



Department of Transportation

Office of Project Development

700 E Broadway Avenue

Pierre, South Dakota 57501-2586 605/773-3268

FAX: 605/773-2614

February 19, 2016

ADDENDUM NO. 1

RE: Item #3, February 24, 2016 Letting - NH 0016(79)68, PCN 027C, Pennington County - Urban Grading, Storm Sewer, C&G, Sidewalk, Lighting, Signals & PCC Surfacing; Minor Joint & Spall Repair

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:

Please remove the Special Provisions checklist and replace with attached Special Provisions checklist revised 2/5/16. "Special Provision for Cooperation by Contractor and Department" dated 2/5/16 was added.

Please add the "Special Provision for Cooperation by Contractor and Department" dated 2/5/16 after the "Special Provision for Contract Time", dated 1/22/16.

BID ITEM FILE: *Bidders must log in to retrieve the addendum bid item file that must be loaded into the SDEBS to incorporate the revisions listed here.*

Bid Items were added:

Bid Item 009E4330 "Project Management, Category III"

Bid Item 480E0200 "Epoxy Coated Reinforcing Steel"

Quantities for Bid Items were changed:

Bid Item 260E2010 "Gravel Cushion" changed from 24,469.9 to 24,473.4 Ton

Bid Item 320E1200 "Asphalt Concrete Composite" changed from 1747.4 to 1749.0 Ton

Bid Item 462E0100 "Class M6 Concrete" changed from 192.8 to 191.0 CuYd

Bid Item 470E0020 "Pipe Handrail" changed from 383.3 to 370.4 Ft

Bid Item 634E0110 "Traffic Control Signs" changed from 2,519 to 1,086 SqFt

Bid Item 650E0060 "Type B66 Concrete Curb and Gutter" changed from 1,432 to 1,428 Ft

Bid Item 650E4660 "Type P6 Concrete Gutter" changed from 738 to 742 Ft

Bid Item 733E0100 "Sodding" changed from 2,236 to 2,926 SqYd

PLANS: Please destroy sheets A1, A2, A3, B2, B3, B12, B13, B23, B27, B37, B39, B42, B47, B53, B62, B75, B78, B82, B88, B98, B99, B101, C2, D2, F2, and F7 replace with the enclosed sheets, dated 2/12/16, 2/16/16, and 2/19/16.

Sheet A1: Bid Items were added:

Bid Item 009E4330 "Project Management, Category III"
Bid Item 480E0200 "Epoxy Coated Reinforcing Steel"

Quantities for Bid Items were changed:

Bid Item 462E0100 "Class M6 Concrete" changed from 192.8 to 191.0 CuYd
Bid Item 470E0020 "Pipe Handrail" changed from 383.3 to 370.4 Ft
Bid Item 650E0060 "Type B66 Concrete Curb and Gutter" participating
changed from 1164 to 1160 Ft
Bid Item 650E4660 "Type P6 Concrete Gutter" changed from 738 to 742 Ft

Sheet A2: Quantities for Bid Items were changed:

Bid Item 260E2010 "Gravel Cushion" participating changed from 24,210.9 to
24,214.4 Ton
Bid Item 320E1200 "Asphalt Concrete Composite" participating changed from
1,649.6 to 1,651.2 Ton
Bid Item 634E0110 "Traffic Control Signs changed from 2,519 to 1,086 SqFt
Bid Item 733E0100 "Sodding" changed from 2,236 to 2,926 SqYd

Section C ESTIMATE OF QUANTITIES was moved to this sheet.

Sheet A3: Section L ESTIMATE OF QUANTITIES was moved to this sheet.

Sheet B2: Bid Items were added:

Bid Item 009E4330 "Project Management, Category III"
Bid Item 480E0200 "Epoxy Coated Reinforcing Steel"

Quantities for Bid Items were changed:

Bid Item 462E0100 "Class M6 Concrete" changed from 192.8 to 191.0 CuYd
Bid Item 470E0020 "Pipe Handrail" changed from 383.3 to 370.4 Ft
Bid Item 650E0060 "Type B66 Concrete Curb and Gutter" participating
changed from 1164 to 1160 Ft
Bid Item 650E4660 "Type P6 Concrete Gutter" changed from 738 to 742 Ft

Sheet B3: RESTRICTED WORK AREA note was revised.

Sheet B12: TABLE OF EPOXY COATED REINFORCING STEEL and TABLE OF
CLASS M6 CONCRETE were revised.

Sheet B13: TABLE OF CONCRETE STAIRWAYS IN SPECIAL TYPE C RETAINING
WALLS was revised.

Sheets B23 & B27: TABLE OF PAVEMENT, CURB AND GUTTER AND SIDEWALK
QUANTITIES was revised for the Type B66 Curb & Gutter and the
Type P6 Gutter.

**Sheets B37, B39 B42,B47, B53, B62,
B75, B78, B82, B88, B98, B99, B101:**

LAYOUTS were revised to:

- Widen Entrance (Sta. 3+44 Lt) on St. James from 12' to 16'
- Remove the concrete and stairs shown on Parcel 25 (approximate Sta. 74+10 Rt.)
- Depict additional Asphalt Concrete along South Street at Parcel 31 (approximate Sta. 4+08 to 4+51 Lt.).

Sheet C2: Quantities for Bid item 634E0110 "Traffic Control Signs" changed from 2,519 to 1,087 SqFt

Sheet D2: Quantities for Bid Item 733E0100 "Sodding" were changed from 2,236 to 2,926 SqYd

Sheet F2: Quantities for Bid Item 260E2010 "Gravel Cushion" participating changed from 24,210.9 to 24,214.4 Ton and Quantities for Bid Item 320E1200 "Asphalt Concrete Composite" participating changed from 1,649.6 to 1,651.2 Ton

Sheet F7: TABLE OF QUANTITIES – CONTINUED was revised for Sta. 63+78 Lt.

Sincerely,

Sam Weisgram
Engineering Supervisor

SW/cj

CC: Todd Seaman, Rapid City Region Engineer
Mike Carlson, Rapid City Area Engineer

REV. 2/5/16

SPECIAL PROVISIONS

PROJECT NUMBER(S): NH 0016(79)68 PCN: 027C

TYPE OF WORK: URBAN GRADING, STORM SEWER, C&G, SIDEWALK, LIGHTING, SIGNALS & PCC SURFACING; MINOR JOINT & SPALL REPAIR

COUNTY: PENNINGTON

The following clauses have been prepared subsequent to the Standard Specifications for Roads and Bridges and refer only to the above described improvement, for which the following Proposal is made.

The Contractor's attention is directed to the need for securing from the Department of Environment & Natural Resources, Foss Building, Pierre, South Dakota, permission to remove water from public sources (lakes, rivers, streams, etc.). The Contractor should make his request as early as possible after receiving his contract, and insofar as possible at least 30 days prior to the date that the water is to be used.

Penny Kutz is the official in charge of the Rapid City Career Center for Pennington County.

THE FOLLOWING ITEMS ARE INCLUDED IN THIS PROPOSAL FORM:

Special Provision for Contract Time, dated 1/22/16.

Special Provision for Cooperation by Contractor and Department, dated 2/5/16

Special Provision for Prosecution and Progress, dated 1/20/15.

Special Provision for Subletting of Contract, dated 1/22/16.

Special Provision Regarding Combination Bids, dated 1/28/16.

Special Provision for On-The-Job Training Program, dated 7/10/12.

Special Provision Regarding Railroad Insurance Requirements, dated 12/31/15.

NOTE: The contractor WILL NOT be granted permission to proceed with any work on Railroad Right-of-Way until he has been notified by the Railroad that his insurance has been approved and the insurances and certificates has been provided to the SDDOT Area Office.

Special Provision For Working on Railroad Property, dated 12/31/15.

Special Provision Regarding Right of Entry, dated 1/28/16.

Special Provision for Signal Head Battery Backup and flash System, dated 1/14/16.

Special Provision for Emergency Vehicle Preemption System, dated 1/14/16.

Special Provision for Contractor Staking, dated 1/14/16.

**Special Provision for Contractor Furnished Mix Designs for
PCC Pavement, dated 6/19/15.**

Special Provision for Patterning Type C Retaining Wall, dated 11/5/15.

**Special Provision for PI PCC Pavement Smoothness with 2.0”
Blanking Band, dated 7/21/15.**

List of Utilities.

Special Provision for Contractor Administered Preconstruction Meeting, dated 4/18/13.

Fuel Adjustment Affidavit, DOT form 208 dated 7/15.

Standard Title VI Assurance, dated 7/14/08.

Special Provision For Disadvantaged Business Enterprise, dated 5/20/15.

Special Provision For EEO Affirmative Action Requirements on Federal and Federal-aid
Construction Contracts, dated 9/1/97.

Special Provision For Required Contract Provisions Federal-aid Construction Contracts, Form
FHWA 1273 (Rev. May/1/12), dated 4/30/13.

Required Contract Provisions Federal-aid Construction Contracts, Form
FHWA 1273 (Rev. 5/1/12).

Special Provision for Cargo Preference Act, dated 1/20/16.

Special Provision Regarding Minimum Wage on Federal-Aid Projects, dated 4/30/13.

Wage and Hour Division US Department of Labor Washington DC.

- US Dept. of Labor Decision Number SD150001, dated 10/9/15.

Special Provision for Price Schedule for Miscellaneous Items, dated 10/14/15.

Special Provision Regarding Storm Water Discharge, dated 5/3/13.

General Permit for Storm Water Discharges Associated with Construction

Activities, dated 2/1/10. <http://denr.sd.gov/des/sw/IPermits/ConstructionGeneralPermit2010.pdf>

* * * *

**STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION**

**SPECIAL PROVISION
FOR
COOPERATION BY CONTRACTOR AND DEPARTMENT**

FEBRUARY 5, 2016

Delete Section 5.5 of the specifications and replace with the following:

5.5 COOPERATION BY CONTRACTOR AND DEPARTMENT - The Department will supply the Contractor with the number of sets of plans and related contract documents noted in the proposal, 1 of which the Contractor will have available on the project.

A. General: The Contractor will give the work the constant attention necessary to facilitate the progress, supervise, and direct all the work of the Contractor and all subcontractors to completely and efficiently perform work in accordance with the contract documents.

All subcontractors will communicate directly with the Contractor regarding questions about site readiness for construction, current activities of the Contractor and other subcontractors, and any other scheduling types of questions. The Contractor and all subcontractors will cooperate with the Engineer, inspectors, and other contractors.

B. Management and Supervision: The Contractor will provide the management and supervision required by this specification, and in accordance with this specification, regardless of the amount of work subcontracted.

Prior to the preconstruction meeting, the Contractor will provide the Project Engineer written designation of the Project Manager and the Project Superintendent. If the Contractor desires to make changes in designated individuals for Project Manager and Project Superintendent following the preconstruction meeting, the change must be submitted in writing or by email to the Project Engineer in advance of the change. For each crew (Contractor and subcontractor) working on the project, the crew will have a crew working superintendent/foreman.

The project category is defined in the Notice to Contractors.

The following titles, definitions, and responsibilities for Contractor and subcontractor management and supervision will be used by the Department.

1. Titles and Definitions:

- a. **Project Manager:** A Contractor employee that is the designated decision making authority for the Contractor and all subcontractors. For category I and II projects, the Project Manager and the Project Superintendent may be the same individual.
- b. **Project Superintendent:** A Contractor employee that is in responsible charge of the contract work and directs the daily project operations. For category I and II projects, the Contractor may designate a willing and capable subcontractor employee as the Project Superintendent.
- c. **Contractor or Subcontractor Working Superintendent/Foreman:** An employee of the Contractor or subcontractor that directs a group of employees working for the Contractor or subcontractor to complete a specific type of work the Contractor or subcontractor has contracted to complete.

2. Responsibilities:

- a. **Project Manager:** The Project Manager will:
 - 1) Be accessible to the Project Engineer as required in Section 5.5 C.
 - 2) Be capable of reading and understanding the plans and specifications and is experienced in and capable of accomplishing the type of work being performed.
 - 3) Schedule and lead the preconstruction meeting.
 - 4) Manage the submittal and approval process.
 - 5) Manage the project scheduling and schedule updating process including leading the schedule update meetings which may be led in person or remotely. This responsibility may be assigned to a willing and capable subcontractor employee for category I and II projects. Assignment of the duties to a subcontractor does not relieve the Contractor of the overall management responsibilities on the project.
 - 6) Coordinate and manage all subcontractors including, but not limited to, subcontractor approval, general performance, schedule integration, and accessibility. Contractors and subcontractors are expected to be on site and completing work according to the project schedule throughout the life of the project such that the periods of non-construction activity are kept to a minimum.

- 7) Be the designated person with final decision making authority for the Contractor and subcontractors.
- 8) Be the designated Contractor employee to negotiate with the Project Engineer for any contract component with monetary or contract time implications including, but not limited to; change orders, time extensions, and price adjustments. The duties of contract components with monetary or contract time implications must remain with an employee of the Contractor for all category projects.
- 9) If the Engineer determines, in his or her sole discretion, the designee is not fulfilling their assigned role for one or more of the responsibilities, the Engineer will provide written or email notice identifying the insufficient duties and the Contractor will immediately reassign those duties to a designated, willing, and capable individual, as needed, to fulfill the identified duties.

b. Project Superintendent: The Project Superintendent will:

- 1) Be accessible to the Project Engineer as required in Section 5.5 C.
- 2) Be capable of reading and understanding the plans and specifications and is experienced in and capable of accomplishing the type of work being performed.
- 3) Direct the daily project operations in accordance with the construction schedule.
- 4) As appropriate for the project category and at a frequency that is mutually agreed upon with the Engineer, lead construction progress meetings including look-ahead scheduling and planned activities of subcontractors.
- 5) For category III projects, prepare construction progress meeting agendas and designate a Contractor or subcontractor employee to take general notes of the meeting including, but not limited to, future action items, party responsible for future actions items, condensed summary of major issues discussed. The designated individual will distribute the notes to all key project supervision including the Department and affected utilities within a reasonable timeframe mutually agreed upon by the Project Superintendent and Project Engineer. If no timeframe is agreed upon, the designated individual will distribute the notes no later than the end of the next

business day. This practice is also recommended when construction progress meetings are held for category I & II projects.

- 6) When construction progress meetings are not held, update the Project Engineer on changes to subcontractor activities.
- 7) Oversee and direct the daily work activities of all subcontractors on the project. Contractors and subcontractors are expected to be on site and completing work according to the project schedule throughout the life of the project such that the periods of non-construction activity are kept to a minimum.
- 8) Be the designated representative for the Contractor and subcontractors with decision making authority for the Contractor and subcontractors to seek clarification and interpretation of contract document requirements from the Project Engineer.
- 9) Work through the Project Manager to negotiate with the Project Engineer for any contract component with monetary or contract time implications including, but not limited to; change orders, time extensions, and price adjustments.
- 10) If the Engineer determines, in his or her sole discretion, the designee is not fulfilling their assigned role for one or more of the responsibilities, the Engineer will provide written or email notice identifying the insufficient duties and the Contractor will immediately reassign those duties to a designated, willing, and capable individual, as needed, to fulfill the identified duties.

c. Contractor or Subcontractor Working Superintendent/Foreman: A designated employee of the Contractor or subcontractor who will:

- 1) Direct a group of employees working for their respective company to complete a specific type of work their respective company has contracted to complete.
- 2) Be onsite during the progress of the type of work assigned.
- 3) Be capable of reading and understanding the plans and specifications and is experienced in and capable of accomplishing the type of work being performed.
- 4) Work with the Project Manager or the Project Superintendent or both to update the progress schedule for assigned work.

- 5) As appropriate for the project category type, participate in portions of construction progress meetings involving their respective company's specific work being performed.
- 6) Update the Project Superintendent on changes to activities when progress meetings are not held as planned.
- 7) Be the designated representative for the assigned construction staff to seek clarification and interpretation of contract document requirements from the Project Engineer.
- 8) Work through the Project Superintendent or the Project Manager or both for any contract component with monetary or contract time implications including, but not limited to; change orders, time extensions, and price adjustments.

C. Contractor Accessibility Guidelines by Project Category: The following are guidelines for the Project Manager and Project Superintendent to be accessible to the Project Engineer. The Contractor and Project Engineer will agree upon the specific requirements to be used during the preconstruction meeting. The Contractor and Project Engineer may agree to either a shorter or longer accessibility requirement. If no alternate set of requirements are agreed upon, the guidelines listed in this specification will be the requirements. During construction of the project, the Contractor and Project Engineer may mutually agree to revise the agreement, if necessary, in writing or by email for specific needs during the project.

1. Category I and II:

a. Project Manager:

- 1) Will be available by phone or other mutually available technology with a response time within 2 business days.

b. Project Superintendent:

- 1) May be off site with prior notice to the Project Engineer.
- 2) When off site, the Project Superintendent will be available by phone with a response time within 1 business day, or on site as scheduled.

2. Category III:

a. Project Manager:

- 1) Will be available by phone or other mutually available technology with a response time within 1 business day.

b. Project Superintendent:

- 1) May be off site with prior notice to the Project Engineer.
- 2) When off site, the Project Superintendent will be available by phone with a response time of the same business day, or on site as scheduled.

D. Department Accessibility Guidelines: The following are guidelines for the Project Engineer and Engineering Supervisor to be accessible to the Contractor and are to be agreed upon during the preconstruction meeting. If weekend work is anticipated, the Contractor will provide notice to the Project Engineer by Thursday of the same week. The Contractor and Project Engineer will agree upon the specific requirements to be used during the preconstruction meeting. The Contractor and Project Engineer may agree to either a shorter or longer accessibility requirement. If no alternate set of requirements are agreed upon, the guidelines listed in this specifications will be the requirements. During construction of the project, the Contractor and Project Engineer may mutually agree to revise the agreement, if necessary, in writing or by email for specific needs during the project. The Department will submit changes in designated Department individuals, either temporarily or permanently, for Field Technician, Project Engineer, or Engineering Supervisor in writing or by email to the Contractor's designated Project Manager and Project Superintendent in advance of the change.

1. Category I, II, and III:

a. Field Technician:

- 1) Will to be on site during the construction of their assigned work activities and will be available to the Project Superintendent and associated Working Superintendent/Foreman while these work activities are performed.
- 2) May be off site during work activities that do not require testing or inspecting.
- 3) Will participate in progress meetings when invited by the Project Engineer.

b. Project Engineer:

- 1) Will be available by phone with a response time of the same business day or on site within 1 business day for Category I & II projects and within 1/2 business day for Category III projects.
- 2) When off site for more than 1 business day, the Project Engineer will notify the Project Superintendent and any Working Superintendent/Foremen and will remain available by phone with a response time of the same business day or on site within 1 business day.

c. Engineering Supervisor:

- 1) Will be available to Project Manager and Project Superintendent through the Project Engineer by phone or other mutually available technology with a response time of 1 business day or on site within 2 business days.

E. Project Management Payment: Project management will be paid for at the contract lump sum price. Payment will be full compensation for all costs associated with providing project management and performing all related duties.

Payment for project management will be made as follows:

1. 20% of contract item lump sum price upon designation of Project Manager and Project Superintendent.
2. 50% of contract item lump sum price when construction project is 25% completed.
3. 75% of contract item lump sum price when construction project is 50% completed.
4. 90% of contract item lump sum price when construction project is 75% completed.
5. 100% of contract item price when construction project is 100% completed and the Area Office has issued the Acceptance of Field Work in accordance with Section 5.16.

* * * * *

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0016(79)67	A1	A5

Grading – Section B

Grading – Section B (Cont'd)

02-16-16 by NAS

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3230	Grade Staking	3.051	Mile
009E3250	Miscellaneous Staking	0.705	Mile
009E3280	Slope Staking	0.705	Mile
009E3290	Structure Staking	13	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
100E0020	Clear and Grub Tree	7	Each
100E0100	Clearing	Lump Sum	LS
110E0300	Remove Concrete Curb and Gutter	893	Ft
110E0310	Remove Concrete Curb	43	Ft
110E0320	Remove Concrete Gutter	583	Ft
110E0400	Remove Drop Inlet	31	Each
110E0460	Remove Manhole	17	Each
110E1010	Remove Asphalt Concrete Pavement	5,016.1	SqYd
110E1100	Remove Concrete Pavement	21,945.4	SqYd
110E1110	Remove Concrete Approach Pavement	575.8	SqYd
110E1130	Remove Concrete Driveway Pavement	470.2	SqYd
110E1140	Remove Concrete Sidewalk	5,347.3	SqYd
110E1300	Remove Concrete Retaining Wall	2,126.1	Ft
120E0010	Unclassified Excavation	15,571	CuYd
120E0600	Contractor Furnished Borrow Excavation	250	CuYd
120E0900	Contaminated Material Excavation	100	CuYd
120E2000	Undercutting	9,086	CuYd
120E6100	Water for Embankment	131.5	MGal
205E0010	Dust Control Chloride	500	Lb
250E0020	Incidental Work, Grading	Lump Sum	LS
270E0020	Salvage and Stockpile Asphalt Mix Material	2,880.0	Ton
380E3540	8" PCC Approach Pavement	832.2	SqYd
380E3542	8" Fast Track Concrete Approach Pavement	138.0	SqYd
380E4010	6" PCC Fillet Section	12.8	SqYd
380E4090	10" PCC Fillet Section	711.7	SqYd
420E0300	Structure Excavation, Retaining Wall	100	CuYd
421E0100	Pipe Culvert Undercut	100	CuYd
421E1000	Footing Undercut	97	CuYd
450E0103	12" RCP Class 3, Furnish	4	Ft
450E0110	12" RCP, Install	4	Ft
450E0123	18" RCP Class 3, Furnish	2,046	Ft
450E0130	18" RCP, Install	2,046	Ft
450E0143	24" RCP Class 3, Furnish	184	Ft
450E0150	24" RCP, Install	184	Ft
450E0182	36" RCP Class 2, Furnish	94	Ft
450E0190	36" RCP, Install	94	Ft

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
450E0192	42" RCP Class 2, Furnish	1,500	Ft
450E0200	42" RCP, Install	1,500	Ft
450E0202	48" RCP Class 2, Furnish	816	Ft
450E0210	48" RCP, Install	816	Ft
450E0416	24" RCP Bend, Furnish	2	Each
450E0417	24" RCP Bend, Install	2	Each
450E0700	RCP Tee, Furnish	10	Each
450E0701	RCP Tee, Install	10	Each
450E0900	RCP Cross, Furnish	1	Each
450E0901	RCP Cross, Install	1	Each
450E1200	RCP Increaser, Furnish	1	Each
450E1201	RCP Increaser, Install	1	Each
450E7001	8" High Density Polyethylene Pipe, Furnish	126	Ft
450E7002	8" High Density Polyethylene Pipe, Install	126	Ft
450E8450	Storm Sewer Video Inspection	2,230	Ft
451E3124	24" Pipe Cap	1	Each
462E0100	Class M6 Concrete	191.0	CuYd
464E0100	Controlled Density Fill	50.0	CuYd
470E0020	Pipe Handrail	370.4	Ft
470E0040	Steel Pedestrian Railing	732.1	Ft
480E0100	Reinforcing Steel	37,643	Lb
480E0200	Epoxy Coated Reinforcing Steel	1,572	Lb
530E0310	Special Type C Concrete Retaining Wall	1,693	SqFt
530E0470	Gravity Large Concrete Block Wall	2,838	SqFt
600E0200	Type II Field Laboratory	1	Each
621E0040	4' Chain Link Fence with Top Rail	55	Ft
621E0410	Pedestrian Swing Gate	1	Each
650E0060	Type B66 Concrete Curb and Gutter	268	Ft
650E0060	Type B66 Concrete Curb and Gutter	1,160	Ft
650E0100	Type B610 Concrete Curb and Gutter	6,491	Ft
650E1100	Type F610 Concrete Curb and Gutter	69	Ft
650E4660	Type P6 Concrete Gutter	742	Ft
650E4700	Type P10 Concrete Gutter	296	Ft
651E0040	4" Concrete Sidewalk	199	SqFt
651E0040	4" Concrete Sidewalk	37,944	SqFt
651E0160	6" Reinforced Concrete Sidewalk	402	SqFt
651E0540	4" Colored Concrete Sidewalk	34,829	SqFt
651E0760	6" Reinforced Colored Concrete Sidewalk	727	SqFt
651E7000	Type 1 Detectable Warnings	460	SqFt
670E1200	Type B Frame and Grate Assembly	66	Each
670E3300	Type E Frame and Grate	1	Each
670E5340	4' x 11' Precast Concrete Type S Drop Inlet Lid	1	Each
670E5342	4' x 6' Precast Concrete Type S Drop Inlet Lid	1	Each
670E5400	Precast Drop Inlet Collar	67	Each

INDEX OF SHEETS

A1 Estimate of Quantities for Section B
 A2 Estimate of Quantities for Sections C, D and F
 A3 Estimate of Quantities for Sections L, Mand S
 A4 to A5 Environmental Commitments

Grading – Section B (Cont'd)

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
671E5502	2" Adjusting Ring for Manhole	7	Each
671E6010	Type A10 Manhole Frame and Lid	2	Each
680E0040	4" Underdrain Pipe	968	Ft
900E0015	Multiple Mailbox Support	1	Each
900E0900	Curb Stop	36	Each
900E5145	Bollard	6	Each
998E0100	Railroad Protective Insurance	Lump Sum	LS

* - Denotes Non-Participating

SPECIFICATIONS

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

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0016(79)67	A2	A5

02-19-16 by NAS

Traffic Control – Section C

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
634E0010	Flagging	12,000.0	Hour
634E0020	Pilot Car	100.0	Hour
634E0110	Traffic Control Signs	1,086	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0130	Traffic Control Supervisor	50.0	Day
634E0285	Type 3 Barricade, 8' Double Sided	68	Each
634E0330	Temporary Raised Pavement Markers	7,000	Ft
634E0380	Tubular Marker	285	Each
634E0420	Type C Advance Warning Arrow Board	4	Each
634E0560	Remove Pavement Marking, 4" or Equivalent	3,000	Ft
634E0640	Temporary Pavement Marking	88,000	Ft
634E0915	Short Term Temporary Traffic Control Signal	1	Site
634E1002	Detour Signing	170.0	SqFt
634E1020	Temporary Business Signing	1,263.0	SqFt
634E1215	Contractor Furnished Portable Changeable Message Sign	3	Each
634E1255	Contractor Furnished Speed Monitoring Radar Trailer	2	Each
634E2000	Longitudinal Pedestrian Barricade	1,000	Ft
634E2050	Temporary Sidewalk	4,000	SqFt
900E1080	Orange Plastic Safety Fence	2,500	Ft

Erosion and Sediment Control – Section D

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E1690	Remove Sediment	18.0	CuYd
110E1693	Remove Erosion Control Wattle	75	Ft
110E1695	Remove Sediment Filter Bag	612	Ft
110E1697	Remove Triangular Silt Barrier	288	Ft
110E1700	Remove Silt Fence	418	Ft
120E6300	Water for Vegetation	40.2	MGal
230E0020	Placing Contractor Furnished Topsoil	196	CuYd
731E0100	Fertilizing	60	Lb
733E0100	Sodding	2,926	SqYd
734E0042	Soil Stabilizer	577.0	SqYd
734E0154	12" Diameter Erosion Control Wattle	300	Ft
734E0165	Remove and Reset Erosion Control Wattle	75	Ft
734E0180	Sediment Filter Bag	2,447	Ft
734E0425	Triangular Silt Barrier	1,152	Ft
734E0604	High Flow Silt Fence	1,670	Ft
734E0610	Mucking Silt Fence	116	CuYd
734E0620	Repair Silt Fence	418	Ft
734E0845	Sediment Control at Inlet with Frame and Grate	68	Each
734E0847	Sediment Control at Type S Reinforced Concrete Drop Inlet	18	Ft
734E3100	Portable Sediment Containment System	1	Each
734E5000	Dewatering	100	Hour
734E5010	Sweeping	250	Hour
900E1320	Construction Entrance	8	Each

Surfacing – Section F

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E3320	Checker	Lump Sum	LS
* 120E6200	Water for Granular Material	3.1	MGal
120E6200	Water for Granular Material	290.4	MGal
* 260E2010	Gravel Cushion	259.0	Ton
260E2010	Gravel Cushion	24,214.4	Ton
* 320E1200	Asphalt Concrete Composite	97.8	Ton
320E1200	Asphalt Concrete Composite	1,651.2	Ton
320E2000	Maintenance Patching	100.0	Ton
380E0090	10" Nonreinforced PCC Pavement	15,530.6	SqYd
380E2574	4" Barrier Type Colored and Patterned Median PCC Pavement	208.3	SqYd
380E3040	8" PCC Driveway Pavement	733.7	SqYd
380E3042	8" Fast Track Concrete Driveway Pavement	29.8	SqYd
380E5010	Fast Track Concrete	1,594.5	SqYd
380E6000	Dowel Bar	8,703	Each
380E6110	Insert Steel Bar in PCC Pavement	322	Each
380E9010	Temporary Gravel Crossing	6	Each
390E0100	Saw and Seal Joint	202	Ft
390E0200	Repair Type A Spall	72.5	SqFt
831E0300	Reinforcement Fabric (MSE)	11,399	SqYd
900E1350	Temporary Surfacing	3,000.0	SqFt

* - Denotes Non-Participating

ESTIMATE OF QUANTITIES AND ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0016(79)67	A3	A5

Signal & Lighting – Section L

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E1520	Remove Signal Equipment	Lump Sum	LS
110E1530	Remove Signal Pole Footing	9	Each
110E1540	Remove Luminaire Pole Footing	12	Each
110E1570	Remove Pedestrian Push Button Pole	1	Each
110E5100	Salvage Luminaire Pole	12	Each
110E5110	Salvage Signal Equipment	Lump Sum	LS
250E0010	Incidental Work	Lump Sum	LS
635E0900	Decorative Luminaire Pole	12	Each
635E0910	Decorative Luminaire Arm	12	Each
635E2362	Decorative Signal Pole with 20' Mast Arm and Luminaire Arm	2	Each
635E2368	Decorative Signal Pole with 40' Mast Arm and Luminaire Arm	1	Each
635E2372	Decorative Signal Pole with 50' Mast Arm and Luminaire Arm	1	Each
635E3450	Decorative Luminaire, 150 Watt with Photoelectric Cell	12	Each
635E3460	Decorative Luminaire, 400 Watt with Photoelectric Cell	16	Each
635E4030	3 Section Vehicle Signal Head	12	Each
635E4040	4 Section Vehicle Signal Head	4	Each
635E5020	2' Diameter Footing	96.0	Ft
635E5030	3' Diameter Footing	47.0	Ft
* 635E5301	Type 1 Electrical Junction Box	2	Each
635E5302	Type 2 Electrical Junction Box	23	Each
635E5303	Type 3 Electrical Junction Box	4	Each
635E5304	Type 4 Electrical Junction Box	8	Each
* 635E5400	Electrical Service Cabinet	2	Each
635E5400	Electrical Service Cabinet	4	Each
635E5430	Traffic Signal Controller	1	Each
* 635E5500	Meter Socket	2	Each
635E5500	Meter Socket	4	Each
635E5515	Signal Head Battery Backup and Flash System	1	Each
635E5530	Preformed Detector Loop	18	Each
635E5550	Detector Unit	6	Each
635E5562	Siren Emergency Vehicle Preemption System	1	Each
635E5900	Pedestrian Push Button	8	Each
635E5910	Pedestrian Push Button Pole	8	Each
635E5922	Pedestrian Signal Head with Countdown Timer	8	Each
635E5930	Pedestrian Crossing Sign	8	Each
635E6200	Miscellaneous, Electrical	Lump Sum	LS
* 635E8120	2" Rigid Conduit, Schedule 40	185	Ft
635E8120	2" Rigid Conduit, Schedule 40	6,345	Ft
635E8140	4" Rigid Conduit, Schedule 40	20	Ft
* 635E8220	2" Rigid Conduit, Schedule 80	105	Ft
635E8220	2" Rigid Conduit, Schedule 80	1,370	Ft
635E8230	3" Rigid Conduit, Schedule 80	260	Ft

Signal & Lighting – Section L (Cont'd)

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
635E8240	4" Rigid Conduit, Schedule 80	120	Ft
* 635E9012	1/C #2 AWG Copper Wire	30	Ft
635E9012	1/C #2 AWG Copper Wire	60	Ft
635E9014	1/C #4 AWG Copper Wire	1,185	Ft
635E9016	1/C #6 AWG Copper Wire	15,255	Ft
* 635E9018	1/C #8 AWG Copper Wire	14,265	Ft
* 635E9020	1/C #10 AWG Copper Wire	335	Ft
635E9020	1/C #10 AWG Copper Wire	9,130	Ft
635E9504	4/C #14 AWG Copper Tray Cable, K2	1,790	Ft
635E9507	7/C #14 AWG Copper Tray Cable, K2	460	Ft
635E9524	24/C #14 AWG Copper Tray Cable, K2	560	Ft
635E9600	#16 AWG Copper Twisted Shielded Pair	975	Ft
635E9710	2/C #10 AWG Copper Pole and Bracket Cable	920	Ft
635E9948	48 Strand Fiber Optic Cable	3,090	Ft

* - Denotes Non-Participating

Pavement Marking – Section M

02-16-16 by NAS

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
633E0010	Cold Applied Plastic Pavement Marking, 4"	4,003	Ft
633E0020	Cold Applied Plastic Pavement Marking, 8"	181	Ft
633E0030	Cold Applied Plastic Pavement Marking, 24"	1,759	Ft
633E0040	Cold Applied Plastic Pavement Marking, Arrow	27	Each
633E1400	Pavement Marking Paint, 4" White	1,849	Ft
633E1405	Pavement Marking Paint, 4" Yellow	2,681	Ft
633E1410	Pavement Marking Paint, 8" White	63	Ft
633E1430	Pavement Marking Paint, 24" White	23	Ft
633E1435	Pavement Marking Paint, 24" Yellow	190	Ft
633E1445	Pavement Marking Paint, Arrow	6	Each
633E5000	Grooving for Cold Applied Plastic Pavement Marking, 4"	4,003	Ft
633E5005	Grooving for Cold Applied Plastic Pavement Marking, 8"	181	Ft
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	1,759	Ft
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	27	Each

Permanent Signing – Section S

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E5020	Salvage Traffic Sign	62	Each
632E1320	2.0"x2.0" Perforated Tube Post	493.2	Ft
632E3203	Flat Aluminum Sign, Nonremovable Copy High Intensity	429.2	SqFt
632E3205	Flat Aluminum Sign, Nonremovable Copy Super/Very High Intensity	105.5	SqFt
632E3520	Remove, Salvage, Relocate, and Reset Traffic Sign	26	Each

SECTION B ESTIMATE OF QUANTITIES

REV 2-12-16 JRV

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
009E3230	Grade Staking	3.051	Mile
009E3250	Miscellaneous Staking	0.705	Mile
009E3280	Slope Staking	0.705	Mile
009E3290	Structure Staking	13	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
100E0020	Clear and Grub Tree	7	Each
100E0100	Clearing	Lump Sum	LS
110E0300	Remove Concrete Curb and Gutter	893	Ft
110E0310	Remove Concrete Curb	43	Ft
110E0320	Remove Concrete Gutter	583	Ft
110E0400	Remove Drop Inlet	31	Each
110E0460	Remove Manhole	17	Each
110E1010	Remove Asphalt Concrete Pavement	5,016.1	SqYd
110E1100	Remove Concrete Pavement	21,945.4	SqYd
110E1110	Remove Concrete Approach Pavement	575.8	SqYd
110E1130	Remove Concrete Driveway Pavement	470.2	SqYd
110E1140	Remove Concrete Sidewalk	5,347.3	SqYd
110E1300	Remove Concrete Retaining Wall	2,126.1	Ft
120E0010	Unclassified Excavation	15,571	CuYd
120E0600	Contractor Furnished Borrow Excavation	250	CuYd
120E0900	Contaminated Material Excavation	100	CuYd
120E2000	Undercutting	9,086	CuYd
120E6100	Water for Embankment	131.5	MGal
205E0010	Dust Control Chloride	500	Lb
250E0020	Incidental Work, Grading	Lump Sum	LS
270E0020	Salvage and Stockpile Asphalt Mix Material	2,880.0	Ton
380E3540	8" PCC Approach Pavement	832.2	SqYd
380E3542	8" Fast Track Concrete Approach Pavement	138.0	SqYd
380E4010	6" PCC Fillet Section	12.8	SqYd
380E4090	10" PCC Fillet Section	711.7	SqYd
420E0300	Structure Excavation, Retaining Wall	100	CuYd
421E0100	Pipe Culvert Undercut	100	CuYd
421E1000	Footing Undercut	97	CuYd
450E0103	12" RCP Class 3, Furnish	4	Ft
450E0110	12" RCP, Install	4	Ft
450E0123	18" RCP Class 3, Furnish	2,046	Ft
450E0130	18" RCP, Install	2,046	Ft
450E0143	24" RCP Class 3, Furnish	184	Ft
450E0150	24" RCP, Install	184	Ft
450E0182	36" RCP Class 2, Furnish	94	Ft
450E0190	36" RCP, Install	94	Ft

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
450E0192	42" RCP Class 2, Furnish	1,500	Ft
450E0200	42" RCP, Install	1,500	Ft
450E0202	48" RCP Class 2, Furnish	816	Ft
450E0210	48" RCP, Install	816	Ft
450E0416	24" RCP Bend, Furnish	2	Each
450E0417	24" RCP Bend, Install	2	Each
450E0700	RCP Tee, Furnish	10	Each
450E0701	RCP Tee, Install	10	Each
450E0900	RCP Cross, Furnish	1	Each
450E0901	RCP Cross, Install	1	Each
450E1200	RCP Increaser, Furnish	1	Each
450E1201	RCP Increaser, Install	1	Each
450E7001	8" High Density Polyethylene Pipe, Furnish	126	Ft
450E7002	8" High Density Polyethylene Pipe, Install	126	Ft
450E8450	Storm Sewer Video Inspection	2,230	Ft
451E3124	24" Pipe Cap	1	Each
462E0100	Class M6 Concrete	191.0	CuYd
464E0100	Controlled Density Fill	50.0	CuYd
470E0020	Pipe Handrail	370.4	Ft
470E0040	Steel Pedestrian Railing	732.1	Ft
480E0100	Reinforcing Steel	37,643	Lb
480E0200	Epoxy Coated Reinforcing Steel	1,572	Lb
530E0310	Special Type C Concrete Retaining Wall	1,693	SqFt
530E0470	Gravity Large Concrete Block Wall	2,838	SqFt
600E0200	Type II Field Laboratory	1	Each
621E0040	4' Chain Link Fence with Top Rail	55	Ft
621E0410	Pedestrian Swing Gate	1	Each
* 650E0060	Type B66 Concrete Curb and Gutter	268	Ft
650E0060	Type B66 Concrete Curb and Gutter	1,160	Ft
650E0100	Type B610 Concrete Curb and Gutter	6,491	Ft
650E1100	Type F610 Concrete Curb and Gutter	69	Ft
650E4660	Type P6 Concrete Gutter	742	Ft
650E4700	Type P10 Concrete Gutter	296	Ft
* 651E0040	4" Concrete Sidewalk	199	SqFt
651E0040	4" Concrete Sidewalk	37,944	SqFt
651E0160	6" Reinforced Concrete Sidewalk	402	SqFt
651E0540	4" Colored Concrete Sidewalk	34,829	SqFt
651E0760	6" Reinforced Colored Concrete Sidewalk	727	SqFt
651E7000	Type 1 Detectable Warnings	460	SqFt
670E1200	Type B Frame and Grate Assembly	66	Each
670E3300	Type E Frame and Grate	1	Each
670E5340	4' x 11' Precast Concrete Type S Drop Inlet Lid	1	Each
670E5342	4' x 6' Precast Concrete Type S Drop Inlet Lid	1	Each
670E5400	Precast Drop Inlet Collar	67	Each

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
671E5502	2" Adjusting Ring for Manhole	7	Each
671E6010	Type A10 Manhole Frame and Lid	2	Each
680E0040	4" Underdrain Pipe	968	Ft
900E0015	Multiple Mailbox Support	1	Each
900E0900	Curb Stop	36	Each
900E5145	Bollard	6	Each
998E0100	Railroad Protective Insurance	Lump Sum	LS

* - Denotes Non-Participating



GRADING OPERATIONS

Water for Embankment is estimated at the rate of 10 gallons of water per cubic yard of Embankment minus Waste.

Special sections of the roadway different than the typical sections shall be constructed to the limits shown on the cross sections. If significant changes to the cross sections are necessary during construction, the Engineer shall contact the Designer for the proposed change.

A copy of the soils profile is available for review at the Rapid City Region office.

TYPE II FIELD LABORATORY

The lab shall be equipped with an internet connection such as DSL, cable modem, or other approved service. The internet connection shall be provided with a multi-port wireless router. The internet connection shall be a minimum speed of 512 Kb unless limited by job location and approved by the DOT. Prior to installing the wireless router the Contractor shall submit the wireless router's technical data to the Area Office to check for compatibility with the state's computer equipment. The internet connection is intended for state personnel usage only. The Contractor's personnel are prohibited from using the internet connection unless pre-approved by the Project Engineer.

The Contractor shall submit a copy of each monthly bill for calls charged to this phone at the end of each month. The Project Engineer will then audit the bills to ensure all calls are legitimate and then initiate a Construction Change Order (CCO) to reimburse the Contractor for the actual phone calls made, including local and long distance calls. Reimbursement will not be made for fees associated with the purchase, installation, disconnection, monthly line charges, and incidentals involved in the installation, maintenance, and disconnection of the phone (including attachments). These items shall be incidental to the contract unit price per each for "Type II Field Laboratory".

UTILITIES

The Contractor shall be aware that the existing utilities shown in the plans were surveyed prior to the design of this project and might have been relocated or replaced by a new utility facility prior to construction of this project, might be relocated or replaced by a new utility facility during the construction of this project, or might not require adjustment and may remain in its current location. The Contractor shall contact each utility owner and confirm the status of all existing and new utility facilities. The utility contact information is provided elsewhere in the plans or bidding documents.

Black Hills Power

The Company's OH facilities will be relocated prior to construction with one exception: BHP has until 1 May 2016 to remove the OH pole located in the northwest quadrant of the Mt Rushmore Rd and St James St intersection. Removal of existing Company owned street lights will be accomplished by BHP during construction and the sequencing of removal shall be coordinated between the Contractor and the Company as to keep the highway illuminated during construction.

Century Link

The existing concrete vaults (12'X6'X7') at approximate Stations 65+23-34'L, 69+14-37'L, 73+17-38'L, 75+56-37'L, 79+05-38'L, 82+75-32'L and 87+04-32'L and connecting concrete duct will be removed by Century Link. The Contractor shall notify Century Link at least 7 days prior to the date that any vault or duct needs to be removed and coordinate backfilling of vault/duct voids with Century Link.

UTILITIES CONTINUED

Montana Dakota Utilities

The Company's facilities will be adjusted according to the table below:

SUMMARY OF CONFLICTS AND ADJUSTMENT PLAN		
Approximate Conflict Location	Conflict Description	Adjustment Plan
Sta 65+47L	4" steel medium pressure gas main crosses proposed 42" RCP	Retire east-west crossing of Mt. Rushmore Rd
Sta 67+03L	6" steel medium pressure gas main in conflict with proposed inlet/RCP	Build gas main offset around proposed inlet
Sta 67+95L	6" steel medium pressure gas main in conflict with proposed inlet/RCP	Build gas main offset around proposed inlet
Sta 69+33L/R	4" steel medium pressure gas main crosses proposed 18" & 42" RCP	Retire east-west crossing of Mt. Rushmore Rd
Sta 78+93L	6" steel medium pressure gas main MIGHT be in conflict with proposed RCP	Verify depth of gas main and adjust, if necessary.
Sta 82+90L	4" steel low pressure and 4" steel intermediate pressure gas mains MIGHT be in conflict with proposed 48" RCP	Verify depth of gas mains and adjust, if necessary.
Sta 84+70L (Quincy St Sta 4+30R)	4" steel intermediate pressure gas main MIGHT be in conflict with proposed 18" RCP	Verify depth of gas main and adjust, if necessary.
Sta 86+93L	6" steel low pressure gas main likely in conflict with proposed 48" RCP	Verify depth of gas main and adjust, if necessary.

City of Rapid City

The City will be replacing water and sanitary sewer facilities under Project Number 13-2139 / CIP #50950 / PCN X03L.

Utility Contact Information:

Black Hills Power
 PO Box 1400
 Rapid City SD 57709
 Alan Van Bochove – 605-721-2270

Century Link
 612 Mt. Rushmore Road
 Rapid City, SD 57701
 Keith Nelson - 605-394-4720

Montana Dakota Utilities
 PO Box 1060
 Rapid City SD 57709
 Kristopher James – 605-355-4021
 Cell: 605-757-8124

MidContinent Communications
 1624 Concourse Ct.
 Rapid City, SD 57703
 Terry Hofer - 605-791-7123

VAST
 809 Deadwood Ave
 Rapid City SD 57702
 Julie Burckhard – 605-415-0692

SDN Communications
 1089 Rand Rd
 Rapid City SD 57702
 Paul Lowe – 605-390-3502

City of Rapid City - Engineering Services
 300 Sixth St.
 Rapid City, SD 57701
 Todd Peckosh - 605-394-4154

City of Rapid City - Utility Maintenance
 605 Steele Ave.
 Rapid City, SD 57701
 Chip Petrik – 605-394-4163



CLEARING

REV 2-12-16 JRV

Before clearing activities begin, the Contractor shall contact the Engineer to determine the limits of clearing for the project. If any trees, shrubs, landscaping, etc. that are supposed to remain within the limits of work are damaged or destroyed by the Contractor, the Contractor shall replace them with the same size and type at the Contractor's expense.

MAINTENANCE OF DRAINAGE ON THE PROJECT SITE

All earthwork and pipe installation shall be completed in such a manner that drainage is maintained throughout the project. This work may involve installation of temporary tie-ins, dikes, pumping of water, plugging inlets, and temporary diversion of water utilizing pipes.

The Contractor shall coordinate embankment operations and pipe installations so that drainage is continuous, but does not damage new or existing grading sections. If necessary, temporary pipe, temporary connections, plugs, and channels may be used to avoid damage to new or existing grade or partial omission of permanent drainage features may be required. In addition, permanent drainage features may need to be installed in phases to match sequencing. The cost to install, maintain, and remove temporary items and any incidentals necessary for partial installations of permanent drainage features shall be incidental to the various pipe bid items.

MAINTENANCE OF LANDSCAPING

Vegetation that has been damaged or disturbed by the Contractor outside the easement area, ROW or grading limits shown on the plans shall be replaced at no cost to the State.

Landowners adjacent to the work areas may have irrigation systems with trunk lines running through the removal limits. The Contractor shall coordinate with landowners to ensure that areas no longer served due to the severed trunk lines remain irrigated. When grading work is complete Contractor shall reattach all severed irrigation lines.

RESTRICTED WORK AREA

The Contractor's work limits shall be confined to the area within the existing right-of-way for the parcels noted in the table below until the spring of 2016. The Engineer will notify the Contractor of the date when work outside of the existing right-of-way may proceed.

Parcel No.	Street	Station	to	Station	L/R
8	US 16	75+22		76+37	R
8	South St.	5+48		6+00	R
A27	South St.	6+00		6+51	R

GRAVITY LARGE BLOCK RETAINING WALLS (CONTINUED)

Retaining Wall

1. The Gravity Large Concrete Block Retaining Wall shall be on the current approved products list located at the following website address: <http://apps.sd.gov/applications/HC60ApprovedProducts/main.aspx>

2. The Contractor shall consult with an approved wall company and obtain design calculations and construction plans prepared by a South Dakota Registered Professional Engineer. Two copies of this data shall be forwarded to the Bridge Construction Engineer a minimum of 2 weeks in advance of construction for approval. Construction plans shall include plan view, elevation view (to include elevations), typical cross sections, foundation and drainage details, material and construction specifications, and a detailed listing of all quantities required for wall construction including concrete retaining wall blocks, excavation, granular backfill and foundation preparation.

3. The concrete used in casting the gravity large concrete blocks shall meet or exceed the block system specifications for the concrete design mix including fresh concrete properties and concrete strength. Blocks shall be given a lot number for tracking purposes that is associated with test results for fresh concrete properties and compressive strength. Each lot number shall be certified by the block manufacturer that the fresh concrete properties and the compressive strength met the block system's minimum specifications.

4. The minimum embedment depth to the bottom of the wall for gravity large concrete block retaining wall shall be 1.0 ft.

6. Construction of the wall shall begin at the lowest course and proceed upwards. The underdrain shall be placed prior to wall backfill placement. The underdrain shall also be functional to prevent water from backing up into the wall backfill. The lowest course must be placed and backfilled in its entirety prior to construction of any subsequent courses. Backfill placement must be placed in successive horizontal lifts.

7. Drainage fill for the gravity large concrete block retaining wall system shall meet the criteria as set by the wall block manufacturer and shall be incidental to contract unit price per square foot for "Gravity Large Concrete Block Retaining Wall."

8. The embankment and retaining wall shall be brought up in horizontal lifts simultaneously. Compaction behind the retaining wall shall be in accordance with Section 120 of the Specifications.

9. The retaining wall shall be installed in accordance to the selected wall companies' instructions, specifications, and approved shop drawings.

11. Quantities for Gravity Large Concrete Block Wall, Structure Excavation, Retaining Wall and Footing Undercut are for bidding purposes only. Actual quantities for the listed items must be determined from design calculations as incorporated in the shop drawings supplied by the wall designer and will be adjusted accordingly for pay purposes. The various bid items will be full compensation for construction of the Gravity Large Concrete Block Wall.

Underdrain

1. An underdrain system shall be installed behind the wall as shown and detailed on the Gravity Large Concrete Block Retaining Wall Typical Section. The underdrain system shall consist of 4" diameter slotted corrugated polyethylene tubing installed behind the wall and 4 inch diameter corrugated polyethylene tubing from the end of the wall to the outlet as shown. Care shall be taken near the ends of the wall to ensure positive drainage.

GRAVITY LARGE BLOCK RETAINING WALLS (CONTINUED)

2. The polyethylene tubing shall conform to Section 990 of the Specifications.

3. All costs involved in furnishing and installing the 4 inch diameter slotted corrugated polyethylene tubing and 4 inch corrugated polyethylene tubing shall be included in the contract unit price per foot for "4" Underdrain Pipe."

TABLE OF GRAVITY LARGE BLOCK RETAINING WALL

Station	to	Station	L/R	Quantity (SqFt)
71+22		71+56	R	265.1
71+35		76+36	R	2097.0
71+65		71+96	R	49.8
75+09		76+19	R	169.0
South Street				
5+77		6+92	R	257.1
Total				2838.0

RAILING

Railing shall be installed on the proposed thickened-edge sidewalk at the locations listed below. The railing system shall be as detailed within these plans. Contractor shall submit detailed shop plans prior to beginning fabrication of the railing system for the Bridge Construction Engineer's approval in accordance with the Specifications. Handrail installed in conjunction with Steel Pedestrian Railing shall be incidental to the Steel Pedestrian Railing bid item. All costs associated with furnishing and installing railing shall be incidental to the contract unit price per foot for "Pipe Handrail" or "Steel Pedestrian Railing".

TABLE OF PIPE HANDRAIL

Location	L/R	Quantity (Ft)
71+22 to 71+58	R	35.5
71+63 to 71+96	R	32.7
74+76 to 74+93	R	16.7
74+98 to 76+25	R	124.2
Total:		209.1

TABLE OF STEEL PEDESTRIAN RAILING

Location	L/R	Quantity (Ft)
69+54 to 70+87	R	157.4
71+96 to 74+77	R	280.9
Total:		438.3

TABLE OF STEEL PEDESTRIAN RAILING WITH HANDRAIL

Location	L/R	Quantity (Ft)
71+41 to 71+96	R	56.1
74+77 to 76+36	R	153.6
78+10 to 78+69	R	59.4
78+64 to 78+78	R	24.7
Total:		293.8

SLIP RESISTANT COATING FOR CONCRETE STAIRWAY

Curing compounds shall not be utilized on concrete stairway treads during the concrete curing process. Curing shall be accomplished with a double layer of burlap mats and polyethylene sheeting.

The Contractor shall apply a 2" wide slip resistant coating at the front of each stairway tread for the full width of the tread.

The slip resistant coating shall be a red, tile red, or brick red color. The coating shall be a single component epoxy and have a minimum coefficient of friction value of 0.9 for dry and 0.9 for wet as determined by ASTM F 609.

The slip resistant coating shall be applied in accordance with the manufacturer's recommendations.

All cost for furnishing and applying the slip resistant epoxy coating including equipment, labor, and materials shall be incidental to various contract items.

TABLE OF REINFORCING STEEL

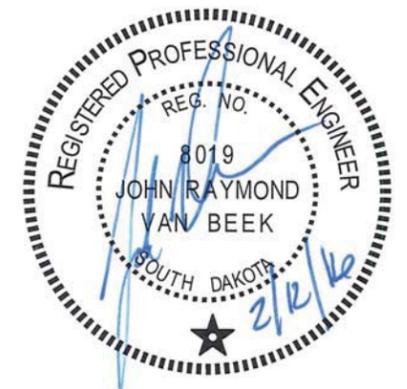
Item	Quantity (Lb)
Drop Inlets	34682
Junction Boxes	2961
Total:	37643

TABLE OF EPOXY COATED REINFORCING STEEL

Item	Quantity (Lb)
Stairways	1572
Total:	1572

TABLE OF CLASS M6 CONCRETE

Item	Quantity (CuYd)
Drop Inlets	157.50
Junction Boxes	14.80
Stairways	18.79
Total:	191.09



**TABLE OF CONCRETE STAIRWAYS IN GRAVITY LARGE CONCRETE
BLOCK RETAINING WALLS**

Station	L/R	Top Landing Elev.	Bottom Landing Elev.	No. of Steps (w)	Class M6 Concrete (CuYd)	Epoxy Coated Reinf. Steel (Lb)	* Struct. Exc. (CuYd)	Pipe Handrail (Ft)
71+60	R	3295.19	3288.19	13	2.92	203	5.05	35.3
73+67	R	3293.53	3290.71	4	1.39	100	2.26	15.2
76+25	R	3279.69	3283.19	6	1.73	124	2.88	19.7
Totals:					6.04	427	10.19	70.2

TABLE OF CONCRETE STAIRWAYS IN SPECIAL TYPE C RETAINING WALLS

Station	L/R	Top Landing Elev.	Bottom Landing Elev.	No. of Steps (w)	Class M6 Concrete (CuYd)	Epoxy Coated Reinf. Steel (Lb)	* Struct. Exc. (CuYd)	Pipe Handrail (Ft)
64+16	L	3290.93	3288.18	4	2.09	188	5.28	15.2
69+77	R	3291.34	3287.42	6	2.86	257	7.63	19.7
70+10	R	3290.62	3288.82	2	1.46	131	3.46	10.7
78+69	R	3271.80	3268.65	5	2.42	213	6.23	17.4
St. James Street								
3+75	R	3294.56	3293.06	2	1.42	126	3.31	10.7
4+30	R	3293.79	3290.31	5	2.50	230	6.56	17.4
Totals:					12.75	1145	32.47	91.1

* The quantities for structure excavation are for informational purposes only.
Payment for all work necessary for structure excavation shall be incidental to
the various contract unit prices for the items listed in the above table.

CHAIN LINK FENCE

The existing chain link fence on the property located in the southwest quadrant of St. James Street and Mt. Rushmore Road will be disturbed and shall be replaced. The existing fence shall be removed as needed to facilitate retaining wall construction. New fence and a pedestrian gate shall be provided as identified in the following table:

TABLE OF CHAIN LINK FENCE

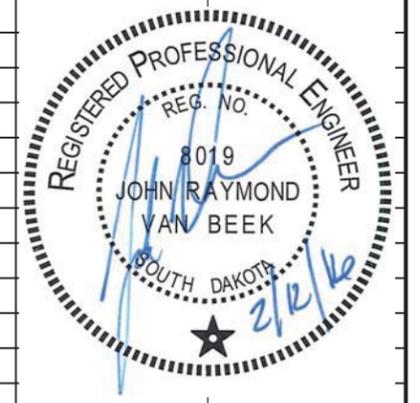
Location	Type	Length (Ft)
St. James		
4+03.9 43.2' R to 4+04.0 41.2' R	Regular 48"	2
4+03.9 41.2' R to 4+26.2 41.2' R	Regular 48"	23
4+23.2 41.2' R to 4+26.2 48.6' R	Regular 48"	7
4+26.2 48.6' R to 4+33.2 48.6' R	Regular 48" with 4' Ped Gate	7
4+33.2 48.6' R to 4+33.2 41.2' R	Regular 48"	7
4+33.2 41.2' R to 4+40.7 41.2' R	Regular 48"	7
4+40.7 41.2' R to 4+40.7 43.2' R	Regular 48"	2
Total:		55



TABLE OF PAVEMENT, CURB AND GUTTER, AND SIDEWALK QUANTITIES

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH0016(79)67	B23	B135
PLOTTING DATE: 02-12-16		REV 02-12-16 JRV	

Station to Station	L/R	CONCRETE CURB AND GUTTER		CONCRETE GUTTER		PCC FILLET SECTION		PCC APPROACH PAVEMENT			CONCRETE SIDEWALK		COLORED CONCRETE SIDEWALK		DETECTABLE WARNINGS		
		TYPE B		TYPE F	TYPE P				TYPE A	TYPE B	TYPE A FAST TRACK					TYPE 1	
		610	66	610	6	10	10"	6"	8"	8"	8"	4"	6" REINFORCED	4"	6" REINFORCED		
Ft	Ft	Ft	Ft	Ft	SqYd	SqYd	SqYd	SqYd	SqYd	SqFt	SqFt	SqFt	SqFt				
Mainline cont.																	
86+15.00		L						56.8									
86+29.00	86+79+15	L								253.0							
86+29.00	86+79.42	L	50.4														
86+35.00	86+73.42	L											317.6				
86+79.27	86+99.27	R			20.0												
86+79.42	86+99.42	L			20.0												
86+89.27		R						45.9									
86+89.42		L						44.0									
86+99.27	87+72.72	R	73.5														
86+99.41	88+00.00	L								507.1							
86+99.42	88+01.30	L	101.9														
86+99.27	88.00.00	R								509.9							
87+05.27	87+66.78	R											566.1				
87+15.40	88+00.00	L											634.1				
87+72.72	87+92.72	R			20.0												
87+82.73		R						33.6									
87+92.72	88+01.30	R	8.5														
87+98.71	88+00.00	R											4.4				
St. James Street																	
3+24.79	4+52.51	L								731.5							
3+24.85	3+36.17	L		11.3													
3+24.85	3+59.15	R		34.3													
3+24.85	4+52.66	R								799.4							
3+36.17	3+52.17	L				16.0											
3+52.17	3+59.17	L		7.0													
3+50.02	3+64.16	L											203.4				
3+50.31	3+55.16	L											60.3				
3+54.16	4+52.66	R								93.5*							
3+54.16	4+52.51	L								105.5*							
3+57.83	4+40.73	L		106.7													
3+59.14	3+66.84	R						3.2*									
3+59.17	3+66.83	L						3.2*									
3+64.83	4+31.83	R		87.6*													
3+64.84	4+31.83	L		87.8*													
3+66.83	4+29.83	R			63.0												
3+66.84	4+29.83	L			63.0												
4+29.84	4+37.49	R						3.2*									
4+29.84	4+37.48	L						3.2*									
4+32.50	4+52.51	L											275.8				
4+32.50	4+52.66	R											275.8				
Subtotal: Sheet total			234.3	159.3	0.0	142.0	60.0	0.0	12.8	180.3	0.0	0.0	2999.9	0.0	2337.5	0.0	0.0



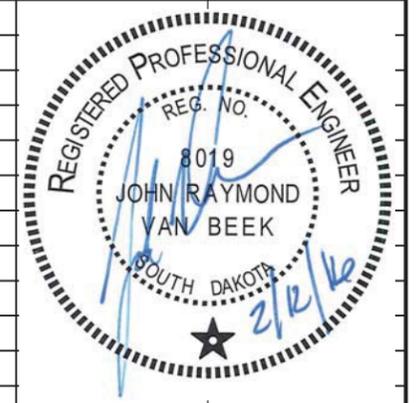
02-12-16 P:\12-16 P\AutoCAD\PlanSheets\027C\Section_B\027C-SDDOT_PCOG_QUANTITIES.dwg

* Denotes Non-Participating.
 **Denotes that this quantity of Type P Concrete Gutter is included in the area of the adjacent Type A Fast Track PCC Approach. No additional payment will be made.

TABLE OF PAVEMENT, CURB AND GUTTER, AND SIDEWALK QUANTITIES

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH0016(79)67	B27	B135
PLOTTING DATE: 02-12-16		REV 02-12-16 JRV	

Station to Station			CONCRETE CURB AND GUTTER			CONCRETE GUTTER		PCC FILLET SECTION		PCC APPROACH PAVEMENT			CONCRETE SIDEWALK		COLORED CONCRETE SIDEWALK		DETECTABLE WARNINGS
			TYPE B		TYPE F	TYPE P				TYPE A	TYPE B	TYPE A FAST TRACK					TYPE 1
			610	66	610	6	10	10"	6"	8"	8"	8"	4"	6" REINFORCED	4"	6" REINFORCED	
L/R	Ft	Ft	Ft	Ft	Ft	SqYd	SqYd	SqYd	SqYd	SqYd	SqFt	SqFt	SqFt	SqFt			
Quincy Street																	
3+92.26	4+51.02	R											295.2				
3+92.31	4+50.96	L											322.6				
3+98.78	4+30.79	L				26.0											
4+12.26	4+17.57	L		5.3													
4+12.26	4+43.57	R		39.2													
4+14.80		L							37.8								
4+17.57	4+30.07	L				13.0											
4+23.81		L								23.5							
4+30.07	4+43.41	L		21.4													
4+30.79	4+43.10	L		20.4													
4+32.69	4+50.96	L												315.5			
4+32.78	4+51.01	R												326.6			
4+46.04		R														10.0	
4+46.05		L														10.0	
4+53.47		L														10.0	
4+53.48		R														10.0	
5+43.65		L														10.0	
5+43.69		R														10.0	
5+46.13	5+84.02	L										188.2					
5+46.13	5+66.58	L												369.2			
5+46.21	5+67.58	R												397.2			
5+47.67		R														10.0	
5+47.68		L														10.0	
5+49.05	5+83.95	R										174.4					
5+56.37	5+57.46	L		29.1													
5+56.51	5+83.95	R		35.8													
5+56.58	5+57.46	R		29.1													
5+56.95	5+84.01	L		34.6													
80+46.20	80+71.20	R					26.0										
80+56.43	80+71.42	L					11.7										
81+07.20	81+32.20	R					25.8										
81+07.43	81+32.43	L					26.0										
84+46.08	84+71.08	R					26.0										
84+46.17	84+71.17	L					25.9										
85+07.08	85+32.08	R					25.9										
85+07.17	85+32.17	L					25.9										
Subtotal: Sheet total			0.0	214.9	0.0	39.0	0.0	193.2	0.0	37.8	23.5	0.0	980.4	0.0	1408.5	0.0	80.0
Total: Grand			6490.6	1428.3	68.8	742.4	296.0	711.7	12.8	808.7	23.5	138.0	38143.3	402.0	34829.2	727.3	460.0

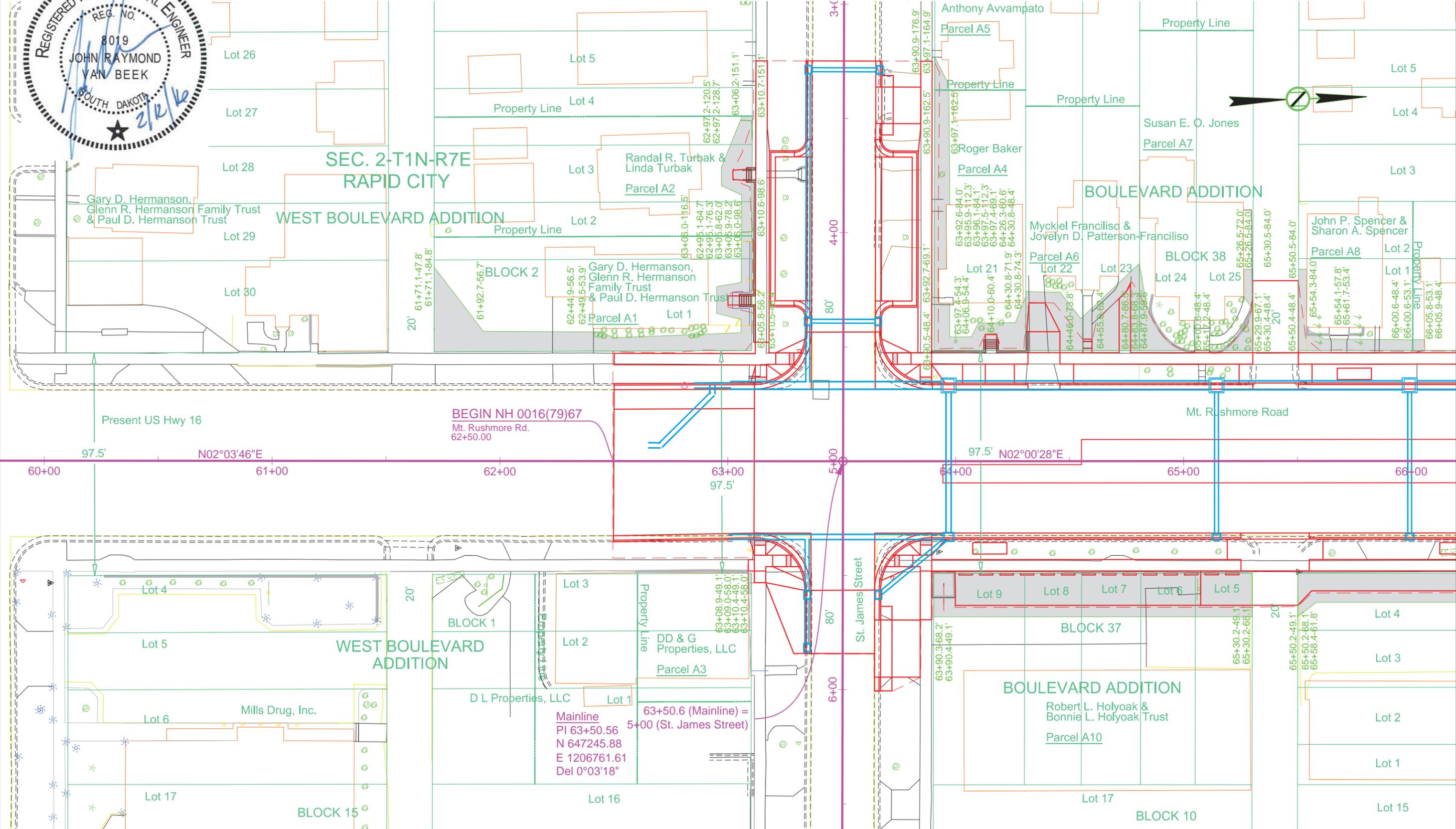


02-12-16 P:\12-17\AutoCAD\PlanSheets\027C\Section_B\027C-SDD01_PCCS_QUANTITIES.dwg

**Denotes that this quantity of Type P Concrete Gutter is included in the area of the adjacent Type A Fast Track PCC Approach. No additional payment will be made.

ROW LAYOUT

STATE OF SOUTH DAKOTA	PROJECT NH0016(79)67	SHEET B37	TOTAL SHEETS B135
PLOT DATE: 02-12-16		REV 02-12-16 JRV	

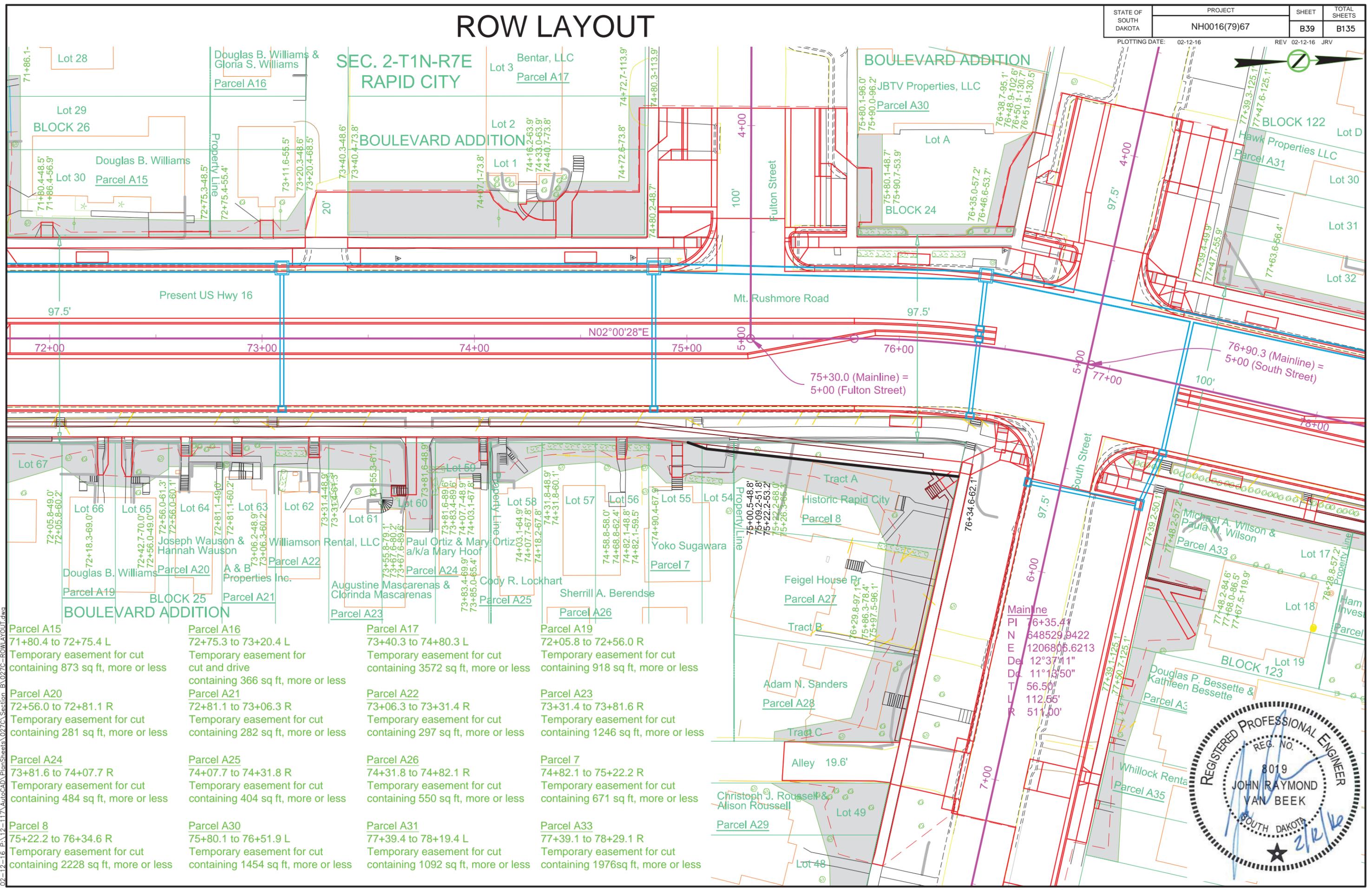


02-12-16 FA 12-117 AutoCAD PlanSheets 0270 Section BA027C-ROWLAYOUT.dwg

Parcel A1 61+71.1 to 63+10.5 L Temporary easement for cut containing 1745 sq ft, more or less	Parcel A2 62+97.2 to 63+10.7 L Temporary easement for cut containing 430 sq ft, more or less	Parcel A3 63+08.9 to 63+10.4 R Temporary easement for cut containing 13 sq ft, more or less	Parcel A4 63+90.5 to 64+30.8 L Temporary easement for cut and drive containing 1011 sq ft, more or less	Parcel A5 63+90.9 to 63+97.1 L Temporary easement for cut containing 52 sq ft, more or less	Parcel A6 64+30.8 to 64+80.6 L Temporary easement for cut and drive containing 1234 sq ft, more or less	Parcel A7 64+80.6 to 65+30.5 L Temporary easement for cut containing 336 sq ft, more or less	Parcel A8 65+50.4 to 66+00.6 L Temporary easement for cut containing 373 sq ft, more or less	Parcel A10 63+90.3 to 65+30.2 R Temporary easement for cut containing 2666 sq ft, more or less
--	---	--	--	--	--	---	---	---

ROW LAYOUT

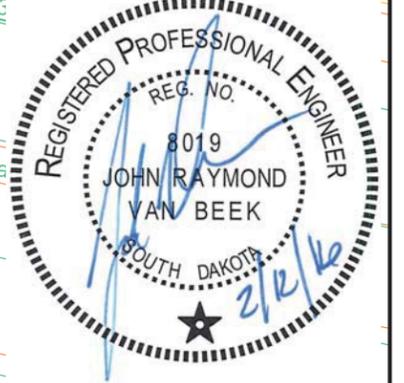
STATE OF SOUTH DAKOTA	PROJECT NH0016(79)67	SHEET B39	TOTAL SHEETS B135
PLOTING DATE: 02-12-16		REV 02-12-16 JRV	



02-12-16 PA 12-117 AutoCAD PlanSheets 0270 Section BLDG ROW LAYOUT.dwg

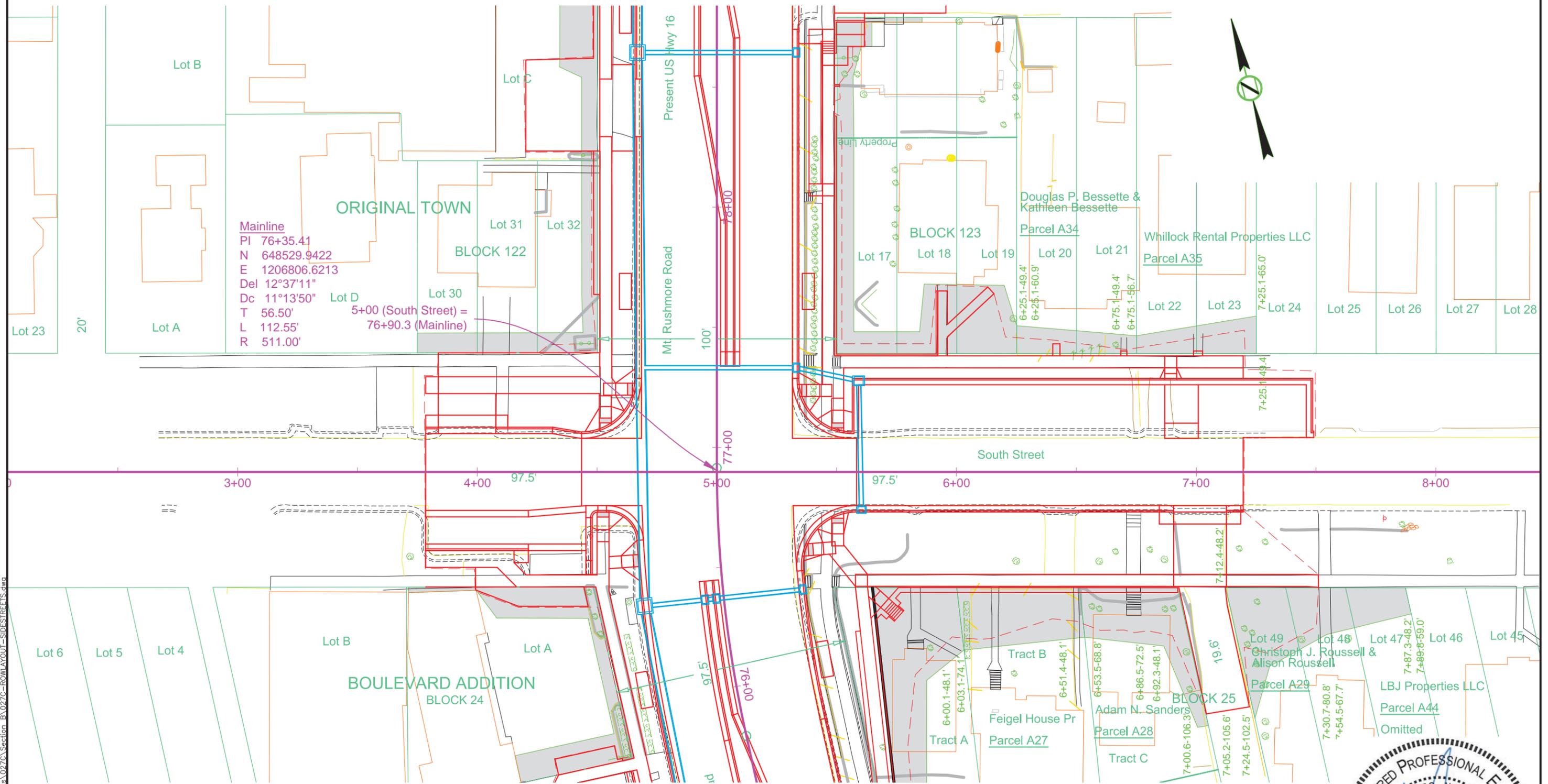
Parcel A15 71+80.4 to 72+75.4 L Temporary easement for cut containing 873 sq ft, more or less	Parcel A16 72+75.3 to 73+20.4 L Temporary easement for cut and drive containing 366 sq ft, more or less	Parcel A17 73+40.3 to 74+80.3 L Temporary easement for cut containing 3572 sq ft, more or less	Parcel A19 72+05.8 to 72+56.0 R Temporary easement for cut containing 918 sq ft, more or less
Parcel A20 72+56.0 to 72+81.1 R Temporary easement for cut containing 281 sq ft, more or less	Parcel A21 72+81.1 to 73+06.3 R Temporary easement for cut containing 282 sq ft, more or less	Parcel A22 73+06.3 to 73+31.4 R Temporary easement for cut containing 297 sq ft, more or less	Parcel A23 73+31.4 to 73+81.6 R Temporary easement for cut containing 1246 sq ft, more or less
Parcel A24 73+81.6 to 74+07.7 R Temporary easement for cut containing 484 sq ft, more or less	Parcel A25 74+07.7 to 74+31.8 R Temporary easement for cut containing 404 sq ft, more or less	Parcel A26 74+31.8 to 74+82.1 R Temporary easement for cut containing 550 sq ft, more or less	Parcel 7 74+82.1 to 75+22.2 R Temporary easement for cut containing 671 sq ft, more or less
Parcel 8 75+22.2 to 76+34.6 R Temporary easement for cut containing 2228 sq ft, more or less	Parcel A30 75+80.1 to 76+51.9 L Temporary easement for cut containing 1454 sq ft, more or less	Parcel A31 77+39.4 to 78+19.4 L Temporary easement for cut containing 1092 sq ft, more or less	Parcel A33 77+39.1 to 78+29.1 R Temporary easement for cut containing 1976sq ft, more or less

Mainline
 PI 76+35.41
 N 648529.9422
 E 1206805.6213
 Dc 12°37'11"
 De 11°13'50"
 T 56.50'
 L 112.65'
 R 511.00'



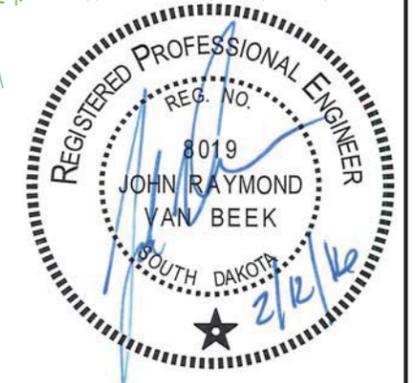
SOUTH STREET ROW LAYOUT

STATE OF SOUTH DAKOTA	PROJECT NH0016(79)67	SHEET B42	TOTAL SHEETS B135
PLOTING DATE: 02-12-16		REV 02-12-16 JRV	



Mainline
 PI 76+35.41
 N 648529.9422
 E 1206806.6213
 Del 12°37'11"
 Dc 11°13'50"
 T 56.50'
 L 112.55'
 R 511.00'

- Parcel A27
6+00.1 to 6+52.2 R
Temporary easement for cut containing 1193 sq ft, more or less
- Parcel A28
6+51.4 to 7+05.2 R
Temporary easement for cut and drive containing 1239 sq ft, more or less
- Parcel A29
7+12.4 to 7+89.8 R
Temporary easement for cut and drive containing 1740 sq ft, more or less
- Parcel A34
6+25.1 to 6+75.1 L
Temporary easement for cut containing 472 sq ft, more or less
- Parcel A35
6+75.1 to 7+25.1 L
Temporary easement for cut containing 573 sq ft, more or less
- Parcel A44
Omitted



02-12-16 P:\12-16 AutoCAD\PlanSheets\0270\Section_B\0270-ROW\LAYOUT-SIDESTREETS.dwg

73+09.36 - 33.17' L to
74+84.46 - 33.17' L
Install 42" - 170' RCP
(Between Drop Inlets)

74+84.46 - 33.17' L to
76+37.31 - 33.16' L
Install 42" - 152' RCP
(Between Drop Inlets)

76+37.23 - 33.17' R to
76+37.28 - 3.17' L
Install 18" - 36' RCP
(Between Drop Inlets)

76+37.28 - 7.83' L to
76+37.31 - 33.16' L
Install 18" - 22' RCP
(Between Drop Inlets)

77+33.19 - 31.85' L to
78+64.45 - 33.17' L
Install 42" - 130' RCP
(Between RC Tee
& Drop Inlet)

Install 5.5'x5.5' Type B Drop
Inlet with 6" Concrete Collar
and Type B Frame and Grate
at the Following Locations:

Install 2'x3' Type B Drop
Inlet with 6" Concrete Collar
and Type B Frame and Grate
at the Following Locations:

73+09.36 - 33.17' R to
73+09.36 - 33.17' L
Install 18" - 64' RCP
(Between Drop Inlets)

74+84.46 - 33.17' R to
74+84.46 - 33.17' L
Install 18" - 64' RCP
(Between Drop Inlets)

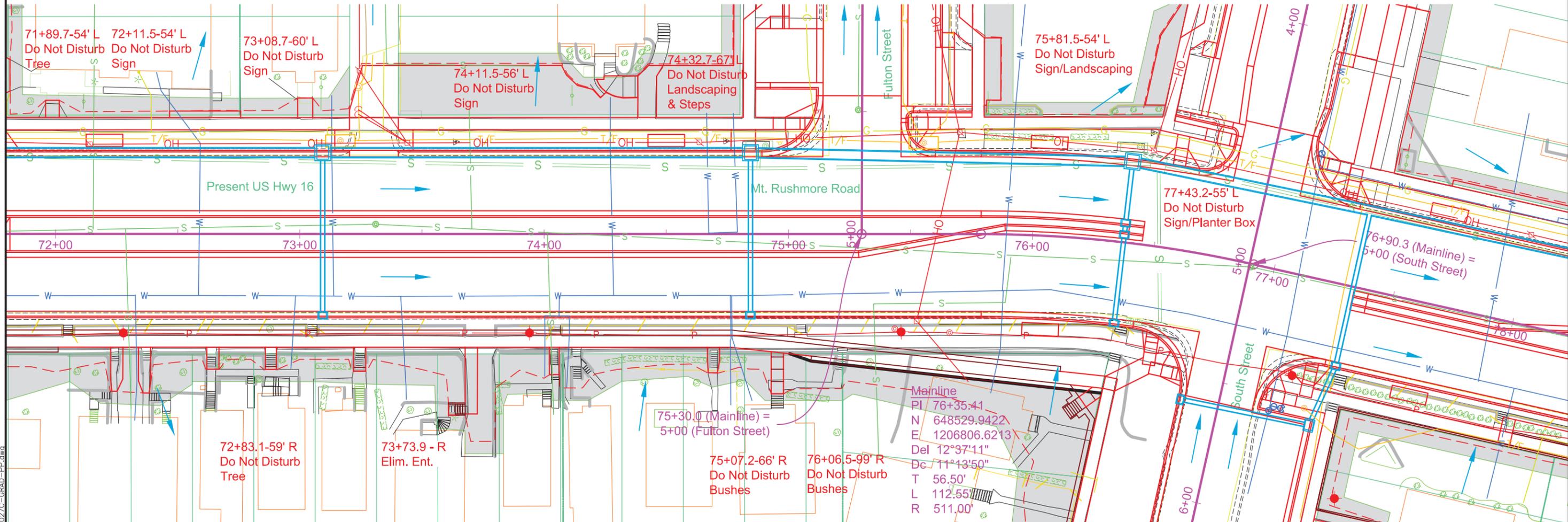
76+37.28 - 3.17' L to
76+37.28 - 7.83' L
Install 18" - 4' RCP
(Between Drop Inlets)

76+37.31 - 33.16' L to
77+33.19 - 31.85' L
Install 42" - 98' RCP
(Between Drop Inlet
& RC Tee)

77+33.19 - 33.17' R to
77+33.19 - 31.85' L
Install 18" - 66' RCP
(Between Drop Inlet
& RC Tee)

77+33.19-31.85' L
Install 42"x18" RC Tee

73+09.36-33.17' R
74+84.46-33.17' R
76+37.23-33.17' R
76+37.28-3.16' L
76+37.28-7.83' L
77+33.19-33.17' R



74+88-27' L to 76+47-34' L
Take Out 162'-42" RCP
(Incidental Work, Grading)

76+47-34' L to 80+32-30' L
Take Out 386'-42" RCP
(Incidental Work, Grading)

Remove Drop Inlets
with Frame and Grate
at the Following Locations:

Remove Junction Box
with Frame and Grate
at the Following Locations:

74+88-36' L to 74+88-27' L
Take Out 8'-18" PVC
(Incidental Work, Grading)

76+48-31' R to 76+57-32' R
Take Out 8'-12" PVC
(Incidental Work, Grading)

74+88-36'L
76+37-39'L
76+44-32'R
76+48-32'R

76+47-34'L
76+57-32'R

76+37-39' L to 76+47-34' L
Take Out 6'-15" PVC
(Incidental Work, Grading)

76+57-32' R to 76+47-34' L
Take Out 64'-12" RCP
(Incidental Work, Grading)

72+83.1-59' R
Do Not Disturb
Tree

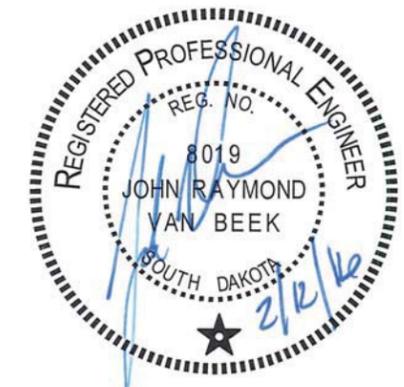
73+73.9 - R
Elim. Ent.

75+30.0 (Mainline) =
5+00 (Fulton Street)

75+07.2-66' R
Do Not Disturb
Bushes

76+06.5-99' R
Do Not Disturb
Bushes

Mainline
PI 76+35.41
N 648529.9422
E 1206806.6213
Del 12°37'11"
Dc 111°13'50"
T 56.50'
L 112.55'
R 511.00'



ST. JAMES STREET PLAN

STATE OF SOUTH DAKOTA	PROJECT NH0016(79)67	SHEET B53	TOTAL SHEETS B135
PLOTING DATE: 02-12-16		REV 02-12-16 JRV	

3+28.67 - 15.67' R to
3+28.67 - 15.67' L
Install 18" - 30' RCP
(Between Drop Inlets)

4+38.73 - 15.67' R to
4+38.73 - 15.34' L
Install 18" - 30' RCP
(Between Drop Inlets)

5+33.05 - 46.38' L to
5+58.54 - 15.67' L
Install 18" - 36' RCP
(Between Drop Inlets)

5+81.69 - 15.67' R to
5+58.54 - 15.67' R
Install 18" - 22' RCP
(Between Drop Inlets)

Install 2'x3' Type B Drop
Inlet with 6" Concrete Collar
and Type B Frame and Grate
at the Following Locations:

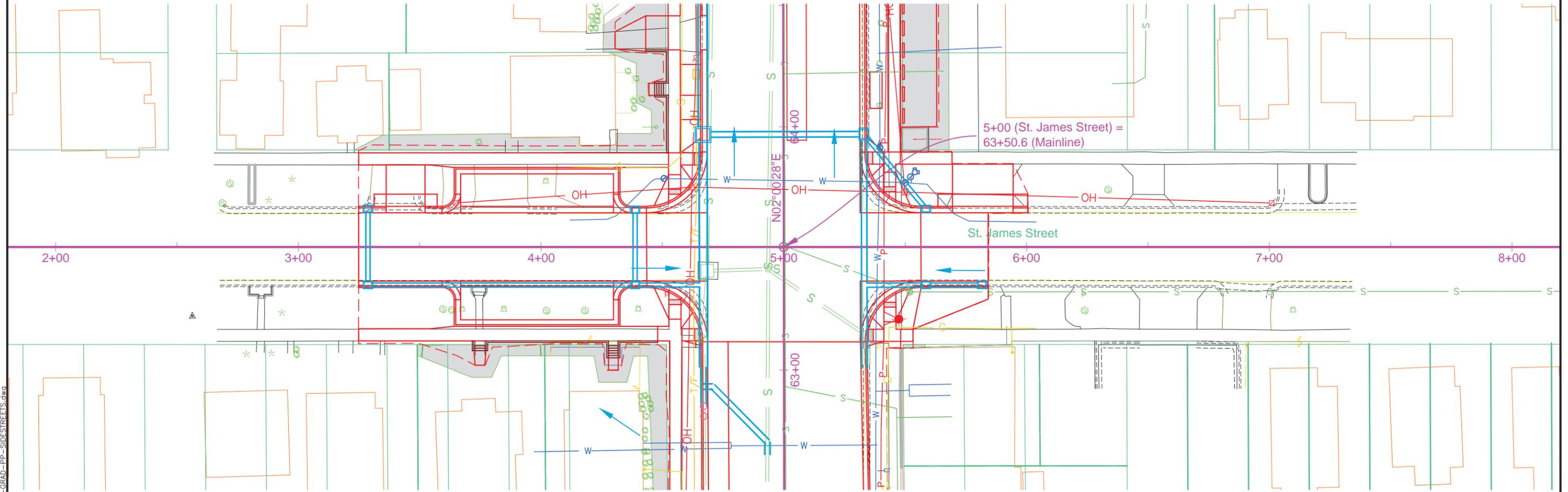
4+38.73-15.34' L
Install 2'x3' Type B Drop
Inlet with 6" Concrete Collar
and Type E Frame and Grate

3+28.67 - 15.67' R to
4+38.73 - 15.67' R
Install 18" - 108' RCP
(Between Drop Inlets)

4+38.73 - 15.67' R to
4+66.91 - 15.58' R
Install 18" - 28' RCP
(Between Drop Inlet
& RC Tee)

5+58.54 - 15.67' R to
5+33.18 - 15.72' R
Install 18" - 24' RCP
(Between Drop Inlet
& RC Tee)

3+28.67-15.67' L
3+28.67-15.67' R
4+38.73-15.67' R
5+58.54-15.67' L
5+58.54-15.67' R
5+81.69-15.67' R



02-12-16 P:\12-16\AutoCAD\PlanSheets\027C\Section_BA\027C-GRAD-PP-SIDESTREETS.dwg



SOUTH STREET PLAN

STATE OF SOUTH DAKOTA	PROJECT NH0016(79)67	SHEET B62	TOTAL SHEETS B135
PLOTING DATE: 02-12-16		REV 02-12-16 JRV	

5+59.17 - 38.00' L to 5+33.17 - 43.44' L
Install 18" - 24' RCP (Between Drop Inlets)

5+60.32 - 15.67' R to 5+59.17 - 38.00' L
Install 18" - 52' RCP (Between Drop Inlets)

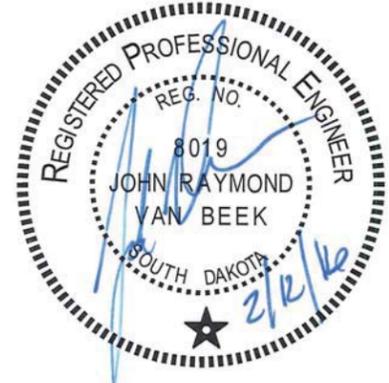
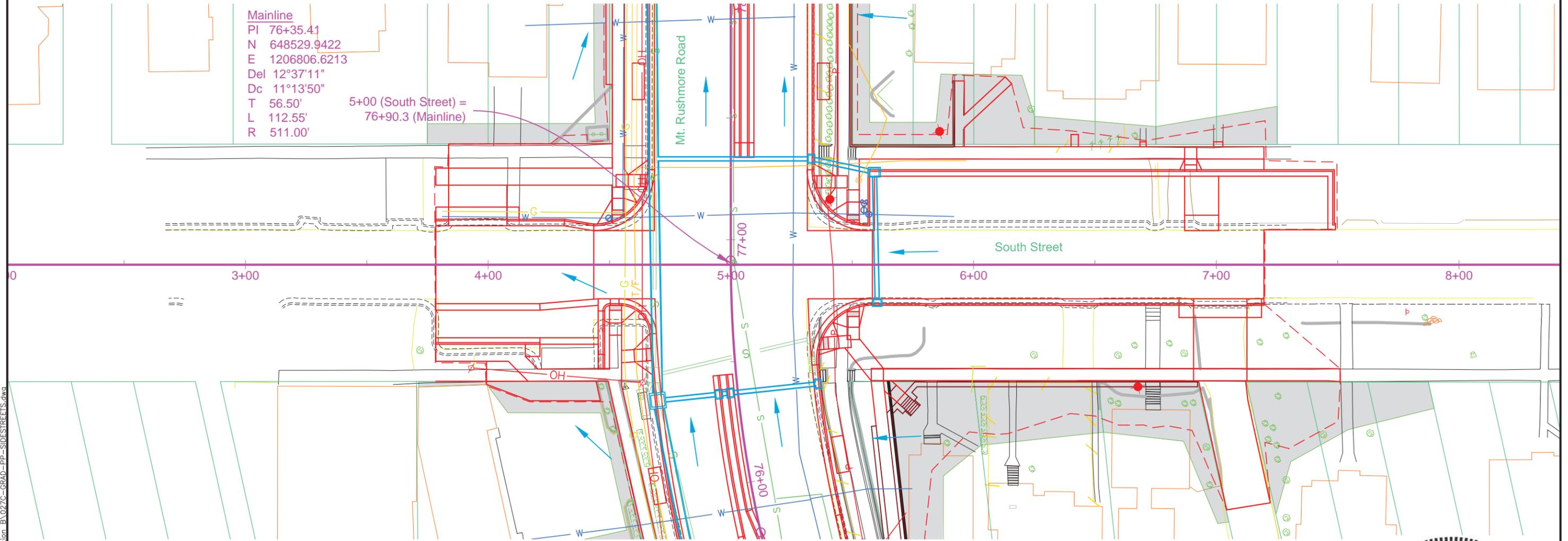
5+60.32 - 15.67' R
Install 2'x3' Type B Drop Inlet with 6" Concrete Collar and Type B Frame and Grate

5+59.17 - 38.00' L
Install 3'x4' Type B Drop Inlet with 6" Concrete Collar and Type B Frame and Grate



Mainline
PI 76+35.41
N 648529.9422
E 1206806.6213
Del 12°37'11"
Dc 11°13'50"
T 56.50'
L 112.55'
R 511.00'

5+00 (South Street) =
76+90.3 (Mainline)



02-12-16 P:\12-16\AutoCAD\PlanSheets\027C\Section_BA027C-GRAD-PP-SIDESTREETS.dwg

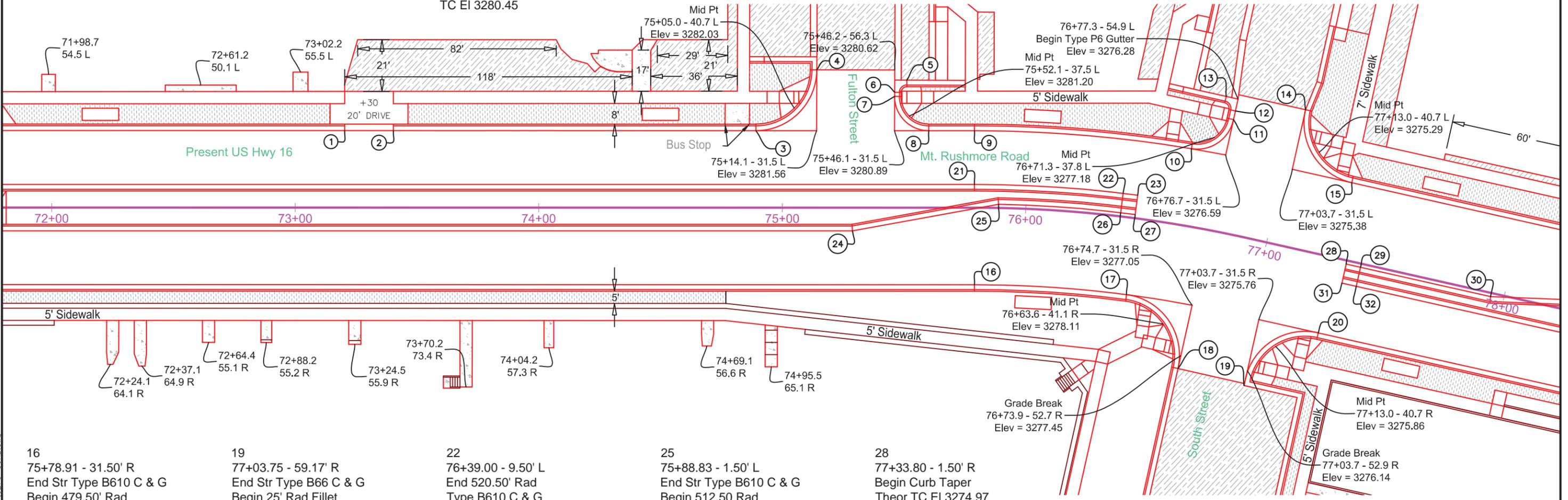
CURB & GUTTER LAYOUT

STATE OF SOUTH DAKOTA	PROJECT NH0016(79)67	SHEET B75	TOTAL SHEETS B135
PLOTING DATE: 02-12-16		REV 02-12-16 JRV	

- 1
73+20.30 - 31.50' L
End Str Type B610 C & G
Begin Type P10 Gutter
Theor TC EI 3283.52
- 2
73+40.30 - 31.50' L
End Type P10 Gutter
Begin Str Type B610 C & G
Theor TC EI 3283.42
- 3
74+89.18 - 31.50' L
End Str Type B610 C & G
Begin 25' Rad Fillet
TC EI 3282.37
- 4
75+14.18 - 56.43' L
End 25' Rad Fillet
Begin Str Type B66 C & G
TC EI 3281.18
- 5
75+51.17 - 52.19' L
End Str Type B66 C & G
Begin 5' Rad Fillet
TC EI 3281.18
- 6
75+46.16 - 47.21' L
End 5' Rad Fillet
Begin Str Type B610 C & G
TC EI 3281.12

- 7
75+46.15 - 45.54' L
End Str Type B610 C & G
Begin 14' Rad Fillet
TC EI 3281.14
- 8
75+60.15 - 31.50' L
End 14' Rad Fillet
Begin Str Type B610 C & G
TC EI 3280.95
- 9
75+78.91 - 31.50' L
End Str Type B610 C & G
Begin 542.50' Rad
Type B610 C & G
TC EI 3280.45
- 10
76+63.19 - 31.50' L
End 542.50' Rad
Type B610 C & G
Begin 15' Rad Fillet
TC EI 3277.56
- 11
76+77.05 - 46.32' L
End 15' Rad Fillet
Begin Str Type B66 C & G
Theor TC EI 3276.81

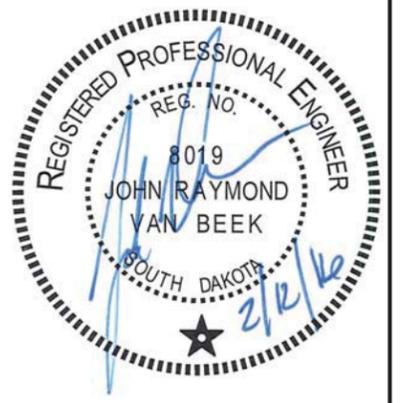
- 12
76+77.14 - 49.92' L
End Str Type B66 C & G
Begin 5' Rad Fillet
Theor TC EI 3276.76
- 13
76+72.75 - 55.08' L
End 5' Rad Fillet
Begin Str Type B66 C & G
TC EI 3276.72
- 14
77+03.74 - 56.50' L
End Str Type B66 C & G
Begin 25' Rad Fillet
TC EI 3275.37
- 15
77+28.78 - 31.50' L
End 25' Rad Fillet
Begin Str Type B610 C & G
TC EI 3274.56



- 16
75+78.91 - 31.50' R
End Str Type B610 C & G
Begin 479.50' Rad
Type B610 C & G
TC EI 3280.83
- 17
76+45.63 - 31.50' R
End 479.50' Rad
Type B610 C & G
Begin 25' Rad Fillet
TC EI 3278.62
- 18
76+73.73 - 58.05' R
End 25' Rad Fillet
Begin Str Type P6 Gutter
TC EI 3277.99
- 19
77+03.75 - 59.17' R
End Str Type B66 C & G
Begin 25' Rad Fillet
TC EI 3276.76
- 20
77+28.75 - 31.50' R
End 25' Rad Fillet
Begin Str Type B610 C & G
TC EI 3274.94
- 21
75+78.91 - 9.50' L
End Str Type B610 C & G
Begin 520.50' Rad
Type B610 C & G
TC EI 3280.89

- 22
76+39.00 - 9.50' L
End 520.50' Rad
Type B610 C & G
Begin Curb Taper
TC EI 3278.93
- 23
76+44.89 - 9.50' L
End 520.50' Rad
End Curb Taper
Theor TC EI 3278.71
- 24
75+28.85 - 9.50' R
End Str Type B610 C & G
Begin Str Type B610 C & G
TC EI 3282.49
- 25
75+88.83 - 1.50' L
End Str Type B610 C & G
Begin 512.50 Rad
Type B610 C & G
TC EI 3280.76
- 26
76+38.90 - 1.50' L
Begin Curb Taper
TC EI 3279.10
- 27
76+44.89 - 1.50' L
End 512.50' Rad
Type B610 C & G
End Curb Taper
Theor TC EI 3278.87

- 28
77+33.80 - 1.50' R
Begin Curb Taper
Theor TC EI 3274.97
- 29
77+39.80 - 1.50' R
End Curb Taper
Begin Str Type B610 C & G
TC EI 3274.67
- 30
77+94.60 - 1.50' R
End Str Type B610 C & G
Begin Str Type B610 C & G
TC EI 3271.95
- 31
77+33.80 - 9.50' R
Begin Curb Taper
Theor TC EI 3275.13
- 32
77+39.80 - 9.50' R
End Curb Taper
Begin Str Type B610 C & G
TC EI 3274.83



* Slope Varies. See Profile Sheets.

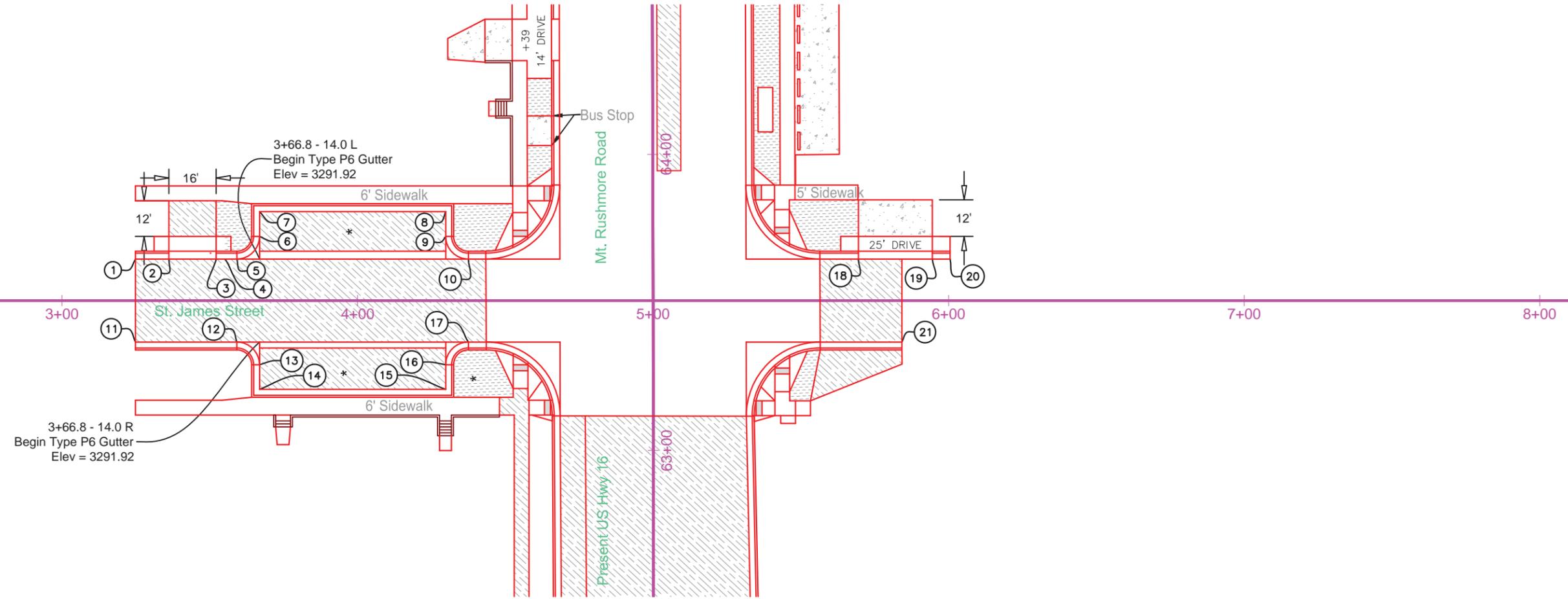
02-12-16 P:\12-16\17\AutoCAD\PlanSheets\0270\Section_B\0270-CURB.dwg

ST. JAMES STREET CURB & GUTTER LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH0016(79)67	B78	B135
PLOTING DATE: 02-16-16		REV 02-16-16 JRV	

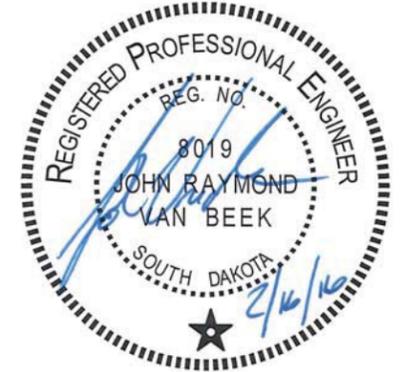


- | | | | | | |
|--|--|--|--|---|---|
| 1
3+24.85 - 14.00' L
Match Existing
Begin Str Type B66 C & G
TC EI 3292.82 | 3
3+52.17 - 14.00' L
End Type P6 Gutter
Begin Str Type B66 C & G
Theor TC EI 3292.83 | 5
3+59.17 - 14.00' L
End Str Type B66 C & G
Begin 7.67' Rad Fillet
TC EI 3292.62 | 7
3+66.83 - 30.06' L
End Str Type B66 C & G
Begin Str Type B66 C & G
TC EI 3292.39 | 9
4+29.83 - 21.67' L
End Str Type B66 C & G
Begin 7.67' Rad Fillet
TC EI 3289.63 | 11
3+24.85 - 14.00' R
Match Existing
Begin Str Type B66 C & G
TC EI 3293.27 |
| 2
3+36.17 - 14.00' L
End Str Type B66 C & G
Begin Type P6 Gutter
Theor TC EI 3293.09 | 4
3+55.17 - 14.00' L
End Str Type B66 C & G
Begin Str Type B66 C & G
TC EI 3292.75 | 6
3+66.83 - 21.67' L
End 7.67' Rad Fillet
Begin Str Type B66 C & G
TC EI 3292.36 | 8
4+29.83 - 30.06' L
End Str Type B66 C & G
Begin Str Type B66 C & G
TC EI 3290.18 | 10
4+37.50 - 14.00' L
End 7.67' Rad Fillet
Begin Str Type B66 C & G
TC EI 3289.04 | 12
3+59.16 - 14.00' R
End Str Type B66 C & G
Begin 7.67' Rad Fillet
TC EI 3292.62 |



-  ASPHALT
-  CONCRETE
-  COLORED CONCRETE BOULEVARD
-  REINFORCED CONCRETE SIDEWALK
-  GRAVEL
-  REINFORCED COLORED CONCRETE SIDEWALK

- | | | | | |
|---|---|---|---|---|
| 13
3+66.83 - 21.67' R
End 7.67' Rad Fillet
Begin Str Type B66 C & G
TC EI 3292.78 | 15
4+29.83 - 29.97' R
End Str Type B66 C & G
Begin Str Type B66 C & G
TC EI 3290.12 | 17
4+37.50 - 14.00' R
End 7.67' Rad Fillet
Begin Str Type B66 C & G
TC EI 3289.30 | 19
5+94.48 - 14.00' L
End Type P6 Gutter
Begin Str Type B66 C & G
Theor TC EI 3290.19 | 21
5+84.18 - 14.00' R
Match Existing
Begin Str Type B66 C & G
TC EI 3290.06 |
| 14
3+66.83 - 29.97' R
End Str Type B66 C & G
Begin Str Type B66 C & G
TC EI 3293.27 | 16
4+29.83 - 21.67' R
End Str Type B66 C & G
Begin 7.67' Rad Fillet
TC EI 3289.69 | 18
5+69.48 - 14.00' L
End Str Type B66 C & G
Begin Type P6 Gutter
Theor TC EI 3289.64 | 20
6+00.48 - 14.00' L
End Str Type B66 C & G
Match Existing
TC EI 3290.35 | |



* Slope Varies. See Profile Sheets.

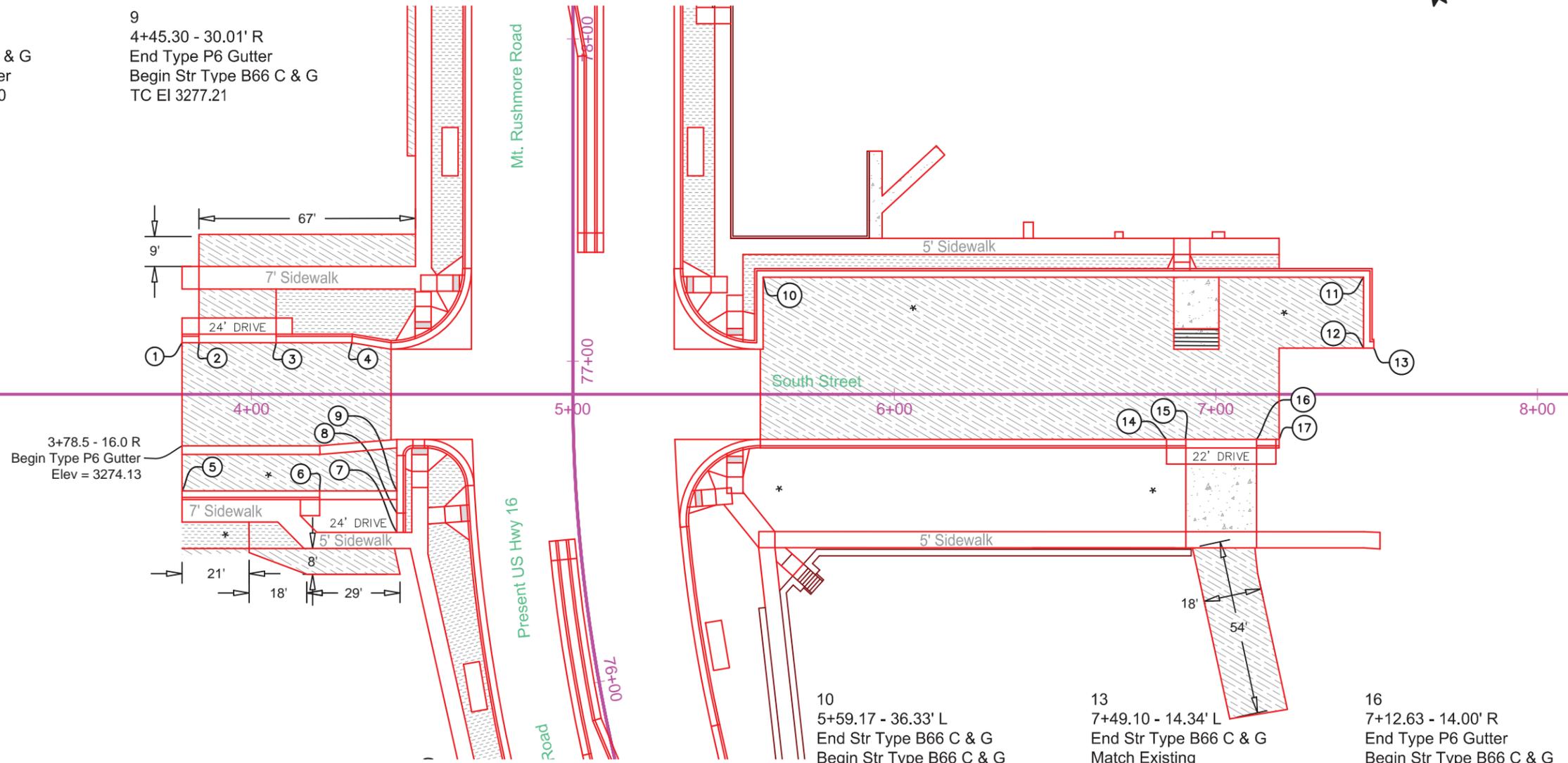
02-16-16 P:\12-117\AutoCAD\PlanSheets\0270\Section_BA0270-CURB-SIDESTREETS.dwg

SOUTH STREET CURB & GUTTER LAYOUT

STATE OF SOUTH DAKOTA	PROJECT NH0016(79)67	SHEET B82	TOTAL SHEETS B135
PLOTING DATE: 02-12-16		REV 02-12-16 JRV	



- | | | |
|---|--|--|
| <p>1
3+78.47 - 16.00' L
Match Existing
Begin Str Type B66 C & G
TC EI 3274.53</p> <p>2
3+83.75 - 16.00' L
End Str Type B66 C & G
Begin Type P6 Gutter
Theor TC EI 3274.66</p> <p>3
4+07.75 - 16.00' L
End Type P6 Gutter
Begin Str Type B66 C & G
Theor TC EI 3274.99</p> | <p>4
4+31.28 - 16.00' L
End Str Type B66 C & G
Begin Str Type B66 C & G
TC EI 3275.21</p> <p>5
3+78.47 - 30.01' R
Begin Str Type B66 C & G
TC EI 3274.71</p> <p>6
4+21.30 - 30.01' R
End Str Type B66 C & G
Begin Type P6 Gutter
Theor TC EI 3276.70</p> | <p>7
4+45.30 - 42.84' R
Begin Str Type B66 C & G
Theor TC EI 3278.18</p> <p>8
4+45.30 - 36.84' R
End Str Type B66 C & G
Begin Str Curb Taper
TC EI 3277.58</p> <p>9
4+45.30 - 30.01' R
End Type P6 Gutter
Begin Str Type B66 C & G
TC EI 3277.21</p> |
|---|--|--|



3+78.5 - 16.0 R
Begin Type P6 Gutter
Elev = 3274.13



- | | | |
|--|--|---|
| <p>10
5+59.17 - 36.33' L
End Str Type B66 C & G
Begin Str Type B66 C & G
TC EI 3275.78</p> <p>11
7+45.93 - 36.33' L
End Str Type B66 C & G
Begin Str Type B66 C & G
TC EI 3288.11</p> <p>12
7+45.93 - 14.34' L
End Str Type B66 C & G
Begin Str Type B66 C & G
TC EI 3288.42</p> | <p>13
7+49.10 - 14.34' L
End Str Type B66 C & G
Match Existing
TC EI 3288.50</p> <p>14
6+84.63 - 14.00' R
End Str Type B66 C & G
Begin Type P6 Gutter
TC EI 3287.32</p> <p>15
6+90.63 - 14.00' R
End Str Type B66 C & G
Begin Type P6 Gutter
Theor TC EI 3287.70</p> | <p>16
7+12.63 - 14.00' R
End Type P6 Gutter
Begin Str Type B66 C & G
Theor TC EI 3288.54</p> <p>17
7+19.63 - 14.00' R
End Str Type B66 C & G
Match Existing
TC EI 3288.36</p> |
|--|--|---|

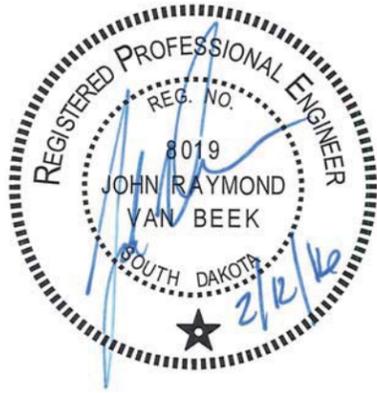
* Slope Varies. See Profile Sheets.

02-12-16 P:\12-117\AutoCAD\PlanSheets\0270\Section_B\0270-CURB-SIDESTREETS.dwg

CURB RAMP LAYOUT

(INTERSECTION OF MT. RUSHMORE RD & FULTON ST.)

STATE OF SOUTH DAKOTA	PROJECT NH0016(79)67	SHEET B88	TOTAL SHEETS B135
PLOTING DATE: 02-12-16		REV 02-12-16 JRV	



1
75+06.73 - 42.69' LT
Bottom of Taper
Theor TC EI 3282.08

2
75+06.73 - 45.19' LT
Begin Detectable Warning
and Ramp Slope

3
74+98.73 - 45.19' LT
End Ramp Slope

4
75+09.68 - 47.65' LT
Bottom of Taper
Theor TC EI 3282.18

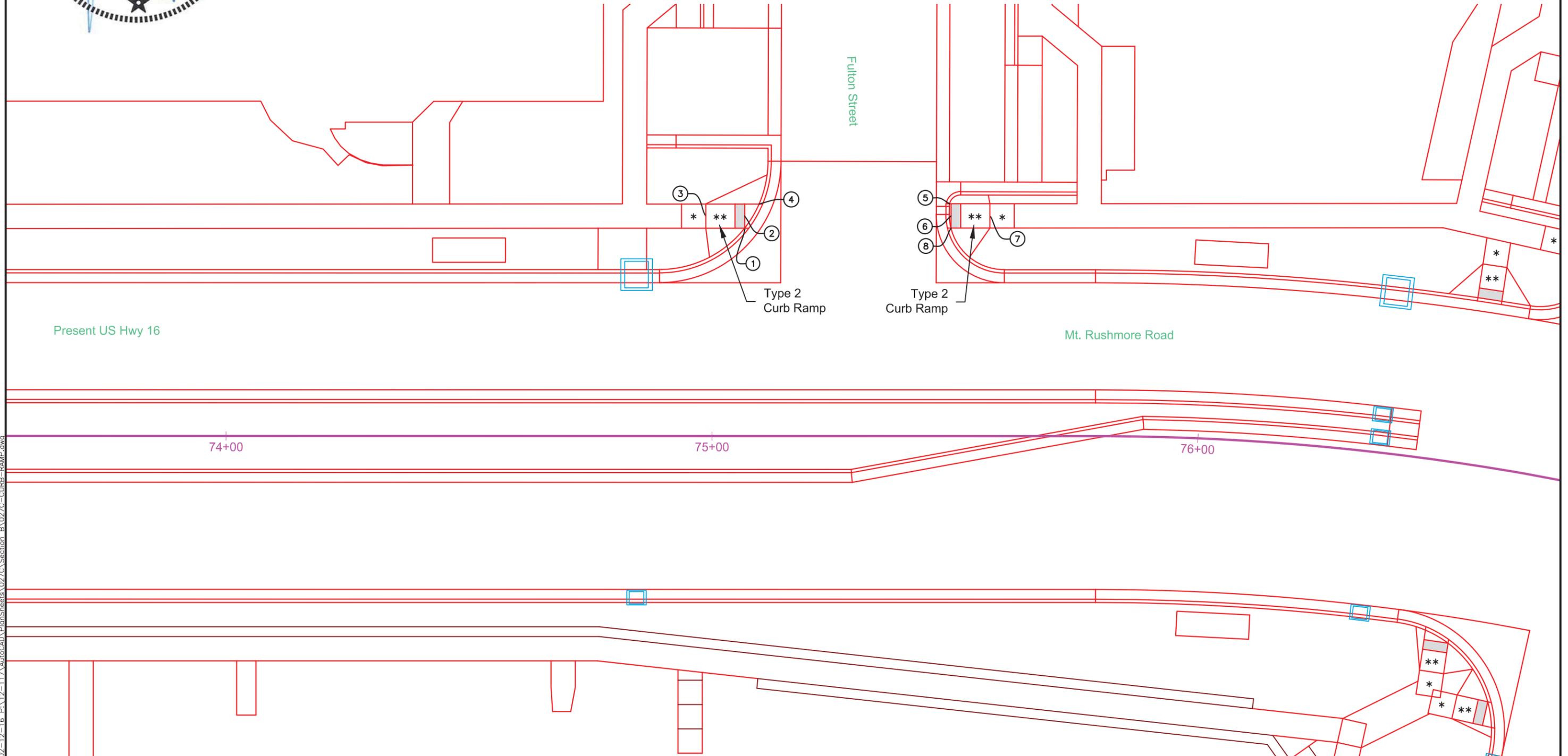
5
75+48.89 - 47.72' LT
Bottom of Taper
Theor TC EI 3281.12

6
75+49.17 - 45.22' LT
Begin Detectable Warning
and Ramp Slope

7
75+57.17 - 45.22' LT
End Ramp Slope

8
75+49.17 - 42.72' LT
Bottom of Taper
Theor TC EI 3281.03

- LEGEND:
- * Turning Space with 1.5% Max Slope
 - ** Curb Ramp with 7.5% Max Slope and 1.5% Max Cross Slope
 - █ Detectable Warning



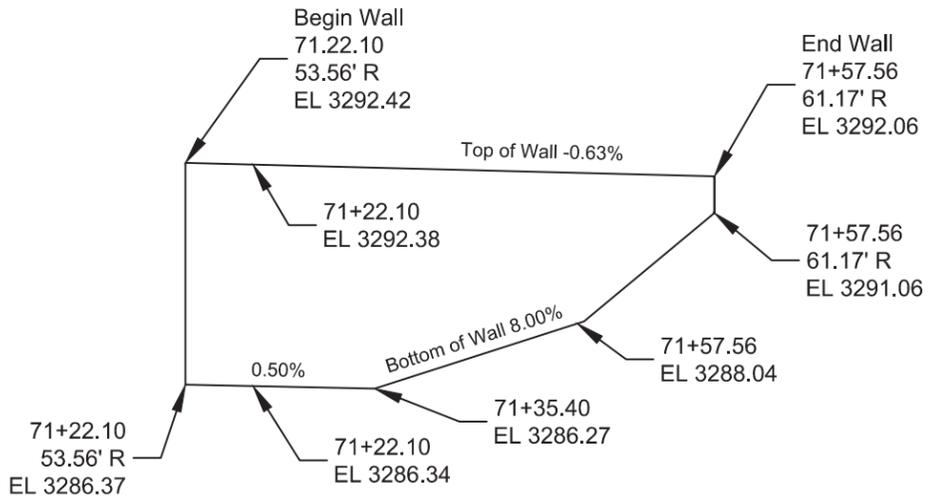
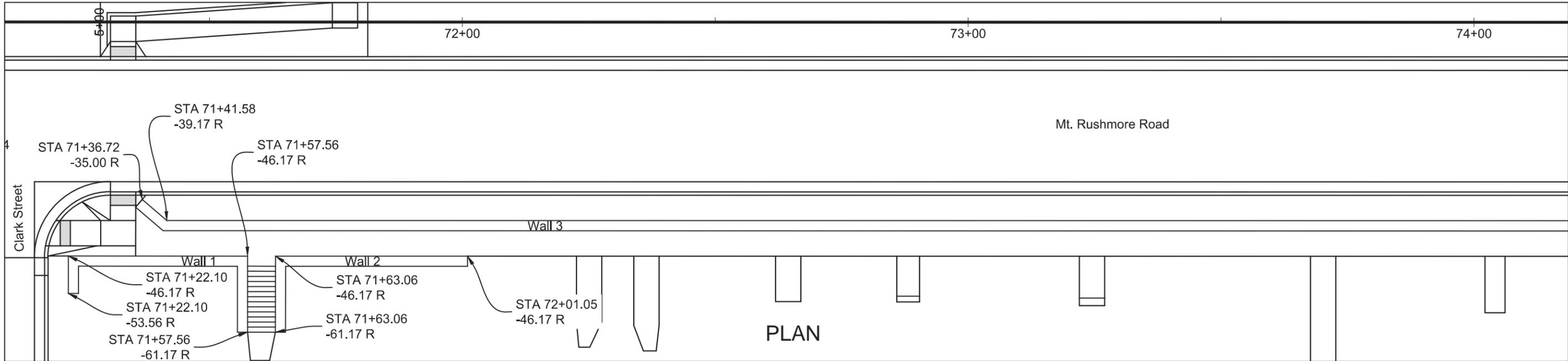


STATE OF SOUTH DAKOTA	PROJECT NH0016(79)67	SHEET B98	TOTAL SHEETS B135
PLOT DATE: 02-12-16		REV 02-12-16 JRV	

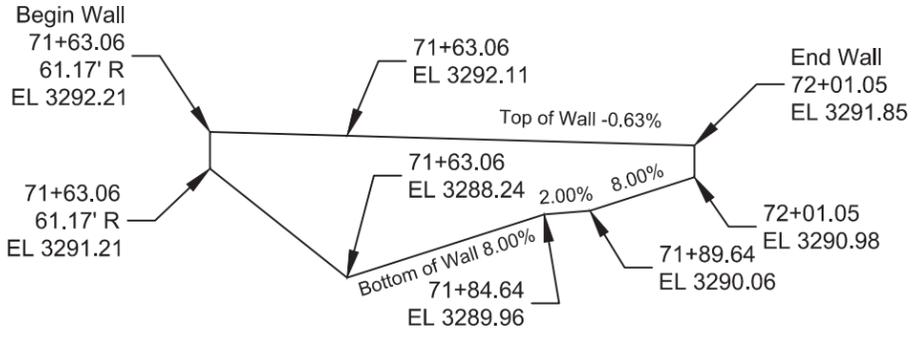
RETAINING WALL LAYOUTS

(GRAVITY LARGE BLOCK WALLS)

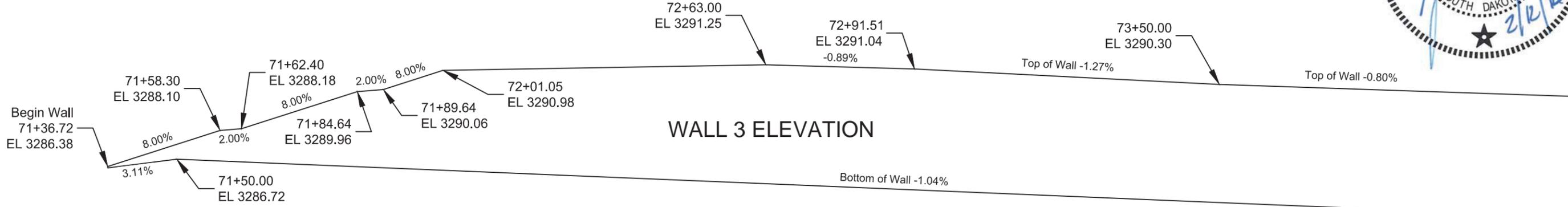
Note: Stations And Offsets Are To Front Face of Wall Otherwise Noted.



WALL 1 ELEVATION



WALL 2 ELEVATION



WALL 3 ELEVATION



02-12-16 P:\12-16\1717\AutoCAD\PlanSheets\027C\Section_B\027C-WALL.dwg

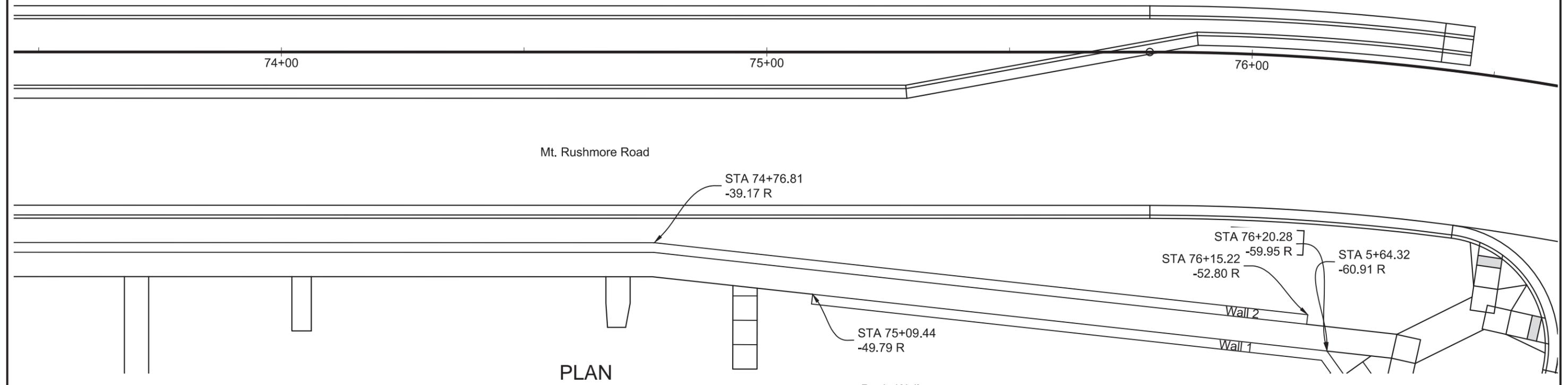
STATE OF SOUTH DAKOTA	PROJECT NH0016(79)67	SHEET B99	TOTAL SHEETS B135
PLOT DATE: 02-12-16		REV 02-12-16 JRV	



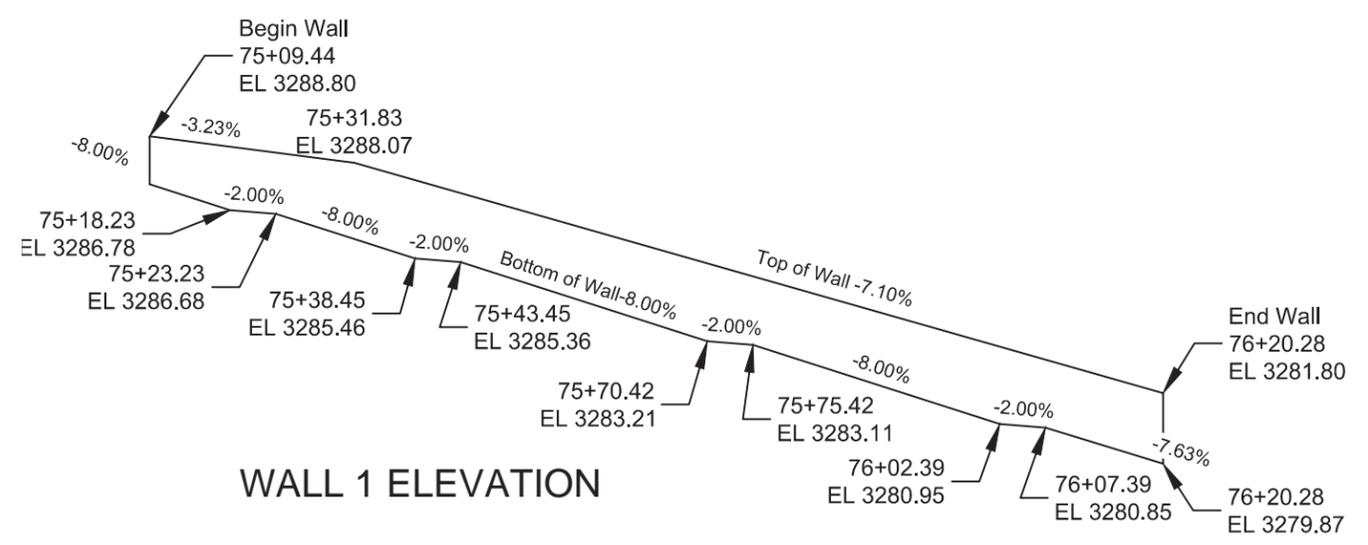
RETAINING WALL LAYOUTS

(GRAVITY LARGE BLOCK WALLS)

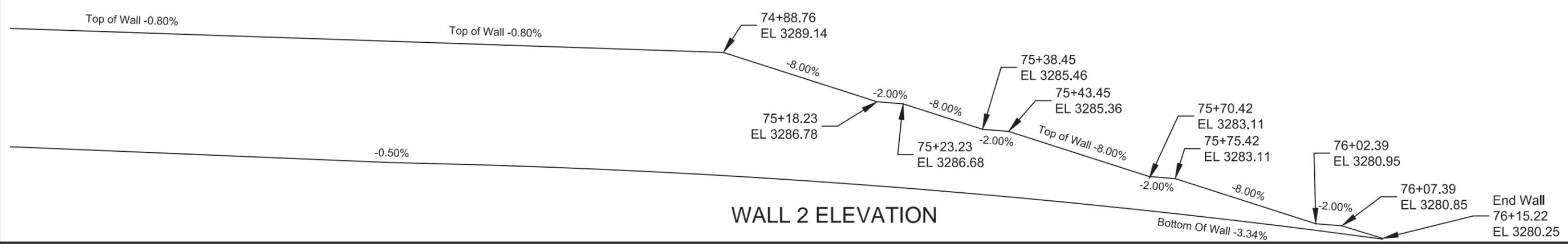
Note: Stations And Offsets Are To Front Face of Wall Unless Otherwise Noted.



PLAN



WALL 1 ELEVATION



WALL 2 ELEVATION

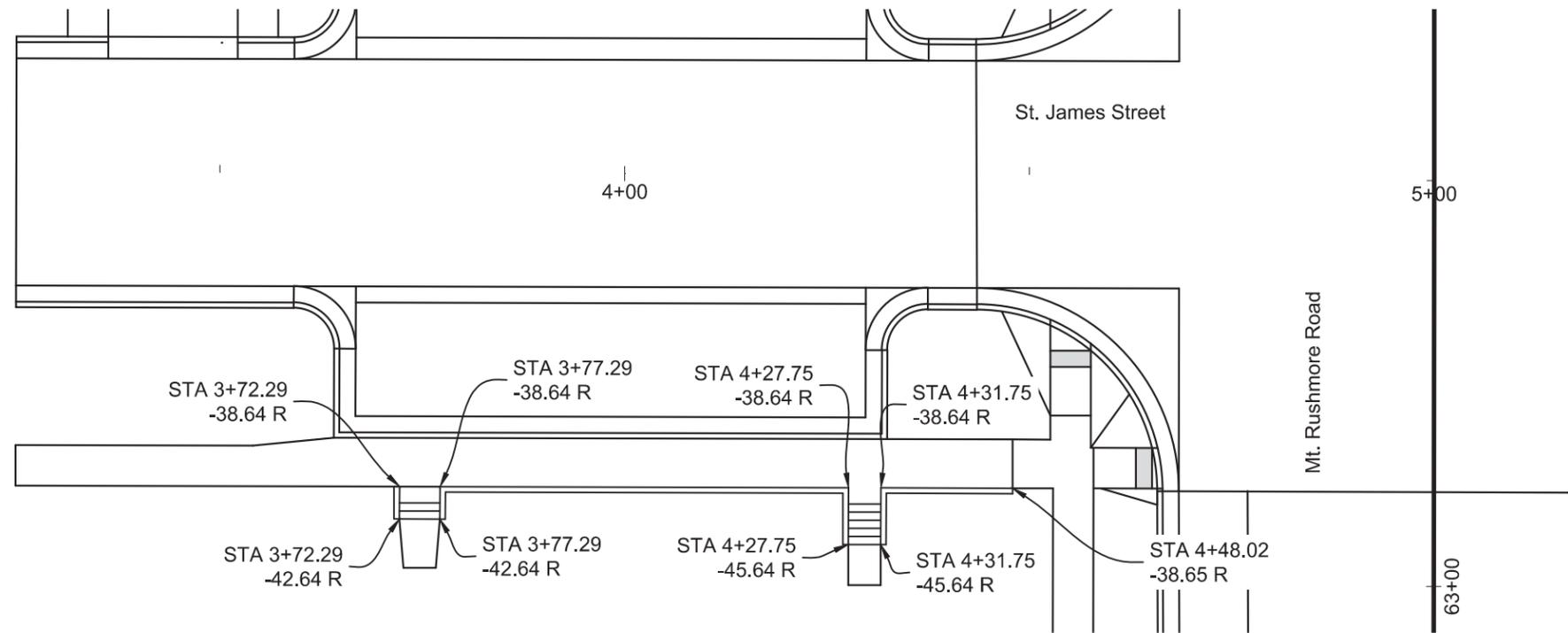
02-12-16 P:\12-17\AutoCAD\PlanSheets\027C\Section_B\027C-WALL.dwg

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH0016(79)67	B101	B135
PLOTTING DATE: 02-12-16		REV 02-12-16 JRV	

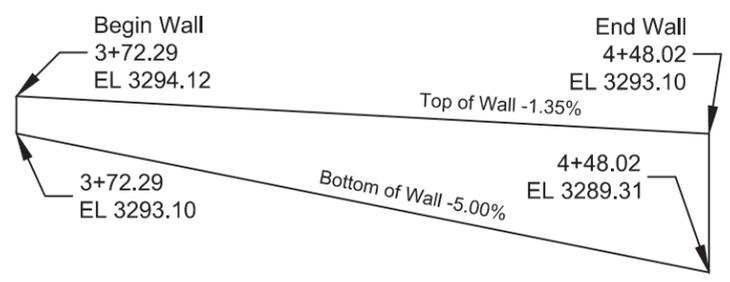
RETAINING WALL LAYOUTS

(SPECIAL TYPE C WALLS)

Note: Stations And Offsets Are To Front Face of Wall Unless Otherwise Noted.

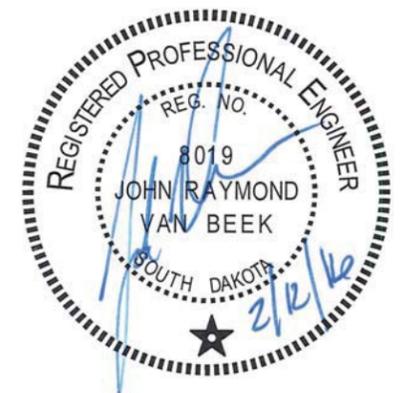


PLAN



ELEVATION

* See Special Provision for Patterning Special Type C Retaining Wall.



02-12-16 P:\12-117\AutoCAD\PlanSheets\027C\Section_B\027C-WALL.dwg

SECTION C ESTIMATE OF QUANTITIES

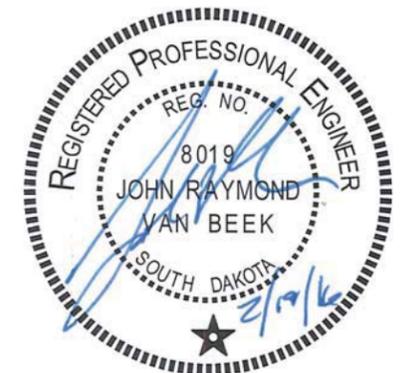
BID ITEM NUMBER	ITEM	QUANTITY	UNIT
634E0010	Flagging	12,000.0	Hour
634E0020	Pilot Car	100.0	Hour
634E0110	Traffic Control Signs	1,086	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0130	Traffic Control Supervisor	50.0	Day
634E0285	Type 3 Barricade, 8' Double Sided	68	Each
634E0330	Temporary Raised Pavement Markers	7,000	Ft
634E0380	Tubular Marker	285	Each
634E0420	Type C Advance Warning Arrow Board	4	Each
634E0560	Remove Pavement Marking, 4" or Equivalent	3,000	Ft
634E0640	Temporary Pavement Marking	88,000	Ft
634E0915	Short Term Temporary Traffic Control Signal	1	Site
634E1002	Detour Signing	170.0	SqFt
634E1020	Temporary Business Signing	1,263.0	SqFt
634E1215	Contractor Furnished Portable Changeable Message Sign	3	Each
634E1255	Contractor Furnished Speed Monitoring Radar Trailer	2	Each
634E2000	Longitudinal Pedestrian Barricade	1,000	Ft
634E2050	Temporary Sidewalk	4,000	SqFt
900E1080	Orange Plastic Safety Fence	2,500	Ft

TRAFFIC CONTROL – GENERAL NOTES

- The intent of the plan sequence of operations is to have the least amount of impact on the traveling public and adjacent businesses. Requests to deviate from the sequence of operations shall be submitted in writing to the Engineer for review. Approval of an alternate sequence of operations will only be allowed when the proposed changes meet with the Department's intent for traffic control and sequencing of the work. Contractor proposed deviation(s) to the sequence shall be submitted for review a minimum of two weeks prior to the Preconstruction meeting or potential implementation date.
- All construction phasing for the City of Rapid City utility project 13-2139, PCN X03L shall coincide with construction phasing for this project.
- The Contractor shall be aware of the City of Rapid City project on 9th Street scheduled to occur at the same time as this project. The Contractor shall coordinate with the 9th Street project Contractor.
- Traffic control shall at all times be maintained in accordance with applicable MUTCD Standards, Section 634 of the Specifications and these plans.
- All taper lengths shall be according to the standard plates in these plans and the MUTCD. Taper lengths shall be laid out and verified by the Engineer prior to installation.

- The Rapid City Region Traffic Engineer and City of Rapid City Traffic Divisions shall be contacted 1 week prior to any signal phase changes within the project limits as the traffic signal timings may need to be adjusted.
- The speed limit on Mt. Rushmore Road shall be 25 mph when lane closures are in place.
- Except for material deliveries, traffic on Mt. Rushmore Road shall not be stopped for any period of time unless approved by the Engineer.
- Traffic shall be maintained in 11 ft. minimum lane widths. If conditions warrant, lane width may be reduced to no less than 10 ft. with the Engineer's approval.
- The Contractor shall be required to have a person available 24 hours/day, 7 days/week to maintain traffic control devices. The name and cellular telephone number of this individual shall be given to the Engineer at the preconstruction meeting.
- The Contractor or designated traffic control subcontractor shall make night inspections at the initial set up of traffic control and every week thereafter to ensure the adequacy, legibility and reflectivity of each sign and device. A written summary of each inspection shall be given to the Engineer within 24 hours after completion of the inspection. The cost for the nighttime inspection work shall be incidental to the contract lump sum price for "Traffic Control, Miscellaneous."
- As pertaining to covering or removing non-applicable traffic control devices, a period of inactivity is defined as 1 day.
- The bottom of all signs on portable or temporary supports shall not be less than seven feet above the pavement in urban areas and one foot above the pavement in rural areas. Portable sign supports may be used as long as the duration is less than 3 days. If the duration is more than 3 days, the signs shall be mounted on fixed location supports during the time of initial installation, except portable sign supports will be allowed where surfacing prohibits installation.
- Driveways, streets, and roadways that enter the project shall be delineated such that they are clearly visible during all hours. Freestanding, reflective traffic control barrels shall be used. Cost for this delineation shall be incidental to the contract lump sum price for "Traffic Control, Miscellaneous."
- The Contractor shall keep the portion of the project being used by public traffic in a condition that will adequately and safely accommodate traffic. A power broom meeting the City of Rapid City Air Quality Standards (a pickup type street sweeper with sufficient water), will be required to clean all loose debris off of paved surfacing.
- At no time during construction shall a vertical drop-off of greater than 16" be left overnight adjacent to the traveled way. The Contractor may utilize embankment material or existing gravel cushion to ensure a 16" vertical drop-off is not exceeded. Vertical drop-offs greater than 16" shall be shouldered to a 3:1 minimum slope. No separate payment will be made for constructing these slopes.

- Grading operations shall be conducted such that access to individual business entrances shall be maintained throughout the duration of the project. Entrances shall be graded simultaneously with roadway embankment and excavations. Accesses may be closed temporarily if the Contractor makes arrangements in writing with the business owner 7 days prior to the scheduled closure and receives approval from the Engineer.
- It may be necessary to temporarily omit curb and gutter and provide temporary gravel ramps to maintain streets and approaches. All costs to perform ½ width construction on approaches and streets shall be include in the various associated contract bid items.
- Parking of equipment during non-working hours shall be in locations that do not hinder the visibility of accesses to adjacent businesses. Any damage to the vegetation, surfacing, embankment, delineators and existing signs resulting from such indiscriminate use shall be repaired and/or restored by the Contractor, at no expense to the State, and to the satisfaction of the Engineer.
- All truck hauling shall be restricted to the State Highway System. Empty trucks may use the following City streets to turn around: St. James St., 7th St. and Fairview St. Any other proposed use of City streets shall be submitted to and approved by the Engineer prior to using City streets.
- Hauling material to and from the project site shall be conducted in a safe manner by utilizing flaggers and appropriate traffic control devices to control traffic on Mt. Rushmore Road.
- Construction equipment and materials shall not be unloaded from lanes open to traffic.
- Permanent traffic control items shall be installed prior to opening the completed roadway to traffic.
- When installing storm pipes near active traffic lanes, the Contractor shall backfill excavations as soon as possible to mitigate drop-off hazards. No open excavations shall be left unattended or unprotected.



SECTION D ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
110E1690	Remove Sediment	18.0	CuYd
110E1693	Remove Erosion Control Wattle	75	Ft
110E1695	Remove Sediment Filter Bag	612	Ft
110E1697	Remove Triangular Silt Barrier	288	Ft
110E1700	Remove Silt Fence	418	Ft
120E6300	Water for Vegetation	40.2	MGal
230E0020	Placing Contractor Furnished Topsoil	196	CuYd
731E0100	Fertilizing	60	Lb
733E0100	Sodding	2,926	SqYd
734E0042	Soil Stabilizer	577.0	SqYd
734E0154	12" Diameter Erosion Control Wattle	300	Ft
734E0165	Remove and Reset Erosion Control Wattle	75	Ft
734E0180	Sediment Filter Bag	2,447	Ft
734E0425	Triangular Silt Barrier	1,152	Ft
734E0604	High Flow Silt Fence	1,670	Ft
734E0610	Mucking Silt Fence	116	CuYd
734E0620	Repair Silt Fence	418	Ft
734E0845	Sediment Control at Inlet with Frame and Grate	68	Each
734E0847	Sediment Control at Type S Reinforced Concrete Drop Inlet	18	Ft
734E3100	Portable Sediment Containment System	1	Each
734E5000	Dewatering	100	Hour
734E5010	Sweeping	250	Hour
900E1320	Construction Entrance	8	Each

MODIFICATIONS TO THE EROSION AND SEDIMENT CONTROL PLAN TO PREVENT FLOODING AND PROPERTY DAMAGE

The contractor shall provide to the Engineer the name and phone number of an individual who shall be available 24/7 for the emergency management of erosion and sediment control devices. Additionally, the contractor shall have personnel on site during rain events to adjust, modify or remove erosion or sediment control devices to prevent flooding within the right of way or private property. In the event that any device is modified or removed the Engineer shall be immediately notified to discuss and implement any erosion and sediment control alternatives.

PLACING CONTRACTOR FURNISHED TOPSOIL

The Contractor will be required to furnish and place 4 inches of topsoil within the right-of-way and 6 inches of topsoil on temporary easements.

All costs to furnish and place the topsoil shall be incidental to the contract unit price per cubic yard for "Placing Contractor Furnished Topsoil".

The estimated amount of topsoil to be placed is as follows:

Station	to	Station	Topsoil (CuYd)	
62+49	Lt	63+34	Lt	22
63+67	Lt	64+31	Lt	9
64+46	Lt	64+81	Lt	1
67+52	Lt	68+02	Lt	4
69+49	Rt	70+82	Rt	6
69+85	Lt	70+45	Lt	3
70+51	Lt	70+81	Lt	1
70+87	Lt	71+14	Lt	2
71+18	Rt	74+02	Rt	25
71+52	Lt	71+75	Lt	1
71+79	Lt	73+20	Lt	5
74+16	Rt	74+82	Rt	6
74+77	Rt	76+71	Rt	74
74+82	Rt	75+22	Rt	5
74+87	Lt	74+91	Lt	1
77+39	Rt	78+29	Rt	19
78+29	Rt	78+67	Rt	1
79+62	Rt	80+40	Rt	2
81+33	Lt	81+59	Lt	1
82+43	Lt	82+79	Lt	2
84+20	Lt	84+54	Lt	6

Total: 196

MYCORRHIZAL INOCULUM

Mycorrhizal inoculum shall 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 shall provide certification of the fungal species claimed and the live propagule count. The inoculum shall include the following fungal species:

<i>Glomus intraradices</i>	25%
<i>Glomus aggregatu</i>	25%
<i>Glomus mosseae</i>	25%
<i>Glomus etunicatum</i>	25%

Prior to placing sod, apply a minimum of 25,000 live propagules of inoculum per 1,000 square feet on bare soil. All costs of inoculating for the sod shall be incidental to the contract unit price per square yard for "Sodding".

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

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

FERTILIZING

A commercial fertilizer with a minimum guaranteed analysis of 11-52-0 or an approved alternate fertilizer shall be applied to areas designated for sodding immediately before the sod is placed and incorporated into the soil to a depth of 2". The application rate of fertilizer shall be 3 pounds per 1000 square feet.

SODDING

Sod shall be placed behind curb and gutter sections in residential areas at locations specified in the plans and at locations determined by the Engineer during construction.

An estimated 18 Gallons of water per square yard of sod was used to compute the quantity for the bid item "Water for Vegetation". All costs involved for watering the sod shall be incidental to the contract unit price per MGal for "Water for Vegetation".

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH0016(79)67	D2	D20



SECTION F ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E3320	Checker	Lump Sum	LS
* 120E6200	Water for Granular Material	3.1	MGal
120E6200	Water for Granular Material	290.4	MGal
* 260E2010	Gravel Cushion	259.0	Ton
260E2010	Gravel Cushion	24,214.4	Ton
* 320E1200	Asphalt Concrete Composite	97.8	Ton
320E1200	Asphalt Concrete Composite	1,651.2	Ton
320E2000	Maintenance Patching	100.0	Ton
380E0090	10" Nonreinforced PCC Pavement	15,530.6	SqYd
380E2574	4" Barrier Type Colored and Patterned Median PCC Pavement	208.3	SqYd
380E3040	8" PCC Driveway Pavement	733.7	SqYd
380E3042	8" Fast Track Concrete Driveway Pavement	29.8	SqYd
380E5010	Fast Track Concrete	1,594.5	SqYd
380E6000	Dowel Bar	8,703	Each
380E6110	Insert Steel Bar in PCC Pavement	322	Each
380E9010	Temporary Gravel Crossing	6	Each
390E0100	Saw and Seal Joint	202	Ft
390E0200	Repair Type A Spall	72.5	SqFt
831E0300	Reinforcement Fabric (MSE)	11,399	SqYd
900E1350	Temporary Surfacing	3,000.0	SqFt

* - Denotes Non-Participating

SURFACING THICKNESS DIMENSIONS

Plans tonnage will be applied even though the thickness may vary from that shown on the plans.

At those locations where material must be placed to achieve a required elevation, plans tonnage may be varied to achieve the required elevation.

RECLAIMED CONCRETE AGGREGATE

Recycled Portland cement concrete pavement (RCA) removed from within the project limits may be crushed and reused as gravel cushion provided that it meets the requirements for the granular material it is replacing. All in place rebar shall be separated and removed from the RCA.

There is an estimated 7,225.6 tons of PCC Pavement on this project that can be crushed and reused. This quantity is based on a unit weight of 118 lbs. per cubic foot for the reclaimed concrete aggregate.

The Contractor shall dispose of the material (including existing rebar) not utilized on the project at a site approved by the Engineer.

Payment for the reclaimed concrete aggregate will be at the contract unit price per ton for granular material that it is replacing.

CHECKING SPREAD RATES

The Contractor shall be responsible for checking the Gravel Cushion spread rates and taking the weigh delivery tickets as the surfacing material arrives on the project and is placed onto the roadway.

The Contractor shall compute the required spread rates for each typical surfacing section and create a spread chart prior to the start of material delivery and placement. The Engineer will review and check the Contractor's calculations and spread charts. The station to station spread shall be written on each ticket as the surfacing material is delivered to the roadway.

At the end of each day's shift, the Contractor shall verify the following:

- All tickets are present and accounted for,
- The quantity summary for each item is calculated,
- The amount of material wasted if any,
- Each day's ticket summary is marked with the corresponding 'computed by',
- The ticket summary is initialed and certified that the delivered and placed quantity is correct.

All daily tickets and the summary by item shall be given to the Engineer no later than the following morning.

If the checker is not properly and accurately performing the required duties, the Contractor shall correct the problem or replace the checker with an individual capable of performing the duties to the satisfaction of the Engineer. Failure to do so will result in suspension of the work.

The Department will perform depth checks. The Contractor shall be responsible for placement of material to the correct depth unless otherwise directed by the Engineer. If the placed material is not within a tolerance of ±1/2 inch of the plan shown depth, the Contractor shall correct the problem at no additional cost to the Department. Excess material above the tolerance will not be paid for. Achieving the correct depth may require picking up and moving material or other action as required by the Engineer.

All costs for providing the Contractor furnished checker and performing all related duties shall be incidental to the contract lump sum price for the "Checker". No allowances will be made to the contract lump sum price for Checker due to authorized quantity variations unless the quantities for the material being checked vary above or below the estimated quantities by more than 25 percent. Payment for the Checker shall then be increased or decreased by the same proportion as the placed material quantity bears to the estimated material quantity.

TEMPORARY GRAVEL CROSSINGS

Included in the Estimate of Quantities are 6 temporary gravel crossings to be used if required and placed as directed by the Engineer.

ASPHALT CONCRETE COMPOSITE

Asphalt Concrete Composite shall be used for intersection tie ins, driveways and other areas as directed by the Engineer. The size of these areas and the amount of asphalt needed will vary from site to site.

8" and 10" NONREINFORCED CONCRETE PAVEMENT

The fine aggregate may require screening as determined by the Engineer.

The concrete mix shall conform to the special provision for Contractor Furnished Mix Design for PCC Pavement.

In lieu of an automatic subgrader operating from a preset line, a motor grader or other suitable equipment may be used to bring the gravel cushion to final grade prior to placement of concrete.

A minimum of 3 pavement blockouts may be required at various locations on this project to facilitate traffic during the paving activity.

The surface of the mainline paving shall be a heavy carpet drag finish.

A construction joint will be sawed whenever new concrete pavement is placed adjacent to existing concrete pavement.

STATE OF SOUTH DAKOTA	PROJECT NH 0016(79)68	SHEET F2	TOTAL SHEETS F25
-----------------------	--------------------------	-------------	---------------------

Plotting Date: 02/12/2016
Revised: 02-12-2016 LLA

The transverse contraction joints shall be perpendicular to the centerline as detailed in the standard plates 380.01 and 380.09. In multilane areas the transverse contraction joints shall be perpendicular to the centerline and be in a straight line across the width of the pavement. In special situations the Engineer may pre-approve transverse contraction joints that do not meet these requirements. All nonconforming transverse contraction joints that are not pre-approved shall be removed at the Contractor's expense. Any method of placement that cannot produce these requirements shall not be allowed to continue.

TABLE OF 10" NONREINFORCED PCC PAVEMENT

Location			NONREINFORCED PCC PAVEMENT (SqYd)
Sta.	to	Sta.	
Mainline			
63+11.60	to	63+94.46	366.1
63+94.46	to	66+91.79	1,484.3
66+91.79	to	67+79.44	836.1
67+79.44	to	70+75.36	1,408.7
70+75.36	to	71+83.42	376.5
71+83.42	to	74+80.00	1,450.0
74+80.00	to	75+64.22	512.9
75+64.22	to	76+44.90	486.0
76+44.90	to	77+33.90	495.5
77+33.90	to	80+44.43	1,838.5
80+44.43	to	81+37.30	1,456.0
81+37.30	to	84+41.28	1,830.3
84+41.28	to	85+40.00	1,074.1
85+40.00	to	88+01.30	1,915.8
Total:			15,530.6

TABLE OF 10" INTERSECTING ROADS PCC PAVEMENT

Location		NONREINFORCED PCC PAVEMENT (SqYd)
Station	Description	
63+50.62	ST James Street - West	77.8
63+50.62	ST James Street - East	77.7
67+35.74	Fairview Street - West	142.0
67+35.74	Fairview Street - East	141.7
71+04.93	Clark Street - East	77.8
71+30.42	Clark Street - West	35.0
75+29.92	Fulton Street - West	88.5
76+89.94	South Street - West	78.1
76+89.94	South Street - East	83.1
80+89.39	Columbus Street - West	473.6
80+89.39	Columbus Street - East	366.2
84+89.20	Quincy Street - West	437.6
84+89.20	Quincy Street - East	268.2
Total:		*2,347.4

*Table of 10" Intersecting Roads PCC Pavement quantities are for informational purposes only and are included in Mainline and Fast Track PCC quantities.

Plot Scale - 1:200

Plotted From - tpr18387

File - ...:\p\perm027\Notes\SectionF.dgn

TABLE OF QUANTITIES – CONTINUED

STATE OF SOUTH DAKOTA	PROJECT NH 0016(79)68	SHEET F7	TOTAL SHEETS F25
-----------------------	--------------------------	-------------	---------------------

Plotting Date: 02/12/2016

Revised: 02-12-2016 LLA

LOCATION	WATER FOR GRANULAR MATERIAL (MGal)	GRAVEL CUSHION (Ton)	ASPHALT CONCRETE COMPOSITE	
			1st Lift (Ton)	Top Lift (Ton)
Station to Station				
Driveways				
* Sta. 63+ 27 L	0.8	65.9	13.7	13.7
Sta. 63+28 R	0.2	18.2	4.8	4.8
* Sta. 63+74 L	1.1	95.8	13.2	13.2
Sta. 63+77 R	0.1	11.2	---	---
Sta. 63+78 L	0.2	18.4	3.0	3.0
Sta. 64+38 L	0.2	13.9	---	---
Sta. 64+50 R	0.6	47.0	---	---
Sta. 65+40 L	0.6	52.5	9.9	9.9
Sta. 66+00 R	1.6	131.7	29.0	29.0
Sta. 67+03 R	0.2	19.5	---	---
Sta. 67+08 L	0.9	74.7	22.9	22.9
* Sta. 67+60 L	1.2	97.3	22.0	22.0
Sta. 67+63 R	0.2	13.8	---	---
Sta. 67+80 R	0.2	19.8	3.1	3.1
Sta. 68+63 L	0.8	62.6	11.9	11.9
Sta. 69+30 L	0.7	60.4	12.0	12.0
Sta. 69+30 R	0.3	24.7	2.0	2.0
Sta. 70+98 L	0.9	70.9	17.0	17.0
Sta. 71+60 L	1.9	157.9	38.6	38.6
Sta. 73+70 L	1.7	140.3	33.2	33.2
Sta. 74+66 L	0.7	58.3	15.6	15.6
Sta. 74+99 L	0.4	35.4	8.6	8.6
Sta. 75+06 L	0.2	19.9	4.2	4.2
Sta. 75+54 L	0.6	50.2	9.9	9.9
Sta. 75+70 L	0.2	18.0	3.0	3.0
Sta. 75+72 R	0.7	56.1	15.0	15.0
Sta. 75+83 L	0.1	10.2	2.7	2.7
Sta. 76+33 R	0.2	18.4	---	---
Sta. 76+44 L	1.0	82.9	17.0	17.0
Sta. 76+56 L	0.8	67.8	---	---
Sta. 77+15 R	3.1	258.4	59.9	59.9
Sta. 77+17 L	0.3	25.7	3.3	3.3
Sta. 77+18 R	0.3	22.9	---	---
Sta. 77+34 L	0.2	19.1	4.9	4.9
Sta. 78+42 L	0.7	61.2	---	---
Sta. 79+00 R	1.0	83.8	22.4	22.4
Sta. 82+90 L	0.5	37.8	3.8	3.8
Sta. 82+90 R	0.5	37.8	4.5	4.5
Sta. 84+09 R	0.3	21.0	---	---
Sta. 86+20 L	0.2	19.5	---	---
Sta. 86+67 L	0.1	6.5	---	---
Sta. 86+88 R	0.3	21.2	0.7	0.7
Sta. 86+90 L	0.3	24.4	6.6	6.6
Sta. 87+70 R	0.4	35.0	3.4	3.4
Median Asphalt Concrete	3.0	251.5	67.2	67.2
Unstable Subgrade Material	74.9	6,245.0	---	---
Temporary Sidewalk SW Quadrant of St. James	0.1	4.5	---	7.2
Totals:	293.5	24,473.4	1,749.0	

* Denotes Non-Participating

1:200 Plot Scale -

Plotted From - trp18387

File - ...:\p\penm027\NotesSectionF.dgn