

STATE OF SOUTH DAKOTA
 DEPARTMENT OF TRANSPORTATION
 PLANS FOR PROPOSED
PROJECT P 8105(01)
HIGHWAY 105
NORTH SIOUX CITY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 8105(01)	1	66

REVISE 3-27-14 gcm



COLD MILLING ASPHALT, ASPHALT CONCRETE
 SURFACING AND PAVEMENT MARKINGS
 PCN 02CZ

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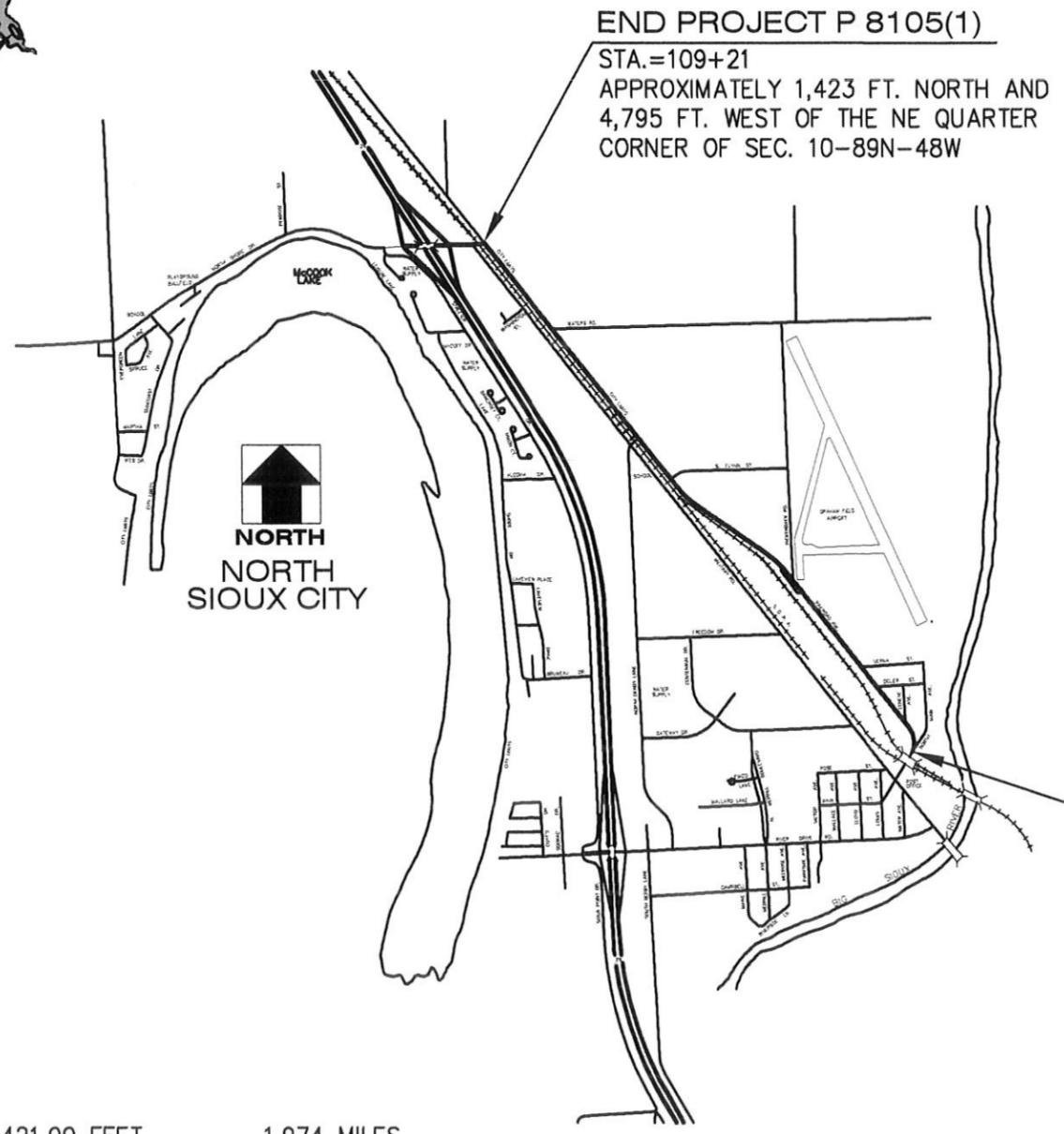
STORM WATER PERMIT
 MAJOR RECEIVING BODY OF WATER – BIG SIOUX RIVER
 TOTAL PROJECT AREA – 15.8 ACRES
 TOTAL DISTURBED AREA – 3.8 ACRES

DESIGN DESIGNATION

ADT (2013)	855
ADT (2033)	1165
DHV	130
D	50%
%T DHV	1.70%
%T ADT	3.70%

SCALES

PLAN	1 INCH = 40 FT.	GROSS LENGTH	10,421.00 FEET	1.974 MILES
PROFILE	HORIZONTAL: 1 INCH = 40 FT.	LENGTH OF EXCEPTIONS	0 FEET	0 MILES
	VERTICAL: 1 INCH = 10 FT.	NET LENGTH	10,421.00 FEET	1.974 MILES
CROSS SECTIONS	HORIZONTAL: 1 INCH = 40 FT.			
	VERTICAL: 1 INCH = 20 FT.			



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BEGIN PROJECT P 8105(1)
 STA.=5+00
 APPROXIMATELY 16 FT. NORTH AND
 1,466 FT. EAST SW QUARTER OF THE
 CENTER OF SEC. 14-89N-48W

END PROJECT P 8105(1)
 STA.=109+21
 APPROXIMATELY 1,423 FT. NORTH AND
 4,795 FT. WEST OF THE NE QUARTER
 CORNER OF SEC. 10-89N-48W

ESTIMATE OF QUANTITIES

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P8105(01)	2	66

REVISED 12-9-13 gcm
 REVISED 1-30-14 gcm
 REVISED 3-27-14 gcm
 REVISED 3-4-14 gcm

Alternate A

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E1100	Remove Concrete Pavement	66.7	Sq Yd
110E5020	Salvage Traffic Sign	48	Each
120E0010	Unclassified Excavation	783	Cu Yd
120E6200	Water for Granular Material	21.4	Mgal
210E2000	Shoulder Shaping	2.89	Mile
230E0100	Remove and Replace Top Soil	Lump Sum	LS
260E1010	Base Course	1,667.1	Ton
320E1800	Asphalt Concrete Blade Laid	296.1	Ton
320E3000	Compaction Sample	3	Each
320E5010	Saw and Seal Shoulder Joint	810	Ft
330E0010	MC-70 Asphalt for Prime	2.8	Ton
330E0100	SS-1h or CSS-1h Asphalt For Tack	12.4	Ton
330E0210	SS-1h or CSS-1h Asphalt For Flush Seal	6.5	Ton
330E2000	Sand for Flush Seal	118.8	Ton
332E0010	Cold Milling Asphalt Concrete	29,483	Sq Yd
600E0200	Type II Field Laboratory	1	Each
632E1320	2.0" x 2.0" Perforated Tube Post	709.3	Ft.
632E2022	4" x 4" White Delineator Back to Back with 1.12 Lb/Ft. Post	67	Each
632E2510	Type 2 Object Marker Back to Back	7	Each
632E3203	Flat Aluminum Sign, Nonremovable Copy High Intensity	176.7	Sq Ft
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	187.5	Sq Ft
632E3520	Remove, Salvaged, Relocate, and Reset Traffic Sign	6	Each
633E1300	Pavement Marking Paint, White	67.7	Gal
633E1305	Pavement Marking Paint, Yellow	24.4	Gal
634E0010	Flagging	200	Hour
634E0020	Pilot Car	100	Hour
634E0100	Traffic Control	4,958	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0630	Temporary Pavement Marking	9.9	Mi
730E0100	Cover Crop Seeding	1.1	Bu
730E0212	Type G Permanent Seed Mixture	30	Lb
731E0200	Fertilizing	0.58	Ton
732E0200	Fiber Mulching	1.2	Ton
734E0604	High Flow Silt Fence	262	Ft
734E0610	Mucking Silt Fence	19	Cu Yd
734E0620	Repair Silt Fence	67	Ft
900E0010	Refurbish Single Mailbox	3	Each
900E0012	Refurbish Double Mailbox	6	Each
998E0100	Railroad Protective Insurance	Lump Sum	LS

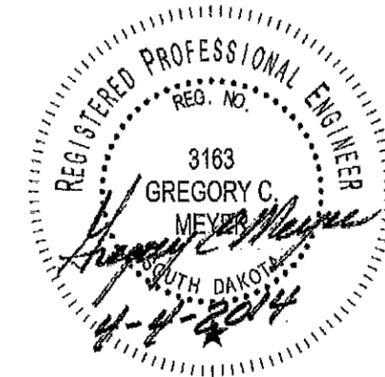
BID ITEM NUMBER	ITEM	QUANTITY	UNIT
320E0004	PG 58-28 Asphalt Binder	278.9	Ton
320E1050	Class E Asphalt Concrete	4,127.8	Ton

Alternate B

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
320E0004	PG 58-28 Asphalt Binder	221.4	Ton
320E1070	Class HR Asphalt Concrete	4,127.8	Ton

SPECIFICATIONS

South Dakota Department of Transportation Standards Specifications for Roads and Bridges, 2004 Edition, and Required Provisions, Supplemental Specifications and /or 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 C: WATER SOURCE

The Contractor shall not withdraw water with equipment previously used outside the State of South Dakota without prior approval from the SDDOT Environmental Office. Thoroughly wash all construction equipment before entering South Dakota to reduce the risk of invasive species introduction into the project vicinity.

The Contractor shall not withdraw water directly from streams of the James, Big Sioux, and Vermillion watersheds without prior approval from the SDDOT Environmental Office.

Action Taken/Required:

The Contractor shall obtain the necessary permits from the regulatory agencies such as the Department of Environment and Natural Resources (DENR) and the United States Army Corps of Engineers (COE) prior to executing water extraction activities.

COMMITMENT E: STORM WATER**Action Taken/Required:**

The DENR and the US Environmental Protection Agency (EPA) have issued separate general permits for the discharge of storm water runoff. The DENR permit applies to discharges on state land and the EPA permit applies to discharges on federal or reservation land. The Contractor is advised this project is regulated under the Phase II Storm Water Regulations and must receive coverage under the General Permit for Construction Activities. A Notice of Intent (NOI) will be submitted to DENR a minimum of 15 days prior to project start by the DOT Environmental Office. A letter must be received from DENR that acknowledges project coverage under this general permit before project start. The Contractor is advised that permit coverage may also be required by off-site activities, such as borrow and staging areas, which are the responsibility of the Contractor.

The Contractor shall adhere to the "Special Provision Regarding Storm Water Discharges to Waters of the State".

A major component of the storm water construction permits is development and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which is a joint effort and responsibility of the SDDOT and the Contractor. Erosion control measures and best management practices will be implemented in accordance with the SWPPP. The SWPPP is a dynamic document and is to be available on-site at all times.

Information on storm water permits and SWPPPs are available on the following websites:

SDDOT:
<http://sddot.com/transportation/highways/environmental/stormwater/Default.aspx>

DENR: <http://www.denr.sd.gov/des/sw/stormwater.aspx>

EPA: http://cfpub.epa.gov/npdes/home.cfm?program_id=6

Contractor Certification Form:

The "Department of Environment and Natural Resources – Contractor Certification Form" (SD EForm – 2110LDV1-ContractorCertification.pdf) shall be completed by the Contractor or their certified Erosion Control Supervisor after the award of the contract. Work may not begin on the project until this form is signed.

The form certifies under penalty of law that the Contractor understands and will comply with the terms and conditions of the Surface Water Discharge General Permit for Storm Water Discharges Associated with Construction Activities for the Project.

The online form can be found at:
<http://denr.sd.gov/des/sw/eforms/E2110LDV1-ContractorCertification.pdf>

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 City ROW.

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

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

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

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

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

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10.06.

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

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



FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P8105(01)	4	66

REVISE 3-27-14 gcm

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

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

Action Taken/Required:

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

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

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

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

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

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



FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P8105(01)	5	66

REVISED 12-9-13 gcm
 REVISED 3-27-14 gcm
 REVISED 4-4-14 gcm
 REVISED 4-8-14gcm

ALTERNATE 'A' FOR CLASS 'E' ASPHALT

RATES OF MATERIALS, SURFACING

The Estimate of Surfacing Quantities is based on the following quantities of material per station:

Section 1

Sta. 5+00 to 109+21 (25 ft. Width) and 2" Lift

CLASS 'E' ASPHALT CONCRETE

Crushed Aggregate	29.0 tons
PG-58-28 Asphalt Binder	1.9 tons
Total	30.9 tons

TACK

SS-1h or CSS-1h Asphalt for tack at the rate of 0.06 tons applied 25 ft. wide (Rate = 0.05 gallon per square yard)

Flush Seal

SS-1h or CSS-1h Asphalt for Flush Seal at the rate of 0.06 tons applied 25 ft. wide (Rate = 0.05 gallon per square yard)

Sand for Flush Seal at the rate of 1.1 tons per station applied 25 ft. wide (Rate = 8 lbs. per square yard)

TABLE OF ADDITIONAL ASPHALT QUANTITIES

Sta. To	Sta.	L/R	Description	Area (Sq. Ft.)	Class 'E' Asphalt Concrete (Tons)	PG 58-28 Binder (Tons)	MC-70 Asphalt For Prime (Tons)	SS-1 /SCC-1Sh Asphalt For Tack (Tons)	SS-1 /SCC-1Sh Asphalt For Flush Seal (Tons)	Sand For Flush Seal (Tons)
5+00	6+88	R	Intersection	2,550.05	31.5	1.89		0.061	0.061	1.13
20+93	21+42	R	Intersection	205.00	2.5	0.15		0.005	0.005	0.09
70+00	70+90	L	Intersection	1,200.0	14.8	0.89		0.029	0.029	0.53
91+00	91+66	R	Intersection	270.0	3.3	0.20		0.006	0.006	0.12
107+00	108+63	L	Intersection	1,780.0	22.0	1.32		0.043	0.043	0.79
5+00	109+21	L&R	Driveway 2 ft. Shoulder	3,360.0	41.4	2.48		0.080	0.080	1.49
5+00	109+21	L&R	Spot Leveling & Strengthening (150 tons/mi.)		296.1	26.65		3.0		
5+00	109+21	L&R	Blade Laid @150 tons/mi.		296.1	22.31		3.2		
5+00	109+21	L&R	Shoulder Repair		270.1	16.2	2.5	0.10		
5+00	109+21	L&R	PCCP Repair		28.68	1.72	0.29	0.02		
5+00	109+21	L&R	BackfillingExcavation @ 100 tons/mi.		197.4	11.84		0.03		
Total					1,203.8	85.65	2.79	6.57	0.224	4.15

BASE COURSE FOR SHOULDERS

Base Course applied at the rate of 200 tons per mile per shoulder

ASPHALT FOR PRIME

MC-70 Asphalt For Prime of shoulder:
 Section 5+00 to 21+50 and 31+50 to 109+21 prime shoulder at the rate of 0.017 tons applied 3.5 ft. wide (Rate = 0.10 gallon per square yard)
 Section 21+50 to 31+50 prime shoulder at the rate of 0.012 tons applied 2.5 ft. wide (Rate = 0.10 gallon per square yard)

CLASS 'E' ASPHALT CONCRETE

Longitudinal joints will be permitted only at the centerline, lane boundaries, at points shown on the typical section or as approved by the Engineer.

Asphalt concrete aggregates shall consist of virgin mineral aggregate. Virgin mineral aggregate shall be furnished by the Contractor and shall conform to the requirements for Class E Type 1. All other requirements for Class 'E' shall apply.

Blade Laid Asphalt Concrete placement shall begin within five (5) days following the cold milling asphalt operations.

SUMMARY OF ASPHALT CONCRETE

LOCATIONS	CLASS E HOT MIXED ASPHALT CONCRETE with SPECIFIED DENSITY COMPACTION TONS	CLASS E HOT MIXED ASPHALT CONCRETE without SPECIFIED DENSITY COMPACTION TONS
STA. = 5+00 TO 109+21 2" MAINLINE LIFT (25 ft. wide)	3220.1	
SHOULDER LIFT		270.1
BLADE LAID		296.1
PCCP REPAIR		28.7
BACKFILLING DIGOUTS		197.4
SPOT LEVELING, STRENGTHENING, AND REPAIR OF EXISTING SURFACE		296.1
TABLE OF ADDITIONAL QUANTITIES		115.5
TOTAL	3,220.1	1,203.8
TOTAL CLASS E HOT MIXED ASPHALT CONCRETE		4,423.9



REVISED 12-9-13 gcm
 REVISED 3-26-14 gcm
 REVISED 4-8-14 gcm

ALTERNATE 'B' FOR CLASS HR ASPHALT

RATES OF MATERIALS, SURFACING

The Estimate of Surfacing Quantities is based on the following quantities of material per station:

Section 1

Sta. 5+00 to 109+21 (25 ft. Width) and 2" Lift

ALTERNATE 'B' -CLASS HR ASPHALT CONCRETE

Crushed Aggregate	23.6 tons
Salvaged Asphalt Concrete	5.9 tons
PG-58-28 Asphalt Binder	1.4 tons
Total	30.9 tons

TACK

SS-1h or CSS-1h Asphalt for tack at the rate of 0.06 tons applied 25 ft. wide (Rate = 0.05 gallon per square yard)

Flush Seal

SS-1h or CSS-1h Asphalt for Flush Seal at the rate of 0.06 tons applied 25 ft. wide (Rate = 0.05 gallon per square yard)

Sand for Flush Seal at the rate of 1.1 tons per station applied 25 ft. wide (Rate = 8 lbs. per square yard)

TABLE OF ADDITIONAL ASPHALT QUANTITIES

Sta. To	Sta.	L/R	Description	Area (Sq. Ft.)	Class HR Asphalt Concrete (Tons)	PG 58-28 Binder (Tons)	MC-70 Asphalt For Prime (Tons)	SS-1 /SCC-1Sh Asphalt For Tack (Tons)	SS-1 /SCC-1Sh Asphalt For Flush Seal (Tons)	Sand For Flush Seal (Tons)
5+00	6+88	R	Intersection	2,550.05	31.5	1.42		0.061	0.061	1.13
20+93	21+42	R	Intersection	205.00	2.5	0.11		0.005	0.005	0.09
70+00	70+90	L	Intersection	1,200.0	14.8	0.67		0.029	0.029	0.53
91+00	91+66	R	Intersection	270.0	3.3	0.15		0.006	0.006	0.12
107+00	108+63	L	Intersection	1,780.0	22.0	0.99		0.043	0.043	0.79
5+00	109+21	L&R	Driveway 2 ft. Shoulder	3,360.0	41.4	1.86		0.080	0.080	1.49
5+00	109+21	L&R	Spot Leveling & Strengthening (150 tons/mi.)		296.1	26.65		3.0		
5+00	109+21	L&R	Blade Laid @150 tons/mi.		296.1	22.31		3.2		
5+00	109+21	L&R	Shoulder Repair		270.1	12.15	2.5	0.10		
5+00	109+21	L&R	PCCP Repair		28.68	1.29	0.29	0.02		
5+00	109+21	L&R	Backfilling Excavation @ 100 tons/mi.		197.4	8.88		0.03		
Total					1,203.8	76.48	2.79	6.57	0.224	4.15

BASE COURSE FOR SHOULDER

Base Course applied at the rate of 200 tons per mile per shoulder

ASPHALT FOR PRIME

MC-70 Asphalt For Prime of shoulder:
 Section 5+00 to 21+50 and 31+50 to 109+21 prime shoulder at the rate of 0.017 tons applied 3.5 ft. wide (Rate = 0.10 gallon per square yard)
 Section 21+50 to 31+50 prime shoulder at the rate of 0.012 tons applied 2.5 ft. wide (Rate = 0.10 gallon per square yard)

CLASS HR ASPHALT CONCRETE

Longitudinal joints will be permitted only at the centerline, lane boundaries, at points shown on the typical section or as approved by the Engineer.

Asphalt concrete aggregates shall consist of salvaged asphalt concrete mix material (RAP) and virgin mineral aggregate. Virgin mineral aggregate shall be furnished by the Contractor and shall conform to the requirements for Class E Type 1. Salvaged asphalt concrete material (RAP) shall be obtained from the cold milled material produced from this project and can be used without further testing. The RAP shall be crushed to provide a homogenous mixture of material so that the maximum particle size in the cold feed will not exceed 1.5 inches. The Class HR Asphalt Concrete shall include twenty (20) percent salvaged asphalt concrete (RAP) in the mixture. Job mix formula tolerances for the RAP shall be +/-5% from target value. All other requirements for Class HR shall apply.

Blade Laid Asphalt Concrete placement shall begin within five (5) days following the cold milling asphalt operations.

SUMMARY OF ASPHALT CONCRETE

LOCATIONS	CLASS HR HOT MIXED ASPHALT CONCRETE with SPECIFIED DENSITY COMPACTION TONS	CLASS HR HOT MIXED ASPHALT CONCRETE without SPECIFIED DENSITY COMPACTION TONS
STA. = 5+00 TO 109+21 2" MAINLINE LIFT (25 ft. wide)	3,220.1	
SHOULDER LIFT		270.1
BLADE LAID		296.1
PCCP REPAIR		28.7
BACKFILLING DIGOUTS		197.4
SPOT LEVELING, STRENGTHENING, AND REPAIR OF EXISTING SURFACE		296.1
TABLE OF ADDITIONAL QUANTITIES		115.5
TOTAL	3,220.1	1,203.8
TOTAL CLASS HR HOT MIXED ASPHALT CONCRETE		4,423.9



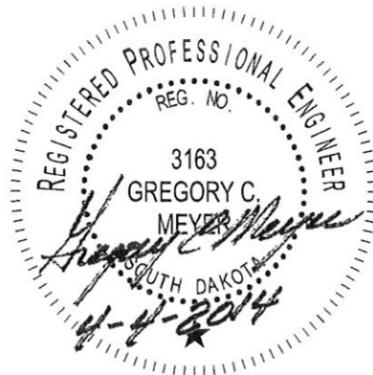
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P8105(01)	7	65

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 REVISED 3-27-14 gcm
 REVISED 4-4-14 gcm

SUMMARY OF BASE COURSE

LOCATIONS	BASE COURSE Tons
Shoulder Repair	1,044.4
Driveway Repair	54.7
Shoulder Shaping	578.0
Total	1,677.1

Note: Virgin Base shall conform to Section 260 of the Standard Specifications. The contractor may elect to utilize the salvaged asphalt millings not used in the Class HR Asphalt mix, provided they are blended to the satisfaction of the of the Engineer at a 1:1 ratio with the Virgin Base Course. The contractor is responsible to assure adequate asphalt millings are available if electing to use the Class HR Asphalt Concrete alternate. No adjustment to the contract unit bid price for Base Course will be made whether the contractor elects to utilize only virgin base course, or a blend of virgin base course and salvaged asphalt millings. Any millings not used by the Contractor for the project, will become the property of the Contractor.



ASPHALT CONCRETE BLADE LAID

Included in the Estimate of Quantities is **150** tons of Asphalt Concrete Blade Laid, and **11.3** tons of PG 58-28 Asphalt Binder per mile and shall be tight bladed on the existing surface prior to the overlay. A sufficient amount of material shall be kept in front of the blade to fill and level all joints, cracks and other surface irregularities.

The blade used to tight blade the material shall be equipped with gates, wings or other devices approved by the Engineer to prevent the material from windrowing at the edges of the blade.

Mineral Aggregate for tight bladed material shall use only the fine aggregate components combined in the same proportions as the Class HR Hot Mixed asphalt Concrete Asphalt Concrete mix without recycled asphalt material. The asphalt binder content shall be determined so that the air voids of Asphalt Concrete Blade Laid Lift are between 3.0% and 5.0%. No quality testing will be done on any of the coarse aggregate (+No.4 sieve) in this mix.

The tight bladed material shall be compacted by at least 2 complete coverages with pneumatic tired rollers.

Asphalt Concrete Blade Laid shall be completed prior to Class HR Hot Mixed Asphalt Concrete paving operations beginning.

All loose existing joint material shall be removed and the surface shall be thoroughly swept with a rotary broom to remove all loose asphalt concrete and joint material from cracks and spall areas prior to placing the Blade Laid Mix. Cost for removing the material and brooming shall be included in the Contract unit price per ton Asphalt Concrete Blade Laid.

ASPHALT FOR TACK

Included in the Estimate of Quantities are SS-1h or CSS-1h Asphalt for Tack for use prior to the application of the Blade Laid lift. (Rate=0.05 Gal/Sq. Yd.)

SEQUENCE OF OPERATIONS

1. Install fixed location signing prior to the start of work
2. Complete cold milling operations
3. Shoulder Repair
4. Complete asphalt leveling, strengthening, and paving
5. Complete flush seal operation
6. Complete permanent pavement marking operations
7. Complete remaining project items
8. Remove signing

Any changes to the Sequence of Operations require approval from the Engineer and the City of North Sioux City.

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 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.

All manholes, water valves, and drop inlets shall be protected by covering with a protective covering, such as building paper, at the time tack and the flush seal coat is applied. The Contractor shall also take care to prevent placement of tack or flush seal on the curb and gutter and valley gutter. All costs for equipment, labor, materials, and incidentals necessary for protecting structures, curb and gutter and valley gutter shall be incidental to the various contract items.

UTILITIES

Storm Sewer, Water and Wastewater by the City of North Sioux City- 605-232-9165
 Electric by Mid-American Energy – Tony Bengford 712-233-4823
 Gas by Mid-American Energy – Judy Weatherly 712-233-4867
 Communications by Knology, Century Link and long Lines
 Call South Dakota One Call – 800-781-7474

TYPE II FIELD LABORATORY

Substitution of a cellular telephone for the hard-wired touch-tone telephone is not allowed, as state personnel need the ability to download information over direct phone lines. The phone is intended for state personnel usage only. Contractor personnel are prohibited from using this phone unless pre-approved by the Project Engineer. The Contractor shall submit a copy of each monthly bill for calls charged to this phone at the end of each month. The Project Engineer will then audit the bills to ensure all calls are legitimate and then initiate a Construction Change Order (CCO) to reimburse the Contractor for the actual phone calls made, including local and long distance calls. Reimbursement will not be made for fees associated with the purchase, installation, disconnection, monthly line charges, and incidentals involved in the installation, maintenance, and disconnection of the phone (including attachments). These items shall be incidental to the contract unit price per each for "Type II Field Laboratory".

REVISED 12-9-13 gcm
 REVISED 3-27-14 gcm
 REVISED 4-4-14 gcm

UNSTABLE MATERIAL EXCAVATION

Included in the Estimate of Quantities for "Unclassified Excavation" is excavation of unsuitable material including 782.8 cubic yards for the removal of material for Shoulder Repair. Unstable material excavation shall be paid for at the contact unit price per cubic yard for "Unclassified Excavation". All areas designated as unstable by the Engineer shall be excavated. The unstable material excavated on this project shall become the property of the Contractor and shall be removed from the site.

Included in the Estimate of Quantities is 1,044.4 tons of "Base Course for Shoulder Repair". Compaction of the "Base Course" shall be according to 260.3A of the Standard Specifications. Contractor shall install the mix to daylight to the inslope to allow any water that may collect in the layer to escape. Water for compaction of the mix shall be provided at the water for granular material units price per M gal. After excavating for shoulder repair compact subgrade to the satisfaction of the Engineer.

The "Table of Unclassified Excavation for Shoulder Repair" and the "Table of Base Course for Shoulder Repair" are based on previous information which may be revised. After the milling is completed, the full depth asphalt, (2'-6") beyond the existing concrete, shall be proof rolled with a rubber tired vehicle with an axle load greater than 9 tons.

Asphalt that deflects or ruts excessively in the opinion of the Engineer, shall be removed as Unclassified Excavation, and repaired as Base Course for Shoulder Repair. The Base Course material shall not be brought to the site until the proof roll is completed and the Engineer has estimated the quantity of work.

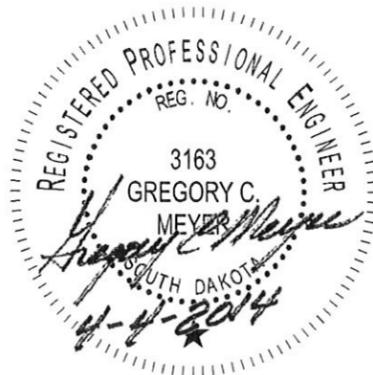


TABLE OF UNCLASSIFIED EXCAVATION FOR SHOULDER REPAIR

Station	to	Station	L/R	Length (Ft.)	Volume (Cu. Yds.)
13+47		13+68	L	21	6.5
17+82		18+85	L	103	32.0
38+39		39+12	L	73	22.7
42+65		42+93	L	28	8.7
47+75		49+60	L	185	57.5
47+72		48+40	R	68	21.2
48+71		49+11	R	40	12.4
50+32		50+79	L	47	14.6
55+38		55+65	L	27	8.4
64+88		66+86	L	198	61.6
68+29		69+96	L	167	51.9
69+97		70+81	R	84	26.1
71+03		73+00	R	197	61.3
73+80		74+30	L	50	15.6
79+80		80+48	L	68	21.2
81+45		82+34	L	89	27.7
83+68		84+37	L	69	21.5
86+55		87+22	L	67	20.8
91+45		96+17	L	472	146.8
91+64		92+60	R	96	29.9
98+63		99+30	L	67	20.8
101+43		102+08	L	65	20.2
102+38		102+66	L	28	8.7
103+14		103+58	L	44	13.7
104+12		105+25	L	113	35.1
107+15		107+66	R	51	15.9
				Totals	782.8

Notes

1. Depth includes 6" for Base Course, 6" for new asphalt shoulder and 4.44" of avg. existing asphalt.
2. Excavation bottom is to slope at 2% to ditch when ditch exists. reduce slope if required to outlet above the ditch bottom.

REMOVE CONCRETE PAVEMENT

Approximate locations of existing non-reinforced concrete pavement to be removed are provided in the Table of Remove Concrete Pavement Repair areas. Prior to removal, the Contractor shall saw cut full depth at the limits of the removal area as directed by the Engineer.

The Contractor shall notify the Engineer two working days prior to beginning work at each location, so the Engineer may mark out removal limits. The Engineer shall mark exact dimensions prior to removal of concrete pavement. Payment will be made for quantity marked out and measured in the field. Variations from plans estimated quantities and/or location will not be considered cause for re-negotiation of the contract unit prices.

Care shall be exercised in the removal of concrete slab panels to avoid damage to adjacent pavement, manholes and growth joints. Damage to adjacent pavement, manholes and/or growth joints shall be repaired to the satisfaction of the Engineer at the Contractor expense.

After concrete removal has been accomplished, the Contractor shall shape, water and recompact the remaining granular material prior to placement of asphalt. Payment for this work shall be incidental to the contract unit price per square yard for REMOVE CONCRETE PAVEMENT. Any additional gravel cushion required to prepare the area shall be furnished and placed by the Contractor and shall be incidental to the contract unit price per square yard for REMOVE CONCRETE PAVEMENT.

Removal of Concrete Pavement will be paid for at the contract unit price per square yard. This payment will be full compensation for full and partial depth sawing, removal of all PCC Pavement, removal of existing asphalt overlay (if applicable), disposal of all removed material, and all equipment, labor, and incidentals necessary to satisfactorily complete work.

TABLE OF REMOVE CONCRETE PAVEMENT

Station	Lt.	Rt.	Width (Ft.)	Area (Sq. Ft.)
5+70	10	0	6	60
7+07	0	10	4	40
8+59	10	0	4	40
10+18	0	10	6	60
10+42	10	10	4	80
10+83	10	10	4	80
11+63	10	10	4	80
17+63	10	10	4	80
46+07	10	10	4	80
Total				600 Sq. Ft.
				66.7 Sq. Yd.

Notes

1. Includes saw cut, breaking of pavement, and disposal of pavement.
2. Includes haul and disposal of excavation soil at Contractor provided soil waste fill site.
3. Depth is measured digout from the surface of the existing pavement.

REVISED 12-9-13 gcm
 REVISED 3-27-14 gcm
 REVISED 4-4-14 gcm

PCCP PAVEMENT REPAIR WITH ASPHALT CONCRETE

New asphalt concrete pavement thickness shall be that of the adjacent pavement. A minimum thickness of 8 inches shall be maintained where the existing pavement thickness is less than 9 inches. The new Asphalt Concrete Alternate 'A' Class E or Alternate 'B' Class HR shall be placed in equal lifts not to exceed 3 inches, and shall cool to a temperature acceptable to the Engineer prior to placing the next lift.

Locations and size (length or width) of concrete repair areas are subject to change in the field, at the discretion of the Engineer, at no additional cost to the owner. Payment will be based on actual area replaced. Existing concrete pavement shall be sawed full depth at the beginning and end of the PCCP repair areas. When either the beginning or end of a PCCP repair area falls close to an existing joint or crack, the PCCP repair area may be extended upon approval by the Engineer to eliminate the existing joint or crack.

Saw cuts that extend beyond the repair area shall be filled with a non-shrinkage mortar mix at the Contractor's expense.

Existing concrete pavement in the replacement areas shall be removed by the lift out method or by means that minimize damage to the base and sides of remaining in place concrete. All removed material shall be removed from within the right-of-way by the end of the workday. Damage to adjacent concrete caused by the Contractor's operations shall be removed and replaced at the Contractor's expense.



COLD MILLING ASPHALT CONCRETE

The Contractor shall note the varying depth and slope of cold milling asphalt concrete required to meet the lines shown on the typical sections.

The Contractor will be required to mill the areas down to the depth shown in the typical sections. The contractor shall schedule the cold milling to the asphalt concrete operations so there are no drop-offs or windrows of milling material remaining overnight. At the end of the day, the Contractor shall place cold milled asphalt material to provide a temporary ramp as a transition onto or off of the milled surface at the project limits and intersecting roads. The resultant transition shall be sufficient length to provide a slope no steeper than 20:1. All costs associated with this work shall be incidental to the contract unit price per square yard for "Cold Milling Asphalt Concrete".

Asphalt concrete build-up above the adjacent concrete pavement shall be cold milled to expose the top ledge of pavement prior to milling the required depth below the top edge of the concrete pavement. All costs associated with this work shall be incidental to the contract unit price per square yard for "Cold Milling Asphalt Concrete".

Existing asphalt concrete adhering to the top of adjacent concrete pavement shall be removed by the Contractor. Removal may be accomplished by means of a blade or other methods approved by the Engineer. The cost of this work shall be incidental to the contract unit price per square yard for "Cold Milling Asphalt Concrete". Separate measurement and payment will not be made.

"Cold Milling Asphalt Concrete" is estimated to produce 1,636.3 tons of salvaged asphalt concrete material. An estimated 825.6 tons of salvaged asphalt concrete may be used on this project in the Alternate 'B' Class HR asphalt concrete mixture. The Contractor is responsible to assure enough asphalt salvaged is available for the class HR asphalt concrete. The remainder of the salvaged asphalt concrete material which is estimated to be up to 810.7 tons may be mixed with Granular Material for shoulder repair. If Alternate 'A' Class E asphalt concrete is used, the cold milling asphalt concrete shall become the property of the contractor, and may be mixed with base course as noted to the table of base course.

The quantity of Cold Milling Asphalt Concrete may be substantially reduced at the direction of the Engineer. No adjustment in the units price will be made.

TABLE OF COLD MILLING ASPHALT CONCRETE

Station to	Station	L&R	Nominal Width (Ft.)	Nominal Depth (In.)	Area (Sq. Yds.)
5+00	70+00	L/R	25	1.0	18,055.56
10+46	11+28	R	4.17	Taper 1.0	22.09
16+84	17+75	R	4.17	Taper 1.0	24.17
37+93	39+95	R	4.17	Taper 1.0	49.89
61+13	63+89	R	4.17	Taper 1.0	67.03
70+00	70+33	L	10	1.0	36.67
70+33	70+57	L	20	1.0	53.33
70+57	70+90	L	10	1.0	36.67
82+06	84+02	R	4.17	Taper 1.0	48.50
70+00	91+00	L&R	25	1.0	5,833.33
91+00	91+18	R	2.5	1.0	5.00
91+18	91+46	R	5	1.0	15.56
91+46	91+66	R	2.5	1.0	5.56
91+00	109+21	L&R	25	1.0	5,058.33
107+70	108+32	L	10	1.0	68.89
108+32	108+63	L	20	1.0	68.89
108+63	108+93	L	10	1.0	33.33
Total Area					29,482.8

Notes

1. Work shall be performed in accordance with Section 332.2 of the SD-DOT Standard Specifications for Roads and Bridges.
2. Perform additional cold milling asphalt concrete to provide for 2 inches of new compacted asphalt concrete surfacing adjacent to existing PCC pavement. Surface of new asphalt concrete surfacing shall match the PCCP surface. Sawcut and seal the joint between the new asphalt concrete and the existing PCCP as "Saw and Seal Shoulder Joint".
3. Taper milling from 1 in. to 2 inch depth with uniform taper in 80 inches. Taper to existing street is calculated above as equivalent 1" milling depth.

MATERIAL STORAGE AREA

The City of North Sioux City has material storage and processing sites. Contractor may call Greg Meyer at 712-251-6696 for details.

REVISED 12-9-13 gcm
REVISED 3-27-14 gcm
REVISED 4--14 gcm

**TABLE OF EXISTING ASPHALT AND CONCRETE
CORE DEPTHS**

Boring No.	Asphalt Thickness (inches)	Concrete Thickness (inches)	Approximate Station
B-1	6	6	107+00
B-2	4	3.5	100+00
B-3	2	5.5	93+00
B-4	4	6	89+00
B-5	2.5	5.5	80+00
B-6	5.5	5.5	73+00
B-7	3	7	65+00
B-8	3	7	48+00
B-9	5	6	46+00
B-10	4.5	4.25	42+00
B-11	5.25	6.25	40+00
B-12	5.25	6.25	33+00
B-13	5	5.5	26+00
B-14	5	5.25	21+00
B-15	5	5	11+00
B-16	6	8	7+00
Average	4.44	5.78	

Included in the Estimate of Quantities is 200 tons of Base Course, Salvaged per mile, per shoulder for surface repair of the shoulder at locations as designated by the Engineer prior to paving.

Base Course, Material shall be compacted according to Section 260.3.B of the Standard Specifications except that a pneumatic tired roller with an effective roller weight of at least 250 pounds per inch (4.5 kilograms per mm) of roller width will be required.

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.

TABLE OF SHOULDER SHAPING

Station	to	Station	L/R	Length (FT.)	Width (Ft.)
687		862	R	175	3.5
890		1000	R	110	3.5
975		1046	L	71	3.5
1020		1040	R	20	3.5
1083		1288	L	205	3.5
1125		1243	R	118	3.5
1297		1684	R	387	3.5
1340		1347	L	7	3.5
1368		1486	L	118	3.5
1639		1717	L	78	3.5
1775		2007	R	232	3.5
1885		2128	L	243	3.5
2025		2093	R	68	3.5
2165		2302	L	137	2.5
2142		3145	R	1003	2.5
2342		2438	L	96	2.5
2485		2751	L	266	2.5
2802		2863	L	61	2.5
2937		2982	L	45	2.5
3033		3162	L	129	2.5
3215		3375	L	160	3.5
3220		3396	R	176	3.5
3398		3431	L	33	3.5
3450		3793	R	343	3.5
3481		3500	L	19	3.5
3520		3579	L	59	3.5
3613		3815	L	202	3.5
3912		4266	L	354	3.5
3995		4772	R	777	3.5
4840		4871	R	31	3.5
Sub- Total				5723	Ft.

Station	to	Station	L/R	Length (FT.)	Width (Ft.)
4911		6113	R	1202	3.5
4293		4775	L	482	3.5
4960		5032	L	72	3.5
5079		5190	L	111	3.5
5240		5538	L	298	3.5
5565		6488	L	923	3.5
6686		6829	L	143	3.5
6996		7007	L	11	3.5
6389		6875	R	486	3.5
6925		6997	R	72	3.5
7086		7380	L	294	3.5
7430		7980	L	550	3.5
8048		8145	L	97	3.5
8234		8368	L	134	3.5
8437		8655	L	218	3.5
8722		9145	L	423	3.5
9617		9863	L	246	3.5
9930		10143	L	213	3.5
10208		10238	L	30	3.5
10266		10314	L	48	3.5
10358		10412	L	54	3.5
10525		10770	L	245	3.5
7300		8206	R	906	3.5
8402		9103	R	701	3.5
9260		10715	R	1455	3.5
10893		10921	L	28	3.5
10766		10818	R	52	3.5
10878		10921	R	43	3.5
Sub- Total				9537	Ft.
Total				15260	Ft.
Total				2.89	Miles

SAWING EXISTING SURFACING

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

SHOULDER SHAPING

After placing the asphalt overlay, the upper 4 inches of existing gravel surfacing on the shoulder shall be scarified, reworked, and sloped as detailed on the typical sections. The locations and quantities of shoulder shaping is provided in the table below. Compaction of the reworked shoulder shall be according to Section 260.3.B of the Standard Specification. Included in the Estimated of Quantities is 11.5M of gallon of Water for Granular Material, for shaping and compaction, to be applied at the locations and rate as follows:
Section 5+00 to 21+50 and 31+50 to 109+21
3M gallons per mile, per shoulder
Section 21+50 to 31+50
2.1M gallons per mile, per shoulder



REVISED 12-9-13 gcm
 REVISED 3-27-14 gcm
 REVISED 4-4-14 gcm

TABLE OF BASE COURSE, FOR SHOULDER REPAIR FROM UNCLASSIFIED EXCAVATION

Station	to	Station	L/R	Length (Ft.)	Volume (Cu. Yds.)
13+47		13+68	L	21	5.17
17+82		18+85	L	103	25.37
38+39		39+12	L	73	17.98
42+65		42+93	L	28	6.90
47+75		49+60	L	185	45.57
47+72		48+40	R	68	16.75
48+71		49+11	R	40	9.85
50+32		50+79	L	47	11.58
55+38		55+65	L	27	6.65
64+88		66+86	L	198	48.77
68+29		69+96	L	167	41.14
69+97		70+81	R	84	20.69
71+03		73+00	R	197	48.53
73+80		74+30	L	50	12.32
79+80		80+48	L	68	16.75
81+45		82+34	L	89	21.92
83+68		84+37	L	69	17.00
86+55		87+22	L	67	16.50
91+45		96+17	L	472	116.27
91+64		92+60	R	96	23.65
98+63		99+30	L	67	16.50
101+43		102+08	L	65	16.01
102+38		102+66	L	28	6.90
103+14		103+58	L	44	10.84
104+12		105+25	L	113	27.84
107+15		107+66	R	51	12.56
				Total	620.2

Note:

- Quantity of Base Course to be installed. In the shoulder repair excavation is calculated as 620.2 cu. yds. at 1.62 tons/cu. yd = 1,044.4 tons.
- Included in the Estimate of Quantities is 9.9 M gal for Water For Granular Material.

FLUSH SEAL

Application of flush seal shall be completed within 10 working days following completion of the asphalt concrete surfacing.

SAND FOR FLUSH SEAL

Sand for flush seal shall conform to the requirements of Section 879 of the Standard Specifications.

GRAVEL DRIVEWAY AND ACCESS LOCATION REPAIR

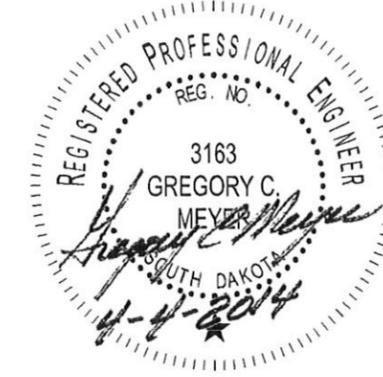
Contractor shall restore existing driveway and access location by salvaging the existing granular material that will be disturbed by the construction. The granular material shall be stockpiled on the driveway or access locations. After completion of the construction the granular material shall be placed against the new asphalt pavement, compacted in place and shall receive a 2 inch layer of Base Course which shall be compacted in place and graded smooth.

TABLE OF BASE COURSE FOR DRIVEWAY AND ACCESS LOCATION REPAIR

Station	to	Station	L/R	Width (Ft.)	Depth (Inches)	Volume (Cu Yds)
7+25		8+25	16 R	5	2	3.09
8+62		8+90	16 R	5	2	0.86
9+99		10+20	16 R	5	2	0.65
10+46		10+83	16 L	5	2	1.14
11+28		12+43	16 R	5	2	3.55
12+88		13+40	16 L	5	2	1.60
13+20		14+86	16 R	5	2	5.12
14+86		16+39	16 L	5	2	4.72
27+25		28+00	16 L	5	2	2.31
28+63		29+37	16 L	5	2	2.28
31+62		32+15	16 L	5	2	1.64
38+15		38+40	16 L	5	2	0.77
42+66		42+93	16 L	5	2	0.83
51+90		52+40	16 L	5	2	1.54
68+75		69+25	16L	5	2	1.54
70+82		71+03	16R	5	2	0.65
108+17		108+79	16 R	5	2	1.91
Total						34.2

Note:

Quantity of Base Course, for Driveway and Access Location Repair is calculated as 34.23 cu. Yds. @ 1.6 tons per cu. yd. = 54.72 tons



STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P8105(01)	12	66

REVISE 3-27-14 gcm
REVISE 4-4-14 gcm

MAILBOXES

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

If large mailboxes are located at double mailbox installations, a single post may need to be used for the large mailbox.

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

Paper Boxes on the existing mail boxes shall be removed. Contractor shall provide temporary paper boxes, and reset on the new posts as an incidental cost.

TABLE OF REFURBISH MAILBOXES

Station	L/R	Single (Each)	Double (Each)
20+09	28R		1
33+62	15R	1	
34+55	19R		2
36+10	16R		1
69+24	19R	1	
91+12	23R	1	1
91+60	23R		1
Totals:		3	6

TEMPORARY AND PERMANENT PAVEMENT MARKINGS

Maintaining size shape, and dimension of existing pavement markings shall be the responsibility of the Contractor for both temporary and permanent pavement marking applications.

Temporary road markers shall be used to mark dashed centerline, no passing zones and applicable lane lines. **Paint will not be allowed for Temporary Pavement Marking on the Asphalt Concrete Class E or HR Hot Mixed Asphalt Concrete wear course or after application of the Flush Seal.**

TEMPORARY PAVEMENT MARKINGS

Quantities of Temporary Pavement Markings consist of:

- One pass on top of the Milled Surface.
- One pass on top of Spot Leveling Surface.
- One pass on top Blade Laid Asphalt Concrete.
- One pass on top of the 2" Lift of Asphalt Concrete.
- One pass on top of Flush Seal

The total length of no passing zones is estimated to be 0.66 miles.

Temporary Road Markers (tabs) may be used as detailed in the Standard Specifications. Covers on the tabs shall be sufficiently secured to prevent traffic from dislodging the cover and when removed the covers shall be properly disposed. If used, the contractor shall remove and properly dispose of the tabs after Permanent Pavement Marking is applied at no additional expense. Method of removal shall be nondestructive to the road surface and shall be accomplished within one week of completion of the Permanent Pavement Marking.

Any tabs with covers removed before the flush seal shall be replaced prior to Flush Seal application.

Cost for furnishing, applying, removing and disposing of the Temporary Road Markers shall be included in the contract unit price per mile for TEMPORARY PAVEMENT MARKINGS.

Flagger symbol signs (W20-7) and flaggers, or a shadow vehicle with rotating yellow lights or strobe lights shall be positioned on the roadway shoulder in advance of workers for both directions of traffic during the installation of temporary road markers. The traffic control device used shall be moved to provide proper warning of the work operation. A ROAD WORK AHEAD (W20-1), a Workers symbol sign (W21-1) or a BE PREPARED TO STOP (W3-4) warning sign shall be mounted on the rear of the shadow vehicle. The method of traffic control used by the Contractor for this work shall be approved by the Engineer.



PERMANENT PAVEMENT MARKING

Traffic Control shall be incidental to the cost of application. The striper and advance or trailing warning vehicle shall be equipped with flashing amber lights or advance warning arrow panel.

The Contractor shall advise the Engineer a minimum of 2 weeks prior to the application of the permanent pavement marking to allow the State to check and mark the location of no passing zones. All materials shall be applied as per manufacturer's recommendations.

The application of Permanent Pavement Marking paint may not begin until 2 calendar days following completion of final surfacing (including Flush Seal if applied) and shall be completed within 12 calendar days following completion of the final surfacing.

For each working day the application of permanent pavement marking paint remains uncompleted beyond the times limits described in the preceding paragraph, the Contractor will be assessed liquidated damages a the rate of \$250.00 per day.

The liquidated damages shall apply up to the Contract Completion Date, as extended. After the completion date, liquidated damages will be assessed in accordance with Sec. 8.7 of the Standard Specifications, until the permanent pavement marking is completed, even though the project may be open to traffic.

WATERBORNE PAINT FORMULATED WITH "XSR" BINDER RESIN

Waterborne paint applied after October 15 shall be formulated with "Fastrack XSR" blinder resin manufactured by Dow, or approved equal and shall be applied in accordance with manufacturer's recommendations, including minimum temperature requirements.

Waterborne paint formulated with "Fastrack XSR" binder resin shall conform to Section 890 of the Standard Specifications except for the following:

980.1 A – Resin Binder shall be Fastrack XSR

980.1.1 Quantitative Requirements:

The Pigment, Percent By Weight for white: 60.0–63.0, and for yellow: 58.5–61.5.

The Pigment, Percent By Weight when tested in accordance with ASTM D3723 for white: 60.0-63.0 and for yellow 56.1-59.2.

The Non-volatile Vehicle, percent by weight: min. white: 41.5 and yellow: 41.5 when tested in accordance with FTMS 141c (method 4051.1).

There will be no additional payment for pavement marking paint, should The need for XSR Binder Resin be required.

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P8105(01)	13	66

REVISE 3-27-14 gcm

PERMANENT SIGNING

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

All existing signs, posts, and hardware removed as per these plans remain property of the City and shall be transported to a local location as directed by the local contact (Tim Hogan Cell # 712-203-1803). The Contractor shall notify the local contact two days prior to time of delivery so correct placement for storage and inventory of materials can be made upon receipt.

The Contractor shall provide all labor and equipment necessary to install permanent signing, remove existing signs, and reset existing signs as detailed in these plans and/or as required by the Engineer. Payment for furnishing and installing permanent signs will be paid for at the contract unit price for each type of sign based on sheeting requirements per square foot of sign. All signs shall have Type IV (High Intensity) with the exception of those noted under **Sheeting Requirements** for Super/Very High Intensity Signs. Payment for new signposts, hardware, bases, and labor will be made at the contract unit price per foot for **2.0" x 2.0" PERFORATED TUBE POST**. See breakaway post details, and fixed post details regarding posts, hardware, bases, and footings. Measurement of post lengths for payment will be for above ground post lengths as field measured. The sign post contract items shall include post bases and all hardware. The lengths of the posts in the sign tables are approximate lengths only. The post lengths shall be verified by the Contractor. The Contractor is urged to cut posts to length on job site after verification of post length. The installation height of the signs shall not exceed the minimum by more than 0.5 feet.

The Contractor shall use Telespar brand (or equals) posts and bases on all new standard highway signs as approved by the Engineer. All post materials shall conform to Section 982 of the Standard Specifications, and be in accordance with ASTM specifications. Signs designated as requiring a shear slip base shall have a 4 foot long base assembly with a shear breakaway base connecting the base to the signpost. The height of the post shall not exceed the minimum height needed by more than 0.5 feet. Any portion that extends above the sign shall be cut off. No separate payment will be made for cutting the post or for that length cut off. All posts and bases shall be accompanied by Certificates of Compliance and shall meet all safety standards as set forth in the current edition of the Manual on Uniform Traffic Control Devices (MUTCD).

The Contractor shall stake the signs and the Engineer will verify the location prior to installation. If a reference location is provided, the Contractor shall reset their measuring device to the reported reference distance provided prior to continuing to stake sign locations. The lateral distance from the roadway and the height of the sign shall be established by the Contractor according to the Standard Plates in the plans and the MUTCD.

The Contractor shall install a city furnished date decal on each new sign installed on the project as detailed in these plans. The cost for labor and equipment to install date decal shall be incidental to other contract unit prices.

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

Contractor shall coordinate work such that traffic cannot see both an existing sign and a new sign without work actually in progress at that location. If removal of existing signs cannot be completed at the same time as the installation of new signs, the Contractor shall adequately cover the existing sign prior to leaving that specific work site.

SALVAGE TRAFFIC SIGN

The Contractor shall remove signs, posts, and bases as shown in the table of Remove, Salvage, Relocate, and Traffic Signs. All existing posts, bases, and signs listed in the table that are scheduled for **Removal** shall be dismantled and delivered to the City of North Sioux City. All bolts, nuts, and washers shall be placed in individual 5-gallon pails. Backing materials shall be separated from the signs and the Aluminum U-Channel may be reused at the Contractor's discretion. Wooden posts shall be carefully removed to avoid damage and cleaned of excess dirt and neatly stockpiled separate from the steel posts. The resultant holes in the ground from removal of wooden posts shall be backfilled to the satisfaction of the Engineer.

Payment for all existing signs to be removed shall include all cost for labor and equipment necessary to remove, dismantle, backfill holes (wooden posts only) and deliver signs to the respective owners shall be included in the contract unit price per each for **SALVAGE TRAFFIC SIGN**.

Payment for all delineation to be removed shall include all cost for labor and equipment necessary to remove and deliver delineators and posts to the respective owners shall be **incidental** to the contract unit price for **SALVAGE TRAFFIC SIGN**.

PERFORATED TUBE POST

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

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

HARDWARE

Aluminum U-Channel stiffeners shall be used on all standard highway signs greater than 36" in width and shall conform to Alloy 6063-T6 or 6061-T6. The U-Channel shall be 2 inches in width and free of holes. The U-Channel stiffeners shall also be used to connect various signs and perforated tube posts together so that an entire sign can be erected as a single installation. Stiffeners may be fastened to signs by use of 1/4" drive rivets with a minimum of one on each end and one centered between each post. Installation of the stiffeners shall be incidental to other contract items.

A 3/8" diameter straight bolt (Grade 8) shall be used in all breakaway shear bases for the 2" perforated tube posts. All other perforated tube signpost base material shall be fastened with 5/16" diameter corner bolts (Grade 2).

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

Slip Base Anchors for use with the 2.5" posts shall be Telespar Slip Base Anchor brand or equal meeting the requirements of NCHRP Report 350 and/or MASH crash testing requirements.



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REVISE 3-27-14 gcm
REVISE 4-4-14 gcm

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

Measurement of sign areas will include payment for the entire sign blank before trimming for rounded corners. The square unit measurement for each sign shall be as shown in the table of Permanent Signing. This payment for signs designated as Flat Alum. under the New Sign column in the table of Permanent Signing shall include all labor (including installing date decals), equipment, and materials to complete the work, and shall be paid for at the contract unit price per square foot for **FLAT ALUMINUM SIGN / NONREMOVABLE COPY HIGH INTENSITY** or **FLAT ALUMINUM SIGN / NONREMOVABLE COPY SUPER/VERY HIGH INTENSITY**.

SHEETING REQUIREMENTS

All legend and border utilizing the color black shall be vinyl or screen printed black, non-reflectorized material. All other legend and border shall be of same type of sheeting as the background of the same sign. All signs, except as noted in the "Table of Permanent Signing", shall have High Intensity Prismatic retroreflective background, Type IV as per ASTM designation ASTM D4956. The warning signs shall have micro-cube corner prismatic reflectorized background, Type XI as per ASTM designation D4956:

FURNISH AND INSTALL DELINEATOR (STA. 40+00 TO 109+21)

Delineator reflectors shall have Type XI sheeting. They shall be attached with two rivets each.

The Contractor shall lay out delineator locations and shall obtain Engineer approval of locations prior to installation. Upon removal of existing delineators, the Contractor shall install new delineators with new reflectors so that all sections of roadway carrying traffic are delineated by nightfall. Delineators shall be placed with the top of the reflector unit approximately 4 feet above the near roadway edge. They shall be located 8 feet outside the outer edge of the shoulder or the backside of the curb.

Where a roadside barrier or other obstruction intrudes into the space between the pavement edge and the extension of the line of delineators, the delineators shall be in line with the barrier or in line with the innermost edge of the obstruction.

The standard spacing between delineators on the same side of the roadway in tangent sections shall be 528 feet. When normal spacing is interrupted by structures, crossroads, or ramps, delineators falling within such areas may be moved in either direction a distance not exceeding one-quarter of the standard spacing. Delineators still falling within such areas should be eliminated.

All cost for materials, labor and equipment necessary to furnish and install delineators shall be incidental to the contract unit price per each for **4"x4" WHITE DELINEATOR BACK TO BACK WITH 1.12 Lb/Ft.**

The spacing for delineators on the outside radius of horizontal curves and for three spaces in advance and for three spaces beyond the curve is given in the following table:

Max. Spacing for Delineators on Outside Radius of Horizontal Curves (Distance in Feet Rounded to the Nearest 5 Feet)

Radius Of Curve	Spacing On Curve	Spacing in Advance & Beyond Curve (in feet)		
		1st	2nd	3rd
50	20	40	65	125
150	30	60	90	180
250	40	85	125	250
300	50	95	145	290
400	55	110	170	300
500	65	125	190	300
600	70	140	210	300
700	75	150	230	300
800	80	165	245	300
900	85	175	260	300
1000	90	185	275	300

Spacing for specific radii not shown may be interpolated from table or computed from the formula $S = \sqrt{3} (R-50)$. The minimum spacing should be 20 feet. The spacing on curves should not exceed 300 feet. The spacing of the first delineator approaching a curve is 2xS, the second is 3xS and the third is 6xS but not to exceed 300 feet. If a spacing less than 300 feet is used approaching the curve, the distance shown above should be adjusted accordingly.

TYPE 2 OBJECT MARKERS

Type 2 object markers back to back shall conform to Standard Specification Section 982. Payment for the Type 2 object markers back to back shall be in conformance with Standard Specification 632.5C.

The inner edge of the Type 2 object marker back to back shall be installed at the opening of the pipe end section, box culvert, or cattle pass. Refer to Standard Plates 632.01 and 632.10 for the placement of Type 2 object markers back to back and post lengths. If the overall width perpendicular to the centerline of the roadway is 40' or less between two object markers, the height of the markers shall be adjusted such that the top of the marker does not exceed 3' above the edge of the driving surface.

The Table of Permanent Signing report may contain quantities of Type 2 Object Markers back to back with 1.12 Lb/Ft flanged channel posts longer than 7.0 Ft.



FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT P8105(01)	SHEET 15	TOTAL SHEETS 66
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REVISE 3-27-14 gcm

GENERAL MAINTENANCE OF TRAFFIC

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.

The bottom of signs on portable or temporary supports shall not be less than seven feet above the pavement in urban areas and one foot above the pavement in rural areas. Portable sign supports may be used as long as the duration is less than 3 days. If the duration is more than 3 days the signs shall be on fixed location, ground mounted, breakaway supports.

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

TRAFFIC CONTROL

Vehicles and/or equipment used to accomplish the contract work shall be equipped with working flashing yellow warning lights when entering, leaving, or working in the roadway.

Traffic control shall be as per the standard details, and/or Part 6 of the 2009 Edition of the FHWA Manual on Uniform Traffic Control Devices.

MANUAL DRIVE CAP

Manual post drive caps shall be furnished to North Sioux City for each type of post. Payment for the drive caps shall be incidental to the contract unit price per foot for furnishing the various types of posts.

TRAFFIC CONTROL MISCELLANEOUS

All costs, labor and materials to furnish, install and remove the traffic control for the traffic control items discussed below shall be included in the item "Traffic Control Miscellaneous".

One lane of traffic shall be maintained at all times. Any channelizing devices needed for lane separation shall be incidental to the contract lump sum price for "Traffic Control Miscellaneous" and no additional payment will be made. Channeling devices shall be installed as shown in the standard plates. Any flagging required shall be paid for at the contract unit price per hour of "Flagging." 200 hours have been included in the quantities.

Removing, relocating, covering, salvaging and resetting of existing traffic control devices, including delineation, shall be the responsibility of the contractor. Cost for this work shall be incidental to the contract lump sum price for "Traffic Control Miscellaneous" and no additional payment will be made. Any delineators and signs damaged or lost shall be replaced by the contractor at no cost to the project.

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

The Contractor shall submit a traffic control plan at the preconstruction meeting detailing how traffic will be maintained as discussed below. The submitted traffic control plans shall comply with MUTCD standards.

Traffic control units, as shown in the Estimate of Quantities, are estimates. Contractor's operation may require adjustments in quantities. Payment will be for those signs actually ordered by the Engineer and used.

"GROOVED PAVEMENT" sign along with the supplementary Motorcycle plaque (W8-15P) shall be placed at each end of the project until all cold milled areas are covered with asphalt concrete. These signs are included in the Traffic Controls Devices inventory sheet.

An advisory speed plate displaying 25 M.P.H. shall be attached to "BUMP" Sign installed at the beginning and end of the project and to signs installed at the Highway 105 and Main Street intersection, Highway 105 and Delier Street intersection, Highway 105 and Leneve Avenue intersection, Highway 105 and Verna Street intersection, Highway 105 and Rickenbacker Road Intersection, Highway 105 and South Flynn Drive intersection, Highway 105 and North Derby Lane intersection and Highway 105 and Waters Road intersection. These speed plates are included in the Traffic Control Devices inventory sheet.



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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
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REVISE 3-27-14 gcm
REVISE 4-4-14 gcm

TABLE OF REMOVE, SALVAGE, RELOCATE, AND RESET TRAFFIC SIGNS

Station	Offset	L/R	Description	Post Type	Remove	Reset	Station	Offset	L/R	Description	Post Type	Remove	Reset
5+86	27	L	Adopt a Street	Channel		1	45+79	21	L	Radar Patrolled	4X6 Wood		1
5+86	27	L	Mary Cantrell			1	45+79	21	L	Dare			1
6+25	20	L	Low Clearance	Power Pole	1		46+86	16	L	Curve Right	4X4 Wood	1	
7+10	35	R	Stop Sign	Channel	1		48+15	20	R	Reduced Speed Ahead	4X4 Wood	1	
7+10	70	R	Street Sign	Power Pole	1		49+17	19	L	No Passing Zone	4X4 Wood	1	
9+79	21	L	Delineator	Channel	1		50+34	24	R	Curve Right	4X4 Wood	1	
11+30	33	R	Street Sign	1.5" Pipe	1		56+47	25	R	Speed Limit 55 mph	4X4 Wood	1	
11+47	44	R	Stop Sign	Channel	1		56+88	19	L	Speed Limit 45 mph	4X4 Wood	1	
12+73	20	L	Fence Post		1		61+36	18	L	Reduced Speed Ahead	4X4 Wood	1	
12+74	19	L	Curve Ahead	4X4 Wood	1		62+00	65		Street Sign	1.5" Pipe	1	
12+74	19	L	Speed Limit 25 mph		1		62+92	62	R	Stop Sign	Channel	1	
13+65	21	L	School Bus Stop Ahead	Channel	1		66+70	24	R	No Passing Zone	4X4 Wood	1	
14+92	26	L	Speed Limit 30 mph	Channel	1		66+90	18	L	City Sign	4X4 Wood	1	
17+00	33	R	Street Sign	1.5" Pipe	1		68+26	18	L	Curve Left	4X4 Wood	1	
17+60	33	R	Stop Sign	Channel	1		70+17	29	L	Stop Sign	Channel	1	
19+37	18	R	Speed Limit 30 mph	Channel	1		79+75	21	R	Speed Limit 55 mph	4X4 Wood	1	
21+38	27	R	Stop Sign	Channel	1		91+69	33	R	Stop Sign	Channel	1	
21+44	30	R	Street Sign	1.5" Pipe	1		90+96	33	R	Street Sign	Power Pole	1	
21+98	16	L	Object Marker	Channel	1		90+96	33	R	Cemetery	Power Pole	1	
25+99	18	L	Speed Limit 30 mph	4X4 Wood	1		92+24	21	L	Cemetery	1.5" Pipe	1	
33+01	20	L	Curve Left	Channel	1		105+99	23	L	Speed Limit 55 mph	Channel	1	
34+10	15	L	Delineator	Channel	1		107+44	24	L	Low Clearance	4X4 Wood	1	
36+68	17	L	No Passing Zone	4X4 Wood	1		108+00	22	R	Street Sign	1.5" Pipe	1	
38+30	30	R	Cemetery Sign	1.5" Pipe	1		108+07	24	R	Double Arrow	4X6 Wood	1	
38+32	28	R	Street Sign	1.5" Pipe	1		108+11	40	L	Stop Sign	6X6 Wood	1	
41+99	21	L	Speed Limit 30 mph	Channel	1								
42+04	23	R	Speed Limit 45 mph	Channel	1								
45+02	18	L	Adopt a Street	4X6 Wood		1							
45+02	18	L	Mary Cantrell			1							

Note: Contact Tim Hogan at 712-203-1803 for the City sign storage area location.



FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P8105(01)	17	66

TABLE OF PERMANENT SIGNING

REVISE 3-27-14 gcm
REVISE 4-4-14 gcm

Station	Side of Road	Facing	Description	Sign Code	Width (inches)	Height (inches)	Flat Aluminum Nonremovable Copy High Intensity Prismatic Type IV (Square Feet)	Flat Aluminum Nonremovable Copy Super/very High Intensity Type XI (Square Feet)	Legend and Border Color	Background Color	2"x2" Square Tube Post 12 Ga.	N.A.B.I. Anchor Sleeve (Each)	1.12 lb/ft flanged Channel Post	Remarks
6+25	L	N	Low Clearance Sign	W12-2	36	36		9	Black	Fluorescent Yellow	30.9	2		12'-11"
7+25	R	N/S	"N. Main St."- 2 each	D3-1	38	12	6.3		White	Green				above stop sign
7+25	R	W/E	"N. Hwy 105"-2 each	D3-1	38	12	6.3		White	Green				above stop sign
7+25	R	E	Stop Sign	R1-1	30	30		5.2	White	Red	13.7	1		
9+76	L	N/S	Object Marker Type 2	OM2-2V	6	12			Yellow	Yellow			10	Double Sided
9+82	L	N/S	Object Marker Type 2	OM2-2V	6	12			Yellow	Yellow			10	Double Sided
10+70	L	N	Curve Right	W1-2	30	30		6.3	Black	Yellow	13.3	1		
11+32	R	N/S	"Leneve St."- 2 each	D3-1	40	12	6.7		White	Green				above stop sign
11+32	R	W/E	"N. Hwy 105"-2 each	D3-1	38	12	6.3		White	Green				above stop sign
11+32	R	E	Stop Sign	R1-1	30	30		5.2	White	Red	13.7	1		
14+75	L	N	Speed Limit 30	R2-1	24	30	5		Black	White	12.25	1		
17+65	R	N/S	"Delier St."- 2 each	D3-1	37	12	6.2		White	Green				above stop sign
17+65	R	W/E	"N. Hwy 105"-2 each	D3-1	38	12	6.3		White	Green				above stop sign
17+65	R	E	Stop Sign	R1-1	30	30		5.2	White	Red	13.7	1		
19+37	R	S	Speed Limit 30	R2-1	24	30	5		Black	White	12.25	1		
21+37	R	W/E	"Verna St."- 2 each	D3-1	38	12	6.3		White	Green				above stop sign
21+37	R	N/S	"N. Hwy 105"-2 each	D3-1	38	12	6.3		White	Green				above stop sign
21+37	R	E	Stop Sign	R1-1	30	30		5.2	White	Red	13.7	1		
21+98	R	N/S	Object Marker Type 2	OM2-2V	6	12			Yellow	Yellow			11	Double Sided
25+99	R	S	Speed Limit 30	R2-1	24	30	5		Black	White	12.25	1		
36+68	L	S	No Passing Zone	W14-3	48X48	36		5.6	Black	Fluorescent Yellow	17.3	2		
38+32	R	W	"Cemetery"- (arrow north)	D1-1	50	18	6.3		White	Green	23.5	2		See detaill with arrow north
39+62	R	N/S	"Rickenbacker Rd."- 2 each	D3-1	67	12	5.6		White	Green	28	2		
39+62	R	W/E	"N. Hwy 105"-2 each	D3-1	38	12	6.3		White	Green				above Rickenbacker
39+62	R	N	Stop Sign	R1-1	30	30		5.2	White	Red	13.7	1		
42+00	L	N	Speed Limit 30	R2-1	24	30	5		Black	White	12.25	1		
42+04	R	S	Speed Limit 45	R2-1	24	30	5		Black	White	12.25	1		
48+15	L	N	Reduced Speed Ahead	W3-5	36	36		9	Black/White	Yellow	27.9	2		30 mph
49+17	L	S	No Passing Zone	W14-3	48X48	36		6	Black	Fluorescent Yellow	17.3	2		
49+17	R	N	No Passing Zone	W14-3	48X48	36		6	Black	Fluorescent Yellow	17.3	2		
53+16	R	S	Curve Right	W1-2	30	30		6.3	Black	Yellow	13.3	1		
56+47	R	S	Speed Limit 55	R2-1	24	30	5		Black	White	12.25	1		
56+88	L	N	Speed Limit 45	R2-1	24	30	5		Black	White	12.25	1		
61+36	L	N	Reduced Speed Ahead	W3-5	36	36		9	Black/Red	Yellow	27.9	2		45 mph
Subtotal							103.9	83.2			370.95	30	31	



TABLE OF PERMANENT SIGNING (CONT.)

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
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REVISE 3-27-14 gcm
REVISE 4-1-14 gcm

Station	Side of Road	Facing	Description	Sign Code	Width (inches)	Height (inches)	Flat Aluminum Nonremovable Copy High Intensity Prismatic Type IV (Square Feet)	Flat Aluminum Nonremovable Copy Super/very High Intensity Type XI (Square Feet)	Legend and Border Color	Background Color	2"x2" Square Tube Post 12 Ga.	N.A.B.I. Anchor Sleeve (Each)	1.12 lb/ft flanged Channel Post	Remarks
62+58	L	E	Two Direction Large Arrow	W1-7	48	24		8	Black	Fluorescent Yellow	24.1	2		
62+92	R	E	Stop Sign	R1-1	30	30		5.2	White	Red	13.7	1		
65+31	L	N	Curve Left	W1-2	30	30		6.3	Black	Yellow	13.3	1		
66+70	R	N	No Passing Zone	W14-3	48X48	36		6	Black	Fluorescent Yellow	17.3	2		
66+90	L	N	City Sign	Special	48	18	6.0		White	Green	23.2	2		Special Sign Detail
67+21	R	S	Grade Crossing Advanced Warning	W10-3	30	30	6.3		Black	Fluorescent Yellow	13.7	1		
70+17	L	W	Stop Sign	R1-1	30	30		5.2	White	Red	13.3	1		
70+17	L	N/S	"N. Derby Ln"- 2 each	D3-1	44	12	7.3		White	Green				above stop sign
70+17	L	W/E	"N. Hwy 105"-2 each	D3-1	38	12	6.3		White	Green				above stop sign
70+33	R	W	Two Direction Large Arrow	W1-7	48	24		8	Black	Fluorescent Yellow	24.1	2		
73+71	L	N	Grade Crossing Advanced Warning	W10-3	30	30		6.3	Black	Fluorescent Yellow	13.7	1		
79+75	R	S	Speed Limit 55	R2-1	24	30	5.0		Black	White	12.25	1		
91+53	R	N/S	"Waters Rd."- 2 each	D3-1	44	12	7.3		White	Green				above stop sign
91+53	R	W/E	"N. Hwy 105"-2 each	D3-1	38	12		.3	White	Green				above stop sign
91+53	R	E	Stop Sign	R1-1	30	30		5.2	White	Red	13.7	1		
91+55	L	E	Two Direction Large Arrow	W1-7	48	24		8	Black	Fluorescent Yellow	24.1	2		
92+24	L	N/S	Cemetery-(arrow east)-2 each	D1-1	50	18	12.5		White	Green	23.5	2		see detail
99+60	R	N/S	Object Marker Type 2	OM2-2V	6	12							9	Double Sided
99+66	R	N/S	Object Marker Type 2	OM2-2V	6	12							9	Double Sided
100+00	L	N/S	Object Marker Type 2	OM2-2V	6	12							9	Double Sided
100+06	L	N/S	Object Marker Type 2	OM2-2V	6	12							9	Double Sided
105+25	R	S	Grade Crossing Advanced Warning	W10-3	30	30		6.3	Black	Fluorescent Yellow	13.7	1		
106+00	L	N	Speed Limit 55	R2-1	24	30	5.0		Black	White	12.25	1		
107+44	L	N	Low Clearance Sign	W12-2	36	36		9	Black	Fluorescent Yellow	30.9	2		12'-11"
107+44	L	N	Distance Plaque - 1.5 Miles	W16-3P	30	24		5.0	Black	Fluorescent Yellow				Place under W12-2
108+07	R	W	Two Direction Large Arrow	W1-7	48	24		8	Black	Fluorescent Yellow	24.1	2		
108+11	L	N/S	"North Shore Dr."- 2 each	D3-1	65	12	10.8		White	Green				above stop sign
108+11	L	W/E	"N. Hwy 105"-2 each	D3-1	38	12	6.3		White	Green				above stop sign
108+11	L	W	Stop Sign	R1-1	30	30		5.2	White	Red	13.7	1		
111+75	R	S	Grade Crossing Advanced Warning	W10-3	30	30		6.3	Black	Fluorescent Yellow	13.7	1		
Subtotal							72.8	104.3			338.3	27	36	
Subtotal page one							103.9	83.2			371	30	31	
Total							176.7	187.5			709.3	57	67	

Note: 1.) No border on D3-1 signs.



REVISE 1-30-14 gcm
REVISE 3-27-14 gcm

HIGH FLOW SILT FENCE

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

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

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

TABLE OF HIGH FLOW SILT FENCE

Station	L/R	Off Set Location	Quantity (Ft.)
6+14	L	26	20
7+51	L	21	20
8+77	L	21	20
10+12	L	30	20
22+02	R	22	10
22+02	L	22	16
23+98	L	25	16
25+17	L	26	16
26+38	L	26	16
30+50	L	25	16
32+75	L	25	16
34+23	L	24	16
35+55	L	20	16
36+58	L	23	16
38+75	L	29	16
61+00	R	28	6
64+00	R	29	6
Total			262

MUCKING SILT FENCE

Mucking silt fence shall consist of removing muck trapped by the silt fence and spreading the material evenly over the adjacent area to conform to the existing grade.

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 4-6-4 and be USDA Certified BioBased. It should provide a minimum of 4% (N) nitrogen with a minimum water insoluble nitrogen (WIN) fraction of 3.2%, a minimum of 6% (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 all-natural slow release fertilizer shall be applied according to the manufacturer's application recommendations.

The application rate is 1,000 pounds per acre.

The all-natural slow release fertilizer shall be from the list below or an approved equal:

Product	Manufacturer
Sustane	Sustane Corporate Headquarters Cannon Falls, Minnesota Phone: 1-800-352-9245 http://www.sustane.com/

DRILLS

In addition to the drills specified in Section 730 of the Standard Specifications, other types of drills including no-till drills will be allowed as long as they have baffles, partitions, agitators, or augers which keep the seed distributed throughout the seed box and the seed is planted at a depth of 1/4" to 1/2".

PERMANENT SEEDING

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

All permanent seed shall be planted in the topsoil at a depth of 1/4" to 1/2".

All seed broadcast must be raked or dragged in (incorporated) within the top 1/4" to 1/2" of topsoil when possible. This requirement may be waived by the Engineer during construction when raking or dragging is deemed not feasible by conventional methods.

The varieties listed for the seed mixture are preferred varieties. Native harvest seed will be allowed.

Type G Permanent Seed Mixture shall consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Flintlock, Rodan, Rosana	7
Switchgrass	Dacotah, Forestburg, Nebraska 28, Pathfinder, Summer, Sunburst, Trailblazer	3
Indiangrass	Holt, Tomahawk	3
Big Bluestem	Bison, Bonilla, Champ, Pawnee, Sunnyview	3
Oats or Spring Wheat: April through May; Winter Wheat: August through November		10
Total:		26

REMOVE AND REPLACE TOPSOIL

Prior to beginning shoulder repair work all topsoil shall be salvaged within the work limits. The Contractor shall minimize damage to all existing vegetation. Following completion of should repair operations, topsoil shall be replaced over all disturbed areas.

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



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 ton 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>



TABLE OF PERMANENT SEEDING AND FIBER MULCHING

Station	to	Station	L/R	Width (Ft.)	Area (Acres)
5+00		6+75	L	2	0.0080
7+25		9+00	L	2	0.0080
8+90		10+00	R	2	0.0051
9+75		10+46	L	5	0.0081
10+84		12+88	L	5	0.0234
13+40		14+90	L	5	0.0172
16+39		17+17	L	2	0.0036
14+85		16+85	R	2	0.0092
17+75		20+08	R	2	0.0107
17+82		18+85	L	5	0.0118
18+85		21+25	L	2	0.0110
20+25		20+98	R	2	0.0033
21+37		31+45	R	5	0.1157
21+64		23+02	L	2	0.0063
23+42		24+40	L	2	0.0045
24+86		27+51	L	2	0.0122
28+02		28+62	L	2	0.0027
29+35		29+82	L	2	0.0022
30+33		31+62	L	2	0.0059
32+15		33+75	L	2	0.0073
32+20		33+95	R	2	0.0080
33+98		34+30	L	2	0.0015
34+48		37+93	R	5	0.0396
34+82		34+98	L	2	0.0007
35+20		35+78	L	2	0.0027
36+12		38+15	L	2	0.0093
38+39		39+12	L	5	0.0084
39+12		42+65	L	2	0.0161
39+95		47+22	R	2	0.0426
42+65		42+93	L	5	0.0032
42+93		47+75	L	2	0.0221
47+73		48+40	R	5	0.0135
47+75		49+60	L	5	0.0212
48+40		48+71	R	2	0.0014
48+71		49+11	R	5	0.0046
49+11		61+12	R	2	0.0551
49+60		50+32	L	2	0.0033
50+32		50+79	L	5	0.0054
50+79		51+90	L	2	0.0051
52+40		55+38	L	2	0.0137
55+38		55+65	L	5	0.0031
55+65		64+88	L	2	0.0424
64+88		66+86	L	5	0.0227
66+86		68+29	L	2	0.0066
68+29		69+96	L	5	0.0192
69+96		70+10	L	2	0.0006
63+88		68+75	R	2	0.0224
70+81		73+80	L	2	0.0138

Station	to	Station	L/R	Width (Ft.)	Area (Acres)
69+25		69+97	R	2	0.0033
69+97		70+81	R	5	0.0096
70+81		71+03	R	2	0.0010
71+03		73+00	R	5	0.0226
73+00		82+06	R	2	0.0460
73+80		74+30	L	5	0.0057
74+30		79+80	L	2	0.0253
79+80		80+48	L	5	0.0078
80+48		81+45	L	2	0.0046
81+45		82+34	L	5	0.0102
82+34		83+68	L	2	0.0062
83+68		84+37	L	5	0.0079
84+00		91+06	R	2	0.0324
84+37		86+55	L	2	0.0100
86+55		87+22	L	5	0.0077
87+22		91+45	L	2	0.0194
91+64		92+60	R	5	0.0110
92+60		107+15	R	2	0.0668
91+45		96+17	L	5	0.0542
96+17		98+63	L	2	0.0113
98+63		99+30	L	5	0.0077
91+30		101+43	L	2	0.0465
101+43		102+08	L	5	0.0075
102+08		102+38	L	2	0.0014
102+38		102+66	L	5	0.0034
102+66		103+14	L	2	0.0021
103+14		103+58	L	5	0.0050
103+58		104+12	L	2	0.0025
104+12		105+25	L	5	0.0130
105+25		107+75	L	2	0.0115
107+15		107+66	R	5	0.0059
107+66		108+18	R	2	0.0024
108+77		109+21	R	2	0.0020
108+89		109+21	L	2	0.0015
Total					1.16

COVER CROP SEEDING

Oats or spring wheat seed shall be used April through July and winter wheat seed shall be used August through November.

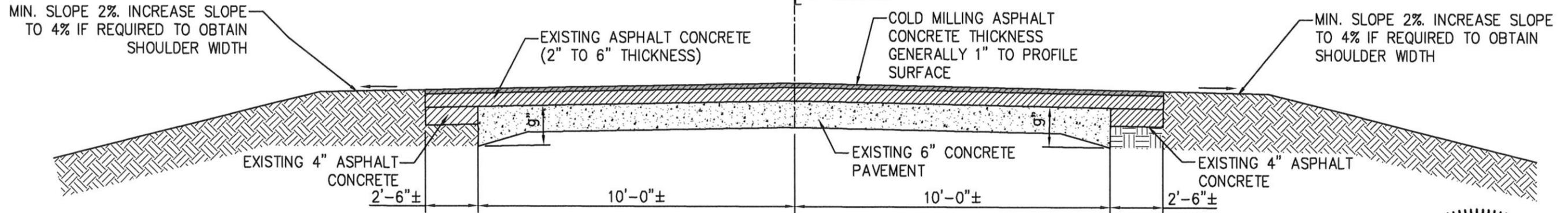
Additional cover crop seeding may be used on this project as a temporary erosion control measure for disturbed earthen areas other than what is described in Section 730.3 D. of the standard specifications. The actual limits and use of additional cover crop seeding shall be determined by the Engineer during construction. The additional quantity of cover crop seeding was estimated at 25% of the disturbed areas outside the areas described in Section 730.3 D. of the standard specifications.

Typical Section

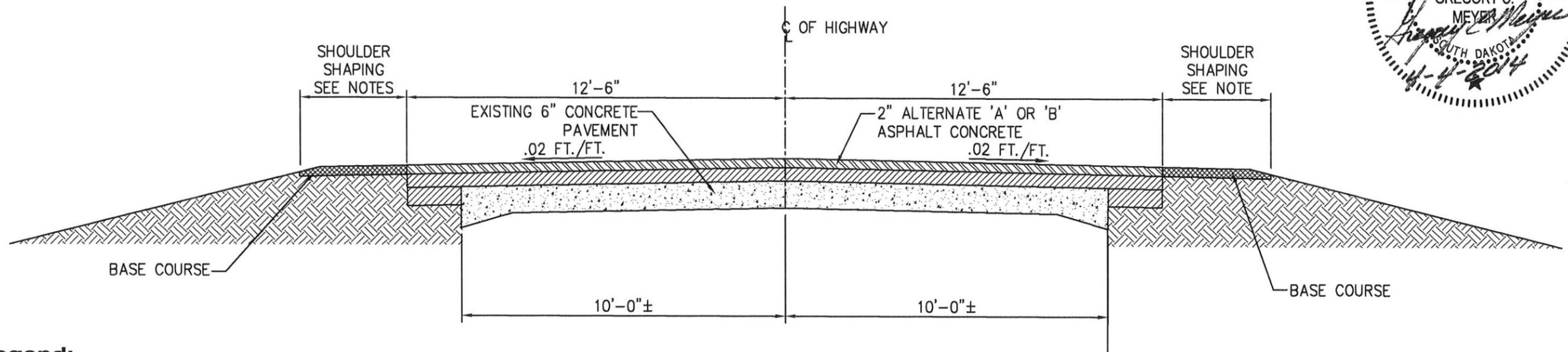
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT P 8105(01)	SHEET 21	TOTAL SHEETS 66
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REVISE 1-30-14 gcm
REVISE 3-27-14 gcm
REVISE 4-4-14 gcm



Typical Cold Milling Section



Legend:

- ASPHALT CONCRETE (EXISTING)
- ASPHALT CONCRETE REMOVAL (EXISTING)
- UNCLASSIFIED MATERIAL (EXISTING)
- UNCLASSIFIED EXCAVATION (EXISTING)
- CONCRETE (EXISTING)
- ASPHALT CONCRETE (NEW)
- BASE COURSE

Typical Hot Mix Asphalt Placement Section

Notes:

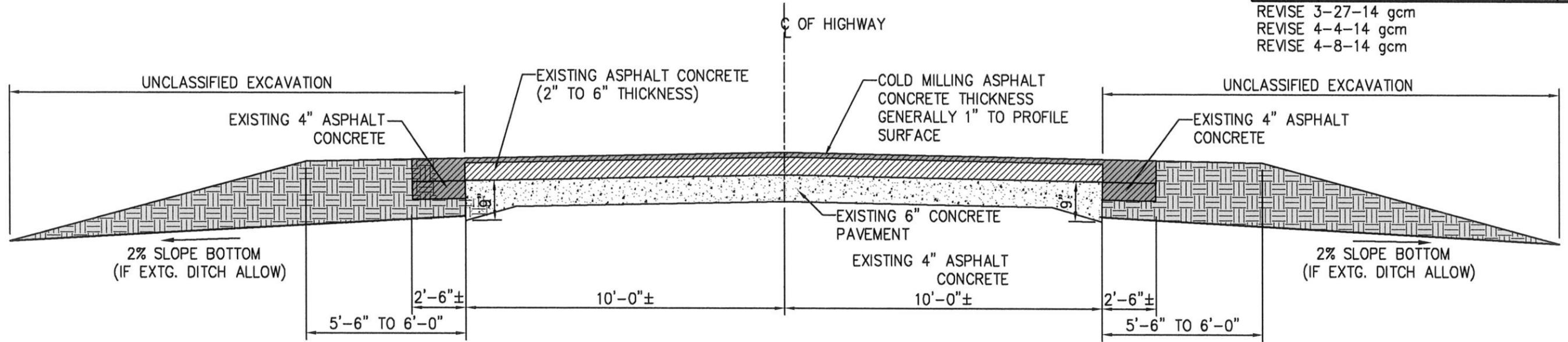
- MINIMUM WIDTH OF SHOULDER SHAPING SHALL BE 3.5 FT. FROM STA.=5+00 TO STA.=21+50 AND FROM STA.=31+50 TO STA.=109+21. MINIMUM WIDTH OF SHOULDER SHAPING SHALL BE 2.5 FT. FROM STA.=21+50 TO STA.=31+50.
- ADDITIONAL DEPTH OF ASPHALT MILLING IS REQUIRED AT THE EDGE OF EXISTING PAVEMENT TO MATCH EXISTING SURFACE AND AT JOINT REPAIR.
- SHOULDER SHAPING SHALL OCCUR AFTER THE ASPHALT CONCRETE OVERLAY. ADDITIONAL GRANULAR MATERIAL TO BRING THE EXISTING SHOULDER SLOPE TO THE NEW ASPHALT SURFACE SLOPE IS INCLUDED IN 200 TONS OF BASE COURSE PER MILE, PER SHOULDER FOR SHOULDER SHAPING. AFTER COMPLETION OF THE SHOULDER SHAPING, THE SHOULDER SHALL BE PRIMED AS PROVIDED IN THE RATES OF MATERIALS.

Typical Section

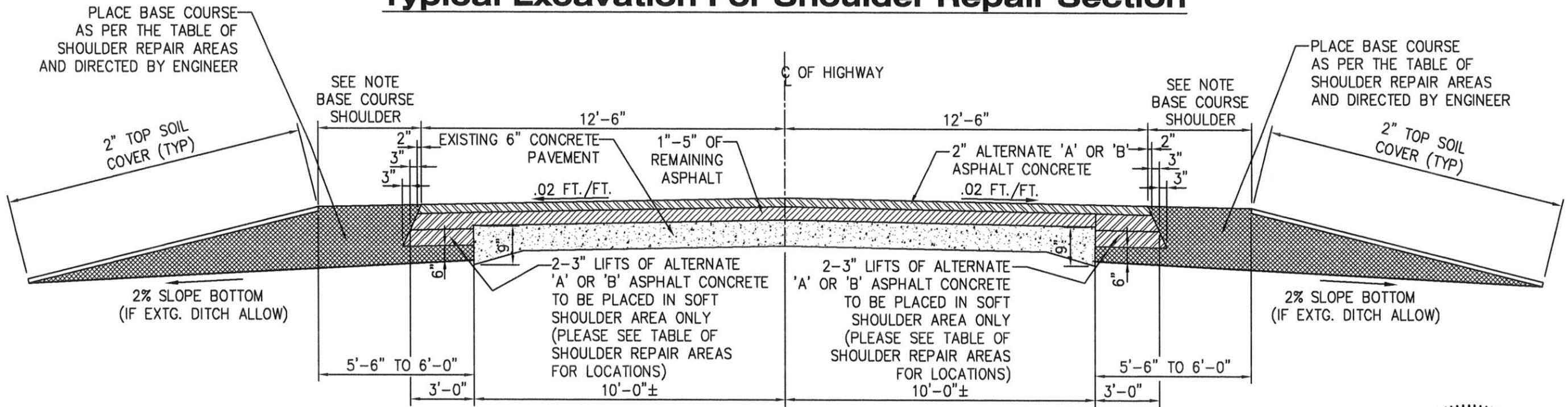
FOR BIDDING PURPOSES ONLY

STATE OF DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 8105(01)	22	66

REVISE 3-27-14 gcm
 REVISE 4-4-14 gcm
 REVISE 4-8-14 gcm



Typical Excavation For Shoulder Repair Section



Legend:

- ASPHALT CONCRETE (EXISTING)
- ASPHALT CONCRETE REMOVAL (EXISTING)
- UNCLASSIFIED MATERIAL (EXISTING)
- UNCLASSIFIED EXCAVATION (EXISTING)
- CONCRETE (EXISTING)
- ASPHALT CONCRETE (NEW)
- BASE COURSE

Typical Shoulder Repair Section

Notes:

1. MINIMUM WIDTH OF BASE COURSE SHOULDER SHALL BE 3.5 FT. FROM STA.=5+00 TO STA.=21+50 AND FROM STA.=31+50 TO STA.=109+21. MINIMUM WIDTH OF BASE COURSE SHOULDER SHALL BE 2.5 FT. FROM STA.=21+50 TO STA.=31+50.
2. SHOULDER SHAPING IS INCIDENTAL TO THE SHOULDER REPAIR. AFTER COMPLETED OF THE SHOULDER SHAPING, THE SHOULDER SHALL BE PRIMED AS PROVIDED IN THE RATE OF MATERIALS.

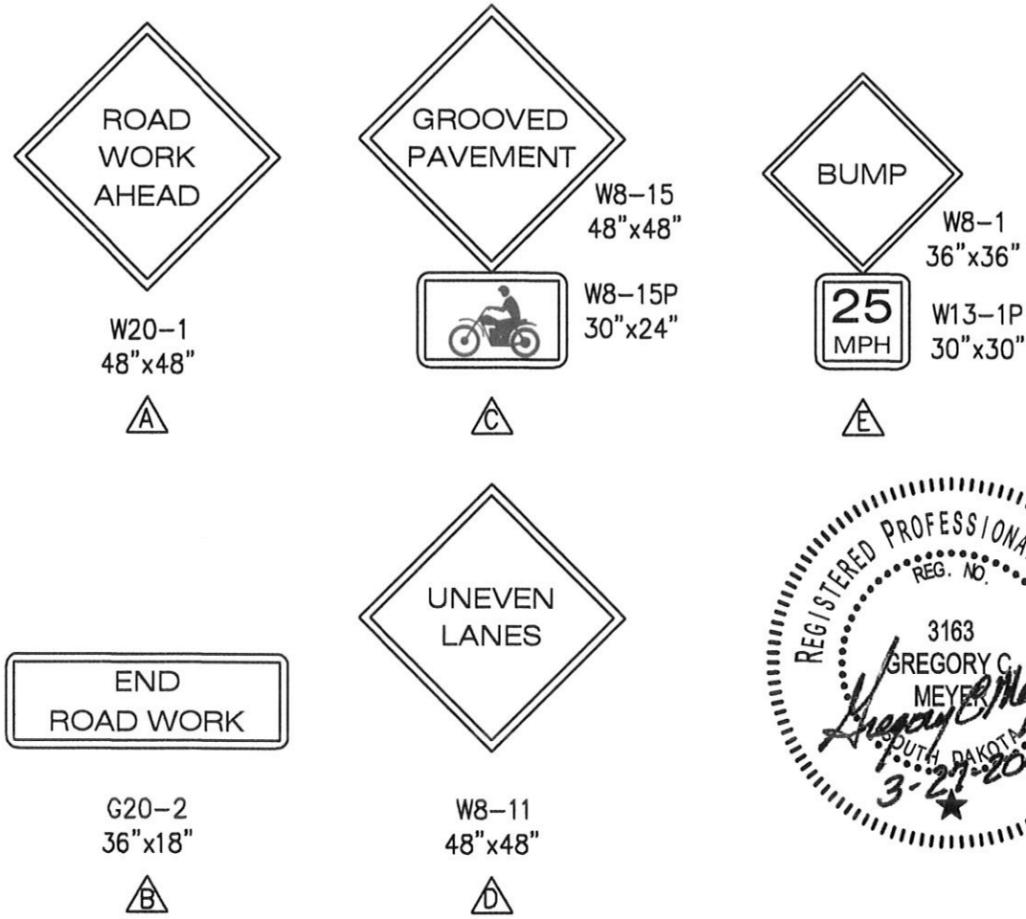


TRAFFIC CONTROL LAYOUT AND SUMMARY

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT P 8105(01)	SHEET 23	TOTAL SHEETS 66
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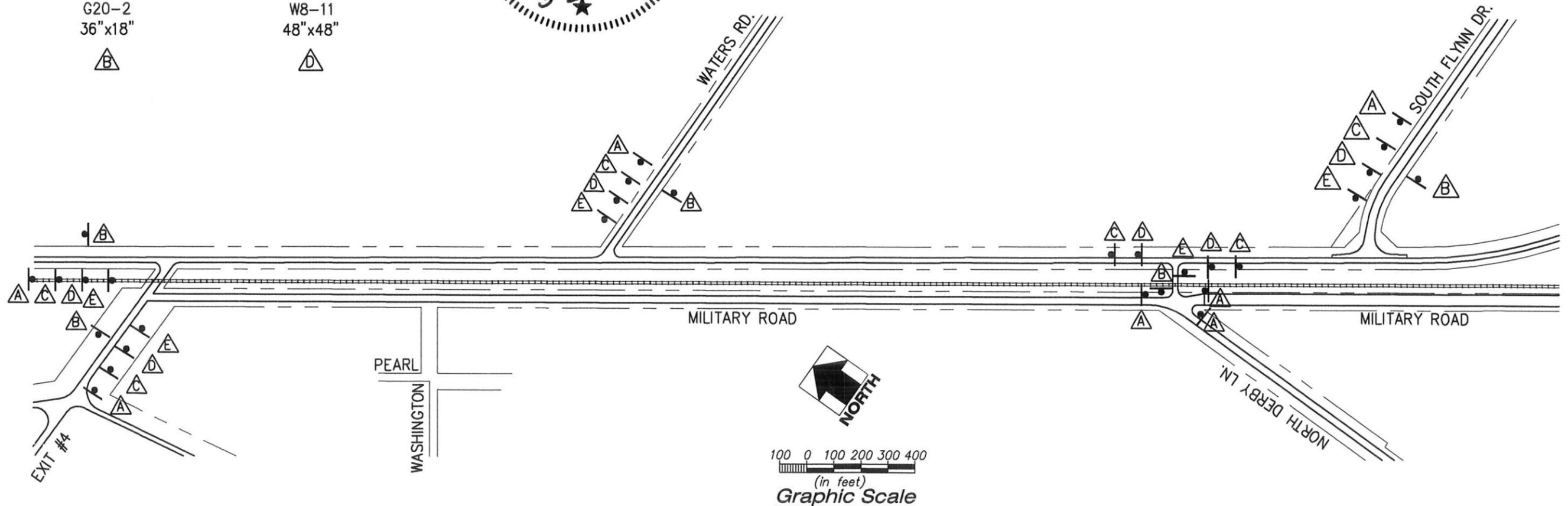
REVISE 3-27-14 gcm



SIGN CODE	SIGN SIZE	DESCRIPTION	NUMBER REQ'D.	UNITS PER SIGN	UNITS
G20-2	36"x18"	END ROAD WORK	11	17	187
W8-1	48"x48"	BUMP	11	34	374
W8-11	48"x48"	UNEVEN LANES	12	34	408
W8-15	48"x48"	GROOVED PAVEMENT	12	34	408
W8-15P	30"x24"	MOTORCYCLE (PLAQUE)	12	30	360
W20-1	48"x48"	ROAD WORK AHEAD	13	34	442
W13-1P	30"x30"	ADVISORY SPEED PLATE 25 MPH.	11	21	231
W21-5	48"x48"	SHOULDER WORK	2	34	68
W20-4	48"x48"	ONE-LANE ROAD AHEAD	2	34	68
W16-2	30"x24"	FLAGGER/DISTANCE	2	18	36
W20-7a	48"x48"	FLAGGER	2	34	68
W3-4	48"x48"	BE PREPARED TO STOP	2	34	68
	8 FT.	DOUBLE SIDED TYPE III BARRICADE	40	56	2,240
TOTAL UNITS					4,958

Note:

"ROAD WORK AHEAD" AND "END ROAD WORK" SHALL BE INSTALLED A MINIMUM OF 200' EACH WAY OF THE PROJECT ENDS.



TRAFFIC CONTROL LAYOUT AND SUMMARY

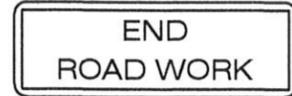
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 8105(01)	24	66

REVISE 3-27-14 gcm



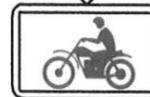
W20-1
48"x48"



G20-2
36"x18"



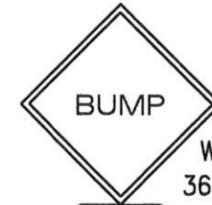
W8-15
48"x48"



W8-15P
30"x24"



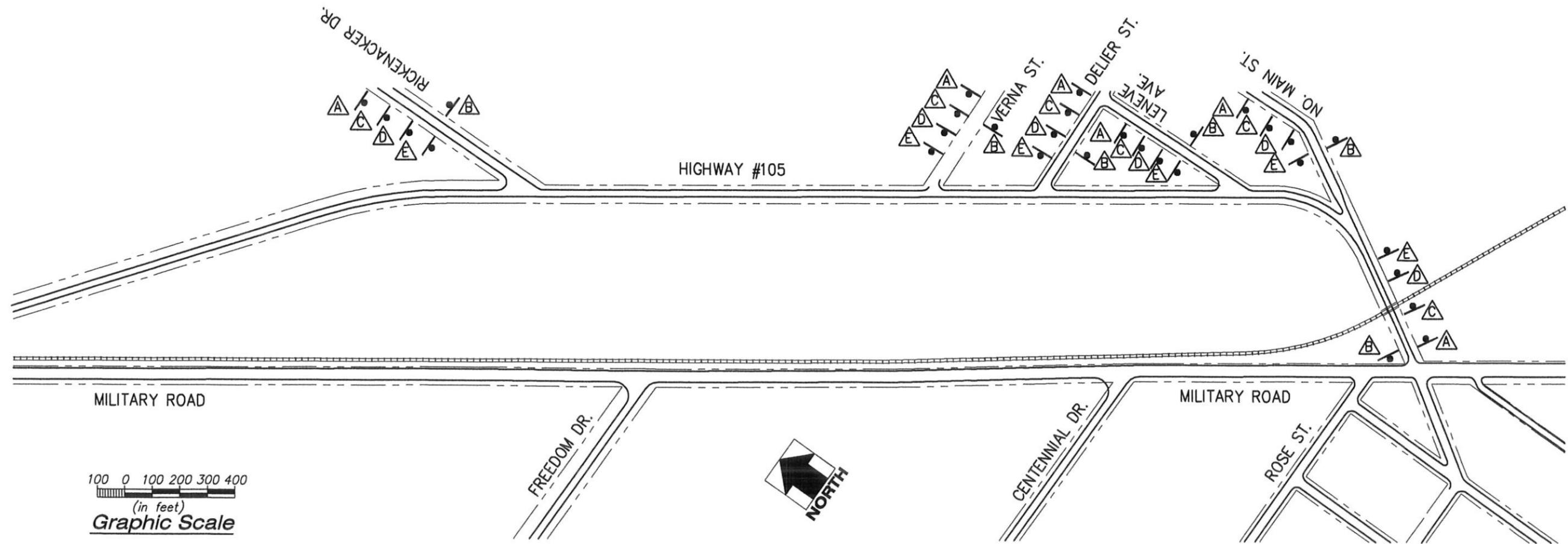
W8-11
48"x48"



W8-1
36"x36"



W13-1P
30"x30"



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

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT P8105(01)	SHEET 25	TOTAL SHEETS 66
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REVISE 3-27-14 gcm

❖ **SITE DESCRIPTION (4.2 1)**

- **Project Limits: See Title Sheet (4.2 1.b)**
- **Project Description: See Title Sheet (4.2 1.a.)**
- **Site Map(s): See Title Sheet and Plans (4.2 1.f. (1)-(6))**
- **Major Soil Disturbing Activities** (check all that apply)
 - Clearing and grubbing
 - Excavation/borrow
 - Grading and shaping
 - Filling
 - Cutting and filling
 - Other (describe):
- **Total Project Area 15.8 acres (4.2 1.b.)**
- **Total Area To Be Disturbed 3.8 acres (4.2 1.b.)**
- **Existing Vegetative Cover (%) 55%**
- **Soil Properties: Silty-Clay**
- **Classification (4.2 1. d.)**
- **Name of Receiving Water Body/Bodies Big Sioux River (4.2 1.e.)**

❖ **ORDER OF CONSTRUCTION ACTIVITIES (4.2 1.c.)**

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

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

(Check all that apply)

➤ **Stabilization Practices (See Detail Plan Sheets)**

- Temporary Seeding (Cover Crop Seeding)
- Permanent Seeding
- Sodding
- Planting (Woody Vegetation for Soil Stabilization)
- Mulching (Grass Hay or Straw)
- Hydraulic Mulch (Wood Fiber Mulch)
- Soil Stabilizer
- Bonded Fiber Matrix
- Erosion Control Blankets or Mats
- Vegetation Buffer Strips
- Roughened Surface (e.g. tracking)
- Dust Control
- Other:

➤ **Structural Temporary Erosion and Sediment Controls**

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

➤ **Wetland Avoidance**

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

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

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

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

▪ **Waste Disposal**

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

▪ **Hazardous Waste**

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

▪ **Sanitary Waste**

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

❖ **Maintenance and Inspection (4.2 3. and 4.2 4.)**

➤ **Maintenance and Inspection Practices**

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

❖ **Non-Storm Water Discharges (3.0)**

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

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

❖ **Materials Inventory (4.2. 2.c.(2))**

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

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



FOR BIDDING PURPOSES ONLY

REVISE 3-27-14 gcm

❖ **Spill Prevention (4.2 2.c.(2))**

➤ **Material Management**

▪ **Housekeeping**

- Only needed products will be stored on-site by the contractor.
- Except for bulk materials the contractor will store all materials under cover and in appropriate containers.
- Products must be stored in original containers and labeled.
- Material mixing will be conducted in accordance with the manufacturer's recommendations.
- When possible, all products will be completely used before properly disposing of the container off site.
- The manufacturer's directions for disposal of materials and containers will be followed.
- The contractor's site superintendent will inspect materials storage areas regularly to ensure proper use and disposal.
- Dust generated will be controlled in an environmentally safe manner.
- Vegetation areas not essential to the construction project will be preserved and maintained as noted on the plans.

▪ **Hazardous Materials**

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

➤ **Product Specific Practices (6.8)**

▪ **Petroleum Products**

All on-site vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled.

▪ **Fertilizers**

Fertilizers will be applied only in the amounts specified by the SDDOT. Once applied, fertilizers will be worked into the soil to limit the exposure to storm water. Fertilizers will be stored in an enclosed area. The contents of partially used fertilizer bags will be transferred to sealable containers to avoid spills.

▪ **Paints**

All containers will be tightly sealed and stored when not required for use. The excess will be disposed of according to the

manufacturer's instructions and any applicable state and local regulations.

▪ **Concrete Trucks**

Contractors will provide designated truck washout areas on the site. These areas must be self contained and not connected to any storm water outlet of the site. Upon completion of construction washout areas will be properly stabilized.

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

In addition to the previous housekeeping and management practices, the following practices will be followed for spill prevention and cleanup if needed.

- For all hazardous materials stored on site, the manufacturer's recommended methods for spill clean up will be clearly posted. Site personnel will be made aware of the procedures and the locations of the information and cleanup supplies.
- Appropriate cleanup materials and equipment will be maintained by the contractor in the materials storage area on-site. As appropriate, equipment and materials may include items such as brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for clean up purposes.
- All spills will be cleaned immediately after discovery and the materials disposed of properly.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- After a spill a report will be prepared describing the spill, what caused it, and the cleanup measures taken. The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring, as well as clean up instructions in the event of reoccurrences.
- The contractor's site superintendent, responsible for day-to-day operations, will be the spill prevention and cleanup coordinator. The contractor is responsible for ensuring that the site superintendent has had appropriate training for hazardous materials handling, spill management, and cleanup.

➤ **Spill Response (4.2 2 c.(2))**

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

- The contractor's site superintendent will be notified immediately when a spill or the threat of a spill is observed. The superintendent will assess the situation and determine the appropriate response.
- If spills represent an imminent threat of escaping erosion and sediment controls and entering receiving waters, personnel will be directed to respond immediately to contain the release and notify the superintendent after the situation has been stabilized.
- Spill kits containing appropriate materials and equipment for spill response and cleanup will be maintained by the contractor at the site.
- If oil sheen is observed on surface water (e.g. settling ponds, detention ponds, swales), action will be taken immediately to remove the material causing the sheen. The contractor will use appropriate materials to contain and absorb the spill. The source of the oil sheen will also be identified and removed or repaired as necessary to prevent further releases.

- If a spill occurs the superintendent or the superintendent's designee will be responsible for completing the spill reporting form and for reporting the spill to SD DENR.
- Personnel with primary responsibility for spill response and clean up will receive training by the contractor's site superintendent or designee. The training must include identifying the location of the spill kits and other spill response equipment and the use of spill response materials.
- Spill response equipment will be inspected and maintained as necessary to replace any materials used in spill response activities.

❖ **Spill Notification**

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

- A release or spill of a regulated substance (includes petroleum and petroleum products) must be reported to DENR immediately **if any one of the following** conditions exists:
 - The discharge threatens or is in a position to threaten the waters of the state (surface water or ground water).
 - The discharge causes an immediate danger to human health or safety.
 - The discharge exceeds 25 gallons.
 - The discharge causes a sheen on surface water.
 - The discharge of any substance that exceeds the ground water quality standards of ARSD (Administrative Rules of South Dakota) chapter 74:51:01.
 - The discharge of any substance that exceeds the surface water quality standards of ARSD chapter 74:51:01.
 - The discharge of any substance that harms or threatens to harm wildlife or aquatic life.
 - The discharge of crude oil in field activities under SDCL (South Dakota Codified Laws) chapter 45-9 is greater than 1 barrel (42 gallons).

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



STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P8105(01)	27	66

REVISE 3-27-14 gcm



❖ **Construction Changes (4.4)**

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

❖ **CERTIFICATIONS**

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

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

➤ **South Dakota Department of Transportation**

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

Tom Leibel

Authorized Signature (See the General Permit, Section 6.7.1.C.)

➤ **Prime Contractor**

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

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

Authorized Signature

❖ **CONTACT INFORMATION**

➤ **Contractor Information:**

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

➤ **Erosion Control Supervisor**

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

➤ **SDDOT Project Engineer**

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

➤ **SD DENR Contact Spill Reporting**

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

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

- (605) 773-3153

➤ **National Response Center Hotline**

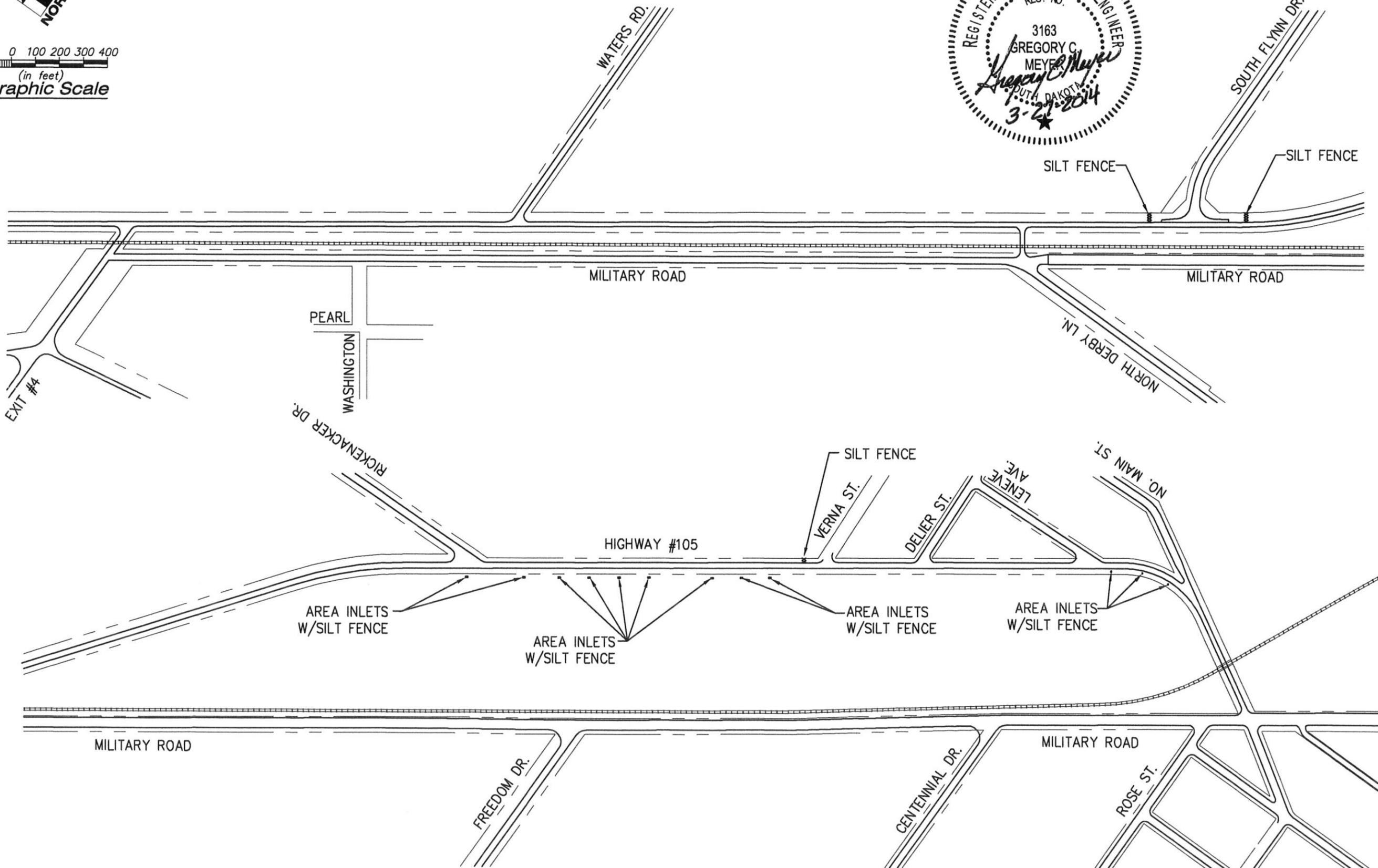
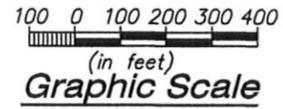
- (800) 424-8802.

EROSION AND SEDIMENT CONTROL PLAN

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT P 8105(01)	SHEET 28	TOTAL SHEETS 66
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REVISE 3-27-14 gcm



HORIZONTAL ALIGNMENT DATA

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 8105(1)	29	66

REVISE 3-27-14 gcm

MAINLINE

Type	Station		Northing	Easting
POB	5+000		95101.65	3006264.63
		TL = 30.77 N 34°15'3.96" W		
PC	5+30.77		95128.65	3006279.41
		R = 358.1 Delta = 70°18'42.84		
PT	9+70.13		95539.82	3006248.21
		TL = 83.88 N 36°03'39" W		
PT	10+54.01		95605.72	3006196.33
		TL = 698.83 N 36°03'39" W		
PT	17+52.84		96147.40	3005754.80
		TL = 376.78 N 36°03'39" W		
PT	21+29.62		96439.45	3005516.75
		TL = 1317.00 N 36°03'39" W		
PT	34+32.47		97449.69	3004694.06
		TL = 394.83 N 36°03'39" W		
PT	38+27.30		97755.76	3004444.64
		TL = 126.43 N 36°03'39" W		
PC	39+53.73		97853.34	3004364.24
		R = 1510.14 Delta = 17°06'50.76"		
PT	44+05.39		98158.53	3004033.65
		TL = 1235.12 N 53°10'30" W		
PC	56+40.51		98845.78	3003007.39
		R = 1559.35 Delta = 17°08'11.04"		
PT	62+05.74		99154.80	3002662.02
		TL = 41.18 N 36°19'00" W		
PT	62+46.74		99262.60	3002570.86
		TL = 2898.86 N 36°02'19" W		
PT	91+45.78		101513.13	3000743.72
		TL = 1647.81 N 36°02'19" W		
PT	108+03.70		102798.19	2996969.18
		TL = 117.30 N 36°02'19" W		
POE	109+210		1102888.80	2999622.34



The coordinates shown on this sheet are based on the South Dakota State Plane Coordinate System.

CONTROL DATA

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 8105(01)	30	65

REVISE 3-27-14 gcm

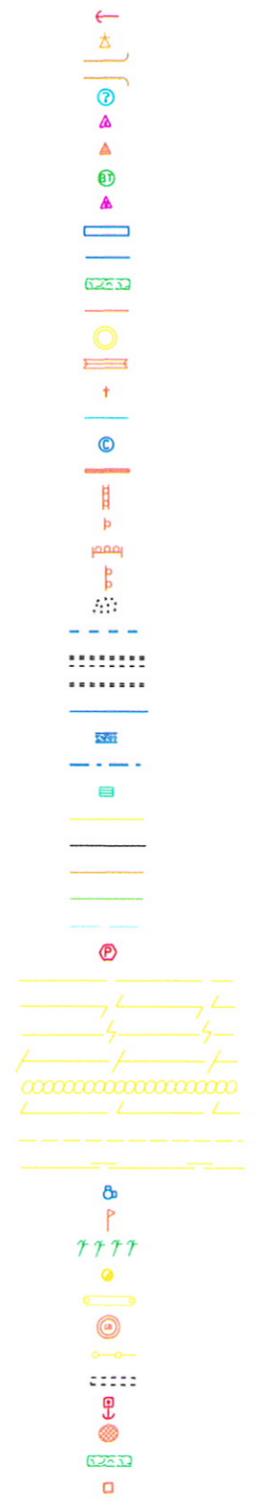
HORIZONTAL AND VERTICAL CONTROL POINTS						
POINT	STATION	OFFSET	DESCRIPTION	NORTHING	EASTING	ELEVATION
CP-1	7+05.55	28.05' R	NAIL	95327.13	3006388.15	1107.00
CP-2	10+47.43	14.19' R	NAIL	95642.49	3006239.87	1106.79
CP-3	15+21.82	17.64' R	NAIL	96011.09	3005941.19	1106.94
CP-4	21+38.84	29.88' R	NAIL	95495.34	3005558.81	1107.64
CP-5	30+72.33	18.13' R	NAIL	97209.22	3004957.50	1107.07
CP-6	39+88.74	20.70' R	NAIL	97918.50	3004375.69	1108.25
CP-7	47+97.98	17.88' R	NAIL	98414.63	3003734.73	1107.74
CP-8	56+54.34	17.42' R	NAIL	98886.79	3003021.32	1108.19
CP-9	63+64.66	27.93' R	NAIL	99388.34	3002531.36	1108.89
CP-10	72+62.17	13.68' R	NAIL	100074.62	3001950.09	1110.59
CP-11	80+91.62	17.89' R	NAIL	100717.82	3001428.53	1108.88
CP-12	89+66.02	16.81' R	NAIL	101392.92	3000872.84	1109.38
CP-13	99+31.53	18.86' R	NAIL	102139.74	3000261.25	1108.23
CP-14	107+63.94	20.52' R	NAIL	102783.23	2999733.514	1109.04



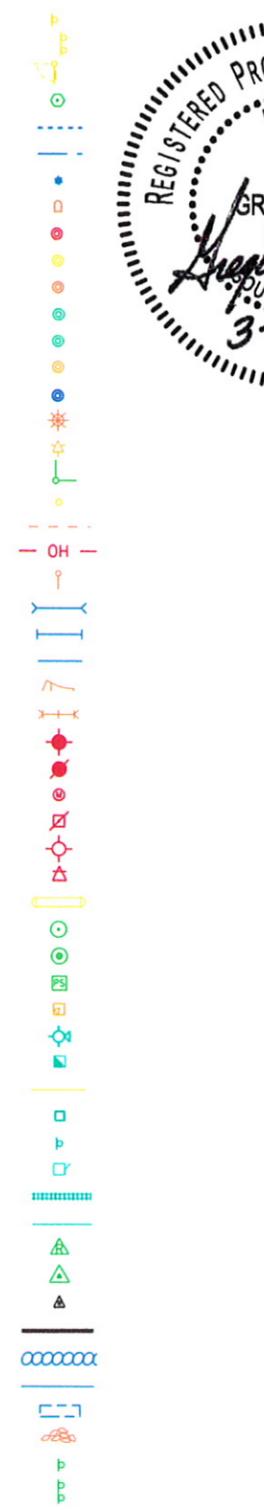
The coordinate value show on this sheet are grid coordinated base on the South Dakota State Plane Coordinate System.

EXISTING TOPOGRAPHY SYMBOLOLOGY AND LEGEND

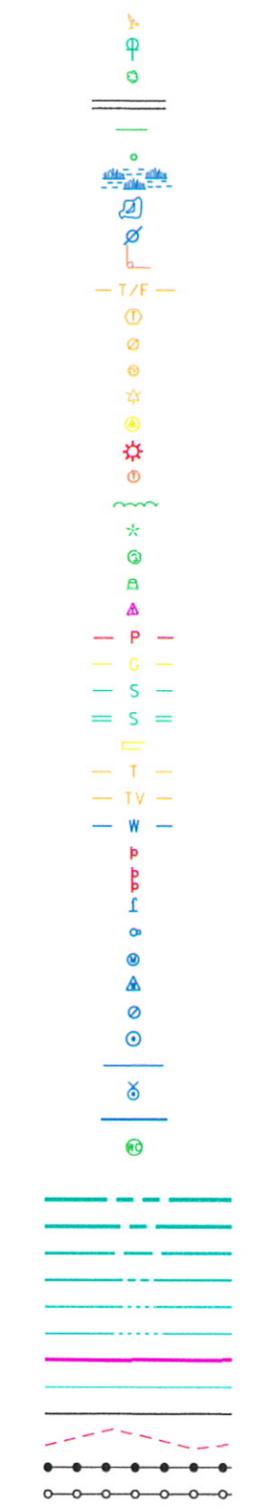
Anchor
 Antenna
 Approach
 Assumed Corner
 Azimuth Marker
 Bbq Grill/ Fireplace
 Bearing Tree
 Bench Mark
 Box Culvert
 Bridge
 Brush
 Buildings
 Bulk Tank
 Cattle Guard
 Cemetery
 Centerline
 Cistern
 Clothes Line
 Commercial Sign Double Face
 Commercial Sign One Post
 Commercial Sign Overhead
 Commercial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



Information Sign One Post
 Information Sign Two Post
 Interstate Close Gate
 Iron Pin
 Irrigation Ditch
 Lake Edge
 Lawn Sprinkler
 Mailbox
 Manhole Electric
 Manhole Gas
 Manhole Misc
 Manhole Sanitary Sewer
 Manhole Storm Sewer
 Manhole Telephone
 Manhole Water
 Merry-Go-Round
 Microwave Radio Tower
 Misc. Property Corner
 Misc. Post
 Overhang Or Encroachment
 Overhead Utility Line
 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



FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 8105(01)	32	66

REVISE 3-27-14 gcm

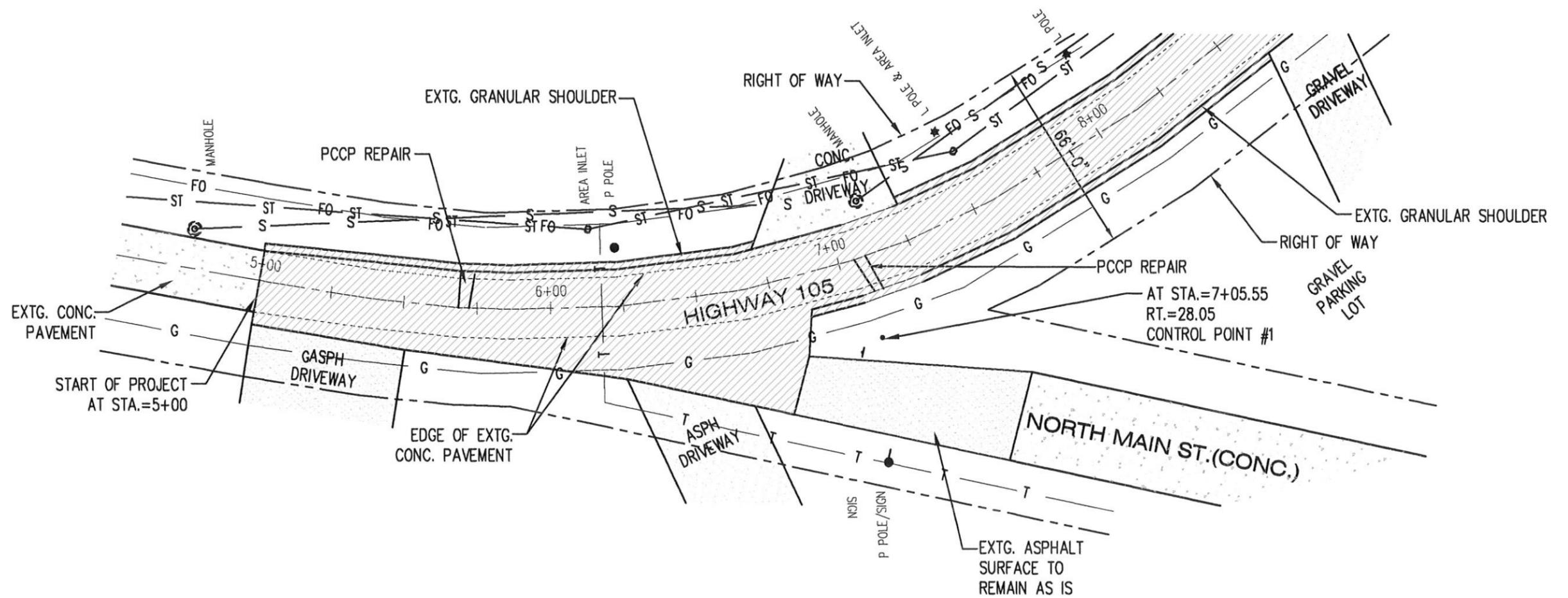


LEGEND:

 AREA OF COLD MILLING ASPHALT

REMOVAL PLANS

HIGHWAY 105
STA.=5+00 TO STA.=8+00



FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 8105(01)	33	66

REVISE 3-27-14 gcm
REVISE 4-4-14 gcm

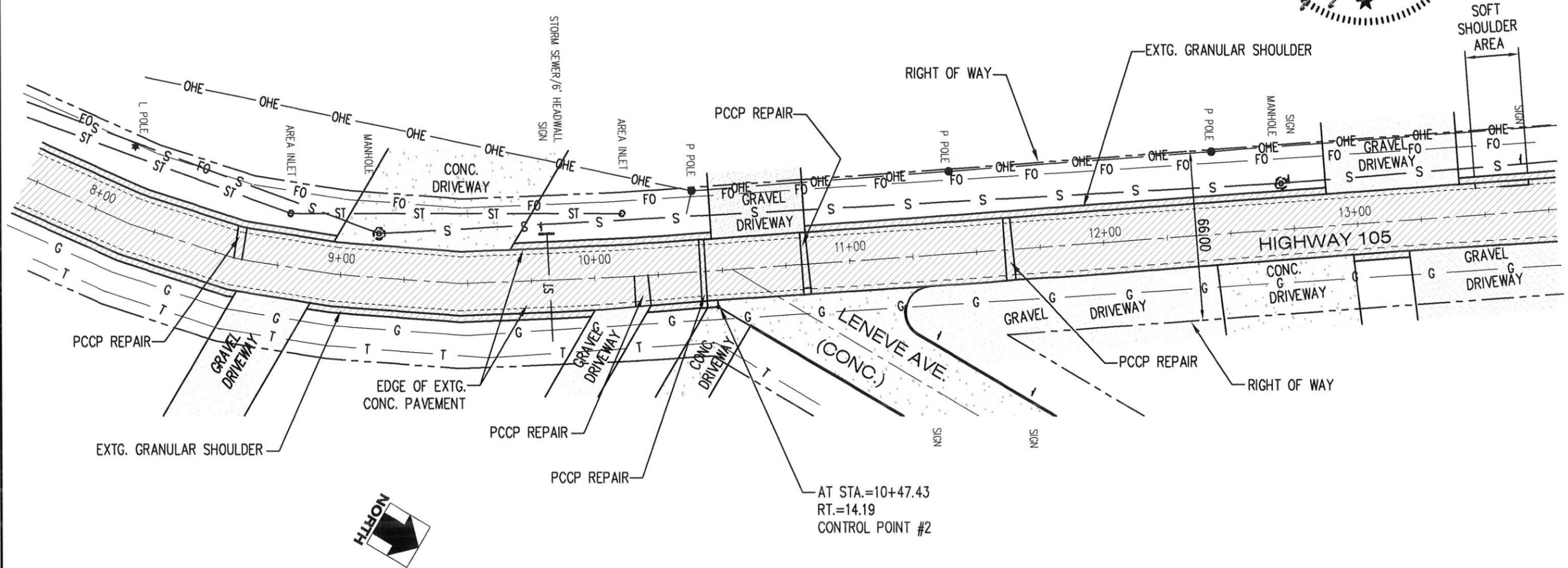


LEGEND:

AREA OF COLD MILLING ASPHALT

REMOVAL PLANS

HIGHWAY 105
STA.=8+00 TO STA.=13+50



FOR BIDDING PURPOSES ONLY

STATE OF DAKOTA	PROJECT P 8105(01)	SHEET 34	TOTAL SHEETS 66
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REVISE 3-27-14 gcm
REVISE 4-4-14 gcm

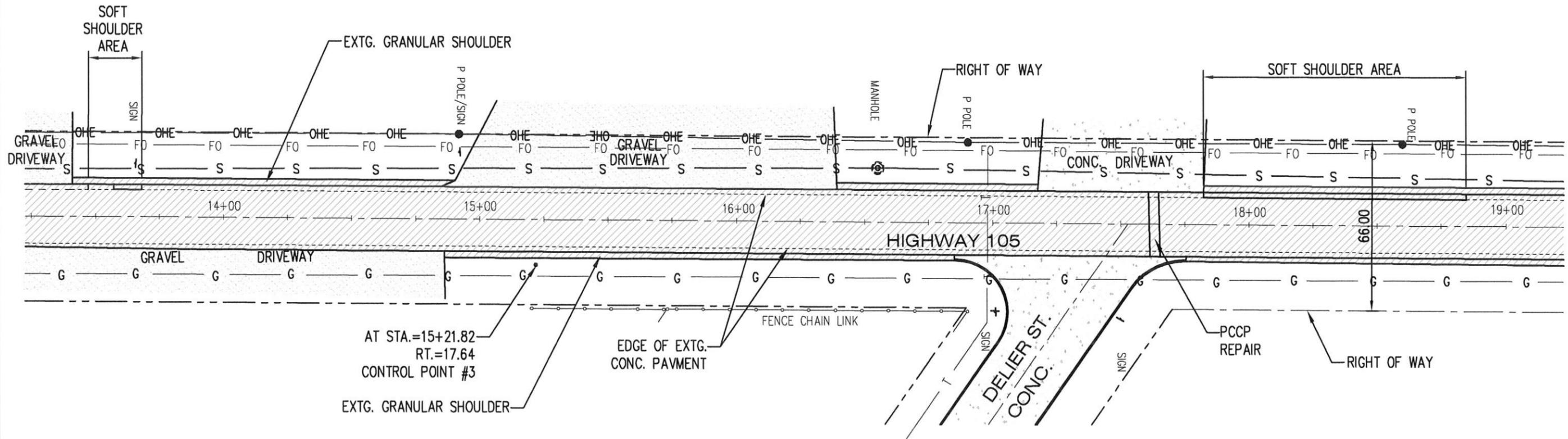


LEGEND:

 AREA OF COLD MILLING ASPHALT

REMOVAL PLANS

HIGHWAY 105
STA.=13+50 TO STA.=19+00



FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 8105(01)	35	66

REVISE 3-27-14 gcm
REVISE 4-4-14 gcm

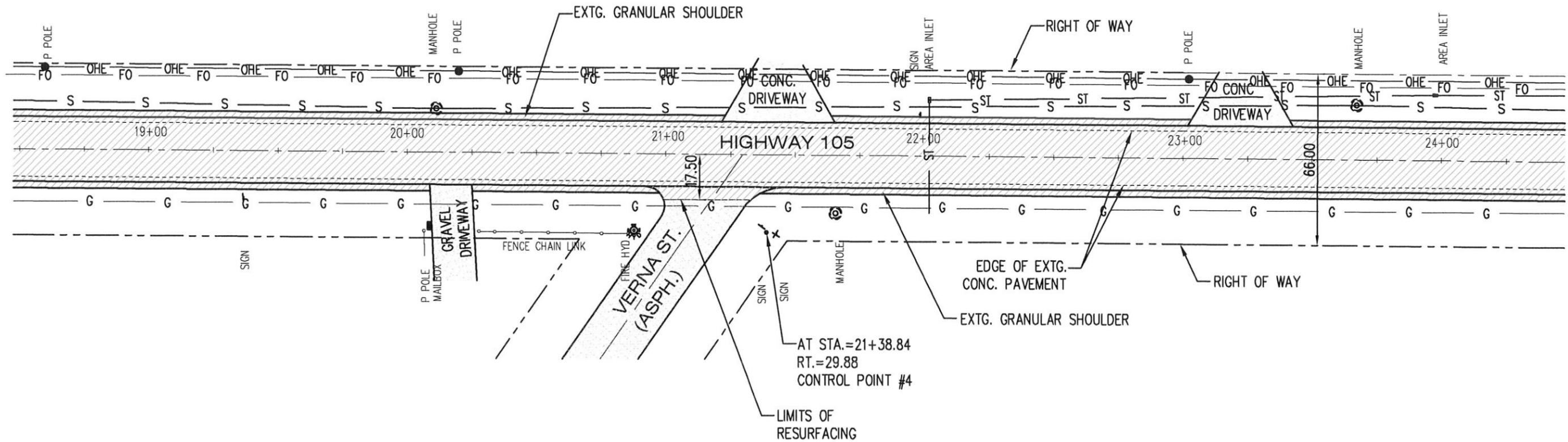


LEGEND:

AREA OF COLD MILLING ASPHALT

REMOVAL PLANS

HIGHWAY 105
STA.=18+75 TO STA.=24+00



FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT P 8105(01)	SHEET 36	TOTAL SHEETS 66
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REVISE 3-27-14 gcm

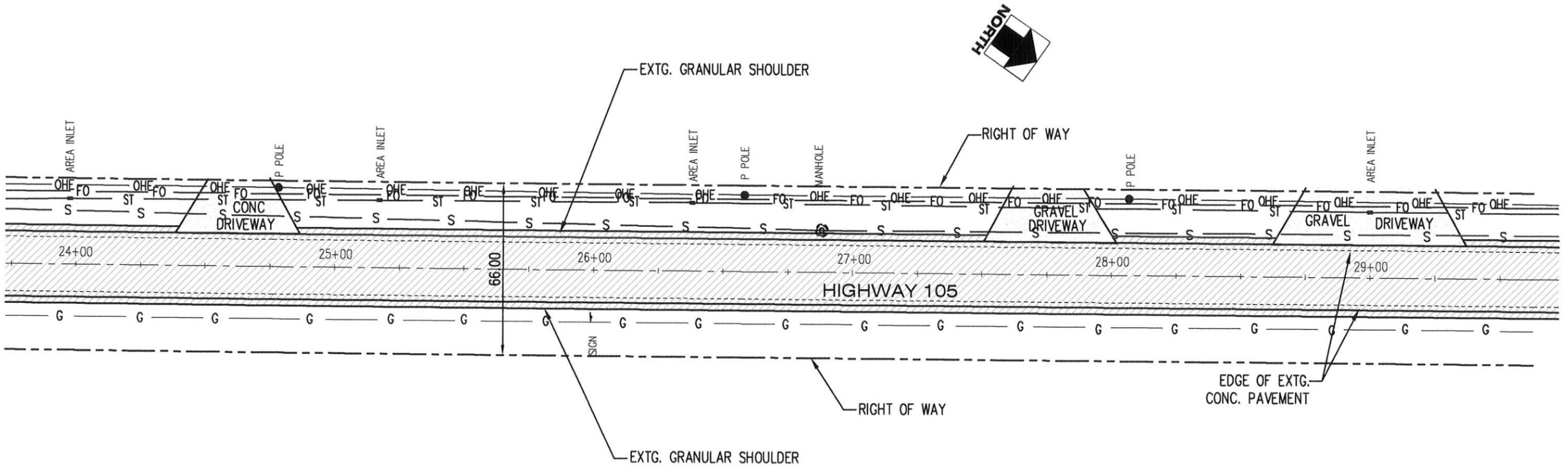


LEGEND:

 AREA OF COLD MILLING ASPHALT

REMOVAL PLANS

HIGHWAY 105
STA.=24+00 TO STA.=29+50



FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT P 8105(01)	SHEET 37	TOTAL SHEETS 66
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REVISE 3-27-14 gcm

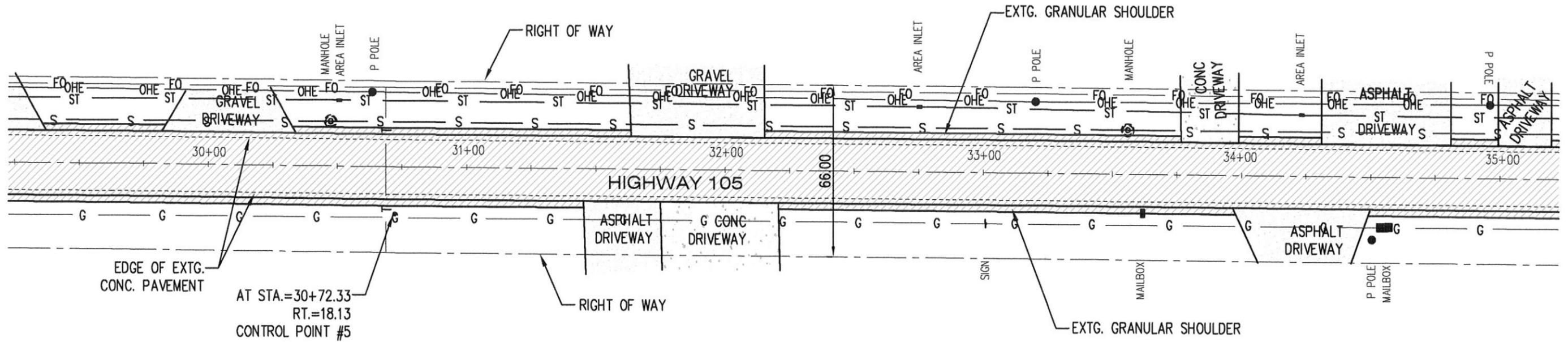


LEGEND:

AREA OF COLD MILLING ASPHALT

REMOVAL PLANS

HIGHWAY 105
STA.=29+50 TO STA.=35+00



FOR BIDDING PURPOSES ONLY

STATE OF DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 8105(01)	38	66

REVISE 2-27-14 gcm

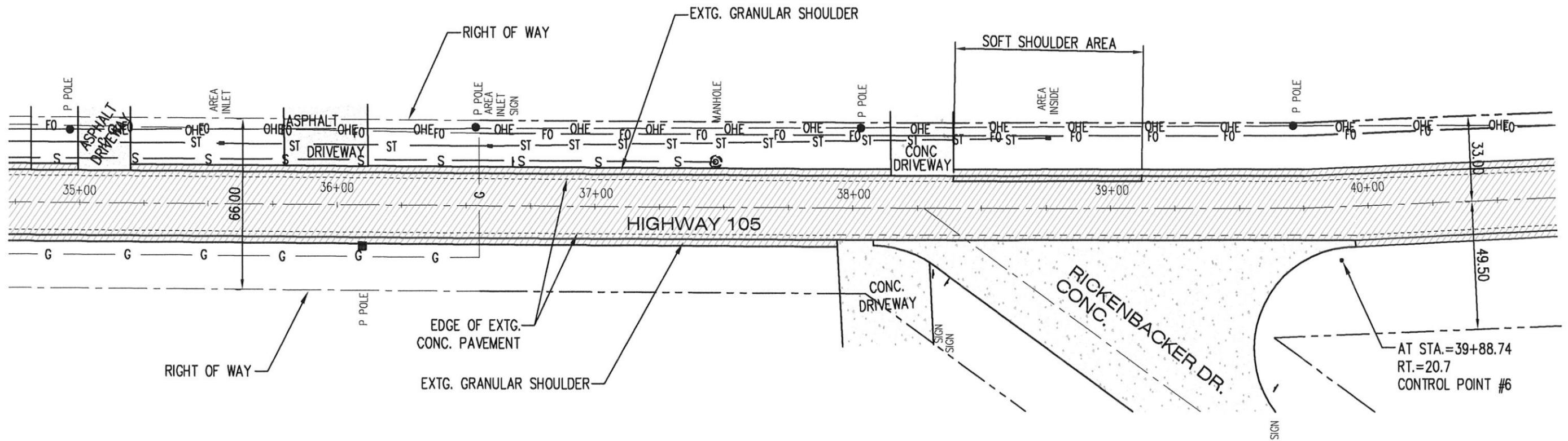


LEGEND:

 AREA OF COLD MILLING ASPHALT

REMOVAL PLANS

HIGHWAY 105
STA.=35+00 TO STA.=40+50



FOR BIDDING PURPOSES ONLY

STATE OF DAKOTA	PROJECT P 8105(01)	SHEET 39	TOTAL SHEETS 66
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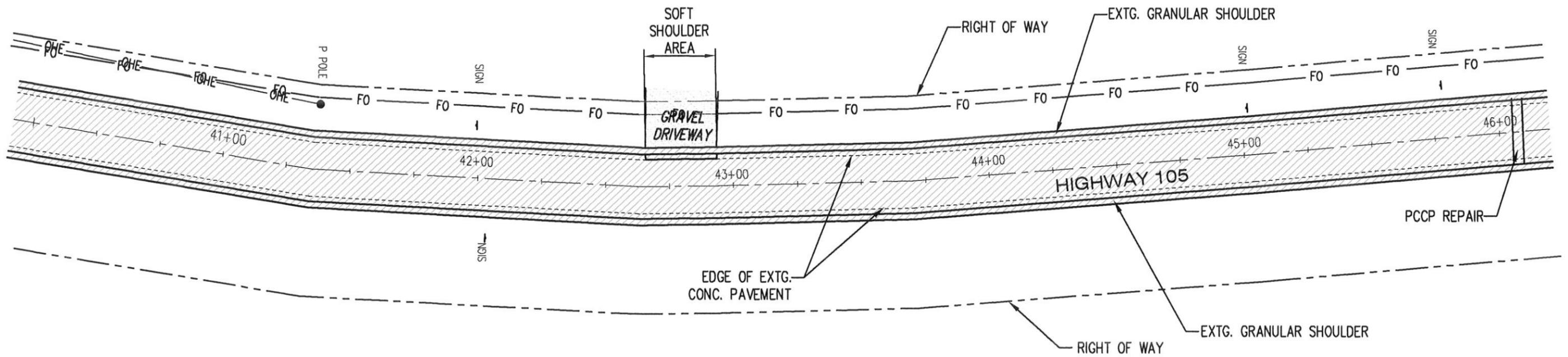
REVISE 3-27-14 gcm

LEGEND:

 AREA OF COLD MILLING ASPHALT

REMOVAL PLANS

HIGHWAY 105
STA.=40+50 TO STA.=46+00



FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 8105(01)	40	66

REVISE 3-27-14 gcm

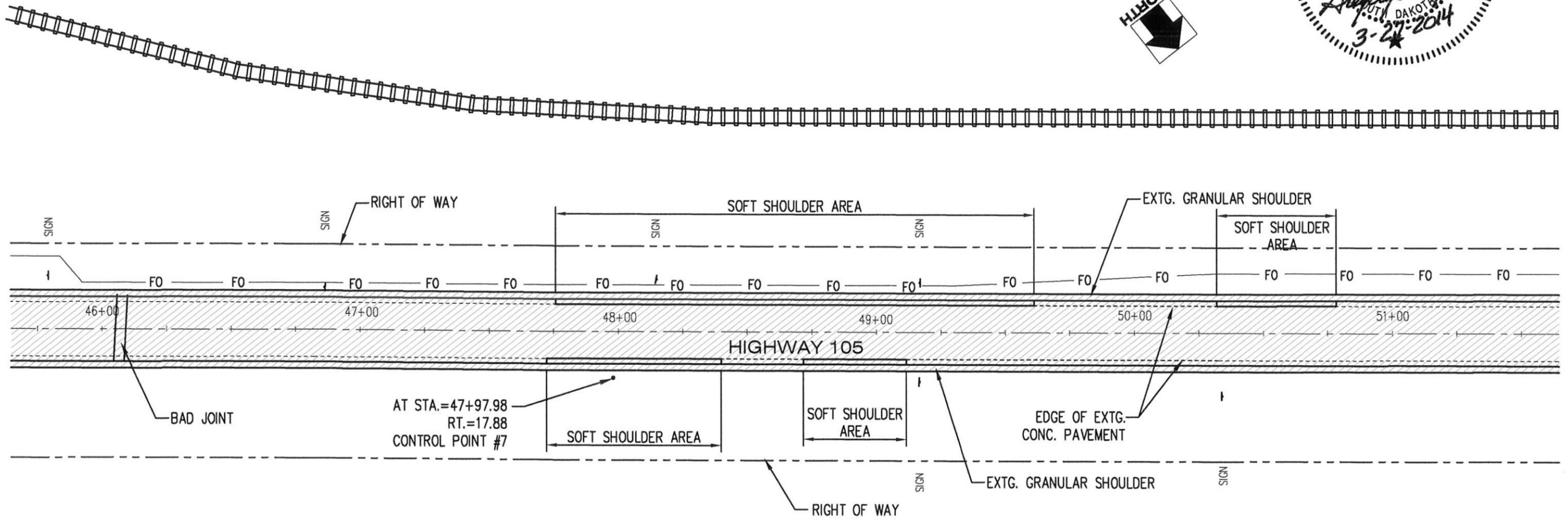


LEGEND:

 AREA OF COLD MILLING ASPHALT

REMOVAL PLANS

HIGHWAY 105
STA.=46+00 TO STA.=51+50



FOR BIDDING PURPOSES ONLY

STATE OF DAKOTA	PROJECT P 8105(01)	SHEET 41	TOTAL SHEETS 66
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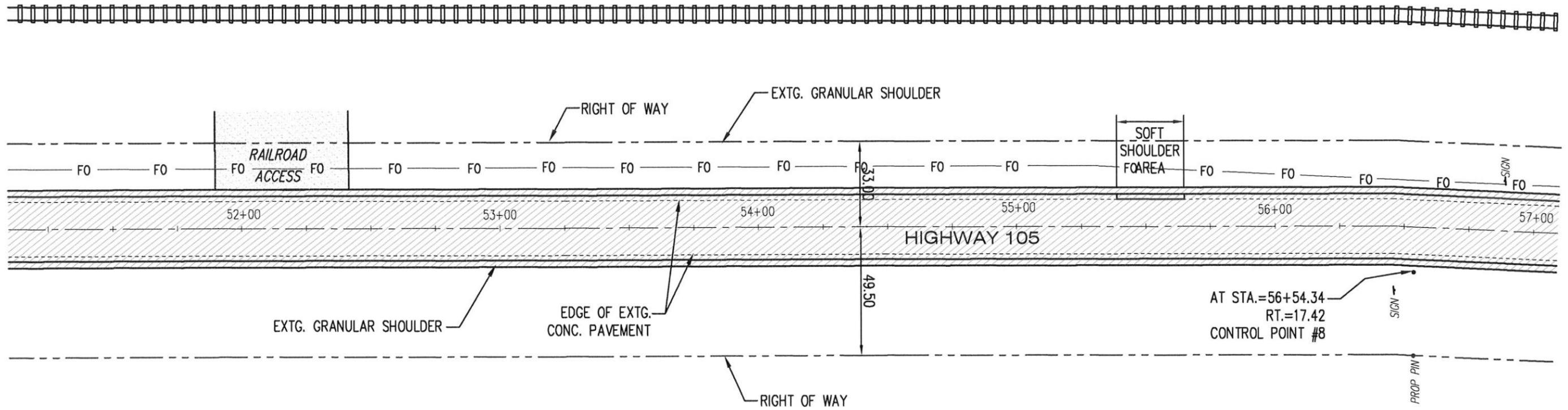
REVISE 3-27-14 gcm

LEGEND:

 AREA OF COLD MILLING ASPHALT

REMOVAL PLANS

HIGHWAY 105
STA.=51+50 TO STA.=57+00



FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT P 8105(01)	SHEET 42	TOTAL SHEETS 66
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REVISE 3-27-14 gcm

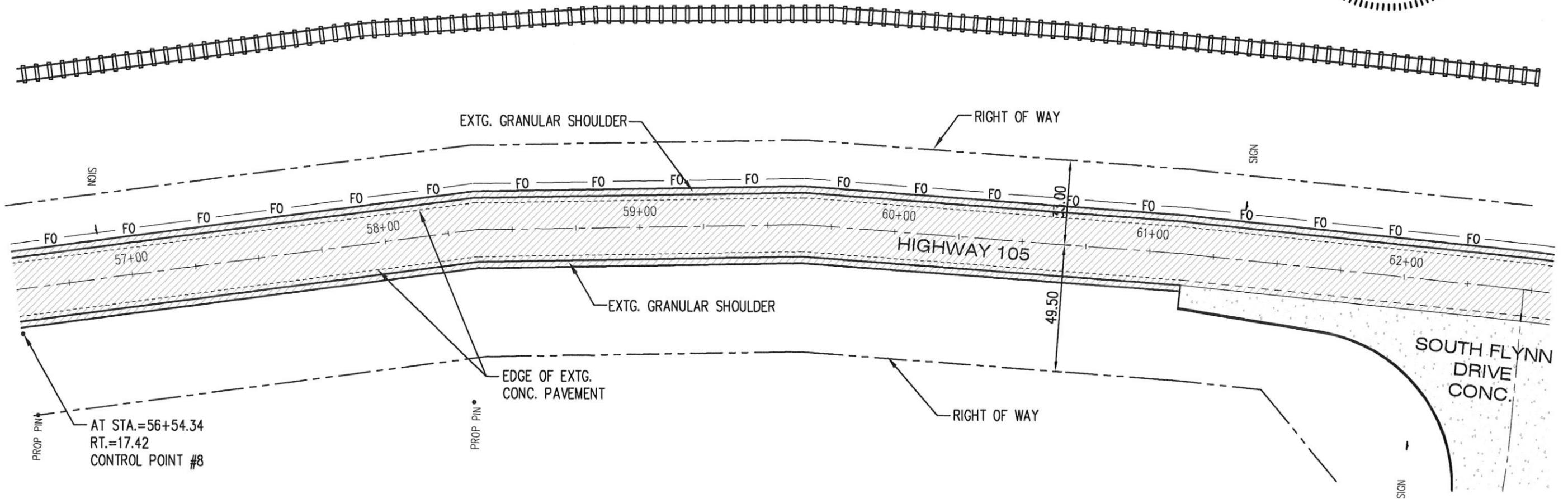
LEGEND:

 AREA OF COLD MILLING ASPHALT



REMOVAL PLANS

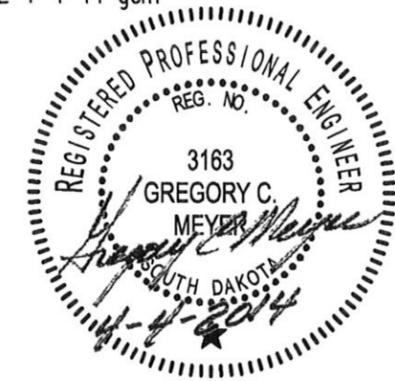
HIGHWAY 105
STA. 57+00 TO STA.=62+50



FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 8105(01)	43	66

REVISE 3-27-14 gcm
REVISE 4-4-14 gcm

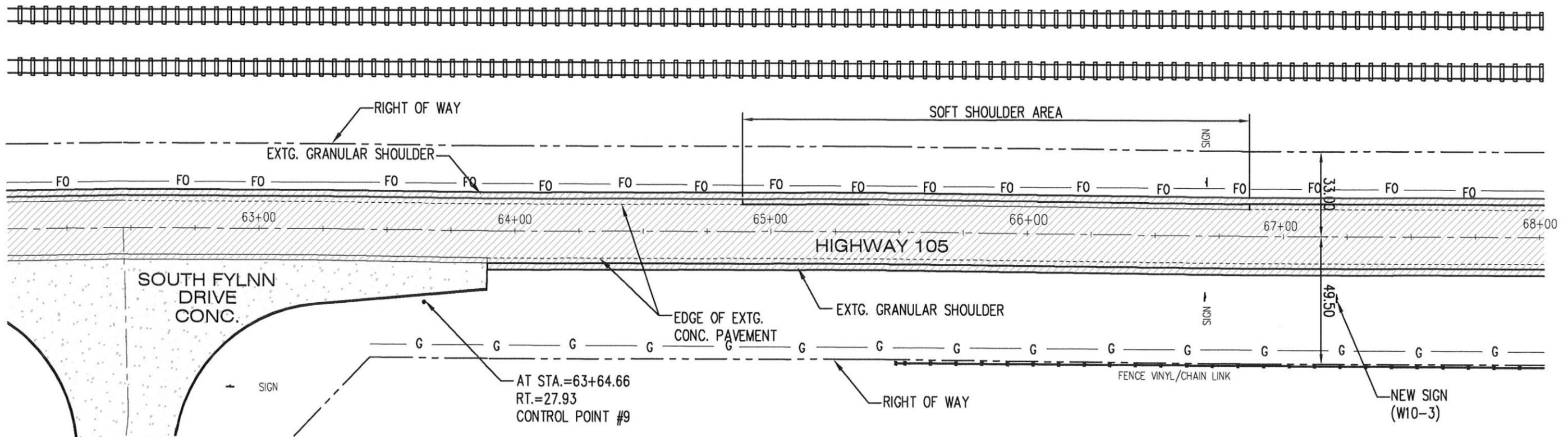


LEGEND:

AREA OF COLD MILLING ASPHALT

REMOVAL PLANS

HIGHWAY 105
STA.=62+50 TO STA.=73+25



FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT P 8105(01)	SHEET 44	TOTAL SHEETS 66
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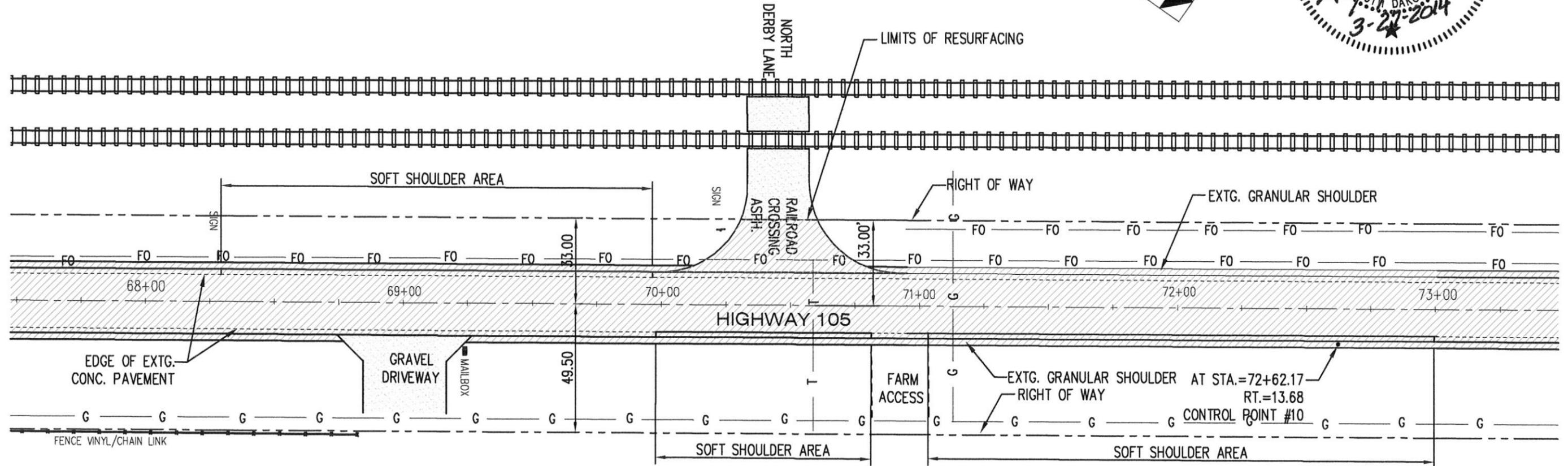
REVISE 3-27-14 gcm

LEGEND:

 AREA OF COLD MILLING ASPHALT

REMOVAL PLANS

HIGHWAY 105
STA.=68+75 TO STA.=73+25



FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 8105(01)	45	66

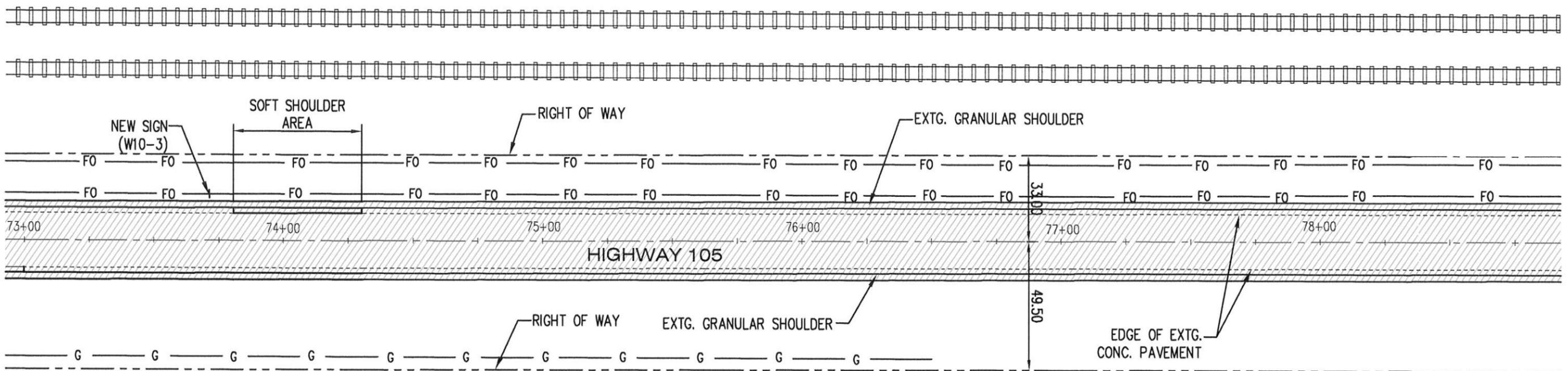
REVISE 3-27-14 gcm

LEGEND:

 AREA OF COLD MILLING ASPHALT

REMOVAL PLANS

HIGHWAY 105
STA.=73+25 TO STA.=78+75



FOR BIDDING PURPOSES ONLY

STATE OF DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 8105(01)	46	66

REVISE 3-27-14 gcm
REVISE 4-4-14 gcm

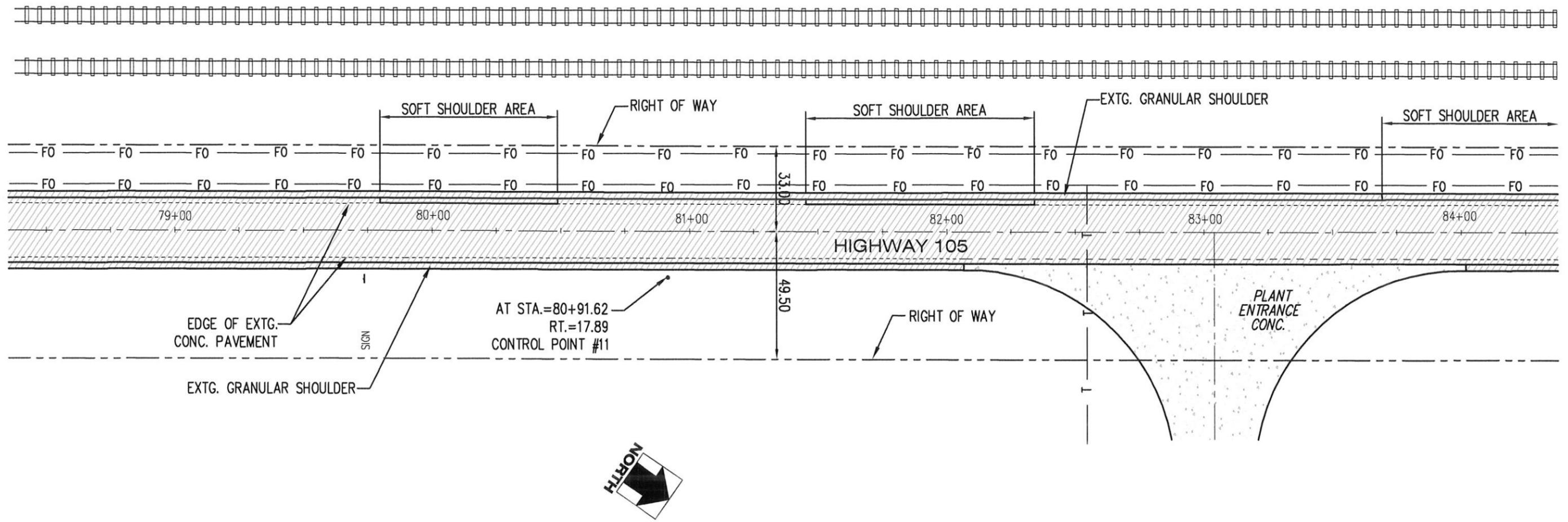


LEGEND:

 AREA OF COLD MILLING ASPHALT

REMOVAL PLANS

HIGHWAY 105
STA.=78+75 TO STA.=84+00



FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 8105(01)	47	66

REVISE 3-27-14 gcm
REVISE 4-4-14 gcm

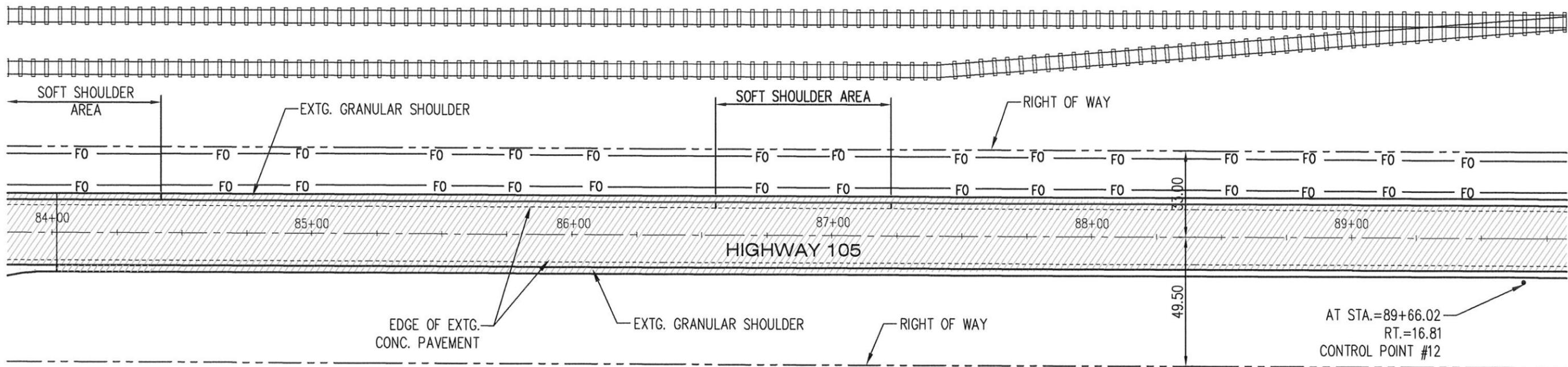


LEGEND:

 AREA OF COLD MILLING ASPHALT

REMOVAL PLANS

HIGHWAY 105
STA.=84+00 TO STA.=89+50



FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 8105(01)	48	66

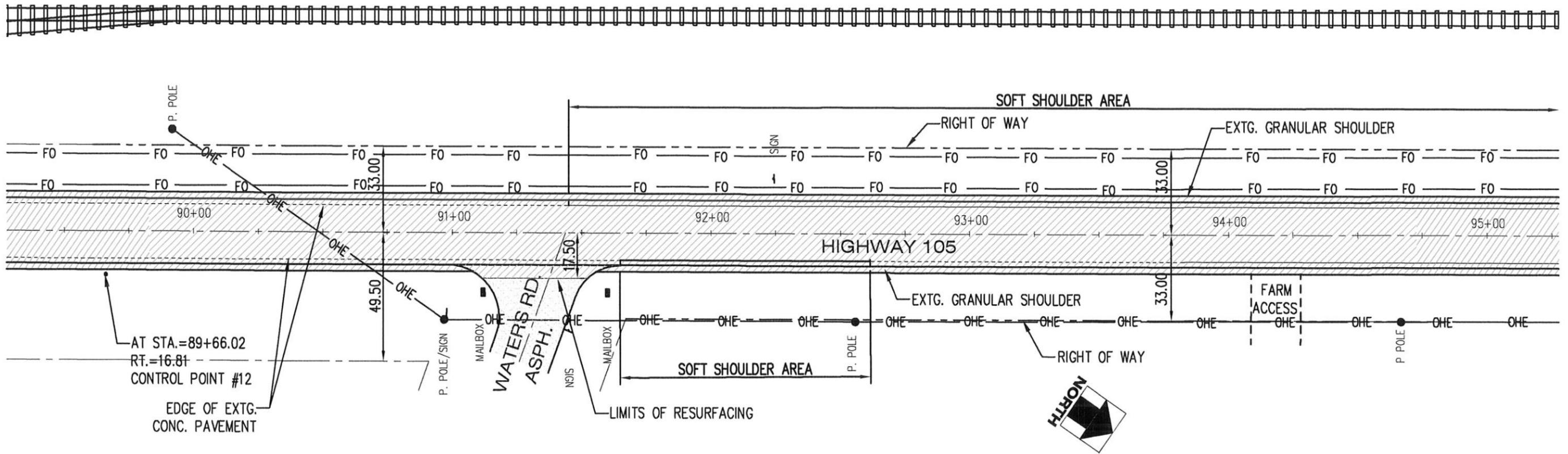
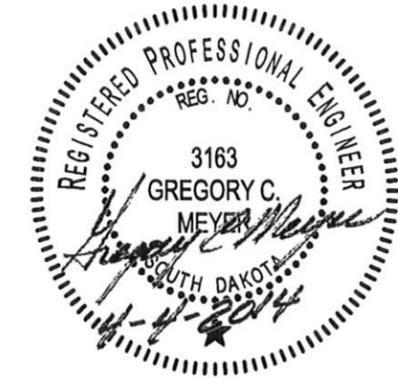
REVISE 3-27-14 gcm
REVISE 4-4-14 gcm

LEGEND:

 AREA OF COLD MILLING ASPHALT

REMOVAL PLANS

HIGHWAY 105
STA.=89+50 TO STA.=95+00



FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 8105(01)	49	66

REVISE 3-27-14 gcm
REVISE 4-4-14 gcm

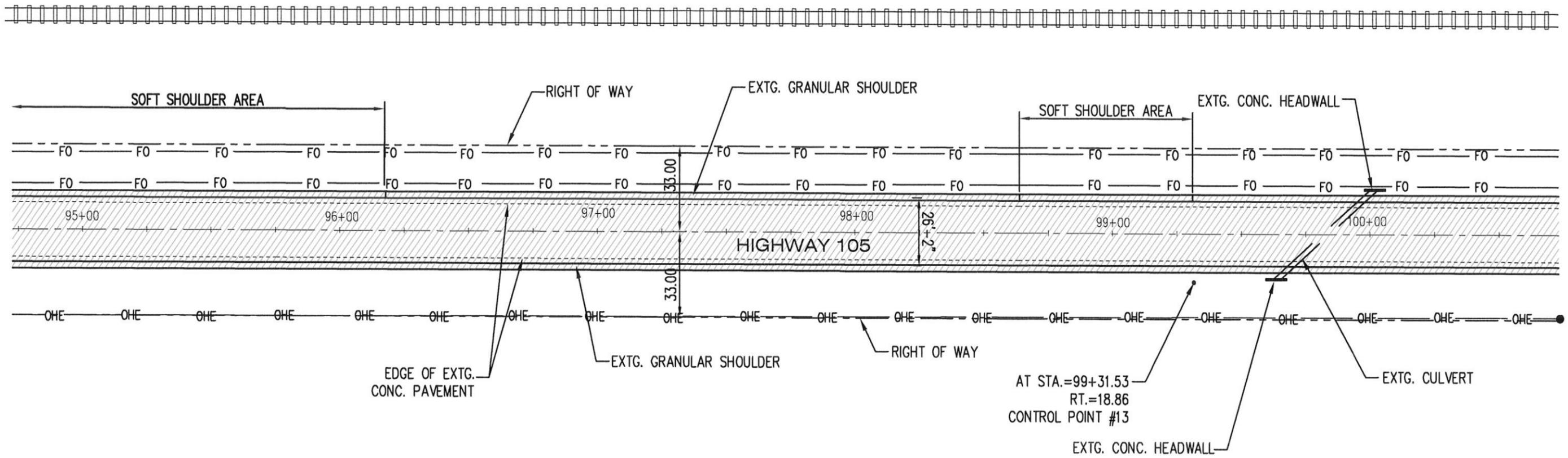


LEGEND:

AREA OF COLD MILLING ASPHALT

REMOVAL PLANS

HIGHWAY 105
STA.=95+00 TO STA.=100+50



FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 8105(01)	50	66

REVISE 3-27-14 gcm

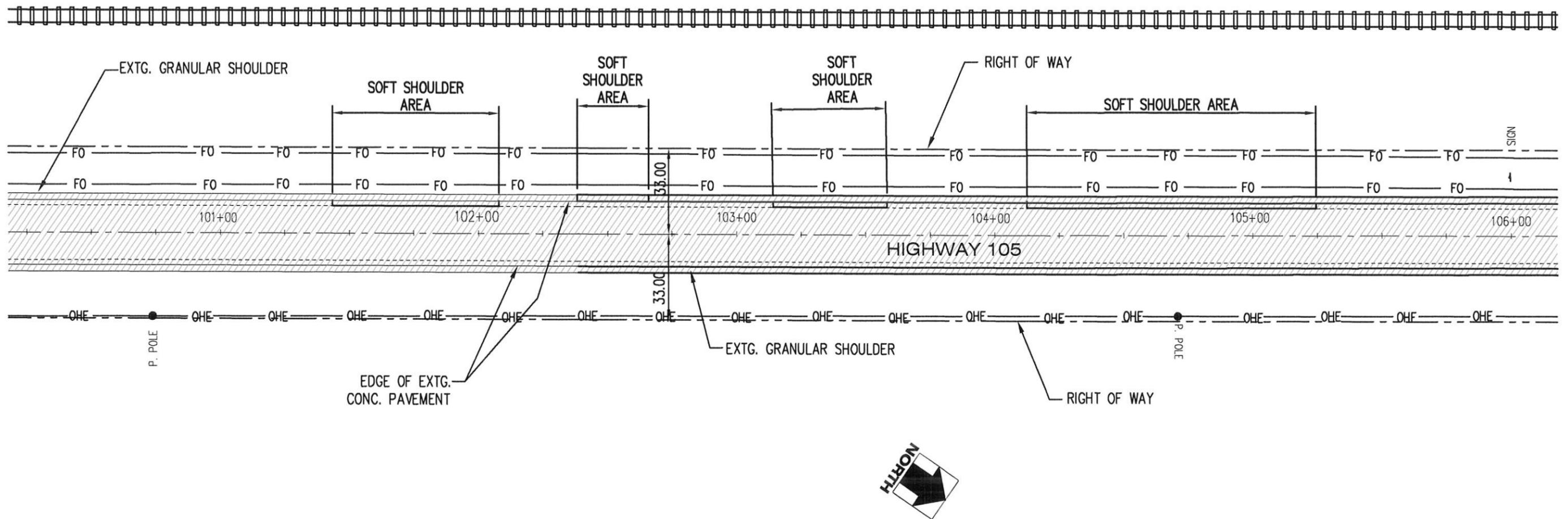


LEGEND:

 AREA OF COLD MILLING ASPHALT

REMOVAL PLANS

HIGHWAY 105
STA.=100+50 STA.=106+00



FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 8105(01)	51	66

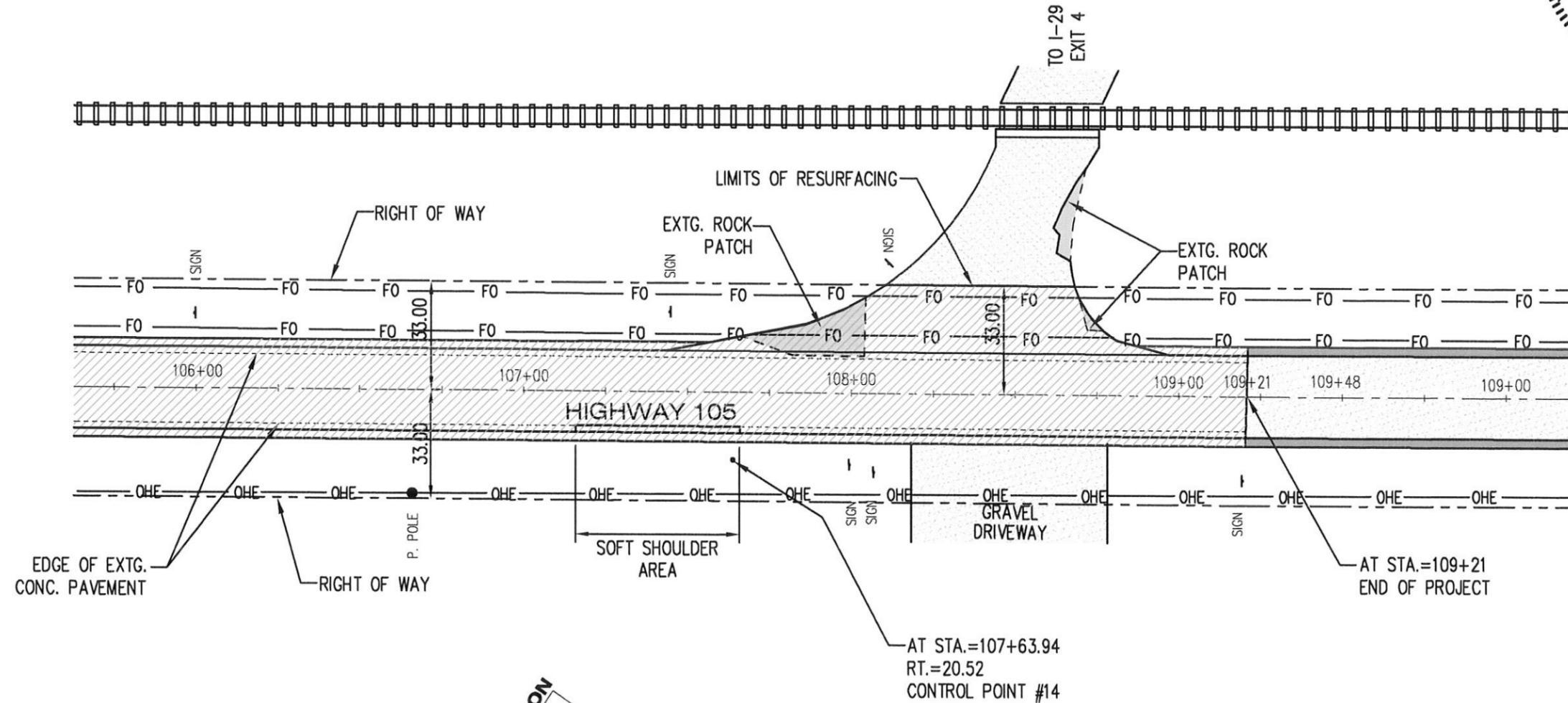
REVISE 3-27-14 gcm
REVISE 4-4-14 gcm



LEGEND:

AREA OF COLD MILLING ASPHALT

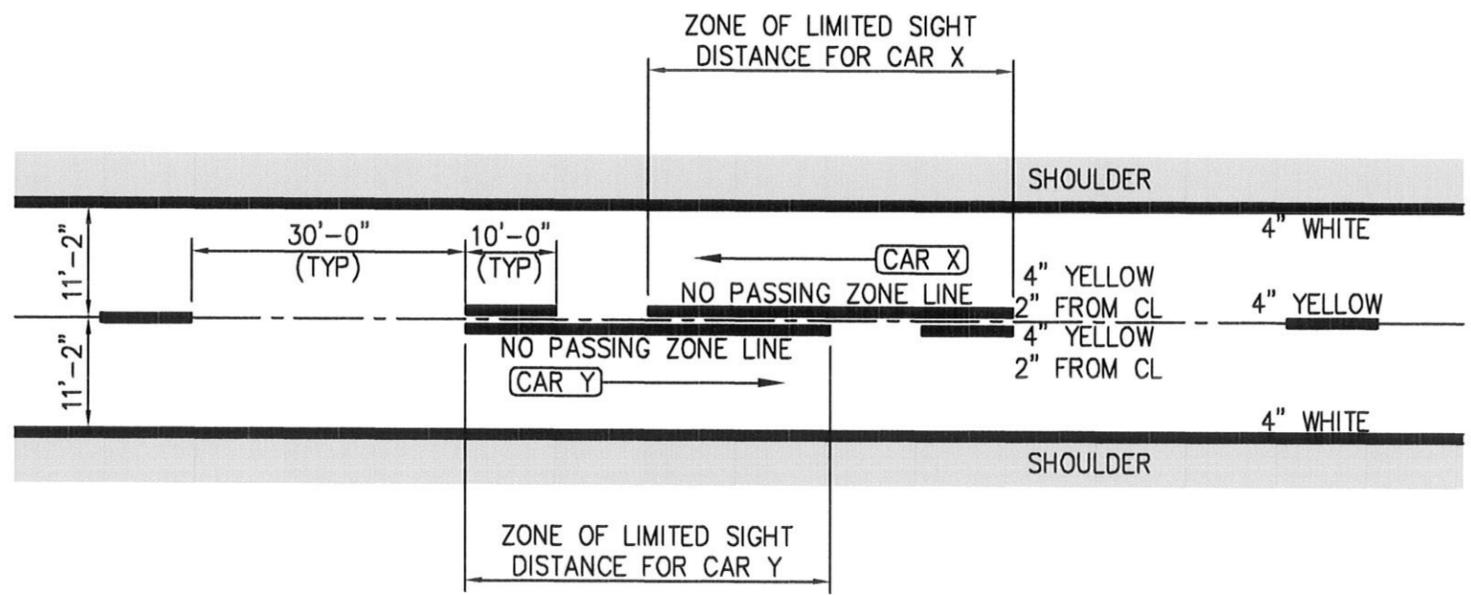
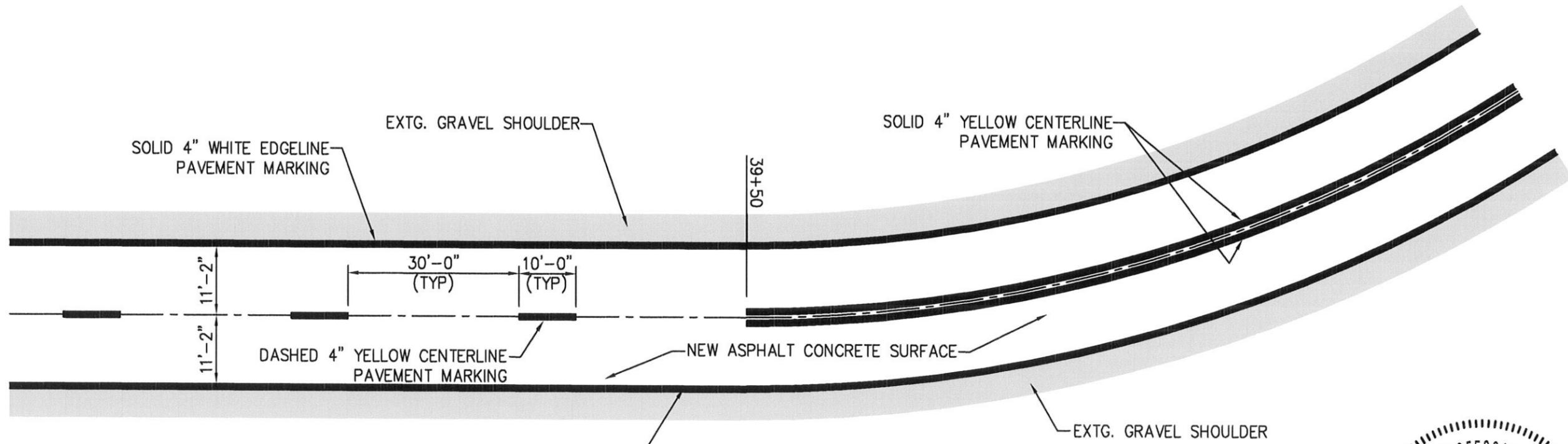
REMOVAL PLANS
HIGHWAY 105
STA.=106+00 TO STA.=109+21



FURNISHING AND APPLYING PAVEMENT MARKING PAINT TRANSITION FROM SOLID (NO PASSING ZONE) TO DASHED CENTERLINE

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 8105(01)	53	66
REVISE 3-27-14 gcm REVISE 4-3-14 gcm			



TWO LANE ROADWAY

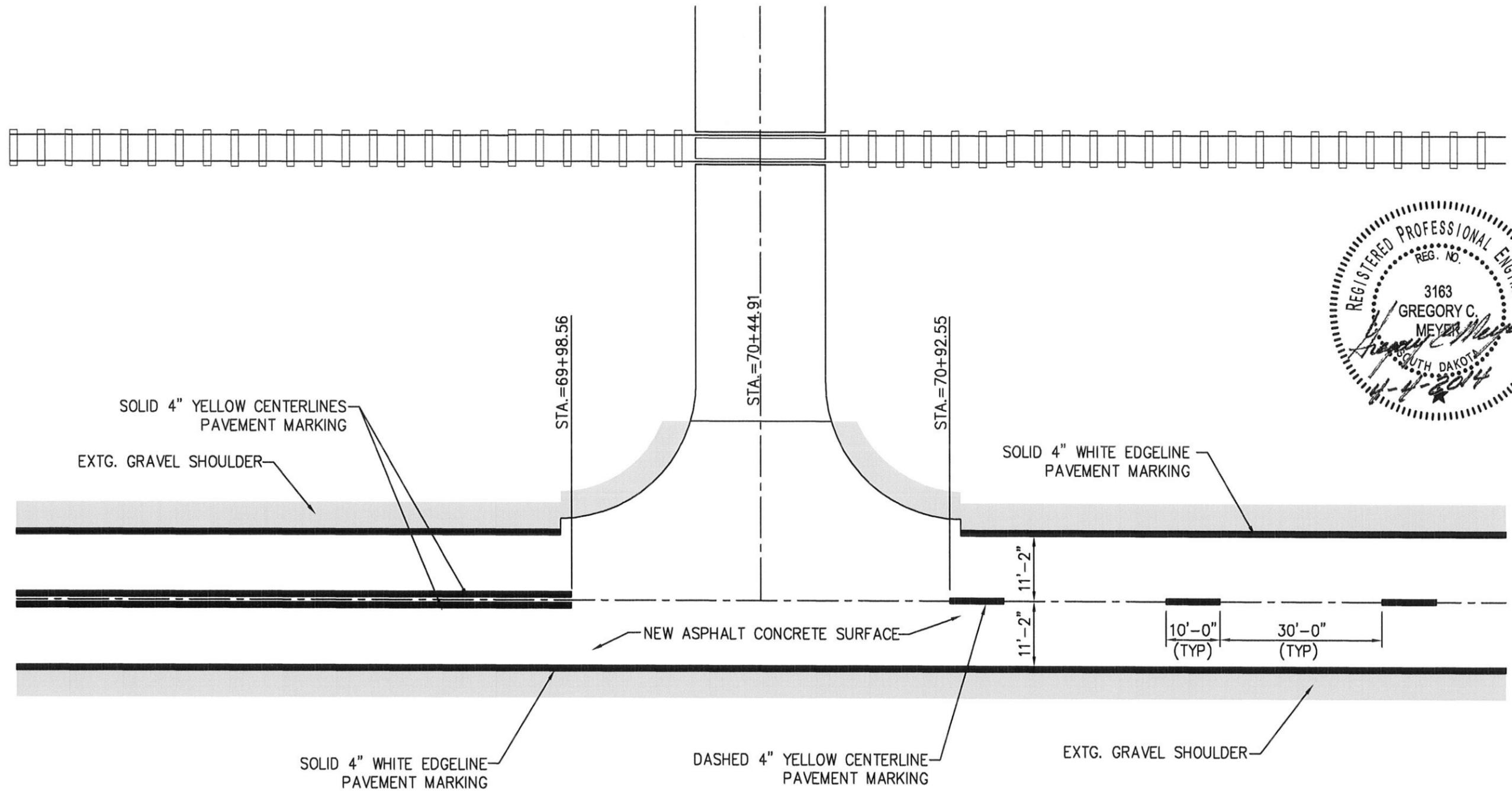


FURNISHING AND APPLYING PAVEMENT MARKING PAINT TRANSITION FROM DASHED TO SOLID (NO PASSING ZONE) CENTERLINE

FOR BIDDING PURPOSES ONLY

STATE OF DAKOTA	PROJECT P 8105(01)	SHEET 54	TOTAL SHEETS 66
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REVISE 3-27-14 gcm
REVISE 4-3-14 gcm



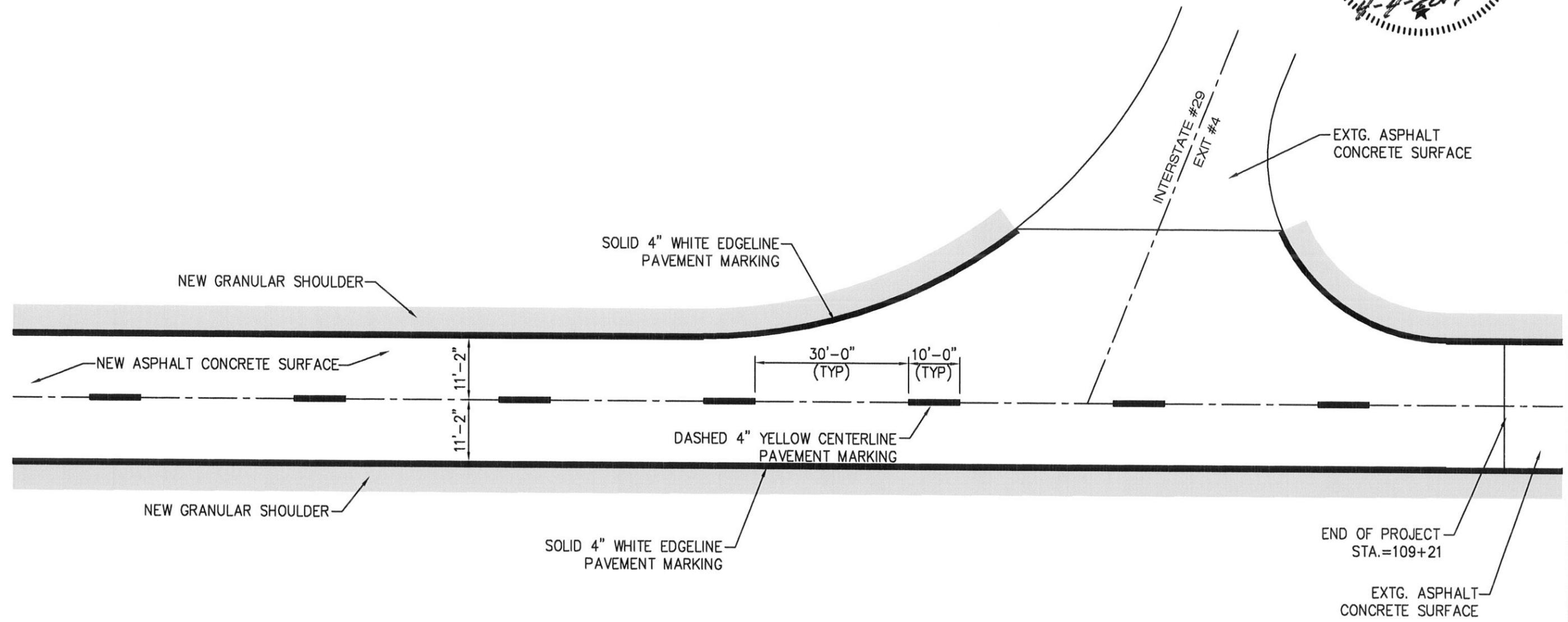
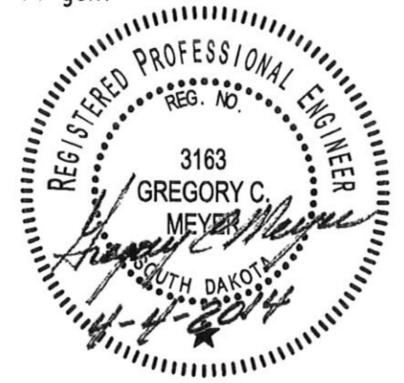
FURNISHING AND APPLYING PAVEMENT MARKING PAINT

DASHED CENTERLINE MARKINGS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT P 8105(01)	SHEET 55	TOTAL SHEETS 66
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REVISE 3-27-14 gcm
REVISE 4-3-14 gcm

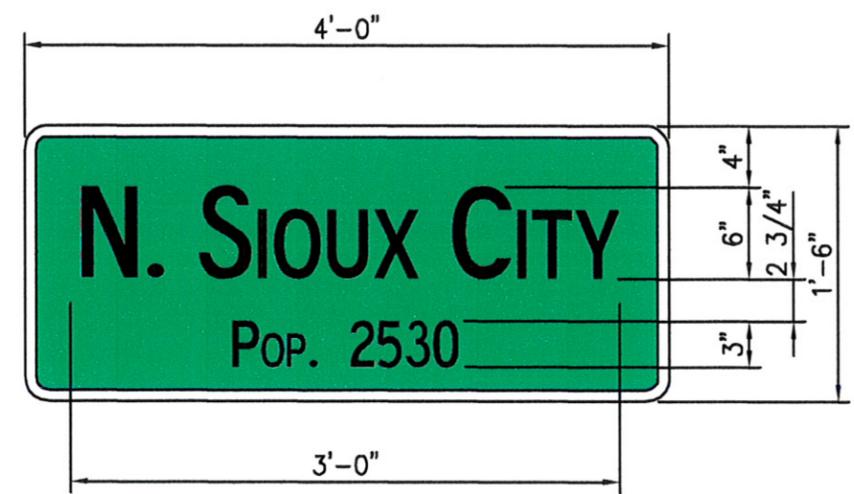


FOR BIDDING PURPOSES ONLY

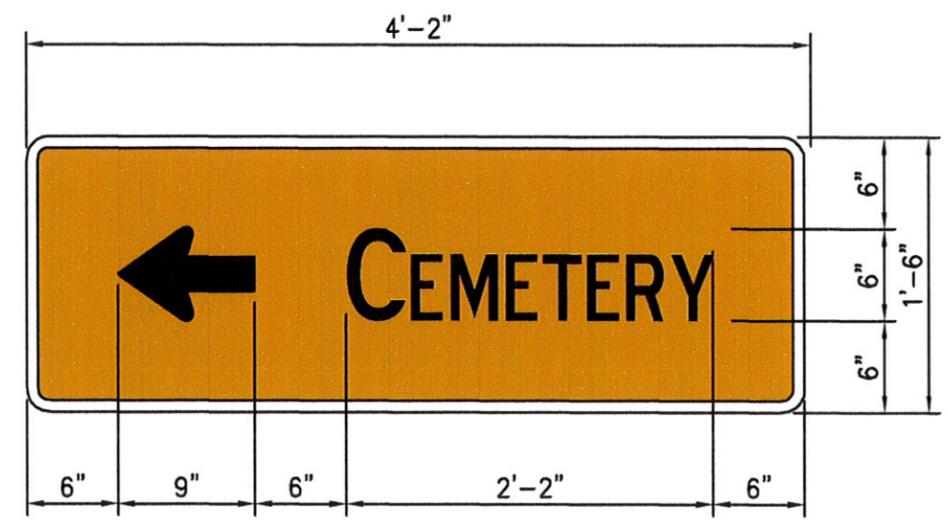
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P8105(01)	56	66

SPECIAL SIGN DESIGN

REVISE 3-27-14 gcm



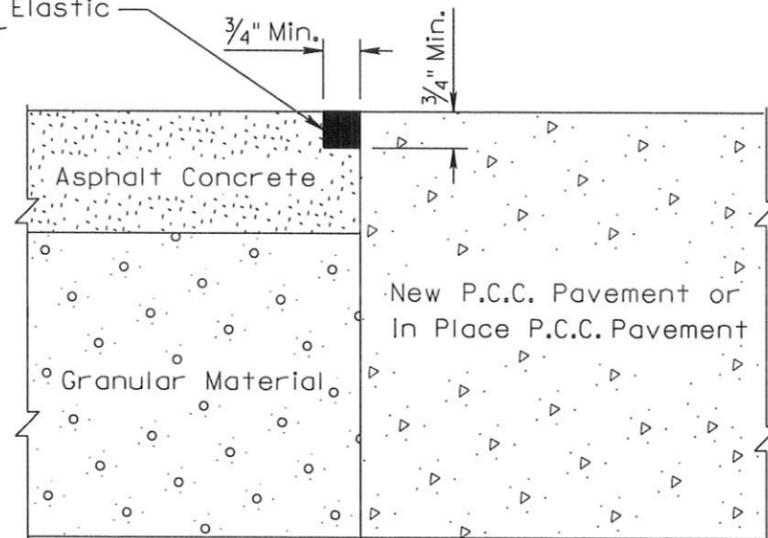
BORDER:
R=1.5"
TH=0.75"



BORDER:
R=1.5"
TH=0.5"

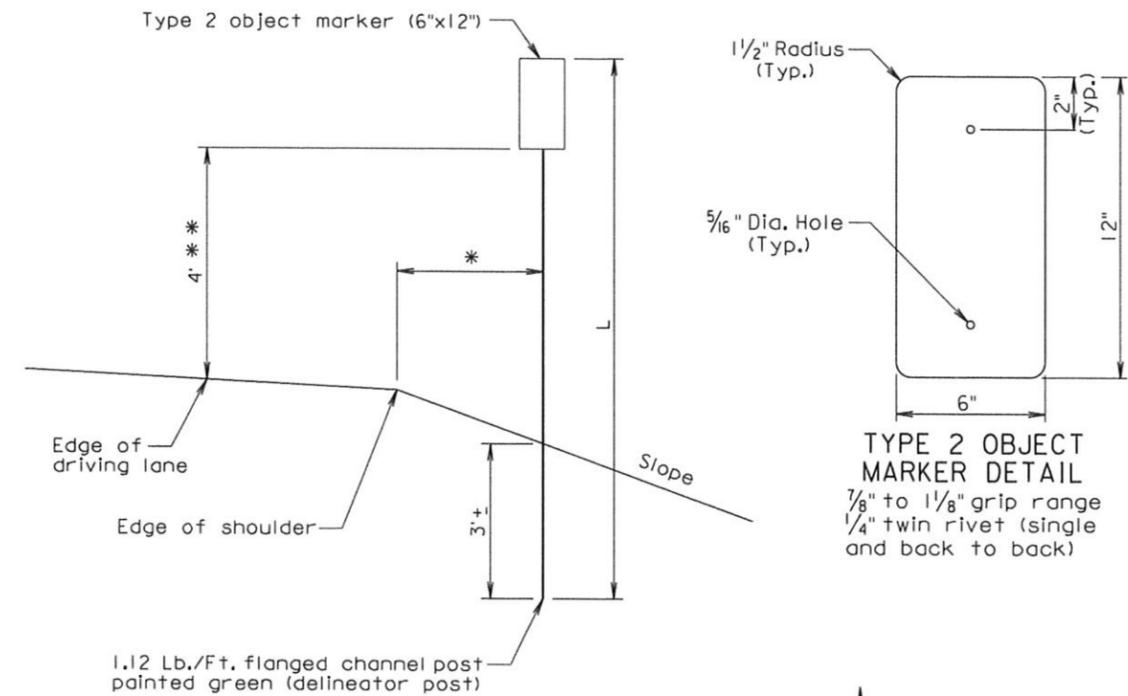
- Note:**
1. USE HIGHWAY 'D' FONT
 2. LETTERS AND NUMBER SHALL BE WHITE

Hot Poured Elastic Joint Sealer

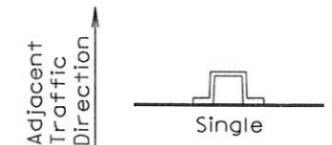


March 31, 2000

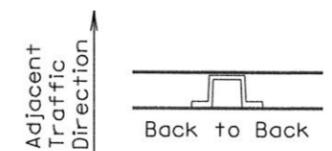
Published Date: 1st Qtr. 2014	S D D O T	ASPHALT CONCRETE SHOULDER JOINT ADJACENT TO PCC PAVEMENT	PLATE NUMBER 320.15
			Sheet 1 of 1



- * Type 2 object markers to be in same line as existing delineators. If no delineators are present, place type 2 object markers 6' from the edge of shoulder.
- ** Type 2 object markers shall be 4' above the ground when placed more than 8' from edge of shoulder.



DIVIDED HIGHWAYS
EXCEPT MEDIANS



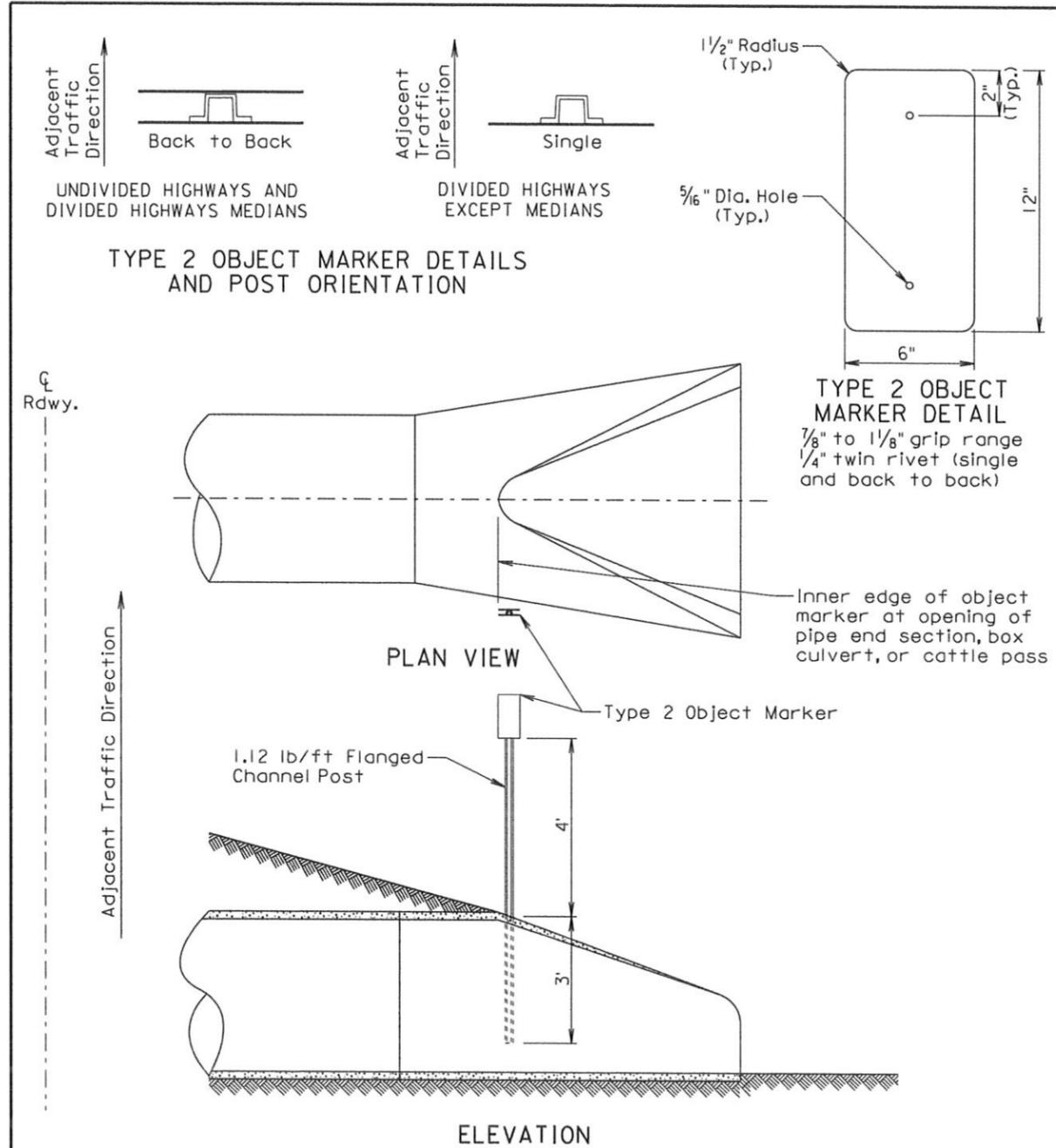
UNDIVIDED HIGHWAYS AND
DIVIDED HIGHWAYS MEDIANS

TYPE 2 OBJECT MARKER DETAILS
AND POST ORIENTATION

Distance To Marker (Ft.) *	Post Length L (Ft.)							
	2	3	4	5	6	7	8	
Slope	4:1	9	9	9	9	10	10	10
	3:1	9	9	9	10	10	10	11

June 26, 2006

Published Date: 1st Qtr. 2014	S D D O T	TYPE 2 OBJECT MARKER (DIRECT DRIVE)	PLATE NUMBER 632.01
			Sheet 1 of 1



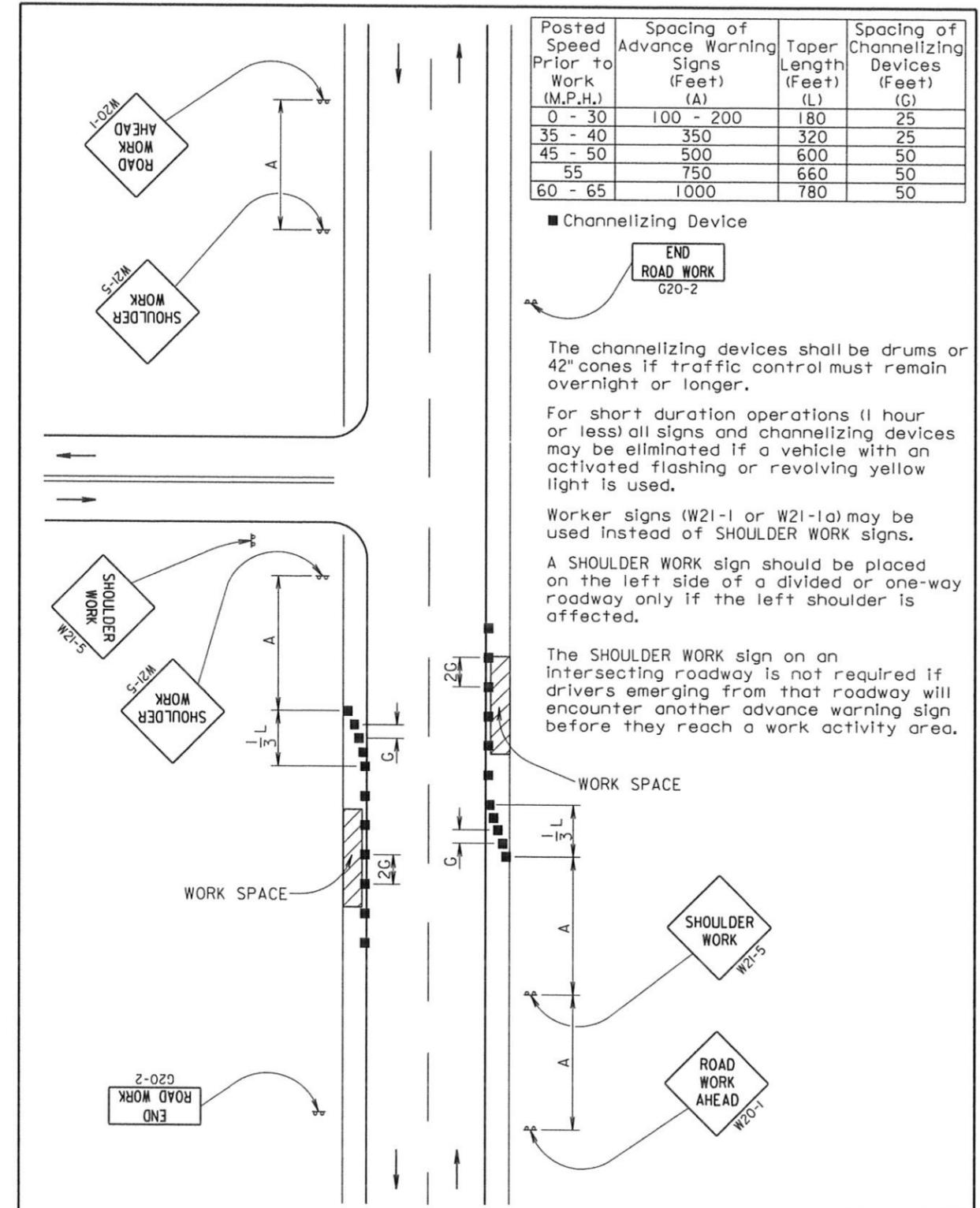
GENERAL NOTES:

The type 2 object markers shall conform to Standard Specifications Section 982.2 I.

The 1.12 lb/ft flanged channel post shall conform to Standard Specifications Section 982.2 I.6.

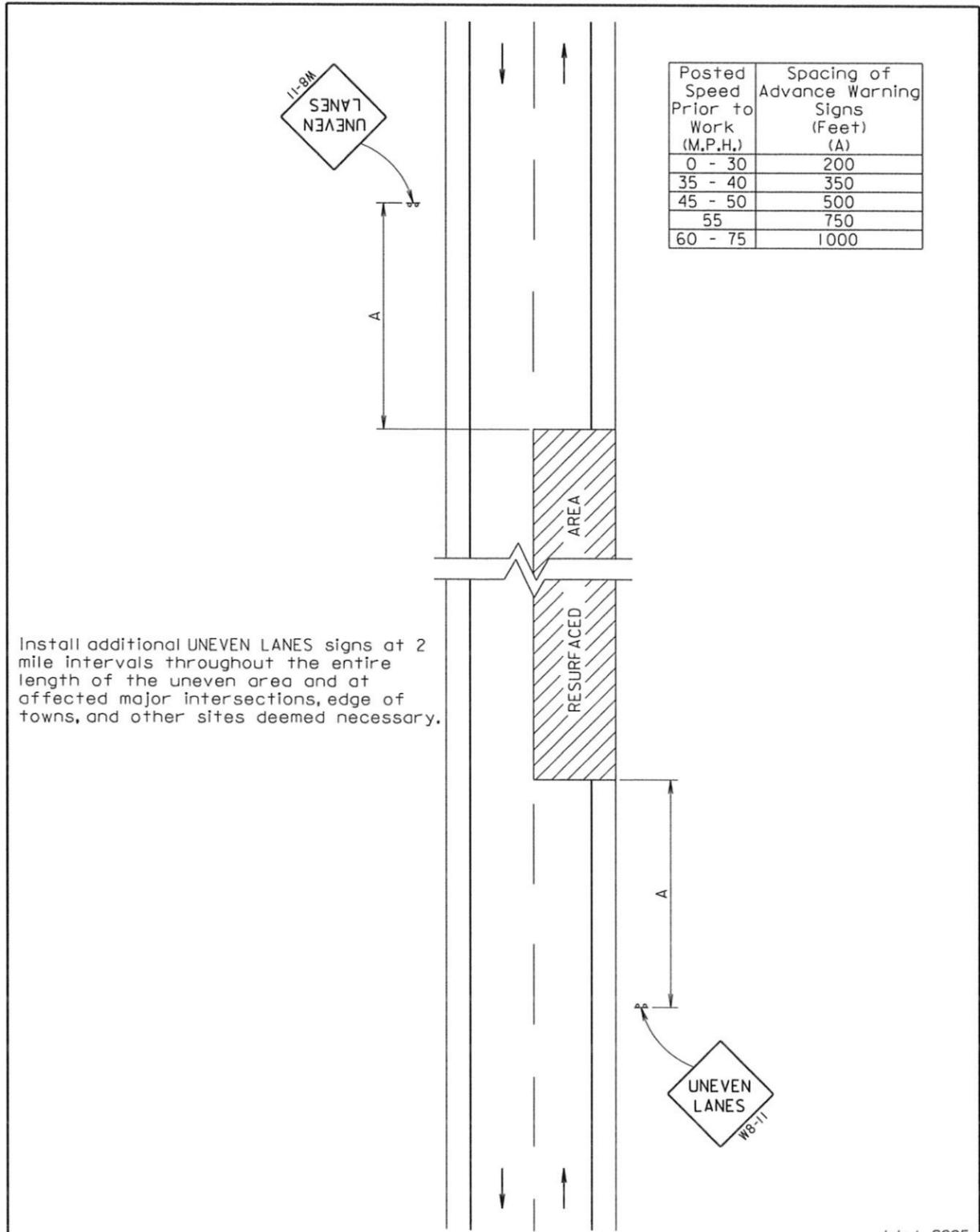
Payment for the type 2 object markers shall be in conformance with Standard Specification Section 632.5 C.

June 26, 2006

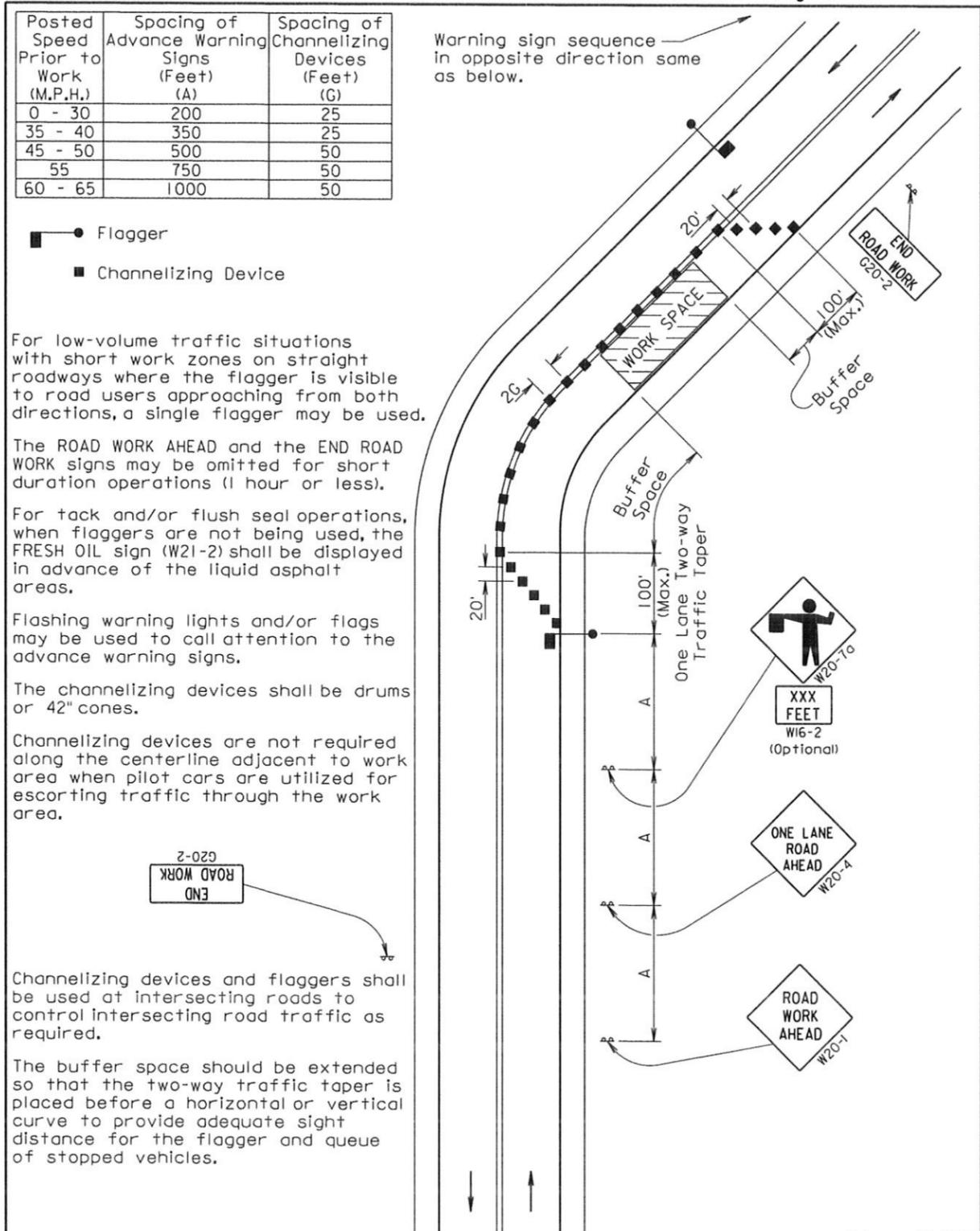


February 14, 2011

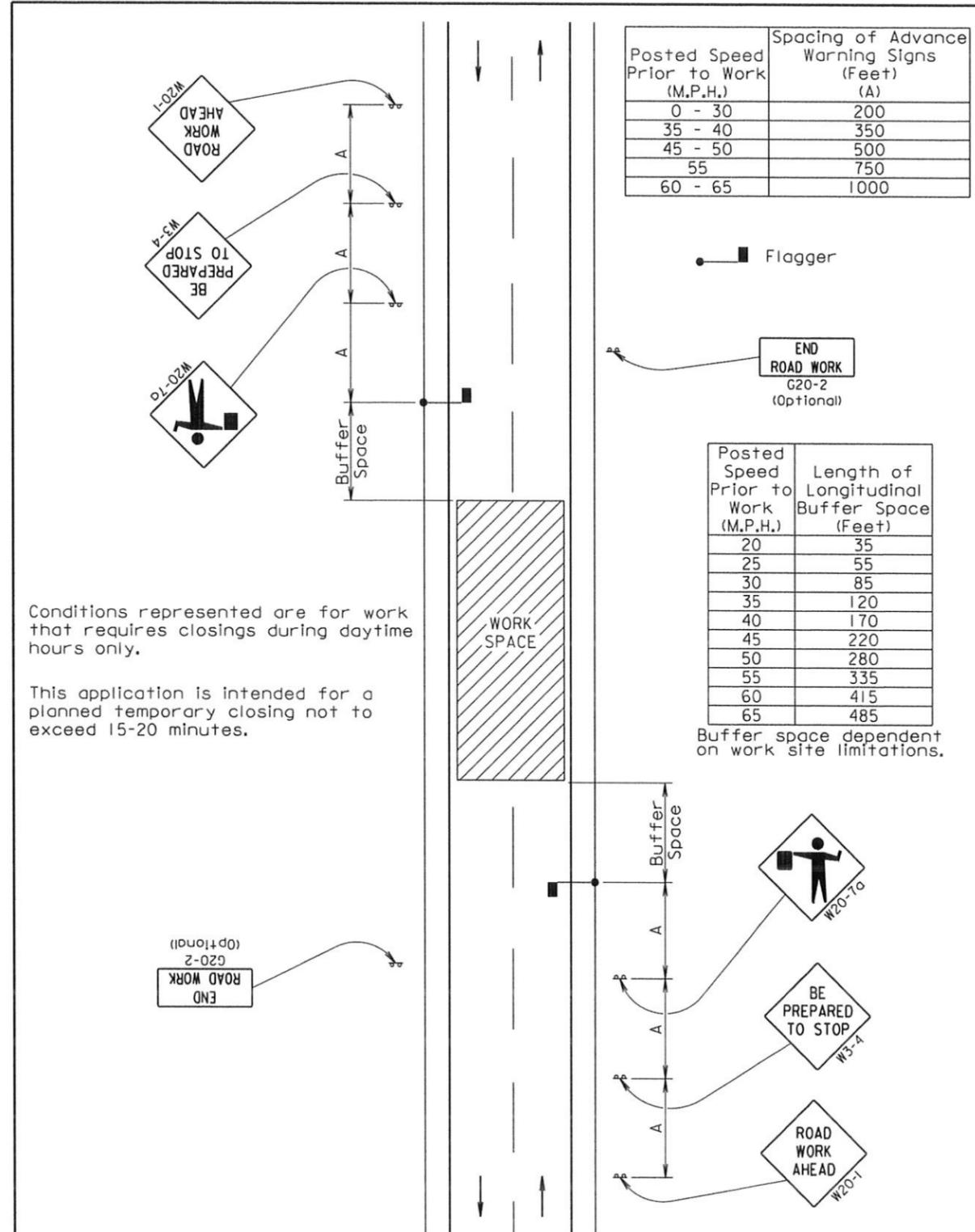
REVISED 3-27-14 gcm

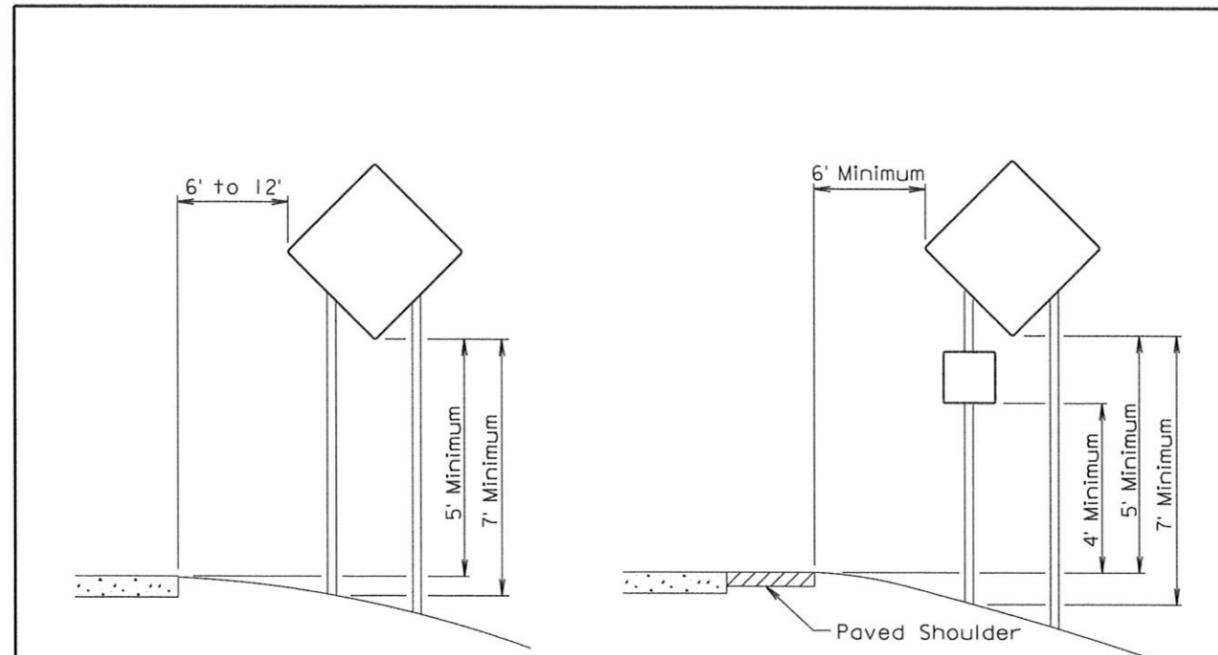


July 1, 2005



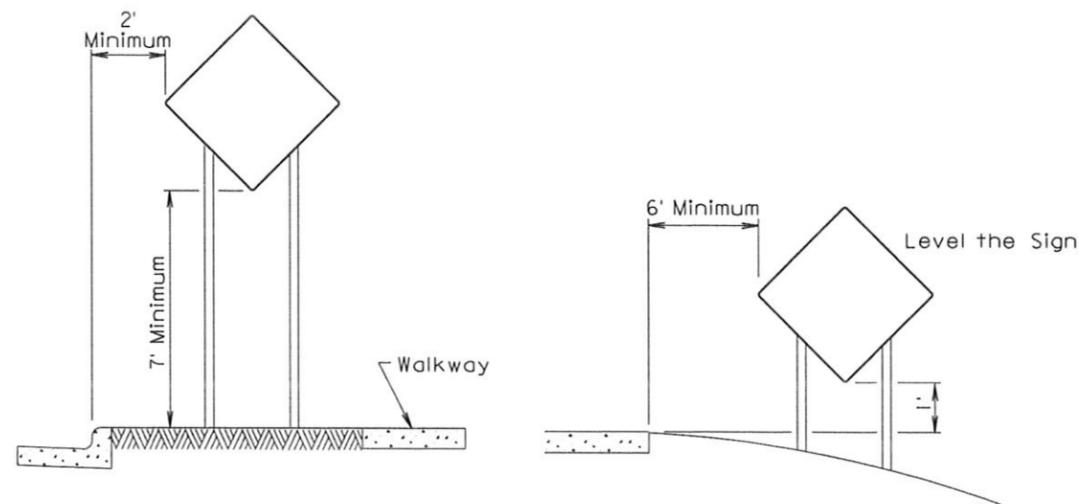
February 14, 2011





RURAL DISTRICT

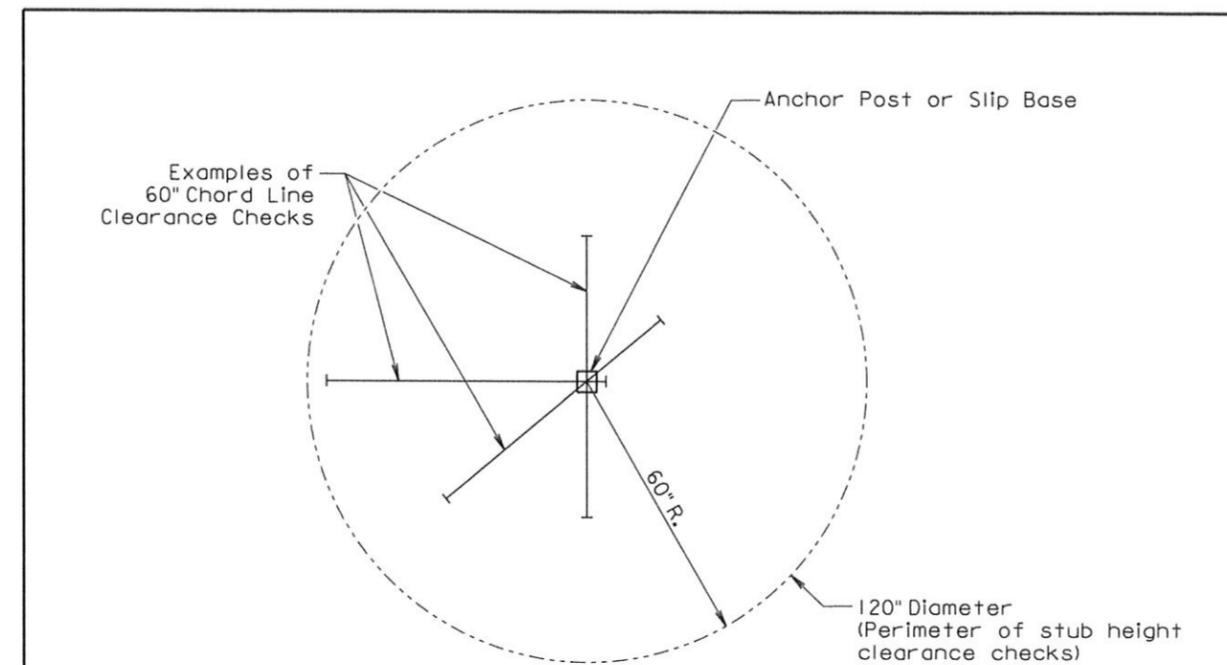
RURAL DISTRICT WITH SUPPLEMENTAL PLATE



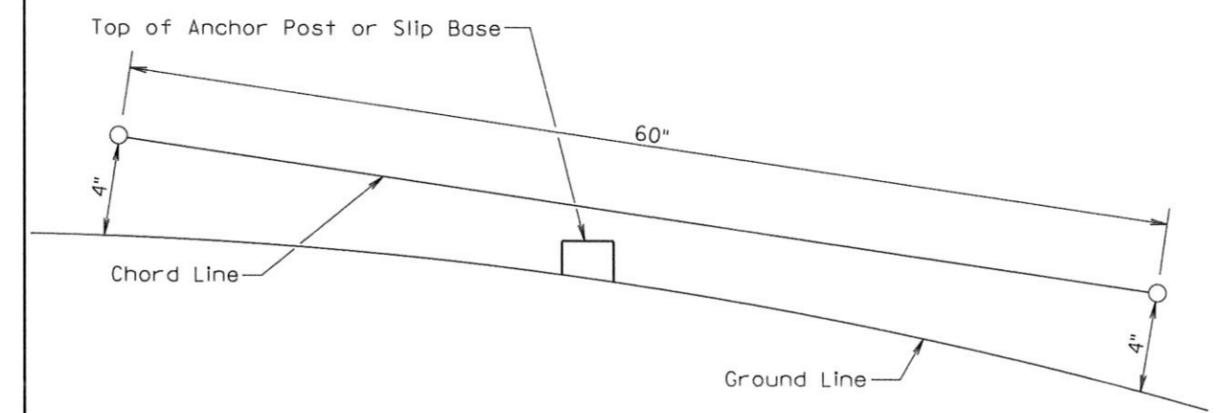
URBAN DISTRICT

RURAL DISTRICT 3 DAY MAXIMUM

February 14, 2011



PLAN VIEW
(Examples of stub height clearance checks)



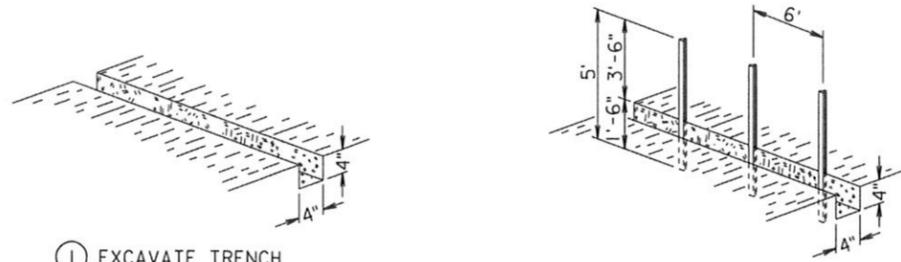
ELEVATION VIEW

GENERAL NOTES:

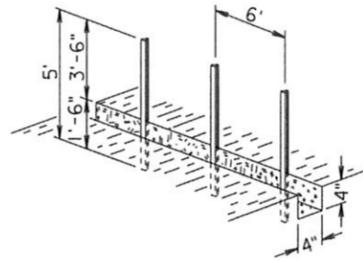
- The top of anchor posts and slip bases SHALL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.
- At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height shall be a maximum of 4" above the ground 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

MANUAL HIGH FLOW SILT FENCE INSTALLATION



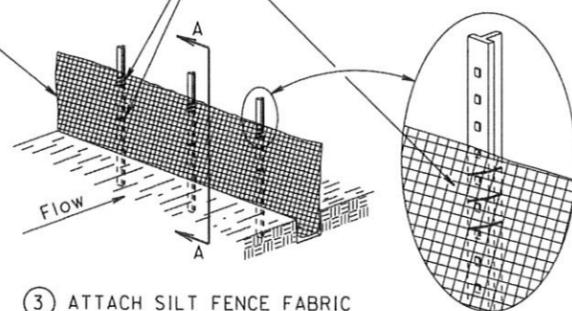
① EXCAVATE TRENCH



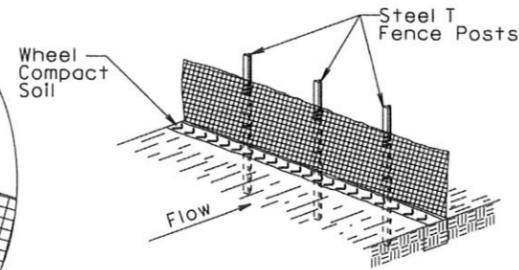
② DRIVE STEEL T FENCE POSTS

Attach the silt fence fabric with a total of 4 plastic or wire ties per post. Three ties shall be used at the top and 1 tie shall be approximately at mid-point of the post.

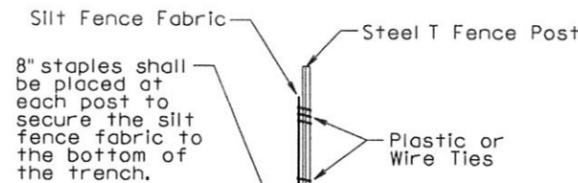
Fabric for silt fence shall be 36" minimum width.



③ ATTACH SILT FENCE FABRIC



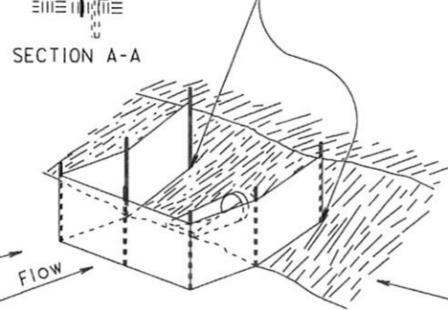
④ BACKFILL TRENCH AND WHEEL COMPACT SOIL



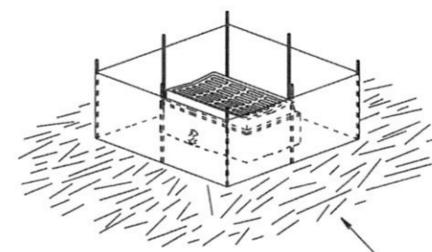
8" staples shall be placed at each post to secure the silt fence fabric to the bottom of the trench.

SECTION A-A

The elevation at these locations shall be, at a minimum, higher than the top of the silt fence fabric at its lowest elevation.



The silt fence length and width may be adjusted due to a larger pipe, multiple pipe, or other circumstances during construction as determined by the Engineer.



Post spacing shall be 3' for these types of applications of silt fence. All other components of the silt fence shall be the same as shown above.

December 23, 2003

S
D
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T

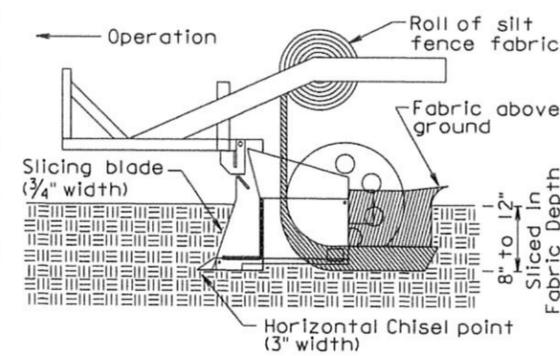
HIGH FLOW SILT FENCE

PLATE NUMBER
734.05

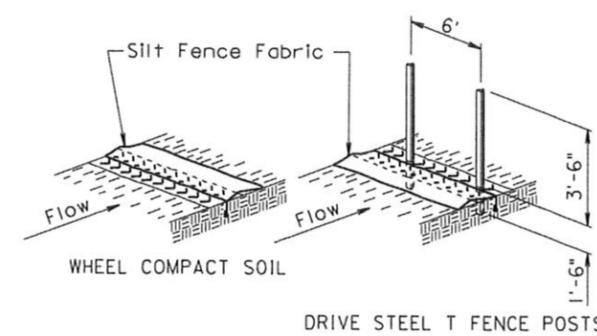
Sheet 1 of 2

Published Date: 1st Qtr. 2014

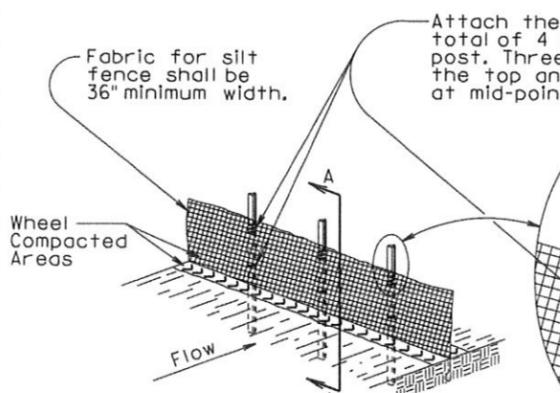
MACHINE SLICED HIGH FLOW SILT FENCE INSTALLATION



① INSTALL SILT FENCE FABRIC BY MACHINE SLICING METHOD.



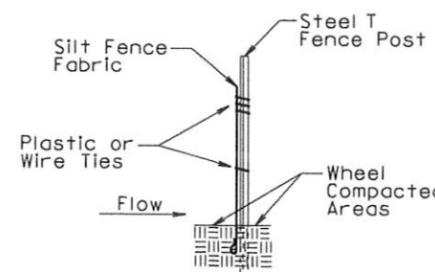
② WHEEL COMPACT SOIL ABOVE SLICED IN PORTION OF FABRIC AND THEN DRIVE STEEL T FENCE POSTS.



③ ATTACH SILT FENCE FABRIC

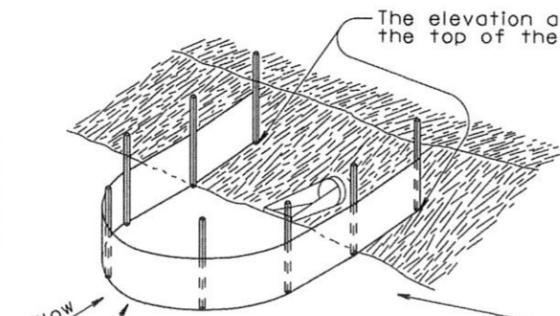
Attach the silt fence fabric with a total of 4 plastic or wire ties per post. Three ties shall be used at the top and 1 tie shall be approximately at mid-point of the post.

Fabric for silt fence shall be 36" minimum width.



SECTION A-A

The elevation at these locations shall be, at a minimum, higher than the top of the silt fence fabric at its lowest elevation.



The silt fence length and width may be adjusted due to a larger pipe, multiple pipe, or other circumstances during construction as determined by the Engineer.

The radius of the silt fence shall be the minimum capable by the slicing machine. The post spacing shall be 3' for these types of applications of silt fence. All the other components of the silt fence shall be the same as shown above.

GENERAL NOTE:

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

December 23, 2003

S
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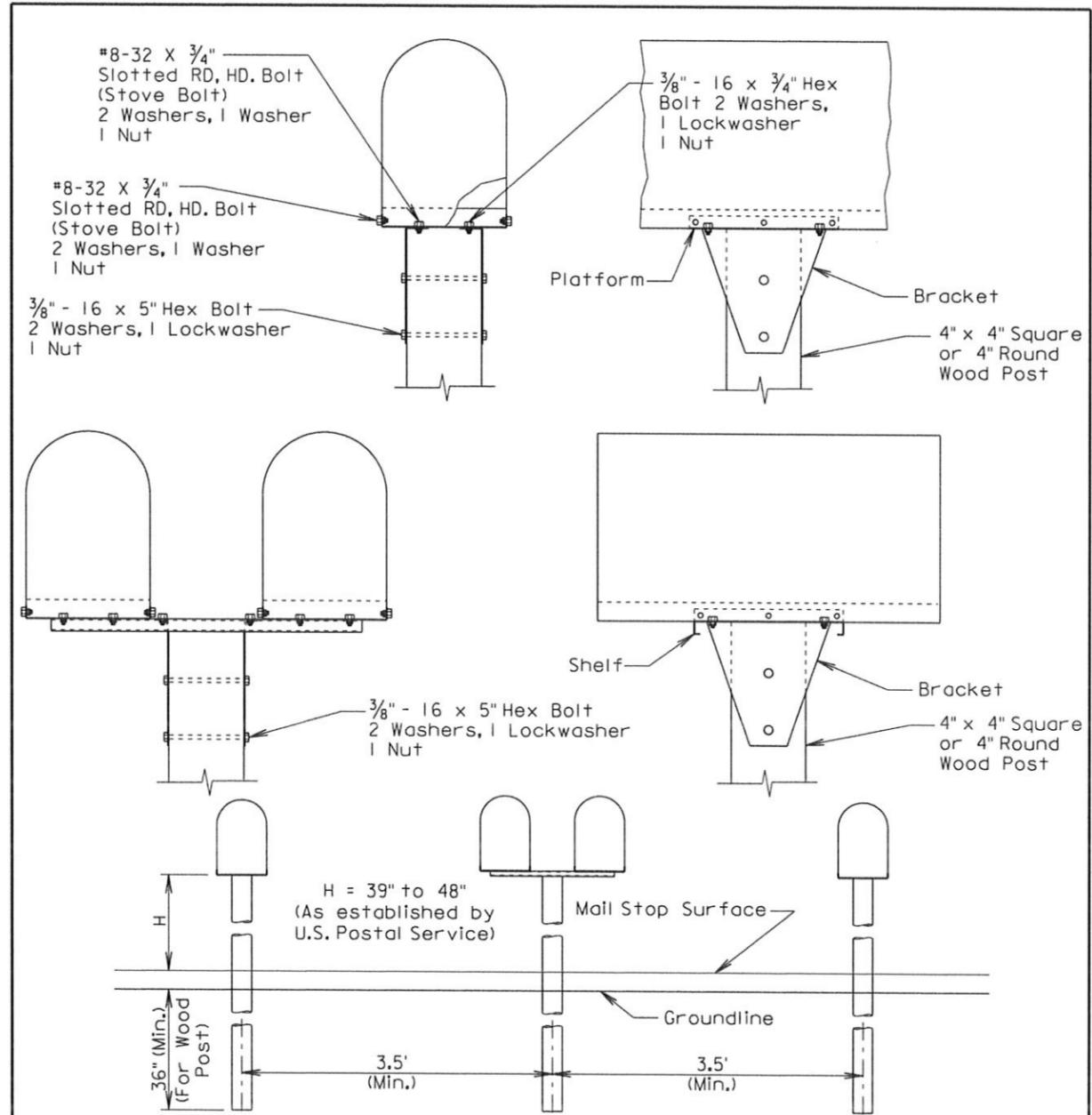
HIGH FLOW SILT FENCE

PLATE NUMBER
734.05

Sheet 2 of 2

Published Date: 1st Qtr. 2014

REVISE 3-27-14 gcm



GENERAL NOTES:

SPACING FOR MULTIPLE POST INSTALLATION

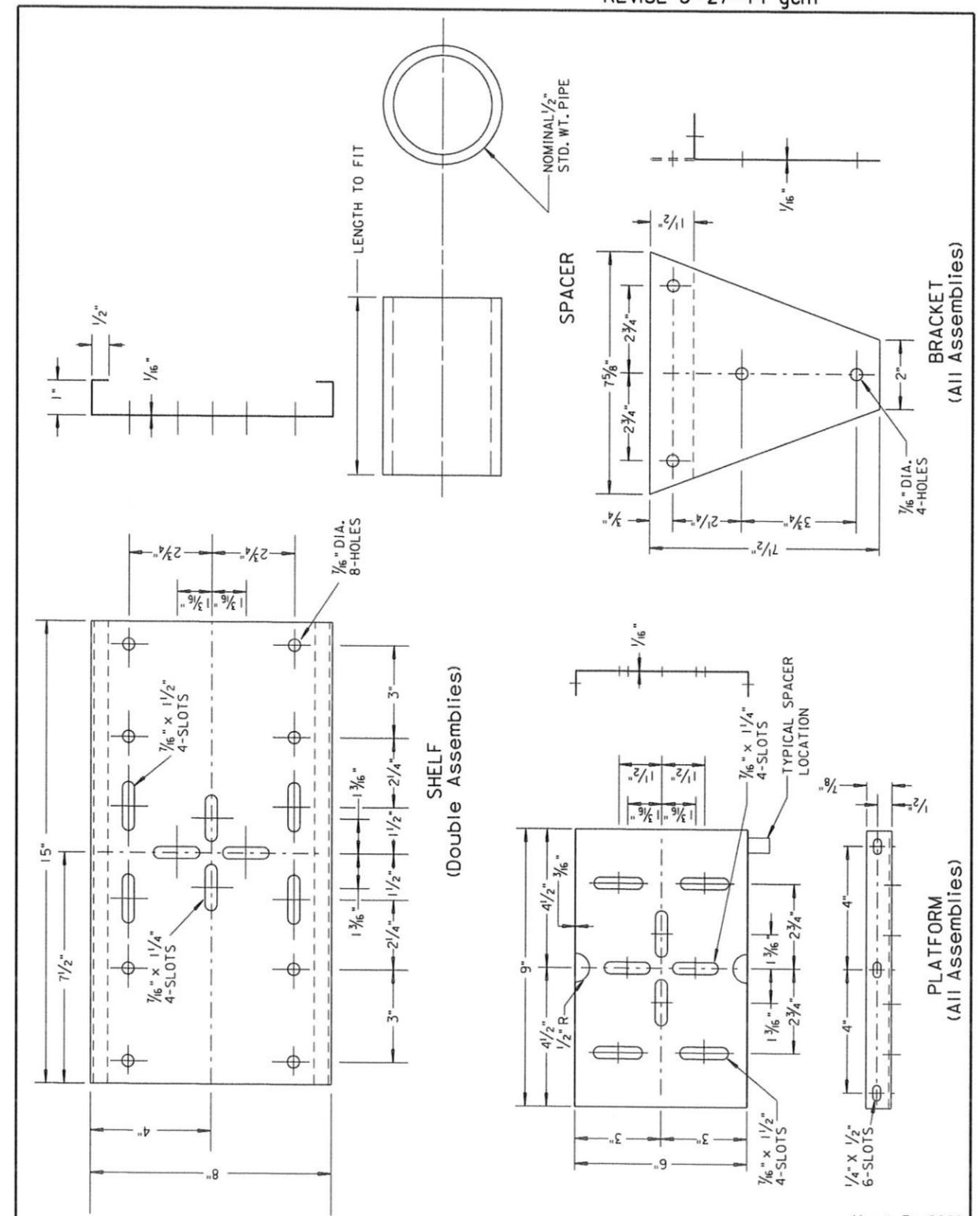
The post support assemblies provided should be consistent throughout the project. Single and double mailboxes may be in any sequence.

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

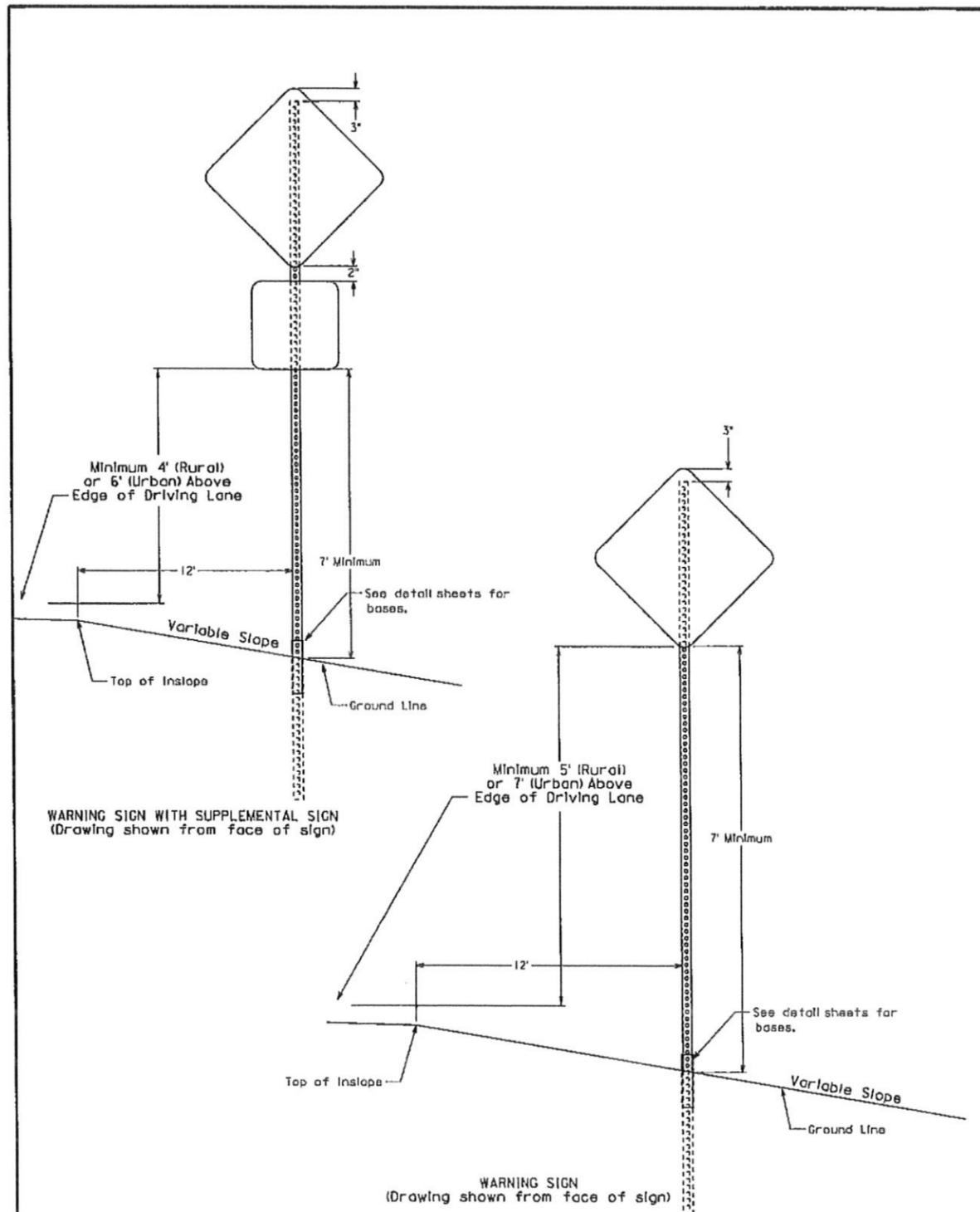
Alternate mailbox support assemblies shall be approved by the Engineer prior to installation. The Contractor shall provide the Engineer written certification that the mailbox support assembly has met the crash testing requirements and will be installed in accordance with the manufacturer's installation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

September 6, 2013

S D D O T	SINGLE AND DOUBLE MAILBOX ASSEMBLIES	PLATE NUMBER 900.02
		Sheet 1 of 1
Published Date: 1st Qtr. 2014		



S D D O T	MAILBOX SUPPORT HARDWARE	PLATE NUMBER 900.03
		Sheet 1 of 1
Published Date: 1st Qtr. 2014		March 31, 2000

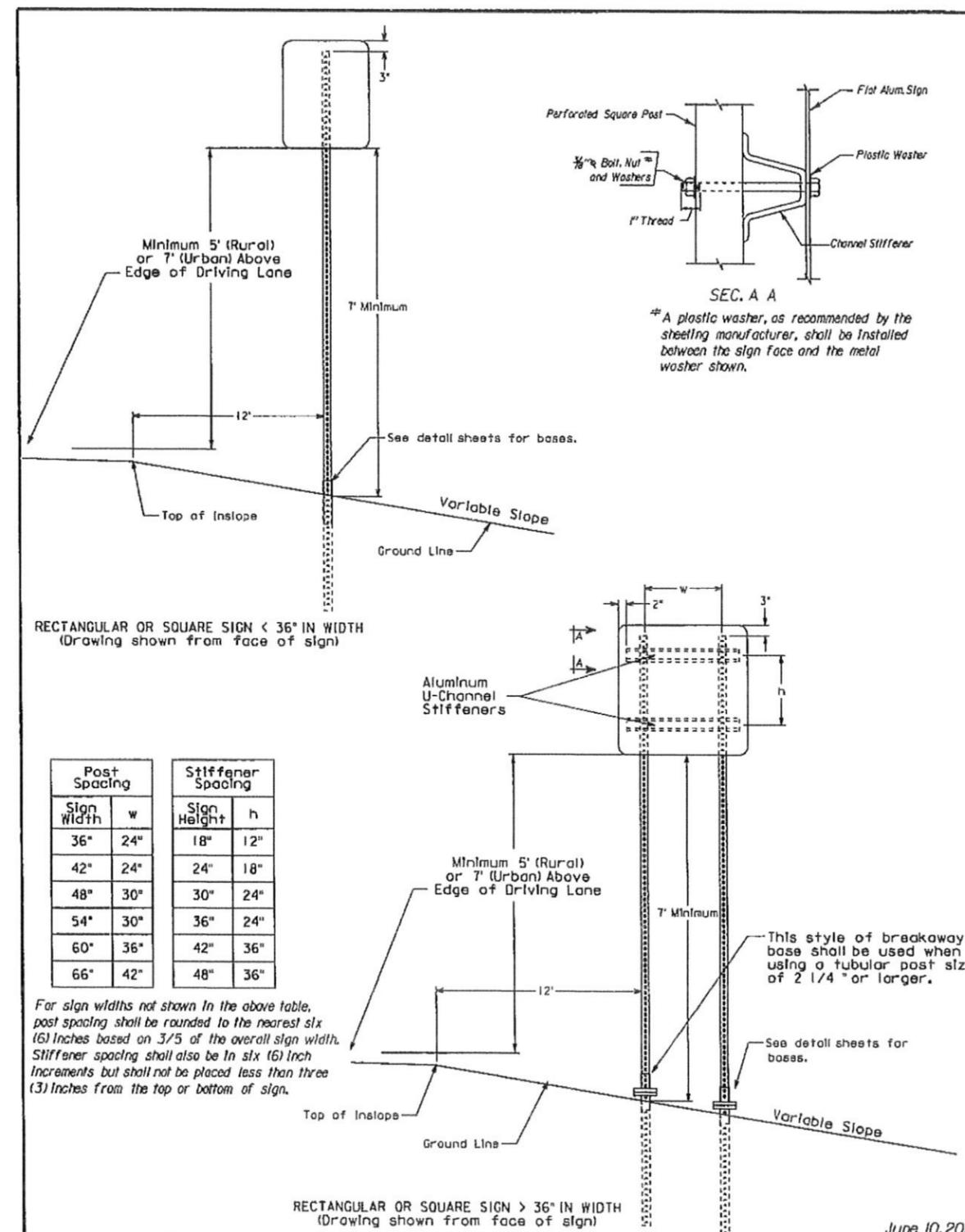


WARNING SIGN WITH SUPPLEMENTAL SIGN
(Drawing shown from face of sign)

WARNING SIGN
(Drawing shown from face of sign)

July 24, 2012

S D D O T	30" WARNING SIGNS (Typical Sign Detail)	SPECIAL DETAIL LO1
		Sheet 1 of 1



RECTANGULAR OR SQUARE SIGN < 36" IN WIDTH
(Drawing shown from face of sign)

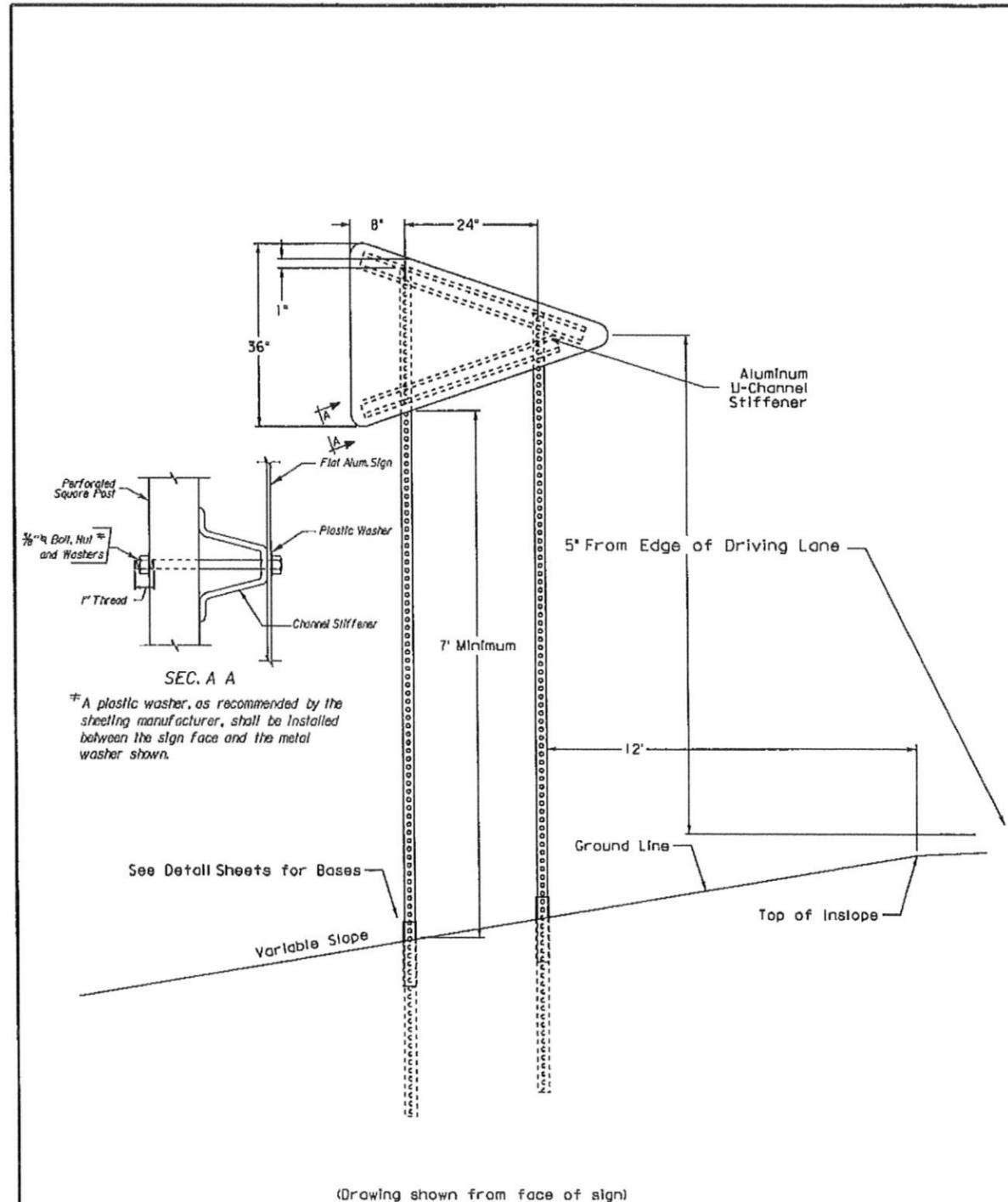
RECTANGULAR OR SQUARE SIGN > 36" IN WIDTH
(Drawing shown from face of sign)

For sign widths not shown in the above table, post spacing shall be rounded to the nearest six (6) inches based on 3/5 of the overall sign width. Stiffener spacing shall also be in six (6) inch increments but shall not be placed less than three (3) inches from the top or bottom of sign.

Post Spacing		Stiffener Spacing	
Sign Width	w	Sign Height	h
36"	24"	18"	12"
42"	24"	24"	18"
48"	30"	30"	24"
54"	30"	36"	24"
60"	36"	42"	36"
66"	42"	48"	36"

June 10, 2013

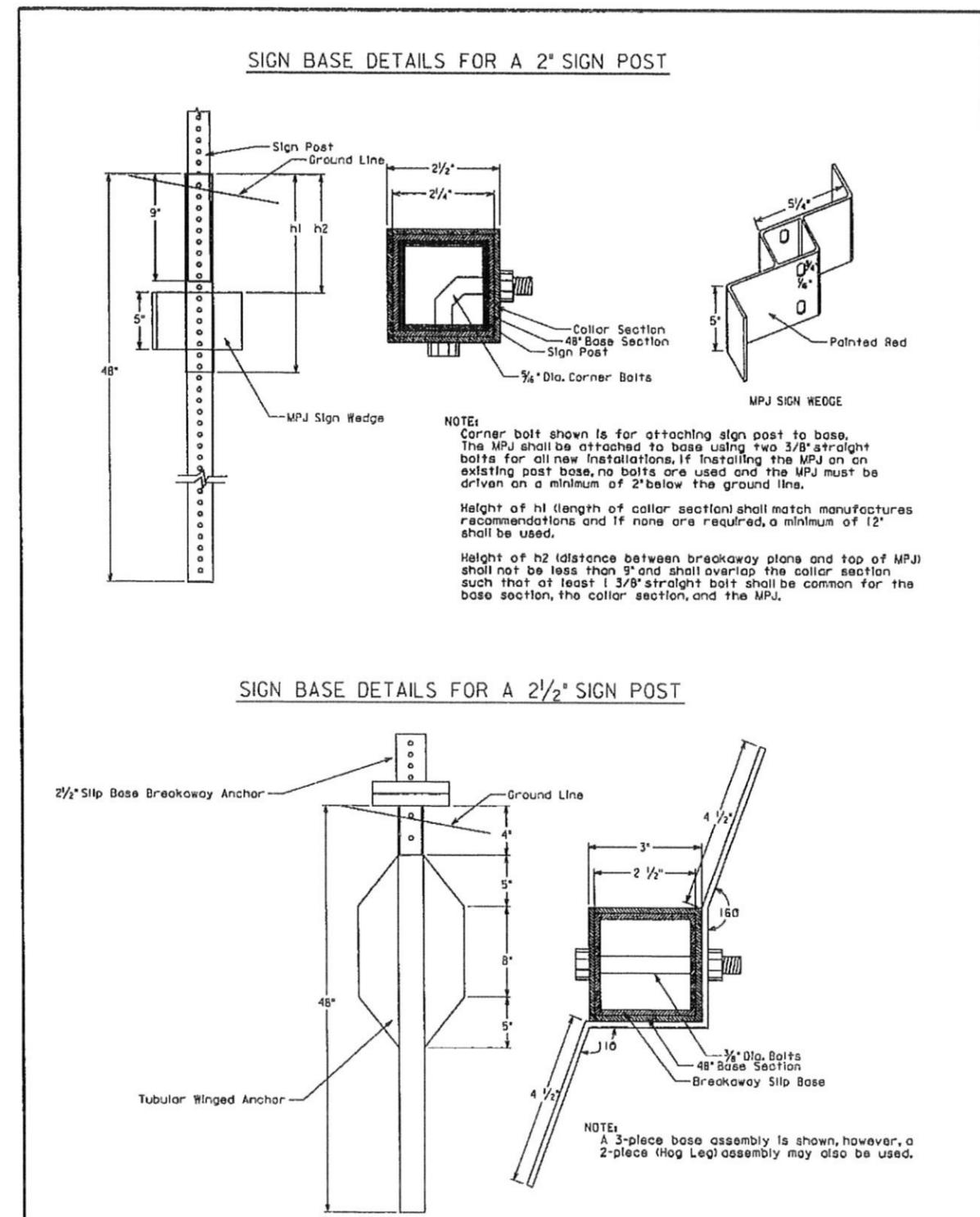
S D D O T	SQUARE OR RECTANGULAR SIGNS (Typical Sign and Stiffener Details)	SPECIAL DETAIL LO3
		Sheet 1 of 1



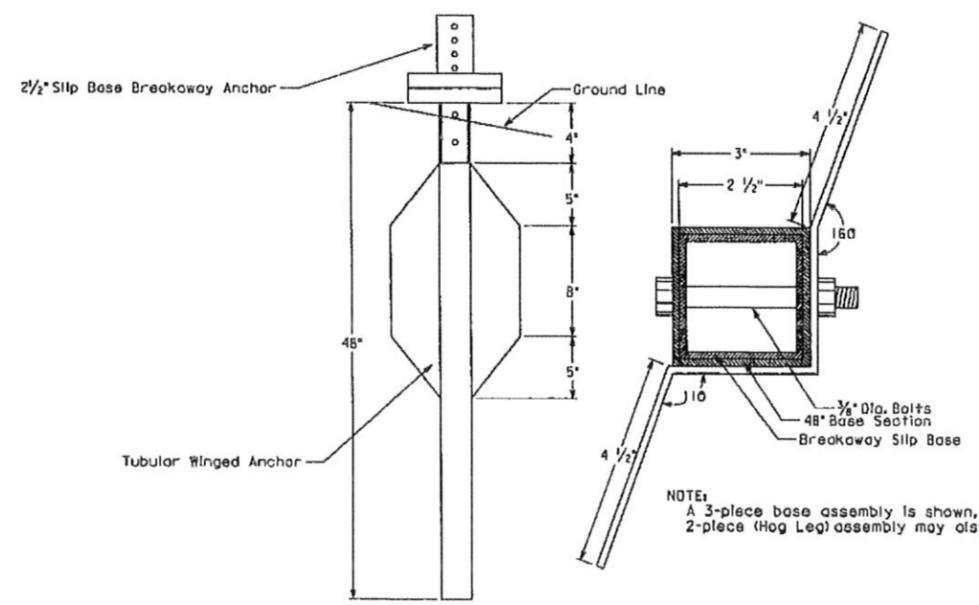
(Drawing shown from face of sign)

May 28, 2013

S D D O T	NO PASS ZONE PENNANT (Typical Sign and Stiffener Details)	SPECIAL DETAIL L08
		Sheet 1 of 1

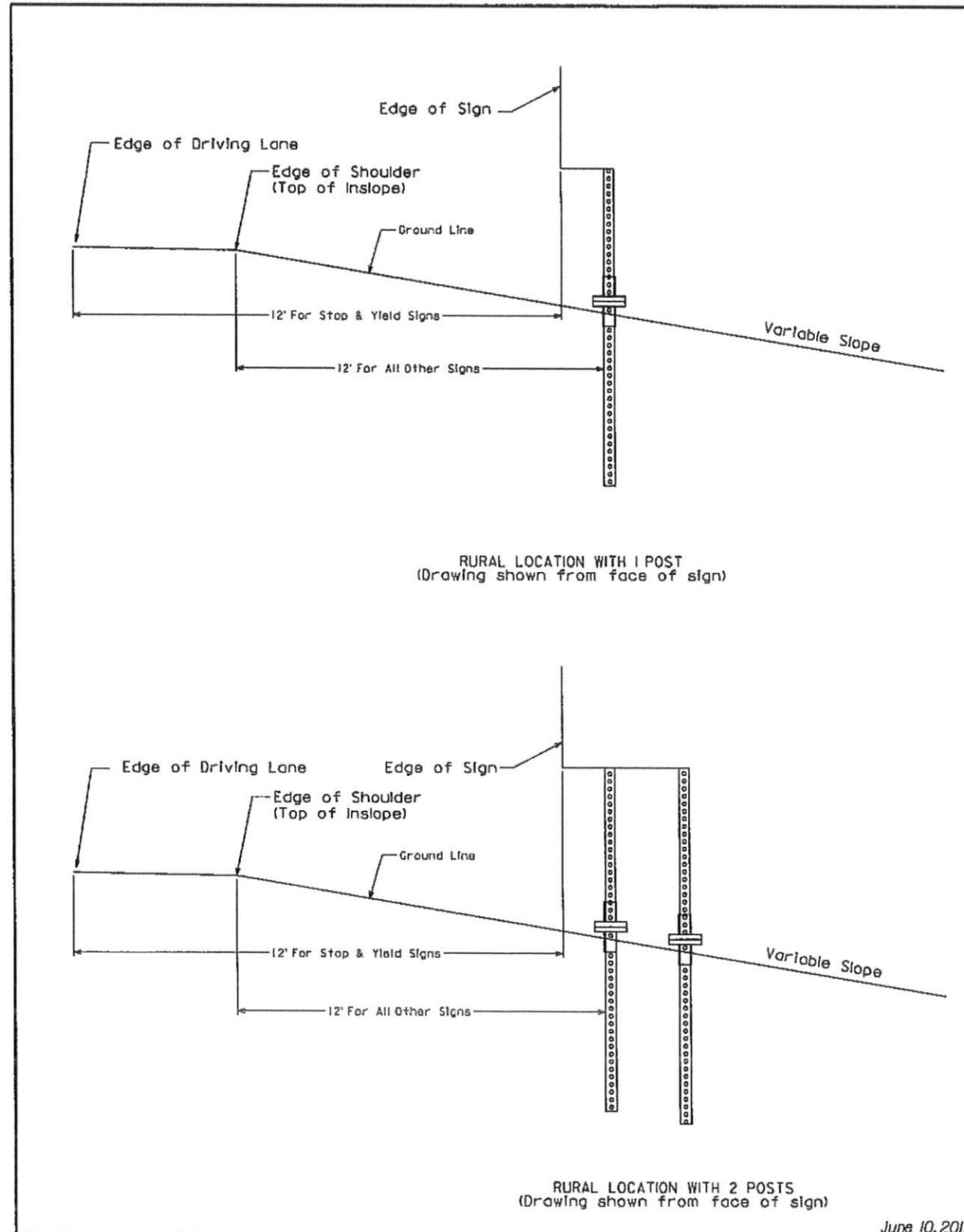


SIGN BASE DETAILS FOR A 2 1/2" SIGN POST



July 16, 2013

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

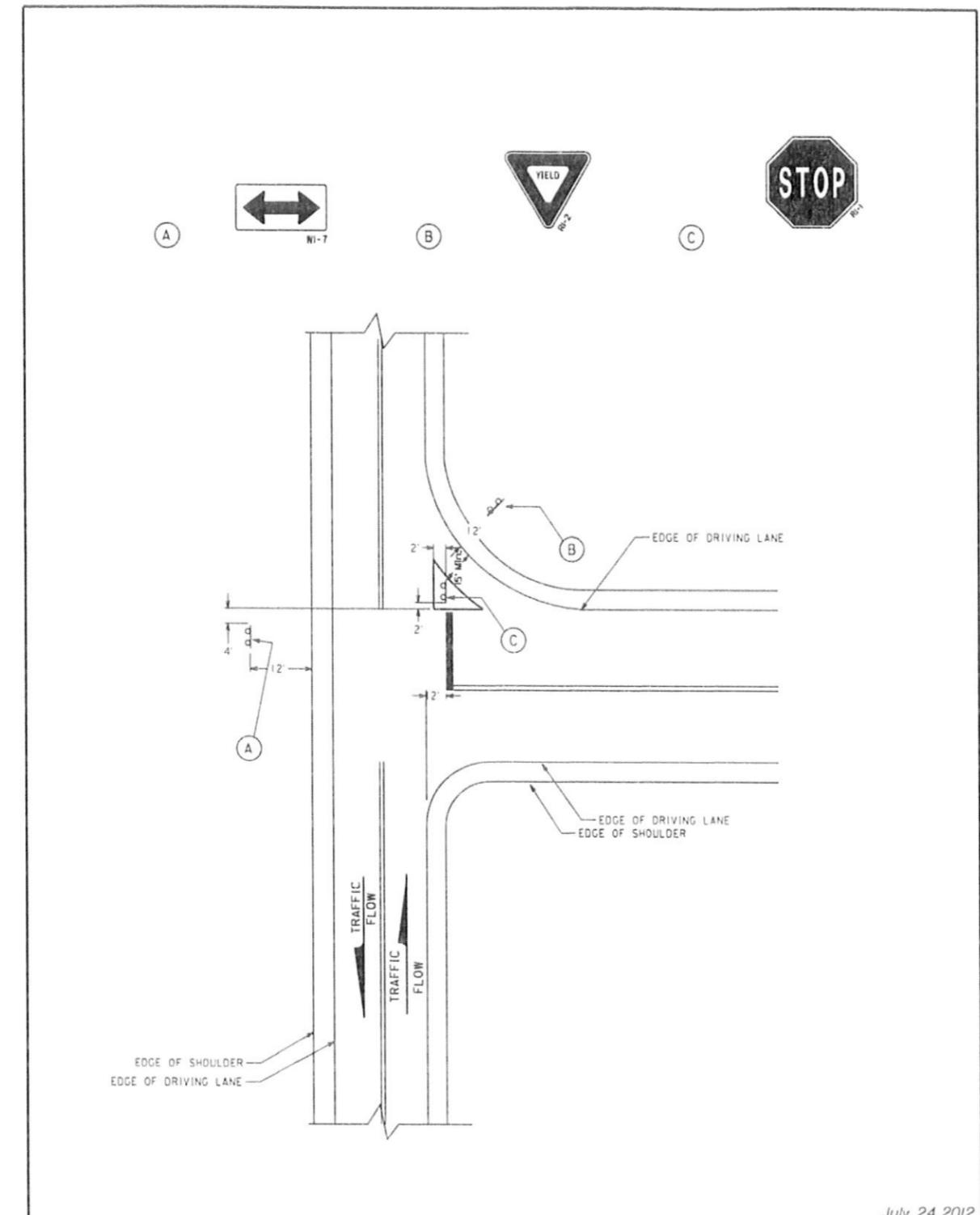


RURAL LOCATION WITH 1 POST
(Drawing shown from face of sign)

RURAL LOCATION WITH 2 POSTS
(Drawing shown from face of sign)

June 10, 2013

S D D O T	LATERAL OFFSET (Typical Rural Sign Installations)	SPECIAL DETAIL L23
		Sheet 1 of 1



July 24, 2012

S D D O T	TYPICAL SIGN LAYOUT FOR THROUGH ROADWAYS WITH IMPROVED SIDEWALK	SPECIAL DETAIL L41
		Sheet 1 of 1