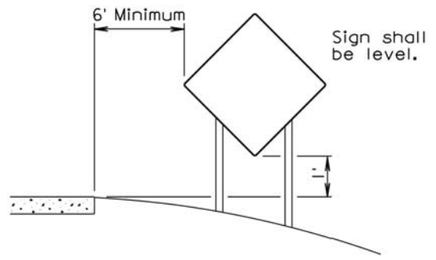


RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT

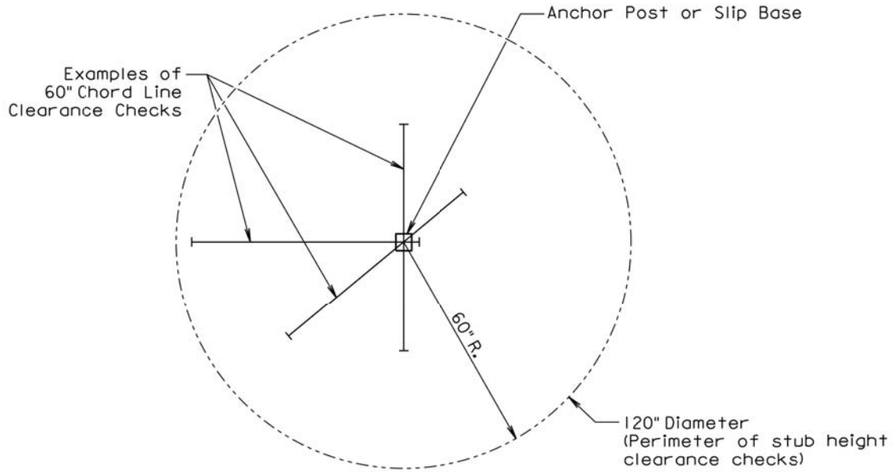
* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.



RURAL DISTRICT
3 DAY MAXIMUM
(Not applicable to regulatory signs)

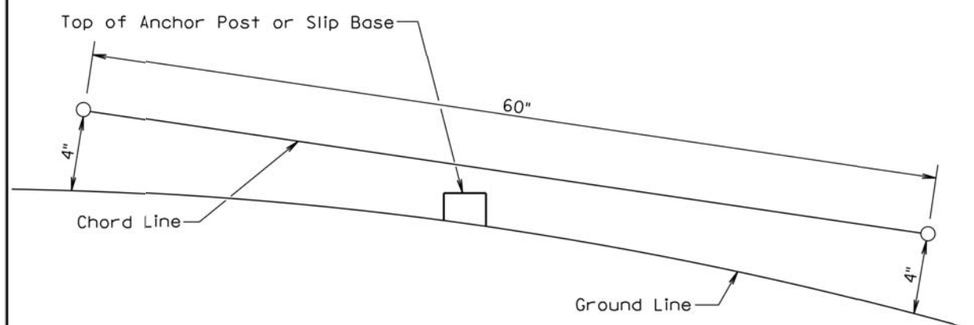
September 22,2014

Published Date: 1st Qtr. 2015	SDDOT	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
			Sheet 1 of 1



PLAN VIEW

(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

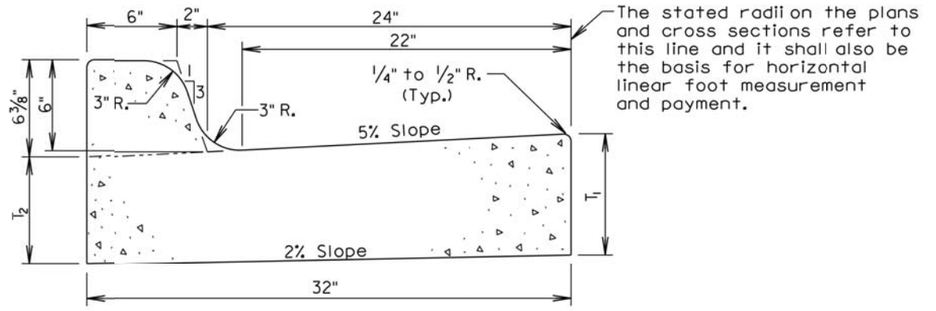
The top of anchor posts and slip bases SHALL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height shall be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.

The 4" stub height clearance is not necessary for U-channel lap splices where the support is designed to yield (bend) at the base.

July 1, 2005

Published Date: 1st Qtr. 2015	SDDOT	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1



Type	T_1 (Inches)	T_2 (Inches)	Cu. Yd. Per Lin. Ft.	Lin. Ft. Per Cu. Yd.
B66	6	5 1/16	0.057	17.7
B67	7	6 1/16	0.065	15.4
B68	8	7 1/16	0.073	13.7
B68.5	8.5	7 9/16	0.077	13.0
B69	9	8 1/16	0.081	12.3
B69.5	9.5	8 9/16	0.085	11.7
B610	10	9 1/16	0.090	11.2
B610.5	10.5	9 9/16	0.094	10.7
B611	11	10 1/16	0.098	10.2
B611.5	11.5	10 9/16	0.102	9.8
B612	12	11 1/16	0.106	9.4

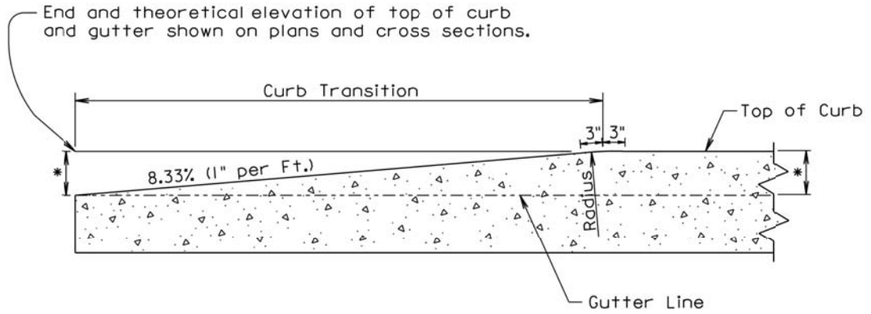
GENERAL NOTES:

When concrete curb and gutter longitudinally adjoins new concrete pavement, the method of attachment shall be by one of the methods shown on Standard Plate 380.11.

See Standard Plate 650.90 for expansion and contraction joints in the curb and gutter.

September 6, 2008

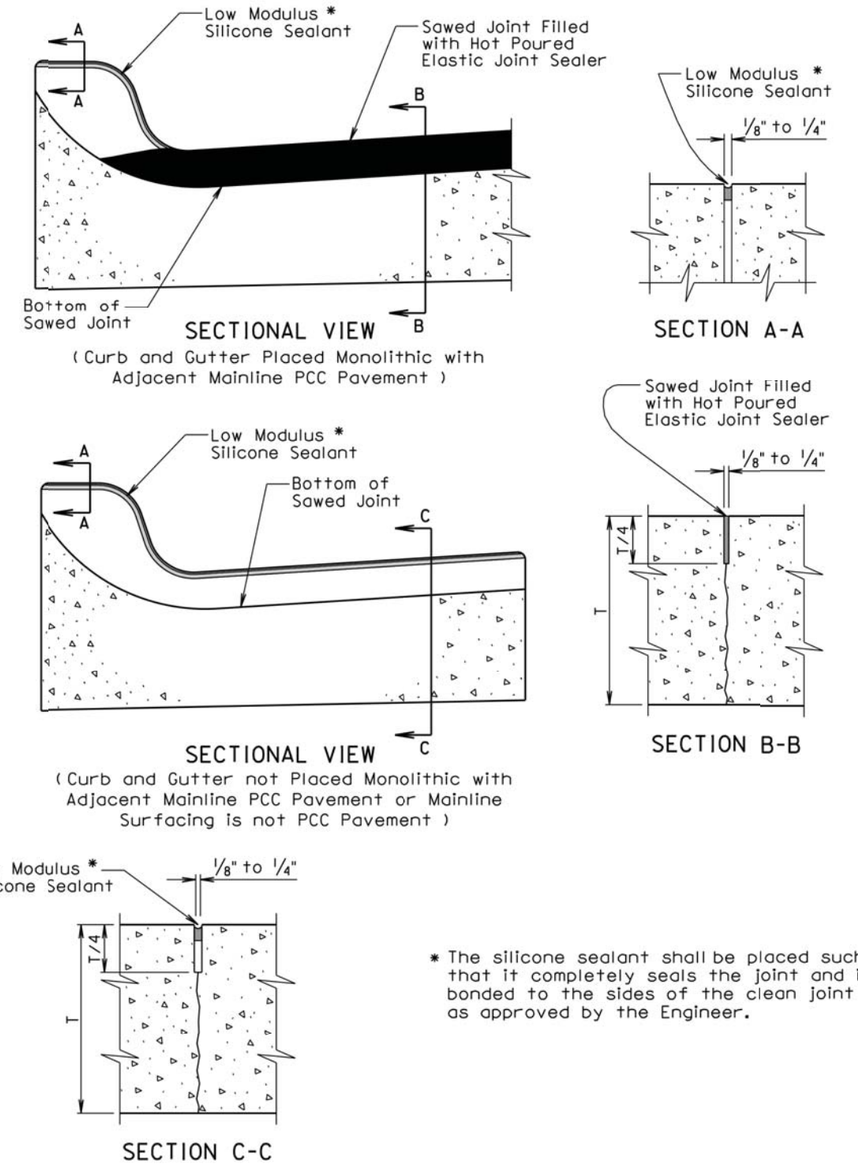
Published Date: 1st Qtr. 2015	SDDOT	TYPE B CONCRETE CURB AND GUTTER	PLATE NUMBER 650.01
			Sheet 1 of 1



LONGITUDINAL SECTION OF CONCRETE CURB TAPER

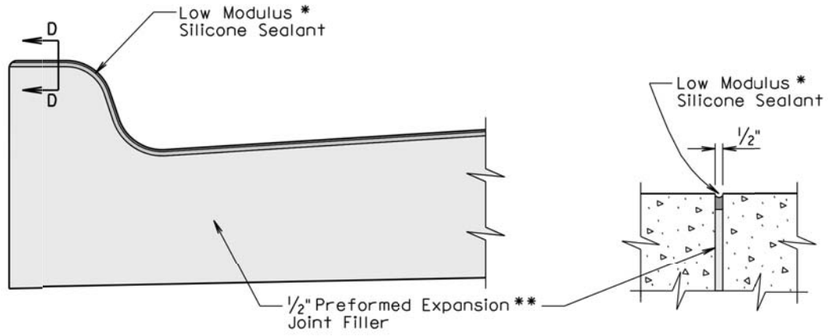
September 14, 2005

Published Date: 1st Qtr. 2015	SDDOT	CONCRETE CURB TAPER	PLATE NUMBER 650.35 Sheet 1 of 1



September 6, 2013

Published Date: 1st Qtr. 2015	SDDOT	JOINTS IN CONCRETE CURB AND GUTTER	PLATE NUMBER 650.90 Sheet 1 of 2



SECTIONAL VIEW
(Curb and Gutter at ½" Preformed Expansion Joint Filler Location)

SECTION D-D

* The silicone sealant shall be placed such that it completely seals the joint and is bonded to the sides of the clean joint as approved by the Engineer.

GENERAL NOTES:

For illustrative reason, only the type B curb and gutter is shown.

** A ½" preformed expansion joint filler shall be placed transversely in the curb and gutter at the following locations:

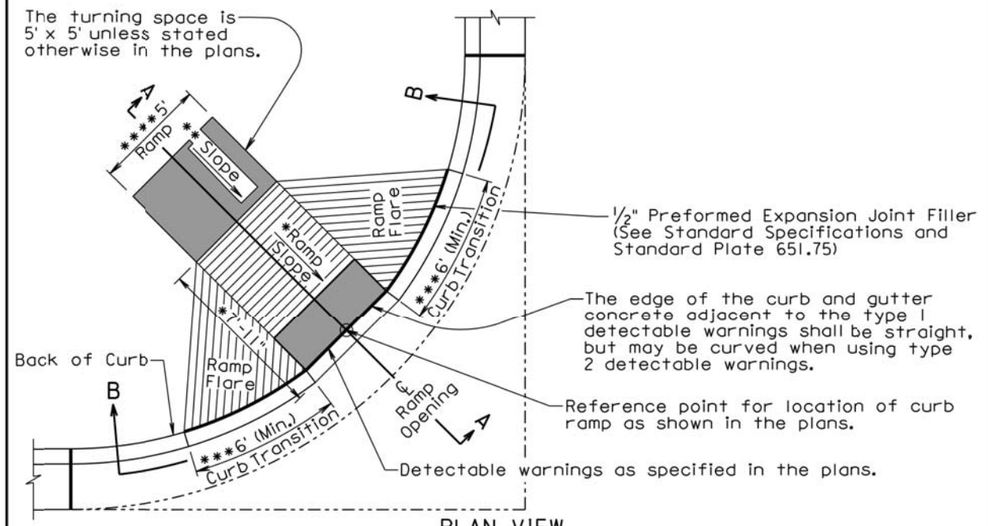
1. At each junction between the radius return of curb and gutter and curb and gutter which is parallel to the project centerline.
2. At each junction between new curb and gutter and existing curb and gutter.

Transverse contraction joints shall be constructed at 10' intervals in the concrete curb and gutter except when the concrete curb and gutter is constructed adjacent to mainline PCC pavement. When concrete curb and gutter is constructed adjacent to mainline PCC pavement, a transverse contraction joint shall be constructed in the concrete curb and gutter at each mainline PCC pavement transverse contraction joint location.

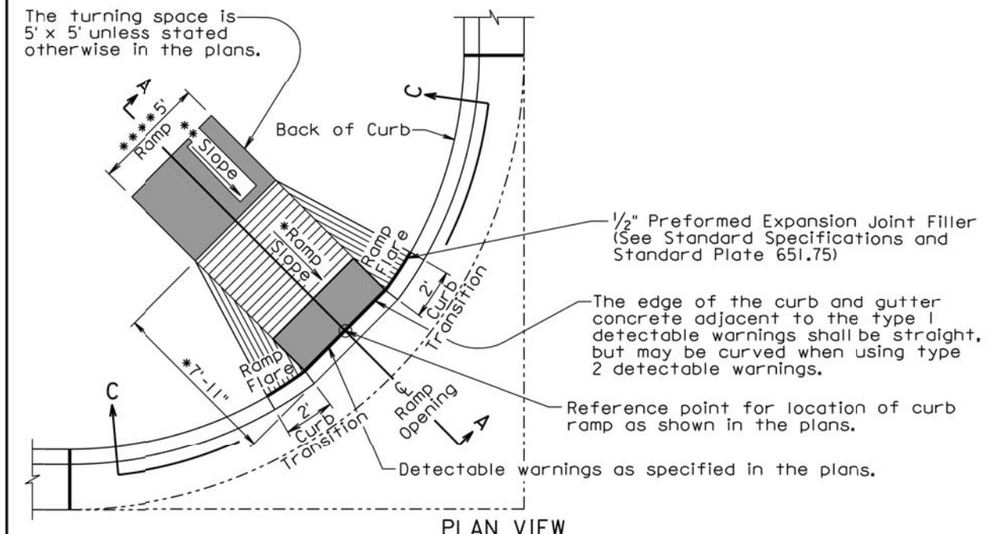
When concrete curb and gutter is not placed monolithically with the mainline PCC pavement or when the adjacent mainline surfacing is not PCC concrete, the transverse contraction joints in the concrete curb and gutter shall be 1½ inches deep if formed in the fresh concrete using a suitable grooving tool. If a saw is used to cut the contraction joints, then the depth of the joint shall be at least ¼ the thickness of the concrete and the joint shall be sealed in accordance with the details shown above.

September 6, 2013

Published Date: 1st Qtr. 2015	SDDOT	JOINTS IN CONCRETE CURB AND GUTTER	PLATE NUMBER 650.90
			Sheet 2 of 2



PLAN VIEW
(With 6'+ Curb Transition)



PLAN VIEW
(With 2' Curb Transition)

September 6, 2013

Published Date: 1st Qtr. 2015	SDDOT	TYPE 1 CURB RAMP (PERPENDICULAR CURB RAMP)	PLATE NUMBER 651.01
			Sheet 1 of 3

The ramp slope shall be 12:1 (8.3%) maximum. The ramp length shall not exceed 15' unless stated otherwise in the plans. Ramp slopes are designed at 12:1 (8.3%) unless stated otherwise in the plans.

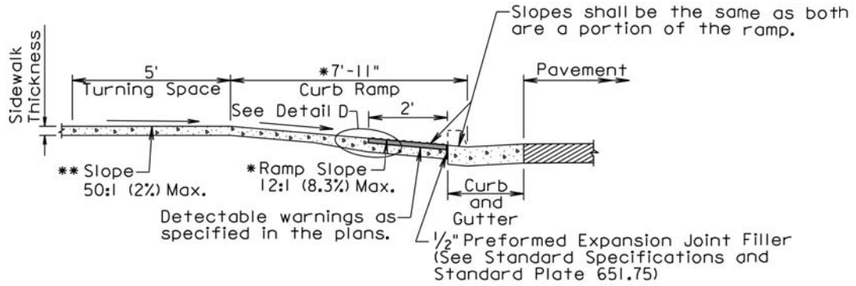
* The cross slope of the ramp shall not be steeper than 50:1 (2%).

The 7'-11" dimension was computed based on a flat roadway profile, a continuous 2% theoretical slope from top of theoretical curb to the top of ramp, and a 6" high curb. The dimension shall be adjusted based on the curb type shown in the plans, the roadway geometrics, and the sidewalk geometrics.

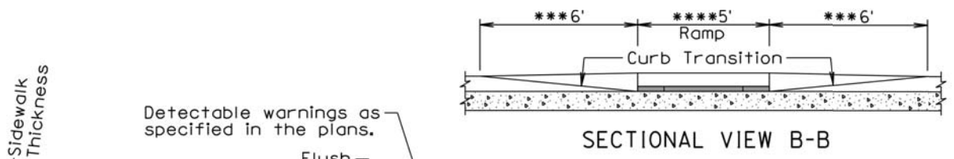
** The slope in the turning space shall not be steeper than 50:1 (2%) in any direction of pedestrian travel.

*** The curb transition shall be a minimum of 6' long, a maximum of 10' long, and the curb transition slope shall not be steeper than 10:1 (10%) unless stated otherwise in the plans.

**** The ramp width is 5' unless stated otherwise in the plans.

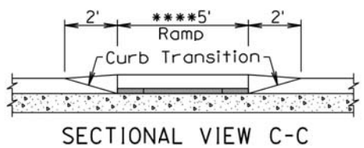


SECTION A-A



SECTIONAL VIEW B-B

DETAIL D



SECTIONAL VIEW C-C

September 6, 2013

Published Date: 1st Qtr. 2015	SDDOT	TYPE 1 CURB RAMP (PERPENDICULAR CURB RAMP)	PLATE NUMBER 651.01
			Sheet 2 of 3

GENERAL NOTES:

For illustrative purpose only, type I detectable warnings are shown in the drawings.

For illustrative purpose only, PCC fillet sections are shown in the drawings. The curb ramp depicted on this standard plate may be used with a PCC fillet section, with curved curb and gutter, or with straight curb and gutter.

For illustrative purpose only, the curb ramp location is shown at the center of a PCC fillet section. The curb ramp shall be placed at the location stated in the plans.

Sidewalk shall not be placed adjacent to the ramp flares when a 2' curb transition is used unless shown otherwise in the plans.

* Care shall be taken to ensure a uniform grade on the ramp, free of sags and short grade changes.

Surface texture of the ramp shall be obtained by coarse brooming transverse to the slope of the ramp.

The normal gutter line profile shall be maintained through the area of the ramp.

Joints shall be sawed or tooled into the concrete adjacent to the detectable warnings to alleviate possible corner cracking.

Care shall be taken to ensure that the surface of the detectable warnings are clean and maintains a uniform color.

The detectable warnings shall be cut as necessary to fit the plan specified limits of the detectable warnings. Cost for cutting the detectable warnings shall be incidental to the corresponding detectable warning bid item.

There will be no separate payment for curb ramps. The curb ramp shall be measured and paid for at the contract unit price per square foot for the corresponding concrete sidewalk bid item. The square foot area of the detectable warnings shall be included in the measured and paid for quantity of sidewalk.

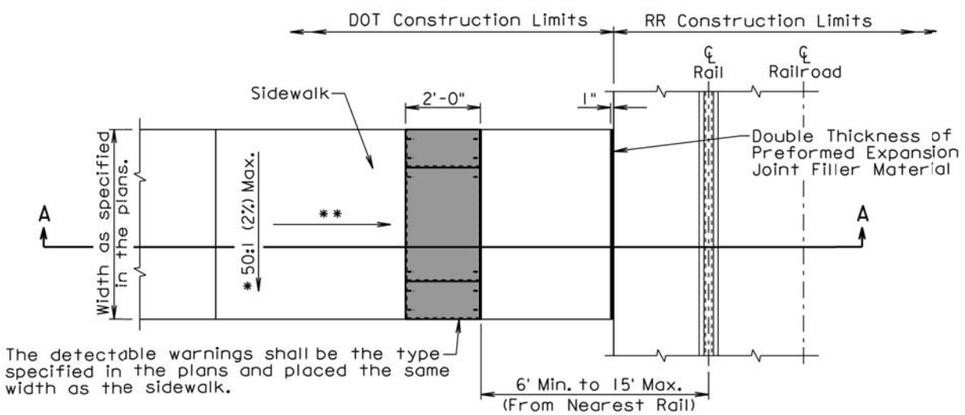
The curb transitions and ramp opening shall be measured and paid for at the contract unit price per foot for the corresponding curb and gutter bid item when curb and gutter is used. The curb transitions and ramp opening shall be measured and paid for at the contract unit price per square yard for the corresponding PCC fillet section bid item when a PCC fillet section is used.

The type I detectable warnings shall be measured to the nearest square foot. All costs for furnishing and installing the type I detectable warnings including labor, equipment, materials, and incidentals shall be paid for at the contract unit price per square foot for "Type I Detectable Warnings".

The type 2 detectable warnings shall be measured to the nearest square foot. All costs for furnishing and installing the type 2 detectable warnings including labor, equipment, and materials, including adhesive, necessary sealant or grout, and necessary grinding shall be paid for at the contract unit price per square foot for "Type 2 Detectable Warnings".

September 6, 2013

Published Date: 1st Qtr. 2015	SDDOT	TYPE 1 CURB RAMP (PERPENDICULAR CURB RAMP)	PLATE NUMBER 651.01
			Sheet 3 of 3

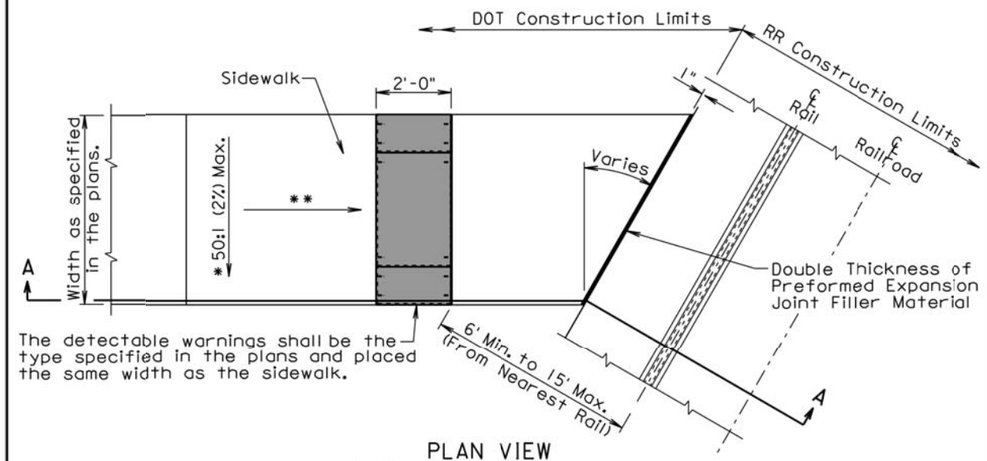


PLAN VIEW
(Railroad Crossing Not Skewed)

*The cross slope of the sidewalk shall not be steeper than a 50:1 (2%) unless stated otherwise in the plans.

**If the sidewalk is curbside, then the surface of the curbside sidewalk shall match the slope of the curb transition. The longitudinal slope of the sidewalk and curb transition, where the sidewalk transitions to the railroad crossing elevation, shall not be steeper than 20:1 (5%) unless stated otherwise in the plans.

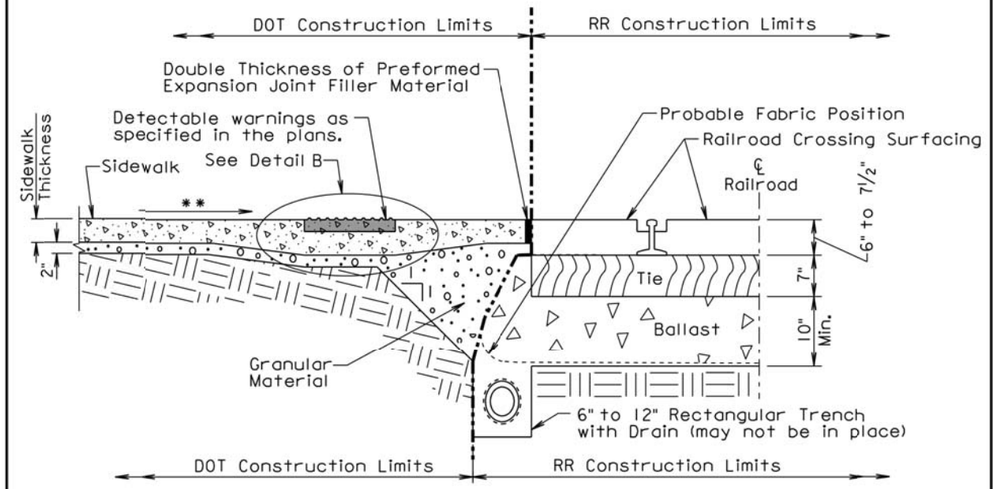
**If there is a boulevard sidewalk, then the curb and gutter transition shall be in accordance with standard plate 650.35. The longitudinal slope of the sidewalk, where the sidewalk transitions to the railroad crossing elevation, shall not be steeper than 20:1 (5%) unless stated otherwise in the plans.



PLAN VIEW
(Railroad Crossing Skewed)

June 26, 2009

Published Date: 1st Qtr. 2015	SDDOT	SIDEWALK AND DETECTABLE WARNINGS ADJACENT TO RAILROAD CROSSING	PLATE NUMBER 651.20
			Sheet 1 of 2



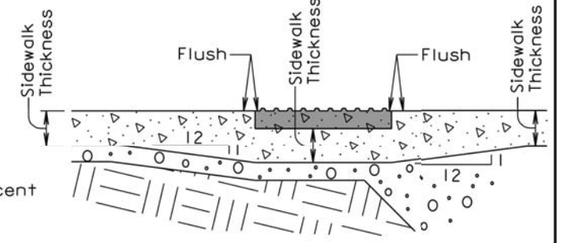
SECTION A-A

GENERAL NOTES:

For illustrative purpose only, type 1 detectable warnings are shown in the drawings.

Ballast material shall not be disturbed during construction work adjacent to the railroad crossing unless the adjacent work involves reconstruction or maintenance of the railroad crossing.

The sidewalk shall be placed at the location stated in the plans.



DETAIL B

Care shall be taken to ensure that the surface of the detectable warnings are clean and maintains a uniform color.

If curb and gutter is required adjacent to the railroad crossing, the curb transition shall be measured and paid for at the contract unit price per foot for the corresponding curb and gutter bid item.

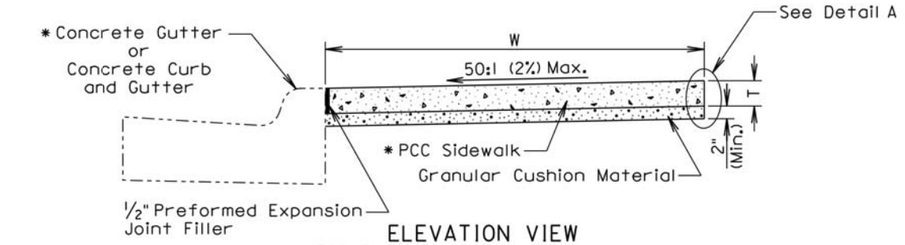
The type 1 detectable warnings shall be measured to the nearest square foot. All costs for furnishing and installing the type 1 detectable warnings including labor, equipment, materials, and incidentals shall be paid for at the contract unit price per square foot for "Type 1 Detectable Warnings".

The type 2 detectable warnings shall be measured to the nearest square foot. All costs for furnishing and installing the type 2 detectable warnings including labor, equipment, and materials, including adhesive, necessary sealant or grout, and necessary grinding shall be paid for at the contract unit price per square foot for "Type 2 Detectable Warnings".

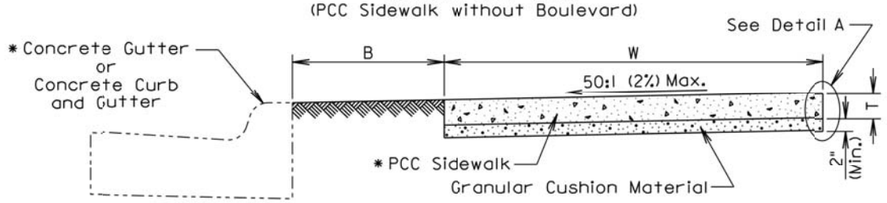
The square foot area of the detectable warnings shall be included in the measured and paid for quantity of sidewalk.

June 26, 2009

Published Date: 1st Qtr. 2015	SDDOT	SIDEWALK AND DETECTABLE WARNINGS ADJACENT TO RAILROAD CROSSING	PLATE NUMBER 651.20
			Sheet 2 of 2

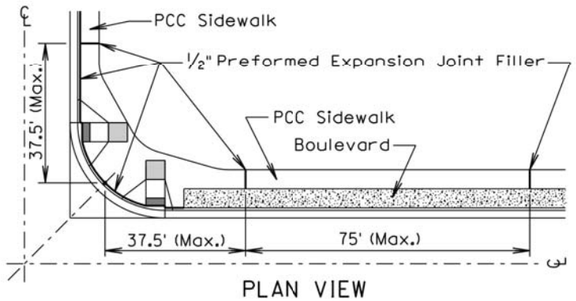


ELEVATION VIEW
(PCC Sidewalk without Boulevard)



ELEVATION VIEW
(PCC Sidewalk with Boulevard)

B Width of boulevard as specified in the plans.
T Thickness of PCC sidewalk as specified in the plans.
W Width of PCC sidewalk as specified in the plans.
* Type as specified in the plans.



PLAN VIEW

GENERAL NOTES:

The PCC sidewalk shall be constructed in accordance with Section 651 of the Standard Specifications.

The maximum length between expansion joints in PCC sidewalk is 75 feet.

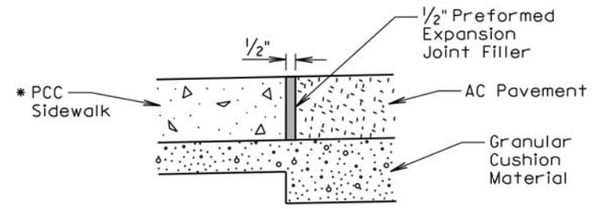
PCC sidewalk placed adjacent to intersection of roadways shall have an expansion joint placed transversely a maximum of 37.5 feet from the intersection. See PLAN VIEW.

An expansion joint in PCC sidewalk shall consist of a 1/2 inch thick preformed expansion joint filler material placed full depth and width of the PCC sidewalk.

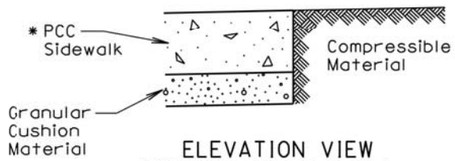
** Large areas of PCC pavement adjacent to PCC sidewalk may require a different joint treatment than shown in the detail. If a different joint detail is necessary, plans will contain the joint detail and the Contractor shall construct the joint treatment in accordance with the plans.

August 31, 2013

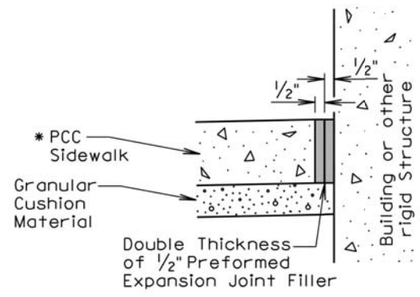
Published Date: 1st Qtr. 2015	SDDOT	PCC SIDEWALK	PLATE NUMBER 651.75
			Sheet 1 of 2



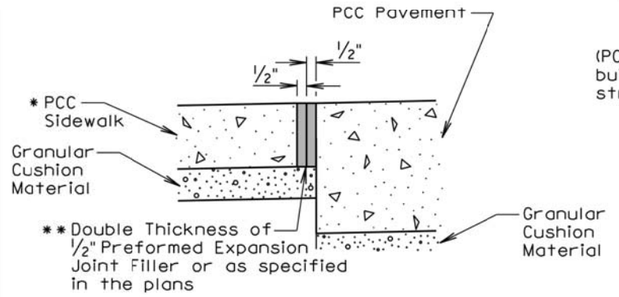
ELEVATION VIEW
(PCC sidewalk adjacent to asphalt concrete pavement)



ELEVATION VIEW
(PCC sidewalk adjacent to earthen material, landscape rock, or other compressible materials)



ELEVATION VIEW
(PCC sidewalk adjacent to building or other rigid structure)

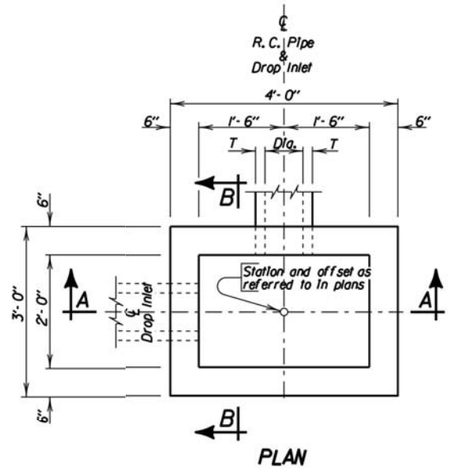


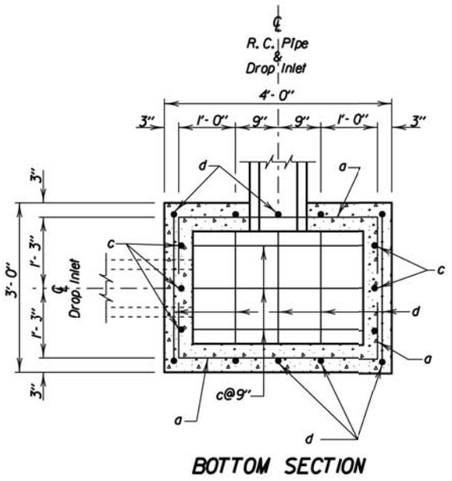
ELEVATION VIEW
(PCC sidewalk adjacent to PCC pavement)

Detail A
(Use Appropriate Detail(s))

August 31, 2013

Published Date: 1st Qtr. 2015	SDDOT	PCC SIDEWALK	PLATE NUMBER 651.75
			Sheet 2 of 2





ESTIMATED QUANTITIES			
ITEM	UNIT	CONSTANT QUANTITY	VARIABLE QUANTITY
✳ Class M6 Concrete	Cu'd	0.26	0.22H
Reinforcing Steel	Lb	37	20.04H
Frame and Grate Assembly	Each	1	———

PIPE DISPLACEMENT REDUCTIONS		
R.C. Pipe Diameter Inches	T Inches	Class M6 Concrete Cu'd
12	2	0.03
15	2 1/4	0.04
18	2 1/2	0.05
24	3	0.09
27	3 1/4	0.11

DROP INLETS FOR 12" TO 27" DIAMETER PIPE

GENERAL NOTES:

✳ Reduce total quantities of concrete by the amount of concrete displaced by the pipe. The total quantity of concrete shall be computed to the nearest hundredth of a cubic yard. The total quantity of reinforcing steel shall be computed to the nearest pound.

Drop inlets shown may be modified by the addition or omission of connecting pipes as shown on the layouts.

Reinforcing steel shall conform to ASTM A615 Grade 60. The b bars shall be lapped 12 inches. Cut and bend reinforcing steel as required to place pipe(s) through the drop inlet wall.

Pipe shall not enter through a corner of the drop inlet.

Use 2" clear cover on all reinforcing steel unless otherwise noted.

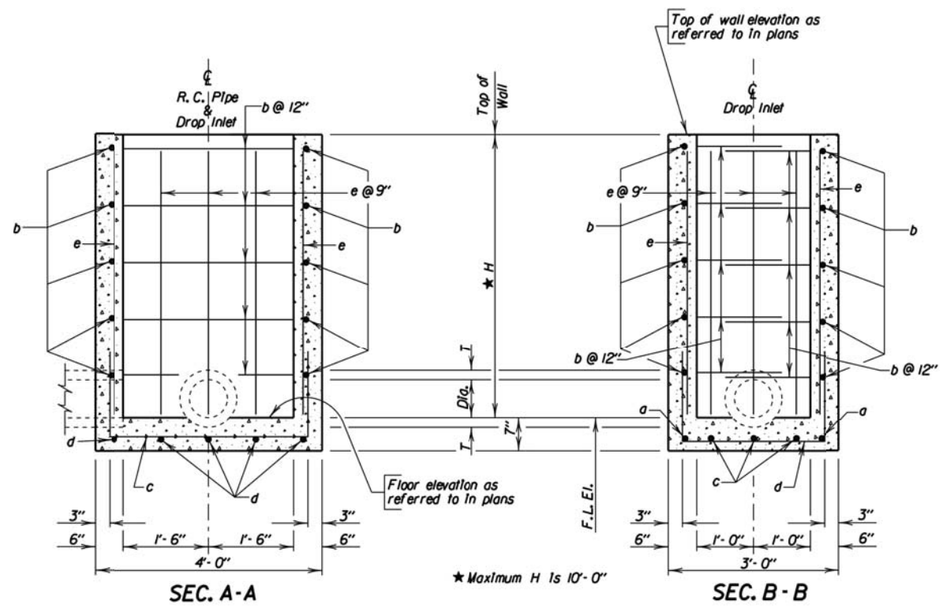
Precasting of reinforced drop inlets will be permissible. Prior to precasting, the Contractor shall submit details to the Engineer for approval.

Maximum pipe diameter shall not exceed 18 inches on the 3 foot wide side and shall not exceed 27 inches on the 4 foot wide side of the drop inlet.

The dimension of H is in feet.

December 23, 2009

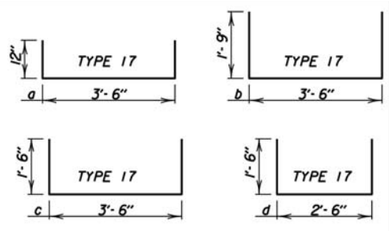
Published Date: 1st Qtr. 2015	SDDOT	2'X 3' TYPE B REINFORCED CONCRETE DROP INLET	PLATE NUMBER 670.01 Sheet 1 of 2



DROP INLETS FOR 12" TO 27" DIAMETER PIPE

REINFORCING SCHEDULE					
MK.	No.	Size	Length	Type	Bending Details
a	2	4	5'-6"	17	
b	2H	4	7'-0"	17	
c	3	4	6'-6"	17	
d	5	4	5'-6"	17	
e	16	4	H - 2"	Str.	

NOTE:
All dimensions are out to out of bars.



December 23, 2009

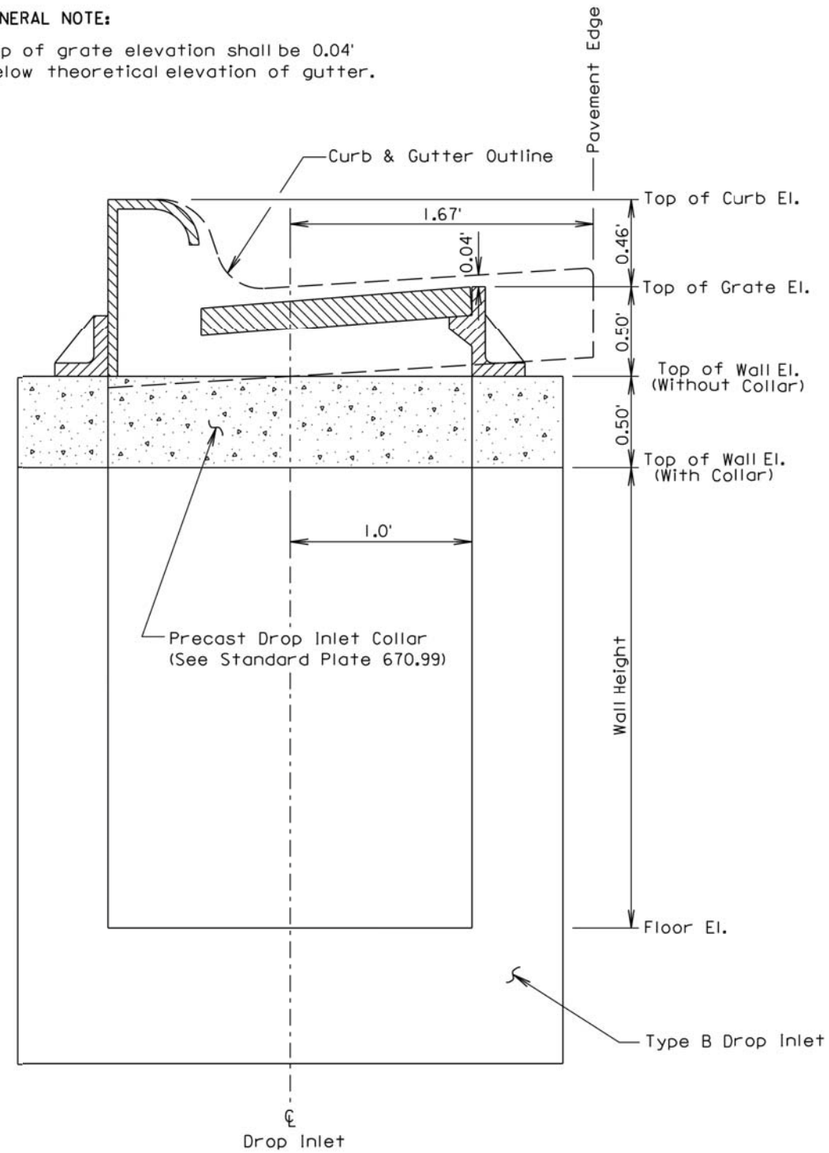
Published Date: 1st Qtr. 2015	SDDOT	2'X 3' TYPE B REINFORCED CONCRETE DROP INLET	PLATE NUMBER 670.01 Sheet 2 of 2

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PSRTS(18)	32	37

PLOTTING DATE: 05-12-15 REV 05-12-15 ARK

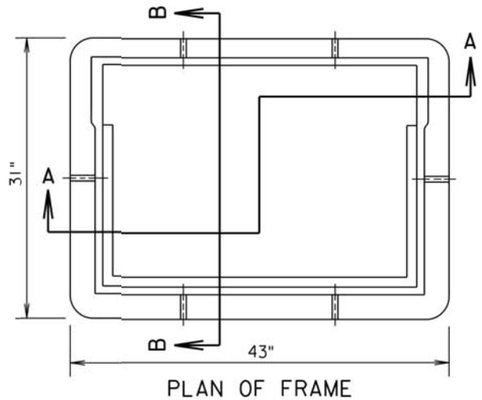
GENERAL NOTE:

Top of grate elevation shall be 0.04' below theoretical elevation of gutter.

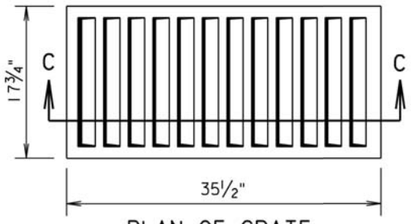


June 26, 2011

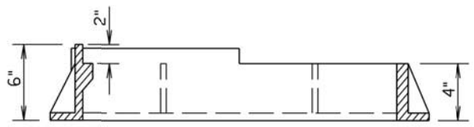
Published Date: 1st Qtr. 2015	SDDOT	INSTALLATION OF TYPE B DROP INLET	PLATE NUMBER 670.75
			Sheet 1 of 1



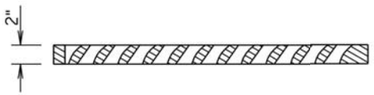
PLAN OF FRAME



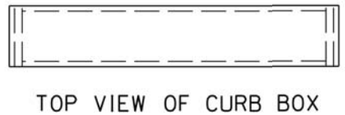
PLAN OF GRATE



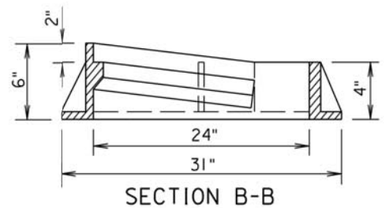
SECTION A-A



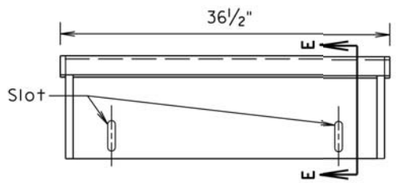
SECTION C-C



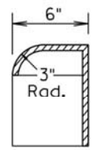
TOP VIEW OF CURB BOX



SECTION B-B



ELEVATION OF CURB BOX



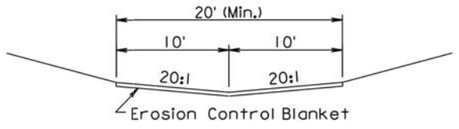
SECTION E-E

GENERAL NOTE:

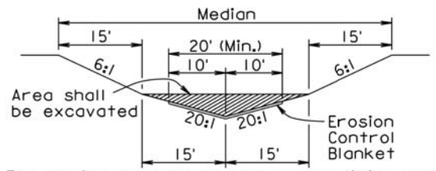
Total weight of the assembly shall be 490 Lbs. minimum and the curb box shall be adjustable 6" to 9".

March 31, 2000

Published Date: 1st Qtr. 2015	SDDOT	TYPE B FRAME AND GRATE ASSEMBLY	PLATE NUMBER 670.80
			Sheet 1 of 1

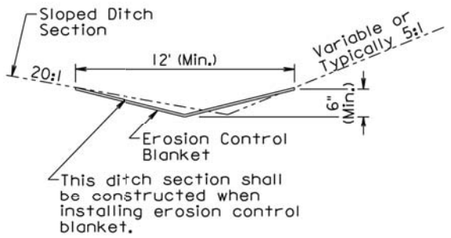


STANDARD DITCH SECTION

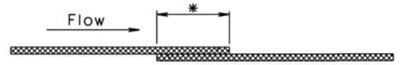


The median shall be shaped to the limits shown in this detail where the erosion control blanket will be placed.

MEDIAN SECTION



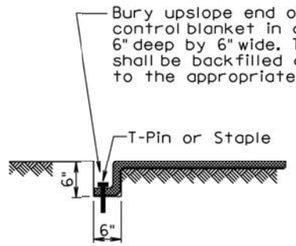
SLOPED DITCH SECTION



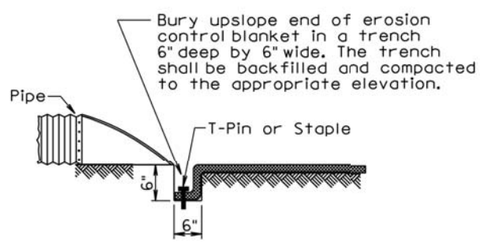
* Use a 4" (Min.) overlap wherever two widths of erosion control blanket are applied side by side.

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

OVERLAP DETAIL



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".

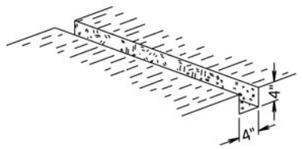
December 23, 2004

Published Date: 1st Qtr. 2015	**SDDOT**	***EROSION CONTROL BLANKET***	*PLATE NUMBER* 734.01
			Sheet 1 of 1

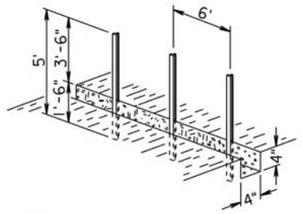
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PSRTS(18)	34	37

PLOTTING DATE: 05-12-15 REV 05-12-15 ARK

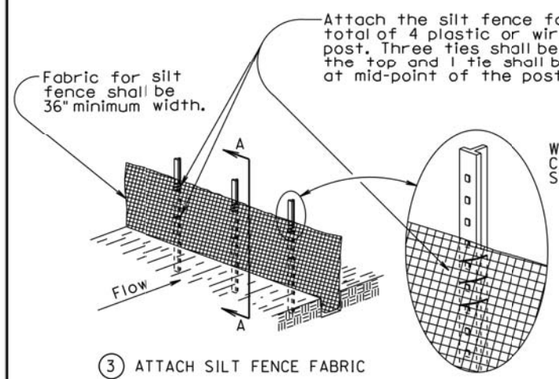
MANUAL HIGH FLOW SILT FENCE INSTALLATION



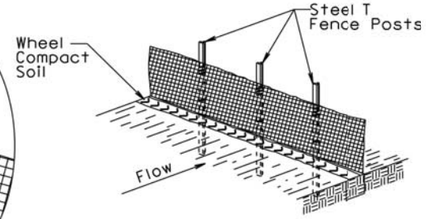
(1) EXCAVATE TRENCH



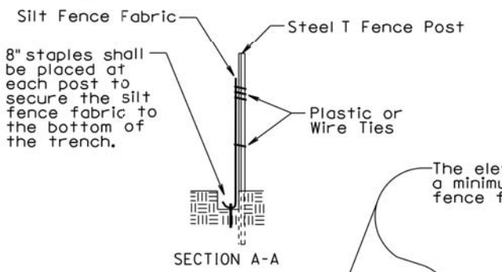
(2) DRIVE STEEL T FENCE POSTS



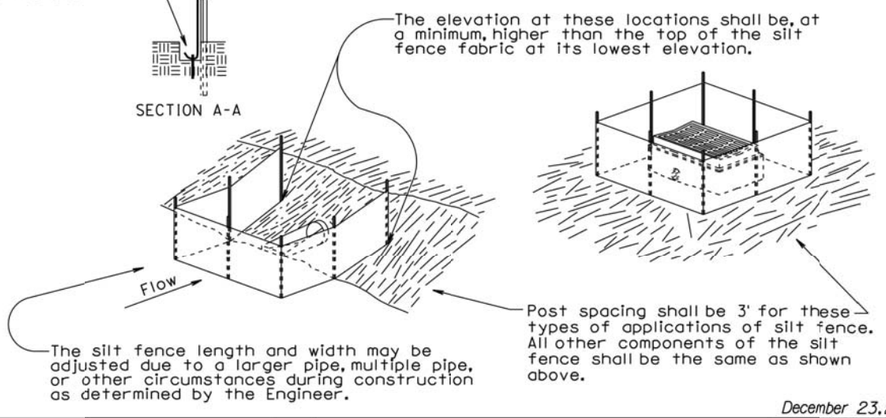
(3) ATTACH SILT FENCE FABRIC



(4) BACKFILL TRENCH AND WHEEL COMPACT SOIL



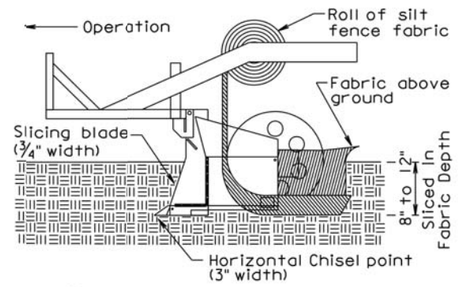
SECTION A-A



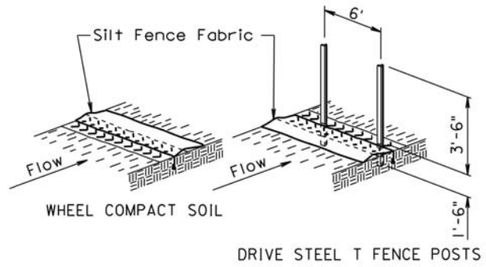
December 23,2003

Published Date: 1st Qtr. 2015	SDDOT	HIGH FLOW SILT FENCE	PLATE NUMBER 734.05
			Sheet 1 of 2

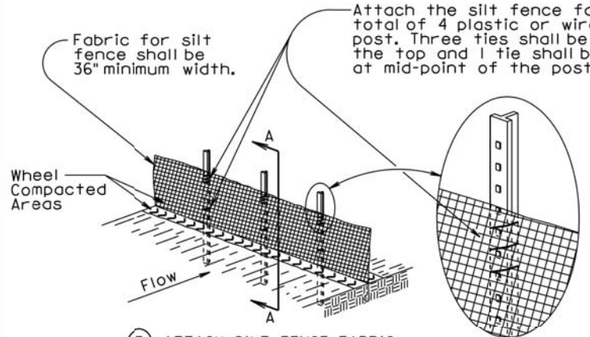
MACHINE SLICED HIGH FLOW SILT FENCE INSTALLATION



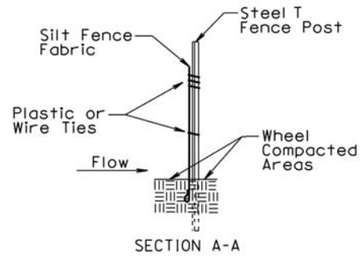
(1) INSTALL SILT FENCE FABRIC BY MACHINE SLICING METHOD.



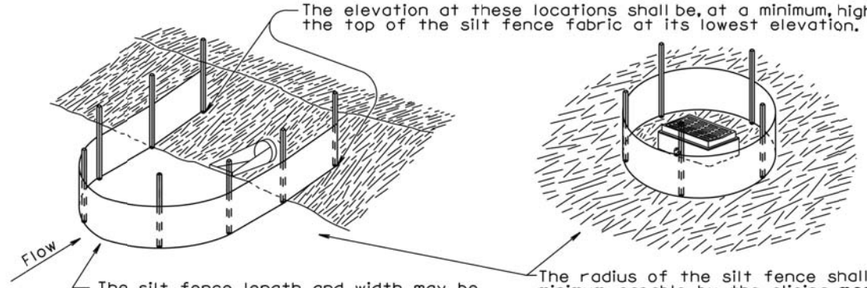
(2) WHEEL COMPACT SOIL ABOVE SLICED IN PORTION OF FABRIC AND THEN DRIVE STEEL T FENCE POSTS.



(3) ATTACH SILT FENCE FABRIC



SECTION A-A



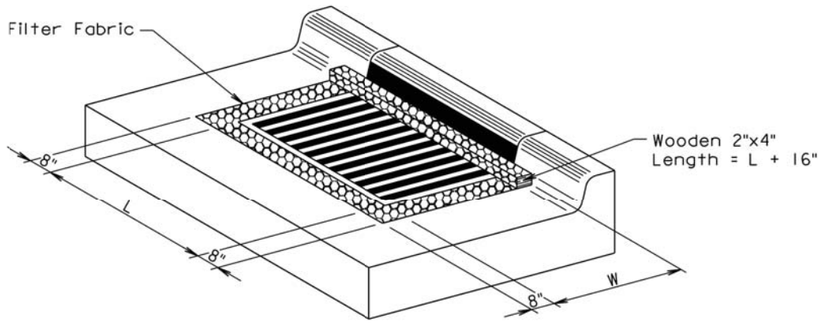
GENERAL NOTE:

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

December 23,2003

Published Date: 1st Qtr. 2015	SDDOT	HIGH FLOW SILT FENCE	PLATE NUMBER 734.05
			Sheet 2 of 2

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.

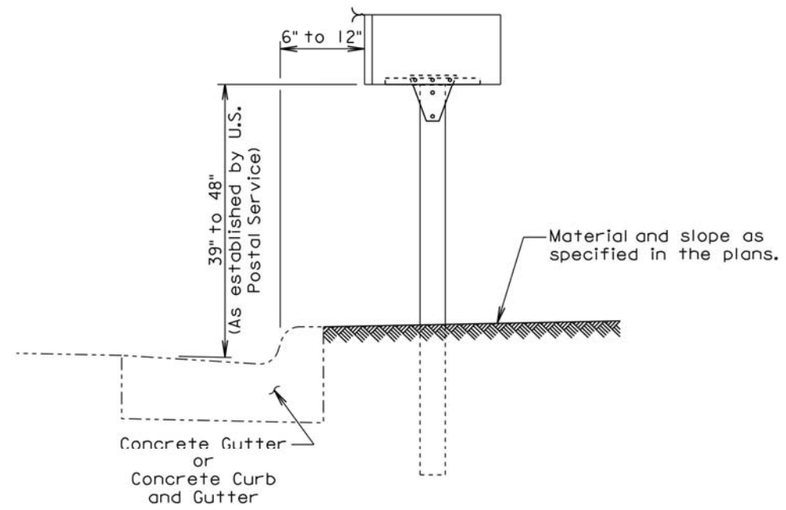
The Contractor shall inspect and maintain the sediment control device once every week and within 24 hours after every rainfall event. The Contractor shall maintain the sediment control device by removing accumulated sediment and replacing torn filter fabric with new filter fabric.

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

Published Date: 1st Qtr. 2015	SDDOT	***SEDIMENT CONTROL AT INLETS WITH FRAMES AND GRATES***	*PLATE NUMBER* 734.10 *Sheet 1 of 1*



ELEVATION VIEW

GENERAL NOTES:

The post support assemblies provided should be consistant throughout the project.

Post support assemblies shall be one from the approved products list, a 4"x4" or 4" round wood post, or an alternate post support assembly that meets the test level 3 crash testing requirements of NCHRP 350 or MASH.

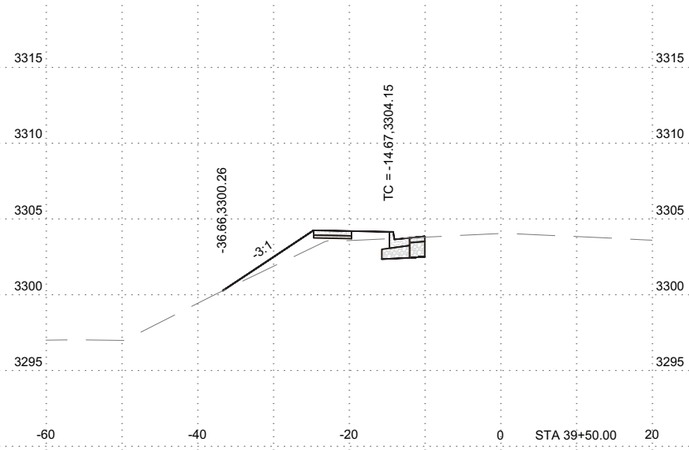
Alternate mailbox support assemblies shall be approved by the Engineer prior to installation. The Contractor shall provide the Engineer written certification that the mailbox support assembly has met the crash testing requirements and will be installed in accordance with the manufacturer's installation instructions.

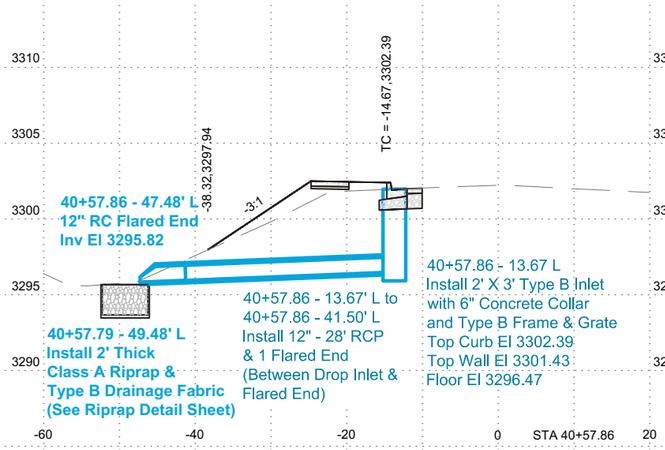
February 10, 2014

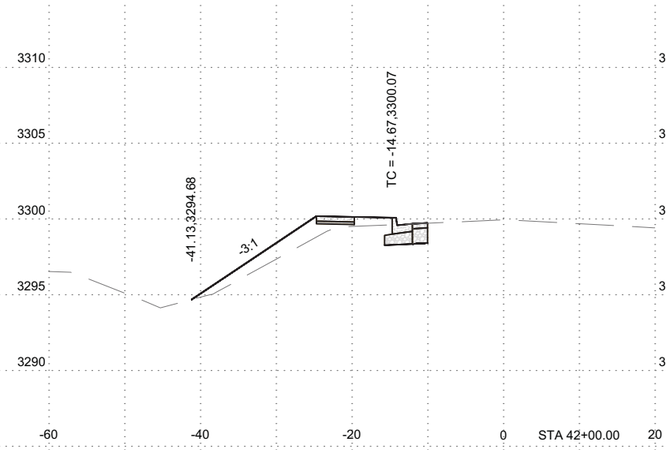
Published Date: 1st Qtr. 2015	SDDOT	***MAILBOX ADJACENT TO CONCRETE GUTTER OR CONCRETE CURB AND GUTTER***	*PLATE NUMBER* 900.05 *Sheet 1 of 1*

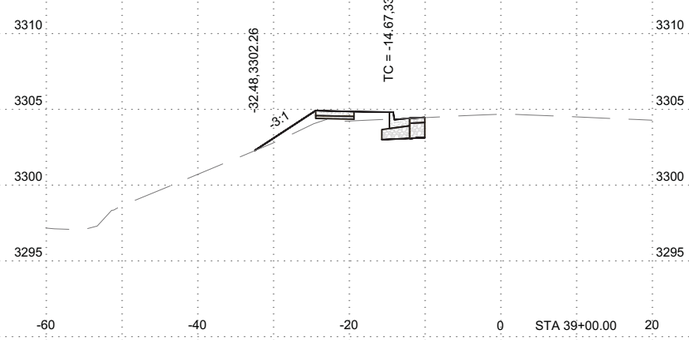
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PSRTS(18)	36	37

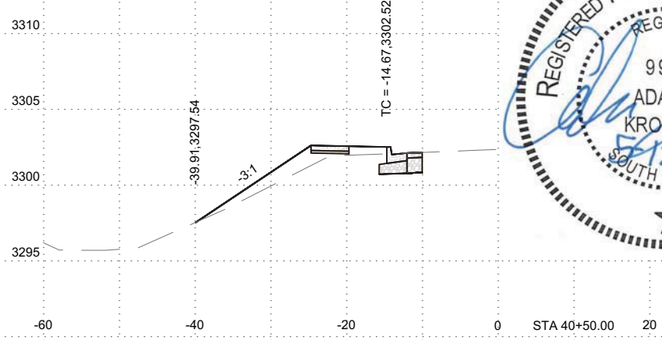
PLOTTING DATE: 05-12-15 REV 05-12-15 ARK

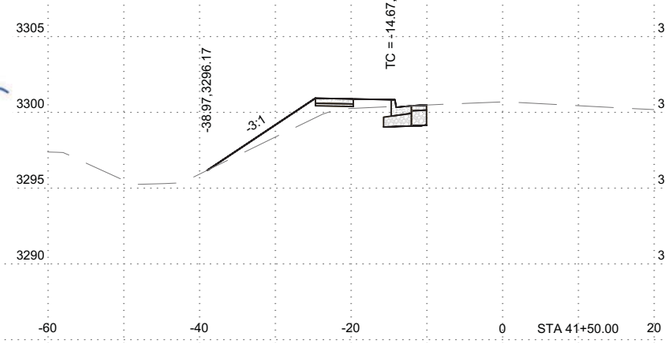


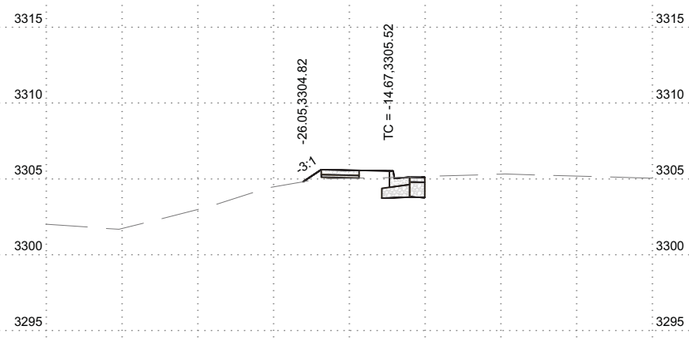


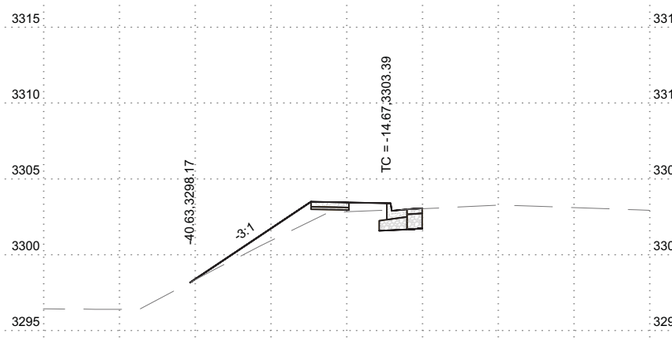


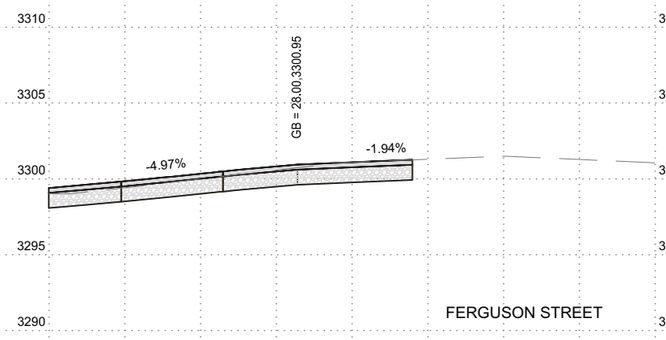


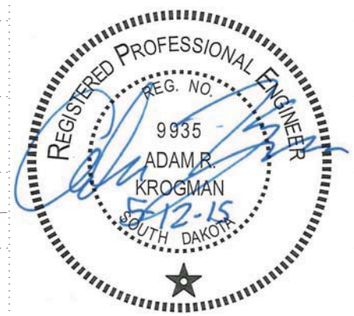












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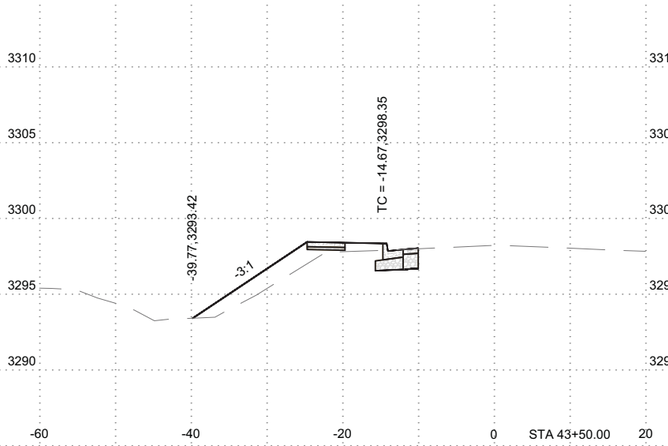
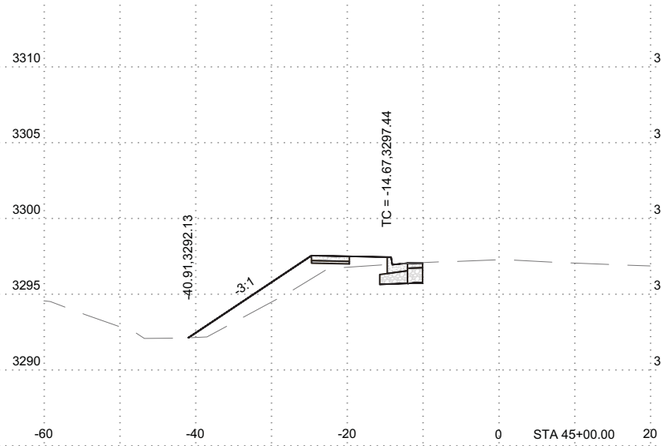
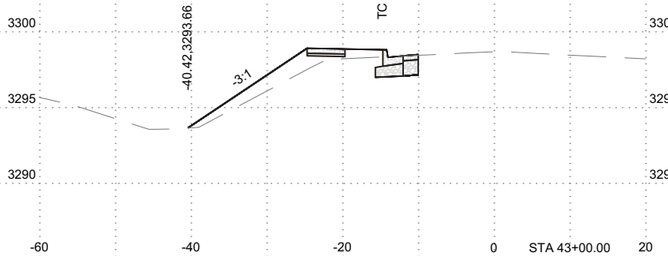
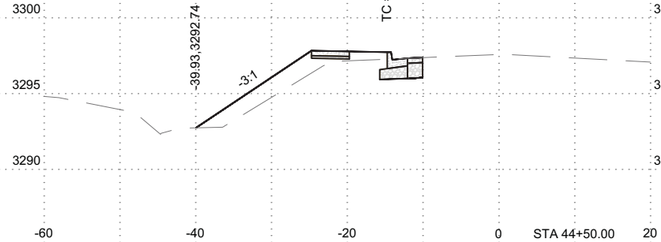
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PSRTS(18)	37	37

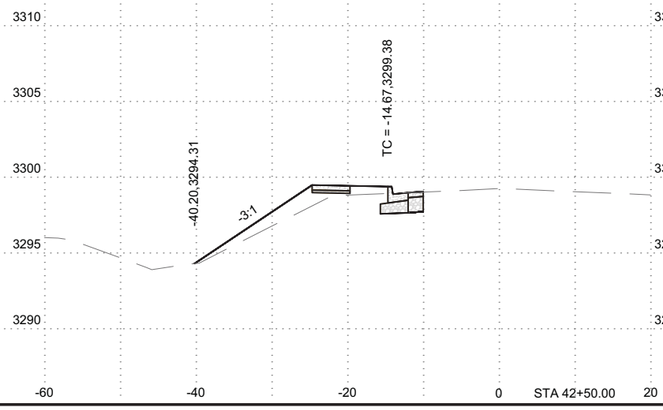
PLOTTING DATE: 05-12-15 REV 05-12-15 ARK

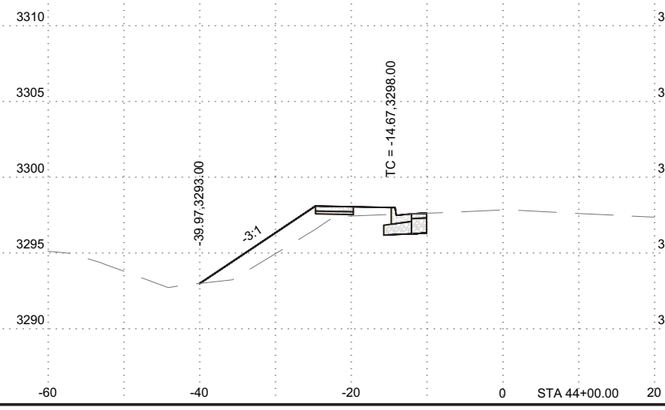


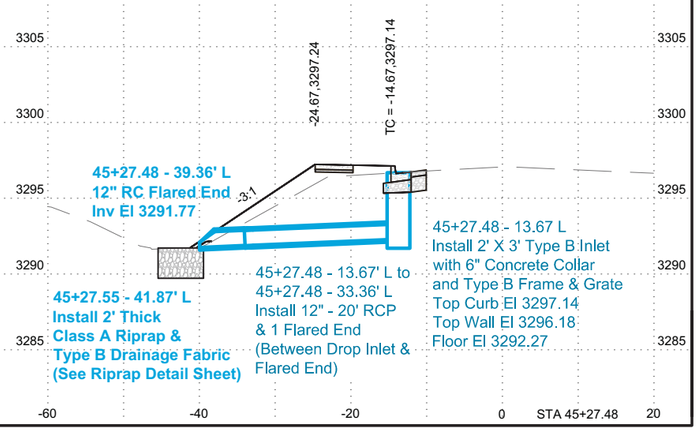


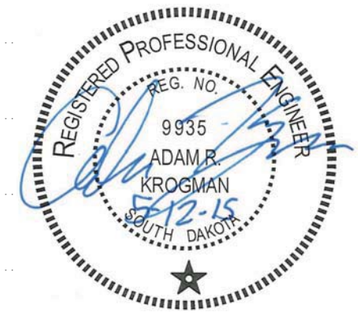












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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PTAPR(09)	1	26

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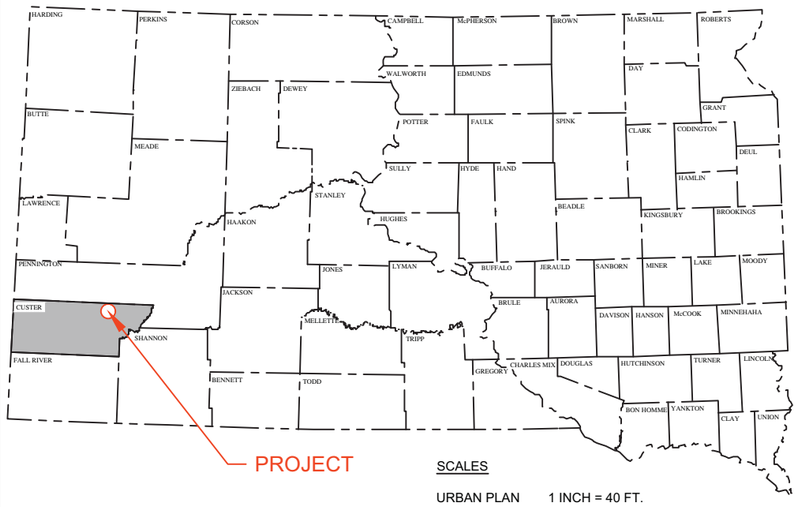
STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED
PROJECT P TAPR(09)

CITY OF HERMOSA
CUSTER COUNTY

PCC SIDEWALK AND PAVEMENT MARKING
PCN 04UG



SCALES

URBAN PLAN 1 INCH = 40 FT.

Ferber Engineering Company, Inc.
Civil Engineering • Water Resources • Transportation • Land Surveying • GIS
729 East Watertown St, Rapid City, SD 57701 ~ www.ferberengineering.com
Phone: (605) 343-3311 ~ Fax: (605) 343-3399

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 9935
ADAM R. KROGMAN
5-12-15
SOUTH DAKOTA

STORM WATER PERMIT

Major Receiving
Body of Water: Battle Creek & Billover Creek
Area Disturbed: 0.25 Acres
Total Project Area: 0.25 Acres

INDEX OF SHEETS

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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
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ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3200	Construction Staking	Lump Sum	LS
009E3300	Three Man Survey Crew	10	Hour
100E0100	Clearing	Lump Sum	LS
110E1690	Remove Sediment	2	CuYd
110E1693	Remove Erosion Control Wattle	100	Ft
110E1700	Remove Silt Fence	65	Ft
120E6300	Water for Vegetation	11	Mgal
205E0010	Dust Control Chloride	65	Lb
230E0100	Remove and Replace Topsoil	Lump Sum	LS
250E0020	Incidental Work, Grading	Lump Sum	LS
260E3010	Gravel Surfacing	85	Ton
450E4758	18" CMP 14 Gauge, Furnish	132	Ft
450E4760	18" CMP, Install	132	Ft
450E5211	18" CMP Flared End, Furnish	2	Each
450E5212	18" CMP Flared End, Install	2	Each
632E1320	2.0"x2.0" Perforated Tube Post	44.0	Ft
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	25.9	SqFt
633E1430	Pavement Marking Paint, 24" White	184	Ft
634E0010	Flagging	20	Hour
634E0100	Traffic Control	391	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
651E0040	4" Concrete Sidewalk	2948	SqFt
651E0160	6" Reinforced Concrete Sidewalk	1064	SqFt
651E7000	Type 1 Detectable Warnings	60	SqFt
733E0100	Sodding	595	SqYd
734E0154	12" Diameter Erosion Control Wattle	100	Ft
734E0604	High Flow Silt Fence	65	Ft

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2004 Edition and Required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

ENVIRONMENTAL COMMITMENTS

An Environmental Commitment is a measure that SDDOT commits to implement in order to avoid, minimize, and/or mitigate a real or potential environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency mentioned below with permitting authority can influence a project if perceived environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office. The environmental commitments associated with this project are as follows:

COMMITMENT E: STORM WATER

Construction activities constitute less than 1 acre of disturbance.

Action Taken/Required:

At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site.

COMMITMENT H: WASTE DISPOSAL SITE

The Contractor shall furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

Action Taken/Required:

Construction and/or demolition debris may not be disposed of within the ROW.

The waste disposal site(s) shall be managed and reclaimed in accordance with the following from the General Permit for Highway, Road, and Railway Construction/Demolition Debris Disposal Under the South Dakota Waste Management Program issued by the Department of Environment and Natural Resources.

The waste disposal site(s) shall not be located in a wetland, within 200 feet of surface water, or in an area that adversely affects wildlife, recreation, aesthetic value of an area, or any threatened or endangered species, as approved by the Project Engineer.

If the waste disposal site(s) is located such that it is within view of any ROW, the following additional requirements shall apply:

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials shall be buried in a trench completely separate from wood debris. The final cover over the construction and/or demolition debris shall consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the ROW shall be seeded in accordance with Natural Resources Conservation Service recommendations.
The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor shall control the access to waste disposal sites not within the ROW through the use of fences, gates, and placement of a sign or signs at the entrance to the site stating "No Dumping Allowed".

2. Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period of time not to exceed the duration of the project. Prior to project completion, the waste shall be removed from view of the ROW or buried and the waste disposal site reclaimed as noted above.

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.

Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

All costs associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence, gates, and signs), and reclamation of the waste disposal site(s) shall be incidental to the various contract items.

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historical Preservation Office (SHPO or THPO) for all work included within the project limits and all designated option borrow sites provided within the plans.

Action Taken/Required:

All earth disturbing activities not designated within the plans require review of cultural resources impacts. This work includes, but is not limited to: staging areas, borrow sites, waste disposal sites, and all material processing sites.

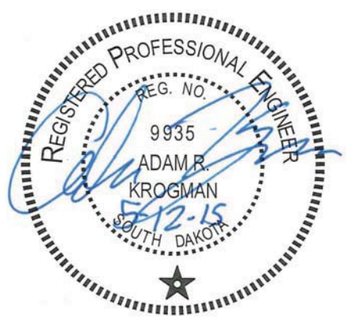
The Contractor shall arrange and pay for a cultural resource survey and/or records search. The Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record search might be sufficient for review; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor shall provide ARC with the following: a topographical map or aerial view on which the site is clearly outlined, site dimensions, project number, and PCN. If applicable, provide evidence that the site has been previously disturbed by farming, mining, or construction activities with a landowner statement that artifacts have not been found on the site.

The Contractor shall submit the records search or cultural resources survey report and if the location of the site is within the current geographical or historic boundaries of any South Dakota reservation to SDDOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3180). SDDOT will submit the information to the appropriate SHPO/THPO. Allow **30 Days** from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

If evidence for cultural resources is uncovered during project construction activities, then such activities shall cease and the Project Engineer shall be immediately notified. The Project Engineer will contact the SDDOT Environmental Engineer in order to determine an appropriate course of action.

SHPO/THPO review does not relieve the Contractor of the responsibility for obtaining any additional permits and clearances for staging areas, borrow sites, waste disposal sites, or material processing sites that affect wetlands, threatened and endangered species, or waterways. The Contractor shall provide the required permits and clearances to the Project Engineer at the preconstruction meeting.



STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PTAPR(09)	3	26

GRADING OPERATIONS

All excavation and embankment required for the construction of the improvements shown in this plan set shall be considered incidental to the project. No separate payment will be made.

Water for Embankment is estimated at the rate of 10 gallons of water per cubic yard of Embankment minus Waste. The estimated quantity of Water for Embankment is 1 MGal. No separate payment will be made for the Water for Embankment and all costs associated shall be incidental to the project

Sections of the work different than the typical section shall be constructed to the limits shown on the cross sections. If significant changes to the cross sections are necessary during construction, the Engineer shall contact the Designer for the proposed change.

UTILITIES

Utilities are not planned to be affected on this project. If utilities are identified near the improvement area through the SD One Call Process as required by South Dakota Codified Law 49-7:00 AM and Administrative Rule Article 20:25, the Contractor shall Contact the Project Engineer to determine modifications that will be necessary to avoid utility impacts.

The Contractor shall be aware that the existing utilities shown in the plans were surveyed prior to the design of this project and might have been relocated or replaced by a new utility facility prior to construction of this project, might be relocated or replaced by a new utility facility during the construction of this project, or might not require adjustment and may remain in its current location. The Contractor shall contact each utility owner and confirm the status of all existing and new utility facilities. The utility contact information is provided elsewhere in the plans or bidding documents.

CLEARING

Before clearing activities begin, the Contractor shall contact the Engineer to determine the limits of clearing for the project. If items that are supposed to remain within the limits of work are damaged or destroyed by the Contractor, the Contractor shall replace them with the same size and type at the Contractor's expense.

INCIDENTAL WORK, GRADING

Station	L/R	Remarks
4+82	L	Trim Tree Branches
5+28	L	Remove Landscape Blocks for Reset
5+28	L	Reset Landscape Blocks
5+79	L	Remove Landscape Timbers for Reset
5+79	L	Reset Landscape Timbers
5+75	L	Take Out 18' – 74' CMP
5+34	L	Take Out Flared End
6+40	L	Take Out 18' – 24' CMP

CORRUGATED METAL PIPE

Corrugated metal pipes shall have 2 ⅔-inch X ½-inch corrugations for 42-inch and smaller round pipe and 48-inch and smaller arch pipe unless otherwise stated in the plans. Corrugated metal pipes shall have 3-inch X 1-inch or 5-inch X 1-inch corrugations for 48-inch and larger round pipe and 54-inch and larger arch pipe unless otherwise stated in the plans.

The gauge of the corrugated metal ends shall match the thickest gauge of corrugated metal pipe it is connected to.

The corrugated metal pipes including the ends shall be 14 gauge.

TABLE OF PIPE QUANTITIES

Station			L/R	18" CMP (Ft)	18" CMP Flared End (Ea)
5+25.9			L		1
5+25.9	to	6+55.8	L	132	
6+55.8			L		1
			Total:	132	2

TYPE 1 DETECTABLE WARNINGS

Detectable warnings shall be in compliance with the Americans with Disability Act regulations. The detectable warnings shall be installed according to the manufacturer's installation instructions.

A concrete thickness equal to the adjacent concrete sidewalk thickness and 2 inches of granular cushion material shall be placed below the Type 1 Detectable Warnings. When concrete is placed below the detectable warnings then the concrete thickness shall be transitioned at the rate of 1" per foot to match the adjacent concrete sidewalk thickness.

The detectable warnings shall be a brick red color for application in concrete curb ramps.

When Type 1 Detectable Warnings are specified, the Contractor shall furnish and install only one of the products listed in the Type 1 Detectable Warnings table.

Type 1 Detectable Warnings

Product	Manufacturer
Detectable Warning Plate Cast Iron Plate	Neenah Foundry Company Neenah, WI 800-558-5075 http://www.neenahfoundry.com/
Detectable Warning Plate Cast Iron Plate	Deeter Foundry Lincoln, NE 800-234-7466 http://www.deeter.com/
Detectable Warning Plate Cast Iron Plate	East Jordan Iron Works, Inc. 301 Spring Street East Jordan, MI 49727 800-626-4653 http://www.ejiw.com

TABLE OF TYPE 1 DETECTABLE WARNINGS

REV 05-12-15 ARK

Station	L/R	Quantity (SqFt)
1+00.3	5.3' R	10
1+25.2	0'	10
4+28.9	0'	10
4+28.9	38.6' R	10
8+66.6	0'	10
8+93.2	0'	10
	Total:	60

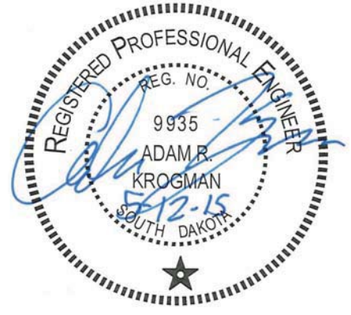
CONCRETE SIDEWALK

The concrete sidewalk shall be constructed in accordance with Section 651 of the Specifications. The sidewalk details are typical of this project with the exception of all sidewalk cross slopes shall be 1.5% rather than the 2% max as shown, the sidewalk widths, boulevard widths, and other special details are shown on the surfacing sheet.

Expansion joint filler shall be placed at the interface between the non-reinforced 4" sidewalk and the 6" reinforced sidewalk.

TABLE OF 4" CONCRETE SIDEWALK

Station	To	Station	L/R	Quantity (SqFt)
0+94.9		1+01.1	R	25.7
1+24.7		1+42.5	L/R	90.8
2+00.7		4+34.9	L/R	1202.1
4+26.4		4+31.4	R	33.2
4+63.9		5+35.2	L/R	356.4
6+06.4		6+33.0	L/R	133.0
6+60.6		8+66.6	L/R	1030.3
8+93.2		9+08.5	L/R	76.5
			Total:	2948.0



STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
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TABLE OF 6" REINFORCED CONCRETE SIDEWALK

Station	To	Station	L/R	Quantity (SqFt)
1+42.5		2+00.7	L/R	291.4
4+34.9		4+63.9	L/R	145.2
5+35.2		6+06.4	L/R	356.4
6+33.0		6+60.6	L/R	138.0
8+66.6		8+93.2	L/R	133.0
			Total:	1064.0

TRAFFIC CONTROL – GENERAL NOTES

1. During working hours, when it is necessary to close the southbound lane of 5th Street, the traffic control shall be set up per standard plate 634.23 and flaggers shall be provided. During non-working hours, and at times when the lane closure is not necessary, the traffic control shall be pulled to the edge of the roadway and two-way traffic shall be restored.

2. The intent of the traffic control plan is to have the least amount of impact on the traveling public and adjacent properties. Requests to deviate from the plan shall be submitted in writing to the Engineer for review. Approval of an alternate plan will only be allowed when the proposed changes meet with the Department's intent for traffic control and sequencing of the work. An alternate plan shall be submitted for review a minimum of two weeks prior to potential implementation.

3. Traffic control shall at all times be maintained in accordance with applicable MUTCD Standards, Section 634 of the Specifications and these plans.

4. All taper lengths shall be according to the standard plates in these plans and the MUTCD. Taper lengths shall be laid out and verified by the Engineer prior to installation.

5. Traffic shall be maintained in 11 ft. minimum lane widths at all times.

6. The Contractor shall be required to have a person available 24 hours/day, 7 days/week to maintain traffic control devices. The name and cellular telephone number of this individual shall be given to the Engineer at the preconstruction meeting.

7. The contractor or designated traffic control subcontractor shall make night inspections at the initial set up of traffic control and every week thereafter to ensure the adequacy, legibility and reflectivity of each sign and device. A written summary of each inspection shall be given to the Engineer within 24 hours after completion of the inspection. The cost for the nighttime inspection work shall be incidental to the related contract items.

8. Non-applicable signing, including construction signing, shall be covered completely or removed from shoulder during periods of in-activity. Period of inactivity is defined as 1 day. All costs to perform this work shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

TRAFFIC CONTROL – GENERAL NOTES (CONT'D)

9. The bottom of all signs on portable or temporary supports shall not be less than seven feet above the pavement in urban areas and one foot above the pavement in rural areas. Portable sign supports may be used as long as the duration is less than 3 days. If the duration is more than 3 days, the signs shall be mounted on fixed location, breakaway supports during the time of initial installation, except portable sign supports will be allowed where surfacing prohibits installation.

10. The quantity of signs paid for will be for the greatest number of installations per sign in place at any one time regardless of the number of set-ups on the project.

11. The Contractor shall provide documentation that all breakaway sign supports comply with FHWA NCHRP 350 and/or MASH crash-worthy requirements. The Contractor shall provide installation details at the preconstruction meeting for all breakaway sign support assemblies.

12. Traffic approaching the project from intersecting roadways and approaches must be adequately accommodated. Intersections or large commercial entrances may require additional signing, flaggers, and channelizing devices on a temporary basis until work activities pass these areas.

13. Driveways, streets, and roadways that enter the project shall be delineated such that they are clearly visible during all hours. Freestanding, reflective traffic control barrels shall be used. Cost for this delineation shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

14. The Contractor shall keep the portion of the project being used by public traffic in a condition that will adequately and safely accommodate traffic. A power broom (a pickup type street sweeper with sufficient water), will be required to clean all loose debris off of paved surfacing.

15. At no time during construction shall a vertical drop-off of greater than 16" be left overnight adjacent to the traveled way. The Contractor may utilize embankment material or existing gravel cushion to ensure a 16" vertical drop-off is not exceeded. Vertical drop-offs greater than 16" shall be shouldered to a 3:1 minimum slope. No separate payment will be made for constructing these slopes.

16. Grading operations shall be conducted such that access to individual business entrances shall be maintained throughout the duration of the project. Entrances shall be graded simultaneously with roadway embankment and excavations.

17. Parking of equipment during non-working hours shall be in locations that do not hinder the visibility of accesses to adjacent businesses.

18. Storage of vehicles and equipment shall be as near to the right-of-way as possible. Contractor's employees should mobilize at a location off the right-of-way and arrive at the work sites in a minimum number of vehicles necessary to perform the work. Indiscriminate driving and parking of vehicles within the right-of-way will not be permitted. Any damage to the vegetation, surfacing, embankment, delineators and existing signs resulting from such indiscriminate use shall be repaired and/or restored by the Contractor, at no expense to the State, and to the satisfaction of the Engineer.

19. All truck hauling shall be restricted to Highway 40, 5th Street and Whitney Street.

TRAFFIC CONTROL – GENERAL NOTES (CONT'D)

REV 05-12-15 ARK

20. Hauling material to and from the project site shall be conducted in a safe manner by utilizing flaggers and appropriate traffic control devices to control traffic.

21. All equipment and vehicles entering and exiting closed lanes of traffic in addition to working in traffic or alongside traffic shall display a flashing amber light visible from all directions at a minimum distance of ¼ mile.

22. Construction equipment and materials shall not be unloaded from lanes open to traffic.

23. Barrels or 42" grabber cones shall be spaced every 25' when used for edgelines for separation between traffic and the work zone as shown on the traffic control sheets. Barrels and cones shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

24. Permanent traffic control items shall be installed prior to opening the completed roadway to traffic.

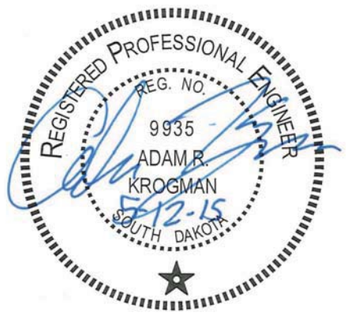
MAINTENANCE OF DRAINAGE ON THE PROJECT SITE

All earthwork and pipe installation shall be completed in such a manner that drainage is maintained throughout the project. This work may involve installation of temporary tie-ins, dikes, pumping of water, plugging inlets, and temporary diversion of water utilizing pipes.

The Contractor shall coordinate embankment operations and pipe installations so that drainage is continuous, but does not damage new or existing grading sections. If necessary, temporary pipe, temporary connections, plugs, and channels may be used to avoid damage to new or existing grade or partial omission of permanent drainage features may be required. In addition, permanent drainage features may need to be installed in phases to match sequencing. The cost to install, maintain, and remove temporary items and any incidentals necessary for partial installations of permanent drainage features shall be incidental to the various pipe bid items.

MAINTENANCE OF LANDSCAPING

Vegetation that has been damaged or disturbed by the Contractor outside the ROW or grading limits shown on the plans shall be replaced at no cost to the State.



STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PTAPR(09)	5	26

MAINTENANCE OF ACCESS

The Contractor shall be responsible for maintaining access to all adjacent properties throughout the duration of the project. Accesses shall be provided at all times.

Cost of furnishing, hauling, placing, compacting, maintaining, removing and disposing of temporary material for accesses shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

CONTRACTOR FURNISHED PROGRESS SCHEDULES

The Progress Schedule is an integral part of the project. It is used as a resource for both the Owner and the Contractor to monitor work progress. The Contractor shall ensure operations are conducted such that the Progress Schedule is adhered to by all contracting parties involved. The Contractor shall ensure the Progress Schedule meets specified interim and overall contract completion dates for all scheduled activities. The Progress Schedule shall consist of a bar chart method construction schedule using the most current version of Microsoft Project scheduling software, or approved equal, and a written narrative.

At least two weeks prior to the Preconstruction Meeting the Contractor shall furnish the Engineer two copies of the Progress Schedule. Within 7 calendar days after the Preconstruction Meeting the Engineer will review the initial schedule and will either accept the initial schedule or ask for more information. If more information is required, the Contractor shall submit the requested information within 7 calendar days of the Engineer's request. The Engineer will accept or reject the schedule based solely on completeness of criteria listed below. Acceptance does not modify the contract or constitute endorsement or validation by the Engineer of the Contractor's logic, activity durations, or assumptions in creating the schedule. Nor does acceptance of the schedule relieve the Contractor of his obligation to complete all work within interim and overall contract completion dates. The Contractor shall not begin work until the Engineer accepts the Progress Schedule in writing.

At a minimum, the bar chart method construction schedule shall contain the following information:

1. All work activities needed to perform and complete the work, and critical activities shown on a time scale.
2. The planned start and completion dates for each activity, the duration of each activity (stated in working days, and with activities of more than 15 working days in duration broken into two or more activities distinguished by location or some other feature), and the sequencing of all activities.
3. Days when work is not expected to be performed, i.e. weekends, holidays, etc.
4. The quantity and estimated daily production rate for critical activities.
5. Dates related to the procurement of materials, equipment, articles of special manufacture, etc.
6. Dates related to the submission of working drawings, plans, and other data specified for review or approval by the Department.
7. Dates related to required inspection of structural steel fabrication, etc.
8. Dates related to specified activities by the Department and third parties.
9. Definition and relation of work activities to contract pay items.

CONTRACTOR FURNISHED PROGRESS SCHEDULES (CONT'D)

At a minimum, the written narrative shall contain the following information:

1. The proposed work progress sequence describing the relationship of the work activities listed in the bar chart schedule to complete the contract, including utility coordination, Tier 1 Certifications, shop drawing submittals (including estimated maximum waiting periods for all required shop drawings), permits (including estimated maximum waiting periods for all required permits), and fabrication and delivery activities.
2. A detailed description and the progress time of each work activity listed in the bar chart schedule, measured by working day or calendar day, as appropriate.
3. A detailed description of the bar chart schedule, including holidays, planned workdays per week, number of crews per activity, number of shifts per day per activity, hours per shift, size of work crews, equipment utilization, including type and quantity, and other resources used, and resultant production rate per activity.
4. A detailed description of how the schedule accommodates adverse weather days for each month and consideration for how work activities could be adjusted to meet the schedule if above average adverse weather is encountered.
5. A detailed description of how operations will be adjusted in order to meet or exceed the scheduled activity completion for delays not authorized by Contract Change Orders.

The schedule shall be updated and resubmitted on a bi-weekly interval until the project is substantially complete. The Contractor shall include on the schedule updates planned start and finish dates for each activity shown on the most recent accepted schedule. For newly started or finished activities, include the actual start or finish date. For activities previously started and still ongoing, show the remaining duration and planned finish dates. Next to each activity on the update show the planned or "target" dates of performance from the most recent accepted schedule.

Progress Schedule Revisions are revisions made to the Progress Schedule that reflect changes to the Contractor's operations in order to meet the requirements of the contract. The Engineer may request in writing a Progress Schedule Revision to be submitted for approval due to, but not limited to, the following:

1. A delay (actual or projected) of interim or overall contract completion dates by 21 calendar days or more.
2. A difference between the actual rate of progress and that depicted in the schedule.
3. The issuance of a Contract Change Order that, by adding, deleting, or revising activities, changes the planned sequence of work or the method and manner of its performance.

If it is determined that a Progress Schedule Revision is required, it shall be provided to the Engineer for review within 10 calendar days of written notification. The Engineer's review of the revised schedule will not exceed 7 calendar days. Revisions required as a result of the Engineer's review shall be submitted within 7 calendar days. When written acceptance is provided by the Engineer, the Revised Schedule shall become the project Progress Schedule.

There will be no direct payment for the contractor-furnished schedule. All costs associated with the schedule shall be incidental to the related items. Failure to properly submit the required construction schedules will result in the withholding of progress payments until an approved schedule is received.

PEDESTRIAN CHANNELIZING DEVICES

REV 05-12-15 ARK

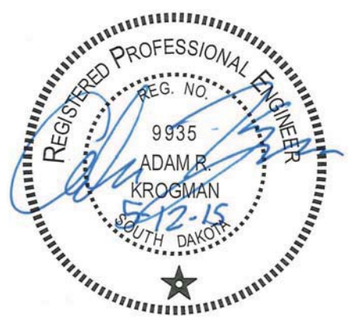
When sidewalk is closed, a pedestrian channelizing device shall be placed across the entire width of sidewalk at the location of the closure and the recommended crossing location upstream of the closure.

The barricade rail supports on the pedestrian channelizing device used to close the sidewalk shall not project into pedestrian routes more than 4 inches from the support between 27 and 80 inches from the surface of the sidewalk. To prevent any tripping hazard to pedestrians, ballast shall be located behind or internal to the device.

All costs for pedestrian channelizing devices used to close sidewalk shall be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

INVENTORY OF TRAFFIC CONTROL DEVICES

SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
G20-2	36 x 18	END ROAD WORK	5	17	85
W20-1	48 x 48	ROAD WORK #### FT. OR AHEAD	5	34	170
W20-4	48 x 48	ONE LANE ROAD #### FT. OR AHEAD	2	34	68
W20-7	48 x 48	FLAGGER (SYMBOL)	2	34	68
				TOTAL UNITS	391



REMOVE AND REPLACE TOPSOIL

The thickness will be approximately 4 inches.

The estimated amount of topsoil to be placed (for information only) is as follows:

Station	to	Station		Topsoil (CuYd)
0+94		9+09		66
			Total:	66

SODDING

Sod shall be placed on all disturbed areas that do not receive pavement or gravel surfacing. Peat sod is not permitted.

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”.

EROSION CONTROL WATTLE

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

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

The erosion control wattles shall be removed from the project once the area has been sodded.

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

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

TABLE OF EROSION CONTROL WATTLE

Station	L/R	Diameter (Inch)	Location	Quantity (Ft)
2+15.4	L	12	Ditch Bottom	17
3+19.7	L	12	Ditch Bottom	17
6+73.9	L	12	Ditch Bottom	17
7+56.7	L	12	Ditch Bottom	17
			Additional Quantity:	32
			Total:	100

HIGH FLOW SILT FENCE

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

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

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

TABLE OF HIGH FLOW SILT FENCE

Station	L/R	Location	Quantity (Ft)
1+37.5	L	Pipe Outlet	18
4+20.0	L	Pipe Outlet	16
5+16.1	L	Pipe Outlet	16
8+22.1	L	Pipe Outlet	15
		Total:	65

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.

GRAVEL SURFACING

A quantity of 85 tons of Gravel Surfacing has been included in the estimate of quantities for the resurfacing of the driveways and of 5th Street adjacent to the new sidewalk. The quantity of Gravel Surfacing is based on a 6” thickness being placed in the locations shown on the Surfacing and sidewalk sheet.

DUST CONTROL CHLORIDE

Locations within 5th Street, excluding driveways and alleys, that are disturbed or receive new gravel surfacing during construction shall have magnesium chloride applied to the surface to match the existing surfacing.

The magnesium chloride compound shall be applied at a rate of 1.2 pounds per square yard per Section 205 of the Specifications.

A quantity of 65 pounds of “Dust Control Chloride” has been included in the estimate of quantities.

PAVEMENT MARKING

The pavement marking material shall be as defined in Section 983 of the Specifications.

PERMANENT SIGNING

REV 05-21-15 ARK

The Contractor shall furnish all signs, posts, stiffeners, bases, hardware, and labor for installation of permanent signs in size, type, and quantity as shown in these plans and/or as required by the Engineer.

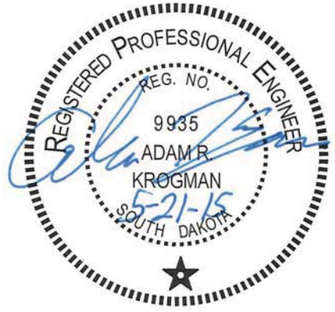
The existing yield sign at the 5th Street - Whitney Street intersection shall be removed and replaced with this project. The existing sign, post, and hardware removed shall remain property of the City of Hermosa and shall be transported to the Hermosa Town Office at 230 Main Street, by the Contractor. The Contractor shall notify the Engineer two days prior to time of delivery to insure correct placement for storage and inventory of materials can be made upon receipt. Removal and delivery of the sign shall be considered incidental to the project, no separate payment will be made.

The Contractor shall provide all labor and equipment necessary to install permanent signing, remove existing signs and reset existing signs as detailed in these plans and/or as required by the Engineer. Payment for furnishing and installing permanent signs will be paid for at the contract unit price for each type of sign based on sheeting requirements per square foot of sign. All signs shall be constructed using super/very high intensity (ASTM D4956 Type XI) reflective sheeting. Payment for new signposts, hardware, bases, and labor will be made at the contract unit price per foot for 2.0” x 2.0” Perforated Tube Post. See breakaway post details and fixed post details regarding posts, hardware, bases, and footings. Measurements of post lengths for payment will be for above ground post lengths as field measured. The sign post contract items shall include post bases and all hardware. The post lengths shall be verified by the Contractor. The Contractor is urged to cut posts to length on job site after site by site verification of post length.

The Contractor shall use Telespar brand (or equals) posts and bases on all new standard highway signs as approved by the Engineer. All post materials shall conform to Section 982 of the Specifications, and be in accordance with ASTM specifications. Sign posts shall not exceed the minimum length needed by more than 0.5 feet. Any portion that extends above the sign shall be cut off. No separate payment will be made for cutting the cost or for the length cut off. All posts shall accompanied by Certificates of Compliance and shall meet all safety standards as set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD).

The Contractor shall stake the signs and the Engineer will verify the location prior to installation. The lateral distance form the roadway and the height of the sign shall be established by the Contractor according to the Standard Plates in the plans and the MUTCD.

The Contractor shall coordinate the removal of signs with the traffic control plans. Existing signing shall be replaced, left in place, or temporarily covered as needed to safely direct traffic through the project or as directed by the Engineer.



PERFORATED TUBE POST

Payment for 2.0” x 2.0” perforated tube posts shall include all cost for labor, equipment, and materials necessary to complete the following work:

1. Furnish all posts, stiffeners, breakaway bases, soil stabilizers, and hardware.
2. Assembly and installation of breakaway base sign supports as per details shown in these plans.
3. Assembly of sign(s) to sign post as per erection details for Highway Signs as shown in these plans.
4. Installation of signpost and sign(s).

HARDWARE

Aluminum U-Channel stiffeners shall be used on all standard highway signs greater than 36” in width and shall conform to Alloy 6063-T6 or 6061-T6. The U-Channel shall be 2 inches in width and free of holes. The U-Channel stiffeners may be fastened to signs by use of 1/4” drive rivets. Installation of the stiffeners shall be incidental to other contract items.

All perforated tube signpost base material shall be fastened with 5/16” diameter corner bolts (Grade 2).

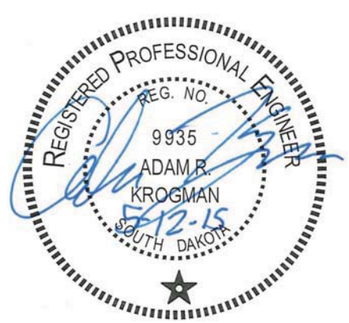
All perforated tube signposts shall have a soil stabilizer attached to the base. Soil stabilizers shall be a green painted MPJ Sign Wedge manufactured by MPJ Enterprises, Inc., 304 Spring Ave. N Lake Preston, SD 57249 or equal as approved by the Engineer.

FURNISH & INSTALL FLAT ALUMINUM SIGNS, NON-REMOVABLE COPY SUPER/VERY HIGH INTENSITY

Measurement of sign areas will include payment for the entire sign blank before trimming for rounded corners. The square unit measurement for each sign shall be as shown in the table of permanent signing. The payment shall include all labor (including installing date decals), equipment, and materials to complete the work, and shall be paid for at the contract unit price per square foot for “Flat Aluminum Sign/Non-Removable Copy Super/Very High Intensity.”

TABLE OF NEW PERMANENT SIGNS

Description	Width (in)	Height (in)	No.	SqFt	Post Height (ft)
Yield	36	36	R1-2	3.9	14.0
Pedestrian	36	36	W11-2	9.0	15.0
Downward Arrow (Plaque)	24	12	W16-7P	2.0	
Pedestrian	36	36	W11-2	9.0	15.0
Ahead (Plaque)	24	12	W16-9P	2.0	
			Total:	25.9	44.0



STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
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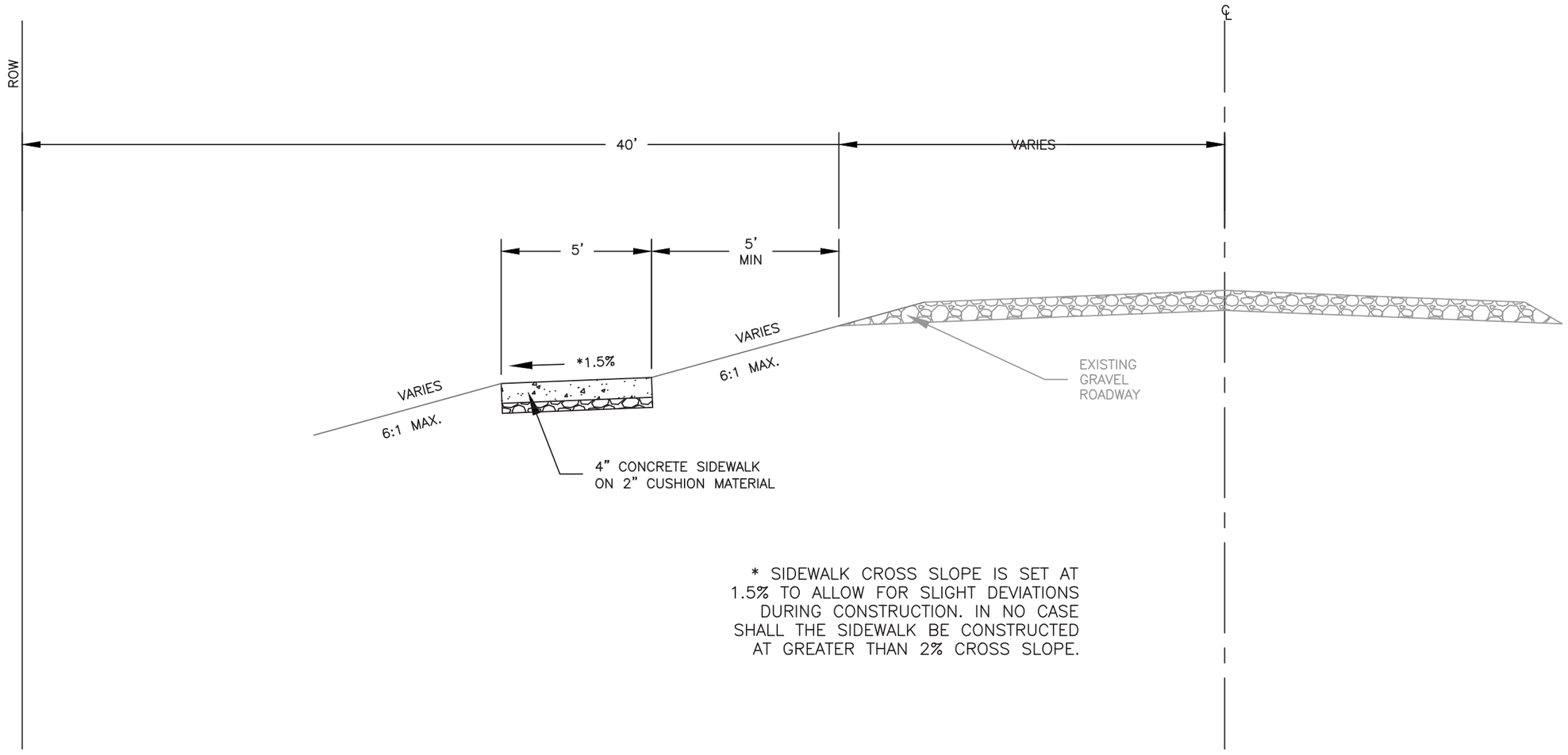
PLOTTING DATE: 04-21-15

TYPICAL SECTION



* SIDEWALK CROSS SLOPE IS SET AT 1.5% TO ALLOW FOR SLIGHT DEVIATIONS DURING CONSTRUCTION. IN NO CASE SHALL THE SIDEWALK BE CONSTRUCTED AT GREATER THAN 2% CROSS SLOPE.

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
9935
ADAM R.
KROGMAN
4-21-15
SOUTH DAKOTA

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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PTAPR(09)	9	26

PLOTTING DATE: 04-21-15

EROSION AND SEDIMENT CONTROL LEGEND

- STORM WATER DISCHARGE POINT
- LOW FLOW SILT FENCE
- HIGH FLOW SILT FENCE
- SILT TRAP
- SEDIMENT CONTROL AT INLET WHEN SURFACING IS IN PLACE
- TEMPORARY SEDIMENT BARRIER
- TEMPORARY WATER BARRIER
- FLOATING SILT CURTAIN
- SEDIMENT FILTER BAGS
- TRIANGULAR SILT BARRIERS
- EROSION CONTROL WATTLES
- EROSION BALES
- SURFACE ROUGHENING
- SOIL STABILIZER / TEMPORARY MULCH / DUST CONTROL
- CUT INTERCEPTOR DITCH
- TEMPORARY SLOPE DRAIN
- SEDIMENT CONTROL AT INLET BEFORE PLACEMENT OF SURFACING
- HYDRAULIC STRAW MULCH / FIBER MULCHING /
- BONDED FIBER MATRIX / FIBER REINFORCED MATRIX
- ROCK CHECK DAM
- SODDING
- PERMANENT SEEDING
- TYPE 1 EROSION CONTROL BLANKET
- TYPE 2 EROSION CONTROL BLANKET
- TYPE 3 EROSION CONTROL BLANKET
- TYPE 4 EROSION CONTROL BLANKET
- TYPE 1 TURF REINFORCEMENT MAT
- TYPE 2 TURF REINFORCEMENT MAT
- TYPE 3 TURF REINFORCEMENT MAT
- SYNTHETIC CHANNEL PROTECTION
- (TS) TOPSOIL STOCKPILES
- (B) BORROW AREAS
- (CE) STABILIZED CONSTRUCTION ENTRANCES
- (CW) CONCRETE WASHOUTS
- (BS) VEGETATED BUFFER STRIPS
- (AP) ASPHALT PLANT SITE
- (CP) CONCRETE PLANT SITE
- (M) ON-SITE CONSTRUCTION MATERIAL STORAGE AREAS
- (SK) SPILL KIT
- (WP) WORK PLATFORM
- (TP) PORTABLE TOILET
- (V) VEHICLE AND EQUIPMENT PARKING, FUELING, AND MAINTENANCE AREAS
- (D) DUMPSTER OR OTHER TRASH AND DEBRIS CONTAINERS

REGISTERED PROFESSIONAL ENGINEER
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ADAM R. KROGMAN
4-21-15
SOUTH DAKOTA

BEST MANAGEMENT PRACTICES

BEST MANAGEMENT PRACTICES (BMP'S) SHOULD BE USED THROUGHOUT CONSTRUCTION. TO REMIND CONTRACTORS AND FIELD PERSONNEL THAT BMP'S FOR WATER QUALITY SHOULD BE UTILIZED THROUGHOUT THE CONSTRUCTION PROCESS. THE SYMBOLOGY IS COLORED AS FOLLOWS:

RED BMPS ARE TO BE INSTALLED BEFORE EARTH MOVING ACTIVITES COMMENCE. RED BMPS ARE USED FOR PERIMETER CONTROL. THEY PREVENT SEDIMENT FROM LEAVING THE SITE OR ENTERING FROM ANOTHER SITE. THEY MAY ALSO DETER WATER AWAY FROM OR AROUND THE SITE. THEY MAY BE LEFT IN PLACE AND MAINTAINED FOR THE REMAINDER OF CONSTRUCTION OR UNTIL VEGETATION HAS REACHED 70% OF THE BACKGROUND LEVEL.

BLUE BMPS ARE TO BE INSTALLED DURING CONSTRUCTION. BLUE BMPS ARE USED FOR TEMPORARY STABILIZATION. THEY PREVENT EROSION DURING CONSTRUCTION. THEY MAY ALSO BE SEDIMENT CONTROLS UTILIZED AFTER DRAIN PIPES AND STORM SEWERS ARE IN PLACE. THEY MAY BE LEFT IN PLACE AND MAINTAINED FOR THE REMAINDER OF CONSTRUCTION OR UNTIL VEGETATION HAS REACHED 70% OF THE BACKGROUND LEVEL.

GREEN BMPS ARE TO BE INSTALLED WHEN GRADING IS COMPLETE. GREEN BMPS ARE USED FOR FINAL STABILIZATION. THEY ARE PERMANENT EROSION CONTROL MEASURES THAT ARE NOT REMOVED.

IF THE CONTRACTOR OR ENGINEER DECIDE TO USE ADDITIONAL BEST MANAGEMENT PRACTICES OR LABEL THE LOCATIONS OF THEM THEY SHOULD USE THE SYMBOLOGY SHOWN. OTHER BEST MANAGEMENT PRACTICES FOR WHICH THERE IS NO SYMBOLOGY INCLUDE:

PERMANENT SEEDING IS DONE BEFORE THE APPLICATION OF ALL TYPES OF MULCHING AND HYDRAULICALLY APPLIED SOIL MULCHES AND MATRIXS. PERMANENT GRASS HAY/ STRAW MULCH IS NOT SHOWN ON PLAN SHEETS, BUT IT CAN BE ASSUMED THAT ALL AREAS THAT ARE NOT ROADWAYS ON RURAL PROJECTS WILL BE SEEDED THEN MULCHED. AREAS WHERE AN ALTERNATE TO GRASS HAY /STRAW MULCH IS USED WILL BE SHOWN WITH THE APPROPRIATE SYMBOLOGY.

SEDIMENT BASINS UTILIZED DURING CONSTRUCTION WILL BE SHOWN ON PLAN SHEETS AND IN SECTION X.

GEOTEXTILE FABRIC USUALLY SUPPLEMENTS OTHER BMPS, BUT IT MAY BE USED TO TEMPORARILY COVER AREAS FOR EROSION PROTECTION UNTIL IT IS PERMANENTLY INSTALLED.

STREET SWEEPING SHOULD BE DONE AS NEEDED TO KEEP SEDIMENT ON ROADWAYS FROM LEAVING THE SITE.

DEWATERING AND SEDIMENT COLLECTING IS SHOWN ON A DETAIL SHEET WHEN IT IS NEEDED. DEWATERING WITHOUT SEDIMENT COLLECTING DOES NOT HAVE A DETAIL, JUST A DETAILED NOTE. SEDIMENT LADEN WATER SHOULD NEVER BE PUMPED OFF THE SITE.

GABIONS AND RIP RAP AT PIPE AND CULVERT OUTLETS ARE DETAILED IN SECTION B.

PROJECT PHASING

PROJECT PHASING MAY BE ONE OF THE MOST IMPORTANT BMPS. DURING PHASING REMEMBER THE FOLLOWING:

ALWAYS INSTALL PERIMETER CONTROLS BEFORE BEGINNING EARTH MOVING ACTIVITIES.

DO NOT DISTURB MORE AREA THAN WHAT IS NEEDED TO COMPLETE EACH PHASE OF CONSTRUCTION.

IF POSSIBLE CONSTRUCT SEDIMENT BASINS AND STABILIZE THEM BEFORE BEGINNING ROADWAY GRADING.

TEMPORARILY STABILIZE AREAS THAT WILL NOT BE TOUCHED WITHIN 14 DAYS.

PERMANENTLY STABILIZE AREAS WHEN GRADING IN THAT AREA IS COMPLETE. PERMANENT STABILIZATION CAN BE COMPLETED IN PHASES AND DOES NOT HAVE TO WAIT UNTIL THE WHOLE ROADWAY HAS BEEN CONSTRUCTED.

CONTINUALLY MAINTAIN ALL SEDIMENT CONTROLS AND MONITOR AREAS WHERE EROSTION CONTROL HAS BEEN INSTALLED.

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EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PTAPR(09)	10	26

PLOTTING DATE: 04-21-15

20 10 0 20

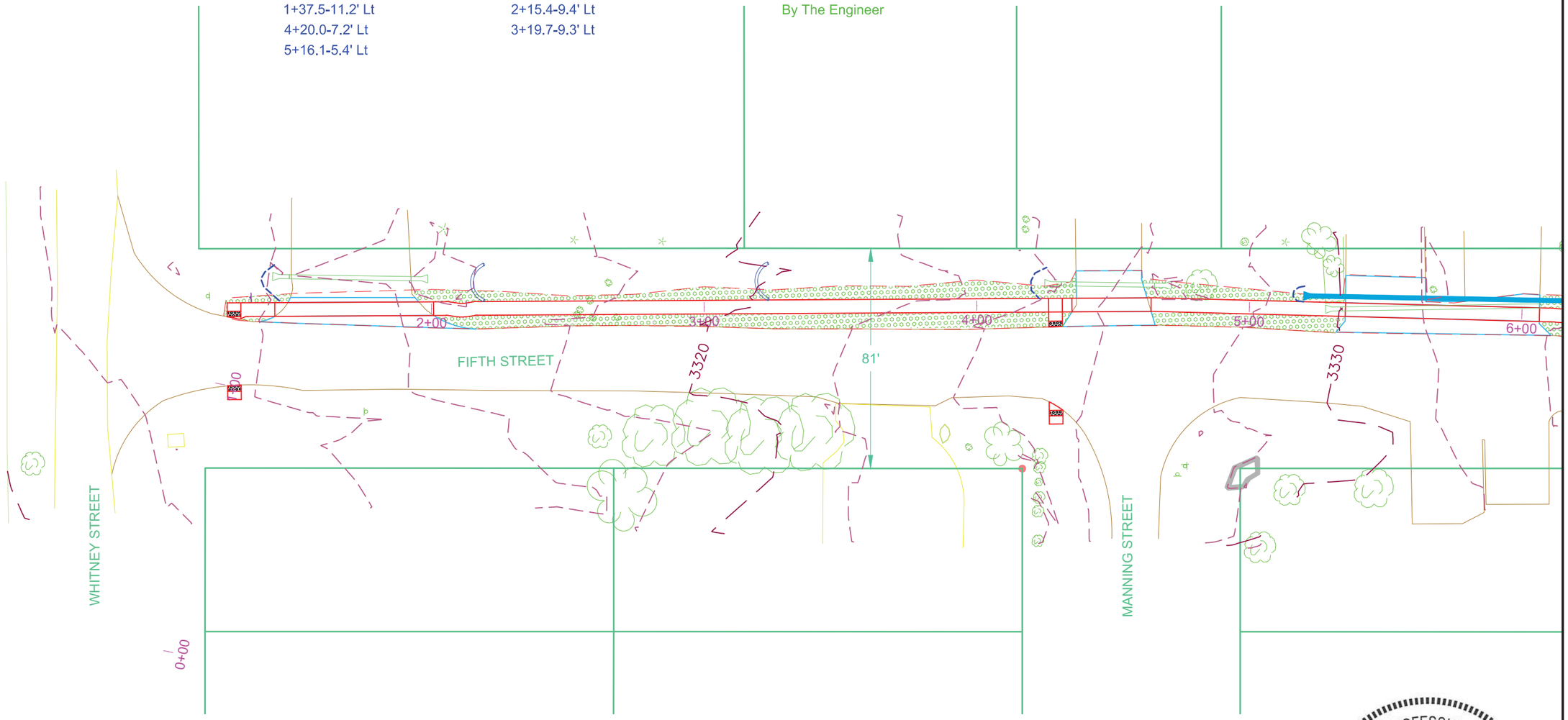
Temporary Stabilization.

Install High Flow Silt Fence
At The Following Locations:
1+37.5-11.2' Lt
4+20.0-7.2' Lt
5+16.1-5.4' Lt

Temporary Stabilization.

Install Erosion Control Wattle
At The Following Locations:
2+15.4-9.4' Lt
3+19.7-9.3' Lt

Install Sodding As Soon As
Possible And Water As Directed
By The Engineer



REGISTERED PROFESSIONAL ENGINEER
REG. NO.
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4-21-15
SOUTH DAKOTA

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EROSION AND SEDIMENT CONTROL PLAN

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PTAPR(09)	11	26

PLOTTING DATE: 04-21-15

20 10 0 20

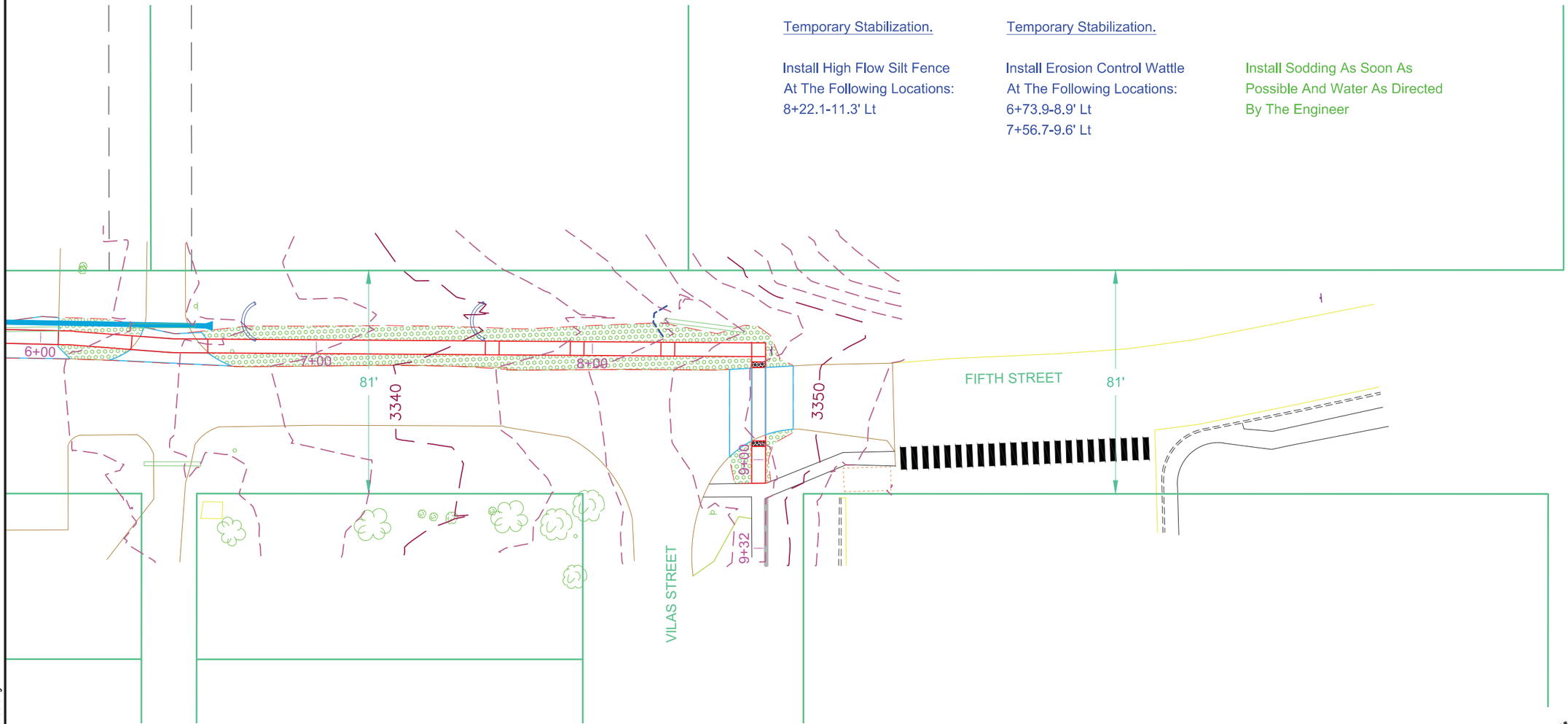
Temporary Stabilization.

Install High Flow Silt Fence
At The Following Locations:
8+22.1-11.3' Lt

Temporary Stabilization.

Install Erosion Control Wattle
At The Following Locations:
6+73.9-8.9' Lt
7+56.7-9.6' Lt

Install Sodding As Soon As
Possible And Water As Directed
By The Engineer



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REG. NO.
9935
ADAM R.
KROGMAN
04-21-15
SOUTH DAKOTA

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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PTAPR(09)	12	26

PLOTTING DATE: 04-21-15

HORIZONTAL ALIGNMENT

TYPE	STATION		NORTHING	EASTING
POB	0+00		560966.33	1213270.44
		TL = 127.76' N 76°56'45" W		
PI	1+27.76		560995.19	1213145.98
		TL = 337.73' N 1°44'45" E		
PI	4+65.49		561332.76	1213156.27
		TL = 145.49' N 3°34'44" E		
PI	6+10.98		561477.97	1213165.35
		TL = 37.34' N 6°24'06" E		
PI	6+48.32		561515.07	1213169.51
		TL = 22.14' N 2°20'53" E		
PI	6+70.42		561537.19	1213170.42
		TL = 189.76' N 2°27'53" E		
PI	8+60.18		561726.77	1213178.58
		TL = 71.86' S 87°55'17" E		
POE	9+32.04		561724.17	1213250.40

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4-21-15
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THE COORDINATES SHOWN ON THIS SHEET ARE BASED ON THE SOUTH DAKOTA STATE PLANE COORDINATE SYSTEM. SOUTH ZONE (NAD 83/11) SF = 0.999753877

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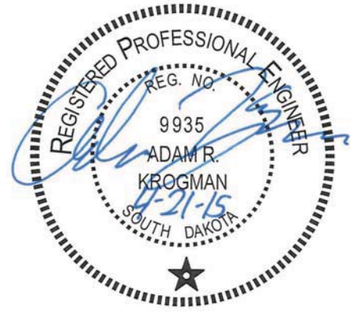
CONTROL DATA

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PTAPR(09)	13	26

HORIZONTAL AND VERTICAL CONTOL POINTS				
POINT	DESCRIPTION	NORTHING	EASTING	ELEVATION
BM #8	Brass Cap in Cement Monument Old Train Station	561721.6838	1215138.3884	3304.14
BM #7	Brass Cap in Cement Monument N. 500' of Intersection R/R Tracks Hwy #40 W. Side	562510.7407	1215414.5028	3304.34
CP 10	Plastic Cap 360’ NE of Intersection of Hwy #40 and Hwy #79	562352.0270	1212677.8960	3420.83
CP 20	Plastic Cap 150’ SW of Intersection of Fifth Street and Manning Street	561177.5650	1213155.8350	3320.256
CP 30	Plastic Cap 68’ NW of Intersection of Fifth Street and Manning Street	561392.7220	1213165.6740	3329.528
CP 40	Plastic Cap 35’ NW of Intersection of Fifth Street and Vilas Street	561704.0670	1213161.5180	3345.678

The coordinates shown on this sheet are based on the South Dakota State Plane Coordinate System.
South Zone (NAD 83/11) SF = 0.999753877
The elevations shown on this sheet are based on NAVD 88.



STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PTAPR(09)	14	26

PLOTTING DATE: 04-21-15

EXISTING TOPOGRAPHY SYMBOLOGY AND LEGEND

- Anchor
- Antenna
- Approach
- Assumed Corner
- Azimuth Marker
- Bbq Grill/ Fireplace
- Bearing Tree
- Bench Mark
- Box Culvert
- Bridge
- Brush
- Buildings
- Bulk Tank
- Cattle Guard
- Cemetery
- Centerline
- Cistern
- Clothes Line
- Commercial Sign Double Face
- Commercial Sign One Post
- Commercial Sign Overhead
- Commercial Sign Two Post
- Concrete Symbol
- Creek Edge
- Curb/Gutter
- Curb
- Dam Grade/Dike/Levee
- Ditch Block
- Drainage Profile
- Drop Inlet
- Edge Of Asphalt
- Edge Of Concrete
- Edge Of Gravel
- Edge Of Other
- Edge Of Shoulder
- Elec. Trans./Power Jct. Box
- Fence Barbwire
- Fence Chainlink
- Fence Electric
- Fence Misc.
- Fence Rock
- Fence Snow
- Fence Wood
- Fence Woven
- Fire Hydrant
- Flag Pole
- Flower Bed
- Gas Valve Or Meter
- Gas Pump Island
- Grain Bin
- Guardrail
- Gutter
- Guy Pole
- Haystack
- Hedge
- Highway R.O.W. Marker
- Information Sign One Post
- Information Sign Two Post
- Interstate Close Gate
- Iron Pin
- Irrigation Ditch
- Lake Edge
- Lawn Sprinkler
- Mailbox
- Manhole Electric
- Manhole Gas
- Manhole Misc
- Manhole Sanitary Sewer
- Manhole Storm Sewer
- Manhole Telephone
- Manhole Water
- Merry-Go-Round
- Microwave Radio Tower
- Misc. Property Corner
- Misc. Post
- Overhang Or Encroachment
- Overhead Utility Line — OH —
- Parking Meter
- Pipe With End Section
- Pipe With Headwall
- Pipe Without End Section
- Playground Slide
- Playground Swing
- Power And Light Pole
- Power And Telephone Pole
- Power Meter
- Power Pole
- Power Pole And Transformer
- Power Tower Structure
- Propane Tank
- Property Pipe
- Property Pipe With Cap
- Property Stone
- Public Telephone
- Railroad Crossing Signal
- Railroad Milepost Marker
- Railroad Profile
- Railroad R.O.W. Marker
- Railroad Signs
- Railroad Switch
- Railroad Track
- Railroad Trestle
- Rebar
- Rebar With Cap
- Reference Mark
- Retaining Wall
- Riprap
- River Edge
- Rock And Wire Baskets
- Rockpiles
- Route Sign One Post
- Route Sign Two Post
- Satellite Dish
- Septic Tank
- Shrub Tree
- Sidewalk
- Sign Face
- Sign Post
- Slough Or Marsh
- Spring
- Stream Gauge
- Street Marker
- Telephone Fiber Optics — T/F —
- Telephone Junction Box
- Telephone Pole
- Television Cable Jct Box
- Television Tower
- Test Wells/Bore Holes
- Traffic Signal
- Trash Barrel
- Tree Belt
- Tree Coniferous
- Tree Deciduous
- Tree Stumps
- Triangulation Station
- Underground Electric Line — P —
- Underground Gas Line — G —
- Underground Sanitary Sewer — S —
- Underground Storm Sewer — S —
- Underground Tank
- Underground Telephone Line — T —
- Underground Television Cable — TV —
- Underground Water Line — W —
- Warning Sign One Post
- Warning Sign Two Post
- Water Fountain
- Water Hydrant
- Water Meter
- Water Tower
- Water Valve
- Water Well
- Weir Rock
- Windmill
- Wingwall
- Witness Corner

- State and National Line
- County Line
- Section Line
- Quarter Line
- Sixteenth Line
- Property Line
- Construction Line
- R. O. W. Line
- New R. O. W. Line
- Cut and Fill Limits
- Control of Access
- New Control of Access

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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PTAPR(09)	15	26

PLOTTING DATE: 04-21-15

20 10 0 20

2+53'-3' RT to 2+68-4' RT
Remove Bushes
(Clearing)

4+82'-7' LT
Trim Overhanging Branches
As Necessary. Do Not
Remove Tree
(Incidental Work, Grading)

5+28-6' LT to 5+35-6' LT
Take Out Landscape
Blocks for Reset
(Incidental Work, Grading)

5+79-8' LT to 5+94-8' LT
Take Out Landscape
Timbers for Reset
(Incidental Work, Grading)

5+34-0' LT to 6+07-3' LT
Take Out 18" - 74' CMP
(Incidental Work, Grading)

5+34-0' LT
Take Out Flared End
(Incidental Work, Grading)

5+25.94 - 4.69' LT to
6+56.16 - 7.34' LT
Install 18" - 132' CMP
and Flared Ends

Outlot C

SEC. 32-T2S-R8E

Sidewalk
PI 1+27.76
N 560995.19
E 1213145.98
Del 78°41'30"

Sidewalk
PI 4+65.49
N 561332.76
E 1213156.27
Del 1°49'59"

Tract Skillingstad West
Miguel Gomez

Tract Hamilton
Miguel & Trisha Gomez
Victor Gomez

Tract CJK
Bradly K. Lange and Stacia Lange

Tract Baer
William C. Rogers &
Francine A. Hengel

BEGIN
Sidewalk
1+24.71

FIFTH STREET

WHITNEY STREET

MANNING STREET

Lot 14
Matthew Ramsey and
Dawn Ramsey

Outlot H

Lot 1
Jason J. Schefcik and
Michelle M. Sorensen
Schefcik

Lot 14
Steven & Karen Hammer

Outlot G
Block 9

Lot 13

Lot 2

Lot 13

Lot 12

Lot 3

Lot 12

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4-21-15

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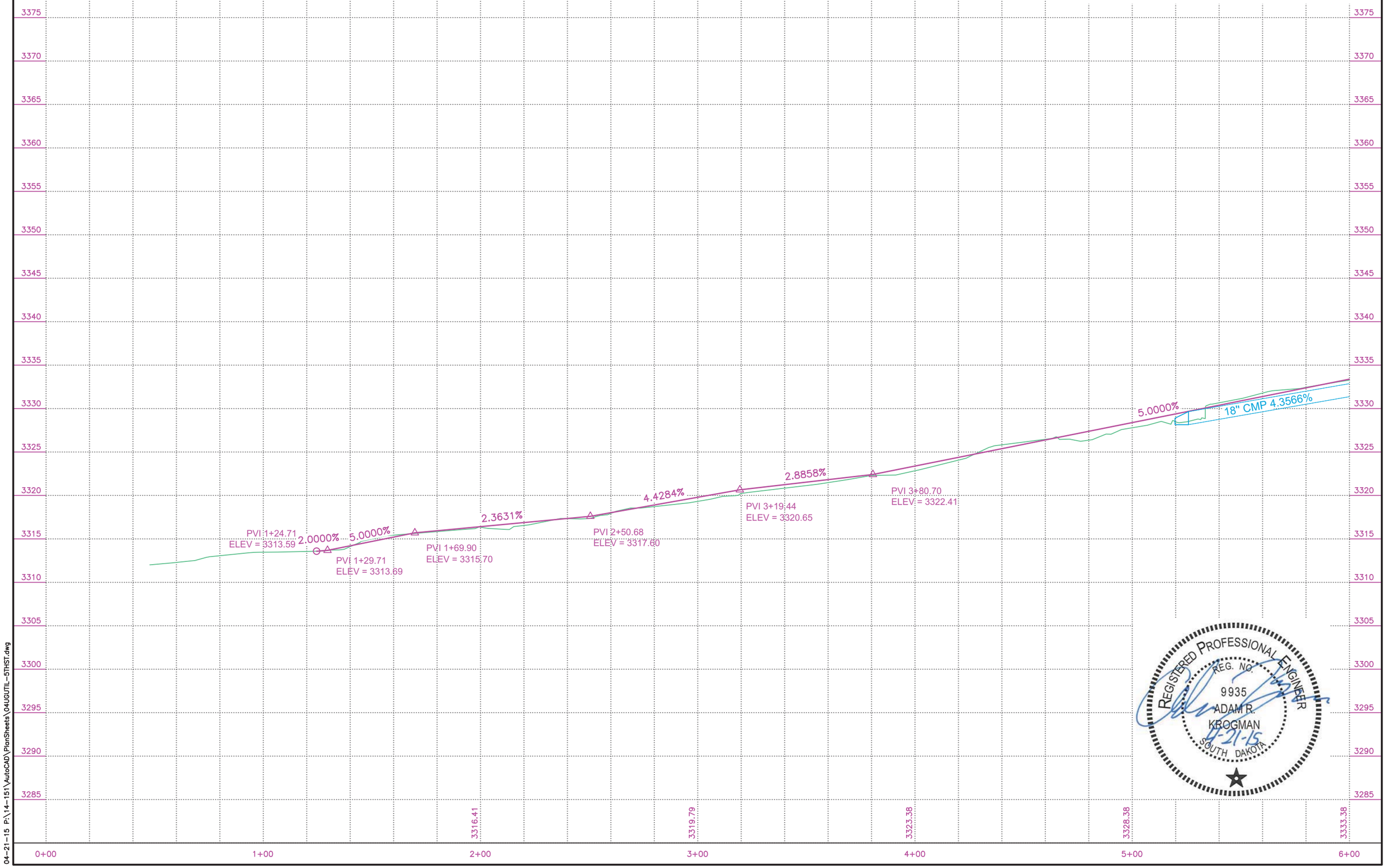
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PTAPR(09)	16	26

PLOTTING DATE: 04-21-15



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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PTAPR(09)	17	26

PLOTTING DATE: 04-21-15

SEC. 32-T2S-R8E

20 10 0 20

Tract E

6+32-6' LT to 6+56-7' LT
Take Out 18" - 24' CMP
(Incidental Work, Grading)

Sidewalk
PI 6+10.98
N 561477.97
E 1213165.35
Del 2°49'22"

Tract Manley

Sidewalk
PI 6+48.32
N 561515.07
E 1213169.51
Del 4°03'13"

Sidewalk
PI 6+70.45
N 561537.19
E 1213170.42
Del 0°07'00"

Loren J. Lintz

Lot A

Outlot C

Custer School
District No. 16-1

Sidewalk
PI 8+60.21
N 561726.77
E 1213178.58
Del 89°36'50"

FIFTH STREET

6+00 7+00 8+00 9+00 9+32

END
Sidewalk
9+08.47

Lot 1

Jack A. Rice, Jamie Rice,
Jennifer Rice, and RaVae Luckhart

Outlot G
Block 9

Lot 2

Lot 3

VILAS STREET

Outlot F

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SOUTH DAKOTA

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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PTAPR(09)	18	26

PLOTTING DATE: 04-21-15

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SOUTH DAKOTA

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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PTAPR(09)	19	26

PLOTTING DATE: 04-21-15

* LANDING WITH 1.5% SLOPE EACH DIRECTION
** RAMP WITH 8.0% MAX SLOPE
\# SIDEWALK WITH 5% MAX. LONG. SLOPE

6" GRAVEL SURFACING

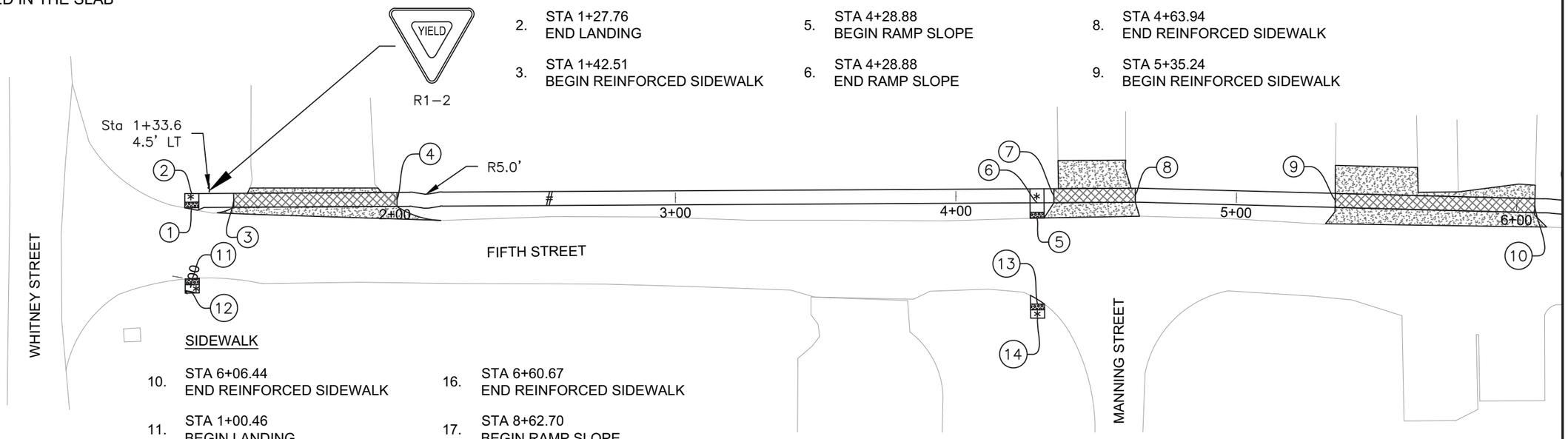
6" CONCRETE SIDEWALK REINFORCED WITH #4 REBAR SPACED 24" ON CENTER, BOTH WAYS, CENTERED IN THE SLAB

SURFACING AND SIDEWALK LAYOUT

20 10 0 20

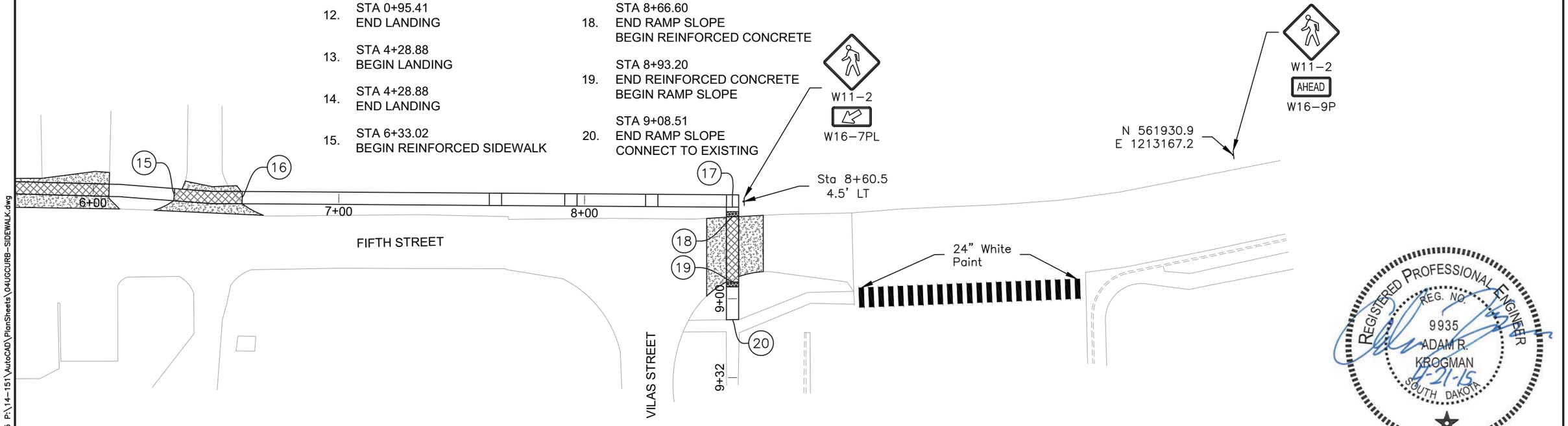
SIDEWALK

1. STA 1+25.20 BEGIN LANDING
2. STA 1+27.76 END LANDING
3. STA 1+42.51 BEGIN REINFORCED SIDEWALK
4. STA 2+00.75 END REINFORCED SIDEWALK
5. STA 4+28.88 BEGIN RAMP SLOPE
6. STA 4+28.88 END RAMP SLOPE
7. STA 4+34.93 BEGIN REINFORCED SIDEWALK
8. STA 4+63.94 END REINFORCED SIDEWALK
9. STA 5+35.24 BEGIN REINFORCED SIDEWALK



SIDEWALK

10. STA 6+06.44 END REINFORCED SIDEWALK
11. STA 1+00.46 BEGIN LANDING
12. STA 0+95.41 END LANDING
13. STA 4+28.88 BEGIN LANDING
14. STA 4+28.88 END LANDING
15. STA 6+33.02 BEGIN REINFORCED SIDEWALK
16. STA 6+60.67 END REINFORCED SIDEWALK
17. STA 8+62.70 BEGIN RAMP SLOPE
18. STA 8+66.60 END RAMP SLOPE BEGIN REINFORCED CONCRETE
19. STA 8+93.20 END REINFORCED CONCRETE BEGIN RAMP SLOPE
20. STA 9+08.51 END RAMP SLOPE CONNECT TO EXISTING



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REG. NO. 9935
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4-21-15
SOUTH DAKOTA

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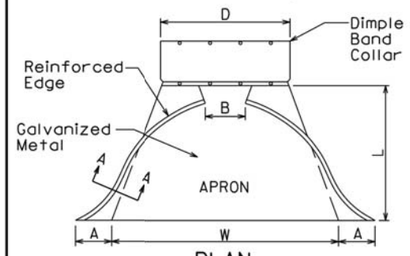
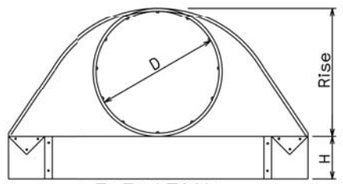
Alternate Type Connector Sections may be used with approval of the Engineer.



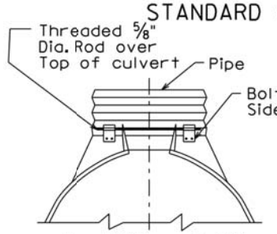
PLAN



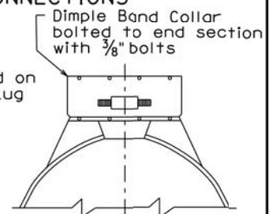
ELEVATION

Dia. D (in.)	Ga.	DIMENSIONS (in.) A	B	H	L	W	Approx. Slope	Body
12	16	6	6	6	21	24	2½:1	1 Pc.
15	16	7	8	6	26	30	2½:1	1 Pc.
18	16	8	10	6	31	36	2½:1	1 Pc.
21	16	9	12	6	36	42	2½:1	1 Pc.
24	16	10	13	6	41	48	2½:1	1 Pc.
30	14	12	16	8	46	60	2½:1	1 Pc.
36	14	14	19	9	51	72	2½:1	2 Pc.
42	12	16	22	11	60	84	2½:1	2 Pc.
48	12	18	27	12	69	90	2¼:1	2 Pc.
54	12	18	30	12	78	102	2:1	3 Pc.
60	12	18	33	12	84	114	1¾:1	3 Pc.
66	12	18	36	12	87	120	1½:1	3 Pc.
72	12	18	39	12	87	126	1⅓:1	3 Pc.
78	12	18	42	12	87	132	1¼:1	3 Pc.
84	12	18	45	12	87	138	1⅙:1	3 Pc.

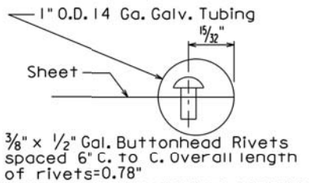
STANDARD CONNECTIONS



For 30" through 84"



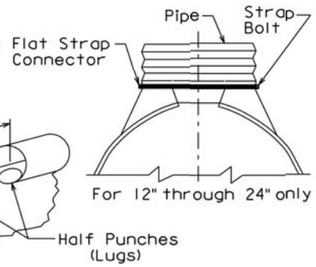
Alternate for all sizes



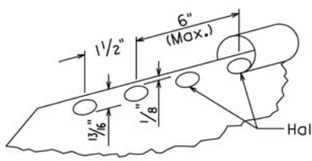
3/8" x ½" Gal. Buttonhead Rivets spaced 6" C. to C. Overall length of rivets=0.78"

TUBING ATTACHMENT DETAILS
SECTION A-A

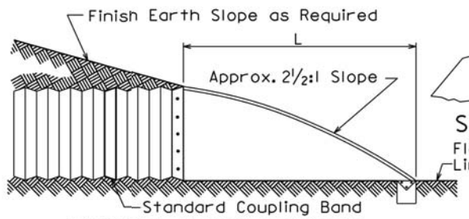
NOTE:
Tubing is slipped over the sheet and rivets or lugs prior to forming operations of the apron.



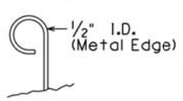
For 12" through 24" only



SECTION A-A (alternate)



TYPICAL CROSS-SECTION



SECTION A-A (alternate)

GENERAL NOTES:

All 3 pc. bodies shall have 12 Ga. sides and 10 Ga. center panels. Width of center panels shall be greater than 20% of the pipe periphery. Multiple panel bodies to have lap seams tightly joined by ⅜" Dia. galvanized rivets or bolts.

For 60" through 84" sizes, reinforced edges shall be supplemented with galvanized stiffener angles. The angles will be 2" x 2" x ¼" for 60" through 72" diameters and 2½" x 2½" x¼" for 78" and 84" diameters. The angles shall be attached by ⅜" diameter galvanized nuts and bolts.

Rivets and Bolts shall be ⅜" Dia. Min. for 10 Ga. and 12 Ga. sheet, and 5/16" Dia. Min. for 14 Ga. and 16 Ga. sheets. Tighten nuts with torque wrench to 25 lbs. torque.

March 31, 2000

Published Date: 1st Qtr. 2015	SDDOT	C.M.P. FLARED ENDS	PLATE NUMBER 450.35
			Sheet 1 of 1

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	25
35 - 40	350	25
45 - 50	500	50
55	750	50
60 - 65	1000	50

Flagger

Channelizing Device

For low-volume traffic situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger may be used.

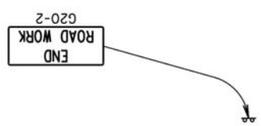
The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

For tack and/or flush seal operations, when flaggers are not being used, the FRESH OIL sign (W21-2) shall be displayed in advance of the liquid asphalt areas.

Flashing warning lights and/or flags may be used to call attention to the advance warning signs.

The channelizing devices shall be drums or 42" cones.

Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.

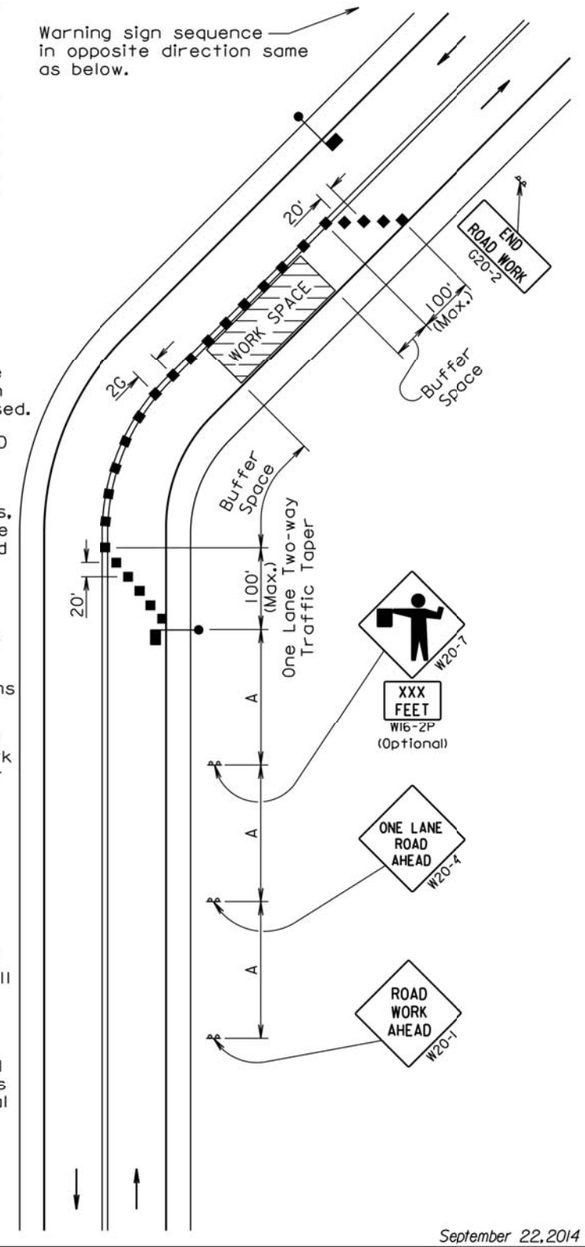


Channelizing devices and flaggers shall be used at intersecting roads to control intersecting road traffic as required.

The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.

The length of A may be adjusted to fit field conditions.

Warning sign sequence in opposite direction same as below.

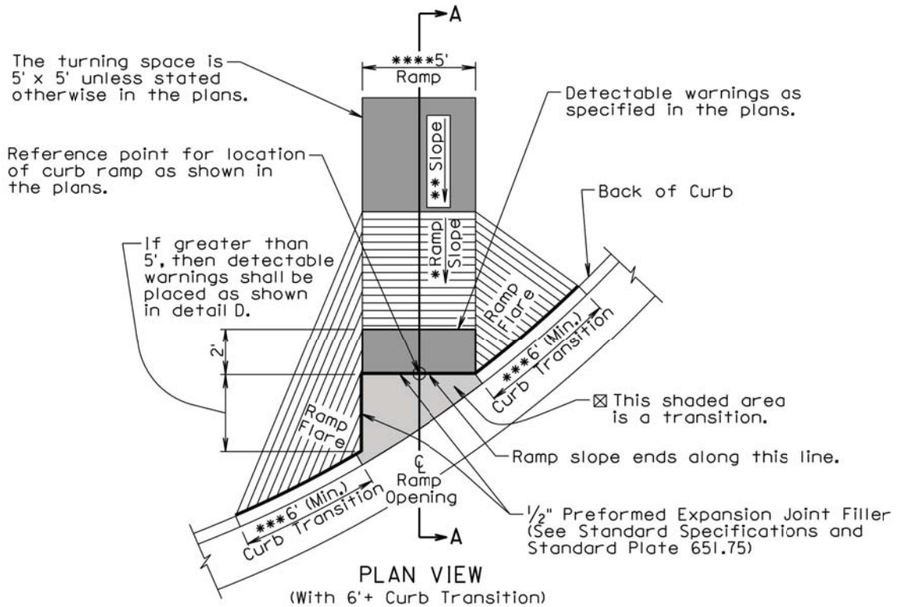


September 22, 2014

Published Date: 1st Qtr. 2015	SDDOT	GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE WITH FLAGGER PROVIDED	PLATE NUMBER 634.23
			Sheet 1 of 1

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PTAPR(09)	21	26

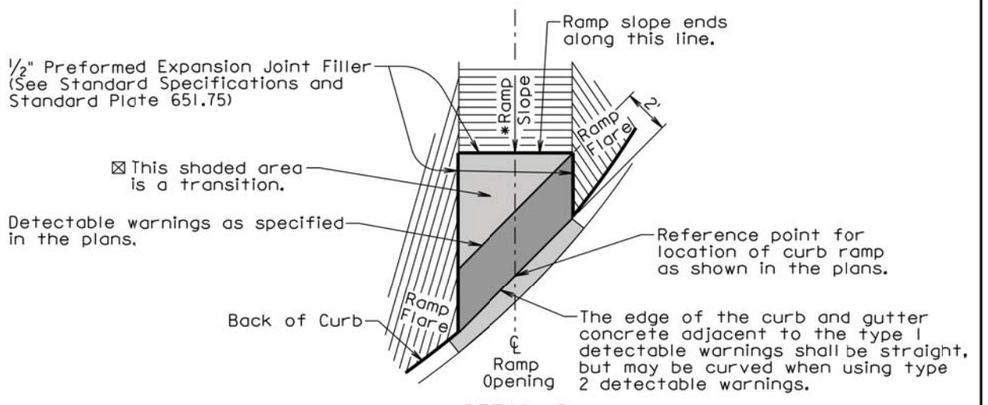
PLOTTING DATE: 04-21-15



PLAN VIEW
(With 6'+ Curb Transition)

⊠ The slope within the transition area shall not be steeper than a 20:1 (5%). The concrete within the transition shall be placed monolithic with the curb and gutter or fillet section concrete. The concrete thickness within the transition shall be the same as the curb and gutter or fillet section concrete thickness.

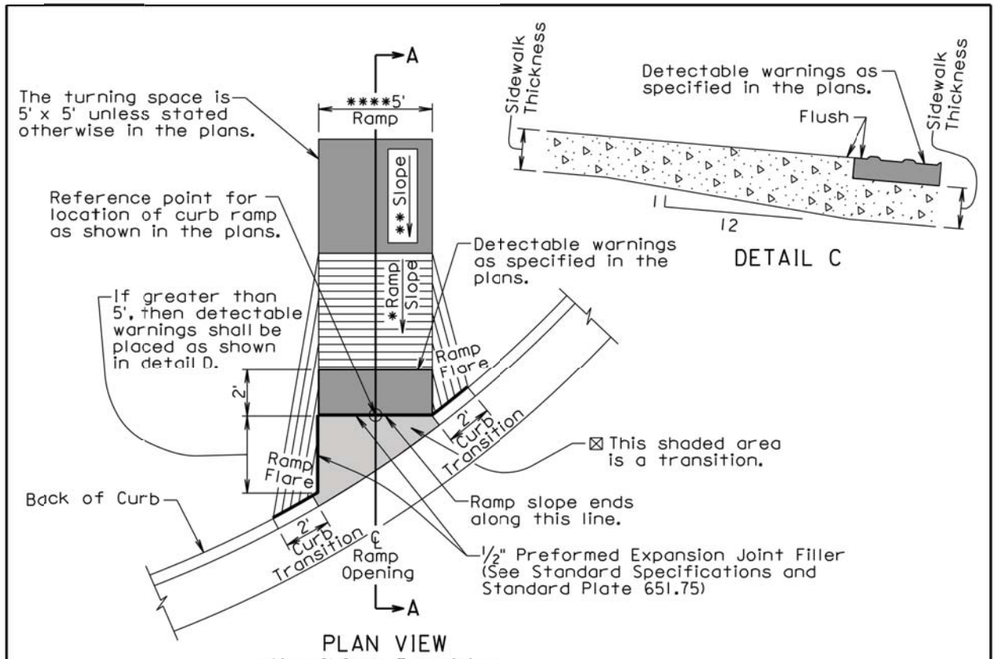
*** The curb transition shall be a minimum of 6' long, a maximum of 10' long, and the curb transition slope shall not be steeper than a 10:1 (10%) unless stated otherwise in the plans.



DETAIL D

September 6, 2013

Published Date: 1st Qtr. 2015	SDDOT	TYPE 2 CURB RAMP (DIRECTIONAL CURB RAMP)	PLATE NUMBER 651.02
			Sheet 1 of 3



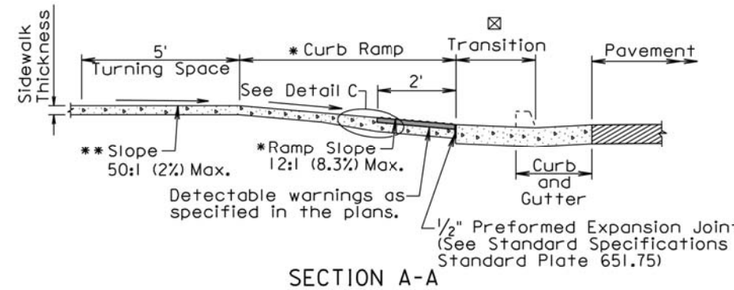
PLAN VIEW
(With 2' Curb Transition)

* The ramp slope shall be 12:1 (8.3%) maximum. The ramp length shall not exceed 15' unless stated otherwise in the plans. Ramp slopes are designed at 12:1 (8.3%) unless stated otherwise in the plans.

The cross slope of the ramp shall not be steeper than 50:1 (2%).

** The slope in the turning space shall not be steeper than a 50:1 (2%) in any direction of pedestrian travel.

**** The ramp width is 5' unless stated otherwise in the plans.



SECTION A-A

September 6, 2013

Published Date: 1st Qtr. 2015	SDDOT	TYPE 2 CURB RAMP (DIRECTIONAL CURB RAMP)	PLATE NUMBER 651.02
			Sheet 2 of 3

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GENERAL NOTES:

For illustrative purpose only, type I detectable warnings are shown in the drawings.

The curb ramp depicted on this standard plate may be used with a PCC fillet section, with curved curb and gutter, or with straight curb and gutter. The curb ramp shall be placed at the location stated in the plans.

Sidewalk shall not be placed adjacent to the ramp flares when a 2' curb transition is used unless shown otherwise in the plans.

* Care shall be taken to ensure a uniform grade on the ramp, free of sags and short grade changes.

Surface texture of the ramp shall be obtained by coarse brooming transverse to the slope of the ramp.

The normal gutter line profile shall be maintained through the area of the ramp.

Joints shall be sawed or tooled into the concrete adjacent to the detectable warnings to alleviate possible corner cracking.

Care shall be taken to ensure that the surface of the detectable warnings are clean and maintains a uniform color.

The detectable warnings shall be cut as necessary to fit the plan specified limits of the detectable warnings. Cost for cutting the detectable warnings shall be incidental to the corresponding detectable warning bid item.

There will be no separate payment for curb ramps. The curb ramp shall be measured and paid for at the contract unit price per square foot for the corresponding concrete sidewalk bid item. The square foot area of the detectable warnings shall be included in the measured and paid for quantity of sidewalk.

The curb transitions and ramp opening shall be measured and paid for at the contract unit price per foot for the corresponding curb and gutter bid item when curb and gutter is used. The curb transitions and ramp opening shall be measured and paid for at the contract unit price per square yard for the corresponding PCC fillet section bid item when a PCC fillet section is used.

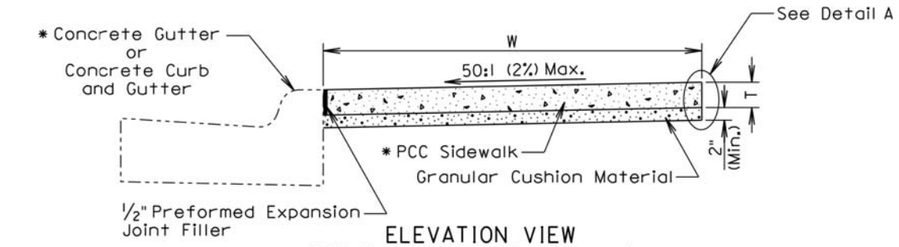
All costs for furnishing and installing the transition area at the base of the ramp shall be incidental to the contract unit price per foot for the corresponding curb and gutter bid item when curb and gutter is used and shall be incidental to the contract unit price per square yard for the corresponding PCC fillet section bid item when a PCC fillet section is used.

The type I detectable warnings shall be measured to the nearest square foot. All costs for furnishing and installing the type I detectable warnings including labor, equipment, materials, and incidentals shall be paid for at the contract unit price per square foot for "Type I Detectable Warnings".

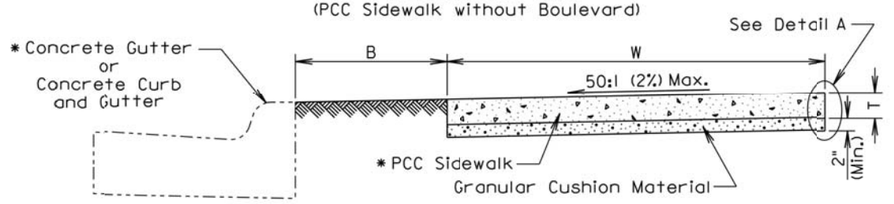
The type 2 detectable warnings shall be measured to the nearest square foot. All costs for furnishing and installing the type 2 detectable warnings including labor, equipment, and materials, including adhesive, necessary sealant or grout, and necessary grinding shall be paid for at the contract unit price per square foot for "Type 2 Detectable Warnings".

September 6, 2013

Published Date: 1st Qtr. 2015	SDDOT	TYPE 2 CURB RAMP (DIRECTIONAL CURB RAMP)	PLATE NUMBER 651.02
			Sheet 3 of 3

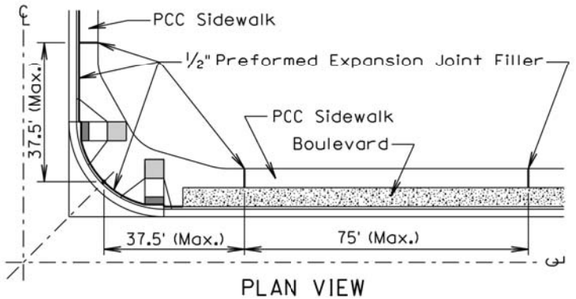


ELEVATION VIEW
(PCC Sidewalk without Boulevard)



ELEVATION VIEW
(PCC Sidewalk with Boulevard)

B Width of boulevard as specified in the plans.
T Thickness of PCC sidewalk as specified in the plans.
W Width of PCC sidewalk as specified in the plans.
* Type as specified in the plans.



PLAN VIEW

GENERAL NOTES:

The PCC sidewalk shall be constructed in accordance with Section 651 of the Standard Specifications.

The maximum length between expansion joints in PCC sidewalk is 75 feet.

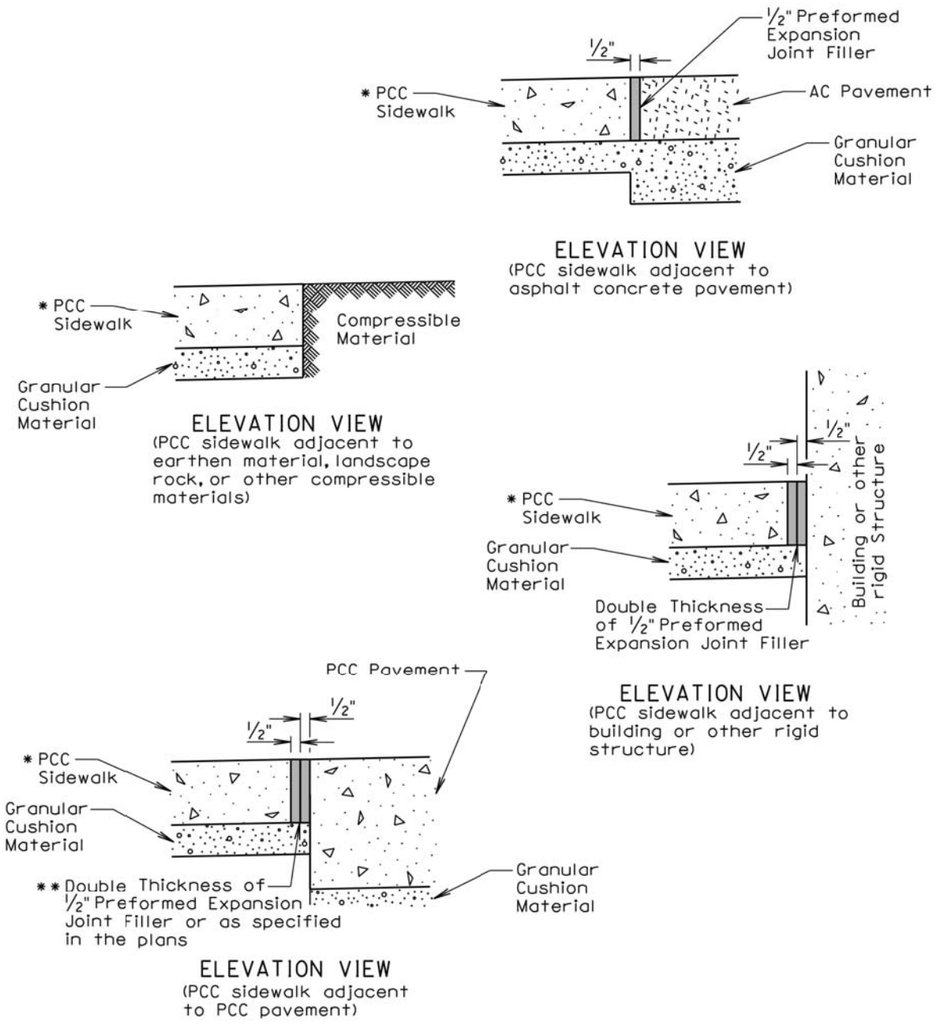
PCC sidewalk placed adjacent to intersection of roadways shall have an expansion joint placed transversely a maximum of 37.5 feet from the intersection. See PLAN VIEW.

An expansion joint in PCC sidewalk shall consist of a ½ inch thick preformed expansion joint filler material placed full depth and width of the PCC sidewalk.

** Large areas of PCC pavement adjacent to PCC sidewalk may require a different joint treatment than shown in the detail. If a different joint detail is necessary, plans will contain the joint detail and the Contractor shall construct the joint treatment in accordance with the plans.

August 31, 2013

Published Date: 1st Qtr. 2015	SDDOT	PCC SIDEWALK	PLATE NUMBER 651.75
			Sheet 1 of 2

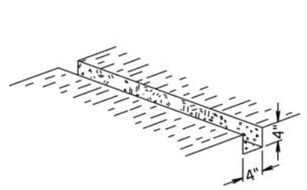


Detail A
(Use Appropriate Detail(s))

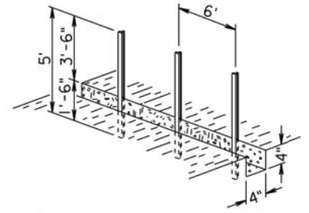
August 31, 2013

Published Date: 1st Qtr. 2015	SDDOT	PCC SIDEWALK	PLATE NUMBER 651.75
			Sheet 2 of 2

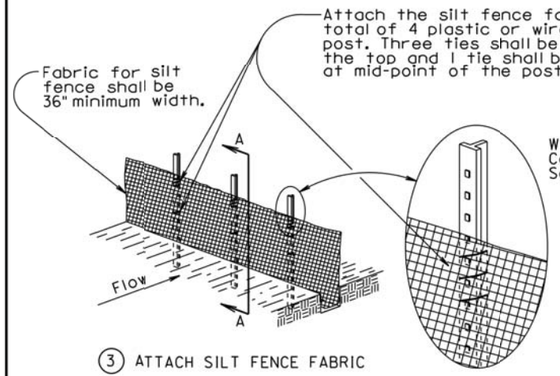
MANUAL HIGH FLOW SILT FENCE INSTALLATION



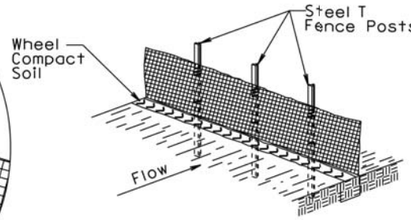
(1) EXCAVATE TRENCH



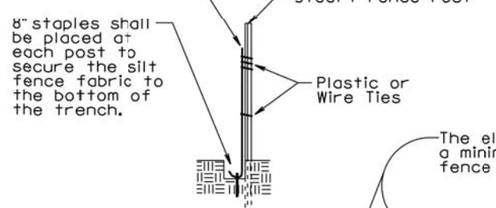
(2) DRIVE STEEL T FENCE POSTS



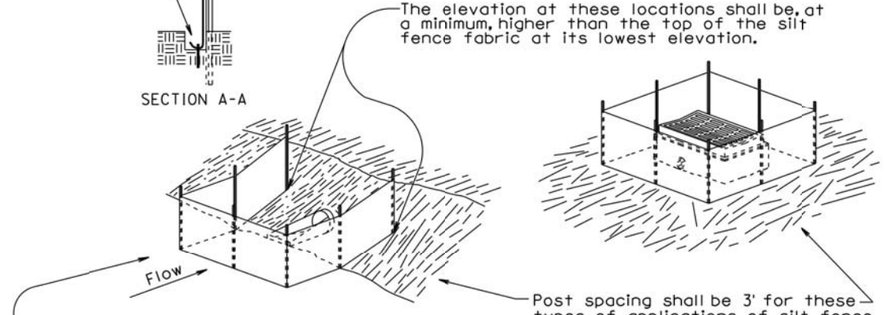
(3) ATTACH SILT FENCE FABRIC



(4) BACKFILL TRENCH AND WHEEL COMPACT SOIL



SECTION A-A



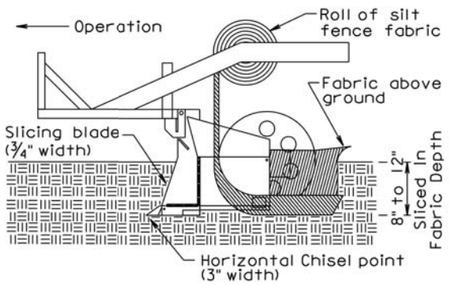
December 23, 2003

Published Date: 1st Qtr. 2015	SDDOT	HIGH FLOW SILT FENCE	PLATE NUMBER 734.05
			Sheet 1 of 2

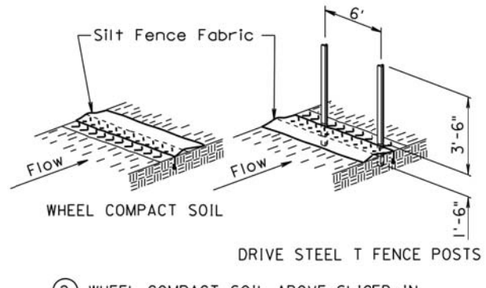
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PTAPR(09)	24	26

PLOTTING DATE: 04-21-15

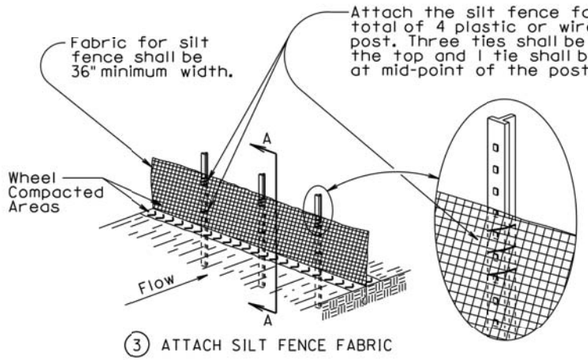
MACHINE SLICED HIGH FLOW SILT FENCE INSTALLATION



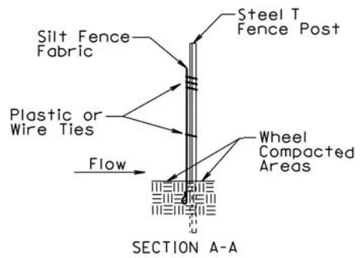
(1) INSTALL SILT FENCE FABRIC BY MACHINE SLICING METHOD.



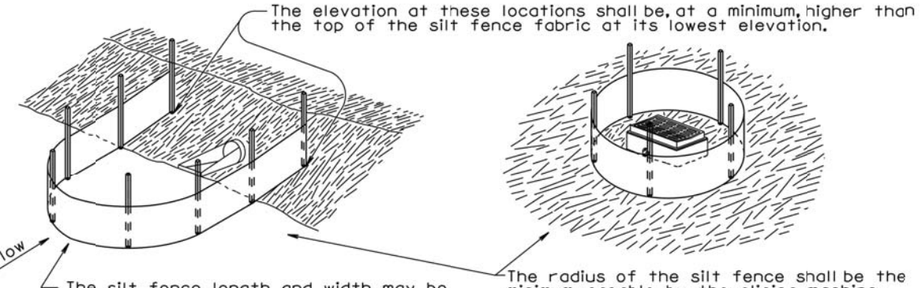
(2) WHEEL COMPACT SOIL ABOVE SLICED IN PORTION OF FABRIC AND THEN DRIVE STEEL T FENCE POSTS.



(3) ATTACH SILT FENCE FABRIC



SECTION A-A

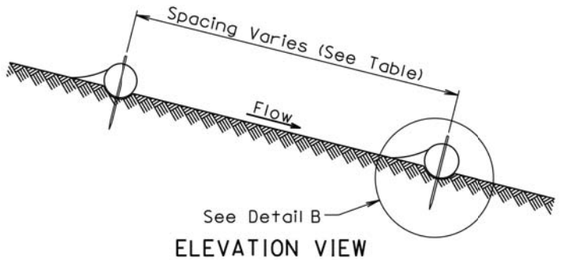


GENERAL NOTE:

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

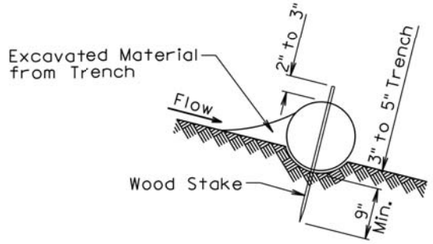
December 23, 2003

Published Date: 1st Qtr. 2015	SDDOT	HIGH FLOW SILT FENCE	PLATE NUMBER 734.05
			Sheet 2 of 2

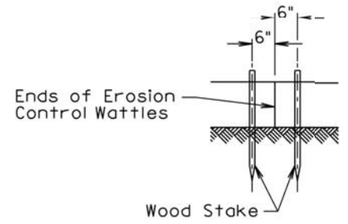


ELEVATION VIEW
CUT OR FILL SLOPE INSTALLATION

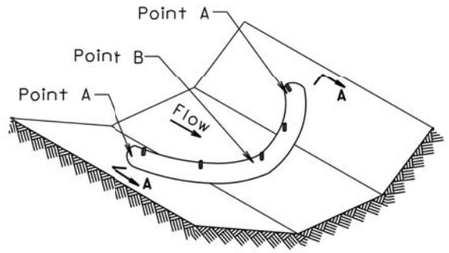
CUT OR FILL SLOPE INSTALLATION	
Slope	Spacing (Ft)
1:1	10
2:1	20
3:1	30
4:1	40



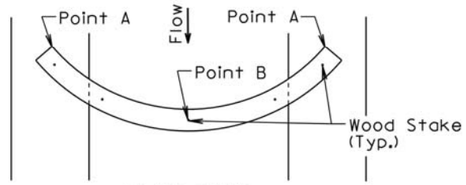
DETAIL B
(TYPICAL OF ALL INSTALLATIONS)



DETAIL C

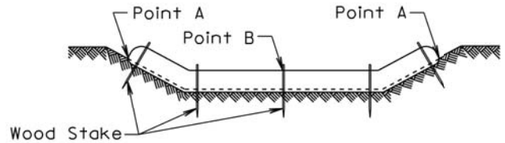


ISOMETRIC VIEW
DITCH INSTALLATION



PLAN VIEW
DITCH INSTALLATION

DITCH INSTALLATION	
Grade	Spacing (Ft)
2%	150
3%	100
4%	75
5%	50



SECTION A-A

December 23, 2004

Published Date: 1st Qtr. 2015	SDDOT	EROSION CONTROL WATTLE	PLATE NUMBER 734.06
			Sheet 1 of 2

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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PTAPR(09)	25	26

PLOTTING DATE: 04-21-15

GENERAL NOTES:

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

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

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

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

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

The Contractor and Engineer shall inspect the erosion control wattles once every week and within 24 hours after every rainfall event greater than ½". The Contractor shall remove, dispose, or reshape the accumulated sediment when necessary as determined by the Engineer.

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

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

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

December 23, 2004

Published Date: 1st Qtr. 2015	SDDOT	EROSION CONTROL WATTLE	PLATE NUMBER 734.06
			Sheet 2 of 2

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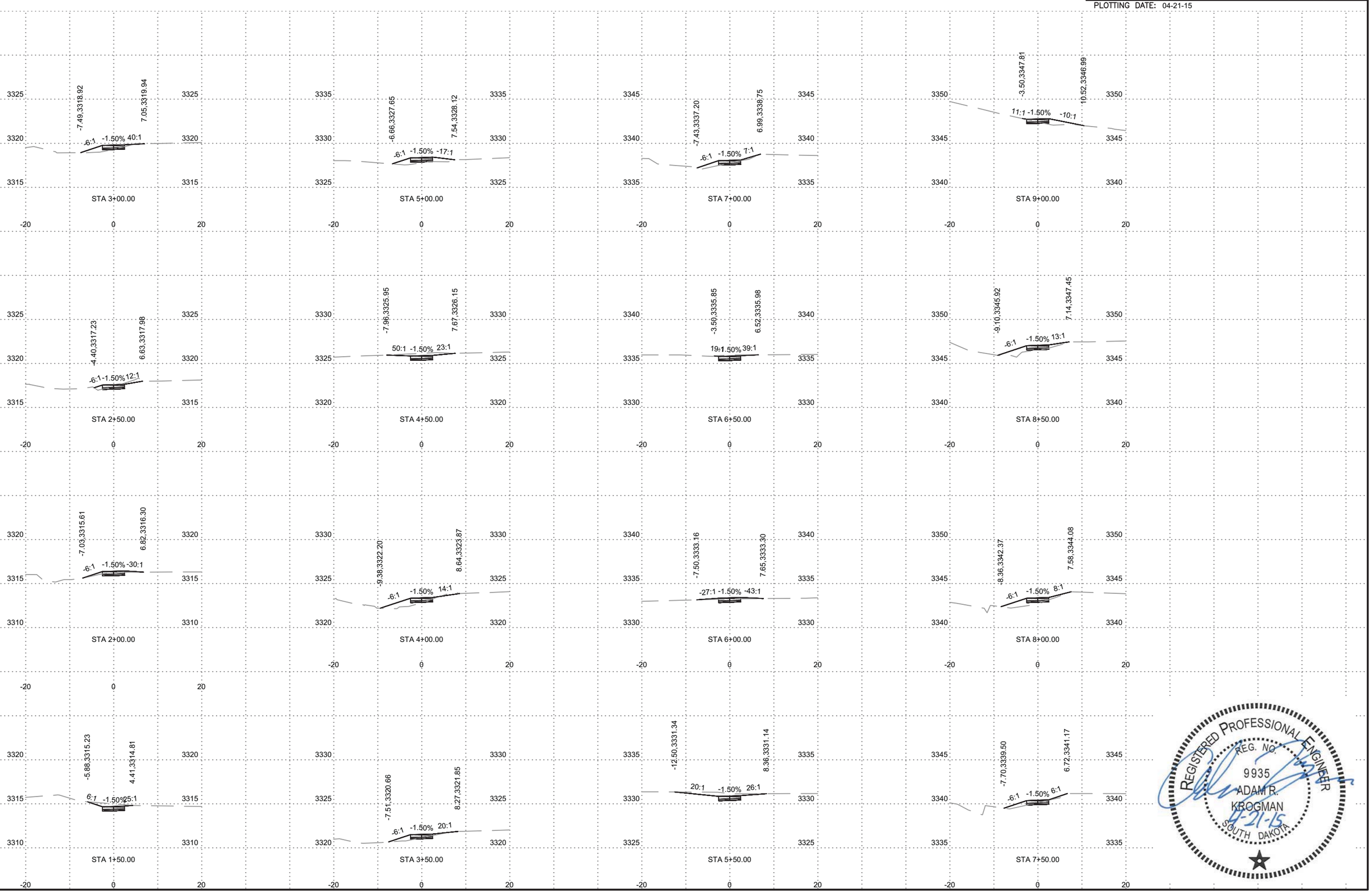
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	PTAPR(09)	26	26

PLOTTING DATE: 04-21-15



REGISTERED PROFESSIONAL ENGINEER
REG. NO.
9935
ADAM R.
KROGMAN
4-21-15
SOUTH DAKOTA

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