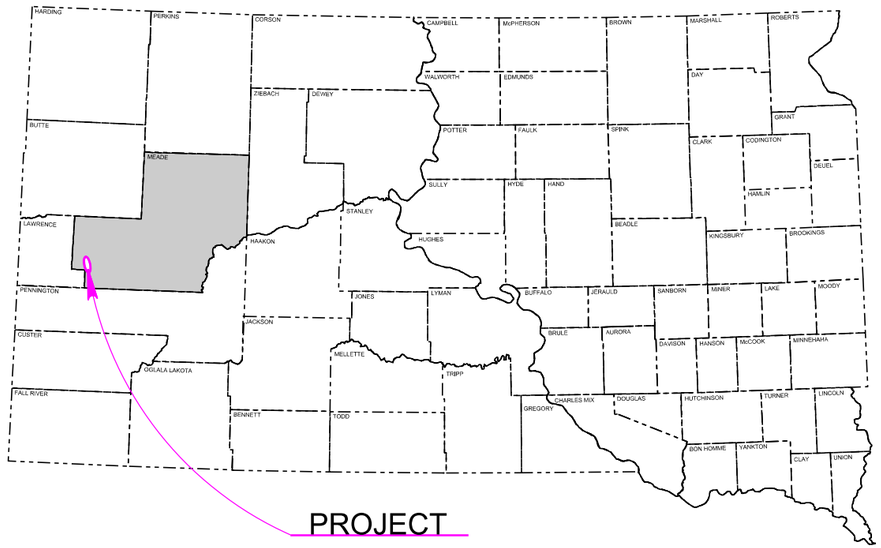


STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED

PROJECT IM 0901(38)40
INTERSTATE 90
MEADE COUNTY

Grading, Structures, Lighting, Permanant Signing, Pavement Markings, and PCC Surfacing

PCN 5580

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0901(38)40	1	650

Plotting Date: 09/02/2016

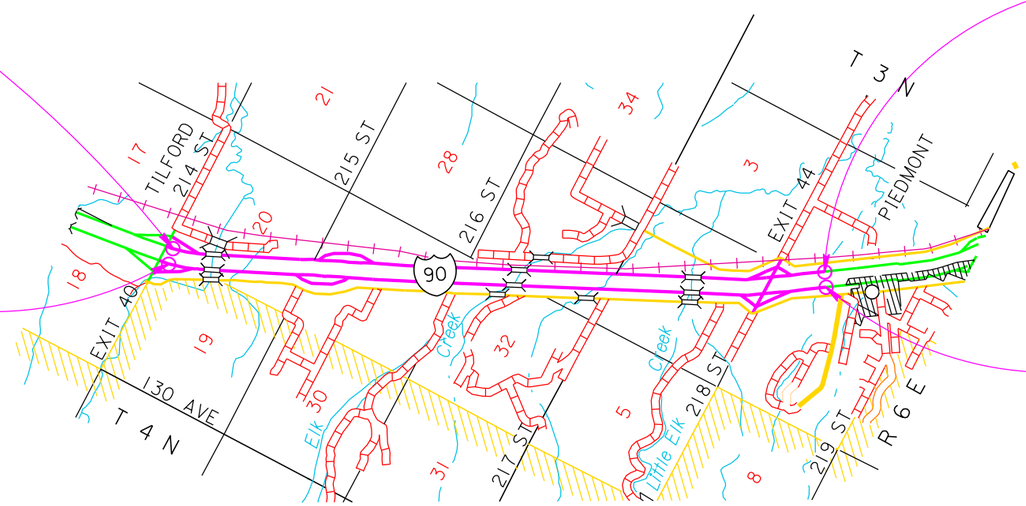
INDEX OF SECTIONS

BEGIN IM 0901(38)40

10+00.00 Westbound = 396+99.94
(WB) Mead 6180 and is 656.82 feet
South and 23.80 feet East of the NW
Corner of Section 20 - Township 4 North -
Range 6 East.
MRM 40.29 + 0.008

BEGIN IM 0901(38)40

1010+00.00 Eastbound = 395+24.19
(EB) Mead 6180 and is 671.33 feet
South and 44.41 feet West of the NW
Corner of Section 20 - Township 4 North -
Range 6 East.
MRM 40.31 + 0.009



END IM 0901(38)40

Westbound Station 265+77.67 =.
350+79.00-1.95 feet L (in Mead 3183)
and is 186.01 feet North and
670.97 Feet East of W 1/4
Corner of Section 10 - Township
3 North - Range 6 East
MRM 45.00 + 0.148

END IM 0901(38)40

Eastbound Station 1262+12.95 =
346+78.12-63.72 feet R (in Mead 3183)
and is 485.84 feet North and
398.49 feet East of W 1/4
Corner of Section 10 - Township
3 North - Range 6 East
MRM 45.00 + 0.081

EXIT 40 RAMP B DESIGN DESIGNATION

ADT (2015)	111
ADT (2035)	141
DHV	14
D	100%
T DHV	4.6%
T ADT	10%
V	50 mph

EXIT 44 RAMP A DESIGN DESIGNATION

ADT (2015)	272
ADT (2035)	345
DHV	34
D	100%
T DHV	4.6%
T ADT	10%
V	50 mph

I90 DESIGN DESIGNATION

ADT (2015)	18,052
ADT (2035)	22,872
DHV	3,134
D	51%
T DHV	6.6%
T ADT	14.4%
V	75 mph

EXIT 40 RAMP C DESIGN DESIGNATION

ADT (2015)	135
ADT (2035)	171
DHV	17
D	100%
T DHV	4.6%
T ADT	10%
V	50 mph

EXIT 44 RAMP B DESIGN DESIGNATION

ADT (2015)	478
ADT (2035)	606
DHV	61
D	100%
T DHV	4.6%
T ADT	10%
V	50 mph

EXIT 44 RAMP C DESIGN DESIGNATION

ADT (2015)	543
ADT (2035)	688
DHV	69
D	100%
T DHV	4.6%
T ADT	10%
V	50 mph

EXIT 44 RAMP D DESIGN DESIGNATION

ADT (2015)	287
ADT (2035)	364
DHV	36
D	100%
T DHV	4.6%
T ADT	10%
V	50 mph

STORM WATER PERMIT

Major Receiving
Body of Water: Elk Creek
Area Disturbed: 176.0 acre
Total Project Area: 215.2 acres
Approx. Begin Lat,Long 44.2991,-103.4337

GROSS LENGTH	25746.00 FEET	4.876 MILES
LENGTH OF EXCEPTIONS	0.00 FEET	0.00 MILES
NET LENGTH	25746.00 FEET	4.876 MILES

1

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0901(38)40	A1	A8

Plotting Date: 09/06/2016 Revised 9/1/16 RTG

Section B – Grading

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3230	Grade Staking	24.902	Mile
009E3250	Miscellaneous Staking	12.475	Mile
009E3280	Slope Staking	12.268	Mile
009E3290	Structure Staking	14	Each
009E3300	Three Man Survey Crew	100.0	Hour
009E4300	Construction Schedule, Category III	Lump Sum	LS
009E4330	Project Management, Category III	Lump Sum	LS
100E0100	Clearing	Lump Sum	LS
110E0400	Remove Drop Inlet	11	Each
110E0600	Remove Fence	1,608	Ft
110E0700	Remove 3 Cable Guardrail	2,059	Ft
110E0705	Remove 1 Cable Guardrail	13,278	Ft
110E0730	Remove Beam Guardrail	250.0	Ft
110E0740	Remove 3 Cable Guardrail Anchor Assembly	8	Each
110E0745	Remove 3 Cable Guardrail Slip Base Anchor Assembly	3	Each
110E1100	Remove Concrete Pavement	148,172.7	SqYd
110E1150	Remove Concrete Median Barrier	1,875	Ft
110E4000	Salvage Crash Cushion	1	Each
110E4100	Salvage 3 Cable Guardrail	972	Ft
110E4290	Salvage Beam Guardrail	5,762.5	Ft
110E4370	Salvage W Beam Guardrail Flared End Terminal	2	Each
110E4380	Salvage W Beam Guardrail Tangent End Terminal	10	Each
110E6230	Remove W Beam Guardrail for Reset	212.5	Ft
110E7510	Remove Pipe End Section for Reset	4	Each
120E0010	Unclassified Excavation	840,888	CuYd
120E0300	Borrow Unclassified Excavation	131,928	CuYd
120E0500	Option Borrow Excavation	212,885	CuYd
120E1000	Muck Excavation	20,812	CuYd
120E1100	Unclassified/Rock Excavation	23,855	CuYd
120E2000	Undercutting	383,933	CuYd
120E6100	Water for Embankment	11,186.0	MGal
240E0010	Obliterate Old Road	66	Sta
250E0020	Incidental Work, Grading	Lump Sum	LS
270E0040	Salvage and Stockpile Asphalt Mix and Granular Base Material	162,889.0	Ton
421E0100	Pipe Culvert Undercut	264	CuYd
450E0122	18" RCP Class 2, Furnish	402	Ft
450E0130	18" RCP, Install	402	Ft
450E0142	24" RCP Class 2, Furnish	1,504	Ft
450E0150	24" RCP, Install	1,504	Ft
450E0162	30" RCP Class 2, Furnish	194	Ft
450E0170	30" RCP, Install	194	Ft
450E0182	36" RCP Class 2, Furnish	638	Ft
450E0190	36" RCP, Install	638	Ft

Section B – Grading

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
450E0700	RCP Tee, Furnish	2	Each
450E0701	RCP Tee, Install	2	Each
450E1200	RCP Increaser, Furnish	3	Each
450E1201	RCP Increaser, Install	3	Each
450E2028	36" RCP Flared End, Furnish	2	Each
450E2029	36" RCP Flared End, Install	2	Each
450E2200	24" RCP Sloped End, Furnish	7	Each
450E2201	24" RCP Sloped End, Install	7	Each
450E2204	30" RCP Sloped End, Furnish	4	Each
450E2205	30" RCP Sloped End, Install	4	Each
450E2207	36" RCP Sloped End with Bars, Furnish	1	Each
450E2208	36" RCP Sloped End, Furnish	1	Each
450E2209	36" RCP Sloped End, Install	2	Each
450E2304	18" RCP Safety End, Furnish	9	Each
450E2307	18" RCP Safety End, Install	9	Each
450E2308	24" RCP Safety End, Furnish	12	Each
450E2311	24" RCP Safety End, Install	12	Each
450E3032	36" RCP Arch Class 2, Furnish	164	Ft
450E3040	36" RCP Arch, Install	164	Ft
450E4512	36" RCP Arch Flared End, Furnish	4	Each
450E4513	36" RCP Arch Flared End, Install	4	Each
450E4739	12" CMP 16 Gauge, Furnish	36	Ft
450E4740	12" CMP, Install	36	Ft
450E4759	18" CMP 16 Gauge, Furnish	246	Ft
450E4760	18" CMP, Install	246	Ft
450E5010	18" CMP Elbow, Furnish	4	Each
450E5011	18" CMP Elbow, Install	4	Each
450E5203	12" CMP Flared End, Furnish	2	Each
450E5204	12" CMP Flared End, Install	2	Each
450E5211	18" CMP Flared End, Furnish	4	Each
450E5212	18" CMP Flared End, Install	4	Each
450E5406	18" CMP Safety End, Furnish	3	Each
450E5407	18" CMP Safety End, Install	3	Each
450E8009	18" RCP to CMP Transition, Furnish	1	Each
450E8010	18" Pipe Transition, Install	1	Each
450E9001	Reset Pipe End Section	4	Each
451E1006	6" PVC Sewer Pipe	550	Ft
451E6080	Adjust Water Valve Box	2	Each
462E0100	Class M6 Concrete	11.4	CuYd
480E0100	Reinforcing Steel	1,717	Lb
600E0300	Type III Field Laboratory	1	Each
620E0020	Type 2 Right-of-Way Fence	19,075	Ft
620E0160	Type 6s Right-of-Way Fence	259	Ft
620E0510	Type 1 Temporary Fence	2,750	Ft

INDEX OF SHEETS

Section B – Grading

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
620E0515	Type 1A Temporary Fence	7,900	Ft
620E1020	2 Post Panel	42	Each
620E1030	3 Post Panel	26	Each
628E1500	Concrete Barrier End Protection	1	Each
628E1510	Concrete Barrier End Protection Module Set or Repair Kit	2	Each
629E0100	3 Cable Guardrail	4,196	Ft
629E0300	3 Cable Guardrail Slip Base Anchor Assembly	13	Each
629E2000	1 Cable Guardrail	5,110	Ft
630E0110	Straight Double Class A Thrie Beam Guardrail with Wood Posts	600.0	Ft
630E1010	Straight Class A W Beam Guardrail with Wood Posts	2,112.5	Ft
630E2000	W Beam to Thrie Beam Guardrail Transition	32	Each
630E2015	W Beam Guardrail Flared End Terminal	6	Each
630E2020	W Beam Guardrail Tangent End Terminal	12	Each
630E2030	W Beam Guardrail Breakaway Cable Terminal	12	Each
630E2110	Beam Guardrail Post and Block	34	Each
630E5160	Reset W Beam Rail	212.5	Ft
650E4415	Type D411.5 Concrete Curb and Gutter	13	Ft
670E3200	Type D Frame and Grate	12	Each
670E4120	Type L Median Drain	5	Each
670E4200	Type M Median Drain	10	Each
670E5400	Precast Drop Inlet Collar	12	Each
671E7015	Remove and Reset Manhole	1	Each
671E8000	Reconstruct Manhole	3	Each
700E0210	Class B Riprap	236.6	Ton
720E1010	PVC Coated Bank and Channel Protection Gabion	15.0	CuYd
831E0110	Type B Drainage Fabric	355	SqYd
998E0100	Railroad Protective Insurance	Lump Sum	LS

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

Section C - Traffic Control

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
634E0010	Flagging	2,000.0	Hour
634E0110	Traffic Control Signs	1,143.3	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0135	Traffic Control Supervisor	Lump Sum	LS
634E0285	Type 3 Barricade, 8' Double Sided	12	Each
634E0330	Temporary Raised Pavement Markers	105,912	Ft
634E0380	Tubular Marker	874	Each
634E0420	Type C Advance Warning Arrow Board	2	Each
634E0525	Linear Delineation System Panel, Barrier Mounted	10	Each
634E0560	Remove Pavement Marking, 4" or Equivalent	2,000	Ft
634E0640	Temporary Pavement Marking	312,884	Ft
634E0700	Traffic Control Movable Concrete Barrier	27	Each
634E0750	Temporary Concrete Barrier End Protection	1	Each
634E0760	Temporary Concrete Barrier End Protection Module Set or Repair Kit	1	Each
634E1002	Detour Signing	938.0	SqFt
634E1215	Contractor Furnished Portable Changeable Message Sign	4	Each
634E1255	Contractor Furnished Speed Monitoring Radar Trailer	2	Each

Section D - Erosion and Sediment Control

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E1700	Remove Silt Fence	3,000	Ft
230E0010	Placing Topsoil	88,898	CuYd
730E0100	Cover Crop Seeding	29.2	Bu
730E0251	Special Permanent Seed Mixture 1	2,800	Lb
731E0200	Fertilizing	131.25	Ton
732E0100	Mulching	350.0	Ton
734E0044	Soil Stabilizer	50.0	Acre
734E0103	Type 3 Erosion Control Blanket	17,180	SqYd
734E0131	Type 1 Turf Reinforcement Mat	4,750.0	SqYd
734E0170	Temporary Sediment Barrier	2,000	Ft
734E0325	Surface Roughening	33.6	Acre
734E0510	Shaping for Erosion Control Blanket	12,232	Ft
734E0602	Low Flow Silt Fence	7,700	Ft
734E0604	High Flow Silt Fence	4,300	Ft
734E0610	Mucking Silt Fence	833	CuYd
734E0620	Repair Silt Fence	3,000	Ft
734E0845	Sediment Control at Inlet with Frame and Grate	13	Each
735E1205	1 Gallon Deciduous Shrub, Furnish and Plant	3	Each
735E2040	4' to 6' Tree, Furnish and Plant	3	Each
900E1320	Construction Entrance	2	Each

Section E – Structure

Str. No. 47-070-511

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
420E0200	Structure Excavation, Box Culvert	19	CuYd
421E0200	Box Culvert Undercut	32	CuYd
460E0120	Class A45 Concrete, Box Culvert	31.4	CuYd
460E0300	Breakout Structural Concrete	15.6	CuYd
460E0380	Install Dowel in Concrete	50	Each
480E0100	Reinforcing Steel	4,656	Lb
700E0210	Class B Riprap	64.3	Ton
831E0110	Type B Drainage Fabric	93	SqYd

Section E – Structure

Str. No. 47-071-511

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
420E0200	Structure Excavation, Box Culvert	19	CuYd
421E0200	Box Culvert Undercut	31	CuYd
460E0120	Class A45 Concrete, Box Culvert	37.4	CuYd
460E0300	Breakout Structural Concrete	12.8	CuYd
460E0380	Install Dowel in Concrete	50	Each
480E0100	Reinforcing Steel	6,483	Lb

Section E – Structure

Str. No. 47-080-534

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E3310	Bridge Elevation Survey	Lump Sum	LS
009E5000	Concrete Penetrating Sealer	709.0	SqYd
250E0030	Incidental Work, Structure	Lump Sum	LS
410E2600	Membrane Sealant Expansion Joint	83.8	Ft
420E0100	Structure Excavation, Bridge	753	CuYd
430E0200	Bridge End Embankment	784	CuYd
430E0300	Granular Bridge End Backfill	72.3	CuYd
430E0510	Approach Slab Underdrain Excavation	3.2	CuYd
430E0700	Precast Concrete Headwall for Drain	2	Each
460E0030	Class A45 Concrete, Bridge Deck	376.9	CuYd
460E0050	Class A45 Concrete, Bridge	271.1	CuYd
460E0150	Concrete Approach Slab for Bridge	190.6	SqYd
460E0160	Concrete Approach Sleeper Slab for Bridge	67.5	SqYd
464E0100	Controlled Density Fill	7.9	CuYd
480E0100	Reinforcing Steel	47,812	Lb
480E0200	Epoxy Coated Reinforcing Steel	106,091	Lb
480E0507	No. 7 Rebar Splice	108	Each
510E1500	Micropile Verification Load Test	1	Each
510E1510	Micropile Proof Load Test	5	Each
510E1520	Micropile	72	Each
680E0040	4" Underdrain Pipe	255	Ft
680E2500	Porous Backfill	38.6	Ton
700E0310	Class C Riprap	1,266.0	Ton
831E0110	Type B Drainage Fabric	1,069	SqYd

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

Section E – Structure

Str. No. 47-080-535

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E3310	Bridge Elevation Survey	Lump Sum	LS
009E5000	Concrete Penetrating Sealer	709.0	SqYd
250E0030	Incidental Work, Structure	Lump Sum	LS
410E2600	Membrane Sealant Expansion Joint	83.8	Ft
420E0100	Structure Excavation, Bridge	753	CuYd
430E0200	Bridge End Embankment	784	CuYd
430E0300	Granular Bridge End Backfill	72.3	CuYd
430E0510	Approach Slab Underdrain Excavation	3.2	CuYd
430E0700	Precast Concrete Headwall for Drain	2	Each
460E0030	Class A45 Concrete, Bridge Deck	376.9	CuYd
460E0050	Class A45 Concrete, Bridge	271.1	CuYd
460E0150	Concrete Approach Slab for Bridge	190.6	SqYd
460E0160	Concrete Approach Sleeper Slab for Bridge	67.5	SqYd
464E0100	Controlled Density Fill	7.9	CuYd
480E0100	Reinforcing Steel	47,812	Lb
480E0200	Epoxy Coated Reinforcing Steel	106,091	Lb
480E0507	No. 7 Rebar Splice	108	Each
510E1500	Micropile Verification Load Test	1	Each
510E1510	Micropile Proof Load Test	5	Each
510E1520	Micropile	72	Each
680E0040	4" Underdrain Pipe	255	Ft
680E2500	Porous Backfill	38.6	Ton
700E0310	Class C Riprap	2,196.0	Ton
831E0110	Type B Drainage Fabric	1,828	SqYd

Section E – Structure

Str. No. 47-085-545

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E3310	Bridge Elevation Survey	Lump Sum	LS
009E5000	Concrete Penetrating Sealer	669.0	SqYd
250E0030	Incidental Work, Structure	Lump Sum	LS
410E2600	Membrane Sealant Expansion Joint	83.8	Ft
420E0100	Structure Excavation, Bridge	323	CuYd
430E0200	Bridge End Embankment	665	CuYd
430E0300	Granular Bridge End Backfill	71.1	CuYd
430E0510	Approach Slab Underdrain Excavation	2.7	CuYd
430E0700	Precast Concrete Headwall for Drain	2	Each
460E0030	Class A45 Concrete, Bridge Deck	343.7	CuYd
460E0050	Class A45 Concrete, Bridge	273.5	CuYd
460E0150	Concrete Approach Slab for Bridge	190.6	SqYd
460E0160	Concrete Approach Sleeper Slab for Bridge	67.5	SqYd
464E0100	Controlled Density Fill	7.3	CuYd
480E0100	Reinforcing Steel	36,477	Lb
480E0200	Epoxy Coated Reinforcing Steel	84,168	Lb
480E0507	No. 7 Rebar Splice	106	Each
510E1500	Micropile Verification Load Test	1	Each
510E1510	Micropile Proof Load Test	5	Each
510E1520	Micropile	73	Each
680E0040	4" Underdrain Pipe	255	Ft
680E2500	Porous Backfill	31.7	Ton
700E0310	Class C Riprap	843.5	Ton
831E0110	Type B Drainage Fabric	947	SqYd

Section E – Structure

Str. No. 47-085-546

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E3310	Bridge Elevation Survey	Lump Sum	LS
009E5000	Concrete Penetrating Sealer	669.0	SqYd
250E0030	Incidental Work, Structure	Lump Sum	LS
410E2600	Membrane Sealant Expansion Joint	83.8	Ft
420E0100	Structure Excavation, Bridge	424	CuYd
430E0200	Bridge End Embankment	665	CuYd
430E0300	Granular Bridge End Backfill	71.1	CuYd
430E0510	Approach Slab Underdrain Excavation	2.7	CuYd
430E0700	Precast Concrete Headwall for Drain	2	Each
460E0030	Class A45 Concrete, Bridge Deck	343.7	CuYd
460E0050	Class A45 Concrete, Bridge	273.5	CuYd
460E0150	Concrete Approach Slab for Bridge	190.6	SqYd
460E0160	Concrete Approach Sleeper Slab for Bridge	67.5	SqYd
464E0100	Controlled Density Fill	7.3	CuYd
480E0100	Reinforcing Steel	36,492	Lb
480E0200	Epoxy Coated Reinforcing Steel	84,225	Lb
480E0507	No. 7 Rebar Splice	106	Each
510E1500	Micropile Verification Load Test	1	Each
510E1510	Micropile Proof Load Test	5	Each
510E1520	Micropile	76	Each
680E0040	4" Underdrain Pipe	255	Ft
680E2500	Porous Backfill	31.7	Ton
700E0310	Class C Riprap	405.3	Ton
831E0110	Type B Drainage Fabric	460	SqYd

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0901(38)40	A4	A8

Plotting Date: 09/23/2016 Revised 9/23/16 RTG

Section E – Structure

Str. No. 47-088-550

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E3310	Bridge Elevation Survey	Lump Sum	LS
009E5000	Concrete Penetrating Sealer	875.0	SqYd
250E0030	Incidental Work, Structure	Lump Sum	LS
410E0030	Structural Steel, Miscellaneous	Lump Sum	LS
410E2600	Membrane Sealant Expansion Joint	83.8	Ft
420E0100	Structure Excavation, Bridge	28	CuYd
430E0200	Bridge End Embankment	1,984	CuYd
430E0300	Granular Bridge End Backfill	104.8	CuYd
430E0510	Approach Slab Underdrain Excavation	6.0	CuYd
430E0700	Precast Concrete Headwall for Drain	4	Each
460E0030	Class A45 Concrete, Bridge Deck	292.7	CuYd
460E0050	Class A45 Concrete, Bridge	158.0	CuYd
460E0150	Concrete Approach Slab for Bridge	273.0	SqYd
460E0160	Concrete Approach Sleeper Slab for Bridge	67.5	SqYd
465E0100	Class A45 Concrete, Drilled Shaft	125.5	CuYd
465E0200	Drilled Shaft Excavation	123.1	CuYd
465E1044	44" Permanent Casing	108.0	Ft
480E0100	Reinforcing Steel	85,724	Lb
480E0200	Epoxy Coated Reinforcing Steel	44,665	Lb
480E0507	No. 7 Rebar Splice	106	Each
480E0514	No. 14 Rebar Splice	108	Each
510E0300	Preboring Pile	140	Ft
510E3401	HP 12x53 Steel Test Pile, Furnish and Drive	175	Ft
510E3405	HP 12x53 Steel Bearing Pile, Furnish and Drive	600	Ft
560E8045	45" Minnesota Shape Prestressed Concrete Beam	969	Ft
680E0040	4" Underdrain Pipe	301	Ft
680E2500	Porous Backfill	25.4	Ton
734E2020	Bridge Berm Slope Protection, Crushed Aggregate	727.9	SqYd
831E0100	Type A Drainage Fabric	728	SqYd

Section E – Structure

Str. No. 47-088-551

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E3310	Bridge Elevation Survey	Lump Sum	LS
009E5000	Concrete Penetrating Sealer	875.0	SqYd
250E0030	Incidental Work, Structure	Lump Sum	LS
410E0030	Structural Steel, Miscellaneous	Lump Sum	LS
410E2600	Membrane Sealant Expansion Joint	83.8	Ft
420E0100	Structure Excavation, Bridge	28	CuYd
430E0200	Bridge End Embankment	1,984	CuYd
430E0300	Granular Bridge End Backfill	104.8	CuYd
430E0510	Approach Slab Underdrain Excavation	6.0	CuYd
430E0700	Precast Concrete Headwall for Drain	4	Each
460E0030	Class A45 Concrete, Bridge Deck	292.6	CuYd
460E0050	Class A45 Concrete, Bridge	159.0	CuYd
460E0150	Concrete Approach Slab for Bridge	273.0	SqYd
460E0160	Concrete Approach Sleeper Slab for Bridge	67.5	SqYd
465E0100	Class A45 Concrete, Drilled Shaft	96.9	CuYd
465E0200	Drilled Shaft Excavation	94.5	CuYd
465E1044	44" Permanent Casing	75.0	Ft
480E0100	Reinforcing Steel	78,179	Lb
480E0200	Epoxy Coated Reinforcing Steel	55,326	Lb
480E0507	No. 7 Rebar Splice	106	Each
480E0514	No. 14 Rebar Splice	108	Each
510E0300	Preboring Pile	140	Ft
510E3401	HP 12x53 Steel Test Pile, Furnish and Drive	95	Ft
510E3405	HP 12x53 Steel Bearing Pile, Furnish and Drive	630	Ft
560E8045	45" Minnesota Shape Prestressed Concrete Beam	969	Ft
680E0040	4" Underdrain Pipe	301	Ft
680E2500	Porous Backfill	25.4	Ton
734E2020	Bridge Berm Slope Protection, Crushed Aggregate	722.2	SqYd
831E0100	Type A Drainage Fabric	722	SqYd

Section E – Structure

Non Structure Length Box Culvert Extensions
Str. No. 47-073-518
Str. No. 47-078-529
Str. No. 47-083-539
Str. No. 47-091-553
Concrete Barrier with Glare Screen

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
420E0200	Structure Excavation, Box Culvert	114	CuYd
421E0200	Box Culvert Undercut	435	CuYd
460E0100	Class A45 Concrete, Miscellaneous	148.8	CuYd
460E0120	Class A45 Concrete, Box Culvert	272.2	CuYd
460E0300	Breakout Structural Concrete	57.2	CuYd
460E0380	Install Dowel in Concrete	156	Each
480E0100	Reinforcing Steel	44,620	Lb
480E0200	Epoxy Coated Reinforcing Steel	18,826	Lb
700E0210	Class B Riprap	174.2	Ton
831E0110	Type B Drainage Fabric	284	SqYd

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

Section F - Surfacing

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
120E6200	Water for Granular Material	1,963.0	MGal
260E1010	Base Course	708.2	Ton
260E1030	Base Course, Salvaged	76,123.3	Ton
260E2030	Gravel Cushion, Salvaged	86,765.7	Ton
320E5010	Saw and Seal Shoulder Joint	104,827	Ft
320E7012	Grind 12" Rumble Strip or Stripe in Asphalt Concrete	9.6	Mile
330E0010	MC-70 Asphalt for Prime	163.0	Ton
330E0100	SS-1h or CSS-1h Asphalt for Tack	43.5	Ton
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	28.0	Ton
330E1000	Blotting Sand for Prime	105.6	Ton
330E2000	Sand for Flush Seal	97.6	Ton
332E0010	Cold Milling Asphalt Concrete	58,101	SqYd
380E0050	8" Nonreinforced PCC Pavement	671.8	SqYd
380E0070	9" Nonreinforced PCC Pavement	4,620.2	SqYd
380E0110	11" Nonreinforced PCC Pavement	165,372.3	SqYd
380E6000	Dowel Bar	72,088	Each
380E6110	Insert Steel Bar in PCC Pavement	120	Each
410E2600	Membrane Sealant Expansion Joint	502.8	Ft

Section F – Surfacing Alternate A

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
320E0004	PG 58-28 Asphalt Binder	905.4	Ton
320E1070	Class HR Asphalt Concrete	22,573.0	Ton

Section F – Surfacing Alternate B

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
320E0004	PG 58-28 Asphalt Binder	835.4	Ton
320E1070	Class HR Asphalt Concrete	23,184.0	Ton

Section L - Signal and Lighting

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E1540	Remove Luminaire Pole Footing	6	Each
635E5020	2' Diameter Footing	44.0	Ft
635E5302	Type 2 Electrical Junction Box	2	Each
635E7500	Remove and Reset Luminaire Pole	6	Each
635E8120	2" Rigid Conduit, Schedule 40	915	Ft
635E8220	2" Rigid Conduit, Schedule 80	100	Ft
635E9014	1/C #4 AWG Copper Wire	3,150	Ft

Section M - Pavement Marking

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
633E0010	Cold Applied Plastic Pavement Marking, 4"	17,669	Ft
633E0020	Cold Applied Plastic Pavement Marking, 8"	216	Ft
633E0025	Cold Applied Plastic Pavement Marking, 12"	2,750	Ft
633E0040	Cold Applied Plastic Pavement Marking, Arrow	4	Each
633E0055	Cold Applied Plastic Pavement Marking, Railroad Crossing	2	Each
633E1200	Waterborne Pavement Marking Paint with High Grade Polymer, White	370	Gal
633E1205	Waterborne Pavement Marking Paint with High Grade Polymer,Yellow	351	Gal
633E1400	Pavement Marking Paint, 4" White	50,791	Ft
633E1405	Pavement Marking Paint, 4" Yellow	101,582	Ft
633E5000	Grooving for Cold Applied Plastic Pavement Marking, 4"	17,309	Ft
633E5005	Grooving for Cold Applied Plastic Pavement Marking, 8"	216	Ft
633E5010	Grooving for Cold Applied Plastic Pavement Marking, 12"	2,750	Ft
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	4	Each
633E5040	Grooving for Cold Applied Plastic Pavement Marking, Railroad Crossing	2	Each
633E5100	Grooving for Durable Pavement Marking, 4"	136,872	Ft

Section S - Permanent Signing

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E5020	Salvage Traffic Sign	101	Each
110E5030	Salvage Extruded Panel Sign	31	Each
632E0014	1.75' Diameter Breakaway Support Concrete Footing	72.0	Ft
632E1225	W6x12 Steel Post	112.0	Ft
632E1230	W6x15 Steel Post	156.0	Ft
632E1340	2.5"x2.5" Perforated Tube Post	76.0	Ft
632E3005	Aluminum Overlay Sign, Nonremovable Copy Super/Very High Intensity	1,255.5	SqFt
632E3203	Flat Aluminum Sign, Nonremovable Copy High Intensity	220.1	SqFt
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	281.3	SqFt
632E3520	Remove, Salvage, Relocate, and Reset Traffic Sign	8	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
	IM 0901(38)40	A6	A8

Plotting Date: 08/11/2016

Plot Scale - 1.200

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 B4: BALD EAGLE

Bald eagles are known to occur in this area.

Action Taken/Required:

If a nest is observed within one mile of the project site, notify the Project Engineer immediately so that he/she can consult with the Environmental Office for an appropriate course of action.

COMMITMENT C: WATER SOURCE

The Contractor will 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.

Action Taken/Required:

The Contractor will 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

This segment of Little Elk Creek is classified as a cold water marginal fishery with a total suspended solids standard of 90 milligrams/liter.

This segment of Elk Creek is classified as a cold water permanent fishery with a total suspended solids standard of 30 milligrams/liter.

The associated tributaries are classified as fish and wildlife propagation, recreation, irrigation, and stock watering waters. Because of these beneficial uses, special construction measures will be taken to ensure that these water bodies are not impacted.

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 will be taken to ensure the above standard(s) of the surface waters are maintained and protected.

COMMITMENT D2: SURFACE WATER DISCHARGE

This segment of Little Elk Creek is classified as a cold water marginal fishery with a total suspended solids standard of 90 milligrams/liter.

This segment of Elk Creek is classified as a cold water permanent fishery with a total suspended solids standard of 30 milligrams/liter.

The associated tributaries are classified as fish and wildlife propagation, recreation, irrigation, and stock watering waters. Because of these beneficial uses, special construction measures will be taken to ensure that these water bodies are not impacted.

Action Taken/Required:

If construction dewatering is required, the Contractor will obtain a Temporary Discharge Permit from the DENR and provide a copy to the Project Engineer. Contact the DENR Surface Water Program at 605-773-3351 to apply for a permit.

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 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 will 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

Contractor Certification Form:

The "Department of Environmental and Natural Resources – Contractor Certification Form" (SD EForm – 2110LDV1-ContractorCertification.pdf) will 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

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ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0901(38)40	A7	A8

Plotting Date: 08/11/2016

COMMITMENT F: SEASONAL WORK RESTRICTION

The State of South Dakota has designated cold water fisheries associated with this project.

Action Taken/Required:

Construction or demolition activities should not take place during the Seasonal Work Restriction listed in the below table to avoid conflicts with spawning fish. If flows during this time are nonexistent or extremely low, the seasonal use restriction may not be applicable. The Contractor will not conduct in-stream work during the Seasonal Work Restriction without prior approval from the SDDOT Environmental Office.

Stream Name	Stream Classification	Seasonal Work Restriction
Elk Creek	Cold Water	October 15 to April 1
Little Elk	Cold Water	October 15 to April 1

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 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 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 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.

The following sensitive site has been identified that requires avoidance of construction activities including staging areas for heavy equipment storage and materials storage:

Table of Environmental Sensitive Site

Site	Station	Offset (Ft.)	L/R	Action
ES1	30+10 WB	451’	L	Do Not Disturb

The locations and boundaries of the site for avoidance is shown in Section B - Grading 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 will 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 will 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 will 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 will cease and the Project Engineer will 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 will provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	IM 0901(38)40	A8	A8

Plotting Date: 09/01/2016

COMMITMENT J: CONSTRUCTION PRACTICES FOR TEMPORARY WORKS IN WATERWAYS OF THE U.S.

The Contractor is advised that special construction measures have to be taken to ensure that the waterways of the U.S. are not impacted.

Action Taken/Required:

No excavation will be made below the ordinary high water elevation in waterways outside of caissons, cribs, cofferdams, steel piling, or sheeting; and the natural streambed will not be disturbed unless specified by the plans and under the observation of the Project Engineer. Refer to the Table of U.S. Waterways to Protect for ordinary high water elevations.

All dredged or excavated materials will be placed at a site above the ordinary high water elevation in a confined area (not classified as a wetland) that is a minimum of 50 feet away from concentrated flows of storm water, drainage courses, and inlets to prevent return of such material to the waterway.

The construction of temporary work platforms, crossings, or berms below the ordinary high water elevation will be allowed provided that all material placed below the ordinary high water elevation consists of Class B or larger riprap.

All temporary caissons, cribs, cofferdams, steel piling, sheeting, work platforms, crossings, and berms will be removed with minimal disturbance to the streambed. Proper construction practices will be used to minimize increases in suspended solids and turbidity in the waterway.

Bridge berms, wing dams, traffic diversions, channel reconstruction, grading, etc. will be constructed in close conformity with the plans to ensure that the hydraulic capacity of the waterway is not changed.

Temporary waterway crossings required for the Contractors construction operations will be constructed with an adequate drainage structure size and minimum fill height to reduce the potential for upstream flooding. The Contractor will be responsible for sizing the temporary drainage structure for these crossings.

Table of U.S. Waterways to Protect

Station	Waterway	Ordinary High Water Elevation
10+00 WB	Trib. to Morris Creek	3611.9
1141+35 EB	Elk Creek	3541.9’
1174+34 EB	Trib. to Elk Creek	3503.0’
1207+00 EB	Little Elk Creek	3514.4’

COMMITMENT N: SECTION 404 PERMIT

The SDDOT has obtained a Section 404 Permit from the US Army Corps of Engineers for the permanent actions associated with this project.

Action Taken/Required:

The Contractor will comply with all requirements contained in the Section 404 permit.

The Contractor will also be responsible for obtaining a Section 404 permit for any dredge, excavation, or fill activities associated with staging areas, borrow sites, waste disposal sites, or material processing sites that affect wetlands or waters of the United States.

COMMITMENT Q: TREE REPLACEMENT

There is less than 0.10 acres of trees that will be impacted by construction activities.

Action Taken/Required:

Trees will be replaced within the vicinity of the project at a 2:1 acre ratio. Refer to Section B – Grading Plans for location and boundaries of the tree replacement.

COMMITMENT R: FIRE PREVENTION IN THE BLACK HILLS AREA

This project is located within the confines of the Black Hills Forest Fire Protection Boundary.

Action Taken/Required:

The Contractor will adhere to the “Special Provision for Fire Plan”.