ADDENDUM NO. 1

February 18, 2025

BRO 8052(00)23-1, PCN 09GR East Mall Drive Structure Replacement

City of Box Elder, South Dakota

The following becomes a part of the original Plan and Specifications, just as if printed and bound therein, and takes precedence over any items that may conflict. The Bidder shall acknowledge receipt of this Addendum on his Bid Form, incorporating its provisions within his Bid.

CHANGES AND/OR CLARIFICATIONS:

- 1. On page 4 of the Bid Form, the quantity for the Bid Items, "Traffic Control Signs" and "Type 3 Barricade" were increased. These quantities were also adjusted on page 2 of the plans.
- 2. On page 7 of the plans the note under Traffic Control General Notes was edited. This is to allow for a maximum of three weeks that Bennett Road can be closed to allow for, at the Contractor's option to tie East Mall Drive into Bennett Road to complete the grading and surfacing. This closure is only allowed towards the end of the project before the new road and bridge are opened to traffic.
- 3. On page 8 of the plans a note for Geogrid was added.
- 4. On page 10 the traffic control table, and layout map was updated to show the signs and barricades that were added.
- 5. Please replace pages 4 of the Bid Form, and pages 2, 7, 8, and 10 with the attached sheets.

Please be sure to acknowledge receipt of Addendum #1 on sheet 2 of 5 of the bid documents.

If you have any questions regarding these changes, please contact our office at 605-347-2722.

Sincerely,

Daniel Cichosz, PE

Brosz Engineering, Inc. - Sturgis

Enclosure

END OF ADDENDUM NO. 1

	1			1	1
31	2.0"x2.0" Perforated Tube Post	120.0	Ft		
32	4"x4" White Delineator Back to Back with 1.12 Lb/Ft Post	16	Each		
33	Guardrail Delineator	16	Each		
34	Type 2 Object Marker Back to Back	4	Each		
35	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	58.0	SqFt		
36	Reset Sign	4	Each		
37	Install State Furnished Sign	2	Each		
38	Flagging	160.0	Hour		
39	Traffic Control Signs	274.5	SqFt		
40	Traffic Control, Miscellaneous	Lump Sum	LS		
41	Type 3 Barricade	13	Each		
42	Type F Permanent Seed Mixture	260	Lb		
43	Fertilizing	7.50	Ton		
44	Mulching	17.0	Ton		
45	12" Diameter Erosion Control Wattle	1,400	Ft		
46	Low Flow Silt Fence	500	Ft		
47	Mucking Silt Fence	35	CuYd		
48	Repair Silt Fence	125	Ft		
49	Floating Silt Curtain	600	Ft		
50	Geogrid Reinforcement	7,778	SqYd		
51	Concrete Penetrating Sealer	753.0	SqYd		
52	Select Granular Backfill	24.4	Ton		
53	Incidental Work, Structure	Lump Sum	LS		
54	Structural Steel, Miscellaneous	Lump Sum	LS		
55	Membrane Sealant Expansion Joint	86.2	Ft		
56	Structure Excavation, Bridge	88	CuYd		
57	Bridge End Embankment	609	CuYd		
58	Granular Bridge End Backfill	126.0	CuYd		
59	Approach Slab Underdrain Excavation	3.8	CuYd		
60	Precast Concrete Headwall for Drain	4	Each		
61	Class A45 Concrete, Bridge Deck	317.0	CuYd		
62	Class A45 Concrete, Bridge	137.2	CuYd		
63	Concrete Approach Slab for Bridge	205.1	SqYd		
64	Concrete Approach Sleeper Slab for Bridge	43.0	SqYd		
65	Install Dowel in Concrete	344	Each		
66	Deck Drain, Girder Bridge	14	Each		
67	Class A45 Concrete, Drilled Shaft	91.2	CuYd		
68	Drilled Shaft Excavation	91.2	CuYd		
69	38" Permanent Casing	120.0	Ft		
70	Steel Pedestrian Railing on Sidewalk	179.9	Ft		
71	Steel Pedestrian Railing on Concrete Barrier	162.0	Ft		

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

734E0630 Floating Silt Curtain 600 Ft		I.		
	734E0630	Floating Silt Curtain	600	Ft
831E1010 Geogrid Reinforcement 7,778 SqYd	831E1010	Geogrid Reinforcement	7,778	SqYd

BID ITEM NUMBER	ITEM	QUANTITY	UNI
009E0010	Mobilization	Lump Sum	LS
100E0100	Clearing	Lump Sum	LS
110E1690	Remove Sediment	4.0	CuY
110E5020	Salvage Traffic Sign	7	Eac
110E7510	Remove Pipe End Section for Reset	1	Eac
120E0010	Unclassified Excavation	20,640	CuY
120E2000	Undercutting	2,525	CuY
230E0010	Placing Topsoil	4,317	CuY
250E0020	Incidental Work, Grading	Lump Sum	LS
260E1010	Base Course	3,257.0	Tor
260E1030	Base Course, Salvaged	1,250.0	Tor
260E5000	Shot Rock	4,039.0	Tor
270E0040	Salvage and Stockpile Asphalt Mix and Granular Base Material	1,250.0	Tor
450E0203	48" RCP Class 3, Furnish	40	Ft
450E0210	48" RCP, Install	40	Ft
450E0436	48" RCP Bend, Furnish	1	Eac
450E0437	48" RCP Bend, Install	1	Eac
450E9001	Reset Pipe End Section	1	Eac
450E4759	18" CMP 16 Gauge, Furnish	50	Ft
450E4760	18" CMP, Install	50	Ft
450E5406	18" CMP Safety End, Furnish	2	Eac
450E5407	18" CMP Safety End, Install	2	Eac
450E4769	24" CMP 16 Gauge, Furnish	110	Ft
450E4770	24" CMP, Install	110	Ft
450E5410	24" CMP Safety End, Furnish	2	Eac
450E5411	24" CMP Safety End, Install	2	Eac
600E0200	Type II Field Laboratory	1	Eac
630E0500	Type 1 MGS	37.5	Ft
630E1500	Type 1 Guardrail Transition	4	Eac
630E2016	MGS Flared End Terminal	4	Ft
632E1320	2.0"x2.0" Perforated Tube Post	120.0	Ft
632E2022	4"x4" White Delineator Back to Back with 1.12 Lb/Ft Post	16	Eac
632E2220	Guardrail Delineator	16	Eac
632E2510	Type 2 Object Marker Back to Back	4	Eac
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	58.0	SqF
632E3500	Reset Sign	4	Eac
632E3526	Install State Furnished Sign	2	Eac
634E0010	Flagging	160.0	Hou
634E0110	Traffic Control Signs	274.5	SqF
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	13	Eac
730E0210	Type F Permanent Seed Mixture	260	Lb
731E0200	Fertilizing	7.50	Tor
731E0200 732E0100	Mulching	17.0	Tor
734E0154	12" Diameter Erosion Control Wattle	1,400	
		· ·	Ft □+
734E0602	Low Flow Silt Fence	500	Ft
734E0610	Mucking Silt Fence	35	CuY

734E0630	Floating Silt Curtain	600	Ft
831E1010	Geogrid Reinforcement	7,778	SqYd

Structure No. 52-460-280

BID ITEM NUMBER ITEM QUANTITY UNIT 009E5000 Concrete Penetrating Sealer 753.0 SqYd 120E7000 Select Granular Backfill 24.4 Ton 250E0030 Incidental Work, Structure Lump Sum LS 410E2600 Membrane Sealant Expansion Joint 86.2 Ft 420E0100 Structural Steel, Miscellaneous Lump Sum LS 430E0200 Membrane Sealant Expansion Joint 86.2 Ft 430E0200 Bridge End Embankment 609 CuYd 430E0300 Granular Bridge End Backfill 126.0 CuYd 430E0300 Granular Bridge End Backfill 126.0 CuYd 430E0700 Precast Concrete Headwall for Drain 4 Each 460E0030 Class A45 Concrete, Bridge Deck 317.0 CuYd 460E0050 Class A45 Concrete, Bridge 137.2 CuYd 460E0160 Concrete Approach Slab for Bridge 205.1 SqYd 460E0380 Install Dowel in Concrete 344 Each 465E		NO. 52-460-280		
120E7000 Select Granular Backfill 24.4 Ton 250E0030 Incidental Work, Structure Lump Sum LS 410E0030 Structural Steel, Miscellaneous Lump Sum LS 410E2600 Membrane Sealant Expansion Joint 86.2 Ft 420E0100 Structure Excavation, Bridge 88 CuYd 430E0200 Bridge End Embankment 609 CuYd 430E0200 Bridge End Backfill 126.0 CuYd 430E0300 Granular Bridge End Backfill 126.0 CuYd 430E0300 Granular Bridge End Backfill 126.0 CuYd 430E0510 Approach Slab Underdrain Excavation 3.8 CuYd 430E0510 Approach Slab Underdrain Excavation 4 Each 460E0030 Class A45 Concrete, Bridge Deck 317.0 CuYd 460E0050 Class A45 Concrete, Bridge 137.2 CuYd 460E0050 Class A45 Concrete, Bridge 205.1 SqYd 460E0150 Concrete Approach Slab for Bridge 205.1 SqYd 460E0380 Install Dowel in Concrete 344 Each 460E0500 Deck Drain, Girder Bridge 14 Each 465E0100 Class A45 Concrete, Drilled Shaft 91.2 CuYd 465E1038 38" Permanent Casing 120.0 Ft 470E0120 Steel Pedestrian Railing on Sidewalk 179.9 Ft 470E0220 Steel Pedestrian Railing on Concrete Barrier 162.0 Ft 480E0100 Preboring Pile 160 Ft 510E3361 HP 10x42 Steel Test Pile, Furnish and Drive 700 Ft 560E8036 36" Minnesota Shape Prestressed Concrete Beam 989 Ft 651E0300 Preboring Pile 160 Ft 510E3361 HP 10x42 Steel Bearing Pile, Furnish and Drive 700 Ft 560E8036 36" Minnesota Shape Prestressed Concrete Beam 989 Ft 680E2500 Porous Backfill 8.0 Ton 700E1100 Overburden Excavation for Riprap 2,634.0 Ton 700E1100 Overburden Excavation for Riprap 3,209 CuYd 831E0110 Type B Drainage Fabric 2,212 SqYd	BID ITEM NUMBER	ITEM	QUANTITY	UNIT
250E0030 Incidental Work, Structure Lump Sum LS 410E0030 Structural Steel, Miscellaneous Lump Sum LS 410E2600 Membrane Sealant Expansion Joint 86.2 Ft 420E0100 Structure Excavation, Bridge 88 CuYd 430E0200 Bridge End Embankment 609 CuYd 430E0300 Granular Bridge End Backfill 126.0 CuYd 430E0510 Approach Slab Underdrain Excavation 3.8 CuYd 430E0700 Precast Concrete Headwall for Drain 4 Each 460E0030 Class A45 Concrete, Bridge Deck 317.0 CuYd 460E0050 Class A45 Concrete, Bridge 205.1 SqYd 460E0150 Concrete Approach Slab for Bridge 205.1 SqYd 460E0380 Install Dowel in Concrete 344 Each 460E0500 Deck Drain, Girder Bridge 14 Each 465E0100 Class A45 Concrete, Drilled Shaft 91.2 CuYd 465E0200 Drilled Shaft Excavation 91.2 CuYd	009E5000	Concrete Penetrating Sealer	753.0	SqYd
410E0030 Structural Steel, Miscellaneous Lump Sum LS 410E2600 Membrane Sealant Expansion Joint 86.2 Ft 420E0100 Structure Excavation, Bridge 88 CuYd 430E0200 Bridge End Embankment 609 CuYd 430E0300 Granular Bridge End Backfill 126.0 CuYd 430E0510 Approach Slab Underdrain Excavation 3.8 CuYd 430E0700 Precast Concrete Headwall for Drain 4 Each 460E0030 Class A45 Concrete, Bridge Deck 317.0 CuYd 460E0050 Class A45 Concrete, Bridge 137.2 CuYd 460E0150 Concrete Approach Slab for Bridge 205.1 SqYd 460E0160 Concrete Approach Sleeper Slab for Bridge 43.0 SqYd 460E0380 Install Dowel in Concrete 344 Each 460E0500 Deck Drain, Girder Bridge 14 Each 465E0100 Class A45 Concrete, Drilled Shaft 91.2 CuYd 465E0200 Drilled Shaft Excavation 91.2 CuYd <td>120E7000</td> <td>Select Granular Backfill</td> <td>24.4</td> <td>Ton</td>	120E7000	Select Granular Backfill	24.4	Ton
410E2600 Membrane Sealant Expansion Joint 86.2 Ft 420E0100 Structure Excavation, Bridge 88 CuYd 430E0200 Bridge End Embankment 609 CuYd 430E0300 Granular Bridge End Backfill 126.0 CuYd 430E0510 Approach Slab Underdrain Excavation 3.8 CuYd 430E0700 Precast Concrete Headwall for Drain 4 Each 460E0030 Class A45 Concrete, Bridge 317.0 CuYd 460E0050 Class A45 Concrete, Bridge 137.2 CuYd 460E0150 Concrete Approach Slab for Bridge 205.1 SqYd 460E0160 Concrete Approach Sleeper Slab for Bridge 43.0 SqYd 460E0380 Install Dowel in Concrete 344 Each 460E0380 Install Dowel in Concrete 344 Each 465E0100 Class A45 Concrete, Drilled Shaft 91.2 CuYd 465E0100 Deck Drain, Girder Bridge 14 Each 465E0200 Drilled Shaft Excavation 91.2 CuYd	250E0030	Incidental Work, Structure	Lump Sum	LS
420E0100 Structure Excavation, Bridge 88 CuYd 430E0200 Bridge End Embankment 609 CuYd 430E0300 Granular Bridge End Backfill 126.0 CuYd 430E0510 Approach Slab Underdrain Excavation 3.8 CuYd 430E0700 Precast Concrete Headwall for Drain 4 Each 460E0030 Class A45 Concrete, Bridge Deck 317.0 CuYd 460E0050 Class A45 Concrete, Bridge 137.2 CuYd 460E0150 Concrete Approach Sleeper Slab for Bridge 205.1 SqYd 460E0380 Install Dowel in Concrete 344 Each 460E0500 Deck Drain, Girder Bridge 14 Each 460E0500 Deck Drain, Girder Bridge 14 Each 465E0100 Class A45 Concrete, Drilled Shaft 91.2 CuYd 465E0100 Drilled Shaft Excavation 91.2 CuYd 465E0200 Drilled Shaft Excavation 91.2 CuYd 470E0120 Steel Pedestrian Railing on Sidewalk 179.9 Ft	410E0030	Structural Steel, Miscellaneous	Lump Sum	LS
430E0200 Bridge End Embankment 609 CuYd 430E0300 Granular Bridge End Backfill 126.0 CuYd 430E0510 Approach Slab Underdrain Excavation 3.8 CuYd 430E0700 Precast Concrete Headwall for Drain 4 Each 460E0030 Class A45 Concrete, Bridge Deck 317.0 CuYd 460E0050 Class A45 Concrete, Bridge 137.2 CuYd 460E0150 Concrete Approach Slab for Bridge 205.1 SqYd 460E0160 Concrete Approach Sleeper Slab for Bridge 43.0 SqYd 460E0380 Install Dowel in Concrete 344 Each 460E0500 Deck Drain, Girder Bridge 14 Each 465E0100 Class A45 Concrete, Drilled Shaft 91.2 CuYd 465E0200 Drilled Shaft Excavation 91.2 CuYd 465E0200 Drilled Shaft Excavation 91.2 CuYd 465E1038 38" Permanent Casing 120.0 Ft 470E0120 Steel Pedestrian Railing on Sidewalk 179.9 Ft	410E2600	Membrane Sealant Expansion Joint	86.2	Ft
430E0300 Granular Bridge End Backfill 126.0 CuYd 430E0510 Approach Slab Underdrain Excavation 3.8 CuYd 430E0700 Precast Concrete Headwall for Drain 4 Each 460E0030 Class A45 Concrete, Bridge Deck 317.0 CuYd 460E0050 Class A45 Concrete, Bridge 137.2 CuYd 460E0150 Concrete Approach Slab for Bridge 205.1 SqYd 460E0160 Concrete Approach Sleeper Slab for Bridge 43.0 SqYd 460E0380 Install Dowel in Concrete 344 Each 460E0500 Deck Drain, Girder Bridge 14 Each 465E0100 Class A45 Concrete, Drilled Shaft 91.2 CuYd 465E0200 Drilled Shaft Excavation 91.2 CuYd 465E0200 Drilled Shaft Excavation 91.2 CuYd 465E0200 Drilled Shaft Excavation 91.2 CuYd 470E0120 Steel Pedestrian Railing on Sidewalk 179.9 Ft 470E0220 Steel Pedestrian Railing on Concrete Barrier 162.0 <t< td=""><td>420E0100</td><td>Structure Excavation, Bridge</td><td>88</td><td>CuYd</td></t<>	420E0100	Structure Excavation, Bridge	88	CuYd
430E0510 Approach Slab Underdrain Excavation 3.8 CuYd 430E0700 Precast Concrete Headwall for Drain 4 Each 460E0030 Class A45 Concrete, Bridge Deck 317.0 CuYd 460E0050 Class A45 Concrete, Bridge 137.2 CuYd 460E0150 Concrete Approach Slab for Bridge 205.1 SqYd 460E0160 Concrete Approach Sleeper Slab for Bridge 43.0 SqYd 460E0380 Install Dowel in Concrete 344 Each 460E0500 Deck Drain, Girder Bridge 14 Each 465E0100 Class A45 Concrete, Drilled Shaft 91.2 CuYd 465E0200 Drilled Shaft Excavation 91.2 CuYd 470E0120 Steel Pedestrian Railing on Sidewalk 179.9 Ft 470E0220 Steel Pedestrian Railing on Concrete Barrier 162.0 Ft<	430E0200	Bridge End Embankment	609	CuYd
430E0700 Precast Concrete Headwall for Drain 4 Each 460E0030 Class A45 Concrete, Bridge Deck 317.0 CuYd 460E0050 Class A45 Concrete, Bridge 137.2 CuYd 460E0150 Concrete Approach Slab for Bridge 205.1 SqYd 460E0160 Concrete Approach Sleeper Slab for Bridge 43.0 SqYd 460E0380 Install Dowel in Concrete 344 Each 460E0500 Deck Drain, Girder Bridge 14 Each 465E0100 Class A45 Concrete, Drilled Shaft 91.2 CuYd 465E0200 Drilled Shaft Excavation 91.2 CuYd 465E0200 Drilled Shaft Excavation 91.2 CuYd 465E1038 38" Permanent Casing 120.0 Ft 470E0120 Steel Pedestrian Railing on Sidewalk 179.9 Ft 470E0220 Steel Pedestrian Railing on Concrete Barrier 162.0 Ft 480E0100 Reinforcing Steel 82,662 Lb 480E0200 Epoxy Coated Reinforcing Steel 69,333 Lb	430E0300	Granular Bridge End Backfill	126.0	CuYd
460E0030 Class A45 Concrete, Bridge Deck 317.0 CuYd 460E0050 Class A45 Concrete, Bridge 137.2 CuYd 460E0150 Concrete Approach Slab for Bridge 205.1 SqYd 460E0160 Concrete Approach Sleeper Slab for Bridge 43.0 SqYd 460E0380 Install Dowel in Concrete 344 Each 460E0500 Deck Drain, Girder Bridge 14 Each 465E0100 Class A45 Concrete, Drilled Shaft 91.2 CuYd 465E0200 Drilled Shaft Excavation 91.2 CuYd 465E0200 Drilled Shaft Excavation 91.2 CuYd 465E1038 38" Permanent Casing 120.0 Ft 470E0120 Steel Pedestrian Railing on Sidewalk 179.9 Ft 470E0220 Steel Pedestrian Railing on Concrete Barrier 162.0 Ft 480E0200 Epoxy Coated Reinforcing Steel 82,662 Lb 480E0200 Epoxy Coated Reinforcing Steel 69,333 Lb 510E3361 HP 10x42 Steel Bearing Pile, Furnish and Drive 700	430E0510	Approach Slab Underdrain Excavation	3.8	CuYd
460E0050 Class A45 Concrete, Bridge 137.2 CuYd 460E0150 Concrete Approach Slab for Bridge 205.1 SqYd 460E0160 Concrete Approach Sleeper Slab for Bridge 43.0 SqYd 460E0380 Install Dowel in Concrete 344 Each 460E0500 Deck Drain, Girder Bridge 14 Each 465E0100 Class A45 Concrete, Drilled Shaft 91.2 CuYd 465E0200 Drilled Shaft Excavation 91.2 CuYd 465E1038 38" Permanent Casing 120.0 Ft 470E0120 Steel Pedestrian Railing on Sidewalk 179.9 Ft 470E0220 Steel Pedestrian Railing on Concrete Barrier 162.0 Ft 480E0100 Reinforcing Steel 82,662 Lb 480E0200 Epoxy Coated Reinforcing Steel 69,333 Lb 510E0300 Preboring Pile 160 Ft 510E3361 HP 10x42 Steel Test Pile, Furnish and Drive 110 Ft 50E38036 36" Minnesota Shape Prestressed Concrete Beam 989 Ft </td <td>430E0700</td> <td>Precast Concrete Headwall for Drain</td> <td>4</td> <td>Each</td>	430E0700	Precast Concrete Headwall for Drain	4	Each
460E0150 Concrete Approach Slab for Bridge 205.1 SqYd 460E0160 Concrete Approach Sleeper Slab for Bridge 43.0 SqYd 460E0380 Install Dowel in Concrete 344 Each 460E0500 Deck Drain, Girder Bridge 14 Each 465E0100 Class A45 Concrete, Drilled Shaft 91.2 CuYd 465E0200 Drilled Shaft Excavation 91.2 CuYd 465E1038 38" Permanent Casing 120.0 Ft 470E0120 Steel Pedestrian Railing on Sidewalk 179.9 Ft 470E0220 Steel Pedestrian Railing on Concrete Barrier 162.0 Ft 480E0100 Reinforcing Steel 82,662 Lb 480E0200 Epoxy Coated Reinforcing Steel 69,333 Lb 510E0300 Preboring Pile 160 Ft 510E3361 HP 10x42 Steel Test Pile, Furnish and Drive 700 Ft 560E8036 36" Minnesota Shape Prestressed Concrete Beam 989 Ft 621E0300 Chain Link Fence for Bridge Sidewalk 180 Ft	460E0030	Class A45 Concrete, Bridge Deck	317.0	CuYd
460E0160 Concrete Approach Sleeper Slab for Bridge 43.0 SqYd 460E0380 Install Dowel in Concrete 344 Each 460E0500 Deck Drain, Girder Bridge 14 Each 465E0100 Class A45 Concrete, Drilled Shaft 91.2 CuYd 465E0200 Drilled Shaft Excavation 91.2 CuYd 465E1038 38" Permanent Casing 120.0 Ft 470E0120 Steel Pedestrian Railing on Sidewalk 179.9 Ft 470E0220 Steel Pedestrian Railing on Concrete Barrier 162.0 Ft 480E0100 Reinforcing Steel 82,662 Lb 480E0200 Epoxy Coated Reinforcing Steel 69,333 Lb 510E0300 Preboring Pile 160 Ft 510E3361 HP 10x42 Steel Test Pile, Furnish and Drive 110 Ft 50E80363 36" Minnesota Shape Prestressed Concrete Beam 989 Ft 621E0300 Chain Link Fence for Bridge Sidewalk 180 Ft 651E0160 6" Reinforced Concrete Sidewalk 150 SqFt	460E0050	Class A45 Concrete, Bridge	137.2	CuYd
460E0380 Install Dowel in Concrete 344 Each 460E0500 Deck Drain, Girder Bridge 14 Each 465E0100 Class A45 Concrete, Drilled Shaft 91.2 CuYd 465E0200 Drilled Shaft Excavation 91.2 CuYd 465E1038 38" Permanent Casing 120.0 Ft 470E0120 Steel Pedestrian Railing on Sidewalk 179.9 Ft 470E0220 Steel Pedestrian Railing on Concrete Barrier 162.0 Ft 480E0100 Reinforcing Steel 82,662 Lb 480E0200 Epoxy Coated Reinforcing Steel 69,333 Lb 510E0300 Preboring Pile 160 Ft 510E3361 HP 10x42 Steel Test Pile, Furnish and Drive 110 Ft 510E3365 HP 10x42 Steel Bearing Pile, Furnish and Drive 700 Ft 560E8036 36" Minnesota Shape Prestressed Concrete Beam 989 Ft 621E0300 Chain Link Fence for Bridge Sidewalk 180 Ft 651E0160 6" Reinforced Concrete Sidewalk 150 SqFt	460E0150	Concrete Approach Slab for Bridge	205.1	SqYd
460E0500 Deck Drain, Girder Bridge 14 Each 465E0100 Class A45 Concrete, Drilled Shaft 91.2 CuYd 465E0200 Drilled Shaft Excavation 91.2 CuYd 465E1038 38" Permanent Casing 120.0 Ft 470E0120 Steel Pedestrian Railing on Sidewalk 179.9 Ft 470E0220 Steel Pedestrian Railing on Concrete Barrier 162.0 Ft 480E0100 Reinforcing Steel 82,662 Lb 480E0200 Epoxy Coated Reinforcing Steel 69,333 Lb 510E0300 Preboring Pile 160 Ft 510E3361 HP 10x42 Steel Test Pile, Furnish and Drive 110 Ft 510E3365 HP 10x42 Steel Bearing Pile, Furnish and Drive 700 Ft 560E8036 36" Minnesota Shape Prestressed Concrete Beam 989 Ft 621E0300 Chain Link Fence for Bridge Sidewalk 180 Ft 651E0160 6" Reinforced Concrete Sidewalk 150 SqFt 680E2500 Porous Backfill 8.0 Ton	460E0160	Concrete Approach Sleeper Slab for Bridge	43.0	SqYd
465E0100 Class A45 Concrete, Drilled Shaft 91.2 CuYd 465E0200 Drilled Shaft Excavation 91.2 CuYd 465E1038 38" Permanent Casing 120.0 Ft 470E0120 Steel Pedestrian Railing on Sidewalk 179.9 Ft 470E0220 Steel Pedestrian Railing on Concrete Barrier 162.0 Ft 480E0100 Reinforcing Steel 82,662 Lb 480E0200 Epoxy Coated Reinforcing Steel 69,333 Lb 510E0300 Preboring Pile 160 Ft 510E3361 HP 10x42 Steel Test Pile, Furnish and Drive 110 Ft 510E3365 HP 10x42 Steel Bearing Pile, Furnish and Drive 700 Ft 560E8036 36" Minnesota Shape Prestressed Concrete Beam 989 Ft 621E0300 Chain Link Fence for Bridge Sidewalk 180 Ft 651E0160 6" Reinforced Concrete Sidewalk 150 SqFt 680E0040 4" Underdrain Pipe 173 Ft 680E2500 Porous Backfill 8.0 Ton	460E0380	Install Dowel in Concrete	344	Each
465E0200 Drilled Shaft Excavation 91.2 CuYd 465E1038 38" Permanent Casing 120.0 Ft 470E0120 Steel Pedestrian Railing on Sidewalk 179.9 Ft 470E0220 Steel Pedestrian Railing on Concrete Barrier 162.0 Ft 480E0100 Reinforcing Steel 82,662 Lb 480E0200 Epoxy Coated Reinforcing Steel 69,333 Lb 510E0300 Preboring Pile 160 Ft 510E3361 HP 10x42 Steel Test Pile, Furnish and Drive 110 Ft 510E3365 HP 10x42 Steel Bearing Pile, Furnish and Drive 700 Ft 560E8036 36" Minnesota Shape Prestressed Concrete Beam 989 Ft 621E0300 Chain Link Fence for Bridge Sidewalk 180 Ft 651E0160 6" Reinforced Concrete Sidewalk 150 SqFt 680E0040 4" Underdrain Pipe 173 Ft 680E2500 Porous Backfill 8.0 Ton 700E0210 Class B Riprap 2,634.0 Ton 700E110	460E0500	Deck Drain, Girder Bridge	14	Each
465E1038 38" Permanent Casing 120.0 Ft 470E0120 Steel Pedestrian Railing on Sidewalk 179.9 Ft 470E0220 Steel Pedestrian Railing on Concrete Barrier 162.0 Ft 480E0100 Reinforcing Steel 82,662 Lb 480E0200 Epoxy Coated Reinforcing Steel 69,333 Lb 510E0300 Preboring Pile 160 Ft 510E3361 HP 10x42 Steel Test Pile, Furnish and Drive 110 Ft 510E3365 HP 10x42 Steel Bearing Pile, Furnish and Drive 700 Ft 560E8036 36" Minnesota Shape Prestressed Concrete Beam 989 Ft 621E0300 Chain Link Fence for Bridge Sidewalk 180 Ft 651E0160 6" Reinforced Concrete Sidewalk 150 SqFt 680E0040 4" Underdrain Pipe 173 Ft 680E2500 Porous Backfill 8.0 Ton 700E0210 Class B Riprap 2,634.0 Ton 700E1100 Overburden Excavation for Riprap 3,209 CuYd 831E0110 Type B Drainage Fabric 2,212 SqYd <td>465E0100</td> <td>Class A45 Concrete, Drilled Shaft</td> <td>91.2</td> <td>CuYd</td>	465E0100	Class A45 Concrete, Drilled Shaft	91.2	CuYd
470E0120 Steel Pedestrian Railing on Sidewalk 179.9 Ft 470E0220 Steel Pedestrian Railing on Concrete Barrier 162.0 Ft 480E0100 Reinforcing Steel 82,662 Lb 480E0200 Epoxy Coated Reinforcing Steel 69,333 Lb 510E0300 Preboring Pile 160 Ft 510E3361 HP 10x42 Steel Test Pile, Furnish and Drive 110 Ft 510E3365 HP 10x42 Steel Bearing Pile, Furnish and Drive 700 Ft 560E8036 36" Minnesota Shape Prestressed Concrete Beam 989 Ft 621E0300 Chain Link Fence for Bridge Sidewalk 180 Ft 651E0160 6" Reinforced Concrete Sidewalk 150 SqFt 680E0040 4" Underdrain Pipe 173 Ft 680E2500 Porous Backfill 8.0 Ton 700E0210 Class B Riprap 2,634.0 Ton 700E1100 Overburden Excavation for Riprap 3,209 CuYd 831E0110 Type B Drainage Fabric 2,212 SqYd	465E0200	Drilled Shaft Excavation	91.2	CuYd
470E0220 Steel Pedestrian Railing on Concrete Barrier 162.0 Ft 480E0100 Reinforcing Steel 82,662 Lb 480E0200 Epoxy Coated Reinforcing Steel 69,333 Lb 510E0300 Preboring Pile 160 Ft 510E3361 HP 10x42 Steel Test Pile, Furnish and Drive 110 Ft 510E3365 HP 10x42 Steel Bearing Pile, Furnish and Drive 700 Ft 560E8036 36" Minnesota Shape Prestressed Concrete Beam 989 Ft 621E0300 Chain Link Fence for Bridge Sidewalk 180 Ft 651E0160 6" Reinforced Concrete Sidewalk 150 SqFt 680E0040 4" Underdrain Pipe 173 Ft 680E2500 Porous Backfill 8.0 Ton 700E0210 Class B Riprap 2,634.0 Ton 700E1100 Overburden Excavation for Riprap 3,209 CuYd 831E0110 Type B Drainage Fabric 2,212 SqYd	465E1038	38" Permanent Casing	120.0	Ft
480E0100 Reinforcing Steel 82,662 Lb 480E0200 Epoxy Coated Reinforcing Steel 69,333 Lb 510E0300 Preboring Pile 160 Ft 510E3361 HP 10x42 Steel Test Pile, Furnish and Drive 110 Ft 510E3365 HP 10x42 Steel Bearing Pile, Furnish and Drive 700 Ft 560E8036 36" Minnesota Shape Prestressed Concrete Beam 989 Ft 621E0300 Chain Link Fence for Bridge Sidewalk 180 Ft 651E0160 6" Reinforced Concrete Sidewalk 150 SqFt 680E0040 4" Underdrain Pipe 173 Ft 680E2500 Porous Backfill 8.0 Ton 700E0210 Class B Riprap 2,634.0 Ton 700E1100 Overburden Excavation for Riprap 3,209 CuYd 831E0110 Type B Drainage Fabric 2,212 SqYd	470E0120	Steel Pedestrian Railing on Sidewalk	179.9	Ft
480E0200 Epoxy Coated Reinforcing Steel 69,333 Lb 510E0300 Preboring Pile 160 Ft 510E3361 HP 10x42 Steel Test Pile, Furnish and Drive 110 Ft 510E3365 HP 10x42 Steel Bearing Pile, Furnish and Drive 700 Ft 560E8036 36" Minnesota Shape Prestressed Concrete Beam 989 Ft 621E0300 Chain Link Fence for Bridge Sidewalk 180 Ft 651E0160 6" Reinforced Concrete Sidewalk 150 SqFt 680E0040 4" Underdrain Pipe 173 Ft 680E2500 Porous Backfill 8.0 Ton 700E0210 Class B Riprap 2,634.0 Ton 700E1100 Overburden Excavation for Riprap 3,209 CuYd 831E0110 Type B Drainage Fabric 2,212 SqYd	470E0220	Steel Pedestrian Railing on Concrete Barrier	162.0	Ft
510E0300 Preboring Pile 160 Ft 510E3361 HP 10x42 Steel Test Pile, Furnish and Drive 110 Ft 510E3365 HP 10x42 Steel Bearing Pile, Furnish and Drive 700 Ft 560E8036 36" Minnesota Shape Prestressed Concrete Beam 989 Ft 621E0300 Chain Link Fence for Bridge Sidewalk 180 Ft 651E0160 6" Reinforced Concrete Sidewalk 150 SqFt 680E0040 4" Underdrain Pipe 173 Ft 680E2500 Porous Backfill 8.0 Ton 700E0210 Class B Riprap 2,634.0 Ton 700E1100 Overburden Excavation for Riprap 3,209 CuYd 831E0110 Type B Drainage Fabric 2,212 SqYd	480E0100	Reinforcing Steel	82,662	Lb
510E3361 HP 10x42 Steel Test Pile, Furnish and Drive 110 Ft 510E3365 HP 10x42 Steel Bearing Pile, Furnish and Drive 700 Ft 560E8036 36" Minnesota Shape Prestressed Concrete Beam 989 Ft 621E0300 Chain Link Fence for Bridge Sidewalk 180 Ft 651E0160 6" Reinforced Concrete Sidewalk 150 SqFt 680E0040 4" Underdrain Pipe 173 Ft 680E2500 Porous Backfill 8.0 Ton 700E0210 Class B Riprap 2,634.0 Ton 700E1100 Overburden Excavation for Riprap 3,209 CuYd 831E0110 Type B Drainage Fabric 2,212 SqYd	480E0200	Epoxy Coated Reinforcing Steel	69,333	Lb
510E3365 HP 10x42 Steel Bearing Pile, Furnish and Drive 700 Ft 560E8036 36" Minnesota Shape Prestressed Concrete Beam 989 Ft 621E0300 Chain Link Fence for Bridge Sidewalk 180 Ft 651E0160 6" Reinforced Concrete Sidewalk 150 SqFt 680E0040 4" Underdrain Pipe 173 Ft 680E2500 Porous Backfill 8.0 Ton 700E0210 Class B Riprap 2,634.0 Ton 700E1100 Overburden Excavation for Riprap 3,209 CuYd 831E0110 Type B Drainage Fabric 2,212 SqYd	510E0300	Preboring Pile	160	Ft
560E8036 36" Minnesota Shape Prestressed Concrete Beam 989 Ft 621E0300 Chain Link Fence for Bridge Sidewalk 180 Ft 651E0160 6" Reinforced Concrete Sidewalk 150 SqFt 680E0040 4" Underdrain Pipe 173 Ft 680E2500 Porous Backfill 8.0 Ton 700E0210 Class B Riprap 2,634.0 Ton 700E1100 Overburden Excavation for Riprap 3,209 CuYd 831E0110 Type B Drainage Fabric 2,212 SqYd	510E3361	HP 10x42 Steel Test Pile, Furnish and Drive	110	Ft
621E0300 Chain Link Fence for Bridge Sidewalk 180 Ft 651E0160 6" Reinforced Concrete Sidewalk 150 SqFt 680E0040 4" Underdrain Pipe 173 Ft 680E2500 Porous Backfill 8.0 Ton 700E0210 Class B Riprap 2,634.0 Ton 700E1100 Overburden Excavation for Riprap 3,209 CuYd 831E0110 Type B Drainage Fabric 2,212 SqYd	510E3365	HP 10x42 Steel Bearing Pile, Furnish and Drive	700	Ft
651E0160 6" Reinforced Concrete Sidewalk 150 SqFt 680E0040 4" Underdrain Pipe 173 Ft 680E2500 Porous Backfill 8.0 Ton 700E0210 Class B Riprap 2,634.0 Ton 700E1100 Overburden Excavation for Riprap 3,209 CuYd 831E0110 Type B Drainage Fabric 2,212 SqYd	560E8036	36" Minnesota Shape Prestressed Concrete Beam	989	Ft
680E0040 4" Underdrain Pipe 173 Ft 680E2500 Porous Backfill 8.0 Ton 700E0210 Class B Riprap 2,634.0 Ton 700E1100 Overburden Excavation for Riprap 3,209 CuYd 831E0110 Type B Drainage Fabric 2,212 SqYd	621E0300	Chain Link Fence for Bridge Sidewalk	180	Ft
680E2500 Porous Backfill 8.0 Ton 700E0210 Class B Riprap 2,634.0 Ton 700E1100 Overburden Excavation for Riprap 3,209 CuYd 831E0110 Type B Drainage Fabric 2,212 SqYd	651E0160	6" Reinforced Concrete Sidewalk	150	SqFt
700E0210 Class B Riprap 2,634.0 Ton 700E1100 Overburden Excavation for Riprap 3,209 CuYd 831E0110 Type B Drainage Fabric 2,212 SqYd	680E0040	4" Underdrain Pipe	173	Ft
700E1100 Overburden Excavation for Riprap 3,209 CuYd 831E0110 Type B Drainage Fabric 2,212 SqYd	680E2500	Porous Backfill	8.0	Ton
831E0110 Type B Drainage Fabric 2,212 SqYd	700E0210	Class B Riprap	2,634.0	Ton
	700E1100	Overburden Excavation for Riprap	3,209	CuYd
831E1030 Perforated Geocell 658 SqFt	831E0110	Type B Drainage Fabric	2,212	SqYd
	831E1030	Perforated Geocell	658	SqFt

Standard Specifications for Roads and Bridges, 2015 edition and required provisions, supplemental specifications, and/or special provisions as included in the proposal.

ENVIRONMENTAL COMMITMENTS

REVISED: 2-14-2025

The City is committed to protecting the environment and uses Environmental Commitments as a communication tool for the Engineer and Contractor to ensure that attention is given to avoid, minimize, and/or mitigate an environmental impact.

PROJECT

BRO 8052(00)23-1

TOTAL SHEETS

82

2

STATE OF

SOUTH

DAKOTA

Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency with permitting authority can delay a project if identified environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. During construction, the Project Engineer will verify that the Contractor has met Environmental Commitment requirements. These environmental commitments are not subject to change without prior written approval from the Project Engineer.

Additional guidance on Environmental Commitments can be accessed through Environmental Procedures Manual found https://dot.sd.gov/media/documents/EnvironmentalProceduresManual.pdf

For questions regarding change orders in the field that may have an effect on an Environmental Commitment, the Project Engineer will contact the Corps of Engineers to determine whether an environmental analysis and/or resource agency coordination is necessary. Once construction is complete, the Proiect Engineer will review all environmental commitments for the project and document their completion.

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 pits, or staging areas associated with the project, cease construction activities in the affected area until the Whooping Crane departs and immediately contact the Project Engineer so that the sighting can be reported to USFWS.

TRAFFIC CONTROL GENERAL NOTES:

Existing guide, route, informational logo, regulatory, warning signs and delineation will be temporarily reset and maintained during construction as directed by the Engineer. Removing, relocating, salvaging, and resetting of the above items will be the responsibility of the Contractor.

Fixed location signing placed more than 4 calendar days prior to the start of construction will be covered or laid down until the time of construction. The covers must be approved by the Engineer prior to installation. The cost of materials, labor, and equipment necessary to complete this work will be incidental to other contract items. No separate payment will be made.

Any delineators and signs damaged or lost will be replaced by the Contractor at no cost to the City or State.

If there is a discrepancy between the traffic control plans, standard plates and the MUTCD - whichever is more stringent will be used, as determined by the Engineer.

The temporary road closure of Bennet Road will be at the Contractors Option for tying the newly constructed East Mall Drive into Bennet Road. Once new bridge is completed and the road is closed, the Contractor will have only 3 weeks to complete the tie in. All roadway south of the bridge and bridge work on East Mall Drive must be complete prior to the closure. After the road closure is removed, traffic will be directed onto the newly constructed roadway and bridge. The Contractor will notify the Engineer and Owner a minimum of 14 days prior to the closure to allow for a press release to be sent out.

FLAGGING

Operations will be conducted so that the traveling public will not have to wait longer than 15 minutes at the flagger station.

It is required that the flaggers and pilot car operators be able to communicate with one another. If an emergency vehicle needs to pass through the project, the Contractor will be required to expedite traffic movement. All costs associated with this will be incidental to the contract unit price per hour for "Flagging".

TOPSOIL

The plans quantity for "Placing Topsoil" as shown in the Estimate of Quantities will be the basis of payment for this item without further field measurement. If changes are necessary on construction, the altered quantities will be measured for payment.

MYCORRHIZAL INOCULUM

Mycorrhizal inoculum will consist of mycorrhizal fungi spores and mycorrhizal fungi-infected root fragments in a solid carrier. The carrier may include organic materials, calcinated clay, or other materials consistent with application and good plant growth. The supplier will provide certification of the fungal species claimed and the live propagule count. The inoculum will include a minimum 25% the fungal species Rhizophagus intraradices. The remaining 75% may include other endomycorrhizal fungal species.

All seed will be inoculated by the seed supplier with a minimum of 100,000 live propagules of mycorrhizal fungi per acre. All costs of inoculating the seed will be incidental to the contract unit price per pound for the corresponding permanent seed mixture.

The mycorrhizal inoculum will be as shown below or an approved equal:

Product Manufacturer Mycorrhizal Applications, Inc. MycoApply Grants Pass, OR Phone: 1-866-476-7800 www.mycorrhizae.com

AM 120 Multi Species Blend Reforestation Technologies Int.

Gilroy, CA

Phone: 1-800-784-4769 www.reforest.com

LALRISE Prime and Max WP Lallemand Specialties Inc.

> Milwaukee. WI Phone: 1-844-590-7781

www.lallemandplantcare.com

FERTILIZING

The Contractor will apply an all-natural slow release fertilizer prior to seeding or placing sod. The all-natural fertilizer will have a minimum guaranteed analysis of 4-4-4 and be USDA Certified BioBased. It should provide a minimum of 4% (N) nitrogen with a minimum water insoluble nitrogen (WIN) fraction of 2.07%, a minimum of 4% (P2O5) available phosphate, a minimum of 4% (K2O) soluble potash, and a maximum carbon to nitrogen ratio (C:N ratio) of 5:1. The allnatural fertilizer will be free of weed-seed and pathogens accomplished through thermophilic composting, and not mechanical or chemical sterilization, to assure presence of beneficial soil microbiology. The fertilizer will have a near neutral pH, a low salt index, a low biological oxygen demand, contain organic humic and fulvic acids, and have high aerobic organism counts. The fertilizer will also be stable, free of bad odors, and be unattractive as a food source for animals. It should also be in a granular form that is easily spread.

The fertilizer will be applied at a rate of 1,500 pounds per acre in accordance with the manufacturer's recommended method of application.

The all-natural slow release fertilizer will be as shown below or an approved

Product Manufacturer

Sustane Corporate Headquarters Sustane

Cannon Falls, Minnesota Phone: 1-800-352-9245 www.sustane.com

Perfect Blend, LLC Perfect Blend

Bellevue, WA Phone: 1-866-456-8890

www.perfect-blend.com

Nature Safe Nature Safe Fertilizers

Irvina, TX

Phone: 1-605-759-5622

www.naturesafe.com

REVISED: 2-14-2025

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS	
SOUTH DAKOTA	BRO 8052(00)23-1	7	82	
-			_	

PERMANENT SEEDING

The areas to be seeded consist of all newly graded areas within the project limits except for the top of roadways, temporary easements under cultivation. All disturbed areas will be ripped prior to seed application.

Type F Permanent Seed Mixture will consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Arriba, Flintlock, Rodan, Rosana, Walsh	7
Green Needlegrass	Lodorm, AC Mallard Ecovar	4
Sideoats Grama	Butte, Pierre	3
Blue Grama	Bad River	2
Oats or Spring Wheat: April through May; Winter Wheat: August		10
through November		
	Total:	26

MULCHING (GRASS HAY OR STRAW)

An additional 2 tons of Grass Hay or Straw Mulch has been added to the Estimate of Quantities for temporary erosion control on areas determined by the Engineer during construction for temporary stabilization.



EROSION CONTROL WATTLE

Erosion control wattles for restraining the flow of runoff and sediment will be installed at locations noted in the table and at locations determined by the Engineer during construction. Refer to Standard Plate 734.06 for details.

The Contractor will provide certification that the erosion control wattles do not contain noxious weed seeds.

Erosion control wattles may remain on the project to decompose.

An additional quantity of 12" Diameter Erosion Control Wattles has been added to the Estimate of Quantities for temporary erosion and sediment control in highway ditch channels and as an alternative to low flow or high flow silt fence at wetland areas adjacent to the highway.

The erosion control wattle provided will be from the approved product list. The approved product list for erosion control wattle may be viewed at the following internet site:

http://sddot.com/business/certification/products/Default.aspx

TABLE OF EROSION CONTROL WATTLE

Station	L/R	Diameter (Inch)	Location	Quantity (Ft)
12+00 to 16+00	L/R	12	Edge of Easement	1,000
19+20 to 19+25	R	12	Pipe Inlet	40
24+90 to 25+00	L	12	Pipe Inlet	40
25+75 to 26+00	L/R	12	Edge of Easement	200
		,	ADDITIONAL QUANTITY	120
	_		Total	1,400

REMOVE SEDIMENT

This work will consist of removing sediment collected by the temporary erosion and sediment control devices after a rainfall event.

Any sediment collected on the upstream side of the sediment control device that would render the sediment control device ineffective will be removed by the Contractor and blended back into the cut or fill of the graded area.

The Contractor and Engineer will inspect and maintain the sediment control devices once every week and within 24 hours after every rainfall event greater than 1/2".

All costs for removing and disposing of sediment collected by the sediment control device will be incidental to the contract unit price per cubic yard for "Remove Sediment".



LOW FLOW SILT FENCE

The low flow silt fence fabric provided will be from the approved product list. The approved product list for low flow silt fence may be viewed at the following internet site:

http://apps.sd.gov/HC60ApprovedProducts/main.aspx

Low flow silt fence will be placed at the locations noted in the table and at locations that will minimize siltation of adjacent streams, lakes, dams, or drainage areas as determined by the Engineer during construction. Refer to Standard Plate 734.04 for details.

The quantity of Low Flow Silt Fence in the Estimate of Quantities is for temporary sediment control.

TABLE OF LOW FLOW SILT FENCE

			Quantity
Station	L/R	Location	(Ft)
15+50	L/R	Edge of Channel	160
17+25	L/R	Edge of Channel	200
		Additional Quantity:	140
		Total:	500

FLOATING SILT CURTAIN

Floating silt curtains will be installed at locations noted in the table and at locations determined by the Engineer during construction.

The Contractor will determine the water depth and other waterway characteristics such as stream flow velocity and seek technical advice from the manufacturer before ordering the floating silt curtain so that the floating silt curtain installed is the correct type for the individual sites.

The Contractor will install the floating silt curtain in accordance with the manufacturer's installation instructions or as directed by the Engineer.

The Contractor will maintain the floating silt curtains for the duration of the project to ensure continuous protection of the waterway.

A list of known manufacturers of floating silt curtain is shown below for informational purpose. Contractors may also use Engineer approved floating silt curtain from manufacturers that are not included in the list.

ABASCO, LLC Humble, TX Phone: 1-281-466-1500 www.abasco.net

ACME Environmental Tulsa, OK Phone: 1-855-563-2666 www.acmeboom.com

Elastec/American Marine, Inc. Carmi, IL Phone: 1-618-382-2525 www.turbiditycurtains.com

Parker Systems, Inc. Chesapeake, VA Phone: 1-866-472-7537 www.parkersystemsinc.com Aer-Flo, Inc. Bradenton, FL Phone: 1-800-823-7356 www.aerflo.com

ENVIRO-USA, LLC Cap Canaveral, FL Phone: 1-321-222-9551 www.enviro-usa.com

Geo-Synthetics, LLC (GSI) Waukesha, WI Phone: 1-800-444-5523 www.geosynthetics.com REVISED: 2-14-2025

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
SOUTH DAKOTA	BRO 8052(00)23-1	8	82

O. . - . - 1!1.

TABLE OF FLOATING SILT CURTAIN

Station	Location	Quantity (Ft)
15+90 to 16+00 L/R	Edge of Channel	260
16+25 to 16+50 L/R	Edge of Channel	260
	Additional Quantity: _	80
	Total:	600

GEOGRID REINFORCEMENT

The roadway portion specified in the plans will be reinforced with geogrid from Sta. 7+50 to Sta. 14+50 to minimize differential settlement and subsequent distortion of the surfacing. After the undercut grade has been cut to elevation. The grade shall be smoothed in preparation for geogrid placement. Place biaxial geogrid followed by 12 inches of shot rock.

GEOGRID SPECIFICATION

The geogrid will be a Type II biaxial geogrid of single layer construction. The geogrid reinforcement will have high flexural rigidity and high tensile strength at the ribs and junctions of the grid structure. The geogrid will be an extruded punched and drawn geogrid. Grids with laser welded grid junctions will not be allowed. The geogrid will be certified by the supplier to meet the following specification prior to installation:

Property	Test	MARV
Wide Width Strip	ASTM D6637	1,300 lbs./ft MD
Tensile Strength	Method B	
(Ultimate)		

Examples of meeting this are BXG 120, or RX 1200 or another brand of equal or greater properties. Geogrid will be paid for at the contract unit price per square yard. Payment quantities will be based on area covered. Overlaps are not accounted for and will be incidental to the total square yard covered. Payment will be full compensation for furnishing and installing the geogrid only. Granular backfill materials will be paid for under a different bid item.

GEOGRID INSTALLTION PROCEDURE

Place the geogrid on as level and smooth surface of surface as possible. Any protrusions that might damage the geogrid will be removed prior to placing the geogrid. No equipment will be allowed on the geogrid until the granular material is in place. The geogrid should be kept as taut as possible prior to backfilling.

The geogrid may be cut and realigned to prevent the propagation of wrinkles as the geogrid is unrolled. All seams in the geogrid will be overlapped at least 2 feet and shingled as to prevent granular material being forced between the geogrid layers. Damaged areas may be repaired by placing additional geogrid over the damaged area. The geogrid patch will cover the damaged area plus 2 feet minimum in all directions as directed by the Engineer.

Granular material will be dumped at least 20 feet behind the leading edge of the fill and pushed into place with a loader or dozer.

CONSTRUCTION STAKING:

The control points are shown on the plan and profile sheet. Construction Staking will be by the Engineer.

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

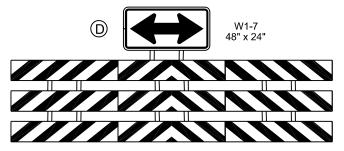
		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R11-2	ROAD CLOSED	2	48" x 30"	10.0	20.0
R11-3a	ROAD CLOSED MILES AHEAD LOCAL TRAFFIC ONLY	1	60" x 30"	12.5	12.5
W1-6	LARGE ARROW (one direction)	1	48" x 24"	8.0	8.0
W1-7	LARGE ARROW (tw o directions)	1	48" x 24"	8.0	8.0
W20-1	ROAD WORK AHEAD	4	48" x 48"	16.0	64.0
W20-1	ROAD WORK 500 FT	4	48" x 48"	16.0	64.0
W20-3	ROAD CLOSED AHEAD	3	48" x 48"	16.0	48.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	4	36" x 18"	4.5	18.0
CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			274.5		

NOTE:

See Standard Plate 634.30 for placement of all signs, barricades and drums.

16 Drums are recommended to be placed on the ends of the new road to be constructed.

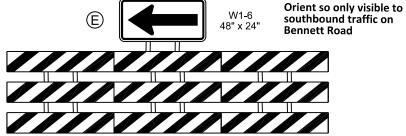
All Drums are incidental to the contract lump sum price for Traffic Control, Miscellaneous.



(3) 8'-0" Type 3 Barricades Back to Back



NOTE:

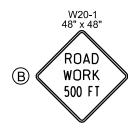


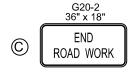
(3) 8'-0" Type 3 Barricades Back to Back



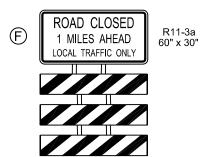
(3) 8'-0" Type 3 Barricades Back to Back











8'-0" Type 3 Barricades Back to Back

 STATE OF SOUTH DAKOTA
 PROJECT
 SHEET SHEETS
 TOTAL SHEETS

 10
 82

REVISED: 2-14-2025

