

STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0085(71)103 & P 0079(69)217	1	135
Plotting Date: 04/28/2014		Revised Date: 4-28-14 klh	

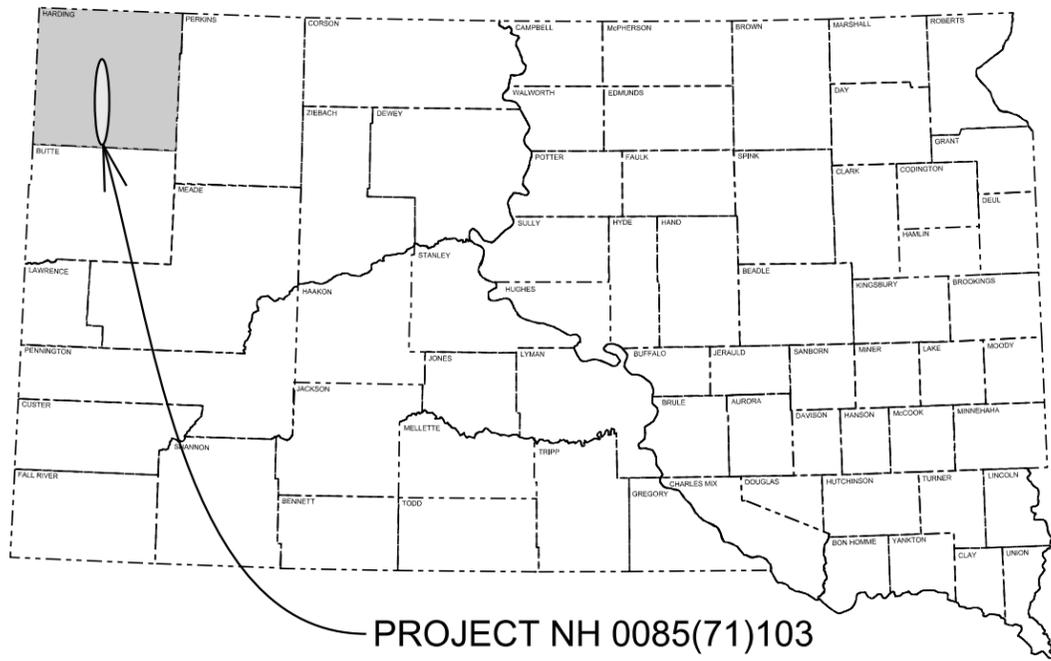
PLANS FOR PROPOSED  
**PROJECTS NH 0085(71)103  
& P 0079(69)217**  
**US HIGHWAY 85 &  
SD HIGHWAY 79**  
**HARDING COUNTY**

DECK OVERLAY, BRDGE RAIL RETROFIT,  
JOINT MODIFICATION, APPROACH SLABS,  
APPROACH GUARDRAIL, APPROACH PAVEMENT,  
JOINT REPLACEMENT, & BERM REPAIR

INDEX OF SECTIONS

- Section A: Estimate of Quantities and Environmental Commitments
- Section C: Traffic Control Plans
- Section E: Structure Plans
- Section F: Surfacing Plans

Plot Scale - 1:200



PROJECT NH 0085(71)103

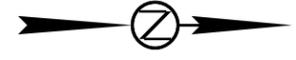
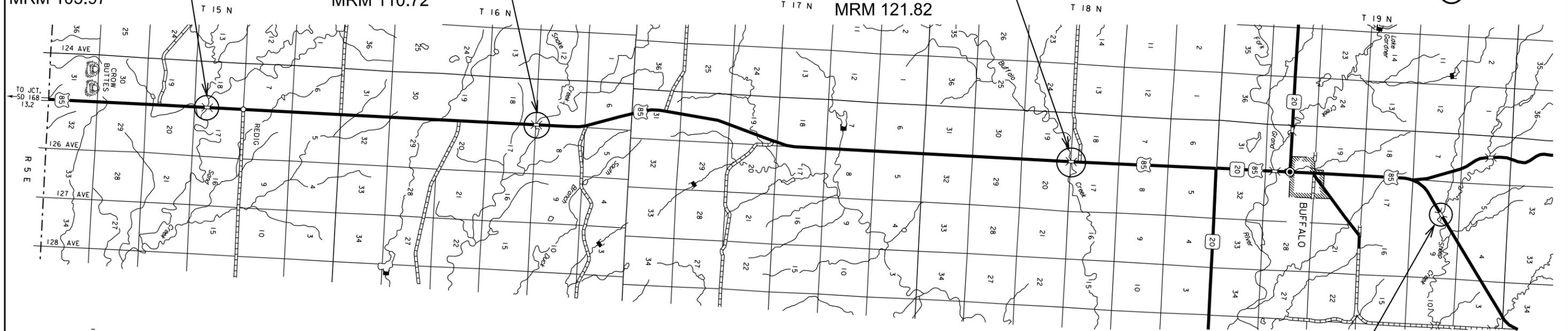
Str. No. 32-250-478  
MRM 103.97

Str. No. 32-250-411  
MRM 110.72

PCN 6263 & 02RQ

Str. No. 32-250-300  
MRM 121.82

Str. No. 32-257-223  
MRM 129.75



Str. Nos. 32-250-478 & 32-250-411  
DESIGN DESIGNATION

ADT (2012)	1579
ADT (2032)	1890
DHV	224.9
D	51 %
T DHV	13.5 %
T ADT	29.6 %
V	65 MPH

Str. No. 32-250-300  
DESIGN DESIGNATION

ADT (2012)	1579
ADT (2032)	1803
DHV	214.6
D	51 %
T DHV	13.5 %
T ADT	29.6 %
V	65 MPH

Str. No. 32-257-223  
DESIGN DESIGNATION

ADT (2012)	1558
ADT (2032)	1779
DHV	211.7
D	51 %
T DHV	12.8 %
T ADT	28.2 %
V	65 MPH

STORM WATER PERMIT  
None Required

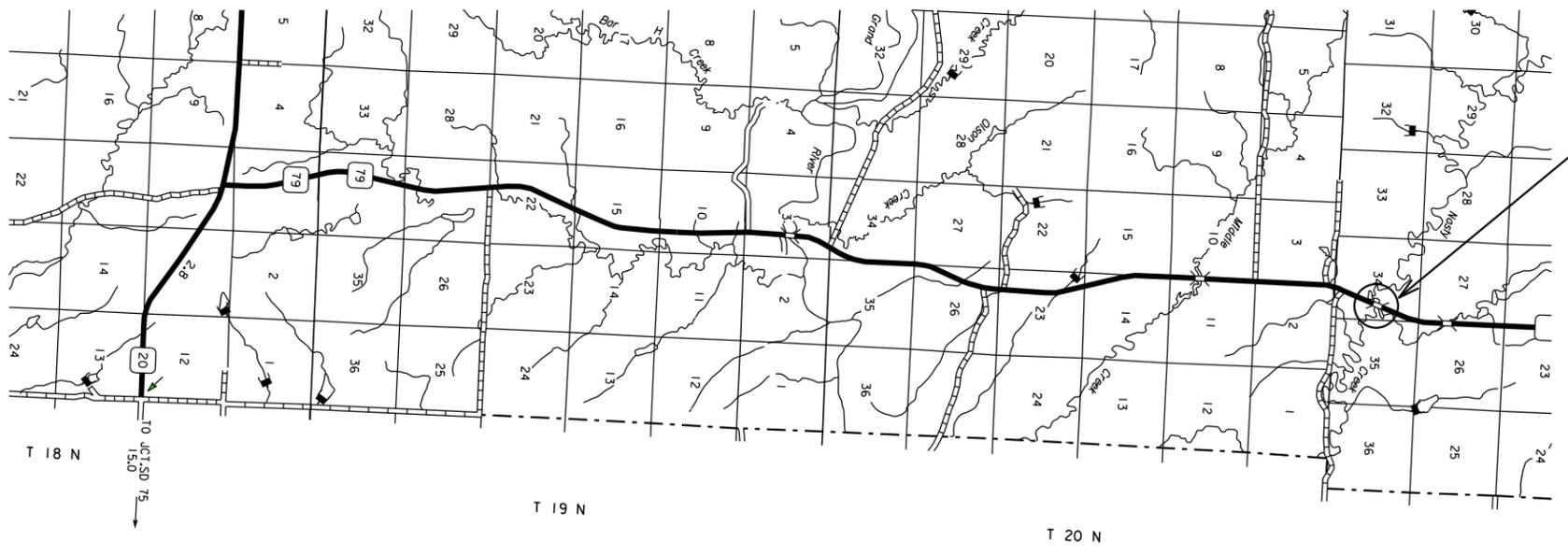
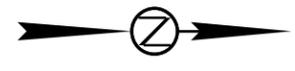
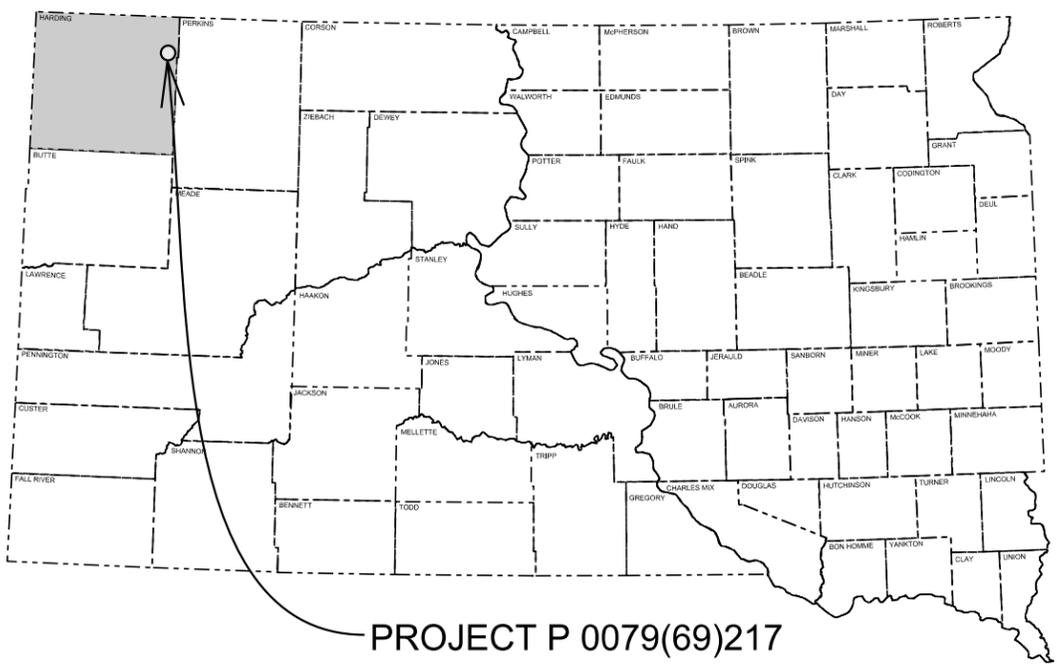
Plotted From - trcs11610

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STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0085(71)103 & P 0079(69)217		

Plotting Date: 01/31/2014

Plot Scale - 1:200



Str. No. 32-518-145  
MRM 217.65

Str. No. 32-518-145  
DESIGN DESIGNATION

ADT (2012)	280
ADT (2032)	320
DHV	48.3
D	51 %
T DHV	9.9 %
T ADT	21.8 %
V	65 MPH

STORM WATER PERMIT  
None Required

Plotted From - trcs11610

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# ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0085(71)103 & P 0079(69)217	A1	A3

Revised: 5-8-14-14 klh

## Traffic Control – Section C (PCN 6263)

Bid Item Number	Item	Quantity	Unit
633E1400	Pavement Marking Paint, 4" White	16,250	Ft
633E1405	Pavement Marking Paint, 4" Yellow	2,030	Ft
634E0010	Flagging	800	Hour
634E0100	Traffic Control	2,184	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0525	Linear Delineation System Panel, Barrier Mounted	163	Each
634E0700	Traffic Control Movable Concrete Barrier	163	Each
634E0705	Remove and Reset Traffic Control Movable Concrete Barrier	144	Each
634E0750	Temporary Concrete Barrier End Protection	4	Each
634E0755	Remove and Reset Temporary Concrete Barrier End Protection	4	Each
634E0760	Temporary Concrete Barrier End Protection Module Set or Repair Kit	1	Each
634E0896	Portable Temporary Traffic Signal System	4	Each
634E1002	Detour Signing	376.0	SqFt

## Traffic Control – Section C (PCN 02RQ)

Bid Item Number	Item	Quantity	Unit
633E1400	Pavement Marking Paint, 4" White	3,944	Ft
633E1405	Pavement Marking Paint, 4" Yellow	493	Ft
634E0010	Flagging	200	Hour
634E0100	Traffic Control	548	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0525	Linear Delineation System Panel, Barrier Mounted	72	Each
634E0700	Traffic Control Movable Concrete Barrier	72	Each
634E0750	Temporary Concrete Barrier End Protection	2	Each
634E0760	Temporary Concrete Barrier End Protection Module Set or Repair Kit	1	Each
634E1002	Detour Signing	176.0	SqFt

## Structure – Section E (PCN 6263)

### Structure 32-250-478

Bid Item Number	Item	Quantity	Unit
110E0010	Remove Concrete Bridge Approach Slab	326.0	SqYd
110E0020	Remove Bridge Railing	333	Ft
460E0070	Class A45 Concrete, Bridge Repair	22.4	CuYd
460E0200	Special Surface Finish	338	SqFt
460E0300	Breakout Structural Concrete	2.4	CuYd
460E0380	Install Dowel in Concrete	282	Each
480E0200	Epoxy Coated Reinforcing Steel	1,950	Lb
550E0010	Low Slump Dense Concrete Bridge Deck Overlay	62	CuYd
550E0100	Concrete Removal Type 1A	848.2	SqYd
550E0105	Concrete Removal Type 2A	212.0	SqYd
550E0110	Concrete Removal Type 1B	84.8	SqYd
550E0120	Concrete Removal Type 1C	42.4	SqYd
550E0130	Concrete Removal Type 1D	42.4	SqYd
550E0140	Concrete Removal Type B	20.0	Ft
550E0200	Class A45 Concrete Fill	14.1	CuYd
550E0500	Finishing and Curing	848.2	SqYd

### Structure 32-250-411

Bid Item Number	Item	Quantity	Unit
110E0010	Remove Concrete Bridge Approach Slab	441.9	SqYd
110E0020	Remove Bridge Railing	320	Ft
110E0070	Remove Rubberized Asphalt Chip Seal	370.6	SqYd
410E2600	Membrane Sealant Expansion Joint	92.0	Ft
430E0300	Granular Bridge End Backfill	56.3	CuYd
430E0510	Approach Slab Underdrain Excavation	60.6	CuYd
460E0070	Class A45 Concrete, Bridge Repair	20.2	CuYd
460E0150	Concrete Approach Slab for Bridge	243.6	SqYd
460E0160	Concrete Approach Sleeper Slab for Bridge	45.8	SqYd
460E0200	Special Surface Finish	310	SqFt
460E0300	Breakout Structural Concrete	2.4	CuYd
460E0380	Install Dowel in Concrete	306	Each
480E0200	Epoxy Coated Reinforcing Steel	1,791	Lb
480E0504	No. 4 Rebar Splice	32	Each
480E0505	No. 5 Rebar Splice	32	Each
480E0506	No. 6 Rebar Splice	52	Each
550E0010	Low Slump Dense Concrete Bridge Deck Overlay	57	CuYd
550E0100	Concrete Removal Type 1A	815.3	SqYd
550E0110	Concrete Removal Type 1B	81.5	SqYd
550E0120	Concrete Removal Type 1C	40.8	SqYd
550E0130	Concrete Removal Type 1D	40.8	SqYd
550E0140	Concrete Removal Type B	20.0	Ft
550E0200	Class A45 Concrete Fill	9.0	CuYd
550E0500	Finishing and Curing	815.4	SqYd
680E0040	4" Underdrain Pipe	132	Ft
680E2010	Precast Concrete Headwall for Drain	4	Each
680E2500	Porous Backfill	12.9	Ton

## INDEX OF SHEETS

A1 and A2 Estimate of Quantities for Sections C,E, and F  
A3 Environmental Commitments

### Structure 32-250-300

Bid Item Number	Item	Quantity	Unit
110E0020	Remove Bridge Railing	211	Ft
460E0070	Class A45 Concrete, Bridge Repair	15.0	CuYd
460E0200	Special Surface Finish	181	SqFt
460E0300	Breakout Structural Concrete	3.0	CuYd
460E0380	Install Dowel in Concrete	170	Each
480E0200	Epoxy Coated Reinforcing Steel	1,263	Lb
550E0010	Low Slump Dense Concrete Bridge Deck Overlay	25	CuYd
550E0100	Concrete Removal Type 1A	348.4	SqYd
550E0105	Concrete Removal Type 2A	87.0	SqYd
550E0110	Concrete Removal Type 1B	34.9	SqYd
550E0120	Concrete Removal Type 1C	17.4	SqYd
550E0130	Concrete Removal Type 1D	17.4	SqYd
550E0140	Concrete Removal Type B	20.0	Ft
550E0200	Class A45 Concrete Fill	4.3	CuYd
550E0500	Finishing and Curing	348.4	SqYd

### Structure 32-257-223

Bid Item Number	Item	Quantity	Unit
110E0020	Remove Bridge Railing	211	Ft
460E0070	Class A45 Concrete, Bridge Repair	15.0	CuYd
460E0200	Special Surface Finish	181	SqFt
460E0300	Breakout Structural Concrete	3.0	CuYd
460E0380	Install Dowel in Concrete	174	Each
480E0200	Epoxy Coated Reinforcing Steel	1,275	Lb
550E0010	Low Slump Dense Concrete Bridge Deck Overlay	25	CuYd
550E0100	Concrete Removal Type 1A	348.4	SqYd
550E0105	Concrete Removal Type 2A	87.0	SqYd
550E0110	Concrete Removal Type 1B	34.9	SqYd
550E0120	Concrete Removal Type 1C	17.4	SqYd
550E0130	Concrete Removal Type 1D	17.4	SqYd
550E0140	Concrete Removal Type B	20.0	Ft
550E0200	Class A45 Concrete Fill	4.3	CuYd
550E0500	Finishing and Curing	348.4	SqYd

# ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0085(71)103 & P 0079(69)217	A2	A3

Revised: 4-30-14 klh

## Structure – Section E (PCN 02RQ) Structure 32-518-145

Bid Item Number	Item	Quantity	Unit
120E0600	Contractor Furnished Borrow	3	CuYd
120E3120	Bridge Berm Repair	2	Each
410E0520	Surface Grinding of Structural Steel	36	SqIn
410E0550	Jack Superstructure, Steel Girder Bridge	Lump Sum	LS
410E0570	Bridge End Support	Lump Sum	LS
410E1500	Reset Bearing	4	Each
410E2220	Replace Expansion Device	1	Each
460E0380	Install Dowel in Concrete	8	Each
462E0200	Controlled Density Fill	16.4	CuYd
550E0010	Low Slump Dense Concrete Bridge Deck Overlay	55	CuYd
550E0100	Concrete Removal Type 1A	780.0	SqYd
550E0110	Concrete Removal Type 1B	128.6	SqYd
550E0120	Concrete Removal Type 1C	64.4	SqYd
550E0130	Concrete Removal Type 1D	64.4	SqYd
550E0140	Concrete Removal Type B	20.0	Ft
550E0200	Class A45 Concrete Fill	11.2	CuYd
550E0500	Finishing and Curing	780.0	SqYd

## Surfacing – Section F (PCN 6263)

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
110E0400	Remove Drop Inlet	4	Each
110E0730	Remove Beam Guardrail	637.5	Ft
110E0780	Remove W Beam Guardrail Modified Eccentric Loader Terminal	8	Each
110E0810	Remove Rubrail	192.0	Ft
110E5720	Salvage Drop Inlet Frame and Grate Assembly	2	Each
110E6230	Remove W Beam Guardrail for Reset	687.5	Ft
110E6270	Remove W Beam Guardrail Flared End Terminal for Reset	8	Each
110E7700	Remove Drop Inlet Frame and Grate Assembly for Reset	2	Each
120E0010	Unclassified Excavation	1,304	CuYd
120E0600	Contractor Furnished Borrow	418	CuYd
120E6200	Water for Granular Material	17.5	MGal
230E0100	Remove and Replace Topsoil	Lump Sum	LS
250E0010	Incidental Work	Lump Sum	LS
260E1010	Base Course	600.0	Ton
260E1030	Base Course, Salvaged	1,318.0	Ton
270E0040	Salvage and Stockpile Asphalt Mix and Granular Base Material	1,284.0	Ton
320E1200	Asphalt Concrete Composite	1,240.0	Ton
332E0010	Cold Milling Asphalt Concrete	6,761	SqYd
450E0122	18" RCP Class 2, Furnish	42	Ft
450E0130	18" RCP, Install	42	Ft
450E4757	18" CMP 12 Gauge, Furnish	42	Ft
450E4760	18" CMP, Install	42	Ft
450E5010	18" CMP Elbow, Furnish	2	Each
450E5011	18" CMP Elbow, Install	2	Each
450E5211	18" CMP Flared End, Furnish	1	Each
450E5212	18" CMP Flared End, Install	1	Each
462E0100	Class M6 Concrete	1.4	CuYd
480E0100	Reinforcing Steel	182	Lb
600E0200	Type II Field Laboratory	1	Each
630E0110	Straight Double Class A Thrie Beam Guardrail with Wood Posts	200.0	Ft
630E1010	Straight Class A W Beam Guardrail with Wood Posts	412.5	Ft
630E2000	W Beam to Thrie Beam Guardrail Transition	16	Each
630E2015	W Beam Guardrail Flared End Terminal	8	Each
630E2110	Beam Guardrail Post and Block	158	Each
630E5160	Reset W Beam Rail	687.5	Ft
630E5207	Reset W Beam Guardrail Flared End Terminal	8	Each
632E2220	Guardrail Delineator	64	Each
670E5400	Precast Drop Inlet Collar	2	Each
670E7000	Reset Drop Inlet Frame and Grate Assembly	2	Each
720E1015	Bank and Channel Protection Gabion	4.5	CuYd
734E0010	Erosion Control	Lump Sum	LS
734E0154	12" Diameter Erosion Control Wattle	1,200	Ft
831E0300	MSE Geotextile Fabric	2,292	SqYd

## SPECIFICATIONS

Standard Specifications for Roads & Bridges, 2004 Edition and Required Provisions, Supplemental Specifications and/or Special Provisions as included in the Proposal.

## Surfacing – Section F (PCN 02RQ)

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
320E1200	Asphalt Concrete Composite	68.0	Ton
332E0010	Cold Milling Asphalt Concrete	600	SqYd

# ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0085(71)103 & P 0079(69)217	A3	A3

## ENVIRONMENTAL COMMITMENTS

An Environmental Commitment is a measure that SDDOT commits to implement in order to avoid, minimize, and/or mitigate a real or potential environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency mentioned below with permitting authority can influence a project if perceived 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. The environmental commitments associated with this project are as follows:

### 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 pit, or staging site associated with the project, cease construction activities in the affected area until the Whooping Crane departs and contact the Project Engineer. The Project Engineer will contact the Environmental Office so that the sighting can be reported to USFWS.

### COMMITMENT C: WATER SOURCE

The Contractor shall not withdraw water with equipment previously used outside the State of South Dakota without prior approval from the SDDOT Environmental Office. Thoroughly wash all construction equipment before entering South Dakota to reduce the risk of invasive species introduction into the project vicinity.

### 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 shall 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 State ROW.

The waste disposal site(s) shall be managed and reclaimed in accordance with the following from the General Permit for Highway, Road, and Railway 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) shall 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 Project Engineer.

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

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials shall be buried in a trench completely separate from wood debris. The final cover over the construction and/or demolition debris shall consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the State ROW shall be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor shall control the access to waste disposal sites not within the State ROW through the use of 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) shall 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 designated option borrow sites provided within the plans.

#### Action Taken/Required:

All earth disturbing activities not designated within the plans require review of cultural resources impacts. This work includes, but is not limited to: staging areas, borrow sites, waste disposal sites, and all material processing sites.

The Contractor shall arrange and pay for a cultural resource survey and/or records search. 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; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor shall provide ARC with the following: a topographical map or aerial view on 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 shall submit the records search or cultural resources survey report and if the location of the site is within the current geographical or historic boundaries of any South Dakota reservation to SDDOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3180). 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.

If evidence for cultural resources is uncovered during project construction activities, then such activities shall cease and the Project Engineer shall be immediately notified. The Project Engineer will contact the SDDOT Environmental Engineer in order 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 staging areas, borrow sites, waste disposal sites, or material processing sites that affect wetlands, threatened and endangered species, or waterways. The Contractor shall provide the required permits and clearances to the Project Engineer at the preconstruction meeting.