Department of Transportation

Office of Project Development

700 E Broadway Avenue
Pierre, South Dakota 57501-2586 605/773-3268
FAX: 605/773-6608

May 5, 2014

ADDENDUM NO. 1

RE: Item #2, May 7, 2014 Letting - BRO 8050(63), PCN 01E2, Minnehaha County - Structure (300' 4-Span Prestressed Concrete Girder) & Approach Grading

TO WHOM IT MAY CONCERN:

The following addenda to the plans shall be inserted and made a part of your proposal for the referenced project.

SPECIAL PROVISIONS: NO CHANGE

BID ITEM FILE: **Bid Items were added:**
Bid Item 510E3130 "HP 12 Pile Tip Reinforcement"
Bid Item 510E3401 "HP 12x53 Steel Test Pile, Furnish and Drive"
Bid Item 510E3405 "HP 12x53 Steel Bearing Pile, Furnish and Drive"

Quantities for Bid Items were changed:
Bid Item 480E0200 "Epoxy Coated Reinforcing Steel" changed from 98,790 to 116,130 Lb

Bid Items were removed:
Bid Item 510E3120 "HP 10 Pile Tip Reinforcement"
Bid Item 510E3361 "HP 10x42 Steel Test Pile, Furnish and Drive"
Bid Item 510E3365 "HP 10x42 Steel Bearing Pile, Furnish and Drive"

PLANS: Please destroy sheets A1, A3, and A4 and replace with the enclosed sheets, dated 5/1/14 and 5/5/14.

Sheet A1: **Bid Items were added:**
Bid Item 510E3130 "HP 12 Pile Tip Reinforcement"
Bid Item 510E3401 "HP 12x53 Steel Test Pile, Furnish and Drive"
Bid Item 510E3405 "HP 12x53 Steel Bearing Pile, Furnish and Drive"

Quantities for Bid Items were changed:
Bid Item 480E0200 "Epoxy Coated Reinforcing Steel" changed from 98,790 to 116,130 Lb

Bid Items were removed:
Bid Item 510E3120 "HP 12 Pile Tip Reinforcement"
Bid Item 510E3361 "HP 12x53 Steel Test Pile, Furnish and Drive"
Bid Item 510E3365 "HP 12x53 Steel Bearing Pile, Furnish and Drive"

Sheet A3: COMMITMENT J: CONSTRUCTION PRACTICES FOR TEMPORARY WORKS IN WATERWAYS OF THE U.S note was added and note placement was adjusted.

Sheet A4: Note placement was adjusted.

Sheet E3: ESTIMATE OF STRUCTURE QUANTITIES was revised.

Sheet E19: NOTE was revised and ESTIMATE OF QUANTITIES was added.

Sheet E20: NOTE was revised and ESTIMATE OF QUANTITIES was added.

Sincerely,

Sam Weisgram
Engineering Supervisor

SW/cj

CC: Craig Smith, Mitchell Region Engineer
Travis Dressen, Sioux Falls Area Engineer

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRO 8050(63)	A1	A4

REVISED 12-11-2013 (avm - SEH)
REVISED 02-28-2014 (kkp - SEH)
REVISED 05-05-2014 (avm - SEH)

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

Grading – Section B

	BID ITEM NUMBER	ITEM	QUANTITY	UNIT
	009E0010	Mobilization	LUMP SUM	LS
	100E0020	Clear and Grub Tree	10	Each
	110E0300	Remove Concrete Curb and Gutter	736	Ft
	110E1010	Remove Asphalt Concrete Pavement	2,206.0	SqYd
	110E1110	Remove Concrete Approach Pavement	26.0	SqYd
	110E5020	Salvage Traffic Sign	3	Each
	120E0010	Unclassified Excavation	1,873	CuYd
	120E0600	Contractor Furnished Borrow	2,295	CuYd
	120E2000	Undercutting	734	CuYd
	210E3020	Ordinary Roadway Shaping	2,205	SqYd
*	380E3520	6" PCC Approach Pavement	28.0	SqYd
*	451E6085	Extend Water Valve Box	4	Each
	600E0200	Type II Field Laboratory	1	Each
*	650E0059	Modified Type B66 Curb and Gutter	604	Ft
*	651E0040	4" Concrete Sidewalk	2,735	SqFt
*	651E0060	6" Concrete Sidewalk	1,435	SqFt
*	670E6005	Modify Drop Inlet	2	Each
*	671E6000	Temporary Manhole Cover	1	Each
*	671E8000	Reconstruct Manhole	1	Each
	900E6837	Remove Existing Plant and Landscape Materials	LUMP SUM	LS

*DENOTES NON-PARTICIPATING

Traffic Control – Section C

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
634E0100	Traffic Control	654	Unit
634E0120	Traffic Control, Miscellaneous	LUMP SUM	LS
900E1080	Orange Plastic Safety Fence	375	Ft

Erosion and Sediment Control – Section D

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E1690	Remove Sediment	0.5	CuYd
110E1695	Remove Sediment Filter Bag	68	Ft
110E1700	Remove Silt Fence	1,415	Ft
120E6300	Water for Vegetation	441.0	Mgal
230E0010	Placing Topsoil	297	CuYd
230E0020	Placing Contractor Furnished Topsoil	297	CuYd
700E0210	Class B Riprap	137	Ton
730E0206	Type D Permanent Seed Mixture	347	Lb
732E0200	Fiber Mulching	2	Ton
734E0180	Sediment Filter Bag	68	Ft
734E0604	High Flow Silt Fence	1,415	Ft
734E0610	Mucking Silt Fence	98	Ft
734E0620	Repair Silt Fence	354	Ft
734E0630	Floating Silt Curtain	372	Ft

Erosion and Sediment Control – Section D (CONT.)

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
734E0847	Sediment Control at Type S Reinforced Concrete Drop Inlet	14	Ft
734E0855	Interim Sediment Control at Inlet	2	Each
734E5010	Sweeping	20	Hour
831E0110	Type B Drainage Fabric	167	SqYd
900E1310	Concrete Washout Facility	1	Each
900E1320	Construction Entrance	1	Each

Structure – Section E

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E3310	Bridge Elevation Survey	LUMP SUM	LS
009E5000	Concrete Penetrating Sealer	1,485.0	SqYd
120E3100	Bridge End Embankment	397	CuYd
250E0030	Incidental Work, Structure	LUMP SUM	LS
410E0030	Structural Steel, Miscellaneous	LUMP SUM	LS
410E0810	Bridge Conduit, Install	382	Ft
410E2600	Membrane Sealant Expansion Joint	155.0	Ft
420E0100	Structure Excavation, Bridge	687.6	CuYd
430E0300	Granular Bridge End Backfill	100	CuYd
430E0510	Approach Slab Underdrain Excavation	6	CuYd
460E0010	Class A45 Concrete, Bridge Barrier	54.0	CuYd
460E0030	Class A45 Concrete, Bridge Deck	513.3	CuYd
460E0050	Class A45 Concrete, Bridge	593.4	CuYd
460E0150	Concrete Approach Slab For Bridge	184.6	SqYd
460E0160	Concrete Approach Sleeper Slab For Bridge	61.2	SqYd
460E0382	Install Dowel in Rock	210	Ft
470E0220	Steel Pedstrian Railing on Concrete Barrier	304	Ft
480E0100	Reinforcing Steel	106,940	Lb
480E0200	Epoxy Coated Reinforcing Steel	116,130	Lb
480E0507	No. 7 Rebar Splice	100	Each
510E0300	Preboring Pile	120	Ft
510E3130	HP 12 Pile Tip Reinforcement	12	Each
510E3401	HP12x53 Steel Test Pile, Furnish and Drive	35	Ft
510E3405	HP12x53 Steel Bearing Pile, Furnish and Drive	175	Ft
560E8036	36" Minnesota Shape Prestressed Concrete Beam	1,490	Ft
651E0180	8" Reinforced Concrete Sidewalk	349	SqFt
680E0040	4" Underdrain Pipe	334	Ft
680E2010	Precast Concrete Headwall for Drain	2	Each
680E2500	Porous Backfill	34.3	Ton
700E0210	Class B Riprap	506.8	Ton
831E0110	Type B Drainage Fabric	629	SqYd

INDEX OF SHEETS

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

Surfacing – Section F

	BID ITEM NUMBER	ITEM	QUANTITY	UNIT
*	120E6200	Water for Granular Material	9.1	Mgal
*	260E1010	Base Course	16.8	Ton
*	260E2010	Gravel Cushion	860.8	Ton
*	260E3010	Gravel Surfacing	145.8	Ton
*	320E1200	Asphalt Concrete Composite	9.5	Ton
*	380E0070	9" Nonreinforced PCC Pavement	1,911.5	SqYd
*	380E6000	Dowel Bar	1,101	Each

*DENOTES NON-PARTICIPATING

NON-PARTICIPATING items shall be paid for by the City of Dell Rapids.

SPECIFICATIONS

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

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 9228
ALAN V. MURRA
SOUTH DAKOTA

PLANS PREPARED BY:
SEH
PHONE: 605.330.7000
401 EAST 8TH STREET
SUITE 309
SIOUX FALLS, SD 57103-7032
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COMMITMENT H: WASTE DISPOSAL SITE (CONTINUED)

Action Taken/Required:

Construction and/or demolition debris may be disposed of within the State ROW.

The waste disposal site(s) shall be managed and reclaimed in accordance with the following from the General Permit for Highway, Road, and Railway Construction/Demolition Debris Disposal Under the South Dakota Waste Management Program issued by the Department of Environment and Natural Resources.

The waste disposal site(s) shall not be located in a wetland, within 200 feet of surface water, or in an area that adversely affects wildlife, recreation, aesthetic value of an area, or any threatened or endangered species, as approved by the Project Engineer.

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

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials shall be buried in a trench completely separate from wood debris. The final cover over the construction and/or demolition debris shall consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the State ROW shall be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor shall control the access to waste disposal sites not within the State ROW through the use of fences, gates, and placement of a sign or signs at the entrance to the site stating “No Dumping Allowed”.

2. Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period of time not to exceed the duration of the project. Prior to project completion, the waste shall be removed from view of the ROW or buried and the waste disposal site reclaimed as noted above.

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.

Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

All costs associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence, gates, and signs), and reclamation of the waste disposal site(s) shall be incidental to the various contract items.

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historical Preservation Office (SHPO or THPO) for all work included within the project limits and all designated option borrow sites provided within the plans.

Action Taken/Required:

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

The Contractor shall arrange and pay for a cultural resource survey and/or records search. The Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record search might be sufficient for review; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor shall provide ARC with the following: a topographical map or aerial view on which the site is clearly outlined, site dimensions, project number, and PCN. If applicable, provide evidence that the site has been previously disturbed by farming, mining, or construction activities with a landowner statement that artifacts have not been found on the site.

The Contractor shall submit the records search or cultural resources survey report and if the location of the site is within the current geographical or historic boundaries of any South Dakota reservation to SDDOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3180). SDDOT will submit the information to the appropriate SHPO/THPO. Allow **30 Days** from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

If evidence for cultural resources is uncovered during project construction activities, then such activities shall cease and the Project Engineer shall be immediately notified. The Project Engineer will contact the SDDOT Environmental Engineer in order to determine an appropriate course of action.

SHPO/THPO review does not relieve the Contractor of the responsibility for obtaining any additional permits and clearances for staging areas, borrow sites, waste disposal sites, or material processing sites that affect wetlands, threatened and endangered species, or waterways. The Contractor shall provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

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 shall be made below the ordinary high water elevation in waterways outside of caissons, cribs, cofferdams, steel piling, or sheeting; and the natural streambed shall 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 shall 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 shall be removed with minimal disturbance to the streambed. Proper construction practices shall be used to minimize increases in suspended solids and turbidity in the waterway.

Bridge berms, wing dams, traffic diversions, channel reconstruction, grading, etc. shall 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 shall 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.

If an on-site traffic diversion or construction crossing is used, the temporary crossing will need to be designed so it will not increase the Q_{100} water surface elevation. The Contractor shall submit the proposed temporary crossing geometric layout and structure size to the Project Engineer during the project preconstruction meeting. This information shall be forwarded to the SDDOT Hydraulics Office for review. Construction of the temporary crossing is not allowed until approval of the proposal is obtained from the Hydraulics Office.

Table of U.S. Waterways to Protect

Station	Waterway	Ordinary High Water Elevation
103+18.63 to 106+21.38	Big Sioux River	1478.25

COMMITMENT M: SECTION 4(f)/6(f) RESOURCES

COMMITMENT M1: SECTION 4(f) PROPERTY

A Section 4(f) Evaluation has concluded that no feasible and prudent alternative to the use of Section 4(f) land occurs with the project.

Station	Section 4(f) Property
104+70	Dell Rapids Bridge
109+50	Sensitive site (corner of Garfield and 3rd St.)
106+20	Sensitive site (Monument)

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Action Taken/Required:

The following measures are required to minimize harm to the above Section 4(f) property: 1. Mitigation of adverse effects on Dell Rapids bridge, outlined in MOA: 2. Avoidance of two sensitive sites located within the city park.

The Contractor shall notify the Project Engineer if additional easement is needed to complete the work adjacent to any Section 4(f) property. The Project Engineer shall obtain an appropriate course of action from the Environmental Office before proceeding with construction activities that affect any Section 4(f) property.

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 shall comply with all requirements contained in the Section 404 permit.

The Contractor shall 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 P: COORDINATION WITH STATE ARCHAEOLOGICAL RESEARCH CENTER

The following archaeologically sensitive sites have been identified that require avoidance of construction activities:

Station	Offset (Ft.)	L/R	Site
109+50	60	R	Sensitive site (corner of Garfield Ave and 3rd Street
106+20	220	R	Sensitive site (Monument)

The locations and boundaries of the site(s) for avoidance are shown in Section B - Grading plans.

COMMITMENT P: COORDINATION WITH STATE ARCHAEOLOGICAL RESEARCH CENTER (CONTINUED)

Action Taken/Required:

Prior to construction, the Contractor shall contact Jim Donohue, State Archaeological Research Center (SARC) at 605-394-1936 to coordinate the installation of orange plastic safety fence around the perimeter of site(s): Sensitive site (corner of Garfield Ave and 3rd Street; Sensitive site (Monument). The exact location of the safety fence shall be determined in the field by the SARC representative. Work within the vicinity of Site(s) Sensitive site (corner of Garfield Ave and 3rd Street; Sensitive site (Monument). shall not begin until the safety fence is installed. Work, equipment, or material storage will not be allowed within the confines of the safety fence. All costs associated with furnishing and installing the orange safety fence shall be incidental to the contract unit price per foot for “Orange Plastic Safety Fence”. The estimated quantity of Orange Plastic Safety Fence is provided in Section B – Grading plans.

REGISTERED PROFESSIONAL ENGINEER
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REVISED 12-11-2013 (avm - SEH)
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ESTIMATE OF STRUCTURE QUANTITIES

DESCRIPTION	QUANTITY	UNIT	REMARKS
Bridge Elevation Survey	Lump Sum	LS	
Concrete Penetrating Sealer	1485.0	Sq Yd	
Bridge End Embankment	397	Cu Yd	
Incidental Work, Structure	Lump Sum	LS	
Structural Steel, Miscellaneous	Lump Sum	LS	
Bridge Conduit, Install	382	Ft	
Membrane Sealant Expansion Joint	155.0	Ft	
Structure Excavation, Bridge	687.6	Cu Yd	
Granular Bridge End Backfill	100	Cu Yd	
Approach Slab Underdrain Excavation	6	Cu Yd	
Class A45 Concrete, Bridge Barrier	54.0	Cu Yd	
Class A45 Concrete, Bridge Deck	513.3	Cu Yd	
Class A45 Concrete, Bridge	593.4	Cu Yd	
Concrete Approach Slab For Bridge	184.6	Sq Yd	
Concrete Approach Sleeper Slab for Bridge	61.2	Sq Yd	
Install Dowel in Rock	210	Ft	
Steel Pedestrian Railing on Concrete Barrier	304	Ft	
Reinforcing Steel	106940	Lb	
Epoxy Coated Reinforcing Steel	116130	Lb	
No. 7 Rebar Splice	100	Each	
Preboring Pile	120	Ft	
HP 12 Pile Tip Reinforcement	12	Each	
HP12x53 Steel Test Pile, Furnish and Drive	35	Ft	
HP12x53 Steel Bearing Pile, Furnish and Drive	175	Ft	
36" Minnesota Shape Prestressed Concrete Beam	1490	Ft	
8" Reinforced Concrete Sidewalk	349	Sq Ft	Approach Slab Sidewalk Only.
4" Underdrain Pipe	334	Ft	
Precast Concrete Headwall for Drain	2	Each	
Porous Backfill	34.3	Ton	
Class B Riprap	506.8	Ton	
Type B Drainage Fabric	629	Sq Yd	

SPECIFICATIONS FOR BRIDGE

1. Design Specifications: AASHTO LRFD Bridge Design Specifications, 2012 Edition.
2. Construction Specifications: South Dakota Standard Specifications for Roads and Bridges, 2004 Edition and required provisions, supplemental specifications and/or special provisions as included in the proposal.

BRIDGE DESIGN LOADING

1. AASHTO HL-93.
2. Dead Load includes 22 psf for future wearing surface on the roadway.

DESIGN MATERIAL STRENGTHS*

Concrete	f'c = 4,500 psi
Reinforcing Steel	fy = 60,000 psi
Piling (ASTM A572 Grade 50)	fy = 50,000 psi

*For prestressed beams, see notes regarding Prestressed Girders.

GENERAL CONSTRUCTION

1. All mild reinforcing steel shall conform to ASTM A615, Grade 60.
2. All exposed concrete corners and edges shall be chamfered 3/4" unless noted otherwise.
3. Use 2" clear cover on all reinforcing steel except as shown.
4. Contractor shall imprint on the structure the date of new construction as specified and detailed on Standard Plate No. 460.02.
5. Barrier Curbs and End blocks shall be built normal to the grade.
6. Request for construction joints or resteel splices at points other than those shown, must be submitted to the Engineer for prior approval. If additional splices are approved, no payment will be allowed for the added quantity of resteel.
7. The elevation of the bridge deck is 8" above subgrade elevation.

INCIDENTAL WORK, STRUCTURE

1. In place centerline Sta. 103+50+/- to centerline Sta. 105+90+/- is a 5 span continuous concrete bridge with a 24'-0" clear roadway. The superstructure consists of an integral rib arch cast in place reinforced concrete. The substructure consists of 4 piers reinforced concrete piers and reinforced concrete vertical abutments. It is assumed that the piers are supported on spread footing and the abutments are supported on piles.
2. Break down and remove the existing bridge, and approach slabs if applicable, to 1 foot below finished groundline, or as required to construct the new structure in accordance with Section 110 of the South Dakota Standard Specifications. All portions of the existing bridge shall be removed and disposed of by the Contractor on a site obtained by the Contractor and approved by the Engineer in accordance with the WASTE DISPOSAL NOTES found in the grading plans.
3. The existing bridge plans indicates the use of Lead Plates at the piers. It is assumed that the Lead Plates are shim plates at the bearing locations. The Contractor shall identify, remove and disposed all Lead Plates in compliance with all federal, state and local regulations.
4. The existing bridge carries two utility pipes. Both utilities will be abandoned prior to construction. The Contractor shall remove and dispose the abandoned utilities. The Contractor shall examine both utilities for asbestos insulation. If asbestos is present, the Contractor shall remove and disposed of it, in compliance with all federal, state and local regulations.
5. The two existing bridge plaques shall be salvaged and installed on proposed bridge. See sheet 1 for the location of the installation of the existing two bridge plaques. Care shall be taken during the dismantling, not to damage the bridge plaques.
6. During demolition of the structure, efforts shall be taken to prevent material from falling into the creek. Under no circumstances is asphalt allowed to fall into the creek.
7. The foregoing is a general description of the in-place bridge and should not be construed to be complete in all details. Before preparing the bid it shall be the responsibility of the Contractor to make a visual inspection of the structure to verify the extent of the work and materials involved.

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 4754
JEFFREY A. JOHNSON
SOUTH DAKOTA
9/13/13

ESTIMATE OF STRUCTURE QUANTITIES AND NOTES
FOR
302'-9" PRESTR. GIRDER BRIDGE

30'-0" ROADWAY — 0° SKEW
OVER BIG SIOUX RIVER — SEC. 9/10-T104N-R49W
STR. NO. 50-210-018 — BRO 8050 (63)
STA. 103 + 18.63 to STA. 106 + 21.38 — HL-93
PCN 01E2

MINNEHAHA COUNTY
S. D. DEPT. OF TRANSPORTATION
SEPTEMBER 2013

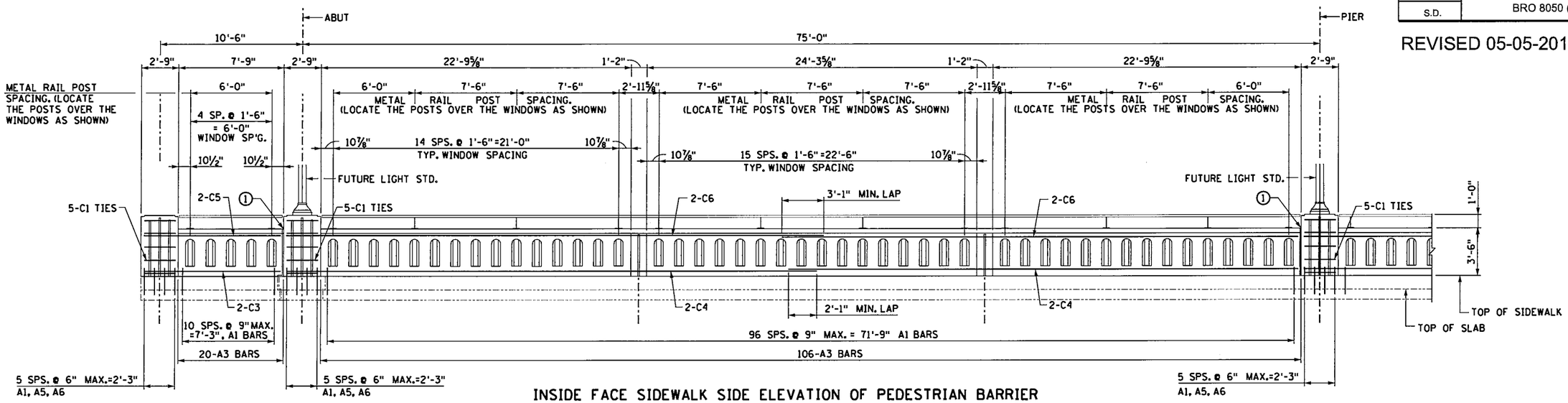
-X08I-

Plans Prepared By:
SEH Short Elliott Hendrickson
401 E. 8th Street Suite 309
Sioux Falls, SD 57103-7032

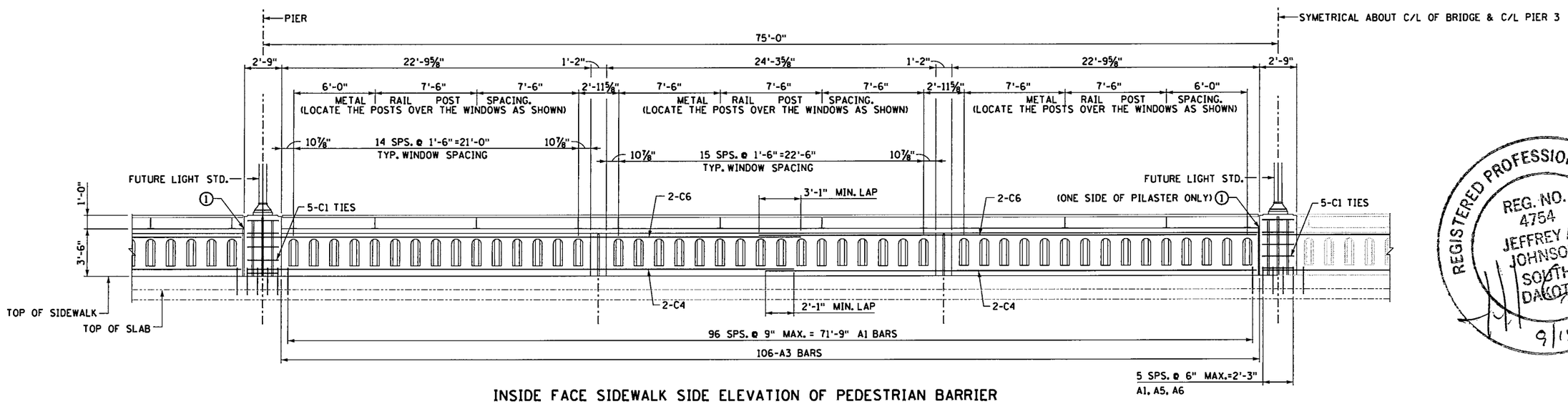
DESIGNED BY	CK. DES. BY	DRAFTED BY	
NCK	JAJ	DLF	BRIDGE ENGINEER

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	BRO 8050 (63)	E19	E39

REVISED 05-05-2014 (nck - SEH)



INSIDE FACE SIDEWALK SIDE ELEVATION OF PEDESTRIAN BARRIER



INSIDE FACE SIDEWALK SIDE ELEVATION OF PEDESTRIAN BARRIER

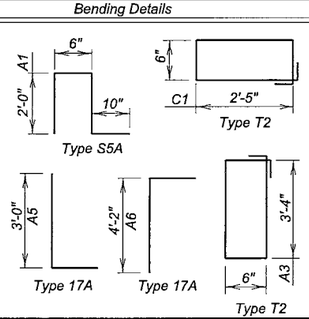
REGISTERED PROFESSIONAL ENGINEER
REG. NO. 4754
JEFFREY A. JOHNSON
SOUTH DAKOTA
9/18/13

REINFORCING SCHEDULE

	Mk.	No.	Size	Length	Type
△	A1	452	5	5'-4"	S5A
△	A3	464	5	9'-0"	TA
△	A5	42	5	4'-6"	17A
△	A6	84	5	5'-2"	17A
△	C1	35	4	7'-10"	T2
△	C3	4	5	10'-1"	STR
△	C4	16	5	40'-0"	STR
△	C5	4	7	10'-1"	STR
△	C6	16	7	40'-6"	STR

Pedestrian Barrier

Bending Details



NOTES:
All dimensions are out to out of bars.
△ Bars to be Epoxy Coated.

NOTE:
All Pedestrian Barrier and Pilaster Posts Conc. ~~and Reinf.~~ are considered in bid item "Class A45 Concrete, Bridge Barrier".
Includes:
~~31.2 Cu. Yds.Concrete~~
~~9820 Lbs. Reinforcement~~

All Railing Pipe Rail Considered in bid item "Steel Pedestrian Barrier on Concrete Barrier".

Average Weight of Railing with no Pilasters = 350 Lb./Ft.

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
Class A45 Concrete, Bridge Barrier	Cu. Yd.	31.2
Epoxy Coated Reinforcing Steel	Lb.	9820

NOTES

This sheet is to be used in conjunction with the Abutment and Superstructure sheets.

This sheet is to be used in conjunction with the Railing details Sheets.

① ½" DEFLECTION JOINTS.

RAILING ELEVATION PEDESTRIAN BARRIER
FOR
302'-9" PRESTR. GIRDER BRIDGE

30'-0" ROADWAY — 0° SKEW
OVER BIG SIOUX RIVER — SEC. 9/10-T104N-R49W
STR. NO. 50-210-018 — BRO 8050 (63)
STA. 103 + 18.63 to STA. 106 + 21.38 — HL-93
PCN 01E2

MINNEHAHA COUNTY
S. D. DEPT. OF TRANSPORTATION
SEPTEMBER 2013

-X081-

Plans Prepared By:
SEH
Short Elliott Hendrickson
401 E. 8th Street Suite 309
Sioux Falls, SD 57103-7032

DESIGNED BY	CK. DES. BY	DRAFTED BY
NCK	JAJ	DLF

BRIDGE ENGINEER

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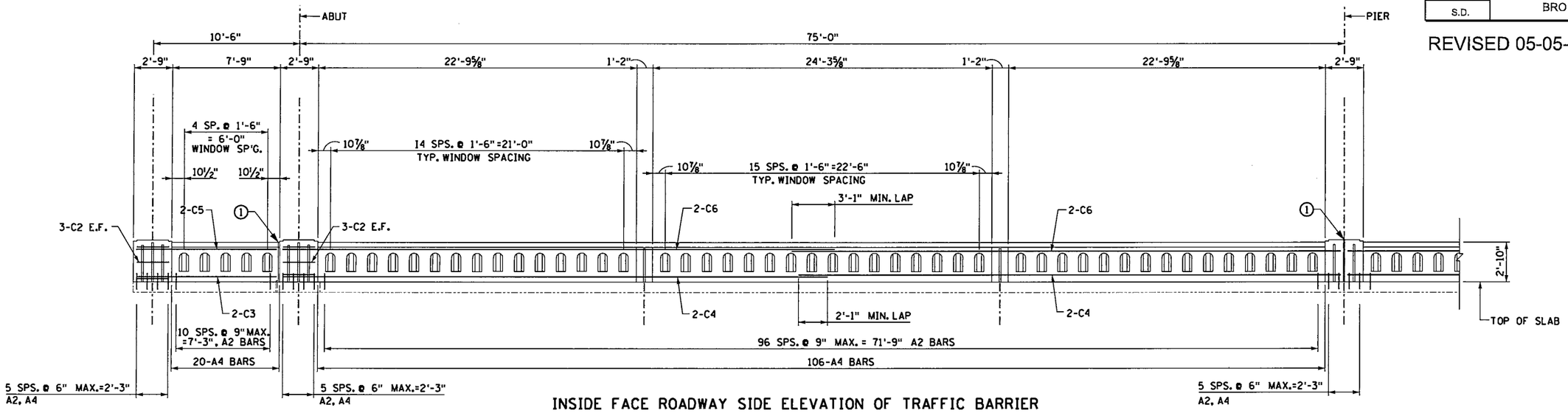
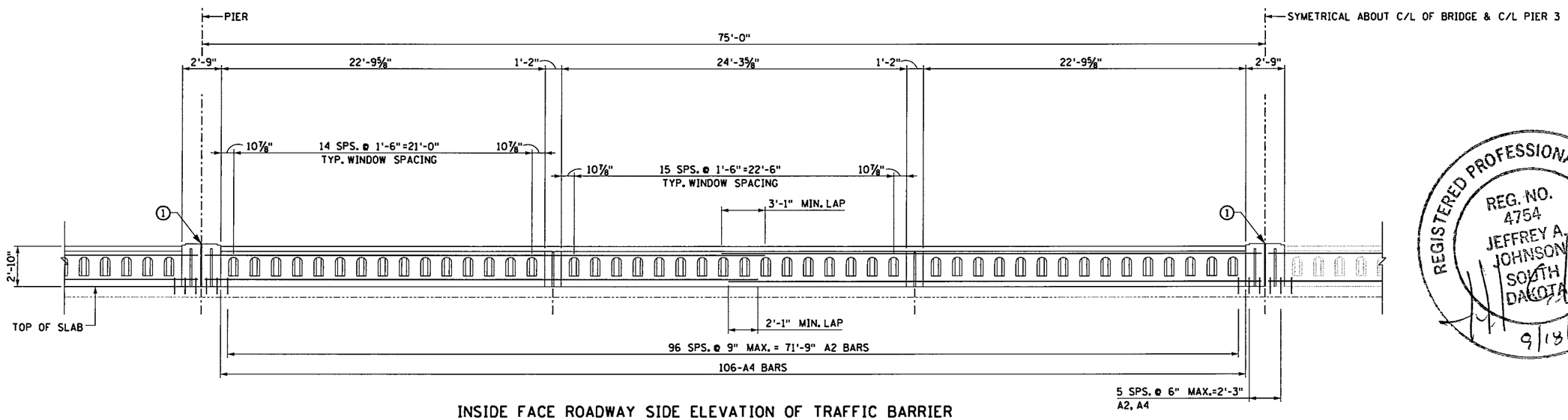
STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	BRO 8050 (63)	E20	E39

REVISED 05-05-2014 (nck - SEH)



INSIDE FACE ROADWAY SIDE ELEVATION OF TRAFFIC BARRIER



INSIDE FACE ROADWAY SIDE ELEVATION OF TRAFFIC BARRIER

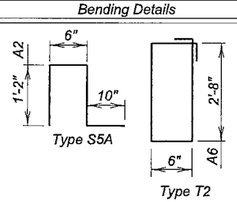
REGISTERED PROFESSIONAL ENGINEER
REG. NO. 4754
JEFFREY A. JOHNSON
SOUTH DAKOTA
9/18/13

REINFORCING SCHEDULE

	Mk.	No.	Size	Length	Type
△	A2	452	5	3'-8"	S5A
△	A4	464	5	7'-4"	TA
△	C2	42	5	2'-10"	STR
△	C3	4	5	10'-1"	STR
△	C4	16	5	40'-0"	STR
△	C5	4	7	10'-1"	STR
△	C6	16	7	40'-6"	STR

Traffic Barrier

Bending Details



NOTES:
All dimensions are out to out of bars.
△ Bars to be Epoxy Coated.

NOTE:
All Traffic Barrier and Pilaster Posts Conc. and ~~Reinf. are~~ considered in bid item "Class A45 Concrete, Bridge Barrier".
Includes:
~~22.8 Cu. Yds. Concrete~~
~~7520 Lbs. Reinforcement~~

Average Weight of Railing with no Pilasters = 270 Lb./Ft.

ESTIMATED QUANTITIES

ITEM	UNIT	QUANTITY
Class A45 Concrete, Bridge Barrier	Cu. Yd.	22.8
Epoxy Coated Reinforcing Steel	Lb.	7520

NOTES

This sheet is to be used in conjunction with the Abutment and Superstructure sheets.

This sheet is to be used in conjunction with the Railing details Sheets.

① ½" DEFLECTION JOINTS.

RAILING ELEVATION TRAFFIC BARRIER
FOR
302'-9" PRESTR. GIRDER BRIDGE

30'-0" ROADWAY — 0° SKEW
OVER BIG SIOUX RIVER — SEC. 9/10-T104N-R49W
STR. NO. 50-210-018 — BRO 8050 (63)
STA. 103 + 18.63 to STA. 106 + 21.38 — HL-93
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NCK	JAJ	DLF	BRIDGE ENGINEER

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