



Non

INDEX OF SHEETS

1	General Layout with Index
2 - 7	Estimate of Quantities and Plan Notes
8	Legend
9	Pavement Removal Layout
10	Curb and Gutter and PCC Pavement Layout
11	Pavement Marking Layout
12	Signing Layout
13	Traffic Control Detour
14 - 27	Standard Plates
	1



ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E0130	Remove Traffic Sign	4	Each
110E0300	Remove Concrete Curb and/or Gutter	407	Ft
110E1100	Remove Concrete Pavement	587.8	SqYd
110E1120	Remove Concrete Median Pavement	117.3	SqYd
120E6200	Water for Granular Material	2.0	MGal
210E1005	Surface Preparation	0.062	Mile
260E2010	Gravel Cushion	80.0	Ton
380E0080	9.5" Nonreinforced PCC Pavement	519.7	SqYd
380E2564	4" Barrier Type Colored Median PCC Pavement	119.9	SqYd
380E6000	Dowel Bar	242	Each
380E6110	Insert Steel Bar in PCC Pavement	272	Each
632E1320	2.0"x2.0" Perforated Tube Post	43.0	Ft
632E2520	Type 2 Object Marker	2	Each
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	31.6	SqFt
633E0010	Cold Applied Plastic Pavement Marking, 4"	1,084	Ft
633E0020	Cold Applied Plastic Pavement Marking, 8"	264	Ft
633E0030	Cold Applied Plastic Pavement Marking, 24"	86	Ft
633E0040	Cold Applied Plastic Pavement Marking, Arrow	6	Each
633E5000	Grooving for Cold Applied Plastic Pavement Marking, 4"	1,084	Ft
633E5005	Grooving for Cold Applied Plastic Pavement Marking, 8"	264	Ft
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	86	Ft
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	6	Each
634E0010	Flagging	200.0	Hour
634E0110	Traffic Control Signs	346.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	6	Each
634E0420	Type C Advance Warning Arrow Board	2	Each
634E0560	Remove Pavement Marking, 4" or Equivalent	15	Ft
634E1002	Detour and Restriction Signing	284.7	SqFt
634E1215	Contractor Furnished Portable Changeable Message Sign	2	Each
650E1395	Type FL69.5 Concrete Curb and Gutter	694	Ft

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2015 Edition and Required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

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/media/documents/EnvironmentalProceduresManual.pdf >

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 B: FEDERALLY THREATENED, ENDANGERED, AND PROTECTED SPECIES

COMMITMENT B2: WHOOPING CRANE

The Whooping Crane is a spring and fall migratory bird in South Dakota that is about 5 feet tall and typically stops on wetlands, rivers, and agricultural lands along their migration route. An adult Whooping Crane is white with a red crown and a long, dark, pointed bill. Immature Whooping Cranes are cinnamon brown. While in flight, their long necks are kept straight and their long dark legs trail behind. Adult Whooping Cranes' black wing tips are visible during flight.

Action Taken/Required:

Harassment or other measures to cause the Whooping Crane to leave the site is a violation of the Endangered Species Act. If a Whooping Crane is sighted roosting in the vicinity of the project, borrow pits, or staging areas associated with the project, cease construction activities in the affected area until the Whooping Crane departs and immediately contact the Project Engineer. The Project Engineer will contact the Environmental Office so that the sighting can be reported to USFWS.

Action Taken/Required:



COMMITMENT E: STORM WATER

Construction activities constitute less than 1 acre of disturbance.

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

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:

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 or THPO) 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 100 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/THPO 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.

UTILITIES

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

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.

HORIZONTAL ALIGNMENT DATA

Туре	Station			Northing	Easting
РОВ	0+00.00			655743.252	1228387.401
		TL= 63.831	N3.401°E		
PI	0+63.83			655806.97	1228391.187
		TL= 56.386	N2.772°E		
PI	1+20.22			655863.291	1228393.914
		TL= 110.931	N2.520°E		
PI	2+31.15			655974.114	1228398.791
		TL= 93.655	N3.800°E		
POE	3+24.80			656067.563	1228404.999

TABLE OF PAVEMENT REMOVAL

Location
-0+14 to 3+25 L

SURFACE PREPARATION

Prior to placement of PCCP, the Contractor will be required to prepare the existing surface according to the Surface Preparation specifications provided in Section 210. The existing granular material will be shaped to meet the surface elevation requirements shown on the Curb and Gutter and PCC Pavement Layout sheet.

The Contractor will ensure excess in place granular material is removed to achieve the required elevation for the placement of the curb and gutter and PCCP. Payment for the removal of excess in place granular material will be incidental to the contract unit price per mile for Surface Preparation. This granular material may be reused at the discretion of the Engineer. Unsuitable existing granular base material will be handled as waste and removed from the project. All costs associated with this work will be incidental to the contract unit price per mile for Surface Preparation.

SD 🗾	PROJECT	SECTION	SHEET
DOT	016 EB-452	Non	3/27

Concrete Curb and/or Gutter	Remove Concrete Pavement	Remove Concrete Median Pavement
Ft	SqYd	SqYd
407	587.8	117.3

GRAVEL CUSHION

2" of Gravel Cushion is estimated to be incorporated into the existing granular base material as part of the Surface Preparation work. This quantity can be reduced as needed if the existing granular base material is suitable for construction. Excess granular material will be used to backfill curb and gutter prior to placement of median pavement.

It is estimated that 80 tons of Gravel Cushion will be needed for this work.

WATER FOR GRANULAR MATERIAL

Included in the Estimate of Quantities are 0.012 MGal of Water for Granular Material per ton for compaction.

It is estimated that 2 MGal will be needed on the project.

STEEL BAR INSERTION

The Contractor will insert the Steel Bars into drilled holes in the existing concrete pavement. An epoxy resin adhesive must be used to anchor the steel bar in the drilled hole.

The steel bars will be cut to the specified length by sawing or shearing and will be free from burring or other deformations.

It is estimated that 256 longitudinal deformed tie bars and 16 transverse deformed tie bars will be drilled into the existing pavement...

9.5" NONREINFORCED PCC PAVEMENT

The aggregate may require screening as determined by the Engineer.

The concrete mix used in the PCC Pavement will conform to Section 380.

In lieu of an automatic subgrader operating from a preset line, a motor grader or other suitable equipment may be used to trim the gravel cushion to final grade prior to placement of concrete. There will be no direct payment for trimming of the gravel cushion for PCC pavement. The trimming will be considered incidental to the related items required for PCC Pavement.

A construction joint will be sawed whenever new concrete pavement is placed adjacent to existing concrete pavement.

The location of joints, as shown and designated on the PCC Pavement Joint Layout were estimated based on survey. The final location of the joints will be adjusted as needed to match the adjacent existing pavement joints.

TABLE OF NONREINFORCED PCC PAVEMENT

Totals	519.7	242
1+74 to 3+20 L	230.4	104
-0+14 to 1+80 L	289.2	138
	SqYd	Each
	Pavement	
Location	Nonreinfor ced PCC	Dowel Bar
	9.5"	

4" BARRIER TYPE COLORED MEDIAN PCC PAVEMENT

The colored concrete will have the integral color Solomon Brick Red #417 or an approved equal that will match the existing colored median pavement.

ColorFlo Liquid Color Solomon Colors. Inc. www.solomoncolors.com

The colored concrete must be cured according to the manufacturer's recommendations with two coats of a non-yellowing acrylic curing and sealing compound. The curing and sealing compound will meet ASTM C309 specification. The curing and sealing product will be (DECRA-SEAL) or an equal approved by the Engineer.

DECRA-SEAL W.R. Meadows, Inc. 1-800-342-5976 www.wrmeadows.com

No white pigmented cure will be used. The Contractor will protect the colored concrete to insure no white pigmented curing compound comes in contact with the colored concrete. All costs for furnishing, handling, and applying the curing and sealing compound, and liquid integral color, including the materials, equipment, labor, and incidentals necessary will be incidental to the contract unit price for the colored concrete bid item.

TABLE OF CURB AND GUTTER AND MEDIAN PAVEMENT

Totals	119.9	693.9
2+40 to 3+20 L	47.7	162.1
0+55 to 2+65 L	66.7	432.3
-0+14 to 0+35 L	5.6	99.5
	SqYd	Ft
Location	4" Barrier Type Colored Median PCC Pavement	Type FL69.5 Concrete Curb and Gutter

SEQUENCE OF OPERATIONS

Contractor requests to deviate from the sequence of operations will be submitted in writing to the Engineer for review. Approval of an alternate 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. An alternate sequence will be submitted for review a minimum of one week prior to potential implementation.

Detour signing will be in place prior to closing lanes on Elk 0 Vale Road

0

0



016 EB-452

Non

• Use standard plate 634.57 as a guide to close both passing lanes and both left turn lanes to complete all work on Elk Vale Road

> The southbound passing lane closure taper will start at the south end of the south approaches to the Flying J and Common Cents

 \circ $\,$ The northbound passing lane closure taper will start at the south end of the railroad bridge – north of Cheyenne Blvd. The westbound Exit 61 off ramp will need one lane closed

that corresponds with the thane closure on Elk Vale

• Use standard plates 634.23 and 634.60 as a guide to complete the striping work on the Edwards St. and I-90 South Service Road • Night work will be allowed to complete this work

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.

Portable sign supports will not be located on sidewalks, bicycle facilities, or other areas designated for pedestrian or bicycle traffic.

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 pavement marking.

All haul trucks will be equipped with an additional flashing amber light that is visible from the backside of the haul truck. The costs for the flashing amber lights will be incidental to the various related contract items.

The Contractor will notify businesses/homeowners a minimum of two weeks prior to construction to inform them of upcoming construction and again a minimum of 48 hours prior to any blocked access to make appropriate arrangements.

Temporary Flexible Vertical Markers (Tabs) will be used for lane closure tapers or lane shift tapers and will be installed at 5' spacing. Tabs used for tapers will not be measured for payment. All costs associated to furnish, install, maintain (including replacement as required by the Engineer at no added cost to the Department), and remove all markers will be incidental to the contract lump sum price for Traffic Control, Miscellaneous.

DETOUR SIGNING

The Contractor will furnish and install the detour signs as shown in these plans. Prior to installing the signs, the Contractor will mark the sign locations and review them with the Engineer. Detour signs will be installed on fixed location, ground mounted, breakaway supports. It will be the responsibility of the Contractor to maintain and reinstall these signs during the project as required by the construction progress. Upon completion of the project, the Contractor will remove the detour signs.

All costs for furnishing the signs, posts, and mounting hardware, and for installing, maintaining, covering, and removing the detour signs will be incidental to the contract unit price per square foot for "Detour and Restriction Signing".

CONTRACTOR FURNISHED PORTABLE CHANGEABLE MESSAGE SIGN

One week prior to starting work affecting the traveling public, portable changeable message signs (PCMS) will be installed as directed by the Engineer to notify drivers of the upcoming construction. The Contractor will program the portable changeable message signs with the following message:

ROAD WORK STARTS (Date)

When work begins that will affect traffic patterns, the Contractor will relocate the northbound Elk Vale PCMS to a location near the E. Anamosa St. intersection and re-program the PCMS with the messages as directed by the Engineer.

PRESS RELEASE ANNOUNCEMENTS

The SDDOT will prepare a press release to be released 5 days prior to any phase change or any other major change that affects traffic flow. The SDDOT will be responsible to keep law enforcement, emergency services, and the traveling public notified of changes in project access. The Contractor will provide the Engineer with pertinent information 7 days prior to any phase change or any other major change that affects traffic flow.

TRAFFIC CONTROL SIGNS

			CONVENTIONAL ROAD					
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT			
R3-2	LEFT TURN PROHIBITION (symbol)	2	24" x 24"	4.0	8.0			
W4-2	LEFT or RIGHT LANE ENDS (symbol)	4	48" x 48"	16.0	64.0			
W20-1	ROAD WORK AHEAD	8	48" x 48"	16.0	128.0			
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16.0	32.0			
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	4	48" x 48"	16.0	64.0			
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0			
G20-2	END ROAD WORK	4	36" x 18"	4.5	18.0			
		CON TRAFFIC	346.0					

ITEMIZED LIST FOR DETOUR SIGNING

			CONVENTIO	ONAL ROAD	
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R3-2	LEFT TURN PROHIBITION (symbol)	2	24" x 24"	4.0	8.0
SPECIAL	EDWARDS ST	5	42" x 18"	5.3	26.5
SPECIAL	S I-90 SERVICE RD	6	36" x 18"	4.5	27.0
M1-1	INTERSTATE ROUTE MARKER (2 digits)	5	24" x 24"	4.0	20.0
M1-4	US ROUTE MARKER (3 digits)	12	30" x 24"	5.0	60.0
M3-4	DIRECTION MARKER - WEST	12	24" x 12"	2.0	24.0
M4-5	то	5	24" x 12"	2.0	10.0
M4-8	DETOUR	26	24" x 12"	2.0	52.0
M6-1	DIRECTION ARROW - Horizontal Single Head (L or R)	17	21" x 15"	2.2	37.4
M6-3	DIRECTION ARROW - Vertical Single Head	9	21" x 15"	2.2	19.8
		CON DETOU	IVENTIONAL I IR AND RESTI SIGNING SQF	ROAD RICTION T	284.7

PAVEMENT MARKING

COLD APPLIED PLASTIC PAVEMENT MARKING

Cold Applied Plastic Pavement Markings will be 3M Series 380 IES.

GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING

The Contractor will establish a positive means for the removal of the grinding and/or grooving residue. Residue from dry grooving will be vacuumed. Solid residue will be removed from the pavement surfaces before being blown by traffic action or wind. The Contractor will conduct this work to control and minimize airborne dust and similar debris that may become a hazard to motor vehicle operation or nuisance to property owners. Residue from wet grooving will not be permitted to flow across lanes being used by public traffic or into gutter or drainage facilities. Residue, whether in solid or slurry form, will be disposed of in a manner that will prevent it from reaching any waterway in a concentrated state. The cleaning of the residue for grooving will be to the satisfaction of the Engineer and may require more than one pass to adequately remove material. All costs for removal of grinding and/or grooving residue will be included in the contract unit price per foot, or each for "Grooving for Cold Applied Plastic Pavement Marking" contract items.



PROJECT

016 EB-452

SECTION SHEET

Non

5/27

Application of permanent pavement marking will be completed within 14 calendar days following completion of the final surfacing.

All materials will be applied as per the manufacturer's recommendations.

REMOVE PAVEMENT MARKING, 4" OR EQUIVALENT

Markings that fall outside of the new groove will be obliterated using additional methods approved by the Engineer. Removal of the existing markings will be accomplished without causing damage to the pavement, pavement joints, or joint sealant. The Contractor will repair any damage to the pavement, pavement joints, or joint sealant for no additional payment and at no cost to the State. All costs for materials, labor, and equipment necessary to remove the existing markings will be incidental to the contract unit price per foot for "Remove Pavement Marking, 4" or Equivalent".

GENERAL PERMANENT SIGNING

New sign installations will be staked in the field by the Contractor and checked by the Engineer. The Contractor will give the Engineer a minimum of one week to check staked locations prior to signpost installation. Lateral offset of signs will be as shown in the plans or as directed by the Engineer.

The Contractor will be responsible for contacting South Dakota One Call to locate the utilities at the staked sign installation locations.

When signs are mounted in an assembly, they will be 1-2 inches apart vertically and horizontally.

The height of the post must not exceed the minimum height needed by more than 0.5 feet. Any portion that extends above the sign will be cut off. No separate payment will be made for cutting the post or for that length cut off.

Aluminum U-Channel stiffeners will be used on all signs 36 inches or greater in width and will conform to ASTM B221 Alloy 6063-T6 or 6061-T6. The U-Channel will be 2 inches in width and free of holes. The U-Channel stiffeners will also be used to connect various signs together so that an entire sign assembly can be erected on a single installation. Stiffeners may be fastened to signs by use of 1/4-inch diameter drive rivets.

The Contractor will use 3/8-inch diameter rust proof machine sign bolts, flat metal washers, neoprene washers (against the sign sheeting), lock washers, and nuts to fasten the sign to the channel aluminum and posts. A minimum of two bolts will extend through each post.

Prior to ordering signs, the Contractor will verify dimensions, background, border, and legend of the signs.

Prior to use, the Contractor will provide documentation for the sign support devices showing they meet the applicable NCHRP 350 or MASH requirements.

REMOVE TRAFFIC SIGN

Existing signs that are shown as being removed in the Permanent Signing Table 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.

It may be necessary to cut off extra perforated tube post above sign assemblies where some signs are staying in place. All costs for cutting or modifying and existing sign assembly will be included in the contract unit price per each for "Remove Traffic Sign".

All costs associated with the removal of existing signs, 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.

NEW PERMANENT SIGNING

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

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

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

SQUARE TUBE ANCHOR SLEEVE

The Contractor will furnish and install new 2.5" x 2.5" x 18", 12 Gauge square tube anchor sleeve or equivalent components as approved by the Engineer for 2.0" x 2.0" perforated tube posts. A 2.25" x 2.25" x 4', 12 Gauge perforated tube post will be used as the anchor post for installation with the square tube anchor sleeve.

SIGN POST INSTALATION IN CONCRETE

Some signs will be required to be installed in concrete medians. Notes in the permanent signing table specify which signs will be installed in concrete and these signs will be flush mounted on the concrete. All costs for materials, equipment and labor to install sign posts and bases in concrete will be incidental to the contract unit price per foot for "2.0"x2.0" Perforated Tube Post".

SD 🗾	PROJECT	SECTION	SHEET
DOT	016 EB-452	Non	6/27

LOCATION						PCN i7M8 - PERMANENT SIGNING									_	FL ALUMIN	.AT UM SIGN																
Hwy	Existing	New	Side of Road	Description	Width (in)	Height (in)	SIGN t Direction Facing	Location	New Sign	Type Rem	ove Squa ting Foota	re She ge T	eeting N Type Po	ew P ost	ength Post #1 (ft)	Offset to center of Post #1 (ft)	POS Length Post #2 (ft)	Offset to center of Post #2 (ft)	Size (in)	# of Posts	Shear Slip Base	WORK TO BE DONE	LF of 2.0"	SQFT	SQFT XI	SIGN							
US 16B	MRM - 72.85+0.066	0+19.7 - 16.8' Lt	MEDIAN	R4-7c: KEEP RIGHT SYMBOL	18	30	NORTH	MEDIAN	YES FLAT	ALUM YE	S 3.8		XI	ES	9.5	16.8			2.0	1	NO	REMOVE EXISTING SIGN, POST AND BASE ASSEMBLY. INSTALL NEW SIGN ON NEW POST WITH NEW BASE ASSEMBLY	9.5		3.8	1							
	STA-				OM2-1: TYPE 2 OBJECT MARKER	6	12			YES FLAT	ALUM YE	s											AT NEW LOCATION AS SPECIFIED, NEW STANS WILL BE FLUSH MOUNTED TO THE CONCRETE MEDIAN										
US 16B		0+62.3 - 3.2' Lt	MEDIAN	ОМЗ-С	12	36	SOUTH	MEDIAN	YES FLAT	ALUM YE	S 3.0		XI Y	ES	7.0	3.2			2.0	1	NO	INSTALL NEW SIGN ON NEW POST. THIS SIGN WILL BE INSTALLED IN CONCRETE. NEW SIGNS WILL BE FLUSH MOUNTED TO THE CONCRETE MEDIAN	7.0		3.0								
				R6-1r: ONE WAY ON RIGHT ARROW	54	18	WEST		NO FLAT		D																						
US 16B	MRM - 72.85+0.067	1+18.6 - 75.1' Lt	1+18.6 - 75.1' Lt	LEET	R6-11: ONE WAY ON LEFT ARROW	54	18	EAST	ROW	NO FLAT	ALUM NO	þ			NO							REMOVE EXISTING DIVIDED HIGHWAY SIGN FROM ASSEMBLY.				1							
00 100	STA - 1+18.6 - 75.1' Lt			1+18.6 - 75.1' Lt		R1-1: STOP	36	36	WEST		NO FLAT	ALUM NO	þ			•••								DISTURBED.									
				R6-3: DIVIDED HIGHWAY CROSSING - 4 LEGGED	36	36 30 WEST NO	NO FLAT	ALUM YE	s																								
SD 79			1+75.5 - 10.2' t	MEDIAN	R5-1: DO NOT ENTER	36	36	EAST	MEDIAN	YES FLAT	ALUM NO	0.9.0		XI	FS	10.0	10.2	_	_	20	1	NO	INSTALL 2 NEW SIGNS BACK TO BACK. SIGNS WILL BE ORIENTED TO FACE CROSS STREET TRAFFIC. NEW SIGNS WILL	10.0		9.0							
		1770.0 - 10.2 Et	MEDINI	R5-1: DO NOT ENTER	36	36	WEST	MEDINA	YES FLAT	ALUM NO	0.9		xı		10.0	10.2			2.0			BE INSTALLED IN CONCRETE, NEW SIGNS WILL BE FLUSH MOUNTED TO THE CONCRETE MEDIAN	10.0		9.0								
										NO OUTLET RIGHT ARROW			SOUTH		NO FLAT	ALUM YE	s																
				LEFT ARROW NO OUTLET			NORTH		NO FLAT	ALUM YE	s																						
											S I-90 SERVICE RD			SOUTH		NO FLAT	ALUM NO	þ															
US 16B	MRM -	2+23.4 - 51.4' Rt	RIGHT	S I-90 SERVICE RD			NORTH	RTH ROW	BOW	NO FLAT	ALUM NO	þ			JO.								REMOVE 2 EXISTING NO OUTLET SIGNS FROM ASSEMBLY. REMOVE EXISTING DIVIDED HIGHWAY SIGN FROM ASSEMBLY.				1						
00 100	STA - 2+23.4 - 51.4' Rt	2720.4 - 01.4 14	Kiom	R6-1r: ONE WAY ON RIGHT ARROW	54	54 18 EAST	AST ROW		NO FLAT	ALUM NO	D											ADDITIONAL TELESPAR LEFT ABOVE THE EXISTING SIGNS WILL BE CUT OFF.											
				R6-1I: ONE WAY ON LEFT ARROW	54	18	WEST		NO FLAT	ALUM NO	þ																						
				R1-1: STOP	36	36	EAST		NO FLAT	ALUM NO	D																						
				R6-3: DIVIDED HIGHWAY CROSSING - 4 LEGGED	36	30	EAST		NO FLAT	ALUM YE	s																						
US 16B		2+55.9 - 22.1' Lt	MEDIAN	OM3-C	12	36	NORTH	MEDIAN	YES FLAT	ALUM YE	S 3.0		XI Y	ES	7.0	3.2			2.0	1	NO	INSTALL NEW SIGN ON NEW POST. THIS SIGN WILL BE INSTALLED IN CONCRETE. NEW SIGNS WILL BE FLUSH MOUNTED TO THE CONCRETE MEDIAN	7.0		3.0								
US 16B	MRM - 72.91+0.015	2+56.1 - 3.7' Lt	MEDIAN	R4-7c: KEEP RIGHT SYMBOL	18	30	SOUTH	MEDIAN	YES FLAT	ALUM YE	S 3.8		XI	ES	9.5	16.8			2.0	1	NO	REMOVE EXISTING SIGN, POST AND BASE ASSEMBLY. INSTALL NEW SIGN ON NEW POST WITH NEW BASE ASSEMBLY AT NEW LOCATION AS SPECIFIED. NEW SIGNS WILL BE	9.5		3.8	1							
	STA -	2+56.1 - 3.7' Lt MEDIAN		OM2-1: TYPE 2 OBJECT MARKER	6	12			YES FLAT	ALUM YE	s											INSTALLED IN CONCRETE. NEW SIGNS WILL BE FLUSH MOUNTED TO THE CONCRETE MEDIAN											
																						TOTALS:	43.0	0.0	31.6	4.0							

SD 🗾	PROJECT	SECTION	SHEET
DOT	016 EB-452	Non	7/27

LEGEND

Anchor Antenna Approach Assumed Corner Azimuth Marker BBQ Grill/ Fireplace Bearing Tree Bench Mark Box Culvert Bridge Brush Buildings Bulk Tank Cattle Guard Cemetery Centerline Cistern Clothes Line **Control Point** 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

File - ...\Legend Se

 \leftarrow 盘

?

◬

▲

Ø

⊿

62033

╞

+

©

A

b

المحصر

þ

_ _ _ _

......

_ _ _ _

_

_ - _ -

P

ති

7777

0

0

þ

þ

22222 ₽ ≫

Hedge	62223
Highway ROW Marker	•
Interstate Close Gate	7,-9
Iron Bin	
	U
Irrigation Ditch	
Lake Edge	
Lawn Sprinkler	
Mailbox	0
Manbox Manbola Electric	9
	0
Manhole Gas	0
Manhole Misc	0
Manhole Sanitary Sewer	Ø
Manhole Storm Sewer	Ø
Manholo Tolophono	
Manhole Water	0
Merry-Go-Round	*
Microwave Radio Tower	华
Misc Line	
Mice Proporty Corpor	1
Misc. Property Comer	~
MISC. Post	0
Overhang Or Encroachment	
Overhead Utility Line	- OH -
Parking Meter	Ŷ
Padastrian Puch Putton Polo	
	0
Pipe With End Section	\rightarrow
Pipe With Headwall	H
Pipe Without End Section	
Playground Slide	
Playaround Swing	XK
Playground Swing	
Power And Light Pole	
Power And Telephone Pole	Ø
Power Meter	0
Power Pole	Ø
Power Pole And Transformer	-Å-
Power Tower Structure	¥.
Propane Tank	
Property Pipe	\odot
Property Pipe With Cap	۲
Property Stone	PS
Public Telephone	E
Railroad Crossing Signal	-04
Railroad Milepost Marker	
Railroad Profile	
Railroad R.O.W. Marker	
Railroad Signs	b
Railroad Switch	
Railload Switch	
Railroad Track	
Railroad Trestle	
Rebar	A
Rebar With Cap	\triangle
Reference Mark	A
Reference Mark	_
Regulatory Sign One Post	P K
Regulatory Sign Two Post	F
Retaining Wall	
Riprap	$\infty \infty \infty \infty$
River Edge	
Rock And Wire Baskets	
	00030 1
Satellite Dish	4

Septic Tank	9
Shrub Tree	6
Sidewalk	
Sign Face	
Sign Post	0
Slough Or Marsh	<u>n))ku n))ku</u>
Spring	Ø
Stream Gauge	ø
Street Marker	_
Subsurface Utility Exploration Test Hole	
Telephone Fiber Optics	— T/F —
Telephone Junction Box	
Telephone Pole	Ø
Television Cable Jct Box	0
Television Tower	夲
Test Wells/Bore Holes	
Traffic Signal	‡
Trash Barrel	Ū
Tree Belt	\sim
Tree Coniferous	*
Tree Deciduous	0
Tree Stumps	٨
Triangulation Station	Δ
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	— т —
Underground Television Cable	— ти —
Underground Water Line	— w —
Warning Sign One Post	þ
Warning Sign Two Post	Þ
Water Fountain	l
Water Hydrant	O
Water Meter	00
Water Tower	
Water Valve	0
Water Well	\odot
Weir Rock	
Windmill	8
Wingwall	
Witness Corner	©

SD 🗾	PROJECT	SECTION	SHEET
DOT	016 EB-452	Non	8/27
Plotting Date:	07/09/2024		

State and National Line County Line Section Line Quarter Line Sixteenth Line Sixty-Fourth Line Property Line Construction Line ROW Line New ROW Line Cut and Fill Limits Control of Access New Control of Access Proposed ROW (After Property Disposal)

0-0-0-0-0-0-
0-0-0-0-0-0-

Drainage Arrow

Remove Concrete Pavement

Remove Concrete Driveway Pavement

Remove Asphalt Concrete Pavement

Remove Concrete Sidewalk

Remove Concrete Median Pavement

Remove Concrete Curb and/or Gutter

Detectable Warning Pedestrian Push Button Pole and 30" x 48" Clear Space with 1.5% slope







	-0-	
	-	
đ)	



CURB AND GUTTER AND PCC PAVEMENT LAYOUT

Note: All curb and gutter shown on this sheet is Type FL 69.5. Top of Curb Elevations will be set to provide a 2% pavement cross slope. The pavement surface will drain towards the existing lanes. Use a 75' transition length to change the cross slope direction.



Use a 6" radius on the corners and increase the width of the curb as needed to eliminate narrow pavement (1.5' min. width for Median Pavement Width)

LEGEND:

- _ _ _ _ . Transverse Contraction Joint (Match Existing Joints)
- Steel Bar Installation in Longitudinal or Transverse Joint - SB
- Longitudinal Joint With Tie Bars -LT____
- Longitudinal Joint Without Tie Bars — L



3+20-16' L End C & G Match Existing 16' Width







ESTIMATE OF QUANTITIES		
ITEM	QUANT	UNIT
astic Pavement Marking, 4" Yellow	1010	FT
astic Pavement Marking, 4" White	74	FT
astic Pavement Marking, 8" White	264	FT
astic Pavement Marking, 24" Yellow	22	FT
astic Pavement Marking, 24" White	64	FT
astic Pavement Marking, Arrow)	6	EACH
old Applied Plastic Pavement Marking, 4"	1084	FT
old Applied Plastic Pavement Marking, 8"	264	FT
old Applied Plastic Pavement Marking, 24"	86	FT
old Applied Plastic Pavement Marking, Arrow)	6	EACH

SIGNING LAYOUT



SD PROJECT		SECTION	SHEET
DOT	016 EB-452	Non	12/27
Plotting Date:	6/9/2025		

STOP SIGN, ONE WAY, AND STREET NAME SIGNS TO REMAIN IN PLACE EXTRA TELSPAR MAY NEED TO BE CUT OFF FROM THE TOP OF THE ASSEMBLY







SD DOT

PROJECT

016 EB-452

SECTION

SHEET Non 14/27









PROJECT

Plotting Date: Epoxy Coated Deformed Tie Bar Δ. Δ New PCC Pavement . ۵ `A` Δ. . ۵ ۵. Δ. Δ. Δ .Δ. . Δ Δ. Δ. Δ. -Full Depth Saw Cut Transverse joint will be the same type used on new PCC pavement. See standard plates 380.12 or 380.13. New PCC Pavement Δ. Δ. Δ. . Δ . ۵ 9" . Δ. . 6 A. A. A - Form Oiled or Greased End - Epoxy Coated Plain Round Dowel Bar T = In Place PCC Pavement and New PCC Pavement Thickness January 22, 2023 PLATE NUMBER PCC PAVEMENT TRANSVERSE CONSTRUCTION 380.15 JOINTS WITH TIE BARS OR DOWEL BARS Sheet I of 2





SD DOT
DI UL DI



016 EB-452

SECTION SHEET Non 16/27

TIE BAR SPACING 30"	MAXIMUM
Transverse Contraction Joint Spacing	Number of Tie Bars
5' to 7'	2
7.5' to 9.5'	3
10' to 12'	4
12.5' to 14.5'	5
15' to 17'	6
17.5' to 19.5'	7
20' to 22'	8

November 19, 2022

AVEN	IENT L	ONG	TUDINAL
NTS	WITH	TIE	BARS

PLATE NUMBER



	LONGITUDIN	AL (
	*Concrei Concrete C	te Gu turb a	tter or nd Gutter
[Sawed Join with Hot Po Elastic Join	t filleo ured t Seal	
	In Place ★Gutter or Curb and Gutter		
GENERAL NO	TES:	~	15"
No. 5 epoxy co minimum of 15	ated deformed tie bar inches from existing t	s will ransv	be spaced 48 inches o erse contraction joints
The keyway is recess strip will	optional and is not rec be used. When conc	quired crete p	. When concrete pave pavement is slip forme
The transverse PCC pavement curb and gutter to cut the trans gutter or concre	contraction joints in the transverse contraction will be 1½ inches deeverse contraction joint set curb and gutter.	ne cor in join ep if fo s, the	ncrete gutter or concre t. The transverse cor ormed in fresh concret on the depth of the join
Standard curb a greater than 12	and gutter may not be feet.	place	ed monolithically with
The term "In Pla and concrete c	ace * Gutter or Curb urb and gutter was pla	and G aced c	Sutter" in the above dr
	POUR	RED Con	MONOLITHICAL crete Gutter or e Curb and Gutter
GENERAL NO	ΓES:	▲ [₽] Ne	$\begin{array}{c} \overline{P}_{\Delta} \\ \overline{P}$
The mainline cu s less than or e he curb and gu	urb and gutter may be equal to 12 feet. If this tter and the PCC pave	place methemen	ed monolithically with t nod of construction is t will be eliminated.
The gutter or cu transverse cont contraction joint	irb and gutter will be s raction joints in the gu ts in the PCC paveme	sawed itter o ent.	l transversely at each r curb and gutter will t
The slope of the The bottom slop concrete pavem	e gutter will be the slo be of the gutter or curb nent.	pe de b and	signated for the type of gutter will be construct
		S D	PCC PAVEMENT L



PROJECT

SECTION SHEET

Non 17/27

 DOT
 016 EB-452

 Plotting Date:
 6/5/2025







Plotting Date: LONGITUDINAL CONSTRUCTION JOINT WITHOUT TIE BARS ▲New PCC Pavement 2 PA -Metal Recess Strip T=Pavement Thickness LONGITUDINAL CONSTRUCTION JOINT WITHOUT TIE BARS Sawed Joint filled with Hot-Poured Elastic Joint Sealer In Place PCC Pavement New PCC Pavemen P.A -Full Depth Saw Cut T=Pavement Thickness November 19, 2022 PLATE NUMBER VEMENT LONGITUDINAL 380.22 'S WITHOUT TIE BARS Sheet I of 2



GENERAL NOTE:

GENERAL NOTES: When concrete pavement is formed and a keyway is provided, a metal recess strip will be used. When concrete pavement is slip formed, a metal recess strip is not required. The term "In Place PCC Pavement" in the above drawing indicates that the in place PCC pavement was placed on the current project. The term "In Place PCC Pavement" in the above drawing indicates that the in place PCC pavement was placed on a previous project.

	S D	PCC PA
Published Date: 2026		JOINTS



PROJECT

016 EB-452

SECTION SHEET









SECTION SHEET



GENERAL NOTES:

Necessary excavation for construction of barrier type PC excavation for granular material will be measured and pa

Concrete for barrier type median PCC pavement will com Class M6 Concrete. One-half inch expansion joint filler w pavement at a maximum spacing of 75 feet. Where med longitudinal joint will be sawed or grooved along the cent median PCC pavement is 4 feet or narrower and at width grooved at spacings as approved by the Engineer. All ot sections. All joints will be sawed or grooved to a depth o

All costs for labor, materials, and incidentals necessary f will be incidental to the contract unit price per square yar "Barrier Type Median Asphalt Concrete Pavement".

All costs for labor, materials, and incidentals necessary f (See Sections B-B, C-C, and D-D) and the adjacent 8-ind to the contract unit price per foot for the corresponding c

Granular material will be paid for at the contract unit price

	S	
	D	
	D	
Publiched Nate [,] 2026	0	IVIL
TUDIISIIGU DALG. 2020	T	

SD DOT
Distance Distance

016 EB-452

Ing Date: 6/5/2025

C and asphalt concrete median pave aid for as "Unclassified Excavation".	ements and
nply with the requirements of the Spe vill be placed transversely in the medi dian PCC pavement is wider than 8 fe terline of the median PCC pavement. h transitions, contraction joints will be ther contraction joints will be sawed i of $\frac{1}{3}$ the thickness of the median PCC	ecifications for an PCC eet, a Where the sawed or n square pavement.
for construction of the barrier type me rd for "Barrier Type Median PCC Pave	edian pavement ement" or
for construction of the 6-foot concrete ch thick concrete (See Section E-E) v urb and gutter contract item.	curb transition vill be incidental
e for the respective granular material	contract item.
	November 19, 2022
BARRIER TYPE	plate number 380.36
Meuian Pavemeni	



File - ...\dan\Sta





File - ...\dan\Sta





PROJECT

016 EB-452

SECTION SHEET 22/27







April 8, 2025





SD DOT



Plotting [Posted Spacing of Taper dvance Warning|Length Speed Prior to Signs (Feet) Work (Feet) (M.P.H. (L) (A) 200 0 - 30 180 35 **-** 40 350 320 <u>45 - 50</u> 500 600 55 750 660 60 - 65 1000 780 END Posted Spacing of ROAD WORK $\neg \neg$ Speed Channelizing G20-2 Prior to Devices (Optional) Work (Feet) (M.P.H.) (G) 0 - 30 25 35 - 45 25 50 50 * 55 50 \star 60 - 65 50 \star * Spacing is 40' for 42" cones. Reflectorized Drum
 ■ Channelizing Device $\binom{4}{\mathbf{v}}$ 4" Yellow Temporary Pavement Marking Type 3 Barricades $\rangle \rangle \rangle$ (Double Sided) 5 C Arrow Board Sequential Chevror Type 3 Barricade (Double Sided) ص. LEFT LANE Nº20 ROAD WORK AHEAD September 22, 2021 PLATE NUMBER 634.57 5-LANE, CENTER 3 LANES CLOSED Sheet I of I







File - ...\dan\Sta



	S	
Published Date: 2026		TYPE FL CON

SD

PROJECT

SECTION SHEET

Non 25/27

016 EB-452 Plotting Date: 6/5/2025

> The stated radii on the plans and cross sections refer to this line and it will also be the basis for horizontal linear foot measurement and payment.

 $-\frac{1}{4}$ " to $\frac{1}{2}$ " Radius (Typ.)

JRB	JRB AND GUTTER		
	Cu. Yd.	Lin. Ft.	
es)	Lin. Ft.	Per Cu. Yd.	
, 3	0.062	16.1	
, 3	0.071	14.1	
3	0.079	12.7	
3	0.084	11.9	
, 3	0.087	11.5	
8	0.091	11.0	
8	0.095	10.9	
8	0.100	10.0	
8	0.104	9.6	
8	0.108	9.3	
6	0.112	8.9	

January 22, 2023

NCRETE CURB AND GUTTER





File - ...\dan\Standan



SD DOT

016 EB-452

PROJECT

SECTION SHEET



SD
Plotting Date:

SECTION SHEET

Plotting Date: 6/5/202