

Pennington County
IM 1902(61)0
PCN 1162

A Pre-Bid meeting will be held at the Rapid City Region Office (2300 Eglin Street) from 9:00am to 11:00am MT on Tuesday, June 30, 2015. All interested parties are strongly encouraged to attend.

FOR BIDDING PURPOSES ONLY



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CITY OF RAPID CITY
PUBLIC WORKS DEPARTMENT
ENGINEERING DIVISION

SILVER STREET INTERCHANGE UTILITY RECONSTRUCTION PROJECT

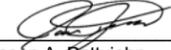
CITY OF RAPID CITY PROJECT NO. 12-2053

CIP# 50940

PCN X03T

JUNE 2015

I the Undersigned certify that I have read and understand the provisions contained in the City of Rapid City Standard Specifications for Public Works Construction, current edition and the City of Rapid City's adopted Design Criteria Manuals. The drawings and specifications contained here within, to the best of my knowledge, were prepared in accordance with these documents or a properly executed exception to the Standard Specifications and/or Infrastructure Design Criteria Manual has been secured.


Jason A. Pettyjohn Date 6/8/15


Richard A. Sudmeier Date 6/8/15



PROJECT LOCATION MAP NOT TO SCALE

**PROJECT
LOCATION**

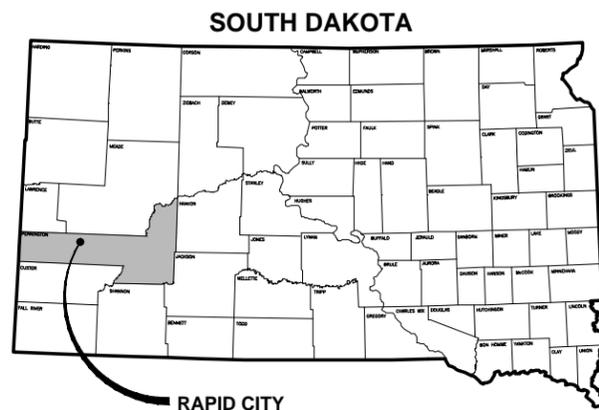
INDEX OF SECTIONS

- SECTION A OVERALL QUANTITIES, GENERAL NOTES, LEGEND, AND STAGING AREA
- SECTION B STORM WATER IMPROVEMENT PLANS
- SECTION D EROSION CONTROL PLANS
- SECTION G UTILITY PLANS

Plan Set Number :

2 SILVER STREET INTERCHANGE
UTILITY RECONSTRUCTION PROJECT
CITY OF RAPID CITY PROJECT NO. 12-2053

STORM WATER PERMIT
Major Receiving Body of Water: Rapid Creek
Area Disturbed: 39.2 Acres
Total Project Area: 39.2 Acres
Approximate Begin Lat/Long: 44.0861, -103.2334



ONE CALL
BEFORE DIGGING
1-800-781-7474

OVERALL SUMMARY OF QUANTITIES

SECTION B ESTIMATE OF QUANTITIES

| BID ITEM NUMBER | ITEM | QUANTITY | UNIT |
|-----------------|---|----------|------|
| 110E1140 | Remove Concrete Sidewalk | 229.0 | SqYd |
| 230E0020 | Placing Contractor Furnished Topsoil | 42 | CuYd |
| 250E0020 | Incidental Work, Grading | Lump Sum | LS |
| 260E2010 | Gravel Cushion | 2.8 | Ton |
| 420E0400 | Structure Excavation, Miscellaneous | 4 | CuYd |
| 450E0183 | 36" RCP Class 3, Furnish | 138 | Ft |
| 450E0190 | 36" RCP, Install | 138 | Ft |
| 450E0428 | 36" RCP Bend, Furnish | 1 | Each |
| 450E0429 | 36" RCP Bend, Install | 1 | Each |
| 462E0100 | Class M6 Concrete | 2.4 | CuYd |
| 480E0200 | Epoxy Coated Reinforcing Steel | 162 | Lb |
| 632E3520 | Remove, Salvage, Relocate, and Reset Traffic Sign | 1 | Each |
| 634E0120 | Traffic Control, Miscellaneous | Lump Sum | LS |
| 651E0040 | 4" Concrete Sidewalk | 52 | SqFt |
| 651E0050 | 5" Concrete Sidewalk | 2998 | SqFt |
| 651E7000 | Type 1 Detectable Warning Panel | 12 | SqFt |

SECTION D ESTIMATE OF QUANTITIES

| BID ITEM NUMBER | ITEM | QUANTITY | UNIT |
|-----------------|---|----------|------|
| 110E1693 | Remove Erosion Control Wattle | 942 | Ft |
| 110E1700 | Remove Silt Fence | 896 | Ft |
| 730E0206 | Type D Permanent Seed Mixture | 457.4 | Lb |
| 731E0200 | Fertilizing | 1.1 | Ton |
| 732E0200 | Fiber Mulching | 1.6 | Ton |
| 733E0100 | Sodding | 202 | SqYd |
| 734E0010 | Erosion Control | Lump Sum | LS |
| 734E0154 | 12" Diameter Erosion Control Wattle | 942 | Ft |
| 734E0165 | Remove and Reset Erosion Control Wattle | 200 | Ft |
| 734E0604 | High Flow Silt Fence | 896 | Ft |
| 734E0610 | Mucking Silt Fence | 5.0 | CuYd |
| 734E0620 | Repair Silt Fence | 50 | Ft |
| 734E0845 | Sediment Control at Inlet with Frame and Grate | 2 | Each |
| 734E0847 | Sediment Control at Type S Reinforced Concrete Drop Inlet | 1 | Ft |
| 734E5010 | Sweeping | 6.0 | Hour |
| 900E1320 | Construction Entrance | 1 | Each |

SECTION G ESTIMATE OF QUANTITIES

| BID ITEM NUMBER | ITEM | QUANTITY | UNIT |
|-----------------|---|----------|------|
| 009E0010 | Mobilization | Lump Sum | LS |
| 009E3200 | Construction Staking | Lump Sum | LS |
| 009E3220 | Reestablish Property Corner | 1 | Each |
| 250E0010 | Incidental Work | Lump Sum | LS |
| 451E0130 | 30" Steel Encasement Pipe | 190 | Ft |
| 451E0301 | Pipe Encasement | 15 | Each |
| 451E0606 | 6" PVC Water Main | 163 | Ft |
| 451E0608 | 8" PVC Water Main | 3752 | Ft |
| 451E0612 | 12" PVC Water Main | 1041 | Ft |
| 451E0802 | 1" Copper Pipe | 234 | Ft |
| 451E1008 | 8" PVC Sewer Pipe | 2175 | Ft |
| 451E1010 | 10" PVC Sewer Pipe | 1184 | Ft |
| 451E1012 | 12" PVC Sewer Pipe | 915 | Ft |
| 451E1204 | 4" Sewer Service | 62 | Ft |
| 451E1504 | 4" Sanitary Sewer Cleanout | 2 | Each |
| 451E2213 | 8"x6" Pipe Tee | 8 | Each |
| 451E2214 | 8"x8" Pipe Tee | 6 | Each |
| 451E2231 | 12"x6" Pipe Tee | 3 | Each |
| 451E2232 | 12"x8" Pipe Tee | 1 | Each |
| 451E2234 | 12"x12" Pipe Tee | 1 | Each |
| 451E2413 | 8"x6" Pipe Reducer | 2 | Each |
| 451E2500 | Tapping Saddle | 9 | Each |
| 451E2728 | 12"x6" Tapping Tee | 1 | Each |
| 451E2902 | 1" Curb Stop with Box | 9 | Each |
| 451E3006 | 6" Pipe Bend | 9 | Each |
| 451E3008 | 8" Pipe Bend | 31 | Each |
| 451E3012 | 12" Pipe Bend | 13 | Each |
| 451E3108 | 8" Pipe Cap | 1 | Each |
| 451E3208 | 8" Coupling | 2 | Each |
| 451E3412 | 6" Pipe Plug | 2 | Each |
| 451E3452 | 12" Pipe Plug | 1 | Each |
| 451E4206 | 6" Gate Valve with Box | 1 | Each |
| 451E4208 | 8" Gate Valve with Box | 17 | Each |
| 451E4212 | 12" Gate Valve with Box | 4 | Each |
| 451E4585 | Fire Hydrant with Auxiliary Valve & Box | 11 | Each |
| 451E4901 | Type 1 Bedding Material | 100.0 | Ton |
| 451E4904 | Type 3 Foundation Material | 750.0 | Ton |
| 451E4918 | Imported Trench Backfill | 500 | CuYd |
| 451E5050 | Trench 0' to 6' Deep | 83 | Ft |
| 451E5051 | Trench 6' to 8' Deep | 435 | Ft |
| 451E5052 | Trench 8' to 10' Deep | 1374 | Ft |
| 451E5053 | Trench 10' to 12' Deep | 1348 | Ft |
| 451E5054 | Trench 12' to 14' Deep | 506 | Ft |
| 451E5055 | Trench 14' to 16' Deep | 138 | Ft |
| 451E5056 | Trench 16' to 18' Deep | 126 | Ft |
| 451E5057 | Trench 18' to 20' Deep | 73 | Ft |
| 451E5130 | Bore and Jack 30" Pipe | 190 | Ft |

| BID ITEM NUMBER | ITEM | QUANTITY | UNIT |
|-----------------|--------------------------------|----------|------|
| 451E6100 | Reconnect Water Service | 5 | Each |
| 451E6105 | Connect to Existing Water Main | 16 | Each |
| 451E7010 | Reconnect Sewer Service | 2 | Each |
| 451E7016 | Connect to Existing Sewer Main | 3 | Each |
| 451E7020 | Sewer Bypass Pumping | Lump Sum | LS |
| 451E7108 | 8" Temporary Sewer Pipe | 800 | Ft |
| 451E7402 | Test Station | 6 | Each |
| 671E1048 | 48" Manhole | 17 | Each |
| 671E1348 | 48" Drop Manhole | 2 | Each |
| 671E5510 | Extra Depth for 48" Manhole | 86.2 | Ft |



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Prepared For:
 Public Works Department

 Engineering Services

Scale:
 Design By: JAP/RAS
 Design Date: JUNE 2015
 Internal Job No. 110155
 Surveyed By: DOT / FMG
 Drawn By: JRK
 Print Date: JUNE 2015
 Survey Date: SURVEY BY DOT

SILVER STREET INTERCHANGE UTILITY RECONSTRUCTION PROJECT
 12-2053 / CIP 50940 / PCN X03T

Sheet Title:
 ESTIMATE OF QUANTITIES AND GENERAL NOTES
 Sheet:
 A2 of A10

FOR BIDDING PURPOSES ONLY

STANDARD SPECIFICATIONS

All work shall be in accordance with the 2007 Edition of the City of Rapid City Standard Specifications for Public Works Construction and any current revisions and/or additions, special provisions or requirements on the drawings or in the bid documents. Work shall be in conformance with the latest edition of the Manual of Uniform Traffic Devices.

PROJECT DESCRIPTION

This project is to be let in combination with SD DOT Project IM 1902(61)0, PCN 1162.

The City of Rapid City proposes to rebuild water and sewer utilities in combination with the storm sewer and surfacing construction included in the above referenced combination project. In addition to the utility reconstruction within the SDDOT work limits, the City of Rapid City proposes to construct a storm sewer line and inlet north of Boegel Street, along with a bike path widening along the west side of 11th Street.

These plans are divided into sections: Section B contains the grading and storm water improvements and bike path applicable to the City project.

Section D contains Erosion and Sediment Control plans for all City work within the project limits.

Section G contains water and sanitary sewer improvements within the project limits and other areas described above.

GEOTECHNICAL INVESTIGATION

A Geotechnical Investigation entitled "Geotechnical Evaluation for Silver Street Interchange Utility Reconstruction Project" was completed February 21, 2014. This report is available at the Rapid City Region DOT office. The report is for information purposes only and is not a warranty of subsurface conditions. The Contractor may use the report at his own risk.

COORDINATION AND SCHEDULING

A preconstruction meeting will be conducted and the Contractor shall submit a construction schedule in accordance with Section 7.70 of the Standard Specifications. The construction schedule shall be in accordance with the Sequence of Operations notes in SDDOT combination project IM 1902(61)0, PCN 1162. The Contractor will be required to attend this and other periodic meetings with City personnel and affected utility owners for the purpose of scheduling and coordination during the course of construction. The Contractor shall also be required to coordinate with the City Utility Maintenance department for any tie-in to the existing mains and for any temporary shut off of services. The Engineer will establish the frequency, time, and location of the periodic meetings.

DOT COMBINATION PROJECT PLANS COORDINATION

DOT line work for various items including the topo, curb& gutter, and storm sewer features shown on these plans was provided to FMG by SDDOT. The Contractor should be aware differences may exist between these plans and the SDDOT final plans. It will be the Contractors responsibility to verify differences between the plans.

FEES AND PERMITS

The Contractor is responsible to pay all fees and obtain all necessary permits associated with the project in accordance with Section 2 of the City Contract Documents. All costs, including fees, associated with these permits shall be paid for under the contract bid item "Incidental Work". Copies of all permits shall be provided to the Engineer prior to beginning work.

TRAFFIC CONTROL

The majority of the traffic control will be administered through the combination project IM 1902(61)0, PCN 1162. It may be necessary at times for adjustments or additions to the traffic control devices due to work in these plans being outside the SDDOT work limits, SDDOT phasing limits, or traveled way. The amount of traffic control for the utility work occurring outside of the combination project is dependent upon the other traffic control in place from the companion project at the time of utility installation an no specific devices have been detailed in these plans. Any additional items required for additional traffic control or adjustment to the traffic control due to utility construction and sequencing will be the responsibility of the Contractor. The Contractor shall submit their traffic control plan prior to preconstruction meeting, or prior to commencement of utility installations within the various project phases. Cost for the Traffic Control Plan, devices, and flagging, if any, will be paid by the lump sum contract bid item "Traffic Control, Miscellaneous".

All traffic control signs, cones, device relocations, flagging, etc. shall be in accordance with Section 634 of the South Dakota Department of Transportation Standard Specifications for Roads and Bridges, 2004 Edition, except for payment as detailed above. Coordination with combination project will be under the contract lump sum price for "Traffic Control, Miscellaneous".

CONTRACTOR FURNISHED STAKING

All construction staking will be furnished by the Contractor. Electronic design files will not be provided to the Contractor.

Grade control staking for the water line is required.

Survey control point data is on the SDDOT companion drawings.

The Contractor shall be responsible for monumenting and reestablishing centerline and other applicable grades for areas where a majority of the street section or parking lot area will be removed and replaced and no design information is shown on the plans.

Payment for Contractor furnished staking will be at the contract lump sum price for "Construction Staking".

REESTABLISHING PROPERTY CORNERS

The Contractor shall reestablish all corners that are disturbed during construction, that are not being purchased as ROW under the direction of a registered land surveyor. All corners along the project that were found during the topographic survey are shown on the plans. Additional corners were found by DOT surveyors and are not shown on these plans.

Corners that require reestablishment may NOT be placed using station and offsets shown on the plans. A separate survey by the Contractor's licensed surveyor is required to reestablish the corners.

All costs for work and material necessary for reestablishing the corners shall be at the unit bid price for "Reestablish Property Corner".

TRASH PICKUP

The Contractor shall coordinate with residents and businesses affected by the construction and will be responsible for moving trash receptacles to a location where trash collection vehicles and personnel can easily access them. Once trash has been picked up, the trash receptacles shall then be returned to their respective properties. No extra payment will be allowed for this work.

MAIL DELIVERY

The Contractor shall coordinate with the Postal Service for delivery of mail to businesses and residents affected by the project construction. Existing curb side mail boxes shall be relocated as needed to a location approved by the owner and the postal service. Upon completion of the project mail boxes shall be reset to their original location. No separate payment will be allowed for this work. Costs for any additional hardware needed for resetting the mail boxes shall be borne by the Contractor.

SNOW REMOVAL

The Contractor will be responsible for snow removal on any City street that has traffic control or other construction activities in progress, including detour routes. No extra payment will be allowed for this work.



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SILVER STREET INTERCHANGE UTILITY RECONSTRUCTION PROJECT

12-2053 / CIP 50940 / PCN X03T

Sheet Title:

ESTIMATE OF QUANTITIES AND GENERAL NOTES

Sheet: A3 of A10

FOR BIDDING PURPOSES ONLY

SUBMITTALS

The term "submittals" includes drawings, diagrams, descriptive literature, illustrations, instructions, schedules, performance and test data, product data sheets, material safety data sheets, and similar materials by a supplier or contractor, to illustrate material or equipment for some portion of the work.

At least seven (7) working days before his need for approval, the Contractor shall forward to the Engineer a minimum of five (5) copies of submittals for all Contractor furnished products. Submittals shall clearly identify any deviation from the specifications, and shall be certified and dated by the Contractor. Submittals will be accepted only from the Contractor. The Engineer will indicate his approval or disapproval of each submittal, and if he does not approve the submittal, he will indicate his reasons for so doing. Any work done prior to approval shall be at the Contractor's own expense. Re-submittals shall be made the same as for original submittals with changes from the previous submittal clearly shown.

The log of construction submittals at minimum shall include the list below.

- | | |
|----------------------------------|----------------------------------|
| Construction Schedule | PVC Sewer Main |
| Subcontractor & Supplier List | Manholes and Castings |
| Key Personnel | PVC Water Main |
| City ROW Permit | Fittings |
| DOT ROW Permit | Valves and Boxes |
| Air Quality Construction Permit | Fire Hydrants |
| City Erosion Control Permit | Thrust Restraints |
| City Grading Permit | Disinfection Tablets |
| City Trench and Utility Licenses | Pipe Encasement |
| Flood Plain Development Permit | RC Pipe |
| SD DENR Dewatering Permit | Steel Casing Pipe |
| SWPPP | Casing Spacers & End Seals |
| State General Permit & NOI | Grates |
| Traffic Control Plan | Weekly Inspection Reports |
| Imported Backfill Material | Erosion Control Materials |
| Type 1 Bedding Material | Seed Mix Certification |
| Type 3 Foundation Material | Fertilizer & Mulch Certification |
| Gravel Cushion | Cathodic Protection Components |
| Epoxy Coated Reinforcing Steel | |

EXISTING UTILITIES

Location of existing utilities shown on these drawings are approximate and were taken from a DOT field survey supplemented with other available records. Prior to excavation, the Contractor shall field verify exact location of all utilities whether or not shown on these drawings.

There are many utility relocations that will be performed by others within the project limits during the time that the Contractor is performing work. If required, the Contractor shall coordinate relocation of utility with the utility owner. All utilities are to be adjusted and/or relocated by the respective utility companies unless otherwise indicated in these drawings.

Contractor shall protect all utilities during construction. The Contractor shall support or tunnel under existing utilities in a manner that the existing utilities are not damaged or disturbed. Unless otherwise noted, any disturbance or replacement of existing utilities shall be incidental to the project.

Utility Information:
South Dakota One Call - 1-(800)-781-7474

- | | |
|--|---|
| (Electric) Black Hills Power & Light Co. 409 Deadwood Ave, RC, SD (605)-721-3200 | (Water, Sewer, Storm) City of Rapid City Utility Maintenance Dept 605 Steele Ave, RC, SD (605)-394-4163 |
| (Phone, Data, CATV) Midcontinent Communications 1301 Omaha St, Suite 106, RC, SD (605)-888-1300 | (Signal, Street Lights) City of Rapid City Traffic Operations 709 Steele Ave, RC, SD (650)-394-4118 |
| (Phone, Data, CATV) WOW 809 Deadwood Ave, RC, SD (605)-721-2056 | (Irrigation) City of Rapid City Parks Dept 2915 Canyon Lake Dr, RC, SD (605)-394-4175 |
| (Phone, Data) Century Link (800)-573-1311 | (Gas) Montana Dakota Utilities 718 Steele Ave, RC, SD (605)-342-0160 |

RAPID CITY AIR QUALITY CONSTRUCTION PERMIT

The Contractor shall comply with the requirements of Section 7.28 of the Standard Specifications regarding fugitive emission control. Environmental permits shall be obtained prior to beginning work. All cost associated with fugitive emission control shall be paid for at the contract lump sum price for "Incidental Work".

The Contractor is responsible for purchasing, loading, hauling, and applying the water. The Contractor will be required to pay for meter installation.

EROSION CONTROL AND WATER POLLUTION CONTROL

The majority of the erosion control will be administered through the combination project IM 1902(61)0, PCN 1162. The Contractor for this project is still required to obtain applicable erosion control permits and prepare and maintain erosion control plans and a SWPPP applicable to the work in this contract. Also, it may be necessary at times for adjustment to the erosion control devices placed by the combination project due to sewer and water main construction outside the phasing limits and the traveled way. The Contractor shall be responsible for coordinating all erosion control impacts with the combination project. Section D - Erosion Control shows minimum temporary and permanent erosion control measures. The Contractor may use Section D to prepare the required erosion & sediment control plan and SWPPP. The Contractor is responsible for all temporary erosion control and its administration.

Payment for all temporary erosion control including, installation and maintenance of BMP's shall be paid under the respective bid items. Preparation of a SWPPP, weekly inspections, and all requirements of the applicable permits shall be paid for under the contract lump sum price for "Erosion Control".

WASTE DISPOSAL

The Contractor will be responsible for all waste disposal on the project. The Contractor shall furnish the disposal site for this work and the location must be approved by the Engineer. No waste disposal is allowed within right of way or easements. No payment will be made for waste disposal. Top soil is not considered a waste material and shall not be removed from the site. The Contractor shall spread all topsoil to at least the minimum thickness required. All additional topsoil shall be spread evenly across all applicable disturbed areas.

All material generated by this project must be disposed of at a permitted site. Depending on what material is generated and whether it is contaminated or uncontaminated will determine which permitted facility can accept it. Permitted facilities include construction and demolition debris sites, restricted use sites, and regional landfills. Contact SD DENR waste management program at (605)-773-3153 to identify locally permitted disposal sites for various categories of contaminated and uncontaminated materials.



| | | | | | | |
|---|--|--------------------------------|---------------------------|-------------------------------|---|---------------------------|
| Prepared By: FMG, Inc. 3700 Sturgis Road Rapid City, SD 57702-0317 (605) 342-4105 FAX (605) 342-4222 www.fmgengineering.com | Prepared For: Public Works Department Engineering Services | Scale: | Design By: JAP/RAS | Drawn By: JRK | Sheet Title: SILVER STREET INTERCHANGE UTILITY RECONSTRUCTION PROJECT | Sheet: A4 of A10 |
| | | Design Date: JUNE 2015 | Print Date: JUNE 2015 | | | |
| | | Internal Job No. 110155 | Surveyed By: DOT / FMG | Survey Date: SURVEY BY DOT | | |
| | | 12-2053 / CIP 50940 / PCN X03T | | | | |

FOR BIDDING PURPOSES ONLY

CONSTRUCTION LIMITS

Work on this project occurs in the DOT ROW, City ROW, City owned lands, and on private lands where an easement has been obtained. The Contractor shall confine construction work within the limits of The ROW or easement lines as defined on the plans. Unless otherwise identified on these plans, use of City or private lands for staging areas, material storage, sedimentation ponds, dewatering, and/or topsoil stockpiling shall only be with prior approval from the respective Owner and Engineer. The Contractor shall furnish a copy of Owner's written consent regarding the use of these lands to the Engineer and the City. Any damages and restoration outside the construction limits shall be at the Contractor's expense.

REMOVAL OF OBSTRUCTIONS

Unless otherwise noted, the Contractor will be required to remove and dispose of all structures, fences, signs, and other obstructions of which any portion is on the right-of-way or temporary easements. The removal and disposal of all obstructions not removed under incidental work or on a unit basis shall be considered subsidiary to the other contract items and no separate payment will be made for their removal and disposal.

WATER FOR COMPACTION

Water for use by the Contractor for compaction must be furnished by the Contractor. The Contractor is responsible for loading, purchasing, hauling, and application of the water. The City of Rapid City will make water available for purchase at a fire hydrant near the project. If water is purchased from the City, the Contractor will be required to pay for meter installation and water. No extra payment will be allowed for water used for compaction.

DEWATERING

Dewatering activities shall be conducted in compliance with the "General Permit to Discharge Under the Surface Water Discharge System for Temporary Dewatering Activities in South Dakota", SDDENR Permit no. SDG 070000. A copy of the permit is available through SDDENR. The Contractor is required to furnish the "Request for Authorization" to DENR required under the permit and furnish a copy to the City at the preconstruction meeting.

The Contractor is responsible for performing self-monitoring activities including sampling, testing and reporting as may be determined to be required under the authorization to discharge. Payment for all compliance activities and obligations by the contractor shall be included in the contract lump sum price for "Incidental Work".

TESTING

The Owner will furnish the following testing; soil compaction, asphalt density, and collection of proctors for in-situ materials.

The Contractor shall furnish the following testing; concrete (where applicable as detailed in the City of Rapid City Standard Specifications), proctors for Contractor furnished materials, and all other material suitability testing as required by the Standard Specifications, Detailed Specifications, Special Provisions, General Notes, and Submittal Requirements. All costs for Contractor furnished testing are incidental to the material supplied and no separate payment will be made.

SAWING EXISTING SURFACES

Where new surfacing is to be placed adjacent to existing surfacing, the existing shall be sawed full depth to a true line with a vertical face. Two (2) separate saw cuts shall be made; one saw cut for initial removal work and a second saw cut just prior to asphalt or concrete placement. No separate payment will be made for sawing.

Slurry from sawing will not be allowed to enter the storm water system. Vacuuming equipment for removal of residue and excess water shall be used. Residue and wastewater shall not be expelled on the street. Contractor shall establish a positive means for the removal of sawing residue. All labor, materials, supplies, equipment, tools and incidentals required to perform this work will be incidental to the various contract bid items associated with pavement or sidewalk.

During construction, the Engineer may direct a lesser or greater removal limit due to the proximity of joints, cracks, or other conditions. Removal and replacement beyond the limits shown will be at the Contractor's expense unless approved or directed by the Engineer

TRENCH BACKFILL AND ROADWAY EMBANKMENT

Trench backfill and roadway embankment shall be as required in the City of Rapid City Standard Specifications for Public Works, 2007 Edition with the following exception to the Specified Density Method for areas within the DOT ROW:

Specified Density Method: Soil shall be compacted within the moisture specification range in accordance with Table 1, unless otherwise specified. Optimum moisture will be determined in accordance with AASHTO T99.

Table 1

| Optimum Moisture of Embankment Soil | Density Specification (Percent of Maximum Dry Density) | Moisture Specification (Percent of Optimum Moisture) |
|-------------------------------------|--|--|
| 0% to 15% | 95% or Greater | -4% to +4% |
| 15% or Greater | 95% or Greater | -4% to +6% |

Excess moisture in the embankment material shall be removed by drying operations. Earth embankment shall be compacted to the percentage of maximum dry density specified in Table 1, as determined by AASHTO T99.

Areas outside of the DOT ROW shall utilize density and compaction requirements as specified in the City of Rapid City Standard Specifications for Construction.

MATERIAL TICKET SUBMITTALS AND STOCKPILES

The Contractor shall clearly identify materials for various products used on the project, such as: bedding, base course, gravel surfacing, etc. The Contractor shall submit all tickets for measurement and payment to the inspector within 48 hours, per Standard Specifications. Any ticket received later than 48 hours will not be accepted and payment for that item will not be made. All tickets shall accompany the material to the site. No hand written tickets shall be allowed.



| | | | | | | |
|---|--|---|--|---|---|---------------------------|
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| | | 12-2053 / CIP 50940 / PCN X03T | | | | |

SEQUENCE OF OPERATIONS

The overall sequence of operations will be dictated by the DOT combination project IM 1902(61)0, PCN 1162. Some utility and storm sewer construction outside of DOT ROW may be required to be completed with interim completion dates as stipulated in the Special Provision for Contract Time. The Contractor shall be responsible for coordinating utility construction and reconnections with the overall sequence of operations. The Contractor shall also be responsible for coordinating any shutdowns, tie-ins, or bypass operations with the Engineer and City staff at least 7 days prior to initiating such activities. A step by step sequence of operations for utility construction has not been provided due to the flexibility allowed in the overall sequencing. A general list of special sequencing considerations for the City Project is summarized below. The Contractor may elect to change minor sequencing operations and add or remove the number of temporary connections required to complete the work. However, any changes by the Contractor will be required to meet time provisions contained in the Special Provision for Contract Time and no separate payments will be made.

Temporary Sewer Connection:
(In Conjunction with DOT Phase 1A)

To facilitate mass grading and bridge construction that will begin in DOT Phase 1B, a temporary sewer connection will be required from the existing 8" sewer main on Philadelphia Street to the existing sewer main near Silver Street. See Sheet G28 for more details regarding temporary sewer connection requirements. This work shall be completed within the time limitations of DOT Phase 1A and prior to the beginning of DOT Phase 1B. The temporary sewer main may be abandoned after the West Side Sanitary Sewer is complete.

West Side Sanitary Sewer:
(In Conjunction with DOT Phase 1A & 1B)

The lowest point of sanitary sewer within the project limits occurs at MH#1. This is the beginning/end of both the West Side and East Side Sanitary Sewer mains. Beginning at MH #1, the West Side Sanitary Sewer shall be bored under I-190 prior to any work between MH #1 and MH #5.

MH #1 will require a temporary invert and pipe connection to Existing City MH #G6-063 to maintain flows from both sides of I-190 during various phases of the project. The invert and temporary connection shall be abandoned after all sanitary sewer mains are complete.

It would be beneficial for the Contractor to install the sanitary sewer between MH #2 and MH#5 prior to stockpiling of waste material or grading of the water quality pond that is a part of the companion DOT project. No extra depth trench payment or unclassified excavation payments will be made for installation of City utilities through fill/cut areas.

Installation of sanitary sewer between MH #6 and MH #9 lies within the large cut area. No underground utilities may be installed in this area within 6 months of the excavation to allow for possible rebound.

Installation of sanitary sewer between MH #10 and MH #12 shall be installed in Phase 1B when West Boulevard is closed with the companion project.

East Side Sanitary Sewer:
(In Conjunction with DOT Phase 1A, 1B, 2, & 3)

The portion of the East Side Sanitary Sewer between MH #1 and MH #14 may be completed at any time during Phase 1A or 1B.

The portion of the East Side Sanitary Sewer between MH #14 and MH #16 shall be completed during Phase 2 along with other improvements at Central High School.

The portion of the East Side Sanitary Sewer between MH #16 and MH #19 may be completed during Phase 3.

Water Mains:

The existing water main system is well looped within the project area. However, it should be noted that there are two pressure zones within the project and water mains in separate zones cannot be interconnected to provide temporary service. The Contractor may choose when to install water mains based on the overall sequencing of removals, grading, structures, other utilities and final surfacing.

No City utilities shall be installed within the large cut area within 6 months of excavation to allow for rebound. This includes water main along North Street alignment from STA 212+00 to 216+00 and water main along the West Side Sewer alignment from STA 13+50 to 16+60.

No extra payments will be made for any extra work for utility installations prior to the excavation of cuts or after or placement of fills. All utilities shall be in place prior to placement of structures and final surfacing.

SECTION 4(f) AND 6(f) PROPERTY

Within the limits of the project are City of Rapid City public recreation areas whose land was bought using federal funds. These areas are typically referred to as 4(f) and 6(f) property. Impacts to public recreation areas must be minimized to the greatest extent possible. In accordance with agreements with the National Park Service and Federal Highway Administration, work which is outside of the public highway right-of-way **shall be completely restored to the original public use** within 6 months of initial disturbance in the below listed areas. This work can progress concurrently with other work. The 6 month time frame will begin in an area when that area is removed from public use.

Location of 4(f) and 6(f) properties:

- Sanitary Sewer from MH#2 to MH#4 on the west side of I-190.
- Sanitary Sewer from MH#1 to MH#15 on the east side of I-190.

STAGING AREA

The City has preliminarily approved two staging areas for use by the utility contractor to use for stockpiling non-toxic materials to be incorporated into the City portion of the project. If used, the site shall be fenced during active use, and be returned to preconstruction state, including any seeding or other surface restoration required after construction is complete. All costs for fencing, erosion control, construction entrances, and restoration of the site shall be considered incidental to the project and no separate payment will be made. Fuel and other toxic materials are prohibited from being stored in this area. Other materials from the combination project i.e. precast inlets and pipe can be stored there provided the utility contractor (water/sewer) agrees to allow the materials to be stored there. See sheet A 9 and A10 for the location of the staging areas.

WARRANTY PERIOD & BOND

The warranty period for this project shall start when the project is 100% complete, a letter of acceptance had been issued, and shall not be based on completion of individual phases of the project.



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 Public Works Department

 Engineering Services

Scale:
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 Surveyed By: DOT / FMG
 Drawn By: JRK
 Print Date: JUNE 2015
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SILVER STREET INTERCHANGE UTILITY RECONSTRUCTION PROJECT

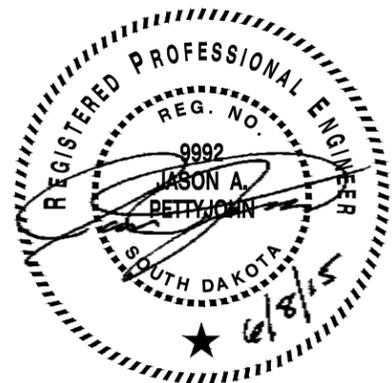
12-2053 / CIP 50940 / PCN X03T

Sheet Title:
 ESTIMATE OF QUANTITIES AND GENERAL NOTES

Sheet:
 A6 of A10

EXISTING SYMBOLS

| | | | |
|---------------------|-------------------------------|-----------|------------------------------|
| — W — | WATER LINE | Ⓣ | TELEPHONE MANHOLE |
| — S — | SEWER LINE | Ⓢ | STORM SEWER MANHOLE |
| - - - 24" RCP - - - | STORM SEWER LINE | Ⓢ | SANITARY SEWER MANHOLE |
| — G — | GAS LINE | Ⓢ | CLEAN OUT |
| — OH — | OVERHEAD POWER | Ⓢ | SET PROPERTY CORNER |
| — P — | UNDER GROUND POWER | ● | FOUND PROPERTY CORNER |
| — TV — | CTV LINE | △ | CONTROL POINT (LABEL THE BM) |
| — T — | TELEPHONE LINE | ⊠ | RIGHT-OF-WAY MARKER |
| — FO — | FIBER LINE | ⊠ | GAS VALVE |
| ⊙ ^{BH} | BOREHOLE | ⊠ | GAS METER |
| ⊙ ^{MW} | MONITORING WELL | Ⓢ | GAS MANHOLE |
| ☀ | TRAFFIC SIGNAL | Ⓢ | ELECTRICAL MANHOLE |
| ⊙ | DELINEATOR | ☀ | LIGHT POLE |
| ⊠ | CABLE TV OR TELEPHONE RISER | ⊙ | GUY WIRE ANCHOR |
| ☀ | CONIFEROUS TREE | ⊙ | POWER POLE |
| ☀ | DECIDUOUS TREE | ☀ | TRAFFIC SIGNAL POLE |
| ☀ | BUSH | ⊠ | ELECTRICAL METER |
| ☁ | HEDGE/TREE LINE | ⊠ | TYPE "E" INLET |
| ⊠ | 3 POLE SIGN | ⊠ | TYPE "C" INLET |
| ⊠ | 2 POLE SIGN | Ⓢ | STORM SEWER JUNCTION BOX |
| ⊠ | 1 POLE SIGN | ⊠ | STUMP |
| ⊠ | MAILBOX | - - - - - | PERMANENT EASEMENT |
| ⊙ | POST / BOLLARD | | |
| ⊙ | YARD HYDRANT | | |
| ⊠ | WATER METER | | |
| ⊠ | FIRE HYDRANT | | |
| ⊠ | GATE VALVE | | |
| ⊠ | BUTTERFLY VALVE | | |
| ⊠ | POST INDICATOR VALVE (P.I.V.) | | |
| ⊠ | SPRINKLER HEAD | | |
| ⊠ | WATER MANHOLE | | |
| ⊠ | CURB STOP | | |



FOR BIDDING PURPOSES ONLY

PROPOSED SYMBOLS

| | | | |
|-------|--------------------------------|-------------|--------------------------|
| — W — | TEMPORARY WATER SERVICE LINE | — 24" RCP — | STORM SEWER LINE |
| — W — | WATER LINE | Ⓢ | STORM SEWER JUNCTION BOX |
| — S — | SEWER LINE | Ⓢ | STORM SEWER MANHOLE |
| ⊠ | WATER MAIN ENCASEMENT | ⊠ | TYPE "E" INLET |
| ▶ | THRUSTBLOCK | ⊠ | TYPE "C" INLET |
| ▶ | 11 1/4' BEND | | |
| ▶ | 22 1/2' BEND | | |
| ▶ | 45' BEND | | |
| ⊠ | CAP | - - - - - | PERMANENT EASEMENT |
| ⊠ | COUPLER | - - - - - | TEMPORARY EASEMENT |
| ⊠ | CROSS | - - - - - | CONSTRUCTION LIMITS |
| ⊠ | DEFLECTION COUPLER | | |
| ⊠ | TEE | | |
| ⊠ | REDUCER | | |
| ⊠ | CURB STOP | | |
| ⊠ | FIRE HYDRANT | | |
| ⊠ | GATE VALVE | | |
| ⊠ | TEMP. WATER SERVICE CONNECTION | | |
| ⊠ | CLEANOUT | | |
| ⊠ | SANITARY SEWER MANHOLE | | |
| ▶ | SANITARY SEWER FLOW | | |

DEMOLITION LEGEND

| | |
|---------------|-----------------------|
| Ⓢ | ABANDON SEWER MANHOLE |
| ● | REMOVE SEWER MANHOLE |
| - - - W - - - | ABANDON WATER LINE |
| - - - S - - - | ABANDON SEWER LINE |
| - - - W - - - | REMOVE WATER LINE |
| - - - S - - - | REMOVE SEWER LINE |
| ⊠ | REMOVE CONCRETE |
| ⊠ | REMOVE ASPHALT |
| ⊠ | GRAVEL SURFACING |
| ⊠ | SEEDING |
| ⊠ | SOD |

NOTE: PROPOSED STORM SEWER SHOWN ON THESE DRAWINGS ARE TAKEN FROM SDDOT PLANS UNLESS OTHERWISE NOTED

PROPOSED SDDOT SYMBOLS

| | |
|-----------|-------------------|
| — — — | CURB & GUTTER |
| - - - - - | STORM SEWER LINE |
| ⊠ | STORM SEWER INLET |

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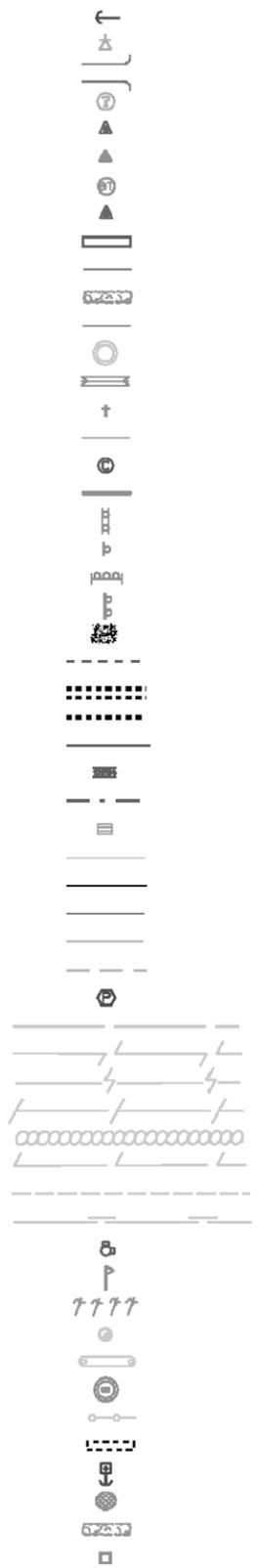
**SILVER STREET INTERCHANGE
 UTILITY RECONSTRUCTION PROJECT**

Sheet Title: LEGEND
 Sheet: **A7**
 of
A10

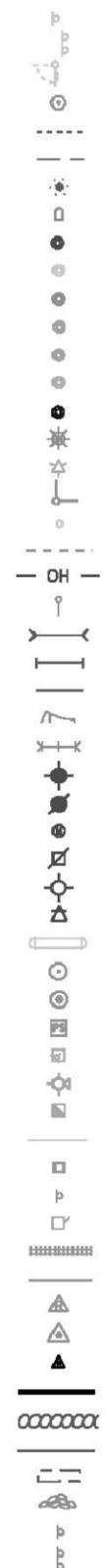
EXISTING DOT SURVEY SYMBOLS

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Anchor
 Antenna
 Approach
 Assumed Corner
 Azimuth Marker
 Bbq Grill/ Fireplace
 Bearing Tree
 Bench Mark
 Box Culvert
 Bridge
 Brush
 Buildings
 Bulk Tank
 Cattle Guard
 Cemetery
 Centerline
 Cistern
 Clothes Line
 Commercial Sign Double Face
 Commercial Sign One Post
 Commercial Sign Overhead
 Commercial Sign Two Post
 Concrete Symbol
 Creek Edge
 Curb/Gutter
 Curb
 Dam Grade/Dike/Levee
 Ditch Block
 Drainage Profile
 Drop Inlet
 Edge Of Asphalt
 Edge Of Concrete
 Edge Of Gravel
 Edge Of Other
 Edge Of Shoulder
 Elec. Trans./Power Jct. Box
 Fence Barbwire
 Fence Chainlink
 Fence Electric
 Fence Misc.
 Fence Rock
 Fence Snow
 Fence Wood
 Fence Woven
 Fire Hydrant
 Flag Pole
 Flower Bed
 Gas Valve Or Meter
 Gas Pump Island
 Grain Bin
 Guardrail
 Gutter
 Guy Pole
 Haystack
 Hedge
 Highway R.O.W. Marker

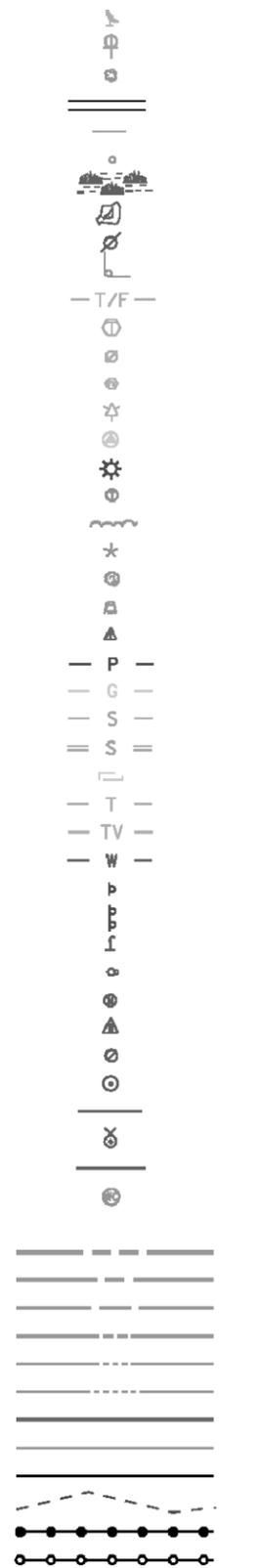


Information Sign One Post
 Information Sign Two Post
 Interstate Close Gate
 Iron Pin
 Irrigation Ditch
 Lake Edge
 Lawn Sprinkler
 Mailbox
 Manhole Electric
 Manhole Gas
 Manhole Misc
 Manhole Sanitary Sewer
 Manhole Storm Sewer
 Manhole Telephone
 Manhole Water
 Merry-Go-Round
 Microwave Radio Tower
 Misc. Property Corner
 Misc. Post
 Overhang Or Encroachment
 Overhead Utility Line
 Parking Meter
 Pipe With End Section
 Pipe With Headwall
 Pipe Without End Section
 Playground Slide
 Playground Swing
 Power And Light Pole
 Power And Telephone Pole
 Power Meter
 Power Pole
 Power Pole And Transformer
 Power Tower Structure
 Propane Tank
 Property Pipe
 Property Pipe With Cap
 Property Stone
 Public Telephone
 Railroad Crossing Signal
 Railroad Milepost Marker
 Railroad Profile
 Railroad R.O.W. Marker
 Railroad Signs
 Railroad Switch
 Railroad Track
 Railroad Trestle
 Rebar
 Rebar With Cap
 Reference Mark
 Retaining Wall
 Riprap
 River Edge
 Rock And Wire Baskets
 Rockpiles
 Route Sign One Post
 Route Sign Two Post



Satellite Dish
 Septic Tank
 Shrub Tree
 Sidewalk
 Sign Face
 Sign Post
 Slough Or Marsh
 Spring
 Stream Gauge
 Street Marker
 Telephone Fiber Optics
 Telephone Junction Box
 Telephone Pole
 Television Cable Jct Box
 Television Tower
 Test Wells/Bore Holes
 Traffic Signal
 Trash Barrel
 Tree Belt
 Tree Coniferous
 Tree Deciduous
 Tree Stumps
 Triangulation Station
 Underground Electric Line
 Underground Gas Line
 Underground Sanitary Sewer
 Underground Storm Sewer
 Underground Tank
 Underground Telephone Line
 Underground Television Cable
 Underground Water Line
 Warning Sign One Post
 Warning Sign Two Post
 Water Fountain
 Water Hydrant
 Water Meter
 Water Tower
 Water Valve
 Water Well
 Weir Rock
 Windmill
 Wingwall
 Witness Corner

 State and National Line
 County Line
 Section Line
 Quarter Line
 Sixteenth Line
 Property Line
 Construction Line
 R. O. W. Line
 New R. O. W. Line
 Cut and Fill Limits
 Control of Access
 New Control of Access



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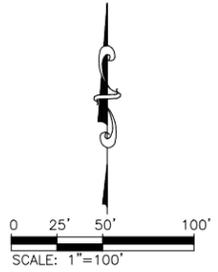
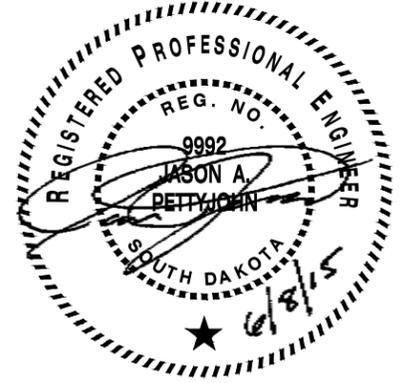
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| SDDOT Project No. 1M 1902(61)0 | |

**SILVER STREET INTERCHANGE
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Sheet Title:
LEGEND

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A8
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A10

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**SILVER STREET INTERCHANGE
 UTILITY RECONSTRUCTION PROJECT**

12-2053 / CIP 50940 / PCN X03T

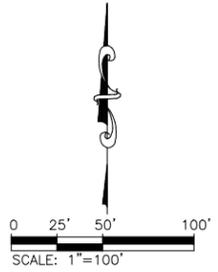
Sheet Title:

STAGING
 AREA

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A9
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12-2053 / CIP 50940 / PCN X03T

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| Sheet Title: | Sheet: |
| STAGING AREA | A10 |
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| | A10 |