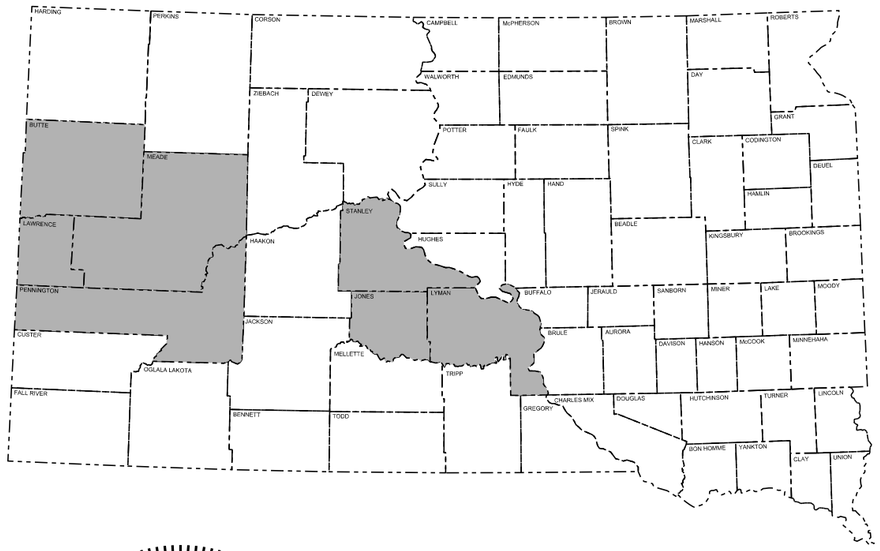


STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	1	57

Plotting Date: 3/25/2026

PLANS FOR PROPOSED

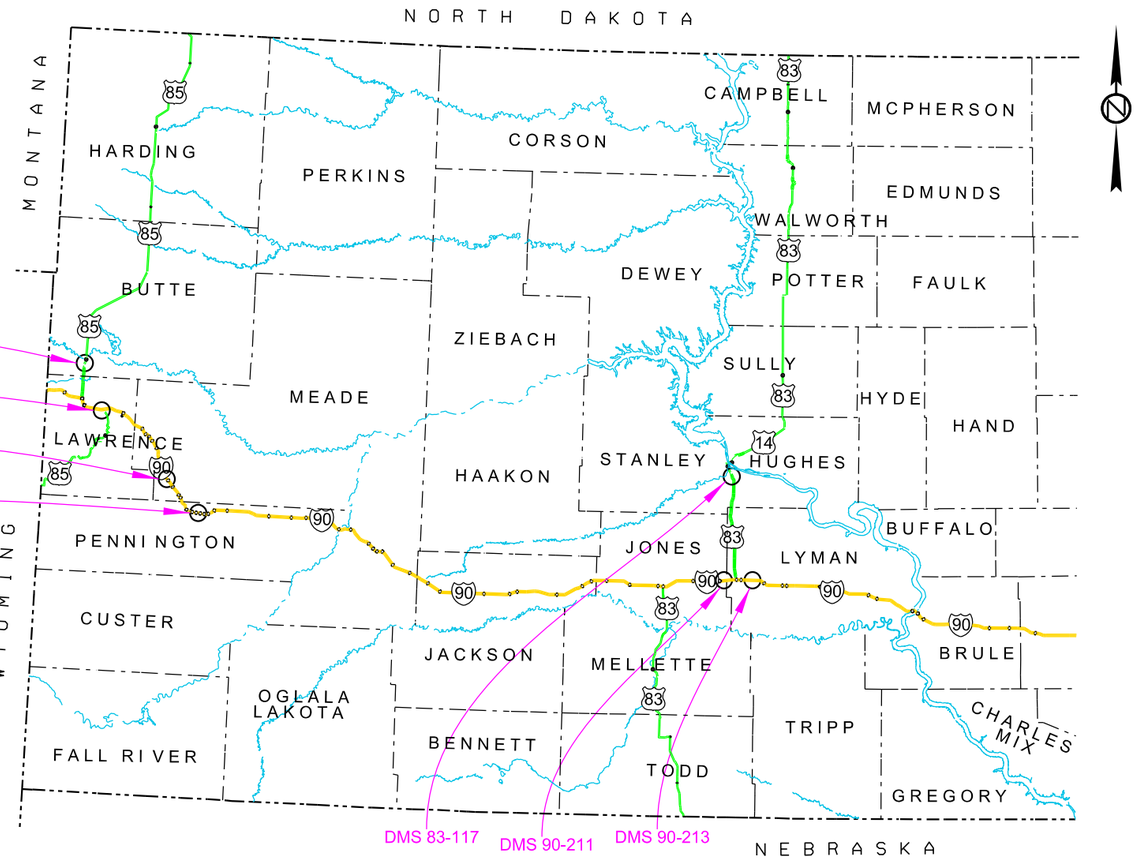
PROJECT CR 000S(418)
INTERSTATE 90
US HIGHWAYS 83 & 85
VARIOUS COUNTIES

DYNAMIC MESSAGE SIGNS
PCN 080J

INDEX OF SHEETS

REGISTERED PROFESSIONAL ENGINEER
REG NO.
8161
JOSH
LARSON
3-25-26
SOUTH DAKOTA

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
14561
JACOB HW
FOLKERINGA
3-25-26
SOUTH DAKOTA



McLaury ENGINEERING

BOLTON & MENK

DESIGN DESIGNATION
US 85 at MRM 54

AADT (2025)	11,950
AADT (2050)	18,451
DHV	2,257
D	50%
DHV T%	3.9%
AADT T%	8.6%
V	35 MPH

DESIGN DESIGNATION
I-90 at MRM 16

AADT (2025)	9,055
AADT (2050)	15,511
DHV	2,088
D	51%
DHV T%	7.0%
AADT T%	15.4%
V	75 MPH

DESIGN DESIGNATION
I-90 at MRM 50

AADT (2025)	11,970
AADT (2050)	20,624
DHV	2,775
D	51%
DHV T%	7.2%
AADT T%	15.8%
V	75 MPH

DESIGN DESIGNATION
I-90 at MRM 56

AADT (2025)	16,365
AADT (2050)	25,546
DHV	2,495
D	50%
DHV T%	4.4%
AADT T%	9.6%
V	65 MPH

DESIGN DESIGNATION
I-90 at MRM 211

AADT (2025)	3,815
AADT (2050)	5,784
DHV	954
D	51%
DHV T%	14.8%
AADT T%	32.6%
V	80 MPH

DESIGN DESIGNATION
I-90 at MRM 213

AADT (2025)	3,865
AADT (2050)	5,933
DHV	976
D	51%
DHV T%	11.6%
AADT T%	25.6%
V	80 MPH

DESIGN DESIGNATION
US 83 at MRM 117

AADT (2025)	3,717
AADT (2050)	5,791
DHV	856
D	50%
DHV T%	7.0%
AADT T%	15.4%
V	45 MPH

STORM WATER PERMIT

Major Receiving
Body of Water: Varies
Area Disturbed: 1.06 Acres
Total Project Area: 3.55 Acres

2

June 3, 2026

ESTIMATE OF QUANTITIES (Non-Section)

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3260	Miscellaneous Staking	Lump Sum	LS
009E3301	Engineer Directed Surveying/Staking	40.0	Hour
009E3305	As-Built Survey	Lump Sum	LS
009E4100	Construction Schedule, Category I	Lump Sum	LS
110E0100	Remove Concrete Footing(s)	Lump Sum	LS
110E0130	Remove Traffic Sign	1	Each
110E0700	Remove 3 Cable Guardrail	388	Ft
110E0740	Remove 3 Cable Guardrail Anchor Assembly	2	Each
120E0600	Contractor Furnished Borrow	61	CuYd
629E0110	High Tension 4 Cable Guardrail	1,656	Ft
629E0290	High Tension Cable Guardrail Anchor Assembly	12	Each
632E0064	3' Diameter Fixed Support Concrete Footing	48.0	Ft
632E0092	4.5' Diameter DMS Footing	77.0	Ft
632E2510	Type 2 Object Marker Back to Back	2	Each
632E2520	Type 2 Object Marker	10	Each
634E0110	Traffic Control Signs	642.8	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	4	Each
634E0420	Type C Advance Warning Arrow Board	3	Each
634E1255	Contractor Furnished Vehicle Speed Feedback Sign	2	Each
635E5100	Controller Cabinet Footing	2	Each
635E5302	Type 2 Electrical Junction Box	5	Each
635E5400	Electrical Service Cabinet	7	Each
635E5461	Type 1 Communication Cabinet	2	Each
635E5590	Vehicle Radar Detector	2	Each
635E5600	Surveillance Camera	7	Each
635E6220	Pole Mounted Dynamic Message Sign	5	Each
635E6240	Post Mounted Dynamic Message Sign	2	Each
635E8615	1.5" Conduit, SDR 13.5	910	Ft
635E9014	1/C #4 AWG Copper Wire	6,355	Ft
635E9022	1/C #12 AWG Copper Wire	880	Ft
734E0010	Erosion Control	Lump Sum	LS

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.

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 >

COMMITMENT E: STORM WATER

Construction activities constitute 1 acre or more of earth disturbance and/or work in a waterway.

Action Taken/Required:

The DANR General Permit for Stormwater Discharges Associated with Construction Activities is required for construction activity disturbing one or more acres of earth and work in a waterway. The SDDOT is the owner of this permit and will submit the NOI to DANR 15 days prior to project start in order to obtain coverage under the General Permit. Work can begin once the DANR letter of approval is received.

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

The Contractor will complete the DANR Contractor Authorization Form prior to the pre-construction meeting. The form certifies under penalty of law that the Contractor understands and will comply with the terms and conditions of the permit for this project. Work may not begin on this project until this form is signed and submitted to DANR.

The form can be found at:
<
https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/docs/DANR_CGPAppendixCCA2023Fillable.pdf >

The Contractor is advised that permit coverage may also be required for off-site activities, such as borrow and staging areas, which are the responsibility of the Contractor.

Storm Water Pollution Prevention Plan

The Storm Water Pollution Prevention Plan (SWPPP) will be developed prior to the submittal of the NOI and will be implemented for all construction activities for compliance with the permit. The SWPPP must be kept on-site and updated as site conditions change. Erosion control measures and best management practices will be implemented in accordance with the SWPPP.

The DOT 298 Form will be used for site inspections and to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents and retained for a minimum of three years.

The inspection will include disturbed areas of the construction site that have not been finally stabilized, areas used for storage materials, structural control measures, and locations where vehicles enter or exit the site. These areas will be inspected for evidence of, or the potential for, pollutants entering the drainage system. Erosion and sediment control measures identified in the SWPPP will be observed to ensure that they are operating correctly, and sediment is not tracked off the site.

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

SDDOT: < https://dot.sd.gov/doing-business/environmental/stormwater >

DANR:< https://danr.sd.gov/OfficeOfWater/SurfaceWaterQuality/stormwater/default.aspx >

EPA: < https://www.epa.gov/npdes >

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.

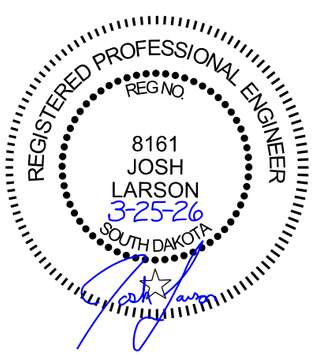
If the waste disposal site(s) is located such that it is within view of any ROW, the following additional requirements will apply:

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.

SCOPE OF WORK

Work on this project involves construction of Dynamic Message Signs (DMS) at various locations. The work includes guardrail to protect the DMS, electrical infrastructure to power the DMS, and system testing.

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 of 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 quantities are based on the guidance that the Contractor will have no more than three active work sites at any one time. This includes no more than two interstate sites and one non-interstate site at any one time. At interstate and/or expressway sites, the Contractor may close no more than one lane in each direction at a time. Deviation from these guidelines will require prior approval.

Guardrail will be installed prior to the installation of the DMS and DMS supports.

CONSTRUCTION STAKING

All DMS devices, junction boxes, and conduits will be adjusted in the field to minimize impacts to existing utilities and to conform to device details. Multiple conduits running in parallel will be placed in the same trench. Where possible, locate junction boxes near each other. DMS devices including communication cabinets will be constructed as near to design location as possible. Junction boxes and conduits may be adjusted.

All costs to provide construction staking will be incidental to the contract lump sum for "Miscellaneous Staking".

UTILITIES

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 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.

If utilities are identified near the improvement area through the SD One Call Process as required by South Dakota Codified Law 49-7A and Administrative Rule Article 20:25, the Contractor will contact the Engineer to determine modifications that will be necessary to avoid utility impacts.

GENERAL 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.

All temporary speed limit signs will have a minimum mounting height of 5 feet in rural locations, even when mounted on portable supports.

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.

All fixed location signs, sign posts, and breakaway bases will be removed within 7 calendar days following completion of work at the site location.

A Type 3 Barricade will be installed at the end of a lane closure taper as detailed in these plans.

Construction vehicles will exit or enter the construction work zone at locations identified by the Engineer. At no time will construction vehicles utilize the maintenance crossovers or the Interstate median to exit or enter Interstate traffic.

ADVANCE WARNING ARROW BOARDS

The Contractor will provide 3 advance warning arrow boards to direct traffic as shown on Standard Plates 634.60, 634.63, 634.64, and 634.70.

All costs associated with furnishing, maintaining, transporting, relocating if necessary, and removing the advance warning arrow board from locations specified by the Engineer will be incidental to the contract unit price per each for "Type C Advance Warning Arrow Board".

CONTRACTOR FURNISHED VEHICLE SPEED FEEDBACK SIGN

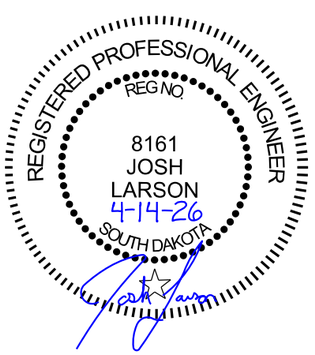
The Contractor will provide 2 radar speed feedback trailers to monitor traffic speeds as shown on Standard Plate 634.63.

The radar speed feedback sign assembly will include a speed limit sign mounted in conjunction with the radar speed feedback display. The speed display will not flash vehicle speeds exceeding the speed limit or any other messages.

All costs associated with furnishing, maintaining, transporting, relocating if necessary, and removing the radar speed feedback trailers from locations specified by the Engineer will be incidental to the contract unit price per each for "Contractor Furnished Vehicle Speed Feedback Sign".

WORK ZONE SPEED REDUCTION

The Department is required to obtain a speed reduction resolution prior to the installation of any SPEED LIMIT (R2-1) signs shown on standard plate 634.63. To provide adequate time for the resolution to be enacted, the Contractor will inform the Engineer a minimum of 3 weeks prior to the scheduled installation of any work zone speed reduction signs on the project. The information provided by the Contractor will include the anticipated date of sign installation, the newly reduced speed limit, the location of the work zone, and the anticipated completion date of work requiring the speed reduction.



EROSION CONTROL

The estimated area requiring erosion control is 1.1 Acres. All costs for the erosion control work for furnishing, placing, and maintaining erosion control including equipment, labor, seeding, fertilizing, and mulching will be incidental to the contract lump sum price for “Erosion Control”.

The limits of erosion control work will be determined by the Engineer during construction.

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 100,000 live propagules of mycorrhizal fungi per acre.

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

https://apps.sd.gov/HC60ApprovedProducts/main.aspx

Fertilizing

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

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

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

https://apps.sd.gov/HC60ApprovedProducts/main.aspx

Permanent Seeding

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

Type G Permanent Seed Mixture will consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Arriba, Flintlock, Rodan, Rosana, Walsh	7
Switchgrass	Dacotah, Forestburg, Nebraska 28, Pathfinder, Summer, Sunburst, Trailblazer	3
Indiangrass	Holt, Tomahawk, Chief, Nebraska 54	3
Big Bluestem	Bison, Bonilla, Champ, Sunnyview, Rountree, Bonanza	3
Oats or Spring Wheat: April through May; Winter Wheat: August through November		10
	Total:	26

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 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:

https://apps.sd.gov/HC60ApprovedProducts/main.aspx

SUPPLYING AS-BUILT PLANS

The Contractor will supply as-built plans, in MicroStation (.dgn) format, to the Engineer and a copy will be sent to the Region Traffic Engineer and to the SDDOT ITS Program Manager. The CADD file will accurately locate the conduit and devices within 0.5 foot in the x,y direction and note changes in depth greater than 3 feet. The as-built plans will include conduit layouts, wiring diagrams, or other drawings depicting the changes from the original plans. As-built plans will be completed within 3 months of installation of last devices and conduits.

All costs to provide as-built plans will be incidental to the contract lump sum price for “As-Built Survey”.

SHOP DRAWING AND CATALOG CUTS SUBMITTALS

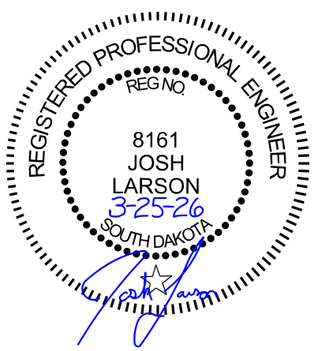
The Contractor will submit shop drawings and catalog cuts in accordance with Section 985 of the Specifications.

PDF submittals will be sent to the following email addresses for review and remarks:

JLarson@McLauryEngineering.com
jacob.folkeringa@bolton-menk.com
Dave.Huft@state.sd.us
Patrick.Brueggeman@state.sd.us

TAX LIABILITY

The SD Department of Transportation is a South Dakota sales tax-exempt government entity. Therefore, a Certificate of Exemption will be provided to the successful bidding party which excuses the party from paying sales tax on the materials being furnished to the SDDOT. It is the responsibility of bidding parties to contact the SD Department of Revenue @ 1-800-829-9188 to determine tax licensure requirements.



STATE FURNISHED MATERIALS

Cellular Modems, Antennas, and Power Supply

The cellular modems, antennas, and power supplies will be pre-purchased by the Department of Transportation. The modems, antennas, and power supplies will be available for delivery on or before June 30, 2026. The Department will supply, install, and configure the modems. The make and model numbers are shown below for information.

Cellular Modems and Firewalls	Fortinet FortiGate FGR-50G-5G Rugged Cellular Modem and Firewall
Antennas	Airgain AP-RT5G-C4G-Q-B1 RECON 13 5G EZConnect antenna with MIMO 5G (600MHz – 6GHz) x 4 cellular, GNSS, threaded bolt mount, 1' coax
Antenna Cables	Airgain CCH-C4-1-5 Cable Harness 5'-SMA
	Airgain CCH-C4-1-30 Cable Harness 30'-SMA
Power Supplies	TDK-Lambda DPP120-24-1 24 VDC, 5A Power Supply for Cellular Modem

Eight total units will be purchased. Seven units will be installed, and One units will be spares for SDDOT to have on hand.

The cost of the materials for tax purposes is $19,952.00. The Contractor is responsible for paying State use tax, applicable City use tax and excise tax on these materials.

All costs associated with this work will be included in the contract unit price per each for "Type 1 Communication Cabinet" or associated DMS bid item being provided.

REMOVE TRAFFIC SIGN

Existing signs that are shown as being removed on the plans will become the property of the Contractor. Existing signposts and bases will be removed in their entirety. All existing signs, posts, and/or hardware removed will not be reused. Holes remaining from the removal of wood posts will be backfilled and compacted with material placed in layers not to exceed 6 inches in depth.

Flashing beacons and associated electrical will be removed and all underground power will be abandoned to the electrical service at this location.

All costs associated with the removal of existing signs, flashing beacons and associated electrical items, posts, hardware, and backfilled holes will be incidental to the contract unit price per each for "Remove Traffic Sign". Quantities will be per assembly at the contract unit price per each.

TABLE OF REMOVE TRAFFIC SIGN

Sign Description	Location	Northing-Easting	(Each)
I90 CLOSED WHEN FLASHING	Southbound US83 MRM 117.33	730786.714 1960835.216	1
		TOTAL:	**1**

REMOVE CONCRETE FOOTING

Concrete footings at the I90 CLOSED WHEN FLASHING SIGN being removed with this project will be removed by the Contractor to a minimum of 2' below the ground surface. Restoration of the disturbed area will be to the satisfaction of the Engineer.

All costs for removing the concrete footings will be incidental to the contract lump sum price for "Remove Concrete Footing(s)".

ON-SITE INSPECTION

An on-site inspection of the DMS equipment will be conducted before acceptance of each DMS, once the DMS equipment is installed and operational. The on-site inspection will be conducted by Project Engineer with the Contractor, and the ITS Engineer present. See ITS Special Provision for standalone, subsystem and system testing and acceptance.

POLE MOUNTED DYNAMIC MESSAGE SIGN (DMS)

See Section 2.0 Dynamic Message Signs of the ITS Special Provision for DMS requirements. The Contractor will furnish and install Pole Mounted Dynamic Message Sign (DMS) as shown on the plans. The Contractor will be responsible for the design of the pole and the pole mounting to the SDDOT designed footing to support the DMS sign. The design and installation will include all wiring conduit on or within the pole and structure. The Contractor will submit a detailed plan for the complete pole mounted structure on SDDOT designed footing. The plan must be stamped by a Professional Engineer registered in South Dakota.

The following DMS, or an approved equal, will be used for the Pole Mounted Dynamic Message Sign:

Daktronics: VF-2020-96x288-20-RGB

All costs for labor and material, design, installing, miscellaneous cabling, the Multimode Fiber Optic Cable and the Outdoor Rated Cat6 Cable to the Communication Cabinet and testing the Pole Mounted Dynamic Message Sign as called out on the plans and as specified in the ITS Special Provision will be incidental to the contract unit price per each for "Pole Mounted Dynamic Message Sign".

TABLE OF POLE MOUNTED DYNAMIC MESSAGE SIGN

DMS ID (Hwy-MRM)	Direction	Northing-Easting	(Each)
90-16	WB	256871.916 987457.540	1
90-50	EB	142632.581 1097211.402	1
90-56	WB	660144.673 1200973.903	1
90-211	EB	575202.717 1964704.378	1
90-213	WB	575629.901 1983770.750	1
		TOTAL:	**5**

POST MOUNTED DYNAMIC MESSAGE SIGN (DMS)

See Section 2.0 Dynamic Message Signs of the ITS Special Provision for DMS requirements. The Contractor will furnish and install Post Mounted Dynamic Message Sign (DMS) where shown on the plans. The Contractor will be responsible for the design of the supports and the mounting of the DMS to the SDDOT designed footings to support the post mounted DMS sign. This design will follow the associated footing and erection details in these plans. The design and installation will include the supports, stiffeners, wiring conduit, and the supplying, installing and mounting of the post mounted DMS communication enclosure as detailed in the plans. The Contractor will submit a detailed plan for the support mounted on SDDOT designed footings. The plan must be stamped by a Professional Engineer registered in South Dakota.

The following DMS, or an approved equal, will be used for the Post Mounted Dynamic Message Sign:

Daktronics: VF-2420-96x224-20-RGB

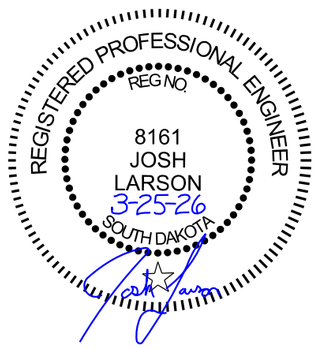
The following enclosure, or an approved equal, will be used for the Post Mounted DMS Communication Enclosure:

Enclose Manufacturing: ENC-6029-3

All costs for labor and material, design, installing, miscellaneous cabling, post mounted DMS communication enclosure, supports, stiffeners, mounting brackets, and testing the Post Mounted Dynamic Message Sign as called out on the plans and as specified in the ITS Special Provision will be incidental to the contract unit price per each for "Post Mounted Dynamic Message Sign".

TABLE OF POST MOUNTED DYNAMIC MESSAGE SIGN

DMS ID (Hwy-MRM)	Direction	Northing-Easting	(Each)
85-54	SB	322504.110 964425.781	1
83-117	SB	732729.839 1959516.441	1
		TOTAL:	**2**



SURVEILLANCE CAMERA (CCTV)

See Section 3.0 Closed Circuit Television Cameras of the ITS Special Provision for Closed Circuit Television Camera requirements. Closed Circuit Television Cameras will be installed where shown in the plans and in accordance with the plan details and ITS Special Provision.

The Contractor will be responsible for the design and installing of the mounting brackets for the CCTV to the DMS support. The CCTV will be mounted as show on the plans. The Contractor will submit a detailed plan for the CCTV mounting brackets. The plan must be stamped by a Professional Engineer registered in South Dakota.

All costs for labor and material, including design, supplying, installing, and testing the surveillance cameras, the Outdoor Rated Cat6 Cable from the cabinet to the camera, the media converters, mounting brackets, and hardware will be included in the contract unit price per each for “Surveillance Camera”.

TABLE OF SURVEILLANCE CAMERA (CCTV)

Device ID	DMS (Hwy-MRM)	Quantity (Each)
CCTV01	85-54	1
CCTV02	90-16	1
CCTV03	90-50	1
CCTV04	90-56	1
CCTV05	90-211	1
CCTV06	90-213	1
CCTV07	83-117	1
	TOTAL:	**7**

VEHICLE RADAR DETECTOR (VRD)

Vehicle Radar Detector (VRD) will be installed where shown in the plans and in accordance with the plan details and Section 5.0 of the ITS Special Provision.

The Contractor will be responsible for the design and installing of the mounting brackets for the VRD to the DMS support. The VRD will be mounted as show on the plans. The Contractor will submit a detailed plan for the VRD mounting brackets. The plan must be stamped by a Professional Engineer registered in South Dakota.

The following VRD, or an approved equal, will be used for the Vehicle Radar Detector:

Houston Radar LLC: SpeedLane Pro Pro KIT-SLP-0003

All costs for labor and material, including design, supplying, installing, and testing the vehicle radar detector, mounting brackets, cabling, and hardware will be included in the contract unit price per each for “Vehicle Radar Detector”.

TABLE OF VEHICLE RADAR DETECTOR (VRD)

Device ID	DMS (Hwy-MRM)	Quantity (Each)
VRD01	90-56	1
VRD02	90-213	1
	TOTAL:	**2**

DYNAMIC MESSAGE SIGN OVERVIEW TABLE

DMS ID (Hwy-MRM)	Pole Mounted DMS	Post Mounted DMS	Surveillance Camera	Vehicle Radar Detector
85-54		1	1	
90-16	1		1	
90-50	1		1	
90-56	1		1	1
90-211	1		1	
90-213	1		1	1
83-117		1	1	
Total:	**5**	**2**	**7**	**2**

COMMUNICATION CABINETS

See Section 4.0 Communication Cabinets of the ITS Special Provision for Communication Cabinet requirements. Communication Cabinets will be installed where shown in the plans and in accordance with the plan details and ITS Special Provision.

The Contractor will install Communications Cabinets at locations as shown on the plans. Communication Cabinets will be defined as follows (Length x Width x Height):

- Type 1 Communication Cabinet – 30”x24”x66”

The following Communication Cabinet, or an approved equal, will be used:

Enclose Manufacturing: ENC-2025I

All costs for furnishing, installing, and configuring the Communications Cabinet, including all components within and attached to the cabinet, and spare conduits as specified in the plans will be incidental to the contract unit price per each for “Type 1 Communication Cabinet”. All Type 1 Communication Cabinets will be installed on a “Controller Cabinet Footing” as detailed in these plans.

TABLE OF TYPE 1 COMMUNICATION CABINETS

Item ID	DMS (Hwy-MRM)	Northing-Easting	Quantity (Each)
SC01	90-50	142625.028 1097213.183	1
SC02	90-56	660146.710 1200966.415	1
		TOTAL:	**2**

ELECTRICAL SERVICE CABINET

The Contractor will contact and coordinate work with the Utility Companies regarding hookup requirements, fees, materials, and equipment necessary.

To better assist the Contractor during construction, each Utility Company has been previously notified of the project. The following utility company contact information for each DMS site is as follows:

DMS ID	Utility Company	Name	Phone Number
85-54	Black Hills Energy	Aaron Scherer	(605) 645-3904
90-16	Black Hills Energy	Aaron Scherer	(605) 645-3904
90-50	Black Hills Energy	Aaron Scherer	(605) 645-3904
90-56	Black Hills Energy	Aaron Scherer	(605) 645-3904
90-211	West Central Electric Coop	Scott Kittleson	(605) 669-8100
90-213	West Central Electric Coop	Scott Kittleson	(605) 669-8100
83-117	Fort Pierre Municipal	Terry Schroer	(605) 223-7690

All costs for furnishing and installing materials from the electrical service cabinet to the transformer including labor, equipment, hookup fees, all items within the cabinet, lockable enclosure with receptacle outlet, lock and keys, post, concrete footing, post cap, meter socket, conduit and incidentals will be incidental to the contract unit price per each for "Electrical Service Cabinet".

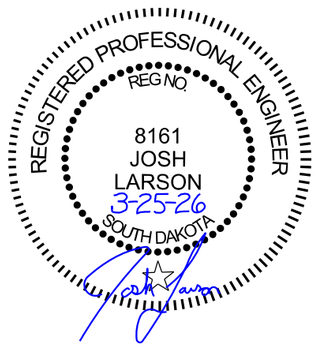


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TABLE OF ELECTRICAL SERVICE CABINETS

Item ID	DMS (Hwy-MRM)	Northing-Easting	Electrical Service Cabinet (Each)
ESC01	85-54	322506.110 964367.456	1
ESC02	90-16	256939.119 987463.486	1
ESC03	90-50	142614.132 1097107.893	1
ESC04	90-56	660213.285 1200984.429	1
ESC05	90-211	575160.531 1965013.254	1
ESC06	90-213	575686.422 1983770.673	1
ESC07	83-117	732692.455 1959472.270	1
		TOTAL:	**7**

UTILITY APPROVED METER SOCKETS FOR ELECTRIC SERVICE

The meter sockets will be provided where shown on the drawings and will be a utility approved meter socket appropriate for the electrical service it is connected to. All costs for coordinating and installation of meter sockets will be incidental to the contract unit price per each for "Electrical Service Cabinet".

GROUNDING RODS

The Contractor will furnish and install grounding rods at locations as shown on the plans and as specified in the special provision. The payment for supplying and installing ground rods will be incidental to the contract unit price per each for the device the ground rods are installed on.

MULTIMODE FIBER OPTIC CABLE

Multimode Fiber Optic Cable will meet the following requirements:

- Micro pigtail shall be designed for outdoor use.
- Storage Temperature -40 °C to 70 °C (-40 °F to 158 °F)
- Installation Temperature -30 °C to 70 °C (-22 °F to 158 °F)
- Operation Temperature -40 °C to 70 °C (-40 °F to 158 °F)
- Minimum Static Bend Radius 4.95” (12.5 cm)
- Outer Diameter 0.227” (4.9 mm)
- Fiber Count Six (6)
- Outer Jacket Material: Flame retardant PVC
- 50/125 µm MM graded index, OM3 standard compliant laser optimized
- Attenuation: 3db/KM
- 850/1310 nm wave length
- Tight buffer plenum cable
- UL Listed Type OFNP, CSA FT-6
- Meets NEC sections 770-51 (a) and 770-53 (a)

OUTDOOR RATED CAT6 CABLE

Outdoor Rated Cat6 Cable will meet the following requirements:

- Use UL listed Cables.
- Outdoor rated
- Maximum diameter less than or equal to 0.40” (10.0 mm)
- Contains four balanced twisted pair conductors with a characteristic impedance of 100 ohms, +/- 15
- Conductors are 22 to 24 AWG solid annealed bare copper, held in place by a cross web separator and surrounded by a water blocking material
- The outer jacket material is a sunlight and weather resistant black polyethylene.
- Tested and verified as being compliant with the ANSI/TIA 568-C.2 CAT 6 performance specification.

CONDUIT INSTALLATION

Each end of each conduit will be marked with a ½-inch dia. x 12-inch long reinforcing bar driven flush with the finished grade, except when the conduit end terminates inside a junction box. The ends of each conduit run will be capped to prevent water and soil from entering.

SDR 13.5 CONDUIT (HDPE)

Conduit will meet the following requirements:

- Compliant with NFPA70, National Electric Code
- UL listed
- Meets NEMA TC-7
- Have smooth interior & exterior walls

TRACER WIRE

The Contractor will furnish and install tracer wire with all conduits. The payment for supplying, installing, and testing will be incidental to the contract unit price per foot for “1.5” Conduit, SDR 13.5”.

GROUNDING WIRES

Grounding wires from individual devices combine to share a common ground back from the devices back to the communication cabinets.

JUNCTION BOXES

The Contractor will furnish and install junction boxes as specified in the plans. Cabling and splices will be high quality and waterproof. If cable splices are necessary, they will be located in a junction box and meet SDDOT specifications.

The cover of the junction box will be labeled with “SDDOT” and their phone number instead of the logo as specified on the standard plate 635.65.

All costs to furnish and install junction boxes will be incidental to the contract unit price per each for “Type 2 Electrical Junction Box”. See standard plate 635.65.

TABLE OF TYPE 2 ELECTRICAL JUNCTION BOX

Item ID	DMS (Hwy-MRM)	Northing-Easting	Quantity (Each)
JA01	85-54	322506.463 964410.300	1
JA02	90-16	256884.225 987459.134	1
JA03	90-211	575191.655 1964704.573	1
JA04	90-213	575641.196 1983771.037	1
JA05	83-117	732717.762 1959500.990	1
		TOTAL:	**5**

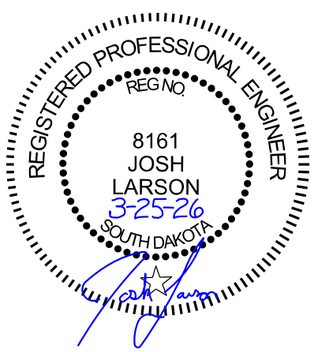
TESTING

See Section 6.0 Testing of the ITS Special Provision for Testing requirements.

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. The plans quantity for “Contractor Furnished Borrow” as shown in the Estimate of Quantities will be the basis of payment for this item.

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



HIGH TENSION CABLE GUARDRAIL

The Contractor will furnish and install a high tension cable guardrail system that meets the Test Level 3 crash testing requirements of the Manual for Assessing Safety Hardware (MASH). The maximum dynamic deflection of the system will be less than 10'-0" and the maximum post spacing will be 10'-6" unless specified otherwise in the plans. High Tension 4 Cable Guardrail will be one of the following products:

Valtir (Trinity) – CASS S3 M10
Brifen – 4 Rope O-Post System

The Contractor will install the system according to the manufacturer's installation recommendations except where stated otherwise in the plans. A copy of the detail drawings and installation instructions for the high tension cable guardrail and anchor assemblies will be given to the Engineer a minimum of 4 weeks prior to installation of the high tension cable guardrail system.

All posts will be galvanized and inserted into driven galvanized steel sleeves with soil plates. The driven sleeves must be designed for a minimum frost depth of 42" and to resist the additional lateral component of curved cable sections.

Delineation of the high tension cable guardrail will be in conformance with standard plate 632.40.

The cables provided will be pre-stretched in the factory.

The Contractor will check and adjust the tension of the cables a minimum of 3 weeks after installation and not longer than 6 weeks after installation. Cost for this work will be incidental to the contract unit price per foot for "High Tension 4 Cable Guardrail".

High tension cable guardrail will be installed on a 10:1 or flatter slope and the embankment limits will match the high tension cable guardrail limits. The embankment quantities may vary from plans quantity.

The lengths of high tension cable guardrail stated in the plans are based on a minimum effective length (length of need). The length and location of the high tension cable guardrail at each site will need to be adjusted during construction as necessary depending on the system provided and will be approved by the Design Engineer before installation. When the Valtir (Trinity) CASS S3 M10 system is installed adjacent to one-way traffic roadways, 26' of the anchor assembly on the approach end is considered non-effective, and 51' on the non-approach end is considered non-effective; however, when the same system is installed adjacent to two-way traffic roadways, 26' of the anchor assembly on both the approach and non-approach ends is considered non-effective. For Brifen 4 Rope O-Post System installations, the anchor assembly is non-effective.

The Contractor will provide a signed letter of compliance to the Engineer upon completion of the high tension cable guardrail installation(s) stating that the high tension cable barrier system has been installed in conformance to the manufacturer installation instructions and specifications, meets the Test Level 3 crash test requirements of MASH, and is terminated with an approved anchor assembly.

The high tension cable guardrail will be measured along the centerline of the cable guardrail from the beginning to the end of the minimum effective length.

All costs for furnishing and installing the high tension cable guardrail system including all labor, materials, and equipment will be incidental to the contract unit price per foot for "High Tension 4 Cable Guardrail".

HIGH TENSION CABLE GUARDRAIL ANCHOR ASSEMBLY

The beginning and end of each "run" of high tension cable guardrail will terminate with an anchor assembly. The High Tension Cable Guardrail Anchor Assemblies will be one of the following products:

Valtir (Trinity) – CASS Cable Terminal (CCT)
Brifen – MASH Gating Terminal (MGT)

The anchor footings for Valtir CCT installations will consist of driven cable release posts (CRP) with soil plates and driven post sleeves with soil plates.

The anchor footings for Brifen MGT installations will conform to the High Tension Cable Guardrail Cylindrical Anchor Footing special detail.

Delineation of the high tension cable guardrail anchor assembly will be in conformance with standard plate 632.40.

All costs for furnishing and installing the High Tension Cable Guardrail Anchor Assembly including all labor, equipment, and materials which include the anchor footing(s), hardware, and all attachments to the anchor footing(s), will be incidental to the contract unit price per each for "High Tension Cable Guardrail Anchor Assembly".

TABLE OF REMOVE GUARDRAIL

Location	Remove 3 Cable Guardrail (Feet)	Remove 3 Cable Guardrail Anchor Assembly (Each)
PCN080J		
DMS 90-56		
Right Shoulder	388	2
Total PCN080J	**388**	**2**

REGISTERED PROFESSIONAL ENGINEER
REG NO.
8161
JOSH
LARSON
3-25-26
SOUTH DAKOTA

FOR BIDDING PURPOSES ONLY

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TABLE OF GUARDRAIL

Location	High Tension 4 Cable Guardrail Feet	High Tension Cable Guardrail Anchor Assembly Each	Contractor Furnished Borrow CuYd	Type 2 Object Marker Back-to-Back Each	Type 2 Object Marker Each	Comments
PCN 080J						
DMS 90-16						
Westbound Right Shoulder	227	2	5		2	
DMS 90-50						
Eastbound Right Shoulder	227	2	6		2	
DMS 90-56						
Westbound Right Shoulder	521	2	5		2	Guardrail Removal
DMS 90-211						
Eastbound Right Shoulder	227	2	13		2	
DMS 90-213						
Westbound Right Shoulder	227	2	9		2	
DMS 83-117						
Southbound Right Shoulder	227	2	23	2		
Total PCN080J	**1656**	**12**	**61**	**2**	**10**	

REGISTERED PROFESSIONAL ENGINEER
REG NO.
8161
JOSH
LARSON
3-25-26
SOUTH DAKOTA

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
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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): Installation of DMS equipment
- **5.3 (3b): Total Project Area** 3.5 Acres
- **5.3 (3b): Total Area to be Disturbed** 1.1 Acres
- **5.3 (3c): Maximum Area Disturbed at One Time** 1.1 Acres
- **5.3 (3d): Existing Vegetative Cover (%)** 75%
- **5.3 (3d): Description of Vegetative Cover** Cover Grasses (native & introduced)
- **5.3 (3e): Soil Properties:** Varies
- **5.3 (3f): Name of Receiving Water Body/Bodies** Vairies
- **5.3 (3g): Location of Construction Support Activity Areas**

5.3 (3h): ORDER OF CONSTRUCTION ACTIVITIES

The Contractor will enter the Estimated Start Date.

Description	Estimated Start Date
Install stabilized construction entrance(s).	
Install perimeter protection where runoff may exit site.	
Install perimeter protection around stockpiles.	
Stabilize disturbed areas.	
Install utilities.	
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
☐ Natural Buffers (within 50 ft of Waters of State)	
☐ Silt Fence	
☐ Erosion Control Wattles	
☐ Temporary Berm / Windrow	
☐ Floating Silt Curtain	
☐ Stabilized Construction Entrances	
☐ Entrance/Exit Equipment Tire Wash	
☐ Other:	

Structural Erosion and Sediment Controls

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

Dust Controls

Description	Estimated Start Date
☐ Tarps & Wind impervious fabrics	
☐ Watering	
☐ Stockpile location/orientation	
☐ Dust Control Chlorides	
☐ Other	

Dewatering BMPs

Description	Estimated Start Date
☐ Sediment Basins	
☐ Dewatering bags	
☐ Weir tanks	
☐ Temporary Diversion Channel	
☐ 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**))

Description	Estimated Start Date
☐ Vegetation Buffer Strips	
☐ Temporary Seeding (Cover Crop Seeding)	
☒ Permanent Seeding	
☐ Sodding	
☐ Planting (Woody Vegetation for Soil Stabilization)	
☐ Mulching (Grass Hay or Straw)	
☒ Fiber Mulching (Wood Fiber Mulch)	
☐ Soil Stabilizer	
☐ Bonded Fiber Matrix	
☐ Fiber Reinforced Matrix	
☐ Erosion Control Blankets	
☐ Surface Roughening (e.g. tracking)	
☐ 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 ½ 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.
- 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.

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.

CONDUIT AND CABLE QUANTITIES

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	15	57

Plotting Date: 3/25/2026

Location to Location		Conduit SDR 13.5 1.5" Ft	Copper Wire 1/C #4 AWG Ft	Copper Wire 1/C #12 AWG Ft	Communication Cabinet Each	Junction Boxes Type 2 Each	Electrical Service Cabinet Each
PCN080J							
Conduit							
ESC01	JA01	55	355	265		1	1
JA01	DMS 85-54	30	250	190			
ESC02	JA02	65	395			1	1
JA02	DMS 90-16	15	290				
ESC03	SC01	115	680		1		1
SC01	DMS 90-50	20	395				
ESC04	SC02	75	515		1		1
SC02	DMS 90-56	20	395				
ESC05	JA03	360	1610			1	1
JA03	DMS 90-211	15	290				
ESC06	JA04	50	330			1	1
JA04	DMS 90-213	15	290				
ESC07	JA05	45	310	235		1	1
JA05	DMS 83-117	30	250	190			
Totals This Sheet:		910	6,355	880	2	5	7

REGISTERED PROFESSIONAL ENGINEER
REG NO.
8161
JOSH
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TRAFFIC CONTROL

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	16	57

Plotting Date: 3/25/2026

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS - 080J

		CONVENTIONAL ROAD				EXPRESSWAY / INTERSTATE			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-1	STOP	1	30"	5.2	5.2		36"	7.5	
R2-1	SPEED LIMIT 45		24" x 30"	5.0		2	36" x 48"	12.0	24.0
R2-1	SPEED LIMIT 65		24" x 30"	5.0		6	36" x 48"	12.0	72.0
R2-1	SPEED LIMIT 80		24" x 30"	5.0		2	36" x 48"	12.0	24.0
R2-6aP	FINES DOUBLE (plaque)		24" x 18"	3.0		2	36" x 24"	6.0	12.0
R3-2	LEFT TURN PROHIBITION (symbol)	1	24" x 24"	4.0	4.0		36" x 36"	9.0	
W1-4	REVERSE CURVE (R)	1	48" x 48"	16.0	16.0		48" x 48"	16.0	
W1-4	REVERSE CURVE (L)	1	48" x 48"	16.0	16.0		48" x 48"	16.0	
W3-5	SPEED REDUCTION AHEAD (45 MPH)		48" x 48"	16.0		2	48" x 48"	16.0	32.0
W3-5	SPEED REDUCTION AHEAD (65 MPH)		48" x 48"	16.0		4	48" x 48"	16.0	64.0
W4-2	RIGHT LANE ENDS (symbol)	1	48" x 48"	16.0	16.0	4	48" x 48"	16.0	64.0
W9-3	CENTER LANE CLOSED AHEAD	1	48" x 48"	16.0	16.0		48" x 48"	16.0	
W13-1P	ADVISORY SPEED (plaque)	2	30" x 30"	6.3	12.6		30" x 30"	6.3	
W20-1	ROAD WORK AHEAD	3	48" x 48"	16.0	48.0	4	48" x 48"	16.0	64.0
W20-5	RIGHT LANE CLOSED AHEAD	1	48" x 48"	16.0	16.0	4	48" x 48"	16.0	64.0
W21-5	SHOULDER WORK	3	48" x 48"	16.0	48.0		48" x 48"	16.0	
G20-2	END ROAD WORK	2	36" x 18"	4.5	9.0	2	48" x 24"	8.0	16.0
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			206.8	EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT			436.0

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REG NO
8161
JOSH
LARSON
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CONTROL DATA

PCN 080J - HORIZONTAL AND VERTICAL CONTROL POINTS

POINT	Description	SD State Plane	NORTHING	EASTING	ELEVATION
DMS 85-54					
39	Rebar with Cap (MEI Control Point)	North Zone	322793.34	964501.75	3105.02
41	Rebar with Cap (MEI Control Point)	North Zone	321895.21	964340.29	3115.69
DMS 90-16					
2	Rebar with Cap (MEI Control Point)	North Zone	256917.16	987816.32	3866.58
3	Rebar with Cap (MEI Control Point)	North Zone	256947.03	987223.52	3874.54
DMS 90-50					
51	Rebar with Cap (MEI Control Point)	North Zone	142627.00	1097106.05	3604.26
52	Rebar with Cap (MEI Control Point)	North Zone	142261.64	1097227.62	3604.51
DMS 90-56					
54	Rebar with Cap (MEI Control Point)	South Zone	660091.46	1201421.20	3405.90
55	Rebar with Cap (MEI Control Point)	South Zone	660295.87	1200672.46	3406.46
DMS 90-211					
63	Rebar with Cap (MEI Control Point)	South Zone	575156.80	1963653.87	1986.54
64	Rebar with Cap (MEI Control Point)	South Zone	575148.32	1964734.76	1980.26
65	Rebar with Cap (MEI Control Point)	South Zone	575161.28	1965004.42	1978.46
DMS 90-213					
66	Rebar with Cap (MEI Control Point)	South Zone	575686.25	1984592.13	1947.68
67	Rebar with Cap (MEI Control Point)	South Zone	575685.38	1983759.10	1925.70
68	Rebar with Cap (MEI Control Point)	South Zone	575717.63	1982664.73	1907.13
DMS 83-117					
60	Rebar with Cap (MEI Control Point)	South Zone	733084.60	1959213.57	1452.74
61	Rebar with Cap (MEI Control Point)	South Zone	732682.31	1959483.79	1441.73
62	Rebar with Cap (MEI Control Point)	South Zone	732364.87	1959763.73	1443.66

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The coordinates shown on this sheet are based on the South Dakota State Plane Coordinate System. North and South Zone (NAD 1983/2011); epoch 2010.00; Geoid 12A; CSF = 0.9998804144; U.S. Survey Feet
The elevations Shown on this sheet are based on NAVD 88.

LEGEND

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
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Plotting Date: 3/25/2026

- Anchor
- Antenna
- Approach
- Assumed Corner
- Azimuth Marker
- BBQ Grill/ Fireplace
- Bearing Tree
- Bench Mark
- Box Culvert
- Bridge
- Brush
- Buildings
- Bulk Tank
- Cattle Guard
- Cemetery
- Centerline
- Cistern
- Clothes Line
- Commercial Sign Double Face
- Commercial Sign One Post
- Commercial Sign Overhead
- Commercial Sign Two Post
- Concrete Symbol
- Creek Edge
- Curb/Gutter
- Curb
- Dam Grade/Dike/Levee
- Deck Edge
- Ditch Block
- Doorway Threshold
- Drainage Profile
- Drop Inlet
- Edge Of Asphalt
- Edge Of Concrete
- Edge Of Gravel
- Edge Of Other
- Edge Of Shoulder
- Elec. Trans./Power Jct. Box
- Fence Barbwire
- Fence Chainlink
- Fence Electric
- Fence Misc.
- Fence Rock
- Fence Snow
- Fence Wood
- Fence Woven
- Fire Hydrant
- Flag Pole
- Flower Bed
- Gas Valve Or Meter
- Gas Pump Island
- Grain Bin
- Guardrail
- Guide Sign One Post
- Guide Sign Two Post
- Gutter
- Guy Pole
- Haystack
- Hedge
- Highway R.O.W. Marker
- Interstate Close Gate
- Iron Pin
- Irrigation Ditch
- Lake Edge
- Lawn Sprinkler
- Mailbox
- Manhole Electric
- Manhole Gas
- Manhole Misc
- Manhole Sanitary Sewer
- Manhole Storm Sewer
- Manhole Telephone
- Manhole Water
- Merry-Go-Round
- Microwave Radio Tower
- Misc. Line
- Misc. Property Corner
- Misc. Post
- Overhang Or Encroachment
- Overhead Utility Line — OH —
- Parking Meter
- Pedestrian Push Button Pole
- Pipe With End Section
- Pipe With Headwall
- Pipe Without End Section
- Playground Slide
- Playground Swing
- Power And Light Pole
- Power And Telephone Pole
- Power Meter
- Power Pole
- Power Pole And Transformer
- Power Tower Structure
- Propane Tank
- Property Pipe
- Property Pipe With Cap
- Property Stone
- Public Telephone
- Railroad Crossing Signal
- Railroad Milepost Marker
- Railroad Profile
- Railroad R.O.W. Marker
- Railroad Signs
- Railroad Switch
- Railroad Track
- Railroad Trestle
- Rebar
- Rebar With Cap
- Reference Mark
- Regulatory Sign One Post
- Regulatory Sign Two Post
- Retaining Wall
- Riprap
- River Edge
- Rock And Wire Baskets
- Rockpiles
- Satellite Dish
- Septic Tank
- Shrub Tree
- Sidewalk
- Sign Face
- Sign Post
- Slough Or Marsh
- Spring
- Stream Gauge
- Street Marker
- Subsurface Utility Exploration Test Hole
- Telephone Fiber Optics — T/F —
- Telephone Junction Box
- Telephone Pole
- Television Cable Jct Box
- Television Tower
- Test Wells/Bore Holes
- Traffic Signal
- Trash Barrel
- Tree Belt
- Tree Coniferous
- Tree Deciduous
- Tree Stumps
- Triangulation Station
- Underground Electric Line — P —
- Underground Gas Line — G —
- Underground High Pressure Gas Line — HG —
- Underground Sanitary Sewer — S —
- Underground Storm Sewer — S —
- Underground Tank
- Underground Telephone Line — T —
- Underground Television Cable — TV —
- Underground Water Line — W —
- Warning Sign One Post
- Warning Sign Two Post
- Water Fountain
- Water Hydrant
- Water Meter
- Water Tower
- Water Valve
- Water Well
- Weir Rock
- Windmill
- Wingwall
- Witness Corner
- State and National Line
- County Line
- Section Line
- Quarter Line
- Sixteenth Line
- Property Line
- Construction Line
- R. O. W. Line
- New R. O. W. Line
- Cut and Fill Limits
- Control of Access
- New Control of Access
- Proposed ROW (After Property Disposal)

NOTE: DMS and Guardrail Layout Sheet are 40 Scale

- Identified Wetland
- Type 2 Electrical Junction Box
- Existing Junction Box
- Communication Cabinet
- Electrical Service Cabinet
- Existing Electrical Service Cabinet
- Galvanized Steel Utility Pole
- Existing Galvanized Steel Utility Pole
- Meter Socket
- Existing Meter Socket
- Conduit
- Concrete Footing
- Camera
- Pole Mounted Dynamic Message Sign
- Post Mounted Dynamic Message Sign
- Vehicle Radar Detector

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8161
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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	19	57

Plotting Date: 3/25/2026

DMS LAYOUT
SOUTHBOUND US HIGHWAY 85 MRM 54

FOR BIDDING PURPOSES ONLY

120/240 v.a.c., 60 hz.,
1 Phase, 3 Wire Service
By Black Hills Energy

ESC01

JA01

CCTV01

DMS 85-54

3 #12

1.5" SDR 13.5

4 #4

T/F

W

12' Driving Lane

12' Driving Lane

12' Center Lane

12' Driving Lane

12' Driving Lane

US85 85

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JOSH
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ESTIMATE OF QUANTITIES

KEY	ITEM	EST QUANT	UNIT
	Post Mounted DMS (DMS 85-54)	1	EACH
	Camera (CCTV01)	1	EACH
	Type 2 Electrical Junction Box (JA01)	1	EACH
	Electrical Service Cabinet (ESC01)	1	EACH
	Galvanized Steel Utility Pole Not a Bid Item	1	EACH
M	Meter Socket Not a Bid Item	1	EACH
1.5" SDR 13.5	1.5" Conduit, SDR 13.5	85	Ft
#4	1/C #4 AWG Copper Wire	605	Ft
#12	1/C #12 AWG Copper Wire	455	Ft

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	20	57

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DMS LAYOUT
WESTBOUND INTERSTATE 90 MRM 16

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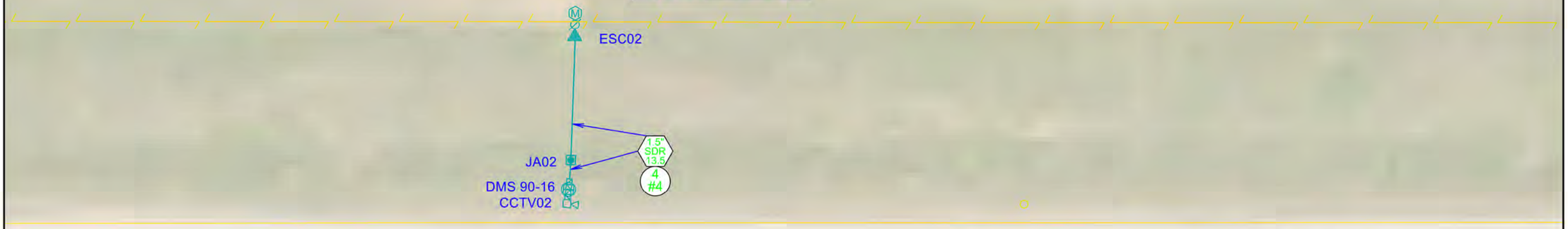

Median

12' Driving Lane
12' Driving Lane
Eastbound I90

ESTIMATE OF QUANTITIES

KEY	ITEM	EST QUANT	UNIT
	Pole Mounted DMS (DMS 90-16)	1	EACH
	Camera (CCTV02)	1	EACH
	Type 2 Electrical Junction Box (JA02)	1	EACH
	Electrical Service Cabinet (ESC02)	1	EACH
	Galvanized Steel Utility Pole Not a Bid Item	1	EACH
M	Meter Socket Not a Bid Item	1	EACH
1.5" SDR 13.5	1.5" Conduit, SDR 13.5	80	Ft
#4	1/C #4 AWG Copper Wire	685	Ft

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	21	57

Plotting Date: 3/25/2026

DMS LAYOUT
EASTBOUND INTERSTATE 90 MRM 50

FOR BIDDING PURPOSES ONLY

Westbound I90

12' Driving Lane

12' Driving Lane

Median

12' Driving Lane

12' Driving Lane

Eastbound I90

CCTV03
DMS 90-50

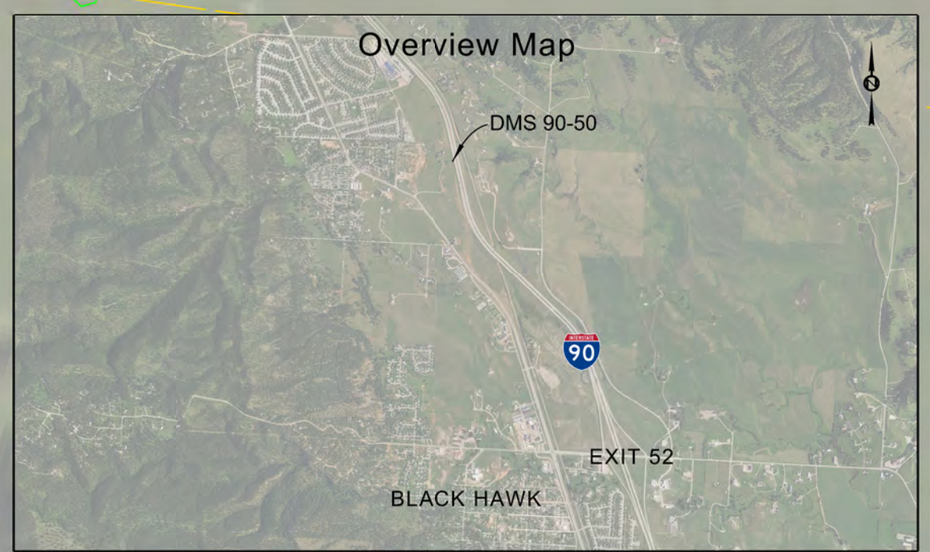
SC01

1.5" SDR 13.5
4 #4

1.5" SDR 13.5
4 #4

ESC03

120/240 v.a.c., 60 hz.,
1 Phase, 3 Wire Service
By Black Hills Energy



ESTIMATE OF QUANTITIES

KEY	ITEM	EST QUANT	UNIT
	Pole Mounted DMS (DMS 90-50)	1	EACH
	Camera (CCTV03)	1	EACH
	Communication Cabinet (SC01)	1	EACH
	Electrical Service Cabinet (ESC03)	1	EACH
	Galvanized Steel Utility Pole Not a Bid Item	1	EACH
M	Meter Socket Not a Bid Item	1	EACH
1.5" SDR 13.5	1.5" Conduit, SDR 13.5	135	Ft
#4	1/C #4 AWG Copper Wire	1,075	Ft
*	Multimode Fiber Optic Cable and Outdoor Rated Cat6 Cable	Not A Bid Item	

REGISTERED PROFESSIONAL ENGINEER
REG NO.
8161
JOSH
LARSON
3-25-26
SOUTH DAKOTA

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	22	57

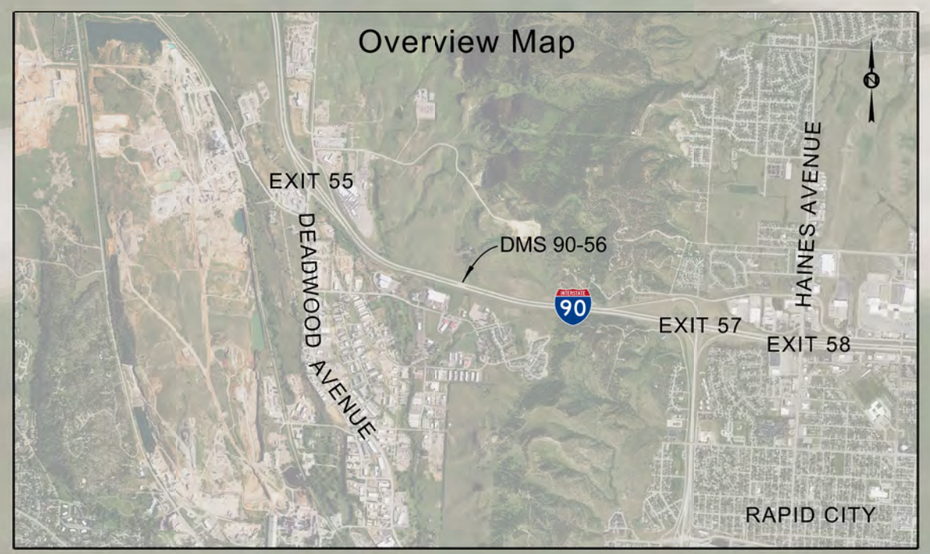
Plotting Date: 3/25/2026

DMS LAYOUT
WESTBOUND INTERSTATE 90 MRM 56

FOR BIDDING PURPOSES ONLY

120/240 v.a.c., 60 hz.,
1 Phase, 3 Wire Service
By Black Hills Energy

ESC04
4
#4
1.5" SDR 13.5
DMS 90-56
SC02
CCTV04
VRD01
1.5" SDR 13.5
12' Driving Lane
12' Driving Lane
Westbound I90
Median
12' Driving Lane
12' Driving Lane
Eastbound I90



ESTIMATE OF QUANTITIES

KEY	ITEM	EST QUANT	UNIT
	Pole Mounted DSM (DMS 90-56)	1	EACH
	Camera (CCTV04)	1	EACH
	Vehicle Radar Detector (VRD01)	1	EACH
	Communication Cabinet (SC02)	1	EACH
	Electrical Service Cabinet (ESC04)	1	EACH
	Galvanized Steel Utility Pole Not a Bid Item	1	EACH
M	Meter Socket Not a Bid Item	1	EACH
1.5" SDR 13.5	1.5" Conduit, SDR 13.5	95	Ft
#4	1/C #4 AWG Copper Wire	910	Ft
*	Multimode Fiber Optic Cable and Outdoor Rated Cat6 Cable	Not A Bid Item	

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REG NO
8161
JOSH
LARSON
3-25-26
SOUTH DAKOTA

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	23	57

Plotting Date: 3/25/2026

DMS LAYOUT
EASTBOUND INTERSTATE 90 MRM 211

FOR BIDDING PURPOSES ONLY

12' Driving Lane
12' Driving Lane

Westbound I90

Median

12' Driving Lane
12' Driving Lane

Eastbound I90

CCTV05
DMS 90-211
JA03

4
#4
1.5" SDR 13.5

ESC05

120/240 v.a.c., 60 hz.,
1 Phase, 3 Wire Service
By West Central Electric Coop

ESTIMATE OF QUANTITIES

KEY	ITEM	EST QUANT	UNIT
	Pole Mounted DMS (DMS 90-211)	1	EACH
	Camera (CCTV05)	1	EACH
	Type 2 Electrical Junction Box (JA03)	1	EACH
	Electrical Service Cabinet (ESC05)	1	EACH
	Galvanized Steel Utility Pole Not a Bid Item	1	EACH
M	Meter Socket Not a Bid Item	1	EACH
1.5" SDR 13.5	1.5" Conduit, SDR 13.5	375	Ft
#4	1/C #4 AWG Copper Wire	1900	Ft

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REG NO.
8161
JOSH
LARSON
3-25-26
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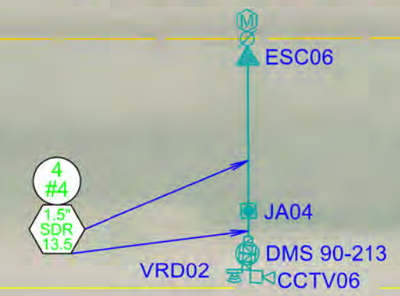
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	24	57

Plotting Date: 3/25/2026

DMS LAYOUT
WESTBOUND INTERSTATE 90 MRM 213

FOR BIDDING PURPOSES ONLY

120/240 v.a.c., 60 hz.,
1 Phase, 3 Wire Service
By West Central Electric Coop



ESTIMATE OF QUANTITIES

KEY	ITEM	EST QUANT	UNIT
	Pole Mounted DMS (DMS 90-213)	1	EACH
	Camera (CCTV06)	1	EACH
	Vehicle Radar Detector (VRD02)	1	EACH
	Type 2 Electrical Junction Box (JA04)	1	EACH
	Electrical Service Cabinet (ESC06)	1	EACH
	Galvanized Steel Utility Pole Not a Bid Item	1	EACH
M	Meter Socket Not a Bid Item	1	EACH
1.5" SDR 13.5	1.5" Conduit, SDR 13.5	65	Ft
#4	1/C #4 AWG Copper Wire	620	Ft

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REG NO.
8161
JOSH
LARSON
3-25-26
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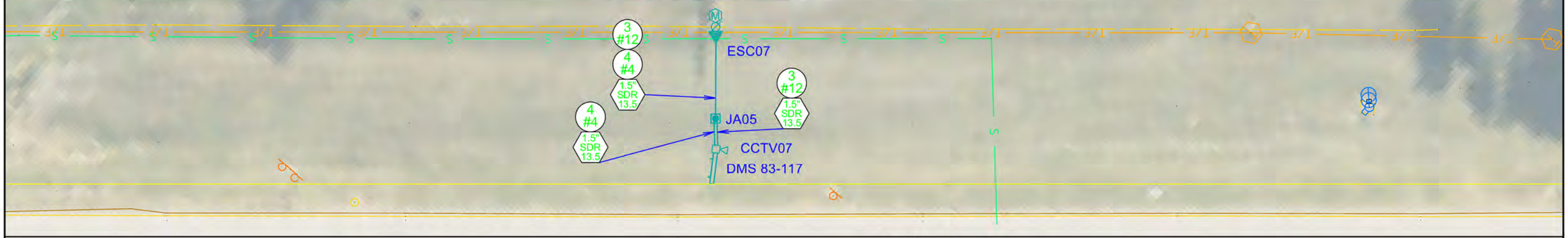
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	25	57

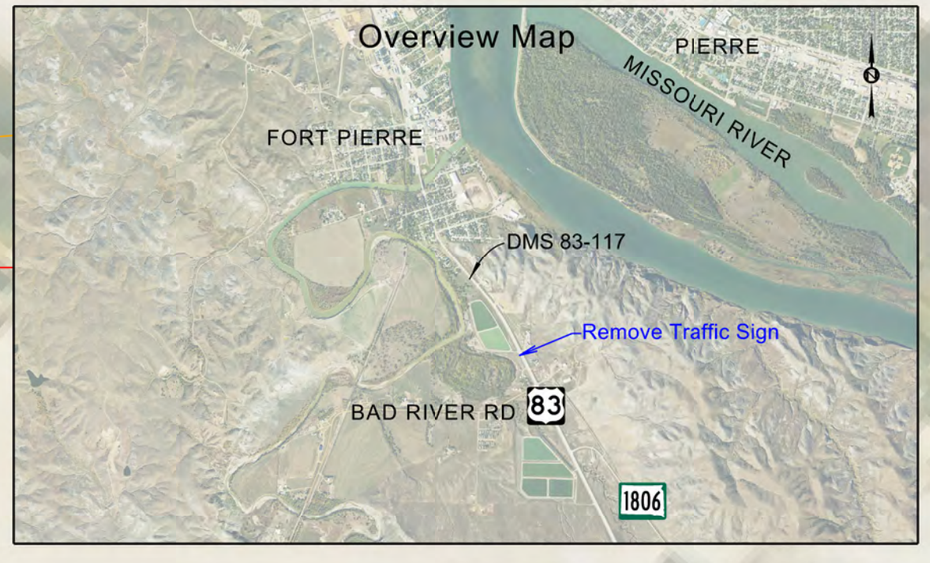
Plotting Date: 3/25/2026

DMS LAYOUT
SOUTHBOUND US HIGHWAY 83 MRM 117

FOR BIDDING PURPOSES ONLY

120/240 v.a.c., 60 hz.,
1 Phase, 3 Wire Service
By Fort Pierre Municipal





ESTIMATE OF QUANTITIES

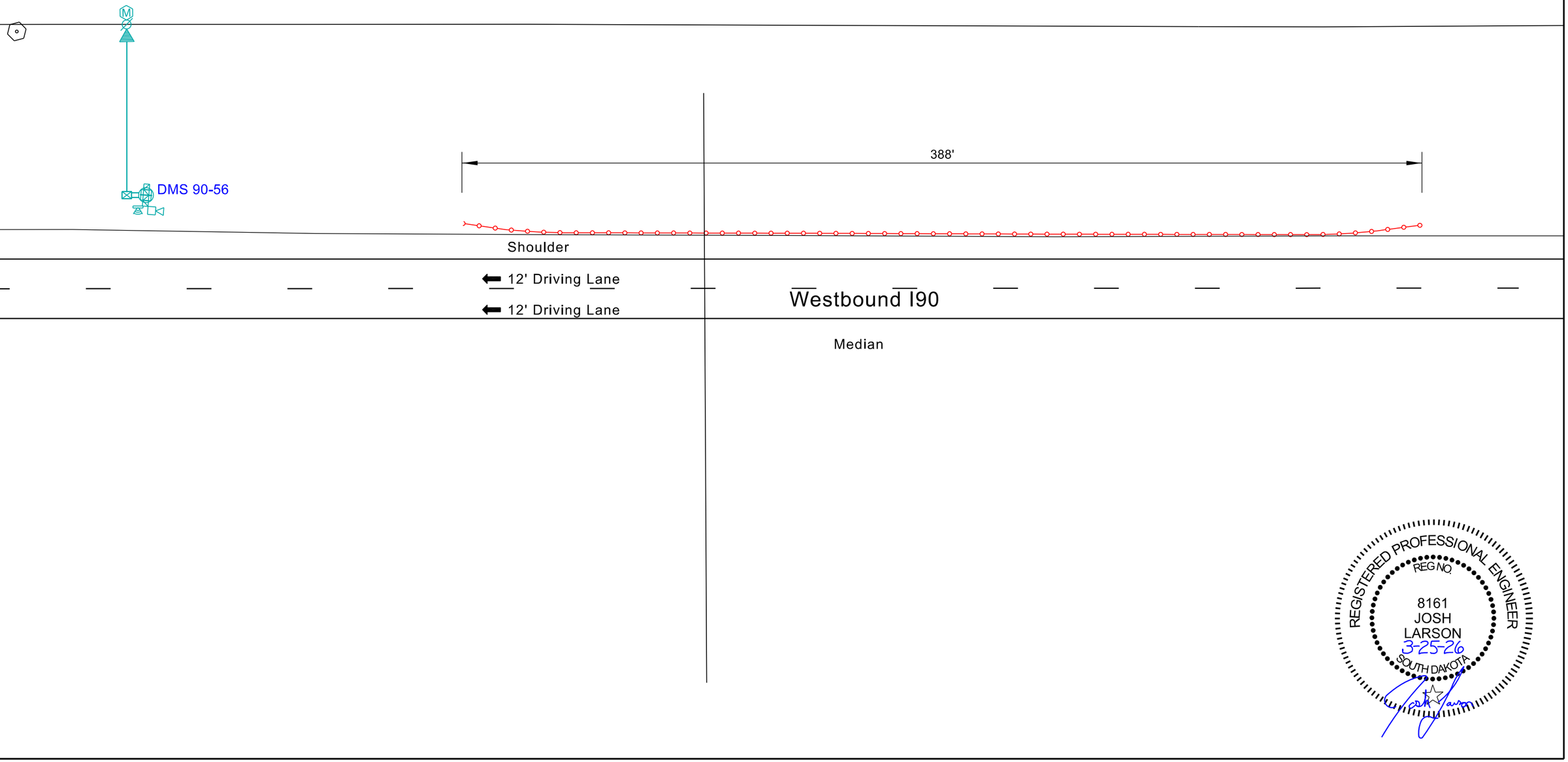
KEY	ITEM	EST QUANT	UNIT
	Post Mounted DMS (DMS 83-117)	1	EACH
	Camera (CCTV07)	1	EACH
	Type 2 Electrical Junction Box (JA05)	1	EACH
	Electrical Service Cabinet (ESC07)	1	EACH
	Galvanized Steel Utility Pole Not a Bid Item	1	EACH
M	Meter Socket Not a Bid Item	1	EACH
1.5" SDR 13.5	1.5" Conduit, SDR 13.5	75	Ft
#4	1/C #4 AWG Copper Wire	560	Ft
#12	1/C #12 AWG Copper Wire	425	Ft

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	26	57

Plotting Date: 3/25/2026

GUARDRAIL REMOVAL FOR BIDDING PURPOSES ONLY
WESTBOUND INTERSTATE 90 MRM 56

Remove 3 Cable Guardrail



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REG NO.
8161
JOSH
LARSON
3-25-26
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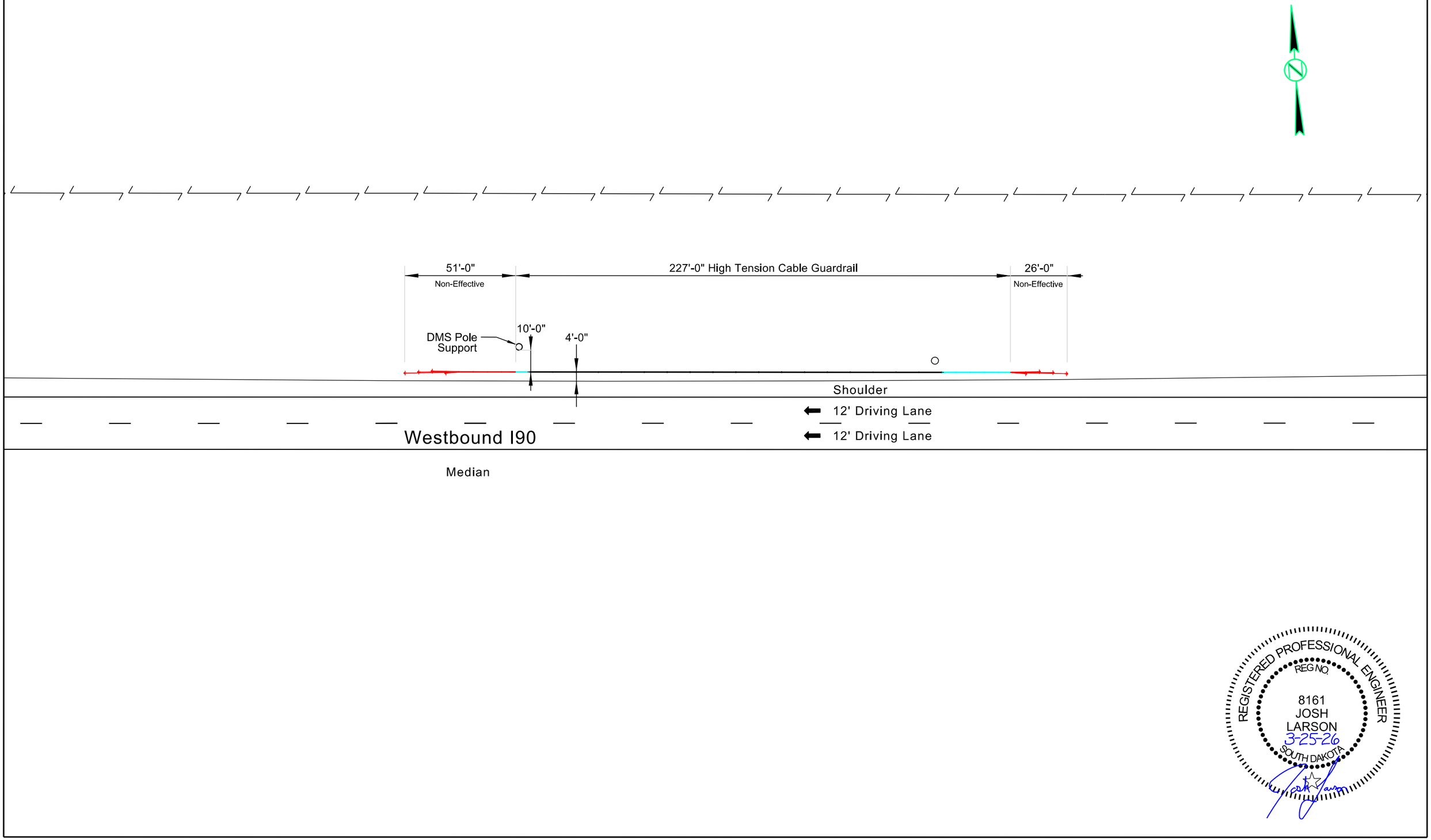
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	27	57

Plotting Date: 3/25/2026

GUARDRAIL LAYOUT
WESTBOUND INTERSTATE 90 MRM 16

FOR BIDDING PURPOSES ONLY



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REG NO.
8161
JOSH
LARSON
3-25-26
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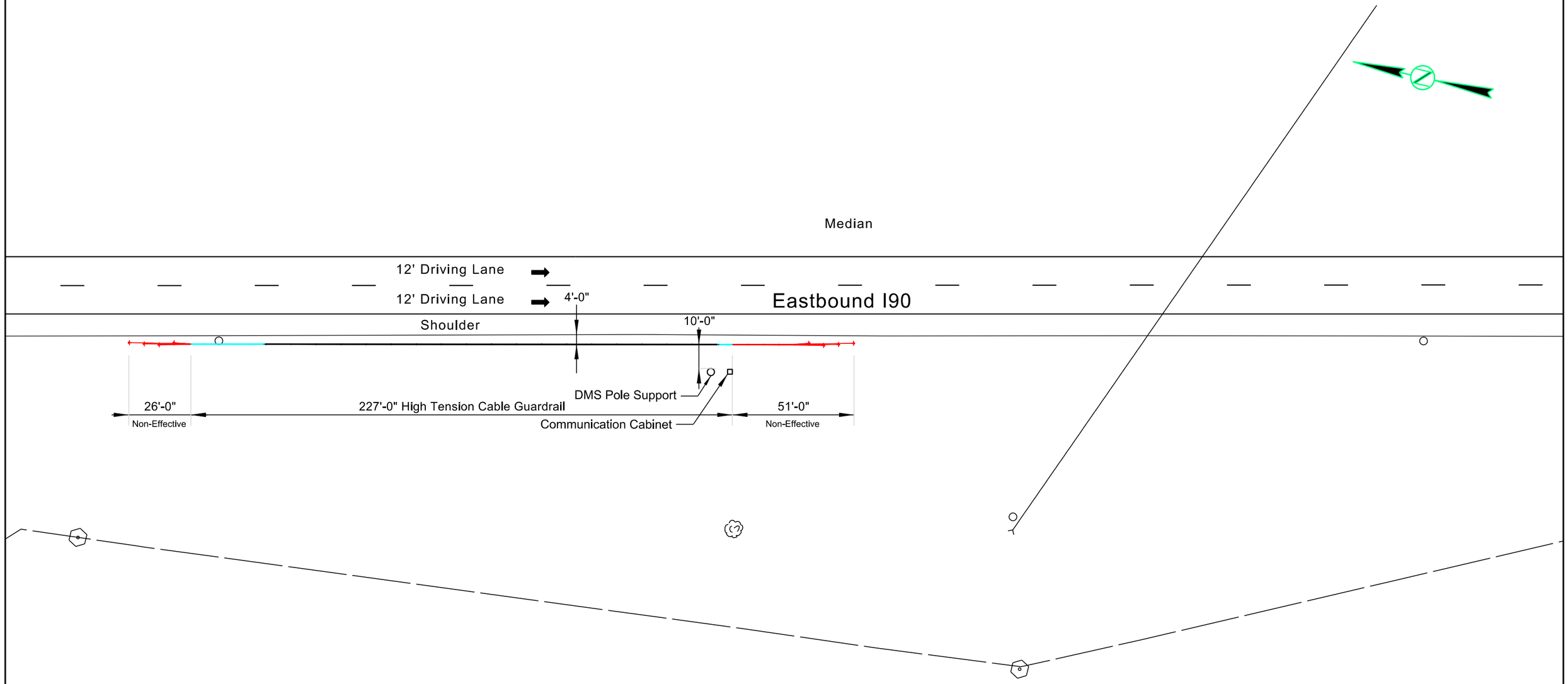
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	28	57

Plotting Date: 3/25/2026

GUARDRAIL LAYOUT
EASTBOUND INTERSTATE 90 MRM 50

FOR BIDDING PURPOSES ONLY



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REG NO.
8161
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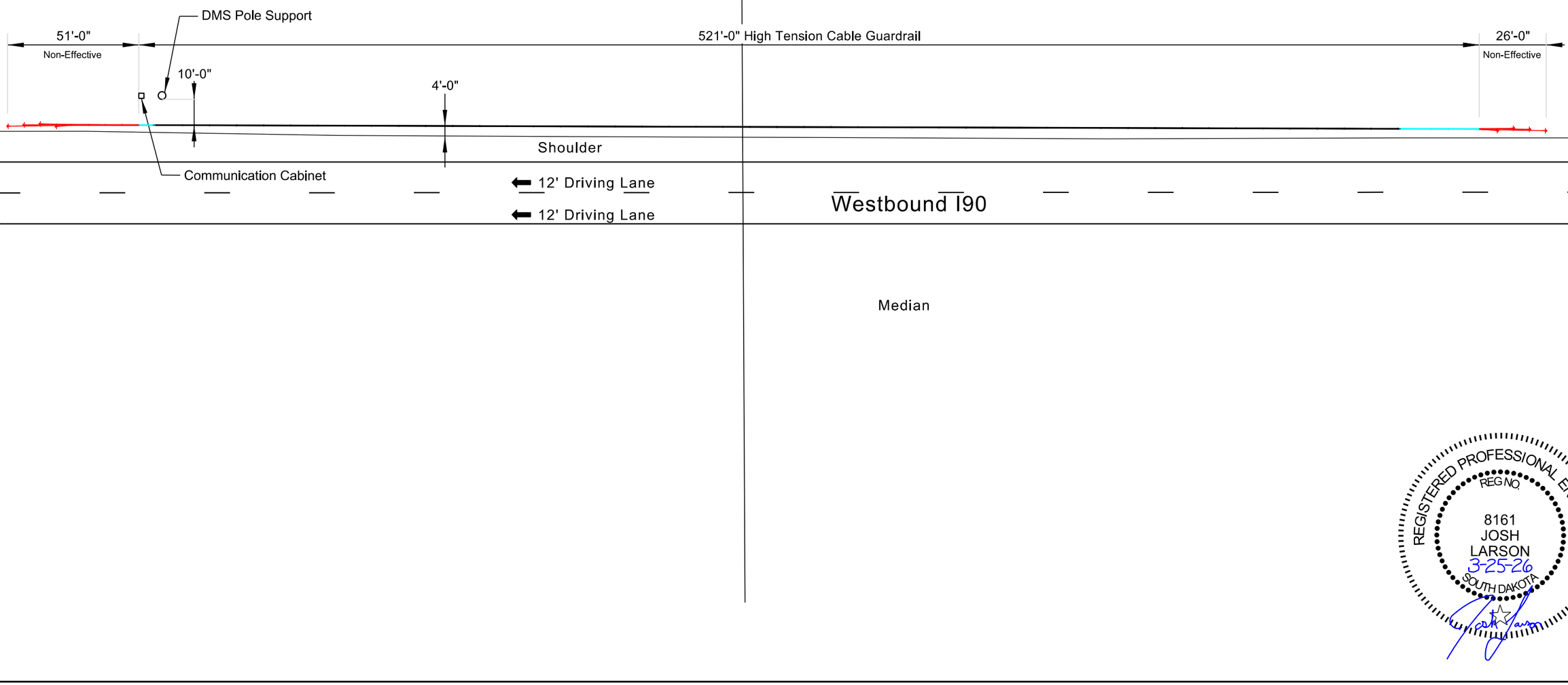
LARSON
3-25-26
SOUTH DAKOTA

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	29	57

Plotting Date: 3/25/2026

GUARDRAIL LAYOUT
WESTBOUND INTERSTATE 90 MRM 56

FOR BIDDING PURPOSES ONLY



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REG NO.
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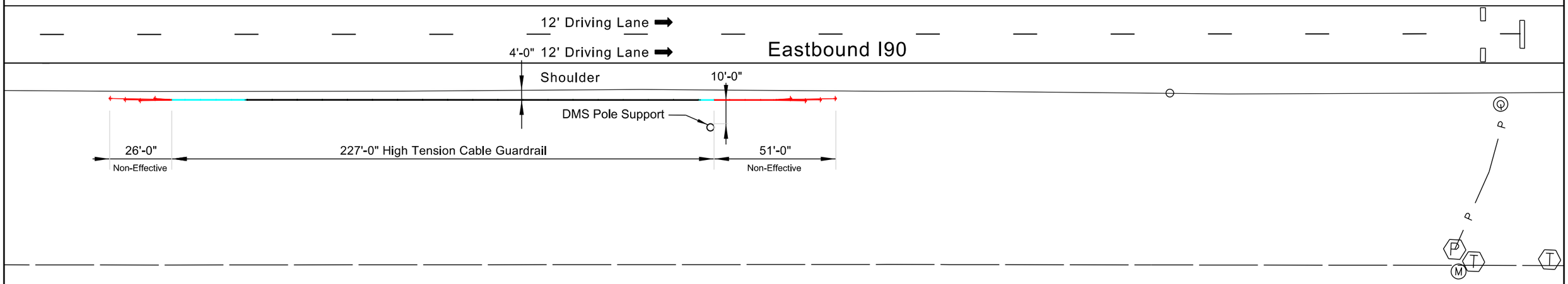
3-25-26
SOUTH DAKOTA

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	30	57

Plotting Date: 3/25/2026

GUARDRAIL LAYOUT
EASTBOUND INTERSTATE 90 MRM 211

FOR BIDDING PURPOSES ONLY



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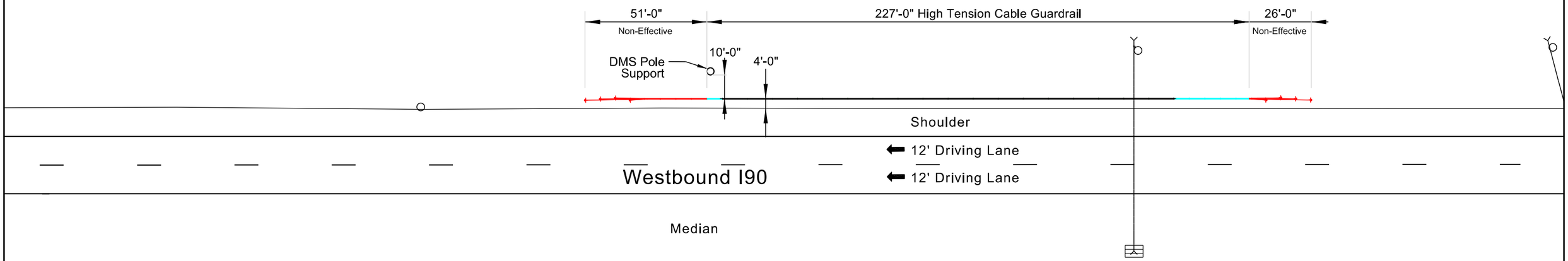
8161
JOSH
LARSON
3-25-26
SOUTH DAKOTA

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	31	57

Plotting Date: 3/25/2026

GUARDRAIL LAYOUT
WESTBOUND INTERSTAE 90 MRM 213

FOR BIDDING PURPOSES ONLY



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REG NO.
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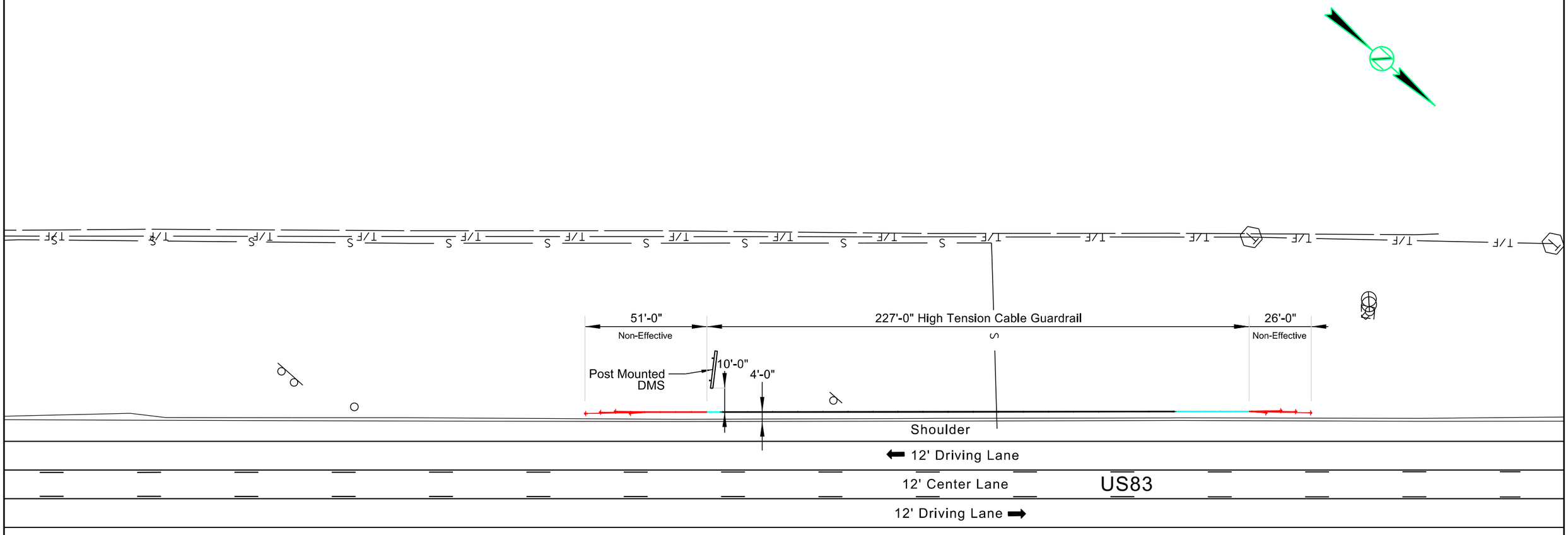
JOSH
LARSON
3-25-26
SOUTH DAKOTA

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	32	57

Plotting Date: 3/25/2026

GUARDRAIL LAYOUT
SOUTHBOUND US HIGHWAY 83 MRM 117

FOR BIDDING PURPOSES ONLY



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8161
JOSH
LARSON
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REG NO.
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JOSH
LARSON
3-25-26
SOUTH DAKOTA

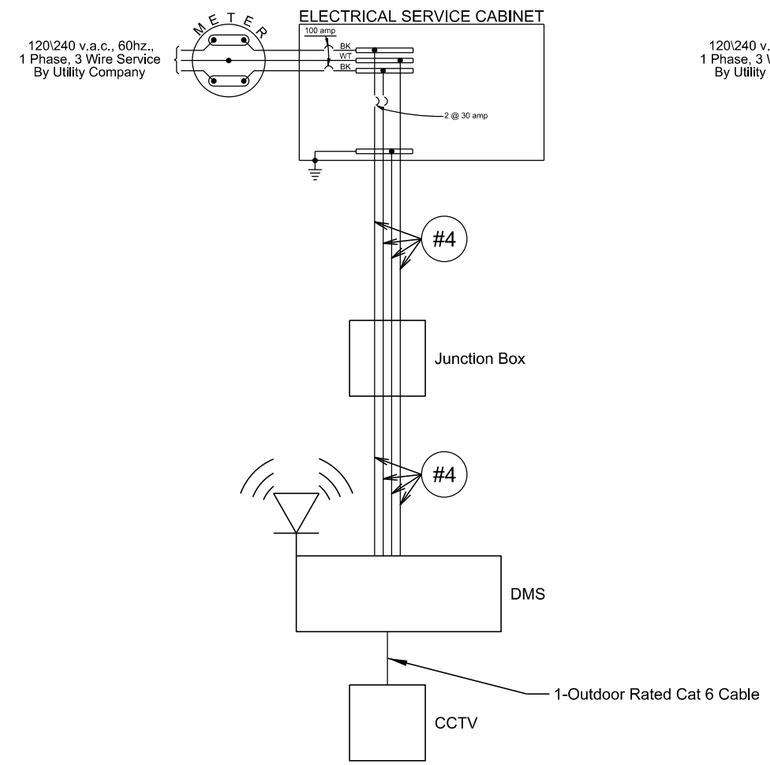
WIRING DIAGRAM

FOR BIDDING PURPOSES ONLY

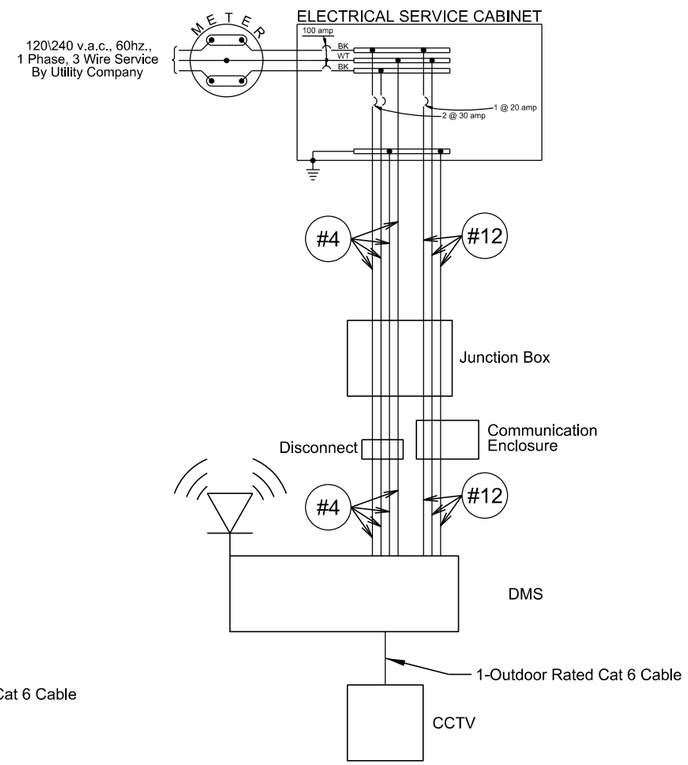
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	33	57

Plotting Date: 3/25/2026

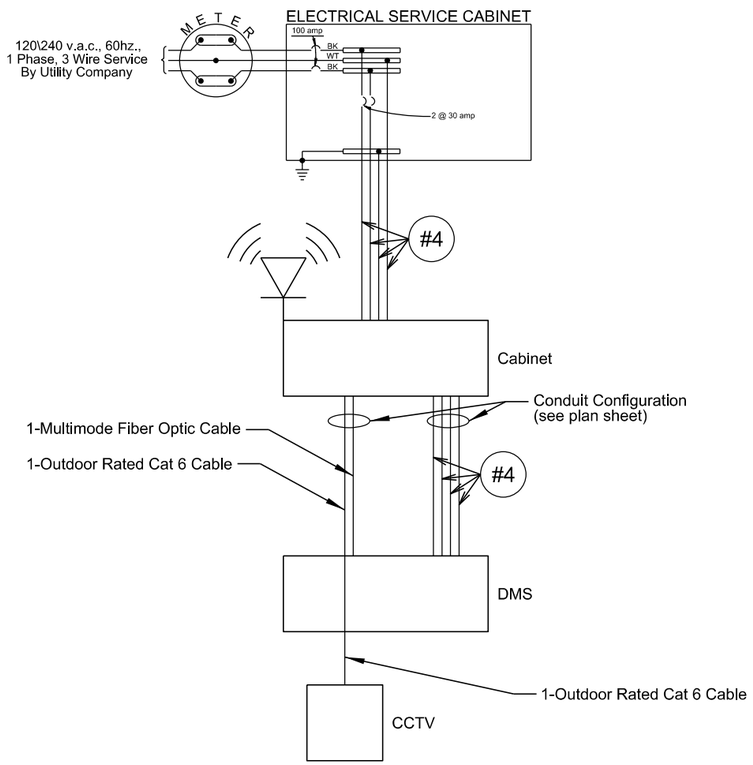
DMS Site without Communication Cabinet



Post Mounted DMS Site with Communcation Enclosure



DMS Site with Communication Cabinet



Cellular Modem

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	34	57

Plotting Date: 3/25/2026

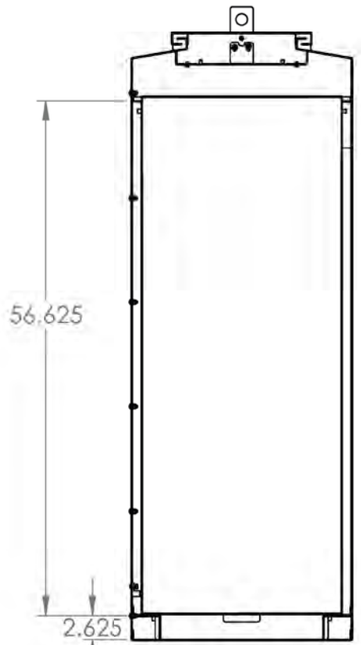
FOR BIDDING PURPOSES ONLY

COMMUNICATION CABINET DETAIL

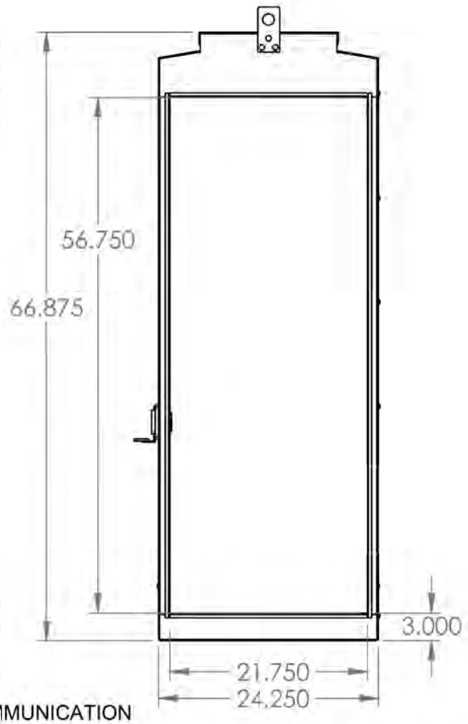
NOTE: ALL DIMENSIONS ON THIS SHEET ARE IN UNITS OF INCHES

ALL BOLTS, CLAMPS, FASTENERS, HINGES, LATCHES, NUTS AND SCREWS ARE TO BE STAINLESS STEEL
ALL EXTERIOR SEAMS ARE CONTINOUSLY WELDED WITH A RADIUS OF .03 OR GREATER

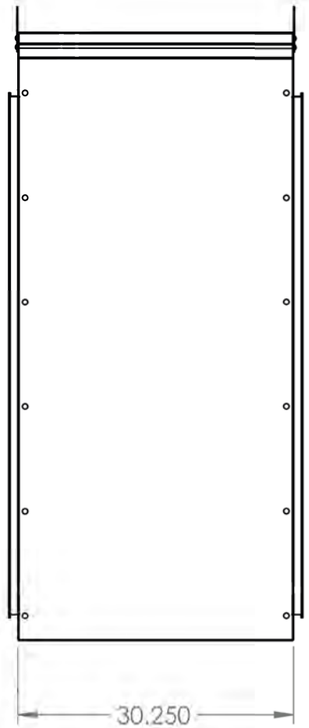
THE COMMUNICATION CABINETS WILL BE ENCLOSE MANUFACTURING ENC-2025I OR EQUIVALENT



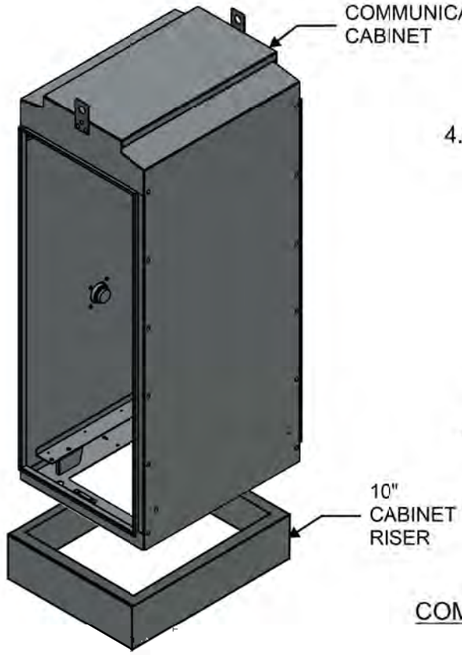
REAR VIEW

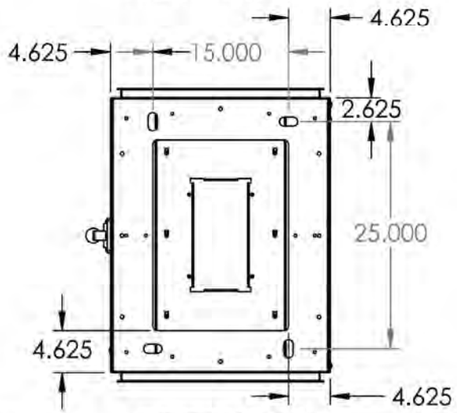


FRONT VIEW



SIDE VIEW

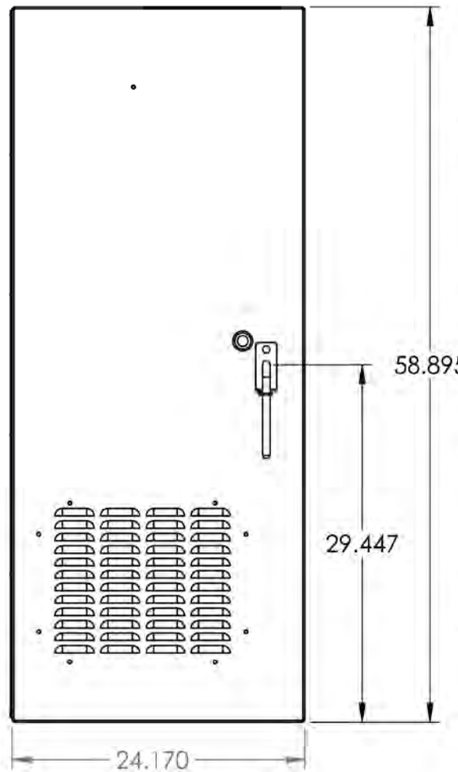




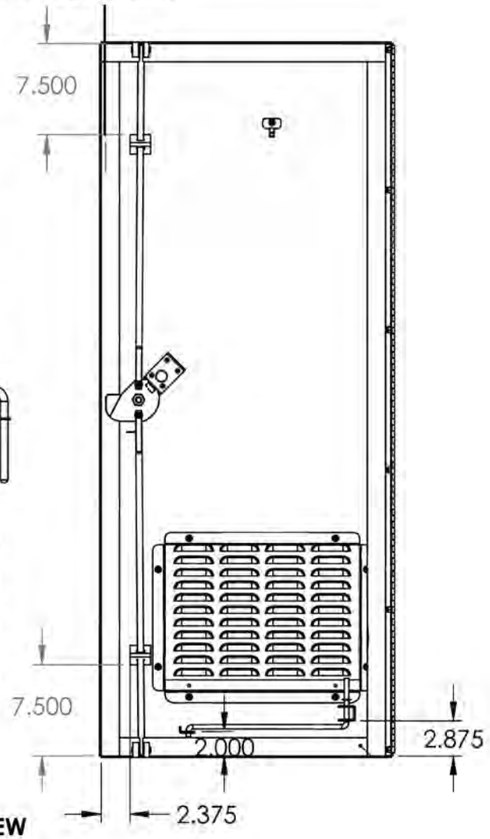
BOTTOM VIEW

COMMUNICATION CABINET DETAIL

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
14561
JACOB HW FOLKERINGA
3-25-26
SOUTH DAKOTA



FRONT VIEW



SIDE VIEW

MOUNT CABINET ON 10" RISER

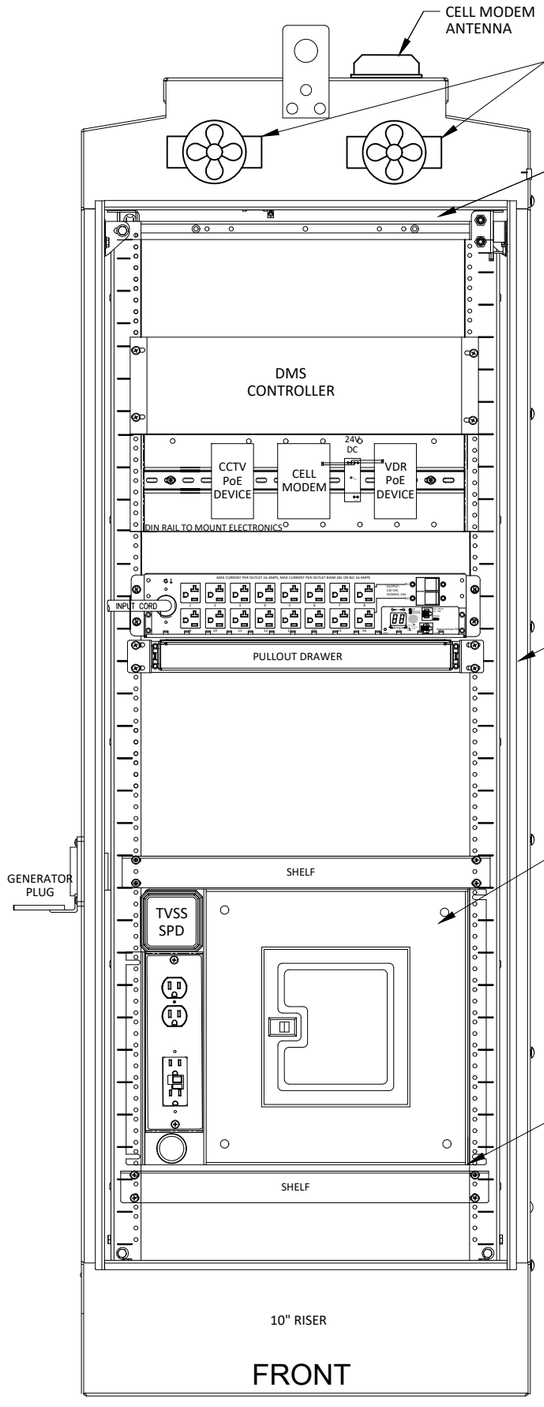
COMMUNICATION CABINET DOOR DETAIL

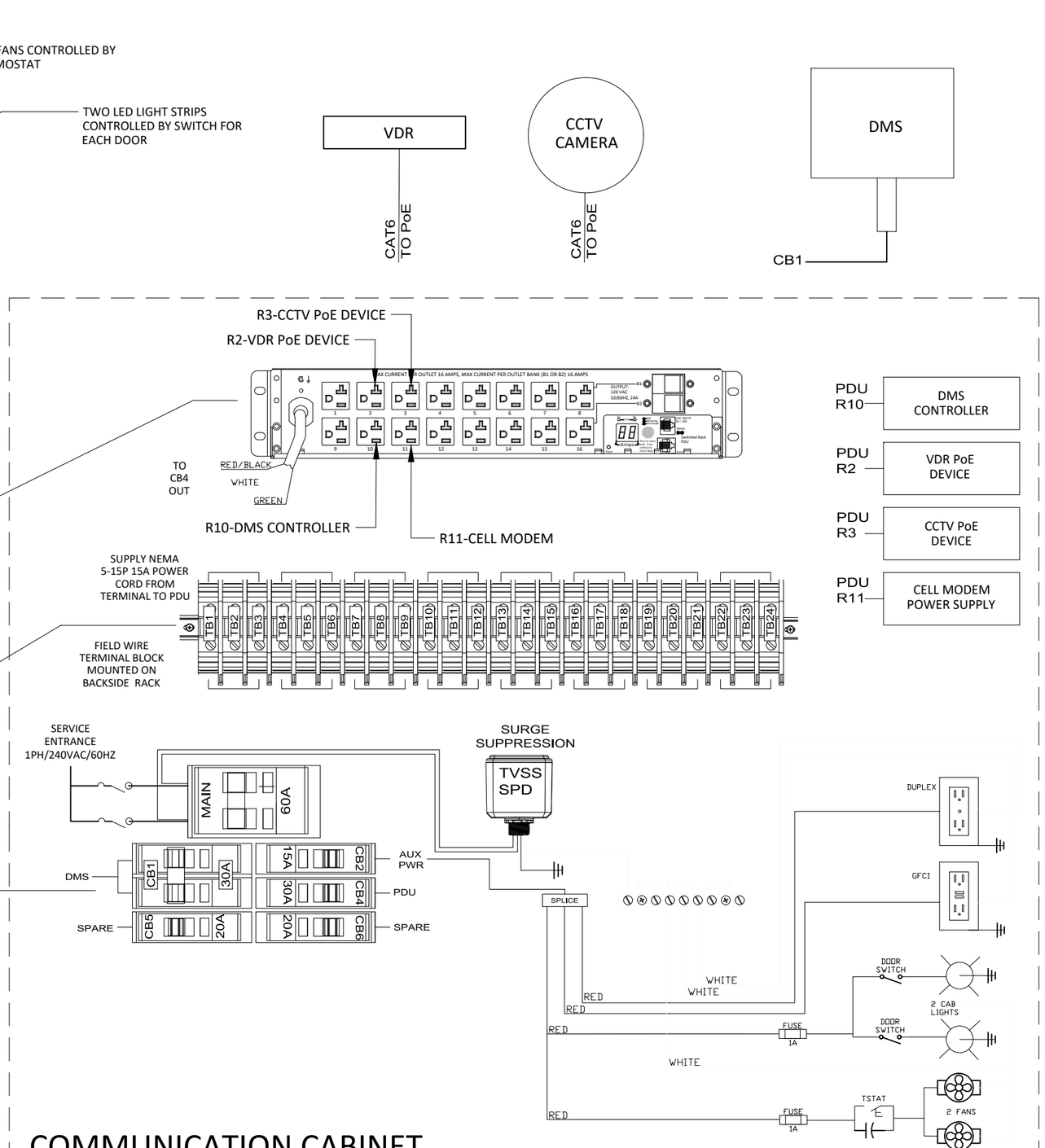
COMMUNICATION CABINET DETAIL - LAYOUT

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	35	57

Plotting Date: 3/25/2026





CELL MODEM PORT SCHEDULE (TYP)	
1	SWITCHED PDU (POWER STRIP)
2	CCTV
3	DMS CONTROLLER

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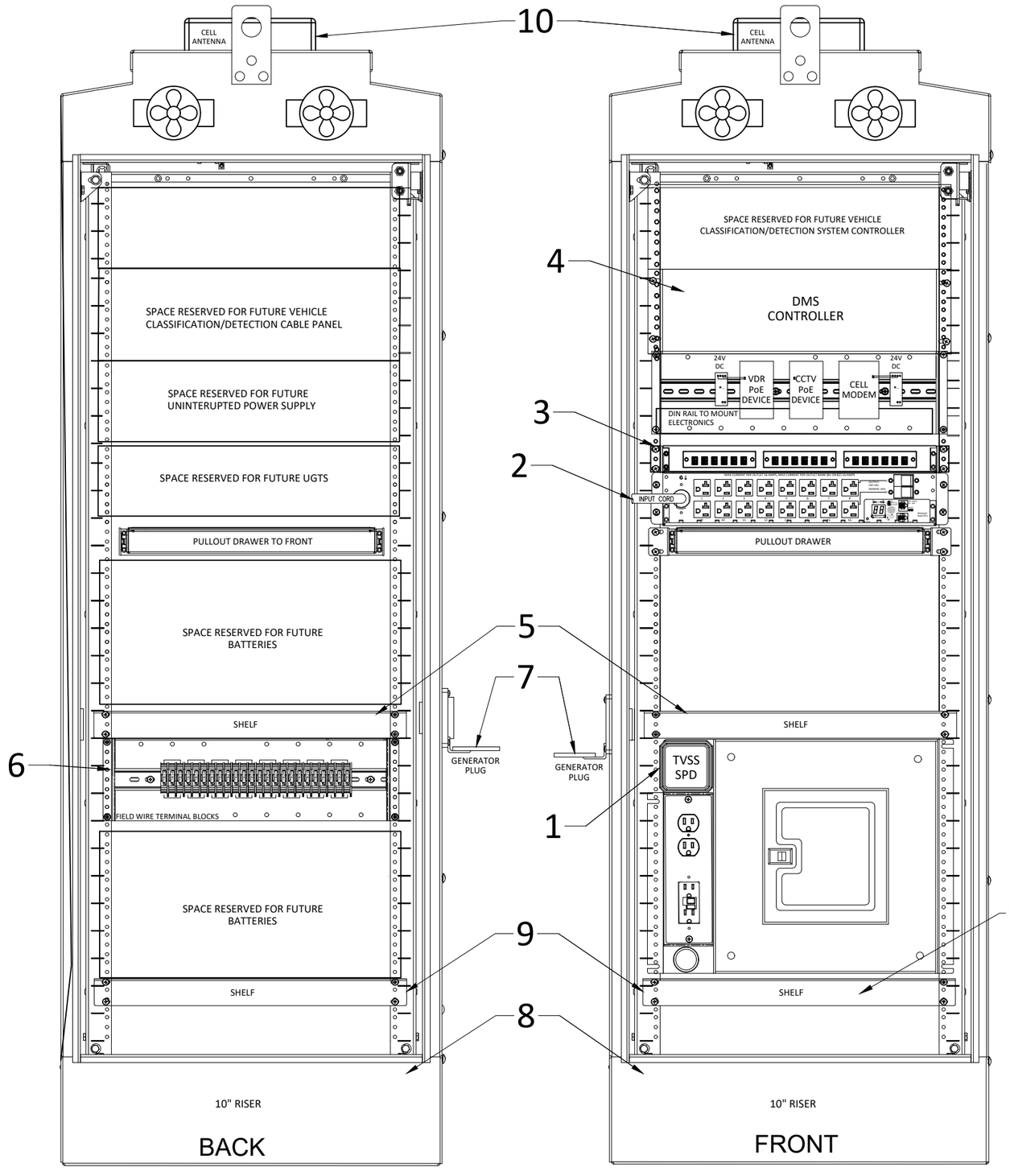
REG. NO.
14561
JACOB HW FOLKERINGA
3-25-26
SOUTH DAKOTA

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	36	57

Plotting Date: 3/25/2026

COMMUNICATION CABINET DETAIL - WIRING DIAGRAM

FOR BIDDING PURPOSES ONLY



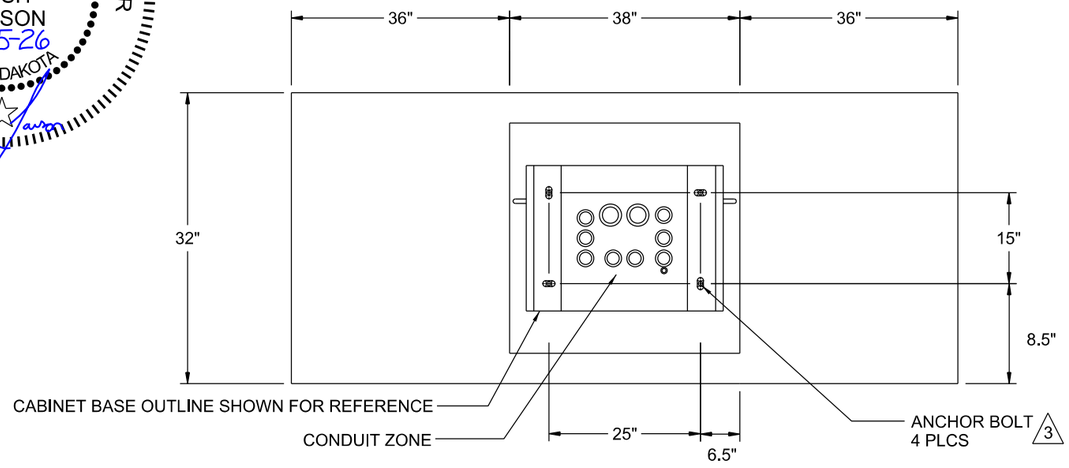
CABINET LAYOUT SCHEDULE	
NOTE NUMBER	DEVICE
1	POWER DISTRIBUTION PANEL W/ (2) GENERAL PURPOSE OUTLETS (1) GFCI, AND TRANSIENT VOLTAGE SURGE SUPPRESSOR (TVSS)/SURGE PROTECTION DEVICE (SPD)
2	SWITCHED PDU (POWER STRIP)
3	ETHERNET DISTRIBUTION PANEL
4	DMS CONTROLLER
5	BATTERY STORAGE SHELF
6	FIELD WIRE TERMINATION PANEL FOR PDU
7	GENERATOR PLUG IN RECEPTACLE
8	10" CABINET RISER
9	21" SHELF ASSEMBLY
10	OMNIDIRECTIONAL CELL MODEM ANTENNA

REGISTERED PROFESSIONAL ENGINEER
REG. NO.
14561
JACOB HW FOLKERINGA
3-25-26
SOUTH DAKOTA

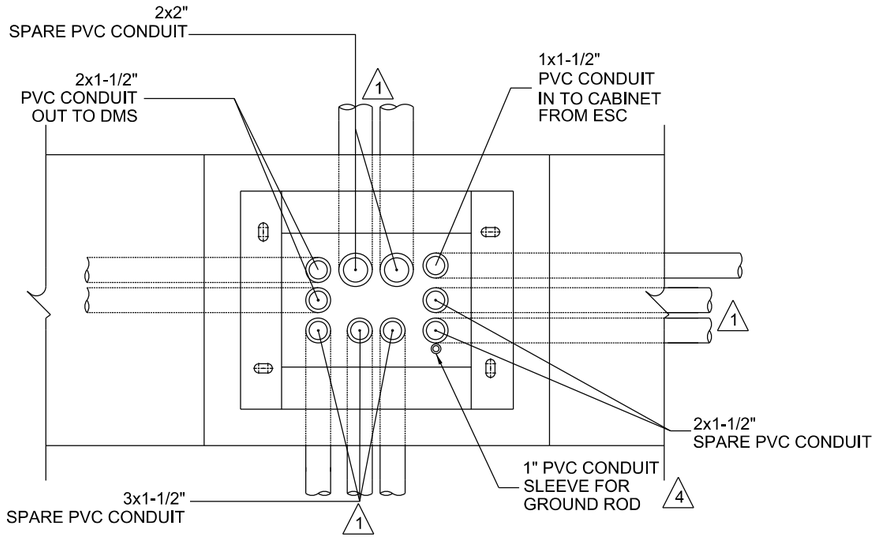
COMMUNICATION CABINET MOUNTING DETAIL

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	37	57

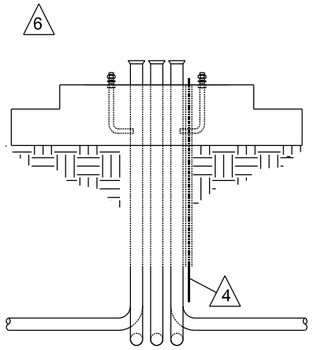
Plotting Date: 3/25/2026



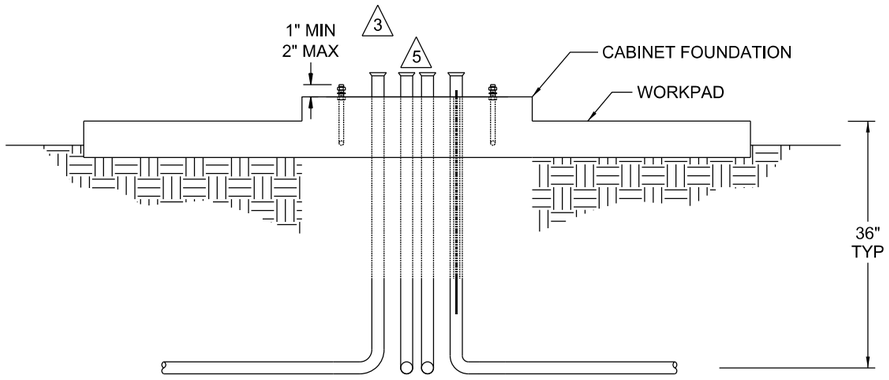
TOP VIEW - CABINET MOUNTING



DETAIL A - TYPICAL CONDUIT LAYOUT 2

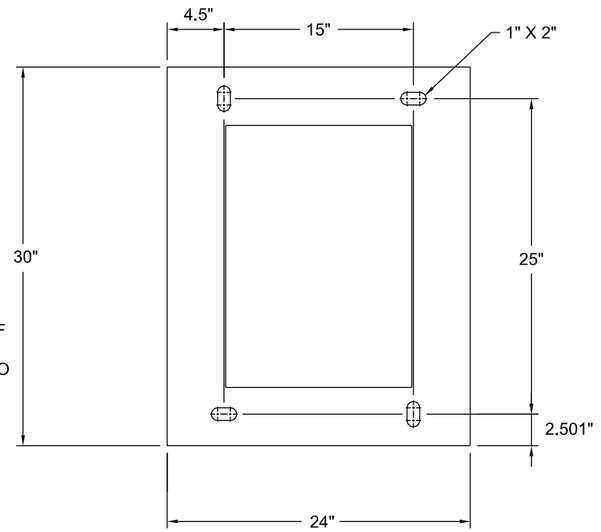


FRONT VIEW



SIDE VIEW

PAD MOUNTING PAD



NOTES:

1. SPARE CONDUIT MUST BE CAPPED, STUBBED 24" PAST FOUNDATION, AND LABELED.
2. ALL CONDUITS SHOWN WILL BE FURNISHED AND INSTALLED IN FOUNDATION IN ACCORDANCE WITH LOCAL CODES. CAP IF NOT USED. ADDITIONAL CONDUITS MAY BE REQUIRED. CONDUITS WILL EXIT FOUNDATION IN DIRECTION APPROPRIATE FOR SITE GEOMETRY.
3. CABINET ANCHORS MUST BE GALVANIZED OR STAINLESS STEEL AND WILL BE CAST IN PLACE INTO BASE. TYPICAL SIZE IS 3/4" NC x 12" x 4".
4. GROUND ROD MUST BE PROVIDED TO MEET LOCAL ELECTRICAL CODE.
5. SEAL ALL CONDUIT ENDS WITH COPPER WOOL AND DUCT SEAL TO REDUCE RODENT OR INSECT INTRUSION AND MOISTURE. DO NOT USE PERMANENT SEALANT AS CONDUITS MAY NEED TO BE REENTERED IN THE FUTURE FOR CABLE REPLACEMENT OR ADDITIONS.

NOTES: (CONTINUED)

6. THE CABINET BASE CONDUIT MUST BE HIGHER THAN SURROUNDING PULL BOXES. THE HEIGHT OF CONDUITS ENDING IN THE CABINET MUST BE HIGHER THAN THE OTHER END TO PREVENT WATER ENTRY DUE TO HYDROSTATIC PRESSURE. ALL CONDUITS WILL HAVE END BELLS INSTALLED OR NO SHARP EDGES.

ALL COSTS TO FURNISH AND INSTALL THE COMMUNICATION CABINET WILL BE INCIDENTAL TO THE CONTRACT UNIT PRICE PER EACH FOR "TYPE 1 COMMUNICATION CABINET"

SEE STANDARD PLATE 635.60 FOR PAD AND FOOTING INSTALLATION DETAILS

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REG NO.
8161
JOSH
LARSON
3-25-26
SOUTH DAKOTA

POLE MOUNTED DYNAMIC MESSAGE SIGN

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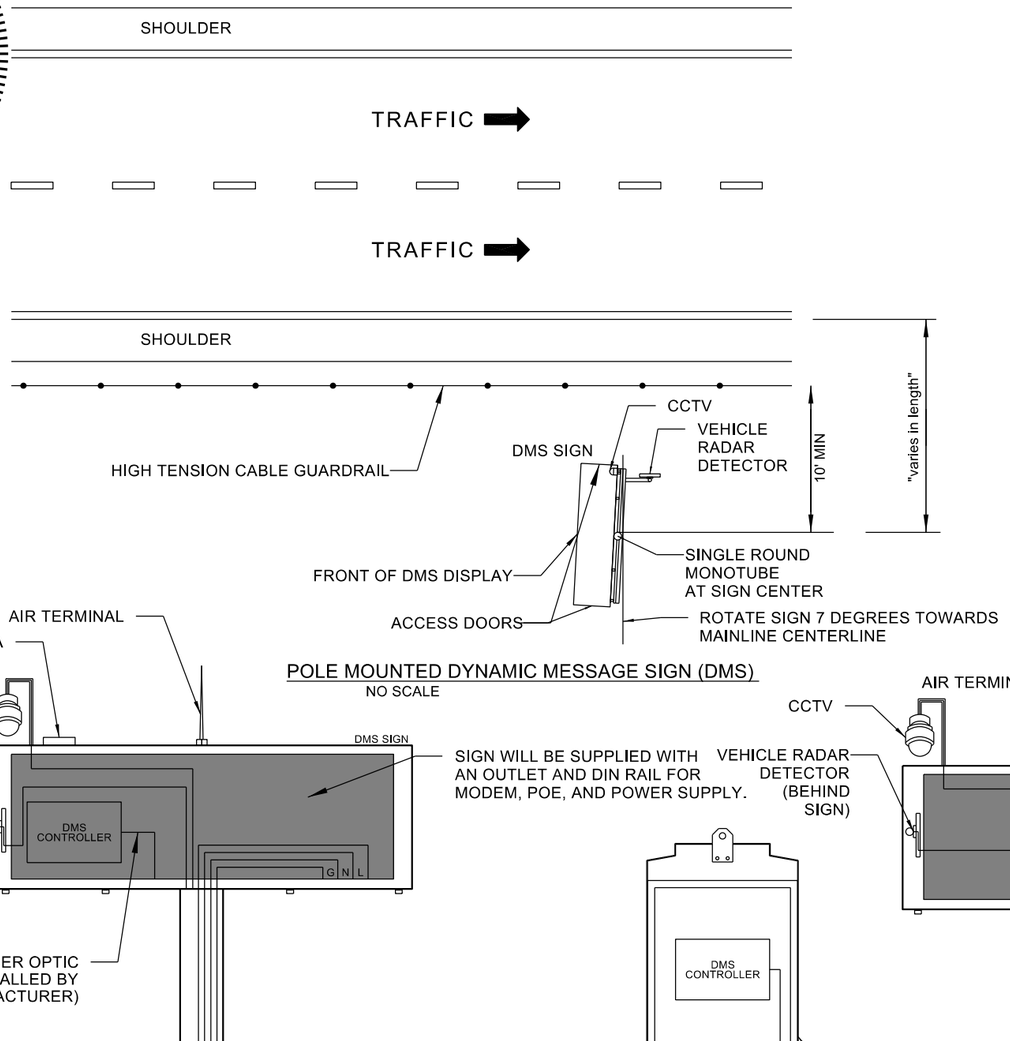
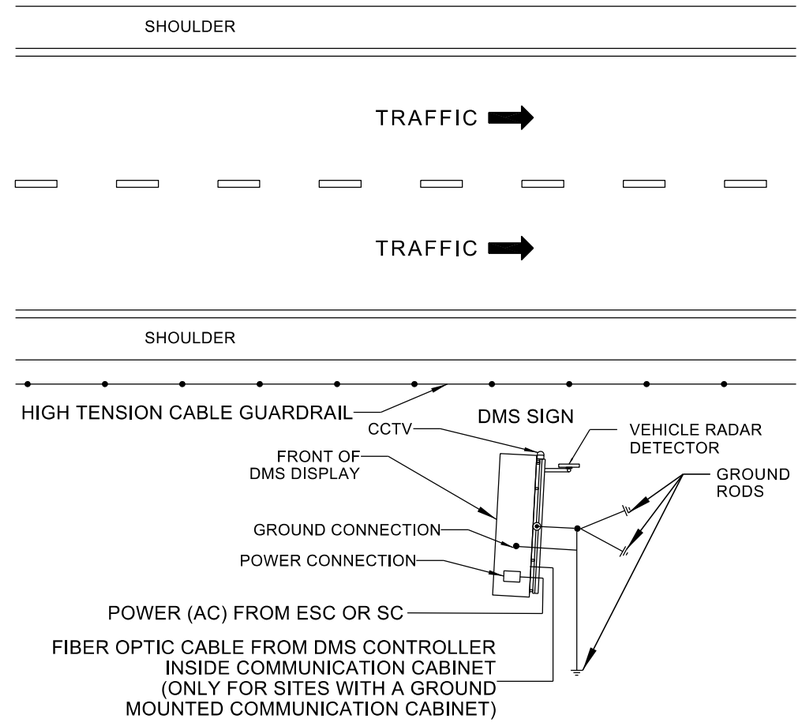
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	38	57

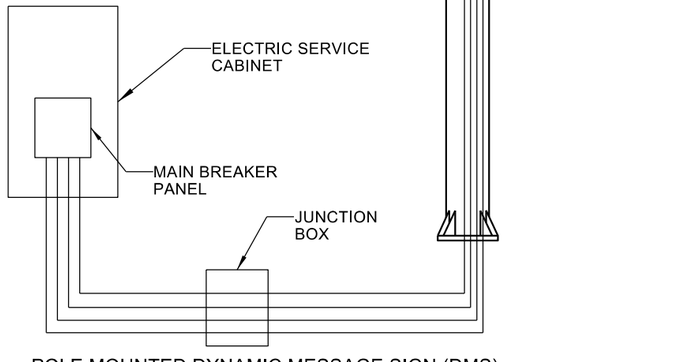
Plotting Date: 3/25/2026



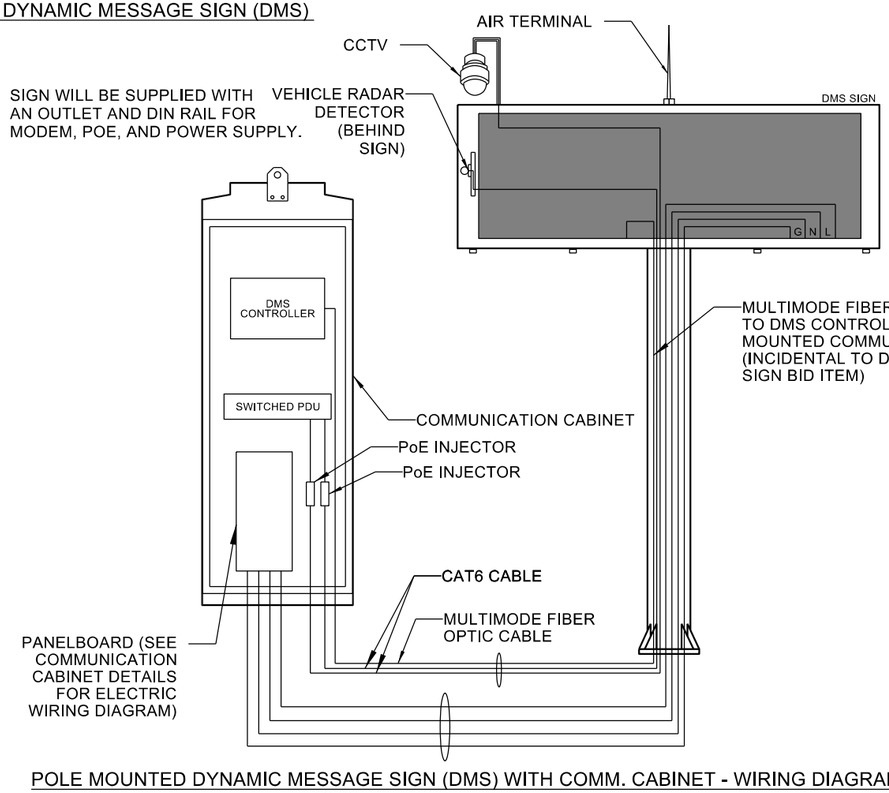
POLE MOUNTED DYNAMIC MESSAGE SIGN (DMS)
NO SCALE



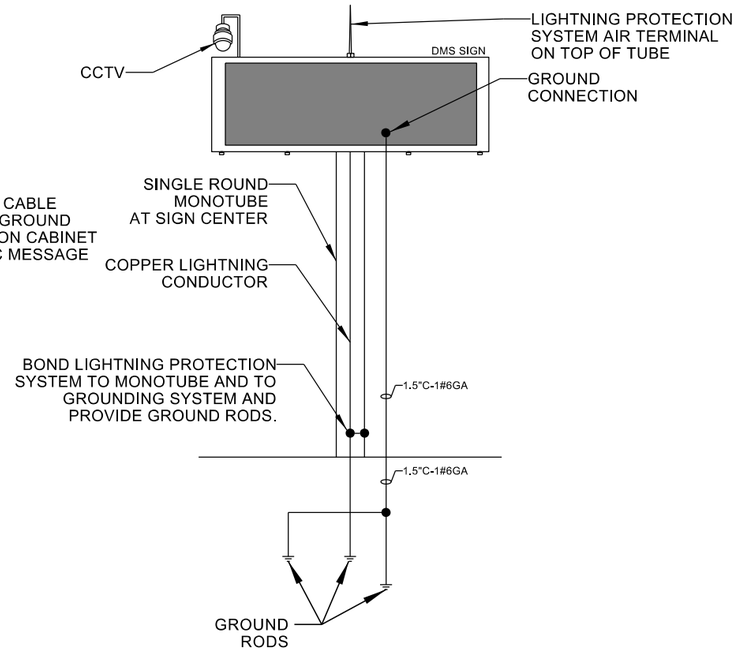
POLE MOUNTED DYNAMIC MESSAGE SIGN (DMS) - ELECTRICAL PLAN
NO SCALE



POLE MOUNTED DYNAMIC MESSAGE SIGN (DMS) WITHOUT COMM. CABINET - WIRING DIAGRAM
NO SCALE



POLE MOUNTED DYNAMIC MESSAGE SIGN (DMS) WITH COMM. CABINET - WIRING DIAGRAM
NO SCALE



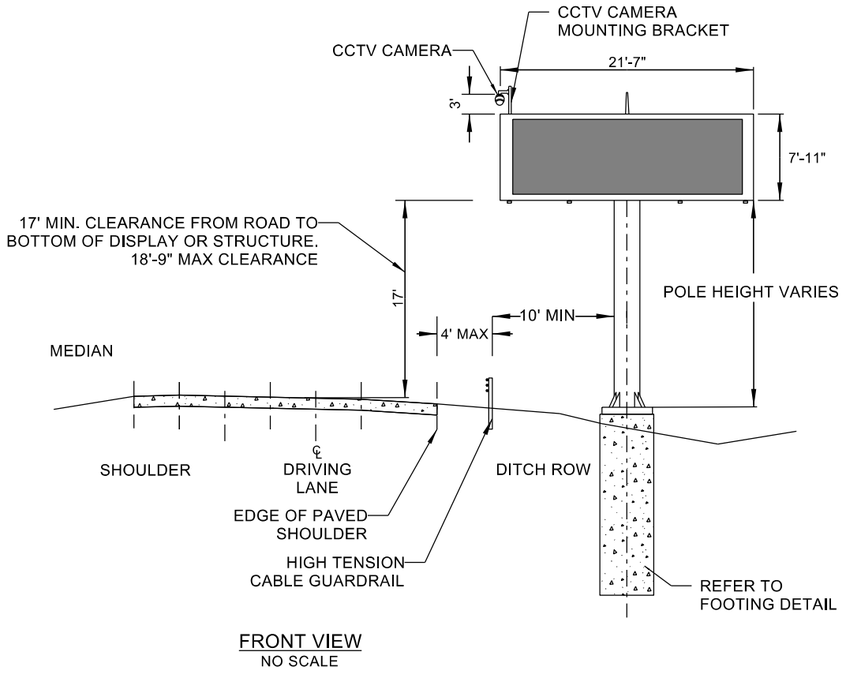
POLE MOUNTED DYNAMIC MESSAGE SIGN (DMS) - GROUNDING DETAIL
NO SCALE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	39	57

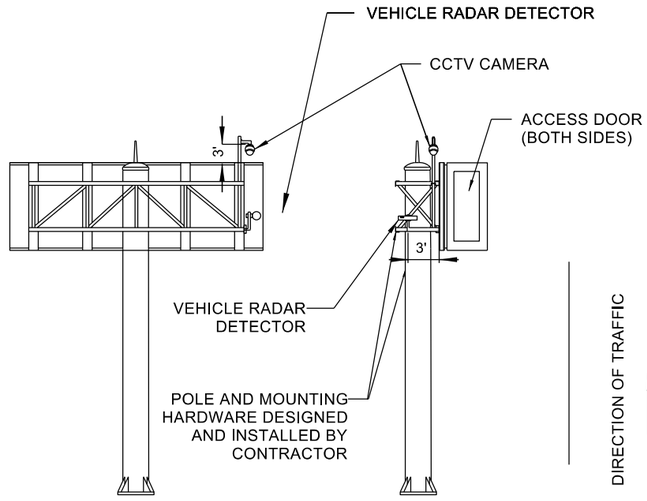
Plotting Date: 3/25/2026

POLE MOUNTED DYNAMIC MESSAGE SIGN

FOR BIDDING PURPOSES ONLY

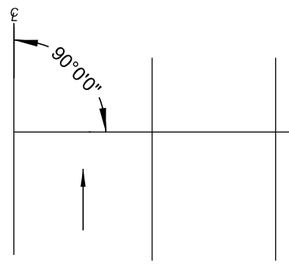


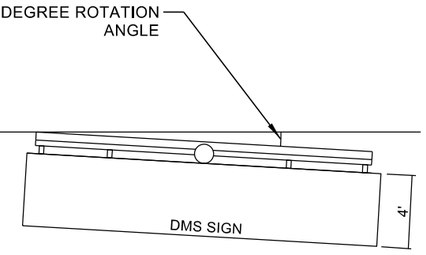
FRONT VIEW
NO SCALE



REAR VIEW
NO SCALE

SIDE VIEW
NO SCALE





TOP VIEW
NO SCALE

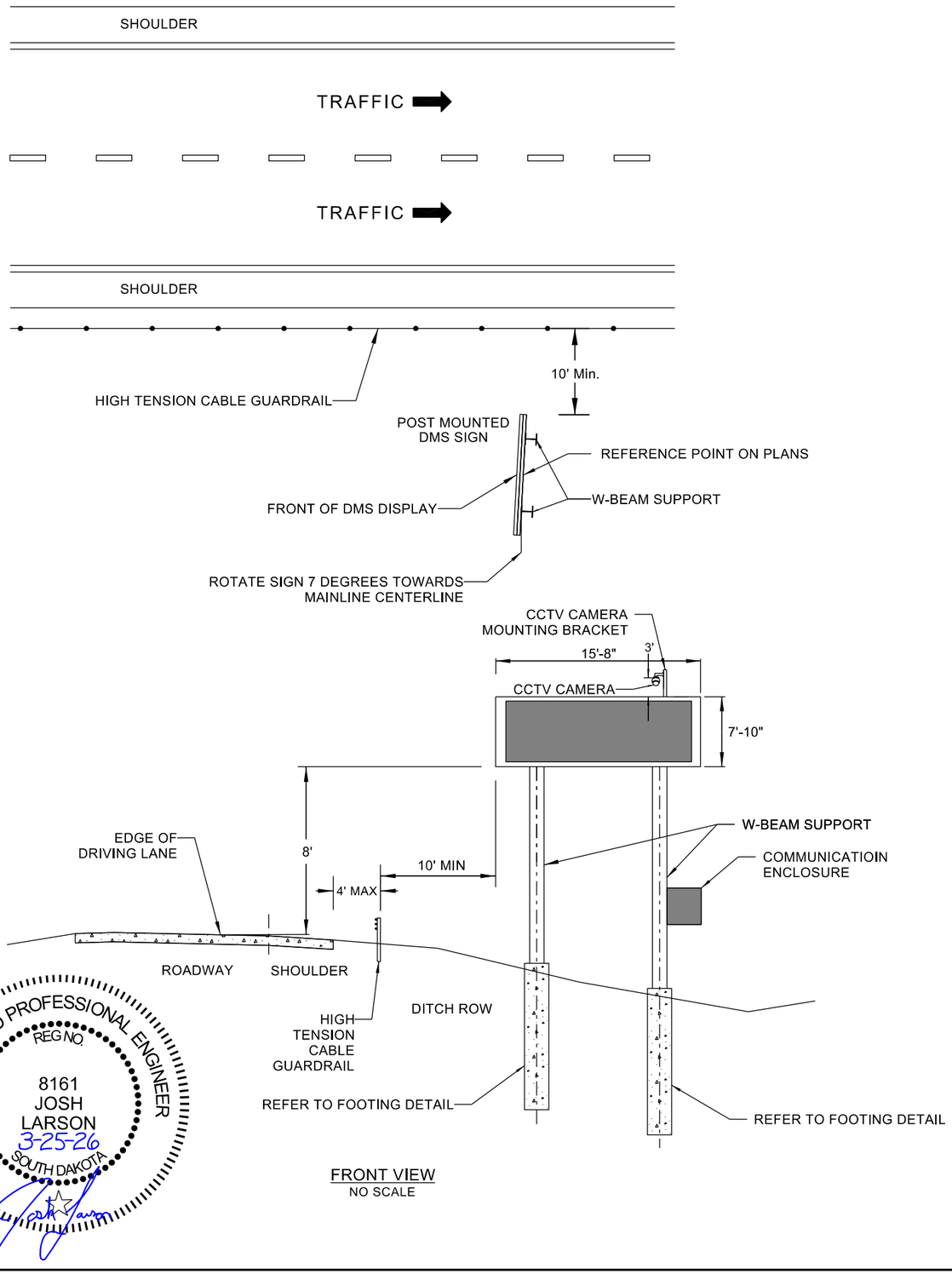
REGISTERED PROFESSIONAL ENGINEER
REG NO.
8161
JOSH
LARSON
3-25-26
SOUTH DAKOTA

POST MOUNTED DYNAMIC MESSAGE SIGN

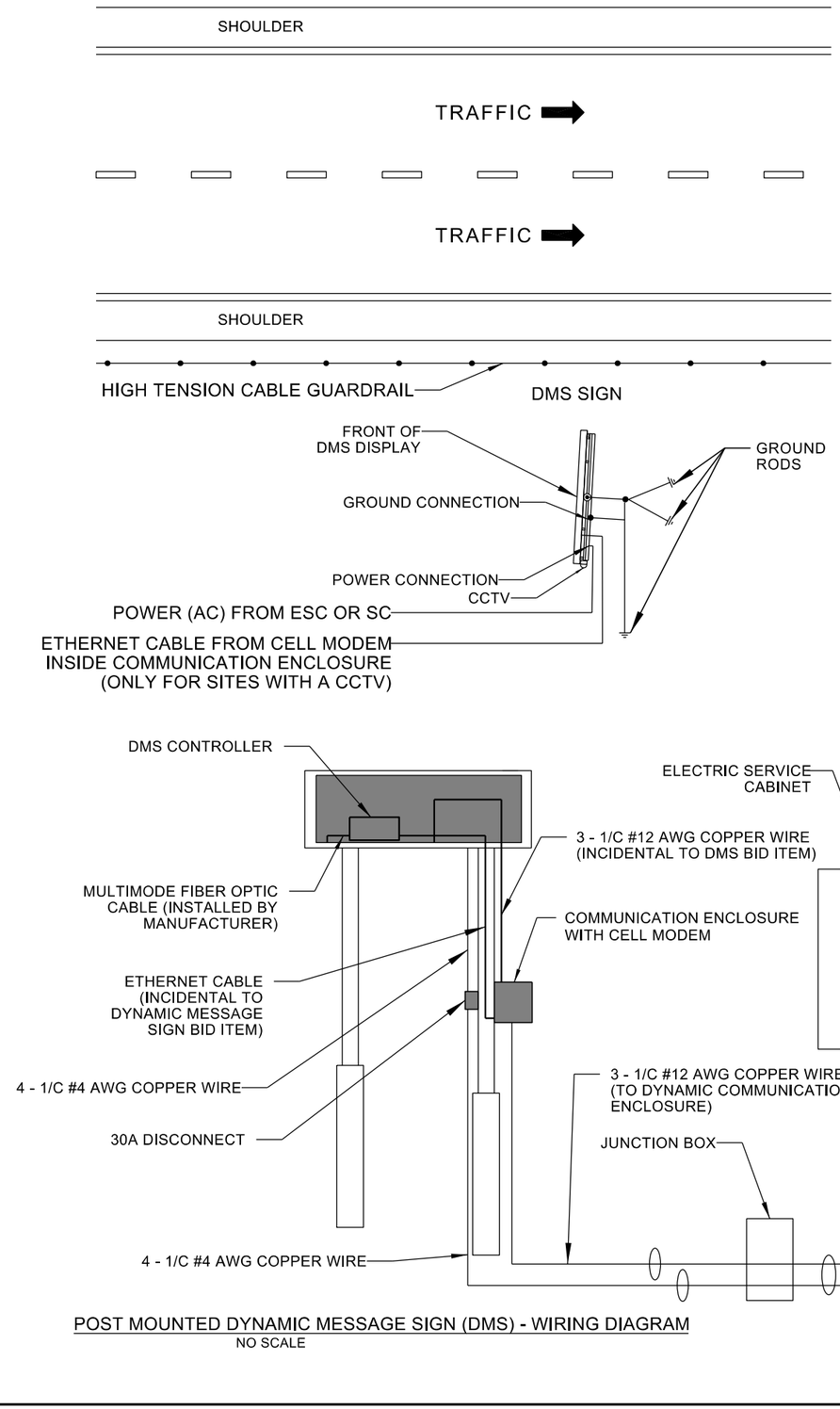
FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	40	57

Plotting Date: 3/25/2026



FRONT VIEW
NO SCALE



POST MOUNTED DYNAMIC MESSAGE SIGN (DMS) - WIRING DIAGRAM
NO SCALE

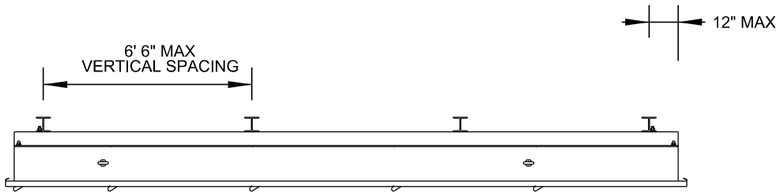
REGISTERED PROFESSIONAL ENGINEER
REG NO.
8161
JOSH
LARSON
3-25-26
SOUTH DAKOTA

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	41	57

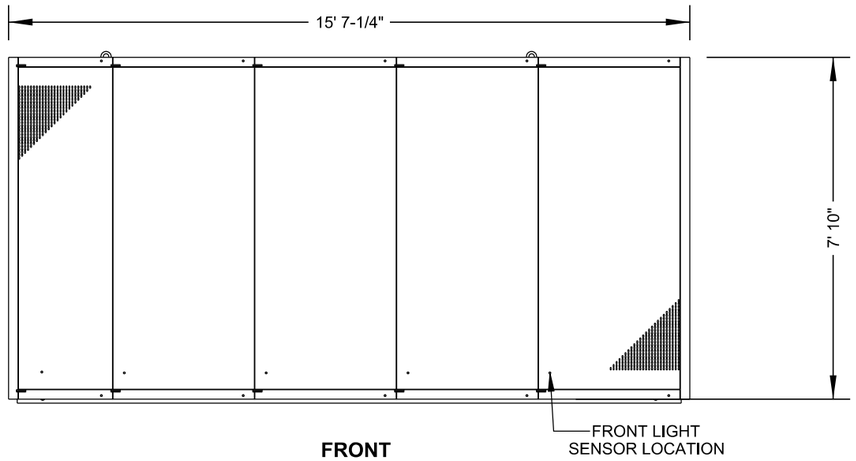
Plotting Date: 3/25/2026

POST MOUNTED DYNAMIC MESSAGE SIGN SUPPORT

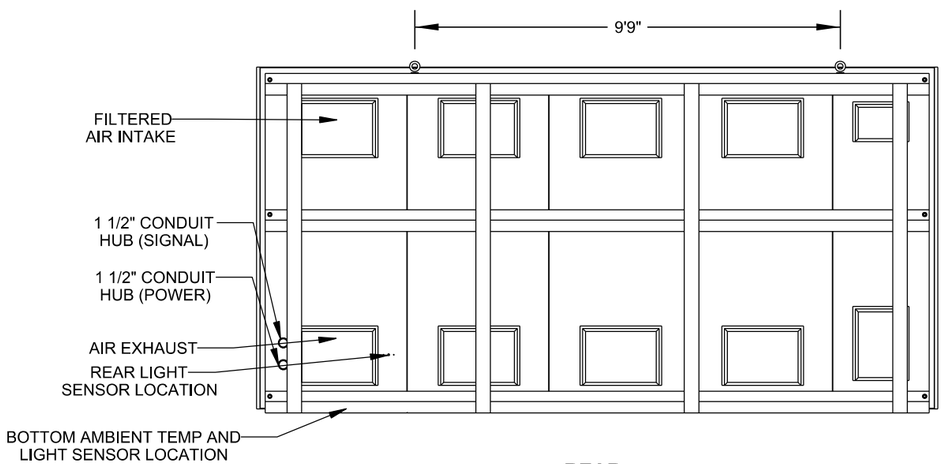
FOR BIDDING PURPOSES ONLY



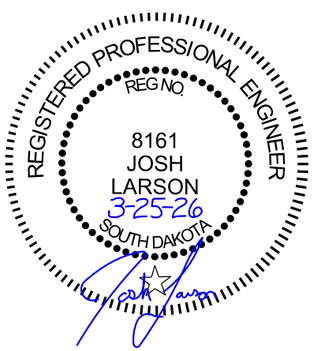
TOP VIEW

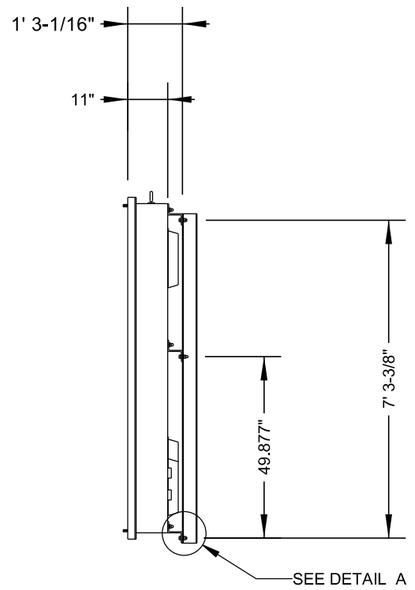


FRONT VIEW

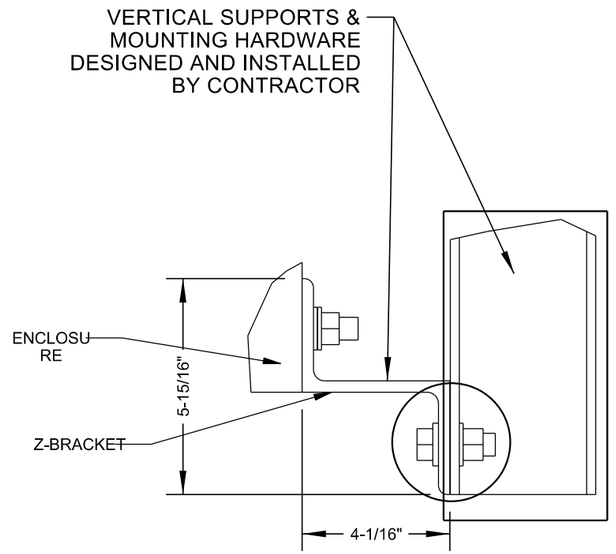


REAR VIEW





RIGHT SIDE VIEW



DETAIL A

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	CR 000S(418)	42	57

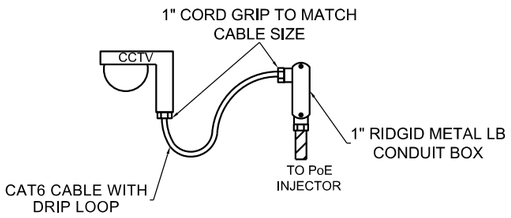
Plotting Date: 3/25/2026

POST MOUNTED DMS COMMUNICATION ENCLOSURE DETAILS

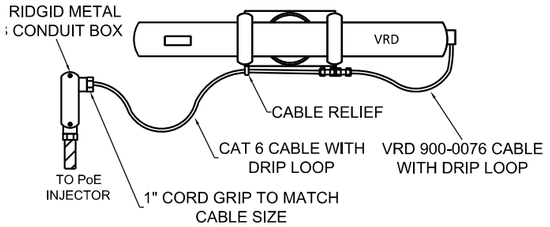
FOR BIDDING PURPOSES ONLY

NOTES:

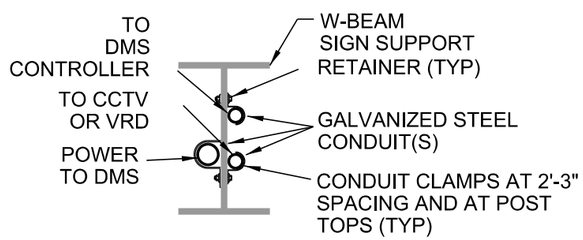
1. **ENCLOSURE IS MADE OF 0.125" ALUMINUM .**
2. **ENCLOSURE COLOR IS LIGHT GRAY TEXTURED FINISH INSIDE AND OUT.**
3. **STAINLESS STEEL LATCHES (PADLOCKABLE)**
4. **NEMA/EEMAC TYPE 4, 4X, 12, 13 ENCLOSURE.**
5. **DIMENSIONS SHOWN: INCHES.**
6. **REMOVABLE DOOR WITH CONTINUOUS HINGE AND GASKET RETAINERS.**
7. **SDDOT TO SUPPLY CELL MODEM, ANTENNA, AND DC POWER SUPPLY. THE CONTRACTOR WILL INSTALL.**



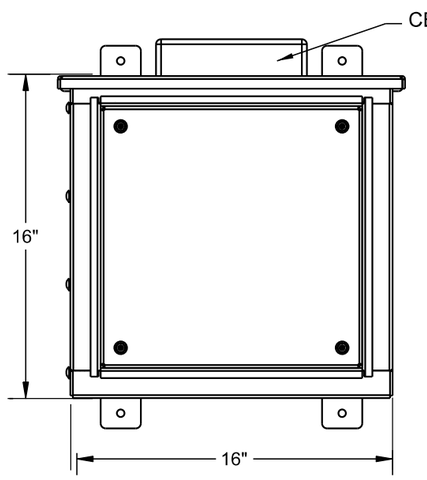
CCTV ETHERNET CONNECTION DETAIL
NO SCALE



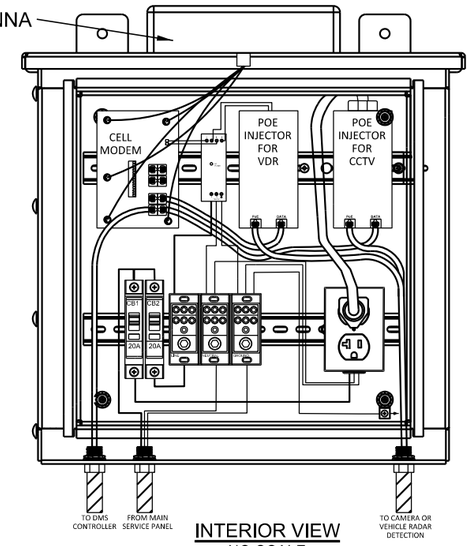
VRD ETHERNET CONNECTION DETAIL
NO SCALE



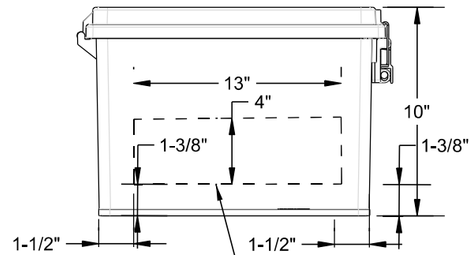
SEC. A - A



FRONT VIEW
NO SCALE



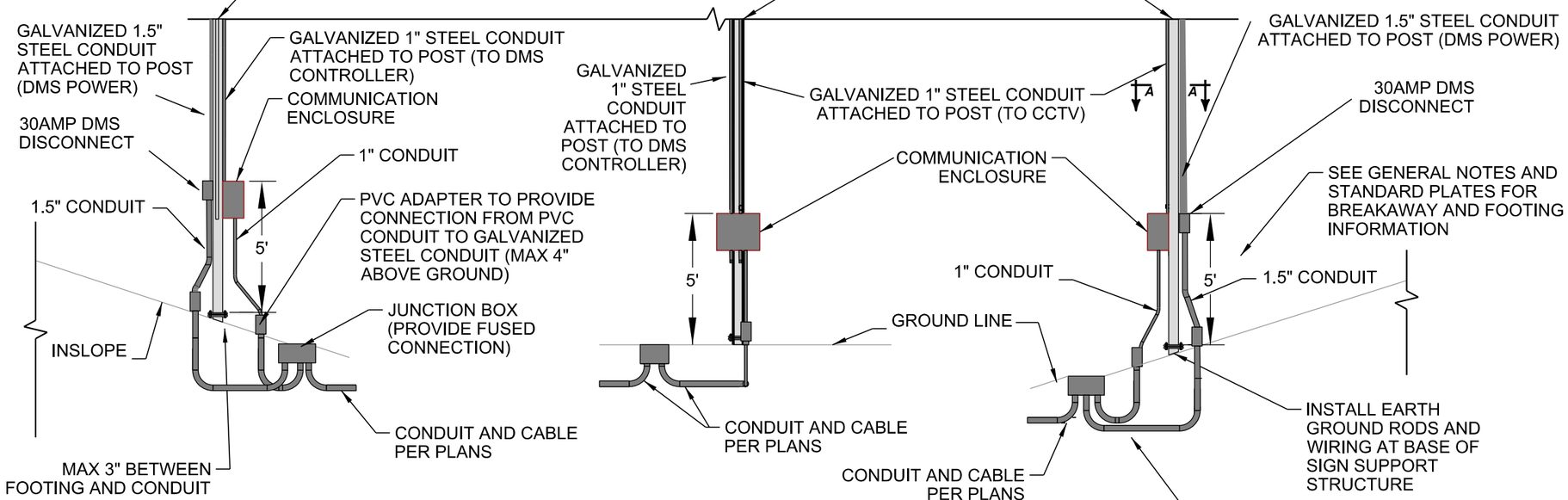
INTERIOR VIEW
NO SCALE



BOTTOM VIEW
NO SCALE

POST MOUNTED DMS COMMUNICATION ENCLOSURE

*** INSTALL COMMUNICATION ENCLOSURE ON THE OUTSIDE POST OF THE POST MOUNTED DMS.**



FRONT VIEW
NO SCALE

SIDE VIEW
NO SCALE

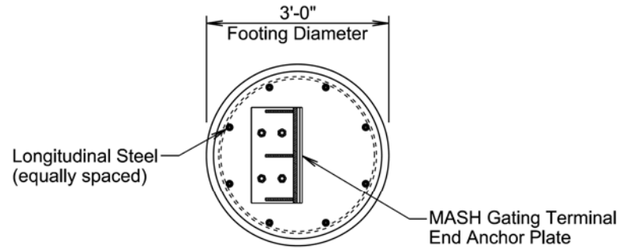
BACK VIEW
NO SCALE

POST MOUNTED DMS COMMUNICATION ENCLOSURE MOUNTING

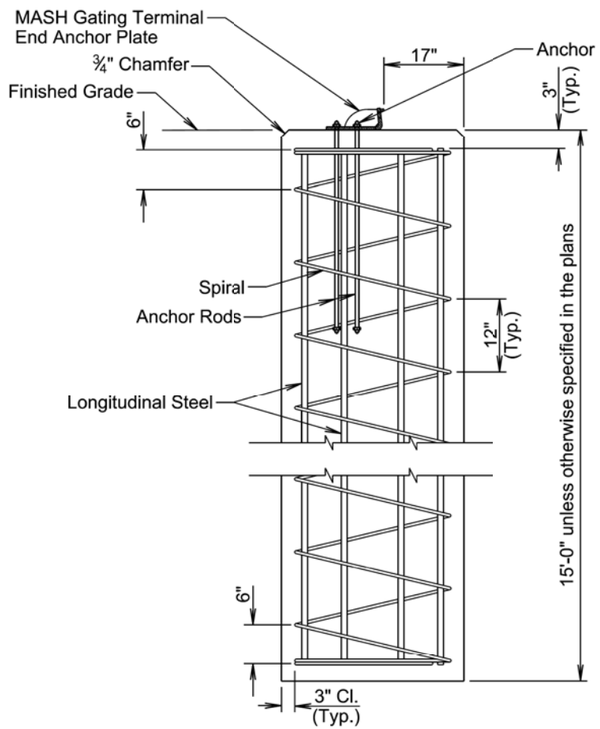
REGISTERED PROFESSIONAL ENGINEER
REG NO.
8161
JOSH
LARSON
3-25-26
SOUTH DAKOTA

HIGH TENSION CABLE GUARDRAIL
CYLINDRICAL ANCHOR FOOTING

Sheet 1 of 2



PLAN VIEW



ELEVATION VIEW

HIGH TENSION CABLE GUARDRAIL
CYLINDRICAL ANCHOR FOOTING

Sheet 2 of 2

INFORMATIONAL QUANTITIES								
* Footing Dimensions		Longitudinal Steel			Spiral Steel			Concrete
Dia.	Depth	No.	Size	Length	Dia.	Size	Length	Cu. Yd.
3'-0"	12'-0"	8	10	11'-6"	2'-6"	5	114'-0"	3.1
3'-0"	13'-0"	8	10	12'-6"	2'-6"	5	122'-0"	3.4
3'-0"	14'-0"	8	10	13'-6"	2'-6"	5	130'-0"	3.7
3'-0"	15'-0"	8	10	14'-6"	2'-6"	5	138'-0"	3.9

GENERAL NOTES:

* Footing dimensions will be 3'-0" diameter and 15'-0" depth unless specified otherwise in the plans.

Circular ties may be used in lieu of the spiral ties. The No. 5 ties will be spaced 12 inches apart except for the top and bottom two which will be spaced 6 inches apart. The ties will be lapped 18 inches and the laps will be staggered around the cage.

Spiral ties will have 1-1/2 extra turns at each end.

The longer excavations are left open, the more likely caving will occur. Operations should be sequenced so that concrete placement operations closely follow excavation procedures but at a minimum placed the same working day.

The High Tension Cable Guardrail Cylindrical Anchor Footings will be constructed in accordance with the Special Provision for Cylindrical Concrete Footings, except all costs for materials, labor, and equipment necessary to construct the footings will be incidental to the contract unit price per each for "High Tension Cable Guardrail Anchor Assembly".

All exposed edges will be chamfered ¾ inch.

All reinforcing steel will conform to ASTM A615 Grade 60.

MASH Gating Terminal end anchor plate and assembly shown is a proprietary system. The anchor hardware will be installed according to the manufacturer's installation instructions.

FOR BIDDING PURPOSES ONLY

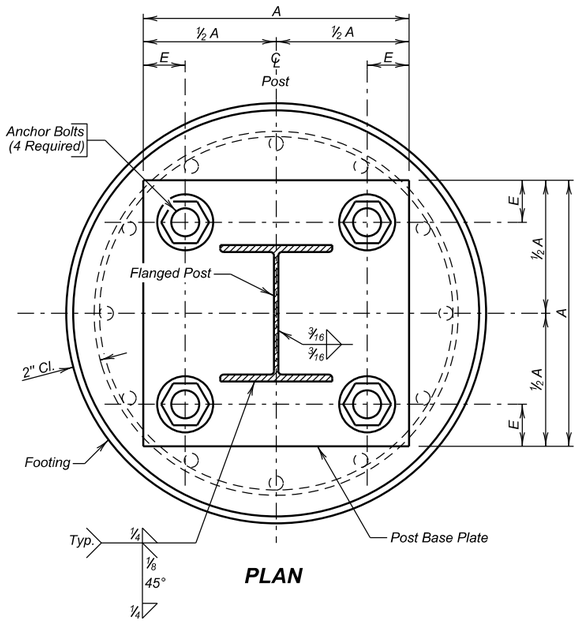
SITE LOCATION	POST SIZE	FOOTING DIMENSIONS		POST BASE PLATE DIMENSIONS			ANCHOR BOLT SIZE			LONGITUDINAL STEEL QUANTITIES			# SPIRAL STEEL QUANTITIES	
		DIA.	DEPTH	"A"	"E"	THICK.	DIA.	LENGTH	⧖ MINIMUM EMBEDMENT	NO.	SIZE	LENGTH	DIA.	LENGTH
DMS 85-54 (US 85 SB)	W10X33	3' - 0"	12' - 0"	1' - 7"	1 ¾"	⅞"	1 ½"	3' - 9"	2' - 6"	13	8	11' - 8"	2' - 8"	122' - 2"
DMS 83-117 (US 83 SB)	W10X33	3' - 0"	12' - 0"	1' - 7"	1 ¾"	⅞"	1 ½"	3' - 9"	2' - 6"	13	8	11' - 8"	2' - 8"	122' - 2"

⧖ # Spirals - Use 12" pitch and 1 ½ extra turns at each end. Use 1 ½ turns for lap at splice as required, or weld as approved by the Office of Bridge Design, Spirals may be smooth bars, Bar length shown does not include Splices. Use 3 vertical spacer bars per footing.

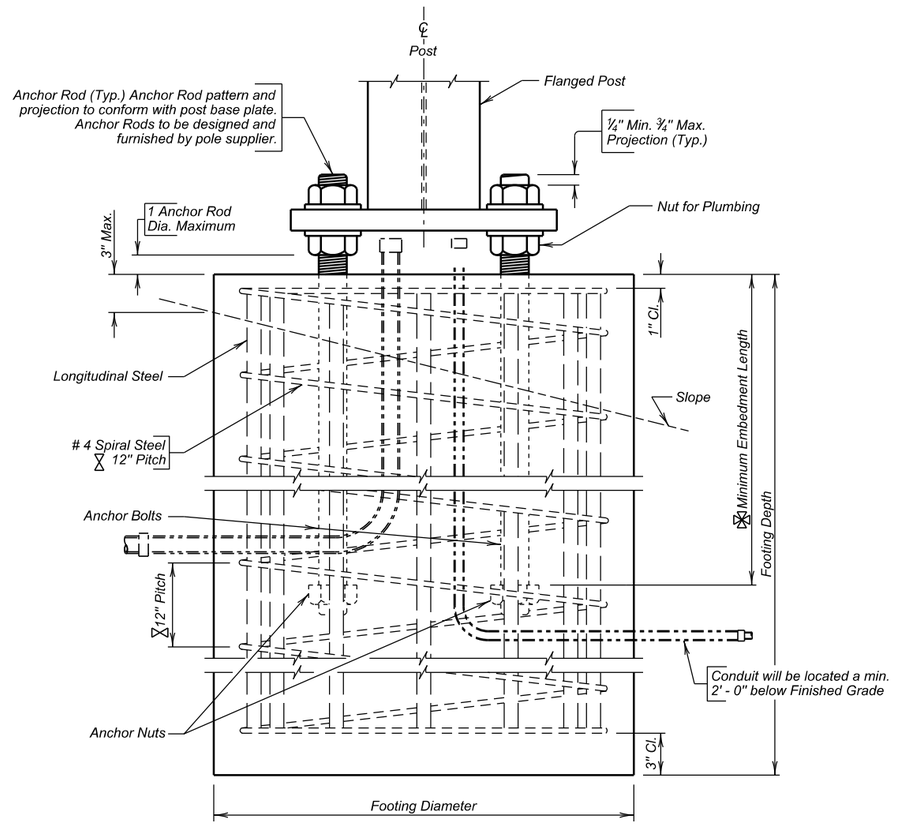
Dimensions are out to out of bars.

⧖ See Footing Detail

SITE LOCATION	SUBSURFACE SOIL	GROUNDWATER DEPTH
DMS 85-54 (US 85 SB)	0' - 20' Brown Gray Silt Clay	Dry (September 2025)
DMS 83-117 (US 83 SB)	0' - 16' Gray Brown Silt Clay 16' - 20' Brown Clay Silt	Caved at 8.2' (September 2025)



PLAN



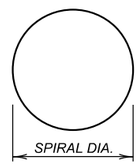
FOOTING DETAIL

GENERAL NOTES

1. Design Specification: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, Sixth Edition 2013 with 2019 interims.
2. Concrete Footings will be Class M6 - f 'c = 4000 p.s.i.
3. Structural Steel will conform to ASTM A36.
4. All Reinforcing Steel, except spirals, will conform to ASTM A615 Grade 60.
5. Spiral Reinforcing Steel may be fabricated from cold drawn wire ASTM A1064, or hot rolled plain or deformed bars conforming to the strength requirements of ASTM A615, Grade 60.
6. All Anchor Rods will conform to ASTM F1554, Grade 36 having a minimum yield stress of 36000 p.s.i. Anchor Bolts will be cleaned to remove any oil from the threading process before galvanizing.
7. Anchor Rods will have 7" thread length on both ends.
8. All nuts will conform to ASTM A563, DH. All nuts will be heavy hex. All washers will conform to ASTM F436.
9. All structural steel including the Steel Posts will be galvanized according to ASTM A123. The Nuts, Washers and 10" of one end of the Anchor Rods will be galvanized according to ASTM F2329.
10. All Rod Holes will be drilled. All plate cuts will preferably be Saw Cuts, however, Flame Cutting will be permitted providing all edges are ground smooth (metal projecting beyond the plane of the plate face will NOT be allowed).
11. All welding and weld inspection will be in accordance with the latest edition of AWS D 1.5 Structural Welding Code.
12. The Dynamic Message Sign cylindrical footings will be constructed in accordance with the Special Provision for Cylindrical Concrete Footings.
13. The longer excavations are left open, the more likely caving will occur. Operations should be sequenced so that concrete placement operations closely follow excavation procedures but at a minimum placed the same working day. Concrete will be placed prior to the start of excavation at another DMS location.

SHOP PLANS

The Fabricator will submit shop plans in accordance with the Specifications or in Adobe PDF format. Shop plan submittals will be sent to the Office of Bridge Design. Include design and check design, if applicable, with initial submittal.



ERECTION DETAILS

FOR

FIXED SIGN SUPPORTS

CR 000S(418)

PCN. 080J

S. D. DEPT. OF TRANSPORTATION

NOVEMBER 2025

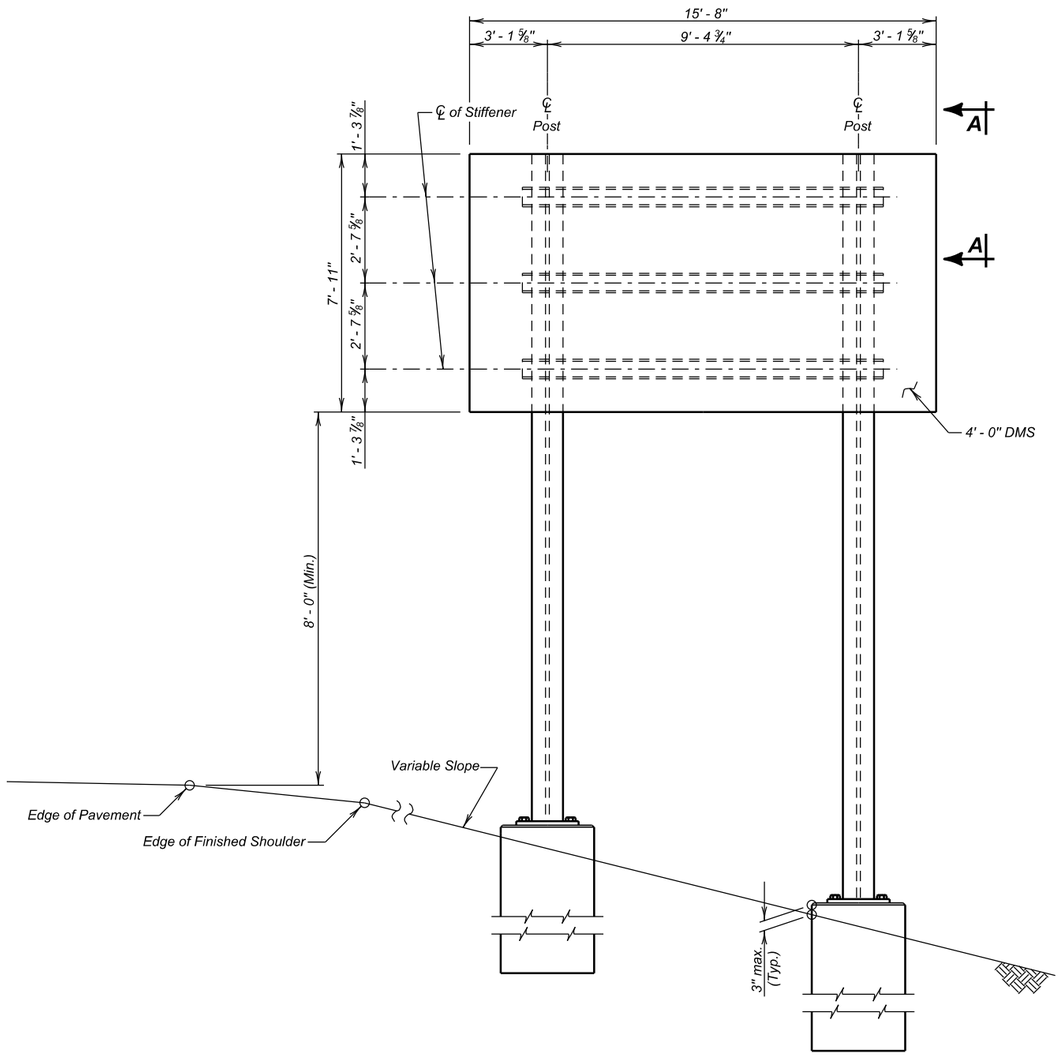
DESIGNED BY	CK. DES. BY	DRAFTED BY	
BB	JU	BB	Steven A Johnson BRIDGE ENGINEER

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	CR 000S(418)	45	57

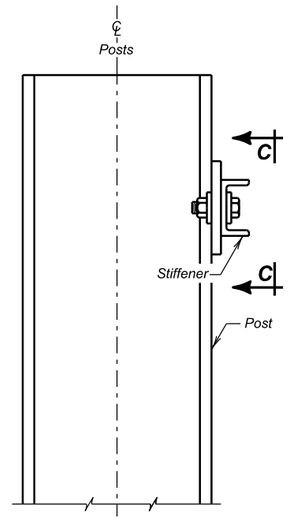
FOR BIDDING PURPOSES ONLY

Revised April 14, 2026 BBDU

NOTE:
Fabricator will provide details for attaching DMS to post.



ELEVATION

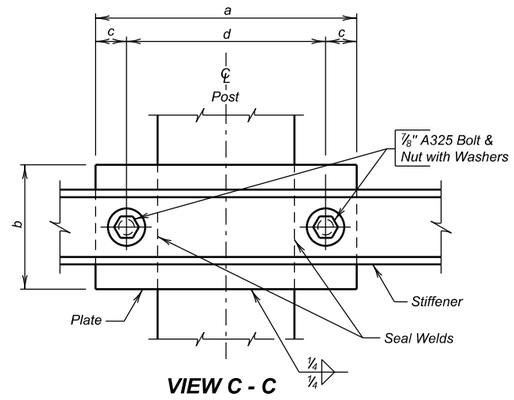


VIEW A - A
(DMS not shown)

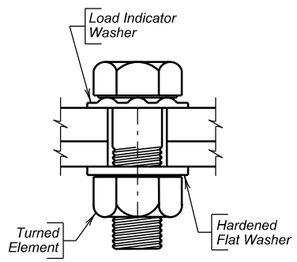
STIFFENER DATA							
Post	Stiffener	a	b	c	d	Bolt (A325)	Plate Thk.
W10X33	C5X6.7	13 ½"	6"	1 ½"	10 ½"	⅞" ϕ	⅜"

STIFFENER BOLTING PROCEDURE

High strength bolts will be tightened so as to obtain a minimum residual tension by the use of load indicator washers.



VIEW C - C



LOAD INDICATOR WASHER DETAIL

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
3' Diameter Fixed Support Concrete Footing	Ft.	48

1. 12.6 Cu. Yds. Class M6 Concrete, Drilled Shaft in Sign Footings.
2. 2054 Lbs. Re-Steel in Sign Footings (including 108 lbs. for spacer bars.).
3. 12.6 Cu. Yds. Drilled Shaft Excavation for Sign Footings.

Items 1 thru 3 are approximate quantities contained in the 3' Diameter Fixed Support Concrete Footing bid item and are for information only.

Each spacer bar is computed at ¾ lbs per linear foot regardless of type furnished.

ERECTION DETAILS
FOR
FIXED SIGN SUPPORTS
CR 000S(418)

S. D. DEPT. OF TRANSPORTATION
NOVEMBER 2025

2 OF 2

PLANS BY :
OFFICE OF BRIDGE DESIGN, SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION

DESIGNED BY	CK. DES. BY	DRAFTED BY	
BB	JU	BB	Steve A. Johnson BRIDGE ENGINEER

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	CR 000S(418)	46	57

FOR BIDDING PURPOSES ONLY

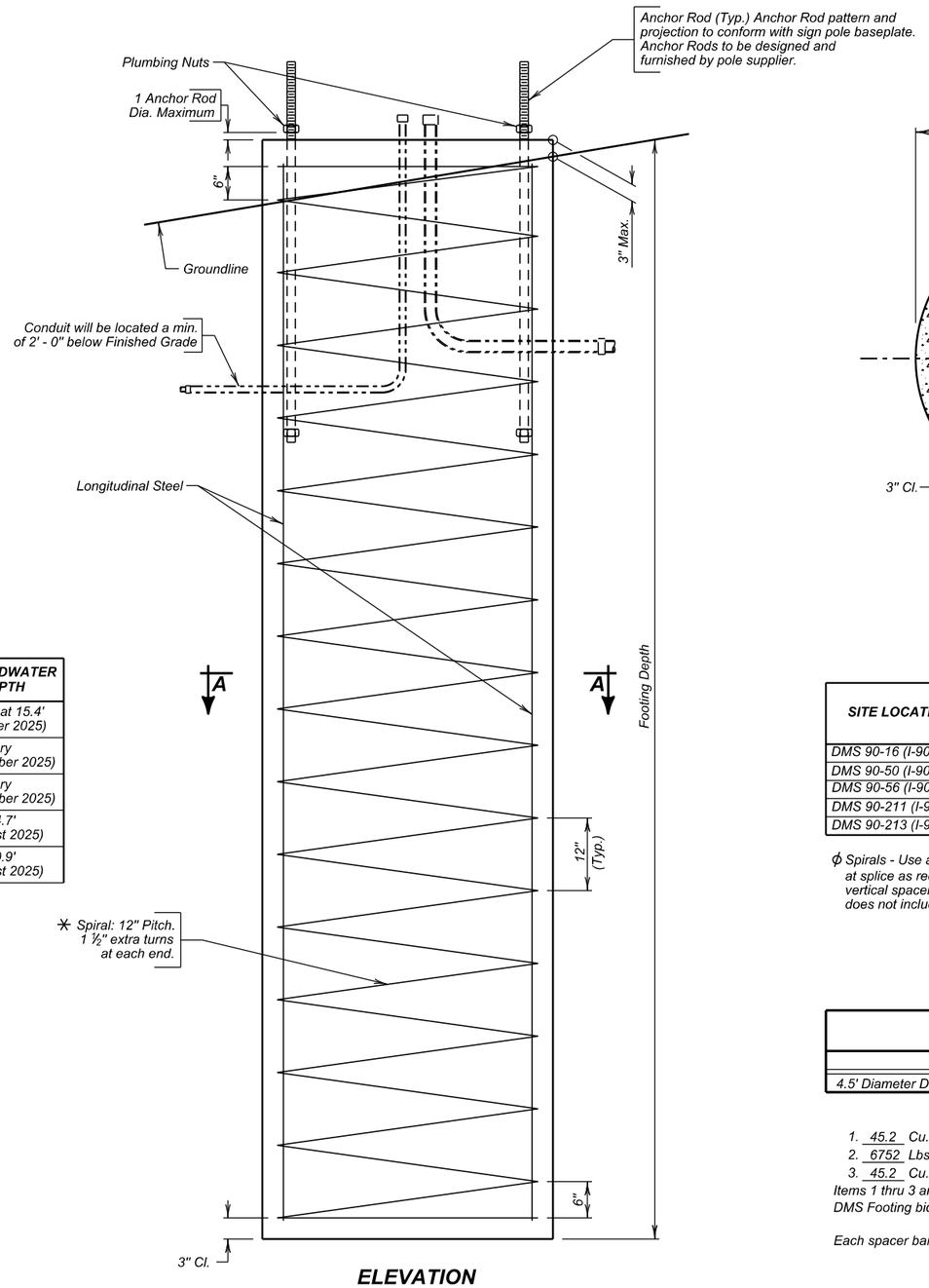
SPECIFICATIONS

1. *Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals, 2013 Edition with 2019 interims.*
2. *Construction Specifications: South Dakota Standard Specifications for Roads and Bridges,10-1-25 Version, Required Provisions, and Special Provisions as included in the Proposal.The Standard Specifications for Roads and Bridges are available for download and viewing at: https://dot.sd.gov/doing-business/contractors/standard-specifications*

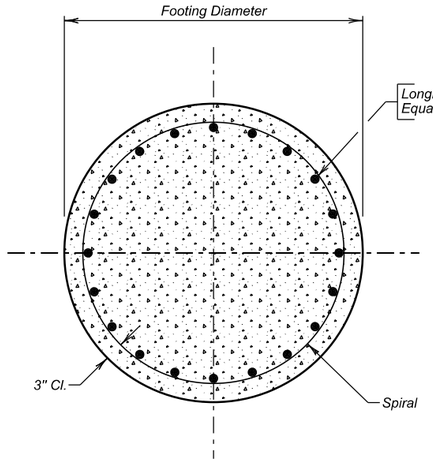
GENERAL NOTES

1. *The Dynamic Message Sign cylindrical footings will be constructed in accordance with the Special Provision for Cylindrical Concrete Footings.*
2. *All exposed edges will be chamfered ¾". A suitable form will be used above the existing ground line and all exposed portions will be formed to present a neat appearance.*
3. *All reinforcing steel will conform to ASTM A615 Grade 60.*
4. *All concrete will be Class A45, Drilled Shaft.*
5. *Design Material Strengths: Concrete f 'c = 4500 psi*
   Reinforcing Steel fy = 60000 psi
6. *Payment for 4.5' Diameter DMS Footing will be full compensation for all Drilled Shaft Excavation; Concrete and Reinforcing Steel; for disposal of all excavated material and surplus materials; and for labor, tools, equipment and any incidentals necessary to complete this item of work.*
7. *The longer excavations are left open, the more likely caving will occur. Operations should be sequenced so that concrete placement operations closely follow excavation procedures but at a minimum placed the same working day. Concrete will be placed prior to the start of excavation at another DMS location.*
8. *A drilled shaft preconstruction meeting is required to be held prior to beginning construction of the Dynamic Message Sign cylindrical footings.*

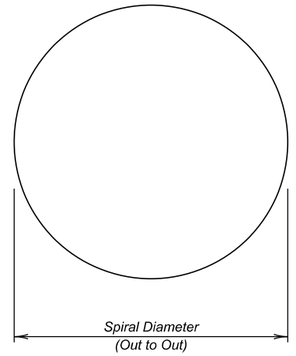
SITE LOCATION	SUBSURFACE SOIL	GROUNDWATER DEPTH
DMS 90-16 (I-90 WB)	0' - 25' Red Clay Silt (Spearfish Formation)	Caved at 15.4' (October 2025)
DMS 90-50 (I-90 EB)	0' - 16' Red Clay Silt (Fill) 16' - 23' Red Clay Silt (Spearfish Formation)	Dry (September 2025)
DMS 90-56 (I-90 WB)	0' - 19' Brown Sand Silt 19' - 23' Brown Sandy Gravel	Dry (September 2025)
DMS 90-211 (I-90 EB)	0' - 7' Brown Silt Clay 7' - 23' Dark Gray Silt Clay (Pierre Shale)	14.7' (August 2025)
DMS 90-213 (I-90 WB)	0' - 14.5' Brown Silt Clay 14.5' - 23' Soft Wet Brown Silt Clay	10.9' (August 2025)



ELEVATION



SECTION A-A



SITE LOCATION	SUPPORT DESCRIPTION	FOOTING DIMENSIONS		LONGITUDINAL STEEL			ϕ SPIRAL STEEL			CONCRETE QUANTITY
		DIA.	DEPTH	NO.	SIZE	LENGTH	DIA.	SIZE	LENGTH	CU. YD.
DMS 90-16 (I-90 WB)	DMS Sign Support	4' - 6"	14' - 0"	23	9	13' - 6"	4' - 0"	4	207' - 11"	8.2
DMS 90-50 (I-90 EB)	DMS Sign Support	4' - 6"	16' - 0"	23	9	15' - 6"	4' - 0"	4	233' - 2"	9.4
DMS 90-56 (I-90 WB)	DMS Sign Support	4' - 6"	16' - 0"	23	9	15' - 6"	4' - 0"	4	233' - 2"	9.4
DMS 90-211 (I-90 EB)	DMS Sign Support	4' - 6"	15' - 0"	23	9	14' - 6"	4' - 0"	4	220' - 6"	8.8
DMS 90-213 (I-90 WB)	DMS Sign Support	4' - 6"	16' - 0"	23	9	15' - 6"	4' - 0"	4	233' - 2"	9.4

ϕ Spirals - Use a 12" pitch and 1 ½ extra turns at each end. Use 1 ½ turns for lap at splice as required, or weld as approved by the Office of Bridge Design. Use 3 vertical spacer bars per footing. Spirals may be smooth bars. Bar length shown does not include splices.

ESTIMATED QUANTITIES		
ITEM	UNIT	QUANTITY
4.5' Diameter DMS Footing	Ft.	77

1. 45.2 Cu. Yds. Class A45 Concrete, Drilled Shaft in Sign Footings.
2. 6752 Lbs. Re-Steel in Sign Footings (including 173 lbs. for spacer bars.).
3. 45.2 Cu. Yds. Drilled Shaft Excavation for Sign Footings.

Items 1 thru 3 are approximate quantities contained in the 4.5' Diameter DMS Footing bid item and are for information only.

Each spacer bar is computed at ¾ lbs per linear foot regardless of type furnished.

*Circular Ties may be used in lieu of Spiral Ties. The ties will be spaced 12" apart except for the top two which will be spaced 6" apart. The ties will be lapped 20" which will be staggered around the cage.

DETAILS
FOR
DMS SIGN FOOTINGS
CR 000S(418)
PCN. 080J

S. D. DEPT. OF TRANSPORTATION
NOVEMBER 2025

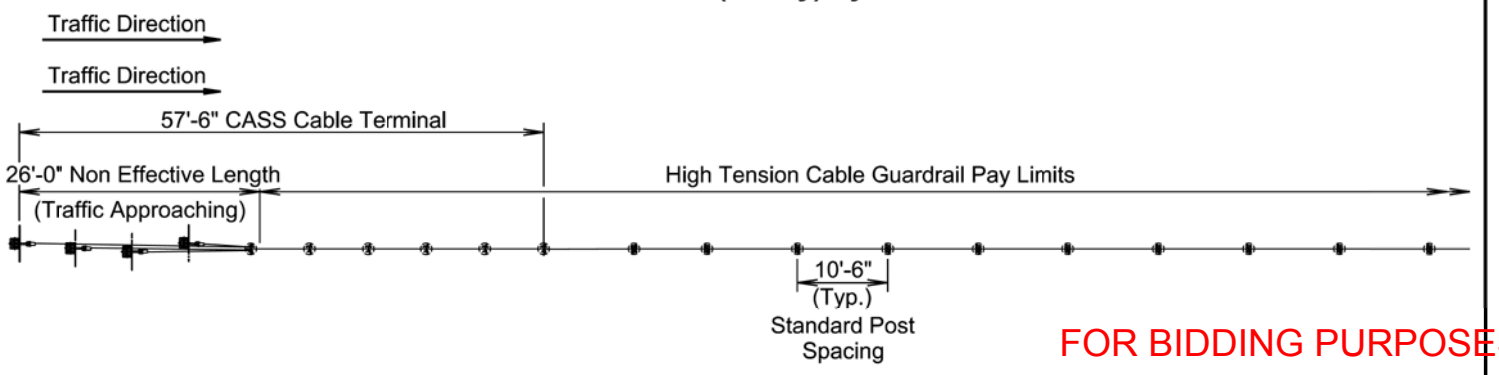
1 OF 1

PLANS BY :
OFFICE OF BRIDGE DESIGN, SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION

DESIGNED BY	CK. DES. BY	DRAFTED BY	
BB	JU	BB	BRIDGE ENGINEER

Published Date: 2026

Pay Limits for One-Way Traffic Roadways
Valtir (Trinity) System



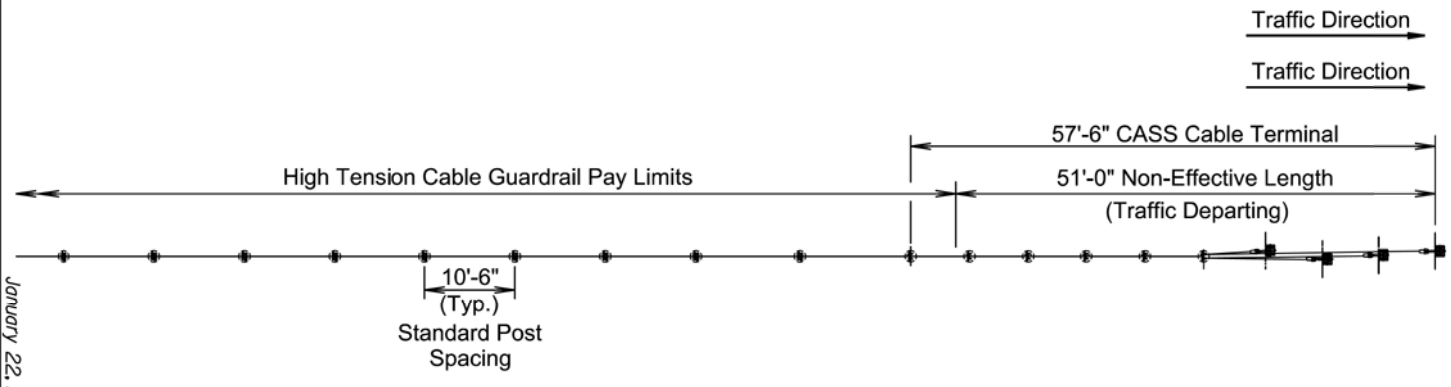
FOR BIDDING PURPOSES ONLY

GENERAL NOTES:

Valtir (Trinity) CASS Cable Terminal has a total length of 57'-6". On one-way traffic roadways, it has 31'-6" effective length on the approach end of the terminal and 6'-6" effective length on the non-approach (departure) end. On two-way traffic roadways, it has 31'-6" effective length on both the approach and the non-approach ends of the terminal.

The High Tension Cable Guardrail pay limits will be the length of need (LON) or the effective length.

The High Tension Cable Guardrail Anchor Assembly pay limits will be the non-effective length of the terminal.



HIGH TENSION CABLE GUARDRAIL

SDDOT

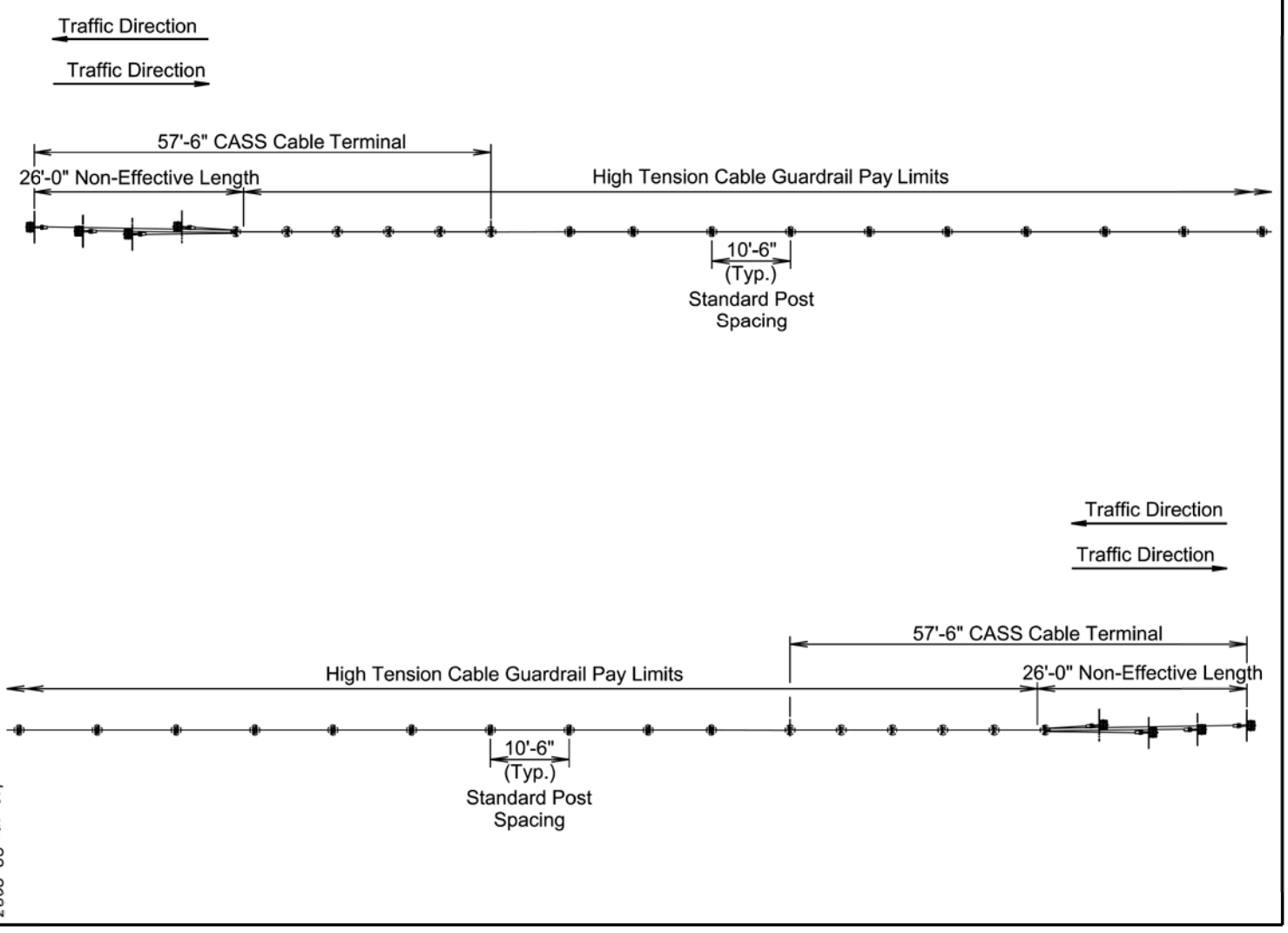
PLATE NUMBER 629.50

Sheet 1 of 3

January 22, 2023

Published Date: 2026

Pay Limits for Two-Way Traffic Roadways
Valtir (Trinity) System



HIGH TENSION CABLE GUARDRAIL

SDDOT

PLATE NUMBER 629.50

Sheet 2 of 3

January 22, 2023

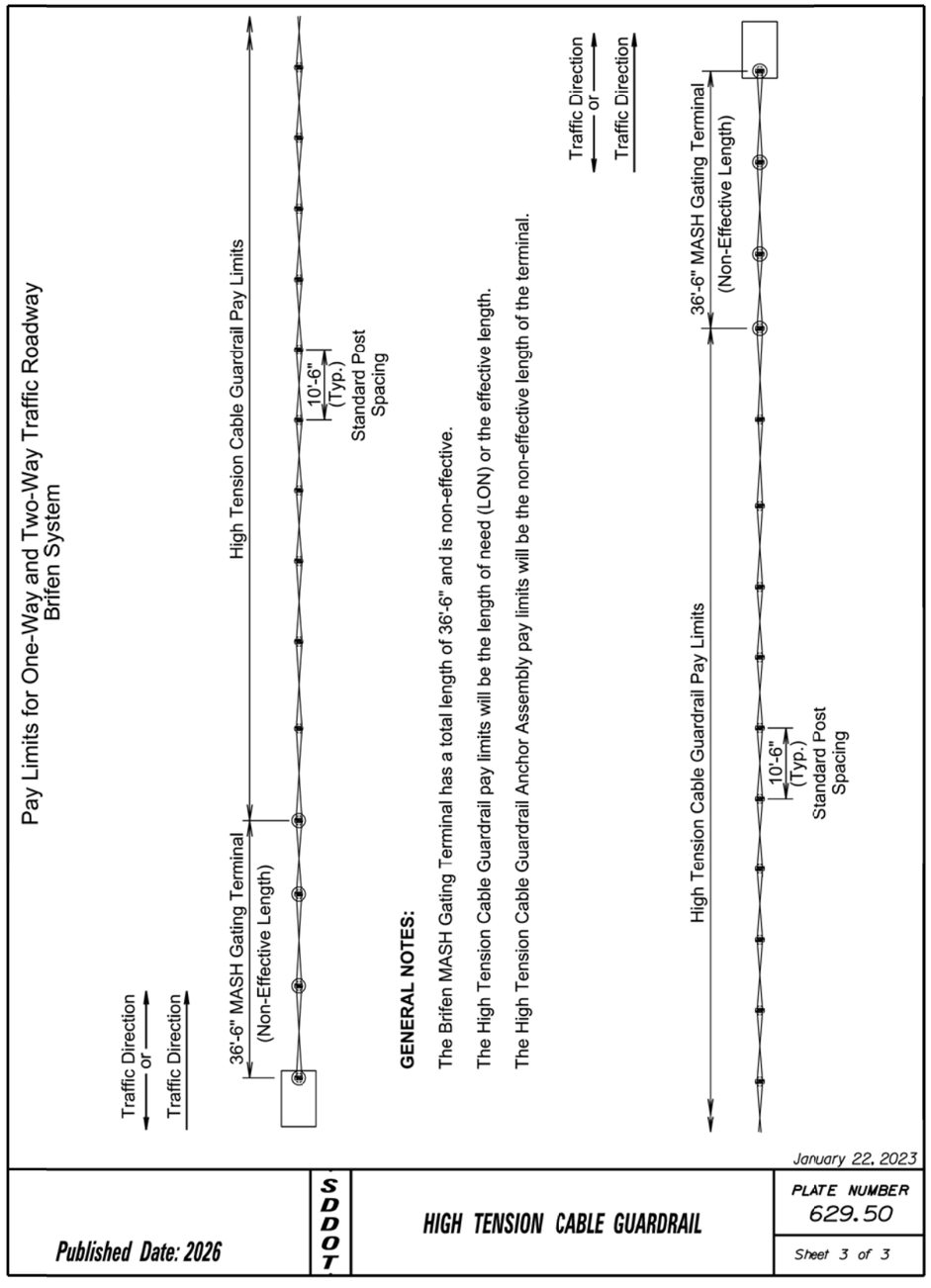
Plotting Date: 3/25/2026

STATE OF SOUTH DAKOTA

PROJECT CR 0005(418)

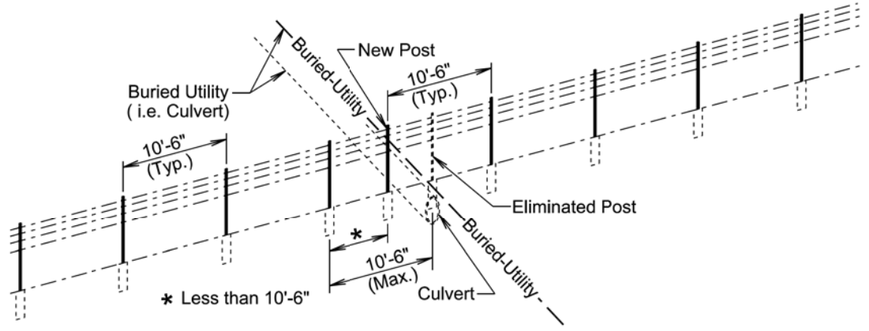
SHEET 47

TOTAL SHEETS 57



January 22, 2023

Published Date: 2026	SDDOT	HIGH TENSION CABLE GUARDRAIL	PLATE NUMBER 629.50
			Sheet 3 of 3



POST SPACING AT UTILITY CROSSING

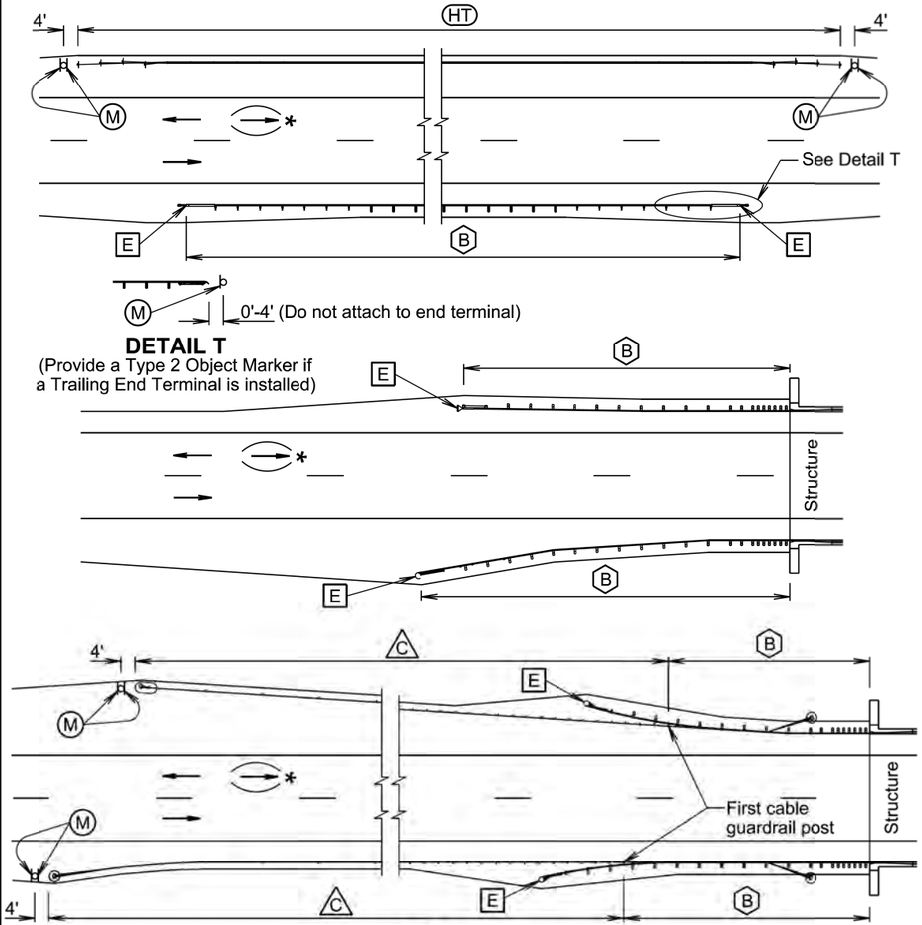
GENERAL NOTES:

The post spacing may be modified to avoid utility conflicts; however, the post spacing will not exceed 10'-6".

All costs for materials, labor, equipment, and incidentals necessary to install the high tension cable guardrail at an utility crossing will be incidental to the contract unit price per foot for "High Tension 3 Cable Guardrail" or "High Tension 4 Cable Guardrail".

March 31, 2024

Published Date: 2026	SDDOT	HIGH TENSION CABLE GUARDRAIL UTILITY CROSSING	PLATE NUMBER 629.70
			Sheet 1 of 1



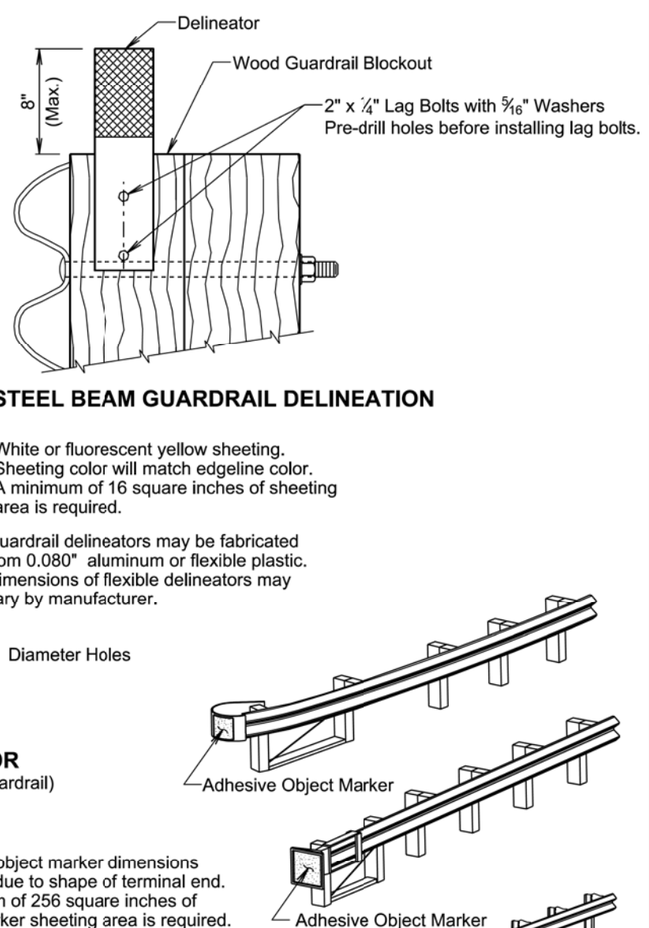
PLAN VIEW
(Typical Guardrail Layouts)

Ⓑ Steel Beam Guardrail Delineation
Ⓔ Guardrail End Terminal Object Marker
Ⓒ 3 Cable Guardrail (Low Tension) Delineation
Ⓗⓣ High Tension Cable Guardrail Delineation
Ⓜ Type 2 Object Marker

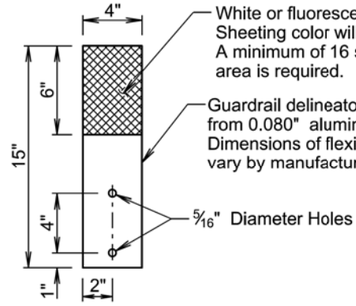
*For two-way traffic, install delineation at the opposite end of structure the same as shown. Back-to-back delineation is required for two-way traffic, single-sided delineation for one-way traffic.

April 8, 2025

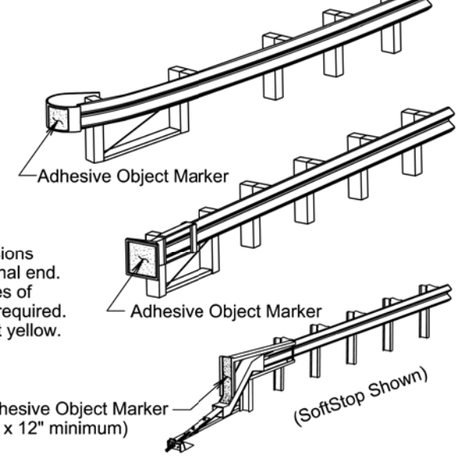
Published Date: 2026	SDDOT	DELINEATION OF GUARDRAIL	PLATE NUMBER 632.40
			Sheet 1 of 4

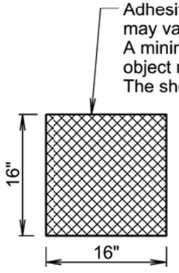


Ⓑ STEEL BEAM GUARDRAIL DELINEATION



DELINEATOR
(For Steel Beam Guardrail)



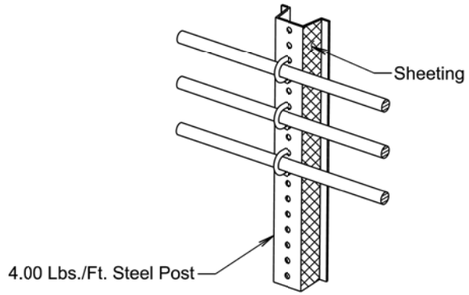


ADHESIVE OBJECT MARKER

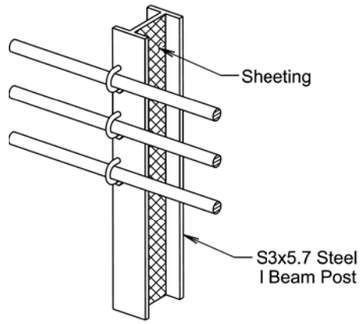
Ⓔ GUARDRAIL END TERMINAL OBJECT MARKER

April 8, 2025

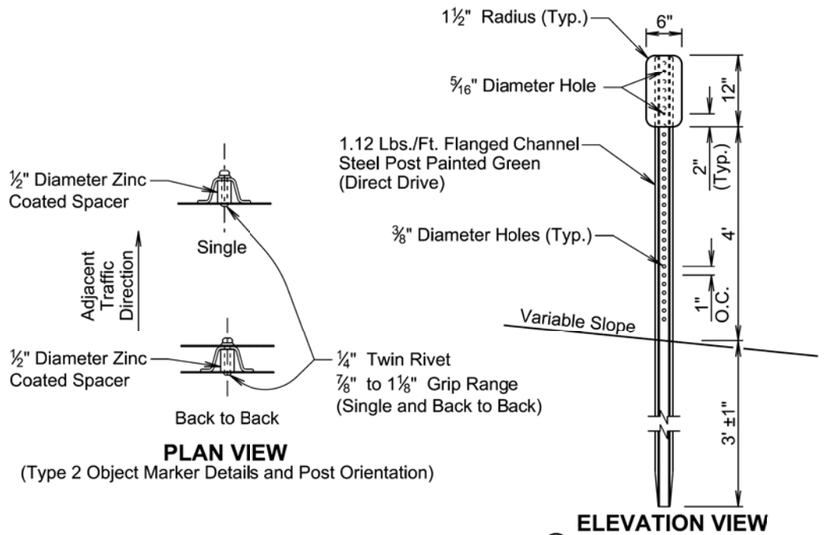
Published Date: 2026	SDDOT	DELINEATION GUARDRAIL	PLATE NUMBER 632.40
			Sheet 2 of 4



Ⓒ 3 CABLE GUARDRAIL (LOW TENSION) DELINEATION



Ⓒ 3 CABLE GUARDRAIL (LOW TENSION) DELINEATION



PLAN VIEW
(Type 2 Object Marker Details and Post Orientation)

ELEVATION VIEW
Ⓜ (Type 2 Object Marker)
(For Marking 3 Cable Guardrail (Low Tension) Anchor, High Tension Cable Guardrail Anchor, and Trailing End Terminal)

April 8, 2025

Published Date: 2026	SDDOT	DELINEATION OF GUARDRAIL	PLATE NUMBER 632.40
			Sheet 3 of 4

GENERAL NOTES:

The delineation of high tension cable guardrail will be reflective sheeting placed back to back on every third post cap or cable spacer. Maximum spacing of delineation will not exceed 35 feet. The sheeting will be type XI in conformance with ASTM D4956. The color of the reflective sheeting will be the same as the nearest pavement marking.

The delineators for steel beam guardrail and sheeting on 3 cable guardrail (low tension) posts will be covered with a minimum of 16 square inches of reflective sheeting. The reflective sheeting will be type XI in conformance with ASTM D4956. Along two-way roadways the sheeting will be on both sides of the delineators and guardrail posts and will be white in color. For one-way roadways the sheeting will only be required on the side facing traffic and the color will be the same as the nearest pavement marking, yellow on the left side of the roadway and white on the right side.

When steel beam guardrail is attached to a bridge the first delineator will be attached to the post nearest the bridge.

At bridges with guardrail less than 200 feet in length, a minimum of 4 delineators will be placed in addition to the end terminal yellow object marker. The spacing between the delineators will be approximately one third of the length of the guardrail.

At bridges with guardrail 200 feet and greater in length, including bridges that have steel beam guardrail transitioning to 3 cable guardrail (low tension), the delineators will be placed at a spacing of approximately 50 feet. Delineation will extend throughout the length of the guardrail system.

Steel beam guardrail that is not attached to a bridge and is less than 200 feet in length, a minimum of 4 delineators will be placed in addition to the end terminal yellow object markers. The spacing between the delineators will be approximately one third of the length of the guardrail.

Steel beam guardrail that is not attached to a bridge and is 200 feet and greater in length, including steel beam guardrail transitioning to 3 cable guardrail (low tension), the delineators will be placed at a spacing of approximately 50 feet. Delineation will extend throughout the length of the guardrail system.

All costs for furnishing and installing single or back to back guardrail delineation on 3 cable guardrail and steel beam guardrail will be included in the contract unit price per each for "Guardrail Delineator".

All costs for furnishing and installing the reflective sheeting on the cable spacers or post caps for the high tension cable guardrail will be incidental to the respective high tension cable guardrail contract item.

An adhesive object marker will be placed on the end of the W beam guardrail or MGS end terminal. The adhesive object marker dimensions may vary due to the shape of the terminal end. A minimum of 256 square inches of object marker reflective sheeting area is required on end terminals with sufficient surface area. Other end terminals (SoftStop) will require an adhesive object marker with a minimum size of 6" x 12". The reflective sheeting will be fluorescent yellow type XI sheeting in conformance with ASTM D4956. All costs for furnishing and installing the adhesive object marker will be incidental to various contract items.

A type 2 object marker will be placed such that the edges of the type 2 object marker and the 3 cable guardrail (low tension) anchor, high tension cable guardrail anchor, or the trailing end terminal that are nearest to the roadway will be installed in line with the same lateral offset from the traveled way at the location as noted on sheet 1 of this standard plate. The type 2 object marker (6" x 12") will have fluorescent yellow type XI sheeting in conformance with ASTM D4956. All costs for furnishing and installing the type 2 object marker including the steel post, 6" x 12" reflective panel, and hardware will be included in the contract unit price per each for "Type 2 Object Marker" for single-sided and "Type 2 Object Marker Back to Back" for back to back type 2 object markers.

April 8, 2025

Published Date: 2026	SDDOT	DELINEATION OF GUARDRAIL	PLATE NUMBER 632.40
			Sheet 4 of 4

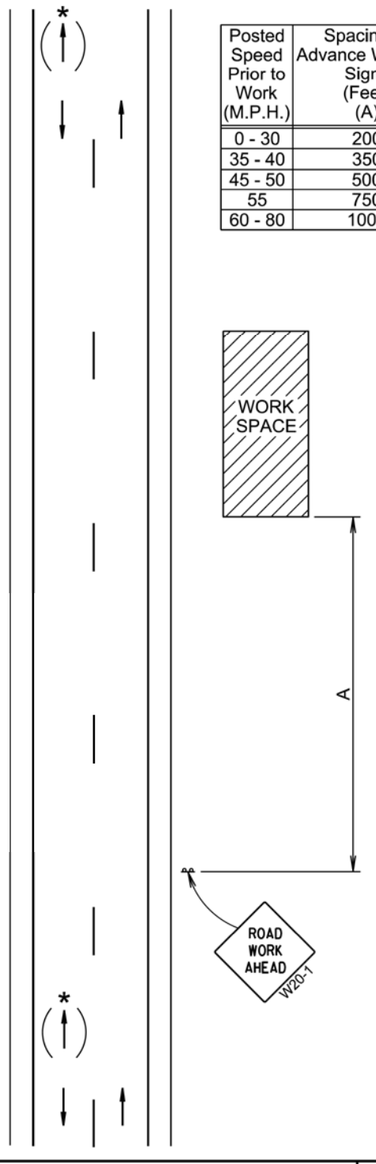
The signs illustrated are not required if the work space is behind a barrier, more than 2 feet behind the curb, or 15 feet or more from the edge of any roadway.

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.



Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 80	1000

January 22, 2021

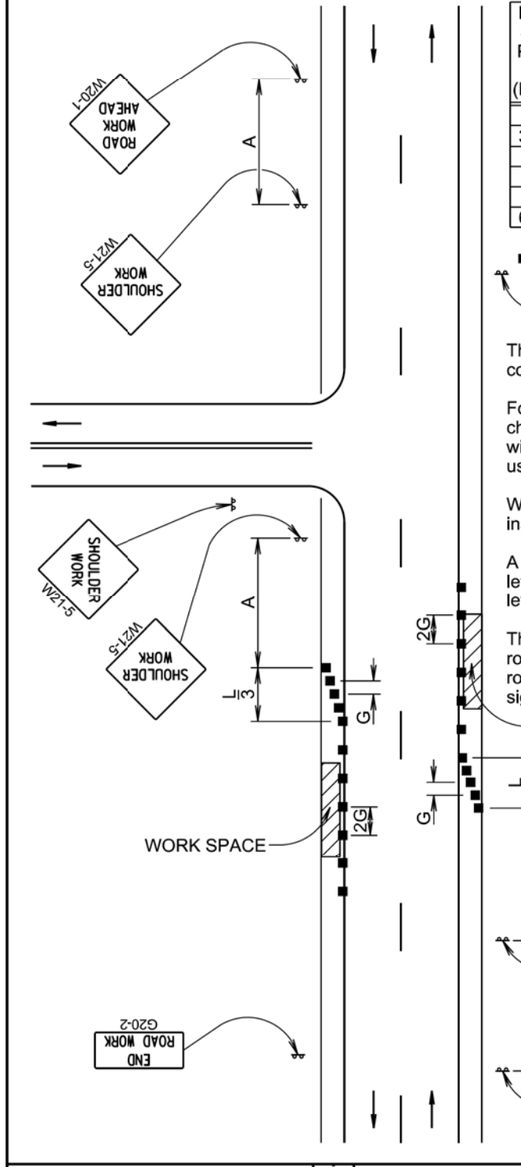
Published Date: 2026

SDDOT

WORK BEYOND THE SHOULDER

PLATE NUMBER 634.01

Sheet 1 of 1



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

■ Channelizing Device

END ROAD WORK
G20-2

The channelizing devices will be drums or 42" cones if traffic control must remain overnight.

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

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

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

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

January 22, 2021

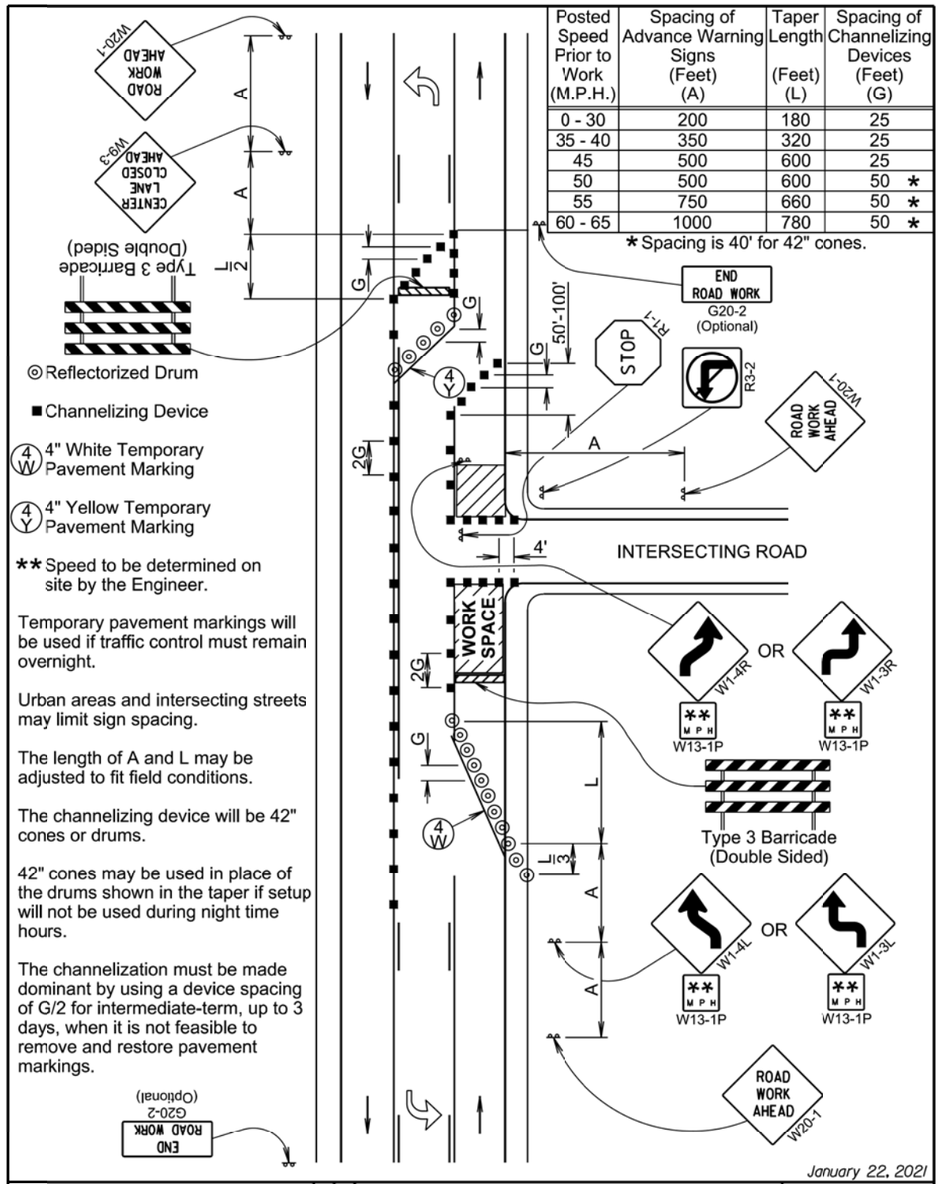
Published Date: 2026

SDDOT

WORK ON SHOULDERS

PLATE NUMBER 634.03

Sheet 1 of 1

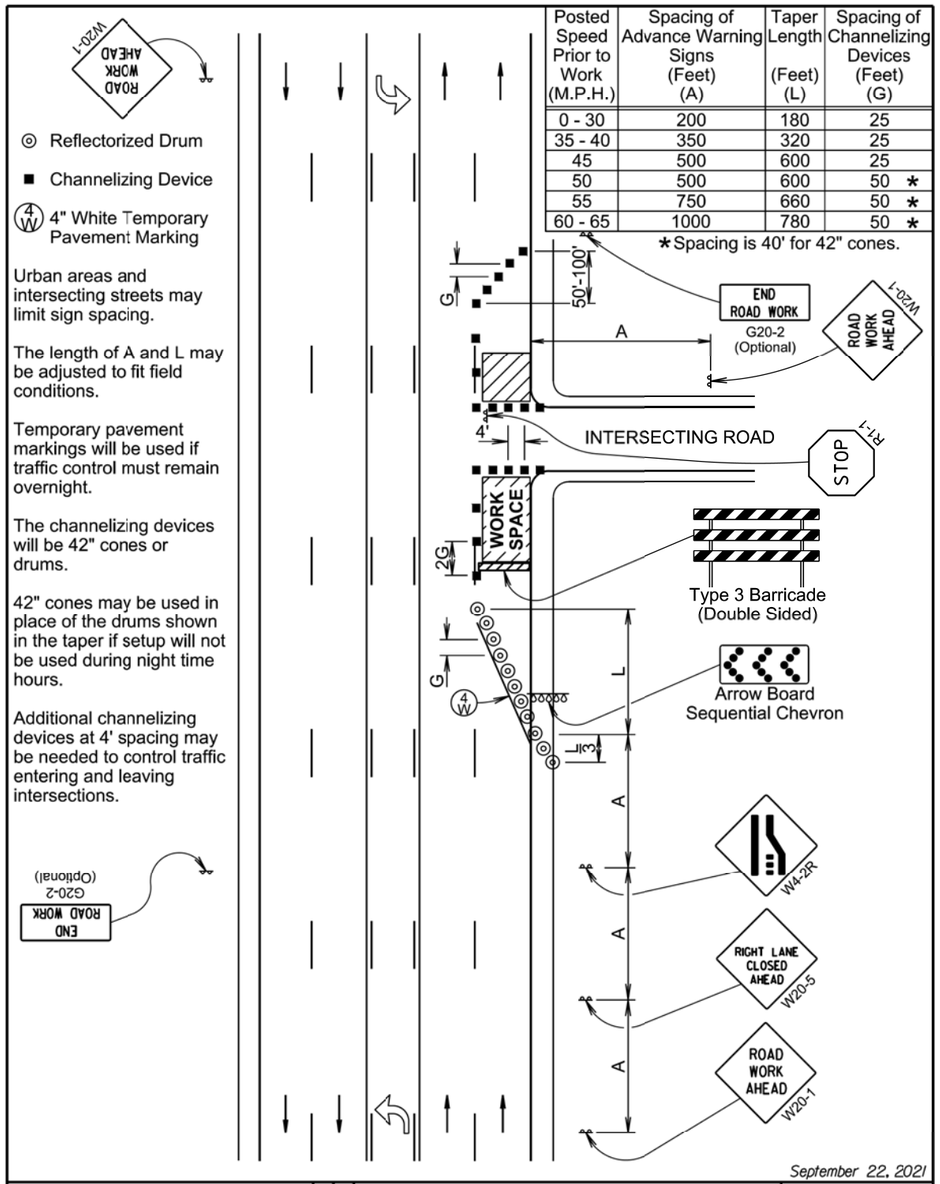


Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Taper Length (Feet) (L)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	180	25
35 - 40	350	320	25
45	500	600	25
50	500	600	50 *
55	750	660	50 *
60 - 65	1000	780	50 *

* Spacing is 40' for 42" cones.

January 22, 2021

Published Date: 2026	SDDOT	3-LANE, OUTSIDE LANE CLOSED	PLATE NUMBER 634.53 Sheet 1 of 1



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

* Spacing is 40' for 42" cones.

September 22, 2021

Published Date: 2026	SDDOT	5-LANE, OUTSIDE LANE CLOSED	PLATE NUMBER 634.60 Sheet 1 of 1

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A) (B) (C)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 65	1000
	(A) (B) (C)
70 - 80	1000 1500 2640

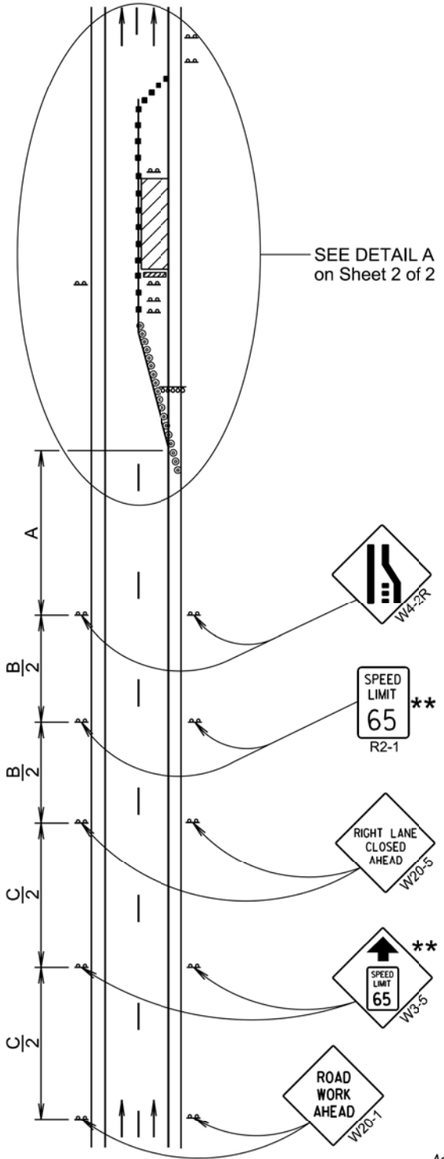
** Speed appropriate for location.

◉ Reflectorized Drum

■ Channelizing Device

ROAD WORK AHEAD sign is only required in advance of the first lane closure.

High speed is defined as having a posted speed limit greater than 45 mph.



April 8, 2025

Published Date: 2026	SDDOT	WORK ZONE SPEED REDUCTION FOR INTERSTATE AND HIGH SPEED MULTI-LANE HIGHWAYS	PLATE NUMBER 634.63 Sheet 1 of 2

Posted Speed Prior to Work (M.P.H.)	Spacing of Channelizing Devices (Feet) (G)	Taper Length (Feet) (L)
0 -30	25	180
35 - 40	25	320
45	25	600
50	50 *	600
55	50 *	660
60 - 65	50 *	780
70 - 80	50 *	960

* Spacing is 40' for 42" cones.

** Speed appropriate for location.

*** Use speed limit designated for the condition when workers are present in the work space. Signs will be covered or removed when workers are not present.

◉ Reflectorized Drum

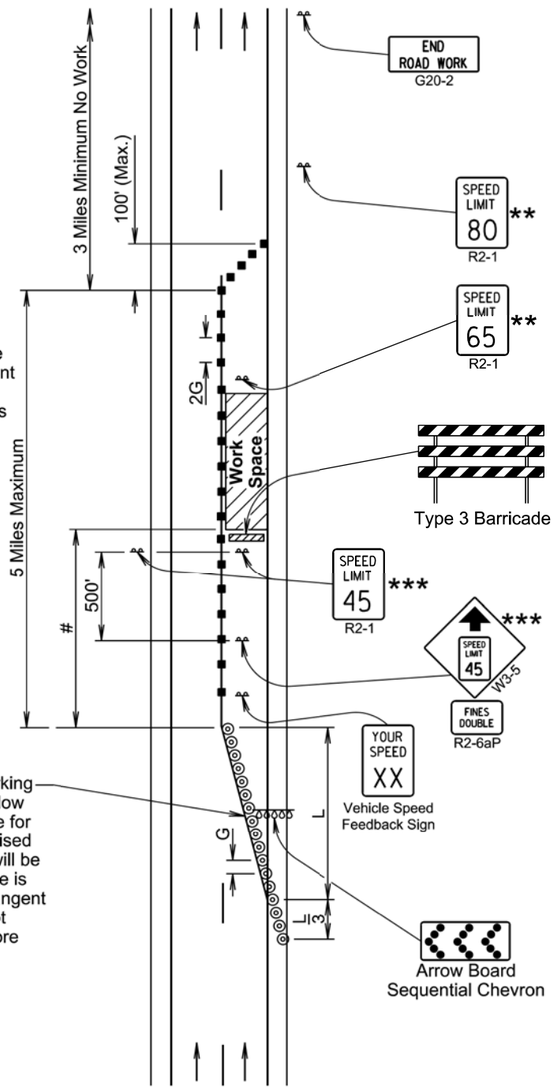
■ Channelizing Device

The Work Space will be a minimum of 500' from the end of the taper.

The channelizing devices will be 42" cones or drums.

42" cones may be used in place of the drums shown in the taper if setup will not be used during night time hours.

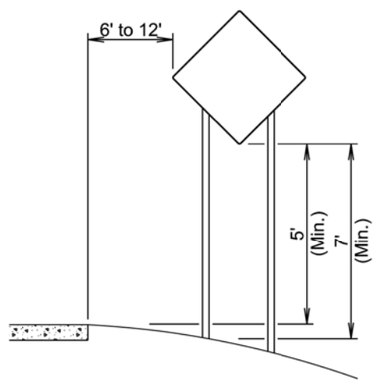
4" white temporary pavement marking tape for right lane closures, 4" yellow temporary pavement marking tape for left lane closures, or temporary raised pavement markers at 5' spacing will be installed in the taper when the lane is closed overnight, and along the tangent section where the skip lines do not exist and the lane is closed for more than 3 days.



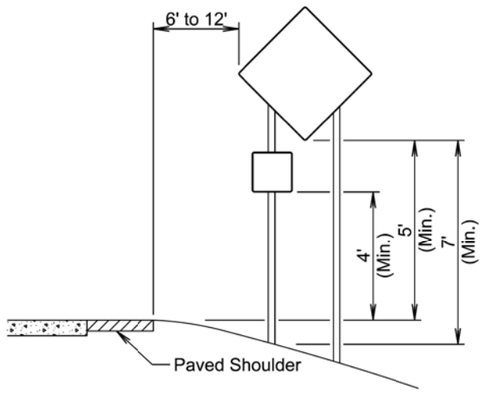
DETAIL A

April 8, 2025

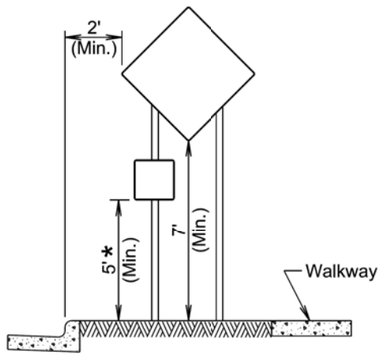
Published Date: 2026	SDDOT	WORK ZONE SPEED REDUCTION FOR INTERSTATE AND HIGH SPEED MULTI-LANE HIGHWAYS	PLATE NUMBER 634.63 Sheet 2 of 2



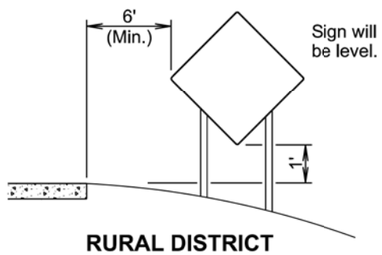
RURAL DISTRICT



RURAL DISTRICT WITH SUPPLEMENTAL PLATE



URBAN DISTRICT

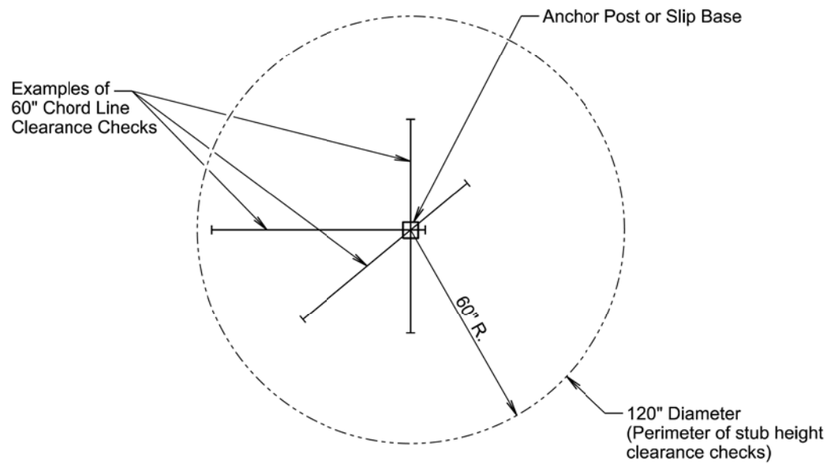


RURAL DISTRICT
3 DAY MAXIMUM
(Not applicable to regulatory signs)

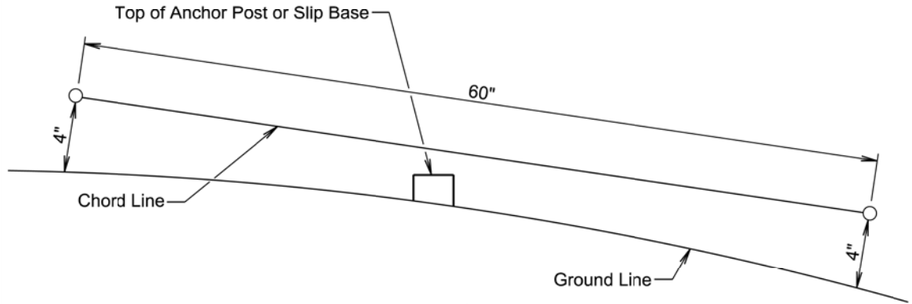
* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

January 22, 2021

Published Date: 2026	SDDOT	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:

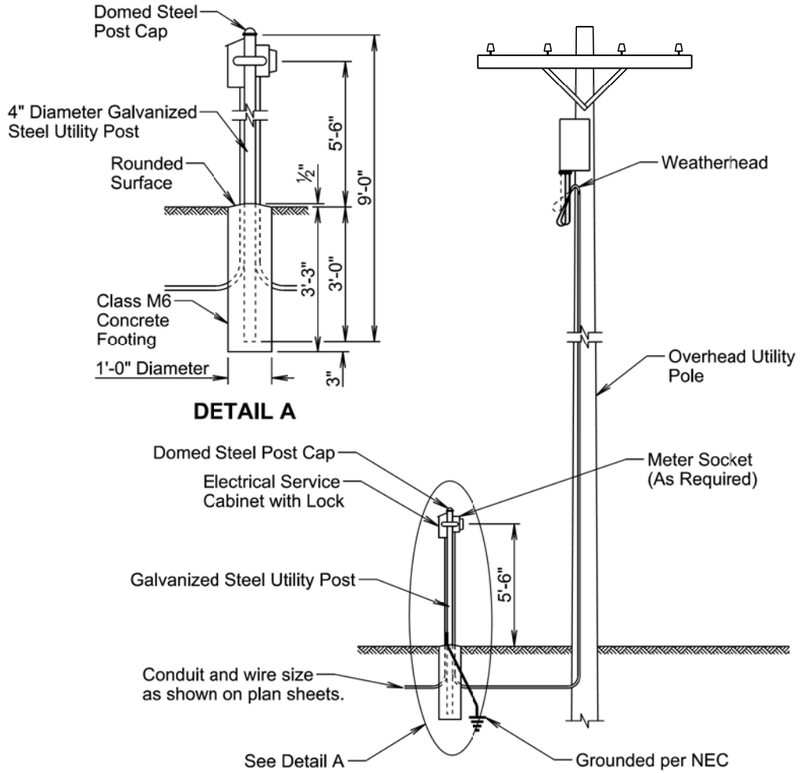
The top of anchor posts and slip bases WILL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

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	SDDOT	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1



ELEVATION VIEW

GENERAL NOTES:

The concrete for the post footing will be class M6 concrete.

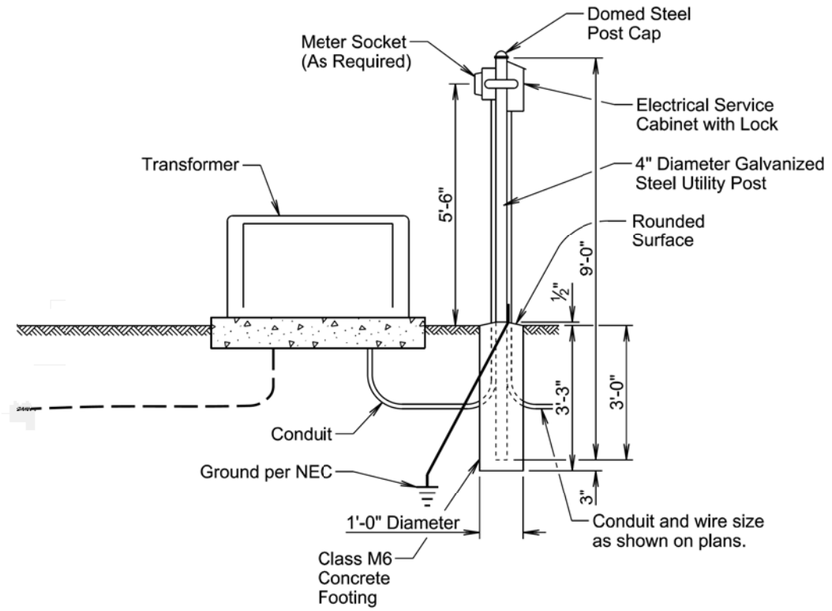
The 4" diameter galvanized steel utility post will be 9' long and will be in conformance with AASHTO Standard Specifications M181. The post will be Type 1 and either Grade 1 or Grade 2. The domed steel post cap will be in conformance with AASHTO Standard Specifications M181 and will be Type 1.

The Contractor will contact and coordinate his/her work with the Utility Companies regarding hookup requirements, fees, materials, and equipment necessary.

All costs for furnishing and installing all materials from the electrical service cabinet to the transformer including labor, equipment, hookup fees, all items within the cabinet, lockable enclosure with receptacle outlet, lock and keys, post, concrete footing, post cap, meter socket if required, conduit, and incidentals will be incidental to the contract unit price per each for "Electrical Service Cabinet".

March 31, 2024

Published Date: 2026	SDDOT	GALVANIZED STEEL UTILITY POST WITH OVERHEAD UTILITY POLE	PLATE NUMBER 635.35
			Sheet 1 of 1



ELEVATION VIEW

GENERAL NOTES:

The concrete for the post footing will be class M6 concrete.

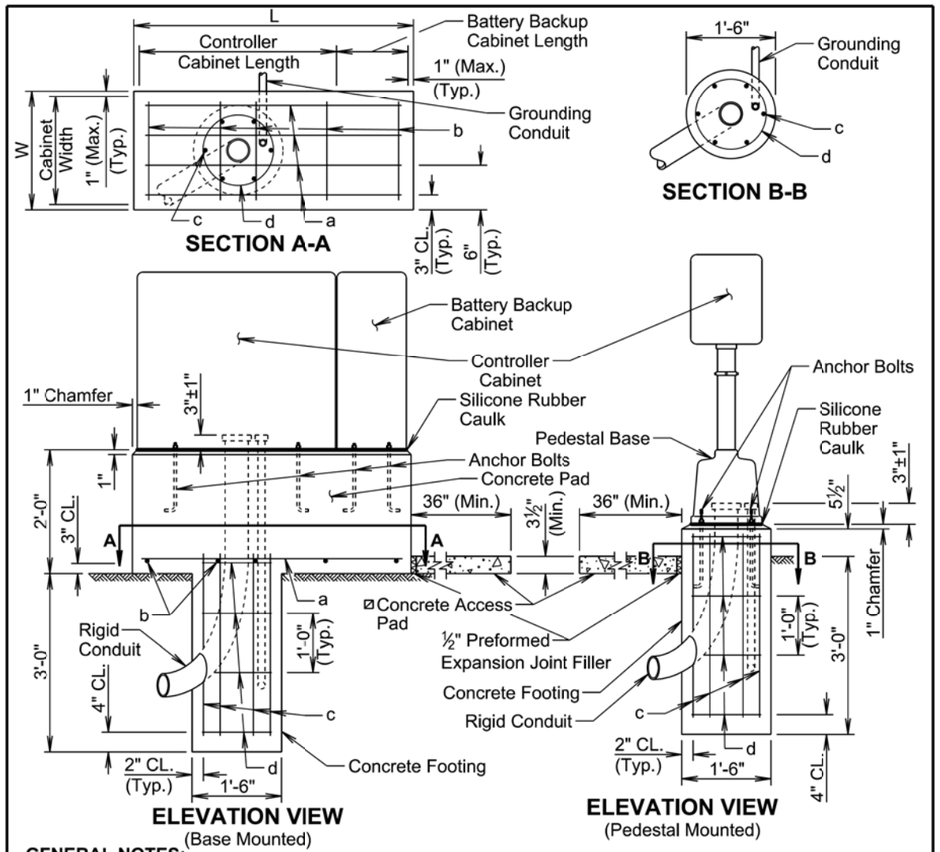
The 4" diameter galvanized steel utility post will be 9' long and will be in conformance with AASHTO Standard Specifications M181. The post will be Type 1 and either Grade 1 or Grade 2. The domed steel post cap will be in conformance with AASHTO Standard Specifications M181 and will be Type 1.

The Contractor will contact and coordinate his/her work with the Utility Companies regarding hookup requirements, fees, materials, and equipment necessary.

All costs for furnishing and installing all materials from the electrical service cabinet to the transformer including labor, equipment, hookup fees, all items within the cabinet, lockable enclosure with receptacle outlet, lock and keys, post, concrete footing, post cap, meter socket if required, conduit, and incidentals will be incidental to the contract unit price per each for "Electrical Service Cabinet".

March 31, 2024

Published Date: 2026	SDDOT	SERVICE FROM PAD MOUNTED TRANSFORMER WITH METER ON A GALVANIZED STEEL UTILITY POST	PLATE NUMBER 635.41
			Sheet 1 of 1



GENERAL NOTES:

The concrete pad will conform to the base of the controller and battery backup cabinets to the satisfaction of the Engineer.

Conduits will be sealed water-tight until the conductor cables are installed.

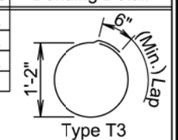
☒ If the controller and battery backup concrete pad and footing is not located within or adjacent to an existing sidewalk, the Contractor will provide a concrete access pad as directed by the Engineer.

Anchor bolts and related hardware will conform to the controller and battery backup cabinets manufacturer's specifications.

A continuous bead of silicone rubber caulk will provide a weather-tight seal between the concrete pad or footing, and the cabinet or base.

REINFORCING SCHEDULE
(for one footing)

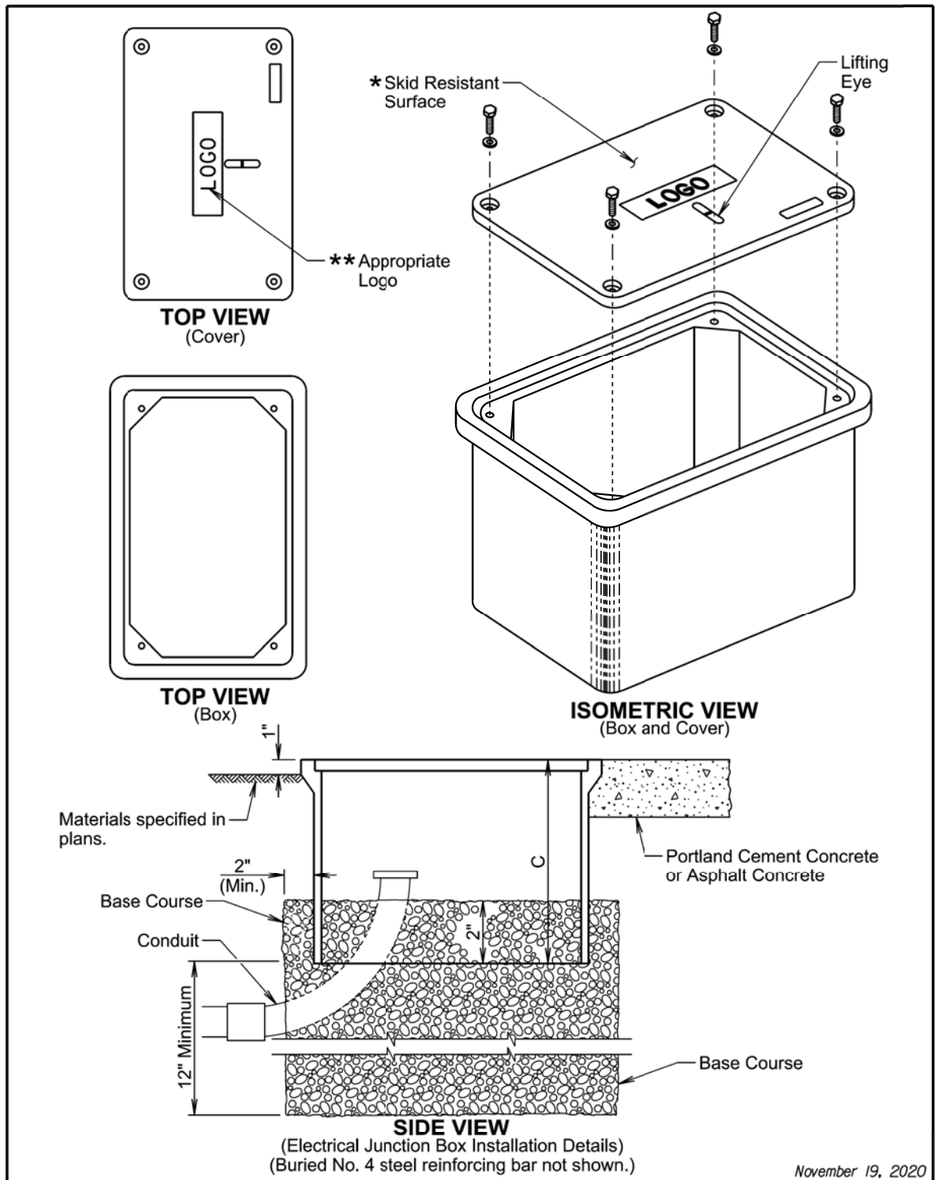
Mk.	No.	Size	Length	Type	Bending Detail
a	*	3	L-4"	Str.	
b	*	3	W-4"	Str.	
c	6	6	3'-0"	Str.	
d	4	3	4'-0"	T3	



Note: Dimensions are out to out of bar
* Vary number of bars as required by footing size.

November 19, 2022

Published Date: 2026	SDDOT	CONTROLLER CABINET AND FOOTING	PLATE NUMBER 635.60
			Sheet 1 of 1



November 19, 2020

Published Date: 2026	SDDOT	ELECTRICAL JUNCTION BOXES TYPE 1 THROUGH TYPE 4	PLATE NUMBER 635.65
			Sheet 1 of 2

ELECTRICAL JUNCTION BOX			
TYPE	DESCRIPTION	APPROXIMATE COVER SIZE	MINIMUM DEPTH (C)
1	Open Bottom with Gasket	11"x18"	18"
2	Open Bottom with Gasket	13"x24"	18"
3	Open Bottom with Gasket	17"x30"	18"
3A	Open Bottom with Gasket	24"x36"***	24"
4	Open Bottom with Gasket	30"x48"***	24"

GENERAL NOTES:

The cover will be gasketed with a minimum of two stainless steel bolts and washers.

The cover will have a lifting eye.

* The surface of the cover will have a minimum wet and dry coefficient of friction value of 0.5 as determined by ASTM F609.

** The cover of the junction box will have the appropriate logo in one inch size letters and will be recessed. When the junction box contains cables or wires for a traffic signal then the logo will be "Signal". When the junction box contains lighting conductors then the logo will be "Lighting".

*** Two piece covers will be used for Type 3A and Type 4 junction boxes.

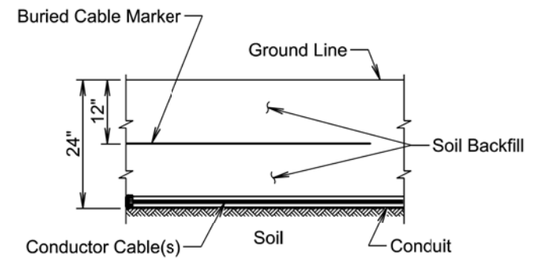
The electrical junction boxes will comply with the American National Standards Institute (ANSI)/Society of Cable Telecommunications Engineers (SCTE) 77 2007 Specification for Underground Enclosure Integrity. The loading requirement for all electrical junction boxes and covers will be Tier 22 of ANSI/SCTE 77 2007.

The electrical junction boxes will be UL listed.

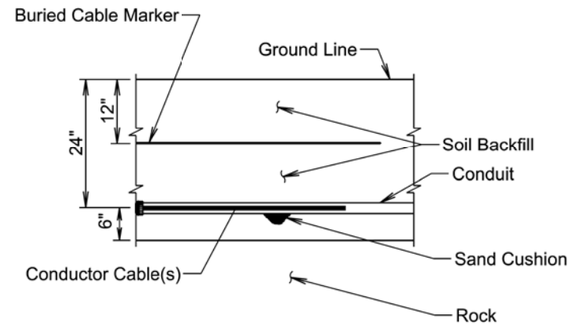
For junction boxes located outside of pavement, a No. 4 steel reinforcing bar with a minimum length of 18" will be buried adjacent to the long side of the junction box. All costs associated with furnishing and placing the steel reinforcing bar will be incidental to the contract unit price per each for "Type _ Electrical Junction Box".

November 19, 2020

Published Date: 2026	SDDOT	ELECTRICAL JUNCTION BOXES TYPE 1 THROUGH TYPE 4	PLATE NUMBER 635.65
			Sheet 2 of 2



SECTION VIEW



SECTION VIEW

GENERAL NOTE:

The Buried Cable Marker will be plastic, approximately 6" wide, and will be capable of sustaining a minimum of a 350% tolerance of elongation without tearing. The Buried Cable Marker will have a life expectancy approximately equal to that of the conductor(s) beneath it. A phrase indicating the presence of a buried electric circuit below will be printed in a contrasting color on the cable marker. The Buried Cable Marker will be subject to approval by the Engineer. All costs associated with furnishing and installing the Buried Cable Marker will be incidental to the contract unit price per foot for the bid item used for the electrical conductor.

November 19, 2022

Published Date: 2026	SDDOT	CONDUIT INSTALLATION	PLATE NUMBER 635.76
			Sheet 1 of 1