

STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION  
PLANS FOR PROPOSED

PROJECT PH 0046(65)373  
SD HIGHWAY 46  
UNION & LINCOLN COUNTIES

GRADING AND ASPHALT CONCRETE SURFACING  
PCN 04HF

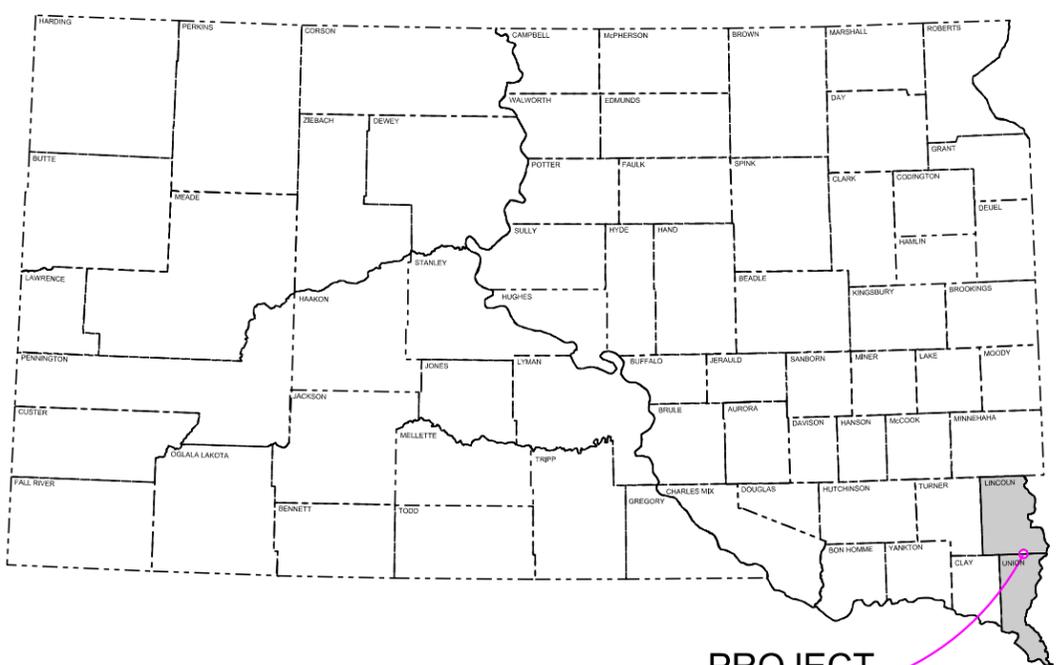
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|-----------------------|----------------|-------|--------------|
| STATE OF SOUTH DAKOTA | PROJECT        | SHEET | TOTAL SHEETS |
|                       | PH 0046(65)373 | 1     | 89           |

Plotting Date: 07/25/2016

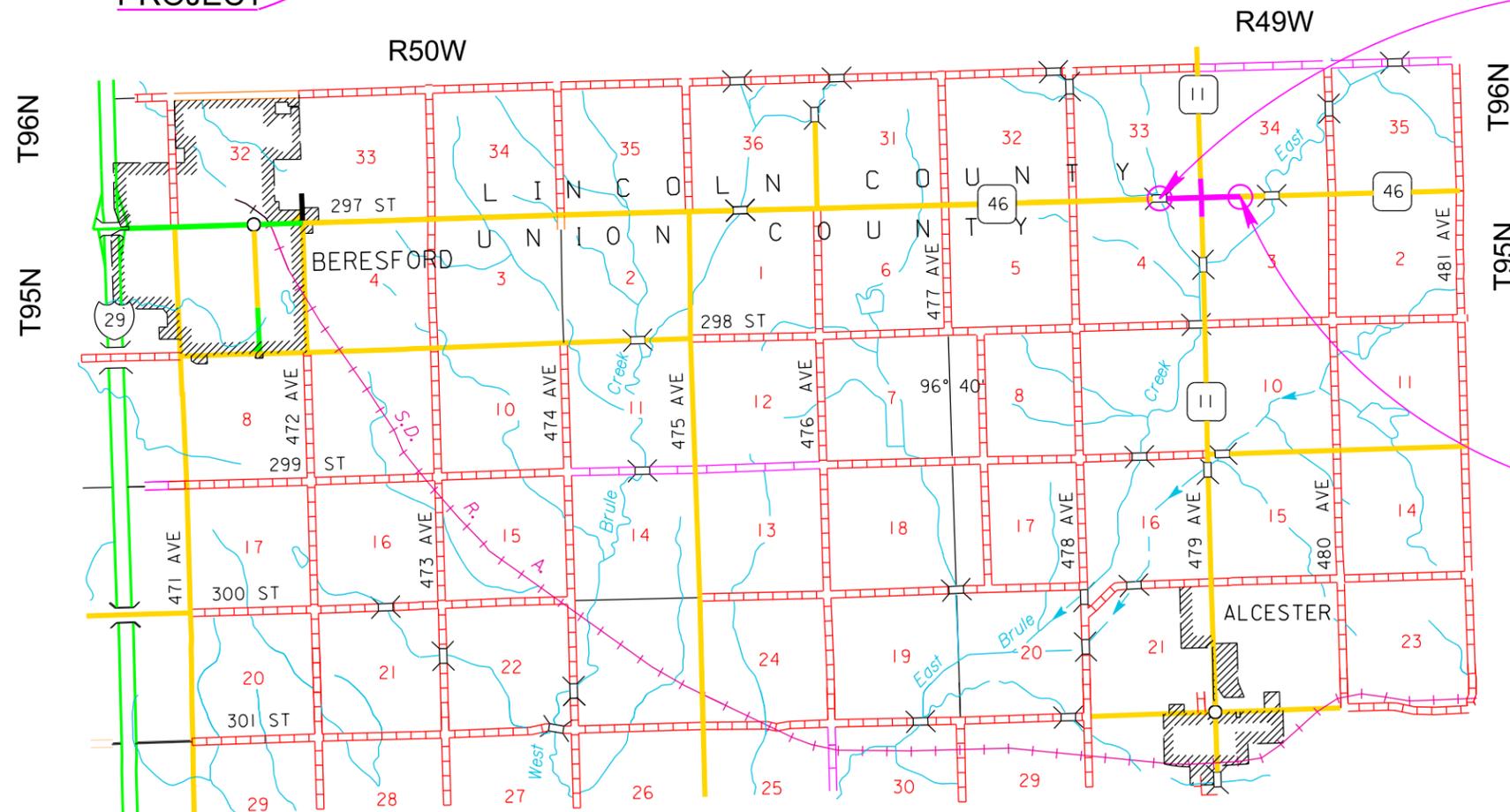
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Plot Scale - 1:200



PROJECT



**BEGIN PH 0046(65)373**  
Station 352+60=352+60 on FAP 337.  
28.62' N and 928.15' E of SW corner of  
SE 1/4 of Sec. 33-T96N-R49W  
MRM=373.24



**END PH 0046(65)373**  
Station 379+50=379+50 on FAP 337.  
1.99' S and 993.68' E of NW Corner of  
Sec. 3-T95N-R49W  
MRM=373.58+0.179

DESIGN DESIGNATION

|            | SD 46  | SD 11  |
|------------|--------|--------|
| ADT (2015) | 1979   | 1102   |
| ADT (2040) | 2819   | 1775   |
| DHV        | 350    | 241    |
| D          | 52%    | 52%    |
| T DHV      | 10.2%  | 4.4%   |
| T ADT      | 22.4%  | 9.8%   |
| V          | 70 mph | 70 mph |

STORM WATER PERMIT

Major Receiving  
Body of Water: East Brule Creek  
Area Disturbed: 12 Acres  
Total Project Area: 17 Acres  
Approx. Intersection Lat, Long = 43.0836, -96.6280

|                      |              |             |
|----------------------|--------------|-------------|
| GROSS LENGTH         | 2690.00 FEET | 0.510 MILES |
| LENGTH OF EXCEPTIONS | 0.00 FEET    | 0.000 MILES |
| NET LENGTH           | 2690.00 FEET | 0.510 MILES |

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Plotted From: trpr17192

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# ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

|                       |                           |             |                    |
|-----------------------|---------------------------|-------------|--------------------|
| STATE OF SOUTH DAKOTA | PROJECT<br>PH 0046(65)373 | SHEET<br>A1 | TOTAL SHEETS<br>A3 |
|-----------------------|---------------------------|-------------|--------------------|

Plotting Date: 08/17/2016  
Revised 8-17-16 BLG

## Section B - Grading

| BID ITEM NUMBER | ITEM   | QUANTITY | UNIT |
|-----------------|--|----------|------|
| 009E0010        | Mobilization   | Lump Sum | LS   |
| 009E3230        | Grade Staking  | 1.671    | Mile |
| 009E3250        | Miscellaneous Staking  | 0.691    | Mile |
| 009E3280        | Slope Staking  | 0.691    | Mile |
| 009E3300        | Three Man Survey Crew  | 40.0     | Hour |
| 100E0100        | Clearing   | Lump Sum | LS   |
| 110E0200        | Remove Building  | 1        | Each |
| 110E0600        | Remove Fence   | 2,600    | Ft   |
| 110E1010        | Remove Asphalt Concrete Pavement                             | 517.5    | SqYd |
| 110E1100        | Remove Concrete Pavement                                     | 179.1    | SqYd |
| 110E1650        | Remove Bank and Channel Protection Gabion                    | 12       | Each |
| 110E7510        | Remove Pipe End Section for Reset                            | 1        | Each |
| 120E0010        | Unclassified Excavation                                      | 64,209   | CuYd |
| 120E2000        | Undercutting   | 11,591   | CuYd |
| 120E6100        | Water for Embankment   | 505.0    | MGal |
| 250E0020        | Incidental Work, Grading                                     | Lump Sum | LS   |
| 270E0040        | Salvage and Stockpile Asphalt Mix and Granular Base Material | 13,376.1 | Ton  |
| 421E0100        | Pipe Culvert Undercut  | 58       | CuYd |
| 450E0142        | 24" RCP Class 2, Furnish                                     | 118      | Ft   |
| 450E0150        | 24" RCP, Install   | 118      | Ft   |
| 450E0182        | 36" RCP Class 2, Furnish                                     | 4        | Ft   |
| 450E0190        | 36" RCP, Install   | 4        | Ft   |
| 450E0203        | 48" RCP Class 3, Furnish                                     | 104      | Ft   |
| 450E0204        | 48" RCP Class 4, Furnish                                     | 46       | Ft   |
| 450E0210        | 48" RCP, Install   | 150      | Ft   |
| 450E2036        | 48" RCP Flared End, Furnish                                  | 2        | Each |
| 450E2037        | 48" RCP Flared End, Install                                  | 2        | Each |
| 450E2200        | 24" RCP Sloped End, Furnish                                  | 2        | Each |
| 450E2201        | 24" RCP Sloped End, Install                                  | 2        | Each |
| 450E4759        | 18" CMP 16 Gauge, Furnish                                    | 216      | Ft   |
| 450E4760        | 18" CMP, Install   | 216      | Ft   |
| 450E5406        | 18" CMP Safety End, Furnish                                  | 6        | Each |
| 450E5407        | 18" CMP Safety End, Install                                  | 6        | Each |
| 450E9001        | Reset Pipe End Section                                       | 1        | Each |
| 600E0200        | Type II Field Laboratory                                     | 1        | Each |
| 620E0020        | Type 2 Right-of-Way Fence                                    | 1,405    | Ft   |
| 620E0515        | Type 1A Temporary Fence                                      | 900      | Ft   |
| 620E1020        | 2 Post Panel   | 9        | Each |
| 620E1030        | 3 Post Panel   | 4        | Each |
| 720E1015        | Bank and Channel Protection Gabion                           | 22.5     | CuYd |
| 831E0110        | Type B Drainage Fabric                                       | 68       | SqYd |

## Section C - Traffic Control

| BID ITEM NUMBER | ITEM                              | QUANTITY | UNIT |
|-----------------|-----------------------------------|----------|------|
| 634E0010        | Flagging                          | 400.0    | Hour |
| 634E0020        | Pilot Car                         | 40.0     | Hour |
| 634E0110        | Traffic Control Signs             | 872.6    | SqFt |
| 634E0120        | Traffic Control, Miscellaneous    | Lump Sum | LS   |
| 634E0280        | Type 3 Barricade, 8' Single Sided | 24       | Each |
| 634E0285        | Type 3 Barricade, 8' Double Sided | 6        | Each |
| 634E0630        | Temporary Pavement Marking        | 4.0      | Mile |
| 634E1002        | Detour Signing                    | 611.2    | SqFt |

## Section D - Erosion and Sediment Control

| BID ITEM NUMBER | ITEM                          | QUANTITY | UNIT |
|-----------------|-------------------------------|----------|------|
| 110E1700        | Remove Silt Fence             | 500      | Ft   |
| 230E0010        | Placing Topsoil               | 4,855    | CuYd |
| 730E0212        | Type G Permanent Seed Mixture | 273      | Lb   |
| 731E0200        | Fertilizing                   | 5.25     | Ton  |
| 732E0100        | Mulching                      | 21.0     | Ton  |
| 734E0131        | Type 1 Turf Reinforcement Mat | 60.0     | SqYd |
| 734E0325        | Surface Roughening            | 3.2      | Acre |
| 734E0602        | Low Flow Silt Fence           | 1,500    | Ft   |
| 734E0604        | High Flow Silt Fence          | 500      | Ft   |
| 734E0610        | Mucking Silt Fence            | 139      | CuYd |
| 734E0620        | Repair Silt Fence             | 500      | Ft   |

## Section F - Surfacing

| BID ITEM NUMBER | ITEM                                   | QUANTITY | UNIT |
|-----------------|--|----------|------|
| 120E6200        | Water for Granular Material            | 168.2    | MGal |
| 260E1010        | Base Course                            | 714.6    | Ton  |
| 260E1030        | Base Course, Salvaged                  | 13,376.1 | Ton  |
| 320E0007        | PG 64-28 Asphalt Binder                | 280.6    | Ton  |
| 320E1050        | Class E Asphalt Concrete               | 4,923.1  | Ton  |
| 320E3000        | Compaction Sample                      | 3        | Each |
| 330E0010        | MC-70 Asphalt for Prime                | 24.2     | Ton  |
| 330E0100        | SS-1h or CSS-1h Asphalt for Tack       | 7.3      | Ton  |
| 330E0210        | SS-1h or CSS-1h Asphalt for Flush Seal | 3.7      | Ton  |
| 330E2000        | Sand for Flush Seal                    | 42.4     | Ton  |

### INDEX OF SHEETS

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

## Section M - Pavement Marking

| BID ITEM NUMBER | ITEM                           | QUANTITY | UNIT |
|-----------------|--------------------------------|----------|------|
| 633E1300        | Pavement Marking Paint, White  | 31       | Gal  |
| 633E1305        | Pavement Marking Paint, Yellow | 42       | Gal  |

## Section S - Permanent Signing

| BID ITEM NUMBER | ITEM  | QUANTITY | UNIT |
|-----------------|---|----------|------|
| 110E5020        | Salvage Traffic Sign  | 19       | Each |
| 632E1320        | 2.0"x2.0" Perforated Tube Post                                  | 30.0     | Ft   |
| 632E1330        | 2.25"x2.25" Perforated Tube Post                                | 126.0    | Ft   |
| 632E1340        | 2.5"x2.5" Perforated Tube Post                                  | 150.8    | Ft   |
| 632E2022        | 4"x4" White Delineator Back to Back with 1.12 Lb/Ft Post        | 32       | Each |
| 632E2028        | 4" Tubular White Delineator with 1.12 Lb/Ft Post                | 16       | Each |
| 632E2520        | Type 2 Object Marker  | 4        | Each |
| 632E3203        | Flat Aluminum Sign, Nonremovable Copy High Intensity            | 235.7    | SqFt |
| 632E3205        | Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity | 116.0    | SqFt |
| 632E3520        | Remove, Salvage, Relocate, and Reset Traffic Sign               | 3        | Each |
| 635E8015        | 1.5" Rigid Galvanized Steel Conduit                             | 30       | Ft   |

### 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 |
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Plotting Date: 08/11/2016

## 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 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.

The Contractor shall not withdraw water directly from streams of the James, Big Sioux, and Vermillion watersheds without prior approval from the SDDOT Environmental Office.

#### Action Taken/Required:

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

### COMMITMENT D: WATER QUALITY STANDARDS

#### COMMITMENT D1: SURFACE WATER QUALITY

East Brule Creek is classified as warm water, marginal fishery with a total suspended solids standard of 150 milligrams/liter.

#### Action Taken/Required:

The Contractor is advised the South Dakota Surface Water Quality Standards, administered by the Department of Environment and Natural Resources (DENR), apply to this project. Special construction measures shall be taken to ensure the above standard(s) of the surface waters are maintained and protected.

### 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.

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

SDDOT:

<http://www.sddot.com/business/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 Environment 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 Public ROW.

The waste disposal site(s) shall 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) 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 Public 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 Public 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

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## 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 review of cultural resources impacts. 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 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 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 shall provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

The permit requires the Contractor to use reasonably available technology to control fugitive dust emissions. The Contractor is required to use control measures for track out, paved areas, unpaved roads, unpaved parking lots, disturbed areas, and for material handling and storage. The control measures that the Contractor is required to use are listed in the permit.

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.

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