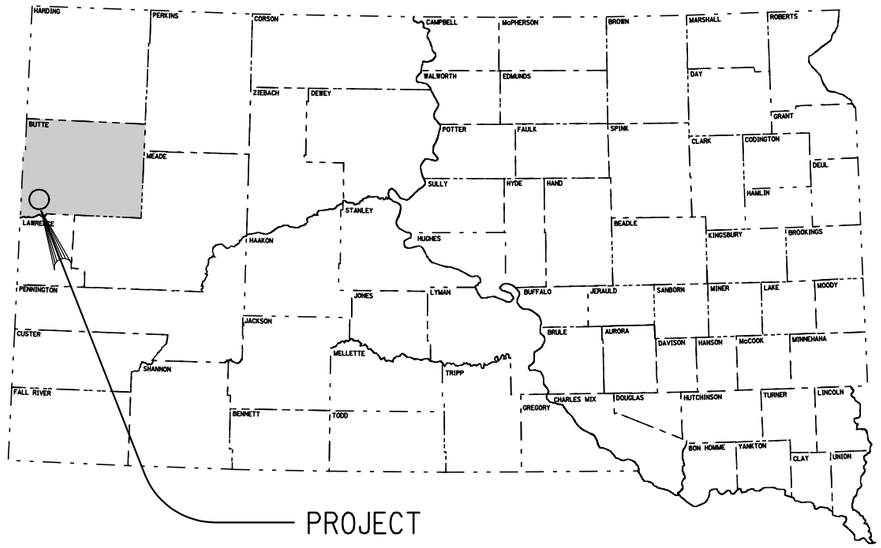


STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

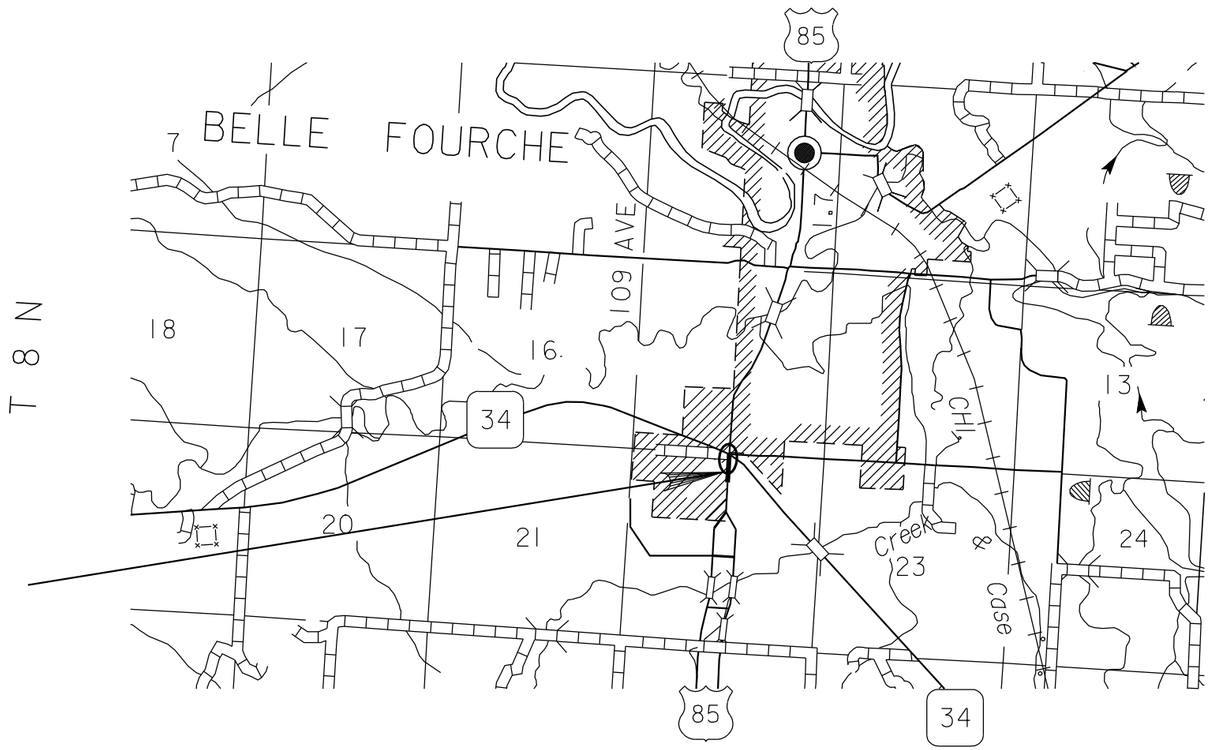
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	085-471	1	18

Plotting Date: 13-OCT-2009

PROJECT 085-471
SD HIGHWAY 85
BUTTE COUNTY

Curb & Gutter
PCN 11N3

INDEX OF SHEETS



DESIGN DESIGNATION

ADT (2008)	10800
ADT (2028)	14318
DHV	2148
D	50%
T DHV	8.4%
T ADT	18.5%
V	45 mph

STORM WATER PERMIT

Area Disturbed: 0.24 ac
Total Project Area: 0.24 ac

SCALES

PLAN 1"=40'

ESTIMATE OF QUANTITIES

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
110E0300	Remove Concrete Curb and Gutter	6	Ft
110E0320	Remove Concrete Gutter	58	Ft
110E0500	Remove Pipe Culvert	2	Ft
110E7500	Remove Pipe for Reset	10	Ft
110E7510	Remove Pipe End Section for Reset	1	Each
120E0600	Contractor Furnished Borrow	352	CuYd
230E0100	Remove and Replace Topsoil	Lump Sum	LS
250E0010	Incidental Work	Lump Sum	LS
450E0122	18" RCP Class 2, Furnish	4	Ft
450E0130	18" RCP, Install	4	Ft
450E9000	Reset Pipe	10	Ft
450E9001	Reset Pipe End Section	1	Each
634E0100	Traffic Control	379	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
650E1060	Type F66 Concrete Curb and Gutter	433	Ft
670E1010	2' x 3' Type B Drop Inlet	1	Each
670E1200	Type B Frame and Grate Assembly	1	Each
734E0010	Erosion Control	Lump Sum	LS

SPECIFICATIONS

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

SCOPE OF WORK

Work on this project consists of:

1. Removing concrete gutter.
2. Installing concrete curb & gutter, RC Pipe and drop inlet.
3. Adjust junction box.

UTILITIES

The Contractor shall be responsible for having the existing underground utilities located in the construction area. Underground utilities damaged by the Contractor due to negligence shall be repaired at the Contractor's expense.

HISTORICAL PRESERVATION OFFICE CLEARANCES

To obtain State Historical Preservation Office (SHPO) clearance, a cultural resources survey may need to be conducted by a qualified archaeologist. In lieu of a cultural resources survey, the Contractor could request a records search from Jim Donohue, State Archaeological Research Center (SARC). Provide SARC 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 no artifacts have been found on the site. The Contractor shall arrange and pay for the cultural resource survey and/or records search.

If any earth disturbing activities occur within the current geographical or historic boundaries of any South Dakota reservation, the Contractor shall obtain Tribal Historical Preservation Office (THPO) clearance. If no THPO exists, the required SHPO clearance shall suffice, with documentation of Tribal contact efforts provided to SHPO.

To facilitate SHPO or THPO responses, the Contractor should submit a records search or cultural resources survey report to Tom Lehmkuhl, DOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3721). Allow 30 days from the date this information is submitted to the Environmental Engineer for SHPO/THPO approval. The Contractor is responsible for obtaining all required permits and clearances for staging areas, borrow sites, waste disposal sites, and all material processing sites. The Contractor shall provide the required permits and clearances to the Engineer at the preconstruction meeting.

WASTE DISPOSAL SITE

The Contractor will be required to furnish a site(s) for the disposal of construction/demolition debris generated by this project.

Construction/demolition debris may not be disposed of within the State 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 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/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/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.

JUNCTION BOX

The Contractor shall adjust 18” junction box to the extent necessary on this project. Adjusting the junction box may consist of removing the junction box cover, adjust CMP up 1’ and reset junction box cover. The elevation of the cover shall be set at the same elevation of the adjacent surrounding ground. Junction box cover and CMP that are damaged due to carelessness of the Contractor shall be replaced with new junction box cover and CMP that conform with the Standard Specifications at the Contractor’s expense. The junction box shall be adjusted to the satisfaction of the Engineer. All costs associated with adjusting the junction box shall be incidental to the contract lump sum price for “Incidental Work”.

TABLE FOR ADJUSTMENT OF JUNCTION BOX

Station	Adjustment
440+16	Raise 1’

SALVAGED RIP RAP

All salvaged rip rap noted on the plans shall be salvaged for use and hauled to the outlet pipe at Station 441+53 as directed by the Engineer.. All broken concrete and materials not salvaged shall be disposed of in accordance with the Standard Specifications. All costs for salvaging and transporting the items shall be incidental to the contract lump sum price for “Incidental Work”. Before preparing his/her bid, the Contractor shall make a visual inspection of the project to verify the extent of the work and material involved.

CONTRACTOR FURNISHED BORROW

The Contractor shall provide a suitable site for Contractor furnished borrow material. The Contractor is responsible for obtaining all required permits and clearances for the borrow site. The borrow material shall be approved by the Engineer. The plans quantity for “Contractor Furnished Borrow” as shown in the Estimate of Quantities will be the basis of payment for this item.

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

SAWING IN EXISTING SURFACING

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

TABLE OF CONCRETE CURB AND GUTTER REMOVAL

Station	to	Station	L/R	Quantity (Ft)
437+44		437+50	L	6.0
			Total:	6.0

TABLE OF CONCRETE GUTTER REMOVAL

Station	to	Station	L/R	Quantity (Ft)
437+50		438+02	L	58
			Total:	58.

CONCRETE PIPE CONNECTIONS

Pipe connections to existing pipes, manholes, junction boxes, and drop inlets shall be done by breaking a hole into the existing structure and inserting the pipe. A concrete collar shall then be poured around the pipe in the area of the connection.

When it is not possible to use a normal pipe joint (male-female ends), connections to existing pipe shall be made by placing a 2’ wide by 6" thick M6 concrete collar around the outside of the connection. The concrete collar shall be reinforced with 6x6 W2.9 x W2.9 wire mesh.

All costs for constructing the concrete collars including materials and labor shall be incidental to the contract unit price per foot for the corresponding pipe bid item.

RESET PIPE SECTION

All costs for removal of the pipe section shall be incidental to the contract unit price foot for “Remove Pipe for Reset”.

The reset pipe shall be placed as per the Engineer’s directions. The reset pipe shall be bolted according to Plate Number 450.18. Drilling holes in existing pipe will be incidental to the contract unit price per foot for “Reset Pipe”.

All costs for resetting the existing flared end shall be incidental to the contract unit price per each for “Reset Pipe End Section”

DROP INLETS

The plan shown quantities of the drop inlet components such as Class M6 Concrete, Reinforcing Steel is for information only. The contract unit price per each for “2’x3’ Type B Drop Inlet” and the contract unit price per each for “Type B Frame and Grate Assembly” will be the basis of payment for these items.

If additions or reductions to the number of drop inlets are ordered by the Engineer, payment for the components required to construct the drop inlets will be made at the contract unit price per each for “2’x3’ Type B Drop Inlet” and the contract unit price per each for “Type B Frame and Grate Assembly”

TABLE OF DROP INLETS AND QUANTITIES (FOR INFORMATION ONLY)

Station	L / R	Drop Inlet Size	Drop Inlet Type	Class M6 Concrete (CuYd)	Reinf. Steel (Lb)	Frame and Grate/Lid Type
441+53.76	L	2’x3’	B	1.22	133.99	B
			Totals:	1.22	133.99	

Total Type B Frame and Grate Assembly	1

GUTTER SLOPE FOR F CONCRETE CURB AND GUTTER

The Contractor shall be aware of the new standard gutter slope required for this project. The new standard gutter slope shall be 5% as detailed on standard plate 650.20 (Type F Concrete Curb and Gutter).

TYPE F66 CONCRETE CURB AND GUTTER

The Concrete Curb & Gutter shall be constructed in accordance with Section 650 of the Standard Specifications. All cost including sawing and removing asphalt, excavation required to place curb and gutter, granular material, furnishing and placing concrete, curing, repairing asphalt shoulder, labor, tools and equipment shall be incidental to the contract unit price per foot for “Type F66 Concrete Curb & Gutter”.

Any damage to existing asphalt shoulders, curb & gutter and asphalt surfacing shall be repaired by the Contractor, at no expense to the State, and to the satisfaction of the Engineer.

TABLE OF TYPE F66 CONCRETE CURB AND GUTTER

Station	to	Station	L/R	Quantity (Ft)
437+43.96		440+16.53	L	272.6
440+16.53		441+61.29	L	160.8
			Totals:	433.4

REMOVE AND REPLACE TOPSOIL

Topsoil shall be salvaged and stockpiled prior to constructing the embankment area(s). Limits of this work, depth of salvage, and stockpile location will be directed by the Engineer. Following completion of construction, topsoil shall be spread evenly over the disturbed areas.

The estimated amount of topsoil to be removed and replaced is 130 CuYd.

All cost associated with removing and replacing the topsoil shall be incidental to the lump sum price for “Remove and Replace Topsoil”.

EROSION CONTROL

The contract lump sum price for Erosion Control shall include all material, equipment, and labor necessary to seed and mulch all areas disturbed by construction of this project. The Engineer, at the time of construction, shall determine limits of the Erosion Control work. The estimated area to be seeded is approximately 0.24 acres.

RESTORATION SEEDING FOR DISTURBED AREAS

All costs associated with restoration seeding for disturbed areas shall be incidental to the contract lump sum price for “Erosion Control”.

All restoration seeding shall be planted in the topsoil at a depth of ¼” to ½”.

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

South Dakota native grown seed is an acceptable alternative to any of the seed varieties listed below. South Dakota native grown seeds used as an alternative shall conform to the same specification and requirements for that individual seed type.

Type C Permanent Seed Mixture shall consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Flintlock, Rodan, Rosana	16
Canada Wildrye	Mandan	2
	Total:	18

MULCHING (GRASS HAY OR STRAW)

All seeded areas are to be mulched. Hand mulching may be allowed for small areas if approved by the Engineer. All costs associated with mulching shall be incidental to the contract lump sum price for “Erosion Control”.

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

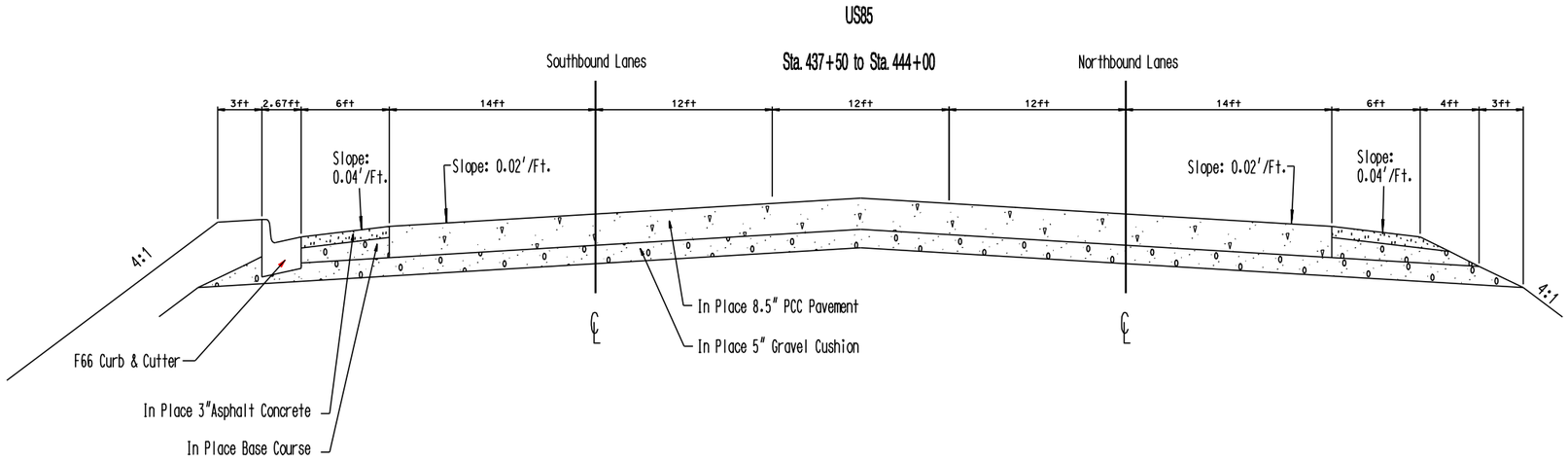
FERTILIZING

Application of fertilizer will not be required on this project.

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	085-471	5	18

Plotting Date: 13-OCT-2009

TYPICAL SECTION



GENERAL MAINTENANCE OF TRAFFIC

Removing, relocating, covering, salvaging and resetting of permanent traffic control devices, including delineation, shall be the responsibility of the Contractor. Cost for this work shall be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost shall be replaced by the Contractor at no cost to the State.

Storage of vehicles and equipment shall be outside the clear zone (30' from the traveled way) and as near as possible to the right-of-way line. Contractor's employees should mobilize at a location off the right-of-way and arrive at the work sites in a minimum number of vehicles necessary to perform the work.

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

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

No work during hours of darkness.

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

Signs may be mounted on portable supports meeting minimum heights in MUTCD.

If the Contractor elects not to work in an area for more than 3 days, for reasons within the control of the Contractor, the Contractor shall remove applicable traffic control devices and replace them when work resumes. There will be no payment for this work.

SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
G20-2	36" x 18"	END ROAD WORK	4	17	68
R11-2	48" x 30"	ROAD CLOSED	1	27	27
W20-1	48" x 48"	ROAD WORK #### FT. OR AHEAD	4	34	136
W21-5	48" x 48"	SHOULDER WORK	2	34	68
*****	*****	TYPE III BARRICADE - 8 FT. SINGLE SIDED	2	40	80
				TOTAL UNITS	**379**

PLOT SCALE - 200.000000:1.000000

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	085-471	7	18

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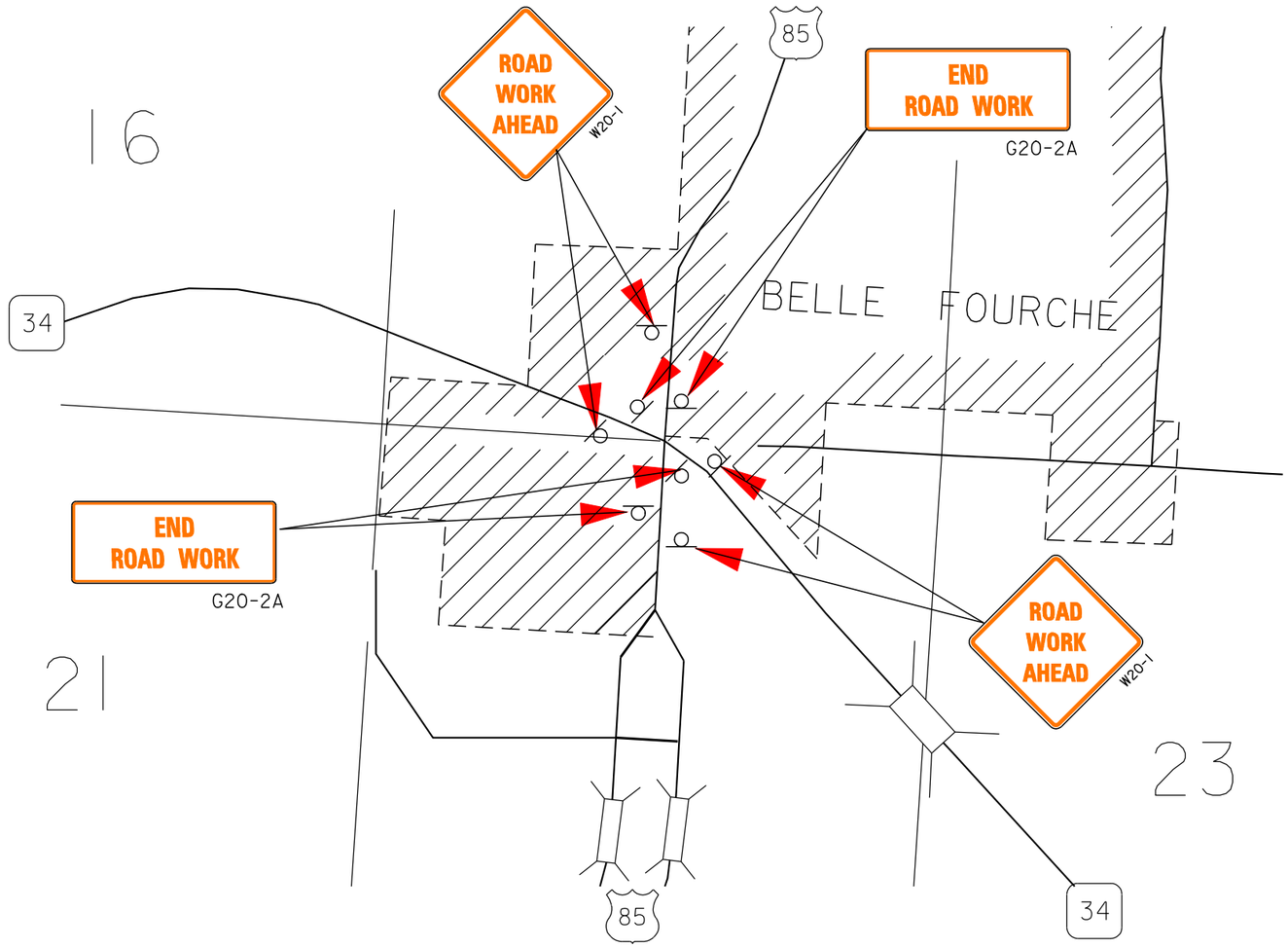
Fixed Sign Location



PLOTTED FROM - TRRC11610

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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	085-471	8	18

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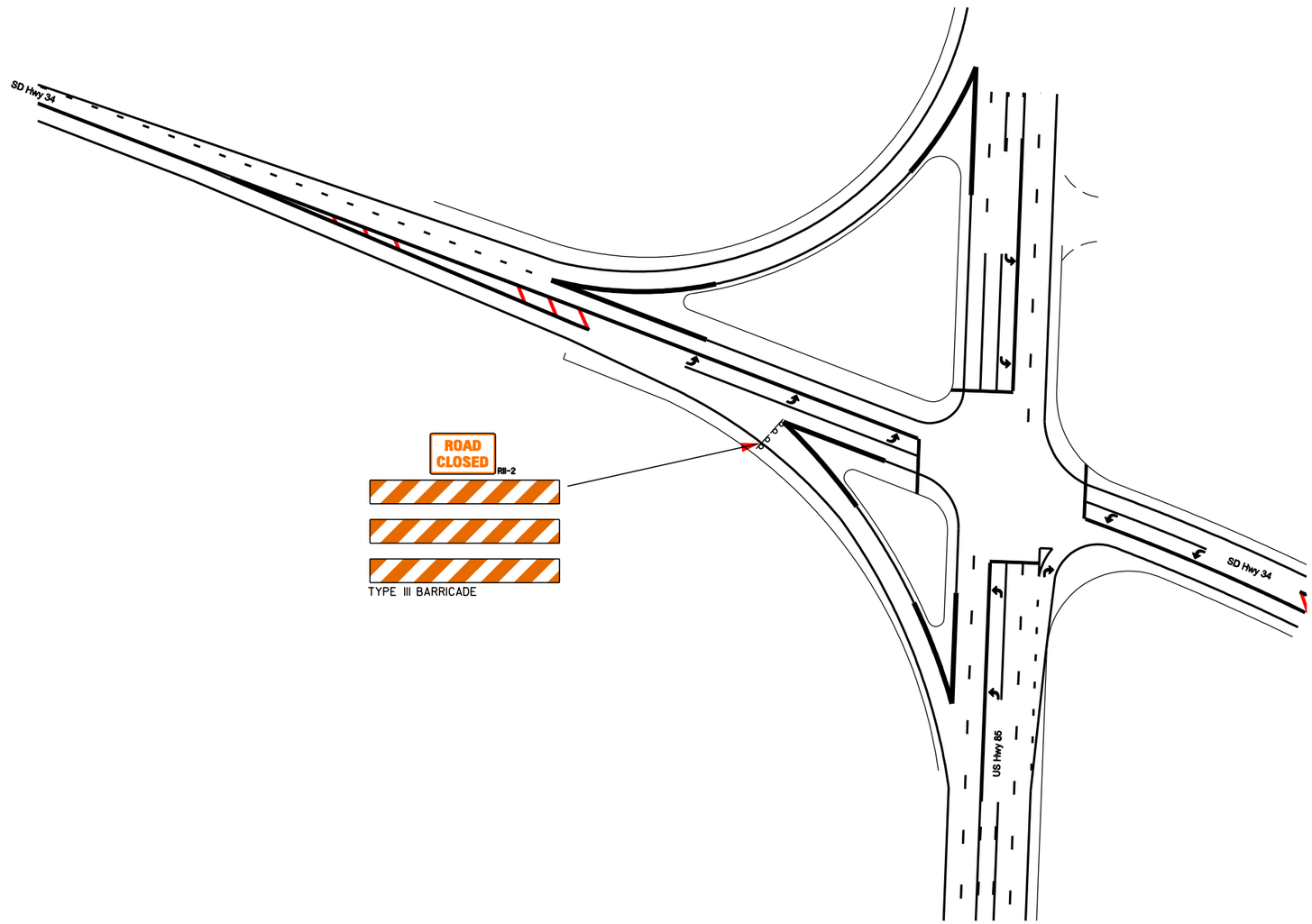
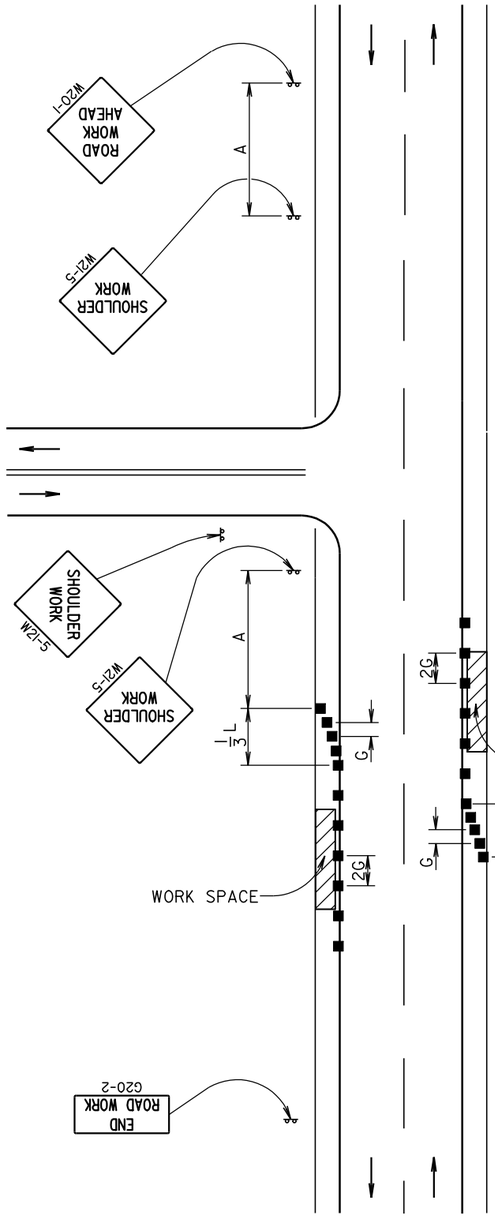
Traffic Control



STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	085-471	9	18

Plotting Date: 13-OCT-2009



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

■ Channelizing Device

END ROAD WORK G20-2

The channelizing devices shall be drums or type II barricades if traffic control must remain overnight or longer.

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

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

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

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

July 1, 2005

Published Date: 3rd Qtr. 2009

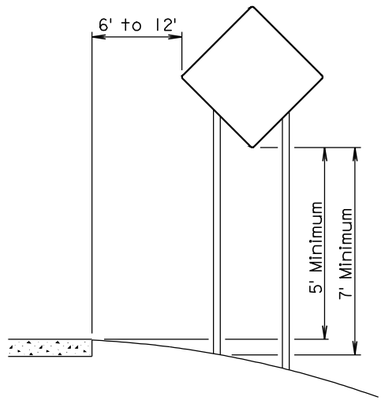
SDDOT

GUIDES FOR TRAFFIC CONTROL DEVICES WORK ON SHOULDERS

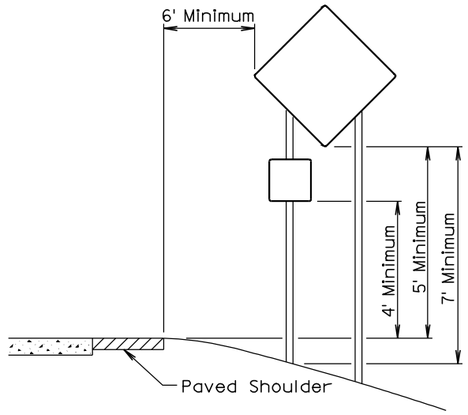
PLATE NUMBER 634.03

Sheet 1 of 1

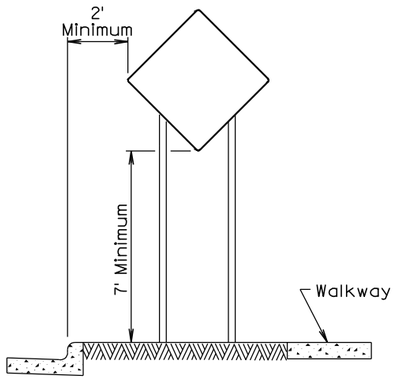
Username - trrcil610



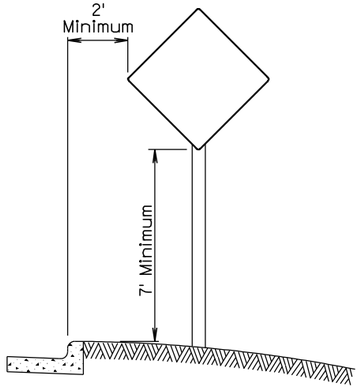
RURAL DISTRICT



RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT



URBAN DISTRICT

December 23, 2003

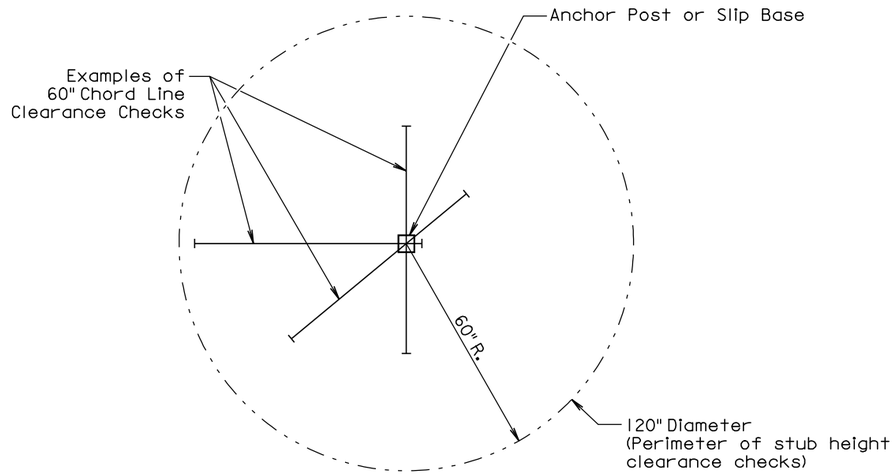
Published Date: 3rd Qtr. 2009

SDDOT

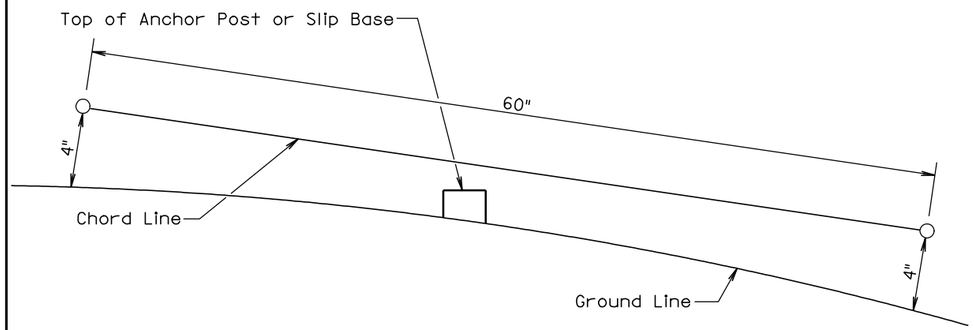
BREAKAWAY SIGN SUPPORTS
(Typical Construction Signing)

PLATE NUMBER 634.85

Sheet 1 of 1



PLAN VIEW
(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

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

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

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

July 1, 2005

Published Date: 3rd Qtr. 2009

SDDOT

BREAKAWAY SUPPORT STUB CLEARANCE

PLATE NUMBER 634.99

Sheet 1 of 1

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	085-471	11	18

Plotting Date: 13-OCT-2009

437+44 L to 437+50 L
Take out Concrete Curb & Gutter - 6'

437+50 L to 438+02 L
Take out Concrete Gutter - 58'

438+02 L
Salvage Rip Rap
(Incidental Work)

441+53-117' L
Remove for Reset
18" - 10' RCP
& 1 End Section.

441+53-117' L
Remove 18" - 2' RCP

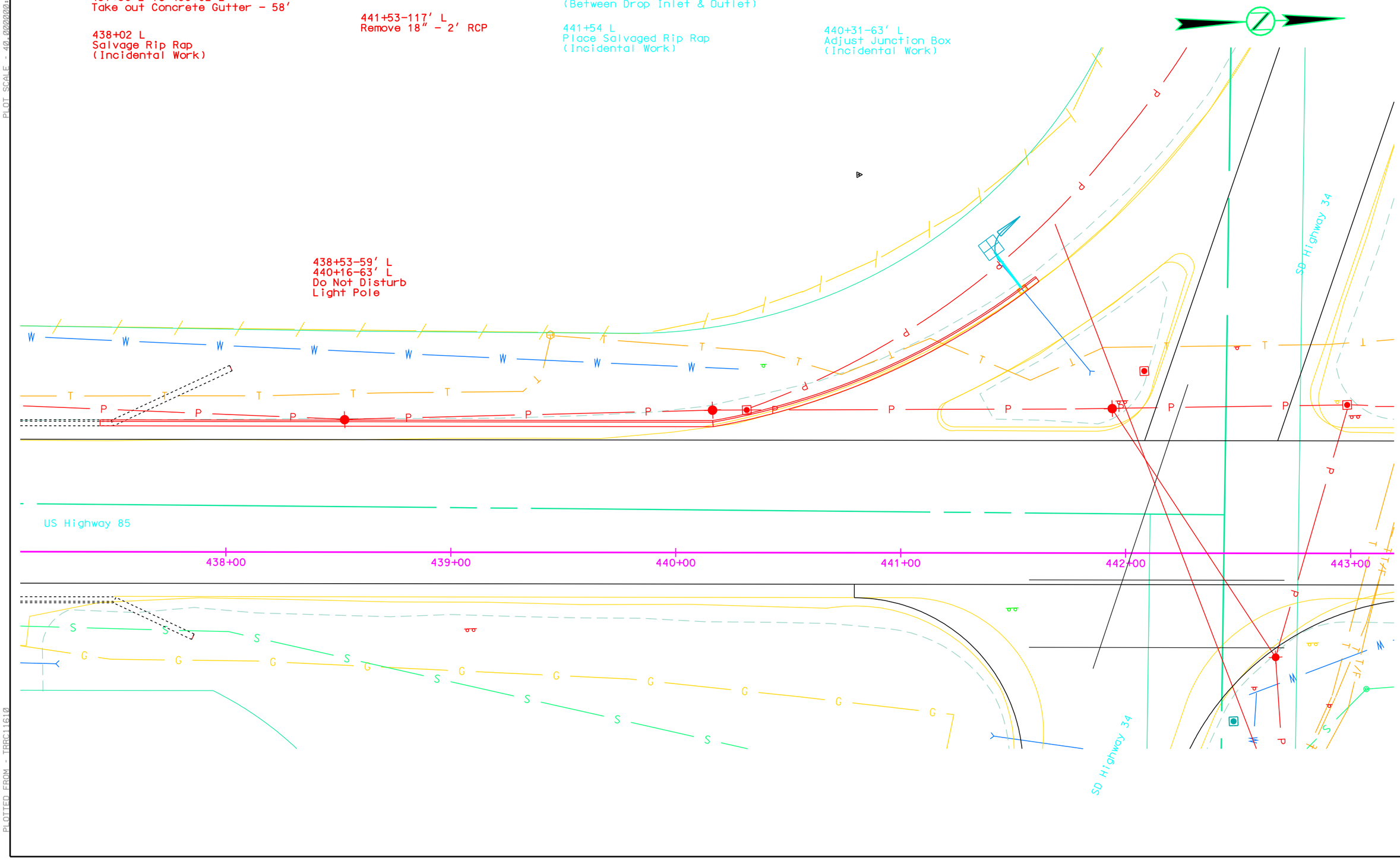
441+54-117' L
Install 18"- 4' RCP
Reset 18" - 10' RCP
& Reset 1 Flared End Section.
(Between Drop Inlet & Outlet)

441+54 L
Place Salvaged Rip Rap
(Incidental Work)

441+54-117'L
Install 2' x 3' Type B Drop Inlet
with Type B Frame & Grate

440+31-63' L
Adjust Junction Box
(Incidental Work)

438+53-59' L
440+16-63' L
Do Not Disturb
Light Pole



STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	085-471	12	18

Plotting Date: 13-OCT-2009

CURB & GUTTER LAYOUT

Layout Sheet showing Concrete Curb & Gutter.

Scale 1 Inch = 20 Feet

NOTE:All Curb & Gutter shown on this sheet is Type F66 except as noted

1 437+43.96-55.79'L
Begin Str C & G
TC El Match Existing

2 440+16.53-55.91'L
End Str C & G
Begin 357' Rad C & G
TC El 30.45(Theor.)

3 441+61.29-120.77'L
End 357' Rad C & G
TC El 25.91 (Theor)

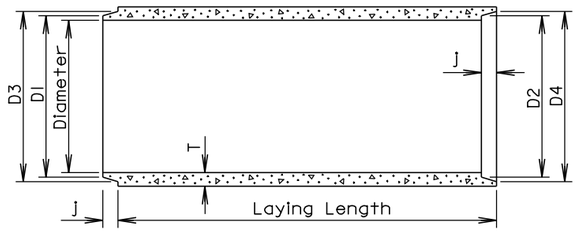
SD Highway 34

US Highway 85

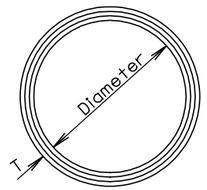
438+00 439+00 440+00 441+00 442+00 443+00

TOLERANCES IN DIMENSIONS

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



LONGITUDINAL SECTION



END VIEW

GENERAL NOTES:

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

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

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

March 31, 2000

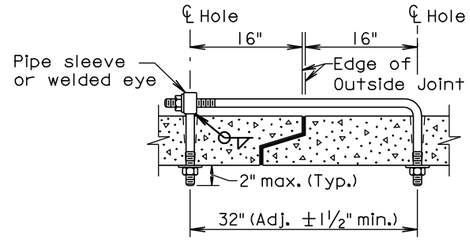
Published Date: 3rd Qtr. 2009

SDDOT

REINFORCED CONCRETE PIPE

PLATE NUMBER 450.01

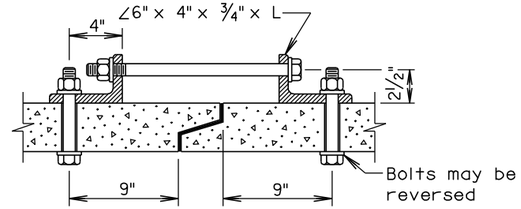
Sheet 1 of 1



ADJUSTABLE EYE BOLT TIE

GENERAL NOTES:

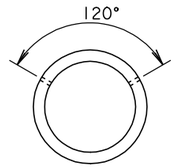
Tie bolts to be furnished with 2 washers and 2 nuts except for the 9/16" rod which has unthreaded legs.
Use 9/16" rod diameter and 5/8" thread diameter for pipe wall thickness of 2" to 3 1/4".
Use 11/16" rod diameter and 3/4" thread diameter for pipe wall thickness of 3 1/2" to 6 1/2".
Use 29/32" rod diameter and 1" thread diameter for pipe wall thickness of 7" and larger.



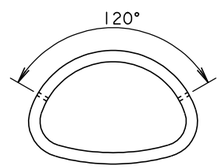
ANGLE AND BOLT TIE

GENERAL NOTES:

L = 4" for 3/4" Bolt. L = 6" for 1" Bolt.
Use 3/4" Tie Bolts for pipe diameters less than 48".



END VIEW "CIRCULAR"



END VIEW "ARCH"

GENERAL NOTES:

In lieu of Tie Bolts detailed above, Tecktonlus Fasteners or other type Tie Bolt connections may be installed if approved by the Engineer.

There will be no separate measurement or payment for Tie Bolts.

The cost of the Tie Bolts shall be incidental to the contract unit price per Foot for the corresponding Bid Item for R.C.P. and/or R.C.P. Arch.

The first three Sections (both inlet and outlet) on R.C.P. and R.C.P. Arch up to and including the 78" diameter or equivalent pipe shall be tied with Tie Bolts. Pipe sizes above 78" diameter or equivalent diameter shall have all Sections tied. Each End Section is considered as one section.

March 31, 2000

Published Date: 3rd Qtr. 2009

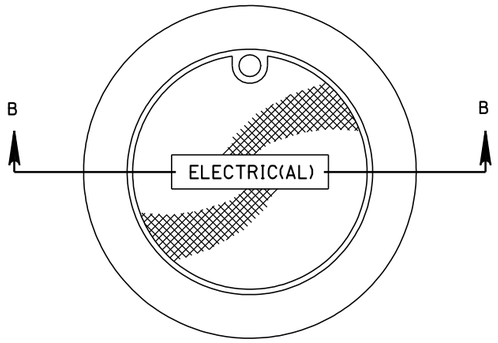
SDDOT

TIE BOLTS FOR R.C.P. END SECTIONS

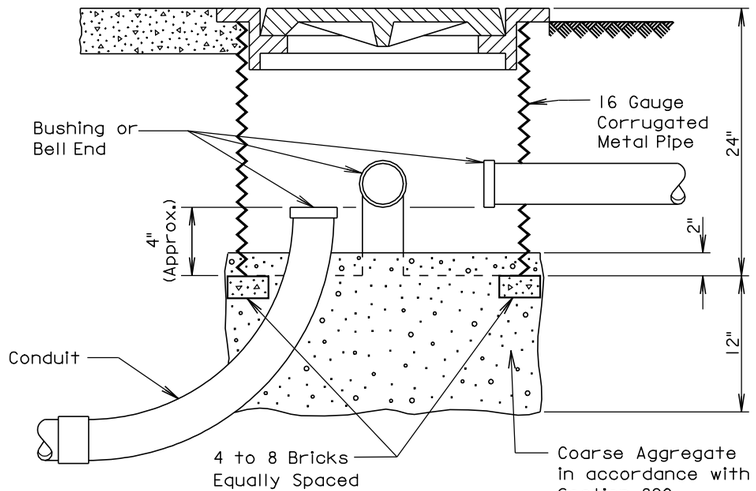
PLATE NUMBER 450.18

Sheet 1 of 1

Username - frrcil610



PLAN VIEW



SECTION B-B

GENERAL NOTES:

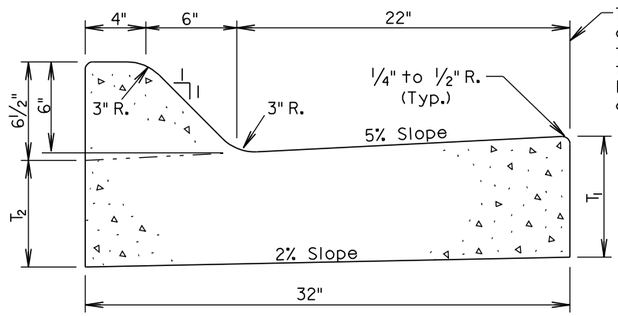
Where conductors are installed by the direct burial method, the conductors shall enter into the junction box through stub conduits. The stub conduit shall have a minimum nominal inside diameter as determined by the 40% fill method. The stub conduits shall have a minimum length of 12 inches and conduit bushings or bell ends shall be provided at both ends. The costs for furnishing and installing the stub conduits shall be incidental to the contract unit price per Each for the appropriate junction box bid item(s).

The junction box covers shall be bonded to the equipment ground prior to energization of wires in the junction box.

The junction box sizes and quantities are shown on the plan sheets.

March 31, 2000

Published Date: 3rd Qtr. 2009	SDDOT	ELECTRICAL JUNCTION BOX (CORRUGATED METAL PIPE)	PLATE NUMBER 635.65
			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_1 (Inches)	T_2 (Inches)	Cu. Yd. Per Lin. Ft.	Lin. Ft. Per Cu. Yd.
F66	6	5 1/16	0.057	17.6
F67	7	6 1/16	0.065	15.4
F68	8	7 1/16	0.073	13.6
F68.5	8.5	7 9/16	0.077	12.9
F69	9	8 1/16	0.082	12.3
F69.5	9.5	8 9/16	0.086	11.7
F610	10	9 1/16	0.090	11.1
F610.5	10.5	9 9/16	0.094	10.7
F611	11	10 1/16	0.098	10.2
F611.5	11.5	10 9/16	0.102	9.8
F612	12	11 1/16	0.106	9.4

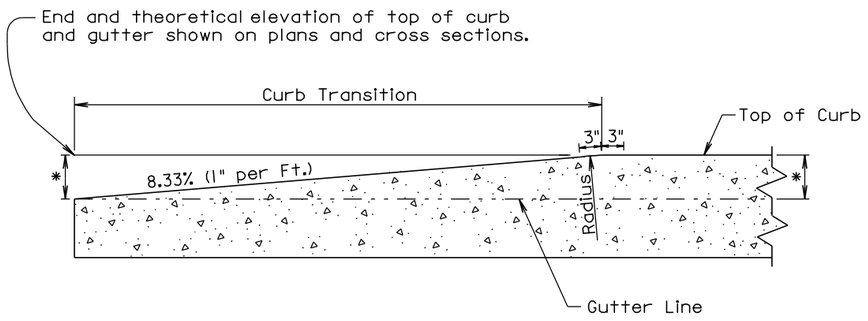
GENERAL NOTES:

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: 3rd Qtr. 2009	SDDOT	TYPE F CONCRETE CURB AND GUTTER	PLATE NUMBER 650.20
			Sheet 1 of 1

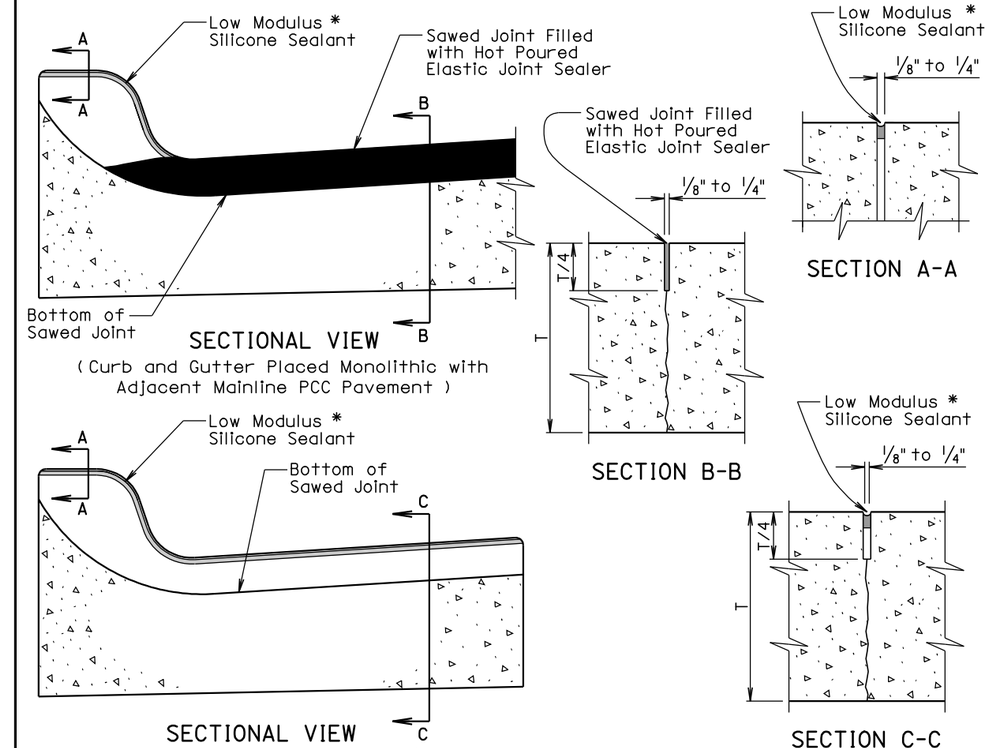


* Height of Curb

LONGITUDINAL SECTION OF CONCRETE CURB TAPER

September 14, 2005

Published Date: 3rd Qtr. 2009	SDDOT	CONCRETE CURB TAPER	PLATE NUMBER 650.35
			Sheet 1 of 1



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

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

* 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.

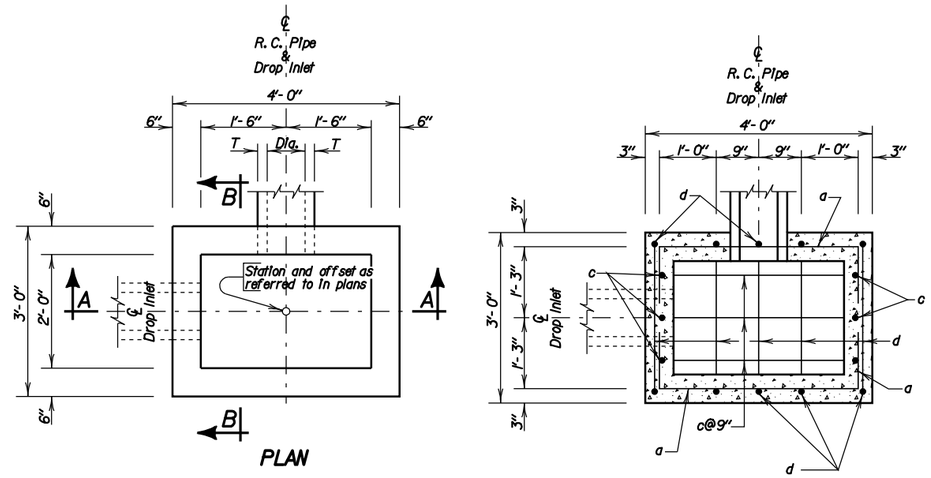
Transverse contraction joints shall be constructed at 10' intervals in the concrete curb and gutter except when the concrete curb and gutter is constructed adjacent to mainline PCC pavement. When concrete curb and gutter is constructed adjacent to mainline PCC pavement, a transverse contraction joint 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, 2006

Published Date: 3rd Qtr. 2009	SDDOT	JOINTS IN CONCRETE CURB AND GUTTER	PLATE NUMBER 650.90
			Sheet 1 of 1

Username - trrcil610



PIPE DISPLACEMENT REDUCTIONS

R.C. Pipe Diameter Inches	T Inches	Class M6 Concrete Cu'd
12	2	0.03
15	2 1/4	0.04
18	2 1/2	0.05
24	3	0.09
30	3 1/2	0.14

ESTIMATED QUANTITIES

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

DROP INLETS FOR 12" TO 30" DIAMETER PIPE

GENERAL NOTES:

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

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

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

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

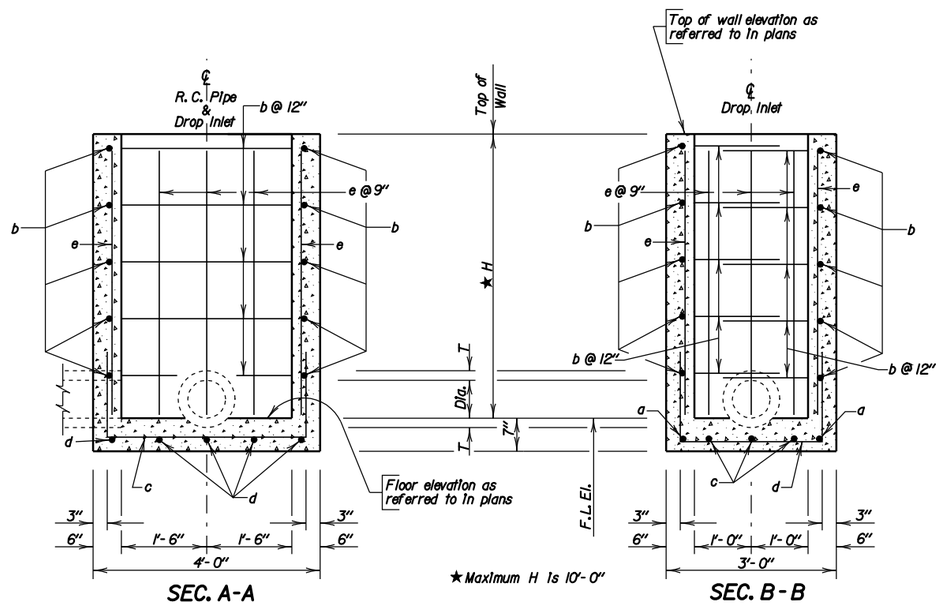
Precasting of reinforced drop inlets will be permissible. Prior to precasting, the Contractor shall submit details to the Engineer for approval.

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

The dimension of H is in feet.

September 14, 2001

Published Date: 3rd Qtr. 2009	SDDOT	2'X 3' TYPE B REINFORCED CONCRETE DROP INLET	PLATE NUMBER 670.01
			Sheet 1 of 2

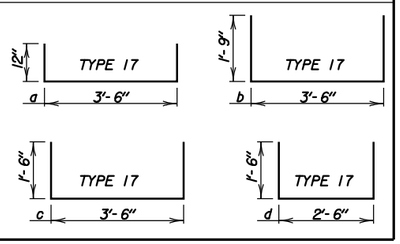


DROP INLETS FOR 12" TO 30" DIAMETER PIPE

REINFORCING SCHEDULE

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

NOTE:
All dimensions are out to out of bars.

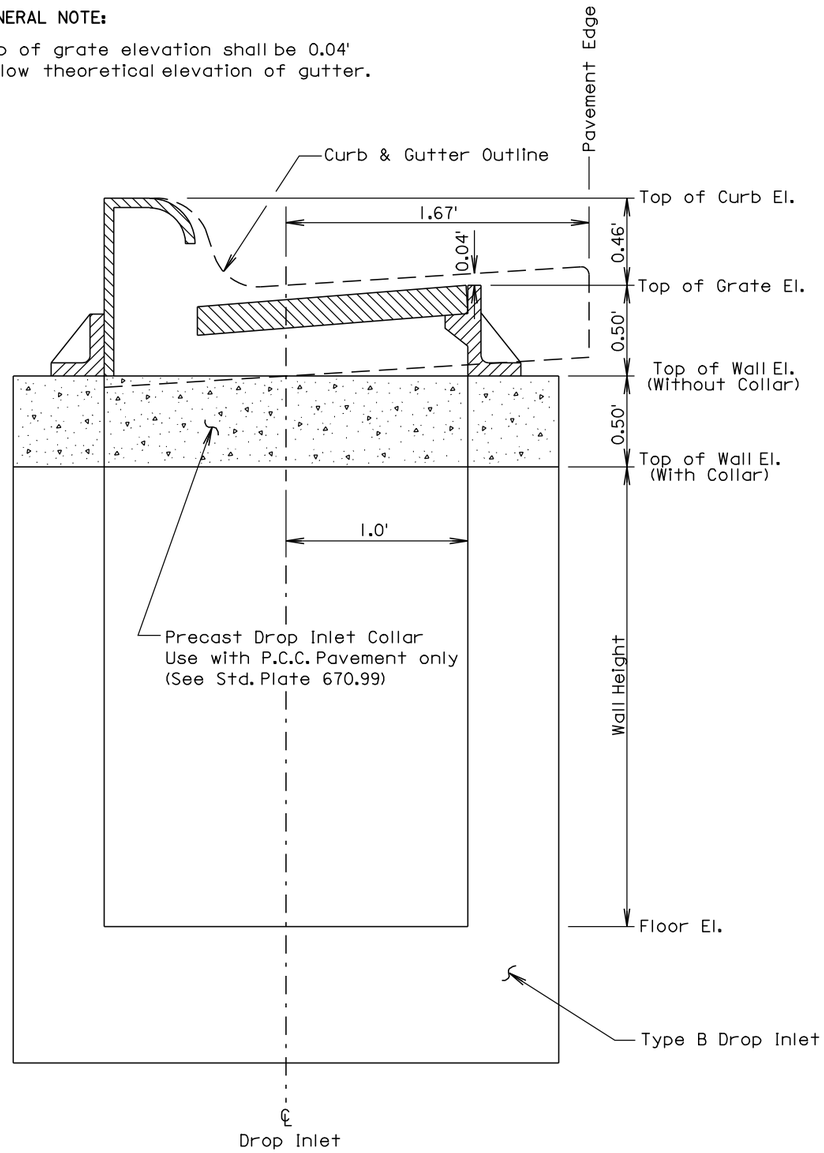


September 14, 2001

Published Date: 3rd Qtr. 2009	SDDOT	2'X 3' TYPE B REINFORCED CONCRETE DROP INLET	PLATE NUMBER 670.01
			Sheet 2 of 2

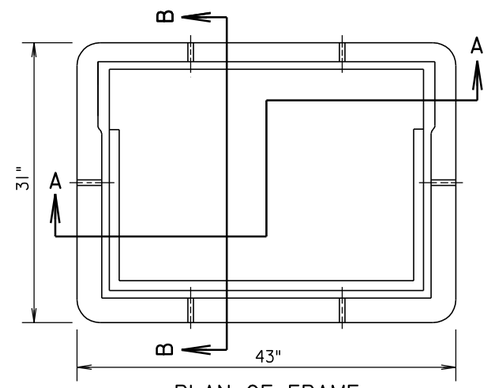
GENERAL NOTE:

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

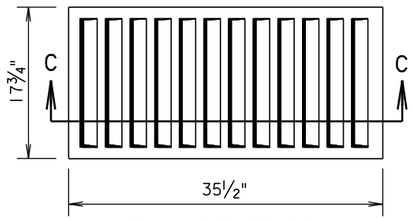


March 31, 2000

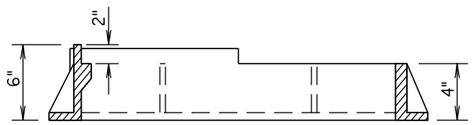
Published Date: 3rd Qtr. 2009	SDDOT	INSTALLATION OF TYPE B DROP INLET	PLATE NUMBER 670.75
			Sheet 1 of 1



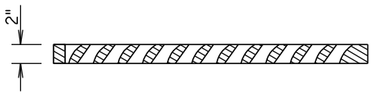
PLAN OF FRAME



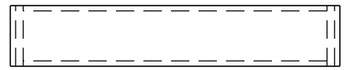
PLAN OF GRATE



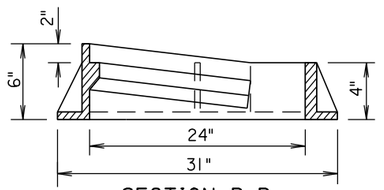
SECTION A-A



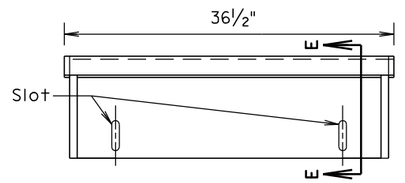
SECTION C-C



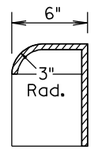
TOP VIEW OF CURB BOX



SECTION B-B



ELEVATION OF CURB BOX



SECTION E-E

GENERAL NOTE:

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

March 31, 2000

Published Date: 3rd Qtr. 2009	SDDOT	TYPE B FRAME AND GRATE ASSEMBLY	PLATE NUMBER 670.80
			Sheet 1 of 1

Username - trrcil610

Plotting Date: 13-OCT-2009

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	085-471	18	18