

# DEPARTMENT OF TRANSPORTATION PLANS FOR PROPOSED

PROJECTS NH 0085(00)54, NH 0212(00)13, and NH 0085(114)54 **US HIGHWAYS 85 & 212** SD HIGHWAY 34 **BUTTE COUNTY** 

INTERSECTION IMPROVEMENTS, ADA UPGRADES, ROW

PCN 04P9, 04PA, and 05V0

# STATE OF SOUTH DAKOTA

# Plotting Date: Revised 2/17/2021 NJF

STATE OF

DAKOTA

**INDEX OF SECTIONS** 

PROJECT

NH 0085(00)54, NH 0212(00)1

& NH 0085(114)54

SHEET

Section A: Estimate of Quantities and

**Environmental Commitments** Section B: Grading & Surfacing Plans

Section C: Traffic Control Plans

Section D: **Erosion and Sediment Control Plans** 

Section L: Signal and Lighting Plans Section M: Pavement Marking Plans

Section X: Cross Sections

# BEGIN NH 0212(00)13

Station 704+07 = Station 704+07 on NH 0212(61)7 located approximately 1846 feet North and 1475 feet West of the southeast corner of Section 3 -Township 8 North - Range 2 East. MRM 13.35

# END NH 0085(00)54

Station 92+32 = Station 5+37 on F 0212(68)13 located approximately 1490 feet North and 1030 feet West of the southeast corner of Section 3 -Township 8 North - Range 2 East. MRM 56.57

### STORM WATER PERMIT

Major Receiving Body of Water: Belle Fourche River Area Disturbed: 1.65 acres Total Project Area: 2.23 acres Approx. Begin Lat, Long: 44.648016, -103.859671

#### DESIGN DESIGNATION

	US85	US212	SD3
A A D.T. (2017)	11,112	2792	<u>291</u>
AADT (2017)			
AADT (2037)	12,512	3144	328
DHV `	1439	490	37
D	51%	50%	52°
DHV T%	5.5%	6.2%	5.59
AADT T%	12.1%	13.6%	12.09
17	2E 9 1E mnh	25 mnh	E0 mm

# BEGIN NH 0085(00)54

Station 468+00 = 468+00 on NH 0085(00)54, PCN 371N located approximately 2414 feet North and 613 feet East of the north quarter corner of Section 22 - Township 8 North - Range 2 East. MRM 54.73

# FOURCHE' BELLE 18 34 20

R<sub>2</sub>E

# Project NH 0085(114)54

R3E

Station 442+18.16 = Station 442+18.16 on NH 0085(40)45 located approximately 24 feet South and 17 feet East of the north quarter corner of Section 22 -Township 8 North - Range 2 East. MRM 54.24

# END NH 0212(00)13

Station 725+45 = 15+58.5 on F 0212(68)13 located approximately 1460 feet North and 873 feet East of the southwest corner of Section 2 -Township 8 North - Range 2 East. MRM 13.82

March 17, 2021

# **ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS**

Revised 2/19/2021 NJF

# Section B - Grading

# PCN 05V0 (US85 & SD34 Intersection)

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E0300	Remove Concrete Curb and/or Gutter	161	Ft
110E1010	Remove Asphalt Concrete Pavement	3,600.0	SqYd
110E1100	Remove Concrete Pavement	189.0	SqYd
120E3000	Placing Embankment	675	CuYd
240E0010	Obliterate Old Road	7	Sta
250E0020	Incidental Work, Grading	Lump Sum	LS
260E2010	Gravel Cushion	72.9	Ton
380E0060	8.5" Nonreinforced PCC Pavement	303.3	SqYd
380E1040	8.5" Miscellaneous PCC Pavement	470.1	SqYd
380E6110	Insert Steel Bar in PCC Pavement	539	Each
450E0122	18" RCP Class 2, Furnish	36	Ft
450E0130	18" RCP, Install	36	Ft
450E2008	18" RCP Flared End, Furnish	2	Each
450E2009	18" RCP Flared End, Install	2	Each
462E0100	Class M6 Concrete	3.0	CuYd
480E0100	Reinforcing Steel	460	Lb
650E1085	Type F68.5 Concrete Curb and Gutter	1,309	Ft
650E4060	Type C6 Concrete Gutter	114	Ft
670E1200	Type B Frame and Grate Assembly	2	Each
670E5400	Precast Drop Inlet Collar	2	Each

# PCN 04P9 (US85)

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E0300	Remove Concrete Curb and/or Gutter	76	Ft
110E1100	Remove Concrete Pavement	259.7	SqYd
110E1140	Remove Concrete Sidewalk	225.8	SqYd
110E7150	Remove Sign for Reset	10	Each
260E2010	Gravel Cushion	1.5	Ton
380E2708	8" Mountable Type Median PCC Pavement	36.9	SqYd
380E4080	9.5" PCC Fillet Section	195.4	SqYd
380E6110	Insert Steel Bar in PCC Pavement	101	Each
632E3500	Reset Sign	10	Each
650E0080	Type B68 Concrete Curb and Gutter	57	Ft
650E0095	Type B69.5 Concrete Curb and Gutter	114	Ft
651E0040	4" Concrete Sidewalk	2,311	SqFt
651E7000	Type 1 Detectable Warnings	290	SqFt

# PCN 04PA (US212)

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E1010	Remove Asphalt Concrete Pavement	15.8	SqYd
110E1100	Remove Concrete Pavement	375.2	SqYd
110E1140	Remove Concrete Sidewalk	269.6	SqYd
110E7150	Remove Sign for Reset	10	Each
110E7800	Remove Chain Link Fence for Reset	104	Ft
380E4050	8" PCC Fillet Section	339.8	SqYd
380E6110	Insert Steel Bar in PCC Pavement	46	Each
621E0520	Reset Chain Link Fence	104	Ft
632E3500	Reset Sign	10	Each
650E0090	Type B69 Concrete Curb and Gutter	113	Ft
651E0040	4" Concrete Sidewalk	2,179	SqFt
651E0080	8" Concrete Sidewalk	224	SqFt
651E7000	Type 1 Detectable Warnings	140	SqFt

# **INDEX OF SHEETS**

A1 and A3 Estimate of Quantities for Sections B, C, D, L, and

A4 to A10 Environmental Commitments

# Section C - Traffic Control

# PCN 05V0 (US85 & SD34 Intersection)

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
634E0010	Flagging	200.0	Hour
634E0110	Traffic Control Signs	334.2	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	4	Each
634E0310	Temporary Flexible Vertical Markers (Tabs)	3,600	Ft
634E0420	Type C Advance Warning Arrow Board	2	Each
634E0900	Portable Temporary Traffic Control Signal	4	Unit
634E1215	Contractor Furnished Portable Changeable Message Sign	4	Each

# PCN 04P9 (US85)

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
634E0010	Flagging	200.0	Hour
634E0110	Traffic Control Signs	547.1	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	9	Each
634E0310	Temporary Flexible Vertical Markers (Tabs)	3,440	Ft
634E0420	Type C Advance Warning Arrow Board	2	Each
634E2000	Longitudinal Pedestrian Barricade	200	Ft
634E2015	Temporary Pedestrian Access Route	Lump Sum	LS
634E2020	Temporary Curb Ramp	4	Each
634E2025	Longitudinal Pedestrian Barrier	200	Ft
900E1080	Orange Plastic Safety Fence	100	Ft

# PCN 04PA (US212)

BID ITEM			
NUMBER	ITEM	QUANTITY	UNIT
634E0010	Flagging	200.0	Hour
634E0110	Traffic Control Signs	511.5	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	7	Each
634E0310	Temporary Flexible Vertical Markers (Tabs)	1,940	Ft
634E0420	Type C Advance Warning Arrow Board	3	Each
634E2000	Longitudinal Pedestrian Barricade	200	Ft
634E2015	Temporary Pedestrian Access Route	Lump Sum	LS
634E2020	Temporary Curb Ramp	4	Each
634E2025	Longitudinal Pedestrian Barrier	200	Ft
900E1080	Orange Plastic Safety Fence	100	Ft

# **Section D - Erosion and Sediment Control**

# PCN 05V0 (US85 & SD34 Intersection)

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
120E6300	Water for Vegetation	138.0	MGal
230E0020	Contractor Furnished Topsoil	477	CuYd
230E0100	Remove and Replace Topsoil	Lump Sum	LS
730E0210	Type F Permanent Seed Mixture	45	Lb
731E0200	Fertilizing	1.30	Ton
732E0200	Fiber Mulching	1.7	Ton
734E0154	12" Diameter Erosion Control Wattle	300	Ft
734E0845	Sediment Control at Inlet with Frame and Grate	2	Each
734E5010	Sweeping	20	Hour

# PCN 04P9 (US85)

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
120E6300	Water for Vegetation	2.4	MGal
230E0100	Remove and Replace Topsoil	Lump Sum	LS
731E0100	Fertilizing	45	Lb
733E0100	Sodding	145	SqYd
734E0845	Sediment Control at Inlet with Frame and Grate	4	Each
734E0847	Sediment Control at Type S Reinforced Concrete Drop Inlet	24	Ft
734E5010	Sweeping	20	Hour

# PCN 04PA (US212)

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
120E6300	Water for Vegetation	3.6	MGal
230E0100	Remove and Replace Topsoil	Lump Sum	LS
731E0100	Fertilizing	68	Lb
733E0100	Sodding	219	SqYd
734E0845	Sediment Control at Inlet with Frame and Grate	4	Each
734E5010	Sweeping	20	Hour

# **Section L - Signal and Lighting**

# PCN 05V0 (US85 & SD34 Intersection)

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E1510	Remove Luminaire Pole	3	Each
110E1520	Remove Signal Equipment	Lump Sum	LS
110E1540	Remove Luminaire Pole Footing	3	Each
110E1570	Remove Pedestrian Push Button Pole	8	Each
635E2000	Pedestal Signal Pole	2	Each
635E2160	Signal Pole with 60' Mast Arm and Luminaire Arm	3	Each
635E2165	Signal Pole with 65' Mast Arm and Luminaire Arm	1	Each
635E3700	Roadway Luminaire, LED with Photoelectric Cell	4	Each
635E4030	3 Section Vehicle Signal Head	11	Each
635E4040	4 Section Vehicle Signal Head	2	Each
635E4080	3 Section Directional Vehicle Signal Head	8	Each
635E5020	2' Diameter Footing	12.0	Ft
635E5030	3' Diameter Footing	52.0	Ft
635E5301	Type 1 Electrical Junction Box	8	Each
635E5302	Type 2 Electrical Junction Box	7	Each
635E5303	Type 3 Electrical Junction Box	1	Each
635E5400	Electrical Service Cabinet	1	Each
635E5430	Traffic Signal Controller	1	Each
635E5520	Video Detection System	1	Each
635E5535	Sawed-In, Preformed Detector Loop	32	Each
635E5560	Emergency Vehicle Preemption Unit	1	Each
635E5570	Optical Detector	4	Each
635E5880	Accessible Pedestrian Signal	8	Each
635E5910	Pedestrian Push Button Pole	8	Each
635E5922	Pedestrian Signal Head with Countdown Timer	8	Each
635E5930	Pedestrian Crossing Sign	8	Each
635E6200	Miscellaneous, Electrical	Lump Sum	LS
635E6603	Backplate for 3 Section Signal Head	19	Each
635E6604	Backplate for 4 Section Signal Head	2	Each
635E8120	2" Rigid Conduit, Schedule 40	2,545	Ft
635E8140	4" Rigid Conduit, Schedule 40	55	Ft
635E8220	2" Rigid Conduit, Schedule 80	230	Ft
635E8230	3" Rigid Conduit, Schedule 80	255	Ft
635E9016	1/C #6 AWG Copper Wire	3,325	Ft
635E9502	2/C #14 AWG Copper Tray Cable, K2	1,435	Ft
635E9504	4/C #14 AWG Copper Tray Cable, K2	890	Ft
635E9507	7/C #14 AWG Copper Tray Cable, K2	310	Ft
635E9520	20/C #14 AWG Copper Tray Cable, K2	885	Ft
635E9600	#16 AWG Copper Twisted Shielded Pair	4,560	Ft
635E9710	2/C #10 AWG Copper Pole and Bracket Cable	260	Ft

STATE OF SOUTH	PROJECT	SHEET	TOTAL SHEETS
DAKOTA	NH 0085(00)54, NH 0212(00)13 & P 0034(191)9	A2	A4

Revised 1/25/2021 NJF

# Section M - Pavement Marking

# PCN 05V0 (US85 & SD34 Intersection)

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
633E0010	Cold Applied Plastic Pavement Marking, 4"	1,930	Ft
633E0030	Cold Applied Plastic Pavement Marking, 24"	705	Ft
633E5000	Grooving for Cold Applied Plastic Pavement Marking, 4"	1,235	Ft
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	705	Ft
633E5050	Surface Preparation for Pavement Marking	695	Ft
634E0560	Remove Pavement Marking, 4" or Equivalent	500	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 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:

<a href="https://dot.sd.gov/media/documents/EnvironmentalProceduresManual.pdf">https://dot.sd.gov/media/documents/EnvironmentalProceduresManual.pdf">https://dot.sd.gov/media/documents/EnvironmentalProceduresManual.pdf</a>

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 D: WATER QUALITY STANDARDS**

#### **COMMITMENT D2: SURFACE WATER DISCHARGE**

The DENR General Permit for Temporary Discharge is required for temporary dewatering and discharges to waters of the state. The effluent limit for total suspended solids will be 90 mg/L 30-day average. The effluent limit applies to discharges to all waters of the state except discharges to waters classified as cold water permanent fish life propagation waters according to the ARSD 74:51:01:45. For discharges to waters of the state classified as cold water permanent fish life propagation waters, the effluent limit for total suspended solids will be 53 mg/L daily maximum.

The permittee has the option of completing effluent testing or implementing a pollution prevention plan for compliance with this permit. If the permittee

develops a pollution prevention plan instead of total suspended solids sampling, the plan must be developed and implemented prior to discontinuing total suspended solids sampling. Refer to section 3.0 of the permit. If any pollutants are suspected of being discharged, a sample must be taken for those parameters listed in section 2.2 of the permit.

Refer to Commitment D1: Surface Water Quality for stream classification.

## **Action Taken/Required:**

If construction dewatering is required, the Contractor will obtain the General Permit for Temporary Discharge Activities from the DENR Surface Water Program, 605-773-3351.

< http://denr.sd.gov/des/sw/swgformsandpermits.aspx >

The Contractor will provide a copy of the approved permit to the Project Engineer prior to proceeding with any dewatering activities. The approved permit must be kept on-site and as part of the project records.

Effluent monitoring, as a result of dewatering activities, will be summarized for each month and recorded on a separate Discharge Monitoring Report (DMR) and submitted to DENR monthly. Additional information can be found at < http://denr.sd.gov/des/sw/WhatisaDMR.aspx >

#### **COMMITMENT E: STORM WATER**

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

#### Action Taken/Required:

The DENR General Permit for Storm Water 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 DENR 15 days prior to project start in order to obtain coverage under the General Permit. Work can begin once the DENR 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 DENR Contractor Certification 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 DENR.

## The form can be found at:

https://denr.sd.gov/des/sw/eforms/CGPAppendixCCA2018Fillable.pdf

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

STATE OF SOUTH	PROJECT	SHEET	TOTAL SHEETS
DAKOTA	NH 0085(00)54, NH 0212(00)13 & P 0034(191)9	А3	A4

## **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 Storm Water, Erosion, and Sediment Control Inspection Report Form DOT 298, 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 of the site.

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

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

DENR: http://denr.sd.gov/des/sw/stormwater.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 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 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: HISTORICAL PRESERVATION OFFICE CLEARANCES**

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

STATE OF SOUTH	PROJECT	SHEET	TOTAL SHEETS
DAKOTA	NH 0085(00)54, NH 0212(00)13 & P 0034(191)9	A4	A4