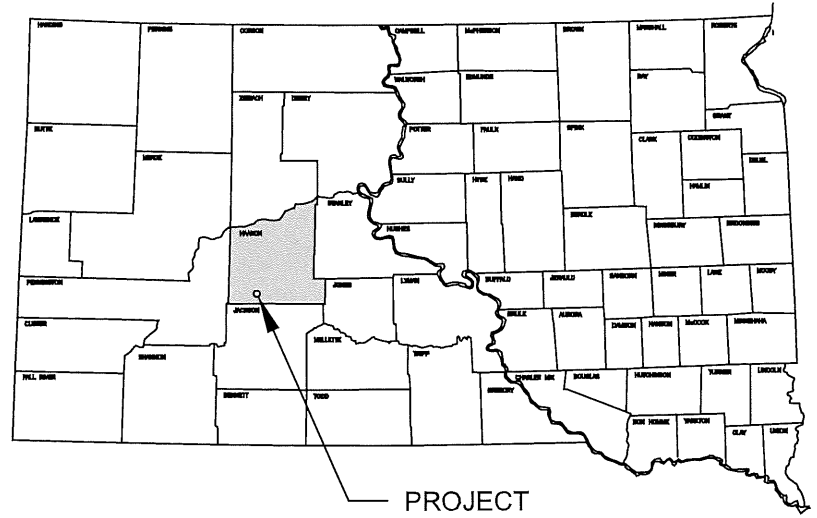


STATE OF SOUTH DAKOTA	PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
	P TAPR(03)	1	41
TITLE SHEET, LAYOUT & INDEX			



STATE OF SOUTH DAKOTA  
PLANS FOR PROPOSED  
**PROJECT P TAPR(03)**  
**STANLEY AVENUE SHARED USE PATH**

HAAKON COUNTY  
SIDEWALK, CURB & GUTTER, PERMANENT SIGNING, PAVEMENT MARKING  
PCN 04QF

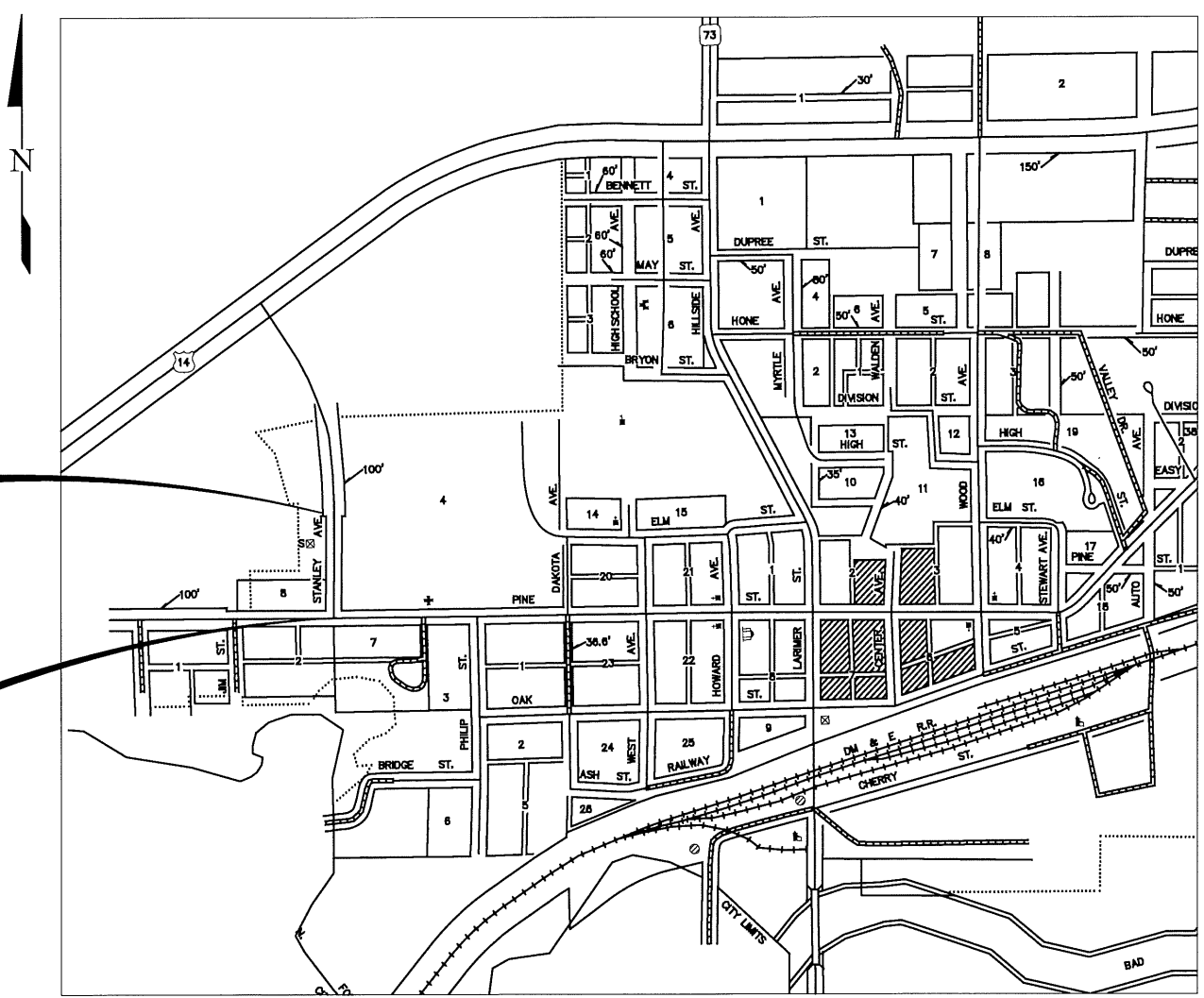
**INDEX OF SHEETS**

- 1 TITLE SHEET
- 2-3 ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS
- 4-9 GENERAL NOTES AND TABLES
- 10-13 SWPPP
- 14 TYPICAL SECTION
- 15 FIXED LOCATION SIGNING
- 16 EROSION AND SEDIMENT CONTROL
- 17 HORIZONTAL ALIGNMENT & SURVEY CONTROL DATA
- 18-19 SYMBOLS & ABBREVIATIONS
- 20-21 PLAN AND PROFILE
- 22 PAVEMENT MARKING PERMANENT & PERMANENT SIGNING
- 23-37 SDDOT STANDARD PLATES
- 38-41 CROSS SECTIONS

**STORM WATER PERMIT**  
MAJOR RECEIVING BODY OF WATER: BAD RIVER (NORTH FORK)  
AREA DISTURBED: 0.28 ACRES  
TOTAL PROJECT AREA: 0.54 ACRES  
BEGIN PROJECT: N 44°02'22.13", W 101°40'24.68"

**END P TAPR(03)**  
STA. 7-14 - APPROXIMATELY 595 FEET NORTH OF THE INTERSECTION OF STANLEY AVENUE AND PINE STREET  
SE 1/4 OF SW 1/4 SECTION 14, T1N, R20E, BHM  
PHILIP, SD

**BEGIN P TAPR(03)**  
STA. 0+00 - AT SOUTHEAST CORNER OF THE INTERSECTION OF STANLEY AVENUE AND PINE STREET  
SE 1/4 OF SW 1/4 SECTION 14, T1N, R20E, BHM  
PHILIP, SD



PHILIP, SD



330 KNOLLWOOD DRIVE  
RAPID CITY, SD 57701  
PH: 605.721.5553  
FAX: 855.288.8055  
www.kljeng.com

SURVEY BY: KLJ  
RAPID CITY, SOUTH DAKOTA  
PLANS BY: KLJ  
RAPID CITY, SOUTH DAKOTA



**SCALES**  
PLAN 1 INCH = 40 FT.  
PROFILE { HORIZ. 1 INCH = 40 FT.  
VERT. 1 INCH = 6 FT.

GROSS LENGTH . . . . . 7.15 . . . . . FEET . . . . . 0.14 . . . . . MILES  
LENGTH OF EXCEPTIONS . . . . . 0 . . . . . FEET . . . . . 0 . . . . . MILES  
NET LENGTH . . . . . 7.15 . . . . . FEET . . . . . 0.14 . . . . . MILES

# ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P TAPR(03)	2	41

REVISED 02/10/2016

**ESTIMATE OF QUANTITIES**

BID ITEM NUMBER	ITEM DESCRIPTION	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3200	Construction Staking	Lump Sum	LS
009E3220	Reestablish Property Corner	1	Each
009E3300	Three Man Survey Crew	20	Hour
100E0100	Clearing	Lump Sum	LS
110E0300	Remove Concrete Curb and Gutter	98	Ft
110E0600	Remove Fence	127	Ft
110E1130	Remove Concrete Driveway Pavement	58.6	SqYd
110E1140	Remove Concrete Sidewalk	42.5	SqYd
110E1693	Remove Erosion Control Wattle	160	Ft
110E1700	Remove Silt Fence	21	Ft
110E7100	Remove Sign for Reset	2	Each
120E0010	Unclassified Excavation	214	CuYd
120E2000	Undercutting	99	CuYd
230E0100	Remove and Replace Topsoil	Lump Sum	LS
380E3020	6" PCC Driveway Pavement	58.6	SqYd
380E4010	6" PCC Fillet Section	20.1	SY
450E4739	12" CMP 16 Gauge, Furnish	36	Ft
450E4740	12" CMP, Install	36	Ft
450E5203	12" CMP Flared End, Furnish	4	Each
450E5204	12" CMP Flared End, Install	4	Each
450E5509	18" CMP Arch 16 Gauge, Furnish	40	Ft
450E5510	18" CMP Arch, Install	40	Ft
450E5802	18" CMP Arch Flared End, Furnish	4	Each
450E5803	18" CMP Arch Flared End, Install	4	Each
620E0040	Type 4 Right-Of-Way Fence	28	Ft
620E1020	2 Post Panel	4	Each
632E1320	2.0"X2.0" Perforated Tube Post	61.2	Ft
632E2520	Type 2 Object Marker	7	Each
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	32.8	SqFt
632E3500	Reset Sign	2	Each
633E1430	Pavement Marking Paint, 24" White	60	Ft
634E0010	Flagging	50.0	Hour
634E0110	Traffic Control Signs	145.5	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0280	Type 3 Barricade, 8' Single Sided	5	Each
650E0060	Type B66 Concrete Curb and Gutter	41	Ft
650E4660	Type P6 Concrete Gutter	41	FT
651E0040	4" Concrete Sidewalk	5,222	SqFt
651E0060	6" Concrete Sidewalk	242	SqFt
651E5000	Sidewalk Drain	13.0	FT
651E7000	Type 1 Detectable Warning Panels	79	SqFt
730E0206	Type D Permanent Seed Mixture	27	Lb
734E0102	Type 2 Erosion Control Blanket	100	SqYd
734E0151	9" Diameter Erosion Control Wattle	255	Ft
734E0845	Sediment Control at Inlet with Frame and Grate	1	Each
734E0847	Sediment Control at Type S Reinforced Concrete Drop Inlet	13	Ft

**SPECIFICATIONS**

Standard Specifications for Roads & Bridges, 2015 Edition and Required Provisions, Supplemental Specifications and Special Provisions as included in the Proposal.



# ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P TAPR(03)	3	41

REVISED 12/15/2016

**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 State or City 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 State 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 State 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 department designated sources and designated option material sources, stockpile sites, storage areas, and waste 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: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

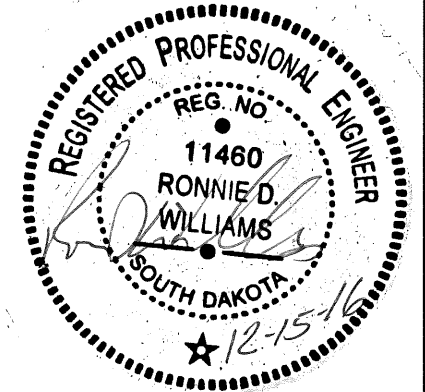
The Contractor shall arrange and pay for a cultural resource survey and/or records search. The Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record 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 Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas 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**

No separate payment will be made for the Water for Embankment and all costs associated shall be incidental to the contract unit price per cubic yard of "Unclassified Excavation". Compaction shall be to the satisfaction of the Engineer.

Temporary fence and/or permanent fence shall be placed ahead of the grading operation unless otherwise directed by the Engineer.

**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.

**CLEARING**

Before clearing activities begin, the Contractor shall contact the Engineer to determine the limits of clearing for the project. If the trees or shrubs 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.

**TABLE OF UNCLASSIFIED EXCAVATION**

	(CuYd)
Excavation	115
Undercutting	99
<b>Total</b>	<b>214</b>

**PROCEDURES FOR DETERMINING UNCLASSIFIED EXCAVATION QUANTITY**

When plan quantities are used for payment, the Unclassified Excavation quantity shall be used for final payment

**UNDERCUTTING**

In all cut sections the earthen subgrade shall be undercut 0.5 feet below the earthen subgrade surface. The undercut material or other suitable material, as directed by the Engineer, shall then be replaced and compacted to the density specified for the section being constructed. Compaction shall be to the satisfaction of the Engineer.

The plan shown quantity will be the basis of payment. However, if there are additional areas of undercut other than what is shown in the plans, the Engineer shall direct removal of these areas and the additional areas will be measured according to the Engineer.

**TABLE OF UNDERCUTTING**

Station	to	Station	Quantity (CuYd)
00+58.85		02+31.50	32
02+57.20		02+97.90	8
03+22.00		04+00.00	15
04+00.00		05+89.70	35
06+16.1		06.45.90	9
<b>Total:</b>			<b>99</b>

**TABLE OF CONCRETE CURB AND GUTTER REMOVAL**

Station	to	Station	Quantity (Ft)
0+00.0, 7.8' LT		0+00.0, 1.2' RT	9
0+49.9, 10.0' LT		0+62.1, 5.0' RT	23
0+50.0, 55.8' RT		0+60.1, 45.6' LT	16
02+31.5, 13.0' LT		02+31.5, 12.0' RT	25
02+57.2, 13.0' LT		02+57.2, 12.0' RT	25
<b>Total:</b>			<b>98</b>

**TABLE OF SIDEWALK REMOVAL**

Station	to	Station	Quantity (SqYd)
0+00.0, 25.6 LT		0+00.0, 12.2' RT	25.6
0+52.4, 49.1 LT		0+60.1, 45.6' LT	6.7
0+50.0		0+58.8	10.2
<b>Total</b>			<b>42.5</b>

**CORRUGATED METAL PIPE**

Corrugated metal pipes shall have 2 3/8-inch X 1/2-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.

**TABLE OF TYPE B66 CONCRETE CURB AND GUTTER**

Station	to	Station	Quantity (Ft)
0+49.9, 5.0' RT		0+49.9, 0.8' LT	6
0+56.8, 9.5' LT		0+62.1, 9.9' LT	5
02+31.5, 5.0' LT		02+31.5, 13.0' LT	8
02+31.5, 5.0' RT		02+31.5, 12.0' RT	7
02+57.2, 5.0' LT		02+57.2, 13.0' LT	8
02+57.2, 5.0' RT		02+57.2, 12.0' RT	7
<b>Total:</b>			<b>41</b>

**TABLE OF TYPE P6 CONCRETE GUTTER**

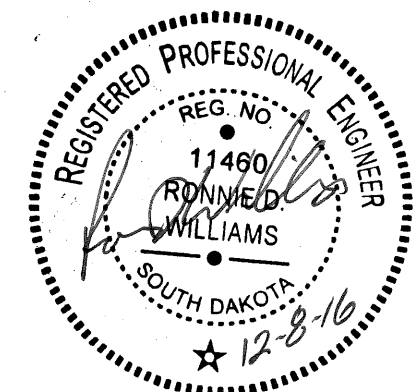
Station	to	Station	Quantity (Ft)
0+00.0, 7.8' LT		0+00.0, 1.2' RT	9
0+49.9, 0.8' LT		0+56.8, 9.5' LT	12
2+31.5, 5.0' LT		2+31.5, 5.0' RT	10
2+57.2, 5.0' LT		2+57.2, 5.0' RT	10
<b>Total:</b>			<b>41</b>

**6" PCC FILLET SECTIONS**

Payment for "6" PCC Fillet Section" shall be based on plans quantity. If the additions or reductions in 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	Quantity (SqYd)
0+47.4, 5.0' RT		0+62.1, 12.5' LT	10.8
0+50.0, 55.8' LT		0+60.1, 45.6' LT	9.3
<b>Total:</b>			<b>20.1</b>



**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 <a href="http://www.neenahfoundry.com/">http://www.neenahfoundry.com/</a>
Detectable Warning Plate Cast Iron Plate	Deeter Foundry Lincoln, NE 800-234-7466 <a href="http://www.deeter.com/">http://www.deeter.com/</a>
Detectable Warning Plate Cast Iron Plate(No Coating)	East Jordan Iron Works, Inc. 301 Spring Street East Jordan, MI 49727 800-626-4653 <a href="http://www.ejiw.com">http://www.ejiw.com</a>

**TABLE OF DETECTABLE WARNINGS**

Station	L/R	Detectable Warnings (Type)	Quantity (SqFt)
00+00.00	LT	1	10
00+55.97	LT	1	8
00+52.00	LT	1	21
05+87.70	CL	1	20
06+18.10	CL	1	20

Total Type 1 Detectable Warnings: 79

**TABLE OF 4" CONCRETE SIDEWALK**

Station	to	Station	Quantity (SqFt)
0+00.0, 25.6' LT	to	0+00.0, 7.8' LT	230
0+49.9	to	2+31.5	1868
0+52.4, 49.1' LT	to	0+60.1, 45.6' LT	60
2+57.2	to	2+97.9	419
3+22.0	to	4+00.0	780
4+00.0	to	6+56.4	1565
6+83.8	to	7+14.2	300
Total			5222

**TABLE OF 6" CONCRETE SIDEWALK**

Station	to	Station	Quantity (SqFt)
02+97.9	to	03+22.0	242
Total			242

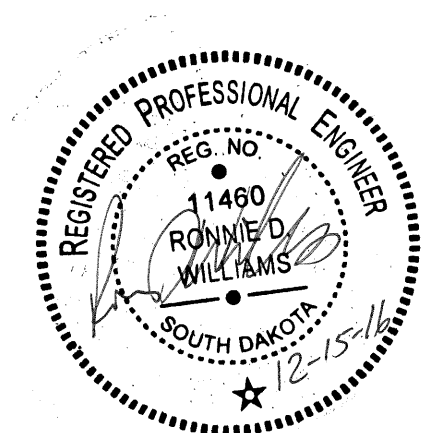
**TABLE OF SIDEWALK DRAINS**

Station	to	Station	Quantity (SqFt)
01+97, 5' LT	to	02+06.5, 5' RT	13
Total			13

**REMOVE AND REPLACE TOPSOIL**

The estimated amount of topsoil to be removed and replaced is 75 CuYd.

All cost associated with removing and replacing the topsoil along shared use path shall be incidental to the lump sum price for "Remove and Replace Topsoil".



STATE OF SOUTH DAKOTA	PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
	P TAPR (03)	6	41

GENERAL NOTES, & TABLES

REVISED 12/15/2016

**TABLE OF EROSION CONTROL BLANKET**

Station to	Station	LT/RT	Location	Type	Quantity (SqYd)
05+38	06+40	LT	Ditch Channel (16'W x 56'L)	2	100
Total Type 2 Erosion Control Blanket:					100

**SHAPING FOR EROSION CONTROL BLANKET**

The ditches shall be shaped for the erosion control blanket as specified on Standard Plate 734.01.

All costs for shaping the ditches for erosion control blanket including labor and equipment shall be incidental to the contract unit price per square yard for "Erosion Control Blanket".

**MYCORRHIZAL INOCULUM**

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

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

**FERTILIZING**

Application of fertilizer will not be required on this project.

**PERMANENT SEEDING**

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

Type D Permanent Seed Mixture shall consist of the following:

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

**EROSION CONTROL WATTLE**

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

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

Erosion control wattles shall remain on the project until vegetation has been established and then they shall be removed in accordance with the Engineer.

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	LT/RT	Diameter (Inch)	Location	Quantity (Ft)
00+59 to 01+29	LT	9	East side of Stanley St.	70
01+56	LT	9	Channel bottom	15
02+56	LT	9	Around culvert inlet	25
02+84	RT	9	Channel bottom	15
03+31	RT	9	Channel bottom	15
03+33	LT	9	Around culvert inlet	25
03+69	LT	9	Channel bottom	15
04+75	LT	9	Channel bottom	15
06+40	RT	9	Around culvert inlet	30
07+00	LT/RT	9	Channel bottom	30
Total:				255



STATE OF SOUTH DAKOTA	PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
	P TAPR (03)	7	41
GENERAL NOTES, & TABLES			

**CONTROL AT INLETS WITH FRAMES AND GRATES**

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

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

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

Sediment collection devices shall be:

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

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>

Sediment Control at Inlet with Frame and Grate Approved List:

<u>Product</u>	<u>Manufacturer</u>
InfraSafe Debris Collection Device with filter sock	Royal Environmental Systems, Inc. Stacy, MN Phone: 1-800-817-3240 <a href="http://www.royalenterprises.net">www.royalenterprises.net</a>
Dandy Curb Sack	Dandy Products Inc. Dublin, OH Phone: 1-800-591-2284 <a href="http://www.dandyproducts.com">www.dandyproducts.com</a>
Silt Trapper	Storm Water Solutions Lakeville, MN Phone: 1-952-461-4376 <a href="http://www.silttrapper.com">www.silttrapper.com</a>

DIP Basket  
Skyview Construction Co., LLC  
Waubay, SD  
Phone: 1-605-520-0555  
[www.skyviewconst.com](http://www.skyviewconst.com)

FLEXSTORM Inlet Filters  
Inlet and Pipe Protection, Inc.  
Naperville, IL  
Phone: 1-866-287-8655  
[www.inletfilters.com](http://www.inletfilters.com)

GR-8 Guard  
or  
Combo Guard  
ERTEC Environmental Systems LLC  
Alameda, CA  
Phone: 1-866-521-0724  
[www.ertecsystems.com](http://www.ertecsystems.com)

Sediment Catchers  
Shaun Jensen  
Brookings, SD  
Phone: 1-605-690-4950

Grate FX, Slammer, or VertPro  
Enviroscape ECM, Ltd.  
Oakwood, OH  
Phone: 1-419-594-3210  
[www.strawblanket.com](http://www.strawblanket.com)

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

Curb Inlet Guard  
ECTEC Environmental Systems LLC  
Alameda, CA  
Phone: 1-866-521-0724  
[www.ertecsystems.com](http://www.ertecsystems.com)

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

Station	LT/RT	Clear Opening Width (Ft)	Quantity* (Ft)
00+50	RT	11	13
Total:			13

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

**PERMANENT SIGNING**

The Contractor shall stake the signs and the Engineer will verify the location prior to installation. The lateral distance from the roadway and the height of the sign shall be established by the contractor in the field according to the standard plates in the plans and the MUTCD.

When signs are vertically mounted in succession, they shall be 1-2 inches apart. Lateral placement of signs shall be determined by the Engineer.

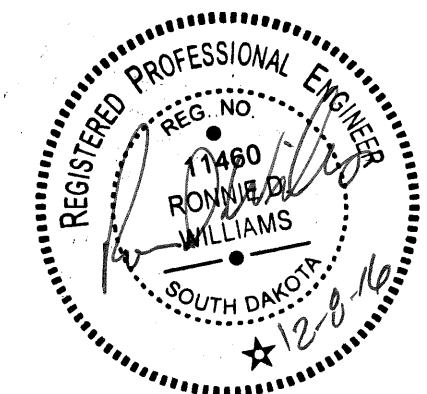
**TABLE OF SEDIMENT CONTROL AT INLETS WITH FRAMES AND GRATES**

Station	LT/RT	Quantity (Each)
00+62	LT	1
Total:		1

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

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

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



REVISED 12/15/2016

### PERFORATED TUBE POST

All perforated tube sign posts shall have a soil stabilizer attached to the base. Soil stabilizers shall be an MPJ Sign Wedge or equivalent as approved by the Engineer.

Sign assemblies mounted in concrete or asphalt surfacing shall use flush mount breakaway post bases. Bases shall be Tapco V-Loc Model 200 style or equivalent.

The Contractor shall use Telespar brand (or equivalent) posts and bases on all new standard highway signs as approved by the engineer. The height of the post shall not exceed the minimum height 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 post or for that length cut off. All sign assemblies mounted in concrete surfacing shall utilize a flush mount breakaway post base. All posts and bases shall be accompanied by certificates of compliance.

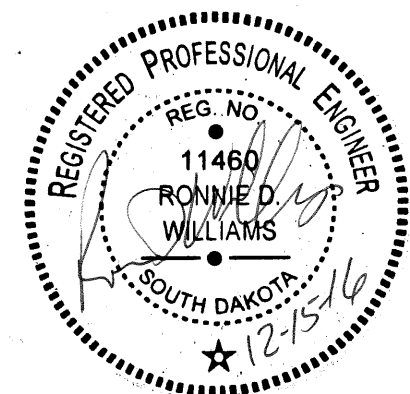
Payment for new sign posts, hardware, bases, and labor will be made at the contract unit price per foot for "2.0" x 2.0" Perforated Tube Post". Breakaway post details regarding posts, hardware, and bases shall be followed as per the manufacturer's recommendations. The sign post contract items shall include post bases and all hardware. The lengths of the posts in the sign tables are approximate length only. The post lengths shall be verified by the Contractor. The Contractor is urged to cut posts to length on the job site after site by site verification of post length.

Payment for "2.0" x 2.0" Perforated Tube Post" shall include all costs for labor, equipment, and material 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 sign post and sign(s).

### PERMANENT SIGNING TABLE

Station	Offset	SIGN						POST			Description
		Width (in)	Height (in)	Number	Square Footage	Sheeting Type	Mounting	Length	Size	#	
4+58	30' LT	30	30	W11-15	6.2	Super/Very High Intensity	Post	15.3	2x2	1	Bicycle/Pedestrian
4+58	30' LT	24	12	W16-9p	2.0	Super/Very High Intensity	Post				Ahead (plaque)
5+87	8' LT	30	30	W11-15	6.2	Super/Very High Intensity	Post	15.3	2x2	1	Bicycle/Pedestrian
5+87	8' LT	24	12	W16-7pL	2.0	Super/Very High Intensity	Post				Downward Diagonal Arrow (plaque)
6+18	8' RT	30	30	W11-15	6.2	Super/Very High Intensity	Post	15.3	2x2	1	Bicycle/Pedestrian
6+18	8' RT	24	12	W16-7pL	2.0	Super/Very High Intensity	Post				Downward Diagonal Arrow (plaque)
6+18	108' RT	30	30	W11-15	6.2	Super/Very High Intensity	Post	15.3	2x2	1	Bicycle/Pedestrian
6+18	108' RT	24	12	W16-9p	2.0	Super/Very High Intensity	Post				Ahead (plaque)





STATE OF SOUTH DAKOTA	PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
	P TAPR (03)	9	41
GENERAL NOTES, & TABLES			

**TRAFFIC CONTROL – GENERAL NOTES**

The contractor is required to maintain traffic in accordance with the specifications and as shown in the plans. All traffic control shall conform to the 2009 Edition of the Manual of Uniform Traffic Control Devices for Streets and Highways (MUTCD).

Locations of the signs on the traffic control layouts are diagrammatic. The usage and placement of signs shall be as shown on the Traffic Control Sheets, as detailed in the 2009 Edition of the MUTCD, or as required by the Engineer.

Removing, relocating, covering, salvaging, and resetting traffic control signs shall be the responsibility of the contractor. This includes any existing signs that need to be removed and reset. Cost for this work shall be included in the contract unit prices for the various items. The quantity of signs paid for will be for the most installations per sign in place at any one time regardless of the number of set-ups at this project site. Any delineators and signs damaged or lost shall be replaced by the contractor at no cost to the City or State.

During non-working hours, non-applicable traffic control signs and/or devices shall be covered or removed from view.

Permanent traffic control items (i.e. signing and pavement marking) shall be installed prior to removing temporary traffic control devices.

Flaggers, properly attired and preceded by W20-7a flagger symbol signs shall be required to safely maintain traffic when work activities and/or equipment presents a hazard to workers or traffic, encroaches into a lane open to traffic, or shall be required to safely maintain traffic when work activity is near an intersection.

All equipment and vehicles entering and exiting closed lanes of traffic shall display flashing amber light visible from all directions a minimum distance of ¼ mile.

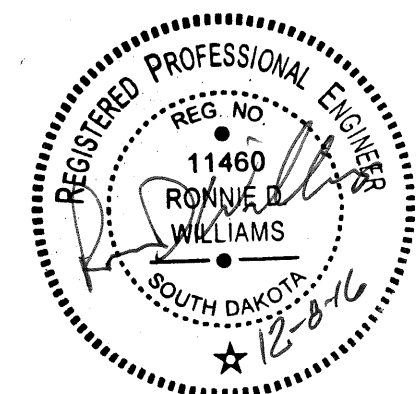
Indiscriminate driving and parking of vehicles within the right-of-way will not be permitted. Any damage to the vegetation, surfacing, embankment, delineators, and existing signs resulting from such indiscriminate use shall be repaired and/or restored by the contractor, at no expense to the City or State, and to the satisfaction of the Engineer.

**TABLE OF TRAFFIC CONTROL DEVICES**

		CONVENTIONAL ROAD					
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE			SQFT PER SIGN	SQFT
R11-2	ROAD CLOSED	2	48"	x	30"	10.0	20.0
W20-1	ROAD WORK AHEAD	3	48"	x	48"	16.0	48.0
W20-4	ONE LANE ROAD AHEAD	2	48"	x	48"	16.0	32.0
W20-7	FLAGGER (symbol)	2	48"	x	48"	16.0	32.0
G20-2	END ROAD WORK	3	36"	x	18"	4.5	13.5
		<b>CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT</b>					<b>145.5</b>

**TYPE 3 BARRICADES**

ITEM DESCRIPTION	QUANTITY
TYPE 3 BARRICADE, 8' SINGLE SIDED	5 EACH



STATE OF SOUTH DAKOTA	PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
	P TAPR (03)	10	41
SWPPP			

## STORM WATER POLLUTION PREVENTION PLAN CHECKLIST

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

### SITE DESCRIPTION (4.2 1)

- **Project Limits: See Title Sheet (4.2 1.b)**
- **Project Description: See Title Sheet (4.2 1.a.)**
- **Site Map(s): See Title Sheet and Plans (4.2 1.f. (1)-(6))**
- **Major Soil Disturbing Activities** (check all that apply)
  - Clearing and grubbing
  - Excavation/borrow
  - Grading and shaping
  - Filling
  - Cutting and filling
  - Other (describe):
- **Total Project Area** 0.54 Acres (4.2 1.b.)
- **Total Area To Be Disturbed** 0.28 (4.2 1.b.)
- **Existing Vegetative Cover (%)** 50%
- **Soil Properties:** USDA-NRCS Soil Series Classification Nibro Silty Clay Loam, Lakoma-Vivian Complex (4.2 1. d.)
- **Name of Receiving Water Body/Bodies** Bad River (North Fork) (4.2 1.e.)

### ORDER OF CONSTRUCTION ACTIVITIES (4.2 1.c.)

(Stabilization measures shall be initiated as soon as possible, but in no case later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Initiation of final or temporary stabilization may exceed the 14-day limit if earth disturbing activities will be resumed within 21 days.)

- **Install perimeter protection where runoff sheets from the site.**
- **Install channel and ditch bottom protection.**
- **Clearing and grubbing.**
- **Remove and store topsoil.**
- **Stabilize disturbed areas.**
- **Install storm sewers, curb and gutter.**
- **Install inlet and culvert protection after completing storm drainage and other utility installations.**
- **Complete final grading.**
- **Complete final paving and sealing of concrete.**
- **Complete traffic control installation and protection devices.**
- **Reseed areas disturbed by removal activities.**

### EROSION AND SEDIMENT CONTROLS (4.2 2.a.(1)(a)-(f))

(Check all that apply)

- **Stabilization Practices (See Detail Plan Sheets)**
  - Temporary Seeding (Cover Crop Seeding)
  - Permanent Seeding
  - Sodding
  - Planting (Woody Vegetation for Soil Stabilization)
  - Mulching (Grass Hay or Straw)
  - Hydraulic Mulch (Wood Fiber Mulch)
  - Soil Stabilizer
  - Bonded Fiber Matrix
  - Erosion Control Blankets or Mats

- Vegetation Buffer Strips
- Roughened Surface (e.g. tracking)
- Dust Control
- Other:

### ➤ Structural Temporary Erosion and Sediment Controls

- Silt Fence
- Floating Silt Curtain
- Straw Bale Check
- Temporary Berm
- Temporary Slope Drain
- Straw Wattles or Rolls
- Turf Reinforcement Mat
- Rip Rap
- Gabions
- Rock Check Dams
- Sediment Traps/Basins
- Inlet Protection
- Outlet Protection
- Surface Inlet Protection (Area Drain)
- Curb Inlet Protection
- Stabilized Construction Entrances
- Entrance/Exit Equipment Tire Wash
- Interceptor Ditch
- Concrete Washout Facility
- Temporary Diversion Channel
- Work Platform
- Temporary Water Barrier
- Temporary Water Crossing
- Other:

### ➤ Wetland Avoidance

Will construction and/or erosion and sediment controls impinge on regulated wetlands? Yes  No  If yes, the structural and erosion and sediment controls have been included in the total project wetland impacts and have been included in the 404 permit process with the USACE.

### ➤ Storm Water Management (4.2 2.b., (1) and (2))

Storm water management will be handled by temporary controls outlined in "EROSION AND SEDIMENT CONTROLS" above, and any permanent controls needed to meet permanent storm water management needs in the post construction period. Permanent controls will be shown on the plans and noted as permanent.

### ➤ Other Storm Water Controls (4.2 2.c., (1) and (2))

#### ▪ Waste Disposal

All liquid waste materials will be collected and stored in sealed metal containers approved by the project engineer. All trash and construction debris from the site will be deposited in the approved containers. Containers will be serviced as necessary, and the trash will be hauled to an approved disposal site or licensed landfill. All onsite personnel will be instructed in the proper procedures for waste disposal, and notices stating proper practices will be posted in the field office. The general Contractor's representative responsible for the conduct of work on the site will be responsible for seeing waste disposal procedures are followed.

#### ▪ Hazardous Waste

All hazardous waste materials will be disposed of in a manner specified by local or state regulations or by the manufacturer. Site personnel will be instructed in these practices, and the individual designated as the Contractor's on-site representative will be responsible for seeing that these practices are followed.

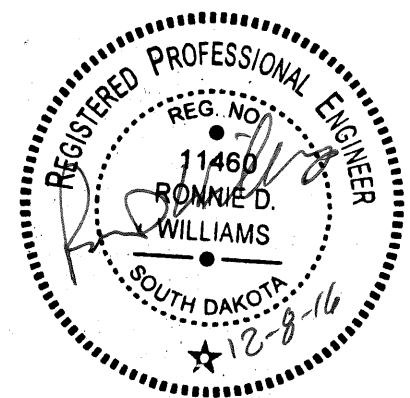
#### ▪ Sanitary Waste

Portable sanitary facilities will be provided on all construction sites. Sanitary waste will be collected from the portable units in a timely manner by a licensed waste management Contractor or as required by any local regulations.

### MAINTENANCE AND INSPECTION (4.2 3. and 4.2 4.)

#### ➤ Maintenance and Inspection Practices

- Inspections will be conducted at least one time per week and after a storm event of 0.50 inches or greater.
- All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report.
- Silt fence will be inspected for depth of sediment and for tears in order to ensure the fabric is securely attached to the posts and that the posts are well anchored. Sediment buildup will be removed from the silt fence when it reaches 1/3 of the height of the silt fence.
- Sediment basins and traps will be checked. Sediment will be removed when depth reaches approximately 50 percent of the structure's capacity, and at the conclusion of the construction.
- Check dams will be inspected for stability. Sediment will be removed when depth reaches 1/2 the height of the dam.
- All seeded areas will be checked for bare spots, washouts, and vigorous growth free of significant weed infestations.
- Inspection and maintenance reports will be prepared on form DOT 298 for each site inspection, this form will also be used to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents.
- The SDDOT Project Engineer and Contractor's Erosion Control Supervisor are responsible for inspections. Maintenance, repair activities are the responsibility of the Contractor. The SDDOT Project Engineer will complete the inspection and maintenance reports and distribute copies per the distribution instructions on DOT 298.



STATE OF SOUTH DAKOTA	PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
	P TAPR (03)	11	41
SWPPP			

REVISED 12/15/2016

### **NON-STORM WATER DISCHARGES (3.0)**

The following non-storm water discharges are anticipated during the course of this project (check all that apply).

- Discharges from water line flushing.
- Pavement wash-water, where no spills or leaks of toxic or hazardous materials have occurred.
- Uncontaminated ground water associated with dewatering activities.

### **MATERIALS INVENTORY (4.2. 2.c.(2))**

The following materials or substances are expected to be present on the site during the construction period. These materials will be handled as noted under the headings "EROSION AND SEDIMENT CONTROLS" and "SPILL PREVENTION" (check all that apply).

- Concrete and Portland Cement
- Detergents
- Paints
- Metals
- Bituminous Materials
- Petroleum Based Products
- Cleaning Solvents
- Wood
- Cure
- Texture
- Chemical Fertilizers
- Other:

### **SPILL PREVENTION (4.2 2.c.(2))**

#### ➤ **Material Management**

- **Housekeeping**
  - Only needed products will be stored on-site by the Contractor.
  - Except for bulk materials the contractor will store all materials under cover and in appropriate containers.
  - Products must be stored in original containers and labeled.
  - Material mixing will be conducted in accordance with the manufacturer's recommendations.
  - When possible, all products will be completely used before properly disposing of the container off-site.
  - The manufacturer's directions for disposal of materials and containers will be followed.
  - The Contractor's site superintendent will inspect materials storage areas regularly to ensure proper use and disposal.
  - Dust generated will be controlled in an environmentally safe manner.
  - Vegetation areas not essential to the construction project will be preserved and maintained as noted on the plans.
- **Hazardous Materials**
  - Products will be kept in original containers unless the container is not resealable.
  - Original labels and material safety data sheets will be retained in a safe place to relay important product information.

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

#### ➤ **Product Specific Practices (6.8)**

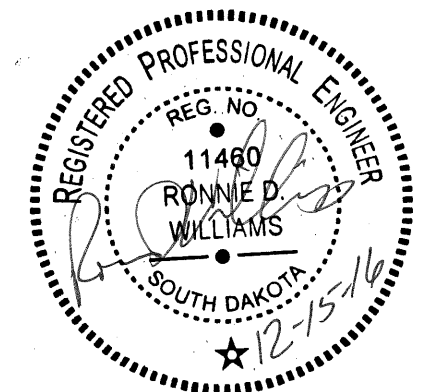
- **Petroleum Products**  
All on-site vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled.
- **Fertilizers**  
Fertilizers will be applied only in the amounts specified by the SDDOT. Once applied, fertilizers will be worked into the soil to limit the exposure to storm water. Fertilizers will be stored in an enclosed area. The contents of partially used fertilizer bags will be transferred to sealable containers to avoid spills.
- **Paints**  
All containers will be tightly sealed and stored when not required for use. The excess will be disposed of according to the manufacturer's instructions and any applicable state and local regulations.
- **Concrete Trucks**  
Contractors will provide designated truck washout facilities on the site. These areas must be self-contained and not connected to any storm water outlet of the site. Upon completion of construction, the area at the washout facility will be properly stabilized.

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

- In addition to the previous housekeeping and management practices, the following practices will be followed for spill prevention and cleanup if needed.
- For all hazardous materials stored on site, the manufacturer's recommended methods for spill cleanup will be clearly posted. Site personnel will be made aware of the procedures and the locations of the information and cleanup supplies.
  - Appropriate cleanup materials and equipment will be maintained by the Contractor in the materials storage area on-site. As appropriate, equipment and materials may include items such as brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand,

sawdust, and plastic and metal trash containers specifically for cleanup purposes.

- All spills will be cleaned immediately after discovery and the materials disposed of properly.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- After a spill a report will be prepared describing the spill, what caused it, and the cleanup measures taken. The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring, as well as clean up instructions in the event of reoccurrences.
- The Contractor's site superintendent, responsible for day-to-day operations, will be the spill prevention and cleanup coordinator. The Contractor is responsible for ensuring that the site superintendent has had appropriate training for hazardous materials handling, spill management, and cleanup.



STATE OF SOUTH DAKOTA	PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
	P TAPR (03)	12	41
SWPPP			

➤ **Spill Response (4.2 2 c.(2))**

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

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

- The discharge of any substance that harms or threatens to harm wildlife or aquatic life.
- The discharge of crude oil in field activities under SDCL (South Dakota Codified Laws) chapter 45-9 is greater than 1 barrel (42 gallons).

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

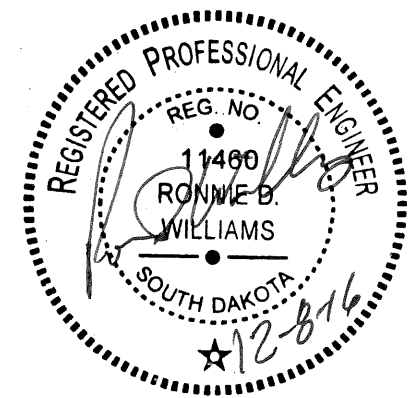
**CONSTRUCTION CHANGES (4.4)**

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

**SPILL NOTIFICATION**

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

- A release or spill of a regulated substance (includes petroleum and petroleum products) must be reported to DENR immediately **if any one of the following** conditions exists:
  - The discharge threatens or is in a position to threaten the waters of the state (surface water or ground water).
  - The discharge causes an immediate danger to human health or safety.
  - The discharge exceeds 25 gallons.
  - The discharge causes a sheen on surface water.
  - The discharge of any substance that exceeds the ground water quality standards of ARSD (Administrative Rules of South Dakota) chapter 74:51:01.
  - The discharge of any substance that exceeds the surface water quality standards of ARSD chapter 74:51:01.



STATE OF SOUTH DAKOTA	PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
	P TAPR (03)	13	41
SWPPP			

**CERTIFICATIONS**

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

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

➤ **South Dakota Department of Transportation**

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

*Tom Leibel*

Authorized Signature (See the General Permit, Section 6.9.1.C.)

➤ **Prime Contractor**

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

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

Authorized Signature

**CONTACT INFORMATION**

➤ **Contractor Information:**

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

➤ **Erosion Control Supervisor**

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

➤ **SDDOT Project Engineer**

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

➤ **SD DENR Contact Spill Reporting**

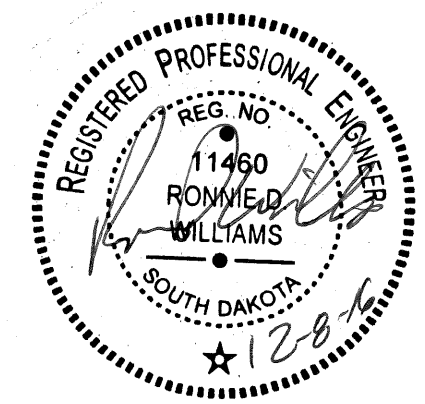
- Business Hours Monday-Friday (605) 773-3296
- Nights and Weekends (605) 773-3231

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

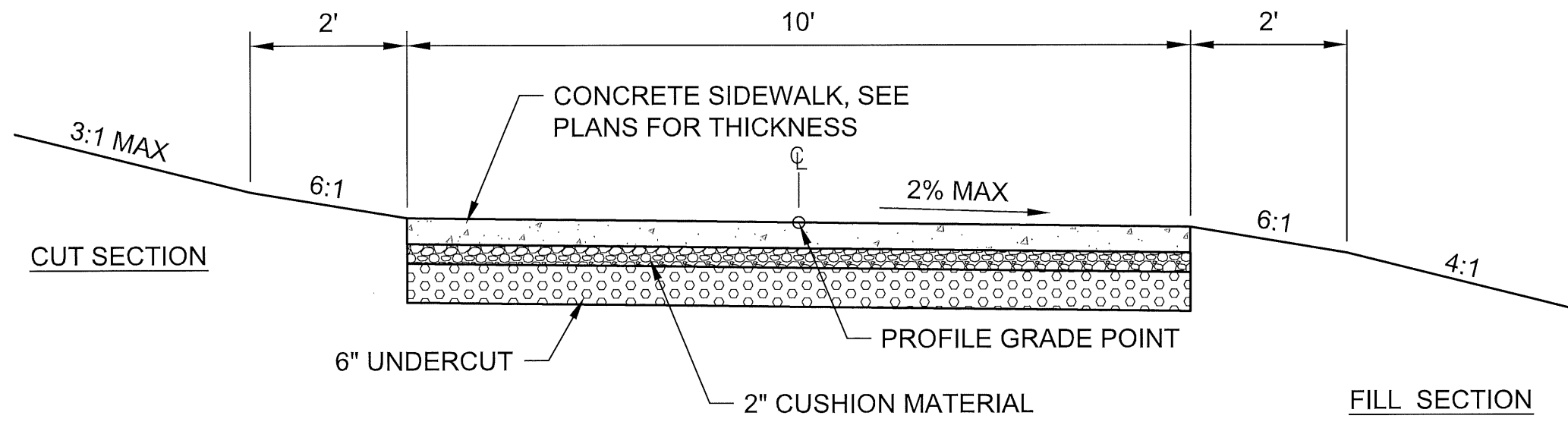
- (605) 773-3153

➤ **National Response Center Hotline**

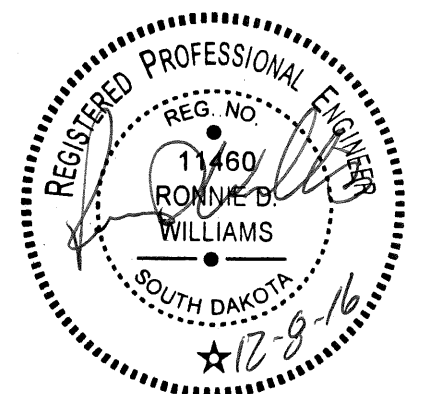
- (800) 424-8802.



STATE OF SOUTH DAKOTA	PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
	P TAPR(03)	14	41
TYPICAL SECTION			

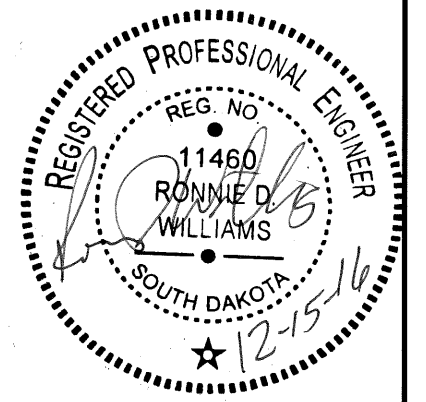
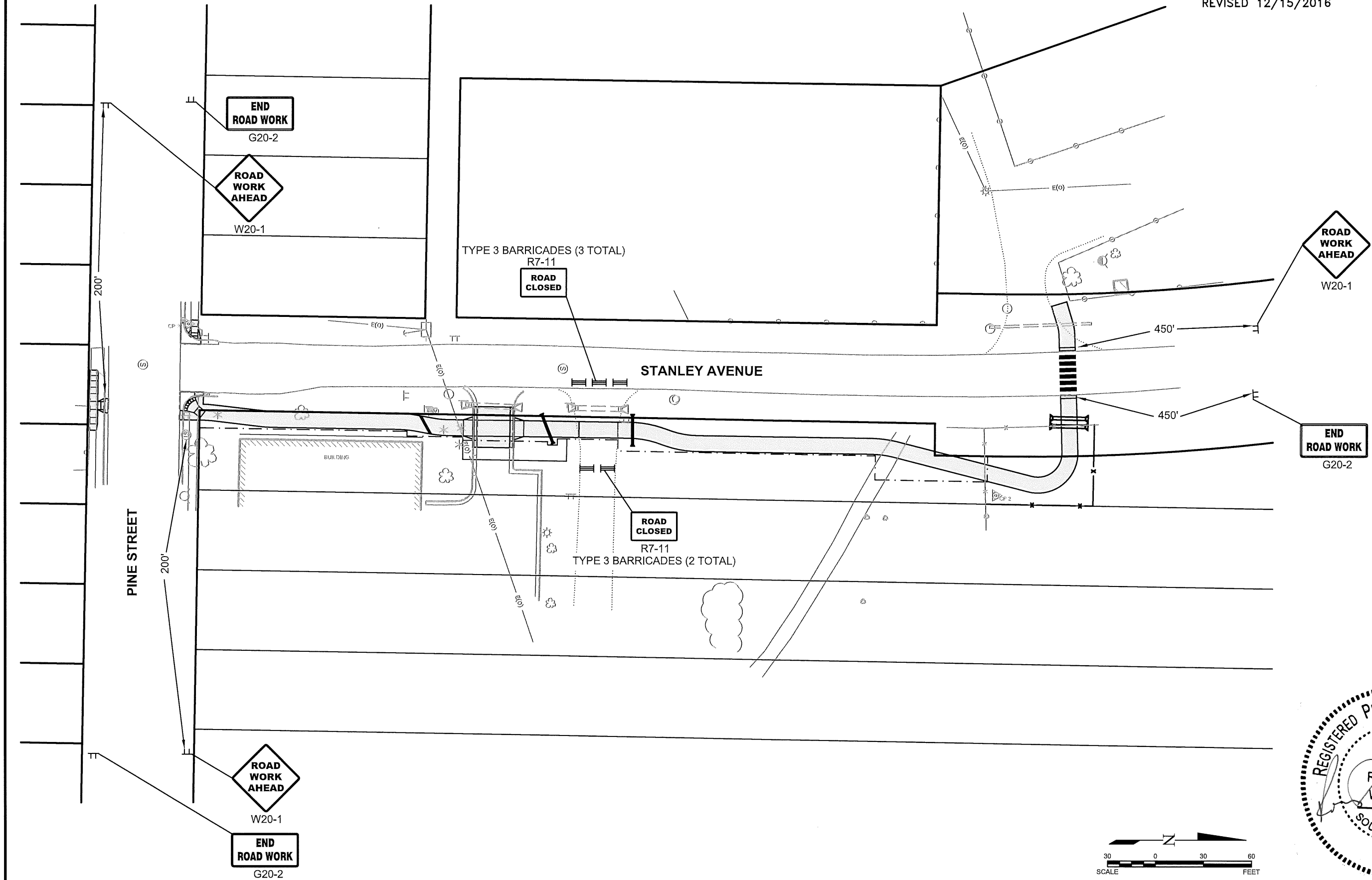


TYPICAL SECTION



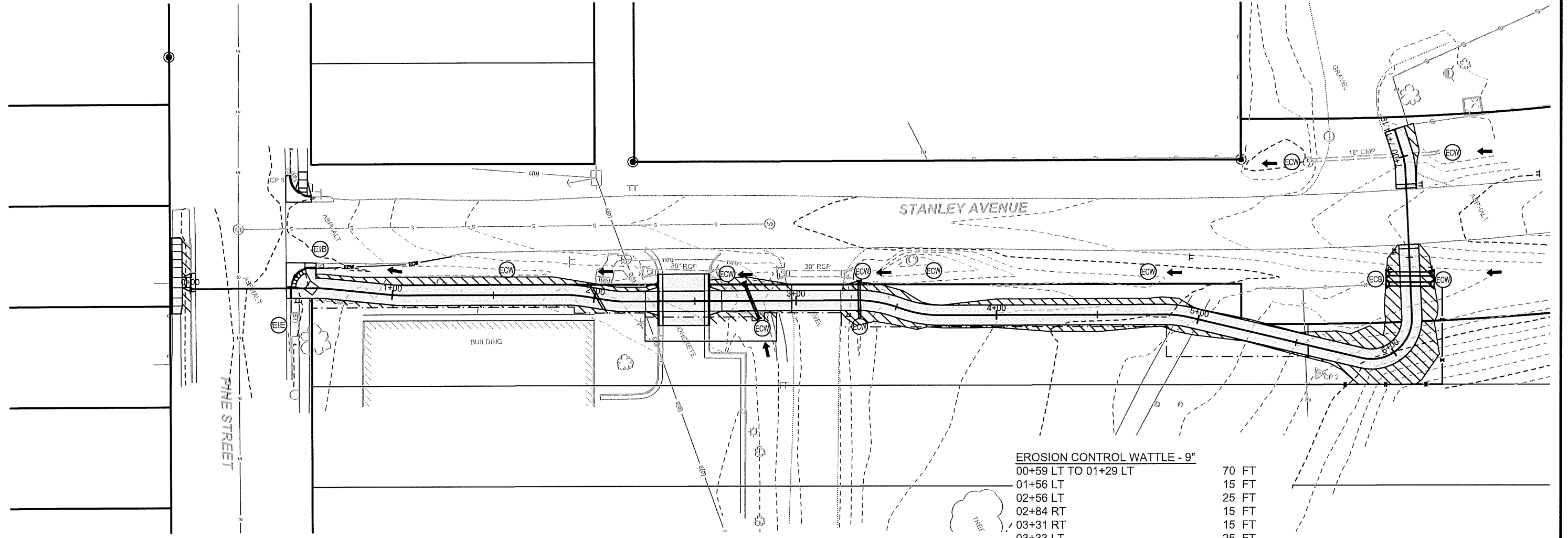
# FIXED LOCATION SIGNING

STATE OF SOUTH DAKOTA	PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
	P TAPR(03)	15	41
FIXED LOCATION SIGNING			
REVISED 12/15/2016			



# EROSION AND SEDIMENT CONTROL

STATE OF SOUTH DAKOTA	PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
	P TAPR(03)	16	41
EROSION AND SEDIMENT CONTROL			



**EROSION CONTROL WATTLE - 9"**

00+59 LT TO 01+29 LT	70 FT
01+56 LT	15 FT
02+56 LT	25 FT
02+84 RT	15 FT
03+31 RT	15 FT
03+33 LT	25 FT
03+69 LT	15 FT
04+75 LT	15 FT
06+40 RT	30 FT
07+00 LT & RT	30 FT

**EROSION CONTROL BLANKET**  
05+38 TO 6+40 LT (DITCH CHANNEL) 100 SQYD

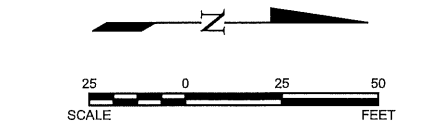
**SEDIMENT CONTROL AT INLET WITH FRAME/GRATE**  
00+62 LT 1 EA

**SEDIMENT CONTROL AT TYPE S INLETS**  
00+50 RT 13 FT

**SEEDING - TYPE D**

00+00 25' LT TO 00+00 12' RT	115 SQFT
00+58.8 LT TO 2+31.5 LT	532 SQFT
00+58.8 RT TO 2+31.5 RT	242 SQFT
02+57.2 LT TO 2+97.9 LT	217 SQFT
02+57.2 RT TO 2+97.9 RT	175 SQFT
03+22.0 LT TO 6+56.4 LT	1,048 SQFT
03+22.0 RT TO 6+56.4 RT	1,366 SQFT
06+83.8 RT TO 7+14.2 RT	74 SQFT

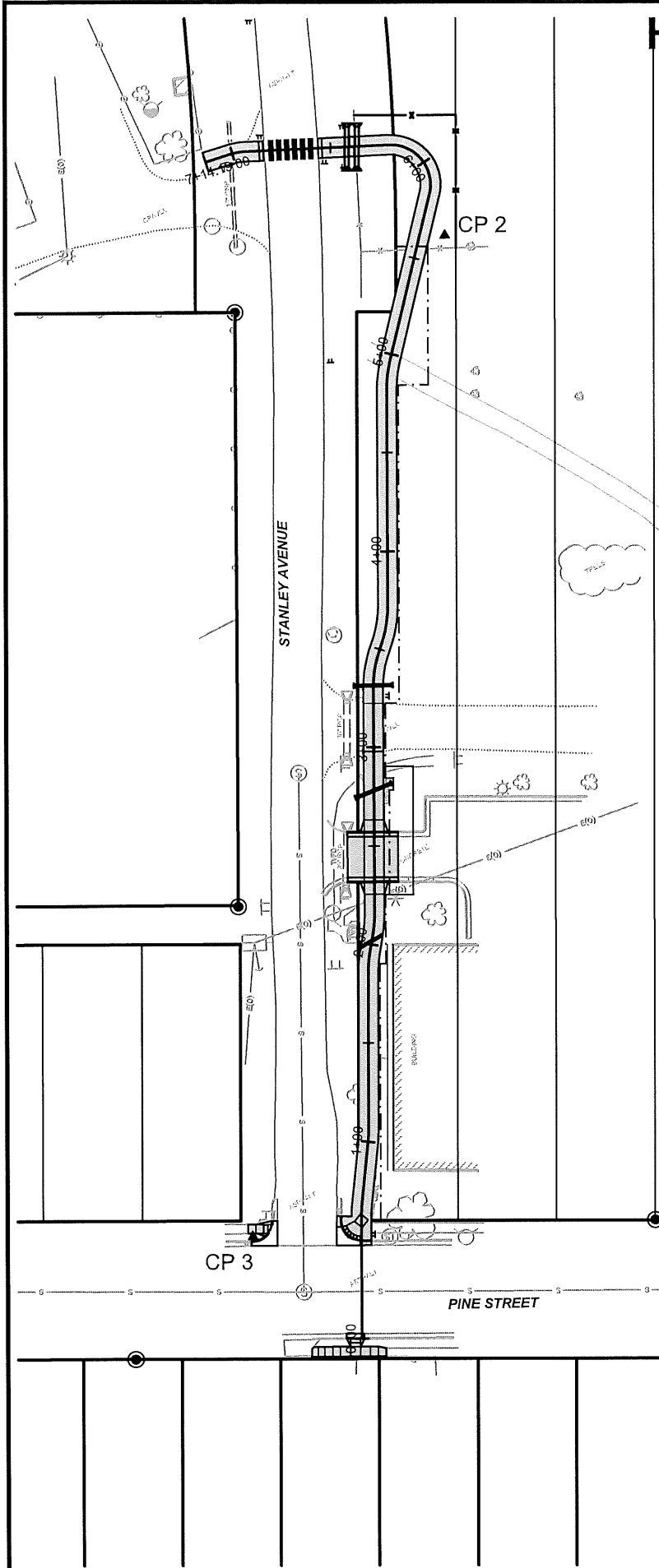
- ECB EROSION CONTROL BLANKET - TYPE 2
- EIB EXISTING TYPE B INLET (SEE GENERAL NOTES & TABLES)
- EIE EXISTING TYPE E OR S INLET (SEE GENERAL NOTES & TABLES)
- ECW EROSION CONTROL WATTLE - 9"
- FLOW DIRECTION
- EROSION CONTROL WATTLE - 9"
- HIGH FLOW SILT FENCE
- SEEDING - TYPE D





# HORIZONTAL ALIGNMENT & SURVEY CONTROL DATA

STATE OF SOUTH DAKOTA	PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
	P TAPR(03)	17	41
HORIZONTAL ALIGNMENT & SURVEY CONTROL DATA			



SHARED USE PATH CENTERLINE					
TYPE	STATION	DISTANCE	DIRECTION	NORTHING	EASTING
BOP	0+00.00			624644.31	1616116.73
		TL = 61.56	N00° 44' 57.71"E		
PC	0+61.56			624705.87	1616117.53
PI	0+64.69	R = 60.00	Delta = 05° 57' 35.35" R	624708.98	1616117.58
PT	0+67.80			624712.09	1616117.94
		TL = 31.98	N06° 42' 33.06"E		
PC	0+99.78			624743.85	1616121.68
PI	1+02.80	R = 60.00	Delta = 05° 45' 33.05" L	624746.85	1616122.03
PT	1+05.81			624749.86	1616122.08
		TL = 79.95	N00° 57' 00.01"E		
PC	1+85.76			624829.81	1616123.40
PI	1+90.69	R = 60.00	Delta = 09° 23' 05.84" R	624834.73	1616123.49
PT	1+95.59			624839.58	1616124.37
		TL = 10.33	N10° 20' 05.85"E		
PC	2+05.92			624849.73	1616126.22
PI	2+10.95	R = 60.00	Delta = 09° 35' 26.56" L	624854.68	1616127.13
PT	2+15.96			624859.72	1616127.19
		TL = 113.84	N00° 44' 39.29"E		
PC	3+29.80			624973.55	1616128.67
PI	3+40.70	R = 60.00	Delta = 20° 35' 07.02" R	624984.44	1616128.81
PT/PC	3+51.36			624994.59	1616132.77
PI	3+62.22	R = 60.00	Delta = 20° 31' 51.17" L	625004.72	1616136.73
PT	3+72.86			625015.58	1616136.88
		TL = 109.28	N00° 47' 55.80"E		
PC	4+82.14			625124.86	1616138.40
PI	4+89.25	R = 60.00	Delta = 13° 31' 07.18" R	625131.97	1616138.50
PT	4+96.30			625138.86	1616140.26
		TL = 87.25	N14° 19' 03.04"E		
PC	5+83.55			625223.40	1616161.84
PI	6+10.07	R = 20.00	Delta = 105° 57' 13.49" L	625249.09	1616168.39
PT	6+20.54			625248.34	1616141.89
		TL = 73.69	S88° 21' 49.55"W		
PC	6+94.23			625246.23	1616068.22
PI	6+97.57	R = 25.00	Delta = 15° 12' 04.14" L	625246.14	1616064.88
PT	7+00.87			625245.17	1616061.69
		TL = 13.32	S73° 09' 45.41"W		
EOP	7+14.19			625241.31	1616048.94

## BASIS OF SURVEY

BEARINGS FOR THIS PROJECT ARE BASED ON SOUTH DAKOTA STATE PLANE SOUTH ZONE NAD 83/2011.

VERTICAL DATUM IS NAVD 88 PER RAPID CITY CONTROL.

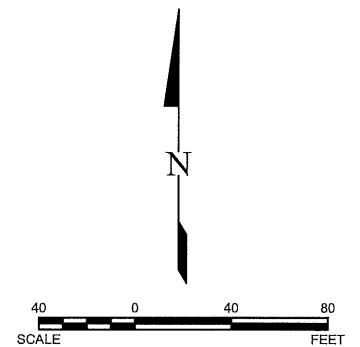
COMBINED SCALE FACTOR TO CONVERT FROM STATE PLANE DISTANCES (GRID) TO GROUND IS 1.000166.

## SURVEY NOTES

THIS SURVEY DOES NOT CONSTITUTE A BOUNDARY SURVEY. THE PROPERTY AND RIGHT-OF-WAY LINES DEPICTED HEREIN ARE FOR PLANNING PURPOSES ONLY. THE LOCATIONS OF LOT AND PROPERTY LINES WERE DETERMINED FROM RECORD DOCUMENTS AND FOUND MONUMENTS.

SNOW COVER WAS ON THE GROUND AT THE TIME OF SURVEY. THE LOCATION OF UTILITIES DEPICTED HEREON WERE DERIVED FROM UTILITY LOCATES FROM SOUTH DAKOTA ONE CALL, UTILITY MAPS AND FOUND APPURTENANCES. CONTACT THE APPROPRIATE UTILITY COMPANIES FOR THE EXACT LOCATION AND NATURE OF UTILITIES.

FIELD SURVEY CONDUCTED IN THE WINTER OF 2013.



## HORIZONTAL AND VERTICAL CONTROL POINTS

POINT	STATION & OFFSET	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP 1	-	625688.00	1615937.08	2182.99	KLJ ALUMINUM CAP
CP 2	5+46.01 - 26.90' RT	625201.99	1616168.96	2174.12	KLJ ALUMINUM CAP
CP 3	0+52.15 - 55.21' LT	624697.18	1616062.21	2165.22	KLJ ALUMINUM CAP



# SYMBOLS AND ABBREVIATIONS

STATE OF SOUTH DAKOTA	PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
	P TAPR(03)	18	41
SYMBOLS & ABBREVIATIONS			

Aggr	Aggregate
Ahd	Ahead
Alt	Alternate
Approx	Approximate or Approximately
Appr	Approach
Asph Cem or AC	Asphalt Cement
Asph Conc	Asphaltic Concrete
Bit	Bituminous or Bitumen
B.L.M.	Bureau of Land Management
Bk	Back
BM	Bench Mark
Bldg	Building
Br	Bridge
C.A.E.S.	Corrugated Aluminum End Section
C.A.P.	Corrugated Aluminum Pipe
C & G	Curb and Gutter
Ch Ch	Channel Change
C.I.	Curb Inlet
Cl	Class
C.S.E.S.	Corrugated Steel End Section
C.S.P.	Corrugated Steel Pipe
Const.	Construction
Conc.	Concrete
CRS	Cationic Rapid Setting
Crse	Course
C.S.	Curve to Spiral
C to C	Center to Center
C.Y.	Cubic Yard
D	Degree of Curvature
D-Load	Dead Load
D.B.	Ditch Block
D.G.	Ditch Grade
El. or Elev.	Elevation
Emb.	Embankment
Emul.	Emulsified
Engr.	Engineer
Eq	Equation
E.S.	End Section
Esmt.	Easement
Exc.	Excavation
Exp.	Expansion
F.D.	Field Drive
F.F.	Foundation Fill
Found.	Foundation
F.P.	Fence Post
Ga.	Gage or Gauge
Gr.	Gravel
Grd.	Graded
G.V.	Gate Valve
Hyd.	Hydrant
I.M.	Iron Monument
Inst.	Install
Inter.	Intersection
Inv.	Invert
Jt.	Joint
L	Length of Curve
Lc	Length of Spiral
Levg.	Leveling
L.F.	Linear or Lineal Feet
Liq.	Liquid
Long.	Longitudinal
L.P.	Light Pole
Lt.	Left
"M"	One Thousand
Matl.	Material
Max.	Maximum
MC	Medium Curing
M.H.	Manhole
Min.	Minimum
M.L.	Main Line
N.F.S.L.	National Forest System Lands
Off. Loc.	Office Location
P.V.C.	Polyvinyl Chloride Sewer Pipe
P & P	Plan and Profile
P.C.	Point of Curvature
P.C.C.	Point of Compound Curve
P.D.	Private Drive
Pen	Penetration
Perf.	Perforated
P.I.	Point of Intersection
P.O.C.	Point on Curve
P.O.T.	Point on Tangent
P.P.	Power Pole

P.P.	Power Pole
P.R.C.	Point of Reverse Curvature
Pref.	Preformed
P.S.D.	Passing Sight Distance
P.T.	Point of Tangency
Quant.	Quantity or Quantities
R	Radius
R or Rge	Range
RC	Rapid Curing
R.C.E.S.	Reinforced Concrete End Section
R.C.P.	Reinforced Concrete Pipe
Rd	Road
Rdxbd	Roadbed
Rdwy	Roadway
Refl.	Reflectorized
R.R.	Rail Road
Rt.	Right
R\W	Right of Way
Salv.	Salvage
S.C.	Spiral to Curve
SC	Slow Curing
Sc	Spiral Deflection Angle
S.D.	Sight Distance
S.E.	Superelevation
Sec.	Section
Sec. Line Appr.	Section Line Approach
Shldr.	Shoulder
SP	Special Provision
S.P.P.	Structural Plate Pipe
S.P.P.A.	Structural Plate Pipe Arch
SS	Slow Setting or Supplement Specification
S.S.D.	Stopping Sight Distance
S.T.	Spiral to Tangent
Sec. Line	Section Line
Sta.	Station
Std.	Standard
Std. Specs	Standard Specifications
Struct.	Structure
Surf.	Surface
Surv.	Survey
S.W.	Sidewalk
S.Y.	Square Yard
T.	Tangent Length (circular curve)
T or Twp.	Township
Tel.	Telephone
Temp.	Temporary
Tr	Traffic
Trans.	Transverse or Transition
Trtd.	Treated
Ts	Tangent Length (curve with spirals)
T.S.	Tangent to Spiral
U.S.C. & G.S.	United States Coast and Geodetic Survey
U.S.F.S.	U.S. Forest Service
U.S.G.S.	U.S. Geological Survey
V.C.	Vertical Curve
V.C.P.	Vitrified Clay Pipe
W.M.	Water Main
W.M.V.	Water Main Valve
Wrng	Wearing
W.S.V.	Water Service Valve
x-sec	Cross Section
Xc	Spiral Coordinate
Yc	Spiral Coordinate

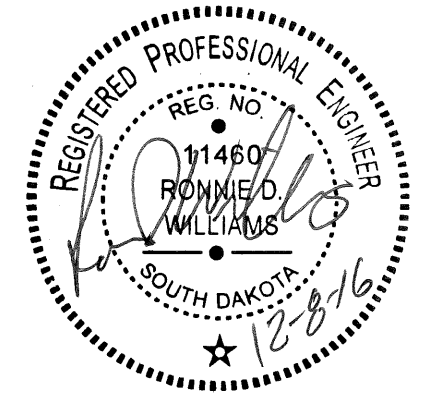
## DESCRIPTION

## SYMBOL

1000 Watt HPSVL	
100 Watt HPSVL	
150 Watt HPSVL	
175 Watt HPSVL	
200 Watt HPSVL	
250 Watt HPSVL	
30" Riser	
310 Watt HPSVL	
35 Watt HPSVL	

400 Watt HPSVL	
50 Watt HPSVL	
700 Watt HPSVL	
70 Watt HPSVL	
Access Control Arrow	
Alignment Data Point	
Alignment Point 1	
Approach	
Guy Wire & Anchor	
Analyzed Sample	
Arrow Panel Caution Mode	
Double Direction Arrow Panel	
Left Direction Arrow Panel	
Right Direction Arrow Panel	
Sequencing Arrow Panel	
Truck Mounted Arrow Panel	
Artifact	
Attenuation Device	
Truck Mounted Attenuator	
Type 1 Barricade	
Type 2 Barricade	
Type 3 Barricade	
Back to Back Sign	
Bench Mark	
Bench Mark US Gov.	
Electrical Box	
Electrical Box (Relocate)	
Bridges	
Buildings	
Gas Cap or Stub	
Catch Basin (Existing)	
Catch Basin (Proposed)	
Cattle Guard	
Centerline	
Centerline of Construction	
Clean Out (Existing)	
Clean Out (Proposed)	
Curb Stop (Existing)	
Curb Stop (Proposed)	
Concrete Box Culvert (Install)	
Concrete Curb	
Concrete Curb & Gutter	
Concrete Foundation Lighting	
Concrete Split Barrier Sample	
Concrete Walk (Existing)	
Concrete Walk (Proposed)	
Culvert (Existing)	
Culvert (Proposed)	
Dam or Dike	
Delineator Drum	
Type A Delineator	
Ditch Block	
Drainage Arrow	
Excavation Unit	
Flight Auger Sample	
Fire Hydrant (Existing)	

Fire Hydrant (Proposed)	
Fiberglass Roving	
Flagger	
Flashing Beacon	
Flexible Delineator	
Feed Point Pole Mounted	
Feed Point Pad Mounted	
Fuel Dispenser	
Fuel Filler Pipe	
Fuel Leak Sensor	
Gas Vent Pipe	
GPS Base Station Control Point	
PPSD High Mast Light 3 L	
PPSD High Mast Light 4 L	
PPSD High Mast Light 5 L	
PPSD High Mast Light 6 L	
PPSD High Mast Light 7 L	
PPSD High Mast Light 8 L	
Horizontal Control	
Horizontal & Vertical Control	
Hose Hydrant	
Inclinometer Tube	
Inlet Type 1 (Existing)	
Inlet Type 1 (Proposed)	
Inlet Type 2 (Existing)	
Inlet Type 2 (Proposed)	
Inlet Type 2 Double (Existing)	
Inlet Type 2 Double (Proposed)	
Light Pole (Existing)	
Light Pole (Proposed)	
Manhole (Existing)	



# SYMBOLS AND ABBREVIATIONS

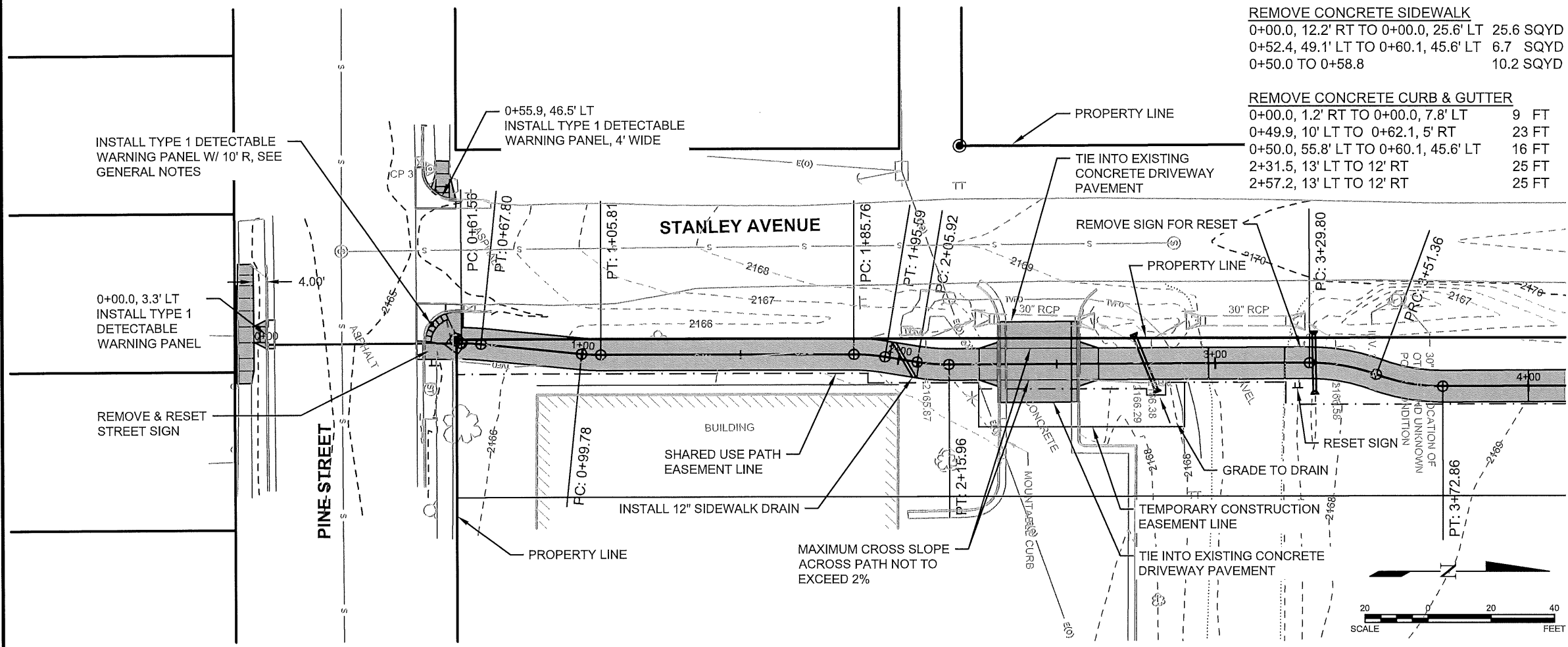
STATE OF SOUTH DAKOTA	PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
	P TAPR(03)	19	41
SYMBOLS & ABBREVIATIONS			

Manhole (Proposed)		Corner Set		Section Corner		Proposed Cable TV (Buried)	
Federal Mail Box		Corner Set, Iron Rebar w/Cap		Sod		Existing Crude Pipeline (Buried)	
Private Mail Box		Corner Found		Signal Head With Number		Proposed Crude Pipeline (Buried)	
Marsh or Swamp		Corner Calculated		Highway Sign		Existing Easement/RW Line	
Meter Electric		Corner Found RLS Remonumented This Survey with USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Sign		Proposed Easement/RW Line	
Meter Gas		Corner Found BLM 2 1/2" Aluminum Pipe With 3 1/4" Aluminum Cap 19??		Street Sign		Existing Electric Overhead	
Meter Water		Corner Found BLM 2 1/2" Iron Pipe With 3 1/4" Brass Cap 19??		Sprinkler Head		Proposed Electric Overhead	
Electrical Manhole (Existing)		Original Corner Found		Standard Penetration Test		Existing Electric (Buried)	
Electrical Manhole (Proposed)		Original Corner Remonumented This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Spot Elevation		Proposed Electric (Buried)	
Manhole Gas (Existing)		Corner Set This Survey With USDA Forest Service 5/8"x24" Rebar With 3 1/4" Aluminum Cap		Stone Circle or Cairn		Existing Electric Signal Heads	
Manhole Gas (Proposed)		Corner Found USDA Forest Service 2 1/2"x30" Aluminum Pipe 3 1/4" Aluminum Cap 19??		Tower Windmill		Proposed Electric Signal Heads	
Manhole With Inlet (Existing)		Corner Found GLO 1" Iron Pipe with 2" Brass Cap 19??		Telephone Pole To Be Lowered		Existing Fence Barb Wire	
Manhole With Inlet (Proposed)		Corner Found GLO 2" Iron Pipe with 2 1/2" Brass Cap 19??		Telephone Pole To Be Removed		Proposed Fence Barb Wire	
Pipeline Marker (Existing)		Corner Found GLO 2 1/2" Iron Pipe with 3 1/4" Brass Cap 19??		Telephone/Telegraph Pole		Existing Fence Chain Link	
Pipeline Marker to be Relocated		Corner Found GLO Cap Remonumented This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Brush or Shrub		Proposed Fence Chain Link	
Sanitary FM Manhole (Existing)		Corner Reestablished This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Tree, Deciduous		Existing Fence Wood	
Sanitary FM Manhole (Proposed)		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Tree, Coniferous		Proposed Fence Wood	
Sanitary Manhole (Existing)		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Tree Trunk		Existing Fiberoptic (Buried)	
Sanitary Manhole (Proposed)		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Traffic Cones		Proposed Fiberoptic (Buried)	
Storm Manhole (Existing)		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Traffic Signal Pole Mounted		Proposed Fiber Roll	
Storm Manhole (Proposed)		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Transformer		Existing Fuel (Buried)	
Sanitary MH With Valve (Existing)		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Transformer Pad Mounted		Proposed Fuel (Buried)	
Sanitary MH With Valve (Proposed)		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Traffic Signal Control Box with Slab		Existing Guard Rail	
Telephone Manhole (Existing)		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Traffic Signal Control Box		Proposed Guard Rail	
Telephone Manhole (Proposed)		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Thinwall Tube Sample		Existing Line Not Surveyed	
Jute Mesh		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Tubular Marker		Existing Natural Gas Pipeline (Buried)	
Electrical Pedestal to be Relocated		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Utility Marker		Proposed Natural Gas Pipeline (Buried)	
Electrical Pedestal		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Existing Valve (Gas/Water)		Existing Property Line	
Pedestrian Head with Number		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Proposed Valve (Gas/Water)		Proposed Property Line	
Pedestrian Push Button Post		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Well Or Bore Hole		Existing Section Line	
Telephone Pedestal		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Water Observation Well		Existing Quarter Line	
Telephone Pedestal to be Relocated		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Waterway		Existing 1-16 Line	
Television Pedestal		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Wood Excelsior Fiber mat		Existing 1-32 Line	
Television Pedestal to be Relocated		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Existing Sleeve		Existing Rail Road Tracks	
Pump Storm		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Proposed Sleeve		Proposed Rail Road Tracks	
Pump Sanitary		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Existing Tee		Existing Sanitary	
Pump Water		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Proposed Tee		Proposed Sanitary	
Pole		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Existing 11' Bend		Existing Storm Sewer	
Post		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Proposed 11' Bend		Proposed Storm Sewer	
Post Guard		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Existing 22' Bend		Existing Telephone Overhead	
Post Guide		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Proposed 22' Bend		Proposed Telephone Overhead	
Power Pole (Existing)		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Existing 45' Bend		Existing Telephone (Buried)	
Power Pole to be Removed		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Proposed 45' Bend		Proposed Telephone (Buried)	
Power Pole To Be Lowered		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Existing 90° Bend		Existing Water	
Power Pole To Be Moved		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Proposed 90° Bend		Proposed Water	
Unproductive Probe		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Existing Cross			
Productive Probe		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Proposed Cross			
Principal Point		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Existing Reducer			
		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Proposed Reducer			
		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Existing Boundary Not Surveyed			
		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Existing Boundary			
		Corner Set This Survey With USDA Forest Service 2 1/2"x30" SSP 3 1/4" Brass Cap		Existing Cable TV (Buried)			



# PLAN & PROFILE

STATE OF SOUTH DAKOTA	PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
	P TAPR(03)	20	41
PLAN & PROFILE			



<b>REMOVE CONCRETE SIDEWALK</b>	
0+00.0, 12.2' RT TO 0+00.0, 25.6' LT	25.6 SQYD
0+52.4, 49.1' LT TO 0+60.1, 45.6' LT	6.7 SQYD
0+50.0 TO 0+58.8	10.2 SQYD
<b>REMOVE CONCRETE CURB &amp; GUTTER</b>	
0+00.0, 1.2' RT TO 0+00.0, 7.8' LT	9 FT
0+49.9, 10' LT TO 0+62.1, 5' RT	23 FT
0+50.0, 55.8' LT TO 0+60.1, 45.6' LT	16 FT
2+31.5, 13' LT TO 12' RT	25 FT
2+57.2, 13' LT TO 12' RT	25 FT

<b>REMOVE CONCRETE DRIVEWAY PAVEMENT</b>	
2+34.0 TO 2+57.2, 13' LT TO 12' RT	58.6 SQYD
<b>REMOVE TREE (INCIDENTAL TO CLEARING)</b>	
0+71.3, 0.7' RT	15" CAL. CONIF. 1 EA.
1+23.9, 4.2' LT	12" CAL. DEC. 1 EA.
2+13.4, 1.5' RT	3" CAL. CONIF. 1 EA.
2+23.2, 10.5' RT	3" CAL. CONIF. 1 EA.

<b>6" PCC FILLET SECTION</b>	
0+47.4, 5.0' RT TO 0+62.1, 12.5' LT	10.8 SQYD
0+50.0, 55.8' LT TO 0+60.1, 45.6' LT	9.3 SQYD

<b>6" PCC DRIVEWAY PAVEMENT</b>	
2+34.0 TO 2+57.2, 13' LT TO 12' RT	58.6 SQYD

<b>INSTALL 12" CMP WITH FLARED END SECTIONS</b>	
2+74.7, 9' LT TO 2+81.7, 9.0' RT	18 FT
3+31.5, 9' LT TO 9' RT	18 FT

<b>SIDEWALK DRAIN</b>	
01+97 TO 02+06.5, 5' LT TO 5' FT RT	13 FT

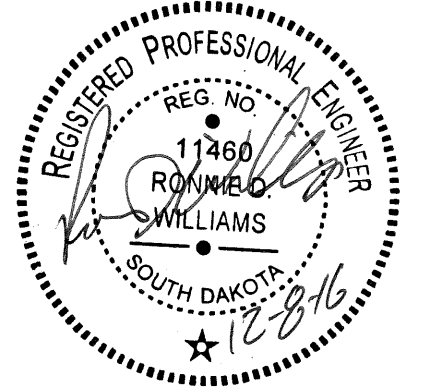
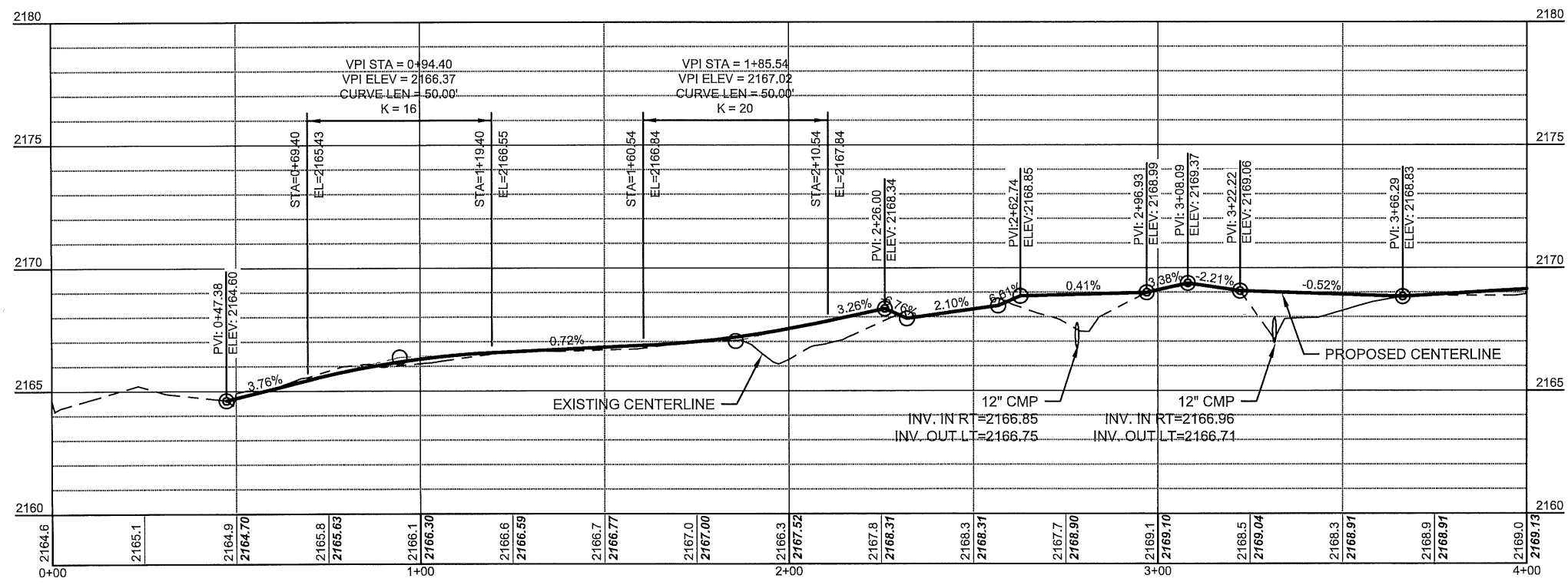
<b>4" CONCRETE SIDEWALK</b>	
0+00.0, 12.2' RT TO 0+00.0, 25.6' LT	230 SQFT
0+49.9 TO 2+31.5	1868 SQFT
0+52.4, 49.1' LT TO 0+60.1, 45.6' LT	60 SQFT
2+57.2 TO 2+97.9	419 SQFT
3+22.0 TO 4+00.0	780 SQFT

<b>6" CONCRETE SIDEWALK</b>	
2+97.9 TO 3+22.0	242 SQFT

<b>TYPE B66 CONCRETE CURB AND GUTTER</b>	
0+49.9, 5.0' RT TO 0.8' LT	6 FT
0+56.8, 9.5' LT TO 0+62.1, 9.9 LT	5 FT
2+31.5, 5.0' LT TO 13.0' LT	8 FT
2+31.5, 5.0' RT TO 12.0' RT	7 FT
2+57.2, 5.0' LT TO 13.0' LT	8 FT
2+57.2, 5.0' RT TO 12.0' RT	7 FT

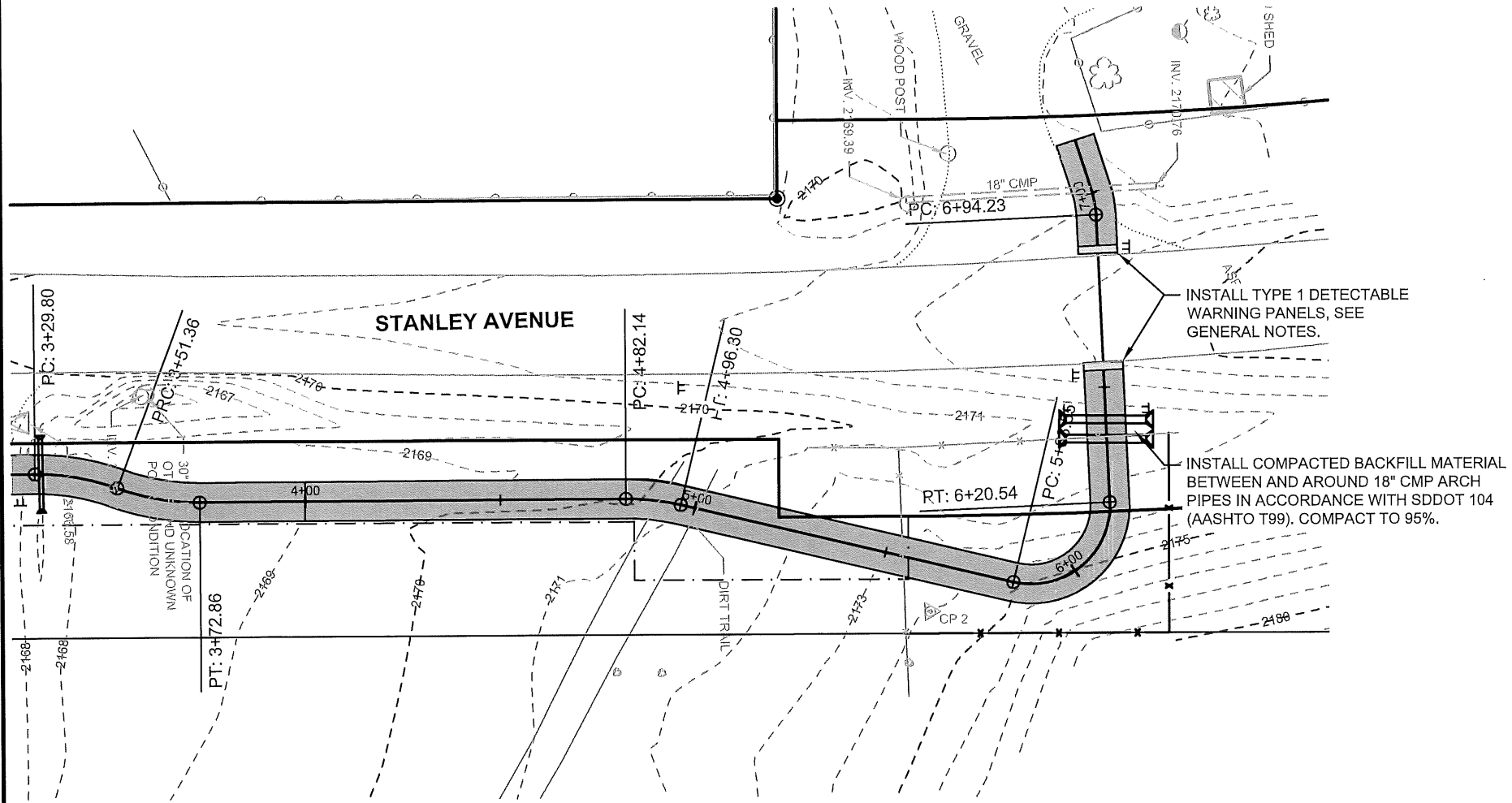
<b>TYPE P6 CONCRETE GUTTER</b>	
0+00.0, 1.2' RT, TO 0+00.0, 7.8' LT	9 FT
0+49.9, 0.8' LT TO 0+56.8, 9.5' LT	12 FT
2+31.5, 5.0' LT TO 5.0' RT	10 FT
2+57.2, 5.0' LT TO 5.0' RT	10 FT

<b>REESTABLISH PROPERTY CORNER</b>	
0+59.95, 1.19' LT	1 EACH



# PLAN & PROFILE

STATE OF SOUTH DAKOTA	PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
	P TAPR(03)	21	41
PLAN & PROFILE			



**REMOVE BARBED WIRE FENCE**  
 5+24.4, 21.5' LT TO 6+37.4, 15.8' RT 91 FT  
 5+47.0, 26.8' LT TO 5+56.7, 7.8' RT 36 FT

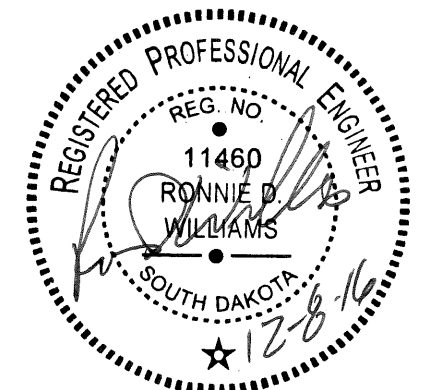
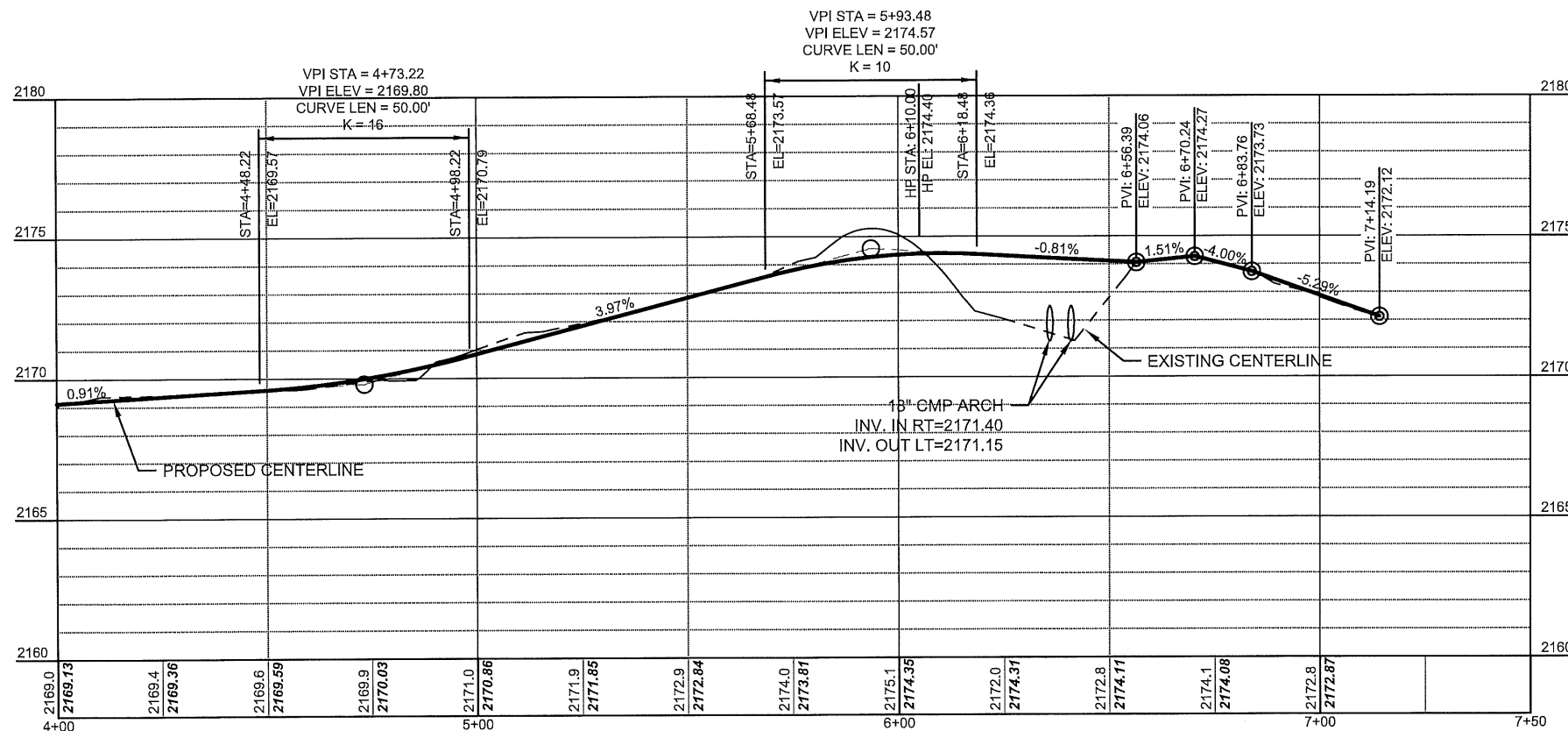
**INSTALL BARBED WIRE FENCE (TYPE 2)**  
 5+56.7, 7.8' RT TO 6+37.4, 15.8' RT 120 FT

**INSTALL 2 POST PANEL**  
 5+59.8, 19.1' RT 2 EACH  
 6+04.6, 27.8' RT 2 EACH  
 6+37.4, 15.8' RT 2 EACH

**INSTALL 18" CMP ARCH WITH FLARED END SECTIONS**  
 6+36.2, 12.0' RT TO 6+37.4, 12.0' LT 24 FT  
 6+41.1, 12.0' LT TO 6+42.4, 12.0' LT 24 FT

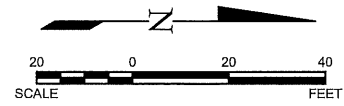
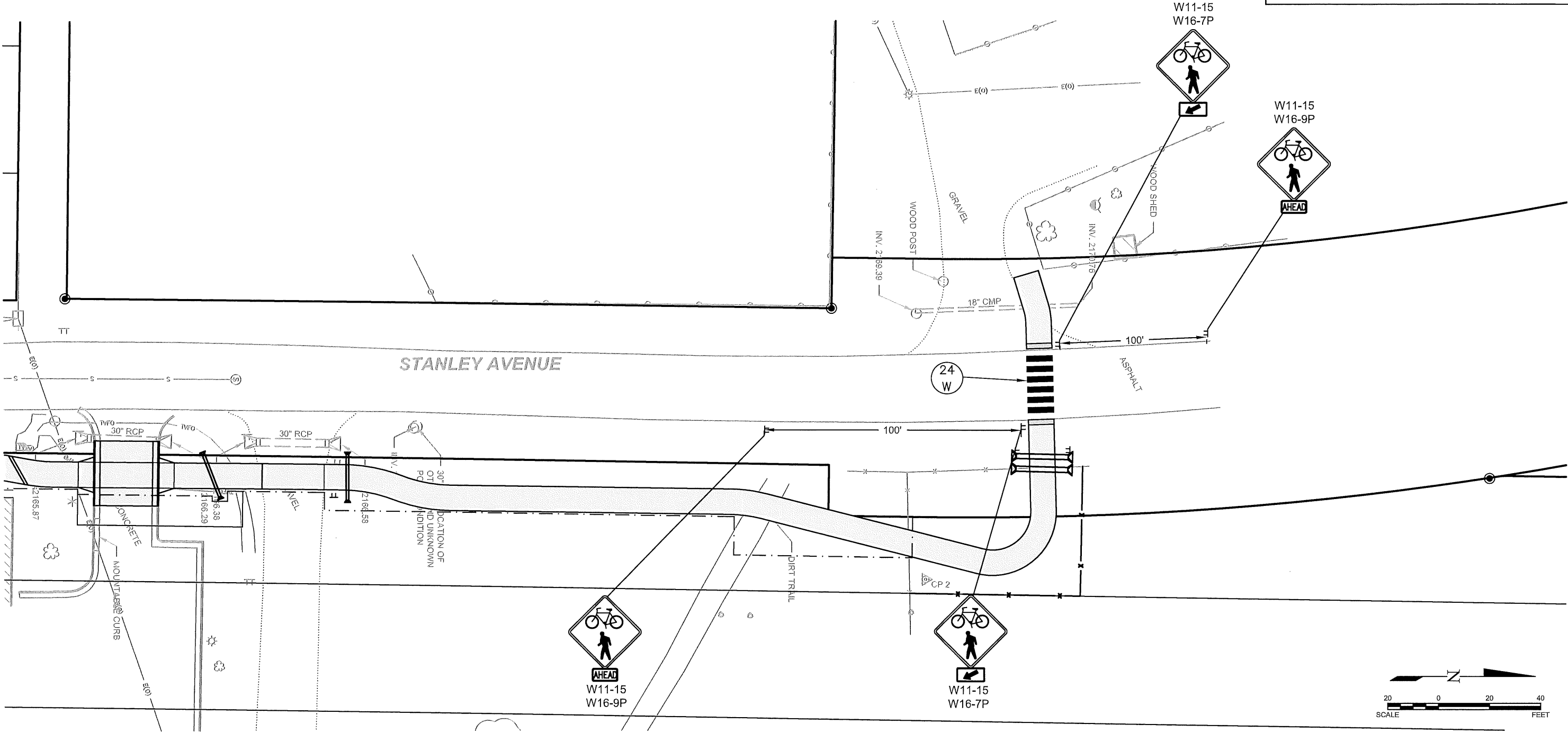
**4" CONCRETE SIDEWALK**  
 4+00.0 TO 6+56.4 1565 SQFT  
 6+83.8 TO 7+14.2 300 SQFT

- NOTES:**
1. ALL FENCING MATERIALS REMOVED SHALL BE DISPOSED OF BY CONTRACTOR OFF SITE.
  2. CMP ARCH BACKFILL MATERIAL SHALL BE FREE OF ROCKS, FROZEN LUMPS AND FOREIGN MATERIAL.
  3. ALL CMP ARCH BACKFILL MATERIAL SHALL BE PLACED IN A BALANCED FASHION IN THIN LIFTS (6-8" LOOSE TYPICALLY) AND COMPACTED TO 95 PERCENT DENSITY PER SDDOT 104 (AASHTO T-99). SELECT GRANULAR BACKFILL SHALL BE IN ACCORDANCE WITH SDDOT SECTION 882 FOR BASE COURSE.
  4. COMPLETE AND REGULAR MONITORING OF THE ARCH PIPE IS NECESSARY DURING ALL BACKFILLING OF THE PIPES.
  5. PREVENT EXCESSIVE DISTORTION OF SHAPE AS NECESSARY BY VARYING COMPACTION METHODS AND EQUIPMENT.
  6. MINIMUM COVER SHALL BE GREATER OF 1' OR MANUFACTURER REQUIRED HEIGHT ABOVE STRUCTURE.



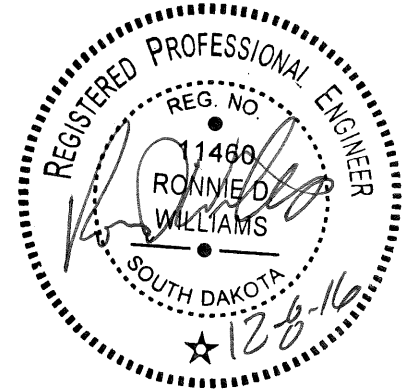
# PAVEMENT MARKING & PERMANENT SIGNING

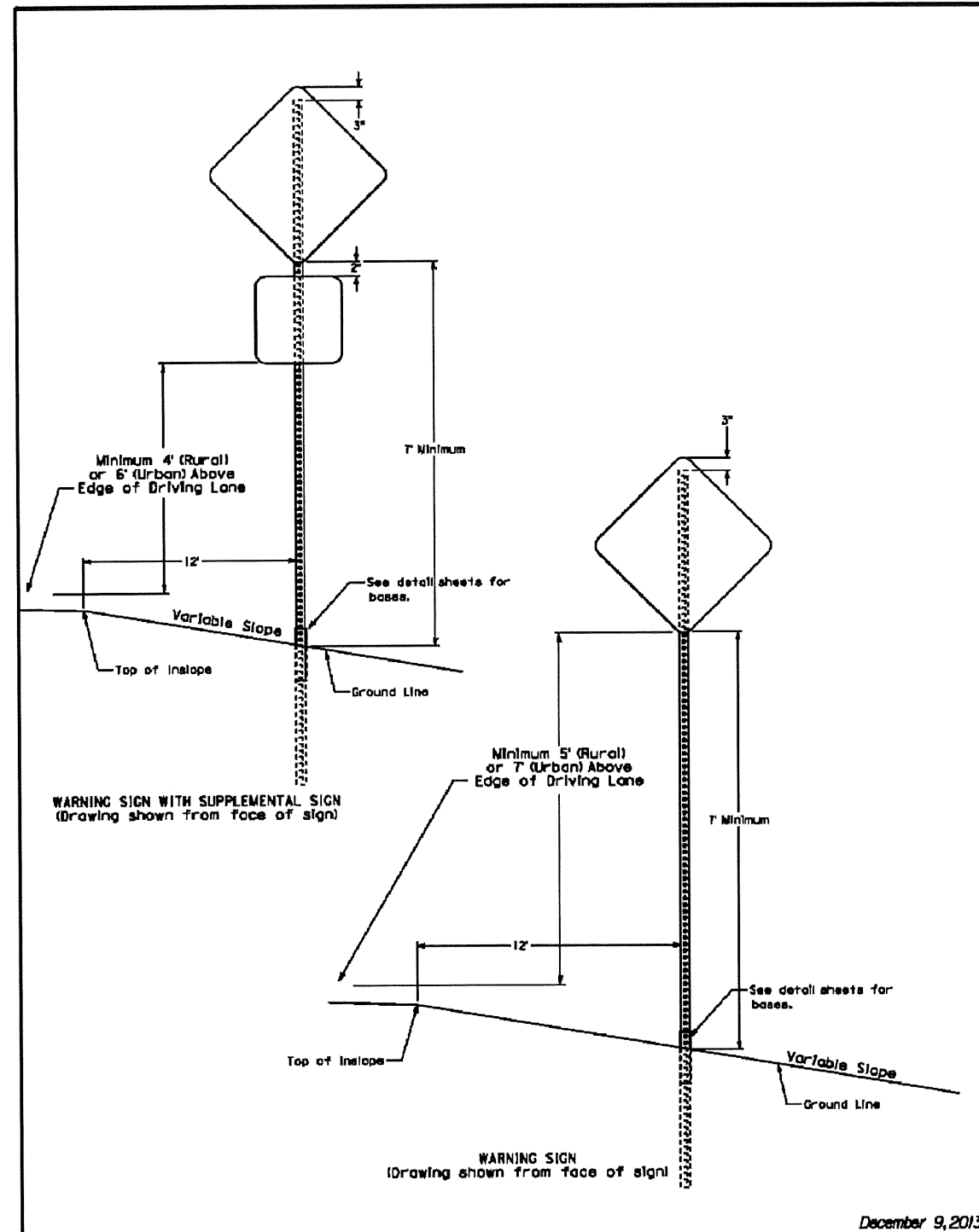
STATE OF SOUTH DAKOTA	PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
	P TAPR(03)	22	41
PAVEMENT MARKING & PERMANENT SIGNING			



KEY	ITEM	QUANTITY	UNIT
(24 W)	PAINTED PAVEMENT MARKING, 24" WHITE	60	FT

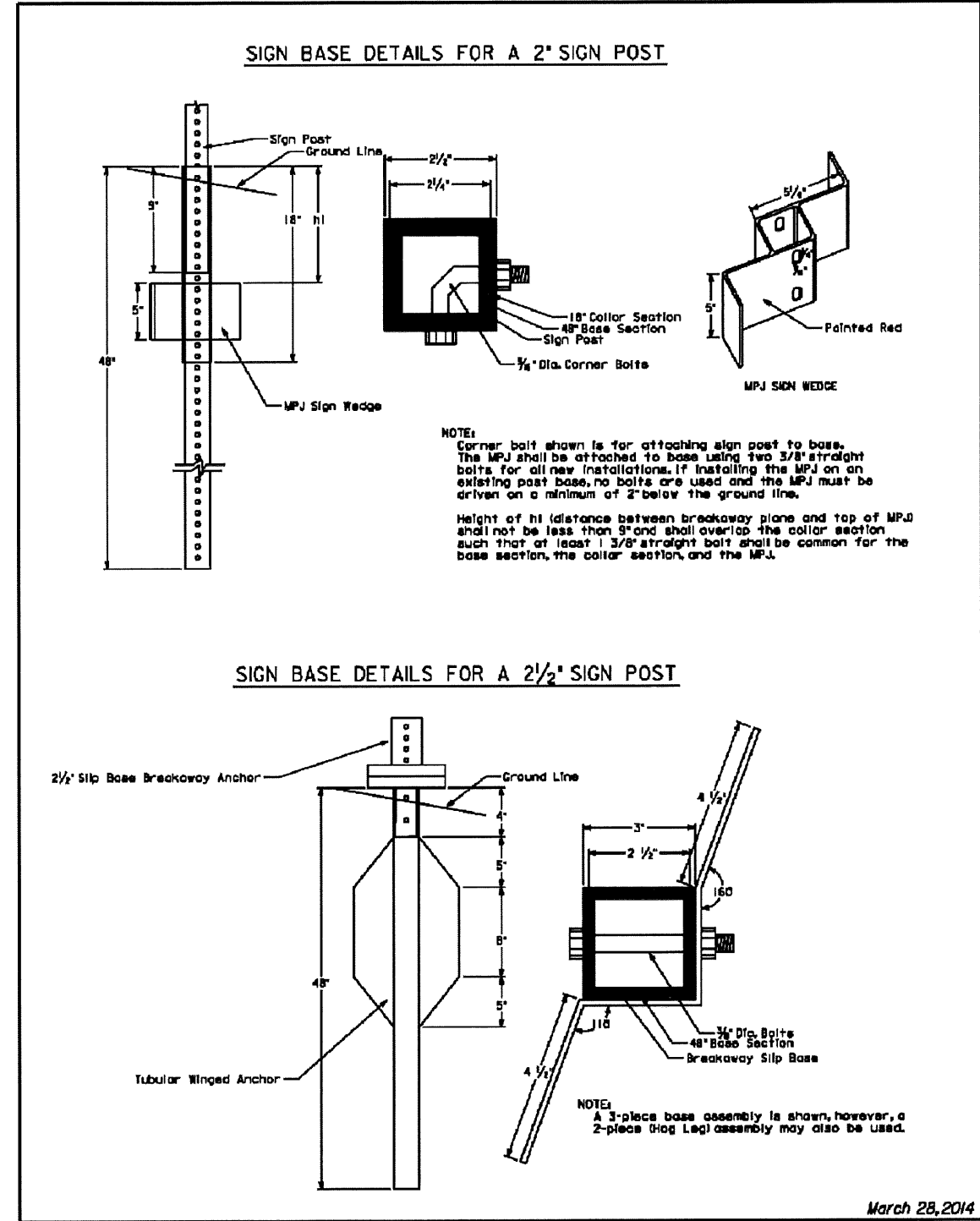
NOTE:  
CROSSWALK IS 10' WIDE.





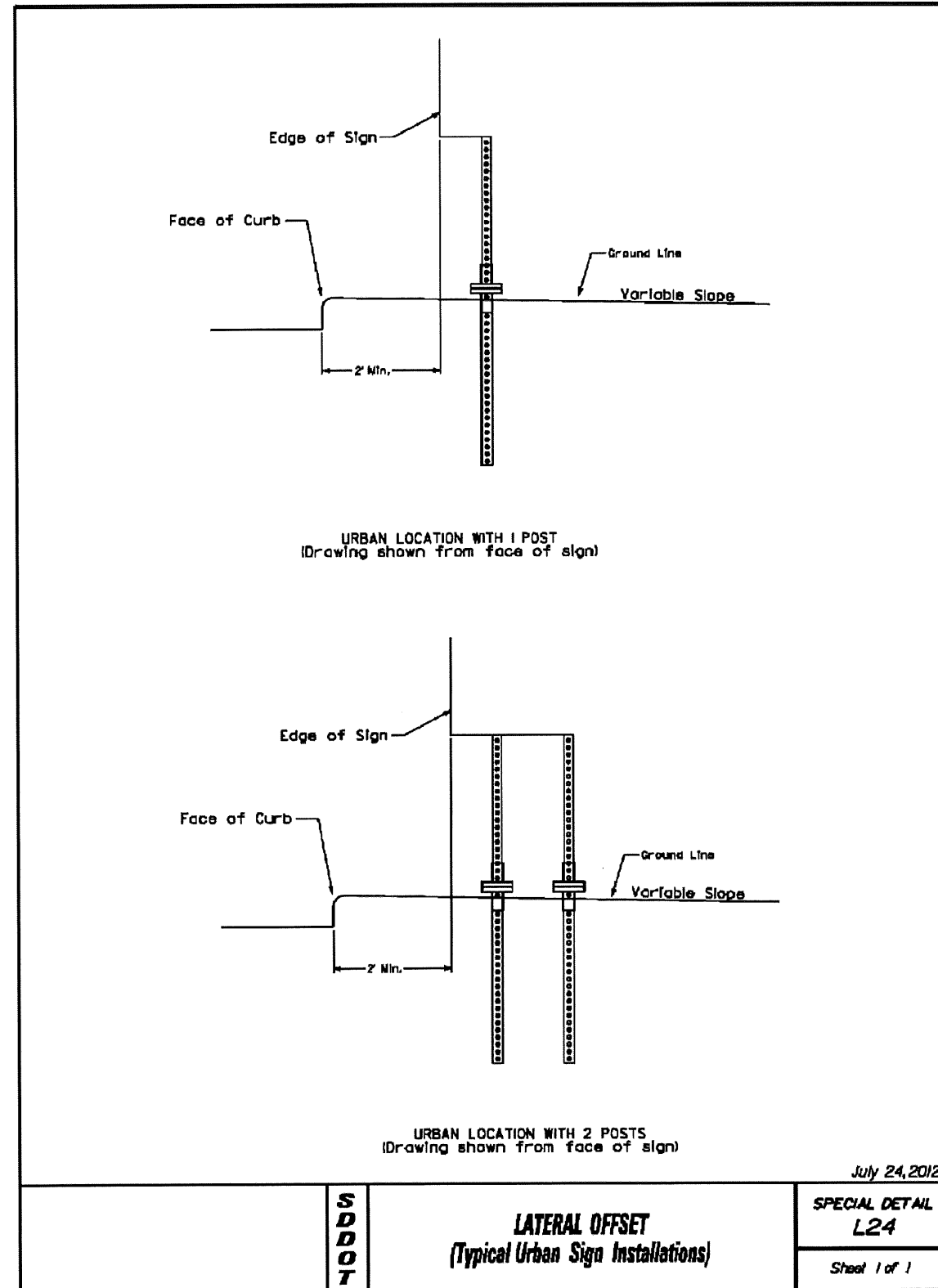
December 9, 2013

<b>S D D O T</b>	<b>30" WARNING SIGNS (Typical Sign Detail)</b>	<b>SPECIAL DETAIL L01</b>
		Sheet 1 of 1



March 28, 2014

<b>S D D O T</b>	<b>TUBULAR POST BASE DETAILS (Typical Soil Installation)</b>	<b>SPECIAL DETAIL L21</b>
		Sheet 1 of 1



• Dia. (in.)	2 <sup>2</sup> / <sub>3</sub> " x 1 <sup>1</sup> / <sub>2</sub> " CORRUGATIONS			3" X 1" CORRUGATIONS		
	S Span (in.)	H Rise (in.)	Area (Sq. Ft.)	S Span (in.)	H Rise (in.)	Area (Sq. Ft.)
15	17	13	1.1			
18	21	15	1.6			
21	24	18	2.2			
24	28	20	2.8			
30	35	24	4.4			
36	42	29	6.4	40	31	7.0
42	49	33	8.7	46	36	9.4
48	57	38	11.4	53	41	12.3
54	64	43	14.3	60	46	15.6
60	71	47	17.6	66	51	19.3
66	77	52	21.3	73	55	23.2
72	83	57	25.3	81	59	27.4
78				87	63	32.1
84				95	67	37.0
90				103	71	42.4
96				112	75	48.0
102				117	79	54.2
108				128	83	60.8
114				137	87	67.4
120				142	91	74.5

• Equivalent diameter of circular C.M.P.

GENERAL NOTE:  
All dimensions measured from inside crest.

March 31, 2000

<b>S D D O T</b>	<b>CORRUGATED METAL PIPE ARCH CULVERT</b>	PLATE NUMBER <b>450.30</b>
		Sheet 1 of 1

Published Date: 4th Qtr. 2016



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

**PLAN**

**ELEVATION**

1" O.D. 14 Ga. Galv. Tubing  
Sheet

$\frac{3}{8}$ " x  $\frac{1}{2}$ " Gal. Buttonhead Rivets spaced 6" C. to C. Overall length of rivets=0.78"

**TUBING ATTACHMENT DETAILS SECTION A-A**

**TYPICAL CROSS-SECTION**

Finish Earth Slope as Required  
Approx. 2 1/2:1 Slope  
Standard Coupling Band

Dia. D (in.)	Ga.	DIMENSIONS (in.)					Approx. Slope	Body
		A	B	H	L	W		
12	16	6	6	6	21	24	2 1/2:1	1 Pc.
15	16	7	8	6	26	30	2 1/2:1	1 Pc.
18	16	8	10	6	31	36	2 1/2:1	1 Pc.
21	16	9	12	6	36	42	2 1/2:1	1 Pc.
24	16	10	13	6	41	48	2 1/2:1	1 Pc.
30	14	12	16	8	46	60	2 1/2:1	1 Pc.
36	14	14	19	9	51	72	2 1/2:1	2 Pc.
42	12	16	22	11	60	84	2 1/2:1	2 Pc.
48	12	18	27	12	69	90	2 1/4:1	2 Pc.
54	12	18	30	12	78	102	2:1	3 Pc.
60	12	18	33	12	84	114	1 3/4:1	3 Pc.
66	12	18	36	12	87	120	1 1/2:1	3 Pc.
72	12	18	39	12	87	126	1 1/3:1	3 Pc.
78	12	18	42	12	87	132	1 1/4:1	3 Pc.
84	12	18	45	12	87	138	1 1/5:1	3 Pc.

**STANDARD CONNECTIONS**

Threaded  $\frac{5}{8}$ " Dia. Rod over Top of culvert  
Pipe Bolted on Side Lug  
Dimple Band Collar bolted to end section with  $\frac{3}{8}$ " bolts

For 30" through 84"      Alternate for all sizes

Pipe Strap Bolt  
Flat Strap Connector

For 12" through 24" only

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

Half Punches (Lugs)  
 $\frac{1}{2}$ " I.D. (Metal Edge)

**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  $\frac{3}{8}$ " 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  $\frac{1}{4}$ " for 60" through 72" diameters and 2 1/2" x 2 1/2" x  $\frac{1}{4}$ " for 78" and 84" diameters. The angles shall be attached by  $\frac{3}{8}$ " diameter galvanized nuts and bolts.  
Rivets and Bolts shall be  $\frac{3}{8}$ " Dia. Min. for 10 Ga. and 12 Ga. sheet, and  $\frac{1}{2}$ " Dia. Min. for 14 Ga. and 16 Ga. sheets. Tighten nuts with torque wrench to 25 lbs. torque.

March 31, 2000

**SDDOT**      **C.M.P. FLARED ENDS**      **PLATE NUMBER 450.35**      **Sheet 1 of 1**

Published Date: 4th Qtr. 2016

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

**PLAN**

**ELEVATION**

1" O.D. 14 Ga. Galv. Tubing  
Sheet

$\frac{3}{8}$ " x  $\frac{1}{2}$ " Gal. Buttonhead Rivets spaced 6" C. to C. Overall length of rivets=0.78"

**TUBING ATTACHMENT DETAILS SECTION A-A**

**TYPICAL CROSS-SECTION**

Finish Earth Slope as Required  
Approx. 2 1/2:1 Slope  
Standard Coupling Band

Span x Rise (in.)x(in.)	Equiv. Dia. (in.)	Ga.	APPROX. DIMENSIONS (in.)					Approx. Slope	Body
			A	B	H	L	W		
17x13	15	16	7	9	6	19	30	2 1/2:1	1 Pc.
21x15	18	16	7	10	6	23	36	2 1/2:1	1 Pc.
24x18	21	16	8	12	6	28	42	2 1/2:1	1 Pc.
28x20	24	16	9	14	6	32	48	2 1/2:1	1 Pc.
35x24	30	14	10	16	6	39	60	2 1/2:1	1 Pc.
42x29	36	14	12	18	8	46	75	2 1/2:1	1 Pc.
49x33	42	12	13	21	9	53	85	2 1/2:1	2 Pc.
57x38	48	12	16	26	12	63	90	2 1/2:1	2 Pc.
64x43	54	12	18	30	12	70	102	2 1/4:1	2 Pc.
71x47	60	12	18	33	12	77	114	2 1/4:1	3 Pc.
77x52	66	12	18	36	12	77	126	2:1	3 Pc.
83x57	72	12	18	39	12	77	133	2:1	3 Pc.

**STANDARD CONNECTIONS**

Threaded  $\frac{5}{8}$ " Dia. Rod over Top of culvert  
Pipe Bolted on Side Lug  
Dimple Band Collar bolted to end section with  $\frac{3}{8}$ " bolts

For 17"x13" through 83"x57"      Alternate for all sizes

① For 17" through 28" span pipe-arches a flat strap connector may be used in place of the rod connection. Strap connector shall be 1" wide, 12 ga. strap with standard 6" long x  $\frac{1}{2}$ " dia. band bolt and nut.

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

Half Punches (Lugs)  
 $\frac{1}{2}$ " I.D. (Metal Edge)

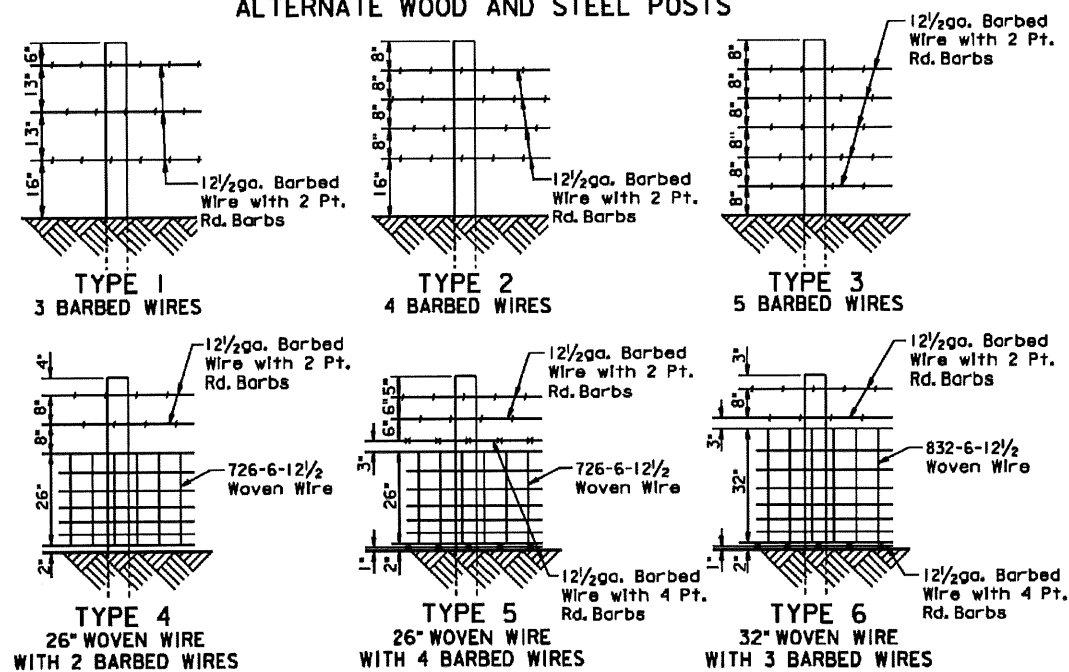
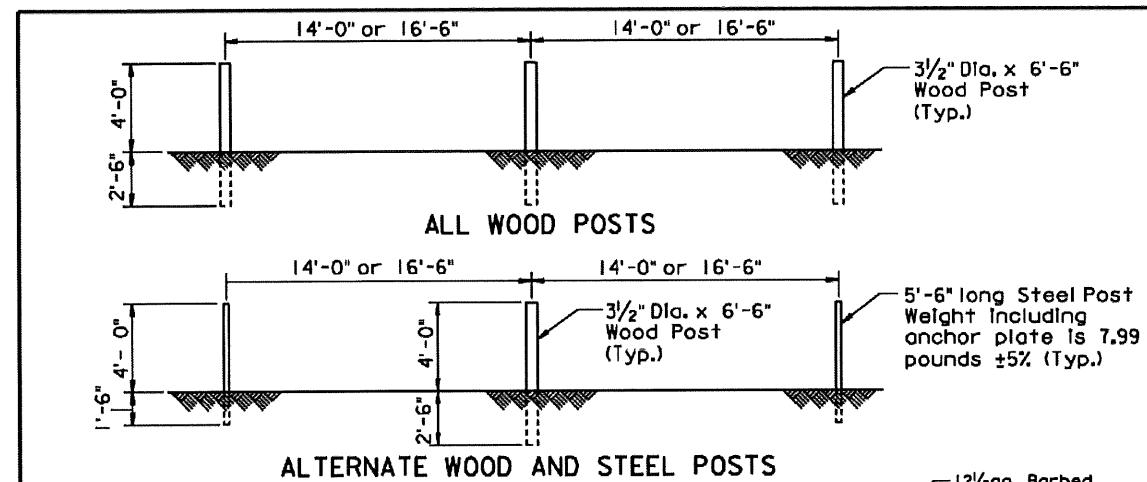
**SECTION A-A (alternate)**

**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 shall have lap seams tightly joined by  $\frac{3}{8}$ " Dia. galvanized rivets or bolts.  
For 77" x 52" and 83" x 57" sizes, reinforced edges shall be supplemented with galvanized stiffener angles. The angles will be 2" x 2" x  $\frac{1}{4}$ " for both the 77" x 52" size and the 83" x 57" size. The angles shall be attached by  $\frac{3}{8}$ " Dia. galvanized nuts and bolts.  
Rivets and Bolts shall be  $\frac{3}{8}$ " Dia. Min. for 10 Ga. and 12 Ga. sheet, and  $\frac{1}{2}$ " Dia. Min. for 14 Ga. and 16 Ga. sheets. Tighten nuts with torque wrench to 25 lbs. torque.

March 31, 2000

**SDDOT**      **C.M.P. ARCH FLARED ENDS**      **PLATE NUMBER 450.36**      **Sheet 1 of 1**

Published Date: 4th Qtr. 2016



TYPE OF FENCE		LINE POST SPACING	BARBED WIRE		WOVEN WIRE
TYPE	DESCRIPTION		WIRE GAUGE	NUMBER AND SHAPE OF BARBS	STYLE OR DESIGN NO.
1	3 Barbed Wires	16'-6"	12 1/2	2 Point Round	---
2	4 Barbed Wires	16'-6"	12 1/2	2 Point Round	---
3	5 Barbed Wires	16'-8"	12 1/2	2 Point Round	---
4	26" Woven Wire with 2 Barbed Wires	14'-0"	12 1/2	2 Point Round	726-6-12 1/2
5	26" Woven Wire with 4 Barbed Wires	14'-0"	12 1/2	2 wires with 2 Pt. Rd., 2 wires with 4 Pt. Rd.	726-6-12 1/2
6	32" Woven Wire with 3 Barbed Wires	14'-0"	12 1/2	2 wires with 2 Pt. Rd., 1 wire with 4 Pt. Rd.	832-6-12 1/2

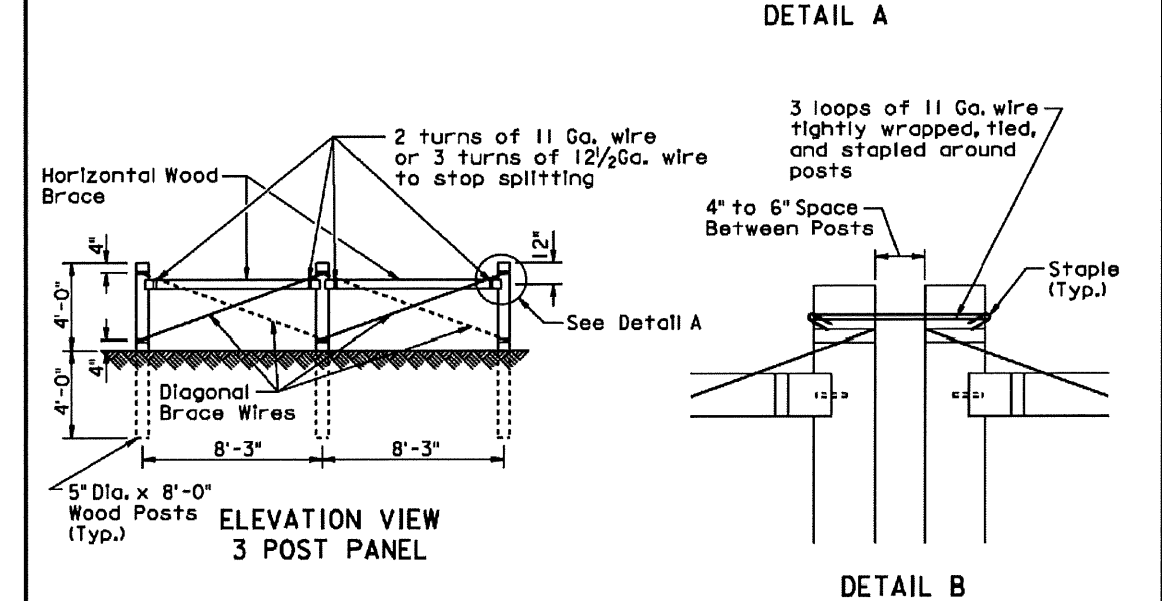
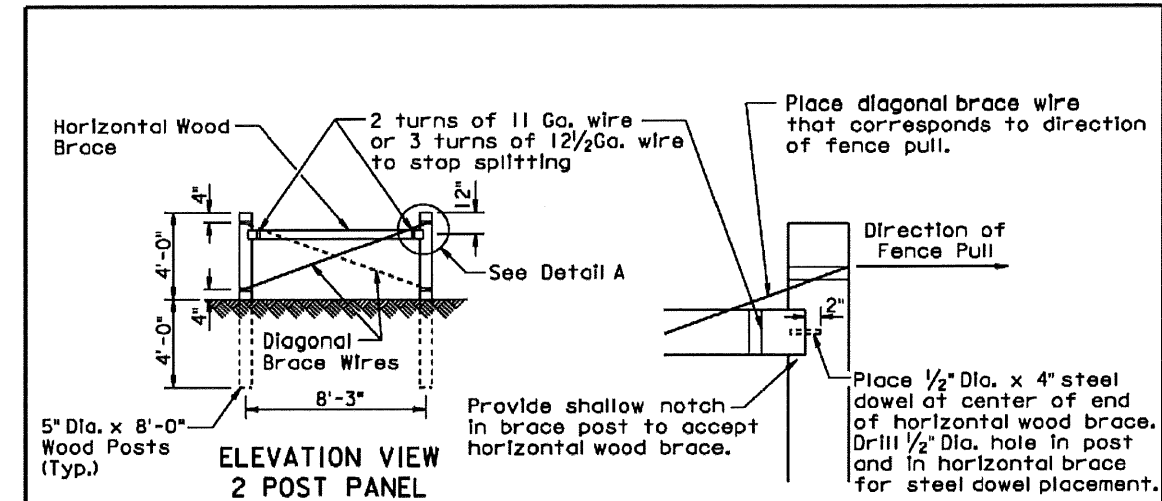
**GENERAL NOTES:**  
Fence types designated on the plans that are followed by the letter S shall have smooth (barbless) wires.  
When type 5S or 6S is designated the bottom wire may be barbed, smooth, or left off.  
All degrees of curvature stated for fence are at centerline of roadway.  
September 14, 2009

Published Date: 4th Qtr. 2016

**SDDOT**

**RIGHT-OF-WAY FENCE**

PLATE NUMBER  
**620.01**  
Sheet 1 of 1



**GENERAL NOTES:**  
Two Post Panels shall be installed at least every 1320' between corners.  
Two Post Panels shall be installed at any sharp vertical angle crest points and as directed by the Engineer.  
Horizontal wood braces shall consist of 4" dia. x 8' wood posts or rough 4" x 4" x 8' timbers.  
Diagonal brace wires shall be fabricated with 4 strands of 9 Ga. galvanized wire twisted tight. The diagonal brace wires shall be installed in accordance with the direction of the fence pull. Two diagonal brace wires are required if fence pull is in both directions.  
December 23, 2004

Published Date: 4th Qtr. 2016

**SDDOT**

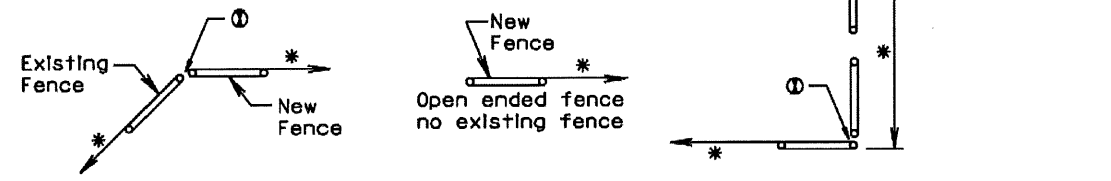
**BRACE PANELS AND APPLICATIONS OF BRACE PANELS**

PLATE NUMBER  
**620.03**  
Sheet 1 of 3

SPACING OF 2 POST PANELS WITHIN CURVES	
DEGREE OF CURVE	SPACING OF 2 POST PANEL
less than 3°15'	** 1320'
3°15' and greater	**At P.C., P.T., and at every 1320' between P.C. and P.T.

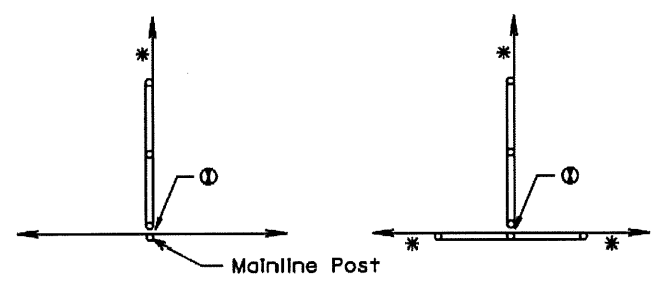
**GENERAL NOTE:**  
All degrees of curvature stated for fence are at centerline of roadway.

- \* If fence length is less than 600' to next corner use a 2 post panel. If fence length is greater than 600' to next corner use a 3 post panel.
- \*\* Fence lengths greater than 1320' and less than 2640' place 2 Post Panel approximately at midpoint.
- ① See Detail B on Sheet 1 of 3.

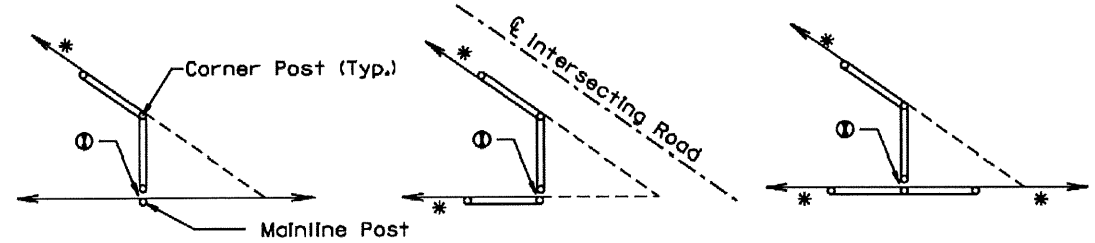


**BEGIN OR END FENCE**  
(where new fence ties into existing fence)

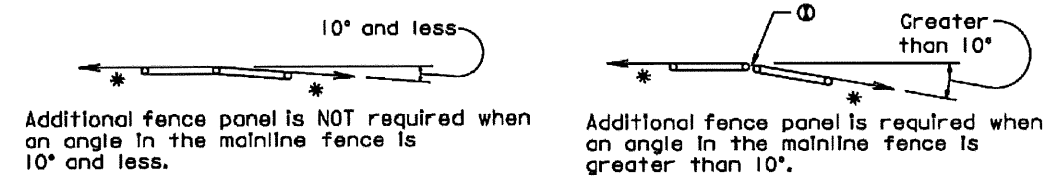
**SHORT JOGS IN FENCE**



**CROSS FENCE**



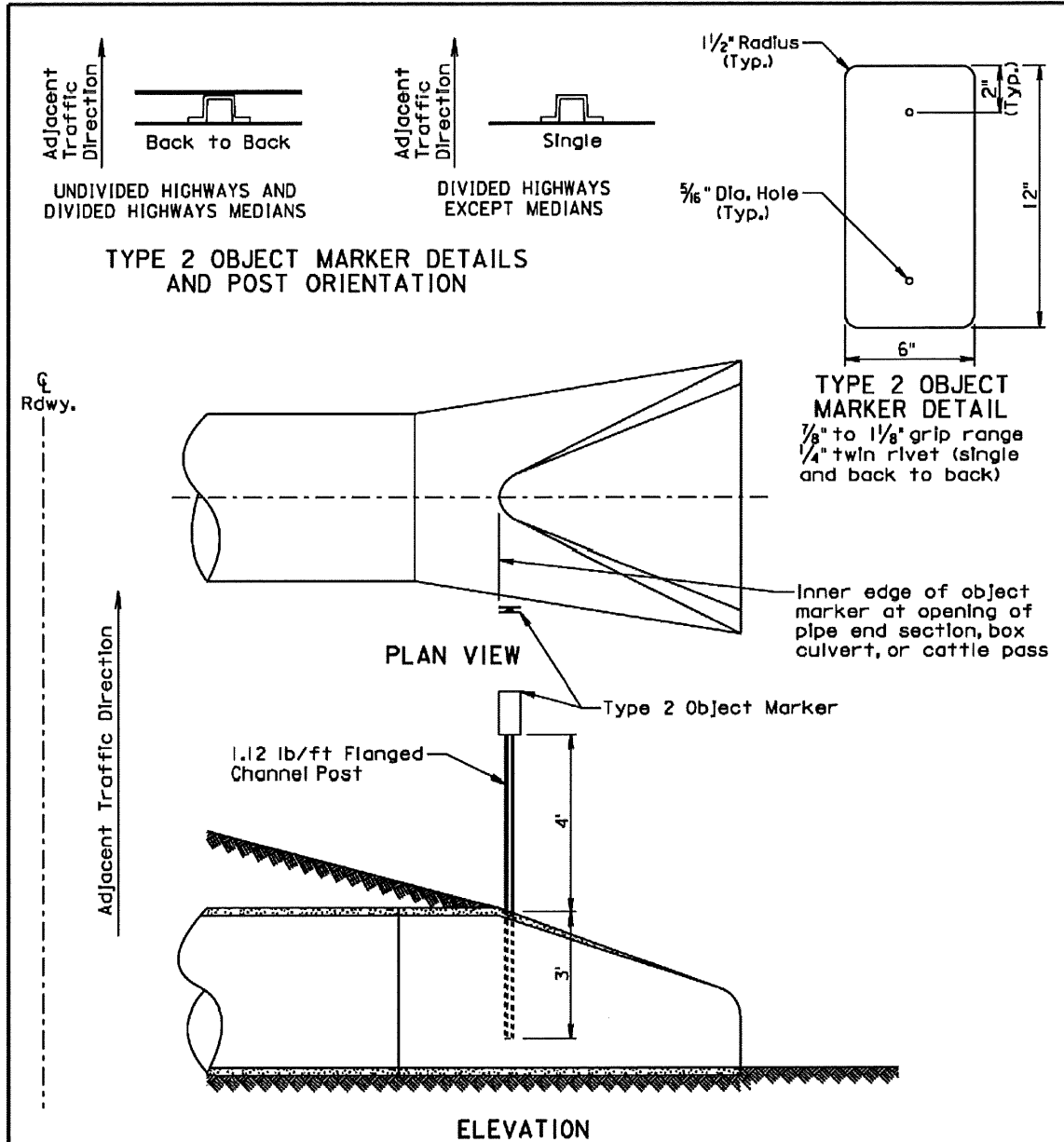
**SHARP ANGLES IN CROSS FENCE**



**ANGLES IN MAINLINE FENCE**

December 23, 2004

<b>S D D O T</b>	<b>BRACE PANELS AND APPLICATIONS OF BRACE PANELS</b>	PLATE NUMBER <b>620.03</b>
	Published Date: 4th Qtr. 2016	Sheet 2 of 3



**GENERAL NOTES:**

The type 2 object markers and the 1.12 lb/ft flanged channel posts shall be in conformance with Specifications Section 982.2 J.

Payment for the type 2 object markers shall be in conformance with Specification Section 632.5 B.

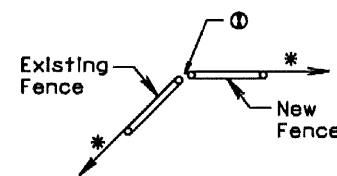
June 26, 2015

<b>S D D O T</b>	<b>TYPE 2 OBJECT MARKER INSTALLATION AT PIPE CULVERTS, BOX CULVERTS, AND CATTLE PASSES</b>	PLATE NUMBER <b>632.10</b>
	Published Date: 4th Qtr. 2016	Sheet 1 of 1

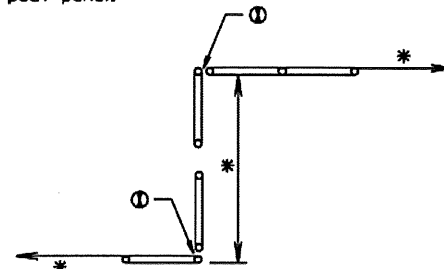
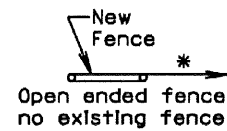
SPACING OF 2 POST PANELS WITHIN CURVES	
DEGREE OF CURVE	SPACING OF 2 POST PANEL
less than 3°15'	** 1320'
3°15' and greater	**At P.C., P.T., and at every 1320' between P.C. and P.T.

**GENERAL NOTE:**  
All degrees of curvature stated for fence are at centerline of roadway.

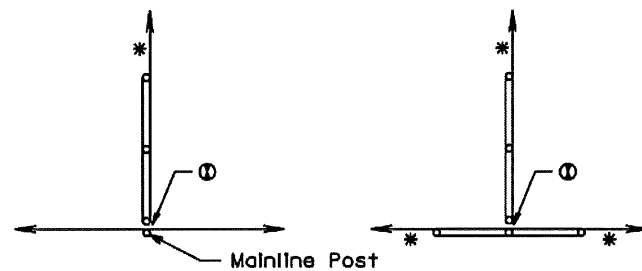
- \* If fence length is less than 600' to next corner use a 2 post panel. If fence length is greater than 600' to next corner use a 3 post panel.
- \*\* Fence lengths greater than 1320' and less than 2640' place 2 Post Panel approximately at midpoint.
- ① See Detail B on Sheet 1 of 3.



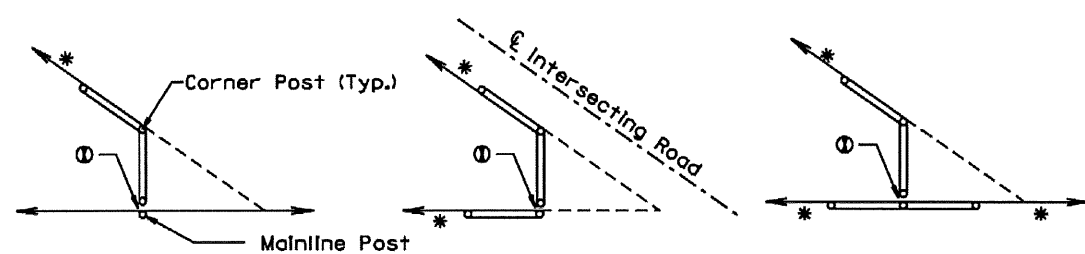
**BEGIN OR END FENCE**  
(where new fence ties into existing fence)



**SHORT JOGS IN FENCE**



**CROSS FENCE**



**SHARP ANGLES IN CROSS FENCE**



Additional fence panel is NOT required when an angle in the mainline fence is 10° and less.



Additional fence panel is required when an angle in the mainline fence is greater than 10°.

**ANGLES IN MAINLINE FENCE**

December 23, 2004

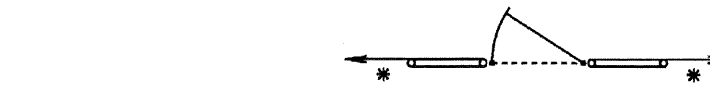
Published Date: 4th Qtr. 2016

**SDDOT**

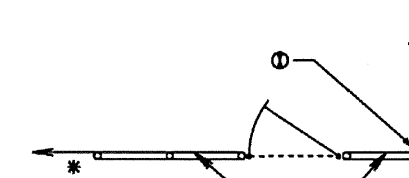
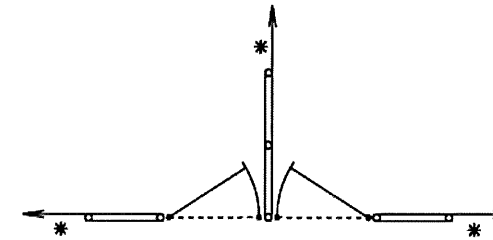
**BRACE PANELS  
AND APPLICATIONS OF BRACE PANELS**

PLATE NUMBER  
**620.03**

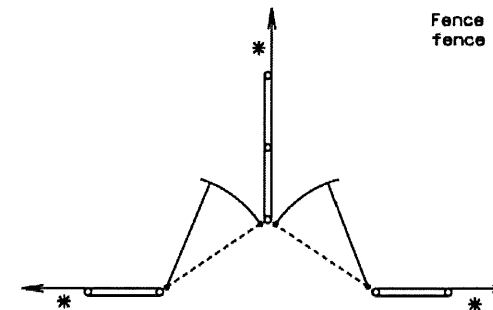
Sheet 2 of 3



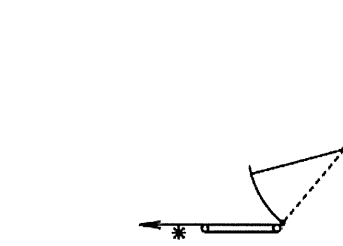
**ENTRANCE  
(NOT ON CORNER)**



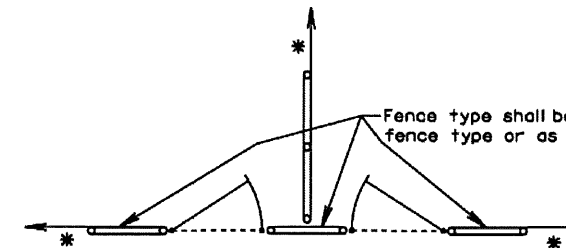
Fence type shall be same as adjacent fence type or as directed by the Engineer.



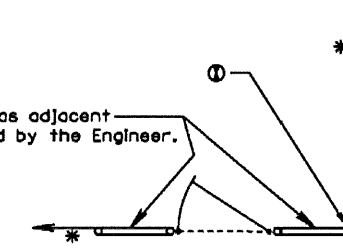
**DOUBLE ENTRANCES**



**ENTRANCES AT CORNERS**



**DOUBLE ENTRANCES**



**ENTRANCES AT CORNERS**

**GATES**

- \* If fence length is less than 600' to next corner use a 2 post panel. If fence length is greater than 600' to next corner use a 3 post panel.
- ① See Detail B on Sheet 1 of 3.

December 23, 2004

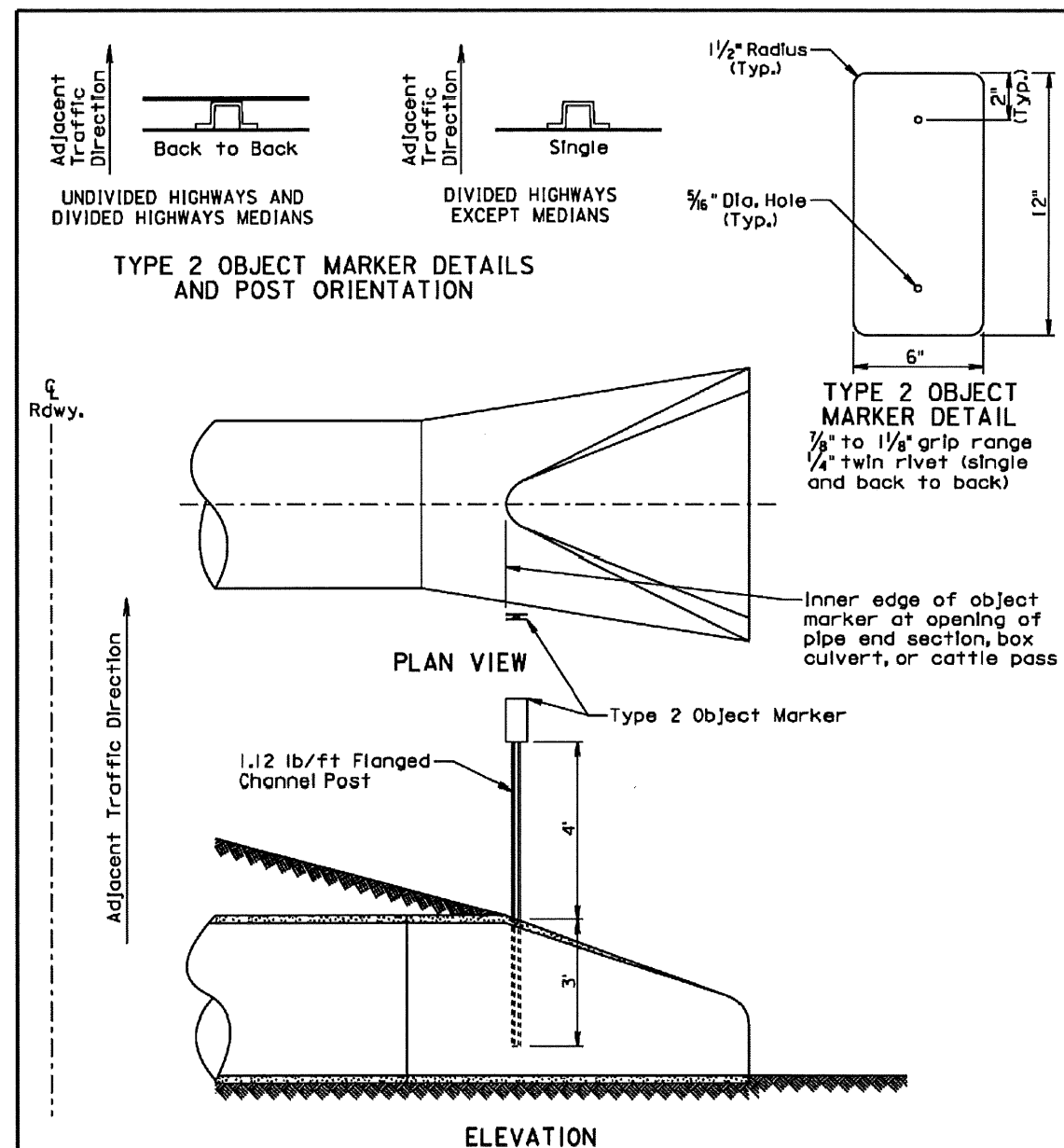
Published Date: 4th Qtr. 2016

**SDDOT**

**BRACE PANELS  
AND APPLICATIONS OF BRACE PANELS**

PLATE NUMBER  
**620.03**

Sheet 3 of 3



**GENERAL NOTES:**

The type 2 object markers and the 1.12 lb/ft flanged channel posts shall be in conformance with Specifications Section 982.2 J.

Payment for the type 2 object markers shall be in conformance with Specification Section 632.5 B.

June 26, 2015

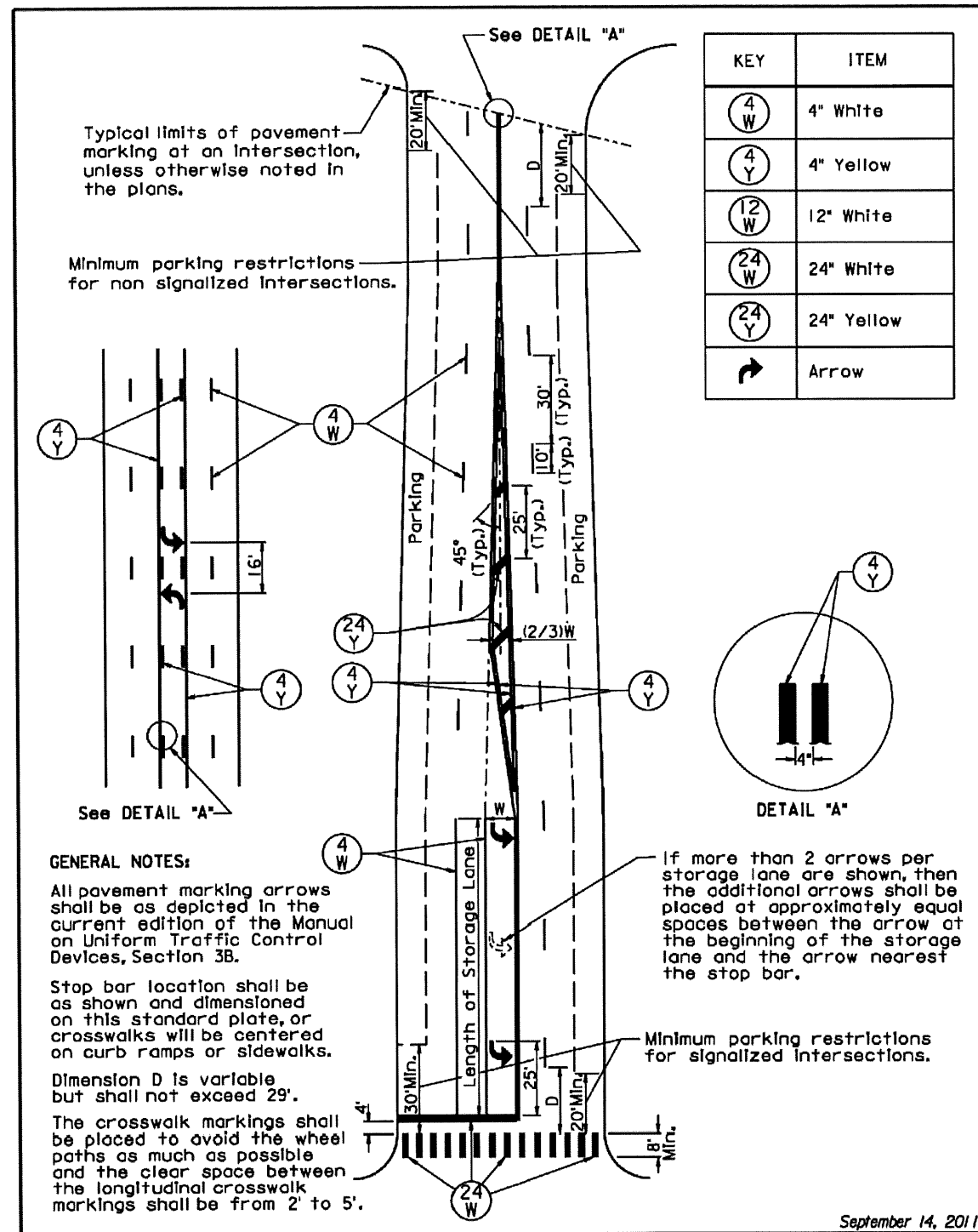
Published Date: 4th Qtr. 2016

S  
D  
D  
O  
T

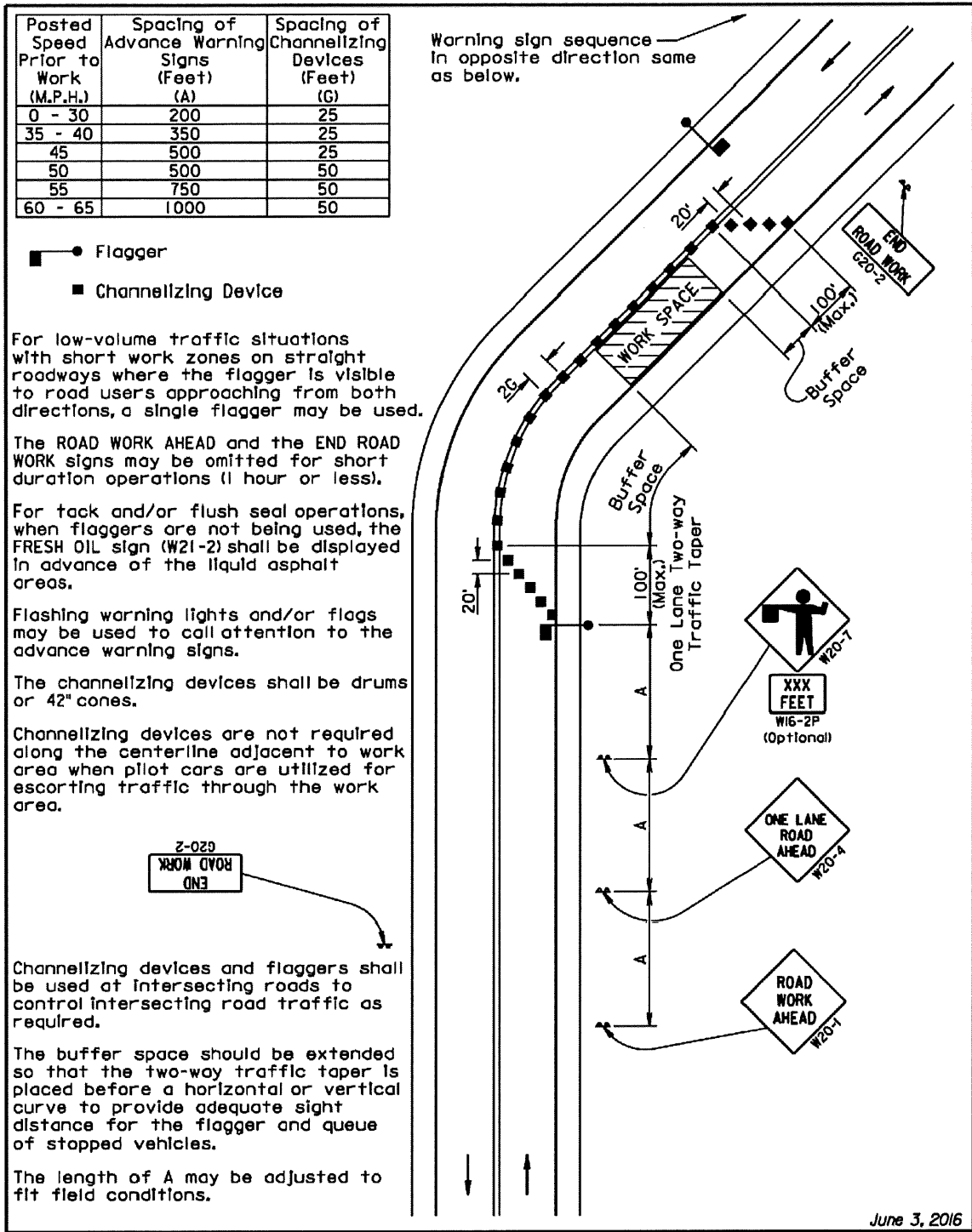
**TYPE 2 OBJECT MARKER INSTALLATION AT  
PIPE CULVERTS, BOX CULVERTS, AND  
CATTLE PASSES**

PLATE NUMBER  
**632.10**

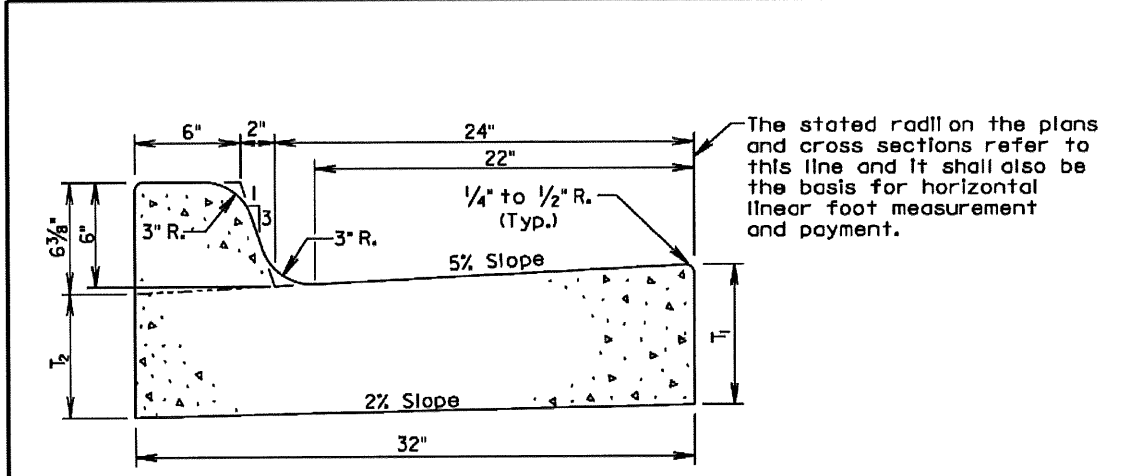
Sheet 1 of 1



S D D O T	<b>PAVEMENT MARKINGS FOR ADJACENT INTERSECTIONS AND CENTER TURN LANE</b>	PLATE NUMBER 633.01
	Published Date: 4th Qtr. 2016	Sheet 1 of 1



S D D O T	<b>GUIDES FOR TRAFFIC CONTROL DEVICES LANE CLOSURE WITH FLAGGER PROVIDED</b>	PLATE NUMBER 634.23
	Published Date: 4th Qtr. 2016	Sheet 1 of 1



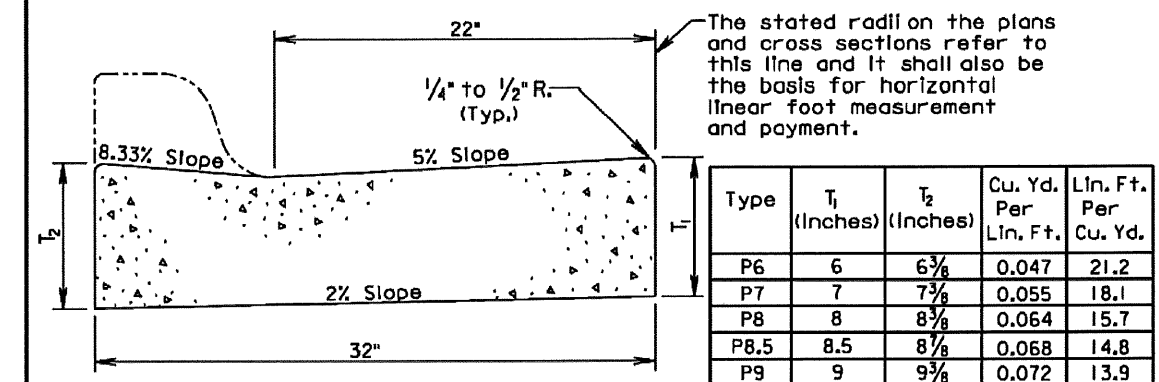
The stated radii on the plans and cross sections refer to this line and it shall also be the basis for horizontal linear foot measurement and payment.

Type	T <sub>1</sub> (Inches)	T <sub>2</sub> (Inches)	Cu. Yd. Per Lin. Ft.	Lin. Ft. Per Cu. Yd.
B66	6	5/16	0.057	17.7
B67	7	6/16	0.065	15.4
B68	8	7/16	0.073	13.7
B68.5	8.5	7 7/16	0.077	13.0
B69	9	8/16	0.081	12.3
B69.5	9.5	8 1/16	0.085	11.7
B610	10	9/16	0.090	11.2
B610.5	10.5	9 1/16	0.094	10.7
B611	11	10/16	0.098	10.2
B611.5	11.5	10 1/16	0.102	9.8
B612	12	11/16	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

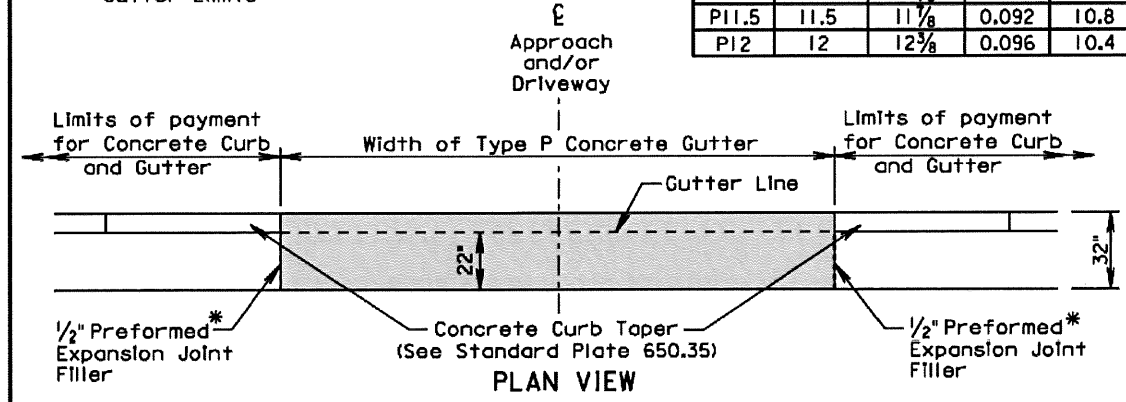
<b>SDDOT</b>	<b>TYPE B CONCRETE CURB AND GUTTER</b>	<b>PLATE NUMBER</b> 650.01
	<i>Published Date: 4th Qtr. 2016</i>	Sheet 1 of 1



The stated radii on the plans and cross sections refer to this line and it shall also be the basis for horizontal linear foot measurement and payment.

Type	T <sub>1</sub> (Inches)	T <sub>2</sub> (Inches)	Cu. Yd. Per Lin. Ft.	Lin. Ft. Per Cu. Yd.
P6	6	6 3/8	0.047	21.2
P7	7	7 3/8	0.055	18.1
P8	8	8 3/8	0.064	15.7
P8.5	8.5	8 7/8	0.068	14.8
P9	9	9 3/8	0.072	13.9
P9.5	9.5	9 7/8	0.076	13.2
P10	10	10 3/8	0.080	12.5
P10.5	10.5	10 7/8	0.084	11.9
P11	11	11 3/8	0.088	11.3
P11.5	11.5	11 7/8	0.092	10.8
P12	12	12 3/8	0.096	10.4

Type P Concrete Gutter Limits

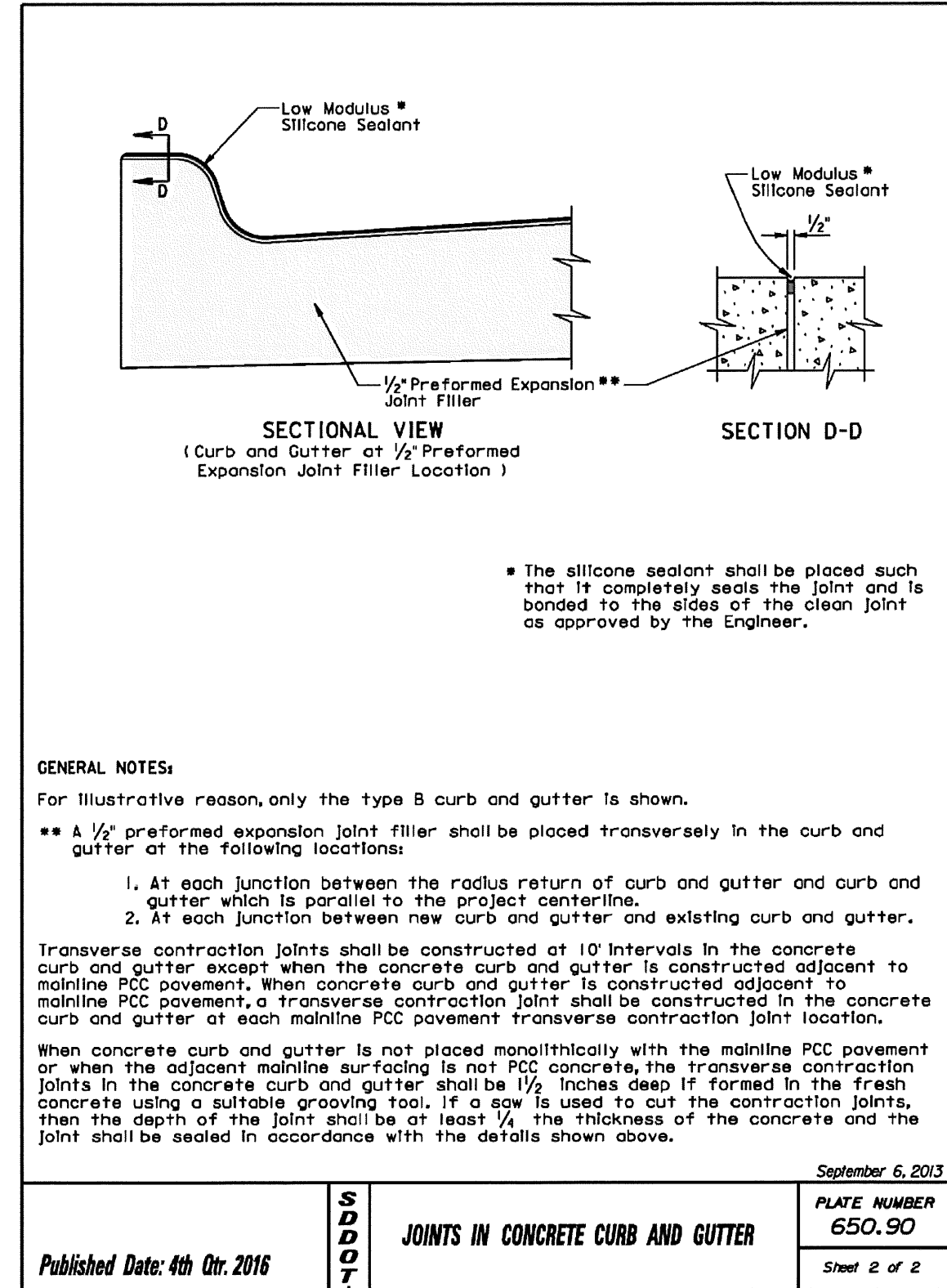
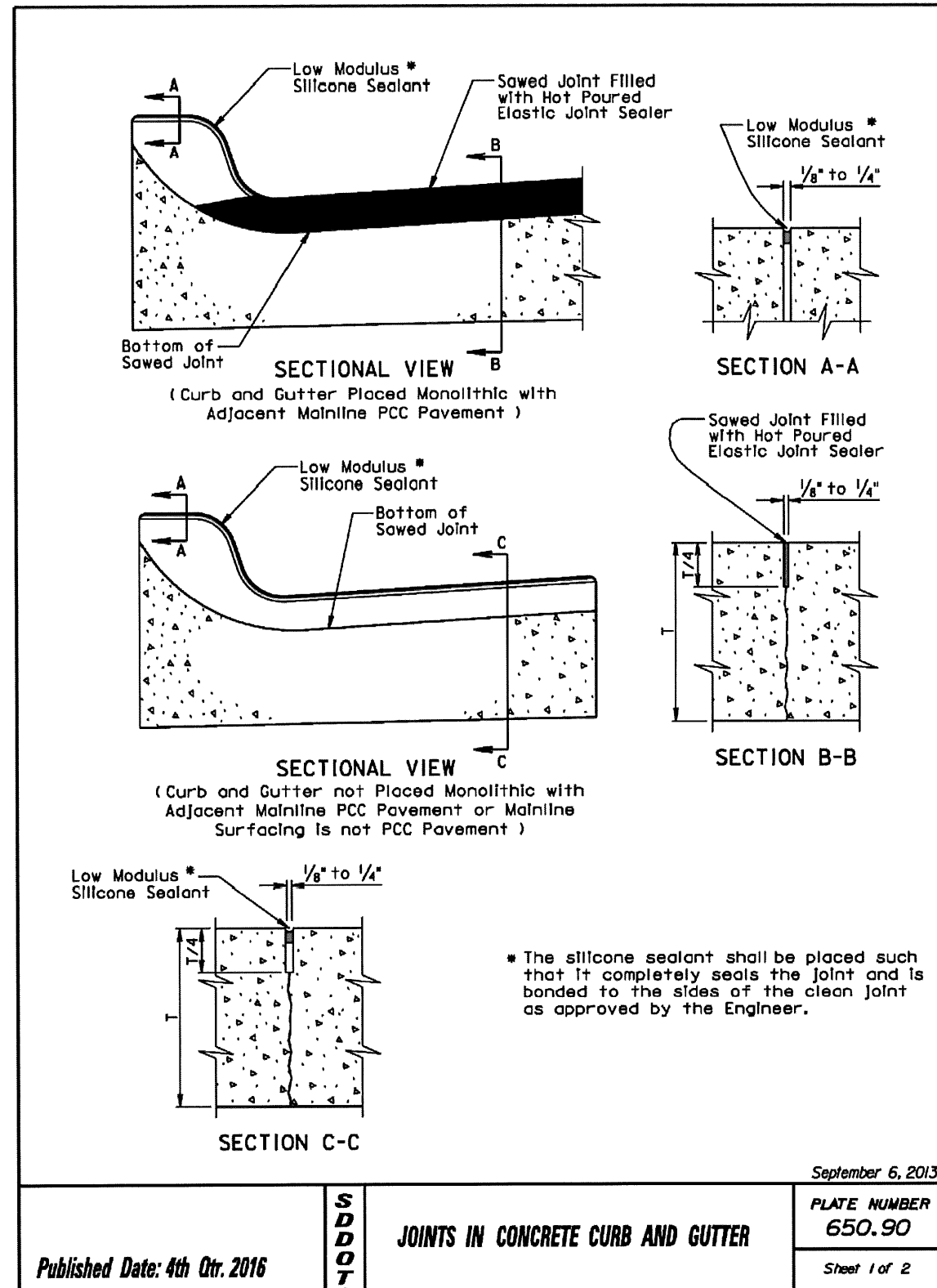


\* Joint will not be needed if concrete curb and gutter and type P concrete gutter is placed at the same time. If the 1/2 inch preformed expansion joint filler is provided, then the joint shall be sealed in accordance with Standard Plate 650.90.

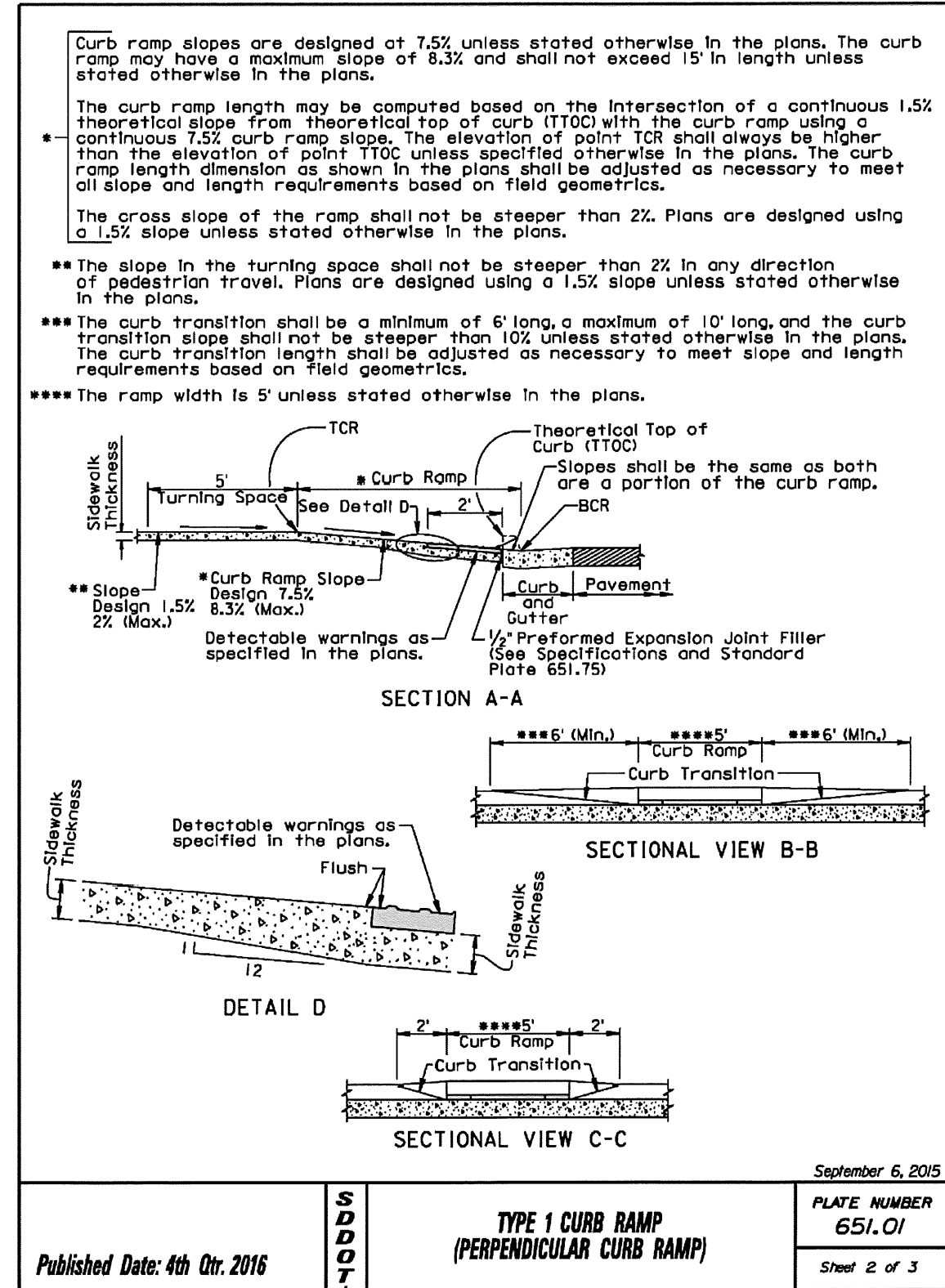
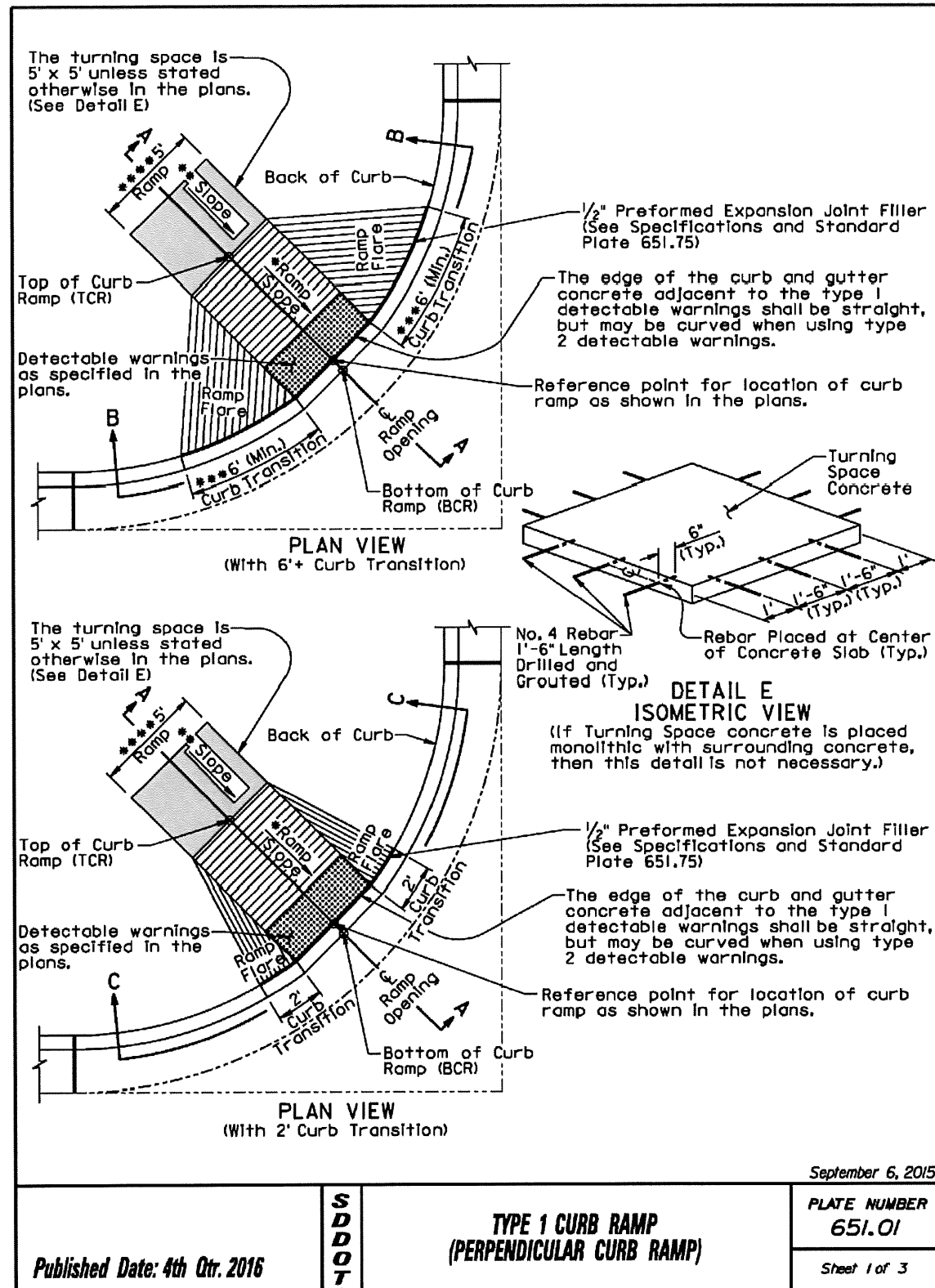
**GENERAL NOTES:**  
 The concrete for the Type P Concrete Gutter shall comply with the requirements of the Specifications for Class M6 Concrete.  
 When concrete gutter longitudinally adjoins new concrete pavement, the method of attachment shall be by one of the methods shown on Standard Plate 380.11.  
 Transverse contraction joints shall be constructed at 10' intervals in the concrete gutter except when concrete gutter is constructed adjacent to mainline PCC pavement. When concrete gutter is constructed adjacent to mainline PCC pavement, a transverse contraction joint shall be constructed in the concrete gutter at each mainline PCC pavement transverse contraction joint location.  
 When concrete gutter is placed monolithically with mainline PCC pavement, the transverse contraction joints in the concrete gutter shall be sawed and sealed the same as the transverse contraction joints in the mainline PCC pavement.  
 When concrete gutter is not placed monolithically with the mainline PCC pavement and when the adjacent mainline surfacing is not PCC concrete, the transverse contraction joints in the concrete gutter shall be 1/2 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 1/4 the thickness of the concrete.

June 26, 2015

<b>SDDOT</b>	<b>TYPE P CONCRETE GUTTER</b>	<b>PLATE NUMBER</b> 650.30
	<i>Published Date: 4th Qtr. 2016</i>	Sheet 1 of 1







STATE OF SOUTH DAKOTA	PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
	P TAPR(03)	32	41
SDDOT STANDARD PLATES			

**GENERAL NOTES:**

For illustrative purpose only, type 1 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 or 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 curb 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 curb ramp, free of sags and short grade changes.

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

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

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.

If rebar is placed in the Turning Space as depicted in DETAIL E, the cost of the materials, labor, and equipment to furnish and install the rebar shall be incidental to the contract unit price per square foot for the corresponding concrete sidewalk bid item.

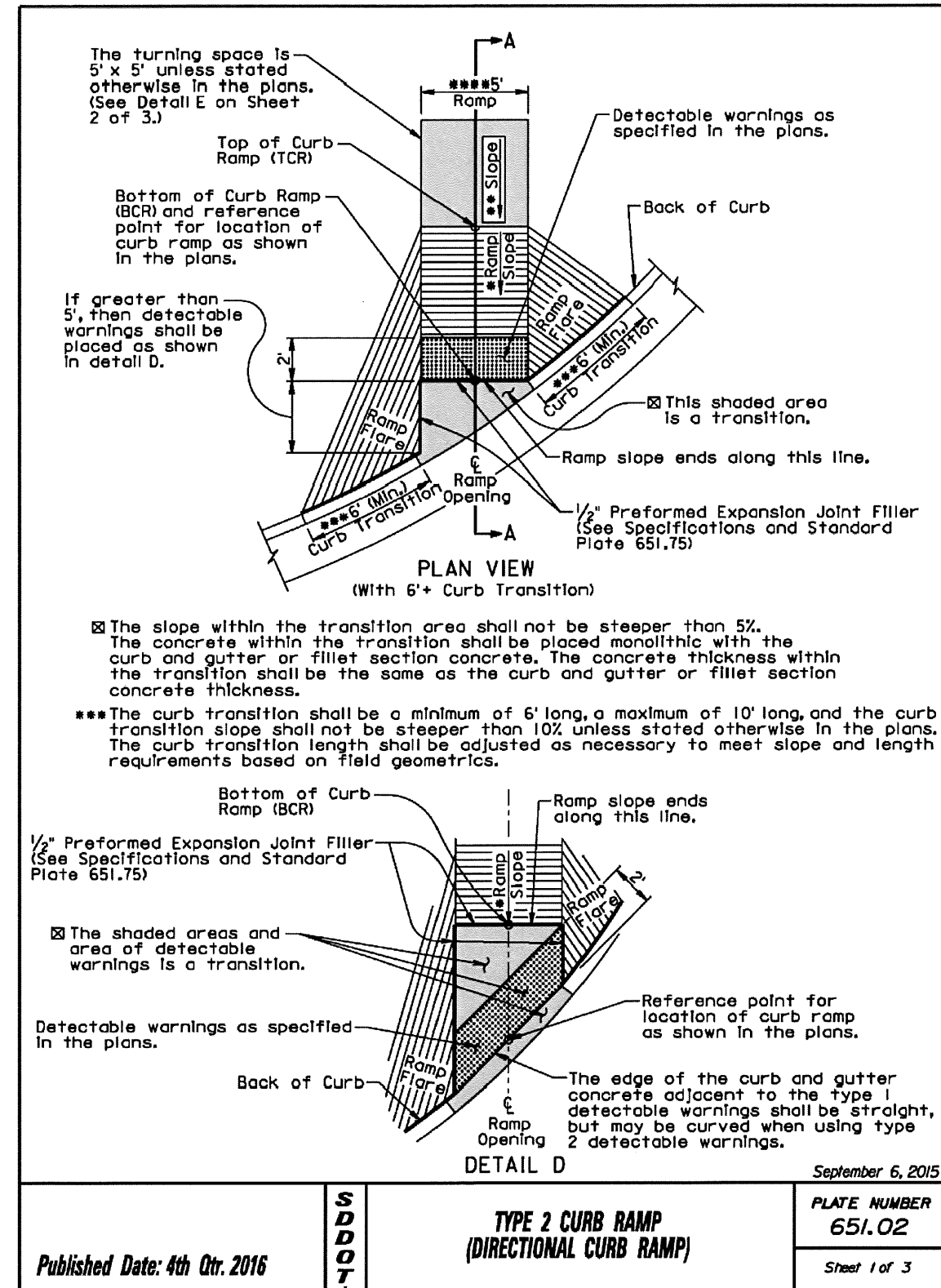
The curb transitions and ramp opening shall be measured and paid for at the contract unit price per foot for the corresponding curb and gutter bid item when curb and gutter is used. The curb transitions and ramp opening shall be measured and paid for at the contract unit price per square yard for the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

The type 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".

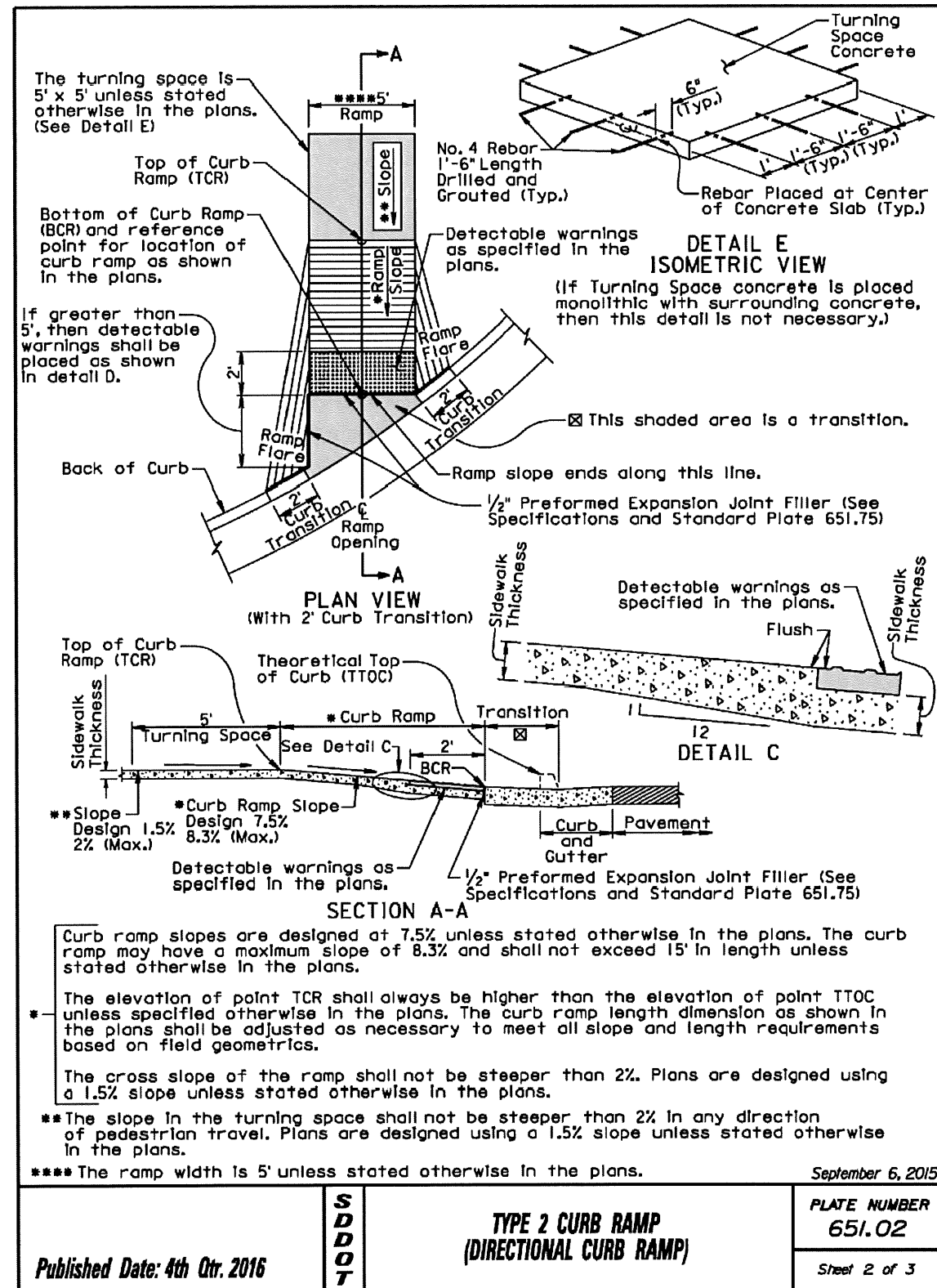
The type 2 detectable warnings shall be measured to the nearest square foot. All costs for furnishing and installing the type 2 detectable warnings including labor, equipment, and materials, including adhesive, necessary sealant or grout, and necessary grinding shall be paid for at the contract unit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

September 6, 2015

S D D O T	TYPE 1 CURB RAMP (PERPENDICULAR CURB RAMP)	PLATE NUMBER 651.01
		Sheet 3 of 3
Published Date: 4th Qtr. 2016		



STATE OF SOUTH DAKOTA	PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
	P TAPR(03)	33	41
SDDOT STANDARD PLATES			



**GENERAL NOTES:**

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

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

Sidewalk shall not be placed adjacent to the curb 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 curb ramp, free of sags and short grade changes.

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

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

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.

If rebar is placed in the Turning Space as depicted in DETAIL E, the cost of the materials, labor, and equipment to furnish and install the rebar shall be incidental to the contract unit price per square foot for the corresponding concrete sidewalk bid item.

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.

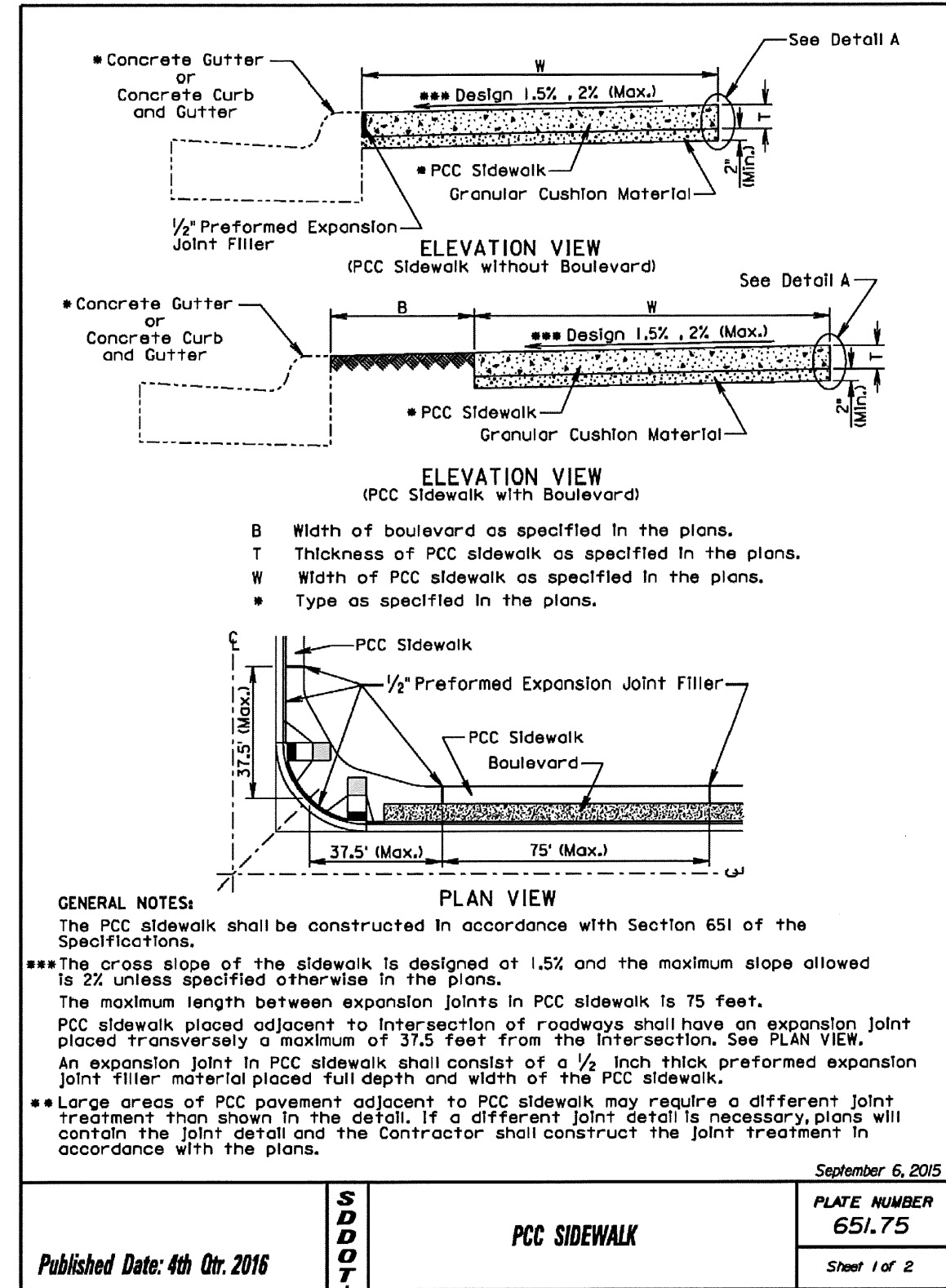
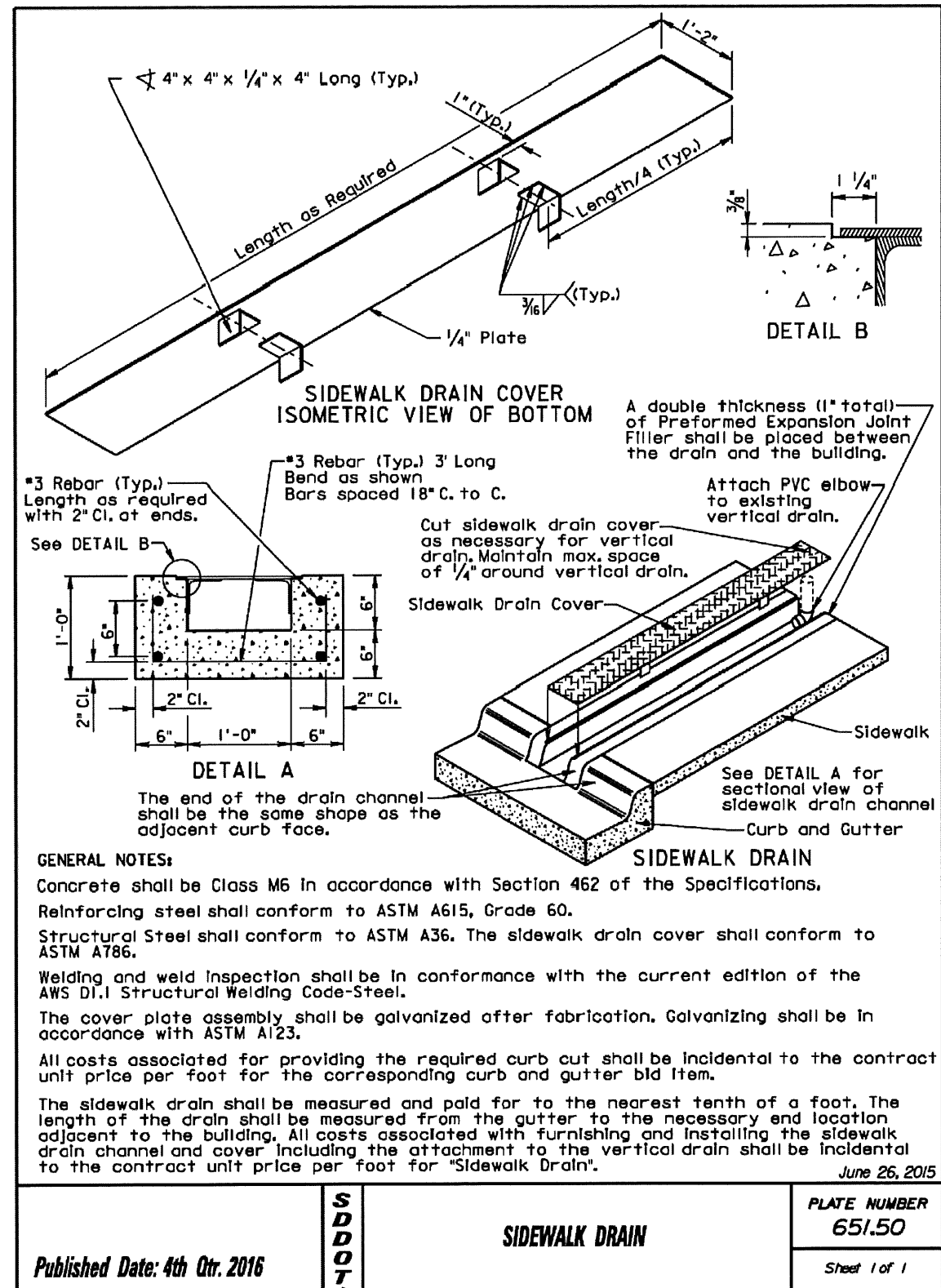
All costs for furnishing and installing the transition area at the base of the curb ramp shall be incidental to the contract unit price per foot for the corresponding curb and gutter bid item when curb and gutter is used and shall be incidental to the contract unit price per square yard for the corresponding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

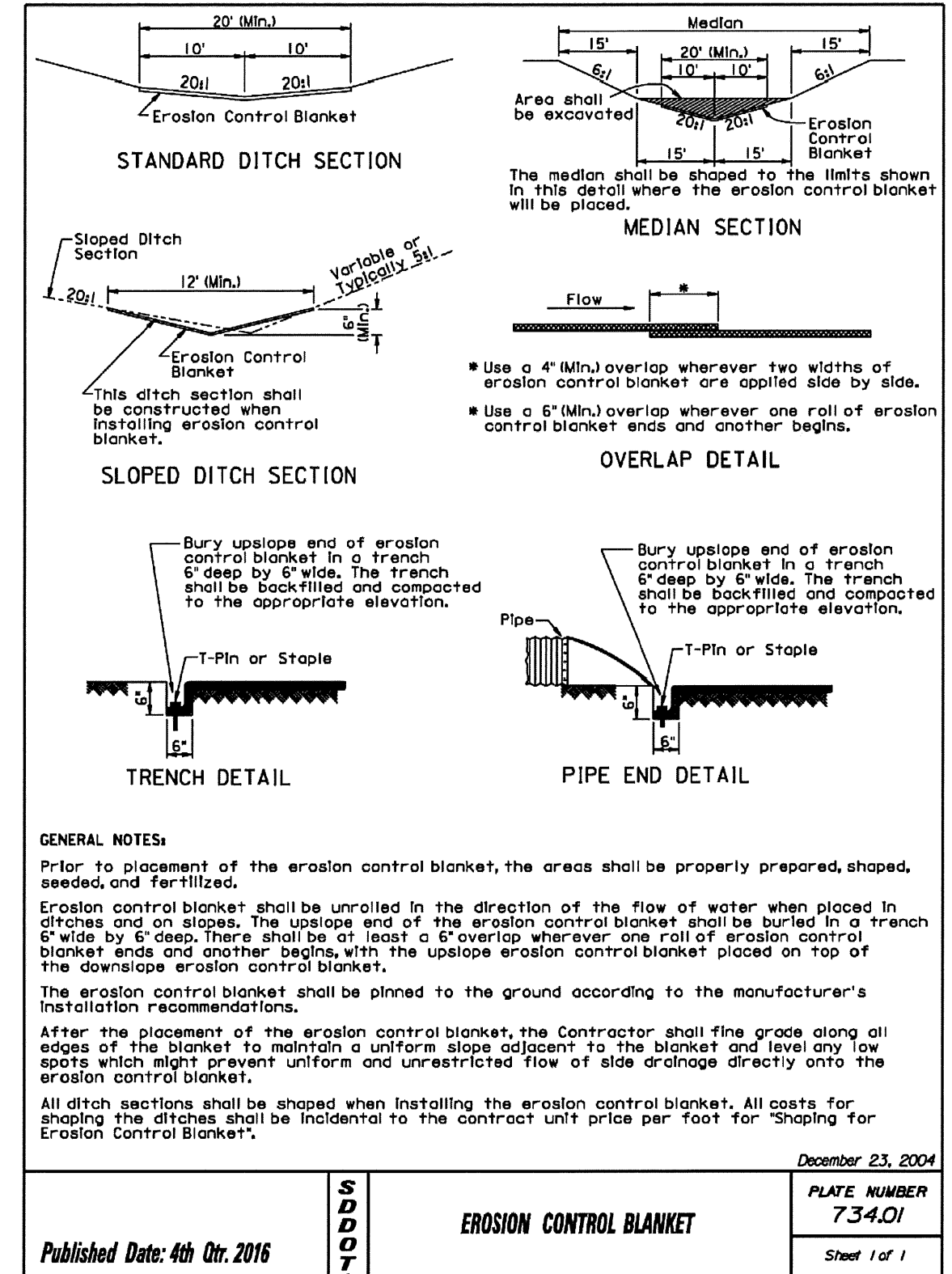
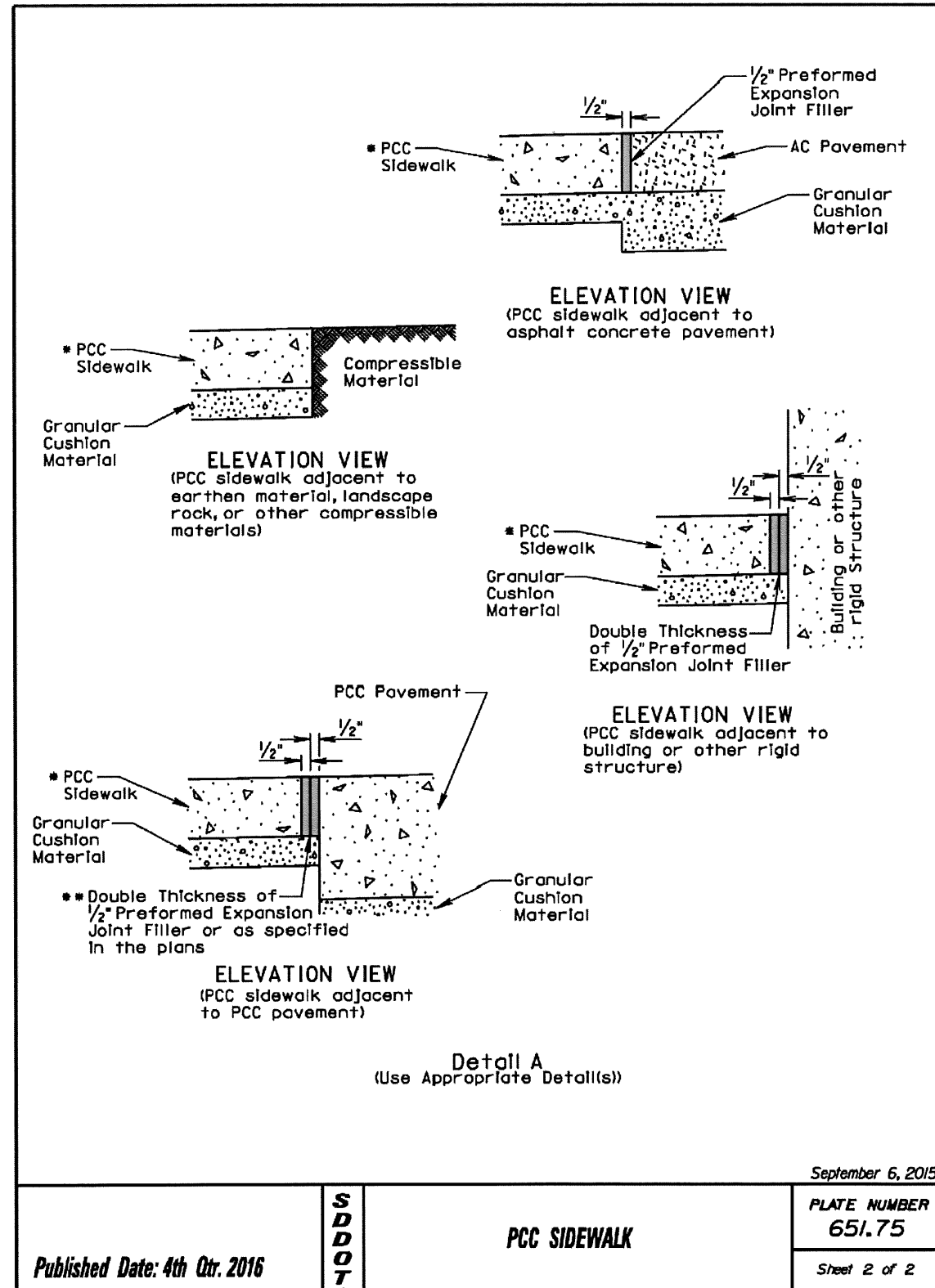
The type 1 detectable warnings shall be measured to the nearest square foot. All costs for furnishing and installing the type 1 detectable warnings including labor, equipment, materials, and incidentals shall be paid for at the contract unit price per square foot for "Type 1 Detectable Warnings".

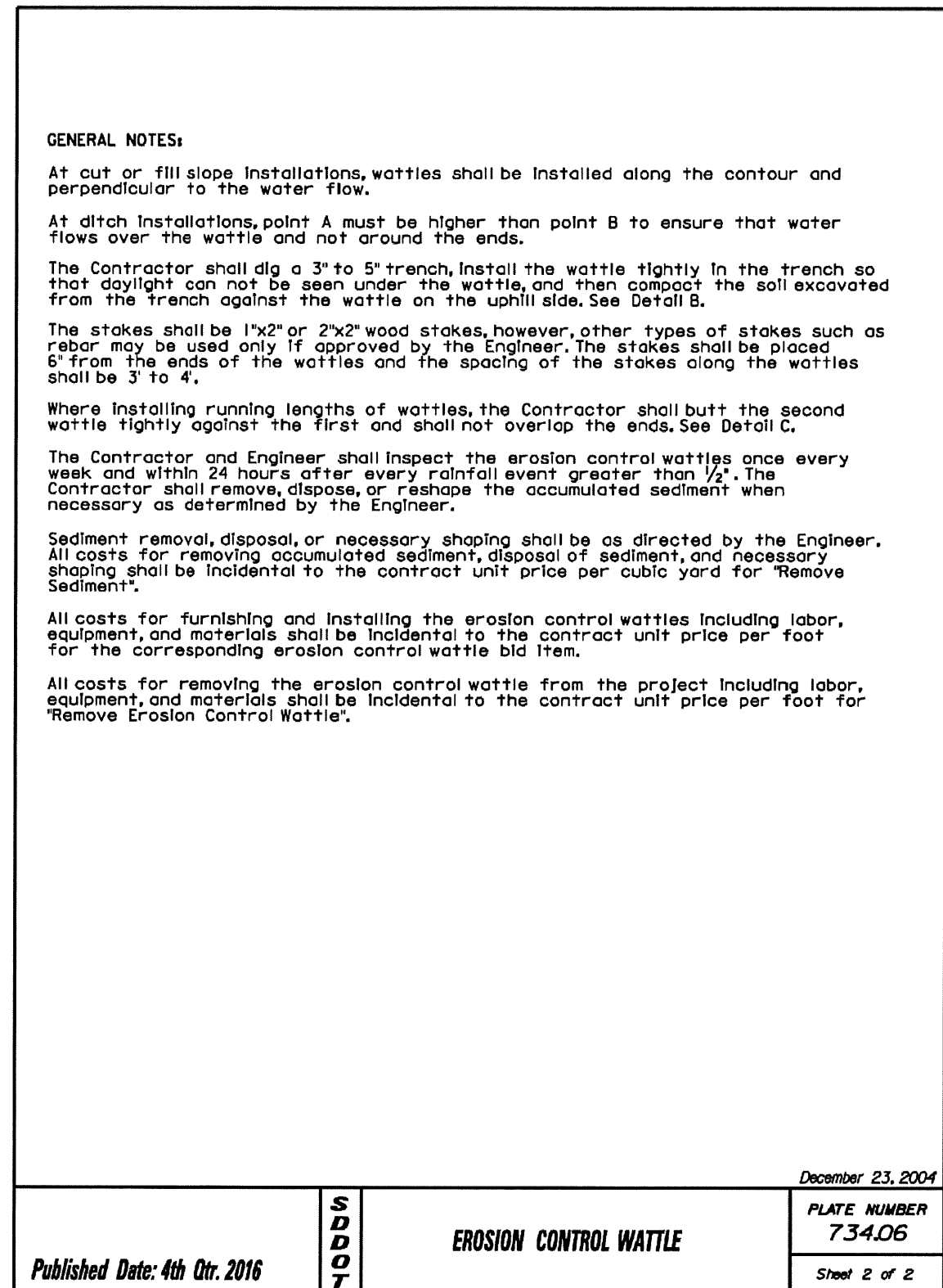
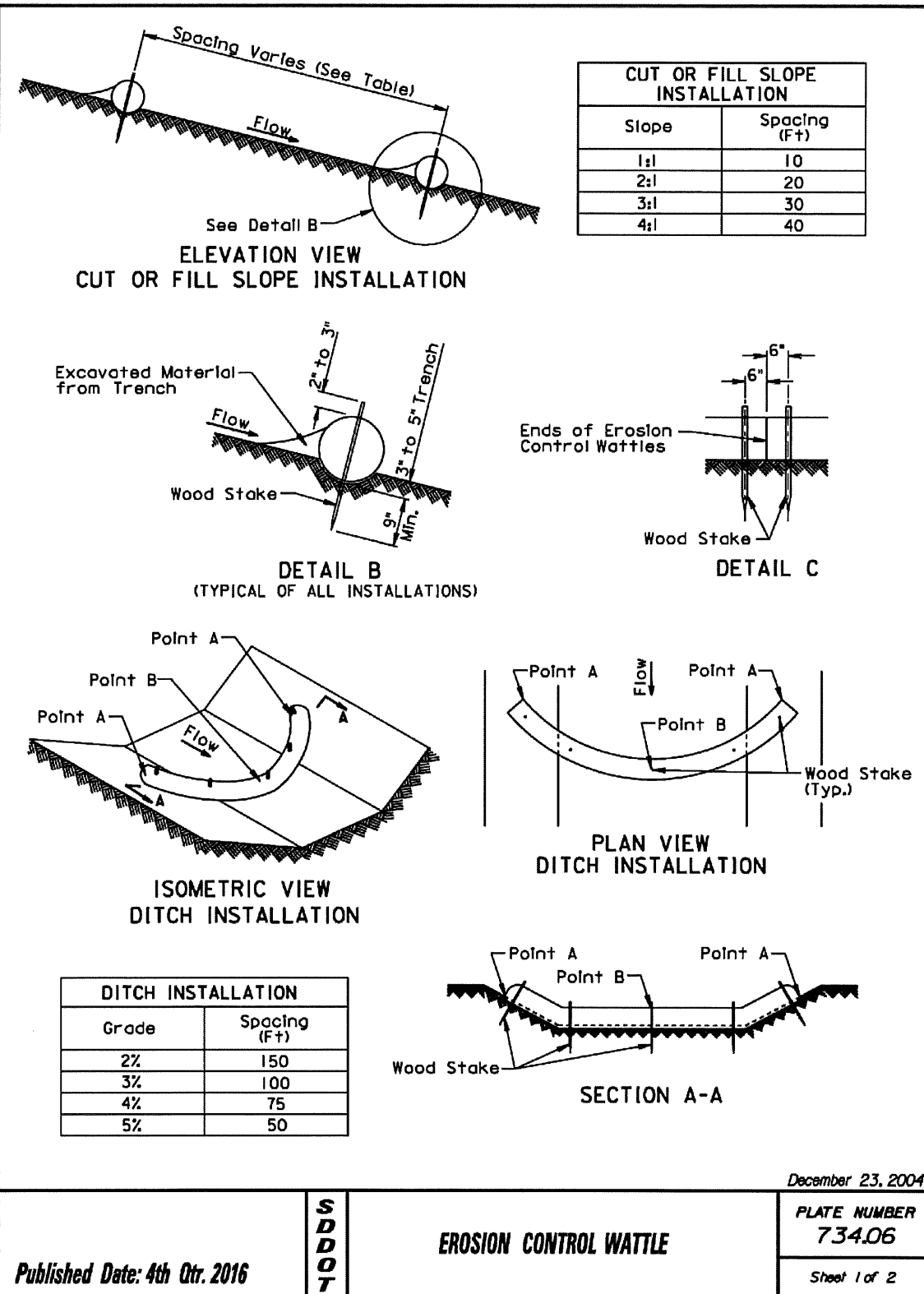
The type 2 detectable warnings shall be measured to the nearest square foot. All costs for furnishing and installing the type 2 detectable warnings including labor, equipment, and materials, including adhesive, necessary sealant or grout, and necessary grinding shall be paid for at the contract unit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

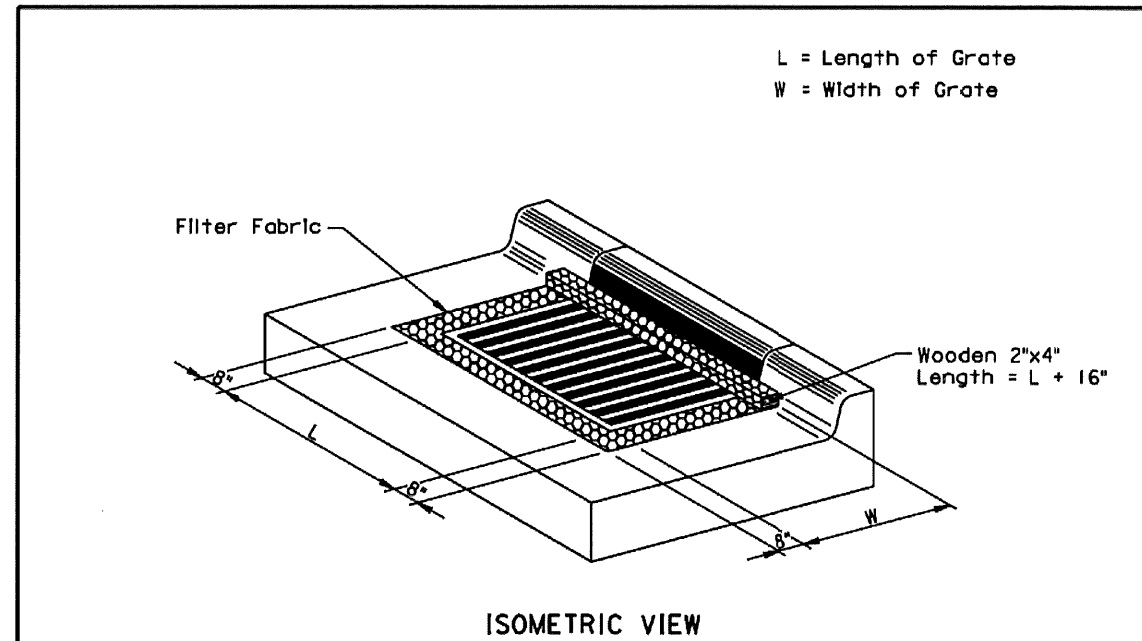
September 6, 2015

SDDOT	TYPE 2 CURB RAMP (DIRECTIONAL CURB RAMP)	PLATE NUMBER
		651.02
Published Date: 4th Qtr. 2016		Sheet 3 of 3







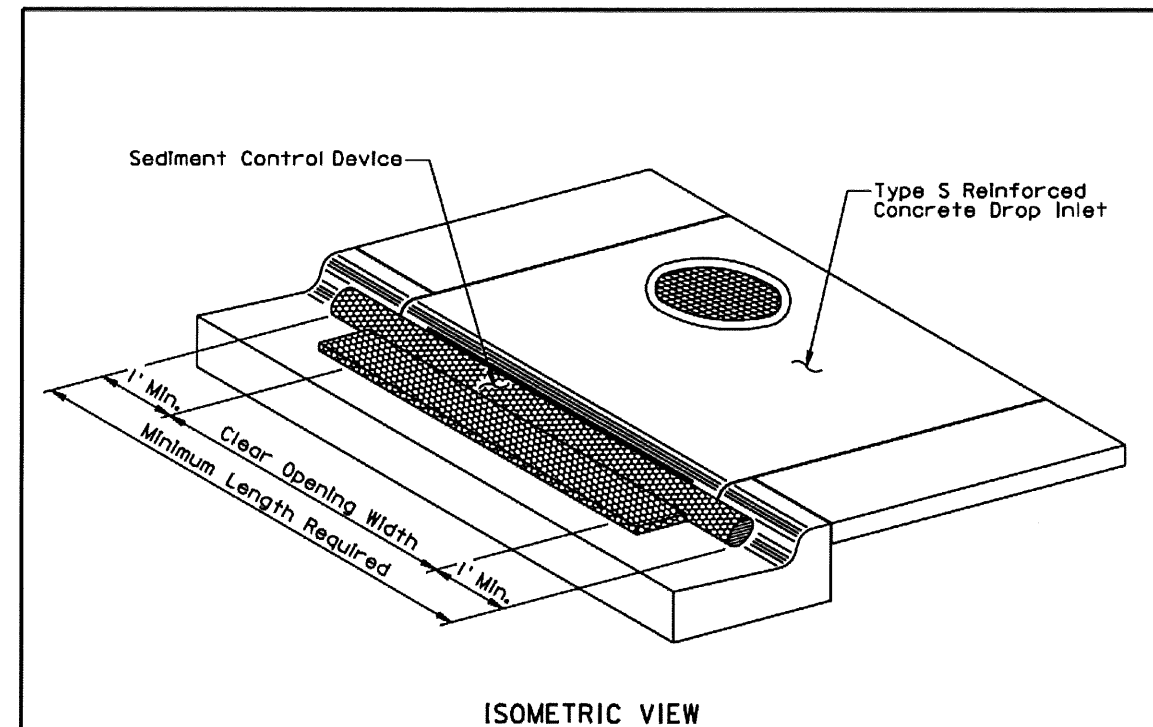


**GENERAL NOTES:**

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

September 14, 2005

<b>S D D O T</b>	<b>SEDIMENT CONTROL AT INLETS WITH FRAMES AND GRATES</b>	PLATE NUMBER <b>734.10</b>
	Published Date: 4th Qtr. 2016	Sheet 1 of 1



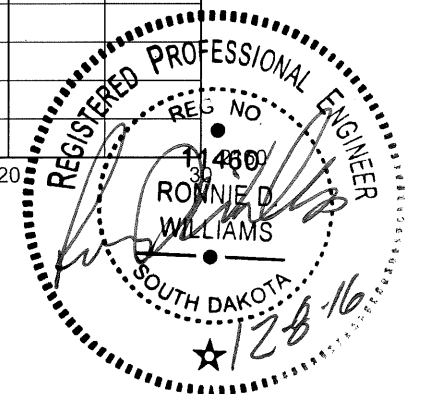
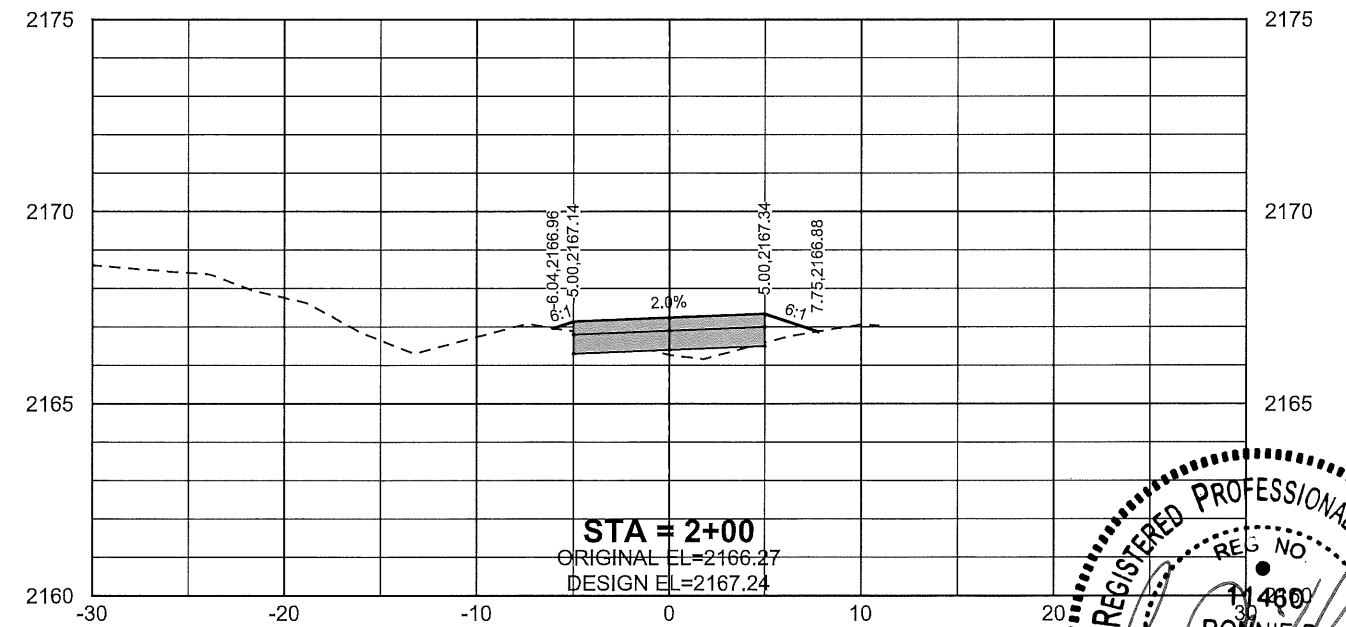
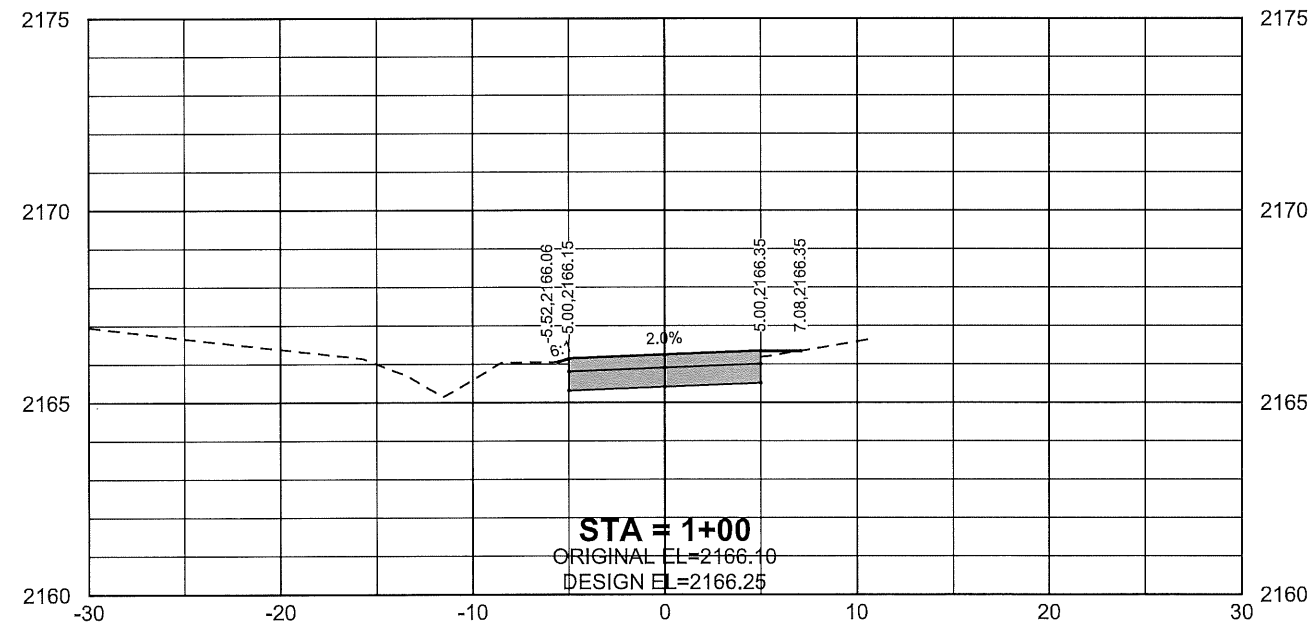
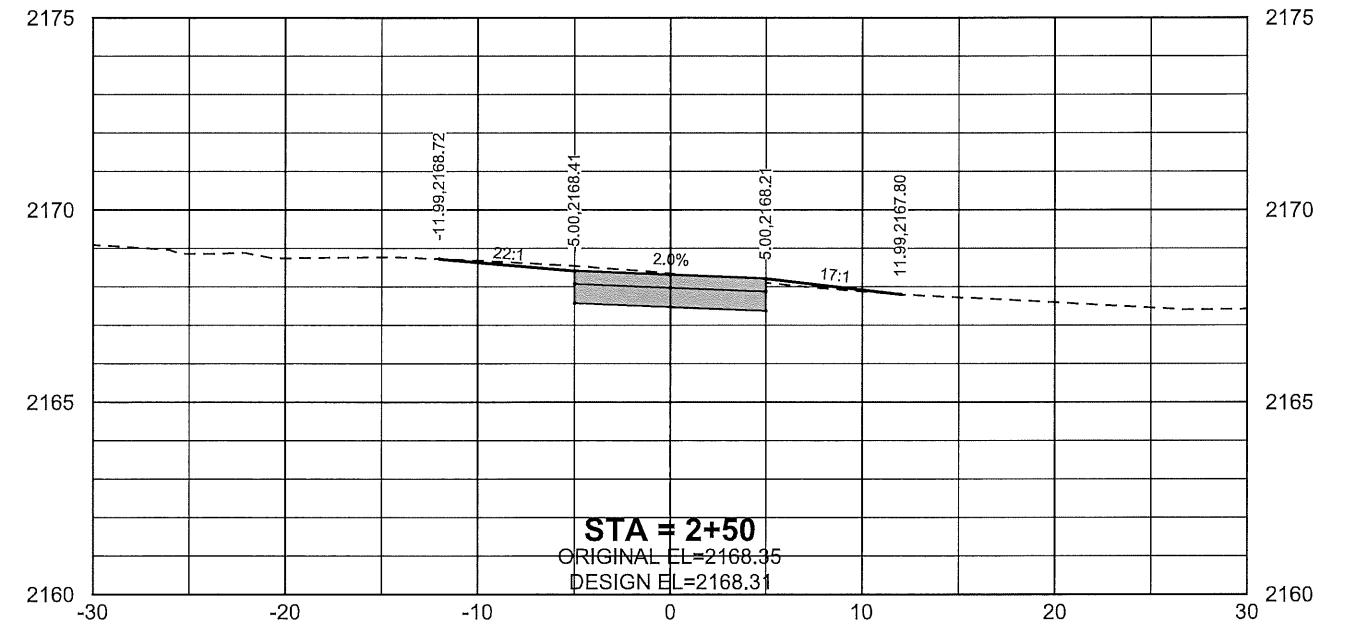
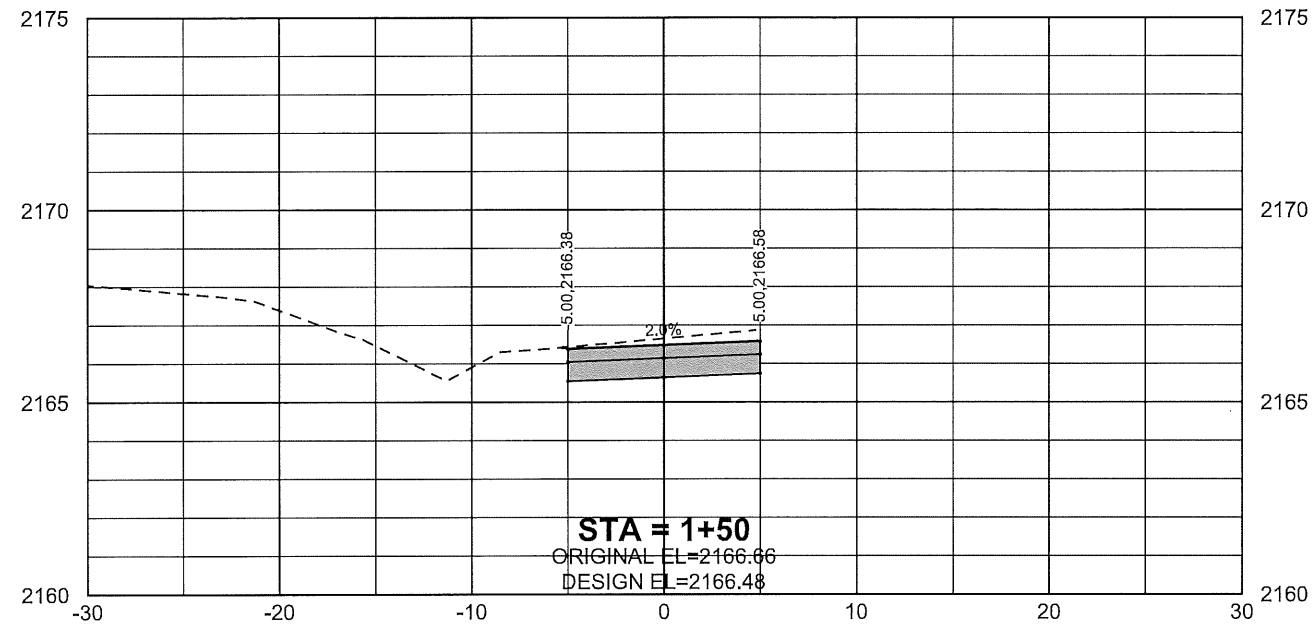
**GENERAL NOTES:**

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

September 14, 2005

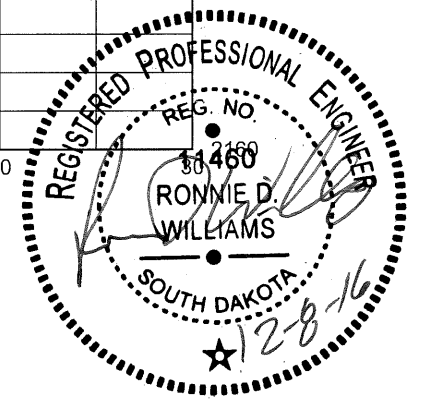
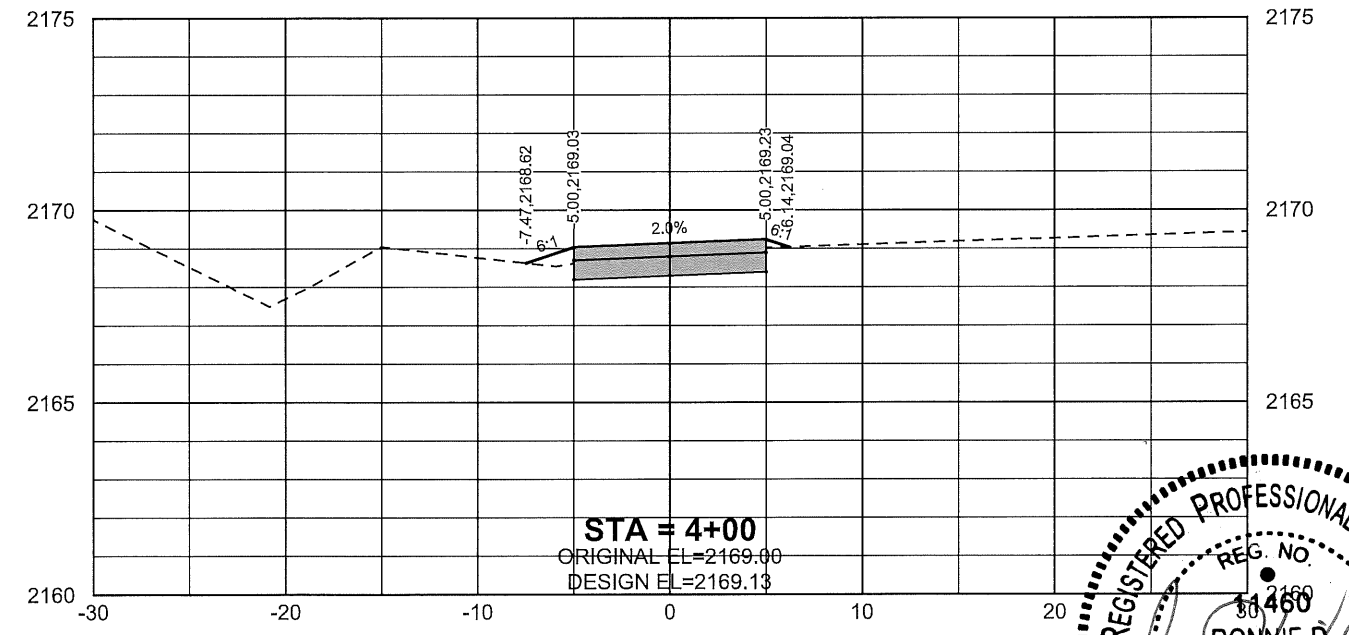
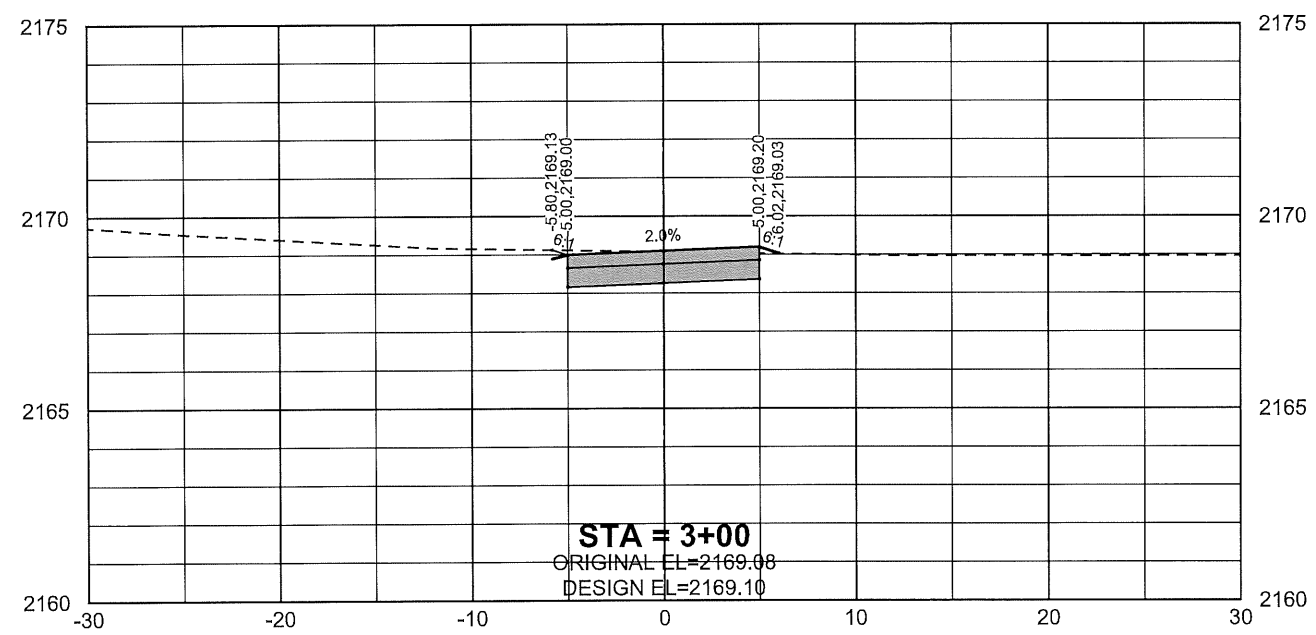
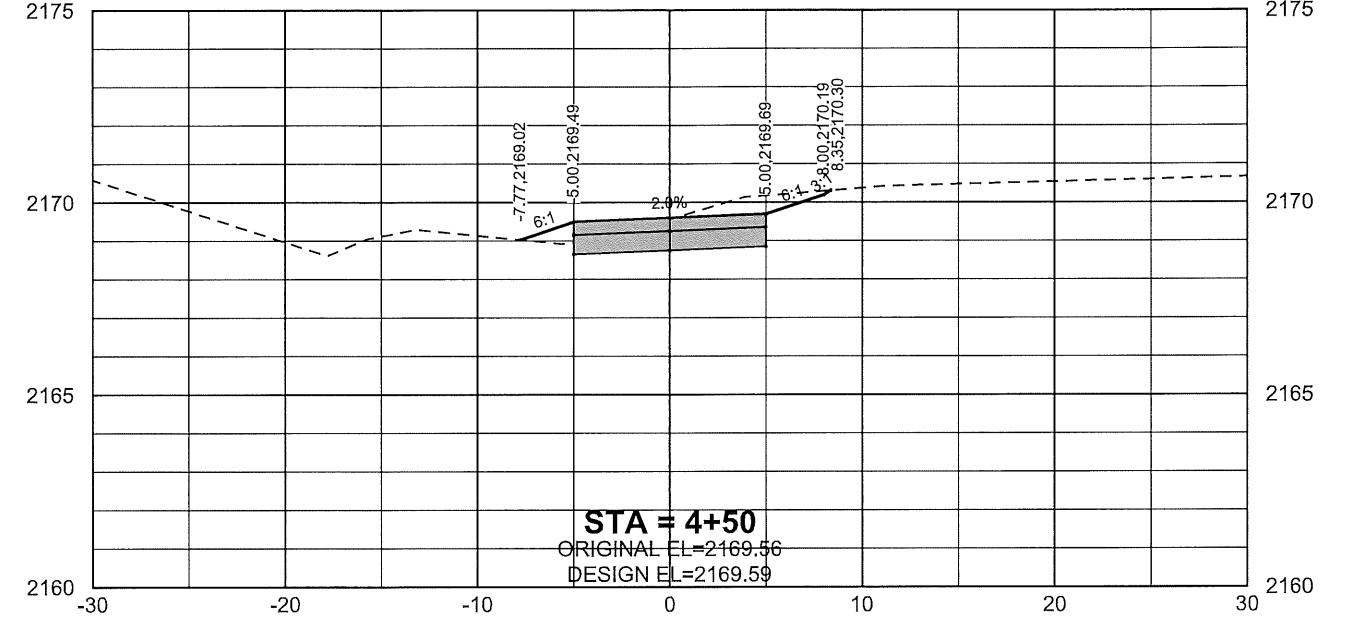
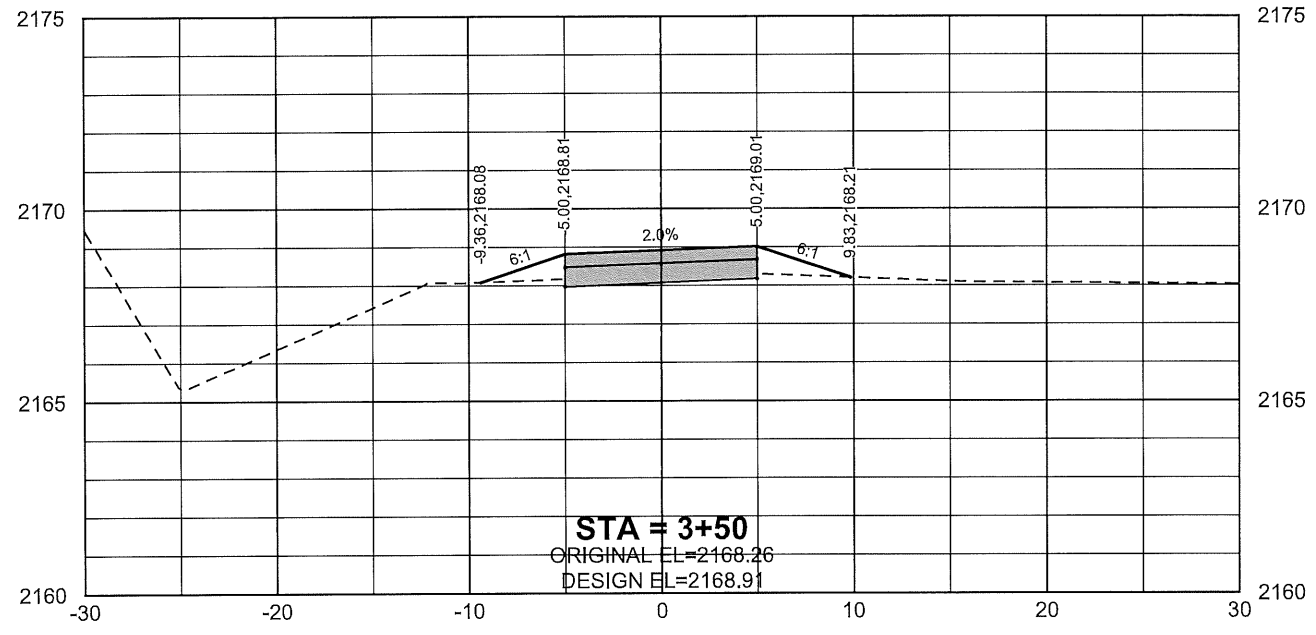
<b>S D D O T</b>	<b>SEDIMENT CONTROL AT INLETS FOR TYPE S REINFORCED CONCRETE DROP INLETS</b>	PLATE NUMBER <b>734.11</b>
	Published Date: 4th Qtr. 2016	Sheet 1 of 1

STATE OF SOUTH DAKOTA	PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
	P TAPR(03)	38	40
CROSS SECTIONS			

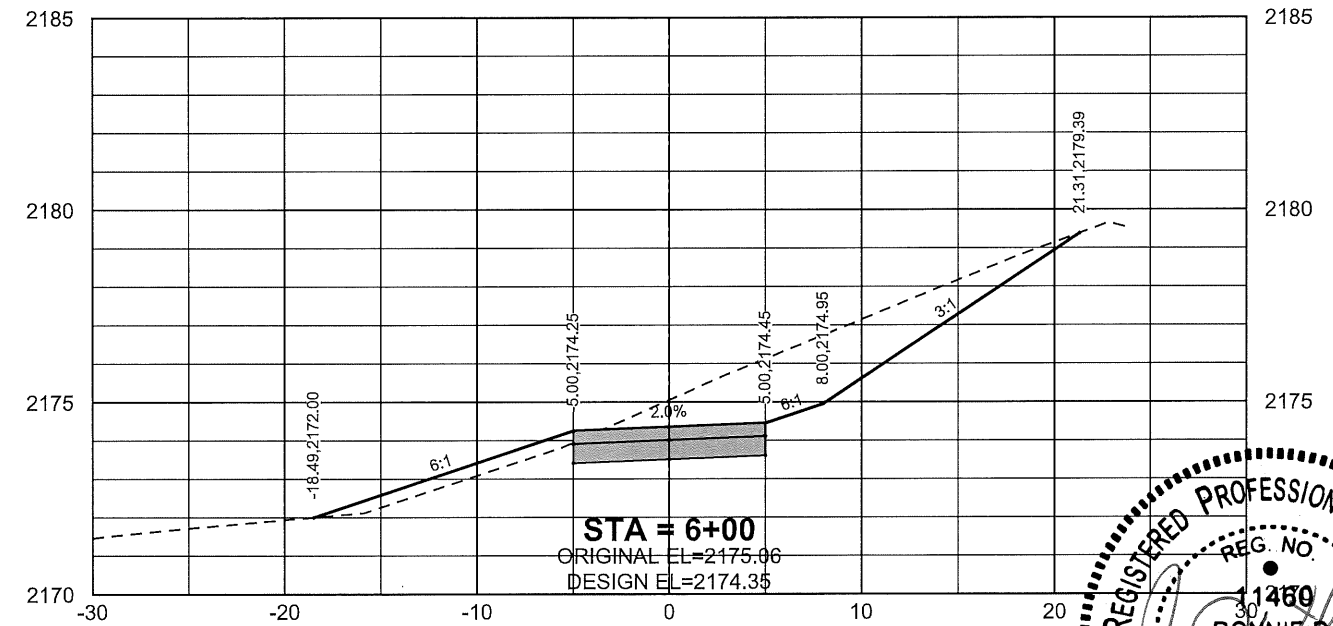
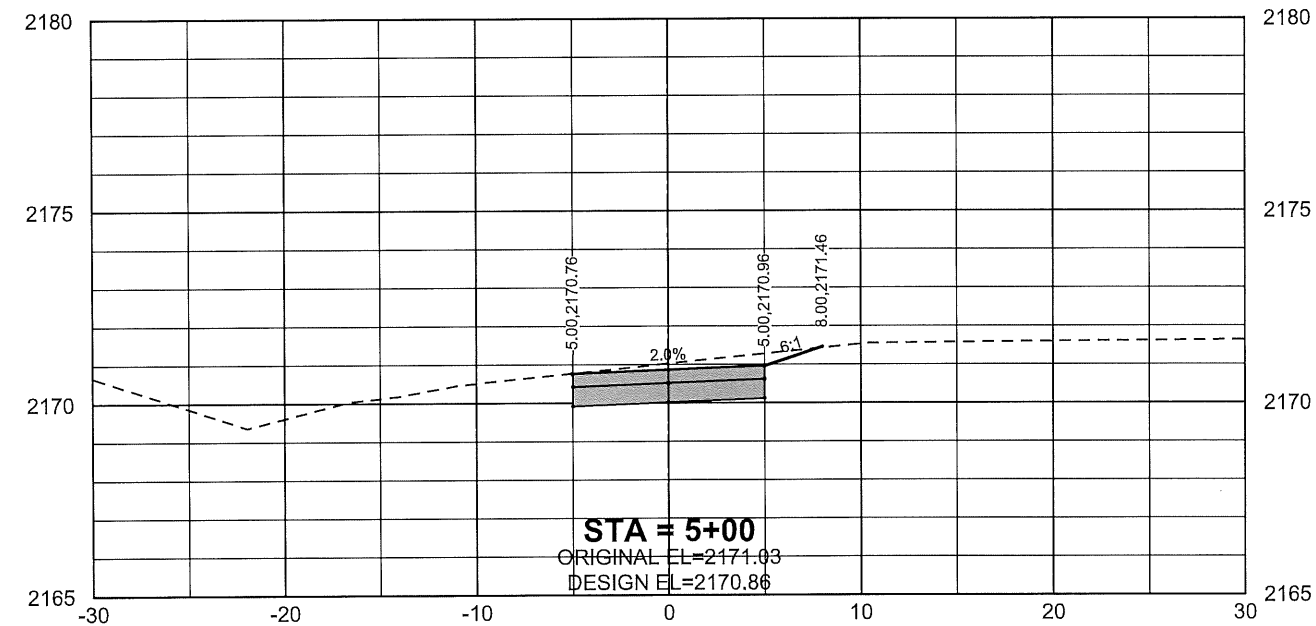
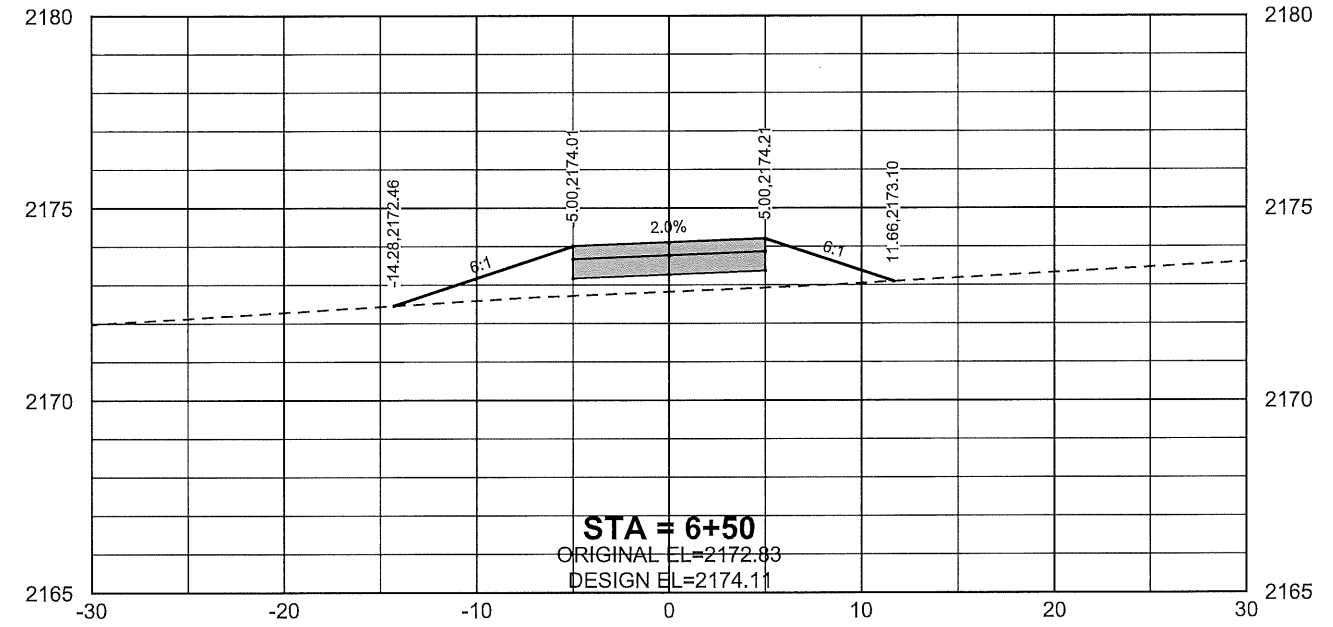
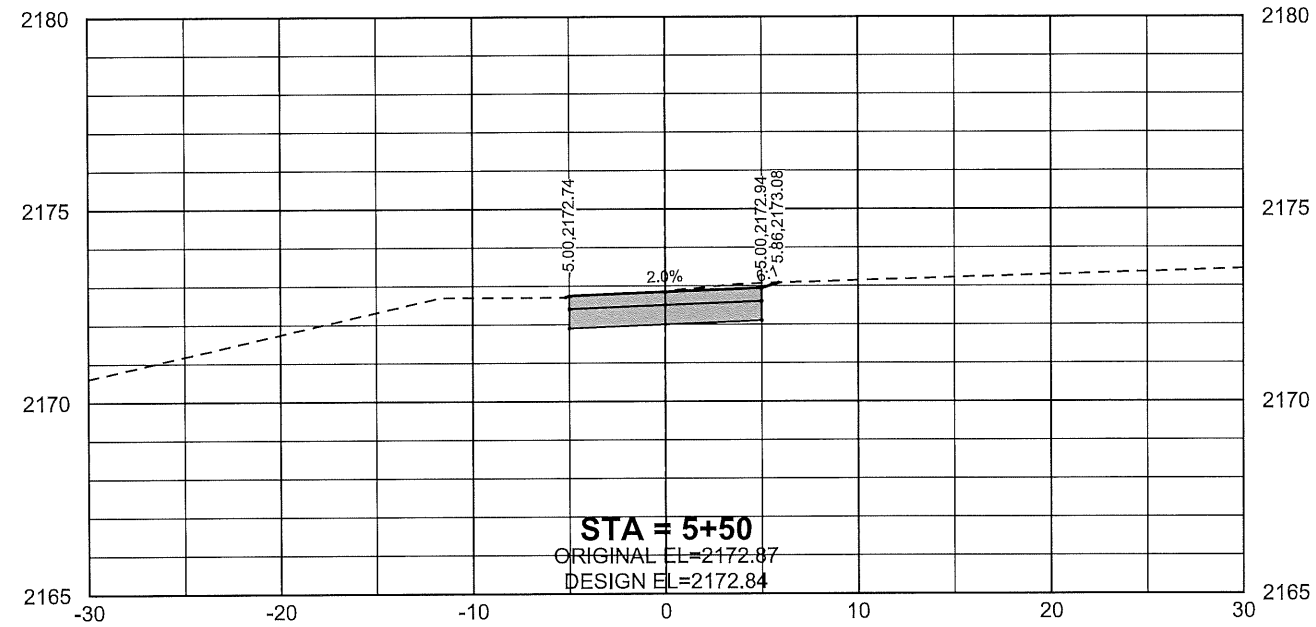




STATE OF SOUTH DAKOTA	PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
	P TAPR(03)	39	41
CROSS SECTIONS			



STATE OF SOUTH DAKOTA	PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
	P TAPR(03)	40	41
CROSS SECTIONS			



STATE OF SOUTH DAKOTA	PROJECT NO.	SHEET NUMBER	TOTAL SHEETS
	P TAPR(03)	41	41
CROSS SECTIONS			

