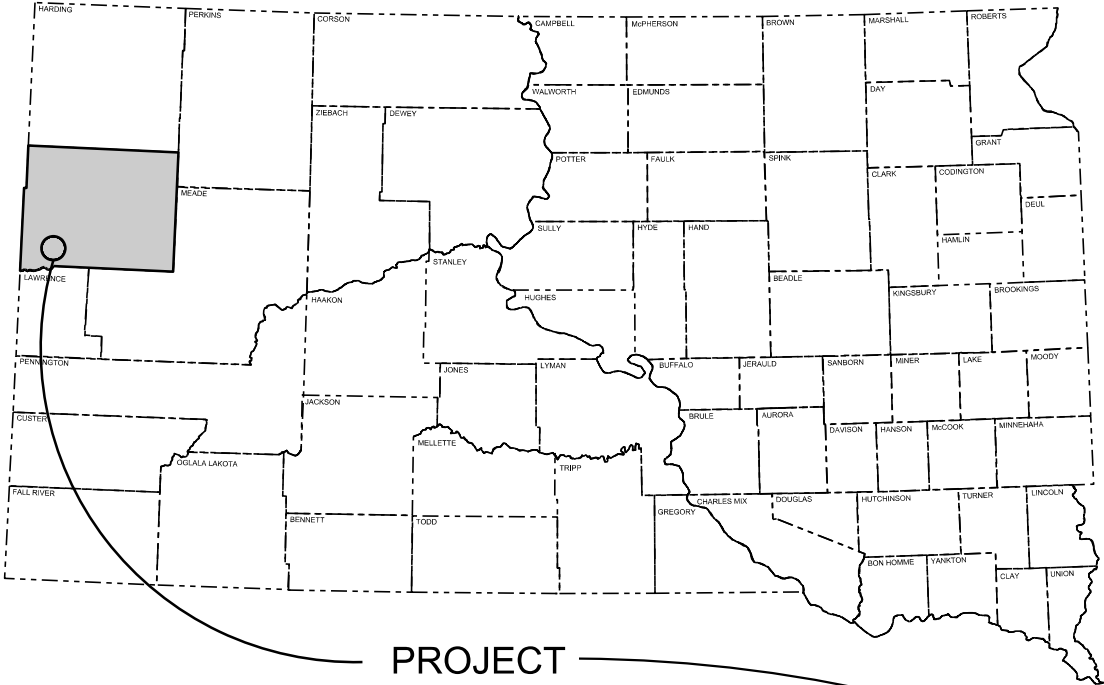


Plot Scale - 1:200

Plotted From - TRRC12608

Plotted From -



STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED  
**PROJECT 410D392()**  
**BELLE FOURCHE**  
**MAINTENANCE YARD**  
**BUTTE COUNTY**

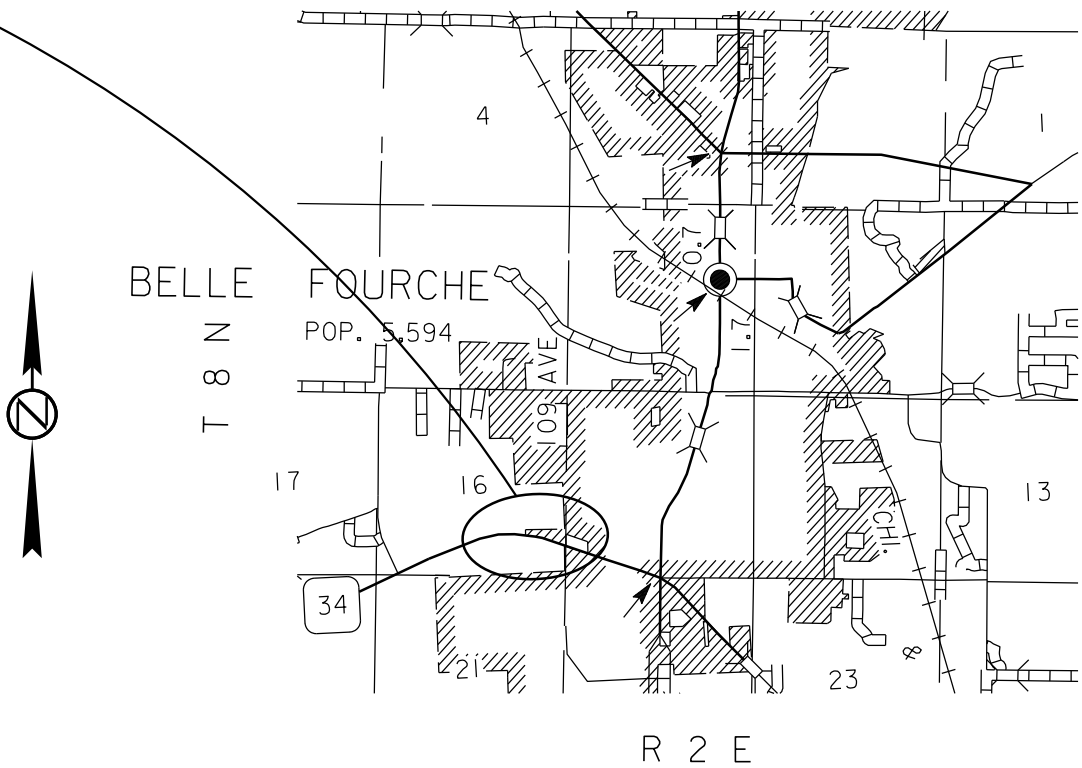
ASPHALT CONCRETE SURFACING,  
CURB & GUTTER, SIDEWALK, CULVERT EXTENSION,  
AND HOLDING POND EXCAVATION  
PCN i4rh

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	410D392()	1	43

Plotting Date: 05/09/2018

INDEX OF SHEETS

Sheet No.	1:	Title Sheet and Index
Sheets No.	2 - 6:	Estimate of Quantities, Plan Notes, and Tables
Sheets No.	7 - 16:	Special Details
Sheets No.	17 - 32:	Standard Plates
Sheets No.	33 - 43:	Cross-Sections



STORM WATER PERMIT  
None required

ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
100E0100	Clearing	Lump Sum	LS
110E0600	Remove Fence	678	Ft
110E1140	Remove Concrete Sidewalk	47.9	SqYd
110E1650	Remove Bank and Channel Protection Gabion	20	Each
110E7800	Remove Chain Link Fence for Reset	444	Ft
120E0010	Unclassified Excavation	1,217	CuYd
210E3020	Ordinary Roadway Shaping	5,463.0	SqYd
230E0100	Remove and Replace Topsoil	Lump Sum	LS
250E0010	Incidental Work	Lump Sum	LS
260E1010	Base Course	2,220.5	Ton
320E1200	Asphalt Concrete Composite	3,381.5	Ton
380E1000	6" Miscellaneous PCC Pavement	48.2	SqYd
380E1030	8" Miscellaneous PCC Pavement	229.8	SqYd
380E6000	Dowel Bar	72	Each
450E4757	18" CMP 12 Gauge, Furnish	10	Ft
450E4760	18" CMP, Install	10	Ft
450E5406	18" CMP Safety End, Furnish	1	Each
450E5407	18" CMP Safety End, Install	1	Each
620E1020	2 Post Panel	4	Each
621E0060	6' Chain Link Fence with Top Rail	1,125	Ft
621E0410	Pedestrian Swing Gate	1	Each
621E0520	Reset Chain Link Fence	444	Ft
633E1400	Pavement Marking Paint, 4" White	476	Ft
633E1430	Pavement Marking Paint, 24" White	91	Ft
633E1460	Pavement Marking Paint, Symbol	1	Each
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
650E0080	Type B68 Concrete Curb and Gutter	689	Ft
650E4680	Type P8 Concrete Gutter	49	Ft
650E4689	Modified Type P9 Concrete Gutter	88	Ft
651E0060	6" Concrete Sidewalk	1,257	SqFt
730E0210	Type F Permanent Seed Mixture	7	Lb
731E0100	Fertilizing	405	Lb
732E0250	Fiber Mulching	540	Lb
734E0131	Type 1 Turf Reinforcement Mat	22.0	SqYd
734E0154	12" Diameter Erosion Control Wattle	18	Ft
734E0400	Rock Check Dam	27.0	CuYd
831E0110	Type B Drainage Fabric	1,960	SqYd
900E5149	Landscaping Rock	170.0	CuYd

SPECIFICATIONS

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

ENVIRONMENTAL COMMITMENTS

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

COMMITMENT B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES

COMMITMENT B2: WHOOPING CRANE

The Whooping Crane is a spring and fall migratory bird in South Dakota that is about 5 feet tall and typically stops on wetlands, rivers, and agricultural lands along their migration route. An adult Whooping Crane is white with a red crown and a long, dark, pointed bill. Immature Whooping Cranes are cinnamon brown. While in flight, their long necks are kept straight and their long dark legs trail behind. Adult Whooping Cranes' black wing tips are visible during flight.

Action Taken/Required:

Harassment or other measures to cause the Whooping Crane to leave the site is a violation of the Endangered Species Act. If a Whooping Crane is sighted roosting in the vicinity of the project, borrow pits, or staging areas associated with the project, cease construction activities in the affected area until the Whooping Crane departs and immediately contact the Project Engineer. The Project Engineer will contact the Environmental Office so that the sighting can be reported to USFWS.

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.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	410D392()	2	43

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 Public ROW.

The waste disposal site(s) shall be managed and reclaimed in accordance with the following from the General Permit for 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 Public 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 Public 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 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.

ALIGNMENT DATA

Main Yard Horizontal Alignment					
Type	Station			Northing	Easting
POB	0+00.00			321235.149	962592.956
		TL= 281.94	N 21^21'38" E		
PI	2+81.94			321497.720	962695.648
		TL=48.69	N 21^21'40" E		
POE	3+30.62			321543.062	962713.382

Sidewalk Horizontal Alignment					
Type	Station			Northing	Easting
POB	0+00.00			321302.762	962478.061
		TL= 112.28	N 21^21'38" E		
PI	1+12.28			321407.326	962518.956
		TL=44.67	N 68^38'22" W		
PI	1+56.95			321423.597	962477.354
		TL=12.70	N 68^38'22" W		
PI	1+69.65			321428.224	962465.524
		TL=58.44	N 21^21'38" E		
PI	2+28.09			321482.649	962486.810
		TL=88.57	N 68^38'22" W		
PI	3+16.66			321514.910	962404.322
		TL=89.35	N 21^21'38" E		
POE	4+06.01			321598.124	962436.868

Drainage Alignment					
Type	Station			Northing	Easting
POB	0+00.00			321401.318	962719.081
		TL= 44.69	N 72^38'50" E		
PC	0+44.69			321414.646	962761.736
PI	0+64.38	R = 500.00	Delta = 4^30'40" R	321497.720	962695.648
PT	0+84.06			321424.897	962799.735
		TL=10.03	N 77^09'30" E		
PC	0+94.09			321427.127	962809.517
PI	1+39.36	R = 400.00	Delta = 12^54'47" R	321538.025	962672.076
PT	1+84.24			321437.132	962898.920
		TL=71.74	S 89^55'43" E		
POE	2+55.98			321437.042	962970.659

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
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Truck Road Alignment					
Type	Station			Northing	Easting
POB	0+00.00			321829.846	962147.203
		TL= 52.56	S 24^24'10" W		
PC	0+52.56			321781.984	962125.489
PI	0+71.13	R = 50.00	Delta = 40^45'29" L	321747.247	962123.046
PT	0+88.12			321747.247	962123.046
		TL= 80.73	S 16^21'20" E		
PC	1+68.85			321669.785	962145.778
PI	1+75.20	R = 50.00	Delta = 14^28'11" L	321663.694	962147.566
PT	1+81.48			321658.244	962150.818
		TL = 53.64	S 30^49'31" E		
PC	2+35.12			321612.180	962178.306
PI	2+44.52	R = 50.00	Delta = 21^17'47" R	321604.107	962183.123
PT	2+53.71			321594.836	962184.679
		TL = 129.23	S 9^31'44" E		
PC	3+82.93			321467.393	962206.072
PI	3+95.56	R = 50.00	Delta = 28^20'06" R	321454.946	962208.161
PT	4+07.66			321442.998	962204.092
		TL = 0.40	S 18^48'22" W		
PI	4+08.06			321442.62	962203.964
		TL = 128.14	S 18^48'22" W		
PC	5+36.20			321321.323	962162.656
PI	5+88.92	R = 50.00	Delta = 93^02'23" L	321271.412	962145.659
PT	6+17.39			321257.086	962196.401
		TL = 202.62	S 74^14'02" E		
PC	8+20.01			321202.032	962391.395
PI	8+65.79	R = 50.00	Delta = 84^57'16" L	321189.593	962435.453
PT	8+94.14			321232.386	962451.718
		TL =55.13	N 20^48'42" E		
POE	9+49.27			321283.915	962471.304

Outbuilding Alignment					
Type	Station			Northing	Easting
POB	0+00.00			321583.199	962208.983
		TL=140.26	S 68^34'33" E		
POE	1+40.26			321531.966	962339.552

GRADING OPERATIONS

Water for Embankment is estimated at the rate of 20 gallons of water per cubic yard of Embankment minus Waste. All costs for Water for Embankment shall be incidental to the contract unit price per CuYd for Unclassified Excavation

Special ditch grades and other sections different than the typical sections shall be constructed to the limits shown on the cross sections. If significant changes to the cross sections are necessary during construction, the Engineer shall contact the Designer for the proposed change.

ORDINARY ROADWAY SHAPING

The bid item Ordinary Roadway Shaping is provided for Shaping the existing granular material in accordance with 210.3.A of the Specifications. SDDOT will provide the subgrade and granular material preparation. The requirement to rework the subgrade will be eliminated from this project. Payment will be plans quantity.

## 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.

### INCIDENTAL WORK

Incidental work shall include the following items:

1. Remove and Reset 5 Bollards.
2. Adjust 4 sewer cleanout port elevations to match new surfacing.

**UNCLASSIFIED EXCAVATION**

Unclassified Excavation is provided on the project for removing material for construction of the pond area, digout for yard areas, and curb and gutter & sidewalks. This excess material shall be handled as waste.

Plans quantity shall be the basis of payment for the Unclassified Excavation quantity. If changes are made in the field during construction, measurements shall be taken and the quantity shall be adjusted accordingly.

## SURFACING THICKNESS DIMENSIONS

Plans tonnage shall be applied even though the thickness may vary from that shown in the plans. At those locations where material must be placed to achieve a required elevation, plans tonnage may be varied to achieve the required elevation.

## ASPHALT CONCRETE COMPOSITE

All Asphalt Concrete Composite shall be placed in 2" lifts.

## BASE COURSE

At the time of compaction the material shall have approximately 4% moisture uniformly blended throughout the depth of material. The percent moisture may be adjusted by the Engineer. Included in the Estimate of Quantities is 20 M.Gal./per mile for Water for Granular Material. All costs for Water for Granular Material shall be incidental to the contract unit price per Ton for Base Course.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	410D392()	4	43

## 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.

Table of Pipe Quantities			
18" 12 gauge CMP Furnish (Ft)	18" CMP Install (Ft)	18" CMP Safety End Furnish (Each)	18" CMP Safety End Install (Each)
10	10	1	1

Table of Material Quantities											
	Ordinary Roadway Shaping	Unclassified Excavation	*Embankment	**Asphalt Concrete Composite	Base Course	#Water for Granular Material	#Water for Embankment	8" Misc. PCC Pavement	Dowel Bar	Type B Drainage Fabric	Landscaping Rock
Location	(SqYd)	(CuYd)	(CuYd)	(Ton)	(Ton)	(Mgal)	(Mgal)	(SqYd)	(Each)	(SqYd)	(CuYd)
Roadway Shaping, Base Course for Finishing, and 4" Asphalt Concrete Composite	5463.0			1212.6	455.0	9.1					
Digout 12" and Place 8" Base Course and 4" Asphalt Concrete Composite		765.7	663	509.9	1612.3	32.2	13.3				
Place 4" Asphalt Concrete Composite				1199.0							
Place 2" Asphalt Concrete Composite Overlay				460.0							
8" PCC Pavement and 12" Base Course		114.9			153.2			229.8	72		
Place landscape rock										1960	170
Settling Ponds		336.4	102				2.0				
<b>Total</b>	<b>5463.0</b>	<b>1217</b>	<b>765</b>	<b>3381.5</b>	<b>2220.5</b>	<b>41.3</b>	<b>15.3</b>	<b>229.8</b>	<b>72</b>	<b>1960</b>	<b>170.0</b>

\*For informations purposes only

\*\* Prime will be required for placement of the 4" Asphalt Concrete Composite.

# Water shall be incidental to various items as stated in the notes.

Table of Curb, Gutter, and Sidewalk								
			Remove Concrete Sidewalk	Type B68 Concrete Curb and Gutter	Type P8 Concrete Gutter	Modified Type P9 Concrete Gutter	6" Concrete Sidewalk	6" Misc. PCC Pavement
Station	to	Station	(SqYd)	(Ft)	(Ft)	(Ft)	(SqFt)	(SqYd)
Around Building			47.9				1257	
Main Yard Alignment - East Side								
0+00.0		0+06.0		6.0				
0+06.0		0+79.9		74.0				
0+79.9		1+23.8		20.0		44.0		24.1
1+23.8		1+47.1		23.2				
1+47.1		1+53.1		6.0				
1+53.1		1+77.1			24.0			
1+77.1		1+83.1		6.0				
1+83.1		2+27.0		20.0		44.0		24.1
2+27.0		2+75.9		49.0				
2+75.9		2+81.9		6.0				
Main Yard Alignment - West Side along Main Office								
1+43.1		1+43.1		6.7				
1+43.1		1+91.8		48.6				
1+91.8		1+91.8		85.9				
1+91.8		1+51.3		50.8				
North Parking Lot								
Offset Left at 2+70.00								
281.7	to	269.7		12.0				
269.7	to	264.7			5.0			
264.7	to	244.0		20.7				
244.0	to	210.2		39.7	5.0			
210.2	to	192.1		18.1				
192.1	to	187.1			5.0			
187.1	to	162.9		24.2				
162.9	to	156.0			5.0			
156.0	to	133.8		24.1				
133.8	to	128.8			5.0			
128.8	to	110.7		18.1				
110.7	to	104.7		6.0				
Outbuilding Alignment								
0+00.0		124+00.0		124.0				
Total			47.9	689	49	88	1257	48.2

SIDEWALK ADJACENT TO THE MAIN BUILDING ENTRANCE

The Contractor shall ensure that positive drainage is provided for the sidewalk adjacent to the main entrance to the building. If necessary, slight adjustments may be made to sidewalk and curb elevations to provide positive drainage at this location. Any variation to plans elevations shall first be approved by the Engineer.

Table of Fence Quantities					
Remove Fence	2 Post Panel	Remove Chain Link Fence for Reset	6' Chain Link Fence with Top Rail	Reset Chain Link Fence	Pedestrian Swing Gate
(Ft)	(Each)	(Ft)	(Ft)	(Ft)	(Each)
678	4	444	1125	444	1

LANDSCAPING ROCK

Type B Drainage Fabric shall be placed prior to placing the Landscape Rock.

The landscaping rock shall be placed at a thickness of 3 inches at planting bed areas as shown in the plans. The landscaping rock shall be 2” clean rock.

The Contractor shall inspect the in-place landscaping rock at the Belle Fourche facility and color match the new rock to existing. The Contractor shall provide a sample of the landscaping rock to the Engineer for approval two weeks prior to installation.

All costs for furnishing, handling, and placing the landscaping rock including the materials, equipment, labor, and incidentals necessary shall be incidental to the contract unit price per cubic yard for Landscaping Rock.

REMOVE AND REPLACE TOPSOIL

Prior to beginning grading operations, all available topsoil shall be salvaged within the work limits of the pond area. The Contractor shall minimize the damage to existing vegetation. Following completion of grading operations, topsoil shall be replaced over all disturbed areas. The exact limit shall be determined by the Engineer during construction.

All costs associated with removing and replacing the topsoil on the project shall be incidental to the lump sum price for Remove and Replace Topsoil.

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

FERTILIZING

The Contractor shall apply an all-natural slow release fertilizer prior to seeding or placing sod. The all-natural fertilizer shall have a minimum guaranteed analysis of 4-4-4 and be USDA Certified BioBased. It should provide a minimum of 4% (N) nitrogen with a minimum water insoluble nitrogen (WIN) fraction of 2.07%, a minimum of 4% (P2O5) available phosphate, a minimum of 4% (K2O) soluble potash, and a maximum carbon to nitrogen ratio (C:N ratio) of 5:1. The all-natural fertilizer shall be free of weed-seed and pathogens accomplished through thermophilic composting, and not mechanical or chemical sterilization, to assure presence of beneficial soil microbiology. The fertilizer shall have a near neutral pH, a low salt index, a low biological oxygen demand, contain organic humic and fulvic acids, and have high aerobic organism counts.

The fertilizer shall also be stable, free of bad odors, and be unattractive as a food source for animals. It should also be in a granular form that is easily spread.

The fertilizer shall be applied at a rate of 1,500 pounds per acre in accordance with the manufacturer’s recommended method of application.

The all-natural slow release fertilizer shall be as shown below or an approved equal:

Product	Manufacturer
Sustane	Sustane Corporate Headquarters Cannon Falls, Minnesota Phone: 1-800-352-9245 <a href="http://www.sustane.com">www.sustane.com</a>
Perfect Blend	Perfect Blend, LLC Bellevue, WA Phone: 1-866-456-8890 <a href="http://www.perfect-blend.com">www.perfect-blend.com</a>

PERMANENT SEEDING

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

Type F Permanent Seed Mixture shall consist of the following:

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

## FIBER MULCHING

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

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

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

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

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

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

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

## TURF REINFORCEMENT MAT

Turf Reinforcement Mat shall be installed at the outlets of the special drains. The Contractor shall use a turf reinforcement mat from the approved products list. The approved product list for turf reinforcement mat may be viewed at the following internet site:

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

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

## EROSION CONTROL WATTLE

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

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

The erosion control 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:

Erosion control wattles shall remain on the project to decompose.

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

Table of Erosion Control Quantities							
	Remove Bank & Channel Protection Gabions		Type F Permanent Seed Mixture	Fiber Mulching	12" Diameter Erosion Control Wattle	##Type 1 Turf Reinforcement Mat	Rock Check Dam
Location	(Each)	(Lb)	(Lb)	(Lb)	(Ft)	(SqYd)	(CuYd)
Ditch	20	15	0.3	20			
Pond Area		390	6.7	520	18	22	27
Total	20	405	7	540	18	22.0	27.0

## For use at outlets of special curb openings on east side of lot as shown on detail sheet.








# SURFACING LAYOUT



Plot Scale - 1:65.61

TRR012608

Plotted From -

-  Place landscape rock
-  Place 2" Asphalt Concrete Composite Overlay
-  Digout 12" and Place 8" Base Course and 4" Asphalt Concrete Composite
-  Place 4" Asphalt Concrete Composite
-  8" PCC Pavement and 12" Base Course
-  Roadway Shaping, Base Course for Finishing, and 4" Asphalt Concrete Composite

Cold Storage Building

Do Not Disturb  
Existing Valves  
and Hydrants

Sawcut Existing  
Warp up to match existing  
pavement elevations

Landscaping rock  
to match existing  
next to building

Sawcut Existing

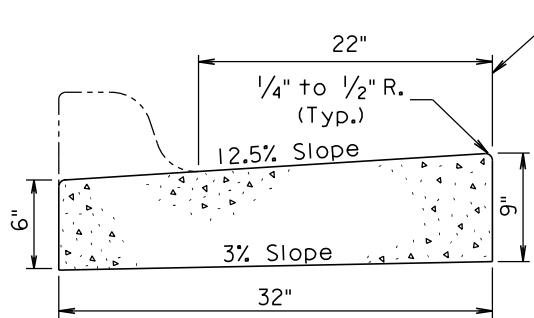
PLOT SCALE - 1:3.54153

PLOTTED FROM - TRRC12608

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	410D392()	8	43

Plotting Date: 05/09/2018

MODIFIED TYPE P9 CONCRETE GUTTER



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.

Cu. Yd. Per Lin. Ft.	Lin. Ft. Per Cu. Yd.
0.062	16.1

TRANSVERSE SECTION

GENERAL NOTES:

The concrete for the Modified Type P8 Concrete Gutter shall comply with the requirements of the Standard 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.

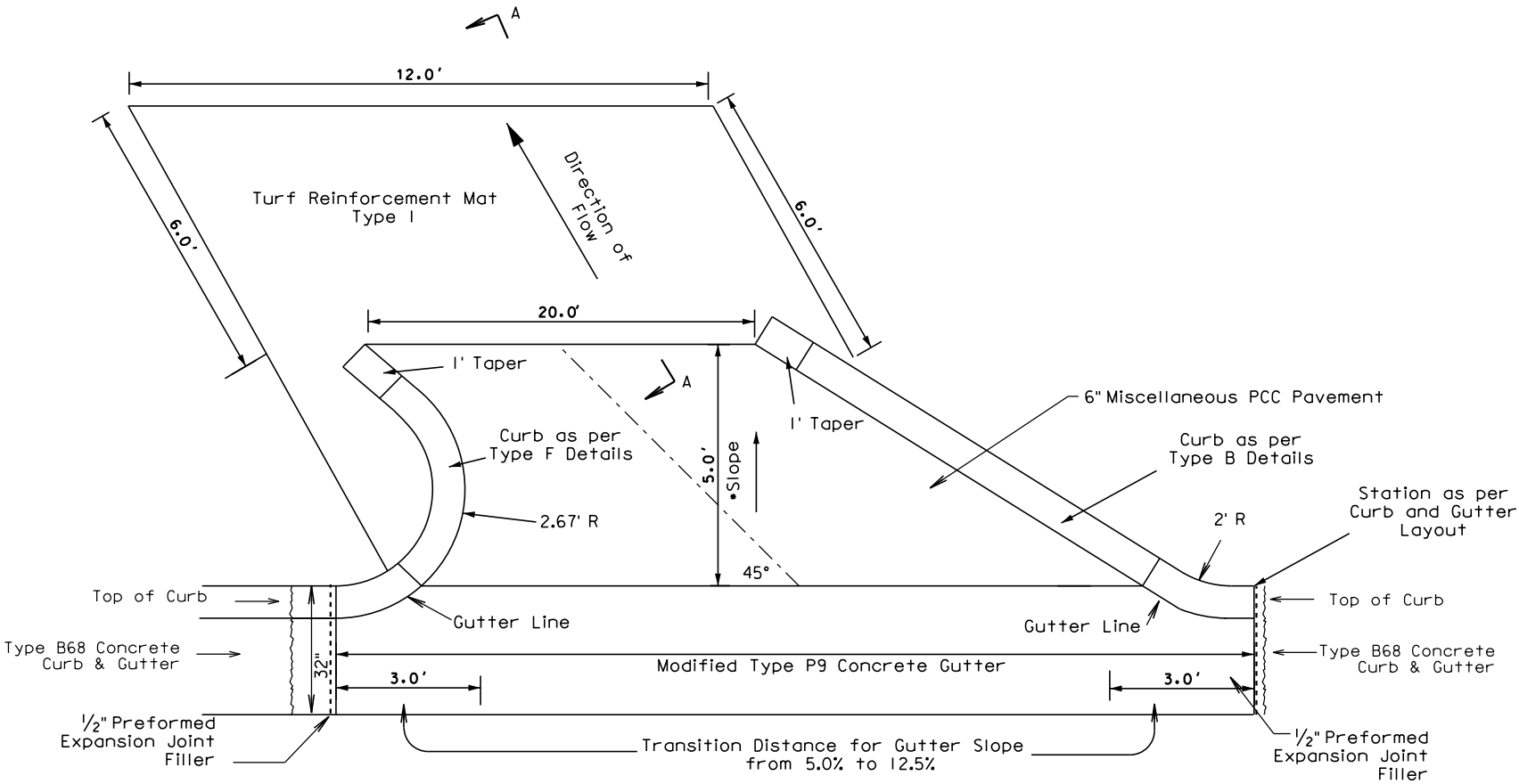
Transverse contraction joints shall be constructed at 10' intervals in the concrete gutter except when concrete gutter is constructed adjacent to mainline PCC pavement. When concrete gutter is constructed adjacent to mainline PCC pavement, a transverse contraction joint shall be constructed in the concrete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

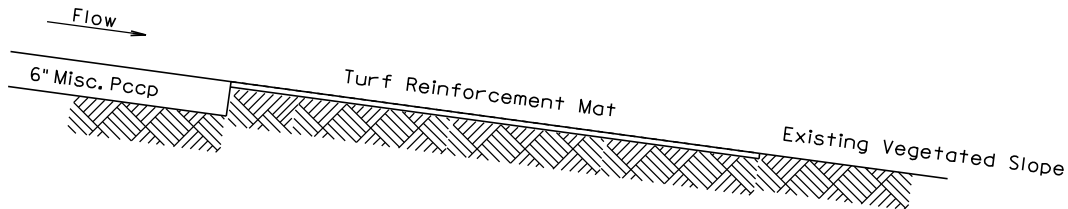
When concrete gutter is not placed monolithically with the mainline PCC pavement and when the adjacent mainline surfacing is not PCC concrete, the transverse contraction joints in the concrete gutter shall be 1 1/2 inches deep if formed in the fresh concrete using a suitable grooving tool. If a saw is used to cut the contraction joints, then the depth of the joint shall be at least 1/4 the thickness of the concrete.

CURB OPENING DETAILS

PLAN VIEW



SECTION A-A



PLOT NAME - 3

FILE - ... \CURBOPENINGDETAIL.DGN



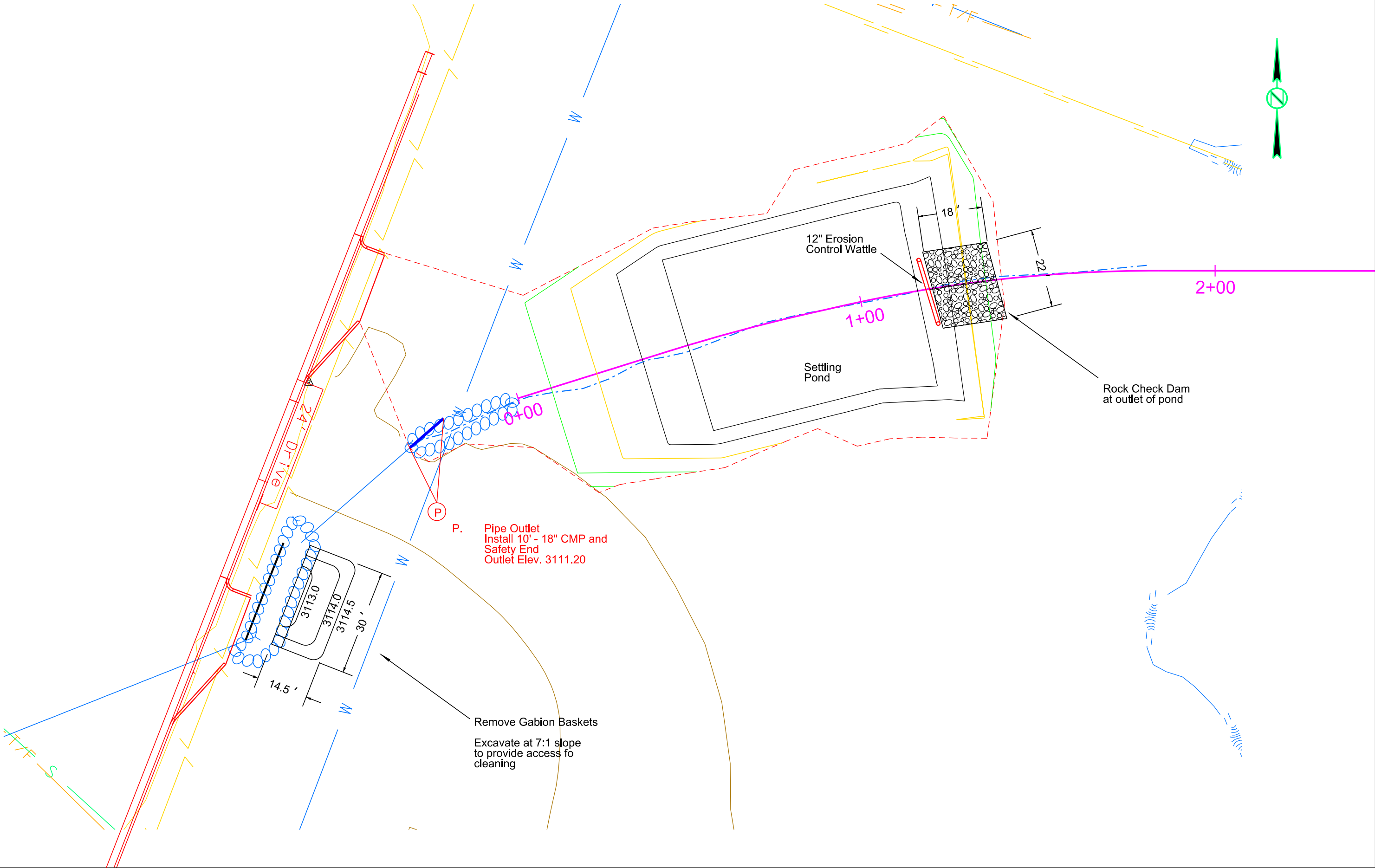
# SETTLING POND GRADING

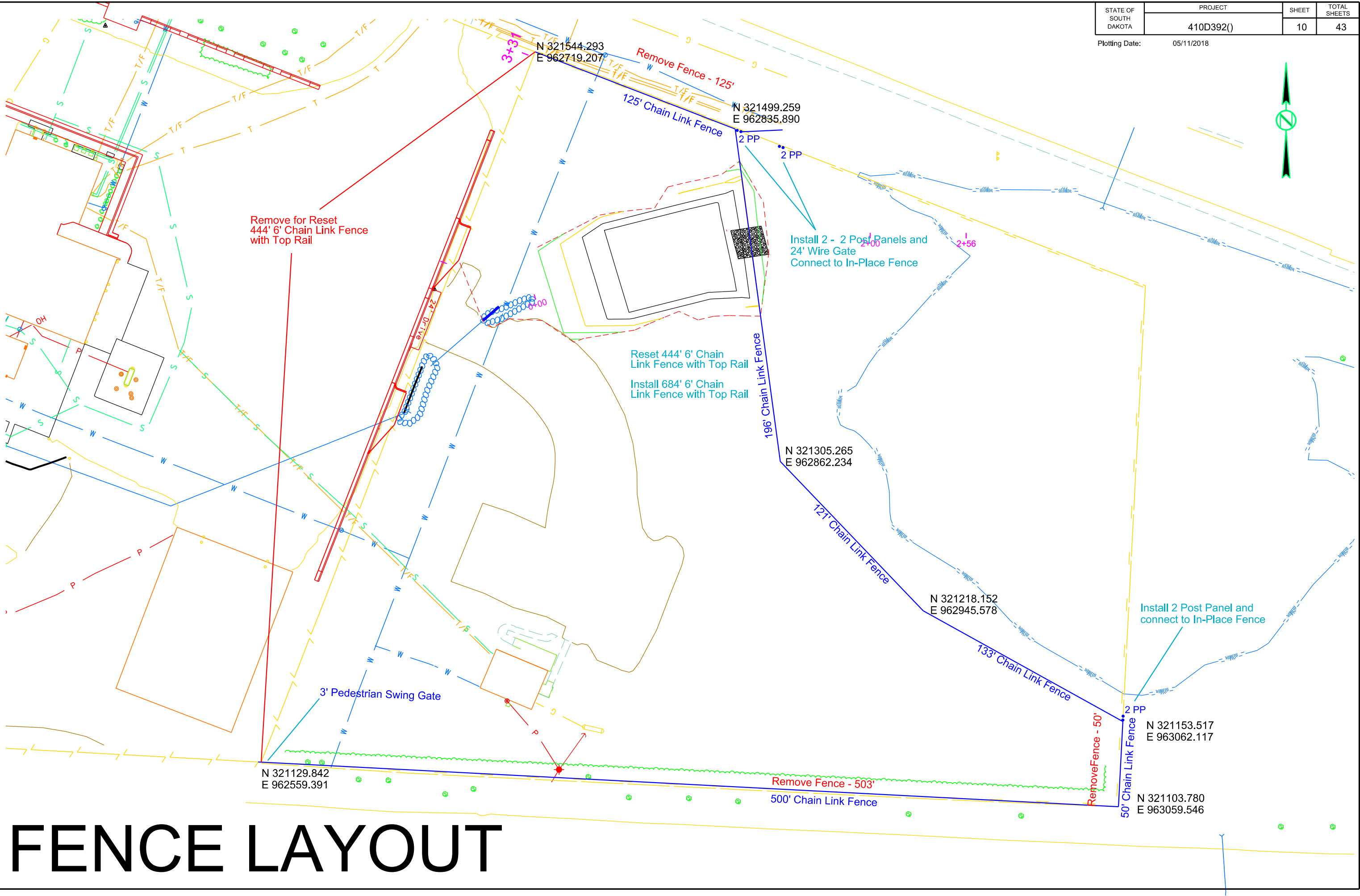
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	410D392()	9	43

Plotting Date: 05/09/2018

Plot Scale - 1/25

Plotted From - TRRC12608





# FENCE LAYOUT

Plot Scale - 1:12.5

Plotted From - TRRC12608

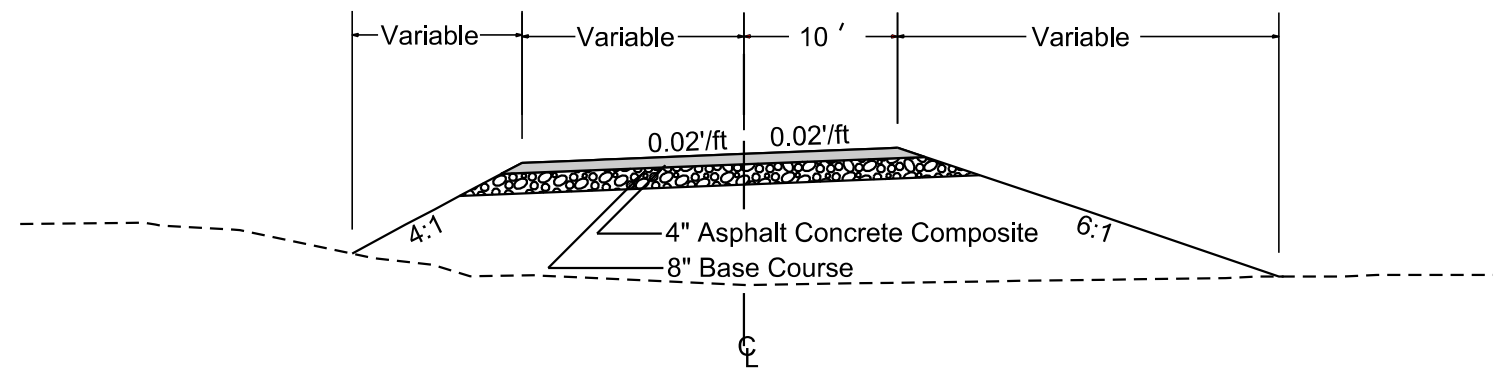
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	410D392()	11	43

Plotting Date: 05/09/2018

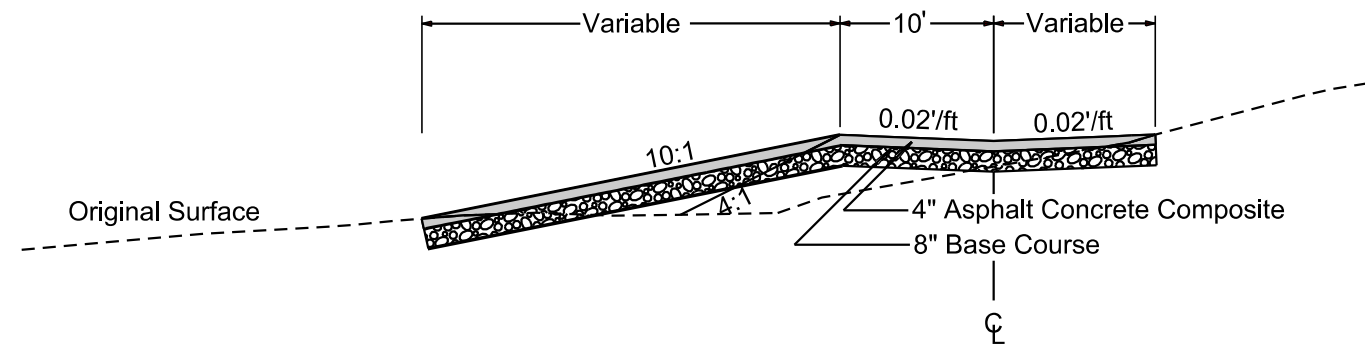
# TYPICAL SECTIONS

## Truck Road Alignment

Typical Section  
Station 0+60.00 to Station 2+00  
Station 2+00 to Station 2+50 Transition to Valley Gutter Crown



Typical Section  
Station 2+50 to Station 3+00  
Station 3+00 to Station 3+50 Transition Existing Cross Slope



File - ...leBelleYard.dgn

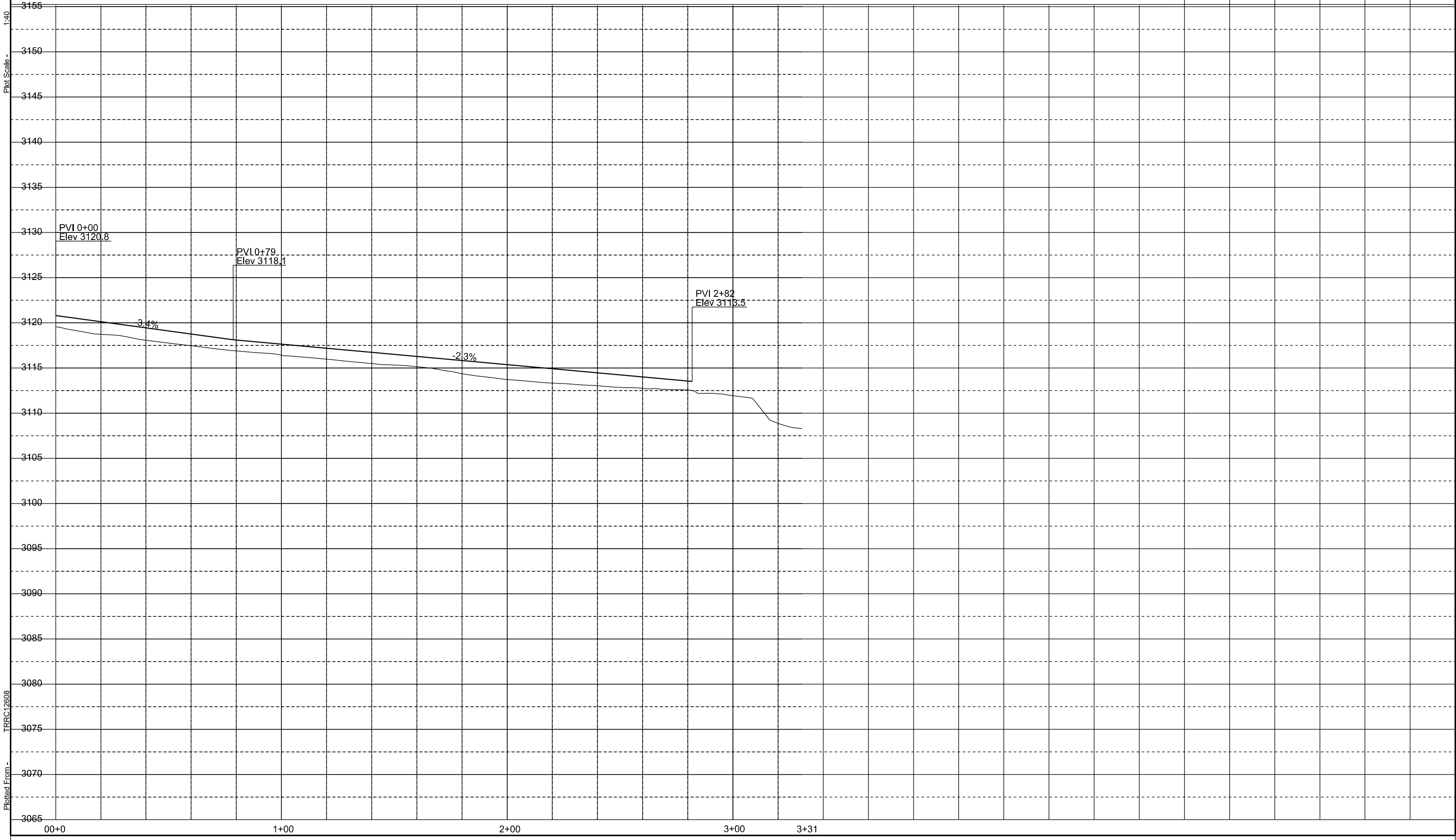
# Main Lot West Side Curbline Profile

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	410D392()	12	43

Plotting Date: 05/09/2018

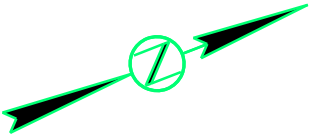
Plot Scale -  
1:40

Plotted From -  
TRRC\2608



# CURB AND GUTTER LAYOUT

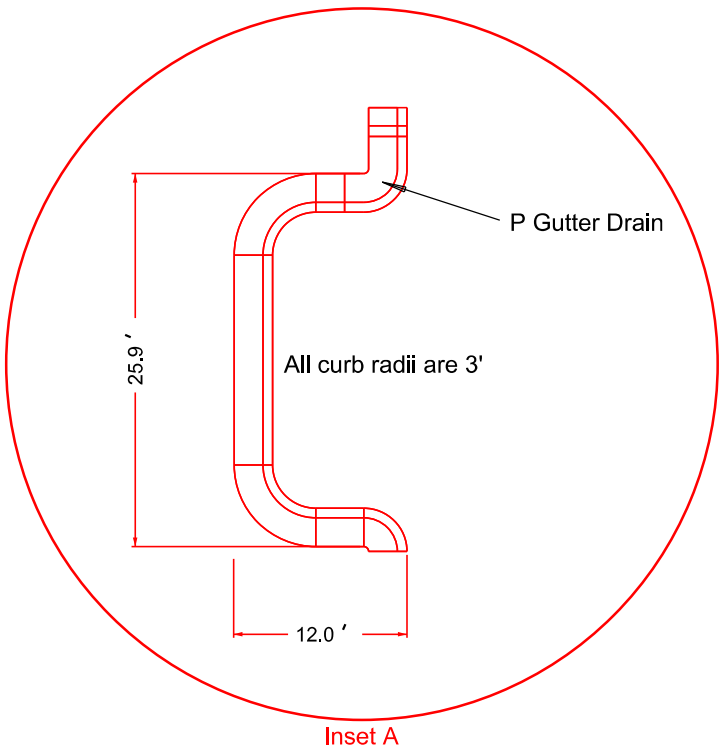
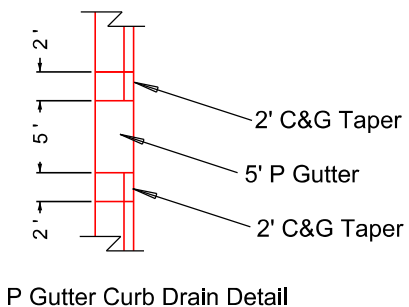
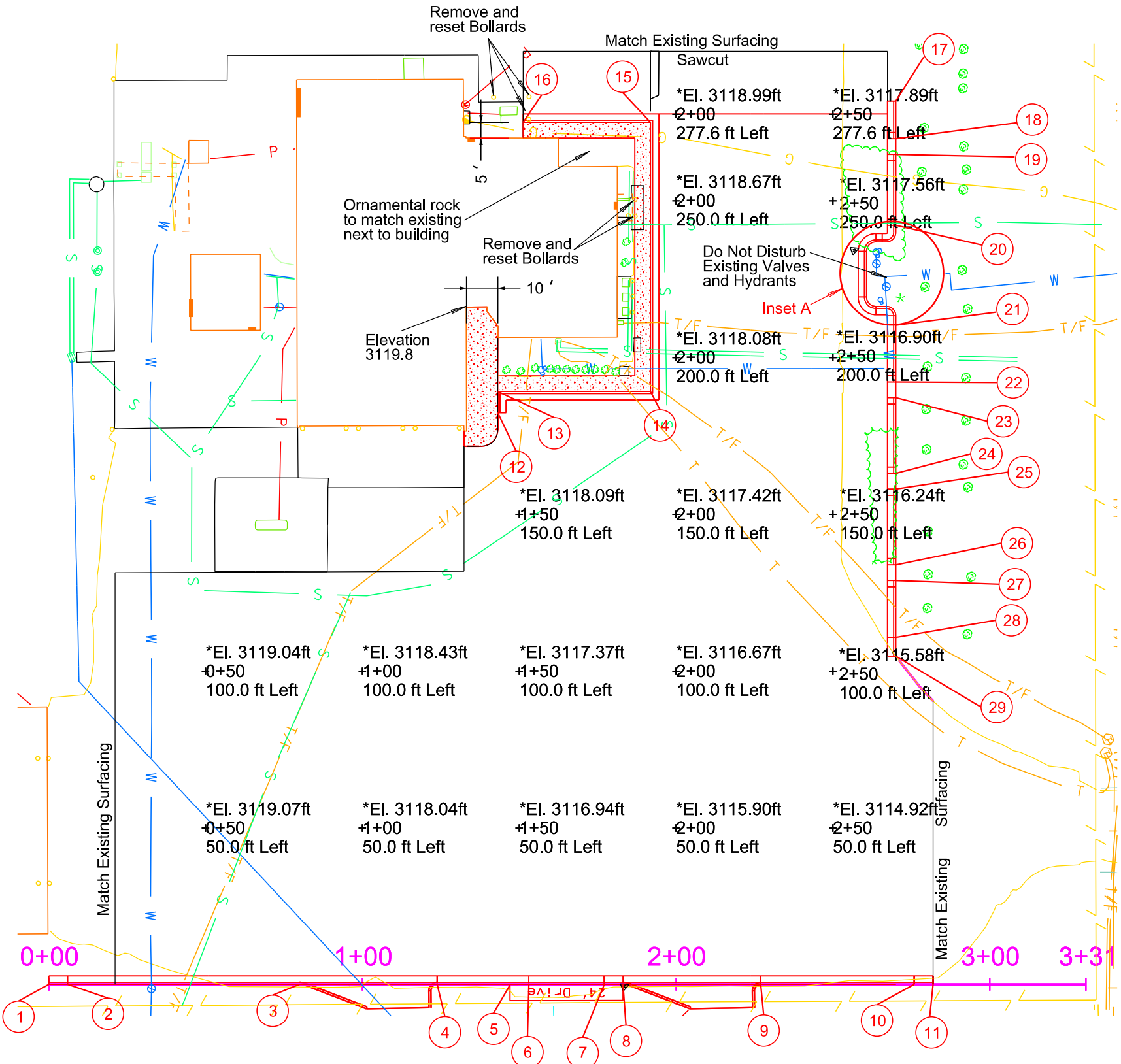
Plotting Date: 05/09/2018



Number	Station	Offset		Top of Curb Elevation	
1	0+00.0	000.0	L	3121.5	Theoretical
2	0+06.0	000.0	L	3121.3	
3	0+79.9	000.0	L	3118.8	
4	1+23.8	000.0	L	3117.8	
5	1+47.1	000.0	L	3117.3	
6	1+53.1	000.0	L	3117.1	Theoretical
7	1+77.1	000.0	L	3116.5	Theoretical
8	1+83.1	000.0	L	3116.4	
9	2+27.0	000.0	L	3115.5	
10	2+75.9	000.0	L	3114.3	
11	2+81.9	000.0	L	3114.2	Theoretical
12	1+43.1	182.3	L	3119.5	Theoretical
13	1+43.1	189.0	L	3119.6	
14	1+91.8	189.0	L	3118.8	
15	1+91.8	274.9	L	3119.4	
16	1+51.3	274.9	L	3120.1	Theoretical
17	2+70.0	281.7	L	3118.9	Theoretical
18	2+70.0	269.7	L	3118.5	Theoretical
19	2+70.0	264.7	L	3118.4	Theoretical
20	2+70.0	244.0	L	3118.1	Theoretical
21	2+70.0	210.2	L	3117.7	
22	2+70.0	192.1	L	3117.5	Theoretical
23	2+70.0	187.1	L	3117.4	Theoretical
24	2+70.0	162.9	L	3117.1	Theoretical
25	2+70.0	157.9	L	3117.0	Theoretical
26	2+70.0	133.8	L	3116.6	Theoretical
27	2+70.0	128.8	L	3116.5	Theoretical
28	2+70.0	110.7	L	3116.2	
29	2+70.0	104.7	L	3116.1	Theoretical



\*All parking lot elevations shown are top of base course



Plot Scale - 1:40

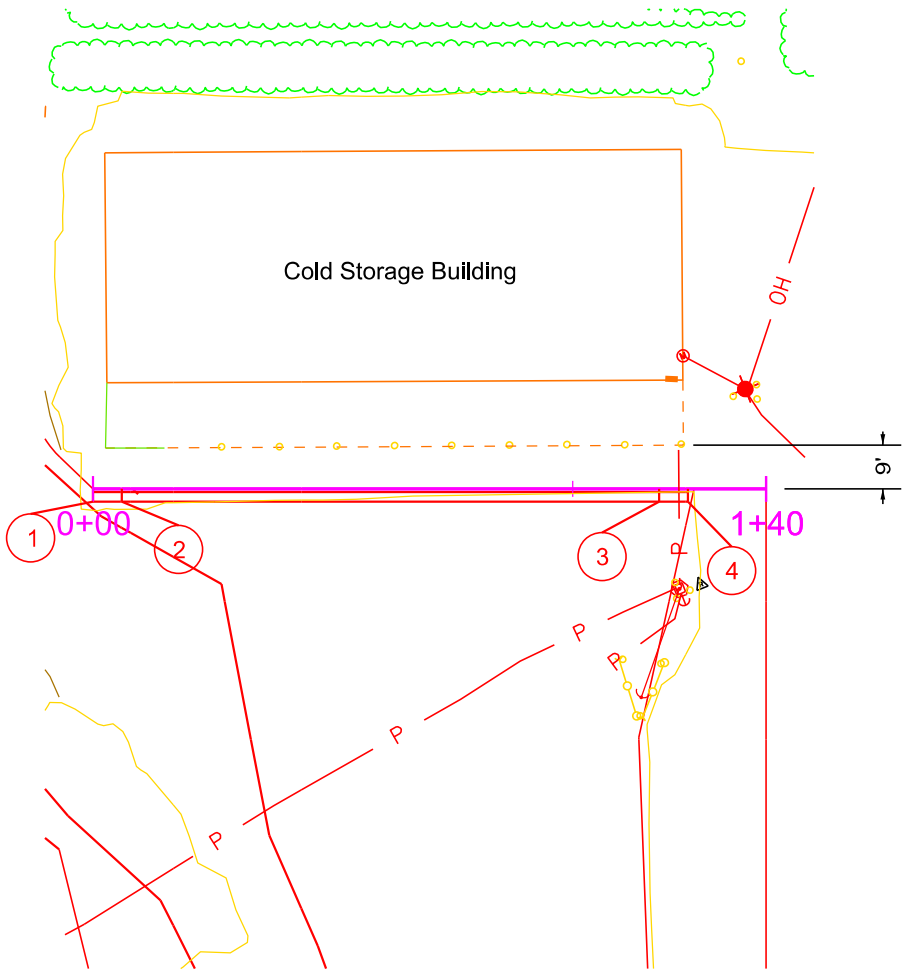
Plotted From - TRRC12608

File - ...C&G Layout1.dgn

# CURB AND GUTTER LAYOUT FOR COLD STORAGE BUILDING

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	410D392()	14	43

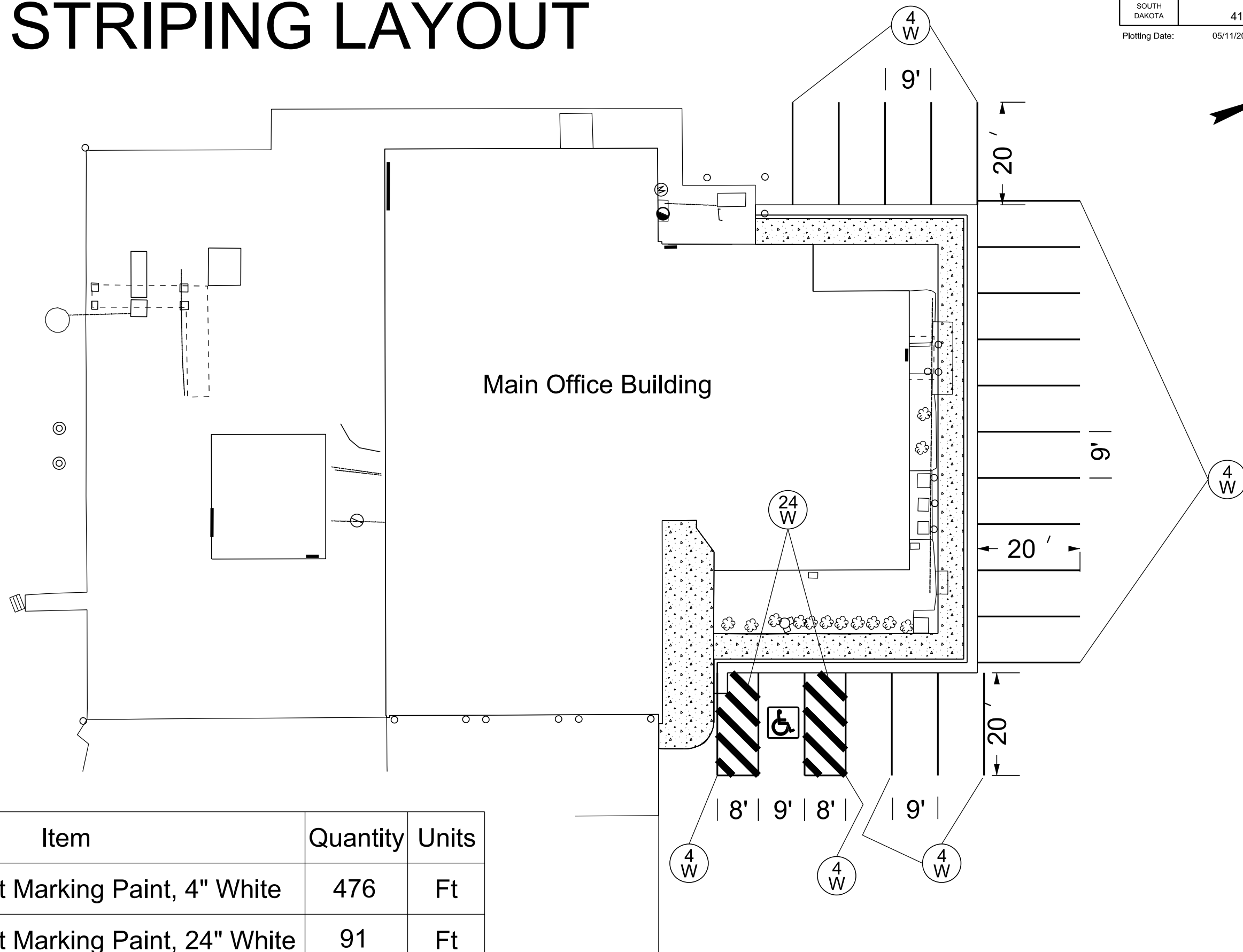
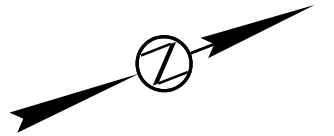
Plotting Date: 05/09/2018






Number	Station	Offset	Top of Curb Elevation
1	0+00.0	000.0 L	3120.1 Theoretical
2	0+06.0	000.0 L	3120.1
3	1+18.0	000.0 L	3119.9
4	1+24.0	000.0 L	3119.9 Theoretical



## Plot Scale - 1:20

Plotting Date: 05/11/2018

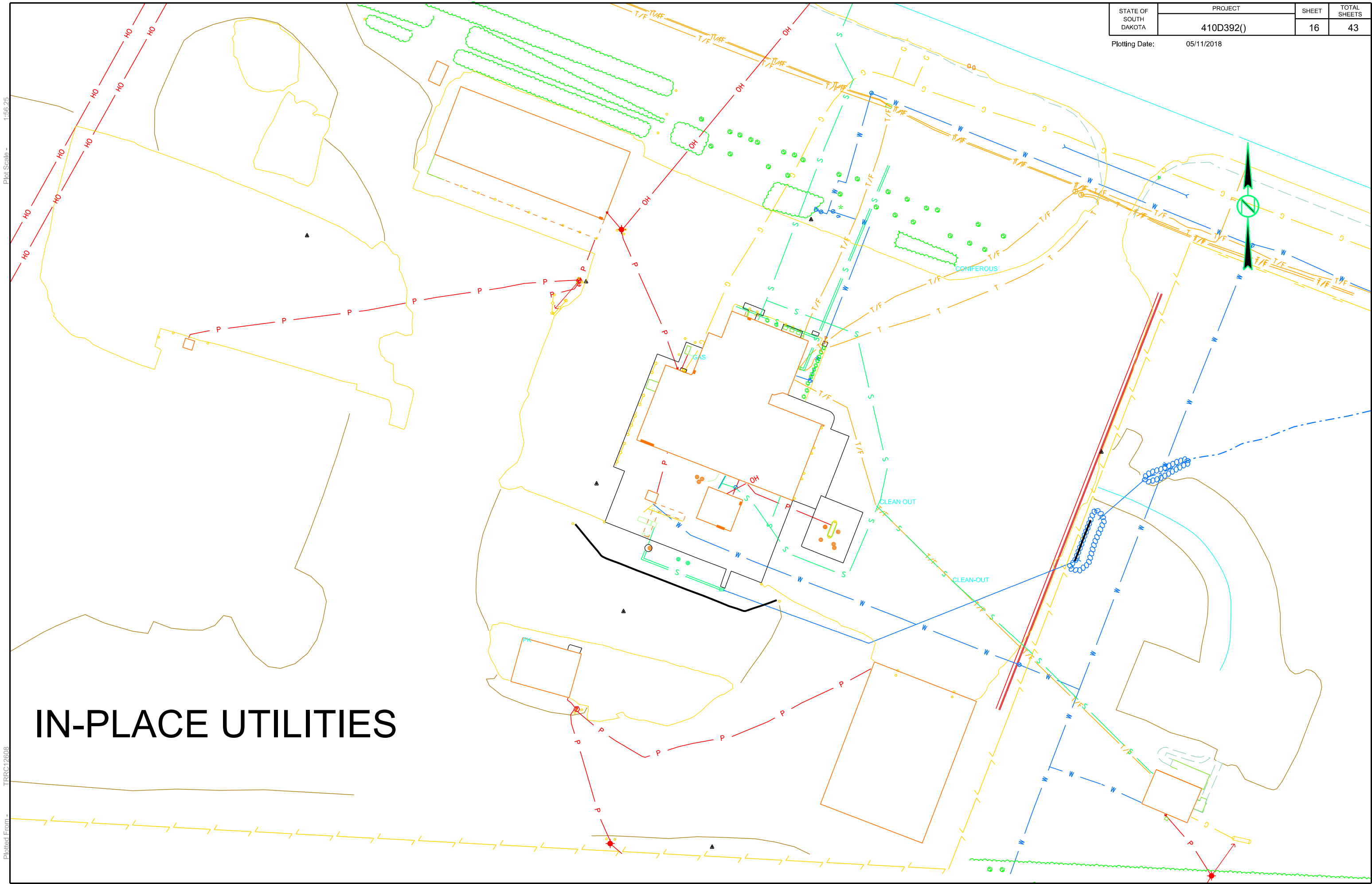
Item		Quantity	Units
	Pavement Marking Paint, 4" White	476	Ft
	Pavement Marking Paint, 24" White	91	Ft
	Pavement Marking Paint, Symbol	1	Each

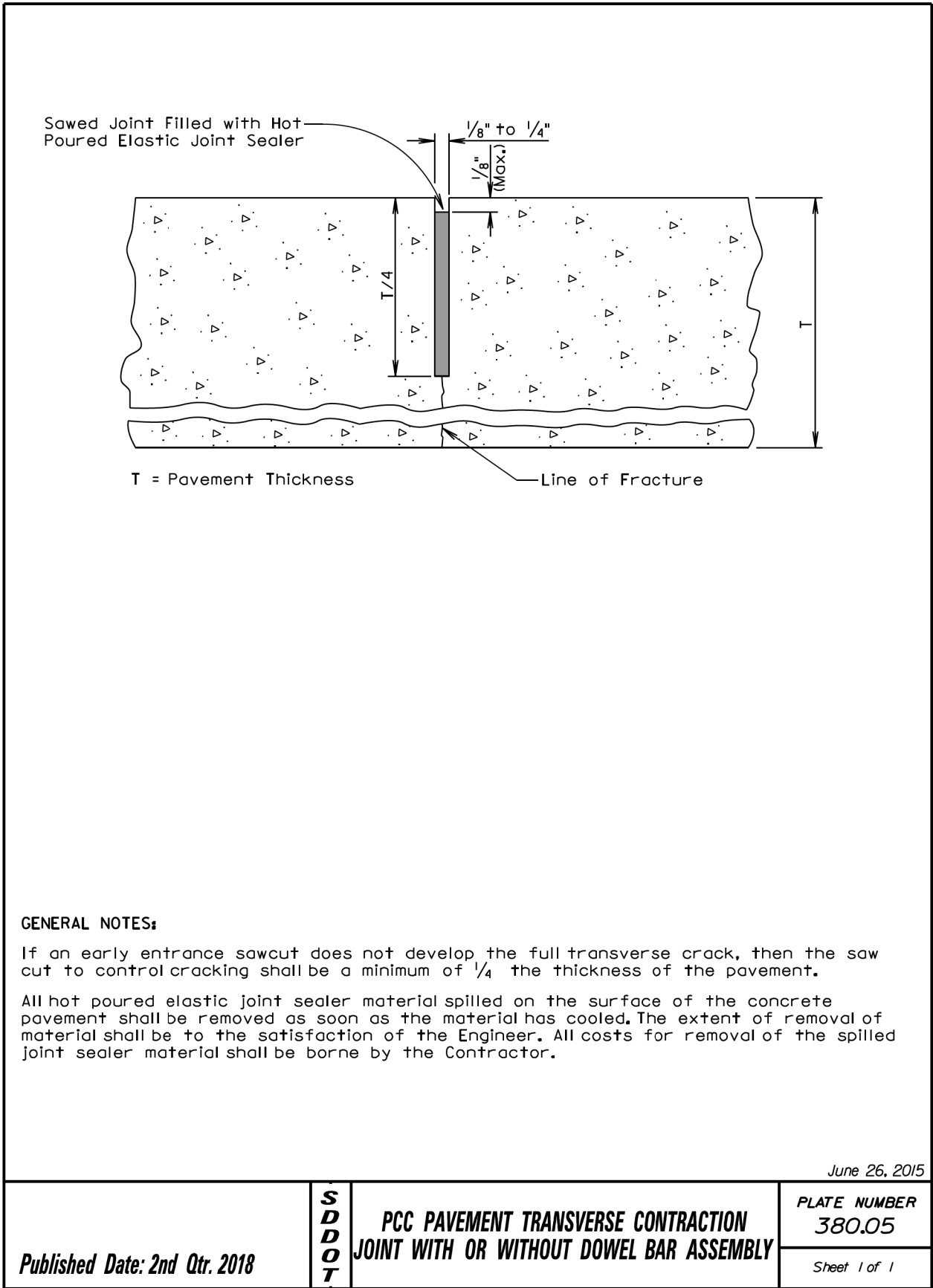
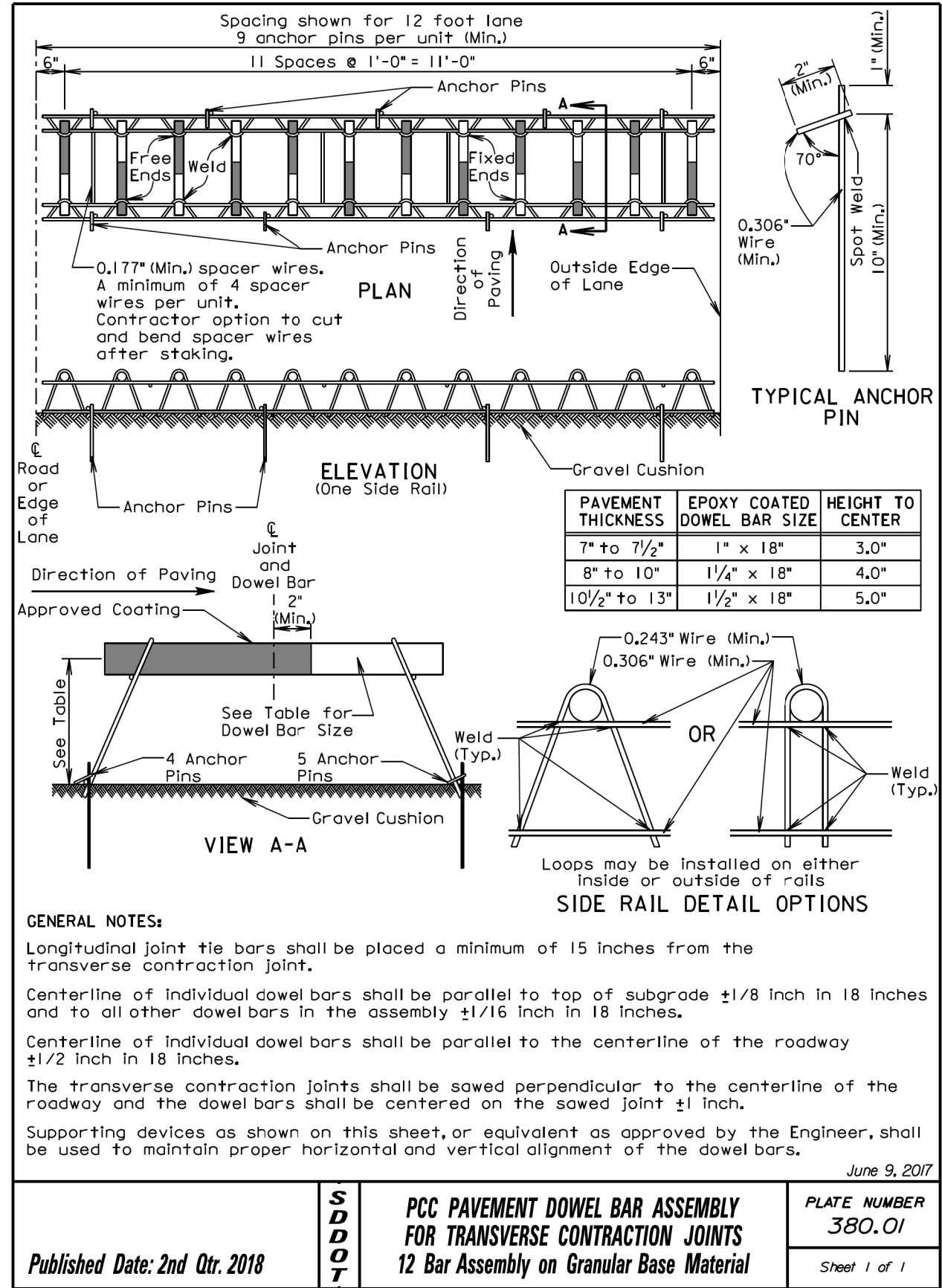
Plot Scale - 1:56,25

Plotted From - TRRC12608

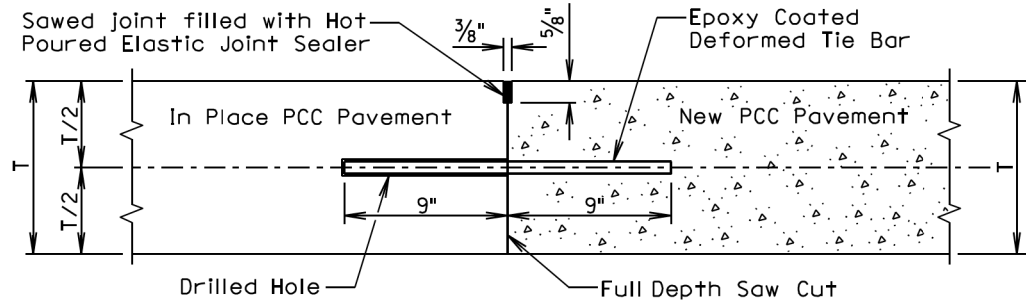
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	410D392()	16	43

Plotting Date: 05/11/2018





DETAIL A  
TRANSVERSE CONSTRUCTION JOINT WITH TIE BARS



T = In Place PCC Pavement and New PCC Pavement Thickness

GENERAL NOTES:

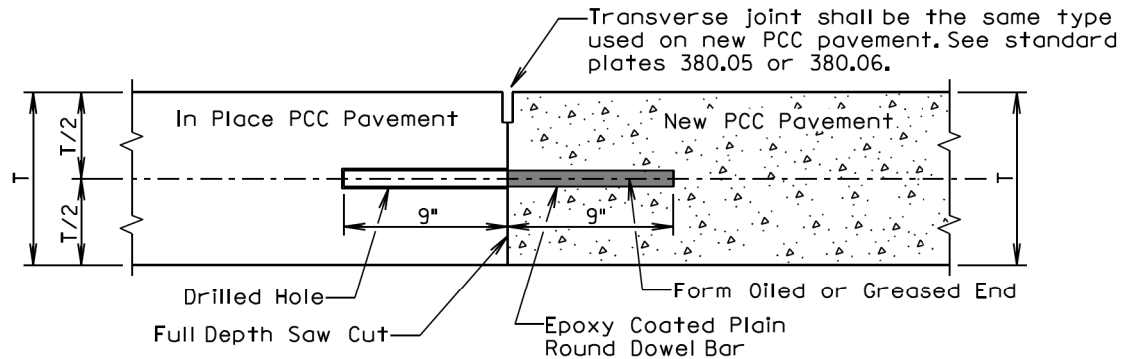
The term "In Place PCC Pavement" in the above drawing indicates that the in place PCC pavement was placed on a previous project.

See sheet 2 of 2 of this standard plate to determine if Detail A shall be used.

The tie bars shall be embedded a minimum depth of 9 inches into the in place PCC pavement and anchored with an epoxy resin adhesive.

No.9 epoxy coated deformed tie bars shall be used in 10 inch thickness and less PCC Pavement and No.11 epoxy coated deformed tie bars shall be used in 10.5 inch thickness and greater PCC Pavement. The tie bar spacing shall be 18 inches center to center and shall be a minimum of 3 inches and a maximum of 9 inches from the pavement edges.

DETAIL B  
TRANSVERSE CONSTRUCTION JOINT WITH DOWEL BARS



T = In Place PCC Pavement and New PCC Pavement Thickness

GENERAL NOTES:

The term "In Place PCC Pavement" in the above drawing indicates that the in place PCC pavement was placed on a previous project or current project.

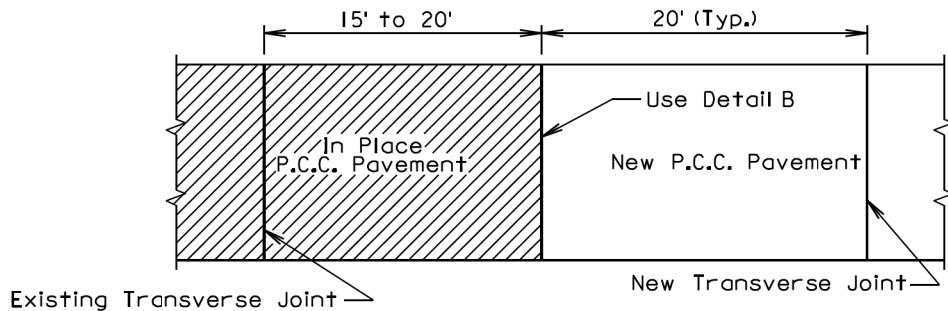
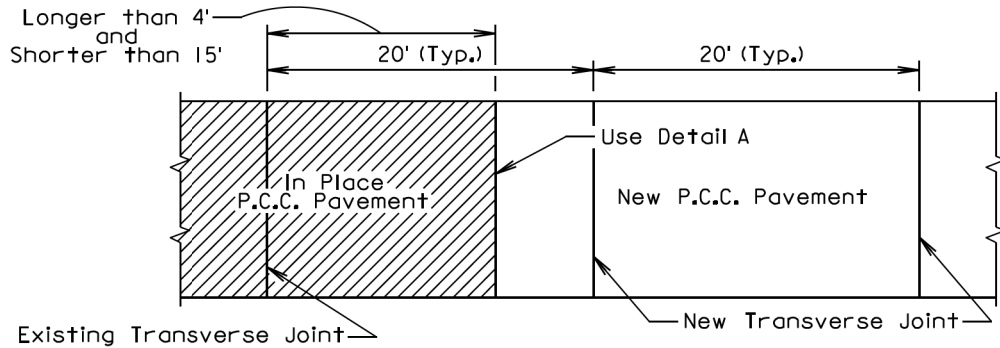
See sheet 2 of 2 of this standard plate to determine if Detail B shall be used.

The plain round dowel bars shall be embedded a minimum depth of 9 inches into the in place PCC pavement and anchored with an epoxy resin adhesive.

The epoxy coated plain round dowel bar size, number, and spacing shall be the same as detailed on the corresponding dowel bar assembly standard plate (380.01, 380.02, 380.03, or 380.04). The epoxy coated plain round dowel bars shall be a minimum of 3 inches and a maximum of 6 inches from the pavement edges.

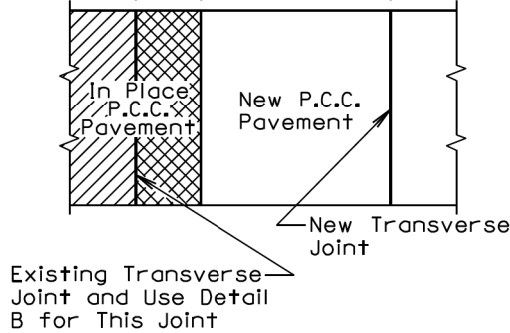
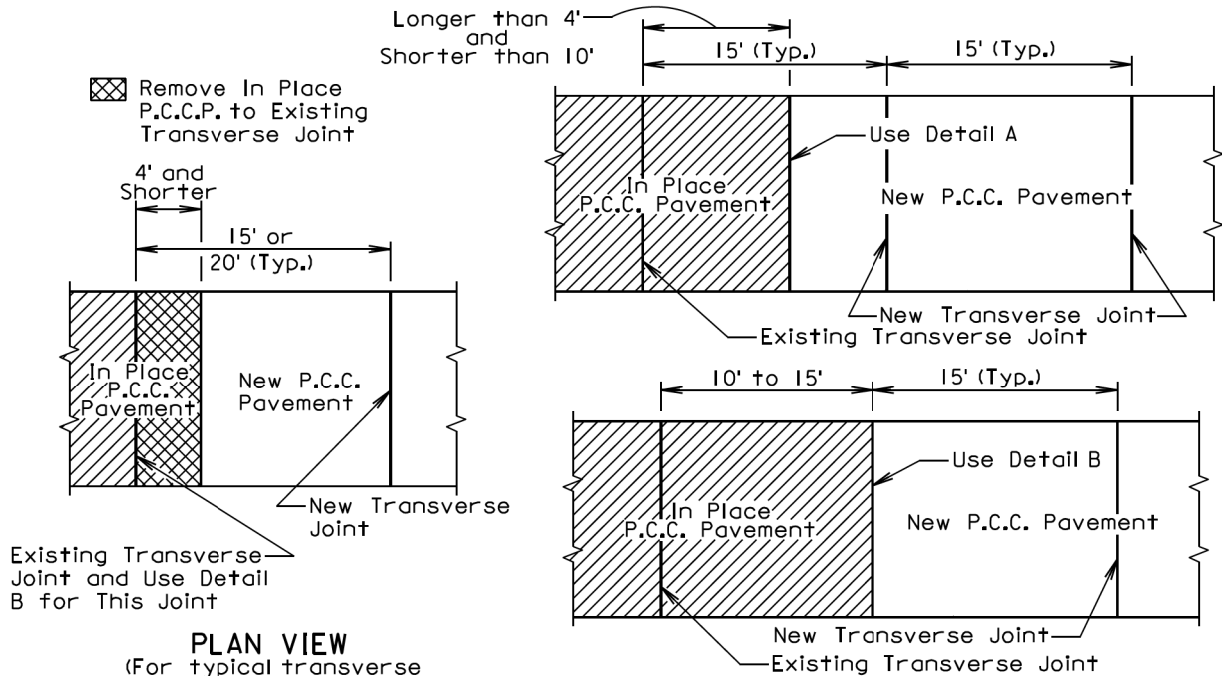
September 6, 2013

Published Date: 2nd Qtr. 2018	S D D O T	PCC PAVEMENT TRANSVERSE CONSTRUCTION JOINTS WITH TIE BARS OR DOWEL BARS	PLATE NUMBER 380.08
			Sheet 1 of 2



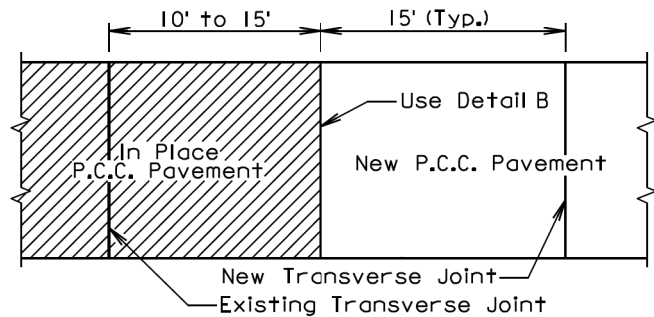
PLAN VIEW

(For typical transverse joint spacing of 20' on the current project)



PLAN VIEW

(For typical transverse joint spacing of 15' or 20' on the current project)

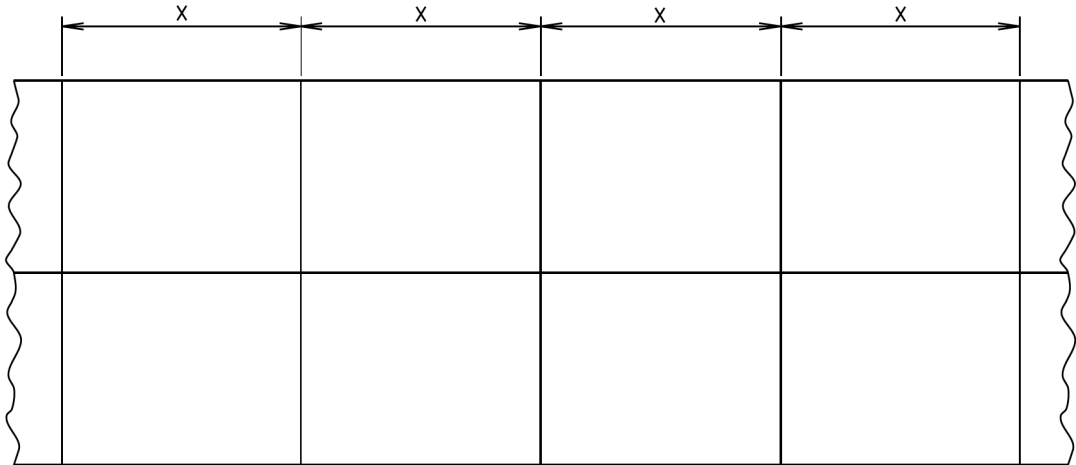


PLAN VIEW

(For typical transverse joint spacing of 15' on the current project)

September 6, 2013

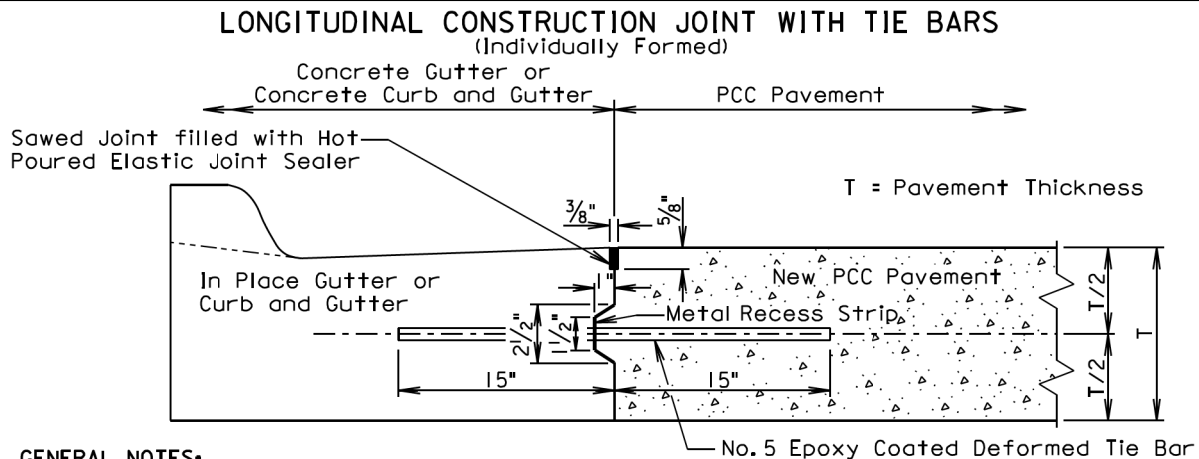
Published Date: 2nd Qtr. 2018	S D D O T	PCC PAVEMENT TRANSVERSE CONSTRUCTION JOINTS WITH TIE BARS OR DOWEL BARS	PLATE NUMBER 380.08
			Sheet 2 of 2



PCCP Thickness	Transverse Contraction Joint Spacing (X)
8" to 9.5"	15'
10" and Thicker	20'

August 31, 2013

Published Date: 2nd Qtr. 2018	S D D O T	PCC PAVEMENT TYPICAL CONTRACTION JOINT SPACING	PLATE NUMBER 380.09
			Sheet 1 of 1



**GENERAL NOTES:**

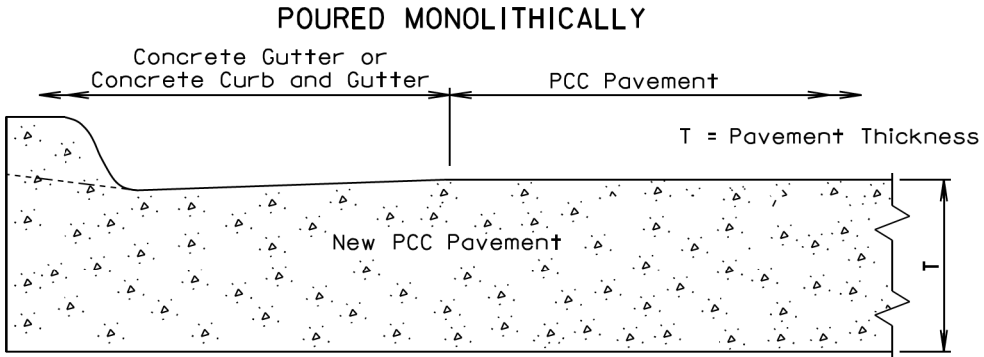
No.5 epoxy coated deformed tie bars shall be spaced 48 inches center to center. The keyway shown above is a female keyway.

The tie bars shall be placed a minimum of 15 inches from existing transverse contraction joints.

The keyway is optional and is not required. When concrete pavement is formed and a keyway is provided, a metal recess strip shall be used. When concrete pavement is slip formed, a metal recess strip is not required.

The transverse contraction joints in the concrete gutter or concrete curb and gutter shall be placed at each mainline PCC pavement transverse contraction joint. The transverse contraction joints in the concrete gutter or the concrete curb and gutter shall be 1 1/2 inches deep if formed in fresh concrete using a suitable grooving tool. If a saw is used to cut the transverse contraction joints, then the depth of the joint shall be at least 1/4 the thickness of the concrete gutter or concrete curb and gutter.

The term "In Place Gutter or Curb and Gutter" in the above drawing indicates that the in place concrete gutter and concrete curb and gutter was placed on the current project.



**GENERAL NOTES:**

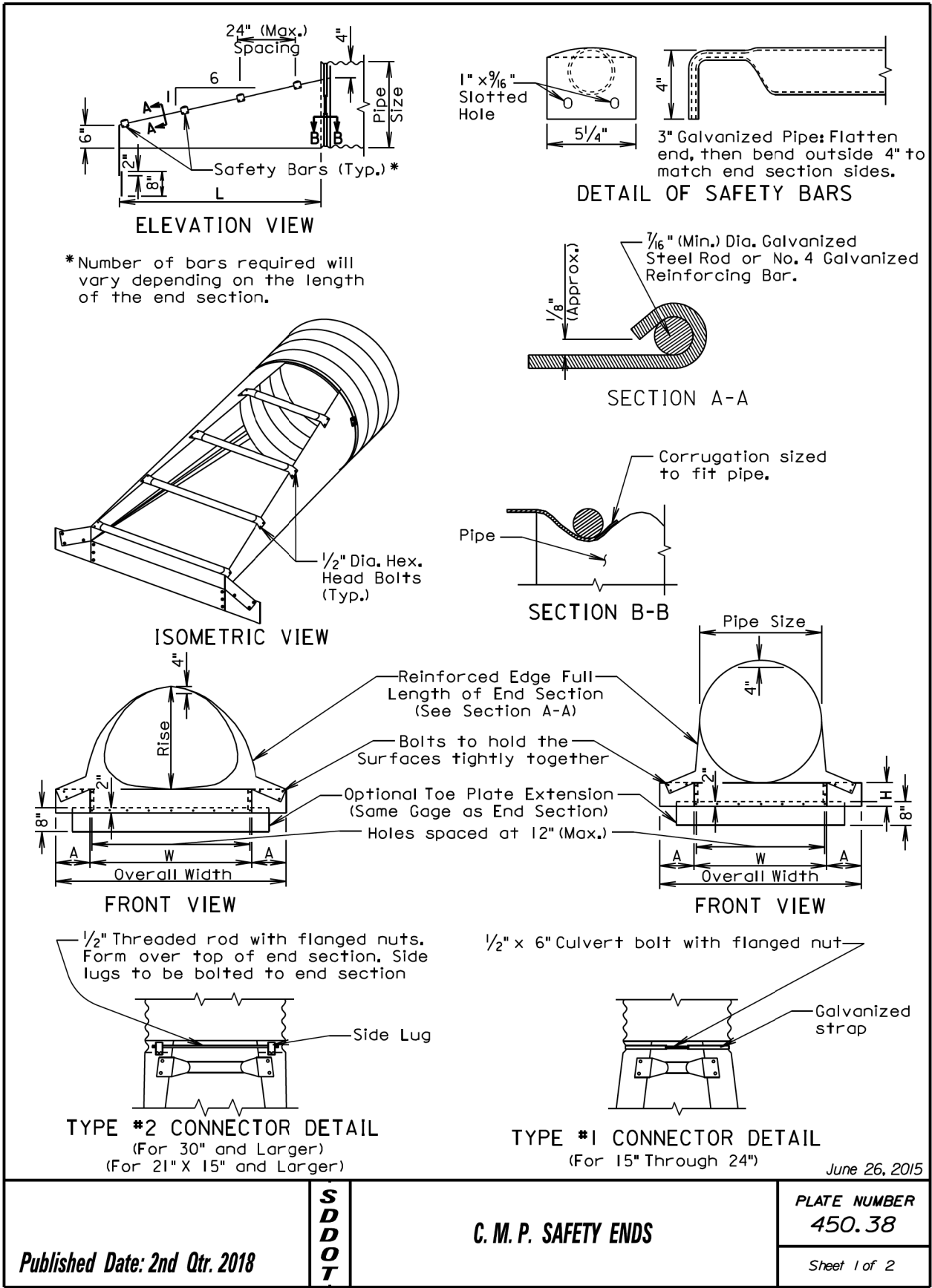
The mainline curb and gutter may be placed monolithically with the PCC pavement if the mainline lane width is less than or equal to 12 feet. If this method of construction is used, the tie bars and the sawed joint between the curb and gutter and the PCC pavement shall be eliminated.

The gutter or curb and gutter shall be sawed transversely at each mainline transverse contraction joint. The transverse contraction joints in the gutter or curb and gutter shall be sawed and sealed same as the transverse contraction joints in the PCC pavement.

The slope of the gutter shall be the slope designated for the type of gutter or curb and gutter to be constructed. The bottom slope of the gutter or curb and gutter shall be constructed at the same slope as the mainline concrete pavement.

June 26, 2013

Published Date: 2nd Qtr. 2018	S D D O T	PCC PAVEMENT LONGITUDINAL CONSTRUCTION JOINTS WITH CONCRETE GUTTER OR CONCRETE CURB AND GUTTER	PLATE NUMBER 380.11
			Sheet 1 of 1



ARCH C.M.P. SAFETY ENDS										
Equiv. Dia. (Inch)	(Inches)		Min. Thick.		Dimensions (Inches)			L Dimensions		
	Span	Rise	Inch	Gage	A	H	W	Overall Width	Slope	Length (Inch)
18	21	15	.064	16	8	6	27	43	6:1	30
21	24	18	.064	16	8	6	30	46	6:1	48
24	28	20	.064	16	8	6	34	50	6:1	60
30	35	24	.079	14	12	9	41	65	6:1	84
36	42	29	.109	12	12	9	48	72	6:1	114
42	49	33	.109	12	16	12	55	87	6:1	138
48	57	38	.109	12	16	12	63	95	6:1	168
54	64	43	.109	12	16	12	70	102	6:1	198
60	71	47	.109	12	16	12	77	109	6:1	222
72	83	57	.109	12	16	12	89	121	6:1	282

CIRCULAR C.M.P. SAFETY ENDS								
Pipe Dia. (Inch)	Min. Thick.		Dimensions (Inches)				L Dimensions	
	Inch	Gage	A	H	W	Overall Width	Slope	Length (Inch)
15	.064	16	8	6	21	37	6:1	30
18	.064	16	8	6	24	40	6:1	48
21	.064	16	8	6	27	43	6:1	66
24	.064	16	8	6	30	46	6:1	84
30	.109	12	12	9	36	60	6:1	120
36	.109	12	12	9	42	66	6:1	156
42	.109	12	16	12	48	80	6:1	192
48	.109	12	16	12	54	86	6:1	228
54	.109	12	16	12	60	92	6:1	264
60	.109	12	16	12	66	98	6:1	300

GENERAL NOTES:

Safety ends shall be fabricated from galvanized steel conforming to the requirements of the Specifications.

Safety bars shall be fabricated from steel schedule 40 pipe in conformance with ASTM A53, grade B or HSS 3.5X.216 in conformance with ASTM A500, grade B.

Slotted holes for safety bar attachment shall be provided for all end sections.

Attachment to circular pipes 15" through 24" diameter shall be made with Type #1 straps. All other sizes shall be attached with Type #2 rods and lugs.

When stated in the plans, optional toe plate extension shall be punched and bolted to end section apron lip with 3/8" diameter galvanized bolts. Steel for toe plate extension shall be same gauge as end section. Dimensions shall be overall width less 6" by 8" high.

Installation shall be performed in accordance with the Specifications.

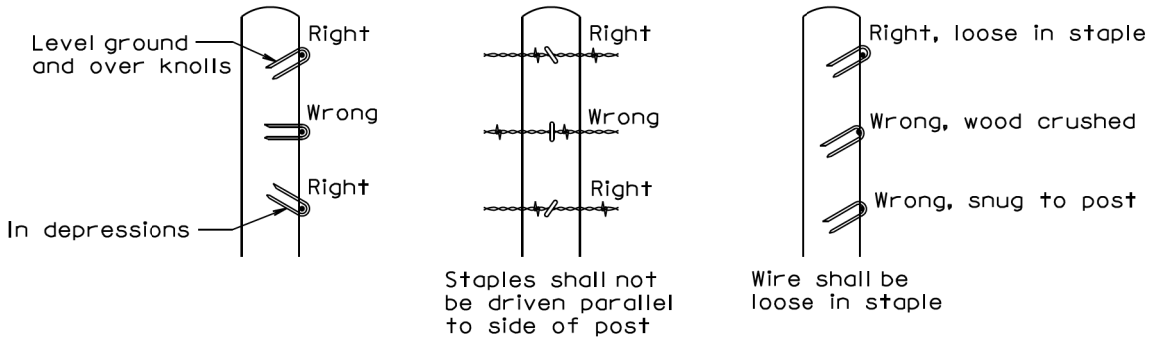
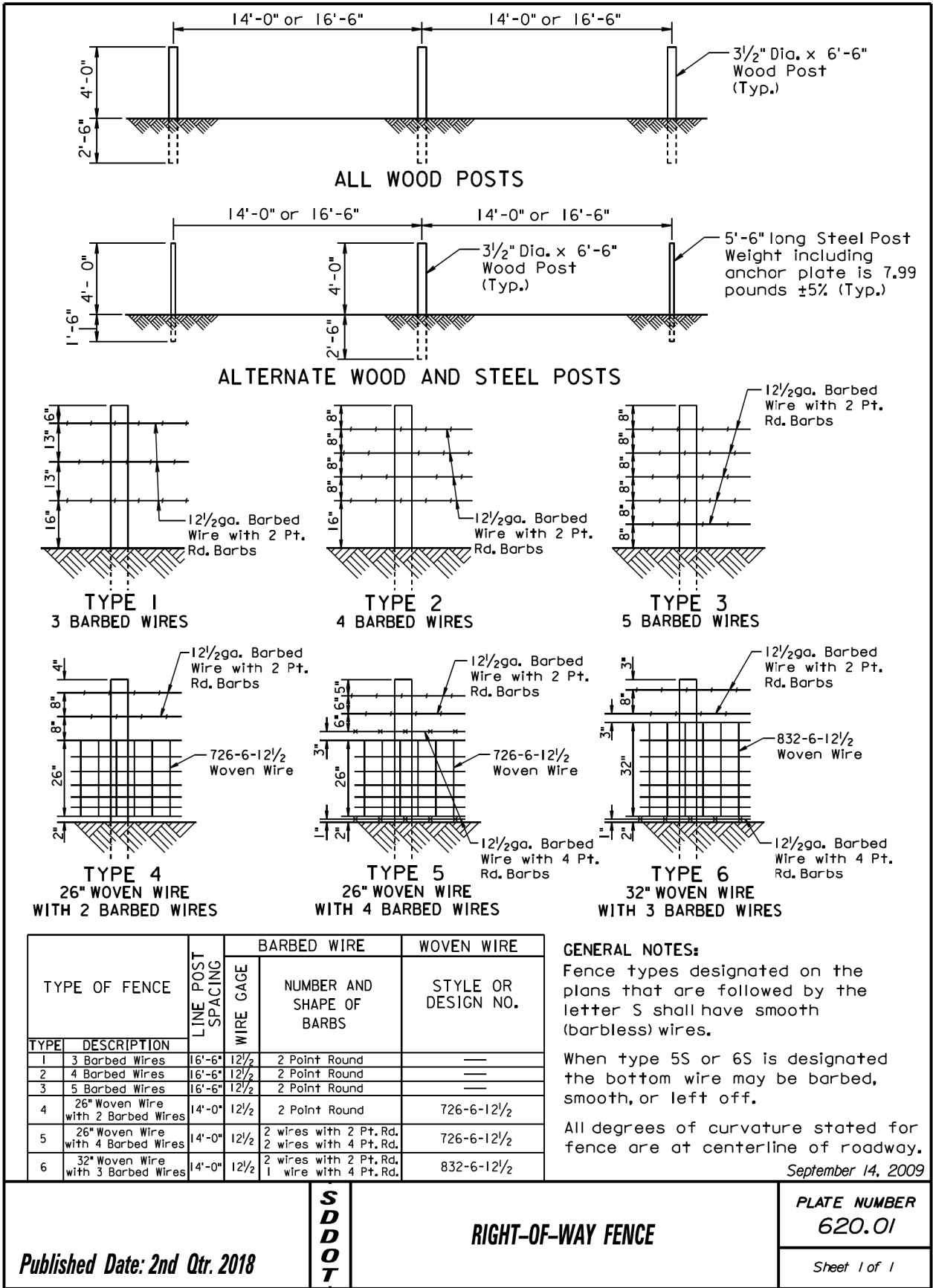
Cost of all work and materials required for fabrication and installation of safety ends shall be incidental to the bid items for the various sizes of safety ends.

June 26, 2015

S D D O T	C. M. P. SAFETY ENDS	PLATE NUMBER 450.38
		Sheet 2 of 2

Published Date: 2nd Qtr. 2018





STAPLE INSTALLATION

GENERAL NOTES:

The Right-of-Way fence shall consist of barbed wire or a combination of woven wire and barbed wire. The barbed wire and/or woven wire shall be fastened to all wood posts or fastened to alternating wood and steel posts. Only wood posts shall be used for brace panels. Gates shall be of the type designated in the plans or as otherwise directed by the Engineer. Fence shall be constructed conforming to the details on the standard plates and in the plans unless otherwise directed by the Engineer.

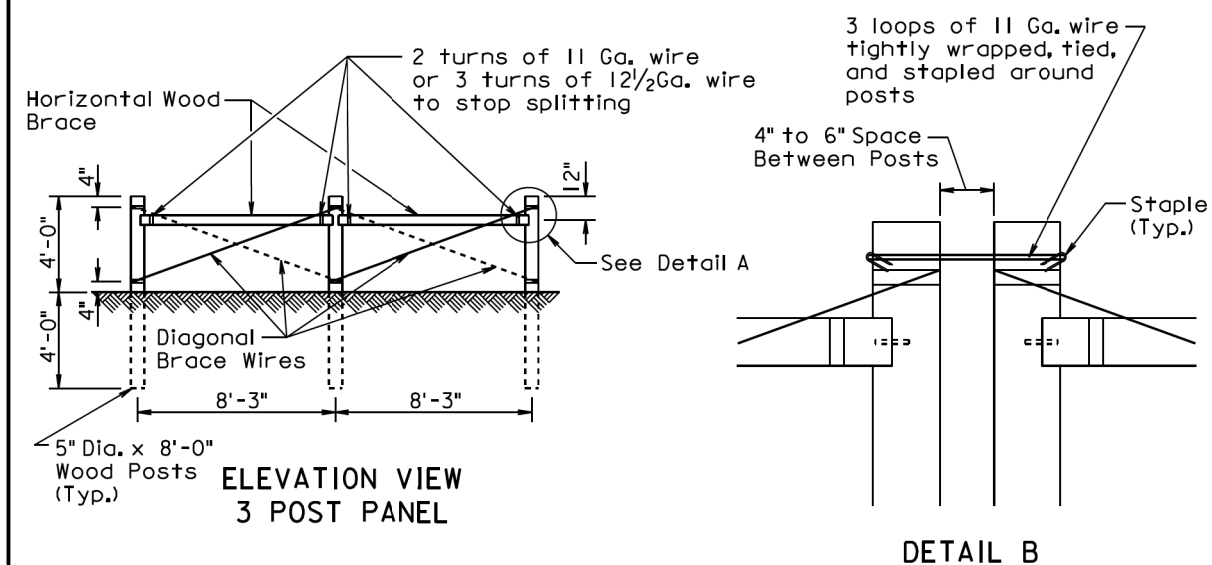
Right-of-Way fence on Interstate Projects shall be constructed one foot within the Interstate Right-of-Way lines except at bridge openings, cattle passes, and as otherwise directed by the Engineer.

Right-of-Way fence other than on Interstate Projects shall be constructed within one foot of the Right-of-Way on the Landowner's side except at bridge openings, cattle passes, and as otherwise directed by the Engineer.

Barbs shall be fabricated from zinc coated 14 ga. wire. Two point barbs shall be wrapped twice around one main strand at 4" spacings and the four point barbs shall be interlocked and wrapped around both main strands at 5" spacings.

The gages of wire and wood post lengths and sizes are the minimum acceptable unless otherwise specified in the plans. The tolerances for steel posts shall be as stated in AASHTO M281. Woven wire shall conform to design and specifications of ASTM A116 and barbed wire shall conform to ASTM A121.

<b>Published Date: 2nd Qtr. 2018</b>	<b>S D D O T</b>	<b>STAPLE INSTALLATION AND GENERAL RIGHT-OF-WAY FENCE NOTES</b>	December 23, 2004
			<b>PLATE NUMBER 620.02</b>
			Sheet 1 of 1



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.

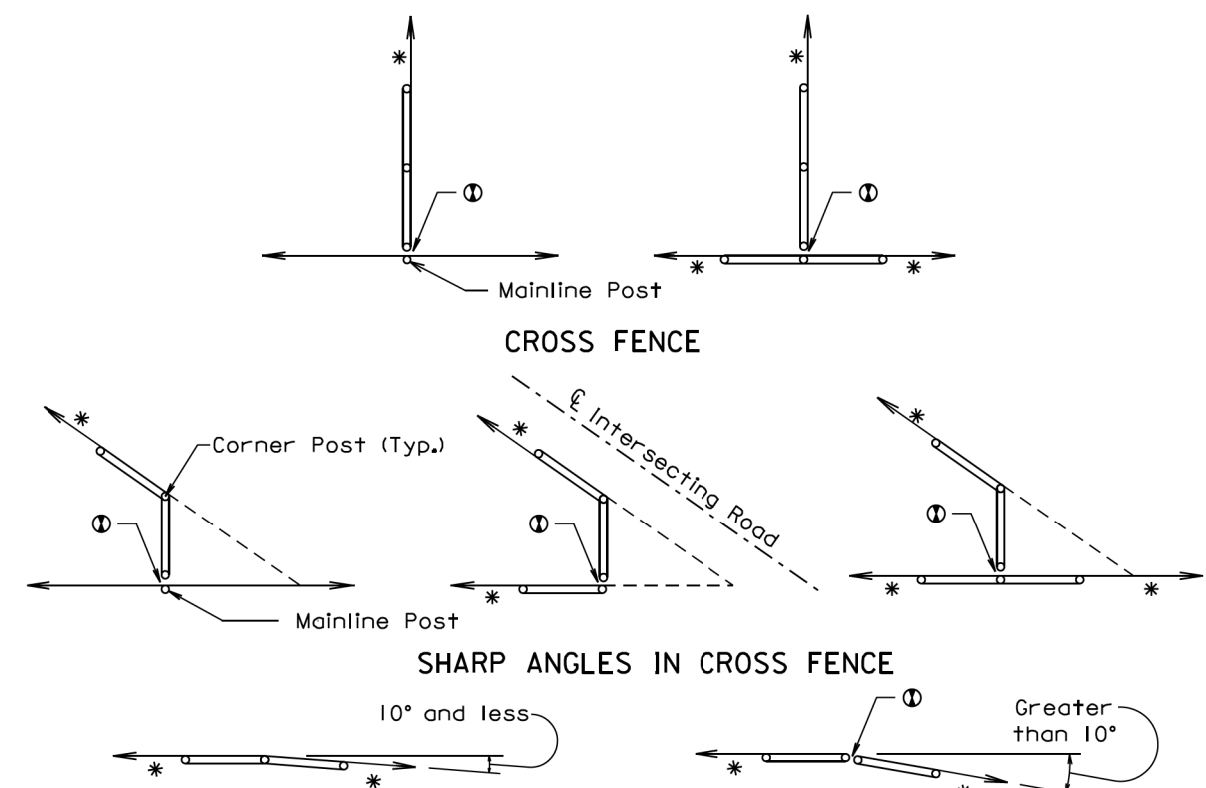
Diagonal brace wires shall be fabricated with 4 strands of 9 Ga. galvanized wire twisted tight. The diagonal brace wires shall be installed in accordance with the direction of the fence pull. Two diagonal brace wires are required if fence pull is in both directions.

Published Date: 2nd Qtr. 2018	S D D O T	BRACE PANELS AND APPLICATIONS OF BRACE PANELS	PLATE NUMBER 620.03
			Sheet 1 of 3

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

- 

## SHORT JOGS IN FENCE



December 23, 2004

Published Date: 2nd Qtr. 2018	S D D O T	BRACE PANELS AND APPLICATIONS OF BRACE PANELS	PLATE NUMBER 620.03
			Sheet 2 of 3

**ENTRANCE  
(NOT ON CORNER)**

**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.

**S  
D  
D  
O  
T**

**BRACE PANELS  
AND APPLICATIONS OF BRACE PANELS**

Published Date: 2nd Qtr. 2018

December 23, 2004

PLATE NUMBER  
620.03

Sheet 3 of 3

W Gate Width (ft.)	S Post Spacing
16	3 @ 5'-0" ±
20	4 @ 4'-9" ±
24	4 @ 5'-9" ±
30	5 @ 5'-10" ±
40	6 @ 6'-6" ±

**GENERAL NOTES:**

Creosote treatment of the gate posts will not be accepted.

The type of fencing in the gate shall be of the same type as specified for the adjacent Right-of-Way fence.

All costs for furnishing and constructing the wire gate(s) shall be incidental to the contract unit price per Ft for the respective Right-of-Way fence bid item.

**S  
D  
D  
O  
T**

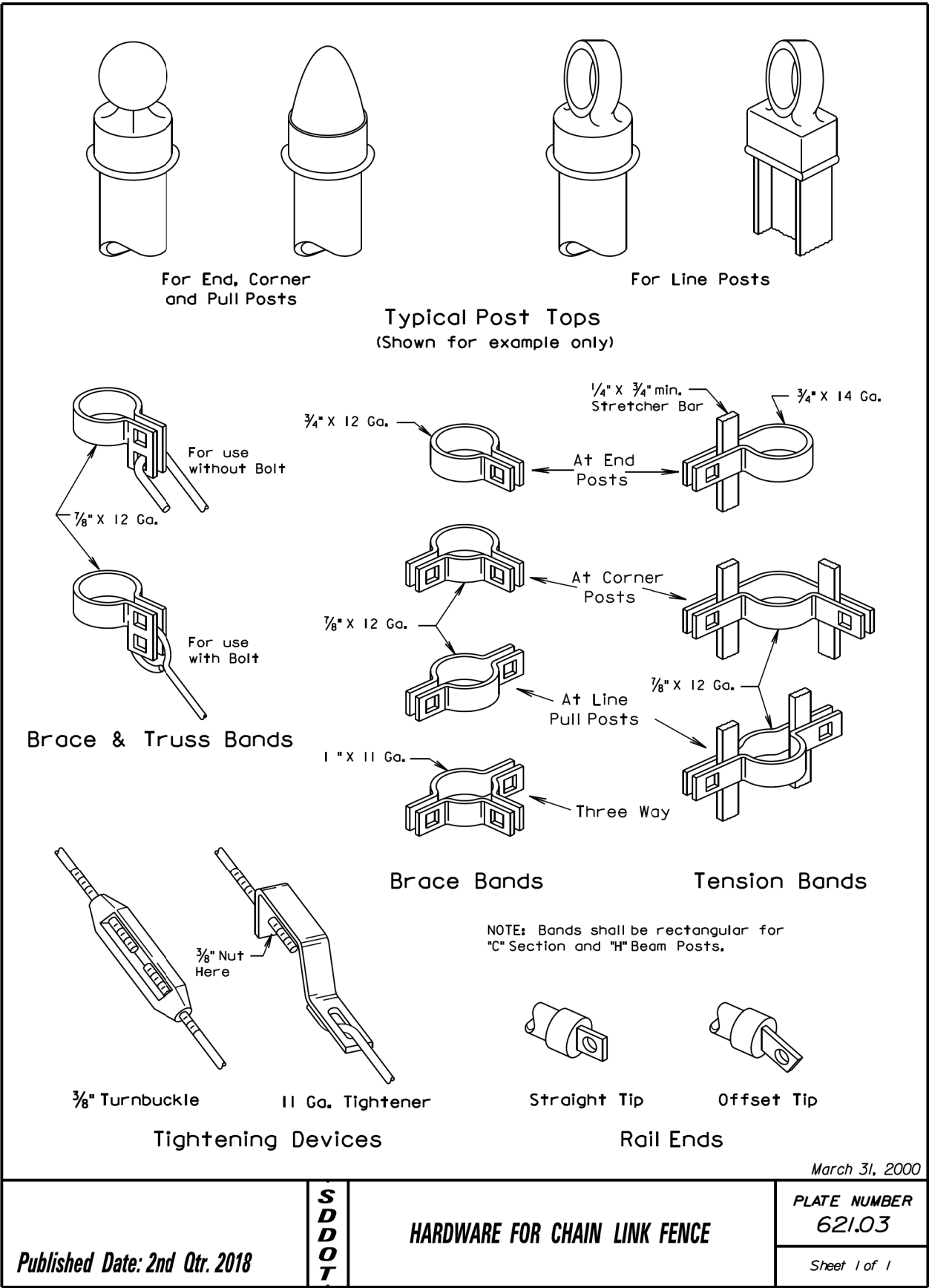
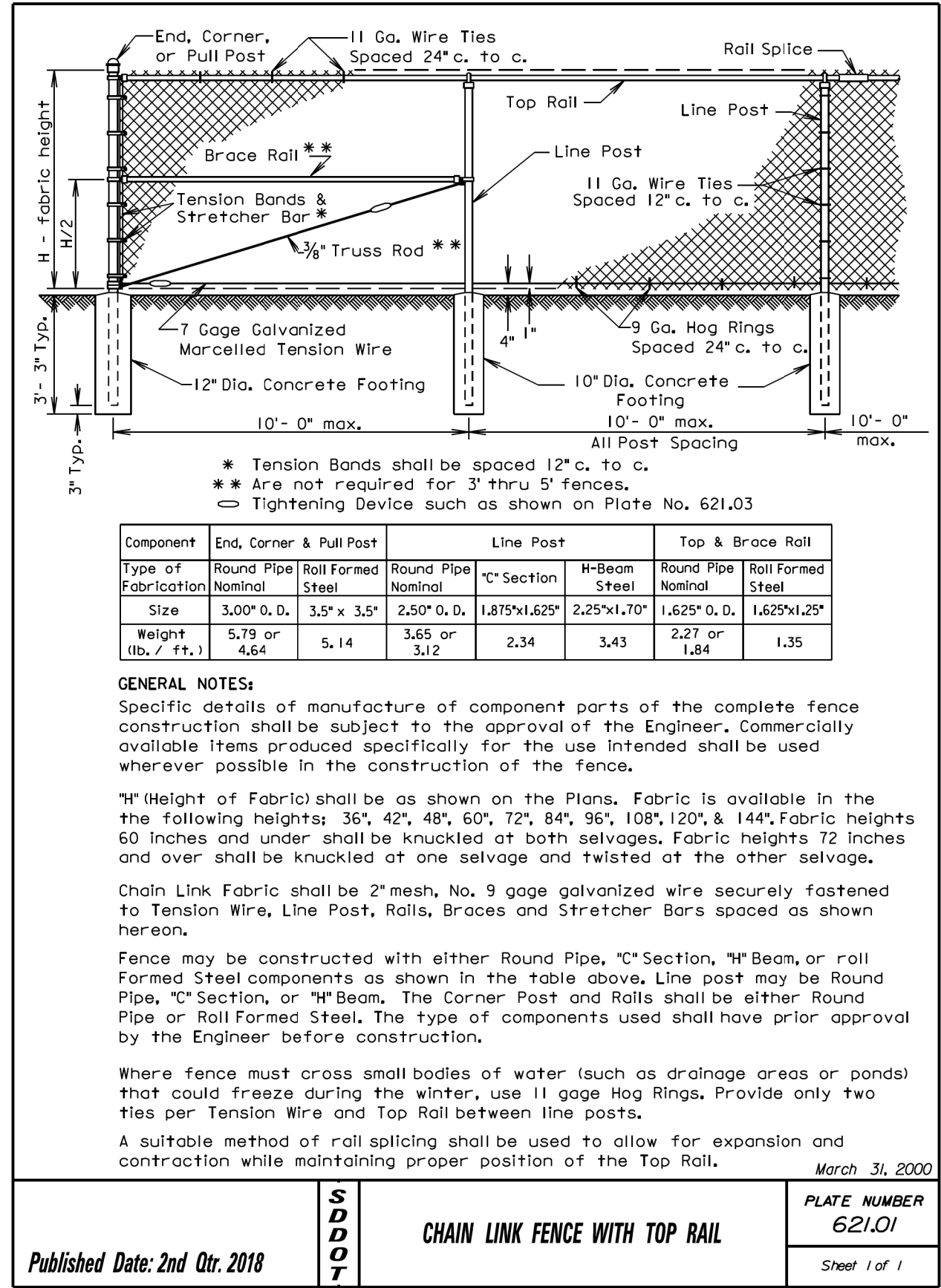
**WIRE GATES**

Published Date: 2nd Qtr. 2018

March 31, 2000

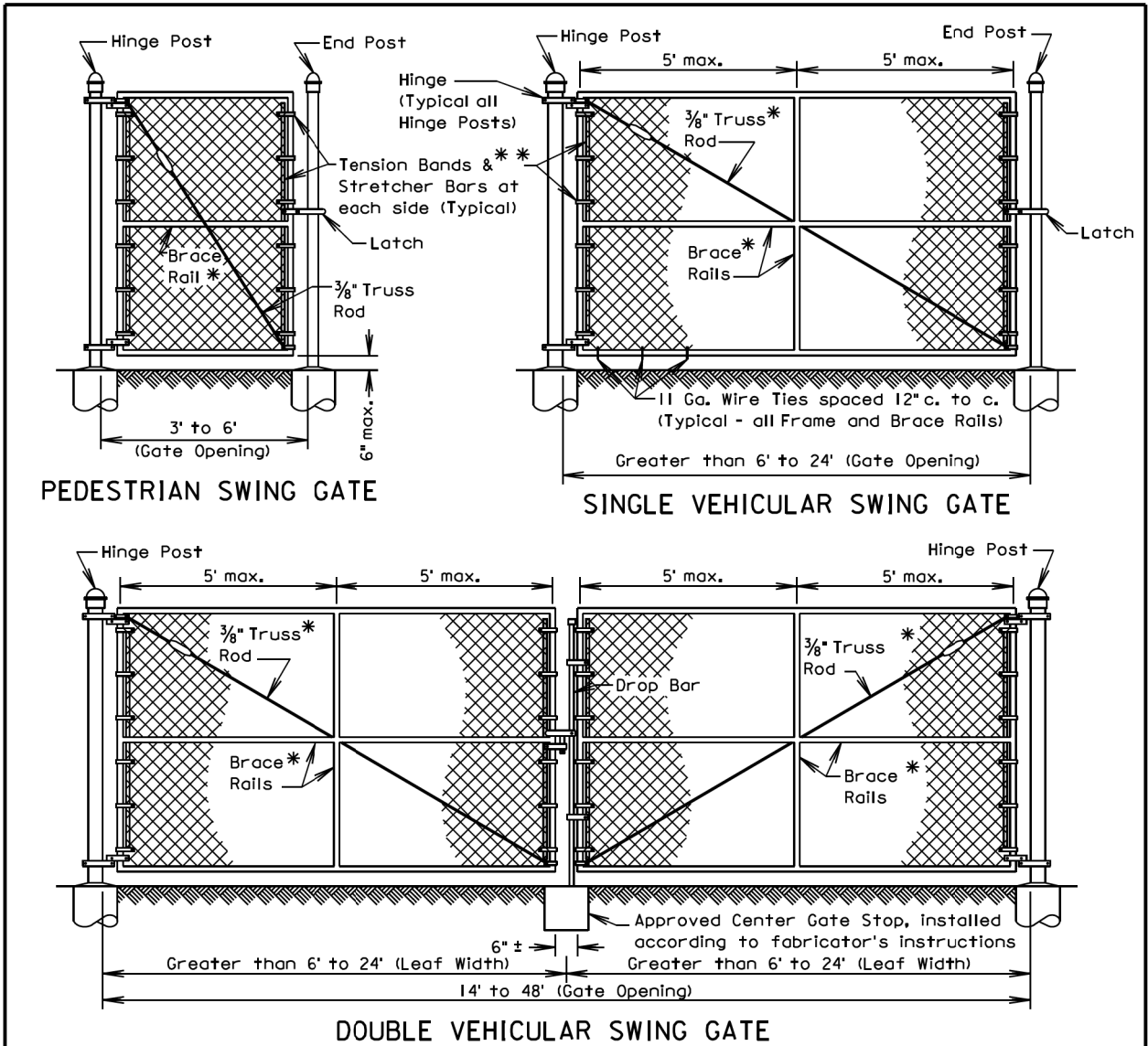
PLATE NUMBER  
620.20

Sheet 1 of 1



STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	410D392()	25	43

Plotting Date: 05/09/2018



Gate Opening		Frame Pipe Nominal	Brace Rail - Pipe Nominal
Width <sup>1</sup>	Height <sup>2</sup>		
3' to 8'	3' to 6'	1.50"	1.50"
>8' to 23'	6'	1.90"	1.50"
>8' to 23'	> 6' to 12'	1.90"	1.90"

Gate Opening Width <sup>1</sup>	Hinge Post		Concrete Footing	
	Round Pipe Nominal	Roll Formed Steel	Depth	Diameter
3' to 6'	3.00"	3.50"x3.50"	36"	12"
> 6' to 13'	4.00"	—	42"	12"
> 13' to 18'	6.625"	—	48"	18"
> 18' to 23'	8.625"	—	48"	24"

NOTE: Gate frames may be constructed of bent or welded steel tubing installed according to fabricator's instructions and subject to the Engineer's approval.

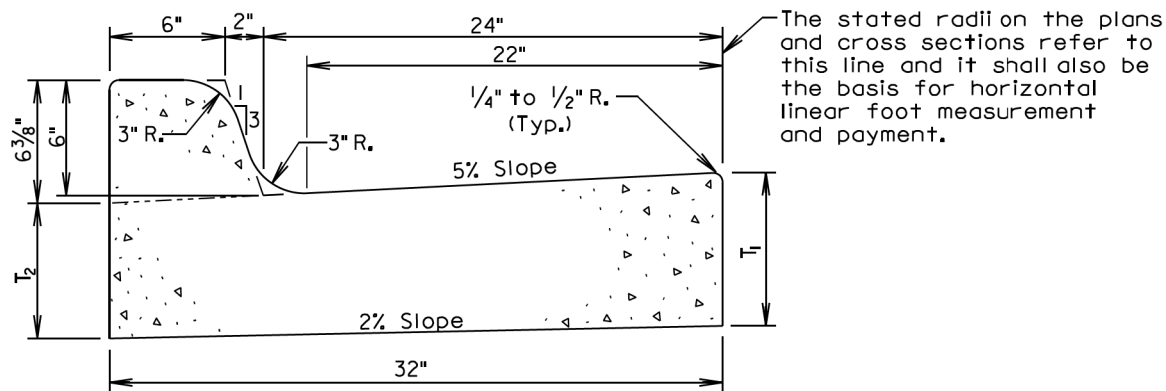
- \* Are not required for gates 3' to 5' height or 5' or less in width.
- \* Tension Bands shall be spaced 12" c. to c.
- Tightening Device such as shown on standard plate 621.03
- 1 Leaf width for Double Vehicular Swing Gate
- 2 Shall coincide with fence height

September 14, 2001

Published Date: 2nd Qtr. 2018	S D D O T	SWING GATES FOR CHAIN LINK FENCE	PLATE NUMBER 621.10
			Sheet 1 of 1

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	410D392()	26	43

Plotting Date: 05/09/2018



Type	T <sub>1</sub> (Inches)	T <sub>2</sub> (Inches)	Cu. Yd. Per Lin. Ft.	Lin. Ft. Per Cu. Yd.
B66	6	5 1/16	0.057	17.7
B67	7	6 1/16	0.065	15.4
B68	8	7 1/16	0.073	13.7
B68.5	8.5	7 9/16	0.077	13.0
B69	9	8 1/16	0.081	12.3
B69.5	9.5	8 9/16	0.085	11.7
B610	10	9 1/16	0.090	11.2
B610.5	10.5	9 9/16	0.094	10.7
B611	11	10 1/16	0.098	10.2
B611.5	11.5	10 9/16	0.102	9.8
B612	12	11 1/16	0.106	9.4

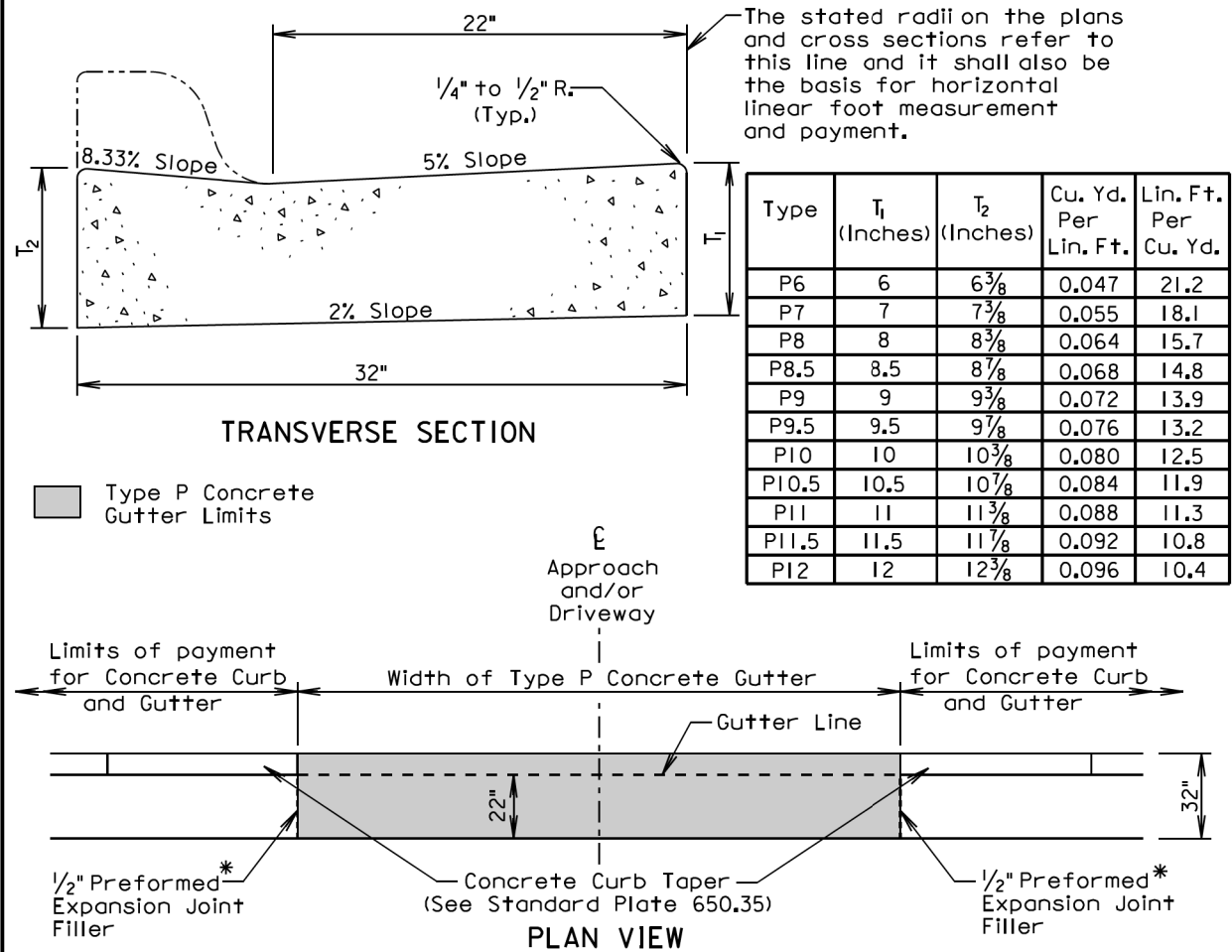
**GENERAL NOTES:**

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

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

September 6, 2008

Published Date: 2nd Qtr. 2018	S D D O T	TYPE B CONCRETE CURB AND GUTTER	PLATE NUMBER 650.01
			Sheet 1 of 1



\* 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" 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 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.

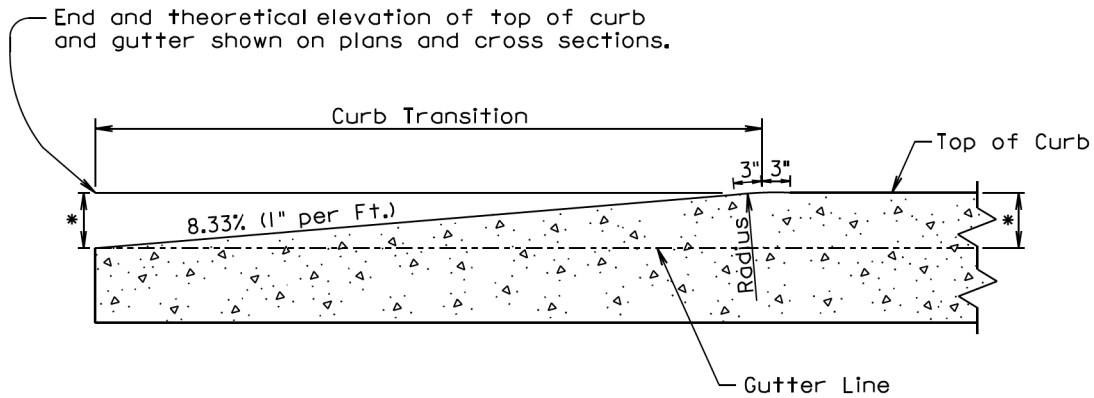
June 26, 2015

Published Date: 2nd Qtr. 2018	S D D O T	TYPE P CONCRETE GUTTER	PLATE NUMBER 650.30
			Sheet 1 of 1



STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	410D392()	27	43

Plotting Date: 05/09/2018



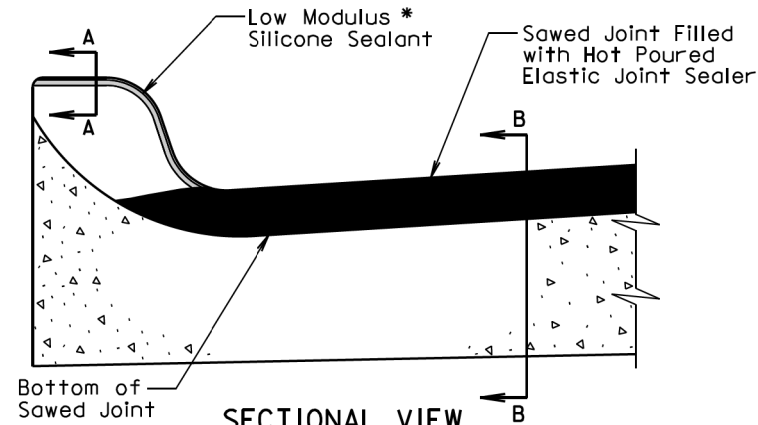
LONGITUDINAL SECTION OF CONCRETE CURB TAPER

September 14, 2005

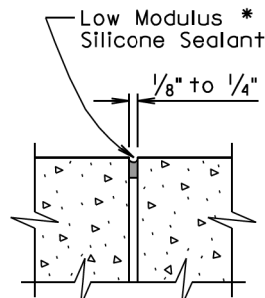
Published Date: 2nd Qtr. 2018	S D D O T	CONCRETE CURB TAPER	PLATE NUMBER 650.35
			Sheet 1 of 1

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	410D392()	28	43

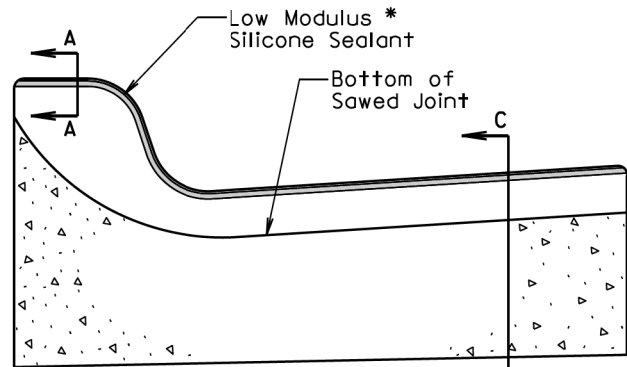
Plotting Date: 05/09/2018



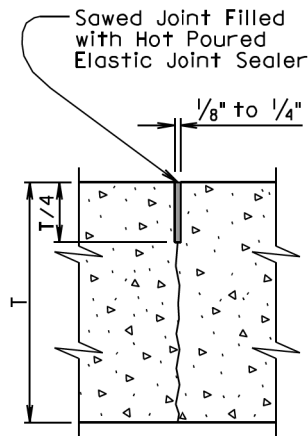
**SECTIONAL VIEW**  
(Curb and Gutter Placed Monolithic with Adjacent Mainline PCC Pavement)



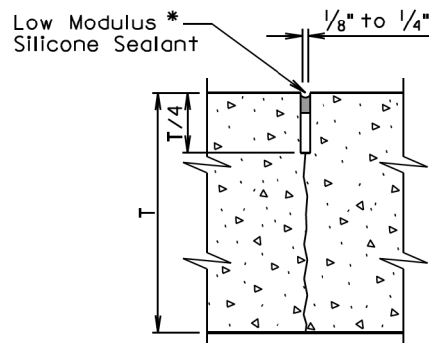
**SECTION A-A**



**SECTIONAL VIEW**  
(Curb and Gutter not Placed Monolithic with Adjacent Mainline PCC Pavement or Mainline Surfacing is not PCC Pavement)



**SECTION B-B**

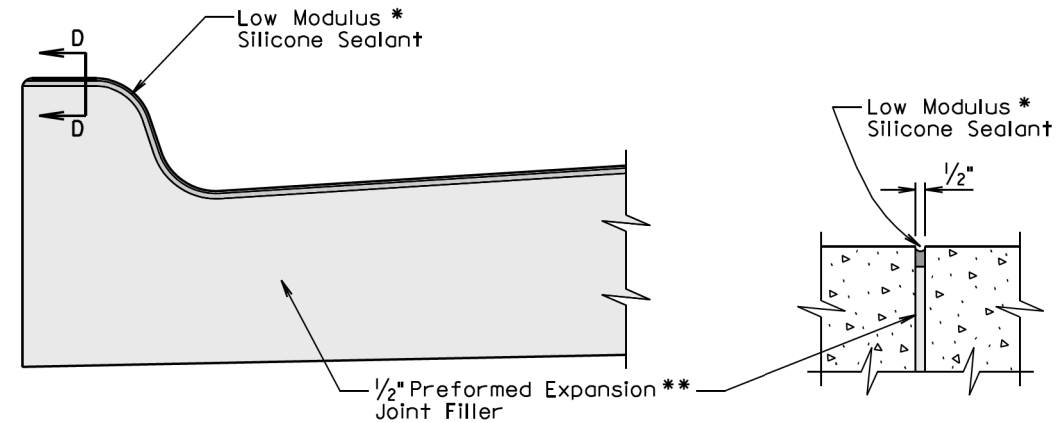


**SECTION C-C**

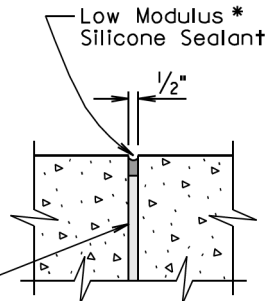
\* The silicone sealant shall be placed such that it completely seals the joint and is bonded to the sides of the clean joint as approved by the Engineer.

September 6, 2013

<b>Published Date: 2nd Qtr. 2018</b>	<b>S D D O T</b>	<b>JOINTS IN CONCRETE CURB AND GUTTER</b>	<b>PLATE NUMBER</b> 650.90
			Sheet 1 of 2



**SECTIONAL VIEW**  
(Curb and Gutter at 1/2" Preformed Expansion Joint Filler Location)



**SECTION D-D**

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

**GENERAL NOTES:**

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

\*\* A 1/2" preformed expansion joint filler shall be placed transversely in the curb and gutter at the following locations:

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

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

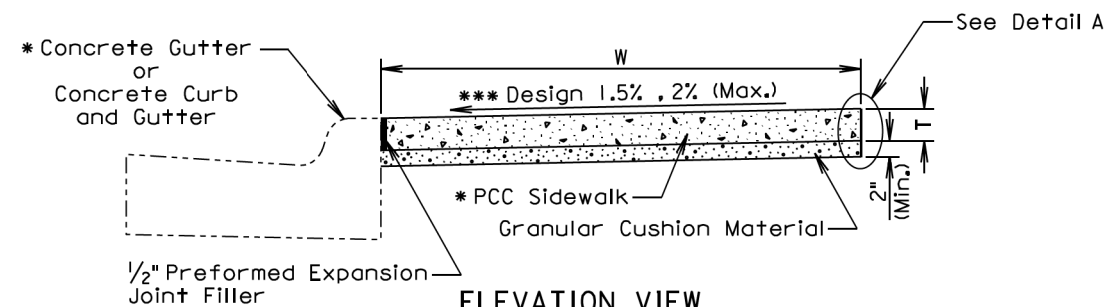
When concrete curb and gutter is not placed monolithically with the mainline PCC pavement or when the adjacent mainline surfacing is not PCC concrete, the transverse contraction joints in the concrete curb and gutter shall be 1 1/2 inches deep if formed in the fresh concrete using a suitable grooving 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 and the joint shall be sealed in accordance with the details shown above.

September 6, 2013

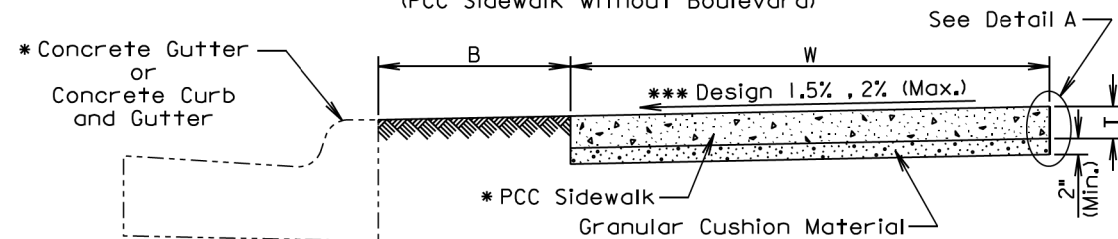
<b>Published Date: 2nd Qtr. 2018</b>	<b>S D D O T</b>	<b>JOINTS IN CONCRETE CURB AND GUTTER</b>	<b>PLATE NUMBER</b> 650.90
			Sheet 2 of 2

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	410D392()	29	43

Plotting Date: 05/09/2018

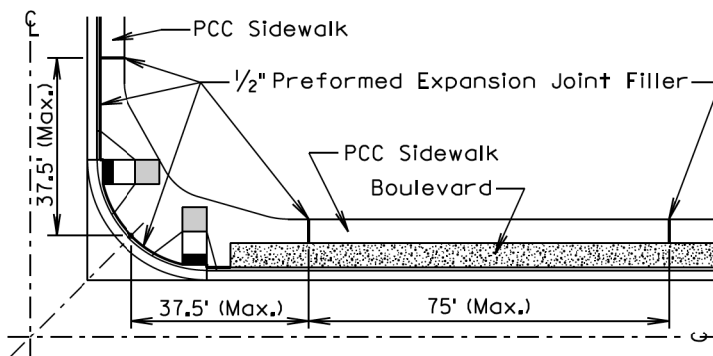


**ELEVATION VIEW**  
(PCC Sidewalk without Boulevard)



**ELEVATION VIEW**  
(PCC Sidewalk with Boulevard)

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



**PLAN VIEW**

**GENERAL NOTES:**

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

\*\*\*The cross slope of the sidewalk is designed at 1.5% and the maximum slope allowed is 2% unless specified otherwise in the plans.

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

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

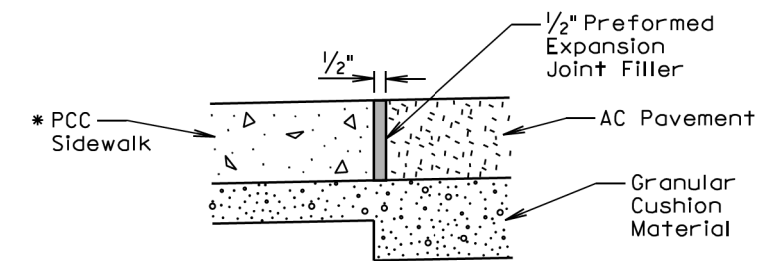
An expansion joint in PCC sidewalk shall consist of a 1/2 inch thick preformed expansion joint filler material placed full depth and width of the PCC sidewalk.

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

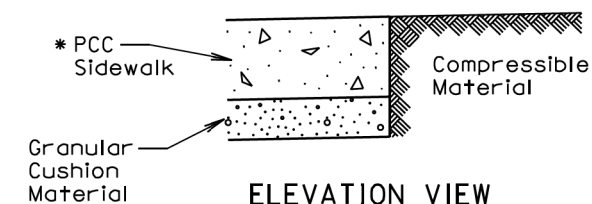
September 6, 2015

<b>S D D O T</b>	<b>PCC SIDEWALK</b>	PLATE NUMBER 651.75
		Sheet 1 of 2

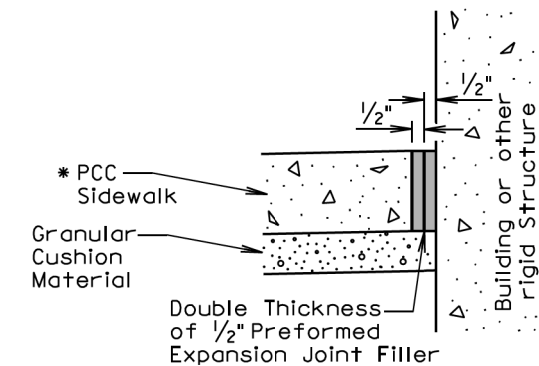
Published Date: 2nd Qtr. 2018



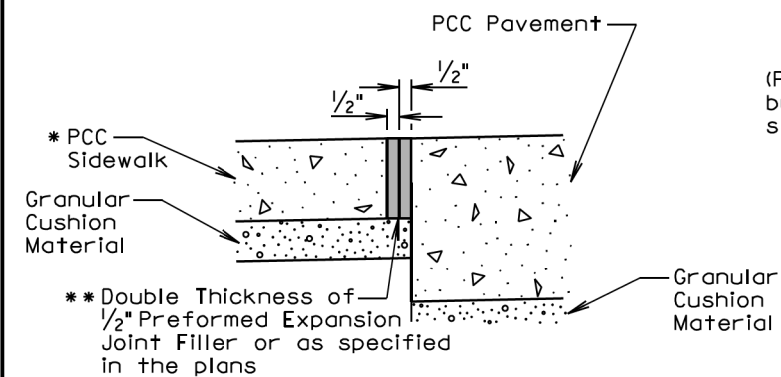
**ELEVATION VIEW**  
(PCC sidewalk adjacent to asphalt concrete pavement)



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



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



**ELEVATION VIEW**  
(PCC sidewalk adjacent to PCC pavement)

**Detail A**  
(Use Appropriate Detail(s))

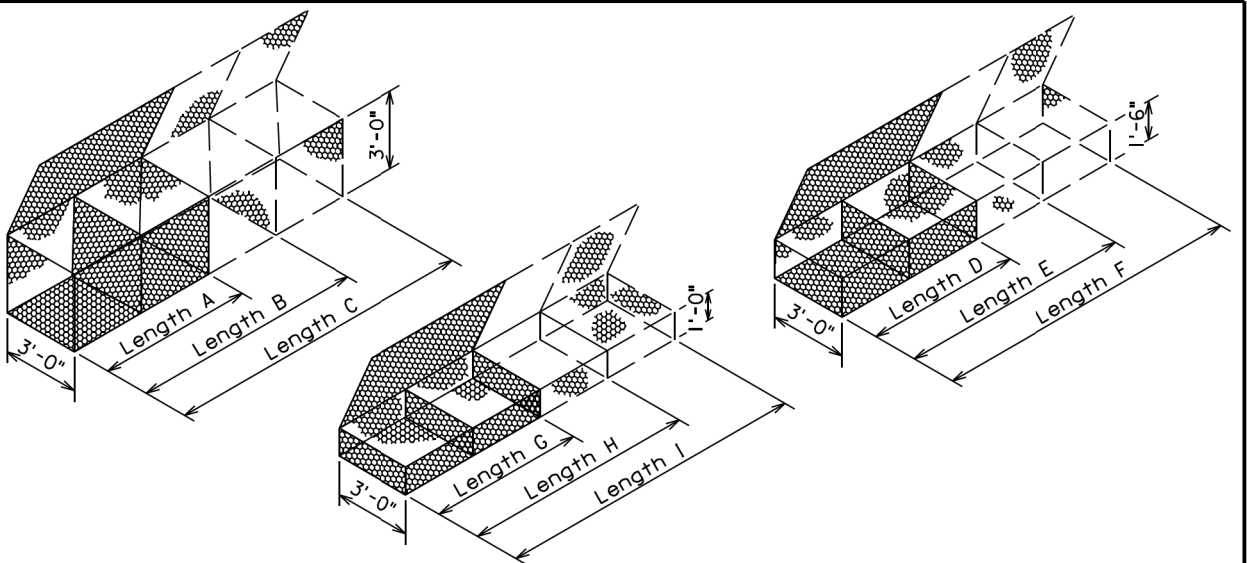
September 6, 2015

<b>S D D O T</b>	<b>PCC SIDEWALK</b>	PLATE NUMBER 651.75
		Sheet 2 of 2

Published Date: 2nd Qtr. 2018

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	410D392()	30	43

Plotting Date: 05/09/2018



GABION DETAILS  
STANDARD SIZES

SIZE	LENGTH	WIDTH	HEIGHT	NUMBER OF CELLS	CAPACITY, Cu. Yd.
A	6'-0"	3'-0"	3'-0"	2	2.0
B	9'-0"	3'-0"	3'-0"	3	3.0
C	12'-0"	3'-0"	3'-0"	4	4.0
D	6'-0"	3'-0"	1'-6"	2	1.0
E	9'-0"	3'-0"	1'-6"	3	1.5
F	12'-0"	3'-0"	1'-6"	4	2.0
G	6'-0"	3'-0"	1'-0"	2	0.7
H	9'-0"	3'-0"	1'-0"	3	1.0
I	12'-0"	3'-0"	1'-0"	4	1.3

Above Dimensions subject to mill tolerances.

GENERAL NOTES:

Lacing and internal connecting wire shall be 0.0866 inch diameter steel wire ASTM A641 Class 3 soft temper measured after galvanizing and for PVC coated gabions shall be 0.0866 inch diameter steel wire measured after galvanizing but before PVC coating.

The lacing procedure is as follows:

1. Cut a length of lacing wire approximately 1 1/2 times the distance to be laced but not exceeding 5 feet.
2. Secure the wire terminal at the corner by looping and twisting.
3. Proceed lacing with alternating single and double loops at a spacing not to exceed 6 inches.
4. Securely fasten the other lacing wire terminal.

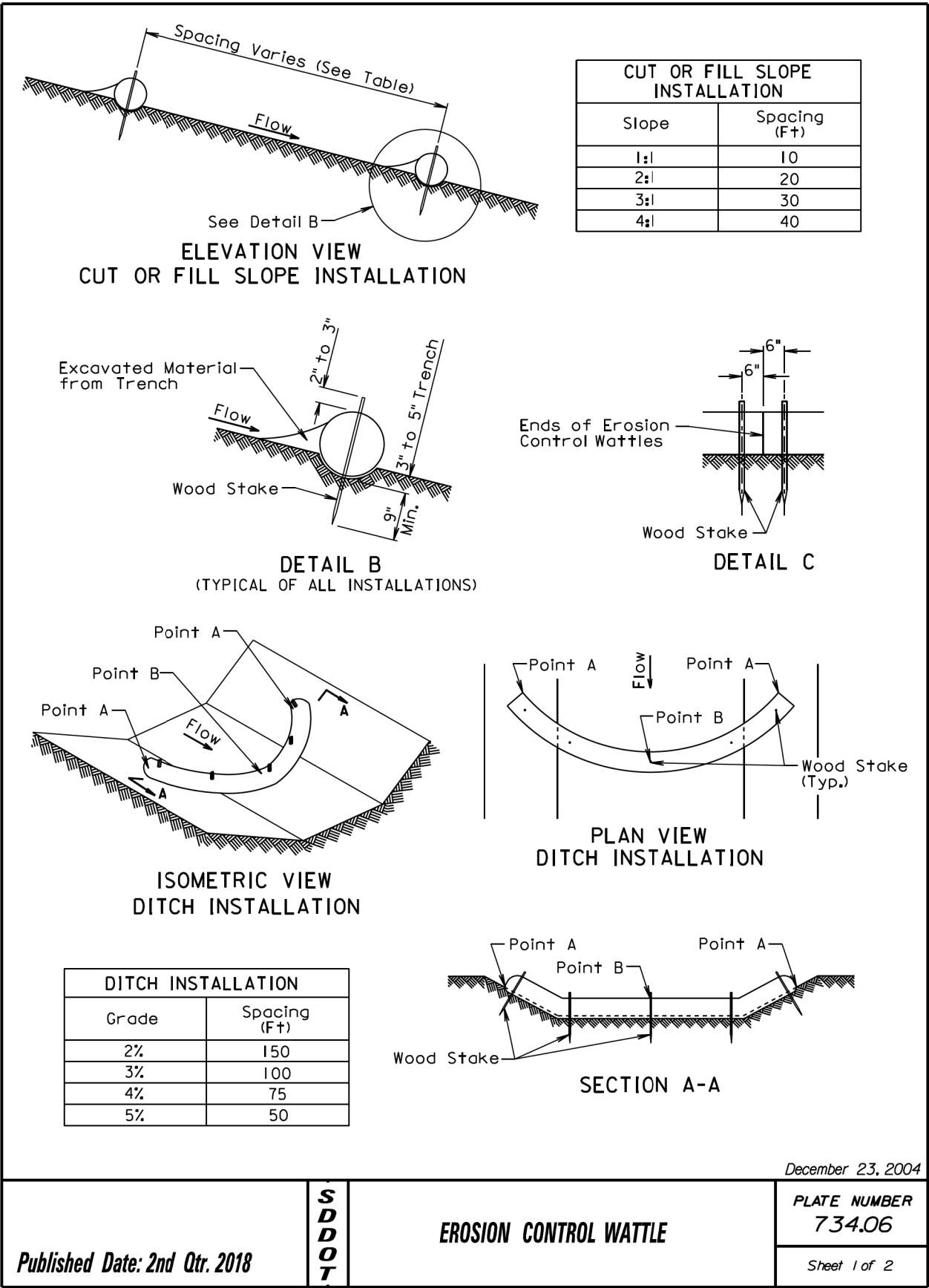
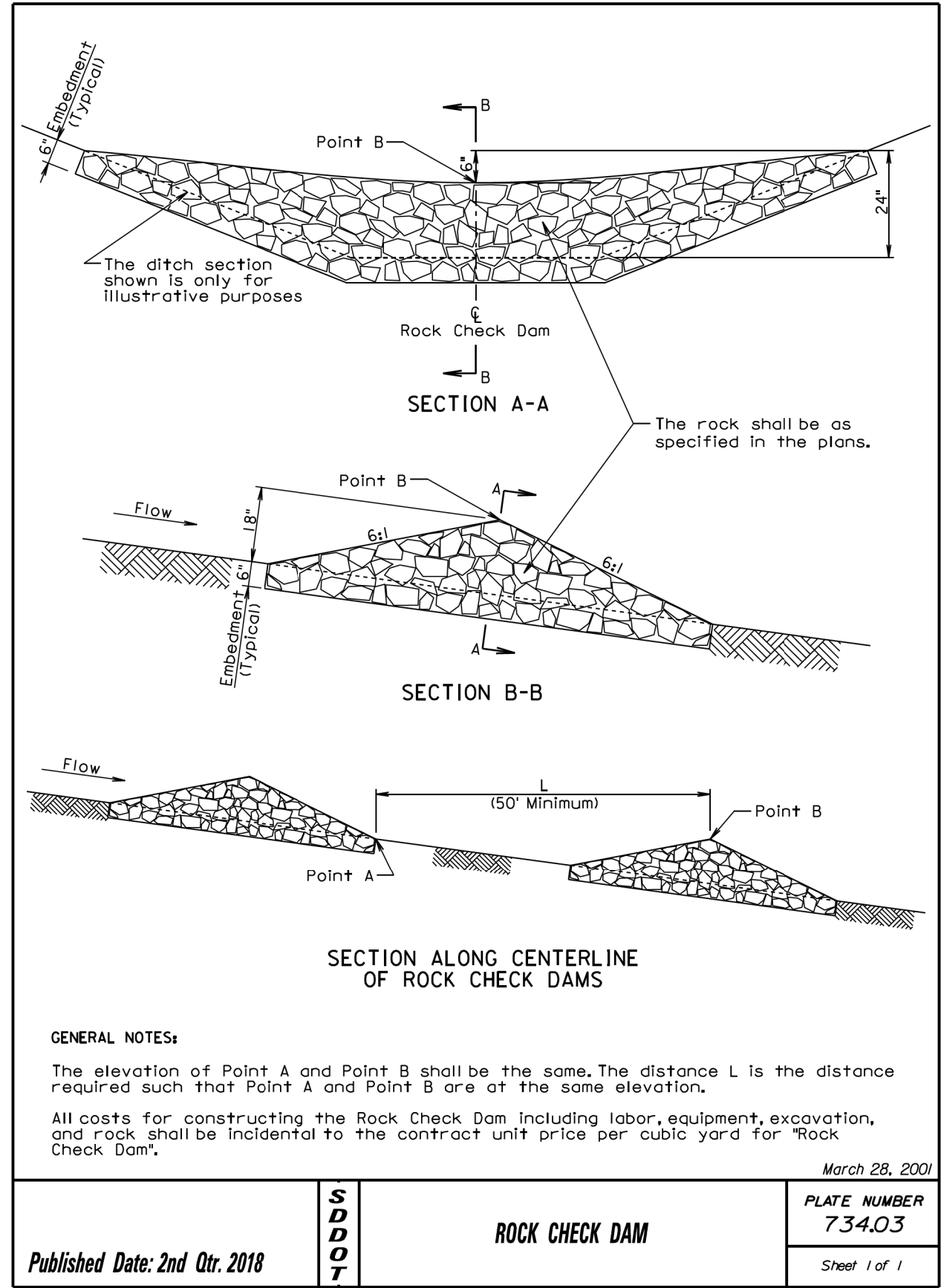
Wire lacing or interlocking type fasteners shall be used for gabion assembly and final construction of gabion structures. Interlocking fasteners for galvanized gabions shall be high tensile 0.120 inch diameter galvanized steel wire measured after galvanizing. The galvanizing shall conform to ASTM A641-92 Class 3 coating. Fasteners shall also be in accordance with ASTM A764, Class II, Type III.

Interlocking fasteners for PVC coated gabions shall be high tensile 0.120 inch diameter stainless steel wire conforming to ASTM A313, Type 302, Class I. The spacing of the interlocking fasteners during all phases of assembly and construction shall not exceed 6 inches.

All fasteners shall be placed where the mesh weaves around the selvage wire at the vertical and horizontal joints.

June 26, 2001

Published Date: 2nd Qtr. 2018	S D D O T	BANK AND CHANNEL PROTECTION GABIONS	PLATE NUMBER 720.01
			Sheet 1 of 1



STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	410D392()	32	43

Plotting Date: 05/09/2018

GENERAL NOTES:

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

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

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

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

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

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

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

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

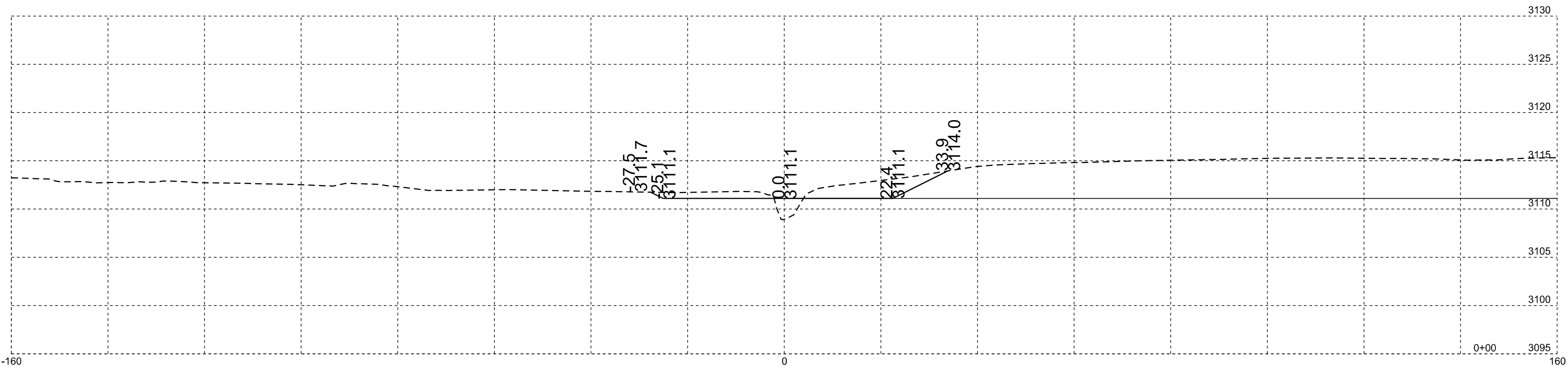
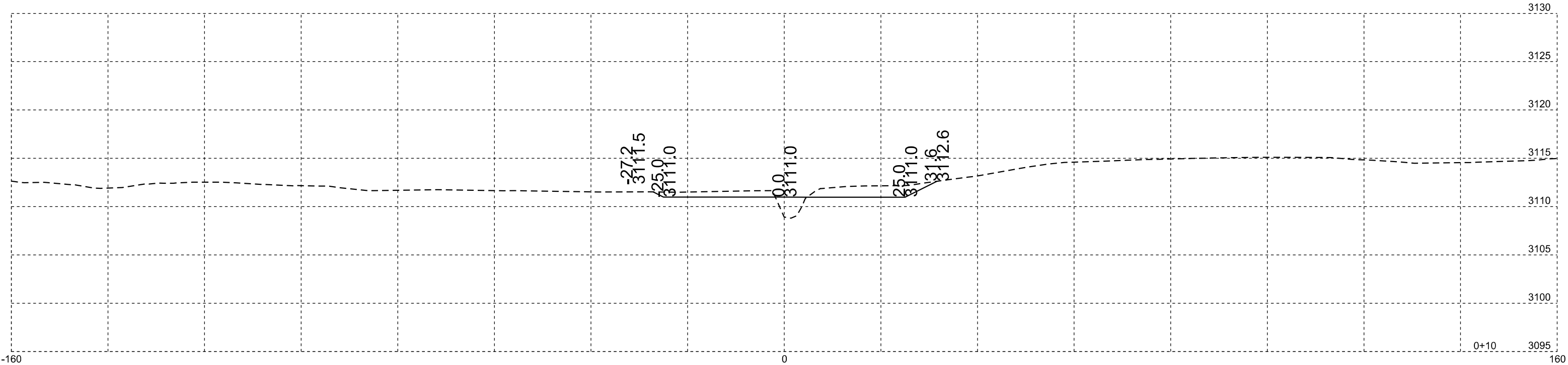
All costs for removing the erosion control wattle from the project including labor, equipment, and materials shall be incidental to the contract unit price per foot for "Remove Erosion Control Wattle".

December 23, 2004

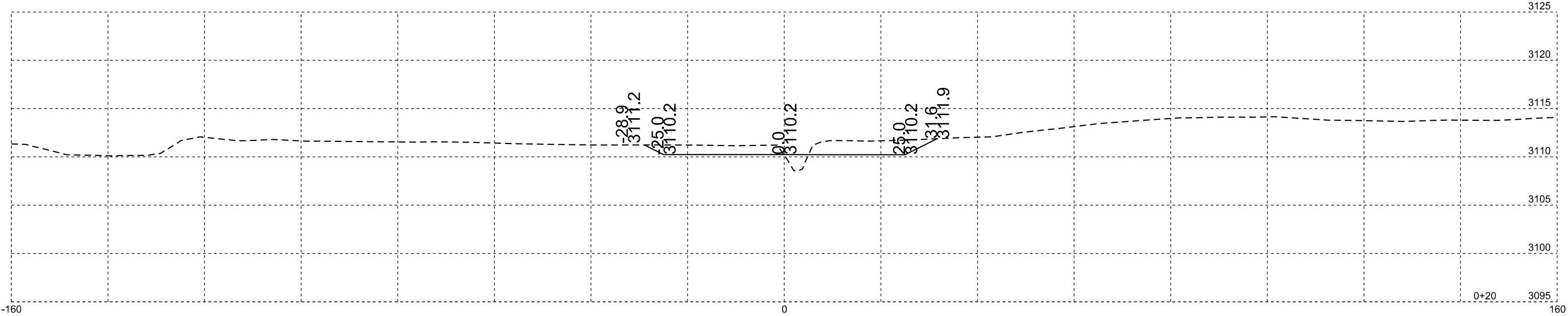
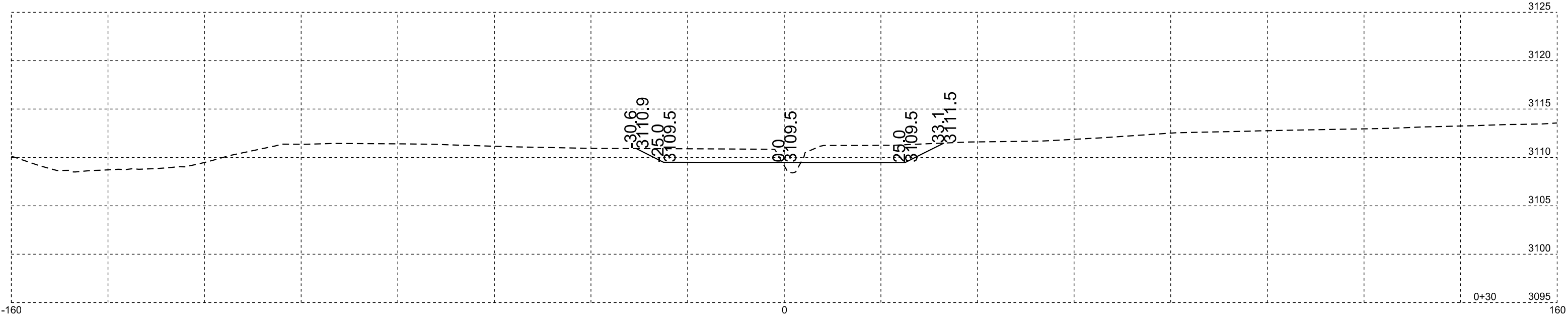
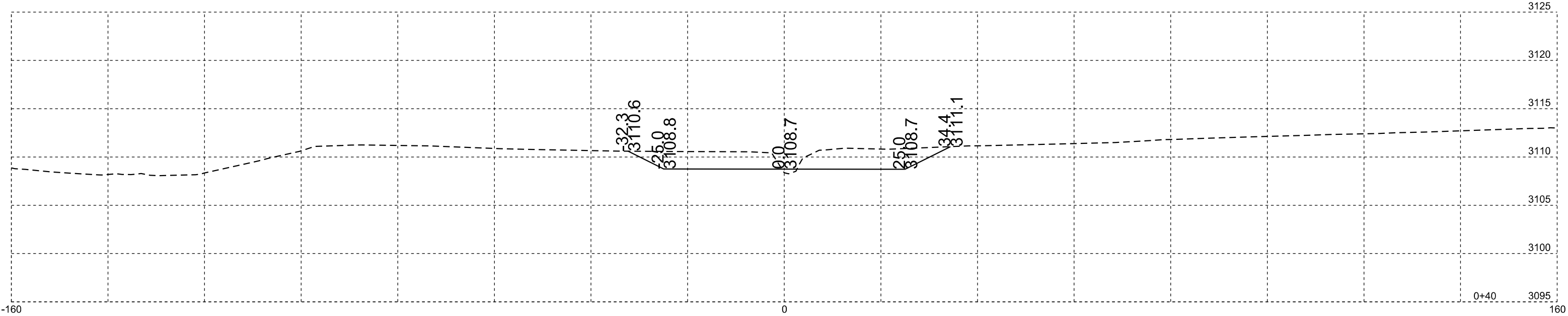
Published Date: 2nd Qtr. 2018	S D D O T	EROSION CONTROL WATTLE	PLATE NUMBER 734.06
			Sheet 2 of 2



Salt Pond



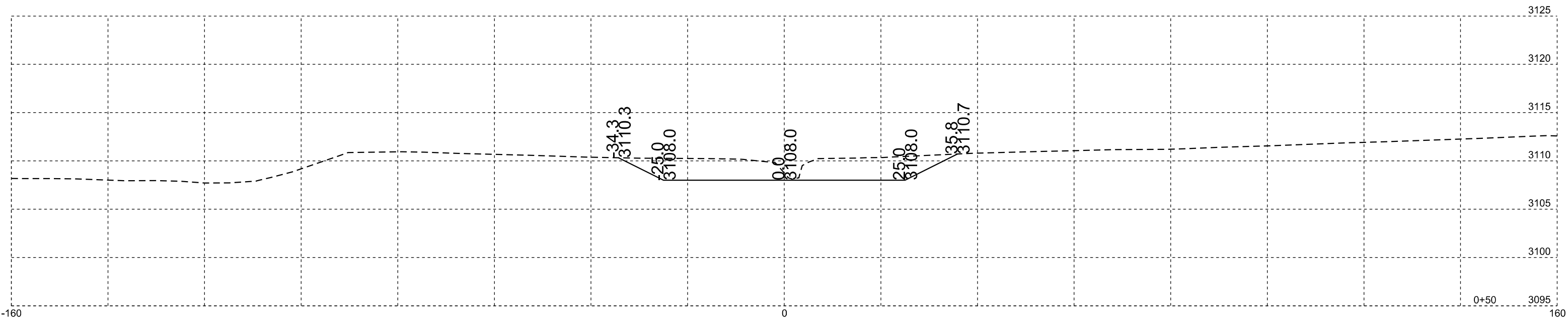
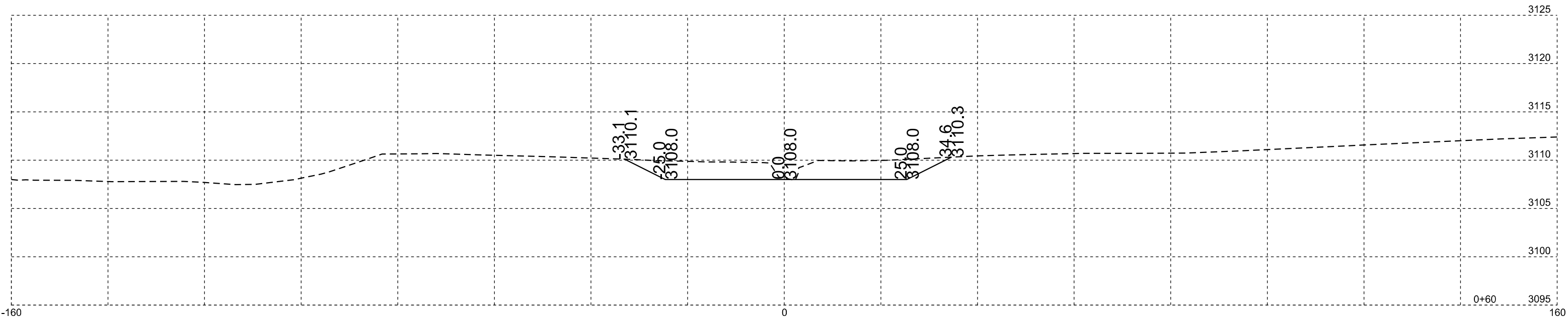
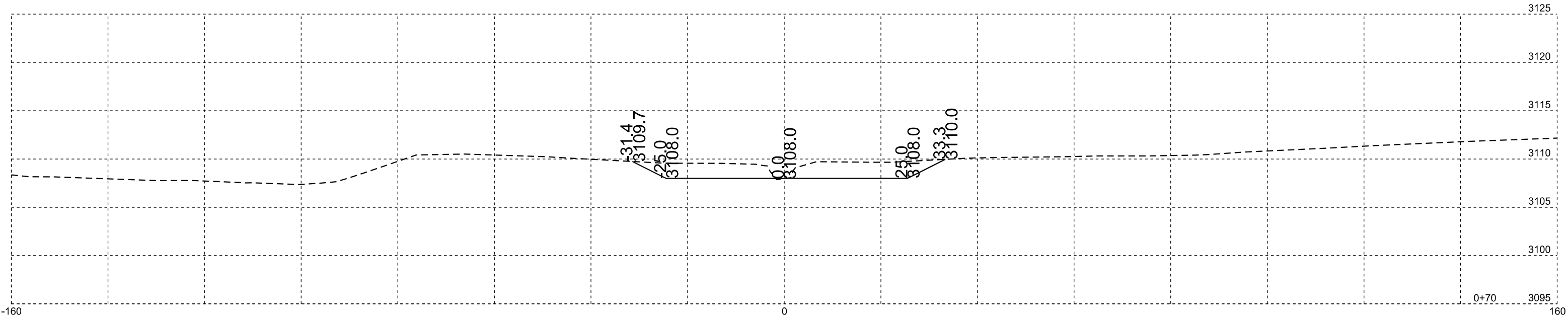
Salt Pond



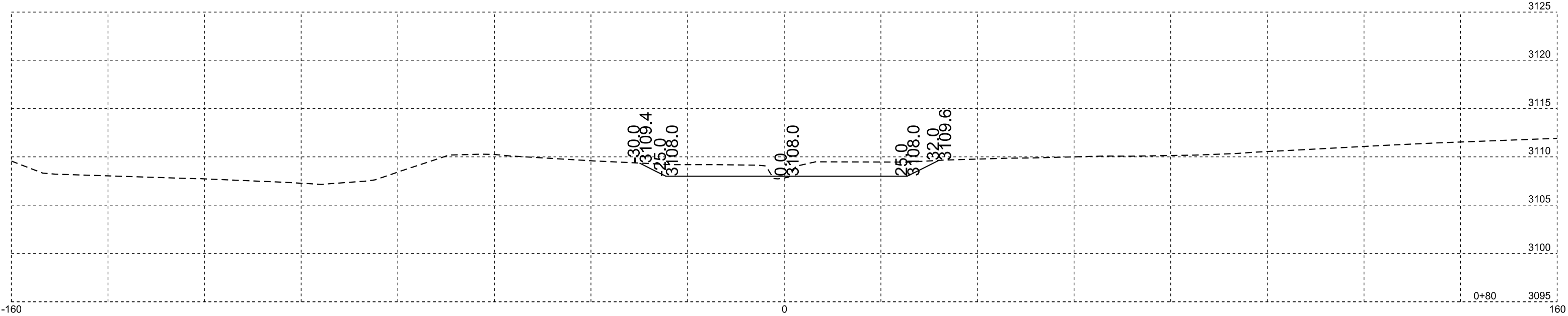
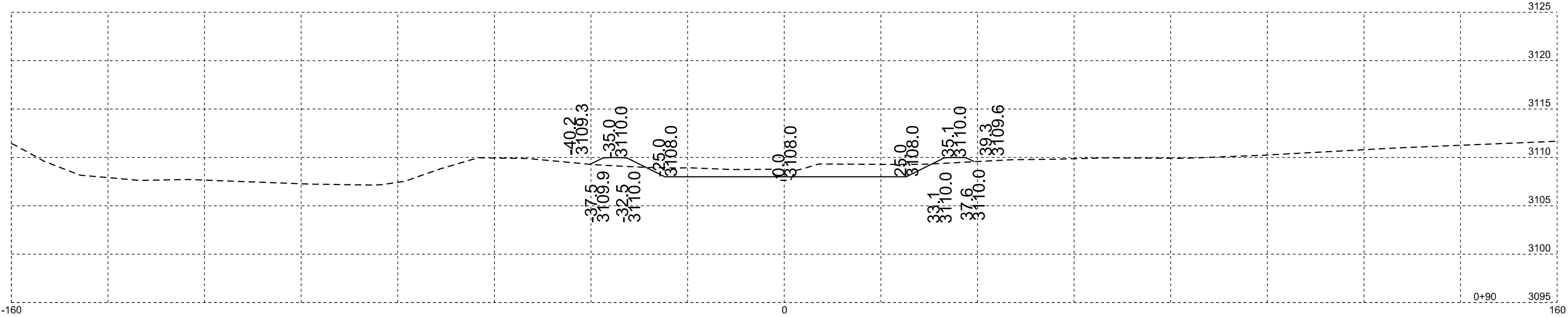
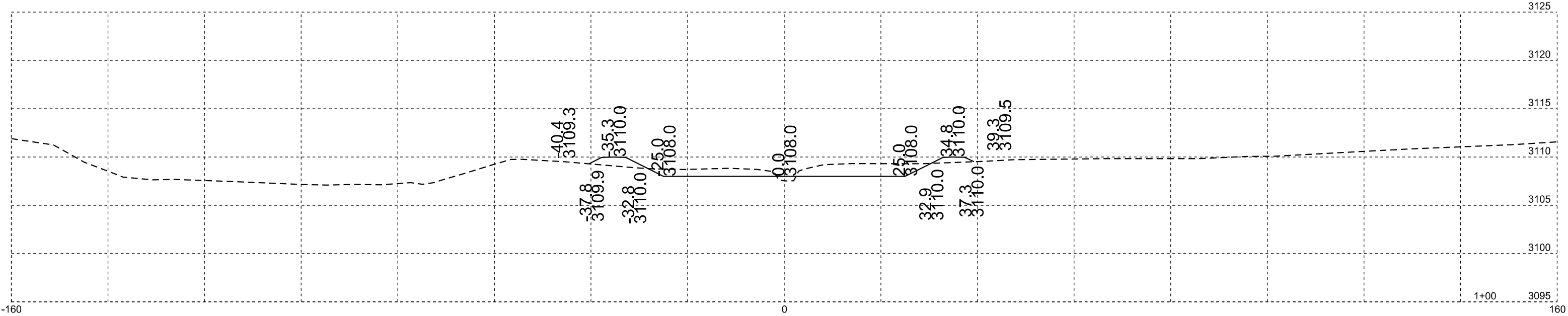
Salt Pond

Plotting Date: 05/09/2018

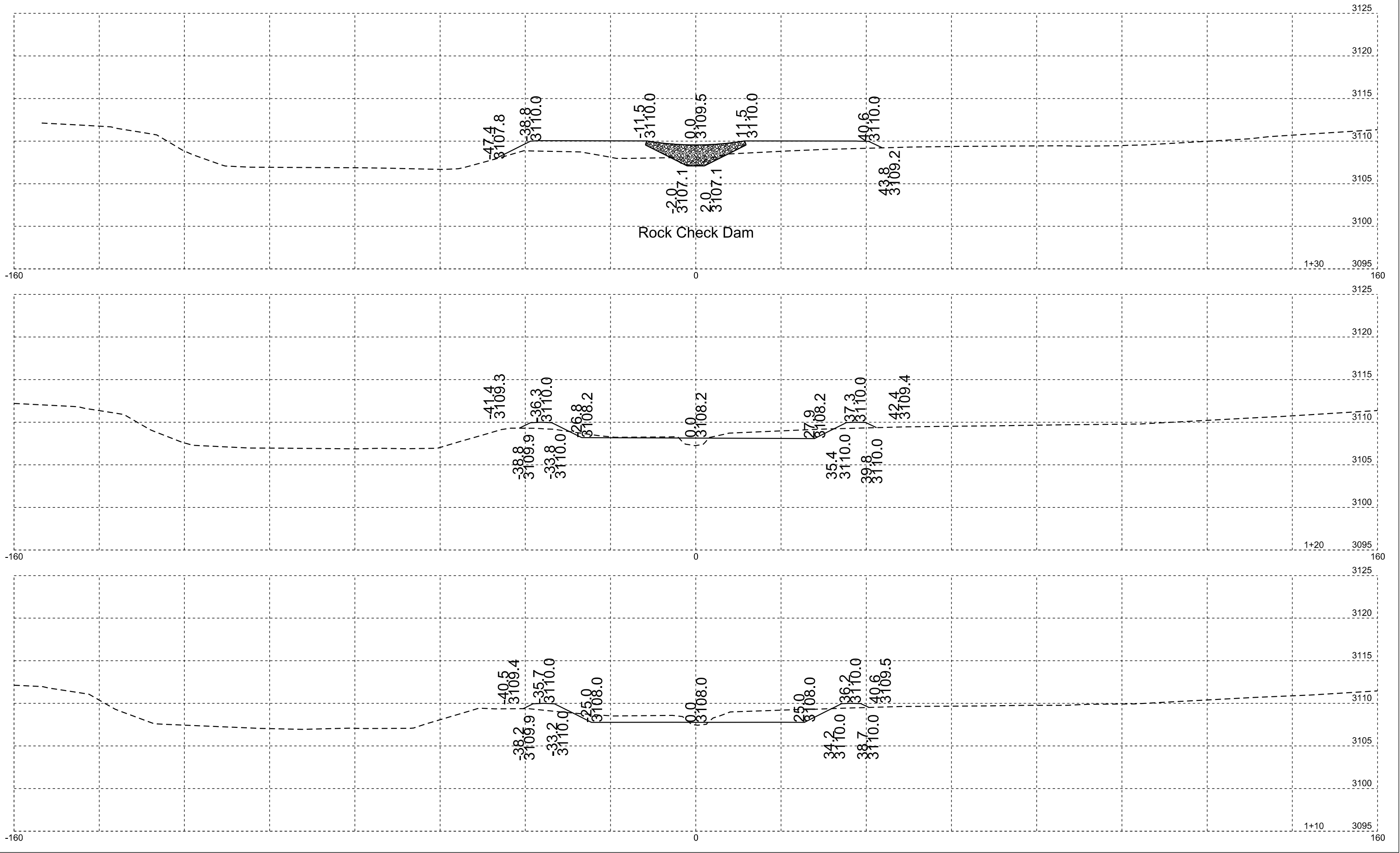
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	410D392()	35	43



Salt Pond



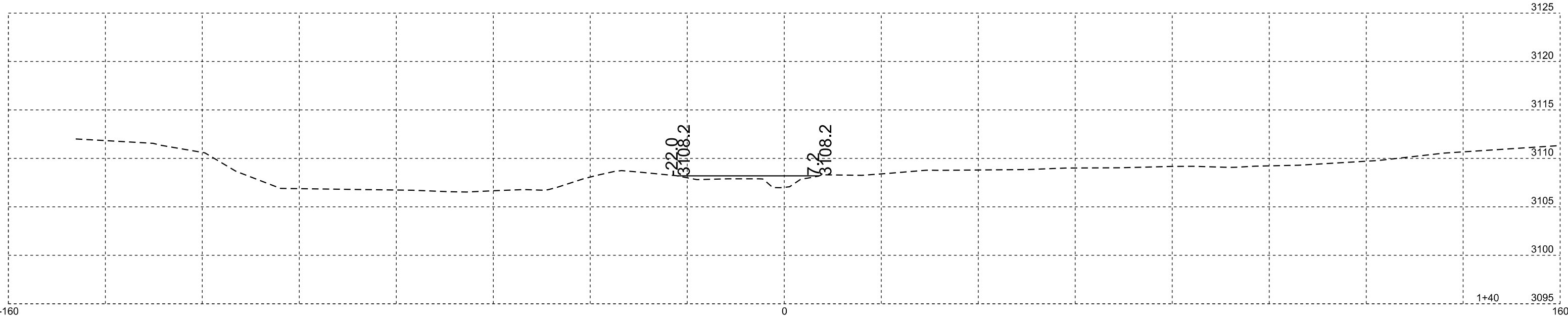
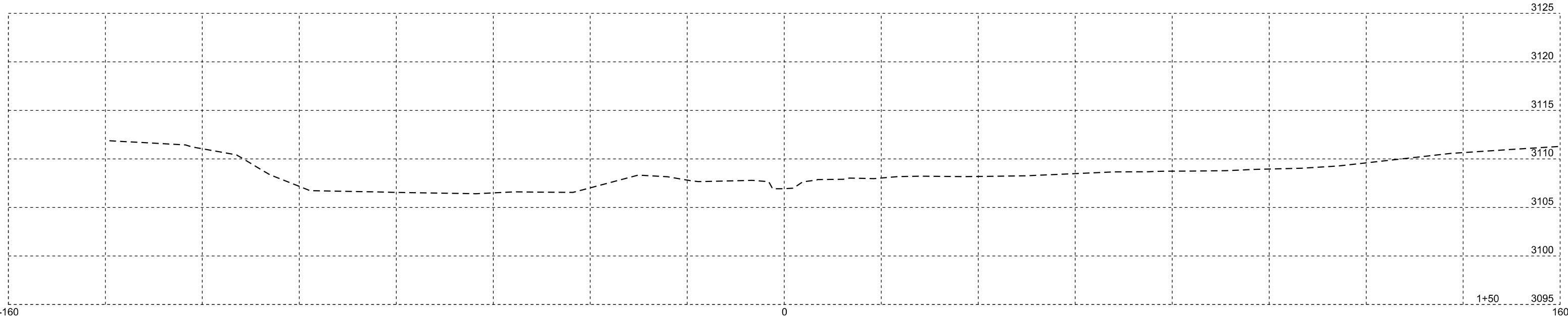
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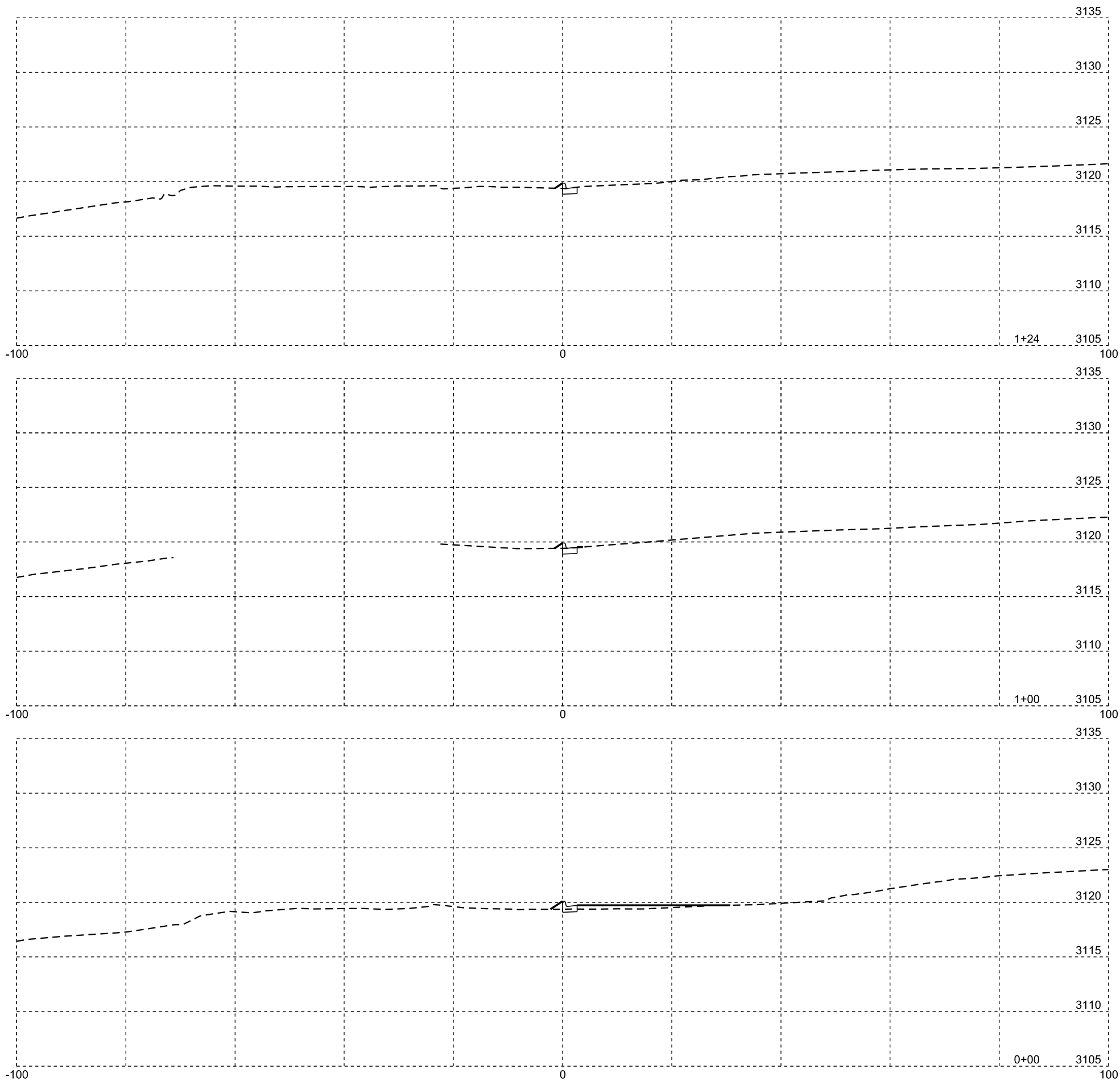
Salt Pond

Plotting Date: 05/09/2018

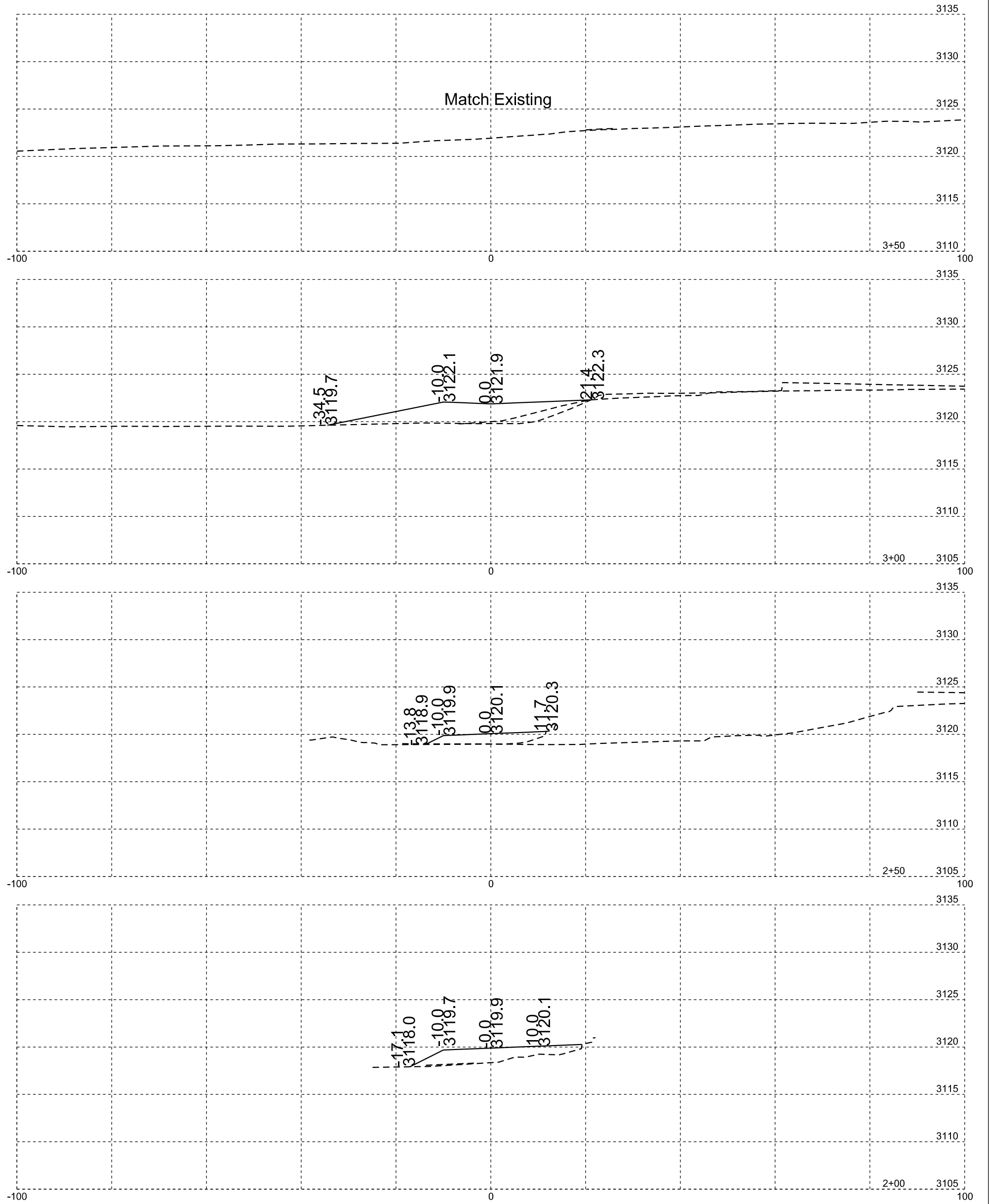
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	410D392()	38	43



# Outbuilding Curb and Gutter

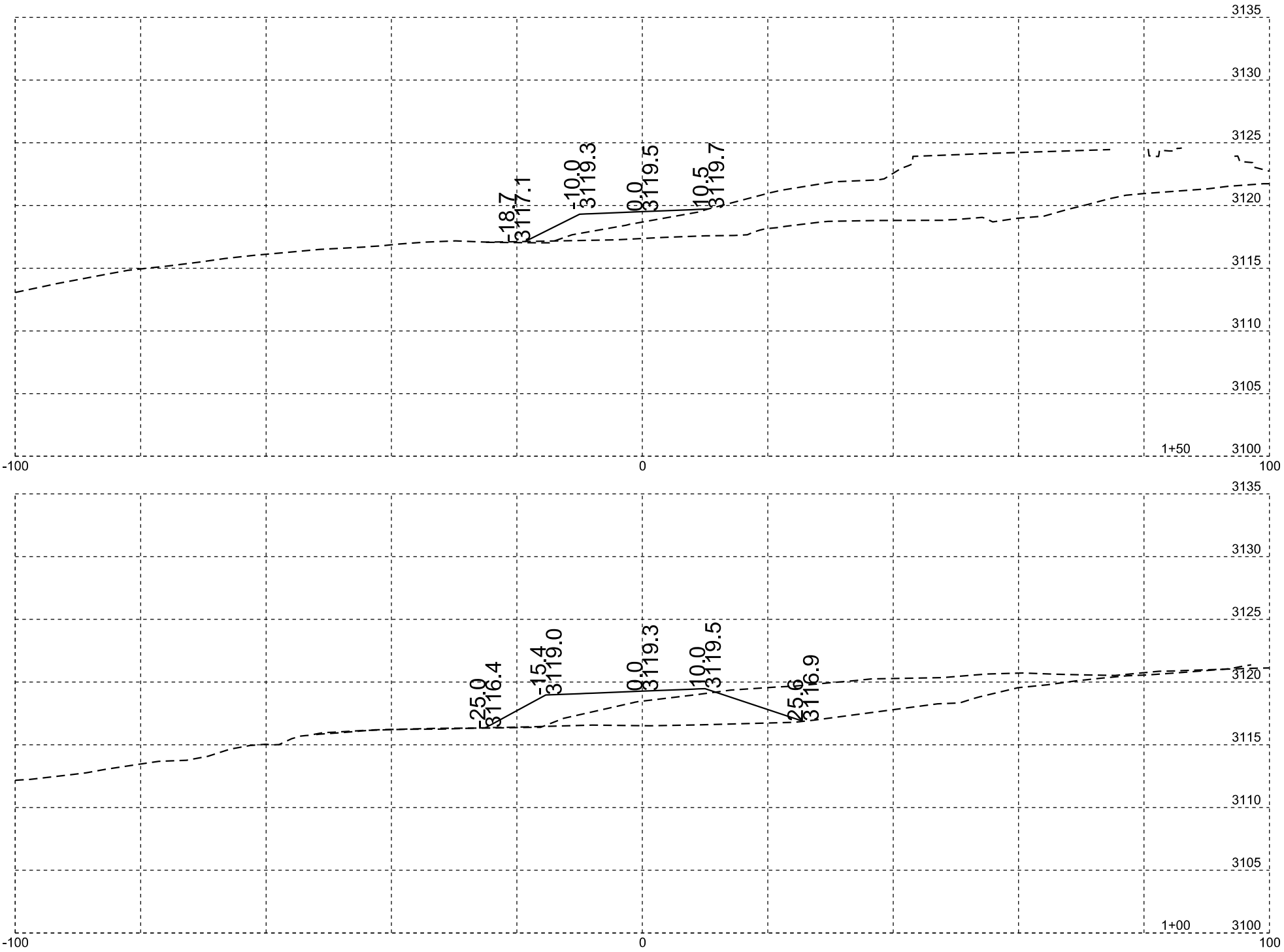


Truck Road



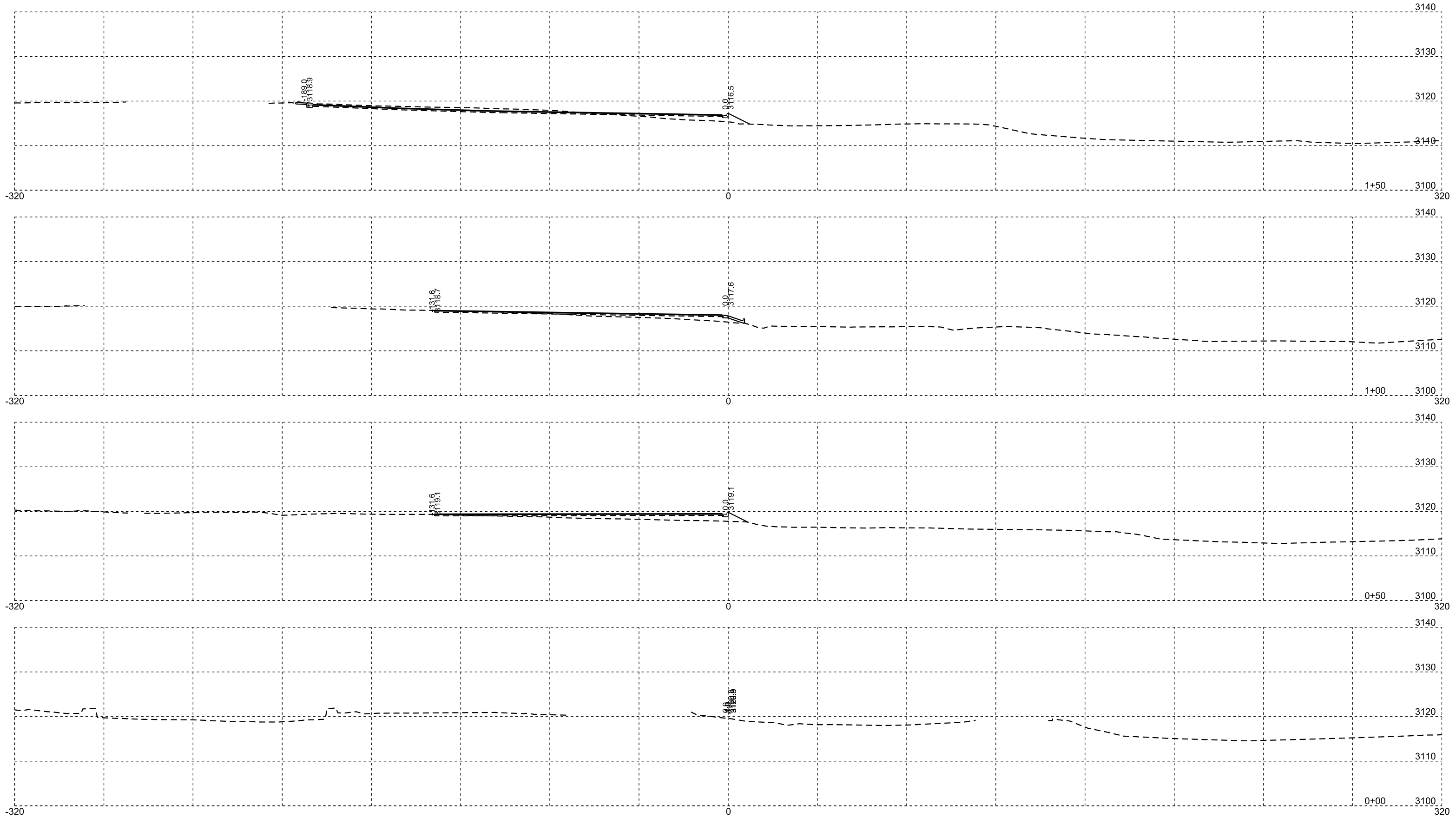


# Truck Road



Main Yard Paving

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	410D392()	42	43



STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	410D392()	43	43

