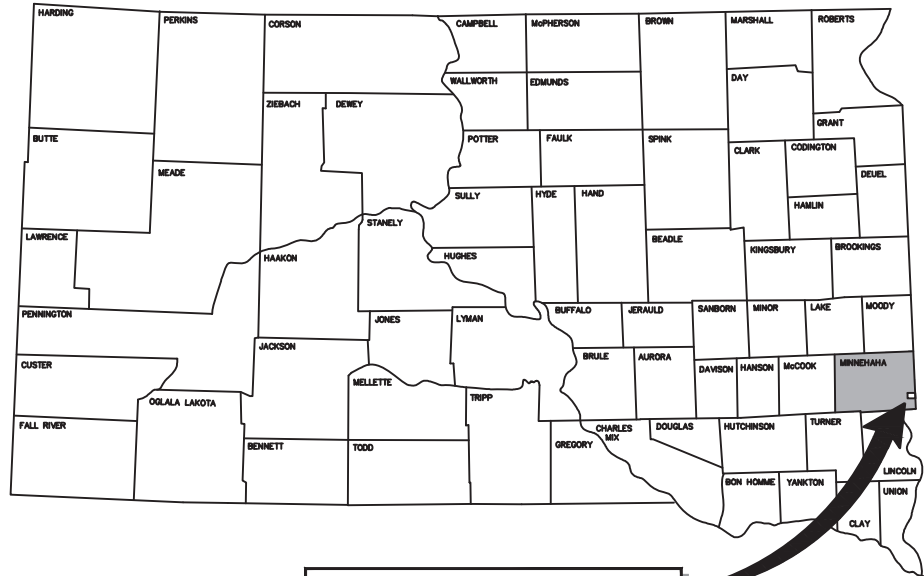


STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	1	56

FILE: 674115 - Title Sheet.dwg  
PLOTING DATE: 2026-03-04 INITIALS: LWM  
REVISION DATE: 2026-03-04

**STATE OF SOUTH DAKOTA** FOR BIDDING PURPOSES ONLY  
**DEPARTMENT OF TRANSPORTATION**  
**PLANS FOR PROPOSED**  
**PROJECT P TAPR(54)**  
**MINNEHAHA COUNTY**  
**CITY OF VALLEY SPRINGS**  
**SHARED USE PATH**  
**PCN 09G4**



**PROJECT LOCATION**

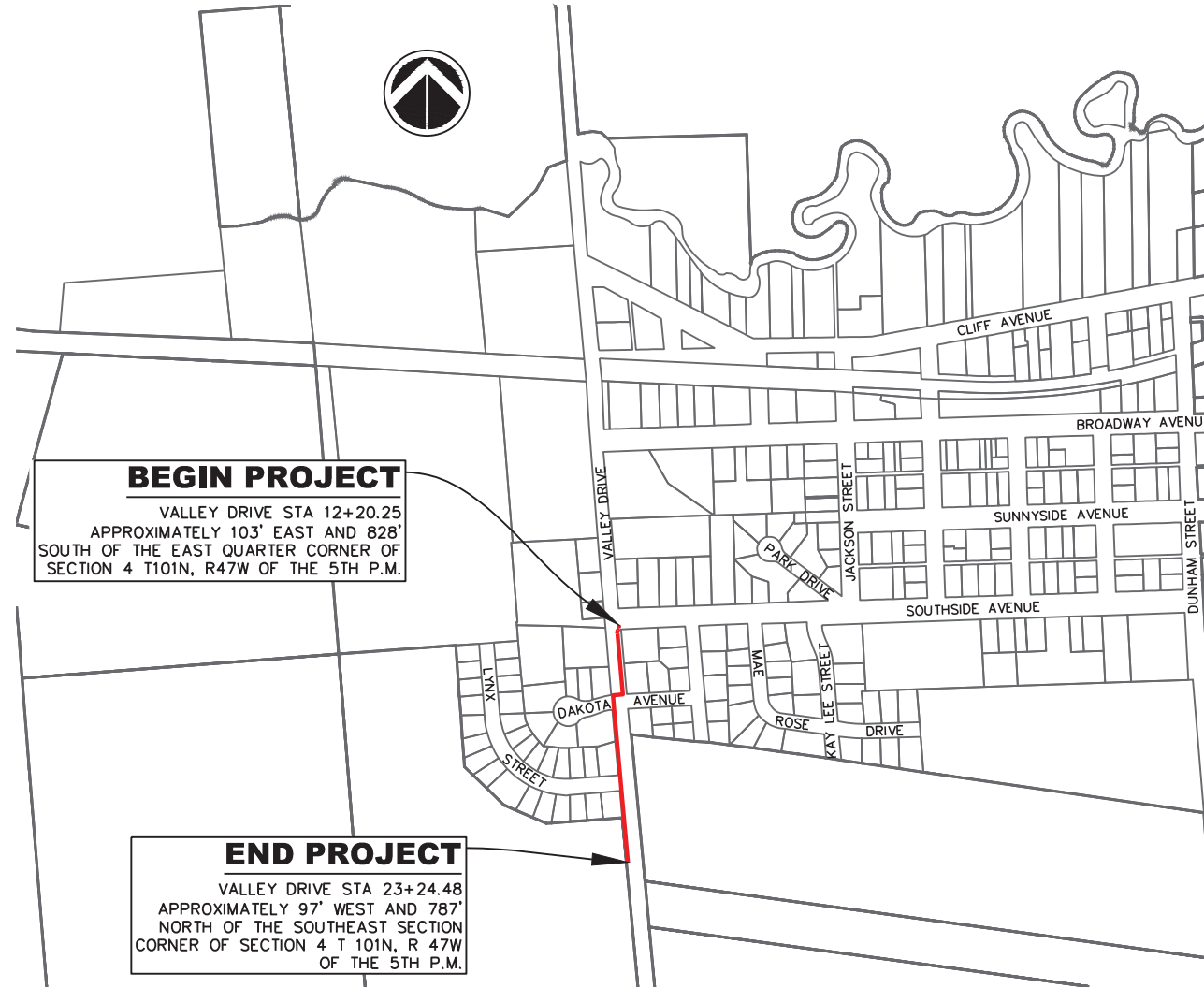
**INDEX OF SHEETS**

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**ENGINEER/SURVEYOR:**



LANCE MAYER, P.E.  
DGR ENGINEERING  
1300 S HIGHLINE AVE  
SIOUX FALLS, SD 57110  
EMAIL ADDRESS: lance.mayer@dgr.com  
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**BEGIN PROJECT**  
VALLEY DRIVE STA 12+20.25  
APPROXIMATELY 103' EAST AND 828'  
SOUTH OF THE EAST QUARTER CORNER OF  
SECTION 4 T101N, R47W OF THE 5TH P.M.

**END PROJECT**  
VALLEY DRIVE STA 23+24.48  
APPROXIMATELY 97' WEST AND 787'  
NORTH OF THE SOUTHEAST SECTION  
CORNER OF SECTION 4 T 101N, R 47W  
OF THE 5TH P.M.

**STORM WATER PERMIT**

MAJOR RECEIVING BODY OF WATER:  
BEAVER CREEK  
AREA DISTURBED: 0.73 ACRES  
TOTAL PROJECT AREA: 0.73 ACRES

N=15843175.758  
E=2309859.923

**VICINITY MAP - VALLEY SPRINGS, SOUTH DAKOTA**

NOTE: FOR SOUTH DAKOTA ONE CALL, THE PROJECT IS LOCATED  
IN SECTION 3-T101N-R47W AND 4-T101N-R47W.

I, Lance W. Mayer, hereby certify that these plans were prepared by me, or under my direct supervision and that I am a duly registered professional engineer under the laws of the State of South Dakota.

*Lance W. Mayer* 3/4/2026  
Lance W. Mayer S.D. No. 8028 Date

1

June 17, 2026

# ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT P TAPR(54)	SHEET NO. 2	TOTAL SHEETS 56
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## ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3200	Construction Staking	Lump Sum	LS
009E3301	Engineer Directed Surveying/Staking	40.0	Hour
009E4200	Construction Schedule, Category II	Lump Sum	LS
100E0100	Clearing	Lump Sum	LS
110E0135	Remove Delineator	1	Each
110E0300	Remove Concrete Curb and/or Gutter	12	Ft
110E0510	Remove Pipe End Section	1	Each
110E0530	Remove Storm Sewer Pipe	42	Ft
110E1010	Remove Asphalt Concrete Pavement	261.0	SqYd
110E1140	Remove Concrete Sidewalk	13.0	SqYd
110E1300	Remove Concrete Retaining Wall	30.0	Ft
110E1700	Remove Silt Fence	20	Ft
110E7150	Remove Sign for Reset	5	Each
110E7510	Remove Pipe End Section for Reset	1	Each
120E0010	Unclassified Excavation	550	CuYd
120E0100	Unclassified Excavation, Digouts	10	CuYd
120E0600	Contractor Furnished Borrow	1,000	CuYd
120E6300	Water for Vegetation	160.0	MGal
230E0010	Placing Topsoil	390	CuYd
230E0020	Contractor Furnished Topsoil	60	CuYd
250E0010	Incidental Work	Lump Sum	LS
260E1010	Base Course	270.0	Ton
320E1200	Asphalt Concrete Composite	41.0	Ton
421E2040	4" Extruded Polystyrene Insulation Board	15	SqYd
450E0123	18" RCP Class 3, Furnish	44	Ft
450E0130	18" RCP, Install	44	Ft
450E0193	42" RCP Class 3, Furnish	48	Ft
450E0200	42" RCP, Install	48	Ft
450E2032	42" RCP Flared End, Furnish	1	Each
450E2033	42" RCP Flared End, Install	1	Each
450E8008	18" CMP to RCP Transition, Furnish	1	Each
450E8010	18" Pipe Transition, Install	1	Each
450E9001	Reset Pipe End Section	1	Each
451E7510	Verify Utilities	3	Each
462E0100	Class M6 Concrete	9.3	CuYd
480E0100	Reinforcing Steel	1,708	Lb
632E1320	2.0"x2.0" Perforated Tube Post	90.0	Ft
632E3203	Flat Aluminum Sign, Nonremovable Copy High Intensity	58.6	SqFt
632E3500	Reset Sign	5	Each
633E1130	Epoxy Pavement Marking Paint, 24" White	250	Ft
633E1145	Epoxy Pavement Marking Paint, Arrow	8	Each
633E5051	Surface Preparation for Pavement Marking	524	SqFt

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
634E0110	Traffic Control Signs	89.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	9	Each
650E2100	Special Concrete Curb and Gutter	219	Ft
650E6260	6" Concrete Valley Gutter	4.0	SqYd
651E0040	4" Concrete Sidewalk	167	SqFt
651E0050	5" Concrete Sidewalk	5,901	SqFt
651E7000	Type 1 Detectable Warnings	108	SqFt
670E5202	Special Frame and Grate	1	Each
671E6007	Type A7 Manhole Frame and Lid	1	Each
700E0110	Class A Riprap	20.0	Ton
730E0251	Special Permanent Seed Mixture 1	140	Lb
731E0100	Fertilizing	162	Lb
732E0200	Fiber Mulching	0.5	Ton
734E0044	Soil Stabilizer	0.8	Acre
734E0103	Type 3 Erosion Control Blanket	1,127	SqYd
734E0133	Type 3 Turf Reinforcement Mat	111.0	SqYd
734E0154	12" Diameter Erosion Control Wattle	164	Ft
734E0602	Low Flow Silt Fence	20	Ft
734E0610	Mucking Silt Fence	2	CuYd
734E0620	Repair Silt Fence	5	Ft
734E0855	Interim Sediment Control at Inlet	1	Each
734E5010	Sweeping	10	Hour
831E0110	Type B Drainage Fabric	38	SqYd
900E1080	Orange Plastic Safety Fence	200	Ft

## ENVIRONMENTAL COMMITMENTS

The SDDOT is committed to protecting the environment and uses Environmental Commitments as a communication tool for the Engineer and Contractor to ensure that attention is given to avoid, minimize, and/or mitigate an environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency with permitting authority can delay a project if identified 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. During construction, the Project Engineer will verify that the Contractor has met Environmental Commitment requirements. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office.

Additional guidance on SDDOT's Environmental Commitments can be accessed through the Environmental Procedures Manual found at: <https://dot.sd.gov/doing-business/environmental/about-environmental/>

For questions regarding change orders in the field that may have an effect on an Environmental Commitment, the Project Engineer will contact the Environmental Engineer at 605-773-3180 or 605-773-4336 to determine whether an environmental analysis and/or resource agency coordination is necessary.

Once construction is complete, the Project Engineer will review all environmental commitments for the project and document their completion.

## COMMITMENT C: WATER SOURCE

If a Contractor needs access to state waters for extraction, the Contractor must obtain a water right, through the application of a Temporary Permit to Use Public Waters before work begins.

The Contractor will not withdraw water with equipment previously used outside the State of South Dakota or previously used in aquatic invasive species (AIS) positive waters within South Dakota without prior approval from the SDDOT Environmental Office. To prevent and control the introduction and spread of invasive species into the project vicinity, all equipment will be power washed with hot water (≥140 °F) and completely dried for a minimum of 7 days prior to subsequent use. South Dakota administrative rule 41:10:04:02 forbids the possession and transport of AIS; therefore, all attached dirt, mud, debris and vegetation must be removed and all compartments and tanks capable of holding standing water must be drained. This includes, but is not limited to, all equipment, pumps, lines, hoses and holding tanks.

The Contractor will 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 will obtain the necessary permits from the regulatory agencies such as the South Dakota Department of Agriculture and Natural Resources (SDDANR) and the United States Army Corps of Engineers (USACE) prior to water extraction activities.

Temporary permit to use public waters for highway construction purposes application can be found on the SDDANR website: <https://danr.sd.gov/OfficeOfWater/WaterRights/PermitForms/default.aspx>

Additional information and mapping of water sources impacted by Aquatic Invasive Species in South Dakota can be accessed at: <https://sdleastwanted.sd.gov/maps/default.aspx>

[South Dakota Administrative Rule 41:10:04 Aquatic Invasive Species:](https://sdlegislature.gov/rules/DisplayRule.aspx?Rule=41:10:04)  
< <https://sdlegislature.gov/rules/DisplayRule.aspx?Rule=41:10:04> >

## COMMITMENT E: STORM WATER

Construction activities constitute less than 1 acre of disturbance.

### Action Taken/Required:

At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site.



# ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS FOR BIDDING PURPOSES ONLY

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 REVISION DATE:

## COMMITMENT H: WASTE DISPOSAL SITE

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

### Action Taken/Required:

Construction and/or demolition debris may not be disposed of within the Public ROW.

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

The waste disposal site(s) will 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 Environmental Office and the Project Engineer.

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

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials will be buried in a trench separate from wood debris. The final cover over the construction and/or demolition debris will consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW will be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor will control the access to waste disposal sites not within the Public ROW with 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 not to exceed the duration of the project. Prior to project completion, the waste will 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) will be incidental to the various contract items.

## COMMITMENT I: HISTORIC PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historic Preservation Office (SHPO) for all work included within the project limits and all department designated sources and designated option material sources, stockpile sites, storage areas, and waste sites provided within the plans.

### Action Taken/Required:

All earth disturbing activities not designated within the plans require a cultural resource review prior to scheduling the pre-construction meeting. This work includes but is not limited to: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

The Contractor will arrange and pay for a record search and when necessary, a cultural resource survey. 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 if the site was previously surveyed; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor will provide ARC with the following: a topographical map or aerial view in 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 will submit the cultural resources survey report to SDDOT Environmental Office, 700 East Broadway Avenue, Pierre, SD 57501-2586. 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.

In the event of an inadvertent discovery of human remains, funerary objects, or if evidence of cultural resources is identified during project construction activities, then such activities within 150 feet of the inadvertent discovery will immediately cease and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office, who will contact the appropriate SHPO/THPO within 48 hours of the discovery to determine an appropriate course of action.

SHPO review does not relieve the Contractor of the responsibility for obtaining any additional permits and clearances for Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas that affect wetlands, threatened and endangered species, or waterways. The Contractor will not utilize a site known or suspected of having contaminated soil or water. The Contractor will provide the required permits and clearances to the Project Engineer at the preconstruction meeting.



01/28/2026

# GENERAL NOTES AND TABLES

FOR BIDDING PURPOSES ONLY

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## GENERAL

A staging site will be acquired by the Contractor and will be the Contractor's responsibility.

## SEQUENCE OF OPERATIONS

The Contractor will submit a sequence of operations for approval two weeks prior to the preconstruction meeting. If changes to the sequence of operations are proposed during the project, these must be submitted for review a minimum of one week prior to potential implementation. Approval for changes to the sequence of operations will only be allowed when the proposed changes meet with the Department's intent for traffic control and sequencing of the work.

## TRAFFIC CONTROL

Existing guide, route, informational logo, regulatory, and warning signs will be temporarily reset and maintained during construction. Removing, relocating, covering, salvaging, and resetting of existing traffic control devices, including delineation, will be the responsibility of the Contractor. Cost for this work will be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost will be replaced by the Contractor at no cost to the State.

All temporary traffic control sign locations will be set in the field by the Contractor and verified by the Engineer prior to installation.

If there is a discrepancy between the traffic control plans, standard plates, and the MUTCD, whichever is more stringent will be used, as determined by the Engineer.

Unless otherwise stated in these plans, work will not be allowed during hours of darkness.

Fixed location signing placed more than 4 calendar days prior to the start of construction will be covered or laid down until the time of construction. The covers must be approved by the Engineer prior to installation. The cost of materials, labor, and equipment necessary to complete this work will be incidental to other contract items. No separate payment will be made.

The Contractor will provide temporary access routes for residences and businesses located in the construction area unless otherwise noted in the plans. Temporary routes and drives will be considered incidental to all items of the project and therefore no separate measurement and payment will be made.

All fixed location signs, sign posts, and breakaway bases will be removed within 7 calendar days following pavement marking.

## PEDESTRIAN TRAFFIC

There are presently no existing through sidewalks on this project to maintain pedestrian traffic during construction activities.

The Contractor must protect and restrict all pedestrians from work areas. Safety fence must be installed around all work areas overnight or as needed at other locations as designated by the Engineer. Payment for all work and associated materials, excluding the orange plastic safety fence for which a bid item exists, will be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".

## REMOVE SIGN FOR RESET AND RESET SIGN

Signs that are scheduled for reset will be dismantled and reassembled to the extent needed by the Contractor to properly reset the sign. Signs will be handled with care so that the existing signs, posts, and bases are not damaged during the relocation process. The Contractor will replace and pay for any reset signs damaged in their care. The Contractor will remove and dispose of any existing posts for all reset signs that require use of new posts as shown in the Table of Permanent Signing.

All costs for removing, dismantling, and disposing of any existing posts will be incidental to the contract unit price per each for "Remove Sign for Reset". All costs for resetting the existing signs will be incidental to the contract unit price per each for "Reset Sign". All quantities for Remove Sign for Reset and Reset Sign will be per assembly at the contract unit price per each.

### TABLE OF REMOVE SIGN FOR RESET

Station	L/R	Sign Type	Quantity (Ea)
15+85	61' L	STOP (R1-1)	1
16+32	14' R	STOP (R1-1)	1
19+39	1' L	STREET (D3-1)	1
19+87	7' R	STOP (R1-1)	1
23+14	10' R	STOP (R1-1)	1
	Total:		5

### TABLE OF RESET SIGN

Station	L/R	Sign Type	Quantity (Ea)
15+85	61' L	STOP (R1-1)	1
16+32	14' R	STOP (R1-1)	1
19+38	6' L	STREET (D3-1)	1
19+87	7' R	STOP (R1-1)	1
23+14	10' R	STOP (R1-1)	1
	Total:		5

## UTILITIES

The Contractor will contact the involved utility companies through South Dakota One Call (1-800-781-7474) prior to starting work. It will be the responsibility of the Contractor to coordinate work with the utility owners to avoid damage to existing facilities.

Drawing indicates general utility locations only. Neither the correctness or completeness of locations are guaranteed.

The Contractor will be aware that the existing utilities shown in the plans were surveyed prior to the design of this project and might have been relocated or replaced by a new utility facility prior to construction of this project, might be relocated or replaced by a new utility facility during the construction of this project, or might not require adjustment and may remain in its current location. The Contractor will contact each utility owner and confirm the status of all existing and new utility facilities. The utility contact information is provided in the following table.

Utility	Utility Company	Contact Person	Phone
Water	City of Valley Springs	Ryan Nussbaum	(605) 770-9796
Sewer	City of Valley Springs	Ryan Nussbaum	(605) 770-9796
Gas	MidAmerican Energy	Nicolle Rasmusson	(605) 373-6081
Electrical	Sioux Valley Energy	Ryan Gruber	(605) 360-6999
Internet, Phone, Cable TV	Alliance Communications	Jeff Hove	(605) 594-8229

Private Utilities – SD One Call – (800) 781-7474

Information on Section-Township-Range shown on location map on the Title Sheet.

## PRIVATE SPRINKLER SYSTEM

Private sprinkler systems may be located within the construction limits. The City will notify all property owners about the expected construction and the procedures for preparing their systems for construction. If found, the Contractor will notify the Engineer and take reasonable measures to minimize any damage to the system. The Contractor will be responsible for any damage due to the Contractor's negligence.

The Contractor will notify and coordinate with the property owner and sprinkler Contractor when the sprinkler system can be restored. This includes, but is not limited to, the Contractor notifying the property owner prior to sidewalk installation so sleeves can be placed at locations determined by the property owner. The system should be restored before seed or sod placement and the Contractor must make reasonable accommodations to allow for the homeowner's sprinkler Contractor to make final repairs and adjustments. No separate payment will be made for work related to sprinkler system coordination.



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# GENERAL NOTES AND TABLES

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## STORM SEWER

Reinforced concrete pipe may be bell and spigot. All reinforced concrete pipe will be Class 3. The pipe sections will be adjoined such that the ends are fully entered, and the inner surfaces are reasonably flush and even.

Lift holes in the reinforced concrete pipe will be plugged with grout.

Watertight joints are required for reinforced concrete pipe, drop inlets, manholes, and junction boxes where storm sewers run parallel to and within 10 feet horizontally from existing or proposed water mains.

Watertight joints are required where reinforced concrete pipes, drop inlets, manholes, or junction boxes cross water mains and are separated a distance of 18 inches or less, above or below, the water main.

If watertight joints are required, then the watertight joints will extend for a distance of 10 feet beyond the water main. This measurement will be from the sealed concrete joint to the outer most surface of the water main.

Watertight joint seals will conform to the following requirements:

- Reinforced Concrete Pipe (Circular):** Gasketed pipe will conform to the requirements of ASTM C443 and the gasket will be in conformance with Section 990 of the Specifications. Non-gasketed concrete pipe will be sealed with a mastic joint seal conforming to the requirements of ASTM C990 and encased with a minimum 2-foot wide by 6-inch thick M6 concrete collar reinforced with 6x6 W2.9 x W2.9 wire mesh.
- Drop Inlets, Manholes, and Junction Boxes:** Joints must be sealed with one of the following methods:
  - A flexible strip seal placed in the joints conforming to the requirements of ASTM C990 and the perimeter encased with a minimum 2-foot wide by 6-inch thick M6 concrete collar reinforced with 6x6 W2.9 x W2.9 wire mesh.
  - A hydrophilic flexible water stop seal placed in the joints and a 1-foot wide strip of fabric wrapped around the perimeter of the pipe. The fabric will conform to the requirements of Section 831 of the Specifications for Type A Drainage Fabric. The hydrophilic flexible water stop will be from the list below.
  - A self-adhesive external joint seal wrap. The seal wrap must be from the list below.

### Approved List of Self-adhesive Joint Wrap

Product	Manufacturer
Mar Mac Seal Wrap	Mar Mac Construction Products McBee, SC 843-335-5909 <a href="http://www.marmac.com">www.marmac.com</a>

ConWrap CS-212	Concrete Sealants, Inc. Tipp City, OH 800-332-7325 <a href="http://conseal.com">conseal.com</a>
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### Approved List of Hydrophilic Flexible Water Stop Seal:

Product	Manufacturer
Waterstop RX	Cetco Hoffman Estates, IL 800-527-9948 <a href="http://www.cetco.com">www.cetco.com</a>

Conseal CS-231	Concrete Sealants, Inc. Tipp City, OH 800-332-7325 <a href="http://conseal.com">conseal.com</a>
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Gaskets and seals (mastic, waterstop, and seal wraps) must be installed in accordance with the manufacturer's recommendations.

The cost for furnishing and installing all gaskets, mastic joint seal, water stop seal, seal wrap, concrete collars, and for plugging the lift holes will be incidental to the contract unit price per foot for the corresponding pipe contract item.

### REMOVE PIPE END SECTION FOR RESET

Station	L/R	Quantity (Ea)
17+81	3' R	1
Total:		1

### RESET PIPE END SECTION

Station	L/R	Quantity (Ea)
17+81	14' R	1
Total:		1

### TABLE OF 42" RCP FLARED END, FURNISH AND INSTALL

Station	L/R	Quantity (Ea)
50+59	0'	1
Total:		1

## CONCRETE PIPE CONNECTIONS

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

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

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

### TABLE OF JUNCTION BOXES AND QUANTITIES

Station	L/R	Size L'xW'xH'	Frame and Lid (Type)	Class M6 Concrete (CuYd)	Reinforcing Steel (Lb)
51+20	0'	7'x7'x6.7'	A7 Manhole	8.3	1,692
Totals:				8.3	1,692

Total Type A7 Manhole Frame and Lid 1  
\* Junction boxes require watertight joints in accordance with the STORM SEWER notes.

### TABLE OF CATCH BASINS AND QUANTITIES

Station	L/R	Size L'xW'xH'	Frame and Lid (Type)	Class M6 Concrete (CuYd)	Reinforcing Steel (Lb)
51+52	0'R	2'x2'x5.4'	Special	1.0	16
Totals:				1.0	16

Total Special Frame and Grate 1  
\* Catch basins require watertight joints in accordance with the STORM SEWER notes.

### SPECIAL FRAME AND GRATE

Special Frame and Grates will be Neenah Foundry 3402-E square grate or equivalent. All Special Frame and Grates will be paid for at the contract unit price per each for "Special Frame and Grate".



03/04/2026

# GENERAL NOTES AND TABLES

FOR BIDDING PURPOSES ONLY

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## REINFORCING STEEL

Some field bending and cutting of the reinforcing steel may be required. The minimum lap for spliced bars will be 24 bar diameters. Payment will be based on contract unit price per pound for "Reinforcing Steel" and with no extra payment for field bending and cutting.

## EXTRUDED POLYSTYRENE INSULATION BOARD

The Contractor will furnish and install insulation board to insulate water main, sanitary sewer main, and services as indicated on the plans and details or as directed by the Engineer. All insulation installed will be 4" thick and 48" wide unless directed otherwise by the Engineer.

Insulation will be an extruded polystyrene board and meet the requirements of ASTM C578, Type IV. The minimum R-value will be 5.0 as determined by ASTM C518. The minimum compressive strength will be 25 psi as determined by ASTM D1621. The maximum water absorption will be 0.1 percent by volume as determined by ASTM C272. The maximum water vapor permeability will be 1.1 perm as determined by ASTM E96.

Insulation board will be STYROFOAM™ Square Edge by the Dow Chemical Company, STYROFOAM™ Brand Scoreboard by the Dow Chemical Company, or prebid Engineer-approved equal.

Compensation for furnishing and installing insulation will include all materials, equipment and labor necessary to excavate, prepare and smooth trench surface to place insulation, and backfill and compact trench as shown on the detail in the plans. Payment for furnishing and installing Insulation Board will be based on the unit bid price under the bid item "4" Extruded Polystyrene Insulation Board".

## VERIFY UTILITIES

The bid item "Verify Utilities" will be used only when directed by the Engineer to excavate down to the utility line to avoid vertical and/or horizontal conflicts between the existing utility and the proposed new utility to be installed as shown on the plans. All costs of other exploratory investigation/excavation necessary for determining the location and depth of main line utilities will be included in the contract unit bid price installing the pipe. After verification, the Contractor will coordinate information with the Engineer.

Payment for this work will be included in the contract unit price per each for "Verify Utilities". Three (3) verifications are included in this project for bidding purposes.

## INCIDENTAL WORK

The contract lump sum price for "Incidental Work" will be full compensation for all work listed below. The following is a list of major items of Incidental Work:

- A. Driveway and road access is to be maintained by the Contractor for property owners throughout the project along with access for United States Postal Carriers to mailboxes located along the project by utilizing the existing base course at the surface and/or under the existing paved surfaces. Placement and ramping of gravel will be done so that businesses, property owners and postal carriers have access to driveways and mailboxes when the Contractor is not working in the area, during evenings, and on weekends.
- B. Site Cleaning: The Contractor will execute a thorough cleaning prior to substantial completion review by the Engineer. Prior to Final Completion, Contractor will remove and dispose from the project site all construction waste, unused materials, excess soil, and other debris resulting from construction activities. Roadway and sidewalk sweeping may be required daily to keep the project site clean.
- C. Salvage materials from landscaped areas within the project limits (rocks, shrubs, etc.) to use in restoration of those areas to preconstruction conditions.
- D. The removal and disposal of unmarked or abandoned conduit or pipe required in order to place the proposed utilities and sidewalk at the proper horizontal and vertical locations.
- E. Material and labor costs for plugging ends of utilities that are abandoned in place with concrete, grout, caps, or Engineer approved method.
- F. Work required for locating, exposing, supporting, protecting, and working around existing utilities (both public and private) when installing the proposed utilities and sidewalk. This includes any additional work for horizontal and/or vertical adjustments for the proposed installations as needed.
- G. Work required to remove area pop-up drain and cap connected drain tile. If drain tile is damaged downstream of the area drain during excavation, the Contractor will remove damaged pipe and cap the downstream end of the drain tile at no extra cost.

## SAW JOINT IN ASPHALT CONCRETE OR PCC PAVEMENT

Prior to the removal of in place asphalt concrete and/or PCC Pavement, the existing pavement will be sawed full depth to a true line with a vertical face. See typical sections. If approved by the Engineer, the Contractor may elect to use a different method to create this vertical face. All costs to saw joint will be incidental to the contract unit price for the item that is being removed.

## PAVEMENT REMOVAL, DISPOSAL, AND SAWCUTTING

The Contractor will exercise particular care to ensure that the adjacent surface is left intact and undamaged when removing the sawed-out portion. Additional sawing required to form neat edges prior to paving will be incidental to the respective removal contract item.

## TABLE OF CONCRETE CURB AND/OR GUTTER REMOVAL

Station to	Station	Quantity (Ft)
15+89	15+89	2
16+26	16+26	2
19+47	19+47	2
19+84	19+84	2
22+74	22+74	2
23+10	23+10	2
Total:		12

## TABLE OF ASPHALT CONCRETE PAVEMENT REMOVAL

Station to	Station	Quantity (SqYd)
12+20	12+31	10
15+43	15+93	23
15+62	15+97	36
16+20	16+41	31
19+32	19+55	35
19+77	19+99	34
22+21	22+42	10
22+59	22+81	39
23+03	23+29	43
Total:		261

## TABLE OF CONCRETE SIDEWALK REMOVAL

Station to	Station	Quantity (SqYd)
15+78	15+90	13
Total:		13

## GRADING OPERATIONS

Compaction will be according to the Specified Density Method.

Water for Embankment is estimated at the rate of 10 gallons of water per cubic yard of Embankment minus Waste. The estimated quantity of Water for Embankment is 12 MGal. No separate payment will be made for the Water for Embankment and all costs associated will be incidental to the contract until price per cubic yard of "Unclassified Excavation" and "Contractor Furnished Borrow Excavation".



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# GENERAL NOTES AND TABLES

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## PLACING TOPSOIL

Prior to starting construction operations, a sufficient volume of topsoil free from gravel, rocks, and other foreign material and suitable for growing grass, must be removed from the construction limits to cover the disturbed areas and must conform to Section 230.3 of the Specifications. Due to limited space within the project limits, Contractor may need to stockpile salvaged topsoil offsite. It will be the responsibility of the Contractor to find an acceptable location to stockpile salvaged topsoil if needed. No additional payment will be made for stockpiling salvaged topsoil offsite and should be considered incidental to the related topsoil bid items.

The Contractor will strip 4" of topsoil from all existing areas to be disturbed as mentioned in the paragraph above and will place topsoil to a depth of 6 inches over all disturbed areas to be seeded unless otherwise specified by the Engineer. The placement of the topsoil must be completed within 5 days of final grading. Soil stabilization will be in accordance with the SWPPP.

The final surface finish will be left in a condition such that all terraces will be suitable for seeding.

Payment for removing and salvaging topsoil will be at the contract price for "Unclassified Excavation" unless changes from the plan shown disturbed areas are ordered by the Engineer.

## CONTRACTOR FURNISHED TOPSOIL

If there is not enough topsoil within the project site, the Contractor will request approval from the Engineer to furnish and place topsoil from an Engineer approved source. Any topsoil furnished and placed by the Contractor will be at the contract price per cubic yard for "Contractor Furnished Topsoil". Sixty (60) cubic yards are included in this project for bidding purposes and will only be used and paid for if approved by the Engineer.

Contractor furnished topsoil will be free from clay lumps, stones, coarse gravel, or similar objects larger than 3/4 inch in diameter. Brush, stumps, roots, wood, objectionable weeds, liter, or any other material which may be harmful to plant growth will not be allowed. Organic material will be decomposed.

**SHRINKAGE FACTOR:** Embankment +30%

## UNCLASSIFIED EXCAVATION

Excavate the existing subgrade to provide for the required depth of base course or gravel cushion and asphalt or concrete surfacing. Earthwork will be performed as shown on appropriate cross sections.

Payment will be based on plans quantity. Further measurements will not be made unless there is a change made in the limits of work.

The excess soil resulting from earthwork activities, if any, will become the property of the contractor who will be responsible for its removal from the site.

## PROCEDURES FOR DETERMINING UNCLASSIFIED EXCAVATION QUANTITY

The estimated quantity of Unclassified Excavation is shown in the Table of Unclassified Excavation. The estimated quantity of stripped Topsoil has been added to the Unclassified Excavation quantity. By doing this, the quantity of Topsoil from the cuts will be paid for twice as Unclassified Excavation. This will be full compensation for Excavation, which includes necessary undercutting to provide space for placement of topsoil.

Plans quantity will be the basis of payment for Unclassified Excavation unless Contractor Furnished Topsoil is necessary, as determined by the Engineer. If less topsoil is salvaged than originally anticipated, then the Unclassified Excavation quantity will be adjusted accordingly.

## TABLE OF UNCLASSIFIED EXCAVATION

Excavation (CuYd)	160.00
Contractor Furnished Borrow Excavation (CuYd)	1,000.00
<b>Total Excavation</b>	<b>1,160.00</b>
Embankment (CuYd)	890.00
Waste (CuYd)	0.00
Shrink (CuYd)	270.00
<b>Total Embankment</b>	<b>1,160.00</b>
4" Stripping Topsoil (CuYd)	390.00
Excavation (CuYd)	160.00
<b>Total Unclassified Excavation</b>	<b>550.00</b>

## UNCLASSIFIED EXCAVATION, DIGOUTS

The locations and extent of digout areas will be determined in the field by the Engineer. The backfilling material for the digouts will be Base Course. The depth of asphalt will match the in-place thickness.

Included in the Estimate of Quantities are 10 cubic yards of Unclassified Excavation, Digouts for the removal of unstable material throughout the project.

Included in the Estimate of Quantities are 20 tons of Base Course for backfill of Unclassified Excavation, Digouts.

The digouts will be extended through the shoulder and backfilled with granular material that will daylight to the inslope to allow water to escape the subsurface.

The actual field measured quantity of "Unclassified Excavation, Digouts" will be the basis for payment.

## CONTRACTOR FURNISHED BORROW EXCAVATION

The Contractor will provide a suitable site for Contractor furnished borrow excavation material. The Contractor is responsible for obtaining all required permits and clearances for the borrow site. The borrow material will be approved by the Engineer. Payment for hauling, furnishing, depositing, spreading and compacting borrow material will be at the contract unit price per cubic yard for "Contractor Furnished Borrow Excavation". The plans quantity for "Contractor Furnished Borrow Excavation" as shown in the Estimate of Quantities will be the basis of payment for this item.

Restoration of the Contractor furnished borrow excavation site will be the responsibility of the Contractor.

## BASE COURSE

Base course will be placed to a thickness of 4 inches below all concrete sidewalk, 6 inches below all other concrete surfacing, and 8 inches below all asphalt surfacing. All costs associated with furnishing, placing, and compacting base course material will be incidental to the contract unit price per ton of "Base Course".

## WATER FOR COMPACTION

The cost of water for compaction of the granular material will be incidental to the various other contract items. A minimum of 4% moisture will be required at the time of compaction unless otherwise directed by the Engineer.



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# GENERAL NOTES AND TABLES

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## ASPHALT CONCRETE COMPOSITE

Asphalt concrete composite must conform to the SDDOT Specifications for Class G, Asphalt Concrete. The top lift will conform to Class G-2 for the mineral aggregate specifications. All lower lift(s) must conform to Class G-1 for the mineral aggregate specifications unless otherwise noted or by direction of the Engineer. The surface course must not exceed 2" in thickness when laid and compacted.

A maximum of 20% (by weight) of Recycled Asphalt Pavement (RAP) will be allowed in the asphalt concrete composite mix. RAP stockpiles containing concrete chunks, grass, dirt, wood, metal, coal tar, or other foreign or environmentally restricted materials will not be used. No other recycled material will be allowed.

The asphalt cement used in the mixture will be Performance Graded AASHTO Designation PG58-28. Certificates of compliance will be required on the performance graded asphalt binder. The ratio of added new asphalt binder to total asphalt binder (including binder from RAP) will be 70 percent or greater.

Asphalt for Prime and SS-1h or CSS-1h asphalt for tack will not be needed prior to the placement of the bottom lift of Asphalt Concrete Composite placed on a granular surface.

SS-1h or CSS-1h Asphalt for Tack will be applied at a rate of 0.09 gallons per square yard on existing pavement or milled asphalt concrete surfaces and at a rate of 0.06 gallons per square yard on new asphalt concrete pavement. The asphalt for tack will be applied for the width of the Asphalt Concrete Composite lift in areas with curb and gutter.

### TABLE OF ASPHALT CONCRETE COMPOSITE

Station	to	Station	Quantity (Ton)
12+20		12+31	3
15+45		15+93	2
15+62		15+97	5
16+20		16+41	5
19+32		19+55	6
19+77		19+99	6
22+21		22+42	2
22+59		22+81	6
23+03		23+29	6
Total:			41

## MISCELLANEOUS CONCRETE

M6 Concrete used in sidewalks and curb and gutters may have a fly ash content in the cementitious material of 20% to 25%. Fly ash will be class F or C and must meet the requirement of Section 605 of the Specifications. The Contractor may use fly ash on sidewalks and driveways. The maximum allowable water/cement ratio will be 0.42.

## CONCRETE CURING

Special Concrete Curb & Gutter, Concrete Valley Gutter, and Concrete Sidewalk will be cured with Linseed Oil Base Emulsion Compound. All costs for Curing of Concrete will be incidental to the contract unit price per various Portland Cement Concrete bid items.

All concrete will be cured in accordance with section 380.3 M.2, except as modified in this note. All concrete will be cured with a white pigmented emulsion compound when cured using the Impervious Membrane Method.

Apply liquid curing compound in a fine spray to form a continuous, uniform solid white opaque coverage (equal to a white sheet of typing paper) on the horizontal surface and vertical edges of pavement, curbs and back of curbs immediately after surface moisture has disappeared, but no later than 30 minutes after finishing. Concrete edges exposed by the removal of forms will also be cured. Apply the curing compound in 2 equal applications, in opposing directions, to ensure a uniform coverage. With the approval of the Engineer, the timing of cure application may be adjusted due to varying weather conditions and concrete mix properties to ensure acceptable macrotexture is achieved.

### TABLE OF 6" CONCRETE VALLEY GUTTER

Station	to	Station	Quantity (SqYd)
15+80		15+89	4
Total:			4

## SPECIAL CONCRETE CURB & GUTTER

Weakened plane joints will be constructed at 10-foot intervals. The joints will be constructed to a minimum depth of one inch by scoring with a tool, which will leave the corners rounded and provide free movement of concrete at the joint.

New curb and gutter will be the same size and type as the existing curb and gutter. All cost associated with installing the concrete curb and gutter as specified in the detail will be included in the contract unit price per foot for "Special Concrete Curb and Gutter".

New curb and gutter will be tied to the old curb with two (2) 18-inch tie bars. All epoxy and drilling and other costs involved to install the tie bars are incidental to the contract unit price per foot for "Special Concrete Curb and Gutter".

### TABLE OF SPECIAL CONCRETE CURB AND GUTTER

Station	to	Station	Quantity (Ft)
15+41		15+89	37
15+67		15+89	33
16+26		16+41	28
19+32		19+48	29
19+84		19+99	28
22+59		22+76	30
23+10		23+29	34
Total:			219

## CONCRETE SIDEWALK

The concrete sidewalk will be constructed in accordance with Section 651, except all contraction joints on the 6'-wide concrete sidewalk will be sawcut and no longitudinal joint will be provided at the center.

Due to the extra depth required, the base course material required, as per the typical sections, will be paid for separately at the contract unit price per ton of "Base Course". The base course will meet the requirement of Section 882. Compaction will be to the satisfaction of the Engineer.

Provide a 1/2 inch Preformed Expansion Joint Filler when sidewalk is adjacent to other concrete and every 80' along the sidewalk. All expansion joints must be flush with adjacent hard surfacing. If deflections greater than 1/4" occur across any joint, the panel must be removed and replaced or joint must be ground flush. This will be at the Owner's discretion and at the Contractor's expense.

Four (4) inches of base course will be placed beneath the sidewalk.

All concrete must comply with ADA standards. No cross-slope may exceed 2.0%. No longitudinal slope may exceed 5% unless shown in the plans.

Payment for furnishing and installing the joint filler will be incidental to the contract unit price per square foot for 4" and 5" Concrete Sidewalk.

### TABLE OF 4" CONCRETE SIDEWALK

Station	to	Station	Quantity (SqFt)
15+31		15+83	100
16+34		16+38	50
19+92		19+96	17
Total:			167

### TABLE OF 5" CONCRETE SIDEWALK

Station	to	Station	Quantity (SqFt)
12+24		15+00	1,648
15+00		15+41	259
15+67		15+89	181
16+26		19+48	1,953
19+84		20+00	106
20+00		22+74	1,655
23+10		23+25	99
Total:			5,901



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## TYPE 1 DETECTABLE WARNINGS

Detectable warnings will be in compliance with the Americans with Disabilities Act regulations.

The detectable warnings will be installed according to the manufacturer's installation instructions.

A concrete thickness equal to the adjacent concrete sidewalk thickness and 2 inches of granular cushion material will be placed below the Type 1 Detectable Warnings. When concrete is placed below the detectable warnings then the concrete thickness will be transitioned at the rate of 1" per foot to match the adjacent concrete sidewalk thickness.

The detectable warnings will be a brick red color for application in concrete curb ramps. Cast iron plates may be a natural patina (weathered steel).

Type 1 Detectable Warning Panels will be one of the following products:

### Type 1 Detectable Warnings

Product	Manufacturer
Detectable Warning Plate Cast Iron Plate	Neenah Foundry Company Neenah, WI 800-558-5075 <a href="http://www.neenahfoundry.com/">http://www.neenahfoundry.com/</a>
Detectable Warning Plate Cast Iron Plate	Deeter Foundry Lincoln, NE 800-234-7466 <a href="http://www.deeter.com/">http://www.deeter.com/</a>
Detectable Warning Plate Cast Iron Plate(No Coating)	East Jordan Iron Works, Inc. 301 Spring Street East Jordan, MI 49727 800-626-4653 <a href="http://www.ejiw.com">http://www.ejiw.com</a>
Iron Dome Cast Iron Detectable Warning Tile	ADA Solutions, Inc. 323 Andover Street Suite 3 Wilmington, MA 01887 800-372-0519 <a href="https://adatile.com">https://adatile.com</a>
TufTile (wet-set) Cast Iron Replaceable Tile	TufTile 1200 Flex Court Lake Zurich, IL 60047 888-960-8897 <a href="http://www.tuftile.com/">http://www.tuftile.com/</a>
Advantage Tactile Detectable Warning Cast Iron Plate	Advantage Tactile Systems, Inc. 241 Main Street, Suite 100 Buffalo, NY 14203 800-679-4022 <a href="https://advantagetactile.com/">https://advantagetactile.com/</a>

## TABLE OF TYPE 1 DETECTABLE WARNINGS

Station to	Station	Quantity (SqFt)
12+29	12+31	12
15+38	15+40	12
15+67	15+69	12
15+86	15+88	12
16+27	16+29	12
19+44	19+46	12
19+85	19+87	12
22+71	22+73	12
23+11	23+13	12
Total:		108

## NEW PERMANENT SIGNING

All signs will be manufactured in accordance with the sheeting manufacturer's recommendations utilizing a matched component system, including inks, electronic cuttable films, and protective overlay films.

All Flat Aluminum Signs, Nonremovable Copy High Intensity will have sheeting in conformance with the requirements of ASTM D4956 Type IV. All Flat Aluminum Signs, Nonremovable Copy Super/Very High Intensity will have sheeting in conformance with the requirements of ASTM D4956 Type XI.

All costs associated with furnishing and installing the new permanent signs, and with furnishing and installing stiffeners and hardware will be incidental to the contract unit price per square foot for "Flat Aluminum Sign, Nonremovable Copy High Intensity".

## DIGITALLY PRINTED SIGNS

Digitally printed signs will be allowed on this project. If the Contractor elects to provide digitally printed signs, such signs will adhere to the following specifications.

## PROTECTIVE OVERLAY FILM

Permanent traffic signs printed with digital ink systems will be fabricated with a full sign protective overlay film designed to provide a smooth surface needed for retroreflectivity, and to protect the sign from fading and UV degradation. The overlamine will comply with the retroreflective sheeting manufacturer's recommendations to ensure proper adhesion and transparency and will also meet the reflective film durability as identified in Table 1.

Table 1: Retroreflective Film Minimum Durability Requirements

ASTM D4956 Type	Full Sign Replacement Term (years)	Sheeting Replacement Term (years)
I	0	7
III	7	10
IV	7	10
VIII	7	10
IX	7	12
XI	7	12

## FABRICATION

Retroreflective sheeting will be applied to a properly cleaned and prepared aluminum sign blank in accordance with the retroreflective sheeting manufacturer's recommendations. Sign legend will be applied using digital print technologies and systems in accordance with the retroreflective sheeting manufacturer's recommendations and the requirements of these plans.

Finished signs will be free of ragged edges and must be supplied clean and free of scratches, grease, oil, lubricants or other contaminants. Minor blemishes (dirt speck, dust, etc.) may settle on the fresh ink surface or become entrapped between the sheeting surface and transparent overlay film due to static charge within the sign shop environment. Any blemish must be minor and not interfere with the communication of the sign message to the motorist. The blemish must not be visible to the naked eye when viewed from 30 feet or greater.

After application of the retroreflective sheeting, sign blanks will be stacked and packaged face to face, back to back, and protected in accordance with the sheeting manufacturer's recommendations. Finished signs will be securely packaged to prevent damage during transit or storage according to the sheeting manufacturer's recommendations.

## TRAFFIC SIGN PERFORMANCE WARRANTY PROVISIONS

Based on the ASTM Type of sheeting specified, traffic control signs will be warranted for the duration shown in Table 1. Full product terms and conditions are as established by each sheeting manufacturer and may contain certain limitations based on sheeting and ink colors, and geographic exposure of the sign. A copy of the warranty document with complete details of terms and conditions will be supplied if requested by the Engineer.

## CERTIFIED DIGITAL SIGN FABRICATOR

Sign fabricators using digital imaging methods to produce regulated traffic signs must be certified by the reflective sheeting manufacturer whose materials are used to produce the delivered signs.

## DATE TAGGING SIGNS WITH PERTINENT INFORMATION

All digitally printed signs are required to be date-tagged with the following 2 components:

1. Date tags on the back of signs  
Tags will have the following information and be fabricated with material and printing system that are as durable as the warranted sign.

- Name of Sign Fabricator
- Date the sign was fabricated (month and year)
- Process that was used for sign fabrication (digitally printed)
- Supplier of sheeting that was used for fabricating the sign.



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# GENERAL NOTES AND TABLES

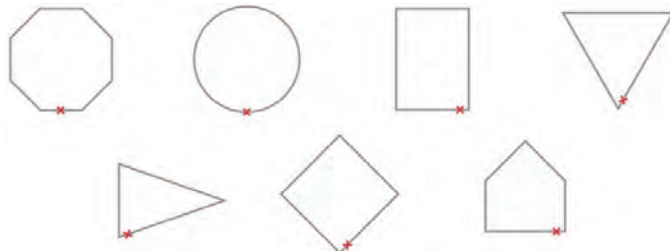
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## DIGITALLY PRINTED SIGNS (CONTINUED)

### 2. Border date

The month and year (mm/yyyy) of sign fabrication will be printed in the border of the sign in 3/8" sans serif font. Border date will be printed with the same warranted printed system as the sign face. The date should be printed in the locations indicated below.



## SQUARE TUBE ANCHOR SLEEVE

The Contractor will furnish and install new 2.5" x 2.5" x 18", 12 Gauge square tube anchor sleeve or equivalent components as approved by the Engineer for 2.0" x 2.0" perforated tube posts. A 2.25" x 2.25" x 4', 12 Gauge perforated tube post will be used as the anchor post for installation with the square tube anchor sleeve. All anchor sleeves and tube posts required to install the sign post will be incidental to the "2.0" x 2.0" Perforated Tube Post" bid item.

## SURFACE PREPARATION FOR PAVEMENT MARKING

The Contractor will prepare the pavement surface prior to applying the durable pavement marking in accordance with the following.

In areas where the existing groove meets the required depth and existing markings are still in place, the Contractor will clean the existing groove without adding additional depth beyond the required depth for the new pavement marking, including reflective media as noted below.

Description	Specification	Tolerance
Depth of Groove	Marking Thickness <sup>1</sup> + 15 mils	+ 5 mils

<sup>1</sup> Marking thickness will include the thickness of marking material and reflective media.

The cleaning will result in the existing pavement marking being adequately scuffed, abraded, and removed by light grinding or abrasive blasting or both to allow proper adhesion of the new durable pavement marking as per the manufacturer's recommendations to comply with product warranties.

Existing grooves not meeting the required depth will be re-grooved to the required depth for the new pavement marking, including reflective media. Equipment for grooving will be capable of the following:

- Grooving the total width of the groove in one pass or uniform depths with multiple passes.
- Grooving without causing damage to the pavement joints or joint sealant material.
- Provide uniform alignment and depth.
- Moving continuously to permit a mobile traffic work operation.

All costs associated with cleaning of the existing groove, including re-grooving, if needed, will be included in the contract unit price per square foot for "Surface Preparation for Pavement Marking"

## EPOXY PAVEMENT MARKING PAINT

This specification provides for the classification of epoxy pavement marking systems by type. **For this project, Contractor will use Type II.**

Type I: A fast-cure material suitable for line applications but may require coning.

Type II: A slow-cure material suitable for all applications of pavement markings performed under controlled traffic conditions requiring coning.

Certifications: The manufacturer will certify that the components meet the following requirements and will furnish certified test results for each batch. The Contractor will provide the Engineer with a copy of the manufacturer's product data sheet, instructions for surface preparation and material application at least one week before application work begins. Whenever the manufacturer's recommendations are more stringent than these provisions, the manufacturer's recommendations will apply.

Epoxy Material: Furnish a two-component 100 percent solids epoxy material containing no fillers or pigment extenders. Follow the manufacturer's mixing ratio when mixing the two components. Mix the components within plus or minus 2 1/2 percent of the manufacturer's recommended mix ratio. No solvents are to be given off to the environment upon application to a pavement surface. The components, when combined, will not contain or produce volatile solvents. Type II material will be completely free of TMPTA (Tri-Methylol Propane Tri-Acrylate) and other multi-functional monomers. All materials will be free

of lead, cadmium, mercury, hexavalent chromium, and other toxic heavy metals as defined by the United States Environmental Protection Agency.

The Resin/Pigment component will meet the following percentages by weight:

Pigment	White	Yellow
TiO <sub>2</sub> , meeting ASTM D-476, Type II	18-25	12-17
Organic Yellow		7-9
Epoxy Resin	75-82	74-82

Test the epoxy content of the epoxy resin in accordance with ASTM D 1652 and calculate as the Weight per Epoxy Equivalent (WPE) for both white and yellow. Determine the epoxy content on a pigment-free basis. The accepted epoxy content range (WPE) is +50 of the manufacturer's target value.

Ensure the Activator/Curing Agent meets the following requirements:

Test the amine value in accordance with ASTM D 2074. Ensure the total amine value meets the manufacturer's target value with the acceptance range being ±50 of the target value.

### a. Color:

White: The color will be within the Chromaticity coordinates listed in Tables 1 and 2 when tested in accordance with ASTM E-1347 or ASTM E-1349

Yellow: The color will match Federal Test Standard Number 595a, Color 13538, or will be within the Chromaticity coordinates listed in Tables 1 and 2 when tested in accordance with ASTM E-1347 or ASTM E-1349.

### b. Shelf Life: The individual components will not require mixing prior to use when stored for a period of 12 months or less.

### c. Adhesion Capabilities: When the adhesion of the material to Portland cement concrete (the concrete will have a minimum of 300 psi. tensile strength (2,070 kPa)) is tested in accordance with the American Concrete Institute Committee 503 testing procedure, the failure of the system must take place in the concrete. The concrete will be a minimum of 90°F (32°C) when the material is applied, after which the material will be allowed to cure for 72 hours at 73°F ± 5°F (23°C ± 2°C).

### d. Abrasion Resistance: When the abrasion resistance of the material is tested in accordance with ASTM C 501 with a CS-17 wheel under a load of 1,000 grams for 1,000 cycles, the wear index will be no greater than 82. (The wear index is the weight in milligrams that is abraded from the sample under the test conditions.)

### e. Hardness: The Type D durometer hardness of the material will not be less than 75 nor more than 90 when tested in accordance with ASTM D 2240 after the material has cured for 72 hours at 73°F ± 5°F (23°C ± 2°C).

### f. Tensile Strength: The tensile strength of the material, when tested in accordance with ASTM D 638, will not be less than 6,000 psi. (42 MPa) after 72 hours cure at 73°F ± 5°F (23°C ± 2°C).

### g. Compressive Strength: The compressive strength of the material, when tested in accordance with ASTM D 695, will not be less than 12,000 psi (83 MPa) after 72 hours cure at 73°F ± 5°F (23°C ± 2°C). The rate of compression of these samples will be no more than 1/4 inch (6 mm) per minute.



01/28/2026

# GENERAL NOTES AND TABLES

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT P TAPR(54)	SHEET NO. 11	TOTAL SHEETS 56
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## EPOXY PAVEMENT MARKING PAINT (CONTINUED)

- h. Weather Resistance: Apply the mixed epoxy, both white and yellow, at 15 mils +1 mil thick to 3- x 6-inch (75 mm x 150 mm) aluminum panels. Do not apply beads to the epoxy sample. Expose the cured sample in an Environmental Test Chamber meeting the requirements of ASTM G 53. Conduct the test for 80 hours at 122°F (50°C), alternating four-hour cycles of condensation and ultraviolet light.

TABLE 1

Color	Chromaticity coordinates (corner points)							
	x	Y	x	y	x	y	x	y
White	.355	.355	.305	.305	.285	.325	.335	.375
Yellow	.560	.440	.490	.510	.420	.440	.460	.400

Color	Y values %			
	With Glass Beads		Without Glass Beads	
	Min	Max	Min	Max
White	60	--	70	--
Yellow	30	--	35	--

Table 1: Daytime Color Specification Limits for Pavement Markings  
 Material with CIE 2° Standard Observer and 45/0 (0/45) Geometry and CIE D65 Standard Illuminant

TABLE 2

Color	Chromaticity coordinates (corner points)							
	1		2		3		4	
	x	y	x	y	x	y	x	y
White	.480	.410	.430	.380	.405	.405	.455	.435
Yellow	.575	.425	.508	.415	.473	.453	.510	.490

Table 2: Nighttime Color Specification Limits for Pavement Marking  
 Retroreflective Material With CIE 2° Standard Observer and Observation Angle = 1.05°, Entrance Angle = 88.76° (beta angle 2 and epsilon = 0°) and CIE Standard Illuminant A

The triangle pavement markings for yield lines will be paid at the contract unit price per each for "Epoxy Pavement Marking Paint, Arrow".

## TABLE OF EPOXY PAVEMENT MARKING PAINT – 24” WHITE

Station	to	Station	Quantity (Lf)
11+97		12+23	50
15+45		15+63	32
15+95		16+23	56
19+53		19+79	56
22+79		23+07	56
Total:			250

## TABLE OF EPOXY PAVEMENT MARKING PAINT - ARROW

Station	to	Station	Quantity (Ea)
15+54		15+63	4
16+43		16+47	4
Total:			8



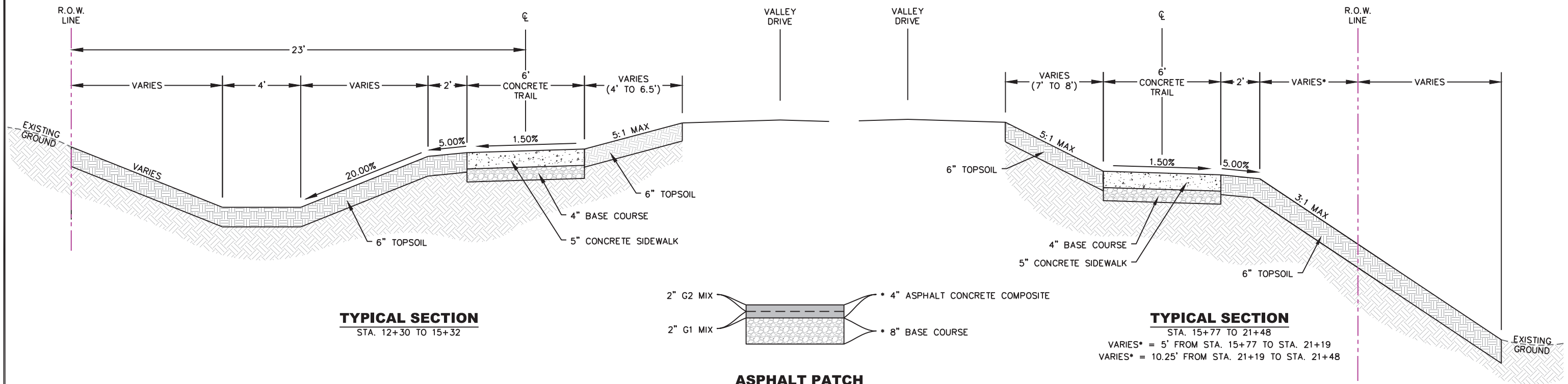
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# TYPICAL SECTIONS FOR BIDDING PURPOSES ONLY

**NOTE:**

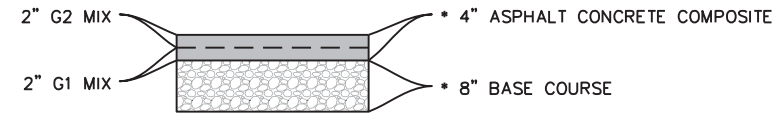
THE THICKNESS OF THE CONCRETE SIDEWALK SHALL BE 6" WHEN INSTALLED IN A CURB RAMP AREA.

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	P TAPR(54)	12	56
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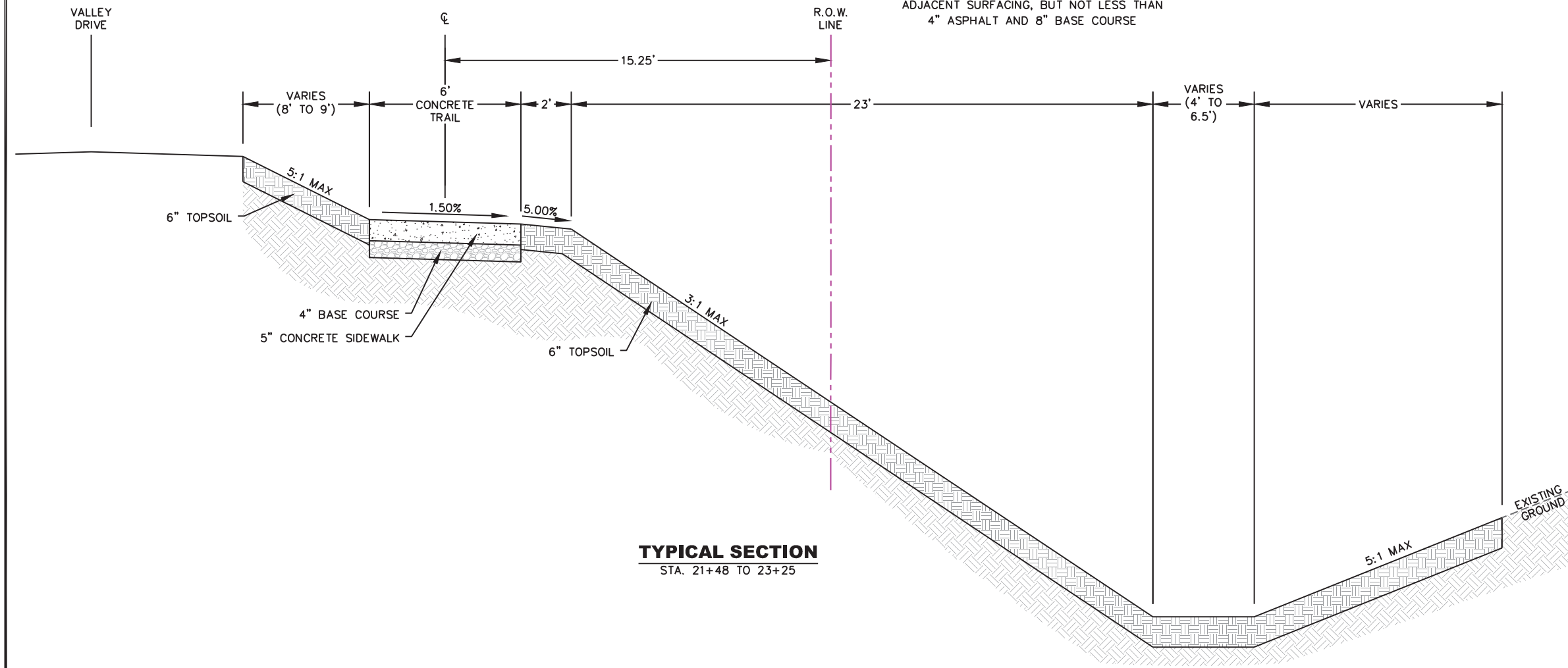
**TYPICAL SECTION**  
STA. 12+30 TO 15+32

**TYPICAL SECTION**  
STA. 15+77 TO 21+48



**ASPHALT PATCH**

\*ASPHALT PATCH SHALL MATCH SECTION OF ADJACENT SURFACING, BUT NOT LESS THAN 4" ASPHALT AND 8" BASE COURSE



**TYPICAL SECTION**  
STA. 21+48 TO 23+25



# TRAFFIC CONTROL FOR BIDDING PURPOSES ONLY

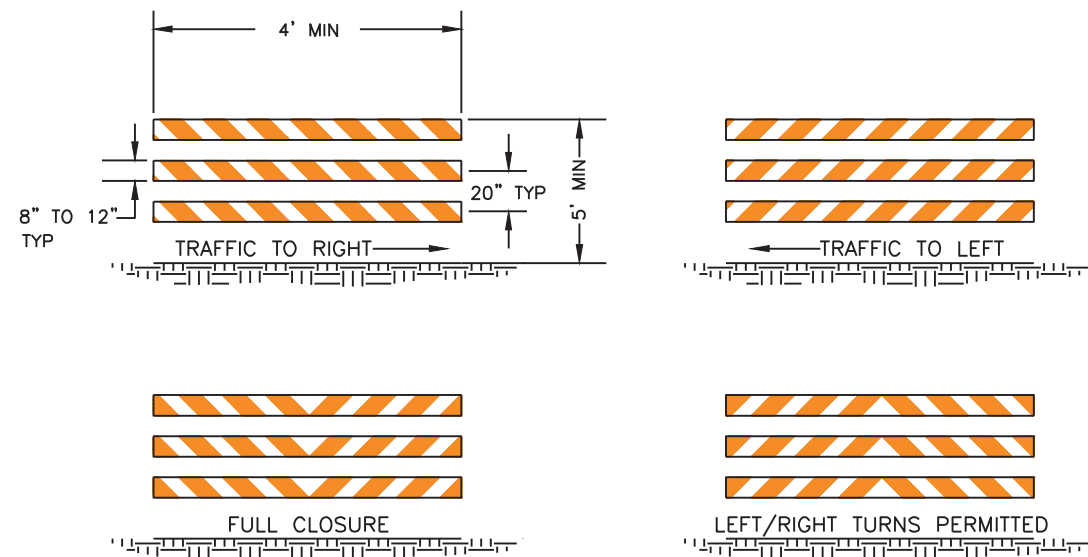
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	13	56
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ITEMIZED LIST FOR TRAFFIC CONTROL					
SIGN CODE	SIGN SIZE	DESCRIPTION	TOTAL SIGNS	SQFT PER SIGN	TOTAL SQFT
G20-2A	36" x 18"	END ROAD WORK	2	4.5	9
W20-1	48" x 48"	ROAD WORK AHEAD	3	16	48
W21-5	48" x 48"	SHOULDER WORK	2	16	32
<b>TOTAL:</b>					<b>89</b>

TYPE III BARRICADES	TOTAL
TYPE III BARRICADES, 8' DOUBLE SIDED	<b>9</b>

TYPE 3 BARRICADE CONFIGURATIONS



**NOTES:**

1. CONTRACTOR WILL MAINTAIN 2 LANES OF OPEN TRAFFIC AT ALL TIMES ON VALLEY DRIVE DURING CONSTRUCTION.
2. CONTRACTOR WILL MAINTAIN TRAFFIC ON SIDE STREETS ABUTTING VALLEY DRIVE AT ALL TIMES.
3. DRIVEWAY, TRASH PICK-UP, MAIL DELIVERY, AND EMERGENCY VEHICLE ACCESS FOR PROPERTIES IN EACH WORK AREA SHALL BE MAINTAINED BY THE CONTRACTOR (INCIDENTAL WORK).
4. CONTRACTOR SHALL USE CONES, BARRELS, BARRICADES, ETC. TO CLOSE OFF WORK AREAS AS DIRECTED BY THE ENGINEER (TRAFFIC CONTROL, MISC.).
5. SIGNS AND BARRICADES THAT ARE PERIODICALLY REQUIRED TO BE MOVED DUE TO CONSTRUCTION OPERATIONS, SHALL BE PLACED AT LOCATIONS WHERE THEY GIVE SUFFICIENT WARNING TO TRAVELING PUBLIC OF THE CONDITIONS AHEAD AND SHALL BE RELOCATED AS NEEDED TO KEEP SIGNING CURRENT AT REQUIRED LOCATIONS.
6. OPEN EXCAVATIONS SHALL BE COVERED AND BARRICADED.
7. THE EXACT LOCATION OF ALL TRAFFIC CONTROL DEVICES SHALL BE DETERMINED AT THE SITE.
8. THREE (3) ADDITIONAL TYPE 3 BARRICADES HAVE BEEN ADDED TO THE PROJECT TO BE USED, AS NEEDED, WHEN DIRECTED BY THE ENGINEER.
9. AT NO TIME SHALL CONTRACTOR PARK VEHICLES OR EQUIPMENT ON PRIVATE PROPERTY.
10. AT NO TIME SHALL CONTRACTOR BLOCK ENTRANCES ON THIS PROJECT WITH MATERIAL STOCKPILES.



# TRAFFIC CONTROL

FOR BIDDING PURPOSES ONLY

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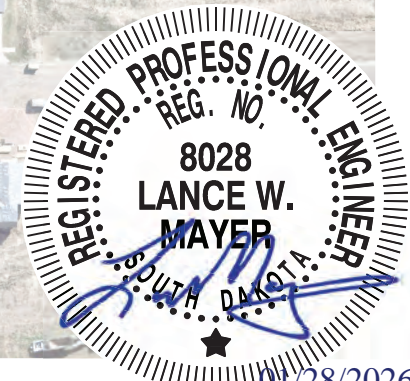
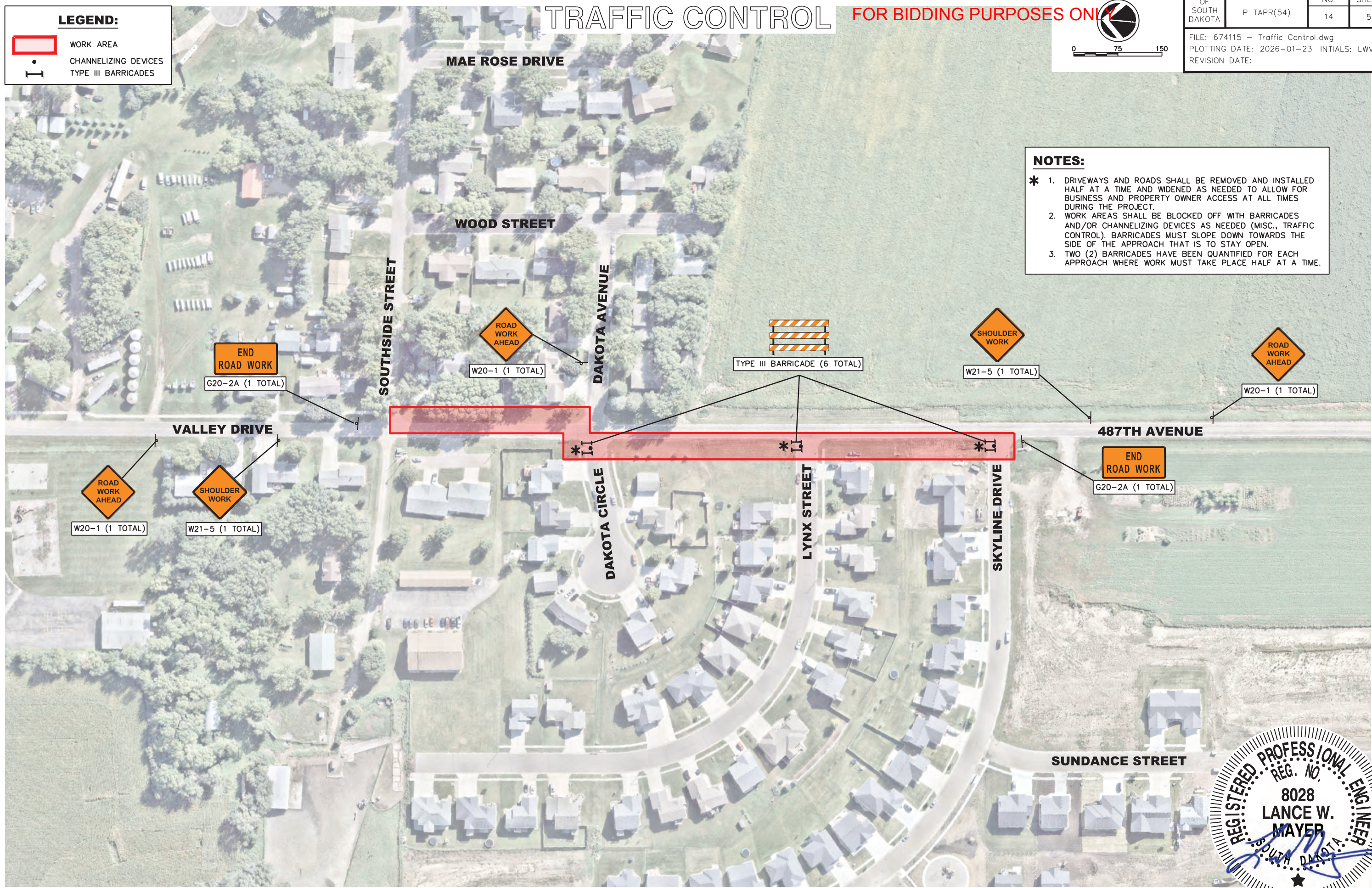


**LEGEND:**

- WORK AREA
- CHANNELIZING DEVICES
- TYPE III BARRICADES

**NOTES:**

- \* 1. DRIVEWAYS AND ROADS SHALL BE REMOVED AND INSTALLED HALF AT A TIME AND WIDENED AS NEEDED TO ALLOW FOR BUSINESS AND PROPERTY OWNER ACCESS AT ALL TIMES DURING THE PROJECT.
2. WORK AREAS SHALL BE BLOCKED OFF WITH BARRICADES AND/OR CHANNELIZING DEVICES AS NEEDED (MISC., TRAFFIC CONTROL). BARRICADES MUST SLOPE DOWN TOWARDS THE SIDE OF THE APPROACH THAT IS TO STAY OPEN.
3. TWO (2) BARRICADES HAVE BEEN QUANTIFIED FOR EACH APPROACH WHERE WORK MUST TAKE PLACE HALF AT A TIME.



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

**5.3 (2): STAFF TRAINING/SWPPP IMPLEMENTATION**

To promote stormwater management awareness specific for this project, the Contractor's Erosion Control Supervisor should provide correspondence of how the SWPPP will be implemented. The Contractor's Erosion Control Supervisor is responsible for providing this information at the preconstruction meeting, and subsequently completing an attendance log, which should identify site-specific implementation of the SWPPP and the names of the personnel who attended the preconstruction meeting. Documentation of the preconstruction meeting will be filed with the SWPPP documents.

**5.3 (3): DESCRIPTION OF CONSTRUCTION ACTIVITIES**

- **5.3 (3a): Project Limits** (See Title Sheet)
- **5.3 (3a): Project Description** (See Title Sheet)
- **5.3 (4): Site Map(s)** (See Title Sheet and Plans)
- **Major Soil Disturbing Activities** (check all that apply)
  - Clearing and grubbing
  - Excavation/borrow
  - Grading and shaping
  - Filling
  - Other (describe):
- **5.3 (3b): Total Project Area** Approx. 0.73 acres
- **5.3 (3b): Total Area to be Disturbed** Approx. 0.73 acres
- **5.3 (3c): Maximum Area Disturbed at One Time** Approx. 0.73 acres
- **5.3 (3d): Existing Vegetative Cover (%)** Approx. 90%
- **5.3 (3d): Description of Vegetative Cover** Natural vegetation (grass, trees, shrubs, etc.)
- **5.3 (3e): Soil Properties:** USDA-NRCS Soil Series Classification: The site primarily of Corson series soils. These soils are well drained and are of the Hydrologic Soil Group C.
- **5.3 (3f): Name of Receiving Water Body/Bodies** Beaver Creek
- **5.3 (3g): Location of Construction Support Activity Areas** N/A

**5.3 (3h): ORDER OF CONSTRUCTION ACTIVITIES**

The Contractor will enter the Estimated Start Date.

Description	Estimated Start Date
Install perimeter protection where runoff may exit site.	
Clearing and grubbing.	
Remove and stockpile topsoil.	
Install perimeter protection around stockpiles.	
Install storm sewers, curb & gutter, and asphalt surfacing.	
Final grading and stabilization of disturbed areas.	
Removal of protection devices.	
Reseed areas disturbed by removal activities.	

**5.3 (5): DESCRIPTION AND MAINTENANCE OF CONTROL MEASURES**

All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report. Include the technical reasoning for selecting each control. (check all that apply)

**Perimeter Controls (See Detail Plan Sheets)**

Description	Estimated Start Date
<input type="checkbox"/> Natural Buffers (within 50 ft of Waters of State)	
<input checked="" type="checkbox"/> Silt Fence	
<input checked="" type="checkbox"/> Erosion Control Wattles	
<input type="checkbox"/> Temporary Berm / Windrow	
<input type="checkbox"/> Floating Silt Curtain	
<input type="checkbox"/> Stabilized Construction Entrances	
<input type="checkbox"/> Entrance/Exit Equipment Tire Wash	
<input type="checkbox"/> Other:	

**Structural Erosion and Sediment Controls**

Description	Estimated Start Date
<input checked="" type="checkbox"/> Silt Fence	
<input type="checkbox"/> Temporary Berm/Windrow	
<input checked="" type="checkbox"/> Erosion Control Wattles	
<input type="checkbox"/> Temporary Sediment Barriers	
<input type="checkbox"/> Erosion Bales	
<input type="checkbox"/> Temporary Slope Drain	
<input checked="" type="checkbox"/> Turf Reinforcement Mat	
<input type="checkbox"/> Riprap	
<input type="checkbox"/> Gabions	
<input type="checkbox"/> Rock Check Dams	
<input type="checkbox"/> Sediment Traps/Basins	
<input type="checkbox"/> Culvert Inlet Protection	
<input type="checkbox"/> Transition Mats	
<input type="checkbox"/> Median/Area Drain Inlet Protection	
<input checked="" type="checkbox"/> Inlet Protection	
<input type="checkbox"/> Interceptor Ditch	
<input type="checkbox"/> Concrete Washout Facility	
<input type="checkbox"/> Work Platform	
<input type="checkbox"/> Temporary Water Barrier	
<input type="checkbox"/> Temporary Water Crossing	
<input type="checkbox"/> Permanent Stormwater Ponds	
<input type="checkbox"/> Permanent Open Vegetated Swales	
<input type="checkbox"/> Natural Depressions to allow for Infiltration	
<input type="checkbox"/> Sequential Systems that combine several practices	
<input type="checkbox"/> Other:	

**Dust Controls**

Description	Estimated Start Date
<input type="checkbox"/> Tarps & Wind impervious fabrics	
<input type="checkbox"/> Watering	
<input type="checkbox"/> Stockpile location/orientation	
<input type="checkbox"/> Dust Control Chlorides	
<input type="checkbox"/> Other	

**Dewatering BMPs**

Description	Estimated Start Date
<input type="checkbox"/> Sediment Basins	
<input type="checkbox"/> Dewatering bags	
<input type="checkbox"/> Weir tanks	
<input type="checkbox"/> Temporary Diversion Channel	
<input type="checkbox"/> Other:	

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

(Stabilization measures will begin the following work day whenever earth disturbing activity on any portion of the site has temporarily or permanently ceased. Temporary stabilization will be completed as soon as practicable but no later than 14 days after initiating soil stabilization activities (3.18).



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**5.3 (5): DESCRIPTION AND MAINTENANCE OF CONTROL MEASURES (CONTINUED)**

Description	Estimated Start Date
<input type="checkbox"/> Vegetation Buffer Strips	
<input type="checkbox"/> Temporary Seeding (Cover Crop Seeding)	
<input checked="" type="checkbox"/> Permanent Seeding	
<input type="checkbox"/> Sodding	
<input type="checkbox"/> Planting (Woody Vegetation for Soil Stabilization)	
<input type="checkbox"/> Mulching (Grass Hay or Straw)	
<input checked="" type="checkbox"/> Fiber Mulching (Wood Fiber Mulch)	
<input type="checkbox"/> Soil Stabilizer	
<input type="checkbox"/> Bonded Fiber Matrix	
<input type="checkbox"/> Fiber Reinforced Matrix	
<input checked="" type="checkbox"/> Erosion Control Blankets	
<input type="checkbox"/> Surface Roughening (e.g. tracking)	
<input type="checkbox"/> 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.

**5.3 (6): PROCEDURES FOR INSPECTIONS**

- Inspections will be conducted at least once every 7 days.
- 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 to ensure the fabric is securely attached to the posts and that the posts are well anchored. Sediment buildup will be removed from the silt fence when it reaches 1/3 of the height of the silt fence.
- Sediment basins and traps will be checked. Sediment will be removed when depth reaches approximately 50 percent of the structure's capacity, and at the conclusion of the construction.
- Check dams will be inspected for stability. Sediment will be removed when depth reaches 1/2 the height of the dam.
- All seeded areas will be checked for bare spots, washouts, and vigorous growth free of significant weed infestations.
- Inspection and maintenance reports will be prepared on form DOT 298 for each site inspection, this form will also be used to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents.
- The SDDOT Project Engineer and Contractor's Erosion Control Supervisor are responsible for inspections. Maintenance and 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.

**5.3 (7): POST CONSTRUCTION STORMWATER MANAGEMENT**

Stormwater management will be handled by temporary controls outlined in "DESCRIPTION AND MAINTENANCE OF CONTROL MEASURES" above, and any permanent controls needed to meet permanent stormwater management needs in the post construction period will be shown in the plans and noted as permanent.

**5.3 (8): POLLUTION PREVENTION PROCEDURES**

**5.3 (8a): Spill Prevention and Response Procedures**

➤ **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/or 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.

▪ Hazardous Materials

- Products will be kept in original containers unless the container is not resealable and provide secondary containment as applicable.
- 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 stormwater system or stormwater 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 stormwater runoff.

➤ **Spill Control Practices**

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

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

➤ **Spill Response**

The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize migration into stormwater runoff and conveyance systems. If the release has impacted on-site stormwater, it is critical to contain the released materials on-site and prevent their release into receiving waters. If a spill of pollutants threatens stormwater 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.



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### 5.3 (8): POLLUTION PREVENTION PROCEDURES (CONTINUED)

- 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 SDDANR.
- Personnel with primary responsibility for spill response and cleanup 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.

### 5.3 (8b): WASTE MANAGEMENT PROCEDURES

- **Waste Disposal**
  - All liquid waste materials will be collected and stored in approved sealed containers. 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. The Contractor is responsible for ensuring 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 Contractor 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 which must be secured to prevent tipping and serviced in a timely manner by a licensed waste management Contractor or as required by any local regulations.

### 5.3 (9): CONSTRUCTION SITE POLLUTANTS

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 heading "POLLUTION PREVENTION PROCEDURES" (check all that apply).

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

### Product Specific Practices

- **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 stormwater. Fertilizers will be stored in an enclosed area. The contents of partially used fertilizer bags will be transferred to sealable containers to avoid spills.
- **Paints**  
All containers will be tightly sealed and stored when not required for use. The excess will be disposed of according to the manufacturer's instructions and any applicable state and local regulations.
- **Concrete Trucks**  
Contractors will provide designated truck washout facilities on the site. These areas must be self-contained and not connected to any stormwater outlet of the site. Upon completion of construction, the area at the washout facility will be properly stabilized.

### 5.3 (10): NON-STORMWATER DISCHARGES

The following non-stormwater 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.

### 5.3 (11): INFEASIBILITY DOCUMENTATION

If it is determined to be infeasible to comply with any of the requirements of the Stormwater Permit, the infeasibility determination must be thoroughly documented in the SWPPP.

### 7.0: 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 SDDANR immediately **if any one of the following** conditions exists:
  - The release or spill threatens or is able to threaten waters of the state (surface water or ground water)
  - The release or spill causes an immediate danger to human health or safety
  - The release or spill exceeds 25 gallons
  - The release or spill causes a sheen on surface water
  - The release or spill of any substance that exceeds the ground water quality standards of ARSD Chapter 74:54:01
  - The release or spill of any substance that exceeds the surface water quality standards of ARSD Chapter 74:51:01
  - The release or spill of any substance that harms or threatens to harm wildlife or aquatic life
  - The release or spill is required to be reported according to Superfund Amendments and Reauthorization Act (SARA) Title III List of Lists, Consolidated List of Chemicals Subject to Reporting Under the Emergency Planning and Community Right to Know Act, US Environmental Protection Agency.
- To report a release or spill, call SDDANR at 605-773-3296 during regular office hours (8 a.m. to 5 p.m. Central Standard Time). To report the release after hours, on weekends or holidays, call South Dakota Emergency Management at 605-773-3231. Reporting the release to SDDANR does not meet any obligation for reporting to other state, local, or federal agencies. Therefore, you must also contact local authorities to determine the local reporting requirements for releases. A written report of the unauthorized release of any regulated substance, including quantity discharged, and the location of the discharge will be sent to SDDANR within 14 days of the discharge.



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### 5.4: SWPPP CERTIFICATIONS

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

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

#### ➤ South Dakota Department of Transportation

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



\_\_\_\_\_  
Authorized Signature (See the General Permit, Section 7.4 (1))

#### ➤ 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

The following personnel are duly authorized representatives and have signatory authority for modifications made to the SWPPP:

#### ➤ Contractor Information:

- Prime Contractor Name: \_\_\_\_\_

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

#### ➤ Erosion Control Supervisor

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

#### ➤ SDDOT Project Engineer

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

#### ➤ SDDANR Contact Spill Reporting

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

#### ➤ SDDANR Contact for Hazardous Materials.

- (605) 773-3153

#### ➤ National Response Center Hotline

- (800) 424-8802.

#### ➤ SDDANR Stormwater Contact Information

- SDDANR Stormwater (800) 737-8676
- Surface Water Quality Program (605) 773-3351

### 5.5: REQUIRED SWPPP MODIFICATIONS

#### ➤ 5.5 (1): Conditions Requiring SWPPP Modification

The SWPPP must be modified, including the site map(s), in response to any of the following conditions:

- When a new operator responsible for implementation of any part the SWPPP begins work on the site.
- When changes to the construction plans, sediment and erosion control measures, or any best management practices on site that are no longer accurately reflected in the SWPPP. This includes changes made in response to corrective actions triggered by inspections.
- To reflect areas on the site map where operational control has been transferred (including the date of the transfer) or has been covered under a new permit since initiating coverage under this general permit.
- If inspections by site staff, local officials, SDDANR, or U.S. EPA determine that SWPPP modifications are necessary for compliance with the Stormwater Permit.
- To reflect any revisions to applicable federal, state, or local requirements that affect the control measures implemented at the site.
- If approved by the Secretary, to reflect any changes in chemical water treatment systems or controls, including the use of a different water treatment chemical, age rates, different areas, or methods of application.

#### ➤ 5.5 (2): Deadlines for SWPPP Modification

Any required revisions to the SWPPP must be completed within 7 calendar days following any of the items listed above.

#### ➤ 5.5 (3): Documentation of Modifications to the Plan

All SWPPP modification records are required to be maintained showing the dates of when the modification occurred. The records must include the name of the person authorizing each change and a brief summary of all changes.

#### ➤ 5.5 (4): Certification Requirements

All modifications made to the SWPPP must be signed and certified as required in Section 7.4.

#### ➤ 5.5 (5): Required Notice to Other Operators

If there are multiple operators at the site, the Contractor's Erosion Control Supervisor must notify each operator that may be impacted by the change to the SWPPP within 24 hours.

When modifications as described above occur, the SWPPP will be modified to provide appropriate protection to disturbed areas, all storm water structures, and adjacent waters. The SDDOT Project Engineer will modify the SWPPP using the DOT 298 form and drawings on the plan will be modified to reflect the needed changes. Copies of the DOT 298 forms and the SWPPP will be retained on site in a designated place for review throughout the course of the project. A copy of the DOT 298 form will be given to the Contractor Erosion Control Supervisor and a copy will be emailed to the SDDOT Environmental Section in accordance with the DOT 298 Form.



# EROSION CONTROL NOTES FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT P TAPR(54)	SHEET NO. 19	TOTAL SHEETS 56
FILE: 674115 - Erosion Control Notes.docx.doc			
PLOTTING DATE: 2026-01-28 INITIALS: LWM			
REVISION DATE:			

## MYCORRHIZAL INOCULUM

Mycorrhizal inoculum will consist of mycorrhizal fungi spores and mycorrhizal fungi-infected root fragments in a solid carrier. The carrier may include organic materials, calcinated clay, or other materials consistent with application and good plant growth. The supplier will provide certification of the fungal species claimed and the live propagule count. The inoculum will include a minimum 25% the fungal species *Rhizophagus intraradices*. The remaining 75% may include other endomycorrhizal fungal species.

All seed will be inoculated by the seed supplier with a minimum of 20,000 live propagules of mycorrhizal fungi per 1,000 square feet. All costs of inoculating the seed will be incidental to the contract unit price per pound for the corresponding permanent seed mixture.

The Mycorrhizal Inoculum provided will be from the approved product list. The approved product list may be viewed at the following internet site:

<http://apps.sd.gov/HC60ApprovedProducts/main.aspx>

## FERTILIZING

A commercial fertilizer with a minimum guaranteed analysis of 13-13-13, 18-46-0, 11-52-0, or an approved alternate fertilizer sold for use as a lawn starter fertilizer will be applied to all areas designated for permanent seeding. The application rate of fertilizer will be 300 pounds per acre.

## PERMANENT SEEDING

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

Lawn and turf seed, such as Special Permanent Seed Mixture 1, will be tested within 12 months prior to planting, exclusive of the calendar month in which the test was completed.

Special Permanent Seed Mixture 1 will consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) LBS/1 ACRE
Improved Kentucky Bluegrass (minimum 3 varieties)		155
Fine-Leaf Perennial Ryegrass (minimum 2 varieties)		65
Creeping Red Fescue		40
<b>TOTAL:</b>		<b>260</b>

## WATER FOR VEGETATION

Water for vegetation consists of applying water to seeded areas to enhance germination and/or root growth. When watering, use the following guidelines:

Immediately after seeding:

- Keep the topsoil moist but not excessively wet until the seed has germinated.
- Water a minimum of 3 days a week for 2 weeks preferably watering 2 or 3 times a day in small quantities.
- Use fine spray and low pressure to avoid topsoil wash and to prevent uncovering buried seeds.

After emergence:

- Topsoil will be kept thoroughly moistened by sprinkling, as necessary, for 6 weeks. After the 6-week period, an inspection will be made to determine if grass is established enough to suspend watering. Continue watering until grass has been thoroughly established.
- Never apply water at a rate faster than the topsoil can absorb.
- Water during early morning hours or early evening hours.
- Do not water when rain is forecast for the area.
- If rainfall occurs, suspend watering according to rainfall amount.

An estimated 60 Gallons of water per square yard of seeding area was used to compute the quantity for the bid item "Water for Vegetation".

All costs for furnishing and applying the water including hauling, materials, equipment, labor, and incidentals necessary will be paid for at the contract unit price per MGal for "Water for Vegetation".

## FIBER MULCHING

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

An additional 2% by weight of tackifier will 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 will be guar gum. If the product selected has synthetic tackifier included, then the additional 2% of tackifier will be synthetic.

Fiber mulch will be applied at the rate of 3,000 pounds per acre.

The Contractor will 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 will be incidental to the contract unit price per ton for "Fiber Mulching".

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

<http://apps.sd.gov/HC60ApprovedProducts/main.aspx>

## EROSION CONTROL WATTLE

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

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

Erosion control wattles will remain on the project to decompose.

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

<http://apps.sd.gov/HC60ApprovedProducts/main.aspx>

## TABLE OF EROSION CONTROL WATTLE

Station	to Station	Diameter (Inch)	Location	Quantity (Ft)
13+00	13+55	12	Ditch Bottom	70
14+00	14+19	12	Ditch Bottom	35
15+00	15+03	12	Ditch Bottom	21
21+55	21+75	12	Ditch Bottom	38
<b>Total:</b>				<b>164</b>

## INTERIM SEDIMENT CONTROL AT INLET (FOR CATCH BASIN)

Accumulated sediment should be removed and disposed of on site. Device should be cleaned or replaced if standing water is evident 48 hours after a rain event. Damaged devices must be repaired.

Inlet sediment control at inlets will be measured per each inlet protected. Additional measurement will not be made when a different type of inlet protection is installed at each location. Also, no additional measurement will be made when the same type of inlet protection is removed and reinstalled at the same location.

Interim Sediment Control at Inlet will be paid for at the contract unit price per each. Payment will be full compensation for all materials, labor, equipment, and incidentals required to install, maintain, and remove the inlet protection.

## TABLE OF INTERIM SEDIMENT CONTROL AT INLET (FOR CATCH BASIN)

Station	L/R	Quantity (Each)
22+60	10'R	1
<b>Total:</b>		<b>1</b>



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# EROSION CONTROL NOTES FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT P TAPR(54)	SHEET NO. 20	TOTAL SHEETS 56
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## LOW FLOW SILT FENCE

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

<http://apps.sd.gov/HC60ApprovedProducts/main.aspx>

Low flow silt fence will 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 734.04 for details.

## TABLE OF LOW FLOW SILT FENCE

Station to	Station	Location	Quantity (Ft)
12+31	12+36	Around Existing Culvert End	20
Total:			20

## EROSION CONTROL BLANKET

Erosion control blanket will be installed 16 feet wide at the locations noted in the table and at locations determined by the Engineer during construction.

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

<http://apps.sd.gov/HC60ApprovedProducts/main.aspx>

## TABLE OF EROSION CONTROL BLANKET

Station to	Station	L/R	Location	Type	Quantity (SqYd)
15+25	20+00	R	Fill Slope	3	416
20+00	22+74	R	Fill Slope	3	711
Total:					1,127

## TURF REINFORCEMENT MAT

Turf Reinforcement Mat will be installed at locations shown in the table at the widths specified, and at locations determined by the Engineer during construction. The Contractor will use a turf reinforcement mat from the approved products list. The approved product list for turf reinforcement mat may be viewed at the following internet site:

<http://apps.sd.gov/HC60ApprovedProducts/main.aspx>

Turf Reinforcement Mat will be installed in accordance with the manufacturer's installation instructions.

## TABLE OF TURF REINFORCEMENT MAT

Station to	Station	Location	Width (Ft)	Type	Quantity (SqYd)
17+73	18+00	Ditch Bottom	20	3	57
21+44	21+75	Ditch Bottom	20	3	54
Total:					111

## SOIL STABILIZER

An estimated quantity of 0.8 acres of soil stabilizer has been included in the Estimate of Quantities. The soil stabilizer will be applied on permanently seeded areas and areas deemed necessary by the Engineer.

The Contractor will apply soil stabilizer in accordance with the manufacturer's application instructions and at the rate specified in the list of approved soil stabilizers.

Wood fiber mulch that contains a green dye will be mixed with the soil stabilizer to be used as a tracer when the soil stabilizer is applied hydraulically. Wood fiber mulch will be added at a rate of 300 pounds per acre to all of the approved soil stabilizers listed in the table except for the Pam-12 Plus product. The wood fiber mulch will be a 100% wood fiber product and does not need to contain a tackifier.

All costs for furnishing and applying the soil stabilizer including wood fiber mulch, hauling, materials, equipment, labor, and incidentals necessary will be paid for at the contract unit price per acre for "Soil Stabilizer".

The Soil Stabilizer provided will be from the approved product list. The approved product list may be viewed at the following internet site:

<http://apps.sd.gov/HC60ApprovedProducts/main.aspx>

## TYPE B DRAINAGE FABRIC

Type B Drainage Fabric may be installed for temporary erosion control at the Flared End locations or as determined by the Engineer During Construction.

The Type B Drainage Fabric will be held in place with sandbags or other weights determined by the Engineer during construction until riprap is placed. Riprap will be placed on the Type B Drainage Fabric.

All costs associated with installing Type B Drainage Fabric as a temporary erosion control measure and permanent base for the riprap including equipment, labor, and materials will be incidental to the contract unit price per SqYd for "Type B Drainage Fabric" that is listed in the Estimate of Quantities.

## TABLE OF TYPE B DRAINAGE FABRIC

Station to	Station	Location	Quantity (SqYd)
21+67	21+90	Downstream of 42" RCP Flared End	38
Total:			38

## TABLE OF CLASS A RIPRAP

Station to	Station	Location	Quantity (Ton)
21+67	21+90	Downstream of 42" RCP Flared End	20
Total:			20

## STREET SWEEPING

Vehicle tracking of sediment from the construction site will be minimized. Street sweeping will be used if erosion and sediment control best management practices are not adequate to prevent sediment from being tracked onto the street.

The Contractor will use a pickup broom having integral self-contained storage to clean the roadway. The pickup broom used will be a minimum of 6 feet wide and have working gutter brooms.

At a minimum, sweeping will be required:

1. Prior to opening any segment or roadway to traffic.
2. Following pavement grooving operations and prior to the application of the pavement marking tape.
3. When sawing operations are underway in the inside driving lanes, the outside driving lanes and gutter may need to be swept to control dust.

All costs for cleaning the roadway with a pickup broom will be incidental to the contract unit price per hour for "Sweeping".

## CONCRETE WASHOUT AREA

Due to limited space within the project limits, there is no room anticipated for a concrete washout facility on-site. Concrete trucks will need to washout at the concrete plant or at an approved site constructed by the concrete supplier. The contractor may request an area to be used for an on-site concrete washout facility; however, the location must be approved by the City and Engineer prior to constructing.

If an on-site area is approved, the concrete washout area must be kept in a condition to maintain the capacity for all wasted concrete and washout water on the project.

Concrete washout areas will be incidental to the work involved and no separate measurement or payment will be made.

A concrete washout area will be installed on the project site at a location approved by the Engineer if concrete trucks deliver concrete to the site. No washout area is necessary if all concrete trucks will wash out at approved site constructed by the concrete supplier.



# EROSION AND SEDIMENT CONTROL

FOR BIDDING PURPOSES ONLY

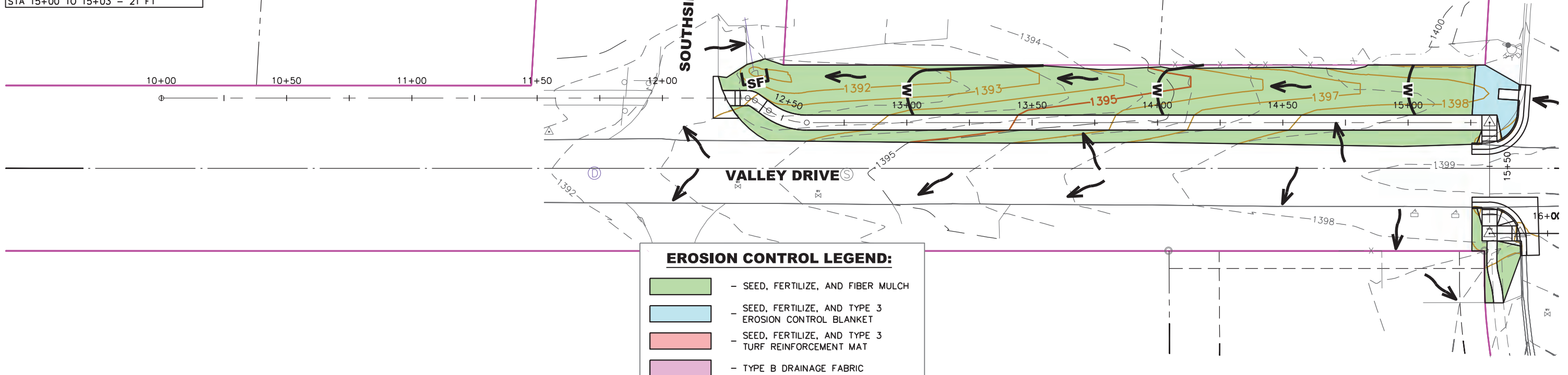
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	21	56
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SEED, FERTILIZE, AND FIBER MULCH - STA 12+22 TO 15+00  
SPECIAL PERMANENT SEED MIXTURE 1 - 39 LB  
FERTILIZING - 45 LB  
FIBER MULCHING - 0.2 TON

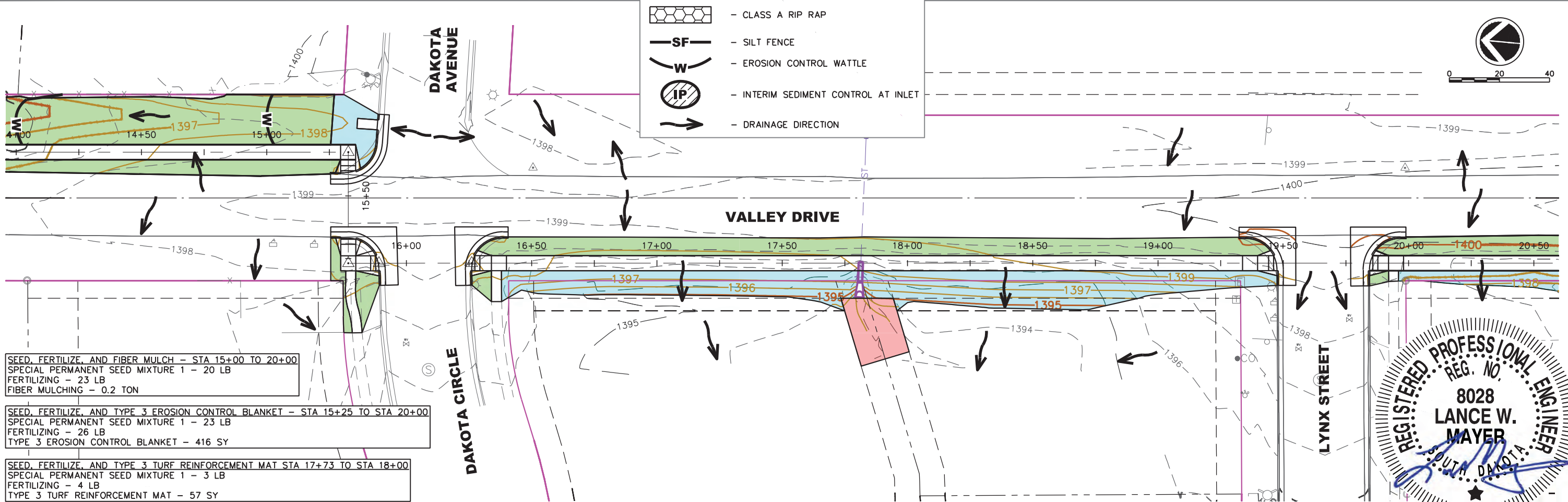
LOW FLOW SILT FENCE  
STA 12+31 TO STA 12+36 - 20 FT

12" DIAMETER EROSION CONTROL WATTLE  
STA 13+00 TO 13+55 - 70 FT  
STA 14+00 TO 14+19 - 35 FT  
STA 15+00 TO 15+03 - 21 FT



**EROSION CONTROL LEGEND:**

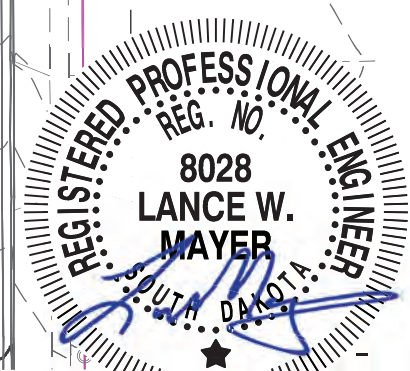
- SEED, FERTILIZE, AND FIBER MULCH
- SEED, FERTILIZE, AND TYPE 3 EROSION CONTROL BLANKET
- SEED, FERTILIZE, AND TYPE 3 TURF REINFORCEMENT MAT
- TYPE B DRAINAGE FABRIC
- CLASS A RIP RAP
- SF - SILT FENCE
- W - EROSION CONTROL WATTLE
- IP - INTERIM SEDIMENT CONTROL AT INLET
- DRAINAGE DIRECTION



SEED, FERTILIZE, AND FIBER MULCH - STA 15+00 TO 20+00  
SPECIAL PERMANENT SEED MIXTURE 1 - 20 LB  
FERTILIZING - 23 LB  
FIBER MULCHING - 0.2 TON

SEED, FERTILIZE, AND TYPE 3 EROSION CONTROL BLANKET - STA 15+25 TO STA 20+00  
SPECIAL PERMANENT SEED MIXTURE 1 - 23 LB  
FERTILIZING - 26 LB  
TYPE 3 EROSION CONTROL BLANKET - 416 SY

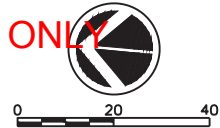
SEED, FERTILIZE, AND TYPE 3 TURF REINFORCEMENT MAT STA 17+30 TO STA 18+00  
SPECIAL PERMANENT SEED MIXTURE 1 - 3 LB  
FERTILIZING - 4 LB  
TYPE 3 TURF REINFORCEMENT MAT - 57 SY



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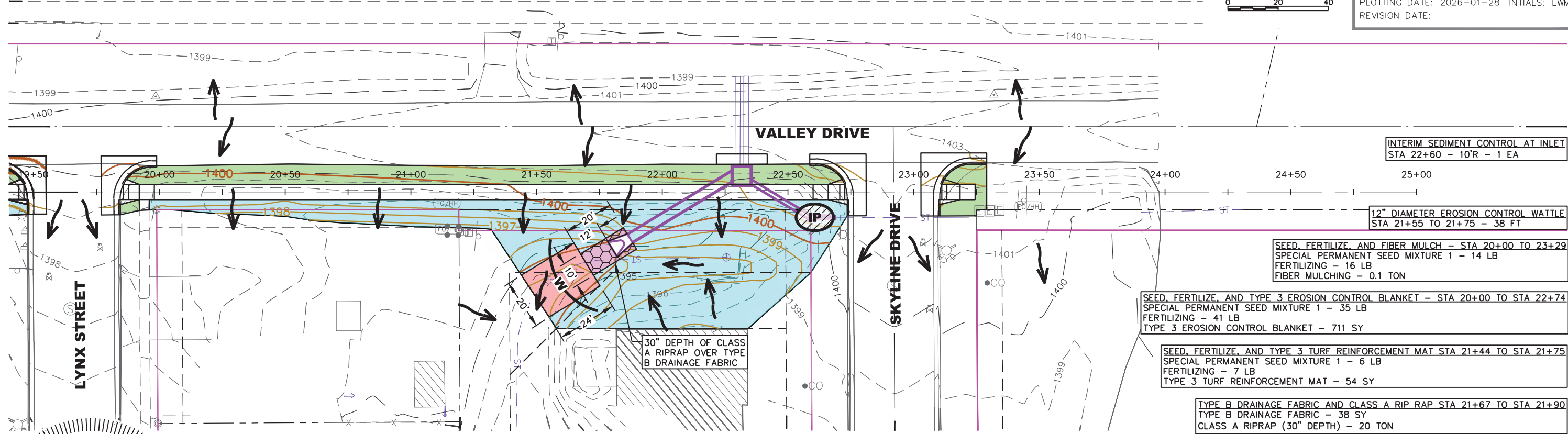
# EROSION AND SEDIMENT CONTROL

FOR BIDDING PURPOSES ONLY



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INTERIM SEDIMENT CONTROL AT INLET  
 STA 22+60 - 10'R - 1 EA

12" DIAMETER EROSION CONTROL WATTLE  
 STA 21+55 TO 21+75 - 38 FT

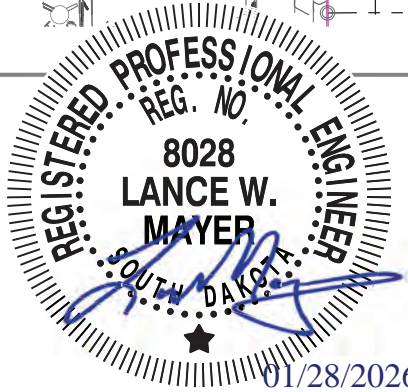
SEED, FERTILIZE, AND FIBER MULCH - STA 20+00 TO 23+29  
 SPECIAL PERMANENT SEED MIXTURE 1 - 14 LB  
 FERTILIZING - 16 LB  
 FIBER MULCHING - 0.1 TON

SEED, FERTILIZE, AND TYPE 3 EROSION CONTROL BLANKET - STA 20+00 TO STA 22+74  
 SPECIAL PERMANENT SEED MIXTURE 1 - 35 LB  
 FERTILIZING - 41 LB  
 TYPE 3 EROSION CONTROL BLANKET - 711 SY

SEED, FERTILIZE, AND TYPE 3 TURF REINFORCEMENT MAT STA 21+44 TO STA 21+75  
 SPECIAL PERMANENT SEED MIXTURE 1 - 6 LB  
 FERTILIZING - 7 LB  
 TYPE 3 TURF REINFORCEMENT MAT - 54 SY

TYPE B DRAINAGE FABRIC AND CLASS A RIP RAP STA 21+67 TO STA 21+90  
 TYPE B DRAINAGE FABRIC - 38 SY  
 CLASS A RIPRAP (30" DEPTH) - 20 TON

30" DEPTH OF CLASS A RIPRAP OVER TYPE B DRAINAGE FABRIC



### EROSION CONTROL LEGEND:

- SEED, FERTILIZE, AND FIBER MULCH
- SEED, FERTILIZE, AND TYPE 3 EROSION CONTROL BLANKET
- SEED, FERTILIZE, AND TYPE 3 TURF REINFORCEMENT MAT
- TYPE B DRAINAGE FABRIC
- CLASS A RIPRAP
- SF - SILT FENCE
- W - EROSION CONTROL WATTLE
- IP - INTERIM SEDIMENT CONTROL AT INLET
- DRAINAGE DIRECTION

# HORIZONTAL ALIGNMENT FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	23	56

FILE: 674115 - Title Sheet.dwg  
 PLOTTING DATE: 2026-01-23 INITIALS: LWM  
 REVISION DATE:

CL - 6' Trail							
TYPE	STATION	DISTANCE	DIRECTION	RADIUS	DELTA	NORTHING	EASTING
POB	10+00.00					15,841,309.238	2,310,046.544
		233.98	S 05°07'59.27" E				
PC	12+33.978					15,841,076.198	2,310,067.478
PI	12+35.53			5.00	35°30'58.66"		
PT	12+37.077					15,841,073.222	2,310,066.812
		6.85	S 30°22'59.39" W				
PC	12+43.93					15,841,067.312	2,310,063.347
PI	12+51.99			26.00	35°30'59.36"	15,841,060.129	2,310,059.136
PT	12+60.05					15,841,051.836	2,310,059.880
		272.50	S 05°07'59.96" E				
PI	15+32.544					15,840,780.429	2,310,084.262
		44.29	S 84°51'47.30" W				
PI	15+76.83					15,840,776.464	2,310,040.149
		12.23	S 05°08'13.25" E				
PI	15+89.059					15,840,764.288	2,310,041.244
		37.04	S 05°11'40.94" E				
PI	16+26.10					15,840,727.403	2,310,044.597
		873.90	S 05°07'59.96" E				
POE	25+00.00					15,839,857.004	2,310,112.789

THE COORDINATES SHOWN ON THIS SHEET ARE BASED ON THE UTM COORDINATE SYSTEM, ZONE 14, CENTRAL MERIDIAN 99° W. (NAD 83)



# CONTROL DATA

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	24	56

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REVISION DATE:

HORIZONTAL AND VERTICAL CONTROL POINTS						
POINT	STATION	OFFSET	DESCRIPTION	NORTHING	EASTING	ELEVATION
CP 1	11+55	13'R	Railroad Spike in Intersection of Valley Drive and Southside Street	15841153.920'	2310047.008'	1391.36'
CP 2	16+51	38'L	Railroad Spike in Intersection of Valley Drive and Dakota Avenue/Circle	15840706.440'	2310084.715'	1398.45'
CP 3	19+99	38'L	Railroad Spike in Intersection of Valley Drive and Lynx Street	15840359.850'	2310115.760'	1399.76'
CP 4	23+32	39'L	Railroad Spike in Intersection of Valley Drive and Skyline Drive	15840027.890'	2310146.311'	1402.46'

THE ELEVATIONS SHOWN ON THIS SHEET ARE BASED ON NAVD 88.

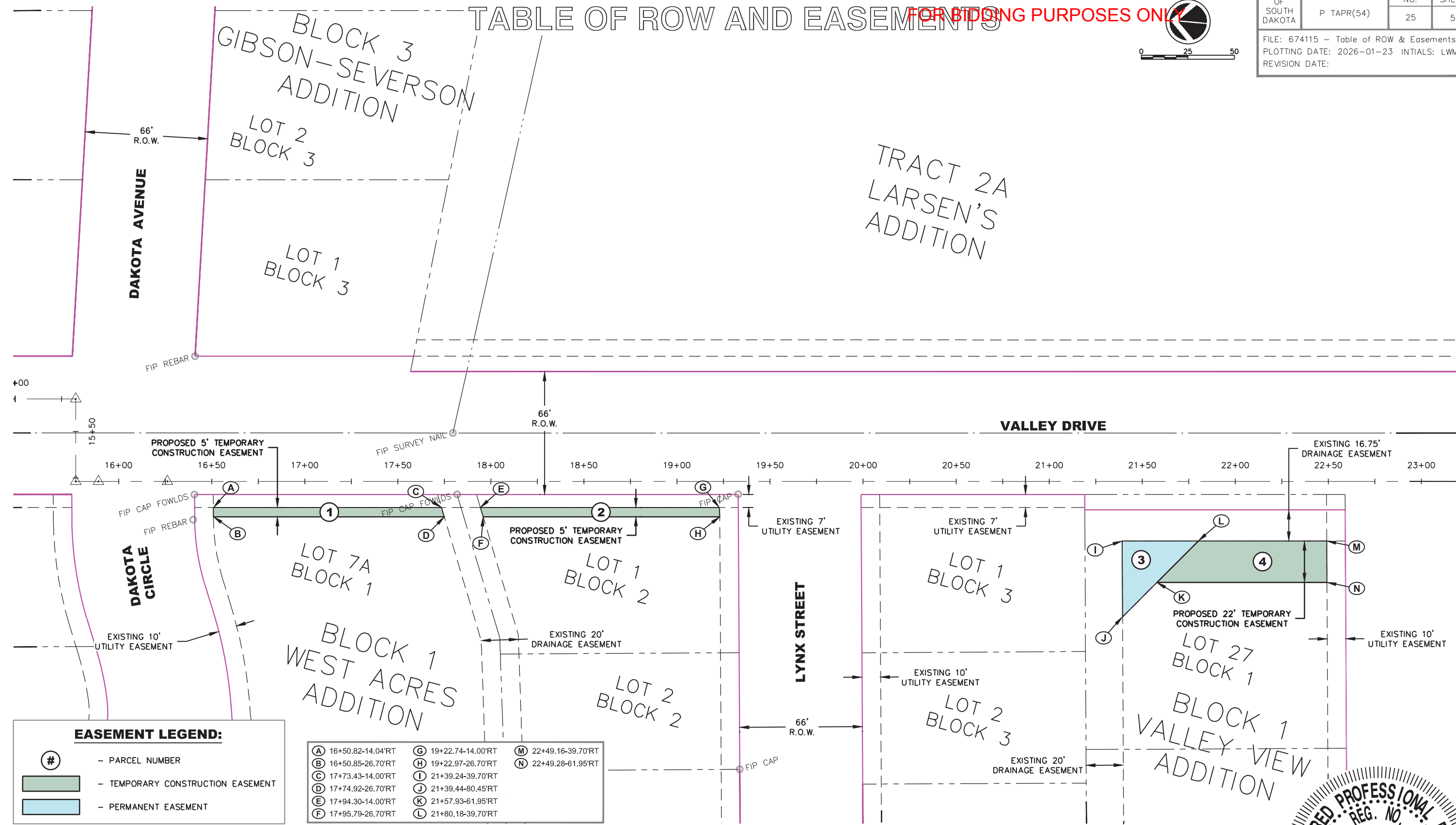
THE COORDINATES SHOWN ON THIS SHEET ARE BASED ON THE UTM COORDINATE SYSTEM, ZONE 14, CENTRAL MERIDIAN 99° W. (NAD 83)





# TABLE OF ROW AND EASEMENTS

FOR BIDDING PURPOSES ONLY



**EASEMENT LEGEND:**

- # - PARCEL NUMBER
- Green shaded area - TEMPORARY CONSTRUCTION EASEMENT
- Blue shaded area - PERMANENT EASEMENT

A	16+50.82-14.04'RT	G	19+22.74-14.00'RT	M	22+49.16-39.70'RT
B	16+50.85-26.70'RT	H	19+22.97-26.70'RT	N	22+49.28-61.95'RT
C	17+73.43-14.00'RT	I	21+39.24-39.70'RT		
D	17+74.92-26.70'RT	J	21+39.44-80.45'RT		
E	17+94.30-14.00'RT	K	21+57.93-61.95'RT		
F	17+95.79-26.70'RT	L	21+80.18-39.70'RT		

**TABLE OF RIGHT OF WAY AND EASEMENTS**

PARCEL NO.	STATION TO STATION	SIDE	TYPE	PURPOSE	AREA REQ. SQ. FT.	OWNER	DESCRIPTION
1	16+50.78-17+74.92	RT	TEMPORARY	CONSTRUCTION EASEMENT	615 SF	BRANDON & KATHERINE LANE	LOT 7A BLOCK 1 WEST ACRES ADDITION
2	17+94.30-19+22.74	RT	TEMPORARY	CONSTRUCTION EASEMENT	639 SF	BRIAN BOLCEREK	LOT 1 BLOCK 2 WEST ACRES ADDITION
3	21+39.44-21+80.18	RT	PERMANENT	DRAINAGE EASEMENT	835 SF	JUSTIN VAN WYHE	LOT 27 BLOCK 1 VALLEY VIEW ADDITION
4	21+57.93-22+49.28	RT	TEMPORARY	CONSTRUCTION EASEMENT	1,784 SF	JUSTIN VAN WYHE	LOT 27 BLOCK 1 VALLEY VIEW ADDITION



01/28/2026

# LEGEND OF SYMBOLS FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	26	56
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PLOTTING DATE: 2026-01-23 INITIALS: LWM			
REVISION DATE:			

	<b>1400</b>	PROPOSED MAJOR CONTOUR		GAS	UNDERGROUND GAS		PROPOSED STORM SEWER
	<b>1399</b>	PROPOSED MINOR CONTOUR		GM	GAS METER		PROPOSED FLARED END SECTION
	1400	EXISTING MAJOR CONTOUR		GV	GAS VALVE		EASEMENT
	- 1399 -	EXISTING MINOR CONTOUR		PROPANE	PROPANE TANK		PROPERTY LINE
	8" PVC	WATER MAIN, SIZE, AND TYPE		UGE	UNDERGROUND ELECTRIC		RIGHT OF WAY LINE
	W	WATER MANHOLE		OHE	OVERHEAD ELECTRIC		PROPERTY PIN
		WATER SHUT OFF			GUY POLE		BENCHMARK
	WTR/TR	WATER TRACER WIRE PEDESTAL			GUY WIRE		CONTROL POINT
		WATER VALVE			POWER POLE		FENCE
		FIRE HYDRANT			POWER POLE WITH LIGHT		FENCE POST
		SPRINKLER HEAD			POWER POLE WITH TRANSFORMER		RETAINING WALL
		CONTROL VALVE			POWER POLE WITH LIGHT AND TRANSFORMER		ROOF DRAIN
	8" PVC	SANITARY SEWER MAIN, SIZE, AND TYPE			LIGHT POLE		SIGN
	CO	SANITARY SEWER CLEAN OUT			TRAFFIC SIGNAL POLE		CONIFEROUS TREE
	S	SANITARY SEWER MANHOLE			ELECTRIC BOX		DECIDUOUS TREE
	12" RCP	STORM SEWER SIZE AND TYPE			ELECTRICAL MANHOLE		STUMP
	D	STORM SEWER MANHOLE			ELECTRICAL METER		TREE LINE
	T	UNDERGROUND TELEPHONE			ELECTRICAL VAULT		FLAG POLE
	T	TELEPHONE PEDESTAL			FLOOD LIGHT		MAILBOX
	T/VLT	TELEPHONE VAULT			FIBER OPTIC		BOULDER
	TV	UNDERGROUND TELEVISION			FIBER OPTIC PEDESTAL		RIP RAP
	TV	TELEVISION PEDESTAL			FIBER OPTIC VAULT		

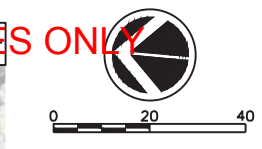


01/28/2026

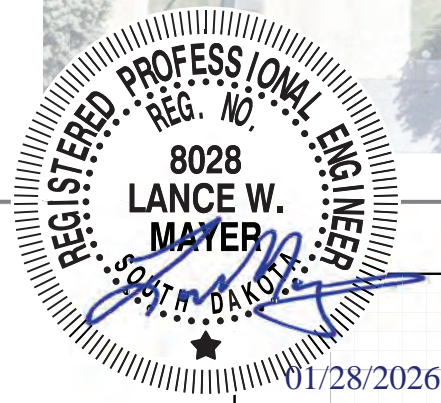
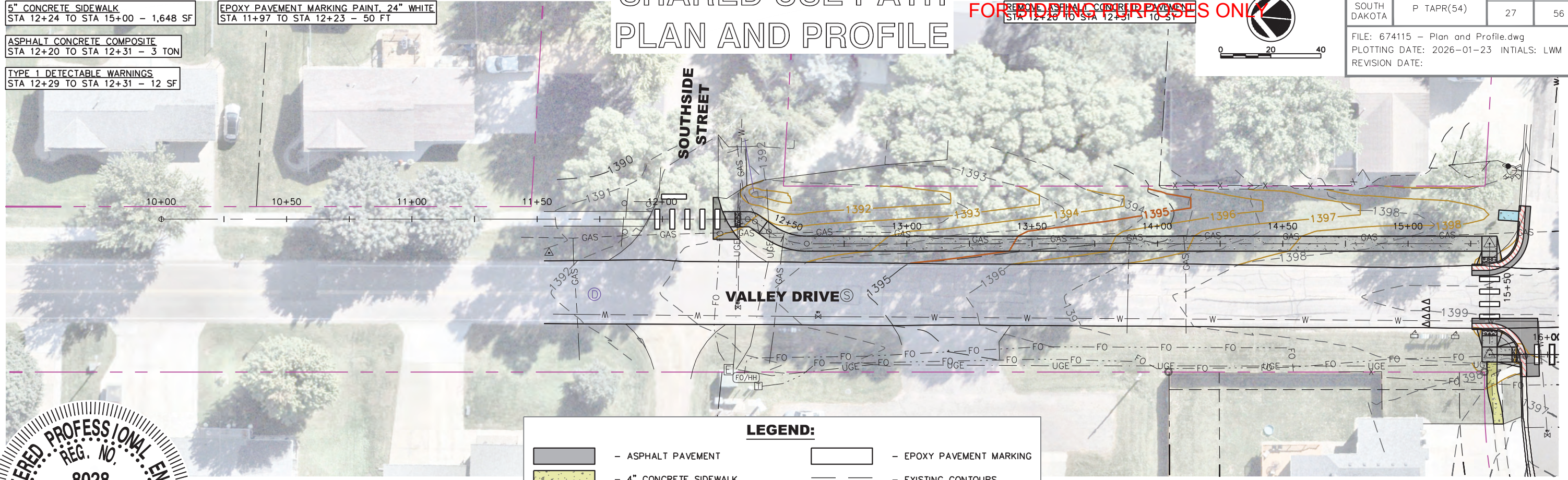
# SHARED USE PATH PLAN AND PROFILE

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	27	56
FILE: 674115 - Plan and Profile.dwg			
PLOTTING DATE: 2026-01-23 INITIALS: LWM			
REVISION DATE:			

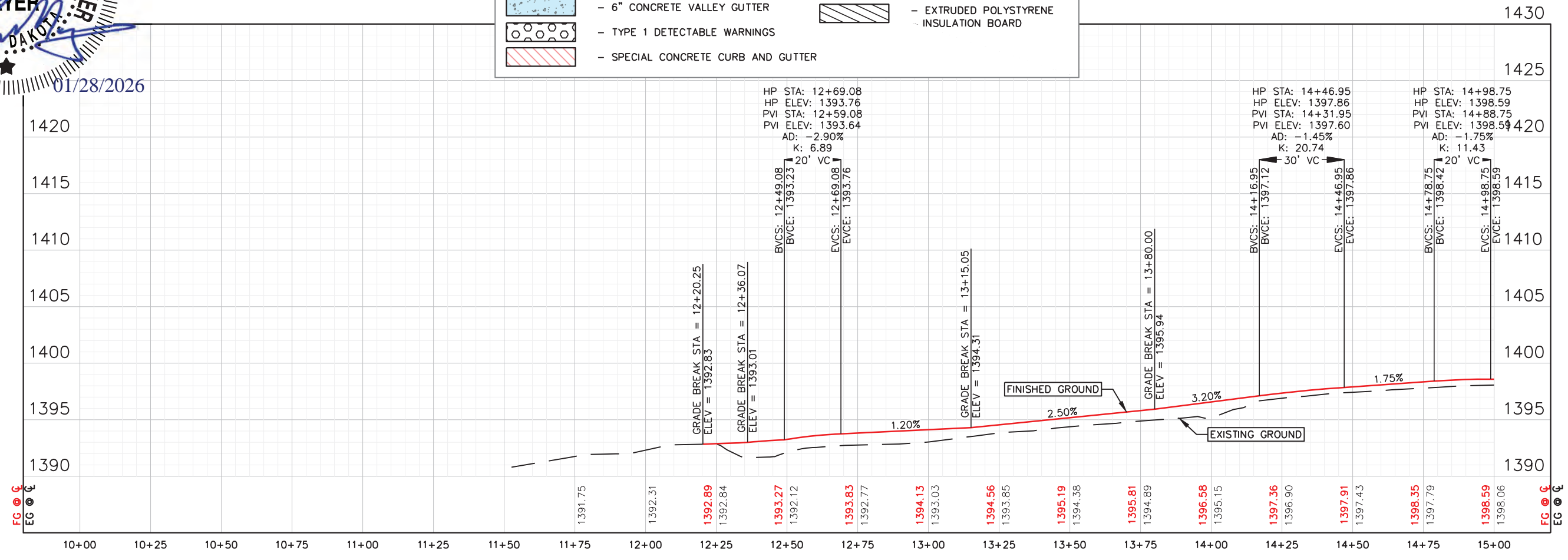


- 5" CONCRETE SIDEWALK  
STA 12+24 TO STA 15+00 - 1,648 SF
- EPOXY PAVEMENT MARKING PAINT, 24" WHITE  
STA 11+97 TO STA 12+23 - 50 FT
- ASPHALT CONCRETE COMPOSITE  
STA 12+20 TO STA 12+31 - 3 TON
- TYPE 1 DETECTABLE WARNINGS  
STA 12+29 TO STA 12+31 - 12 SF



**LEGEND:**

	- ASPHALT PAVEMENT		- EPOXY PAVEMENT MARKING
	- 4" CONCRETE SIDEWALK		- EXISTING CONTOURS
	- 5" CONCRETE SIDEWALK		- PROPOSED CONTOURS
	- 6" CONCRETE VALLEY GUTTER		- EXTRUDED POLYSTYRENE INSULATION BOARD
	- TYPE 1 DETECTABLE WARNINGS		
	- SPECIAL CONCRETE CURB AND GUTTER		



FG ● G  
EG ● G

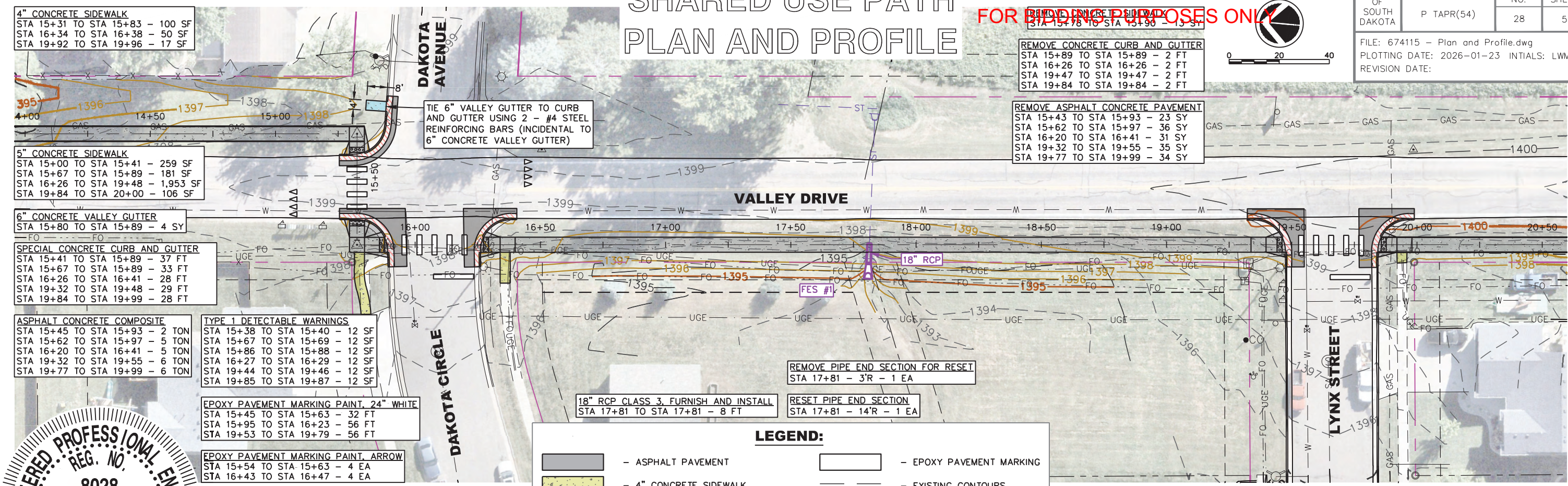
FG ● G  
EG ● G

# SHARED USE PATH PLAN AND PROFILE

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	28	56

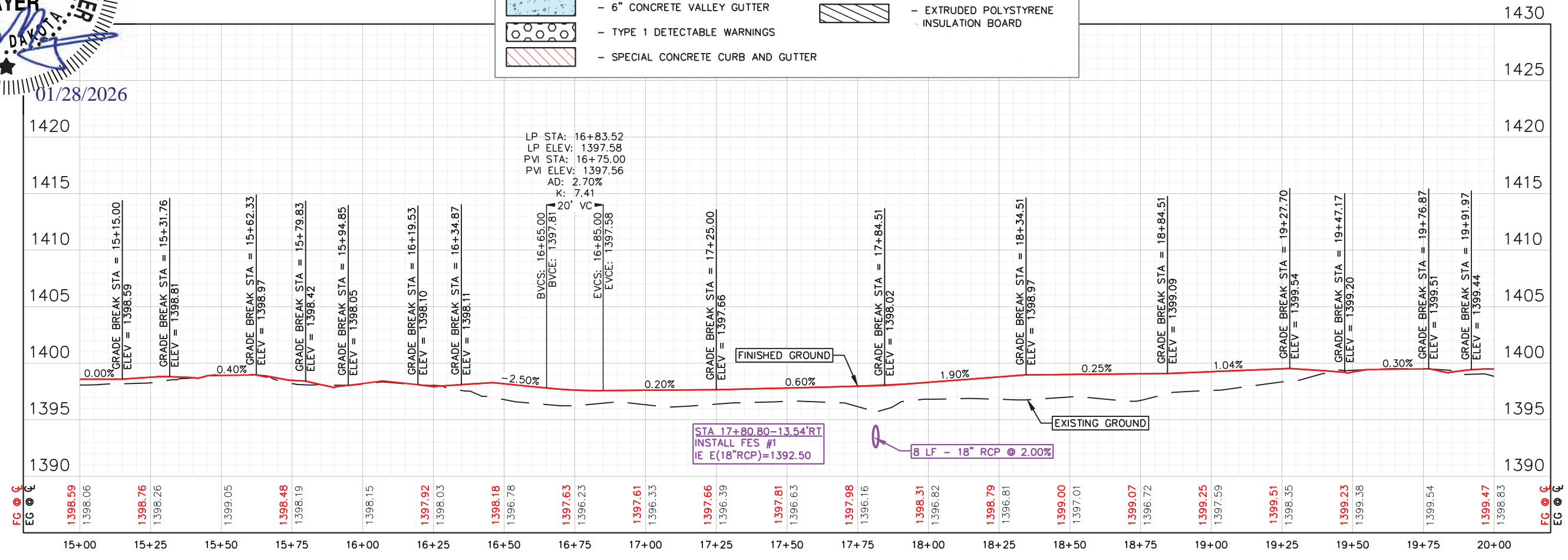
FILE: 674115 - Plan and Profile.dwg  
PLOTING DATE: 2026-01-23 INITIALS: LWM  
REVISION DATE:



01/28/2026

**LEGEND:**

	- ASPHALT PAVEMENT		- EPOXY PAVEMENT MARKING
	- 4" CONCRETE SIDEWALK		- EXISTING CONTOURS
	- 5" CONCRETE SIDEWALK		- PROPOSED CONTOURS
	- 6" CONCRETE VALLEY GUTTER		- EXTRUDED POLYSTYRENE INSULATION BOARD
	- TYPE 1 DETECTABLE WARNINGS		
	- SPECIAL CONCRETE CURB AND GUTTER		



# SHARED USE PATH PLAN AND PROFILE

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	29	56

FILE: 674115 - Plan and Profile.dwg  
PLOTING DATE: 2026-03-04 INITIALS: LWM  
REVISION DATE: 2026-03-04

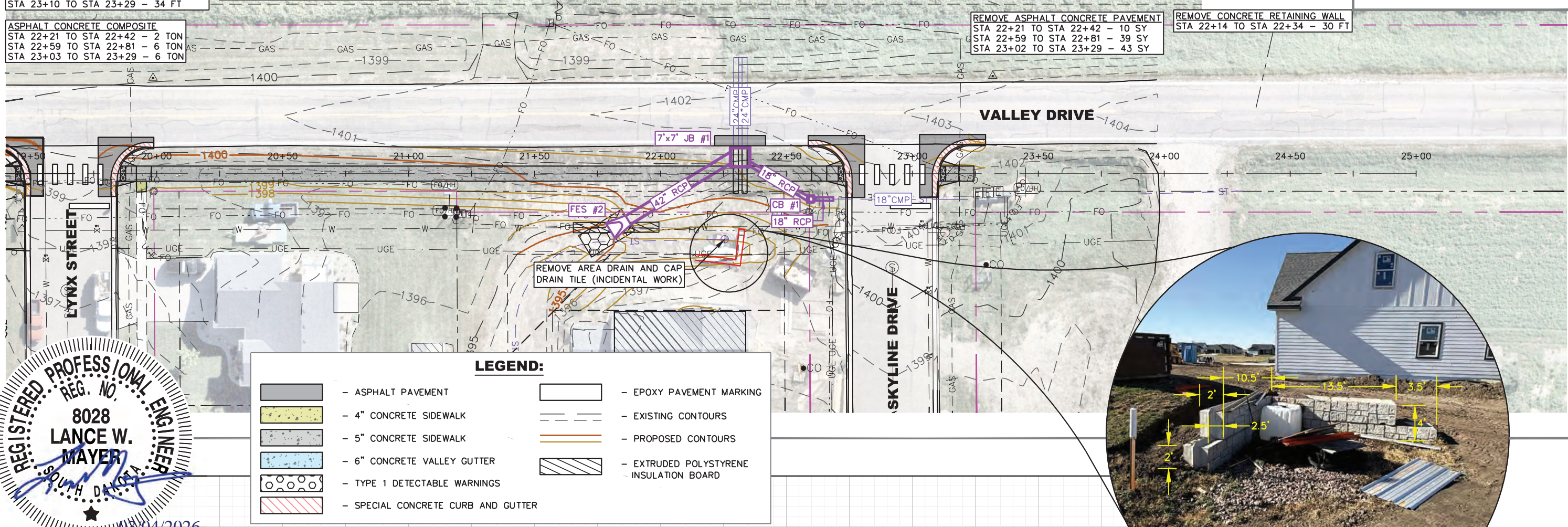
- 5" CONCRETE SIDEWALK  
STA 20+00 TO STA 22+74 - 1,655 SF  
STA 23+10 TO STA 23+25 - 99 SF
- SPECIAL CONCRETE CURB AND GUTTER  
STA 22+59 TO STA 22+76 - 30 FT  
STA 23+03 TO STA 23+29 - 34 FT
- ASPHALT CONCRETE COMPOSITE  
STA 22+21 TO STA 22+42 - 2 TON  
STA 22+59 TO STA 22+81 - 6 TON  
STA 23+03 TO STA 23+29 - 6 TON

- TYPE 1 DETECTABLE WARNINGS  
STA 22+71 TO STA 22+73 - 12 SF  
STA 23+11 TO STA 23+13 - 12 SF
- EPOXY PAVEMENT MARKING PAINT, 24" WHITE  
STA 22+79 TO STA 23+07 - 56 FT

- REMOVE CONCRETE CURB AND GUTTER  
STA 22+74 TO STA 22+74 - 2 FT  
STA 23+10 TO STA 23+10 - 2 FT

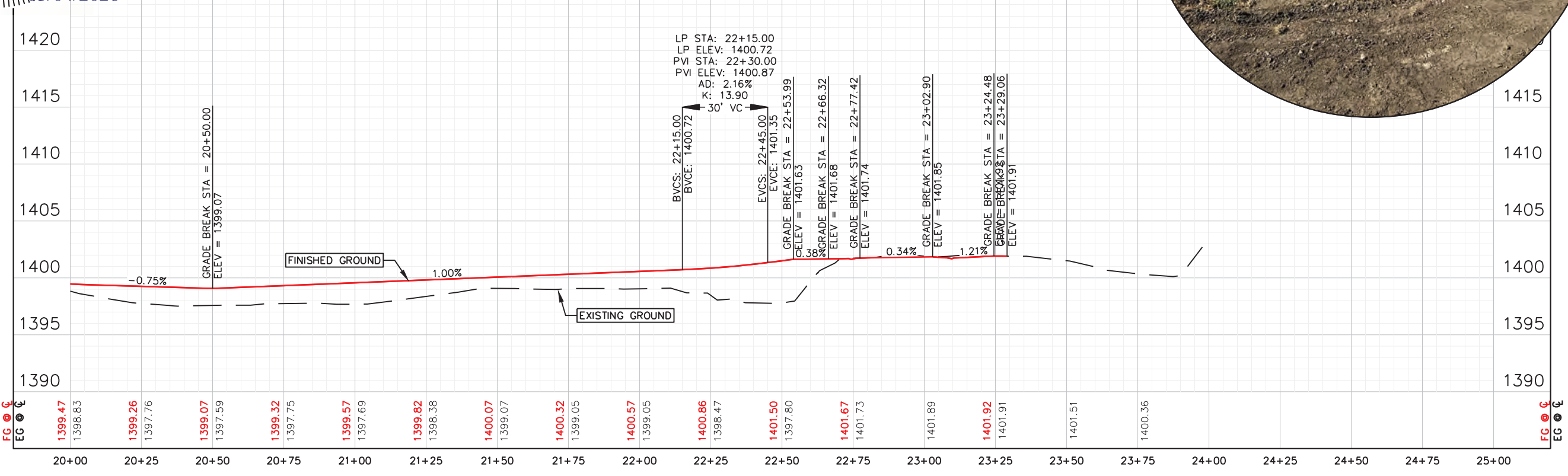
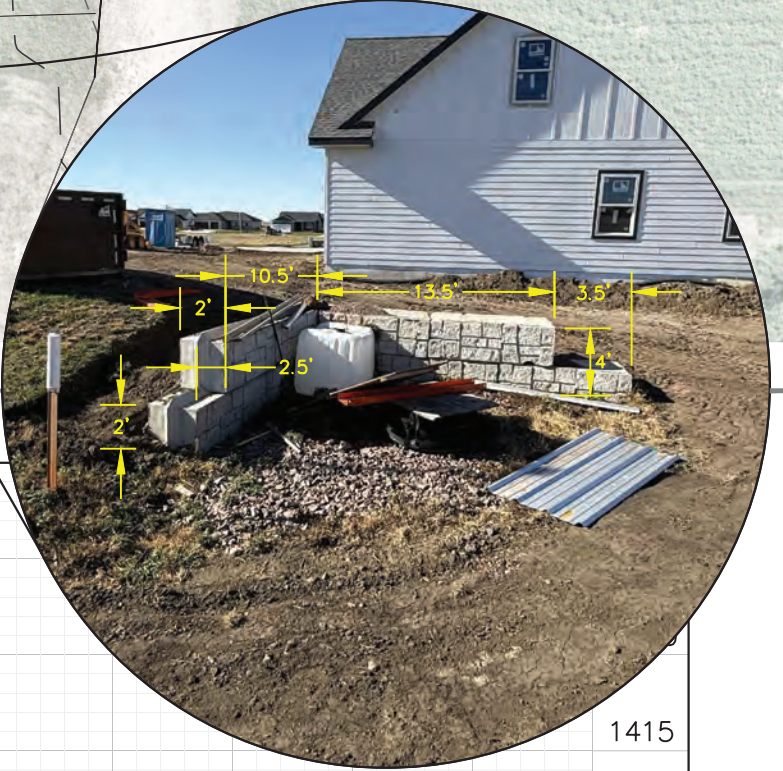
- REMOVE ASPHALT CONCRETE PAVEMENT  
STA 22+21 TO STA 22+42 - 10 SY  
STA 22+59 TO STA 22+81 - 39 SY  
STA 23+02 TO STA 23+29 - 43 SY

- REMOVE CONCRETE RETAINING WALL  
STA 22+14 TO STA 22+34 - 30 FT



**LEGEND:**

	- ASPHALT PAVEMENT		- EPOXY PAVEMENT MARKING
	- 4" CONCRETE SIDEWALK		- EXISTING CONTOURS
	- 5" CONCRETE SIDEWALK		- PROPOSED CONTOURS
	- 6" CONCRETE VALLEY GUTTER		- EXTRUDED POLYSTYRENE INSULATION BOARD
	- TYPE 1 DETECTABLE WARNINGS		
	- SPECIAL CONCRETE CURB AND GUTTER		



# DRAINAGE DITCH & STORM SEWER PLAN AND PROFILE

FOR BIDDING PURPOSES ONLY

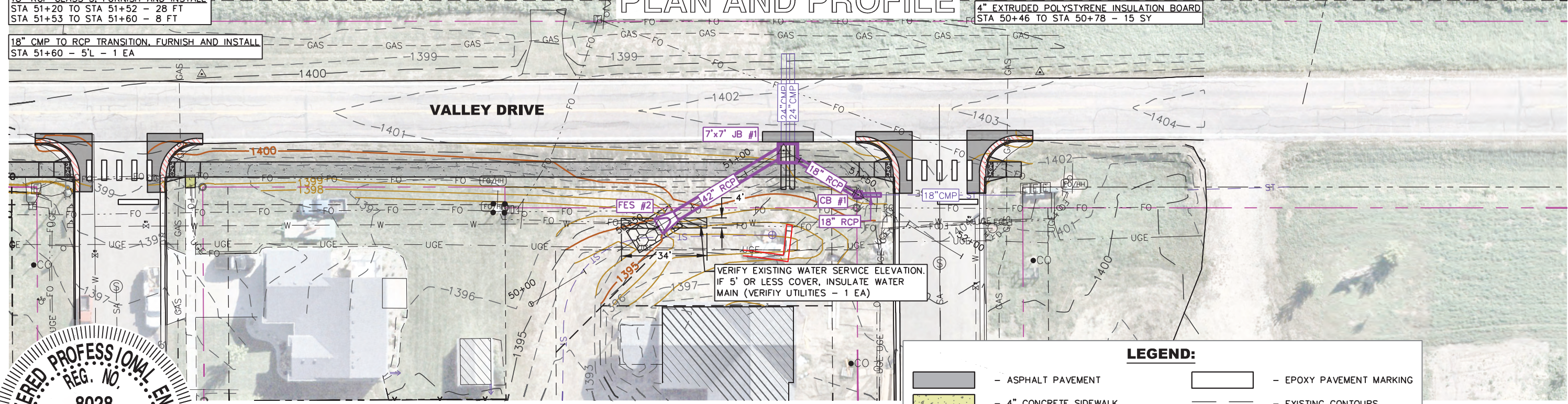
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	30	56
FILE: 674115 - Plan and Profile.dwg			
PLOTTING DATE: 2026-01-28 INITIALS: LWM			
REVISION DATE:			



- 42" RCP FLARED END, FURNISH AND INSTALL  
STA 50+59 - 0'R - 1 EA
- 42" RCP CLASS 3, FURNISH AND INSTALL  
STA 50+59 TO STA 51+20 - 48 FT
- 18" RCP CLASS 3, FURNISH AND INSTALL  
STA 51+20 TO STA 51+52 - 28 FT  
STA 51+53 TO STA 51+60 - 8 FT
- 18" CMP TO RCP TRANSITION, FURNISH AND INSTALL  
STA 51+60 - 5'L - 1 EA

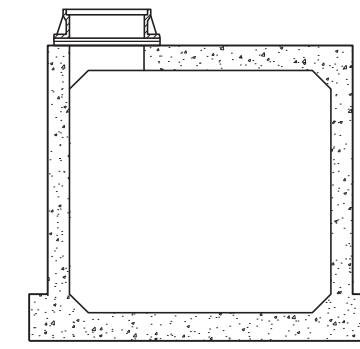
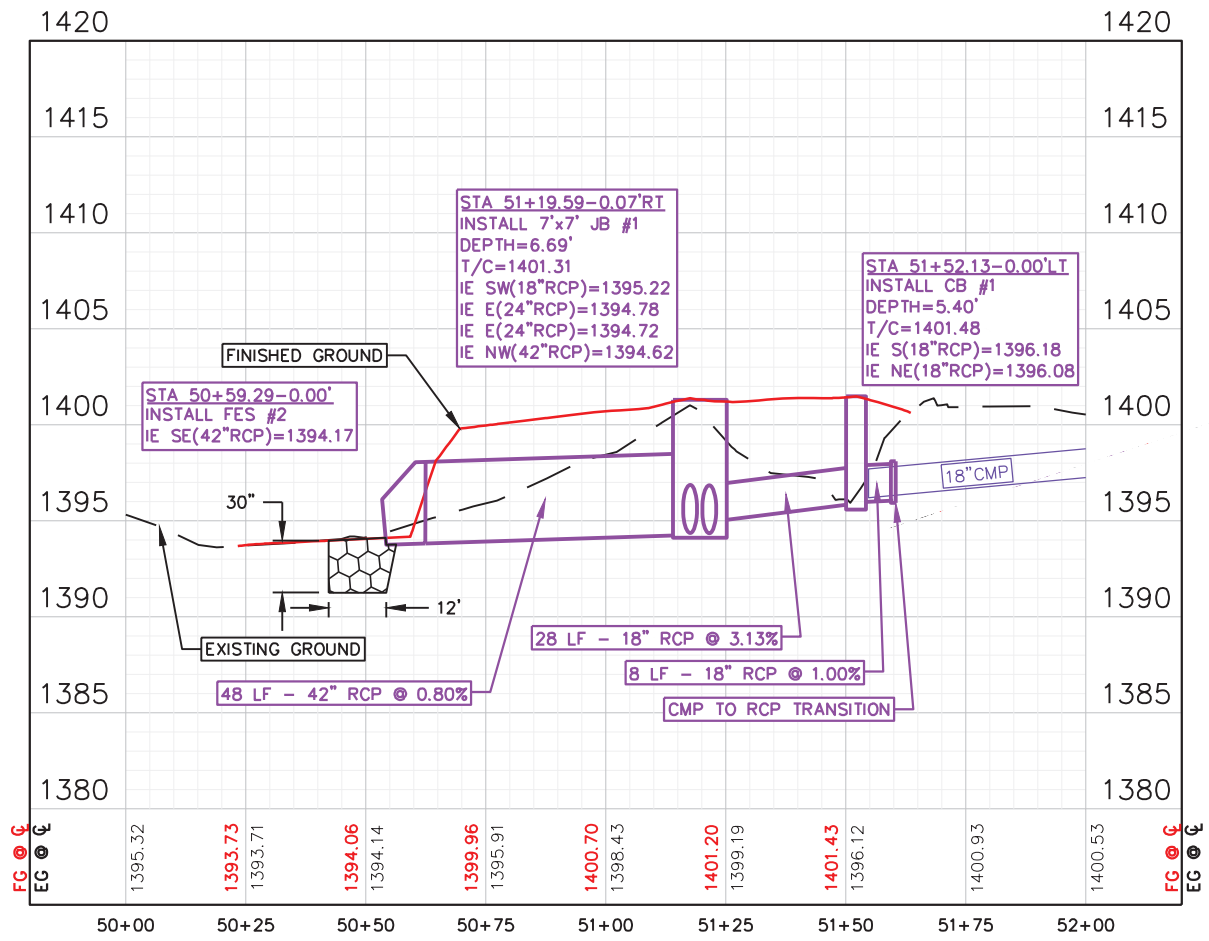
- TYPE A7 MANHOLE FRAME AND LID  
STA 51+20 - 0'R - 1 EA
- SPECIAL FRAME & GRATE  
STA 51+52 - 0'R - 1 EA

- REMOVE PIPE END SECTION  
STA 51+53 - 1'L - 1 EA
- 4" EXTRUDED POLYSTYRENE INSULATION BOARD  
STA 50+46 TO STA 50+78 - 15 SY



**LEGEND:**

	- ASPHALT PAVEMENT		- EPOXY PAVEMENT MARKING
	- 4" CONCRETE SIDEWALK		- EXISTING CONTOURS
	- 5" CONCRETE SIDEWALK		- PROPOSED CONTOURS
	- 6" CONCRETE VALLEY GUTTER		- EXTRUDED POLYSTYRENE INSULATION BOARD
	- TYPE 1 DETECTABLE WARNINGS		
	- SPECIAL CONCRETE CURB AND GUTTER		



**ELEVATION VIEW  
7'x7' JUNCTION BOX**

**NOTE:**  
JUNCTION BOX WILL BE BUILT ACCORDING TO SDDOT PLATE 671.03. TOP OF JUNCTION BOX WILL NOT HAVE A "MANHOLE" SECTION, BUT INSTEAD BE SIMILAR TO THE ELEVATION VIEW ABOVE.

# INTERSECTIONS AND PAVEMENT MARKINGS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	31	56

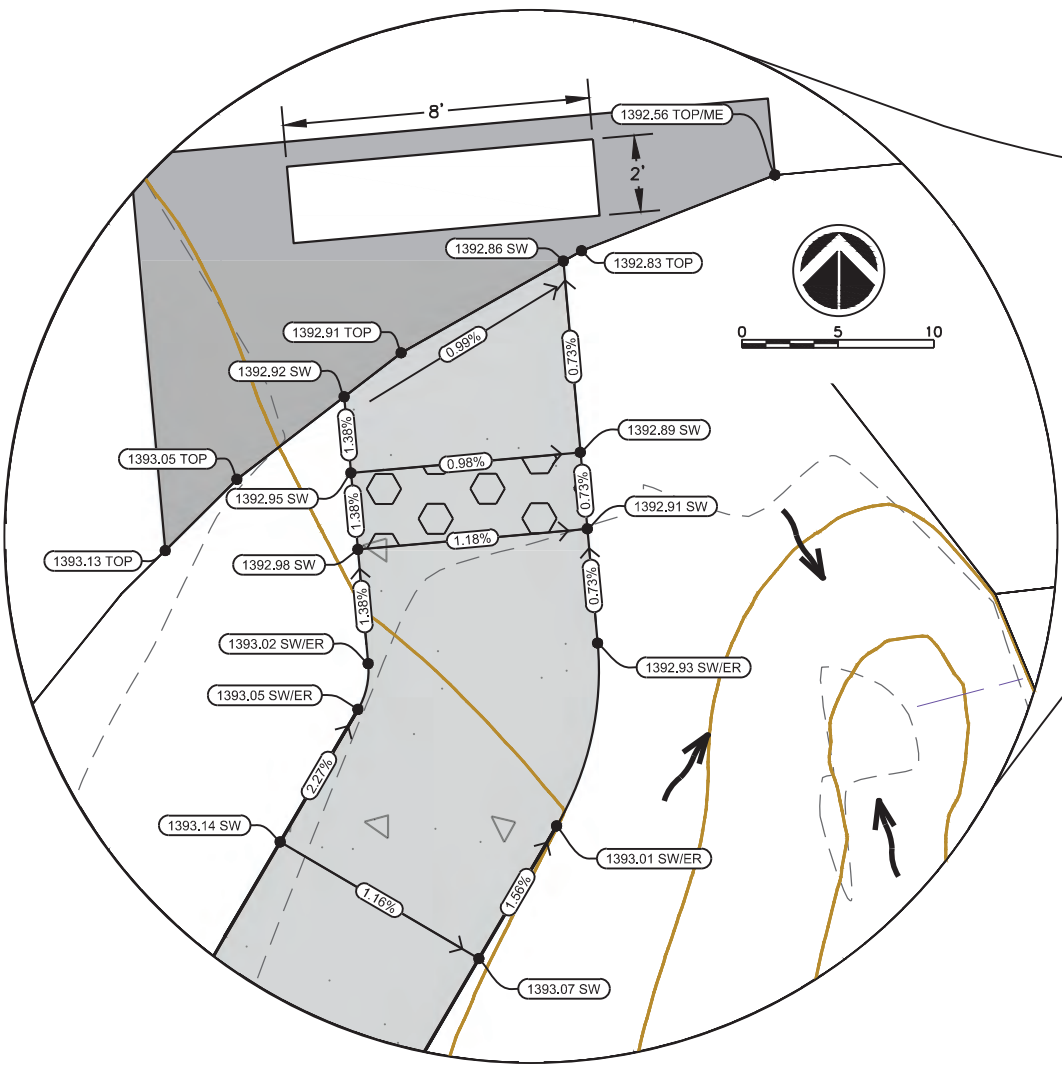
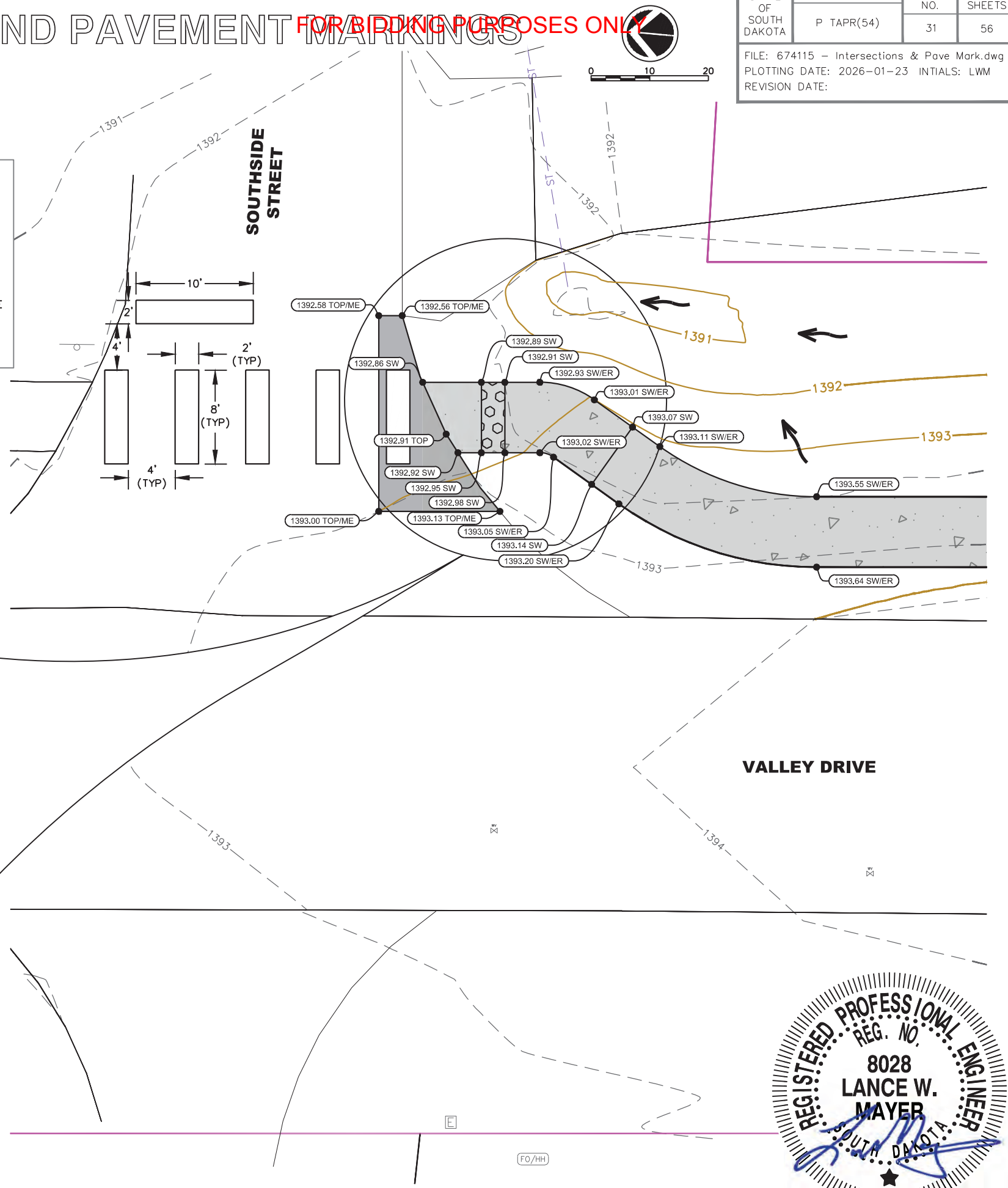
FILE: 674115 - Intersections & Pavement Mark.dwg  
 PLOTTING DATE: 2026-01-23 INITIALS: LWM  
 REVISION DATE:

**LEGEND:**

- DRAINAGE ARROW
- PAVEMENT MARKING SYMBOLS FOR YIELD LINES
- ASPHALT CONCRETE COMPOSITE
- 4" CONCRETE SIDEWALK
- 5" CONCRETE SIDEWALK
- 6" CONCRETE VALLEY GUTTER
- TYPE 1 DETECTABLE WARNINGS
- SPECIAL CONCRETE CURB AND GUTTER
- EPOXY PAVEMENT MARKING PAINT

**ABBREVIATIONS:**

BT - BOTTOM OF TAPER	SW - TOP OF SIDEWALK
ER - END RADIUS	TC - TOP OF CURB
FL - FLOW LINE	TOP - TOP OF PAVEMENT
HP - VERTICAL CURVE HIGH POINT	TT - TOP OF TAPER
LP - VERTICAL CURVE LOW POINT	BVC - BEGIN VERTICAL CURVE
ME - MATCH EXISTING	EVC - END VERTICAL CURVE
POF - POINT OF FILLET	



REGISTERED PROFESSIONAL ENGINEER  
 REG. NO. 8028  
 LANCE W. MAYER  
 SOUTH DAKOTA

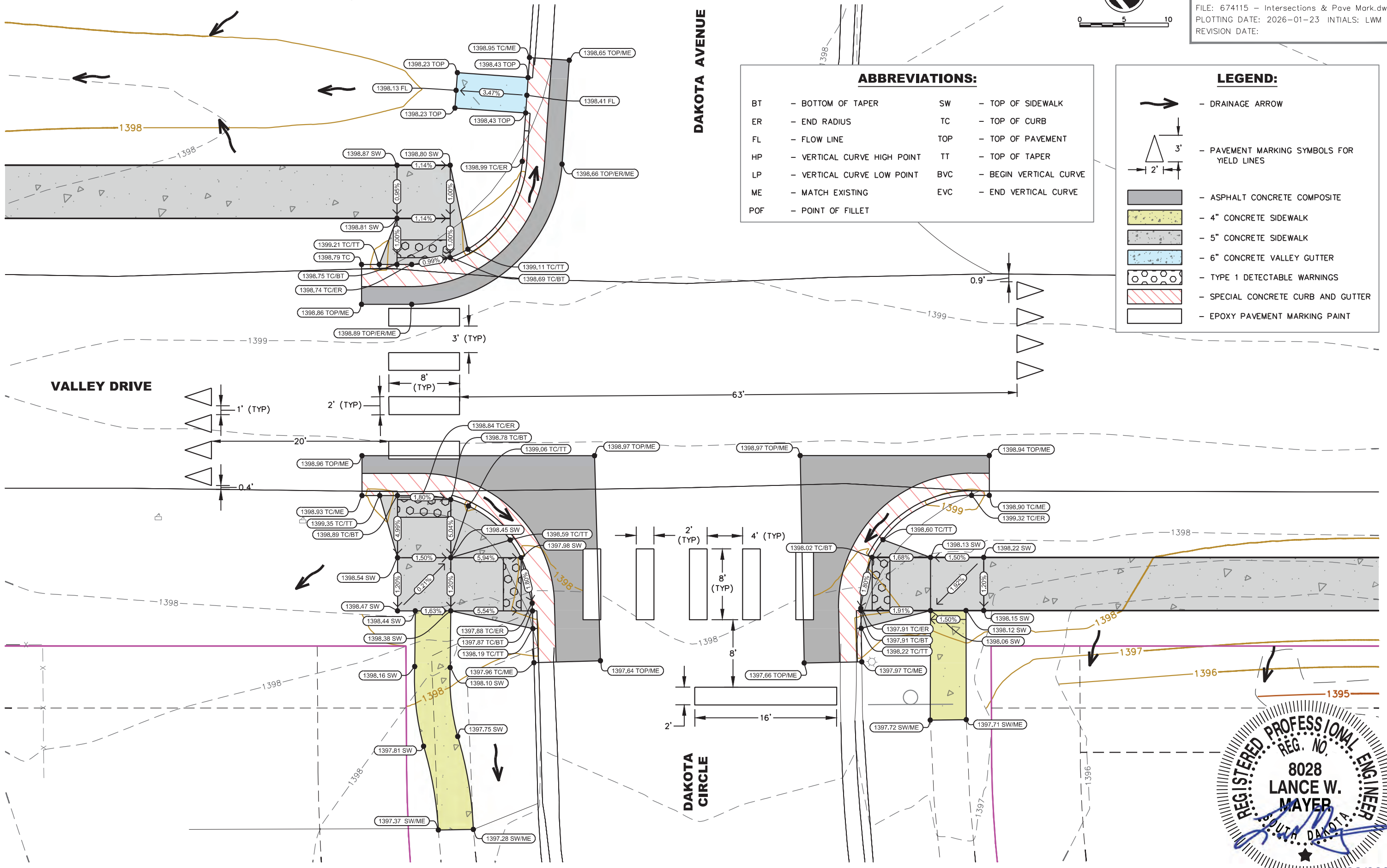
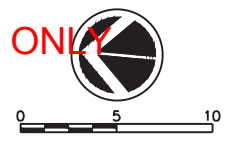
01/28/2026

# INTERSECTIONS AND PAVEMENT MARKINGS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	32	56

FILE: 674115 - Intersections & Pave Mark.dwg  
 PLOTTING DATE: 2026-01-23 INITIALS: LWM  
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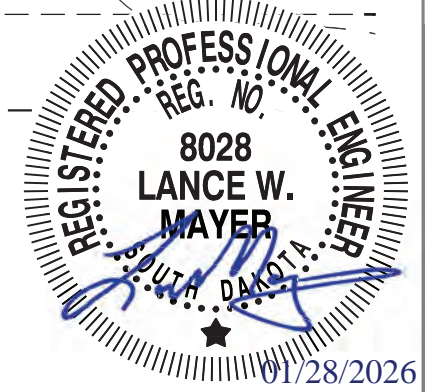


**ABBREVIATIONS:**

BT	- BOTTOM OF TAPER	SW	- TOP OF SIDEWALK
ER	- END RADIUS	TC	- TOP OF CURB
FL	- FLOW LINE	TOP	- TOP OF PAVEMENT
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LP	- VERTICAL CURVE LOW POINT	BVC	- BEGIN VERTICAL CURVE
ME	- MATCH EXISTING	EVC	- END VERTICAL CURVE
POF	- POINT OF FILLET		

**LEGEND:**

- DRAINAGE ARROW
- PAVEMENT MARKING SYMBOLS FOR YIELD LINES
- ASPHALT CONCRETE COMPOSITE
- 4" CONCRETE SIDEWALK
- 5" CONCRETE SIDEWALK
- 6" CONCRETE VALLEY GUTTER
- TYPE 1 DETECTABLE WARNINGS
- SPECIAL CONCRETE CURB AND GUTTER
- EPOXY PAVEMENT MARKING PAINT



01/28/2026

# INTERSECTIONS AND PAVEMENT MARKINGS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	33	56

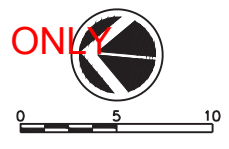
FILE: 674115 - Intersections & Pave Mark.dwg  
 PLOTTING DATE: 2026-01-23 INITIALS: LWM  
 REVISION DATE:

**LEGEND:**

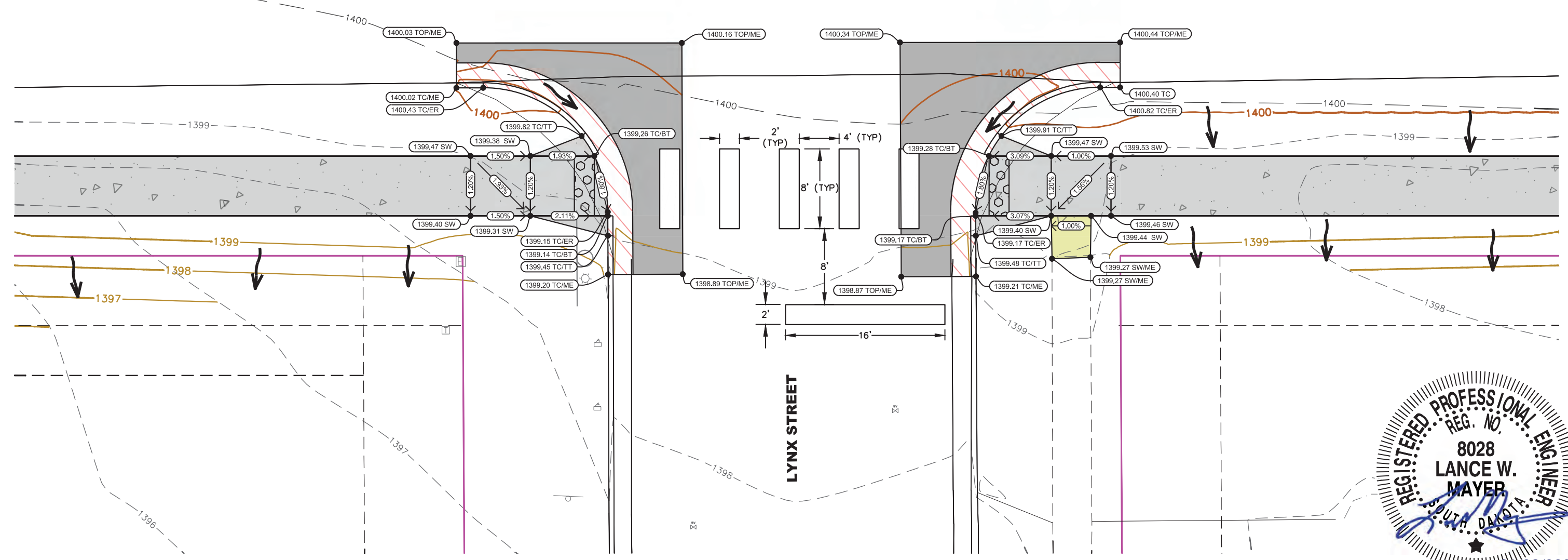
- DRAINAGE ARROW
- PAVEMENT MARKING SYMBOLS FOR YIELD LINES
- ASPHALT CONCRETE COMPOSITE
- 4" CONCRETE SIDEWALK
- 5" CONCRETE SIDEWALK
- 6" CONCRETE VALLEY GUTTER
- TYPE 1 DETECTABLE WARNINGS
- SPECIAL CONCRETE CURB AND GUTTER
- EPOXY PAVEMENT MARKING PAINT

**ABBREVIATIONS:**

BT	- BOTTOM OF TAPER	SW	- TOP OF SIDEWALK
ER	- END RADIUS	TC	- TOP OF CURB
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HP	- VERTICAL CURVE HIGH POINT	TT	- TOP OF TAPER
LP	- VERTICAL CURVE LOW POINT	BVC	- BEGIN VERTICAL CURVE
ME	- MATCH EXISTING	EVC	- END VERTICAL CURVE
POF	- POINT OF FILLET		



## VALLEY DRIVE



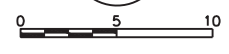
REGISTERED PROFESSIONAL ENGINEER  
 REG. NO. 8028  
 LANCE W. MAYER  
 SOUTH DAKOTA

01/28/2026

# INTERSECTIONS AND PAVEMENT MARKINGS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	34	56
FILE: 674115 - Intersections & Pave Mark.dwg			
PLOTING DATE: 2026-01-23 INITIALS: LWM			
REVISION DATE:			

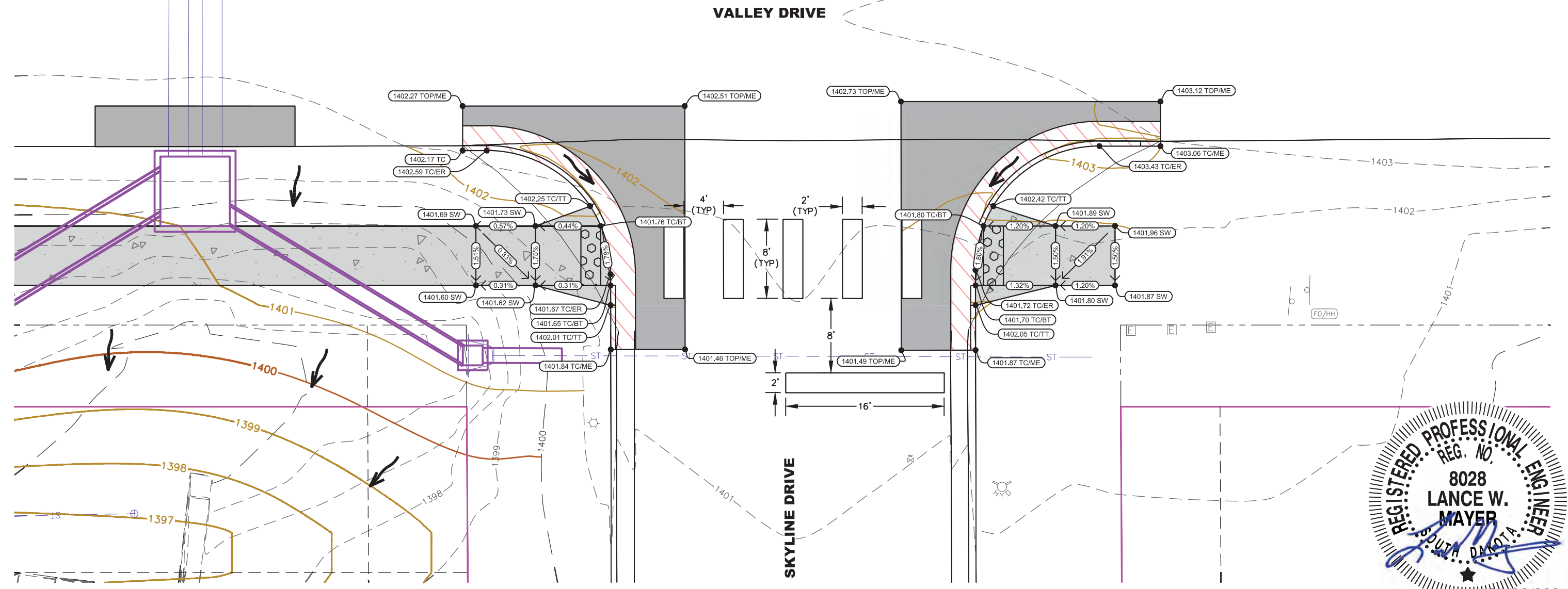


**LEGEND:**

- DRAINAGE ARROW
- PAVEMENT MARKING SYMBOLS FOR YIELD LINES
- ASPHALT CONCRETE COMPOSITE
- 4" CONCRETE SIDEWALK
- 5" CONCRETE SIDEWALK
- 6" CONCRETE VALLEY GUTTER
- TYPE 1 DETECTABLE WARNINGS
- SPECIAL CONCRETE CURB AND GUTTER
- EPOXY PAVEMENT MARKING PAINT

**ABBREVIATIONS:**

BT	- BOTTOM OF TAPER	SW	- TOP OF SIDEWALK
ER	- END RADIUS	TC	- TOP OF CURB
FL	- FLOW LINE	TOP	- TOP OF PAVEMENT
HP	- VERTICAL CURVE HIGH POINT	TT	- TOP OF TAPER
LP	- VERTICAL CURVE LOW POINT	BVC	- BEGIN VERTICAL CURVE
ME	- MATCH EXISTING	EVC	- END VERTICAL CURVE
POF	- POINT OF FILLET		

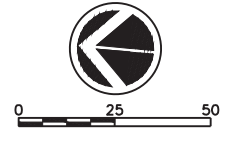
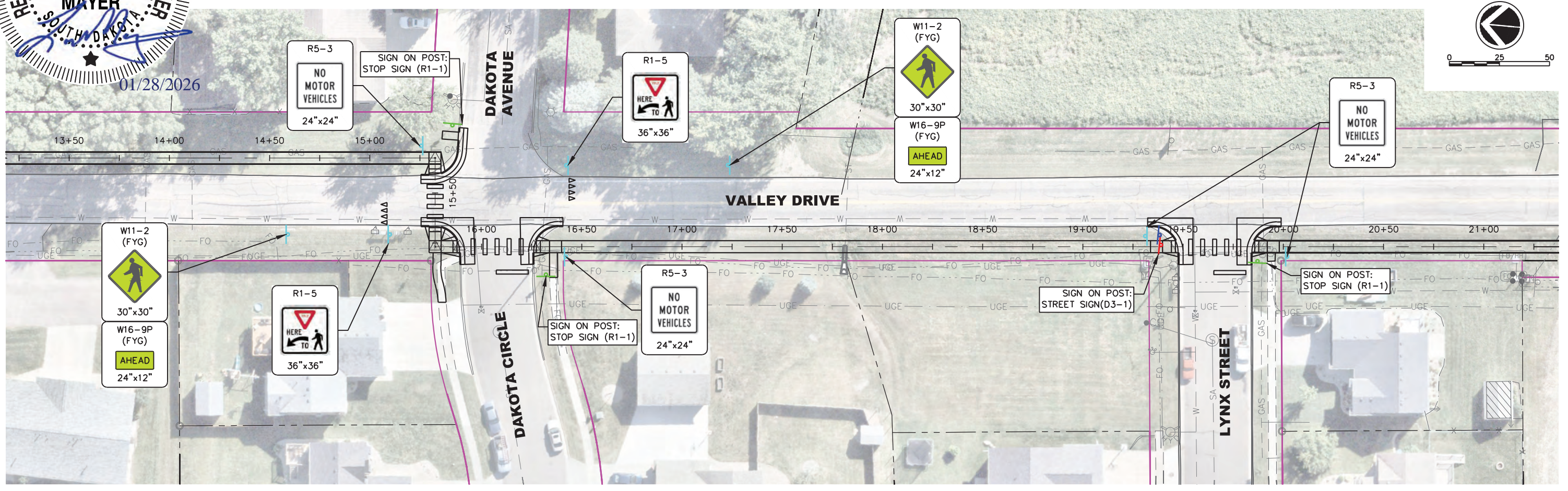
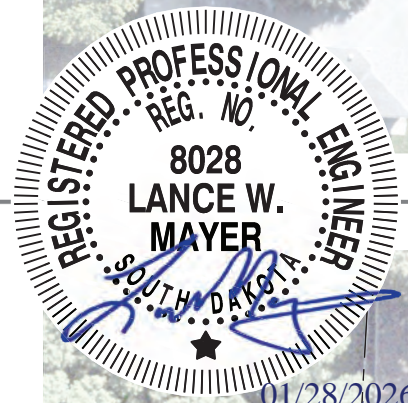
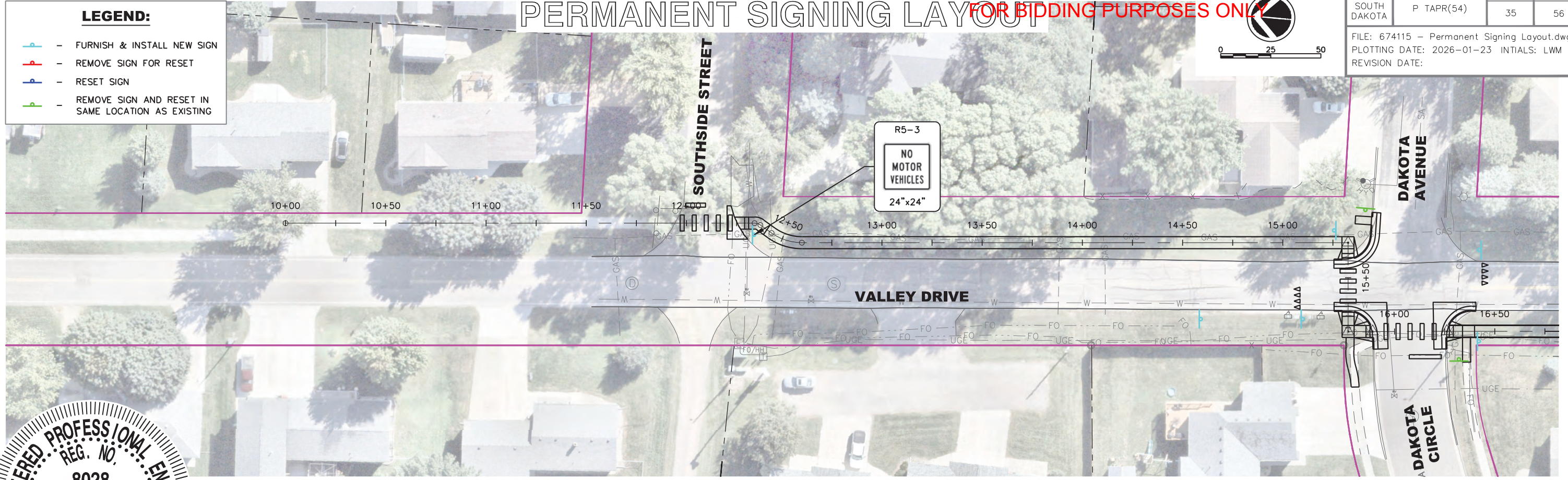


01/28/2026

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	35	56
FILE: 674115 - Permanent Signing Layout.dwg			
PLOTTING DATE: 2026-01-23 INITIALS: LWM			
REVISION DATE:			

# PERMANENT SIGNING LAYOUT FOR BIDDING PURPOSES ONLY

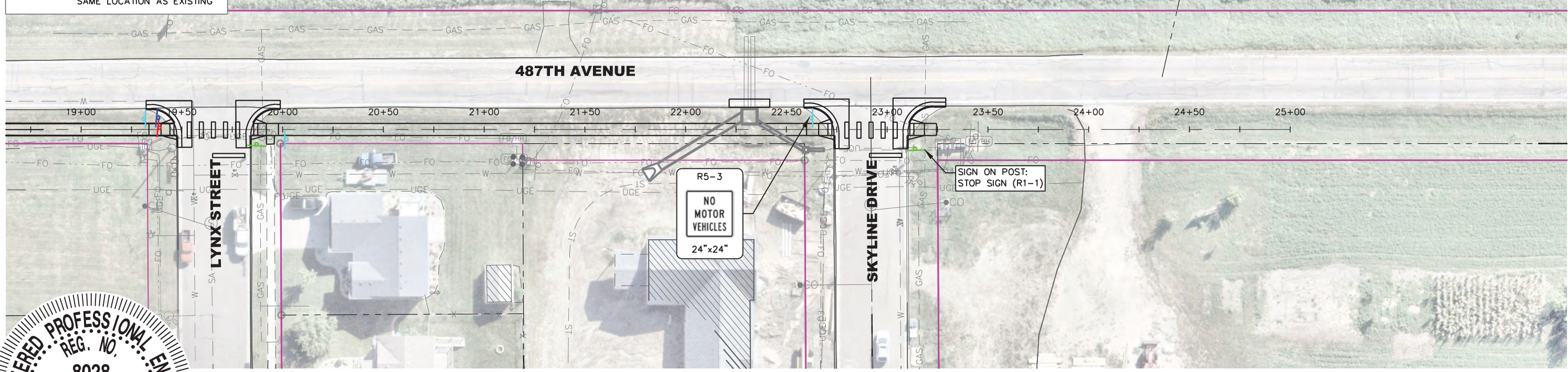
- LEGEND:**
- P - FURNISH & INSTALL NEW SIGN
  - P - REMOVE SIGN FOR RESET
  - P - RESET SIGN
  - P - REMOVE SIGN AND RESET IN SAME LOCATION AS EXISTING



# PERMANENT SIGNING LAYOUT FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	36	56
FILE: 674115 - Permanent Signing Layout.dwg			
PLOTTING DATE: 2026-01-23 INITIALS: LWM			
REVISION DATE:			

- LEGEND:**
- P - FURNISH & INSTALL NEW SIGN
  - P - REMOVE SIGN FOR RESET
  - P - RESET SIGN
  - P - REMOVE SIGN AND RESET IN SAME LOCATION AS EXISTING



REGISTERED PROFESSIONAL ENGINEER  
 REG. NO. 8028  
 LANCE W. MAYER  
 SOUTH DAKOTA  
 01/28/2026

# PERMANENT SIGNING LAYOUT FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	37	56
FILE: 674115 - Permanent Signing Layout.dwg PLOTING DATE: 2026-03-04 INITIALS: LWM REVISION DATE: 2026-03-04			

TABLE OF NEW PERMANENT SIGNS					
LOCATION	SIGN CODE	DESCRIPTION	SIGN SIZE	HIGH INTENSITY TRAFFIC SIGN AREA (SQFT) (BID ITEM NO. 632E3203)	2" SQ. TUBE POST (FT)
12+37 - 6'R	R5-3	NO MOTOR VEHICLES	24" x 24"	4.0	7.0
14+59 - 38'R	W11-2	PEDESTRIAN	30" x 30"	6.3	12.0
	W16-9P	AHEAD (PLAQUE)	24" x 12"	2.0	
15+10 - 38'R	R1-5	YIELD HERE TO PEDS	36" x 36"	9.0	12.0
15+26 - 6'L	R5-3	NO MOTOR VEHICLES	24" x 24"	4.0	7.0
16+42 - 5'R	R5-3	NO MOTOR VEHICLES	24" x 24"	4.0	7.0
16+42 - 41'L	R1-5	YIELD HERE TO PEDS	36" x 36"	9.0	12.0
17+23 - 41'L	W11-2	PEDESTRIAN	30" x 30"	6.3	12.0
	W16-9P	AHEAD (PLAQUE)	24" x 12"	2.0	
19+31 - 5'L	R5-3	NO MOTOR VEHICLES	24" x 24"	4.0	7.0
20+02 - 5'R	R5-3	NO MOTOR VEHICLES	24" x 24"	4.0	7.0
22+62 - 6'L	R5-3	NO MOTOR VEHICLES	24" x 24"	4.0	7.0
<b>TOTAL:</b>				<b>58.6</b>	<b>90.0</b>

TABLE OF RESET SIGN		
LOCATION	SIGN CODE	DESCRIPTION
15+85 - 61'L	R1-1	STOP
16+32 - 14'R	R1-1	STOP
19+38 - 6'L	D3-1	STREET SIGN (LYNX ST)
	D3-1	STREET SIGN (VALLEY DR)
19+87 - 7'R	R1-1	STOP
23+14 - 10'R	R1-1	STOP



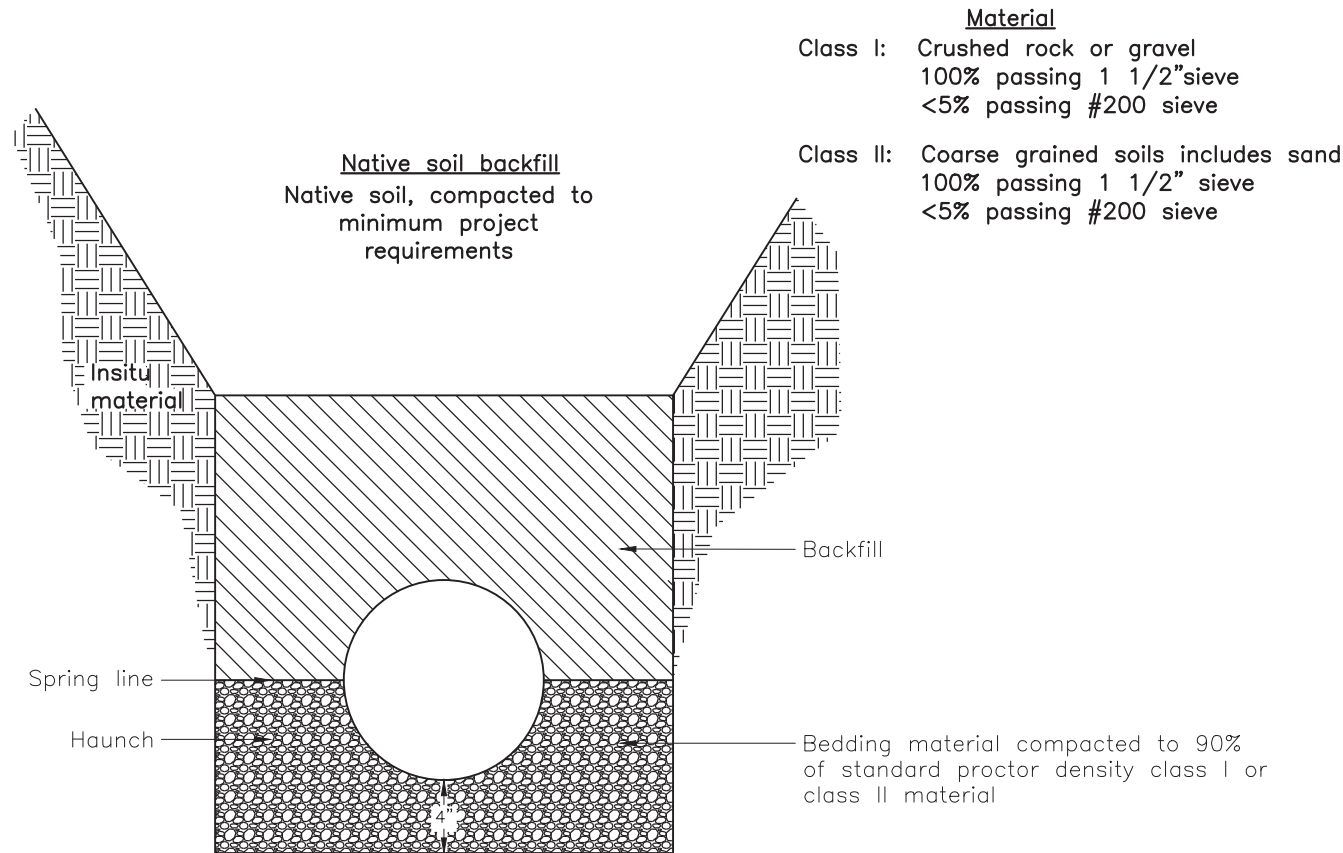
# DETAILS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	38	56

FILE: 674115 - Details.dwg  
 PLOTTING DATE: 2026-01-23 INITIALS: LWM  
 REVISION DATE:

## For 12" Thru 84" Diameter Pipe Type B Installation



- Material**
- Class I: Crushed rock or gravel  
 100% passing 1 1/2" sieve  
 <5% passing #200 sieve
  - Class II: Coarse grained soils includes sand  
 100% passing 1 1/2" sieve  
 <5% passing #200 sieve

Assume: 140 lbs. per cubic foot pipe strength class shown on plans

### Quantity Estimate Table For Bedding Material

12"	0.14 Ton/L.F.
15"	0.19 Ton/L.F.
18"	0.25 Ton/L.F.
21"	0.29 Ton/L.F.
24"	0.33 Ton/L.F.
27"	0.36 Ton/L.F.
30"	0.40 Ton/L.F.
33"	0.44 Ton/L.F.
36"	0.48 Ton/L.F.
42"	0.57 Ton/L.F.
48"	0.67 Ton/L.F.
54"	0.77 Ton/L.F.
60"	0.88 Ton/L.F.
66"	0.98 Ton/L.F.
72"	1.10 Ton/L.F.
78"	1.24 Ton/L.F.
84"	1.35 Ton/L.F.

Note: Trench width to be twice the outside diameter, or the outside diameter plus two feet, which ever is less.



01/28/2026

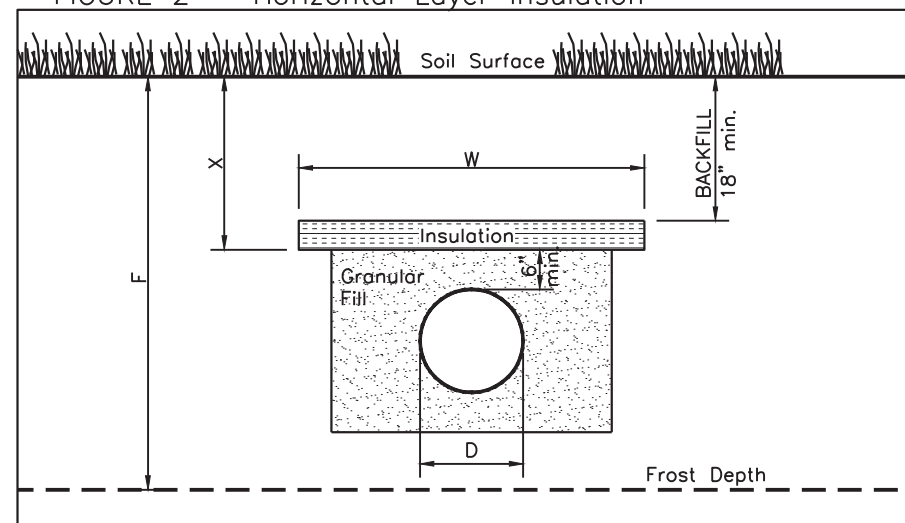
### BEDDING AND BACKFILL FOR RCP INSTALLATION

TABLE 1 - Thickness of Insulation in Inches

Amount of Backfill over Insulation (ft)	Design Freezing Index (°F-days)					
	1500	2000	2500	3000	3500	4000
2'-0"	2.0	2.5	3.0	3.5	4.0	4.5
3'-0"	1.5	2.0	2.5	3.0	3.5	4.0
4'-0"	1.0	1.5	2.0	2.5	3.0	3.5
5'-0"	1.0	1.0	1.5	2.0	2.5	3.0
6'-0"	1.0	1.0	1.0	1.5	2.0	2.5
7'-0"			1.0	1.0	1.5	2.0
8'-0"				1.0	1.0	1.5
9'-0"					1.0	1.0
10'-0"						1.0

\*\*\* Table 1: For Southeastern South Dakota use design freezing index of 2000.

FIGURE 2 - Horizontal Layer Insulation



The width of insulation required is determined by the equation:

$$W = 3D + 2[F - (X + D + 0.5)]$$

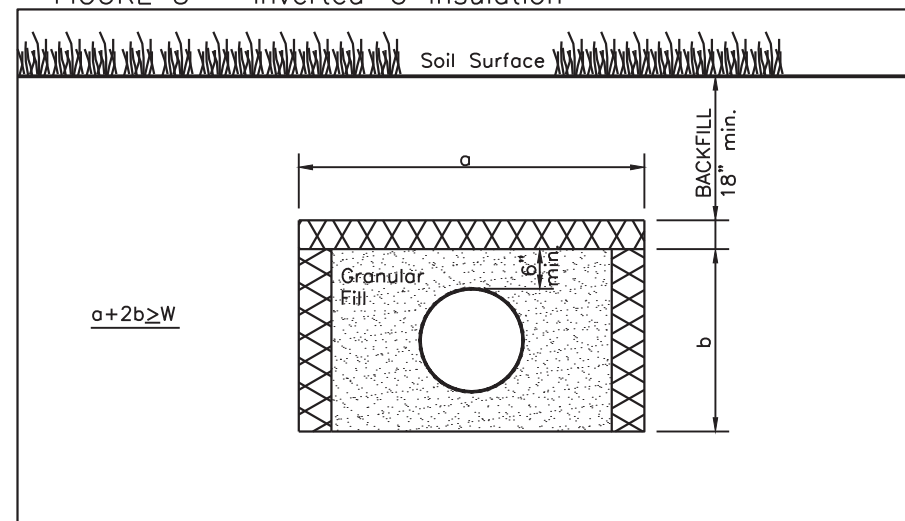
where

- W = width of insulation, ft.
- D = pipe diameter, ft.
- X = insulation depth, ft.
- F = frost depth, ft.

(for Southeastern South Dakota use F=6ft.)

Where it is not practical to excavate to the width needed for a horizontal layer, an inverted-U configuration can be used. The bottom of the vertical legs should be at least level with the bottom of the utility line. The sum of the length of the vertical legs and the width of the horizontal section should be equal to or greater than the width of a horizontal layer configuration.

FIGURE 3 - Inverted-U Insulation

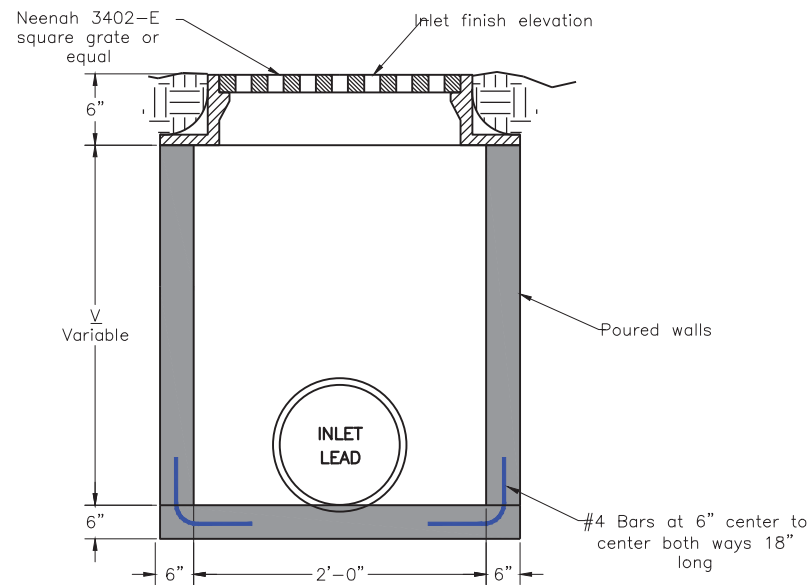


### INSULATION PLACEMENT DETAIL

# DETAILS

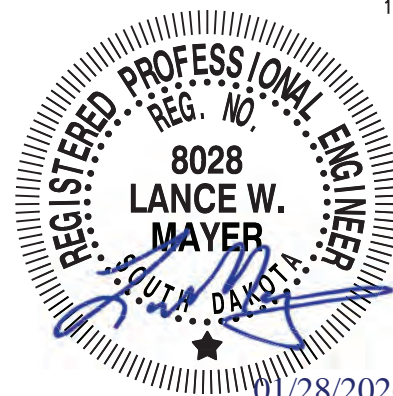
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	39	56
FILE: 674115 - Details.dwg			
PLOT DATE: 2026-01-23 INITIALS: LWM			
REVISION DATE:			

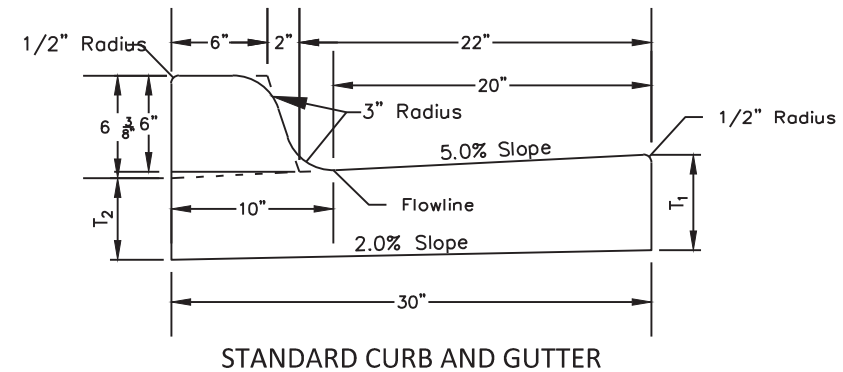


Estimated Quantities			
Item	Unit	Constant	Variable
* Class M6 concrete	CuYds	0.17	0.19V
Reinforcement—conc. masonry	LBS	16	---

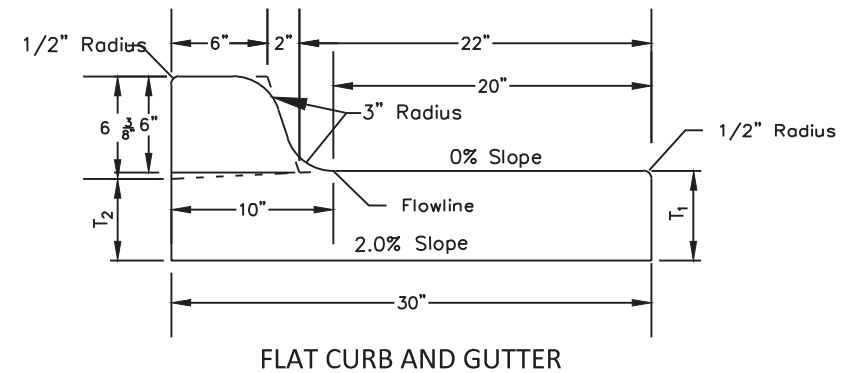
\* Constant shall be reduced for the appropriate pipe or Combination of pipes, thus; 12" Dia.—0.03 C.Y., 15" Dia.—0.04 C.Y., 18" ia.—0.05 C.Y., 24" Dia.—0.09 C.Y.



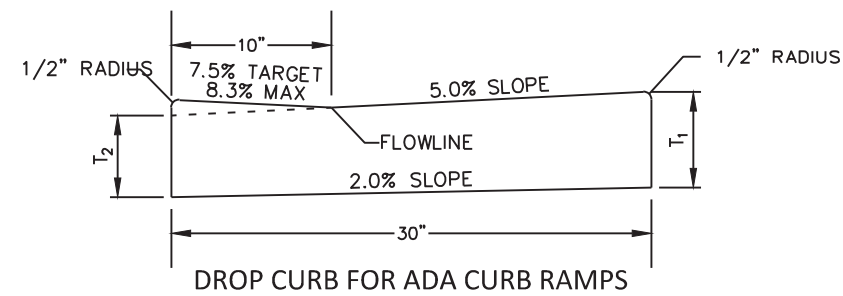
01/28/2026



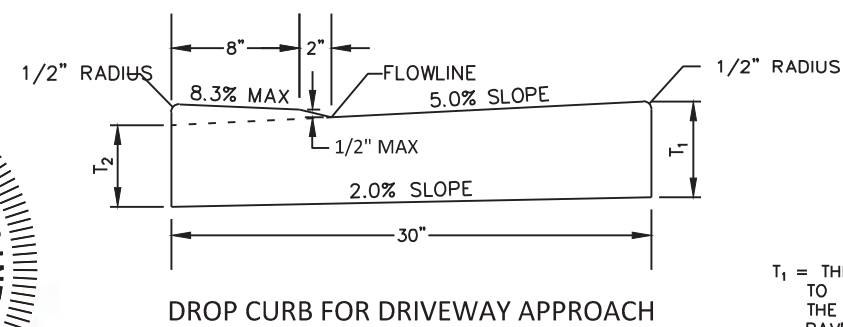
STANDARD CURB AND GUTTER



FLAT CURB AND GUTTER



DROP CURB FOR ADA CURB RAMPS



DROP CURB FOR DRIVEWAY APPROACH

T<sub>1</sub> = THICKNESS WILL BE EQUAL TO THE DEPTH OF THE ADJACENT PAVEMENT BUT NOT LESS THAN 6"  
T<sub>2</sub> = T<sub>1</sub> - 7/8"

GENERAL NOTES:

- WEAKENED PLANE JOINTS WILL BE CONSTRUCTED AT 10-FOOT INTERVALS. THE JOINTS WILL BE CONSTRUCTED TO A MINIMUM DEPTH OF ONE INCH BY SCORING WITH A TOOL, WHICH WILL LEAVE THE CORNERS ROUNDED AND PROVIDE FREE MOVEMENT OF CONCRETE AT THE JOINT.
- NEW CURB AND GUTTER WILL BE THE SAME SIZE AND TYPE AS THE EXISTING CURB AND GUTTER. ALL COST ASSOCIATED WITH INSTALLING THE CONCRETE CURB AND GUTTER AS SPECIFIED WILL BE INCLUDED IN THE CONTRACT UNIT PRICE PER FOOT FOR "SPECIAL CONCRETE CURB AND GUTTER".
- NEW CURB AND GUTTER WILL BE TIED TO THE OLD CURB WITH TWO (2) #5 EPOXY COATED 24-INCH TIE BARS. ALL EPOXY AND DRILLING AND OTHER COSTS INVOLVED TO INSTALL THE TIE BARS ARE INCIDENTAL TO THE "SPECIAL CONCRETE CURB AND GUTTER" BID ITEM.
- ON PCC PAVEMENT A KEYWAY LONGITUDINAL JOINT WITH TIE BARS WILL BE USED WHEN CURB AND GUTTER IS POURED SEPARATELY.
- CURB AND GUTTER WILL BE CONSTRUCTED USING M-6 CONCRETE UNLESS MONOLITHICALLY CONSTRUCTED WITH THE ADJACENT PAVEMENT. IN MONOLITHIC PAVING, CONCRETE MIX FOR THE CURB AND GUTTER MAY BE THE SAME AS THE ADJACENT CONCRETE PAVEMENT.
- THE CURB TRANSITION LENGTH AT ADA CURB RAMPS WILL BE DEPENDENT ON THE TYPE OF CURB RAMP BEING INSTALLED. REFER TO PLATE 651.02 FOR ADDITIONAL CURB TRANSITION INFORMATION.

2' X 2' CATCH BASIN FOR STORM WATER

SPECIAL CONCRETE CURB AND GUTTER

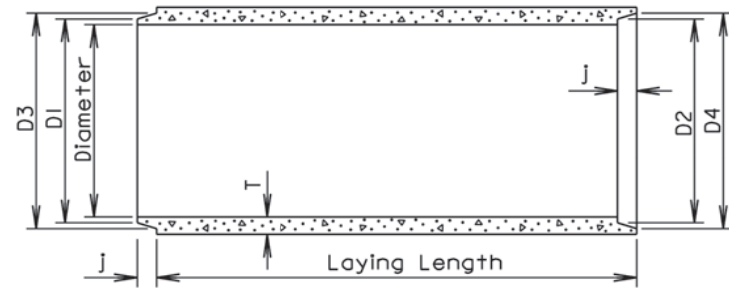
# DETAILS

FOR BIDDING PURPOSES ONLY

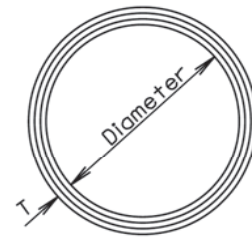
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	40	56
FILE: 674115 - Details.dwg			
PLOT DATE: 2026-01-23 INITIALS: LWM			
REVISION DATE:			

### TOLERANCES IN DIMENSIONS

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



LONGITUDINAL SECTION



END VIEW

### GENERAL NOTES:

Construction of R.C.P. shall conform to the requirements of Section 990 of the Specifications.

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

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

June 26, 2015

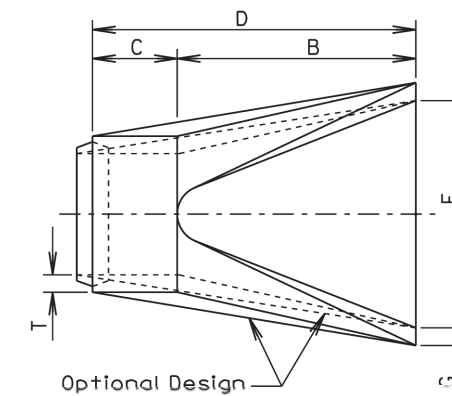
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REINFORCED CONCRETE PIPE

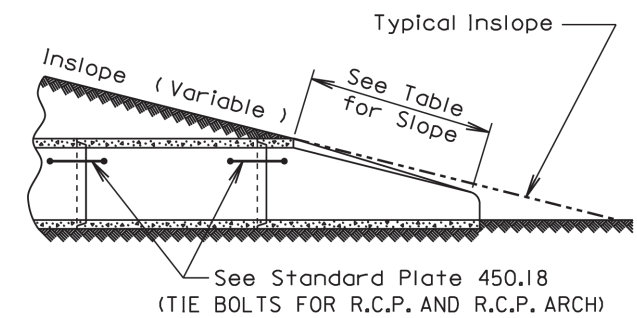
PLATE NUMBER  
450.01

Sheet 1 of 1

Published Date: 2026



TOP VIEW

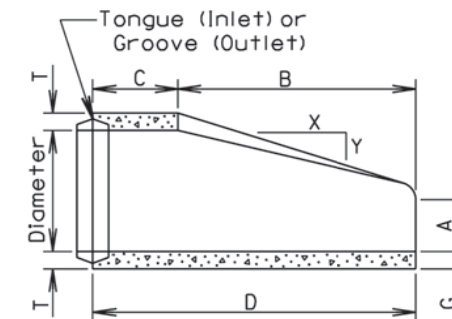


SLOPE DETAIL

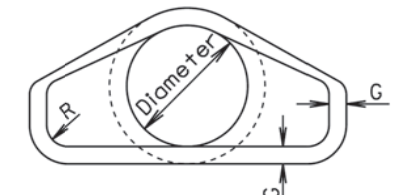
### GENERAL NOTES:

Lengths of concrete pipe shown on plan sheets are between flared ends only.

Construction of R.C.P. Flared End shall conform to the requirements of Section 990 of the Specifications.



LONGITUDINAL SECTION



END VIEW

Dia. (in.)	Approx. Wt. of Section (lbs.)	Approx. Slope (X to Y)	T (in.)	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	G (in.)	R (in.)
12	530	2.4:1	2	4	24	48 7/8	72 7/8	24	2	1 1/2
15	740	2.4:1	2 1/4	6	27	46	73	30	2 1/4	1 1/2
18	990	2.3:1	2 1/2	9	27	46	73	36	2 1/2	1 1/2
21	1280	2.4:1	2 3/4	9	36	37 1/2	73 1/2	42	2 3/4	1 1/2
24	1520	2.5:1	3	9 1/2	43 1/2	30	73 1/2	48	3	1 1/2
27	1930	2.5:1	3 1/4	10 1/2	49 1/2	24	73 1/2	54	3 1/4	1 1/2
30	2190	2.5:1	3 1/2	12	54	19 3/4	73 3/4	60	3 1/2	1 1/2
36	4100	2.5:1	4	15	63	34 3/4	97 3/4	72	4	1 1/2
42	5380	2.5:1	4 1/2	21	63	35	98	78	4 1/2	1 1/2
48	6550	2.5:1	5	24	72	26	98	84	5	1 1/2
54	8240	2:1	5 1/2	27	65	33 1/4	98 1/4	90	5 1/2	1 1/2
60	8730	1.9:1	6	35	60	39	99	96	5	1 1/2
66	10710	1.7:1	6 1/2	30	72	27	99	102	5 1/2	1 1/2
72	12520	1.8:1	7	36	78	21	99	108	6	1 1/2
78	14770	1.8:1	7 1/2	36	90	21	111	114	6 1/2	1 1/2
84	18160	1.6:1	8	36	90 1/2	21	111 1/2	120	6 1/2	1 1/2
90	20900	1.5:1	8 1/2	41	87 1/2	24	111 1/2	132	6 1/2	6

June 26, 2015

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R. C. P. FLARED ENDS

PLATE NUMBER  
450.10

Sheet 1 of 1

Published Date: 2026

# DETAILS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	41	56
FILE: 674115 - Details.dwg			
PLOTING DATE: 2026-01-23 INITIALS: LWM			
REVISION DATE:			

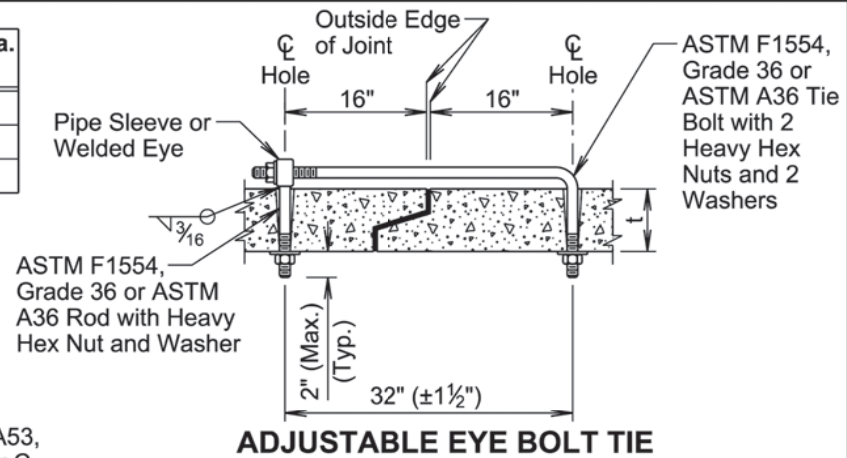
Wall "t" (in.)	Rod Dia. (in.)	Pipe Sleeve Dia. (nominal)
≤ 3¼	5/8	¾
3½-6½	¾	1
≥ 7	1	1¼

**GENERAL NOTES:**

Tie bolts will conform to ASTM F1554, Grade 36 or ASTM A36. Nuts will be heavy hex conforming to ASTM A563. Washers will conform to ASTM F436.

Pipe Sleeve will conform to ASTM A53, Grade B or ASTM A500, Grade B or C.

Galvanize adjustable eye bolt tie assembly in accordance with ASTM A153.



**ADJUSTABLE EYE BOLT TIE**

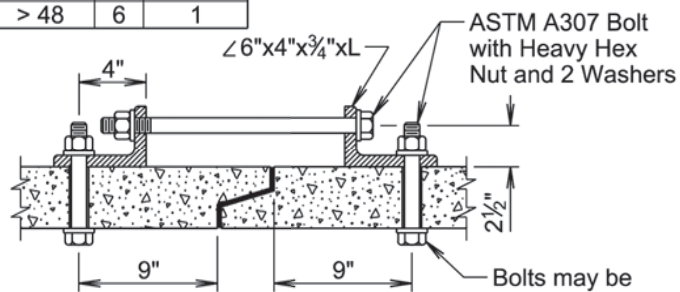
Pipe Dia. (in.)	"L" (in.)	Bolt Dia. (in.)
≤ 48	4	¾
> 48	6	1

**GENERAL NOTES:**

Angles will conform to ASTM A36.

Bolts will conform to ASTM A307. Nuts will be heavy hex conforming to ASTM A563. Washers will conform to ASTM F436.

Galvanize angles, bolts, nuts, and washers in accordance with ASTM A153.



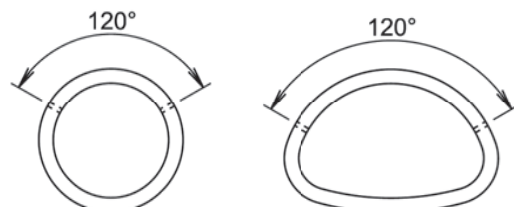
**ANGLE AND BOLT TIE**

**GENERAL NOTES:**

In lieu of the tie bolts detailed above other types of tie bolt connections may be installed as approved by the Office of Bridge Design.

All pipe sections of R.C.P. and R.C.P. Arch will be tied with tie bolts except for pipe located between drop inlets, manholes, and junction boxes. All pipe sections of pipes that only enter or exit drop inlets, manholes, and junction boxes will be tied with tie bolts.

There will be no separate measurement or payment for the tie bolts. The cost for furnishing and installing the tie bolts will be incidental to the contract unit price per foot for the corresponding bid item for R.C.P. or R.C.P. Arch.



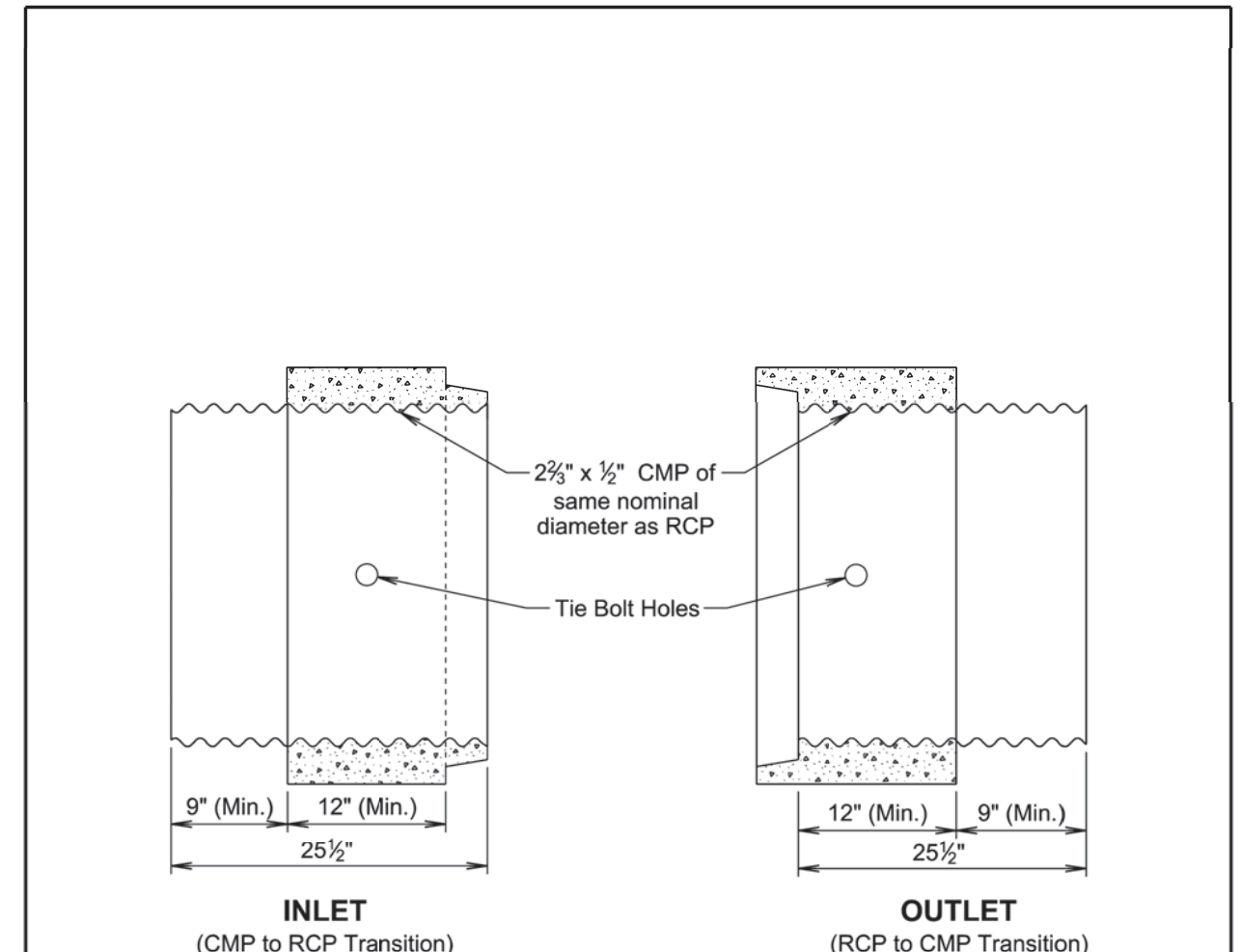
**END VIEW  
(Circular)**

**END VIEW  
(Arch)**

April 8, 2025

November 19, 2022

Published Date: 2026	S D D O T	TIE BOLTS FOR R.C.P. AND R.C.P. ARCH	PLATE NUMBER 450.18
			Sheet 1 of 1



**GENERAL NOTE:**

Arch pipe transitions will be fabricated similar to the round transition shown above.

All pipe transitions will be precast as shown. Alternate designs other than shown will need to be approved by the Engineer.

Published Date: 2026	S D D O T	C.M.P. TO R.C.P. TRANSITION AND R.C.P. TO C.M.P. TRANSITION	PLATE NUMBER 450.50
			Sheet 1 of 1

# DETAILS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
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FILE: 674115 - Details.dwg			
PLOT DATE: 2026-01-23 INITIALS: LWM			
REVISION DATE:			

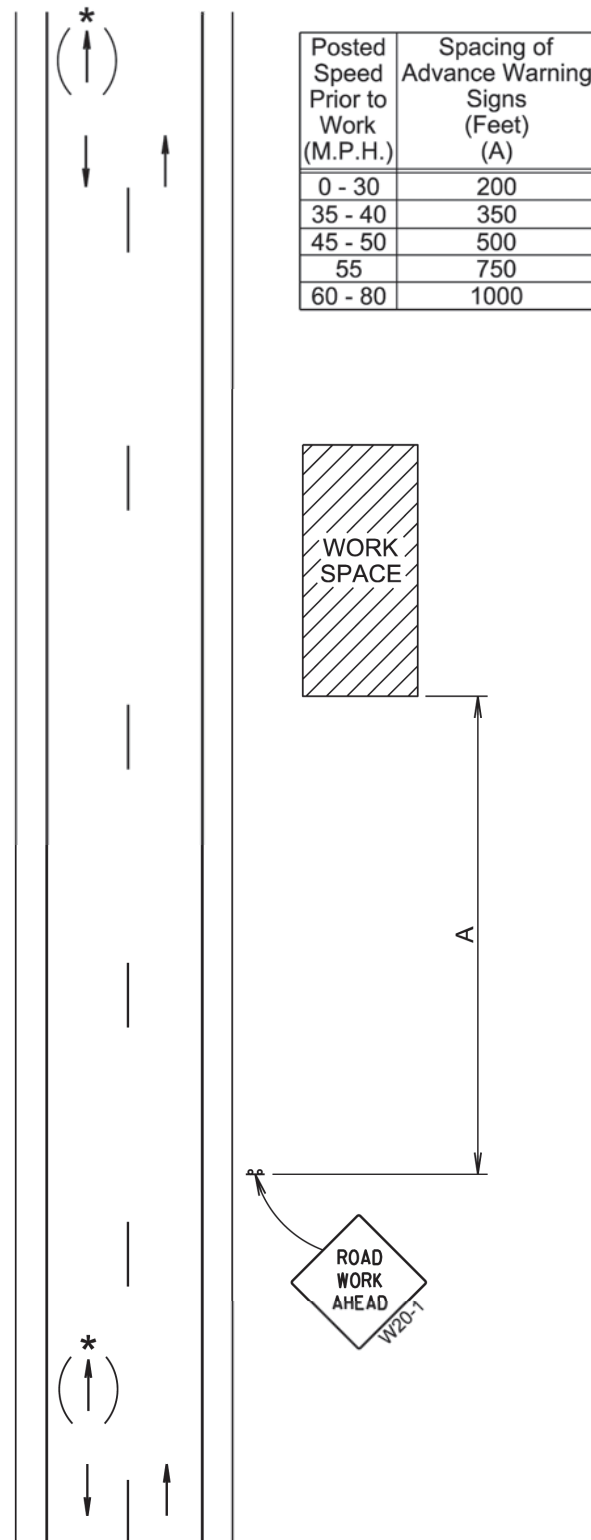
The signs illustrated are not required if the work space is behind a barrier, more than 2 feet behind the curb, or 15 feet or more from the edge of any roadway.

The signs illustrated will be used where there are distracting situations; such as: vehicles parked on shoulder, vehicles accessing the work site via the highway, and equipment traveling on or crossing the roadway to perform work operations.

The ROAD WORK AHEAD sign may be replaced with other appropriate signs, such as the SHOULDER WORK sign. The SHOULDER WORK sign may be used for work adjacent to the shoulder.

\* If the work space is on a divided highway, an advance warning sign should also be placed on the left side of the directional roadway.

For short term, short duration, or mobile operations, all signs and channelizing devices may be eliminated if a vehicle with an activated flashing or revolving yellow light is used.



January 22, 2021

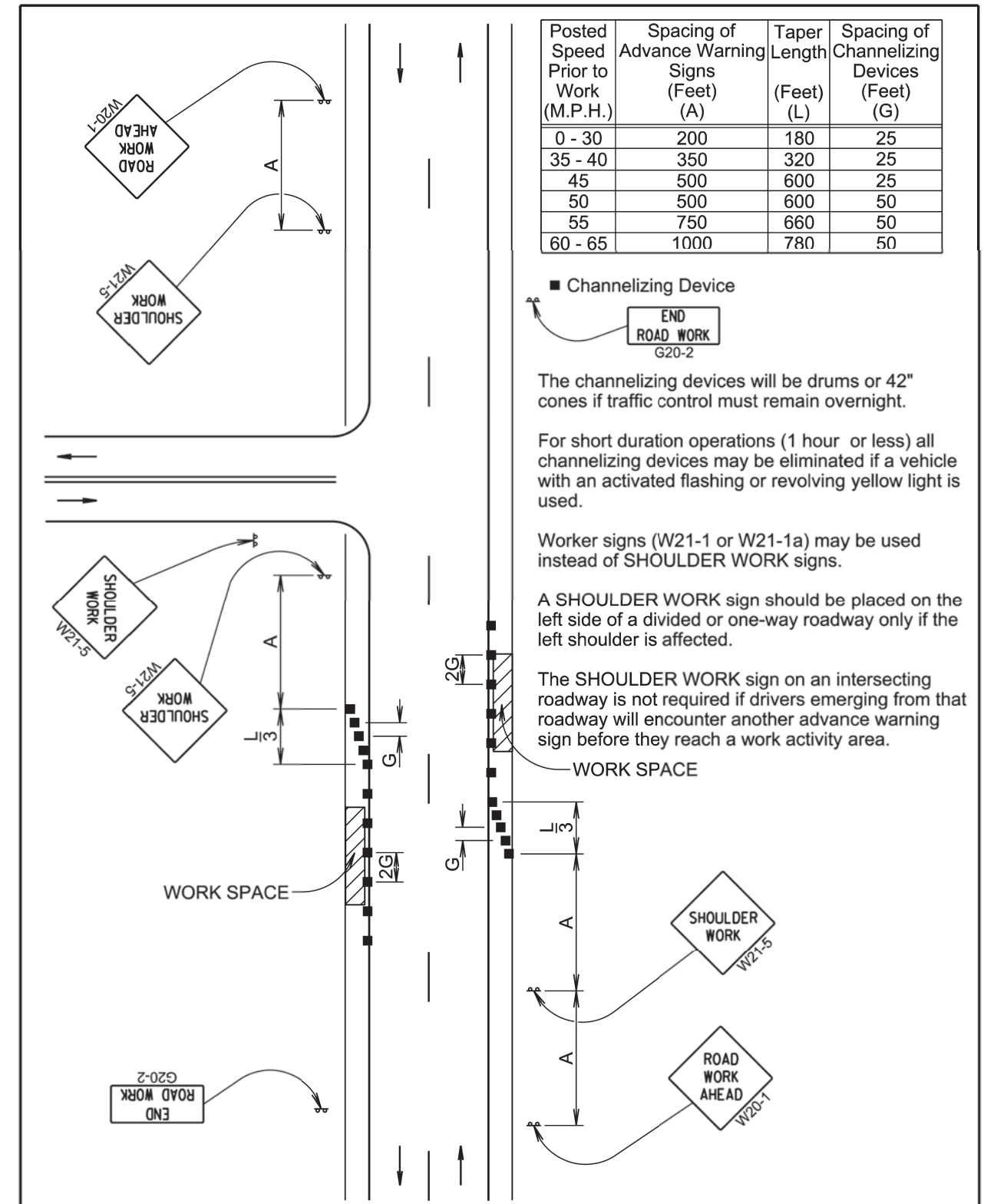
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**WORK BEYOND THE SHOULDER**

PLATE NUMBER  
634.01

Sheet 1 of 1

Published Date: 2026



January 22, 2021

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**WORK ON SHOULDERS**

PLATE NUMBER  
634.03

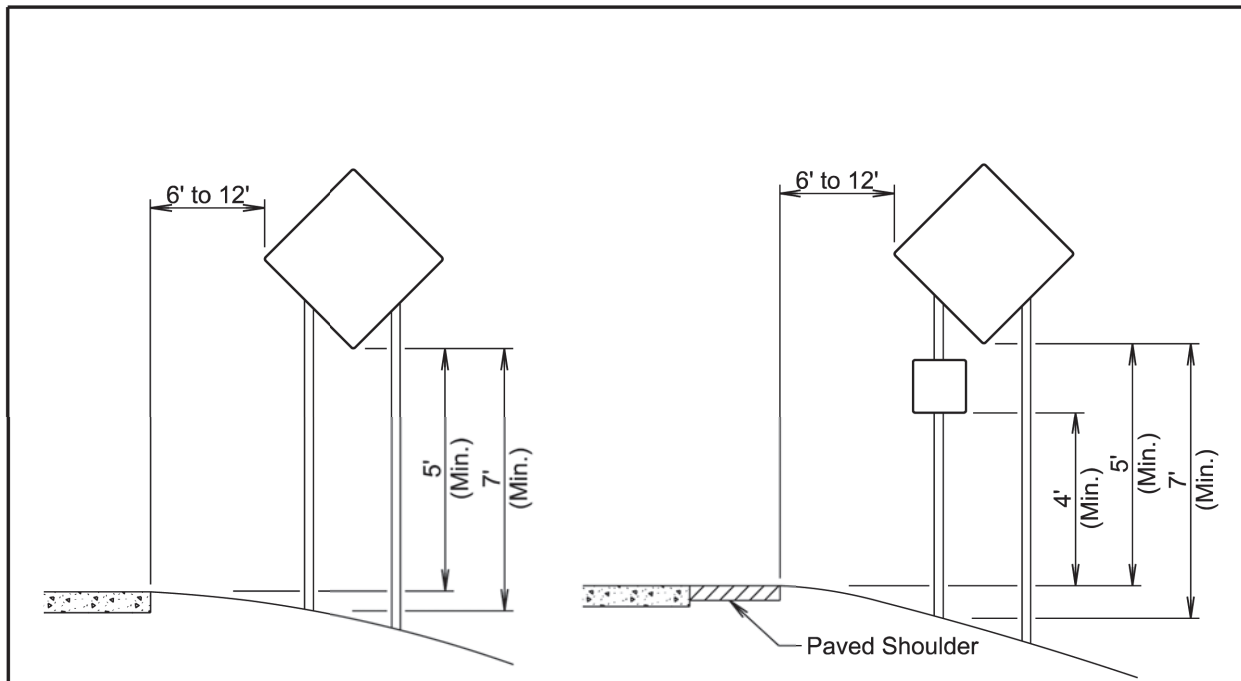
Sheet 1 of 1

Published Date: 2026

# DETAILS

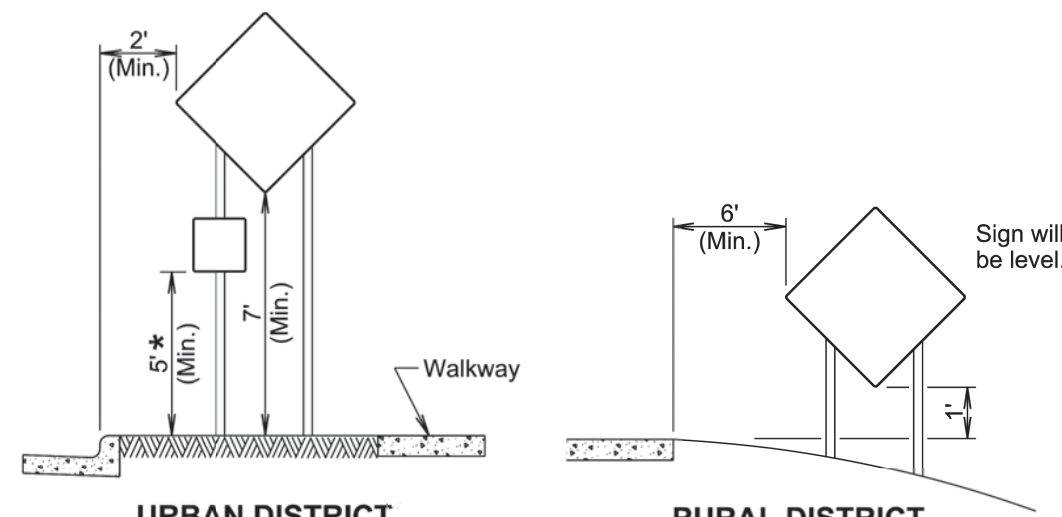
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	43	56
FILE: 674115 - Details.dwg			
PLOT DATE: 2026-01-23 INITIALS: LWM			
REVISION DATE:			



RURAL DISTRICT

RURAL DISTRICT WITH SUPPLEMENTAL PLATE



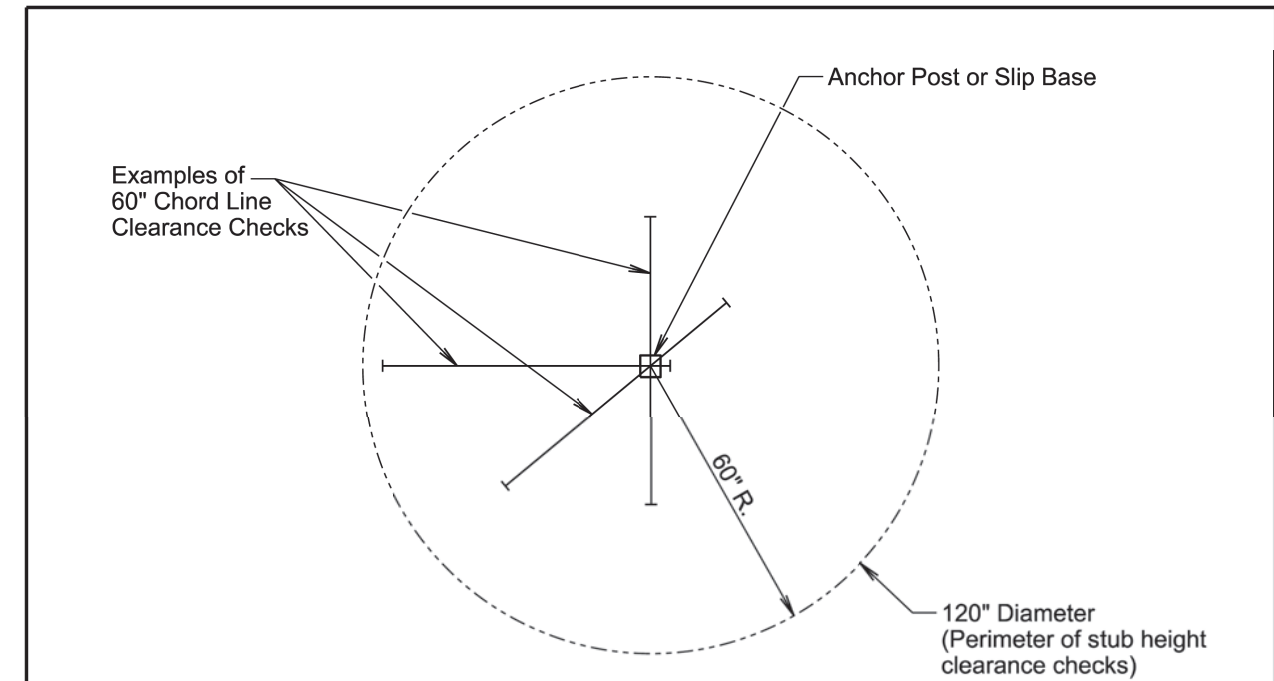
URBAN DISTRICT

RURAL DISTRICT 3 DAY MAXIMUM

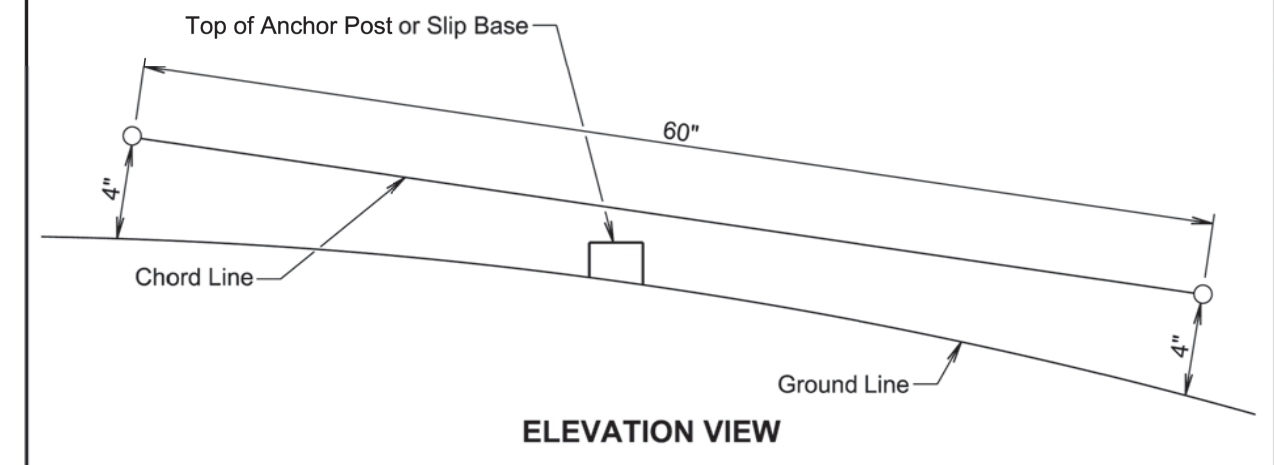
\* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

January 22, 2021

Published Date: 2026	S D D O T	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
			Sheet 1 of 1



PLAN VIEW  
(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

The top of anchor posts and slip bases WILL 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 will 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.

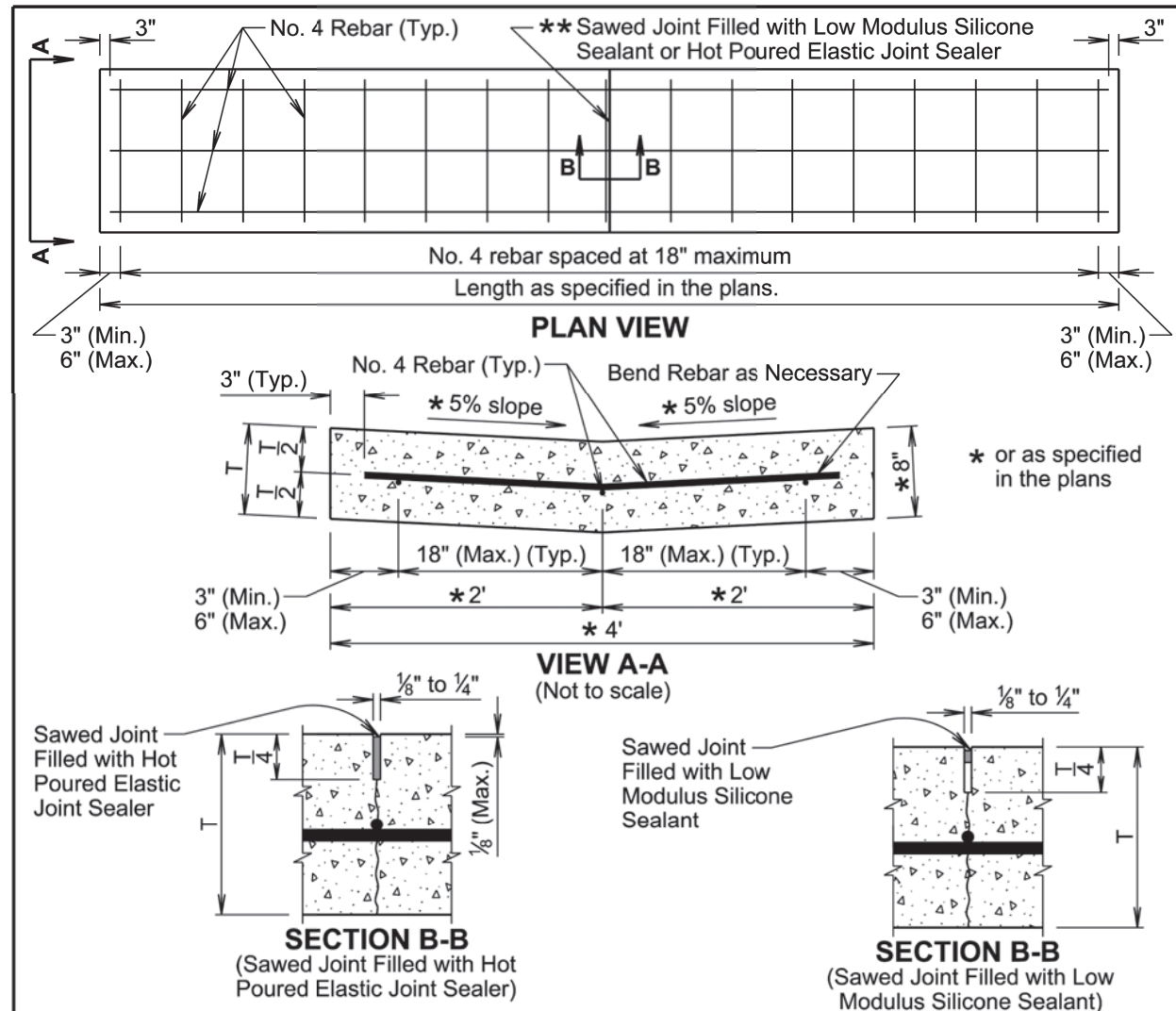
January 22, 2021

Published Date: 2026	S D D O T	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1

# DETAILS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	44	56
FILE: 674115 - Details.dwg			
PLOT DATE: 2026-01-23 INITIALS: LWM			
REVISION DATE:			

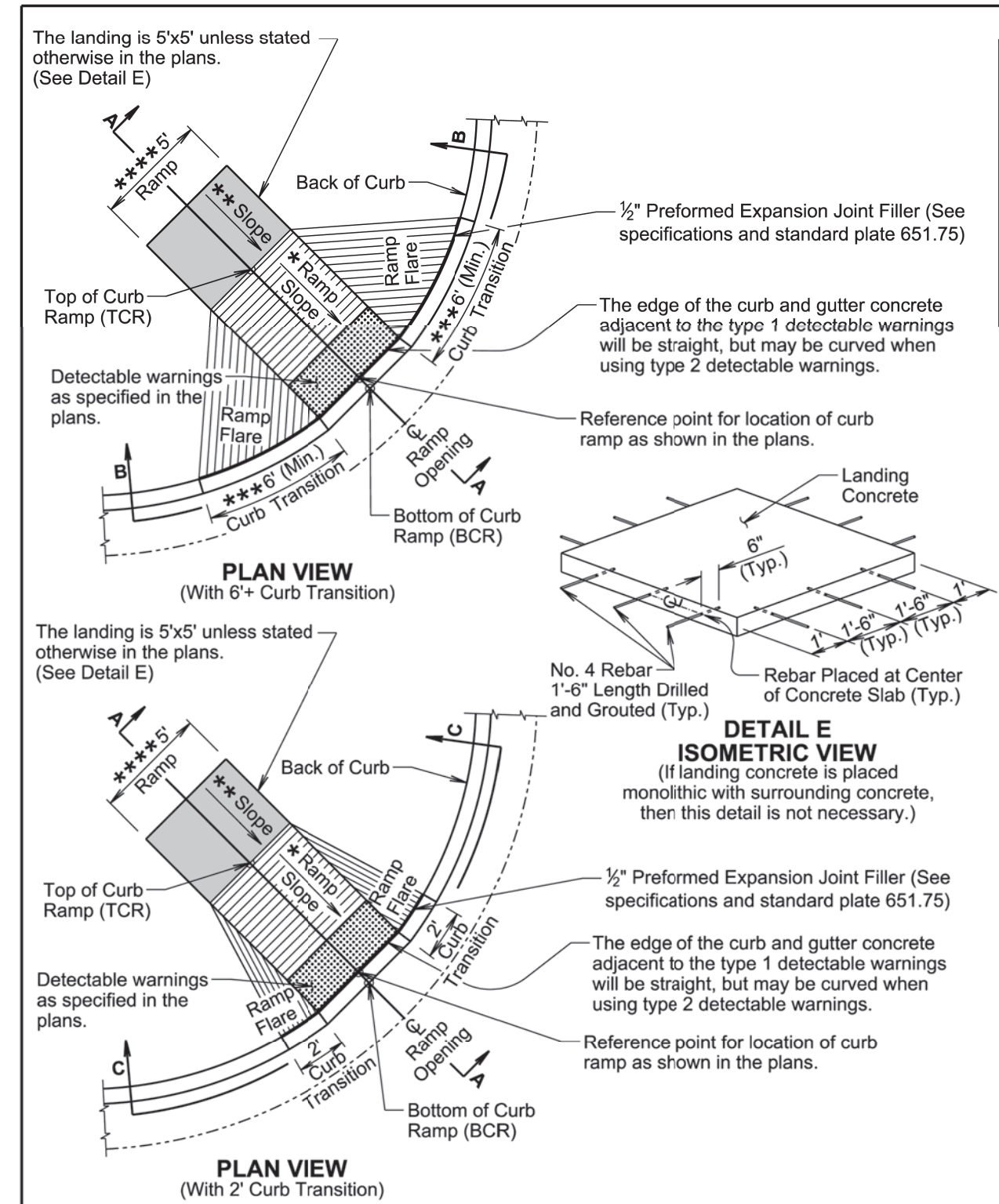


**GENERAL NOTES:**

- The concrete will comply with the specifications for class M6 concrete.
- The reinforcing steel will comply with the requirements of specification sections 480 and 1010.
- If a lap splice is provided the No. 4 rebar will be lapped a minimum of 12 inches.
- \*\* The sawed joints will be spaced at 12 feet; however, when the length of the valley gutter is 12 feet to 24 feet there will be a joint at the midpoint of the length. The saw cut to control cracking will be a minimum of 1/4 the thickness of the pavement.
- All hot poured elastic joint sealer material spilled on the surface of the concrete pavement will be removed as soon as the material has cooled. The extent of removal of material will be to the satisfaction of the Engineer. All costs for removal of the spilled joint sealer material will be borne by the Contractor.
- The silicone sealant will be bonded to the sides of a clean joint to completely seal the joint as approved by the Engineer.
- All costs for furnishing and installing the valley gutter including materials, equipment, labor, and incidentals will be included in the contract unit price per square yard for the corresponding Valley Gutter contract item.

December 23, 2019

Published Date: 2026	S D D O T	VALLEY GUTTER	PLATE NUMBER
			650.40
			Sheet 1 of 1

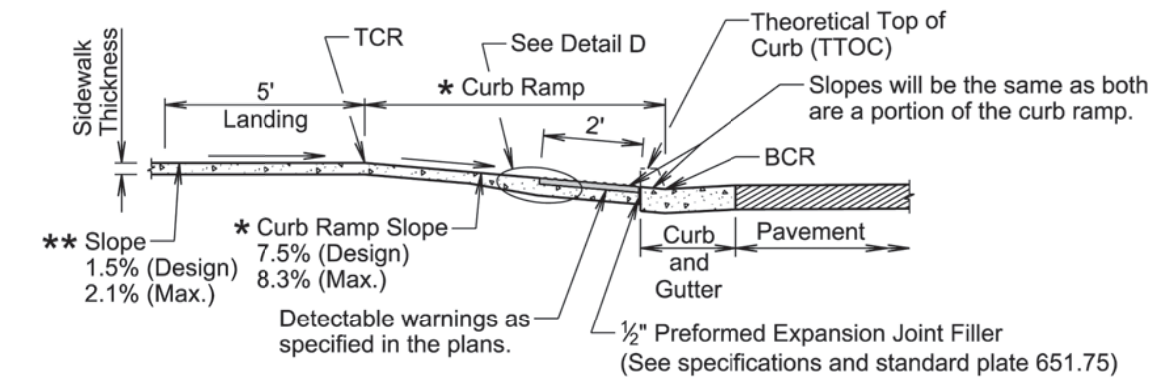


April 8, 2025

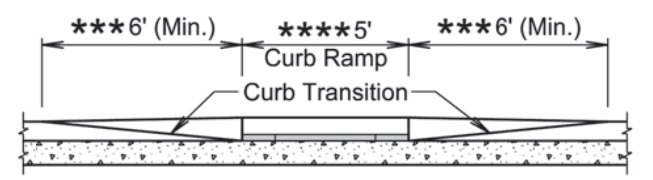
Published Date: 2026	S D D O T	TYPE 1 CURB RAMP (PERPENDICULAR CURB RAMP)	PLATE NUMBER
			651.01
			Sheet 1 of 3

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	45	56
FILE: 674115 - Details.dwg			
PLOT DATE: 2026-01-23 INITIALS: LWM			
REVISION DATE:			

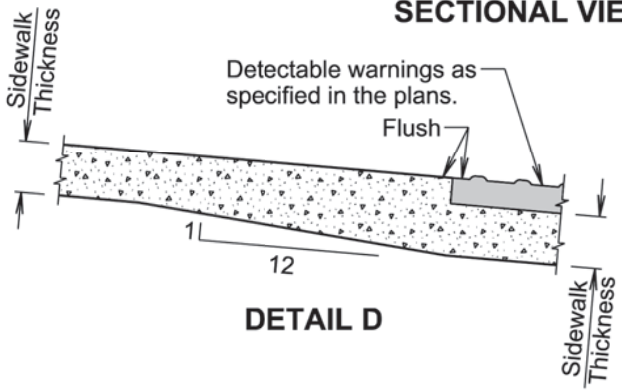
- Curb ramp slopes are designed at 7.5% unless stated otherwise in the plans. The curb ramp may have a maximum slope of 8.3% and will not exceed 15' in length unless stated otherwise in the plans.
- The curb ramp length may be computed based on the intersection of a continuous 1.5% theoretical slope from theoretical top of curb (TTOC) with the curb ramp using a continuous 7.5% curb ramp slope. The elevation of point TCR will always be higher than the elevation of point TTOC unless specified otherwise in the plans. The curb ramp length dimension as shown in the plans will be adjusted as necessary to meet all slope and length requirements based on field geometrics.
- \* The cross slope of the ramp will not be steeper than 2.1%. Plans are designed using a 1.5% slope unless stated otherwise in the plans.
- \*\* The slope in the landing will not be steeper than 2.1% in any direction of pedestrian travel. Plans are designed using a 1.5% slope unless stated otherwise in the plans.
- \*\*\* The curb transition will be a minimum of 6' long, a maximum of 10' long, and the curb transition slope will not be steeper than 10% unless stated otherwise in the plans. The curb transition length will be adjusted as necessary to meet slope and length requirements based on field geometrics.
- \*\*\*\* The ramp width is 5' unless stated otherwise in the plans.



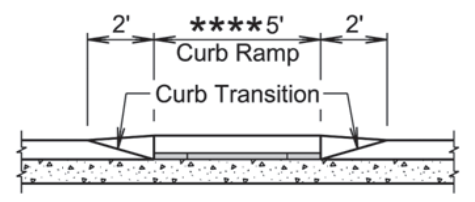
**SECTION A-A**



**SECTIONAL VIEW B-B**



**DETAIL D**



**SECTIONAL VIEW C-C**

April 8, 2025

Published Date: 2026	S D D O T	TYPE 1 CURB RAMP (PERPENDICULAR CURB RAMP)	PLATE NUMBER 651.01
			Sheet 2 of 3

**GENERAL NOTES:**

- For illustrative purpose only, type 1 detectable warnings are shown in the drawings.
- For illustrative purpose only, PCC fillet sections are shown in the drawings. The curb ramp depicted on this standard plate may be used with a PCC fillet section or curb and gutter.
- The curb ramp will be placed at the location stated in the plans.
- Sidewalk will not be placed adjacent to the curb ramp flares when a 2-foot curb transition is used unless shown otherwise in the plans.
- \* Care will be taken to ensure a uniform grade on the curb ramp, free of sags and short grade changes.
- Surface texture of the curb ramp will be obtained by coarse brooming transverse to the slope of the curb ramp.
- The normal gutter line profile will be maintained through the area of the ramp opening.
- Joints will be sawed or tooled into the concrete adjacent to the detectable warnings to alleviate possible corner cracking.
- Care will be taken to ensure that the surface of the detectable warnings are clean and maintains a uniform color.
- The detectable warnings will be cut as necessary to fit the plan specified limits of the detectable warnings. Cost for cutting the detectable warnings will be incidental to the corresponding detectable warning contract item.
- There will be no separate payment for curb ramps. The curb ramp will be measured and paid for at the contract unit price per square foot for the corresponding concrete sidewalk contract item. The square foot area of the detectable warnings will be included in the measured and paid for quantity of sidewalk.
- If rebar is placed in the landing as depicted in detail E, the cost of the materials, labor, and equipment to furnish and install the rebar will be incidental to the contract unit price per square foot for the corresponding concrete sidewalk contract item.
- The curb transitions and ramp opening will be measured and paid for at the contract unit price per foot for the corresponding curb and gutter contract item when curb and gutter is used. The curb transitions and ramp opening will be measured and paid for at the contract unit price per square yard for the corresponding PCC fillet section contract item when a PCC fillet section is used.
- Type 1 detectable warnings will be measured to the nearest square foot. All costs for furnishing and installing type 1 detectable warnings including labor, equipment, materials, and incidentals will be paid for at the contract unit price per square foot for "Type 1 Detectable Warnings".
- Type 2 detectable warnings will be measured to the nearest square foot. All costs for furnishing and installing type 2 detectable warnings including labor, equipment, and materials, including adhesive, necessary sealant or grout, and necessary grinding will be paid for at the contract unit price per square foot for "Type 2 Detectable Warnings".

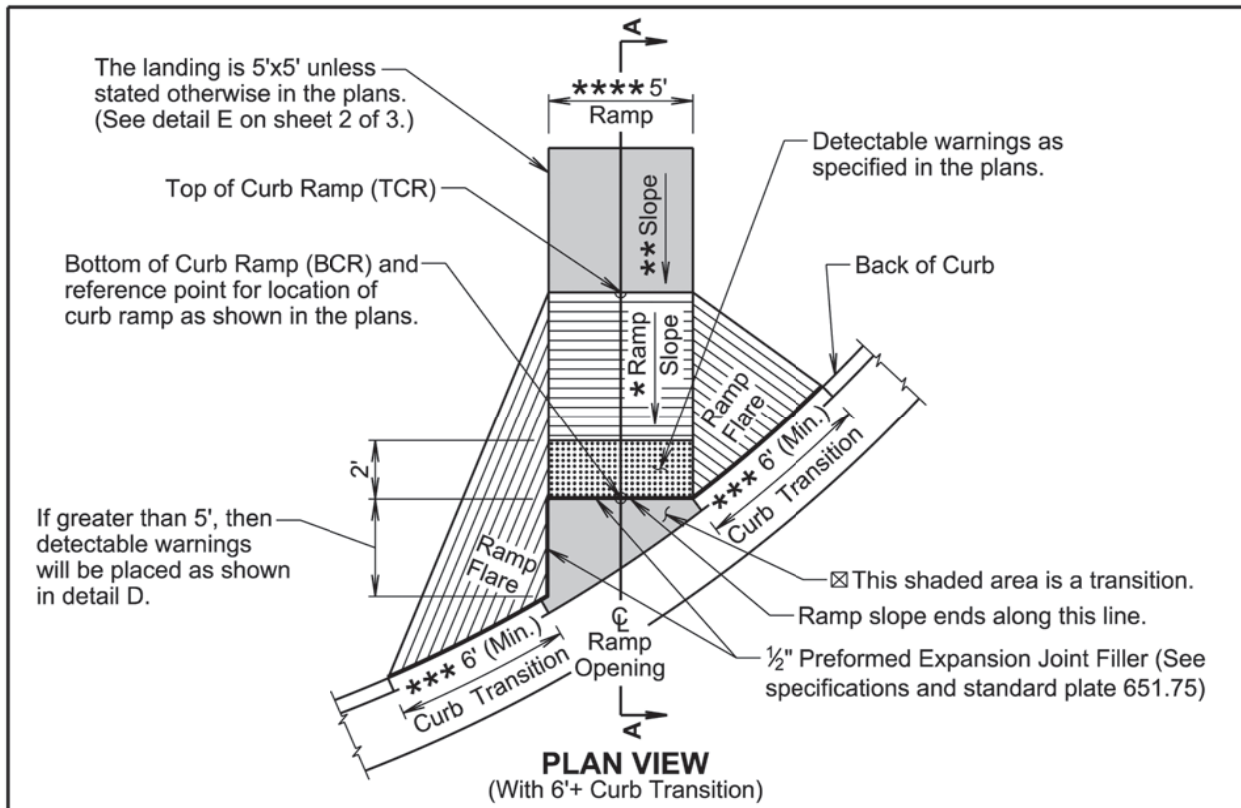
April 8, 2025

Published Date: 2026	S D D O T	TYPE 1 CURB RAMP (PERPENDICULAR CURB RAMP)	PLATE NUMBER 651.01
			Sheet 3 of 3

# DETAILS

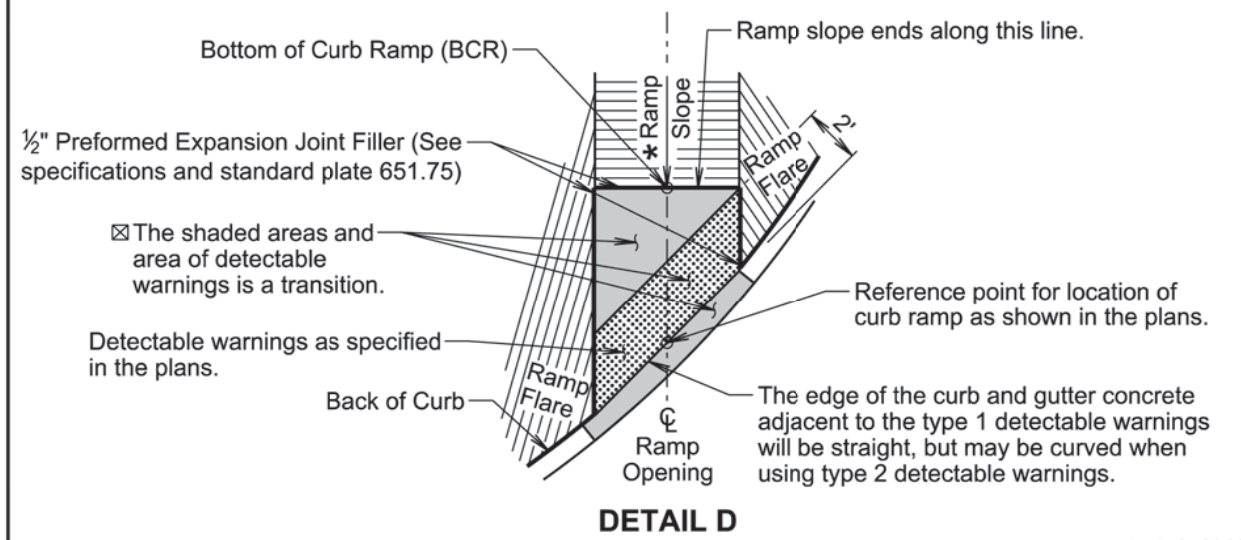
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT P TAPR(54)	SHEET NO. 46	TOTAL SHEETS 56
FILE: 674115 - Details.dwg			
PLOTTING DATE: 2026-01-23 INITIALS: LWM			
REVISION DATE:			

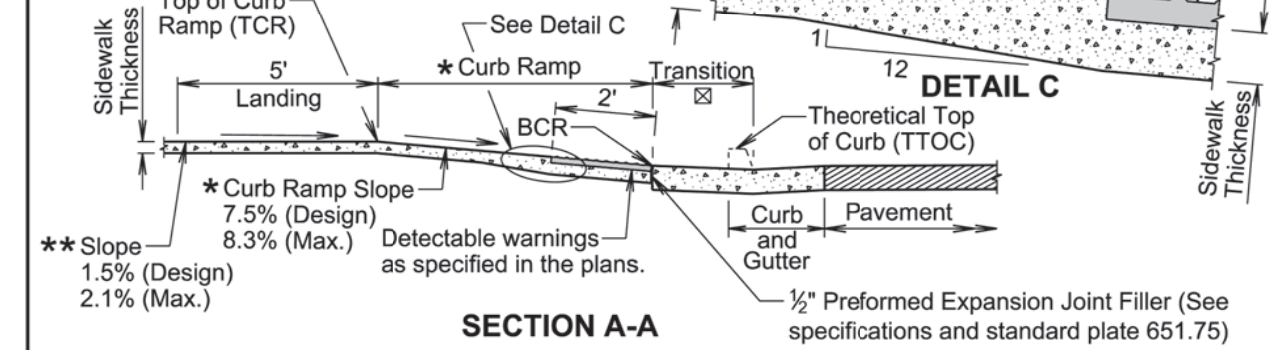
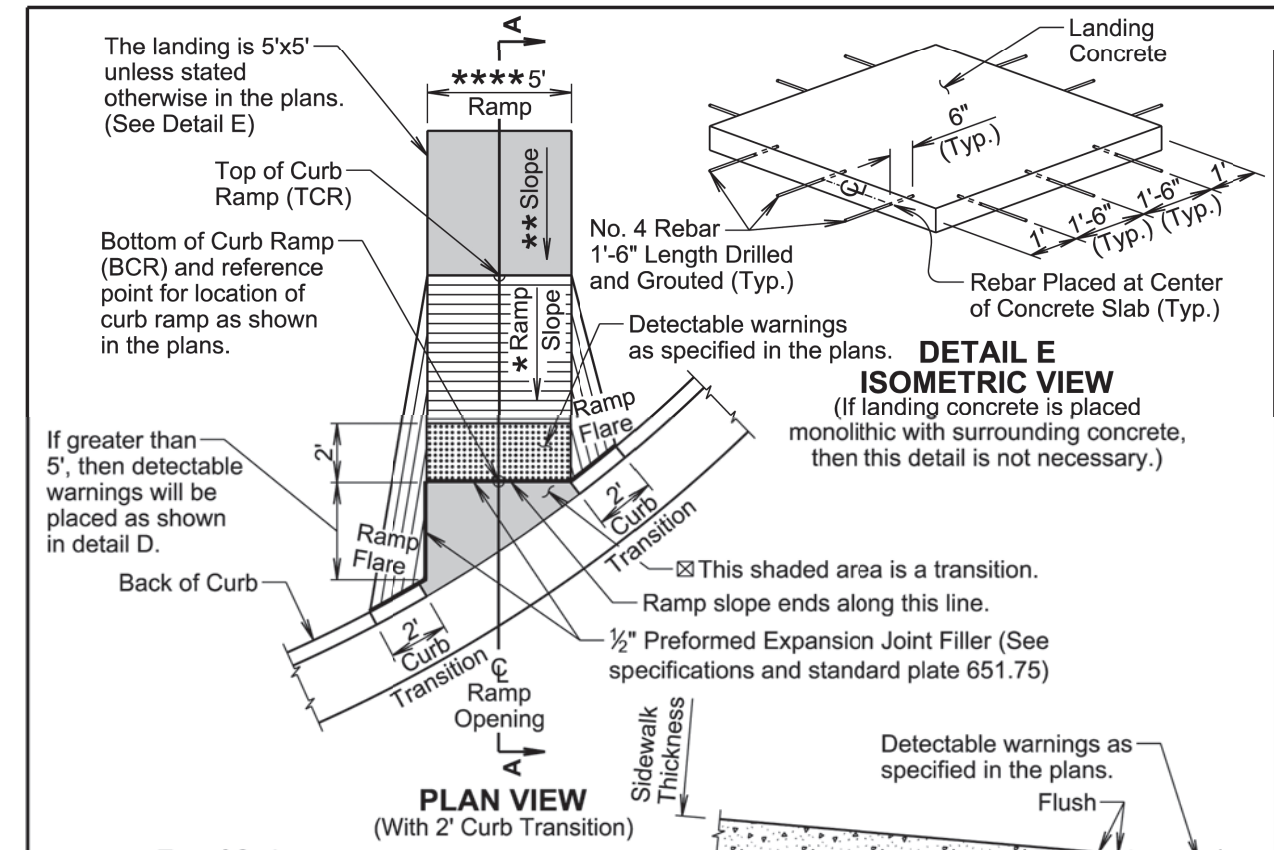


☒ The slope within the transition area will not be steeper than 5%. The concrete within the transition will be placed monolithic with the curb and gutter or fillet section concrete. The concrete thickness within the transition will be the same as the curb and gutter or fillet section concrete thickness.

\*\*\* The curb transition will be a minimum of 6' long, a maximum of 10' long, and the curb transition slope will not be steeper than 10% unless stated otherwise in the plans. The curb transition length will be adjusted as necessary to meet slope and length requirements based on field geometrics.



Published Date: 2026	S D D O T	TYPE 2 CURB RAMP (DIRECTIONAL CURB RAMP)	PLATE NUMBER 651.02
			Sheet 1 of 3



Curb ramp slopes are designed at 7.5% unless stated otherwise in the plans. The curb ramp may have a maximum slope of 8.3% and will not exceed 15' in length unless stated otherwise in the plans.

\* The elevation of point TCR will always be higher than the elevation of point TTOC unless specified otherwise in the plans. The curb ramp length dimension as shown in the plans will be adjusted as necessary to meet all slope and length requirements based on field geometrics.

The cross slope of the ramp will not be steeper than 2.1%. Plans are designed using a 1.5% slope unless stated otherwise in the plans.

\*\* The slope in the landing will not be steeper than 2.1% in any direction of pedestrian travel. Plans are designed using a 1.5% slope unless stated otherwise in the plans.

\*\*\*\* The ramp width is 5' unless stated otherwise in the plans.

Published Date: 2026	S D D O T	TYPE 2 CURB RAMP (DIRECTIONAL CURB RAMP)	PLATE NUMBER 651.02
			Sheet 2 of 3

# DETAILS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	47	56
FILE: 674115 - Details.dwg			
PLOT DATE: 2026-01-23 INITIALS: LWM			
REVISION DATE:			

### GENERAL NOTES:

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

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

Sidewalk will not be placed adjacent to the curb ramp flares when a 2-foot curb transition is used unless shown otherwise in the plans.

\* Care will be taken to ensure a uniform grade on the curb ramp, free of sags and short grade changes.

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

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

Joints will be sawed or tooled into the concrete adjacent to the detectable warnings to alleviate possible corner cracking.

Care will be taken to ensure that the surface of the detectable warnings are clean and maintains a uniform color.

The detectable warnings will be cut as necessary to fit the plan specified limits of the detectable warnings. Cost for cutting the detectable warnings will be incidental to the corresponding detectable warning contract item.

There will be no separate payment for curb ramps. The curb ramp will be measured and paid for at the contract unit price per square foot for the corresponding concrete sidewalk contract item. The square foot area of the detectable warnings will be included in the measured and paid for quantity of sidewalk.

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

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

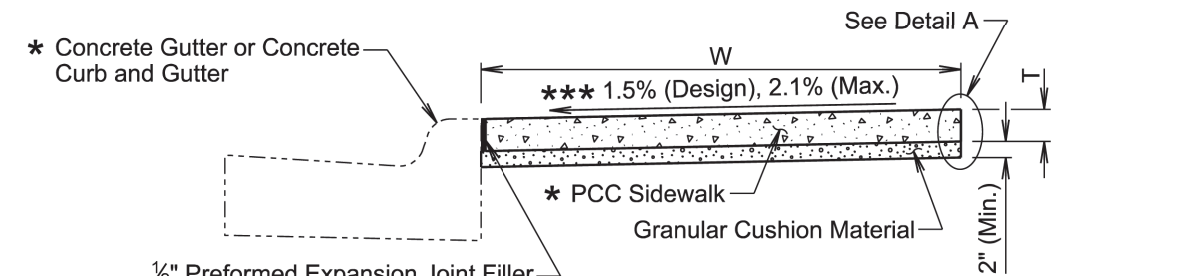
All costs for furnishing and installing the transition area at the base of the curb ramp will be incidental to the contract unit price per foot for the corresponding curb and gutter contract item when curb and gutter is used and will be incidental to the contract unit price per square yard for the corresponding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

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

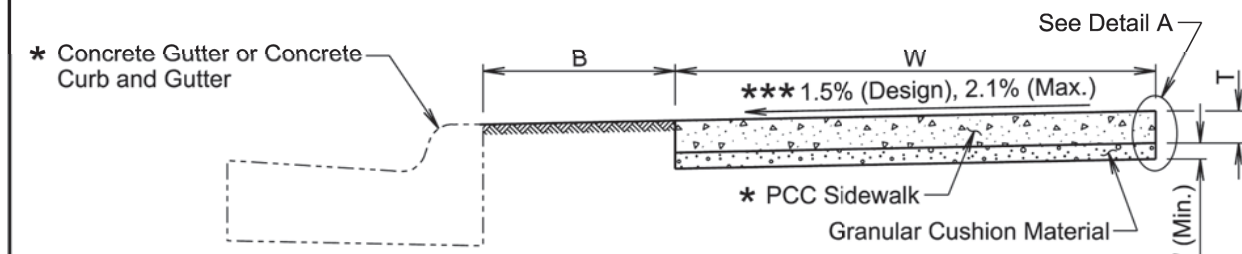
Type 2 detectable warnings will be measured to the nearest square foot. All costs for furnishing and installing type 2 detectable warnings including labor, equipment, and materials, including adhesive, necessary sealant or grout, and necessary grinding will be paid for at the contract unit price per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

April 8, 2025

Published Date: 2026	S D D O T	TYPE 2 CURB RAMP (DIRECTIONAL CURB RAMP)	PLATE NUMBER
			651.02
			Sheet 3 of 3

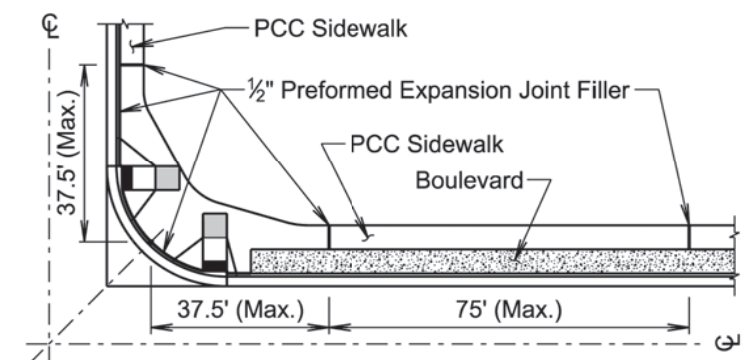


**ELEVATION VIEW**  
(PCC Sidewalk without Boulevard)



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

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



**PLAN VIEW**

### GENERAL NOTES:

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

\*\*\* The cross slope of the sidewalk is designed at 1.5% and the maximum slope allowed is 2.1% unless specified otherwise in the plans.

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

PCC sidewalk placed adjacent to intersection of roadways will have an expansion joint placed transversely a maximum of 37.5 feet from the intersection. See Plan View.

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

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

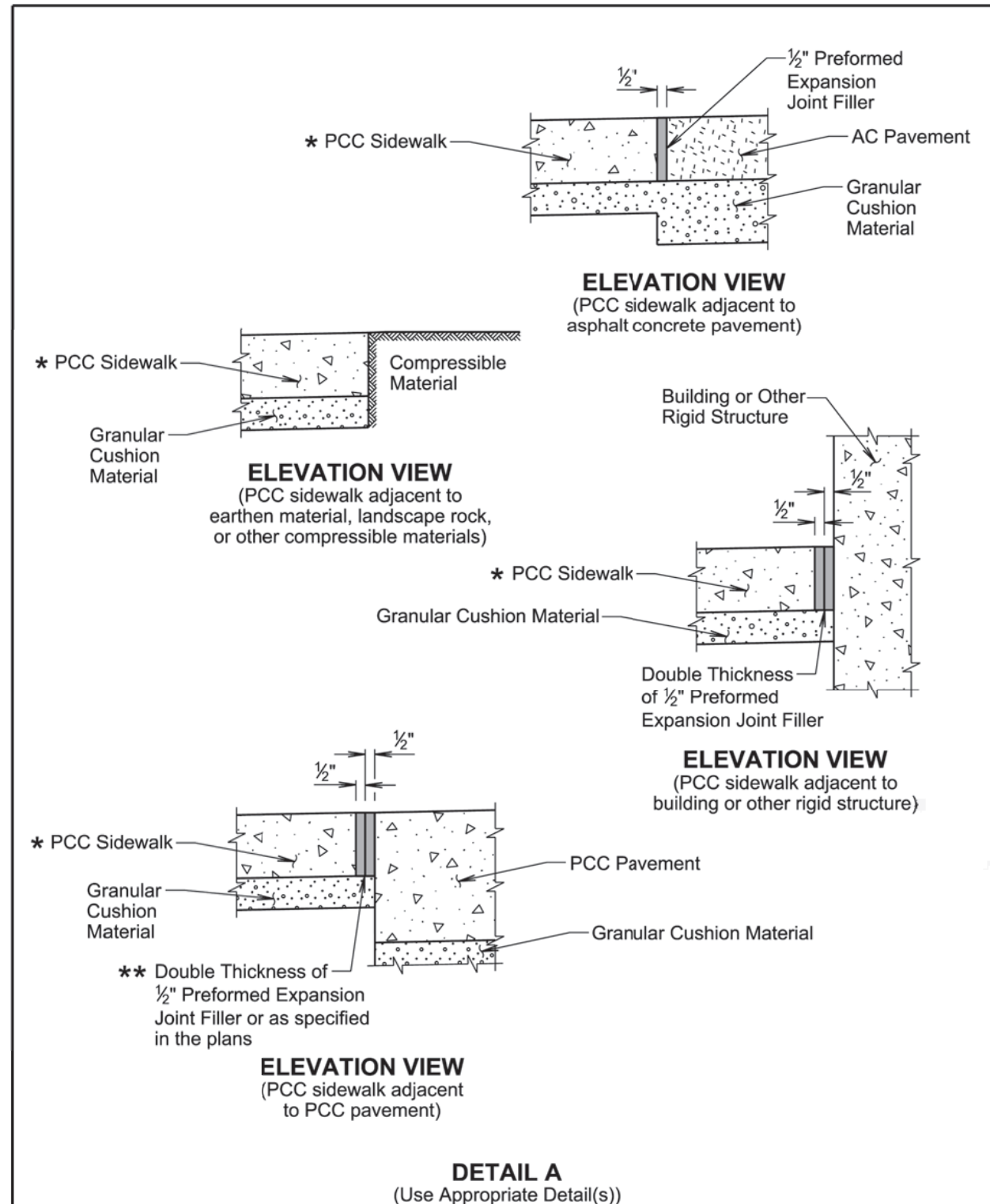
April 8, 2025

Published Date: 2026	S D D O T	PCC SIDEWALK	PLATE NUMBER
			651.75
			Sheet 1 of 2

# DETAILS

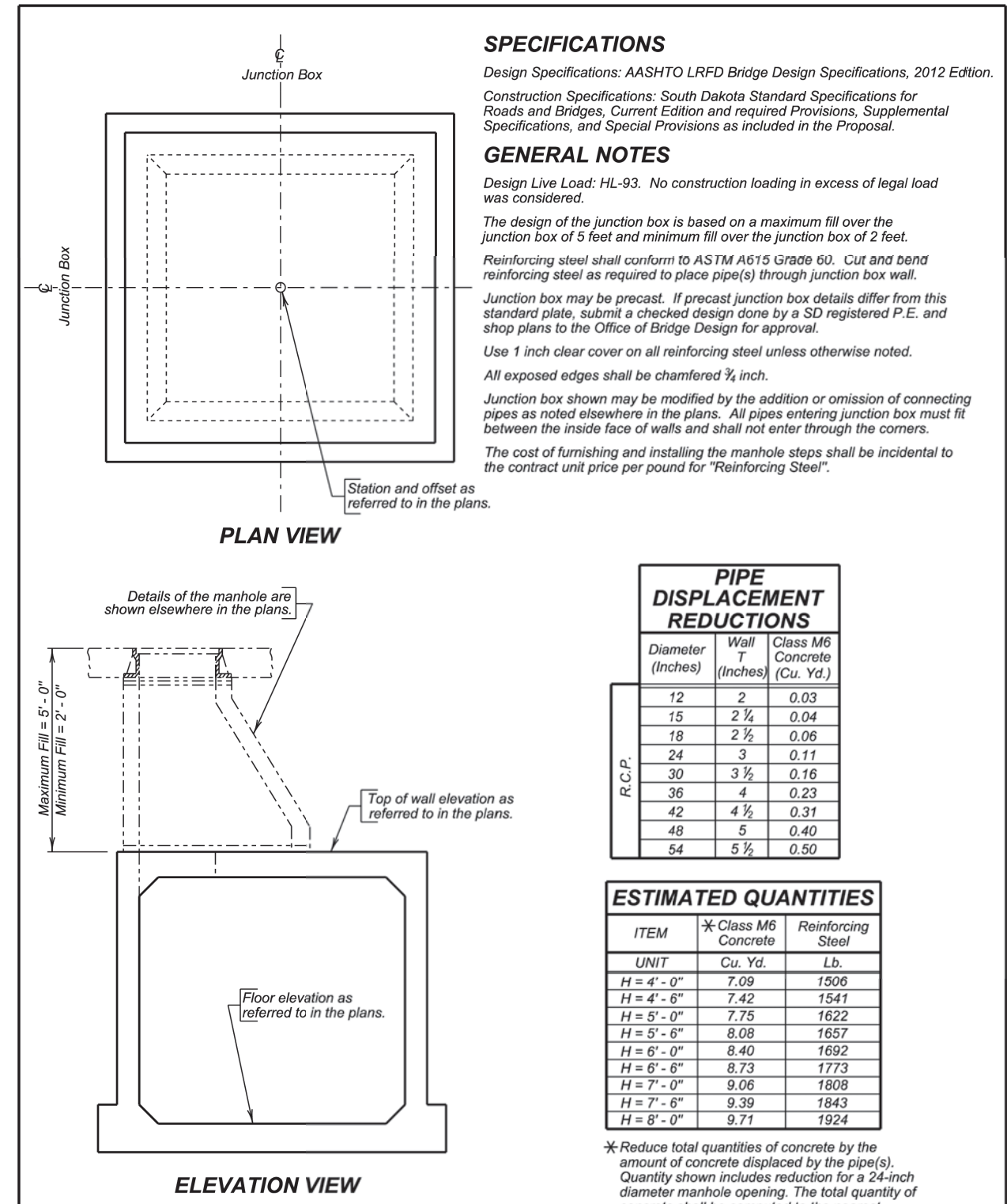
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	48	56
FILE: 674115 - Details.dwg			
PLOTTING DATE: 2026-01-23 INITIALS: LWM			
REVISION DATE:			



April 8, 2025

Published Date: 2026	S D D O T	PCC SIDEWALK	PLATE NUMBER
			651.75
			Sheet 2 of 2



## SPECIFICATIONS

Design Specifications: AASHTO LRFD Bridge Design Specifications, 2012 Edition.  
Construction Specifications: South Dakota Standard Specifications for Roads and Bridges, Current Edition and required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

## GENERAL NOTES

Design Live Load: HL-93. No construction loading in excess of legal load was considered.

The design of the junction box is based on a maximum fill over the junction box of 5 feet and minimum fill over the junction box of 2 feet.

Reinforcing steel shall conform to ASTM A615 Grade 60. Cut and bend reinforcing steel as required to place pipe(s) through junction box wall.

Junction box may be precast. If precast junction box details differ from this standard plate, submit a checked design done by a SD registered P.E. and shop plans to the Office of Bridge Design for approval.

Use 1 inch clear cover on all reinforcing steel unless otherwise noted.

All exposed edges shall be chamfered 3/4 inch.

Junction box shown may be modified by the addition or omission of connecting pipes as noted elsewhere in the plans. All pipes entering junction box must fit between the inside face of walls and shall not enter through the corners.

The cost of furnishing and installing the manhole steps shall be incidental to the contract unit price per pound for "Reinforcing Steel".

R.C.P.

Diameter (Inches)	Wall T (Inches)	Class M6 Concrete (Cu. Yd.)
12	2	0.03
15	2 1/4	0.04
18	2 1/2	0.06
24	3	0.11
30	3 1/2	0.16
36	4	0.23
42	4 1/2	0.31
48	5	0.40
54	5 1/2	0.50

ITEM	* Class M6 Concrete	Reinforcing Steel
UNIT	Cu. Yd.	Lb.
H = 4' - 0"	7.09	1506
H = 4' - 6"	7.42	1541
H = 5' - 0"	7.75	1622
H = 5' - 6"	8.08	1657
H = 6' - 0"	8.40	1692
H = 6' - 6"	8.73	1773
H = 7' - 0"	9.06	1808
H = 7' - 6"	9.39	1843
H = 8' - 0"	9.71	1924

\*Reduce total quantities of concrete by the amount of concrete displaced by the pipe(s). Quantity shown includes reduction for a 24-inch diameter manhole opening. The total quantity of concrete shall be computed to the nearest hundredth of a cubic yard.

May 9, 2020

Published Date: 2026	S D D O T	7' X 7' JUNCTION BOX	PLATE NUMBER
			671.03
			Sheet 1 of 3

# DETAILS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	49	56
FILE: 674115 - Details.dwg			
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REVISION DATE:			

### REINFORCING SCHEDULE

Mk.	No.	Size	Length	Type
∅ a1	1	6	9'-0"	T3
∇ a2	4	-	-	-
h25	40	4	5'-9"	17A
k25	64	4	9'-3"	17
m3	26	6	8'-9"	Str.
n3	26	6	7'-9"	Str.
p3	60	4	7'-0"	Str.
q3	8	4	3'-6"	17A
∅ a1	1	6	9'-0"	T3
∇ a2	4	-	-	-
h26	40	4	6'-3"	17A
k26	64	4	9'-9"	17
m3	26	6	8'-9"	Str.
n3	26	6	7'-9"	Str.
p3	60	4	7'-0"	Str.
q1	8	4	3'-6"	17A
∅ a1	1	6	9'-0"	T3
∇ a2	5	-	-	-
h27	40	4	6'-9"	17A
k27	64	4	10'-3"	17
m3	26	6	8'-9"	Str.
n3	26	6	7'-9"	Str.
p3	68	4	7'-0"	Str.
q1	12	4	3'-6"	17A
∅ a1	1	6	9'-0"	T3
∇ a2	5	-	-	-
h28	40	4	7'-3"	17A
k28	64	4	10'-9"	17
m3	26	6	8'-9"	Str.
n3	26	6	7'-9"	Str.
p3	68	4	7'-0"	Str.
q1	12	4	3'-6"	17A
∅ a1	1	6	9'-0"	T3
∇ a2	6	-	-	-
h29	40	4	7'-9"	17A
k29	64	4	11'-3"	17
m3	26	6	8'-9"	Str.
n3	26	6	7'-9"	Str.
p3	68	4	7'-0"	Str.
q1	12	4	3'-6"	17A
∅ a1	1	6	9'-0"	T3
∇ a2	6	-	-	-
h30	40	4	8'-3"	17A
k30	64	4	11'-9"	17
m3	26	6	8'-9"	Str.
n3	26	6	7'-9"	Str.
p3	76	4	7'-0"	Str.
q1	16	4	3'-6"	17A
∅ a1	1	6	9'-0"	T3
∇ a2	7	-	-	-
h31	40	4	8'-9"	17A
k31	64	4	12'-3"	17
m3	26	6	8'-9"	Str.
n3	26	6	7'-9"	Str.
p3	76	4	7'-0"	Str.
q1	16	4	3'-6"	17A

#### Bending Details

Mk.	No.	Size	Length	Type
∅ a1	1	6	9'-0"	T3
∇ a2	7	-	-	-
h32	40	4	9'-3"	17A
k32	64	4	12'-9"	17
m3	26	6	8'-9"	Str.
n3	26	6	7'-9"	Str.
p3	76	4	7'-0"	Str.
q1	16	4	3'-6"	17A
∅ a1	1	6	9'-0"	T3
∇ a2	8	-	-	-
h33	40	4	9'-9"	17A
k33	64	4	13'-3"	17
m3	26	6	8'-9"	Str.
n3	26	6	7'-9"	Str.
p3	84	4	7'-0"	Str.
q1	20	4	3'-6"	17A

#### LEGEND FOR PLACING RE-STEEL

T.B.S. - Top of Bottom Slab
B.B.S. - Bottom of Bottom Slab

▼ Cast iron Manhole Steps (R - 1980 - C) from Neenah Foundry or equivalent.

∅ Locate in center of top slab with 3" clearance at manhole opening.

All dimensions are out to out of bars.

#### SEC. A - A

#### LEGEND FOR PLACING RE-STEEL

T. T. S. - Top of Top Slab
B. T. S. - Bottom of Top Slab
T. B. S. - Top of Bottom Slab
B. B. S. - Bottom of Bottom Slab
O. F. W. - Outside Face of Wall
I. F. W. - Inside Face of Wall

#### PLAN VIEW

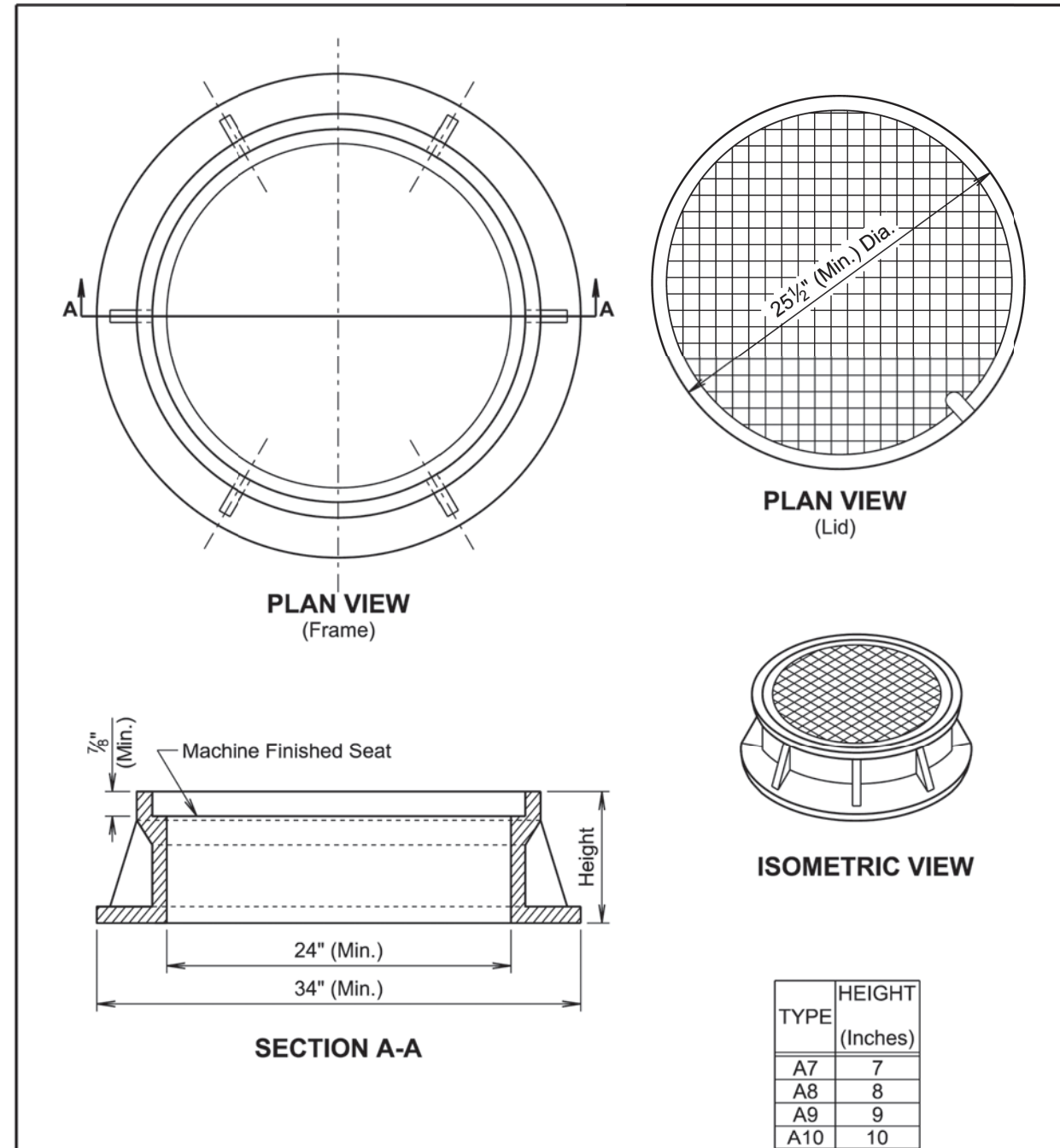
#### ELEVATION VIEW

# DETAILS

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	50	56

FILE: 674115 - Details.dwg  
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 REVISION DATE:



TYPE	HEIGHT (Inches)
A7	7
A8	8
A9	9
A10	10

**GENERAL NOTES:**

The product dimensions may vary from those shown on the standard plate depending on the manufacturer. Any variation in dimensions will be approved by the Engineer and the type A manhole frame and lid will be from a manufacturer on the approved products lists.

Design load for the grate will meet the requirements of AASHTO HL-93.

Geometric pattern on top of lid other than that shown will be approved by the Engineer.

June 1, 2022

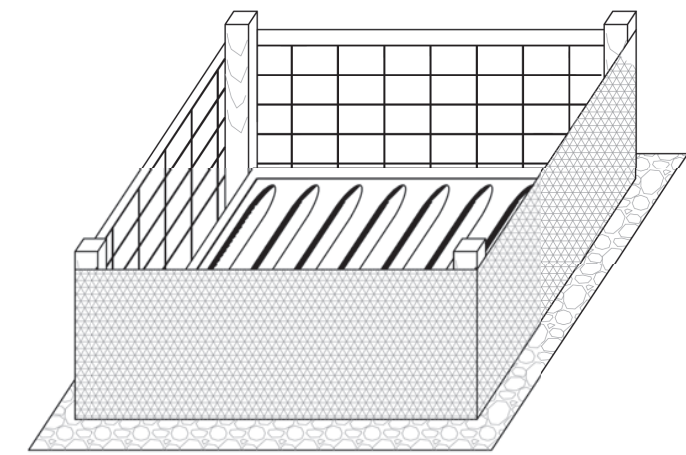
Published Date: 2026	<b>S D D O T</b>	<b>TYPE A MANHOLE FRAME AND LID</b>	PLATE NUMBER 671.10
			Sheet 1 of 1

# EROSION CONTROL DETAILS FOR BIDDING PURPOSES ONLY

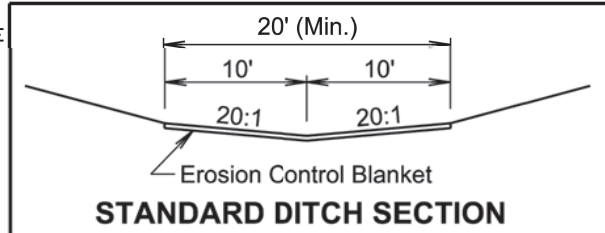
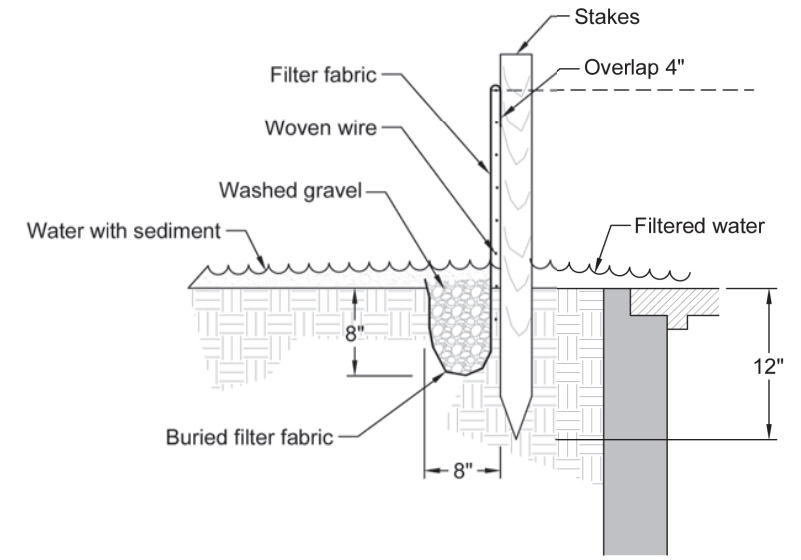
STATE OF SOUTH DAKOTA	PROJECT P TAPR(54)	SHEET NO. 51	TOTAL SHEETS 56
FILE: 674115 - Details.dwg			
PLOTTING DATE: 2026-01-23 INITIALS: LWM			
REVISION DATE:			

**NOTE:**  
CONTRACTOR WILL ALSO USE STANDARD PLATE 734.01 FOR TURF REINFORCEMENT INSTALLATION.

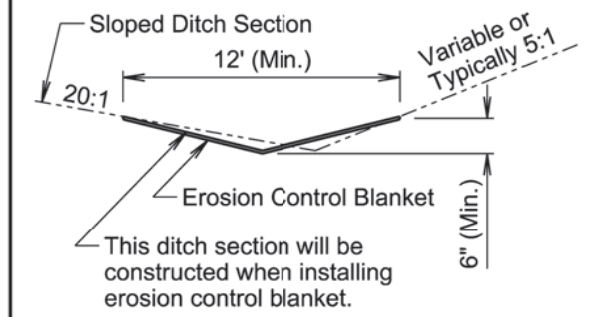
1. Set posts.
2. Excavate an 8" x 8" trench upslope along the posts.
3. Attach a supporting wire fence to the posts
4. Attach fabric sandwich 4" fabric overlap between posts and wire and extend into trench.
5. Back fill trench. If rock type soils are encountered, utilize 30 to 40 lb sandbags butted end to end to prevent underflow.



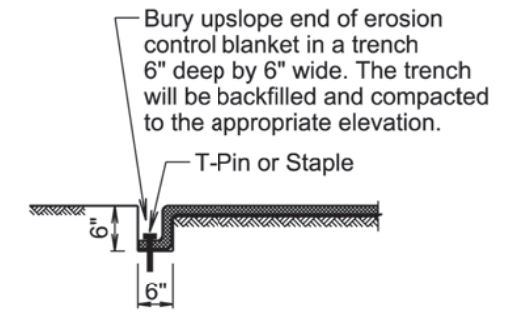
Attach fabric with hog rings 12" maximum horizontal spacing on top and bottom of the woven wire and with staples or wire ties at 12" maximum vertical spacing on the posts.



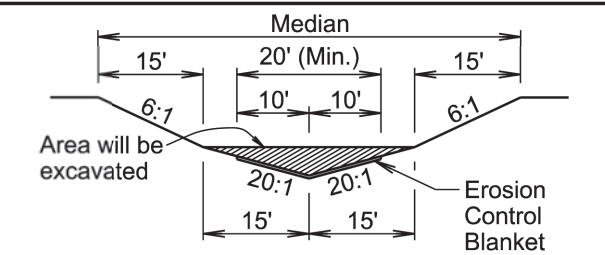
**STANDARD DITCH SECTION**



**SLOPED DITCH SECTION**

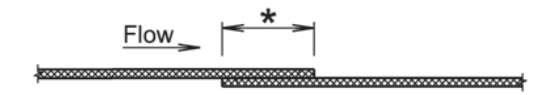


**TRENCH DETAIL**



**MEDIAN SECTION**

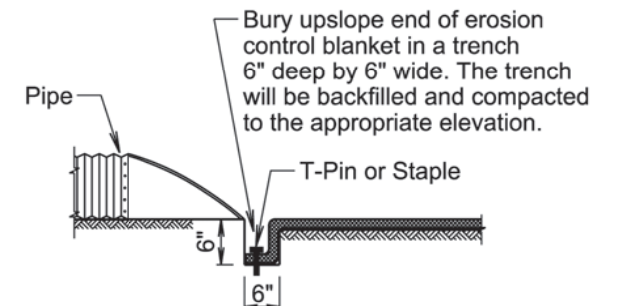
The median will be shaped to the limits shown in this detail where the erosion control blanket will be placed.



\* Use a 4" (Min.) overlap wherever two widths of erosion control blanket are applied side by side.

\* Use a 6" (Min.) overlap wherever one roll of erosion control blanket ends and another begins.

**OVERLAP DETAIL**



**PIPE END DETAIL**

**GENERAL NOTES:**

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

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

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

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

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

February 14, 2020



**INTERIM SEDIMENT CONTROL AT INLET**

Published Date: 2026

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D  
D  
O  
T

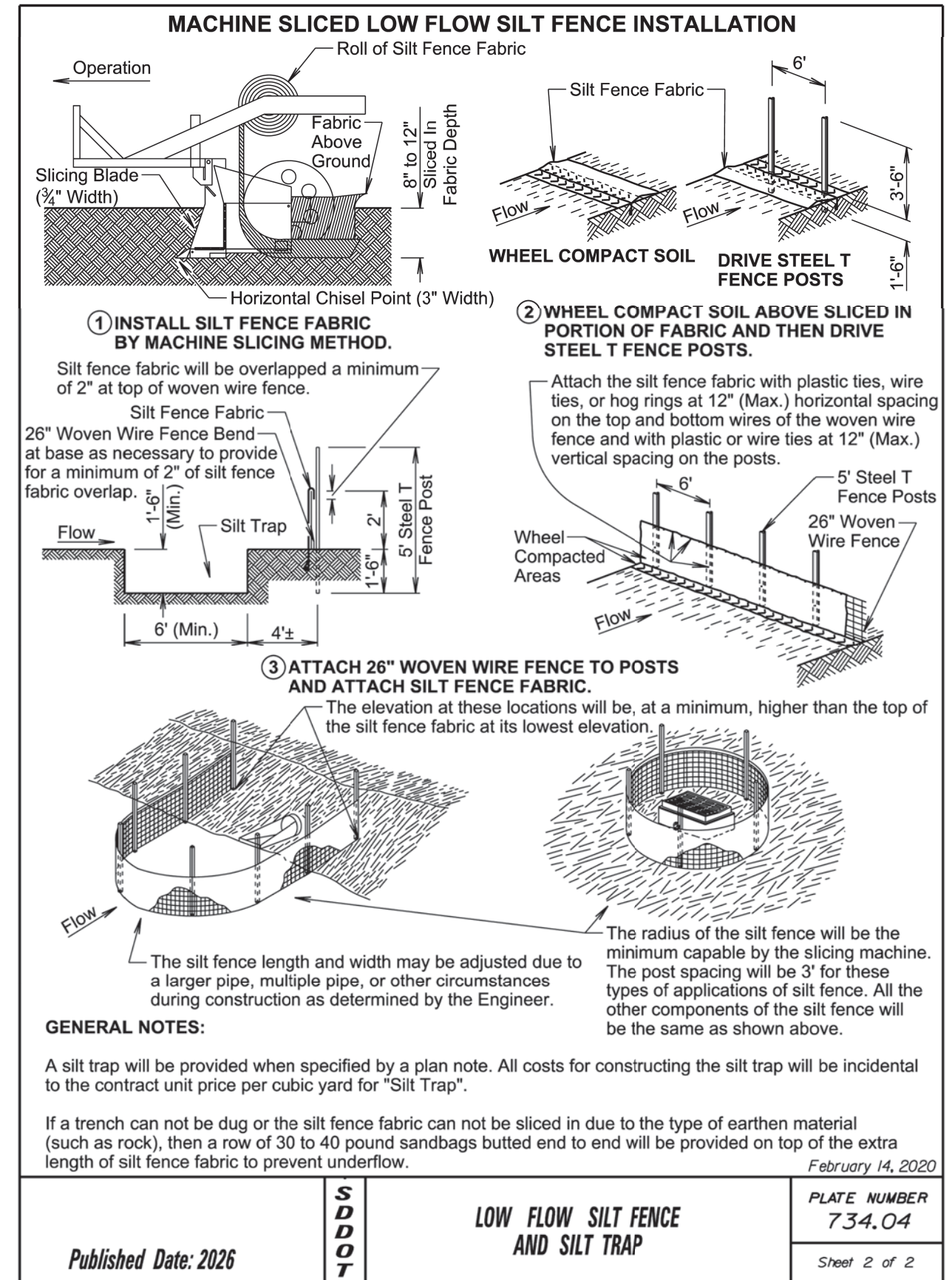
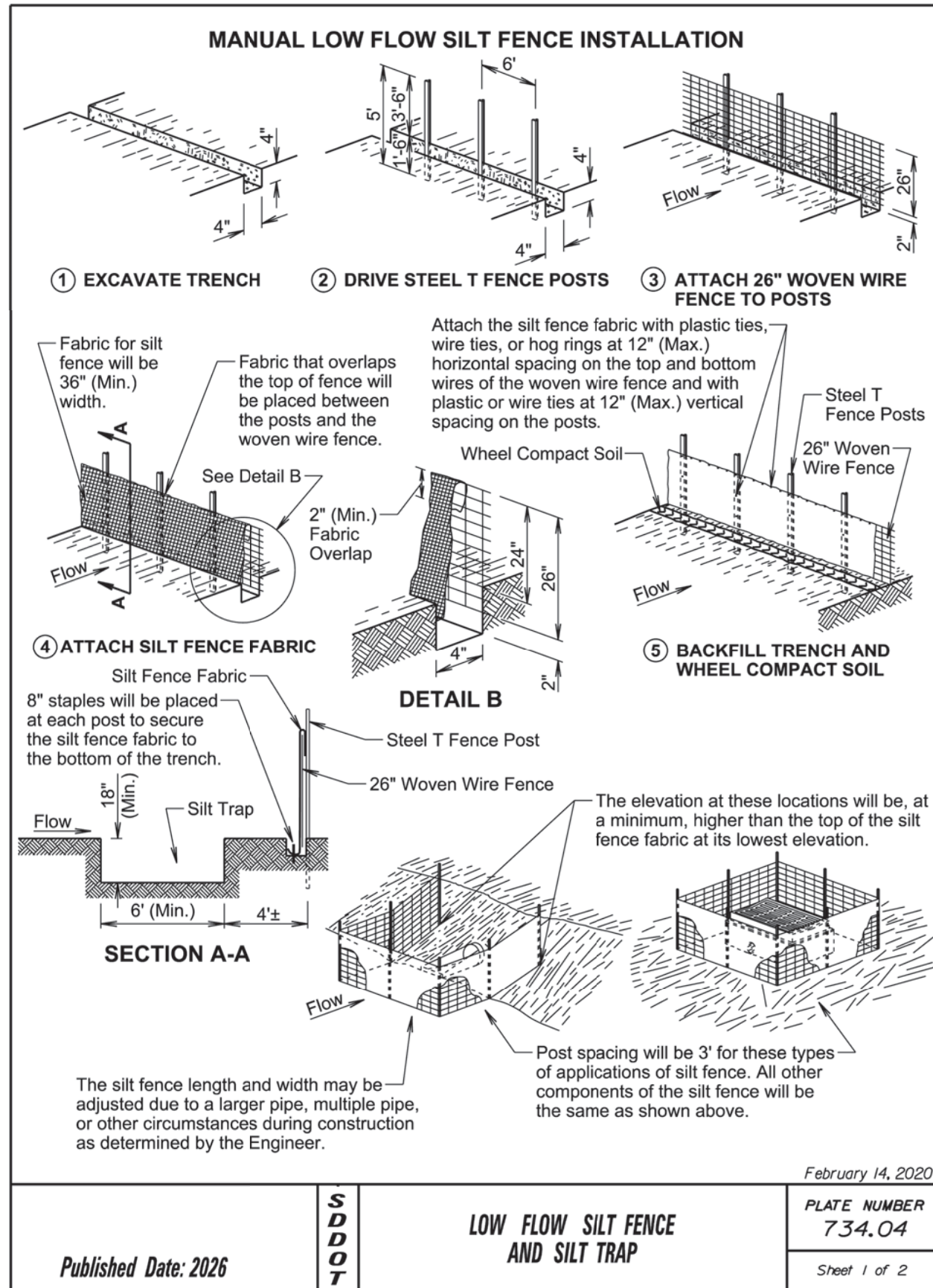
**EROSION CONTROL BLANKET**

PLATE NUMBER  
734.01

Sheet 1 of 1

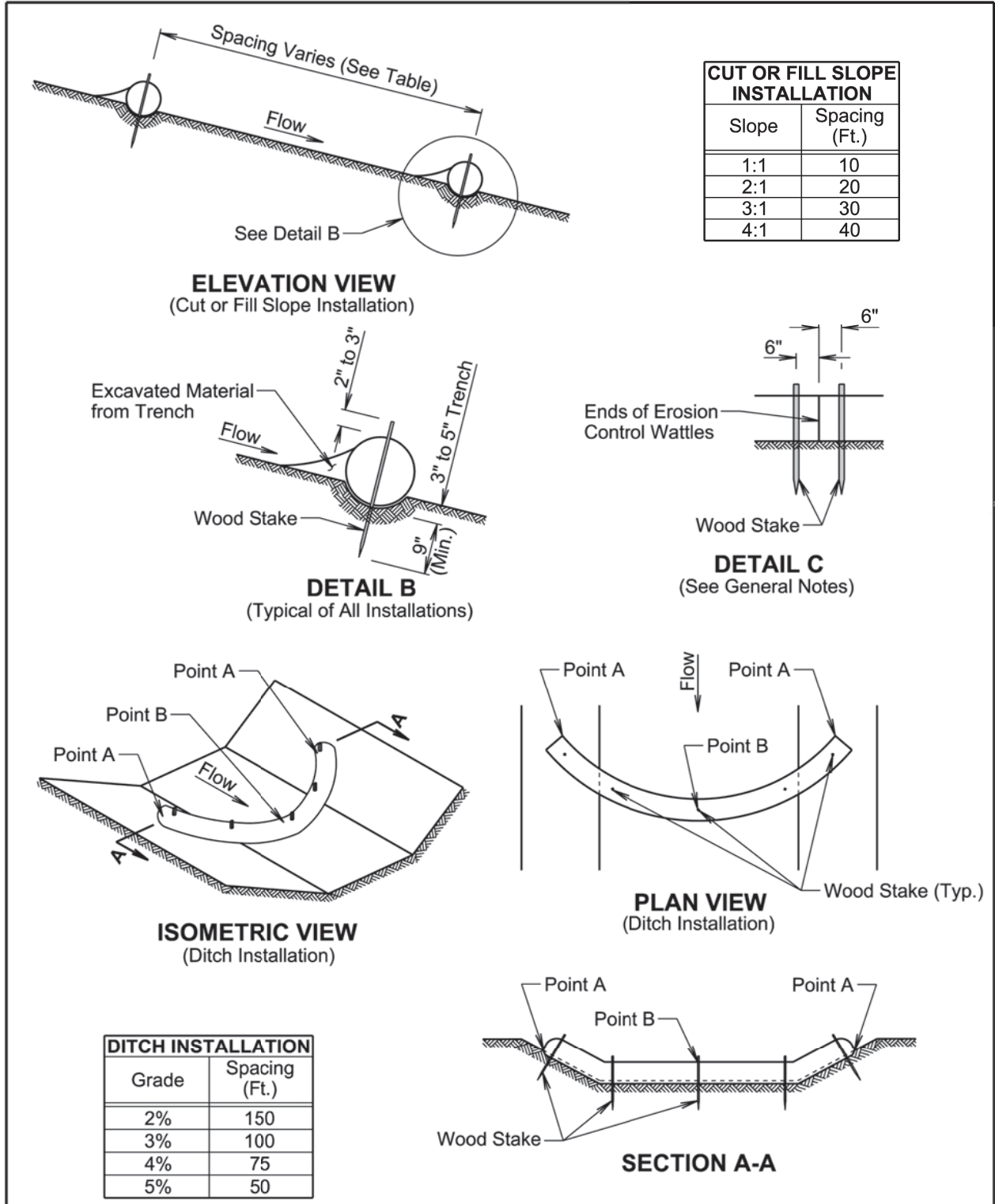
# EROSION CONTROL DETAILS FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	52	56
FILE: 674115 - Details.dwg			
PLOTTING DATE: 2026-01-23 INITIALS: LWM			
REVISION DATE:			



# EROSION CONTROL DETAILS FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	53	56
FILE: 674115 - Details.dwg			
PLOTTING DATE: 2026-01-23 INITIALS: LWM			
REVISION DATE:			



**GENERAL NOTES:**

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

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

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

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

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

The Contractor and Engineer will inspect the erosion control wattles in accordance with the storm water permit. The Contractor will remove, dispose, or reshape the accumulated sediment when necessary as determined by the Engineer.

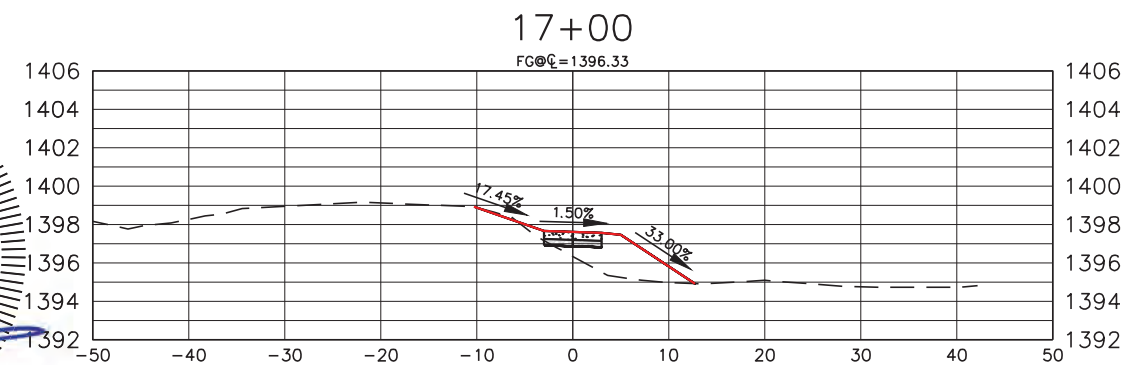
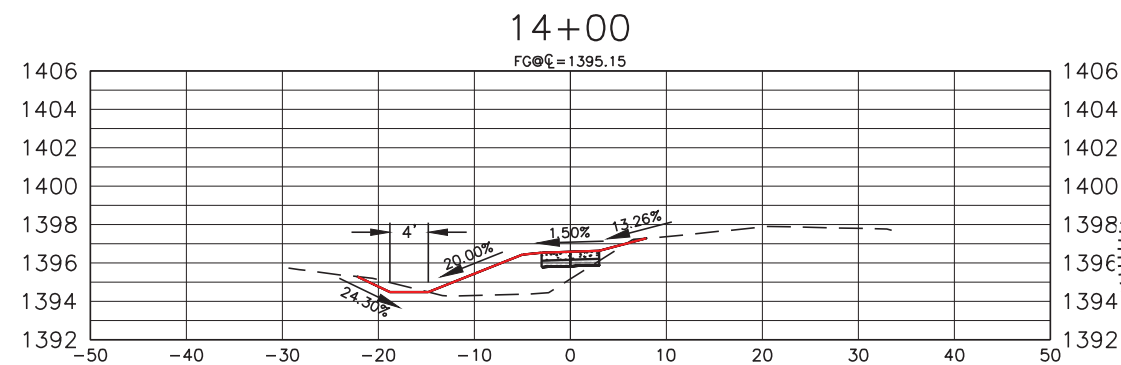
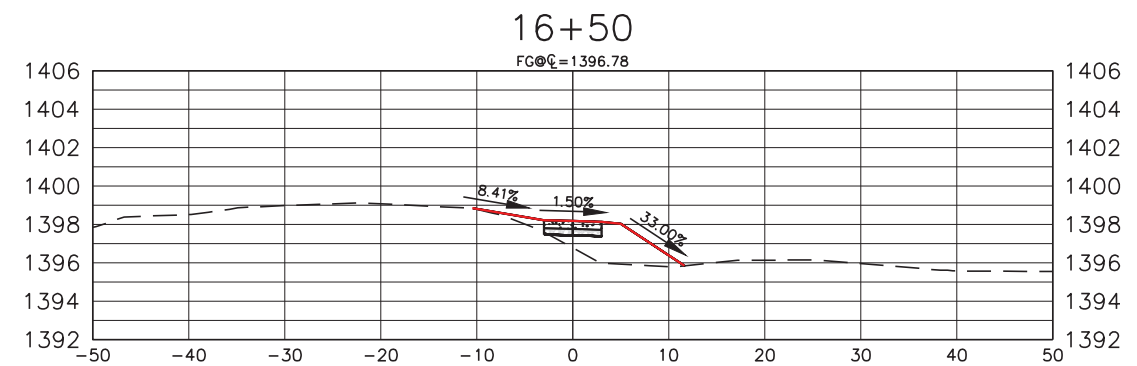
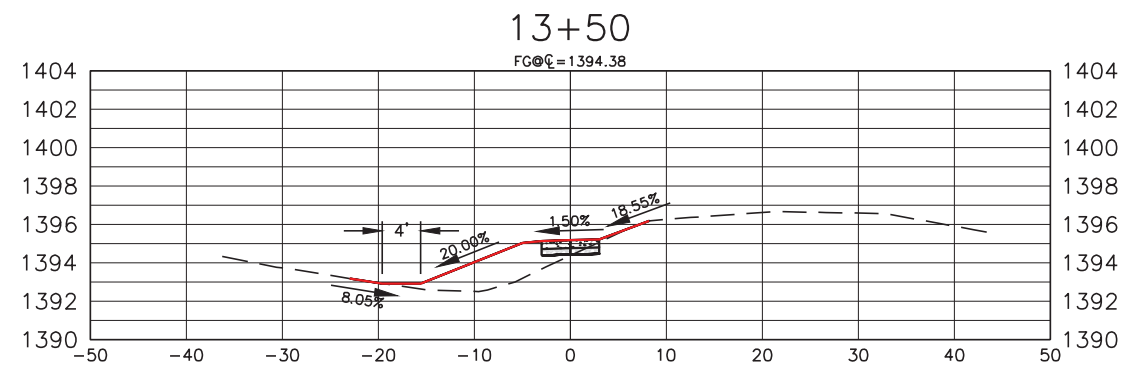
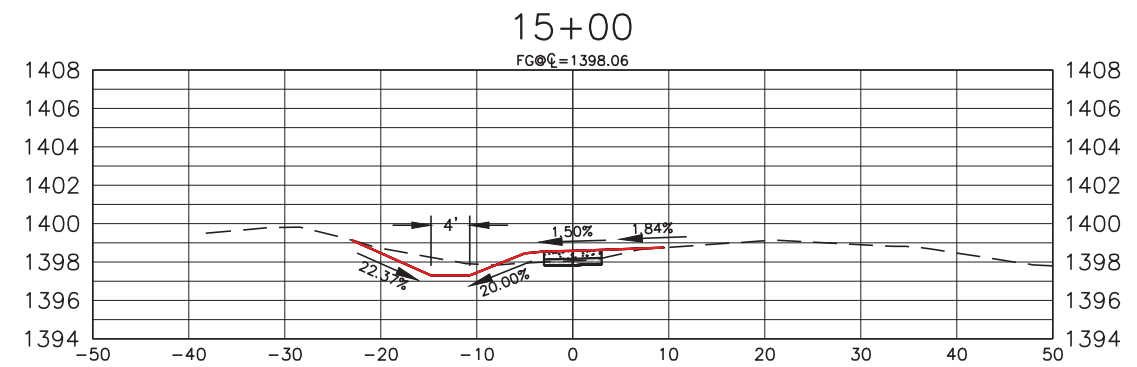
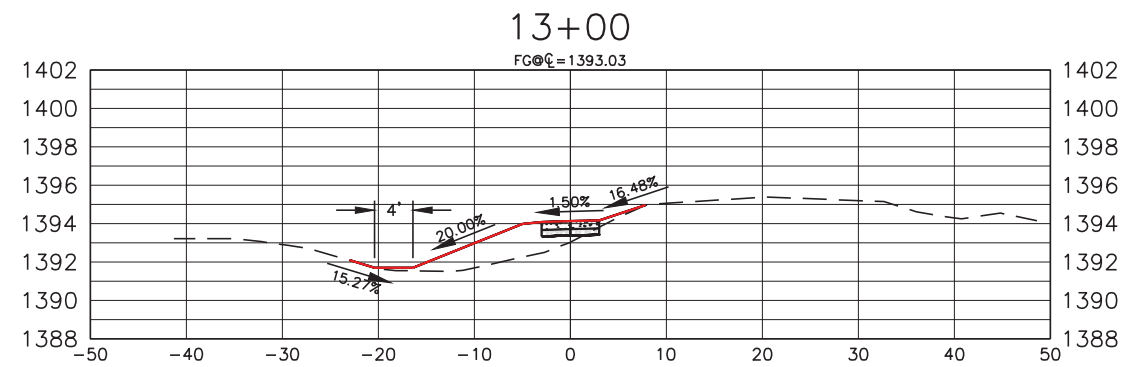
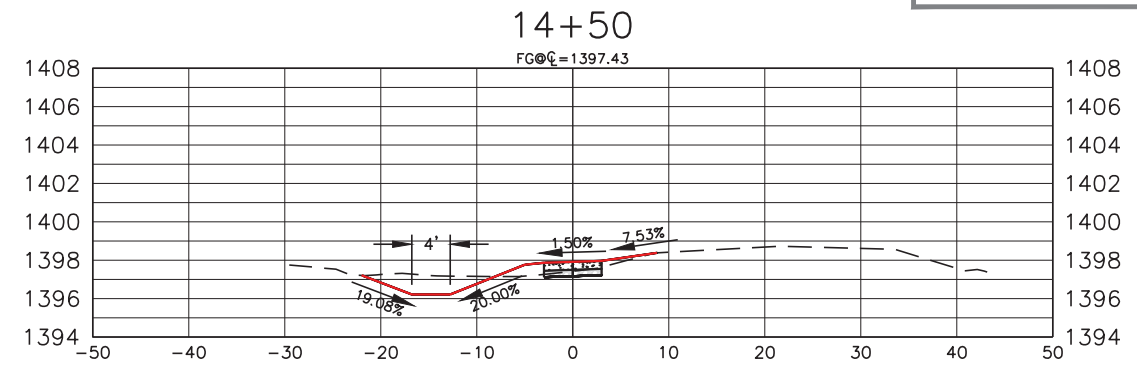
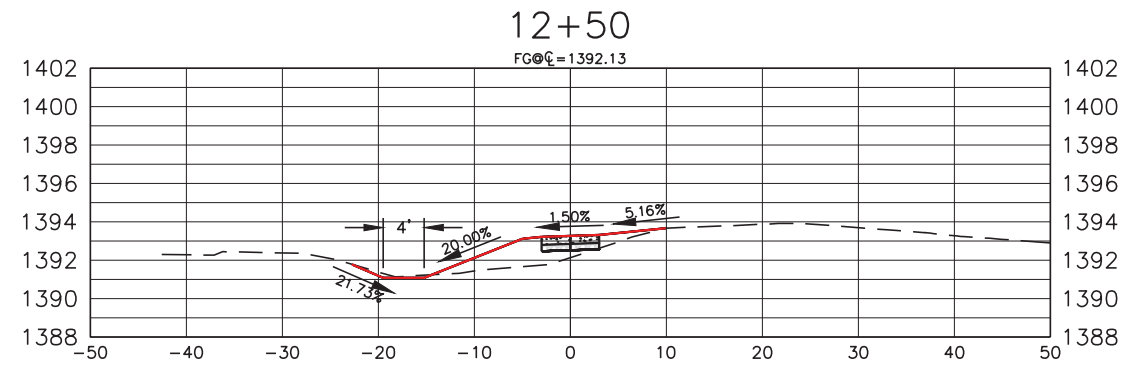
Sediment removal, disposal, or necessary shaping will be as directed by the Engineer. All costs for removing accumulated sediment, disposal of sediment, and necessary shaping will be incidental to the contract unit price per cubic yard for "Remove Sediment".

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

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

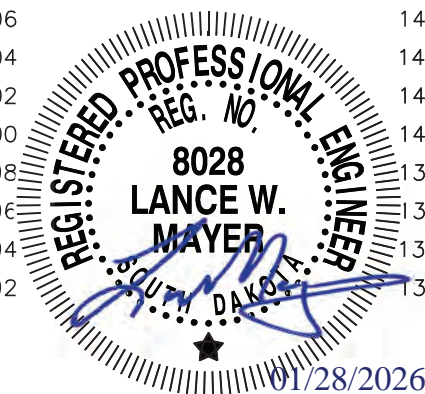
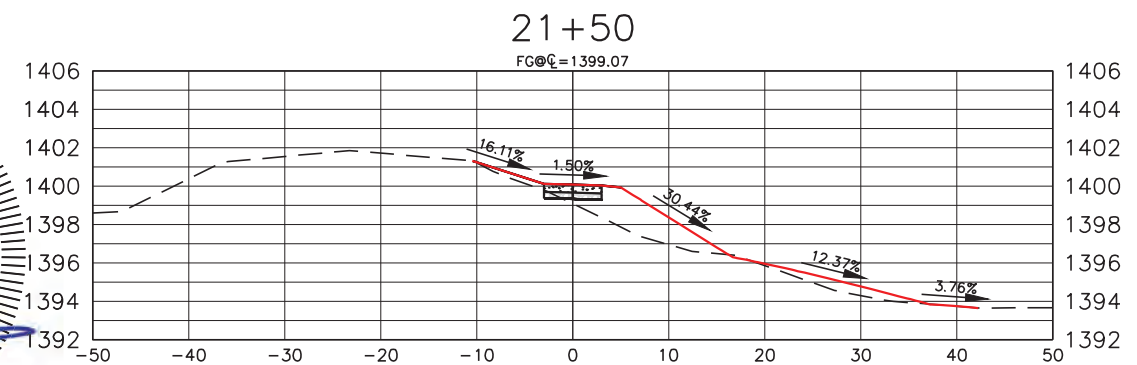
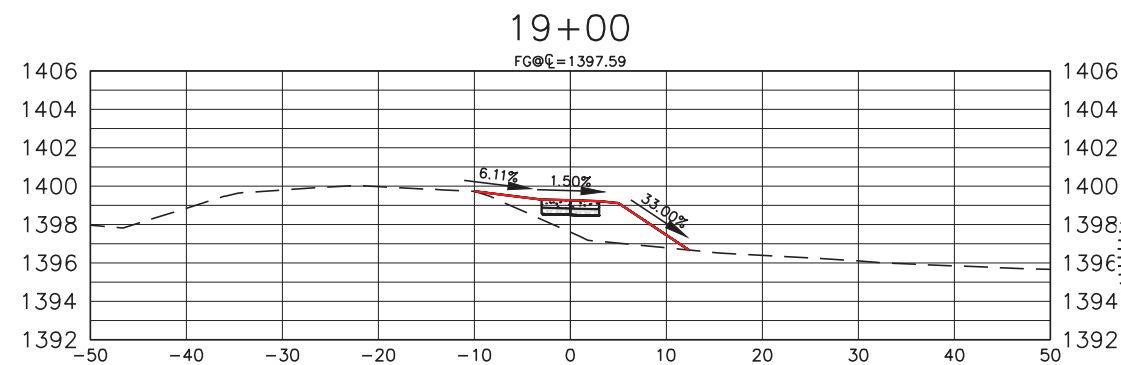
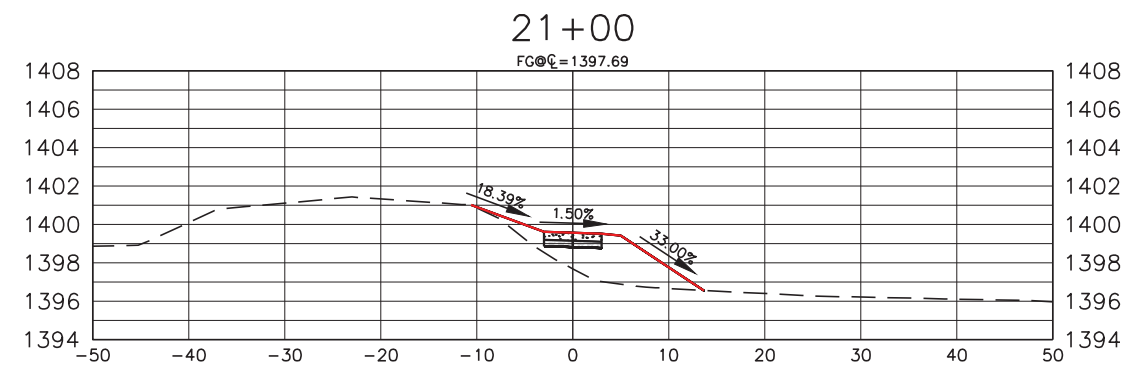
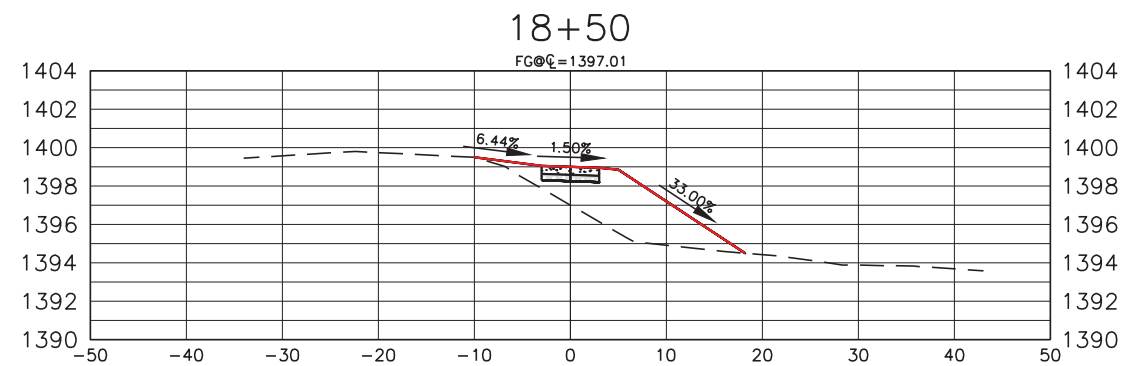
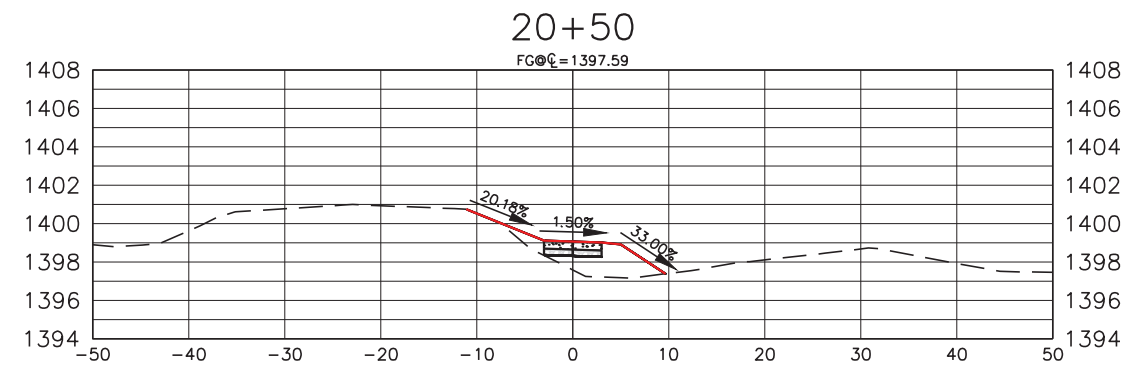
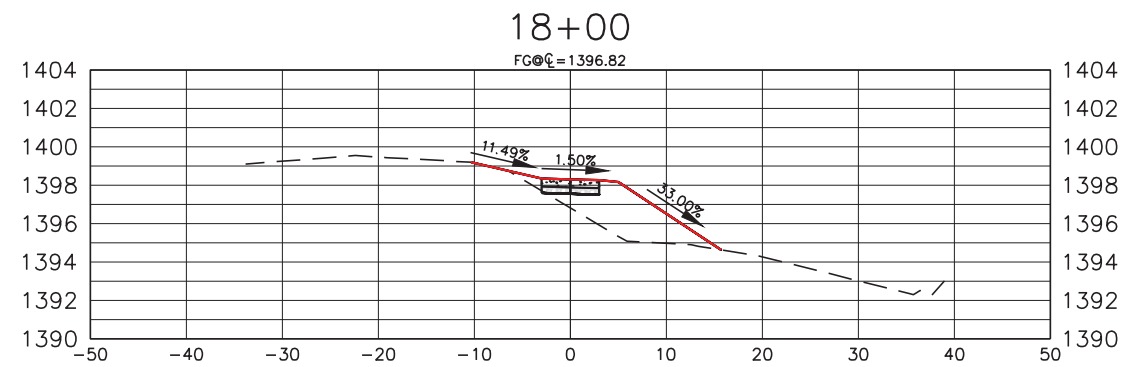
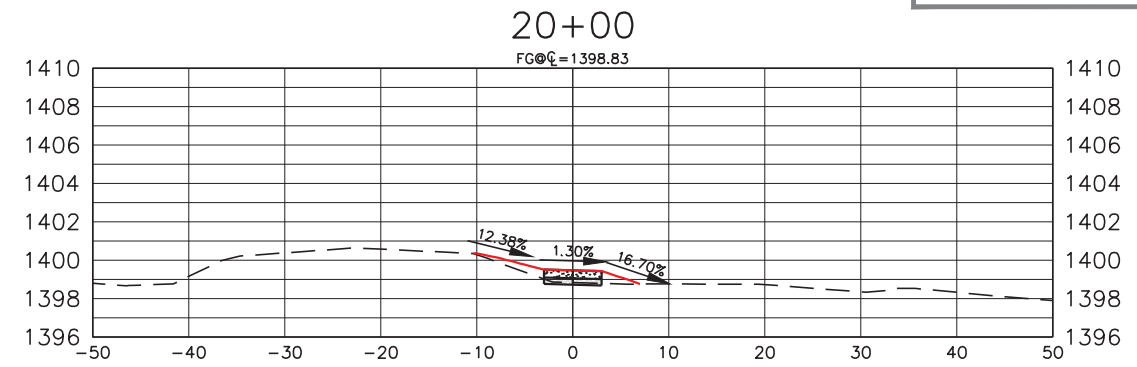
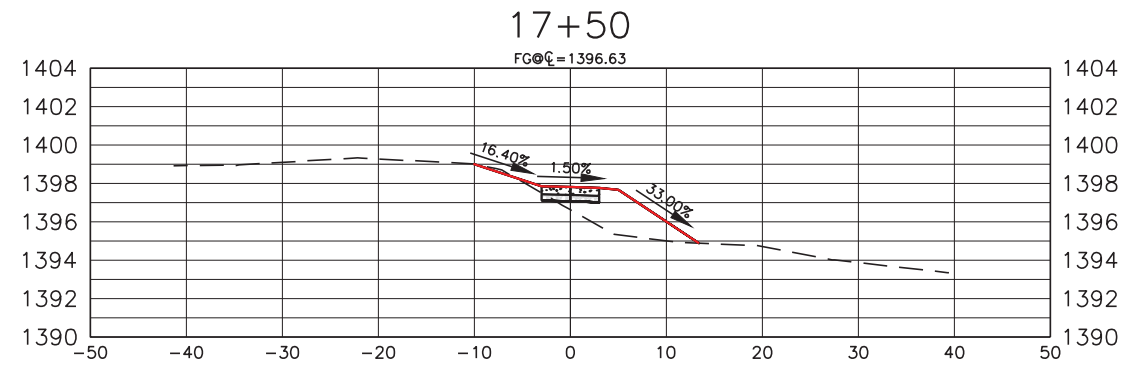
# CROSS SECTIONS FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P TAPR(54)	54	56
FILE: 674115 - Cross Sections.dwg			
PLOTTING DATE: 2026-01-23 INITIALS: LWM			
REVISION DATE:			



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