

PLOT SCALE - 200,000,000:1,000,000

PLOTTED FROM - TRRC11951

STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION  
PLANS FOR PROPOSED

PROJECT 085-451  
US HIGHWAY 85  
LAWRENCE COUNTY

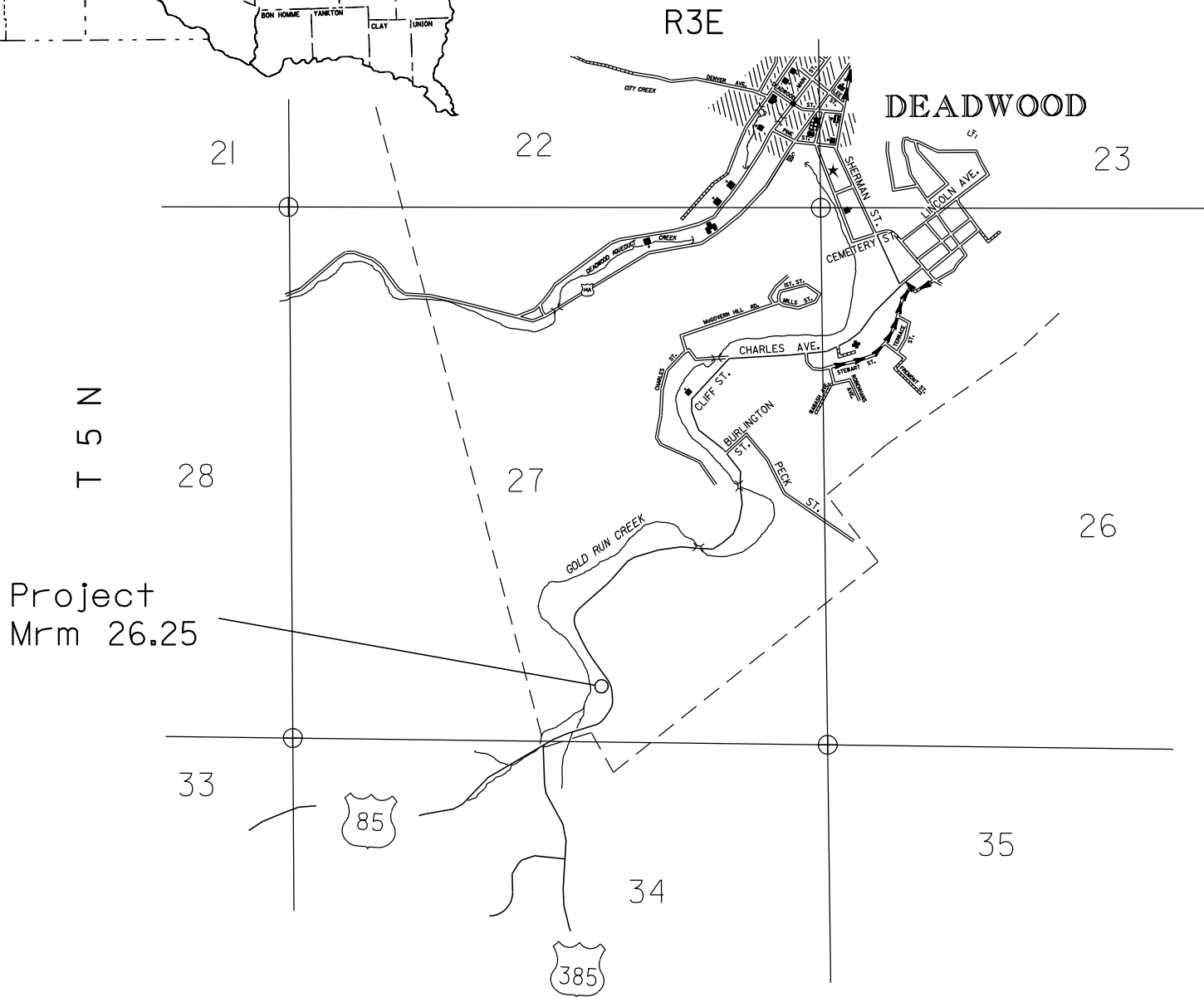
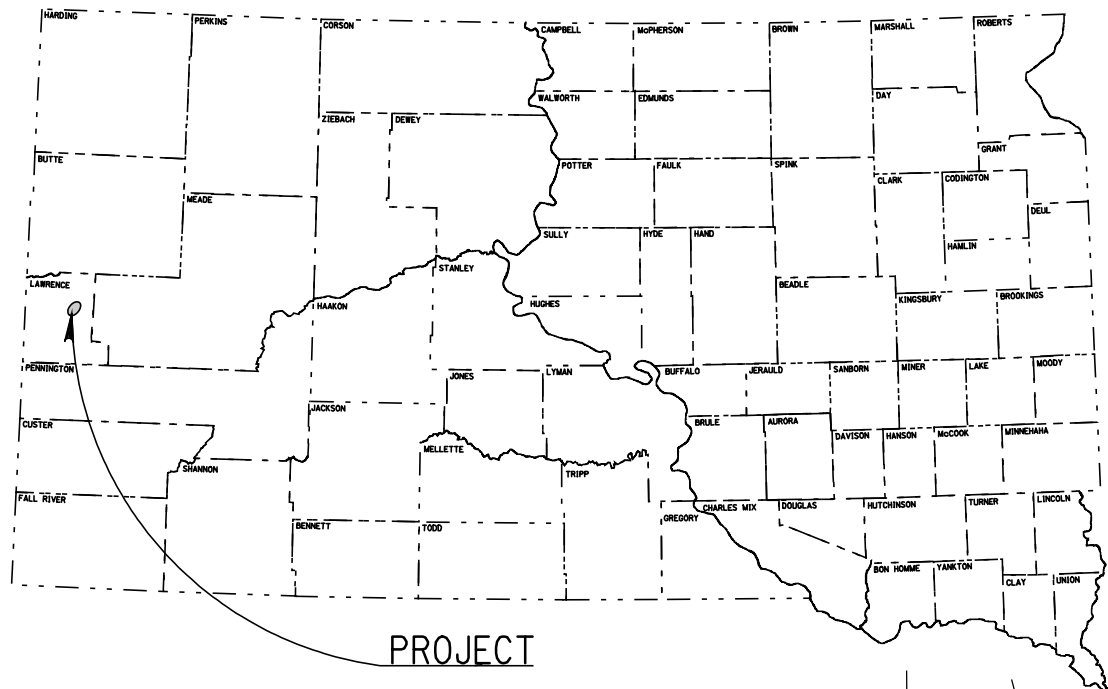
Storm Sewer Outlet Repair  
PCN 119R

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	085-451	01	11

Plotting Date: 16-MAR-2010

INDEX OF SHEETS

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Sheet 7 to 11: Standard Plates



DESIGN DESIGNATION

ADT (2009) 5060  
ADT (2029) 6400  
DHV 960  
D 50%  
T DHV 3.5%  
T ADT 7.8%  
V 25

STORM WATER PERMIT

No Permit Required

GROSS LENGTH 47.5 FEET 0.009 MILES  
LENGTH OF EXCEPTIONS 0 FEET 0 MILES  
NET LENGTH 47.5 FEET 0.009 MILES

FILE - U:\REGIONRC\PR\2010RCREGMAINT\PLANS\119R 085-451 DROP INLET DEADWOOD\119R085-451.DWG

ESTIMATE OF QUANTITIES

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
120E0600	Contractor Furnished Borrow	40	CuYd
230E0020	Placing Contractor Furnished Topsoil	4	CuYd
450E4769	24" CMP 16 Gauge, Furnish	16	Ft
450E4770	24" CMP, Install	16	Ft
450E5015	24" CMP Elbow, Furnish	1	Each
450E5016	24" CMP Elbow, Install	1	Each
450E8213	24" Smooth Tapered Sleeve, Furnish	1	Each
450E8214	24" Smooth Tapered Sleeve, Install	1	Each
462E0100	Class M6 Concrete	1.1	CuYd
480E0100	Reinforcing Steel	86	Lb
634E0010	Flagging	20	Hour
634E0100	Traffic Control	340	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
670E4205	Type M Frame and Grate Assembly	1	Each
734E0010	Erosion Control	Lump Sum	LS
734E0102	Type 2 Erosion Control Blanket	40	SqYd

SPECIFICATIONS

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

SCOPE OF WORK

The scope of work for this project includes installation of a 24” cmp and Type M drop inlet, so that a connection can be made between two existing pipes. The pipe connection will allow the hole along US Highway 85 to be backfilled and leveled with the surrounding area.

CORRUGATED METAL PIPE

Corrugated metal pipes shall have 2 ⅔-inch X ½-inch corrugations for 36-inch and smaller round pipe and 42-inch and smaller arch pipe unless otherwise stated in the plans. Corrugated metal pipes shall have 3-inch X 1-inch corrugations for 42-inch and larger round pipe and 54-inch and larger arch pipe unless otherwise stated in the plans.

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.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	085-451	2	11

CONTRACTOR FURNISHED BORROW

It is estimated that 40 cubic yards of “Contractor Furnished Borrow” material will be required for back fill of the Type M Median and pipe.

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.

PIPE CONNECTIONS TO EXISTING PIPE

A CMP smooth tapered sleeve shall be inserted into the existing pipe and a concrete collar shall then be poured around the pipe in the area of the connection.

The concrete collar shall consist of placing an 18" 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.

DROP INLETS

The plan shown quantities of the drop inlet components such as Class M6 Concrete, Reinforcing Steel, and Type M 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 prices for the components of the drop inlets.

TABLE OF TYPE M MEDIAN DRAINS

MRM	L/R	Class M6 Concrete (CuYd)	Reinforcing Steel (Lb)	Type M Frame and Grate Assembly (Each)
26.2	L	1.11	86.2	1

**PLACING CONTRACTOR FURNISHED TOPSOIL**

It is anticipated that approximately 4 cubic yards of topsoil will be needed for the project. The Contractor will be required to furnish and place 4 inches of topsoil around the median drain.

All costs to furnish and place the topsoil shall be incidental to the contract unit price per cubic yard for “Placing Contractor Furnished Topsoil” and the basis of payment shall be plans quantity.

**EROSION CONTROL (PERMANENT SEEDING)**

The areas to be seeded comprise of all disturbed areas in the vicinity of the installed median drain.

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

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

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, Rosanna	16
Canada Wildrye	Mandan	2
Total:		18

All costs to permanent seed the disturbed areas shall be incidental to the contract unit price per Lump Sum for “Erosion Control”.

**EROSION CONTROL BLANKET**

Erosion control blanket shall be installed around the median drain to cover up all disturbed areas and at locations determined by the Engineer during construction.

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

<http://www.state.sd.us/Applications/HC54ApprovedProducts/main.asp>

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

**TABLE OF EROSION CONTROL BLANKET**

MRM	L/R	Location	Type	Quantity (SqYd)
26.2	L	Around Median Drain	2	40

**TRAFFIC CONTROL**

The Contractors traffic control shall at all times be in compliance with applicable MUTCD Standards.

Work activities during non-daylight hours are subject to prior approval. Daylight hours are considered to be ½ hour before sunrise until ½ hour after sunset.

Construction signing that remains in the same location for more than 3 days shall be mounted on fixed supports, unless otherwise stated in these plans or with the prior approval of the Engineer.

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

Storage of vehicles and equipment shall be outside the clear zone 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 equipment and vehicles entering and exiting closed lanes of traffic shall display a flashing amber light visible from all directions a minimum distance of ¼ mile.

The Contractor shall coordinate his operations such that during non-working hours the roadway shall be open to two-way traffic for the entire width of the roadway.

**INVENTORY OF TRAFFIC CONTROL DEVICES**

SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQUIRED	UNITS PER SIGN	UNITS
G20-2	36" x 18"	END ROAD WORK	2	17	34
W20-1	48" x 48"	ROAD WORK AHEAD	2	34	68
W20-4	48" x 48"	ONE LANE ROAD AHEAD	2	34	68
W20-7a	48" x 48"	FLAGGER	2	34	68
W20-7b	48" x 48"	BE PREPARED TO STOP	2	34	68
W21-5	48" x 48"	SHOULDER WORK	1	34	34
TOTAL UNITS					340

PLOT SCALE - 199,999600±1.000000

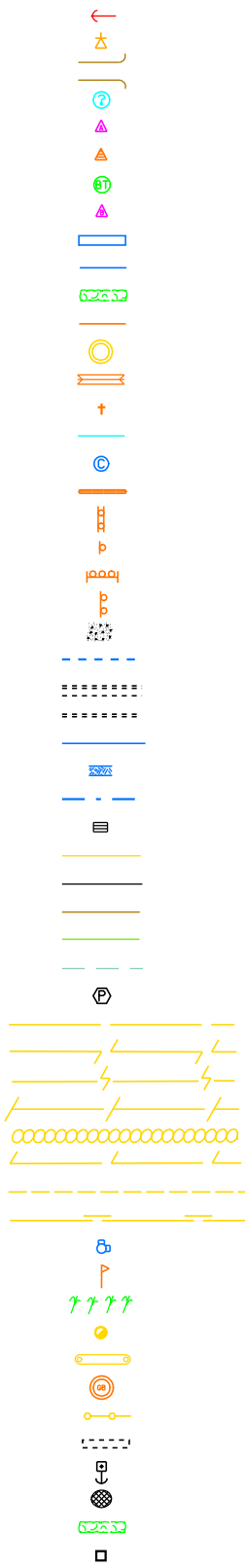
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# EXISTING TOPOGRAPHY SYMBOLLOGY AND LEGEND

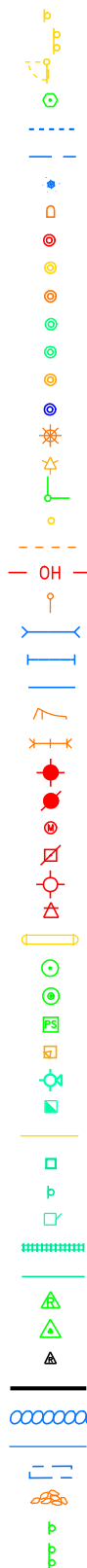
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	085-451	04	11

Plotting Date: 16-MAR-2010

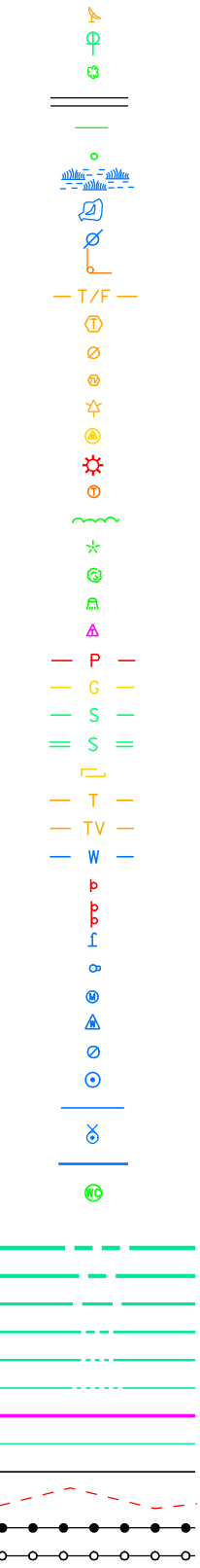
Anchor  
Antenna  
Approach  
Assumed Corner  
Azimuth Marker  
Bbq Grill/ Fireplace  
Bearing Tree  
Bench Mark  
Box Culvert  
Bridge  
Brush  
Buildings  
Bulk Tank  
Cattle Guard  
Cemetery  
Centerline  
Cistern  
Clothes Line  
Commercial Sign Double Face  
Commercial Sign One Post  
Commercial Sign Overhead  
Commercial Sign Two Post  
Concrete Symbol  
Creek Edge  
Curb/Gutter  
Curb  
Dam Grade/Dike/Levee  
Ditch Block  
Drainage Profile  
Drop Inlet  
Edge Of Asphalt  
Edge Of Concrete  
Edge Of Gravel  
Edge Of Other  
Edge Of Shoulder  
Elec. Trans./Power Jct. Box  
Fence Barbwire  
Fence Chainlink  
Fence Electric  
Fence Misc.  
Fence Rock  
Fence Snow  
Fence Wood  
Fence Woven  
Fire Hydrant  
Flag Pole  
Flower Bed  
Gas Valve Or Meter  
Gas Pump Island  
Grain Bin  
Guardrail  
Gutter  
Guy Pole  
Haystack  
Hedge  
Highway R.O.W. Marker



Information Sign One Post  
Information Sign Two Post  
Interstate Close Gate  
Iron Pin  
Irrigation Ditch  
Lake Edge  
Lawn Sprinkler  
Mailbox  
Manhole Electric  
Manhole Gas  
Manhole Misc  
Manhole Sanitary Sewer  
Manhole Storm Sewer  
Manhole Telephone  
Manhole Water  
Merry-Go-Round  
Microwave Radio Tower  
Misc. Property Corner  
Misc. Post  
Overhang Or Encroachment  
Overhead Utility Line  
Parking Meter  
Pipe With End Section  
Pipe With Headwall  
Pipe Without End Section  
Playground Slide  
Playground Swing  
Power And Light Pole  
Power And Telephone Pole  
Power Meter  
Power Pole  
Power Pole And Transformer  
Power Tower Structure  
Propane Tank  
Property Pipe  
Property Pipe With Cap  
Property Stone  
Public Telephone  
Railroad Crossing Signal  
Railroad Milepost Marker  
Railroad Profile  
Railroad R.O.W. Marker  
Railroad Signs  
Railroad Switch  
Railroad Track  
Railroad Trestle  
Rebar  
Rebar With Cap  
Reference Mark  
Retaining Wall  
Riprap  
River Edge  
Rock And Wire Baskets  
Rockpiles  
Route Sign One Post  
Route Sign Two Post



Satellite Dish  
Septic Tank  
Shrub Tree  
Sidewalk  
Sign Face  
Sign Post  
Slough Or Marsh  
Spring  
Stream Gauge  
Street Marker  
Telephone Fiber Optics  
Telephone Junction Box  
Telephone Pole  
Television Cable Jct Box  
Television Tower  
Test Wells/Bore Holes  
Traffic Signal  
Trash Barrel  
Tree Belt  
Tree Coniferous  
Tree Deciduous  
Tree Stumps  
Triangulation Station  
Underground Electric Line  
Underground Gas Line  
Underground Sanitary Sewer  
Underground Storm Sewer  
Underground Tank  
Underground Telephone Line  
Underground Television Cable  
Underground Water Line  
Warning Sign One Post  
Warning Sign Two Post  
Water Fountain  
Water Hydrant  
Water Meter  
Water Tower  
Water Valve  
Water Well  
Weir Rock  
Windmill  
Wingwall  
Witness Corner  
  
State and National Line  
County Line  
Section Line  
Quarter Line  
Sixteenth Line  
Property Line  
Construction Line  
R. O. W. Line  
New R. O. W. Line  
Cut and Fill Limits  
Control of Access  
New Control of Access



FILE - U:\REGIONRC\PROJ\2010\RC\M\PLANS\119 085-451 DROP INLET DEADWATER\MEGN 04

PLOT SCALE - 20.0000001.000000

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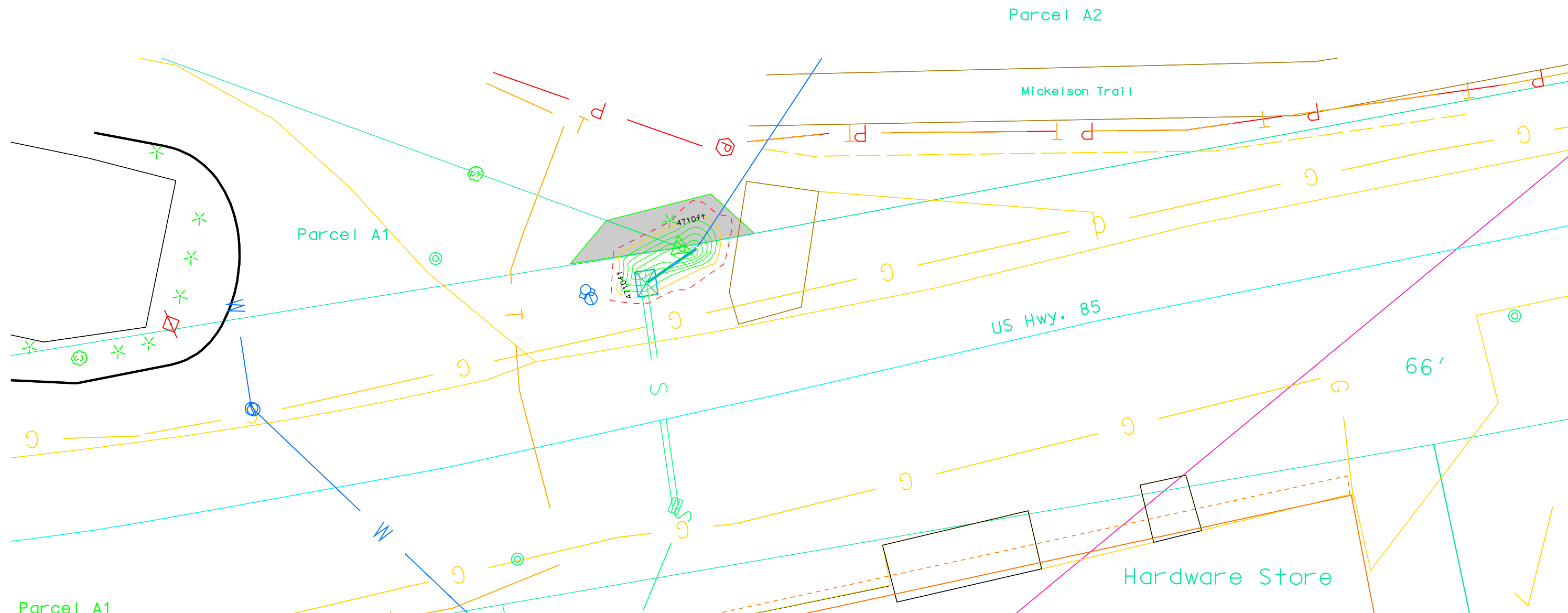
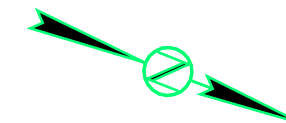
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	085-451	05	11

Plotting Date: 16-MAR-2010

Mrm 26.2 Install Type M Median Drain  
24"- 16' CMP, 22.5° elbow and a  
Smooth Tapered Sleeve

Sec. 27 - T5N - R3E

Scale: 1" = 20'



Parcel A1  
Temporary easement for Fill  
91 Sqft, more or less

Lana L. Sternhagen and James A. Sternhagen  
Parcel A1

Beginning at Corner No. 1 from which corner No. 18 of Placer 107 bears S. 66° 09' E. a distance of 273.4 feet, thence N. 26° 33' W. a distance of 96.2 feet to Corner No. 2, thence N. 05° 40' W. a distance of 91.0 feet to Corner No. 3; thence N 06° 30' E. a distance of 50 feet to Corner No. 4; thence N. 04° 16' W. a distance of 130.3 feet to Corner No. 5; thence in a southerly direction along the right of way of highway 85 at a distance of 405.5 feet more or less to Corner No. 6; thence along the line from Corner No. 18 of Placer 107 to Corner No. 1 of Liberty Motel tract, now known as Killarney Motel, N 66° 09' W. a distance of 30.2 feet to Corner No. 1 the place of beginning.  
City of Deadwood, Lawrence County, South Dakota.

Parcel A2  
Temporary easement for Fill  
164 Sqft, more or less

City of Deadwood  
Parcel A2

A portion of the Burlington Northern Railroad Co. right of way located in M.S. 107, City of Deadwood, Lawrence County, South Dakota

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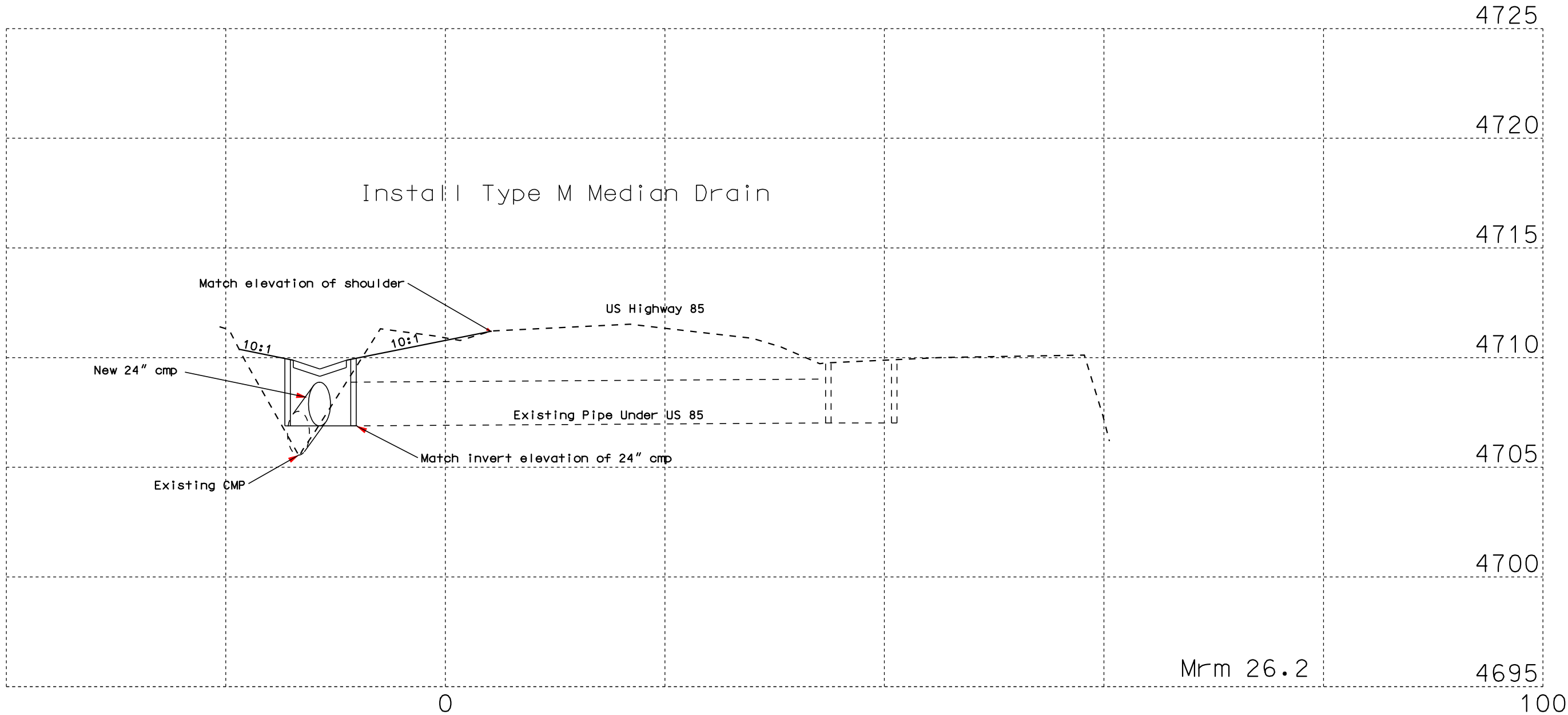
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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	085-451	06	11

Plotting Date: 16-MAR-2010

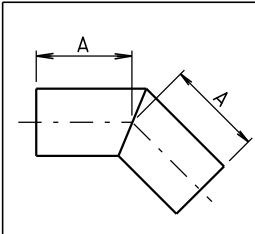
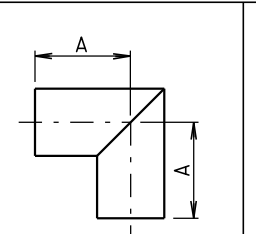
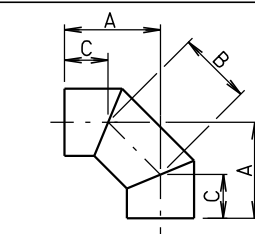
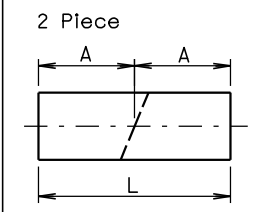
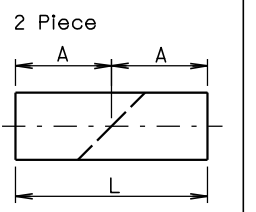
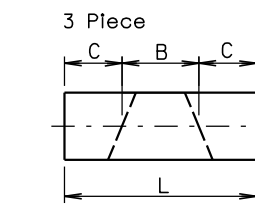
Cross Section of Storm Sewer Outlet Repair

Scale: 1" = 10'



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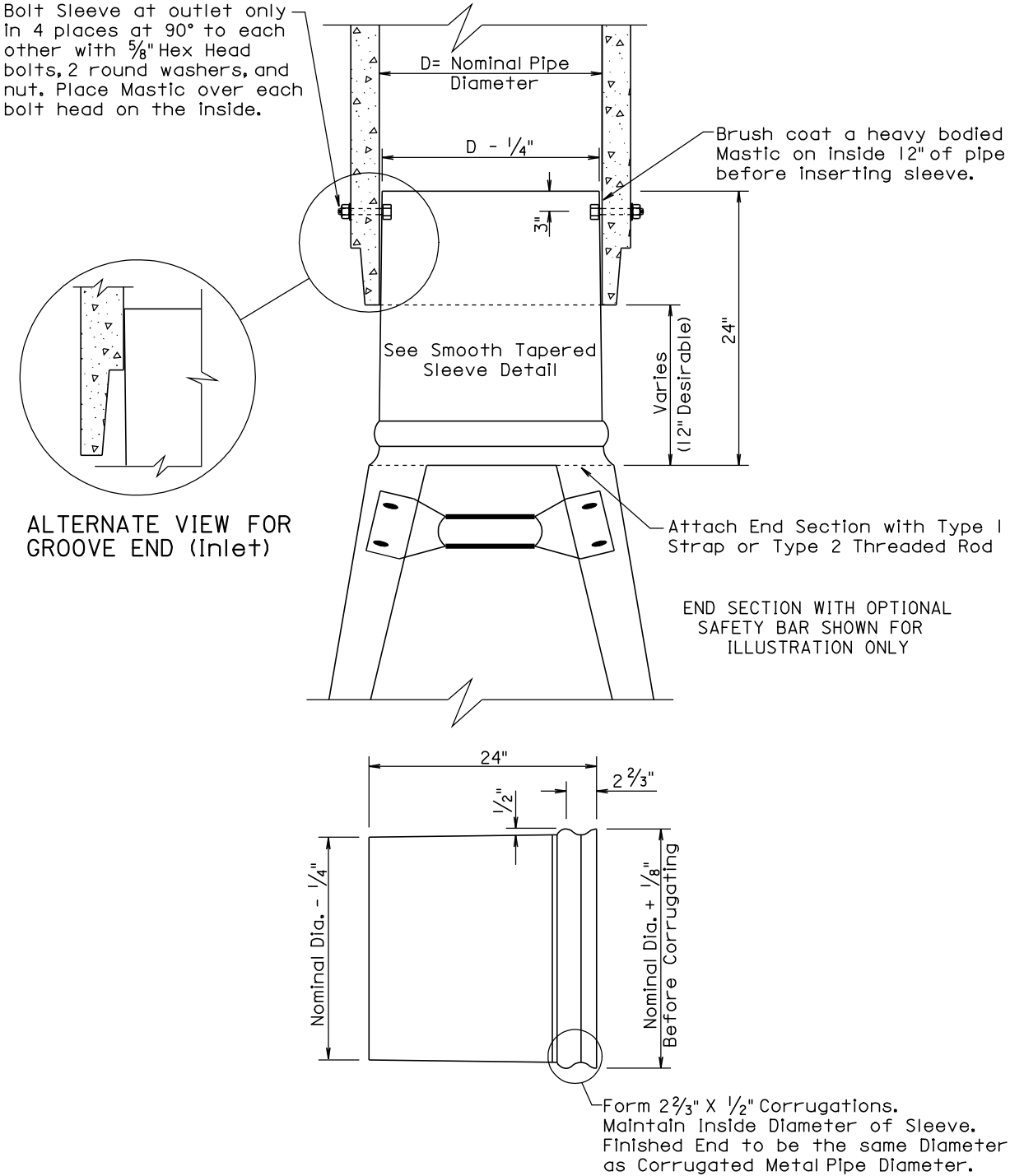
Plotting Date: 16-MAR-2010

										
2 Piece			2 Piece			3 Piece				
										
5° to 45° Elbow			50° to 90° Elbow			90° Elbow				
Diameter	A	L	Diameter	A	L	Diameter	A	B	C	L
Inches	Feet	Feet	Inches	Feet	Feet	Inches	Inches			Feet
12	1	2	12	2	4	12	25½	11	18½	4
15	1	2	15	2	4	15	26½	12	18	4
18	1	2	18	2	4	18	27	14	17	4
21	2	4	21	2	4	21	27	15	16½	4
24	2	4	24	2	4	24	27½	16	16	4
27	2	4	27	2	4	27	27½	17	15½	4
30	2	4	30	3	6	30	40	19	26½	6
33	2	4	33	3	6	33	40	20	26	6
36	2	4	36	3	6	36	40½	21	25½	6
42	2	4	42	3	6	42	41	23	24½	6
48	2	4	48	4	8	48	53½	26	35	8
54	3	6	54	4	8	54	54	28	34	8
60	3	6	60	4	8	60	54½	31	32½	8
66	3	6	66	4	8	66	54	33	31½	8
72	3	6	72	5	10	72	67½	36	42	10
78	3	6	78	5	10	78	68	39	40½	10
84	3	6	84	5	10	84	68½	41	39½	10
90	3	6	90	6	12	90	70	46	37	10
96	3	6	96	6	12	96	82	46	49	12

FABRICATED ELBOW LENGTHS FOR ALL CORRUGATIONS

GENERAL NOTES:  
All dimensions shown are nominal.  
L = Linear Feet of C.M.P. required to fabricate fitting.

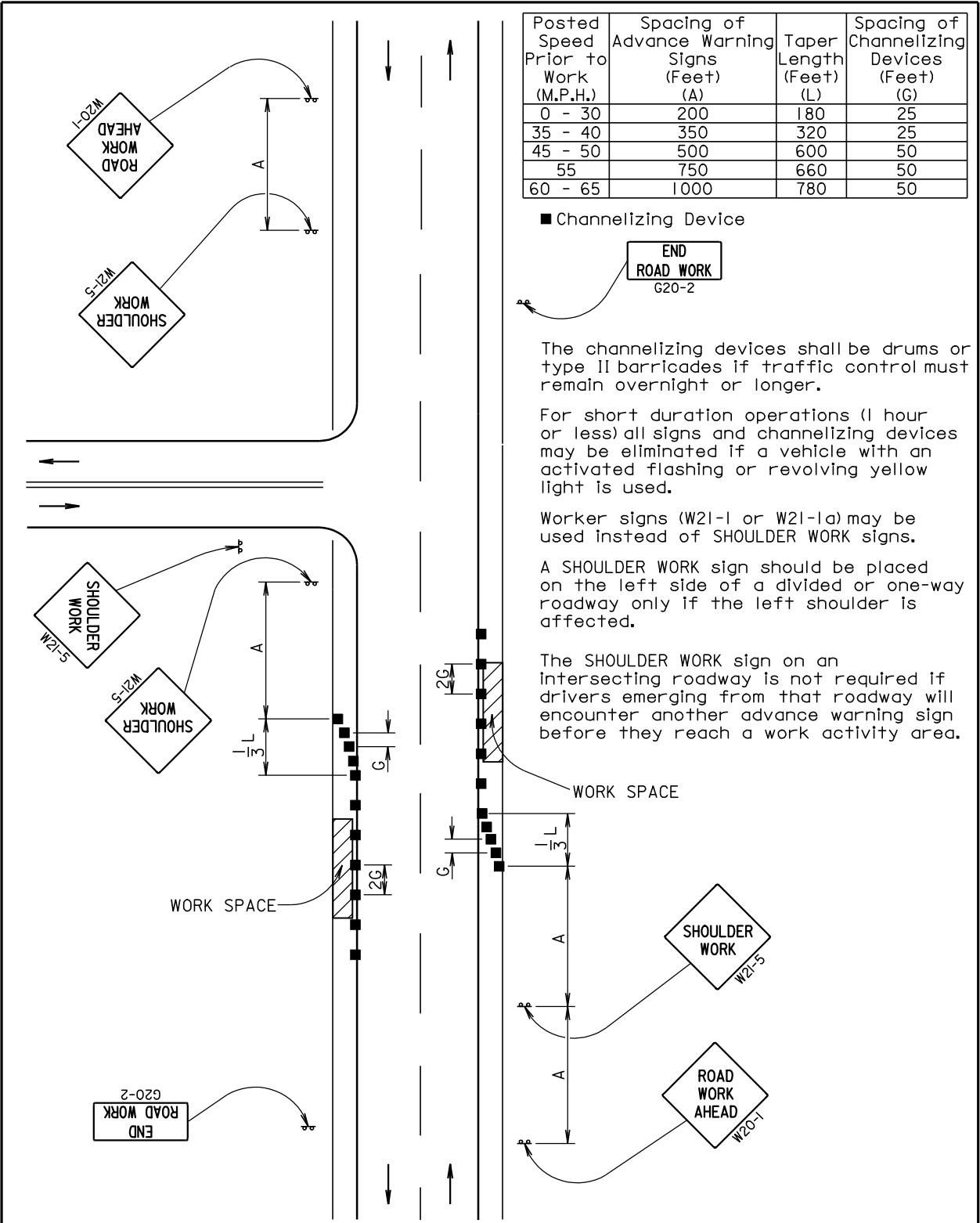
June 26, 2001



GENERAL NOTE:  
Metal shall be 12 gauge smooth Galvanized in accordance with AASHTO M218.

March 31, 2000

Plotting Date: 16-MAR-2010



July 1, 2005

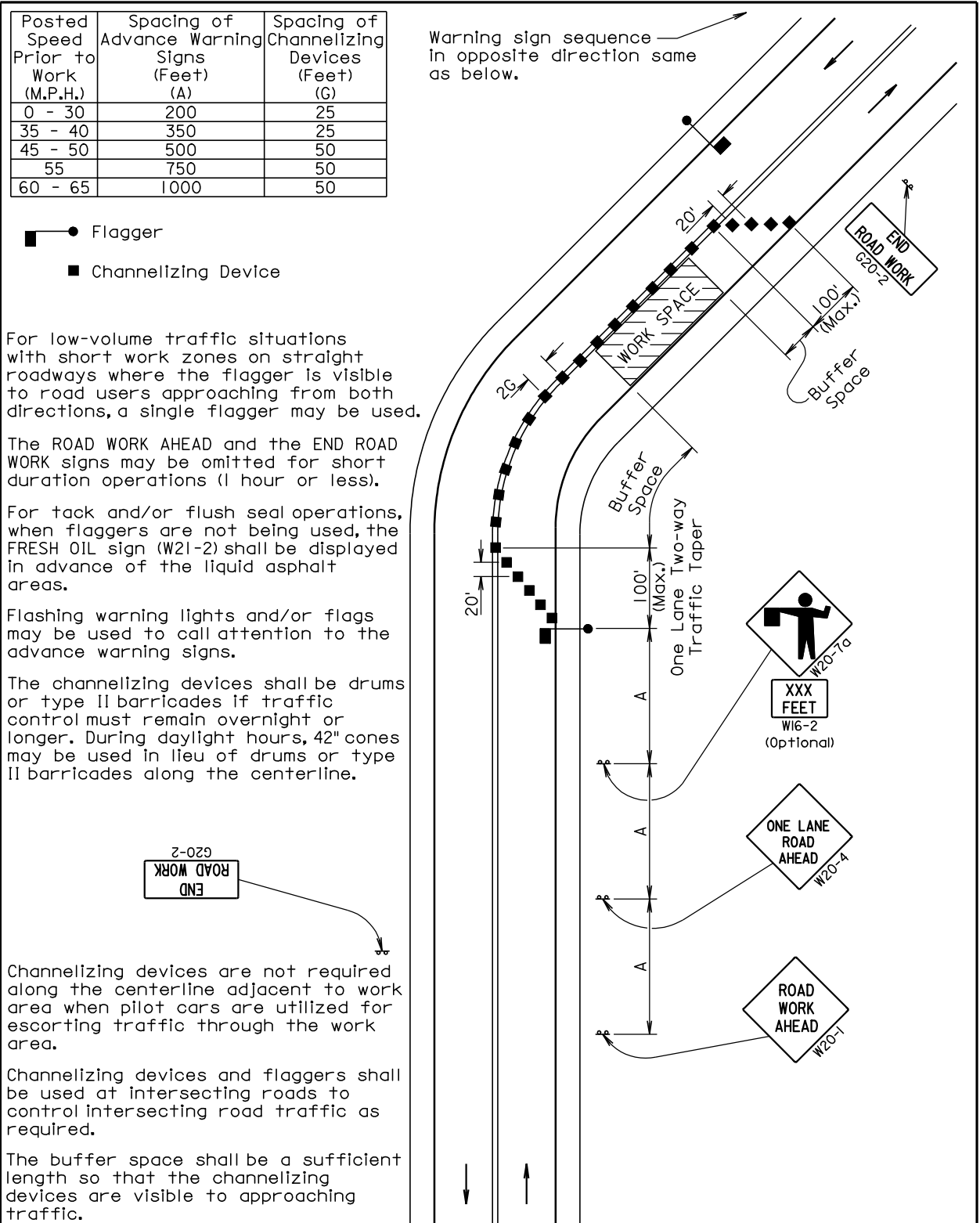
Published Date: 1st Qtr. 2010

SDOT

GUIDES FOR TRAFFIC CONTROL DEVICES  
WORK ON SHOULDERS

PLATE NUMBER  
634.03

Sheet 1 of 1



June 26, 2006

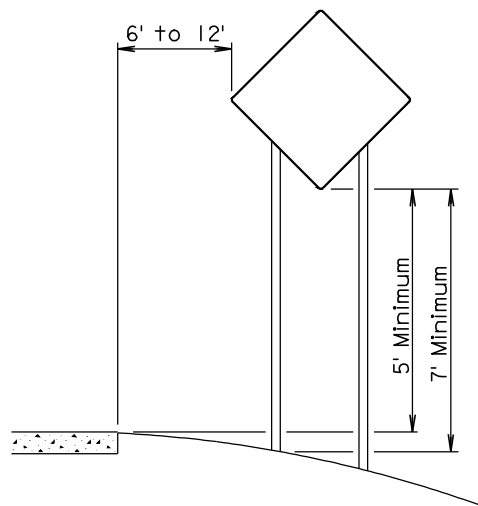
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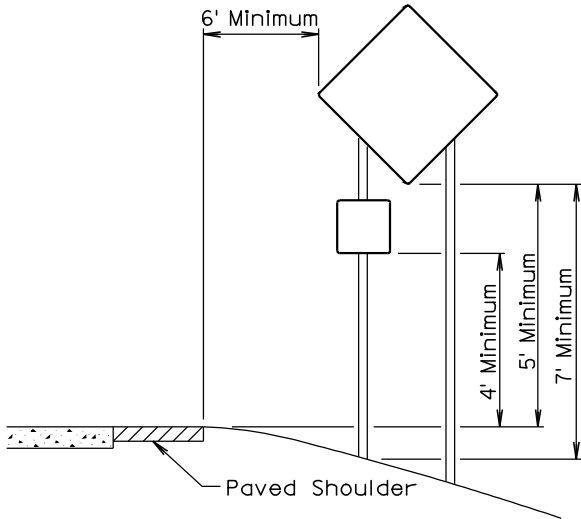
GUIDES FOR TRAFFIC CONTROL DEVICES  
LANE CLOSURE WITH FLAGGER PROVIDED

PLATE NUMBER  
634.23

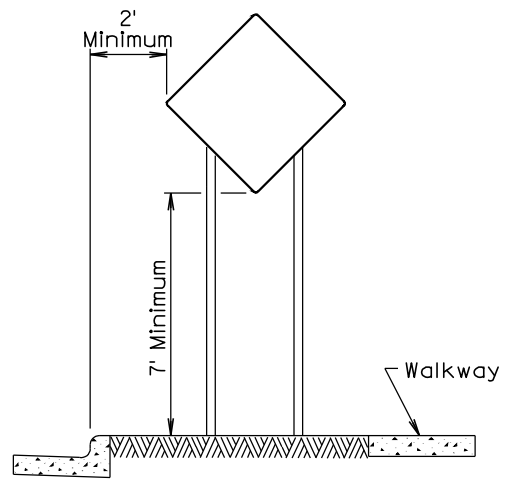
Sheet 1 of 1



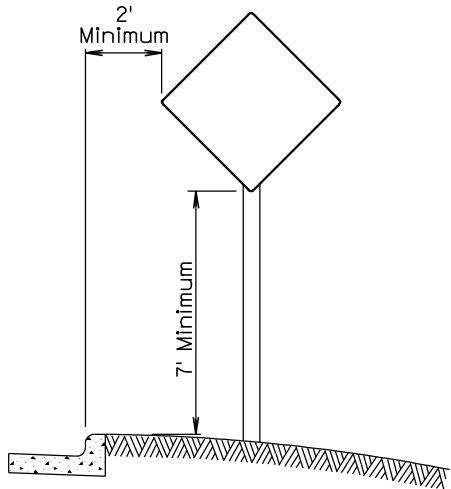
RURAL DISTRICT



RURAL DISTRICT WITH  
SUPPLEMENTAL PLATE



URBAN DISTRICT



URBAN DISTRICT

December 23, 2003

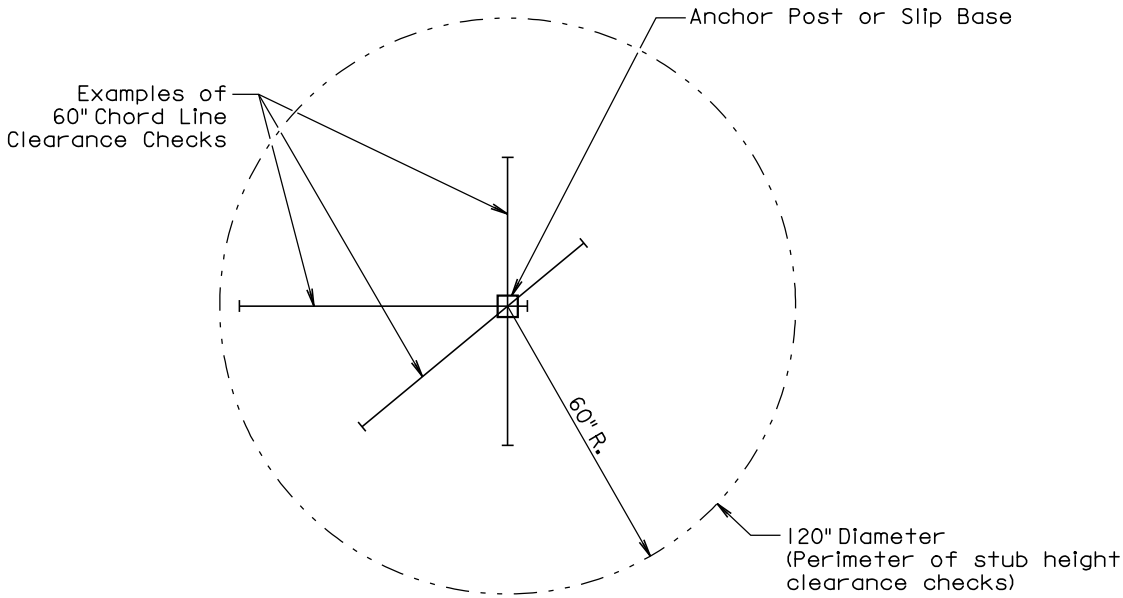
Published Date: 1st Qtr. 2010

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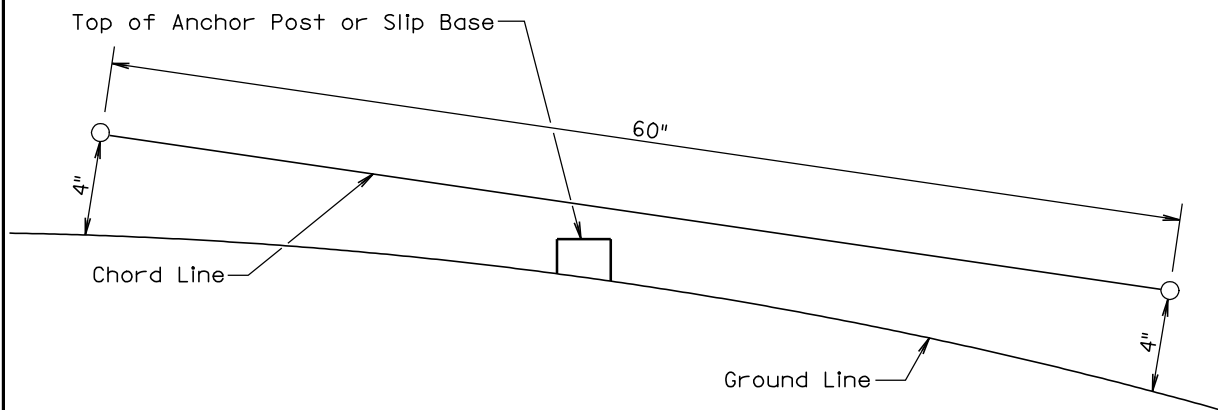
**BREAKAWAY SIGN SUPPORTS**  
(Typical Construction Signing)

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

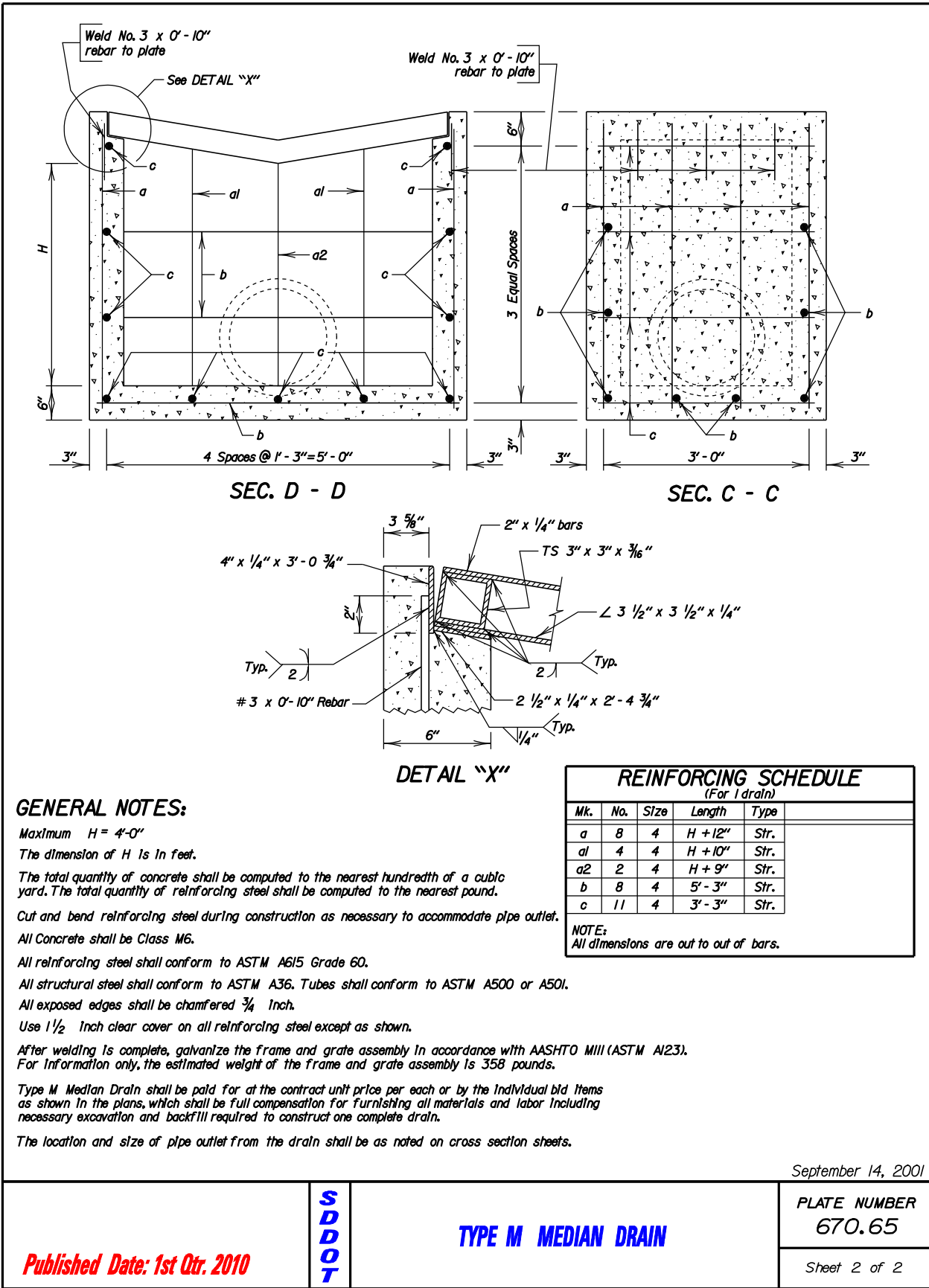
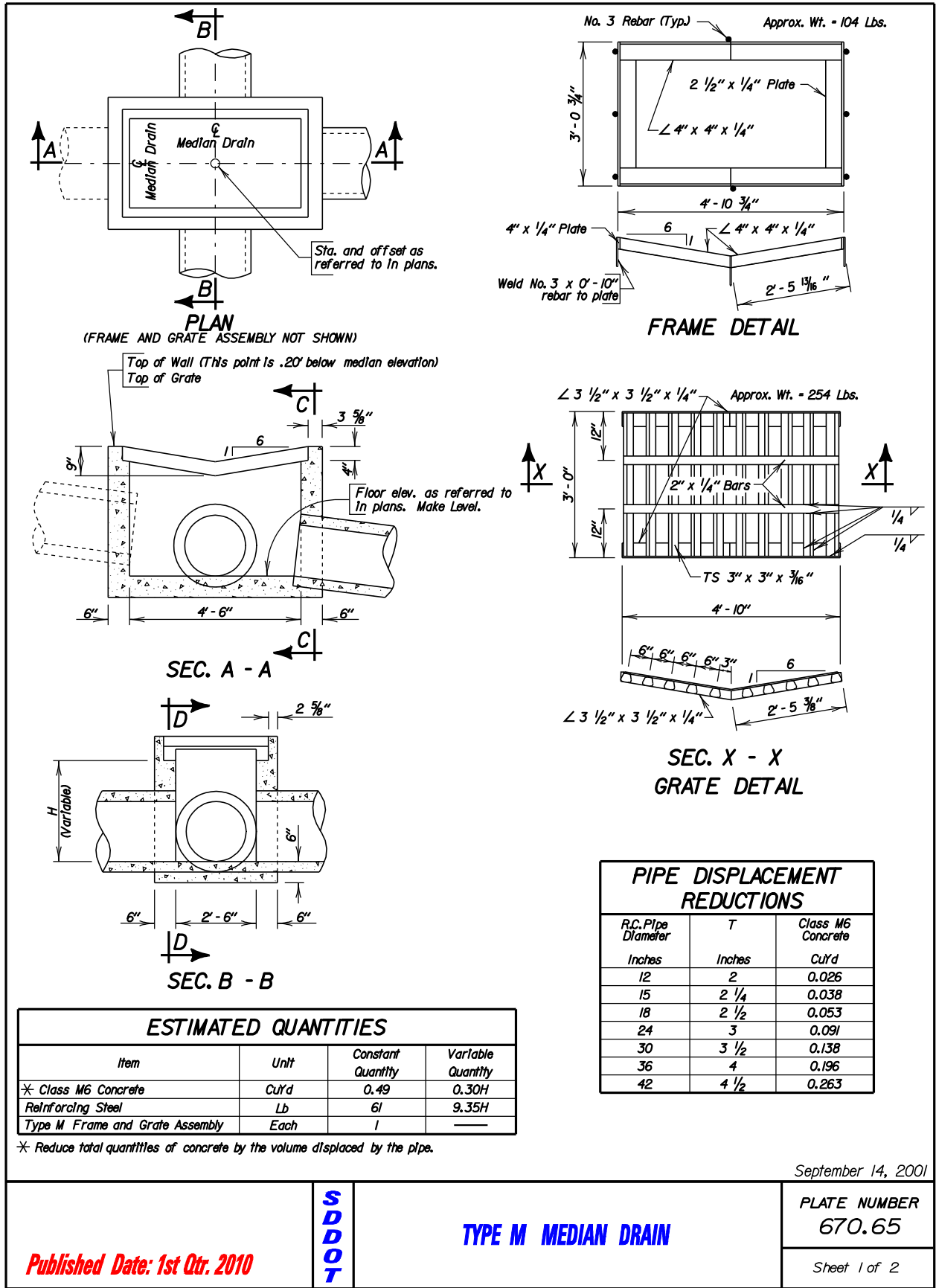
Published Date: 1st Qtr. 2010

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**BREAKAWAY SUPPORT STUB CLEARANCE**

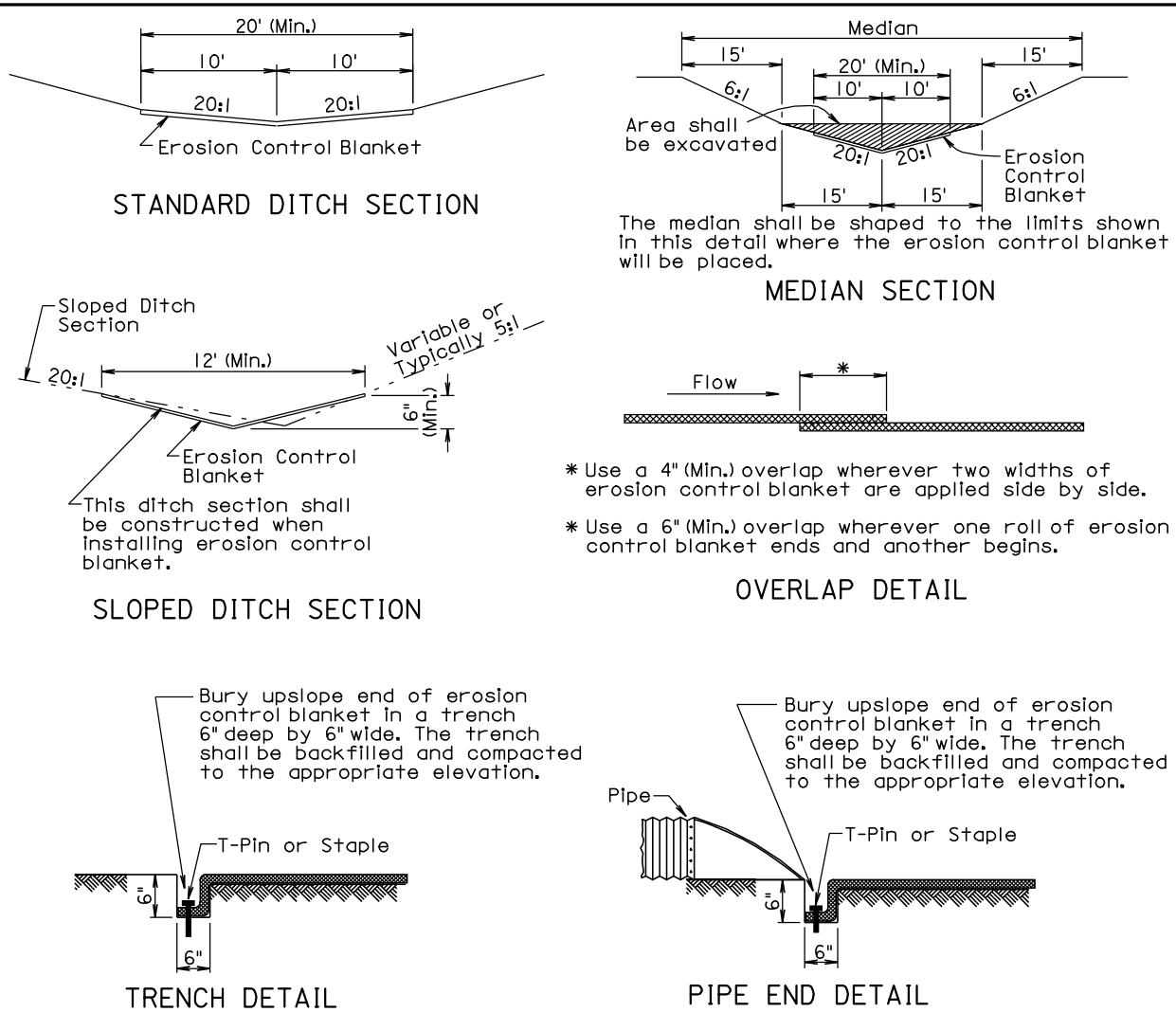
PLATE NUMBER  
634.99

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	085-451	11	11

Plotting Date: 16-MAR-2010



GENERAL NOTES:

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

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

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

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

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

December 23, 2004

<b>Published Date: 1st Qtr. 2010</b>	<b>S D D O T</b>	<b>EROSION CONTROL BLANKET</b>	PLATE NUMBER 734.01
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