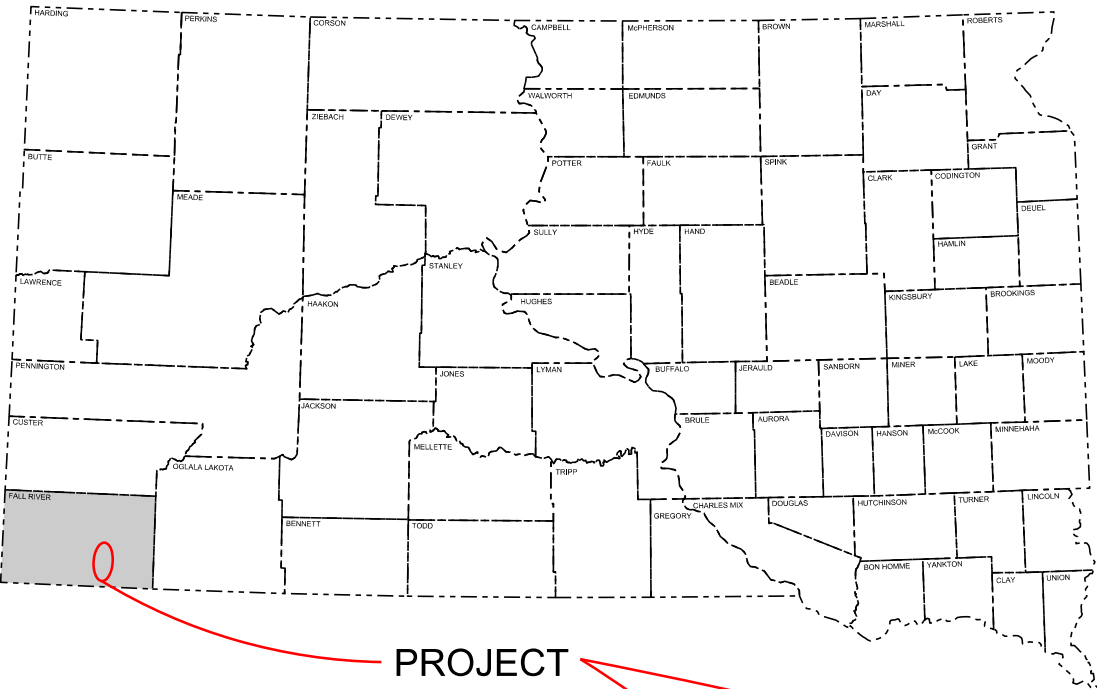


Plot Scale - 1:200

Plotted From - TRCU10206



STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

PROJECTS 018 W-492 & 385 N-492
US HIGHWAYS 18 & 385
FALL RIVER COUNTY

SHOULDER REPAIR
PCN i62r & i62q

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	018W-492 & 385N-492	1	9

Plotting Date: 05/08/2020

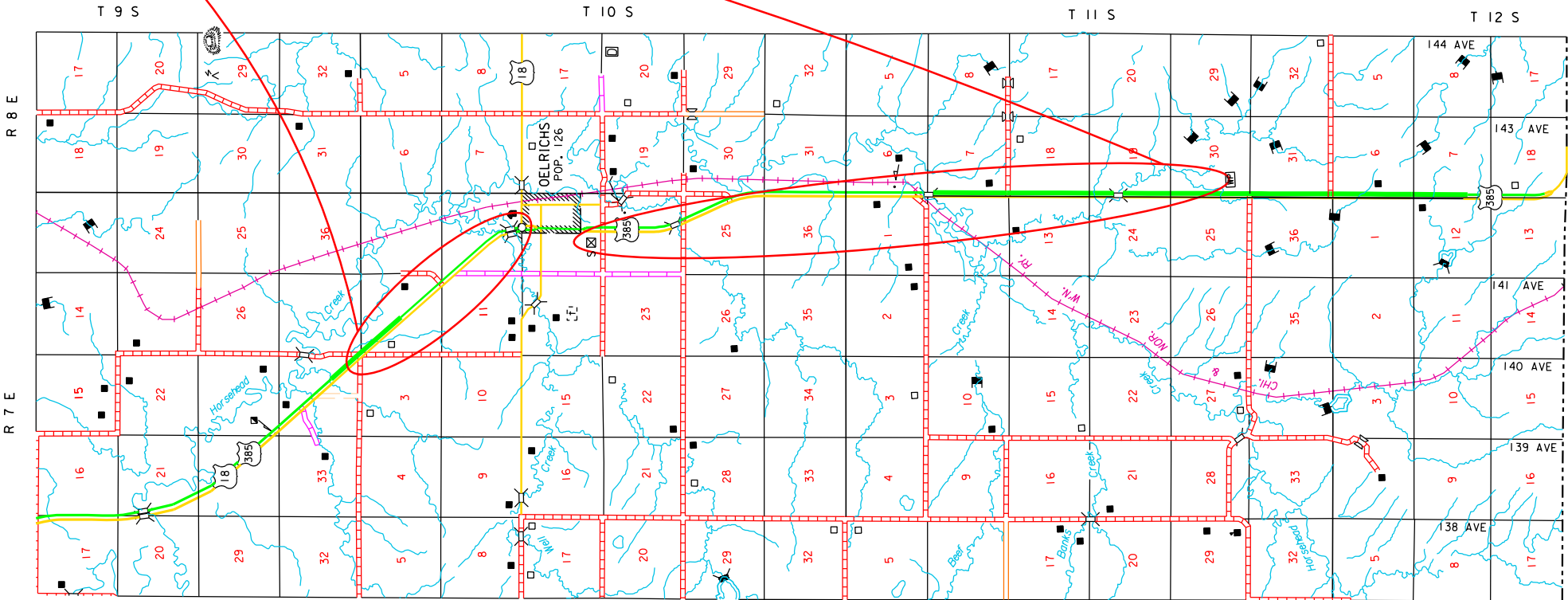
INDEX OF SHEETS

1	General Layout with Index
2-5	Estimate with General Notes & Tables
6	Special Details
7-9	Standard Plates

PROJECT

US 18 WB
MRM 49.7 to MRM 62.2

US 385 NB
MRM 7.6 to MRM 11



DESIGN DESIGNATION - US Hwy 18 NB

AADT (2018)	1048
AADT (2038)	1328
DHV	135
D	50%
DHV T%	5.5%
AADT T%	19.3%
V	70 mph

DESIGN DESIGNATION - US Hwy 385 NB

AADT (2018)	674
AADT (2038)	854
DHV	104
D	50%
DHV T%	9.6%
AADT T%	21.0%
V	70 mph

STORM WATER PERMIT

None Required



ESTIMATE OF QUANTITIES

PCN i62q, US 385

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	1.0	LS
110E1010	Remove Asphalt Concrete Pavement	1,227.7	SqYd
320E1200	Asphalt Concrete Composite	207.2	Ton
330E0300	SS-1h or CSS-1h Asphalt for Fog Seal	2.7	Ton
360E0020	AE150S Asphalt for Surface Treatment	13.7	Ton
360E1030	Type 2A Cover Aggregate	148.4	Ton
633E1205	High Build Waterborne Pavement Marking Paint, Yellow	9.0	Gal
634E0010	Flagging	10.0	Hour
634E0110	Traffic Control Signs	342.0	SqFt
634E0120	Traffic Control, Miscellaneous	1.0	LS
634E0275	Type 3 Barricade	3.0	Each
634E0420	Type C Advance Warning Arrow Board	1.0	Each

PCN i62r, US 18

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	1.0	LS
110E1010	Remove Asphalt Concrete Pavement	664.8	SqYd
320E1200	Asphalt Concrete Composite	112.2	Ton
330E0300	SS-1h or CSS-1h Asphalt for Fog Seal	2.3	Ton
360E0020	AE150S Asphalt for Surface Treatment	11.2	Ton
360E1030	Type 2A Cover Aggregate	121.5	Ton
633E1205	High Build Waterborne Pavement Marking Paint, Yellow	27.0	Gal
634E0010	Flagging	10.0	Hour
634E0110	Traffic Control Signs	342.0	SqFt
634E0120	Traffic Control, Miscellaneous	1.0	LS
634E0275	Type 3 Barricade	2.0	Each
634E0420	Type C Advance Warning Arrow Board	1.0	Each

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 Section A 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. 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: <http://www.sddot.com/resources/Manuals/EnvironProcManual.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 Office at 605-773-3098 or 605-773-4336 to determine whether an environmental analysis and/or resource agency coordination is necessary.

COMMITMENT C: WATER SOURCE

The Contractor will not withdraw water with equipment previously used outside the State of South Dakota or previously used in aquatic invasive species waters within South Dakota without prior approval from the SDDOT Environmental Office. Thoroughly wash all construction equipment to prevent and control the introduction and spread of invasive species into the project vicinity.

Action Taken/Required:

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

Additional information and mapping of Aquatic Invasive Species in South Dakota can be accessed at: <http://sdleastwanted.com/maps/default.aspx>.

COMMITMENT E: STORM WATER

Construction activities constitute less than 1 acre of disturbance.

Action Taken/Required:

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

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 Environment 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 completely 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 of time not to exceed the duration of the project. Prior to project completion, the waste shall be removed from view of the ROW or buried and the waste disposal site reclaimed as noted above.

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.

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

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

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

State Historical Preservation Office (SHPO or THPO) concurrence has not been obtained for this project.

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

SHOULDER REPAIR

Asphalt shall be removed at the locations shown in the plans on the northbound, outside and inside, shoulders to a width of 1 ft, and as directed by the Engineer.

After the asphalt concrete composite has been placed, the entire length of the project will be covered in Asphalt Surface Treatment for the full width of the shoulder.

Material has been provided for repair of any additional damaged areas as directed by the Engineer.

SURFACING THICKNESS DIMENSIONS

Plans tonnage will be applied even though the thickness may vary from that shown in the plans. At those locations where material must be placed to achieve a required elevation for smoothness, plans tonnage may be varied to achieve the required elevation.

ASPHALT SURFACE TREAMENT

Asphalt Surface Treatment shall be applied to the full width of the asphalt shoulder after repairs have been completed. The Asphalt Surface Treatment shall extend the full length of the project for both repaired areas and non-repaired areas as shown in the table of Asphalt Concrete Surface Treatment.

BROOMING

Brooming shall be done with care, so that aggregate is not dislodged before setting. Additional brooming may be required as directed by the Engineer. The loose material resulting from the brooming shall be swept onto the roadway inslopes.

Upon completion of brooming operations, a windrow of cover aggregate shall not exist along the edge of the roadway or under guardrail. This material shall be leveled to match the existing inslopes. Any remaining windrows of cover aggregate along the edge of the roadway shall be removed by the Contractor at the Contractor's expense. All costs for brooming are incidental to the contract unit price per ton for Type 2A Cover Aggregate.

BRIDGES AND APPROACH SLABS

Asphalt surface treatment shall not be placed on any bridges or approach slabs along the project. Bridge joints shall be covered with an approved masking material to prevent the asphalt surface treatment from coming in contact with the bridge and/or bridge joint. All loose aggregate shall be cleaned from the bridge and around the guardrail posts. All costs associated with this work shall be incidental to the asphalt surface treatment contract items.

EXISTING PAVEMENT CONDITIONS

The existing pavement conditions for each project are listed in the table below. The descriptions are from the McLeod procedure for seal coat design.

LOCATION	EXISTING PAVEMENT CONDITION
US 385 Shoulder	Smooth non-porous
US 18 Shoulder	Smooth non-porous

ESTIMATED QUANTITIES FOR ASPHALT SURFACE TREATMENT

The quantities of asphalt for surface treatment and cover aggregate are based on the rates shown in the Rates of Materials. This is only an estimate. The actual application rates of materials will be determined by mix design as stated in the Special Provision for Asphalt Surface Treatment Design. The mix design rates may vary from the estimated rates stated in the Rates of Materials depending on the aggregate source and the variation in gradation and flakiness index. The application rates may also be adjusted in the field due to results of gradation, flakiness index, sweep tests and differing surface conditions as encountered. Pay quantities will be based on the actual target rates the inspectors use even though they may vary significantly from plans estimates.

ASPHALT SURFACE TREATMENT RATES OF MATERIALS

AE150S Asphalt for Surface Treatment applied 0.25 gallons per square yard.

Type 2A Cover Aggregate applied 23 pounds per square yard.

SS-1h or CSS-1h Emulsified Asphalt for Fog Seal applied 0.05 gallons per square yard.

ROADWAY CLEANING

The Contractor shall be responsible for removing all construction debris from the roadway surface, including shoulders, intersecting roads, median crossovers, etc. as directed by the Engineer.

Table of Shoulder Repair Quantities				
		Length	Remove Asphalt Concrete Pavement	Asphalt Concrete Composite
	MRM	Ft	(SqYd)	(Ton)
US 385 NB	7.804	83.42	9.27	1.56
Outside	7.929	367.49	40.83	6.89
Shoulder	8.055	407.62	45.29	7.64
	8.266	153.12	17.01	2.87
	8.317	110.88	12.32	2.08
	8.395	587.14	65.24	11.01
	8.702	121.97	13.55	2.29
	8.741	611.95	67.99	11.47
	8.867	424.51	47.17	7.96
	9.030	498.96	55.44	9.36
	9.135	695.38	77.26	13.04
	9.299	273.50	30.39	5.13
	9.379	133.06	14.78	2.49
	9.425	340.56	37.84	6.39
	9.499	118.80	13.20	2.23
	9.543	74.45	8.27	1.40
	9.583	166.85	18.54	3.13
	9.624	145.73	16.19	2.73
	9.661	1556.54	172.95	29.19
	9.966	114.05	12.67	2.14
	10.000	264.00	29.33	4.95
	10.061	103.49	11.50	1.94
	10.092	749.23	83.25	14.05
	10.247	58.08	6.45	1.09
	10.271	287.76	31.97	5.40
	10.363	256.61	28.51	4.81
	10.429	76.56	8.51	1.44
	10.460	140.98	15.66	2.64
	10.514	76.03	8.45	1.43
	10.565	190.08	21.12	3.56
	10.662	313.63	34.85	5.88
	10.796	264.00	29.33	4.95
	10.906	486.29	54.03	9.12
US 385 NB	7.656	289.34	32.15	5.43
Inside	7.801	72.34	8.04	1.36
Shoulder	7.895	132.00	14.67	2.48
	7.982	102.96	11.44	1.93
As directed by the Engineer		200.00	22.22	3.75
		Total	1227.70	207.18

Table of Shoulder Repair Quantities				
		Length	Remove Asphalt Concrete Pavement	Asphalt Concrete Composite
	MRM	Ft	(SqYd)	(Ton)
US 18 NB	61.696	120.38	13.38	2.26
Outside	61.679	18.48	2.05	0.35
Shoulder	61.505	81.84	9.09	1.53
	61.465	55.44	6.16	1.04
	61.310	83.95	9.33	1.57
	61.219	205.39	22.82	3.85
	61.165	191.14	21.24	3.58
	61.067	64.42	7.16	1.21
	61.001	47.52	5.28	0.89
	60.975	40.66	4.52	0.76
	60.941	71.28	7.92	1.34
	60.867	99.79	11.09	1.87
	60.800	73.39	8.15	1.38
	60.731	290.40	32.27	5.44
	60.703	69.17	7.69	1.30
	60.678	72.34	8.04	1.36
	60.667	25.87	2.87	0.49
	60.573	58.61	6.51	1.10
	60.332	252.38	28.04	4.73
	60.208	216.48	24.05	4.06
	54.126	769.82	85.54	14.43
	52.573	926.64	102.96	17.37
	49.890	76.56	8.51	1.44
	49.798	333.17	37.02	6.25
US 18 NB	61.205	43.30	4.81	0.81
Inside	61.164	67.06	7.45	1.26
Shoulder	60.703	592.42	65.82	11.11
	60.432	57.55	6.39	1.08
	60.4032	77.616	8.62	1.46
	60.3009	263.472	29.27	4.94
	60.1792	347.952	38.66	6.52
	60.0953	87.648	9.74	1.64
	60.0195	100.848	11.21	1.89
As directed by the Engineer		100.00	11.11	1.88
		Total	664.78	112.18

Table of Asphalt Concrete Surface Treatment								
						AE150S Asphalt for Surface Treatment	Type 2A Cover Aggregate	SS-1h or CSS-1h Asphalt for Fog Seal
			Width (Ft)	Length (Ft)	Area (SqYd)	(Ton)	(Ton)	(Ton)
US 385 NB								
Outside Shoulder	7.60	11.00	6.0	17952	11968	12.7	137.6	2.5
Inside Shoulder	7.60	8.00	4.0	2112	938.7	1	10.8	0.2
Total						13.7	148.4	2.7
US18 WB								
Outside Shoulder	60.00	61.80	6.0	9504	6336	6.7	72.9	1.3
	54.13	54.27	6.0	770	513.2	0.5	5.9	0.1
	52.57	52.75	6.0	927	617.8	0.7	7.1	0.1
	49.89	49.90	6.0	77	51.04	0.1	0.6	0.1
	49.80	61.30	6.0	333	222.1	0.2	2.6	0.1
Inside Shoulder	60.00	61.20	4.0	6336	2816	3	32.4	0.6
Total						11.2	121.5	2.3

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

All construction operations will be conducted in the general direction of traffic movement.

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.

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

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 bid items.

At no time will a vertical drop-off of greater than 3 inches be left overnight adjacent to the traveled way. The Contractor will utilize embankment material to ensure a 3-inch vertical drop-off is not exceeded. The slope of the embankment material will not be steeper than a 4:1 within 30 feet of the traveled way.

Lane closures will be limited to 5 miles in length. The distance between the closest points of any two-lane closures will be at least 3 miles, excluding tapers.

SEQUENCE OF OPERATIONS

The Contractor will submit a sequence of operations for approval two weeks prior to the preconstruction meeting. 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.

TRAFFIC CONTROL SIGNS

Sufficient traffic control devices have been included in these plans to sign one workspace on each route. If the Contractor elects to work on additional locations simultaneously, the cost for additional traffic control devices will be incidental to the contract unit price per square foot for Traffic Control Signs.

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.

HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

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

This material will consist of a durable high build, low VOC, fast drying, waterborne traffic paint with a 100% acrylic polymer (Arkema DT-400, Dow HD-21A, or equivalent). The Contractor will provide certification that the material is one of the following products or an equivalent as approved by the Operations Traffic Engineer:

Diamond Vogel's Waterborne High Build Polymer Marking Paint
Ennis-Flint's High Build Polymer Marking Paint

No further testing of this material will be required. Reflective media will consist of glass beads.

High Build Waterborne Pavement Marking Paint applied after October 15 must be formulated as cold-weather waterborne paint. Cold weather waterborne paint will meet the requirements of Section 980.1 B.

RATES OF MATERIALS FOR HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

Solid 4" line = 22.5 Gals/Mile
Glass Beads = 8 Lbs/Gal.

All cost for materials, labor and equipment necessary to furnish and install the pavement markings will be incidental to the contract unit price for the respective High Build Waterborne Pavement Marking Paint items.

INVENTORY OF TRAFFIC CONTROL DEVICES

US 385

SIGN CODE	SIGN DESCRIPTION	EXPRESSWAY / INTERSTATE			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R2-1	SPEED LIMIT 65	3	36" x 48"	12.0	36.0
R2-1	SPEED LIMIT 45	2	36" x 48"	12.0	24.0
R2-1	SPEED LIMIT 70	1	36" x 48"	12.0	12.0
R2-6aP	FINES DOUBLE (plaque)	1	36" x 24"	6.0	6.0
W3-5	SPEED REDUCTION AHEAD (65 MPH)	2	48" x 48"	16.0	32.0
W3-5	SPEED REDUCTION AHEAD (45 MPH)	2	48" x 48"	16.0	32.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0
W20-1	ROAD WORK AHEAD	5	48" x 48"	16.0	80.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	1	48" x 48"	16.0	16.0
W21-5	SHOULDER WORK	1	48" x 48"	16.0	16.0
G20-2	END ROAD WORK	3	48" x 24"	8.0	24.0
		EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT			342.0

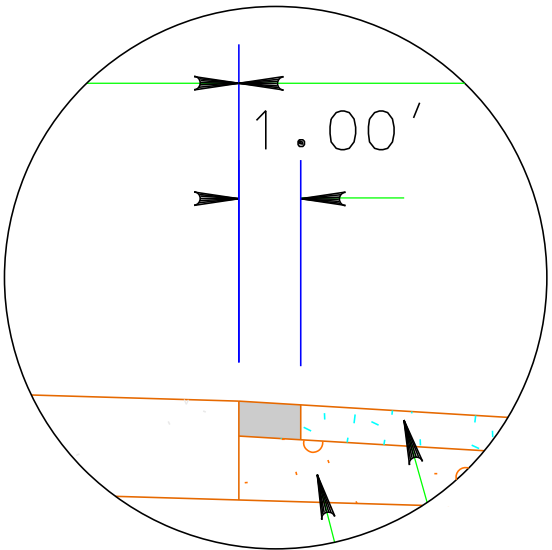
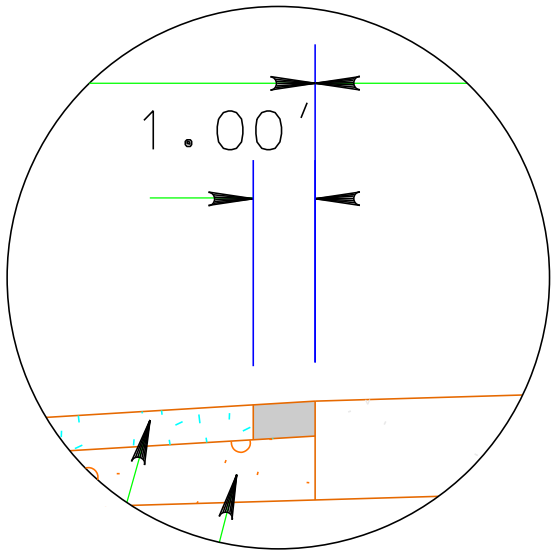
US 18

SIGN CODE	SIGN DESCRIPTION	EXPRESSWAY / INTERSTATE			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R2-1	SPEED LIMIT 65	3	36" x 48"	12.0	36.0
R2-1	SPEED LIMIT 45	2	36" x 48"	12.0	24.0
R2-1	SPEED LIMIT 70	1	36" x 48"	12.0	12.0
R2-6aP	FINES DOUBLE (plaque)	1	36" x 24"	6.0	6.0
W3-5	SPEED REDUCTION AHEAD (65 MPH)	2	48" x 48"	16.0	32.0
W3-5	SPEED REDUCTION AHEAD (45 MPH)	2	48" x 48"	16.0	32.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0
W20-1	ROAD WORK AHEAD	5	48" x 48"	16.0	80.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	1	48" x 48"	16.0	16.0
W21-5	SHOULDER WORK	1	48" x 48"	16.0	16.0
G20-2	END ROAD WORK	3	48" x 24"	8.0	24.0
		EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT			342.0

TYPICAL REPAIR SECTION

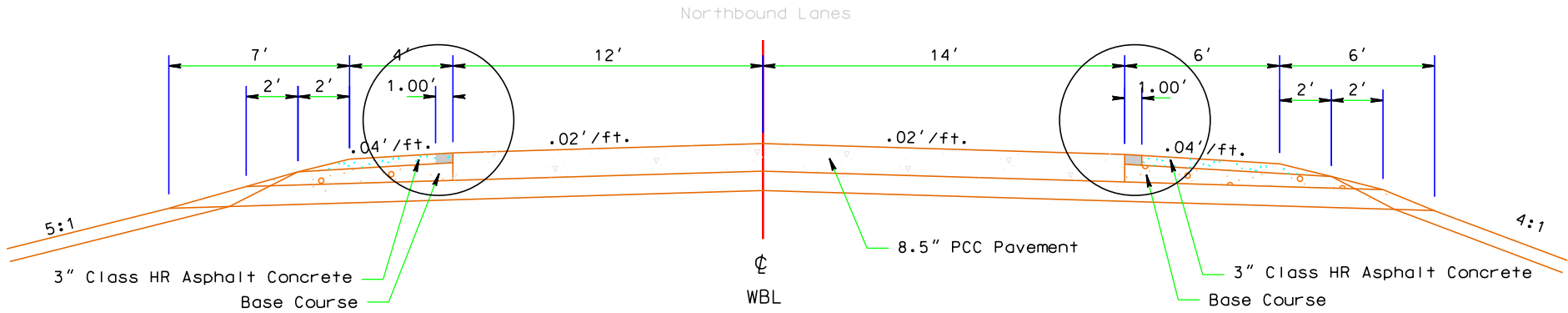
STATE OF SOUTH DAKOTA	PROJECT 018W-492 & 385N-492	SHEET NO.	TOTAL SHEETS
		6	9

Plotting Date: 04/15/2020



Remove and Place 3" Asphalt Concrete Composite
Adjacent to PCCP.

Remove and Place 3" Asphalt Concrete Composite
Adjacent to PCCP.



PLOT SCALE - 1+6.19298

PLOTTED FROM - TRCU10206

PLOT NAME - 1

FILE - ...NTRCU10206\DESKTOP\TYPICAL.DGN

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 shall 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.

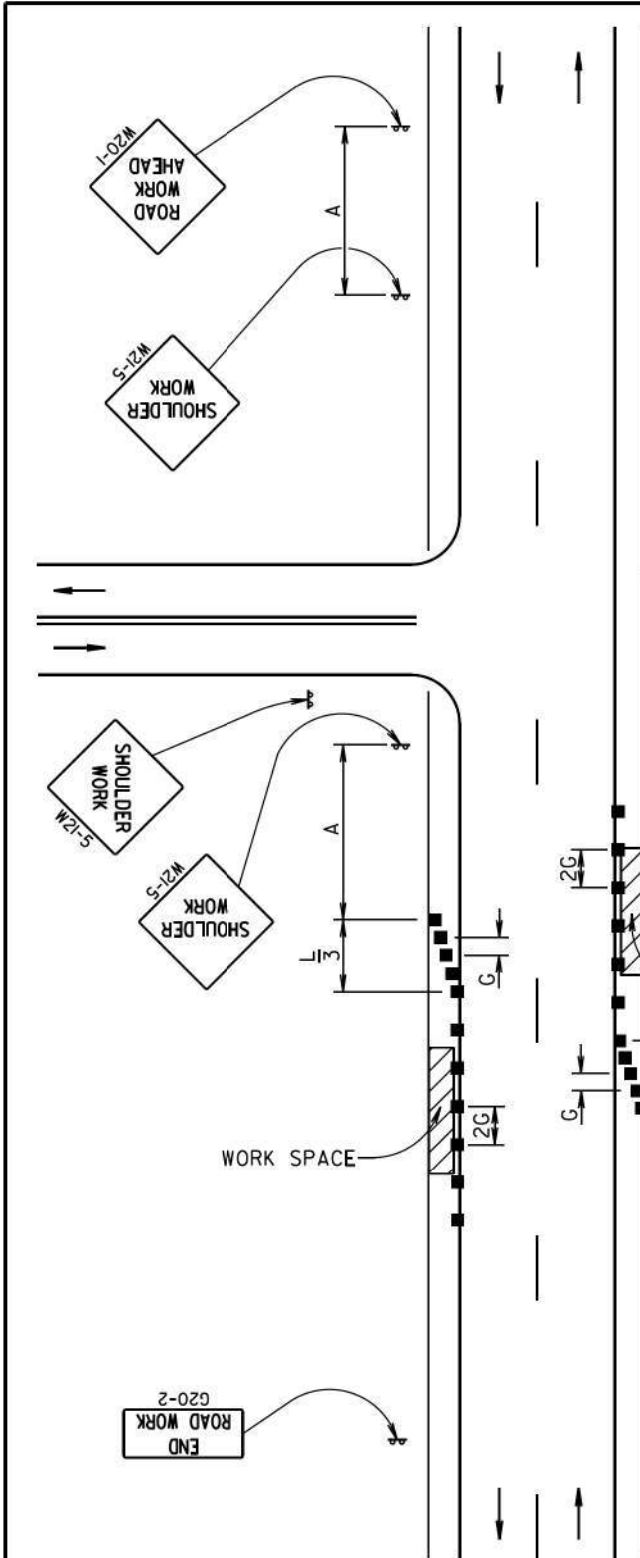
For short term, short duration, or mobile operations, all signs and channelizing devices may be eliminated if a vehicle with an activated flashing or revolving yellow light is used.

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



April 15, 2015

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			634.01
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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



The channelizing devices shall 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.

WORK SPACE



June 3, 2016

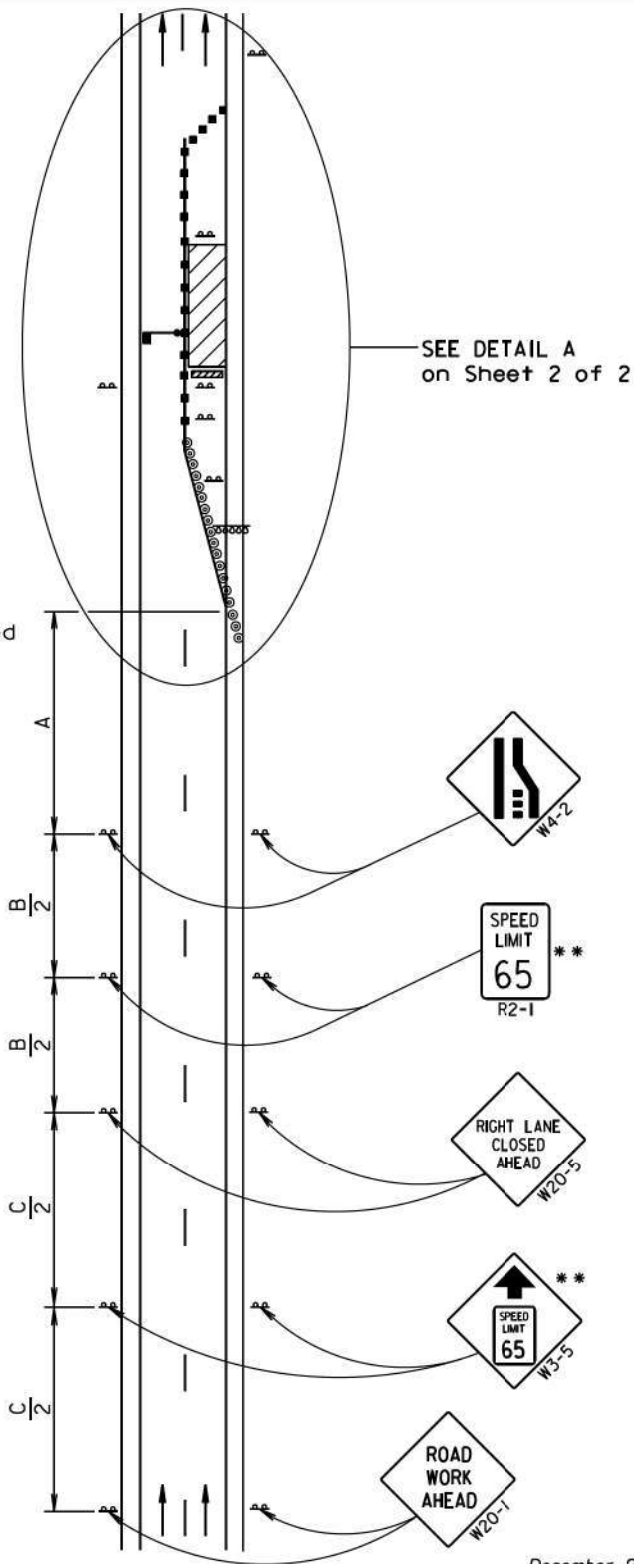
Published Date: 2nd Qtr. 2020	S D D O T	GUIDES FOR TRAFFIC CONTROL DEVICES WORK ON SHOULDERS	PLATE NUMBER
			634.03
			Sheet 1 of 1

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A) (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.



December 23, 2019

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			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.

- Flagger (As Necessary)
- ⊙ Reflectorized Drum
- Channelizing Device

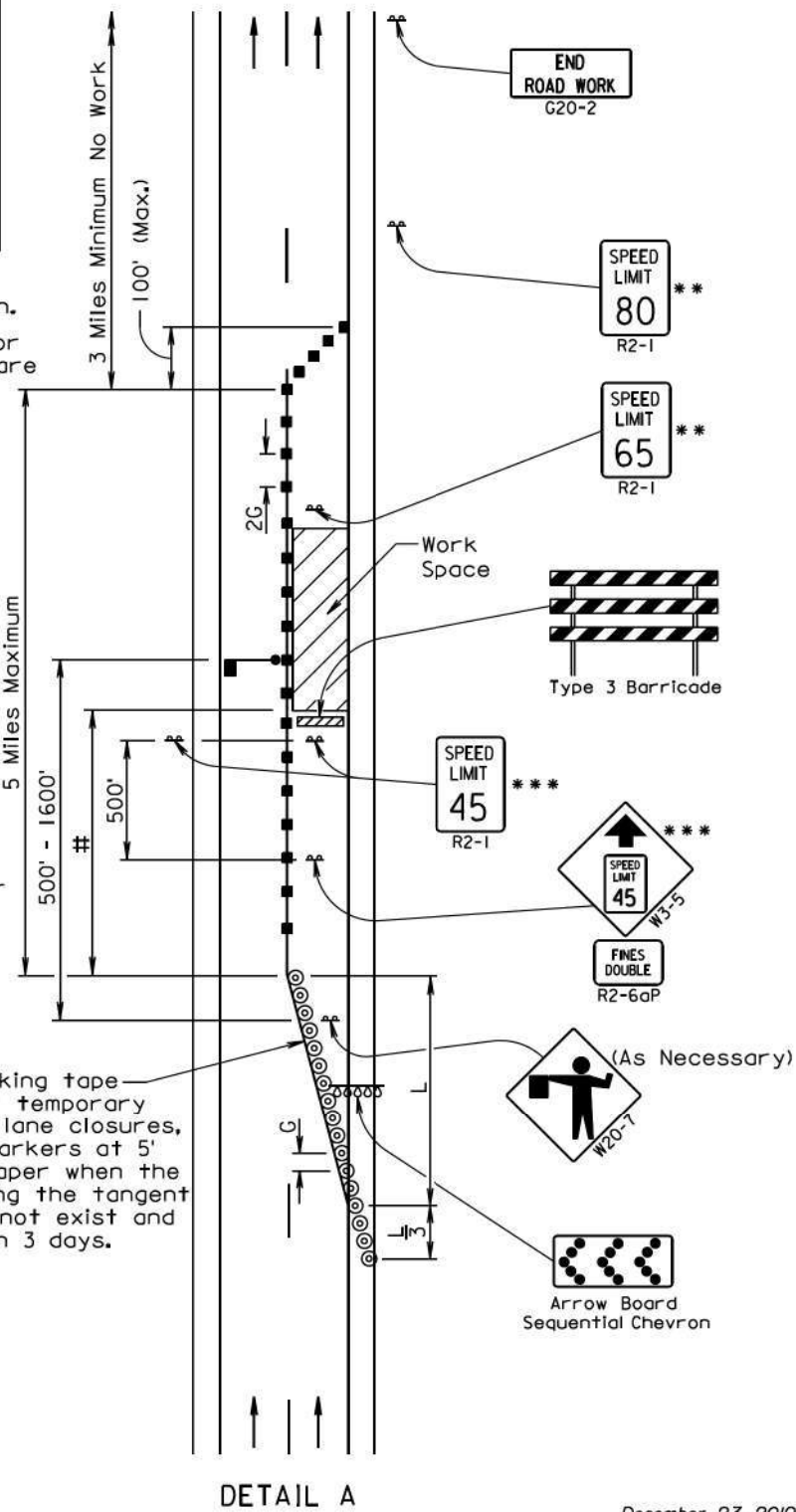
The Work Space will be a minimum of 500' from the end of the taper.

The FLAGGER sign will be used whenever there is a Flagger present.

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.



December 23, 2019

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			Sheet 2 of 2

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	018W-492 & 385N-492	9	9

Plotting Date: 04/16/2020

