

STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION  
PLANS FOR PROPOSED

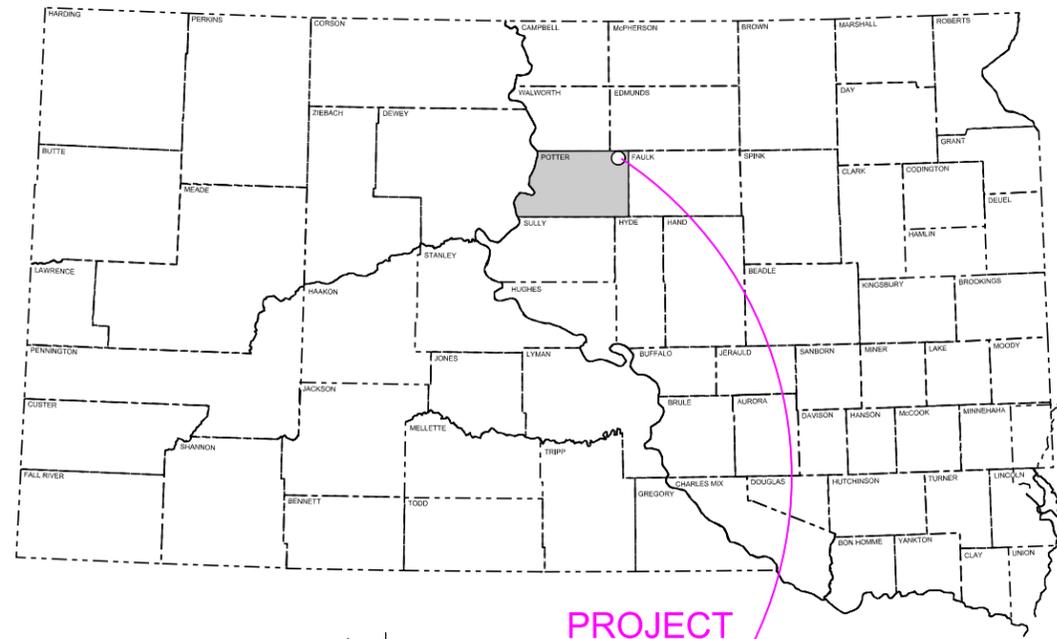
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0020(117)254	1	249
Plotting Date: 07/16/2015		Revised 7 -16 -2015 (BT)	

**PROJECT P 0020(117)254**  
**SD HIGHWAY 20/47**  
**POTTER/WALWORTH COUNTY**

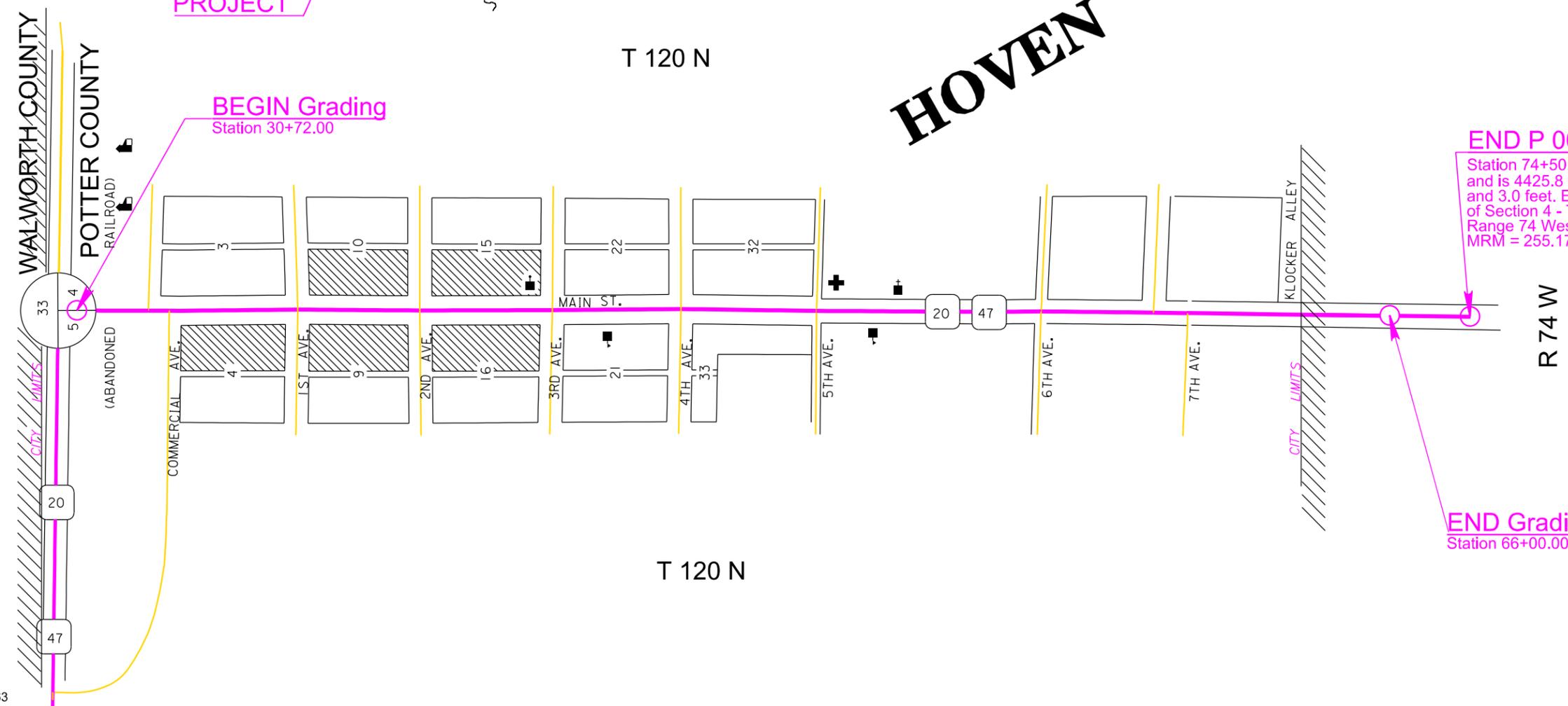
GRADING, AC SURFACING, CURB & GUTTER,  
ROADWAY LIGHTING, SIDEWALK, STORM SEWER,  
& ADA CURB RAMPS  
PCN 02R9

**INDEX OF SECTIONS**

- Section A: Estimate of Quantities and Environmental Commitments
- Section B: Grading Plans
- Section C: Traffic Control Plans
- Section D: Erosion And Sediment Control Plans
- Section E: Structure Plans
- Section F: Surfacing Plans
- Section L: Signal and Lighting Plans
- Section S: Permanent Signing Plans
- Section X: Cross Sections
- Section Z: Pipe Sections



PROJECT



**BEGIN Grading**  
Station 30+72.00

**END P 0020(117)254**  
Station 74+50.00=32+25.32 on FAP SAP 229  
and is 4425.8 feet. South  
and 3.0 feet. East of the NW Corner  
of Section 4 - Township 120 North -  
Range 74 West  
MRM = 255.17 + 0.183

**END Grading**  
Station 66+00.00

**BEGIN P 0020(117)254**  
Station 6+73.74 =702+22.54 on FAP S 521(2)  
and is 2352.00 feet West and 1.1 foot South of the  
NW Corner of Section 4 -  
Township 120 North - Range 74 West  
MRM = 254.00 + 0.073

**DESIGN DESIGNATION**

ADT (2013)	1048
ADT (2038)	1071
DHV	134.1
D	50%
T DHV	5.4%
T ADT	12%
V	35 mph

**STORM WATER PERMIT**

Area Disturbed: 8.70 acres  
Total Project Area: 10.60 acres  
Approx. Begin Lat: 45.2460/Long: -99.7863

GROSS LENGTH	6776.25 FEET	1.283 MILES
LENGTH OF EXCEPTIONS	0.00 FEET	0.000 MILES
NET LENGTH	6776.25 FEET	1.283 MILES

**1**

Plot Scale - 1:200

Plotted From -

Plot Name -

File - U:\tr\proj\pot02R9\Title.dgn

# ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0020(117)254	A1	A4

Revised 7/16/15 TJD

## Grading – Section B

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
009E3230	Grade Staking	1,336	Mile
009E3250	Miscellaneous Staking	1,316	Mile
009E3280	Slope Staking	1,316	Mile
009E3300	Three Man Survey Crew	40.0	Hour
009E4300	Construction Schedule, Category III	Lump Sum	LS
100E0100	Clearing	Lump Sum	LS
110E0300	Remove Concrete Curb and Gutter	5,567	Ft
110E0400	Remove Drop Inlet	1	Each
110E0600	Remove Fence	429	Ft
110E1130	Remove Concrete Driveway Pavement	640.3	SqYd
110E1140	Remove Concrete Sidewalk	3,849.9	SqYd
120E0010	Unclassified Excavation	44,047	CuYd
120E0900	Contaminated Material Excavation	60	CuYd
120E2000	Undercutting	14,849	CuYd
120E6100	Water for Embankment	236.1	MGal
250E0020	Incidental Work, Grading	Lump Sum	LS
270E0040	Salvage and Stockpile Asphalt Mix and Granular Base Material	16,537.5	Ton
380E1030	8" Miscellaneous PCC Pavement	30.0	SqYd
380E3520	6" PCC Approach Pavement	479.3	SqYd
380E3540	8" PCC Approach Pavement	170.8	SqYd
380E4050	8" PCC Fillet Section	637.6	SqYd
421E0100	Pipe Culvert Undercut	580	CuYd
450E0122	18" RCP Class 2, Furnish	1,570	Ft
450E0130	18" RCP, Install	1,570	Ft
450E0142	24" RCP Class 2, Furnish	776	Ft
450E0150	24" RCP, Install	776	Ft
450E0162	30" RCP Class 2, Furnish	1,354	Ft
450E0170	30" RCP, Install	1,354	Ft
450E0182	36" RCP Class 2, Furnish	390	Ft
450E0190	36" RCP, Install	390	Ft
450E0408	18" RCP Bend, Furnish	19	Each
450E0409	18" RCP Bend, Install	19	Each
450E2208	36" RCP Sloped End, Furnish	1	Each
450E2209	36" RCP Sloped End, Install	1	Each
450E3032	36" RCP Arch Class 2, Furnish	66	Ft
450E3040	36" RCP Arch, Install	66	Ft
450E3042	42" RCP Arch Class 2, Furnish	504	Ft
450E3050	42" RCP Arch, Install	504	Ft
450E3052	48" RCP Arch Class 2, Furnish	450	Ft
450E3060	48" RCP Arch, Install	450	Ft
450E3328	42" RCP Arch Bend, Furnish	1	Each
450E3329	42" RCP Arch Bend, Install	1	Each
450E4520	48" RCP Arch Flared End, Furnish	12	Each
450E4521	48" RCP Arch Flared End, Install	12	Each
450E4606	36" RCP Arch Sloped End, Furnish	2	Each
450E4607	36" RCP Arch Sloped End, Install	2	Each
450E4608	42" RCP Arch Sloped End, Furnish	7	Each
450E4609	42" RCP Arch Sloped End, Install	7	Each
450E4769	24" CMP 16 Gauge, Furnish	58	Ft
450E4770	24" CMP, Install	58	Ft
450E4779	30" CMP 16 Gauge, Furnish	74	Ft
450E4780	30" CMP, Install	74	Ft
450E5410	24" CMP Safety End, Furnish	2	Each
450E5411	24" CMP Safety End, Install	2	Each
450E5414	30" CMP Safety End, Furnish	2	Each
450E5417	30" CMP Safety End, Install	2	Each
462E0100	Class M6 Concrete	102.1	CuYd
462E0200	Controlled Density Fill	34.9	CuYd
470E0020	Pipe Handrail	8.5	Ft
480E0100	Reinforcing Steel	17,076	Lb
480E0200	Epoxy Coated Reinforcing Steel	85	Lb

## Grading – Section B (Cont.)

Bid Item Number	Item	Quantity	Unit
600E0200	Type II Field Laboratory	1	Each
650E0080	Type B68 Concrete Curb and Gutter	5,189	Ft
650E1080	Type F68 Concrete Curb and Gutter	99	Ft
650E4380	Type D48 Concrete Curb and Gutter	16	Ft
650E4680	Type P8 Concrete Gutter	544	Ft
650E6280	8" Concrete Valley Gutter	175.8	SqYd
651E0040	4" Concrete Sidewalk	42,408	SqFt
651E0080	6" Concrete Sidewalk	5,105	SqFt
651E0080	8" Concrete Sidewalk	1,505	SqFt
651E0140	4" Reinforced Concrete Sidewalk	248	SqFt
651E0160	6" Reinforced Concrete Sidewalk	241	SqFt
651E5000	Sidewalk Drain	14.7	Ft
651E7000	Type 1 Detectable Warnings	767	SqFt
670E1200	Type B Frame and Grate Assembly	51	Each
670E2200	Type C Frame and Grate	3	Each
670E5340	4' x 11' Precast Concrete Type S Drop Inlet Lid	1	Each
670E5342	4' x 6' Precast Concrete Type S Drop Inlet Lid	3	Each
670E5400	Precast Drop Inlet Collar	54	Each

## Traffic Control – Section C

Bid Item Number	Item	Quantity	Unit
634E0010	Flagging	100.0	Hour
634E0110	Traffic Control Signs	1,687	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0285	Type 3 Barricade, 8' Double Sided	64	Each
634E0640	Temporary Pavement Marking	7,350	Ft
634E1002	Detour Signing	360.0	SqFt
634E2020	Temporary Curb Ramp	10	Each

### INDEX OF SHEETS

A1 and A2 Estimate of Quantities for Sections B, C, D, E, F, L, and S  
A3 to A4 Environmental Commitments

## Erosion and Sediment Control – Section D

Bid Item Number	Item	Quantity	Unit
110E1690	Remove Sediment	4.4	CuYd
110E1695	Remove Sediment Filter Bag	1,712	Ft
110E1700	Remove Silt Fence	1,385	Ft
230E0010	Placing Topsoil	2,876	CuYd
730E0204	Type C Permanent Seed Mixture	81	Lb
730E0206	Type D Permanent Seed Mixture	255	Lb
731E0200	Fertilizing	2.87	Ton
732E0100	Mulching	9.0	Ton
732E0250	Fiber Mulching	1,675	Lb
734E0103	Type 3 Erosion Control Blanket	1,350	SqYd
734E0160	20" Diameter Erosion Control Wattle	200	Ft
734E0165	Remove and Reset Erosion Control Wattle	50	Ft
734E0180	Sediment Filter Bag	1,712	Ft
734E0510	Shaping for Erosion Control Blanket	500	Ft
734E0604	High Flow Silt Fence	1,700	Ft
734E0610	Mucking Silt Fence	118	CuYd
734E0620	Repair Silt Fence	425	Ft
734E0845	Sediment Control at Inlet with Frame and Grate	54	Each
734E0847	Sediment Control at Type S Reinforced Concrete Drop Inlet	37	Ft
900E1320	Construction Entrance	1	Each

## Structure – Section E

Bid Item Number	Item	Quantity	Unit
462E0100	Class M6 Concrete	85.0	CuYd
470E0020	Pipe Handrail	520.0	Ft
480E0200	Epoxy Coated Reinforcing Steel	3,834	Lb

## Surfacing – Section F

Bid Item Number	Item	Quantity	Unit
009E3320	Checker	Lump Sum	LS
120E6200	Water for Granular Material	212.7	MGal
260E1010	Base Course	1,128.6	Ton
260E1030	Base Course, Salvaged	16,537.5	Ton
320E0007	PG 64-28 Asphalt Binder	296.3	Ton
320E1050	Class E Asphalt Concrete	4,927.7	Ton
320E3000	Compaction Sample	3	Each
330E0100	SS-1h or CSS-1h Asphalt for Tack	4.6	Ton
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	4.7	Ton
330E2000	Sand for Flush Seal	76.5	Ton
332E0010	Cold Milling Asphalt Concrete	761	SqYd

# ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0020(117)254	A2	A4

Revised 7/16/15 TJD

## Signal and Lighting – Section L

Bid Item Number	Item	Quantity	Unit
635E0045	Breakaway Base Luminaire Pole with Arm, 45' Mounting Height	16	Each
635E3340	Roadway Luminaire, 400 Watt with Photoelectric Cell	16	Each
635E4010	1 Section Vehicle Signal Head	4	Each
635E5020	2' Diameter Footing	146.0	Ft
635E5302	Type 2 Electrical Junction Box	10	Each
635E5400	Electrical Service Cabinet	2	Each
635E5510	Signal Flasher Unit	2	Each
635E8120	2" Rigid Conduit, Schedule 40	2,960	Ft
635E8130	3" Rigid Conduit, Schedule 40	230	Ft
635E8220	2" Rigid Conduit, Schedule 80	1,085	Ft
635E9014	1/C #4 AWG Copper Wire	4,620	Ft
635E9016	1/C #6 AWG Copper Wire	12,710	Ft
635E9020	1/C #10 AWG Copper Wire	4,780	Ft
635E9024	1/C #14 AWG Copper Wire	1,200	Ft
635E9710	2/C #10 AWG Copper Pole and Bracket Cable	960	Ft

## Permanent Signing – Section S

Bid Item Number	Item	Quantity	Unit
110E5020	Salvage Traffic Sign	41	Each
632E3520	Remove, Salvage, Relocate, and Reset Traffic Sign	21	Each

### SPECIFICATIONS

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

# ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0020(117)254	A3	A4

## 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 E: STORM WATER

Construction activities constitute 1 acre or more of earth disturbance.

#### Action Taken/Required:

The DENR and the US Environmental Protection Agency (EPA) have issued separate general permits for the discharge of storm water runoff. The DENR permit applies to discharges on state land and the EPA permit applies to discharges on federal or reservation land. The Contractor is advised this project is regulated under the Phase II Storm Water Regulations and must receive coverage under the General Permit for Construction Activities. A Notice of Intent (NOI) will be submitted to DENR a minimum of 15 days prior to project start by the DOT Environmental Office. A letter must be received from DENR that acknowledges project coverage under this general permit before project start. The Contractor is advised that permit coverage may also be required by off-site activities, such as borrow and staging areas, which are the responsibility of the Contractor.

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

A major component of the storm water construction permits is development and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which is a joint effort and responsibility of the SDDOT and the Contractor. Erosion control measures and best management practices will be implemented in accordance with the SWPPP. The SWPPP is a dynamic document and is to be available on-site at all times.

### COMMITMENT E: STORM WATER (CONTINUED)

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

SDDOT:  
<http://sddot.com/transportation/highways/environmental/stormwater/Default.aspx>

DENR: <http://www.denr.sd.gov/des/sw/stormwater.aspx>

EPA: [http://cfpub.epa.gov/npdes/home.cfm?program\\_id=6](http://cfpub.epa.gov/npdes/home.cfm?program_id=6)

#### Contractor Certification Form:

The "Department of Environmental and Natural Resources – Contractor Certification Form" (SD EForm – 2110LDV1-ContractorCertification.pdf) shall be completed by the Contractor or their certified Erosion Control Supervisor after the award of the contract. Work may not begin on the project until this form is signed.

The form certifies under penalty of law that the Contractor understands and will comply with the terms and conditions of the Surface Water Discharge General Permit for Storm Water Discharges Associated with Construction Activities for the Project.

The online form can be found at:  
<http://denr.sd.gov/des/sw/eforms/E2110LDV1-ContractorCertification.pdf>

### 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.

### COMMITMENT H: WASTE DISPOSAL SITE (CONTINUED)

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.

# ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0020(117)254	A4	A4

## 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.

## COMMITMENT L: CONTAMINATED MATERIAL

Contaminated soil and/or known gas stations, undergrounds storage tanks, etc. are located within the project limits. Petroleum contaminated soil may be located at the following sites:

Description	Station	L / R
Ampride Gas Station	35+25	L
Old Gas Station	44+25	R
Underground Fuel Tanks	48+00	L

### Action Taken/Required:

The Contractor shall give notice to the Engineer when contaminated soil is encountered on the project. The Engineer will contact the SDDOT Environmental Engineer, at 605-773-3180, so that contact with the Department of Environment and Natural Resources (DENR) and consultant to inspect and monitor removal of any contaminated soil can be initiated.

The Contractor shall be responsible for having the existing underground utilities located in the construction area. Underground utilities damaged by the Contractor due to negligence shall be repaired at the Contractor's expense.

Information for disposing petroleum contaminated soil may be found at: <http://denr.sd.gov/des/wm/sw/swpcs.aspx>.

Measurement of "Contaminated Material Excavation" shall be in accordance with Section 120.4 of the Specifications. All costs for excavating and transporting the contaminated materials to the disposal site and all fees charged per cubic yard by the disposal site shall be incidental to the contract unit price per cubic yard for "Contaminated Material Excavation".

The estimated quantity of "Contaminated Material Excavation" is 60 cubic yards. The quantity of "Contaminated Material Excavation" may vary from the plans. No adjustment will be made to the contract unit price for variations in the quantity of "Contaminated Material Excavation". The estimated quantity of "Contaminated Material Excavation" is provided in Section B – Grading plans.