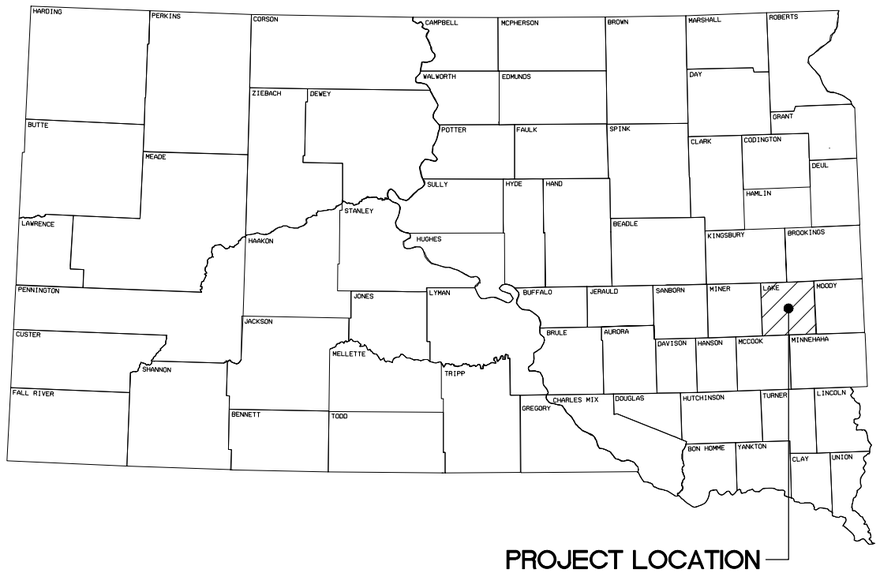
Due to a software update, the bid item file for this project will not be available until the close of business on January 21, 2015.

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	CITY PROJ. 2015-1	1	28



PROJECT LOCATION

CITY OF MADISON, SOUTH DAKOTA

FOR BIDDING PURPOSES ONLY

PLANS FOR PROPOSED

CITY PROJECT 2015-1
4TH STREET SOUTHEAST FROM WASHINGTON AVENUE TO DIVISION AVENUE

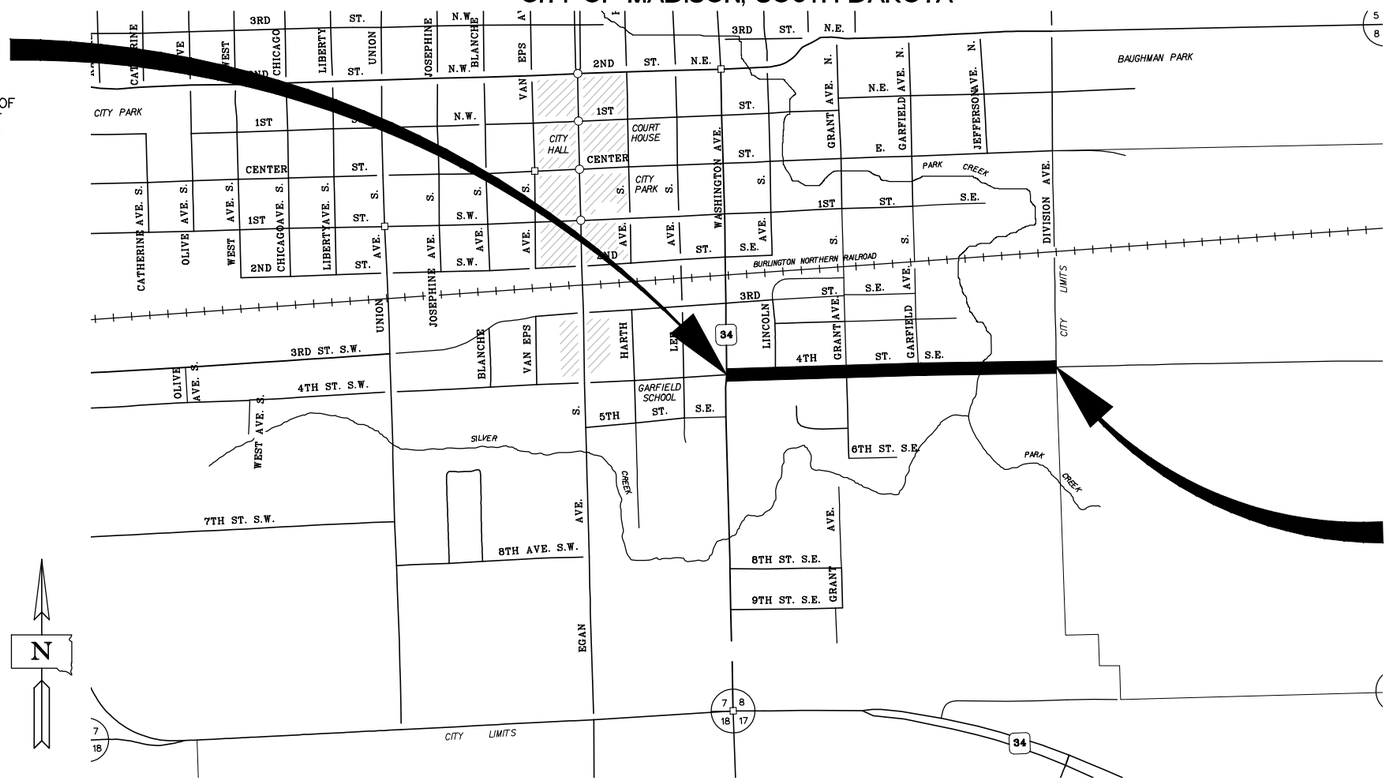
LAKE COUNTY

WATER MAIN AND SANITARY SEWER IMPROVEMENTS

PCN X03E

INDEX OF SHEETS

CITY OF MADISON, SOUTH DAKOTA



BEGIN P 6312(18)
STATION: 103+00.00
APPROXIMATELY 2664 FEET NORTH AND 57 FEET EAST OF THE SOUTHWEST CORNER OF SECTION 8 – TOWNSHIP 106 NORTH – RANGE 52 WEST

END P 6312(18)
STATION: 128+68.00
APPROXIMATELY 2664 FEET NORTH AND 2609 FEET EAST OF THE SOUTHWEST CORNER OF SECTION 8 – TOWNSHIP 106 NORTH – RANGE 52 WEST

DESIGN DESIGNATION

ADT (2013)	455
ADT (2033)	580
DHV	65
D	50%
T DHV	1.7%
T ADT	3.7%
V	20 MPH

STORM WATER PERMIT:

TOTAL PROJECT AREA:	1.87 ACRES
AREA DISTURBED:	1.87 ACRES
MAJOR BODY OF WATER:	PARK CREEK
LAT:	44.0007718°
LONG:	–097.1005196°

PLANS PREPARED BY:

SEH

PHONE: 605.330.7000
401 EAST 8TH STREET
SUITE 309
SIOUX FALLS, SD 57103-7032
www.sehinc.com

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 9089
MICHAEL R. KUNO
SOUTH DAKOTA
10/7/14

811 Know what's **below.** **Call** before you dig.

ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
110E1910	Remove Fire Hydrant	3	Each
110E1960	Remove Valve Box	7	Each
110E1970	Remove Water Main	178	Ft
451E0604	4" PVC Water Main	28	Ft
451E0606	6" PVC Water Main	122	Ft
451E0608	8" PVC Water Main	77	Ft
451E0610	10" PVC Water Main	7	Ft
451E0612	12" PVC Water Main	1,927	Ft
451E0691	4" Water Main Restraining Device	5	Each
451E0692	6" Water Main Restraining Device	30	Each
451E0693	8" Water Main Restraining Device	20	Each
451E0694	10" Water Main Restraining Device	8	Each
451E0695	12" Water Main Restraining Device	42	Each
451E1275	1" Water Service	5	Each
451E2230	12"x4" Pipe Tee	1	Each
451E2231	12"x6" Pipe Tee	5	Each
451E2233	12"x10" Pipe Tee	1	Each
451E2332	12"x8" Pipe Cross	1	Each
451E2406	6"x4" Pipe Reducer	1	Each
451E2413	8"x6" Pipe Reducer	1	Each
451E2433	12"x10" Pipe Reducer	1	Each
451E3006	6" Pipe Bend	4	Each
451E3008	8" Pipe Bend	6	Each
451E3012	12" Pipe Bend	4	Each
451E3604	4" Pipe Sleeve	2	Each
451E3606	6" Pipe Sleeve	2	Each
451E3608	8" Pipe Sleeve	1	Each
451E3610	10" Pipe Sleeve	1	Each
451E3612	12" Pipe Sleeve	1	Each
451E4204	4" Gate Valve with Box	1	Each
451E4206	6" Gate Valve with Box	5	Each
451E4208	8" Gate Valve with Box	2	Each
451E4210	10" Gate Valve with Box	1	Each
451E4212	12" Gate Valve with Box	7	Each
451E4350	Valve Box	2	Each
451E4580	Standard Fire Hydrant	3	Each
451E5206	Adjust 6" Water Main	10	Ft
451E5208	Adjust 8" Water Main	10	Ft
451E6100	Reconnect Water Service	35	Each
451E6101	Abandon Water Main	10	Each
451E6106	Cut and Tie to Existing Water Main	10	Each
451E7500	Locate Utilities	5	Each
451E7510	Verify Utilities	5	Each
671E6000	Temporary Manhole Cover	13	Each
671E8050	Line Manhole	68.3	Ft

GENERAL NOTES

PROJECT SCOPE

This project consists of a partial reconstruction of various utilities on 4th Street Southeast between Washington Avenue and Division Avenue. Work will include replacement of water main and relining of various sanitary sewer manholes. Work on this project will be done in conjunction with Project P 6312(18) PCN 03DL 4th Street Southeast Improvements. Private utility companies may also be upgrading their facilities during the project.

SPECIFICATIONS TO BE USED

The most current edition of the City of Madison Standard Specifications, together with the most current edition of the South Dakota Department of Transportation Standard Specifications for Roads and Bridges with Supplemental Specifications and Errata and required provisions, supplemental specifications, and/or special provisions as included in the Project Manual are hereby made a part of these specifications in its entirety unless otherwise revised, deleted, or supplemented herein.

The City of Madison Standard Specifications can also be downloaded from the City of Madison website at address http://www.cityofmadisonsd.com under Engineering. The South Dakota Department of Transportation Standard Specifications for Roads and Bridges with Supplemental Specifications and Errata can be downloaded from the SDDOT's website at http://www.sddot.com/.

ORDER OF PRECEDENCE

If conflicts arise, the order of precedence of the contract documents shall be as follows: Plans over Special Provisions over Supplemental Specifications over City of Madison Standard Specifications over South Dakota Department of Transportation Supplemental Specifications and Errata over South Dakota Department of Transportation Standard Specifications for Roads and Bridges.

CONSTRUCTION LIMITS

The construction limits shall be within the right-of-way and easement areas. Material storage and vehicle and equipment traffic shall be limited to the construction limits. All paved streets adjacent to the project are to be cleaned at the end of each working day.

It shall be the responsibility of the contractor to coordinate with the property owners relating to access to their property and any subsequent damages.

GRADE STAKES, BENCHMARKS AND MONUMENTS

All stakes, stones, and monuments now in place and marking lines and corners of boundaries which are likely to be affected by the work herein provided for shall be carefully preserved by the Contractor. In no case shall any excavation be made within five feet (5') of any such stake, stone or monument until they have been properly reset, witnessed, or otherwise cared for by the Engineer and permission is given to proceed with the work.

All lines, grade stakes, and benchmarks set by the Engineer in connection with the work herein provided for shall be carefully preserved by the Contractor and shall not be disturbed nor moved from the exact position and elevation as set by the Engineer. No excavated material shall be thrown over or against said stakes and, except where necessary to remove the stakes as the work progresses, all stakes shall be carefully preserved in the original position and elevation until the work has passed final inspection and been accepted. Stakes, which must be removed as the work progresses shall be so removed only upon the order of the Engineer.

All stakes, stones, monuments, and benchmarks disturbed or removed through carelessness or without proper authority will be reset at the expense of the Contractor.

SUBMITTALS

The following documents shall be submitted by the Contractor:

Submittals	Date Submitted
Shop drawings	
Construction schedule	
Water Main Installation Construction & Phasing Plan	
South Dakota State sewer and water plumbing contractor's license	
Discharge chlorinated water plan	
Materials Certifications	
Dewatering plan for groundwater	

CONSTRUCTION SCHEDULE

At least two weeks prior to the start of work, the Contractor shall furnish to the Engineer two copies of a bar chart method progress schedule. The schedule shall consist of a construction schedule and a brief written narrative. The schedule shall contain the following information:

1. A time scale to graphically show the percentage of work scheduled for completion within the Contract completion requirements.
2. Definition and relation of work activities to contract pay items.
3. Work activities (prime contractor and all subcontractor activities) in the order work will be performed including submittals, approvals, deliveries, temporary traffic control, and permanent signing/striping.
4. All major work activities that are controlling factors in completion of the work.
5. The time required for each activity and its relationship in time to other activities.
6. The total expected time to complete all work.
7. The expected shifts in days per week, hours per day, and the days when work is not expected to be performed.

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CONSTRUCTION SCHEDULE (CONT.)

The construction schedule shall be updated on a bi-weekly basis. If it appears the rate of progress is such that the contract will not be completed within the time frame allowed the Contractor will be required to provide written documentation as to what measures they will take to complete the project within the specified time frame or to prosecute work in a satisfactory manner. Failure to submit the schedule on a bi-weekly basis will result in the City withholding the pay applications until the updated schedule is submitted.

COORDINATION MEETINGS

The contractor shall conduct coordination meetings with the subcontractors, utilities, the Engineer, and the public. These meetings shall be held weekly at a location on or near the project. The Contractor shall determine the time and location and as approved by the Engineer.

Landowners, business owners, and the general public will be invited to the first half of the meeting. The Contractor will give a brief summary of the project schedule and will answer any questions. The public will then be dismissed and the Contractor can discuss construction coordination and other issues as needed.

All costs to conduct the coordination meetings shall be incidental to the project.

UTILITIES

All utilities shall be verified by the Contractor prior to starting work. Any time existing utilities impede the progress of work, the Contractor shall immediately notify the Engineer.

All utilities, whether privately or publicly owned, shall be moved, relocated, and/or replaced as necessary, by the respective utility company or companies except as noted in the plans. These modifications shall take place in advance of construction when applicable or when advised by the Engineer. No payment shall be made to the Contractor unless specified in the contract documents.

The Contractor shall safeguard all utilities and coordinate his efforts to coincide with utility work by others in order to minimize inconvenience to the public and utility companies. When pipe utility installation crosses existing utilities, the Contractor shall be responsible for supporting the utilities in a manner that is acceptable to the owner of the utility. Any damage caused to the utilities due to Contractor carelessness shall be repaired at the Contractor's expense to the satisfaction of the utility owner.

Abandoned utilities (gas lines, telephone lines, etc.) encountered during construction shall be removed and disposed of by the Contractor. Costs associated with this work shall be incidental to the various bid items associated with work adjacent to the abandoned utility.

The Contractor shall be responsible for the coordination of all work associated with the disturbance, removal, or replacement of unidentified metallic natural gas mains or services when encountered. The Contractor shall, in advance and prior to proceeding with the work, coordinate with the City of Madison, Northwestern Energy, and all other companies related to the associated work.

Existing utility locations shown on drawings are approximate. There is no guarantee that the utilities shown include all such utilities or that the locations indicated are exact. The Contractor shall contact South Dakota One Call system, utility companies, and the City of Madison to verify locations of all existing utilities prior to excavation.

The Contractor shall be responsible for notifying South Dakota One Call 1-800-781-7474 to have utilities field located.

The following utility companies are known to have facilities on the project:

CenturyLink
Jeremy Studemann
125 S Dakota Ave
Sioux Falls, SD 57104

Madison Electric Department
412 South Union Avenue
Madison, SD 57042
(605) 256-7521

Madison Sewer & Water
401 S. Highland Avenue
PO Box 308
Madison, SD 57042
(605) 256-7517

Northwestern Energy
PO Box 307
Madison, SD 57042
(605 256-4526

Wide Open West
Jack Brinkley
29705 453rd Ave.
Irene, SD 57037

MidContinent Communications
3507 South Duluth Ave.
Sioux Falls, SD 57107
(605) 334-1200

East River Electric Coop
PO Box 227
121 SE 1st Street
(605) 256-4536

SDN Communications
2900 W 10th Street
Sioux Falls, SD 57104
(800) 247-1442

The Contractor shall cooperate with and coordinate his efforts to work with the utility companies and their contractors. Each bidder shall be responsible prior to bid letting, for determining the effects of utility work on the project work scope and schedule, and shall account for all such effects in his bid. No consideration will be given to the Contractor after the bid letting on account of utility work done by others.

PROTECTION OF EXISTING SANITARY SEWER, WATER MAIN AND STORM SEWER SYSTEMS

Existing sanitary sewer lines and manholes within the construction limits shall be protected at all times during construction. Water, stone, dirt, gravel, asphalt, concrete or any other debris shall not be allowed to enter the City's sanitary sewer system at any time. Construction taking place in the vicinity of any existing City sanitary sewer lines or manholes shall not cause any inflow of surface water, ground water, water from damaged water lines, or debris to enter the City's sanitary sewer system. The Contractor shall be responsible for any damages incurred to the City's sanitary sewer system and/or private property and any actions imposed by SDDENR due to spills or overflows.

Existing storm sewer inlets and pipes within the construction limits shall be protected from the entrance of stone, dirt, gravel, asphalt, concrete or any other debris during construction.

TEMPORARY MANHOLE COVER

Temporary manhole covers shall be installed on existing manholes immediately after surfacing removals have been completed and on new manholes immediately after installation. The Contractor shall ensure that all manholes are secured, protected, and watertight at the end of each workday. Under no circumstances shall an uncompleted or completed manhole be left uncovered, unprotected, or not watertight overnight.

Temporary manhole covers shall be measured by each unit furnished and installed. Payment for temporary manhole covers will be full compensation for furnishing, installing, and removing each temporary manhole cover.

TABLE OF TEMPORARY MANHOLE COVERS

Station	L/R	Quantity
106+25.30	6.51' L	1
109+03.71.	6.23' L	1
111+84.89	5.34' L	1
115+16.86	4.13' L	1
117+49.31	2.90' L	1
120+34.26	5.34' L	1
120+59.12	25.82' R	1
123+25.47	24.79' R	1
123+25.89	1.27' R	1
125+68.20	23.32' R	1
125+91.95	0.11' R	1
128+61.29	1.71' R	1
128+66.73	24.07' R	1
	Totals:	13

DRAINAGE

Drainage is the Contractor's responsibility. Contractor shall be aware of existing drainage conditions and facilities, and shall provide for drainage during all phases of construction. Damage caused by improper temporary drainage facilities shall be repaired at the Contractor's expense and to the satisfaction of the Engineer.

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DEWATERING

The extent of dewatering required on the project, if any, is undetermined. Soil borings were taken in late September of 2013, located at these approximate locations: 107+00-11.5' LT, 111+80-12.9' LT, 115+00-13.5' LT, 118+90-12.2' LT, 122+20-12.8' LT, and 125+50-13.2' LT. The borings were left open for a period of time and then checked for presence of water. Findings from the monitoring are as follows:

Station/Offset	Initial Depth (ft)	Final Depth (ft)	Time Between Readings (hr)
107+00-11.5' LT	Dry /Caved 15.8	Dry/Caved 15.6	42
111+80-12.9' LT	Dry /Caved 13.3	Dry/Caved 13.3	43
115+00-13.5' LT	12.7/Caved 12.0	12.6/Caved 12.2	44
118+90-12.2' LT	Dry /Caved 12.3	Dry/Caved 12.3	13
122+20-12.8' LT	Dry /Caved 13.5	12.4/Caved 12.5	14
125+50-13.2' LT	15.7/Caved 15.7	Dry/Caved 15.5	15

Seasonal variations in water levels are likely. Bidders are expected to examine the site, interpret or disregard the boring information as they see fit, and arrive at their own conclusions regarding the character and location of groundwater on the site.

The Contractor shall submit a plan for any anticipated dewatering at the preconstruction meeting. The plan shall include method of water removal and a plan for removing sediment from the water prior to discharge.

The Contractor may elect to transport sediment laden water off the project. If the Contractor elects to do so, no additional payment for loading, transporting, and labor costs will be made. Water transported off the project limits shall not be disposed of in an area where it can enter a waterway. The disposal site must be approved by the Engineer.

Dewatering shall be incidental to water main installation and shall include all permits, materials, labor and equipment needed to perform the work.

TRAFFIC CONTROL

See Project P6312(18) PCN 03DL 4th Street Southeast Improvements plan sheets for traffic control information.

EROSON CONTROL

See Project P6312(18) PCN 03DL 4th Street Southeast Improvements plan sheets for erosion control information.

ENVIRONMENTAL COMMITMENTS

ENVIRONMENTAL COMMITMENTS

An Environmental Commitment is a measure that SDDOT commits to implement in order to avoid, minimize, and/or mitigate a real or potential environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency mentioned below with permitting authority can influence a project if perceived environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office. The environmental commitments associated with this project are as follows:

COMMITMENT C: WATER SOURCE

The Contractor shall not withdraw water with equipment previously used outside the State of South Dakota without prior approval from the SDDOT Environmental Office. Thoroughly wash all construction equipment before entering South Dakota to reduce the risk of invasive species introduction into the project vicinity.

The Contractor shall not withdraw water directly from streams of the James, Big Sioux, and Vermillion watersheds without prior approval from the SDDOT Environmental Office.

Action Taken/Required:

The Contractor shall obtain the necessary permits from the regulatory agencies such as the Department of Environment and Natural Resources (DENR) and the United States Army Corps of Engineers (COE) prior to executing water extraction activities.

COMMITMENT D: WATER QUALITY STANDARDS

COMMITMENT D1: SURFACE WATER QUALITY

This segment of the Silver Creek is classified by the South Dakota Surface Water Quality Standards and Uses Assigned to Streams for the following beneficial uses:
(6) Warmwater marginal fish life propagation waters;
(8) Limited contact recreation waters;
(9) Fish and wildlife propagation, recreation, and stock watering waters; and
(10) Irrigation waters.

Because of these beneficial uses, special construction measures may have to be taken to ensure that the total suspended solids standard of 150 mg/L is not violated.

Park Creek is classified by the South Dakota Surface Water Quality Standards and Uses Assigned to Streams for the following beneficial uses:
(9) Fish and wildlife propogation, recreation, and stock watering waters; and
(10) Irrigation waters.

Because of these beneficial uses, special construction measures may have to be taken to ensure that this tributary is not impacted.

Action Taken/Required:

The Contractor is advised the South Dakota Surface Water Quality Standards, administered by the Department of Environment and Natural Resources (DENR), apply to this project. Special construction measures shall be taken to ensure the above standard(s) of the surface waters are maintained and protected.

COMMITMENT D2: SURFACE WATER DISCHARGE

This segment of the Silver Creek is classified by the South Dakota Surface Water Quality Standards and Uses Assigned to Streams for the following beneficial uses:
(6) Warmwater marginal fish life propagation waters;
(8) Limited contact recreation waters;
(9) Fish and wildlife propagation, recreation, and stock watering waters; and
(10) Irrigation waters.

Because of these beneficial uses, special construction measures may have to be taken to ensure that the total suspended solids standard of 150 mg/L is not violated.

Park Creek is classified by the South Dakota Surface Water Quality Standards and Uses Assigned to Streams for the following beneficial uses:
(9) Fish and wildlife propogation, recreation, and stock watering waters; and
(10) Irrigation waters.

Because of these beneficial uses, special construction measures may have to be taken to ensure that this tributary is not impacted.

Action Taken/Required:

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

COMMITMENT E: STORM WATER

Construction activities constitute 1 acre or more of earth disturbance.

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Action Taken/Required:

The DENR and the US Environmental Protection Agency (EPA) have issued separate general permits for the discharge of storm water runoff. The DENR permit applies to discharges on state land and the EPA permit applies to discharges on federal or reservation land. The Contractor is advised this project is regulated under the Phase II Storm Water Regulations and must receive coverage under the General Permit for Construction Activities. A Notice of Intent (NOI) will be submitted to DENR a minimum of 15 days prior to project start by the DOT Environmental Office. A letter must be received from DENR that acknowledges project coverage under this general permit before project start. The Contractor is advised that permit coverage may also be required by off-site activities, such as borrow and staging areas, which are the responsibility of the Contractor.

The Contractor shall adhere to the "Special Provision Regarding Storm Water Discharges to Waters of the State".

A major component of the storm water construction permits is development and implementation of a Storm Water Pollution Prevention Plan (SWPPP), which is a joint effort and responsibility of the SDDOT and the Contractor. Erosion control measures and best management practices will be implemented in accordance with the SWPPP. The SWPPP is a dynamic document and is to be available on-site at all times.

Information on storm water permits and SWPPPs are available on the following websites:

SDDOT: http://sddot.com/business/environmental/stormwater/Default.aspx

DENR: http://www.denr.sd.gov/des/sw/stormwater.aspx

EPA: http://cfpub.epa.gov/npdes/home.cfm?program_id=6

Contractor Certification Form:

The "Department of Environmental and Natural Resources – Contractor Certification Form" (SD EForm – 2110LDV1-ContractorCertification.pdf) shall be completed by the Contractor or their certified Erosion Control Supervisor after the award of the contract. Work may not begin on the project until this form is signed.

The form certifies under penalty of law that the Contractor understands and will comply with the terms and conditions of the Surface Water Discharge

General Permit for Storm Water Discharges Associated with Construction Activities for the Project.

The online form can be found at:
http://denr.sd.gov/des/sw/eforms/E2110LDV1-ContractorCertification.pdf

COMMITMENT H: WASTE DISPOSAL SITE

The Contractor shall furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

Action Taken/Required:

Construction and/or demolition debris may not be disposed of within the ROW.

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

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

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

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

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

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

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

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

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

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

Action Taken/Required:

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

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

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

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

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

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

COMMITMENT N: SECTION 404 PERMIT

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

Action Taken/Required:

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

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

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SANITARY SEWER

SANITARY SEWER - GENERAL

1. Sanitary Sewer work shall consist of relining existing sanitary sewer manholes number 528, 531, 534, 535, and 536 as shown on the applicable plan sheets and replacing the frames and lids of all sanitary sewer manholes within the project area. Relining the manholes will consist of spraying a mortar liner onto the interior surface of the manholes.

2. Contractor's License. The Contractor shall obtain a "South Dakota State Sewer and Water Plumbing Contractor's License" prior to commencing construction.

3. The Contractor shall notify the City Engineer's office upon completion of the sanitary sewer. Inspection of the sanitary sewer will be made by the City Engineer's office with the Contractor and all discrepancies will be noted. Final payment will not be made until all discrepancies have been corrected and the sanitary sewer work has been given final acceptance.

LINE MANHOLE

See Special Provisions for specifications regarding lining manholes.

TABLE OF LINE MANHOLES

Station	L/R	Manhole ID	Lining Depth (Ft)
106+25.30	6.56' L	531	17.31
109+03.71	6.23' L	534	15.22
111+84.86	5.30' L	528	12.94
115+16.82	4.12' L	535	11.38
120+34.26	5.34' L	536	11.45
		Total	68.30

WATER

WATER MAIN AND APPURTENANCES

Water Main Work East of Park Creek

The following requirements apply to water main work **east** of Park Creek:

- The installation of the 12" x 10" tee and 2-12" valves, 10" Gate valves and the connection to the existing system at the intersection of 4th Street SE and Division Avenue shall be completed in no longer than 8 consecutive hours and shall be completed during a regular work day on Monday-Friday.
- The water main and services (existing or proposed) to properties west of Park Creek shall be fully operational while this work is taking place.
- The Contractor shall, at least two weeks prior to date proposed for commence water main work, coordinate with and obtain approval from the City of Madison water plant superintendent, Rick Nighbert (605-291-6310) to start the work.
- The Contractor shall make sure there are no conflicts with proposed storm sewer, shown in the Street Reconstruction Plans, prior to construction of water main and storm sewer.

Water Main Work West of Park Creek

The following requirements apply to water main work **west** of Park Creek:

- The existing water distribution system shall remain in service to all properties within the project area west of the Park Creek until the new main has been installed and passes bacteriological and leakage testing.
- Once testing has been successfully completed, the new main shall be connected to the existing system.

All valve operation will be done by the City of Madison water department.

All ductile iron pipe and fittings shall be wrapped with polyethylene tube material to protect the pipe from any future corrosion. The poly material shall be installed as detailed in the supplemental specifications and the ductile iron handbook from DIPRA and ANSI A21.5 (AWWA C105).

All water distribution materials shall meet NSF / ANSI Standard 61 – Drinking Water System Components, Health Effects and NSF/ANSI 61 Annex G, NSF/ANSI 372. The Contractor or Supplier may submit appropriate documentation to the Engineer for any materials not listed in the City's Specifications for Water Main Construction. This documentation must be provided no later than 5 days prior to bid opening.

Tracer wire shall be applied to all water main installed on the project per City of Madison Standard Specifications and as detailed on the Special Plate for Water Main Tracer Wire System. Tracer wire shall be incidental to the cost of the various water main bid items.

WATER MAIN PARALLELING OR CROSSING SEWERS

Installation of water mains parallel to sanitary or storm sewer lines shall be completed in a manner such that the water mains shall be laid at least 10 feet horizontal distance from any existing or proposed sanitary sewer, storm sewer, or sewer manhole. Where water mains cross storm sewers or sanitary sewers, there shall be at least 18 inches vertical clearance between the bottom of the water main and the top of the sewer pipe and one full length of water pipe must be located so both joints will be as far from the sewer as possible.

A water main may cross below a non-perforated sewer main if minimum vertical separation of 18 inches is provided and the sewer main is of acceptable water main pipe material and is a continuous piece of at least 20 feet in length with the length of the water pipe located so both joints are as far as possible from the sewer main. A water main may cross either above or below a non-perforated sewer line with a vertical separation of less than 18 inches if either the water or sewer line is encased in PVC or cast iron for at least 10 feet each side of the crossing. If PVC or cast iron is used as encasement material, the ends shall be adequately sealed with a rubber boot. Where water mains are to be installed in parallel with a sewer or a sewer manhole that is less than 10 feet away horizontally and is not at least 18 inches below the water main, the water main shall be encased in PVC or cast iron for the entire distance that the sewer is too close to the water main. If PVC or cast iron is used as encasement material, the ends shall be adequately sealed with a rubber boot. Payment for crossings shall be incidental to the contract unit prices for the water main items.

WATER MAIN BEDDING MATERIAL

Water main bedding material shall be installed as detailed on the Standard plate for Water Main Bedding Material. Water main bedding material costs shall be incidental to the various water main bid items.

WATER VALVE NUT EXTENSION

A water valve nut extension shall be installed on all water valves with more than eight feet of cover, as measured from the top of the pipe to the top of the finished ground surface. Valve nut extensions shall be incidental to the cost of the water valve.

WATER MAIN DISINFECTION

After disinfection and final flushing and before the new water main is connected to the distribution system, two consecutive sets of acceptable samples, taken 24 hours apart, shall be collected from the new main. The samples must be submitted to a health laboratory acceptable to the state DENR. The samples must be free of coliform bacteria before the system can be placed into service.

When minor water main work occurs (i.e. tie-in connections of new water main to existing water main, water main adjustments, installation of new valves on existing main or any other work deemed minor by the City Water Department) the existing main, prior to the completion of the bacteria testing, may be returned to service once the line has been flushed and a boil order has been issued. The boil order will be rescinded with the passing of the bacteria test. Water that is discharged during water main flushing shall not reach a stream, river or water way if the chlorine residual exceeds 0.05 mg/L. Contact City Water Department for more information.

The Contractor shall notify all consumers affected by any interruption of water service at least 24 hours before the interruption of water service. Consumers shall be verbally notified when possible. In the event a consumer cannot be verbally notified, the Contractor shall secure a door hanger to the most frequently used entrance.

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DISCHARGE OF CHLORINATED WATER

Water from the City's Water Distribution System that is drained into work areas or open trenches must be discharged without impact to the environment. Review locations of discharge hydrants relative to open areas. Meet with property owners to discuss discharge locations and obtain their approval. The following is a prioritized list for the disposition of chlorinated or heavily chlorinated water from the distribution system:

a. Water from the distribution system shall be pumped to the City's sanitary sewer system. Contractor is responsible for verifying hydraulic loading on existing sanitary system during trench dewatering operations to ensure that sewer backups do not occur.
b. Water from the distribution system shall be pumped to areas where water can be stored and discharged through infiltration. Overland flow is not allowed. If discharge is on private property, contractor shall secure permission prior to discharge.
c. Water from the distribution system may be pumped into vactor trucks or septic tanks and hauled to a facility permitted by (DENR) to accept such discharge.

RECONNECTION OF WATER SERVICES

Approximate locations of the existing water services are shown on the plans. Actual locations will be determined by the Contractor during construction. Due to the age of the neighborhood, detailed records may not exist for the water service locations for some of the houses in the project area. Some of the services encountered during construction may be inactive or may have never been used. It shall be the responsibility of the Contractor to determine, as the water main installation progresses, which services are active and need to be reconnected. City personnel will be available, when requested by the Contractor, to assist with working with property owners and other methods necessary to investigate which services need to be reconnected. Locating the water service and determining which services need to be reconnected shall be included in the unit bid price per each for "Reconnect Water Service."

The Contractor will furnish and install corporation stops, water service lines, reducing or enlarging couplers and all service materials and labor required for the connection of the existing service line to the new water main within the existing street section. Water service pipe material may be either 1" Type K copper or 1" polyethylene per City of Madison Standard Specifications to match the material of the existing service. The Contractor shall coordinate work with the City water department. All labor, equipment, and materials necessary for removal of the existing service lines and installation of the new service line from the main through the curb stop shall be included in the contract unit price per each for "Reconnect Water Service."

The Contractor will furnish and install corporation stops, water service lines, curb stops, curb stop boxes and reducing or enlarging couplers and all service materials and labor required for the connection of services at the following properties:

#421 SE 4th Street – Sta. 105+61.96
#700 SE 4th Street – Sta. 118+20.98
#709 SE 4th Street – Sta. 119+11.50
#710 SE 4th Street – Sta. 119+21.36
#713 SE 4th Street – Sta. 119+51.31

Services shall be installed with 6' minimum cover to proposed grades. Water service pipe material may be either 1" Type K copper or 1" polyethylene per City of Madison standard specifications to match the material of the existing service. The Contractor shall coordinate work with the City water department. All labor, equipment, and materials necessary for removal of the existing service lines and installation of the new service line from the main through the curb stop shall be included in the contract unit price per each for "1" Water Service."

The existing water service at 102+32.54 - 23' R is housed in a privately installed meter pit structure. When installing the new water service to this property, the Contractor shall connect the new water service outside of the meter pit on the side closest to the water main. All costs for doing this work shall be included in the contract unit price per each for "Reconnect Water Service."

It is believed that the water service for 405 S. Garfield Avenue is connected to the water main on 4th Street SE. All labor and materials necessary to Locate this water service will be paid for separately under the "Locate Utilities" Item.

LOCATING UTILITY

This work consists of excavating material to locate a utility line, (Private or Public), when the utility owner cannot find said line, or utility line is not within four (4) feet either side of markings established by the utility owner. Payment for this item will be at the contract unit price per each. 5 locate is estimated for this project.

VERIFY UTILITY

This work consists of excavating material to verify the depth of an existing utility line, (Private or Public), to avoid possible conflicts, when directed by the Engineer. Payment for this item will be at the contract unit price per each. 5 verification is estimated for this project, 2 specific per below others are to be used as determined by Engineer in field.

The Contractor shall verify the depths of the following utilities:

EXISTING WATER MAIN - STA 128+40 – 17.76' LT
EXISTING WATER MAIN – STA 123+55 – 17.76' LT

After verification, the Contractor shall coordinate information with the Engineer.

WELL MAIN

The existing well main, which runs along the project from approximately station 126+11 to Division Avenue shall be left undisturbed.

WATER MAIN ADJUSTMENT

The bid item "Adjust Water Main" has been established to provide full compensation for excavating, dewatering of the water main and trench, additional time required for installation of materials, backfilling, and all necessary appurtenances, for proper completion of the water main adjustment. The bends, sleeves and restraining devices are paid for separately under their respective bid items.

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TABLE OF RECONNECT WATER SERVICE

Station	L/R	*1 inch Service Length (Ft)	Reconnect Water Service (Each)	1" Water Service (Each)
103+33.99	R	2	1	
103+78.30	L	25	1	
104+32.52	R	1	1	
104+35.45	L	25	1	
105+50.13	L	26	1	
105+61.96	R	19.5		1
107+32.04	R	1	1	
107+41.20	R	1	1	
107+92.52	L	27	1	
108+60.49	R	1	1	
108+78.79	L	26	1	
108+79.86	R	1	1	
109+31.96	L	26	1	
109+95.20	L	26	1	
110+06.88	R	1	1	
110+27.49	R	1	1	
110+82.24	R	1	1	
111+15.06	L	26	1	
113+64.92	R	1	1	
115+76.70	R	1	1	
116+13.27	L	26	1	
116+18.55	R	1	1	
116+86.19	L	26	1	
117+34.93	R	1	1	
117+89.22	R	1	1	
118+20.98	L	41.5		1
119+11.50	R	19.5		1
119+21.36	L	41.5		1
119+51.31	R	19.5		1
119+78.12	L	25	1	
120+35.32	L	29	1	
120+70.12	R	1	1	
120+72.12	R	1	1	
123+53.26	R	1	1	
125+09.01	L	4	1	
126+24.14	L	4	1	
126+97.91	L	4	1	
127+98.33	L	4	1	
127+98.96	R	1	1	
405 S Garfield Ave	L	50	1	
	Total:	*539.5	35	5

*Length given for information only. All labor & materials incidental to the bid item "Reconnect Water Service" or "1" Water Service" per each.

TABLE OF STANDARD FIRE HYDRANT

Station	L/R	Quantity (Each)
106+99.81	23.00' R	1
112+34.53	23.00' R	1
118+05.18	23.00' R	1
	Total	3

TABLE OF 4" GATE VALVE WITH BOX

Station	L/R	Quantity (Each)
112+07.54	R	1
	Total	1

TABLE OF 6" GATE VALVE WITH BOX

Station	L/R	Quantity (Each)
106+51.66	L	1
106+99.81	R	1
112+34.53	R	1
117+63.20	L	1
118+05.18	R	1
	Total	5

TABLE OF 8" GATE VALVE WITH BOX

Station	L/R	Quantity (Each)
111+96.39	L	1
111+96.39	R	1
	Total	2

TABLE OF 10" GATE VALVE WITH BOX

Station	L/R	Quantity (Each)
128+63.20	L	1
	Total	1

TABLE OF 12" GATE VALVE WITH BOX

Station	L/R	Quantity (Each)
103+52.93	R	1
111+96.39	R	1
111+96.39	R	1
117+63.20	R	1
117+63.20	R	1
128+63.20	L	1
128+63.20	L	1
	Total	7

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STORM WATER POLLUTION PREVENTION PLAN CHECKLIST

*(The numbers right of the title headings are **reference numbers** to the GENERAL PERMIT FOR STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES*

❖ SITE DESCRIPTION (4.2 1)

- **Project Limits: See Title Sheet (4.2 1.b)**
- **Project Description: See Title Sheet (4.2 1.a.)**
- **Site Map(s): See Title Sheet and Plans (4.2 1.f. (1)-(6))**
- **Major Soil Disturbing Activities** (check all that apply)
  - ☐ Clearing and grubbing
  - ☒ Excavation/borrow
  - ☐ Grading and shaping
  - ☐ Filling
  - ☐ Cutting and filling
  - ☐ Other (describe):
- **Total Project Area** 1.87 Acres **(4.2 1.b.)**
- **Total Area To Be Disturbed** 3.85 Acres **(4.2 1.b.)**
- **Existing Vegetative Cover (%)** 10%
- **Soil Properties:** USDA-NRCS Soil Series Classification 73% Groupb, 10% Group C and 17% Group C/D **(4.2 1. d.)**
- **Name of Receiving Water Body/Bodies** Park Creek **(4.2 1.e.)**

❖ ORDER OF CONSTRUCTION ACTIVITIES (4.2 1.c.)

(Stabilization measures shall be initiated as soon as possible, but in no case later than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased. Initiation of final or temporary stabilization may exceed the 14-day limit if earth disturbing activities will be resumed within 21 days.)

- **Install stabilized construction entrance(s).**
- **Install perimeter protection where runoff sheets from the site.**
- **Clearing and grubbing.**
- **Remove and store topsoil.**
- **Stabilize disturbed areas.**
- **Install utilities, storm sewers, curb and gutter.**
- **Install inlet and culvert protection after completing storm drainage and other utility installations.**
- **Complete final grading.**
- **Complete final paving.**
- **Complete traffic control installation and protection devices.**
- **Reseed areas disturbed by removal activities**.

❖ EROSION AND SEDIMENT CONTROLS (4.2 2.a.(1)(a)-(f))

(Check all that apply)

- **Stabilization Practices (See Detail Plan Sheets)**
  - ☐ Temporary Seeding (Cover Crop Seeding)
  - ☒ Permanent Seeding
  - ☐ Sodding
  - ☐ Planting (Woody Vegetation for Soil Stabilization)
  - ☐ Mulching (Grass Hay or Straw)
  - ☐ Hydraulic Mulch (Wood Fiber Mulch)
  - ☒ Soil Stabilizer
  - ☒ Bonded Fiber Matrix
  - ☐ Erosion Control Blankets or Mats
  - ☐ Vegetation Buffer Strips
  - ☐ Roughened Surface (e.g. tracking)
  - ☒ Dust Control
  - ☐ Other:
- **Structural Temporary Erosion and Sediment Controls**
  - ☒ Silt Fence
  - ☐ Floating Silt Curtain
  - ☐ Straw Bale Check
  - ☐ Temporary Berm
  - ☐ Temporary Slope Drain
  - ☐ Straw Wattles or Rolls
  - ☐ Turf Reinforcement Mat
  - ☐ Rip Rap
  - ☐ Gabions
  - ☐ Rock Check Dams
  - ☐ Sediment Traps/Basins
  - ☒ Inlet Protection
  - ☐ Outlet Protection
  - ☐ Surface Inlet Protection (Area Drain)
  - ☒ Curb Inlet Protection
  - ☒ Stabilized Construction Entrances
  - ☐ Entrance/Exit Equipment Tire Wash
  - ☐ Interceptor Ditch
  - ☒ Concrete Washout Area
  - ☐ Temporary Diversion Channel
  - ☐ Work Platform
  - ☐ Temporary Water Barrier
  - ☐ Temporary Water Crossing
  - ☐ Other:
- **Wetland Avoidance**

  Will construction and/or erosion and sediment controls impinge on regulated wetlands? Yes ☐ No ☒ If yes, the structural and erosion and sediment controls have been included in the total project wetland impacts and have been included in the 404 permit process with the USACE.
- **Storm Water Management (4.2 2.b., (1) and (2))**

  Storm water management will be handled by temporary controls outlined in "EROSION AND SEDIMENT CONTROLS" above, and any permanent controls needed to meet permanent storm water management needs in the post construction period. Permanent controls will be shown on the plans and noted as permanent.
- **Other Storm Water Controls (4.2 2.c., (1) and (2))**
  - **Waste Disposal**

    All liquid waste materials will be collected and stored in sealed metal containers approved by the project engineer. All trash and construction debris from the site will be deposited in the approved containers. Containers will be serviced as necessary, and the trash will be hauled to an approved disposal site or licensed landfill. All onsite personnel will be instructed in the proper procedures for waste disposal, and notices stating proper practices will be posted in the field office. The general contractor's representative responsible for the conduct of work on the site will be responsible for seeing waste disposal procedures are followed.
  - **Hazardous Waste**

    All hazardous waste materials will be disposed of in a manner specified by local or state regulations or by the manufacturer. Site personnel will be instructed in these practices, and the individual designated as the contractor's on-site representative will be responsible for seeing that these practices are followed.
  - **Sanitary Waste**

    Portable sanitary facilities will be provided on all construction sites. Sanitary waste will be collected from the portable units in a timely manner by a licensed waste management contractor or as required by any local regulations.

❖ Maintenance and Inspection (4.2 3. and 4.2 4.)

- **Maintenance and Inspection Practices**
  - Inspections will be conducted at least one time per week and after a storm event of 0.50 inches or greater.
  - All controls will be maintained in good working order. Necessary repairs will be initiated within 24 hours of the site inspection report.
  - Silt fence will be inspected for depth of sediment and for tears in order to ensure the fabric is securely attached to the posts and that the posts are well anchored. Sediment buildup will be removed from the silt fence when it reaches $^1/_3$ of the height of the silt fence.
  - Sediment basins and traps will be checked. Sediment will be removed when depth reaches approximately 50 percent of the structure's capacity, and at the conclusion of the construction.
  - Check dams will be inspected for stability. Sediment will be removed when depth reaches ½ the height of the dam.
  - All seeded areas will be checked for bare spots, washouts, and vigorous growth free of significant weed infestations.
  - Inspection and maintenance reports will be prepared for each site inspection, this report will also be used to document changes to the SWPPP. A copy of the completed inspection form will be filed with the SWPPP documents.
  - The Contractor's site superintendent is responsible for inspections. Maintenance, repair activities are the responsibility of the Contractor. The Contractor will complete the inspection and maintenance reports and distribute copies to the Owner and Engineer.

❖ Non-Storm Water Discharges (3.0)

The following non-storm water discharges are anticipated during the course of this project (check all that apply).

- ☒ Discharges from water line flushing.
- ☐ Pavement wash-water, where no spills or leaks of toxic or hazardous materials have occurred.
- ☒ Uncontaminated ground water associated with dewatering activities.

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❖ **Materials Inventory (4.2. 2.c.(2))**

The following materials or substances are expected to be present on the site during the construction period. These materials will be handled as noted under the headings “EROSION AND SEDIMENT CONTROLS” and “SPILL PREVENTION” (check all that apply).

- ☐ Concrete and Portland Cement
- ☐ Detergents
- ☐ Paints
- ☒ Metals
- ☐ Bituminous Materials
- ☒ Petroleum Based Products
- ☐ Cleaning Solvents
- ☐ Wood
- ☐ Cure
- ☐ Texture
- ☒ Chemical Fertilizers
- ☐ Other:

❖ **Spill Prevention (4.2 2.c.(2))**

➢ **Material Management**

▪ Housekeeping

- Only needed products will be stored on-site by the contractor.
- Except for bulk materials the contractor will store all materials under cover and in appropriate containers.
- Products must be stored in original containers and labeled.
- Material mixing will be conducted in accordance with the manufacturer’s recommendations.
- When possible, all products will be completely used before properly disposing of the container off site.
- The manufacturer’s directions for disposal of materials and containers will be followed.
- The contractor’s site superintendent will inspect materials storage areas regularly to ensure proper use and disposal.
- Dust generated will be controlled in an environmentally safe manner.
- Vegetation areas not essential to the construction project will be preserved and maintained as noted on the plans.

▪ Hazardous Materials

- Products will be kept in original containers unless the container is not resealable.
- Original labels and material safety data sheets will be retained in a safe place to relay important product information.
- If surplus product must be disposed of, manufacturer’s label directions for disposal will be followed.
- Maintenance and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, de-greasing operations, fuel tank drain down and removal, and other activities which may result in the accidental release of contaminants will be conducted on an impervious surface and under cover during wet weather to prevent the release of contaminants onto the ground.
- Wheel wash water will be collected and allowed to settle out suspended solids prior to discharge. Wheel wash water will not be discharged directly into any storm water system or storm water treatment system.
- Potential pH-modifying materials such as: bulk cement, cement kiln dust, fly ash, new concrete washings, concrete pumping, residuals from concrete saw cutting (either wet or dry), and mixer washout waters will be collected on site and managed to prevent contamination of storm water runoff.

➢ **Product Specific Practices (6.8)**

▪ Petroleum Products
All on-site vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers which are clearly labeled.

▪ Fertilizers
Fertilizers will be applied only in the amounts specified by the SDDOT. Once applied, fertilizers will be worked into the soil to limit the exposure to storm water. Fertilizers will be stored in an enclosed area. The contents of partially used fertilizer bags will be transferred to sealable containers to avoid spills.

▪ Paints
All containers will be tightly sealed and stored when not required for use. The excess will be disposed of according to the manufacturer’s instructions and any applicable state and local regulations.

▪ Concrete Trucks
Contractors will provide designated truck washout areas on the site. These areas must be self contained and not connected to any storm water outlet of the site. Upon completion of construction washout areas will be properly stabilized.

➢ **Spill Control Practices (4.2 2 c.(2))**

In addition to the previous housekeeping and management practices, the following practices will be followed for spill prevention and cleanup if needed.

- For all hazardous materials stored on site, the manufacturer’s recommended methods for spill clean up will be clearly posted. Site personnel will be made aware of the procedures and the locations of the information and cleanup supplies.
- Appropriate cleanup materials and equipment will be maintained by the contractor in the materials storage area on-site. As appropriate, equipment and materials may include items such as brooms, dust pans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for clean up purposes.
- All spills will be cleaned immediately after discovery and the materials disposed of properly.
- The spill area will be kept well ventilated and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.
- After a spill a report will be prepared describing the spill, what caused it, and the cleanup measures taken. The spill prevention plan will be adjusted to include measures to prevent this type of spill from reoccurring, as well as clean up instructions in the event of reoccurrences.
- The contractor’s site superintendent, responsible for day-to-day operations, will be the spill prevention and cleanup coordinator. The contractor is responsible for ensuring that the site superintendent has had appropriate training for hazardous materials handling, spill management, and cleanup.

➢ **Spill Response (4.2 2 c.(2))**

The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize migration into storm water runoff and conveyance systems. If the release has impacted on-site storm water, it is critical to contain the released materials on-site and prevent their release into receiving waters. If a spill of pollutants threatens storm water or surface water at the site, the spill response procedures outlined below must be implemented in a timely manner to prevent the release of pollutants.

- The contractor’s site superintendent will be notified immediately when a spill or the threat of a spill is observed. The superintendent will assess the situation and determine the appropriate response.
- If spills represent an imminent threat of escaping erosion and sediment controls and entering receiving waters, personnel will be directed to respond immediately to contain the release and notify the superintendent after the situation has been stabilized.
- Spill kits containing appropriate materials and equipment for spill response and cleanup will be maintained by the contractor at the site.
- If oil sheen is observed on surface water (e.g. settling ponds, detention ponds, swales), action will be taken immediately to remove the material causing the sheen. The contractor will use appropriate materials to contain and absorb the spill. The source of the oil sheen will also be identified and removed or repaired as necessary to prevent further releases.
- If a spill occurs the superintendent or the superintendent’s designee will be responsible for completing the spill reporting form and for reporting the spill to SD DENR.
- Personnel with primary responsibility for spill response and clean up will receive training by the contractor’s site superintendent or designee. The training must include identifying the location of the spill kits and other spill response equipment and the use of spill response materials.
- Spill response equipment will be inspected and maintained as necessary to replace any materials used in spill response activities.

❖ **Spill Notification**

In the event of a spill, the contractor’s

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site superintendent will make the appropriate notification(s), consistent with the following procedures:

- A release or spill of a regulated substance (includes petroleum and petroleum products) must be reported to DENR immediately **if any one of the following** conditions exists:
  - The discharge threatens or is in a position to threaten the waters of the state (surface water or ground water).
  - The discharge causes an immediate danger to human health or safety.
  - The discharge exceeds 25 gallons.
  - The discharge causes a sheen on surface water.
  - The discharge of any substance that exceeds the ground water quality standards of ARSD (Administrative Rules of South Dakota) chapter 74:51:01.
  - The discharge of any substance that exceeds the surface water quality standards of ARSD chapter 74:51:01.
  - The discharge of any substance that harms or threatens to harm wildlife or aquatic life.
  - The discharge of crude oil in field activities under SDCL (South Dakota Codified Laws) chapter 45-9 is greater than 1 barrel (42 gallons).

To report a release or spill, call DENR at 605-773-3296 during regular office hours (8 a.m. to 5 p.m. Central time). To report the release after hours, on weekends or holidays, call State Radio Communications at 605-773-3231. Reporting the release to DENR does not meet any obligation for reporting to other state, local, or federal agencies. Therefore, the responsible person must also contact local authorities to determine the local reporting requirements for releases. DENR recommends that spills also be reported to the National Response Center at (800) 424-8802.

❖ Construction Changes (4.4)

When changes are made to the construction project that will require alterations in the temporary erosion controls of the site, the Storm Water Pollution Prevention Plan (SWPPP) will be amended to provide appropriate protection to disturbed areas, all storm water structures, and adjacent waters. The Contractor will modify the SWPPP plan and drawings to reflect the needed changes. Copies of forms and the SWPPP will be retained in a designated place for review over the course of the project.

❖ CERTIFICATIONS

➢ Certification of Compliance with Federal, State, and Local Regulations

The Storm Water Pollution Prevention Plan (SWPPP) for this project reflects the requirements of all local municipal jurisdictions for storm water management and sediment and erosion control as established by ordinance, as well as other state and federal requirements for sediment and erosion control plans, permits, notices or documentation as appropriate.

➢ City of Madison

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____

Authorized Signature (See the General Permit, Section 6.7.1.C.)

➢ Prime Contractor

This section is to be executed by the General Contractor after the award of the contract. This section may be executed any time there is a change in the Prime Contractor of the project.

I certify under penalty of law that this document and all attachments will be revised or maintained under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____

Authorized Signature

❖ CONTACT INFORMATION

➢ Contractor Information:

- Prime Contractor Name:
- Contractor Contact Name:
- Address:
- Address:
- City: State: Zip:
- Office Phone: Field:
- Cell Phone: Fax:

➢ Erosion Control Supervisor

- Name:
- Address:
- Address:
- City: State: Zip:
- Office Phone: Field:
- Cell Phone: Fax:

➢ Project Engineer

- Name:
- Business Address:
- Job Office Location:
- City: State: Zip:
- Office Phone: Field:
- Cell Phone: Fax:

➢ SD DENR Contact Spill Reporting

- Business Hours Monday-Friday (605) 773-3296
- Nights and Weekends (605) 773-3231

➢ SD DENR Contact for Hazardous Materials.

- (605) 773-3153

➢ National Response Center Hotline

- (800) 424-8802.

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 9089
MICHAEL R. KUNO
SOUTH DAKOTA
10/7/14

PLANS PREPARED BY:
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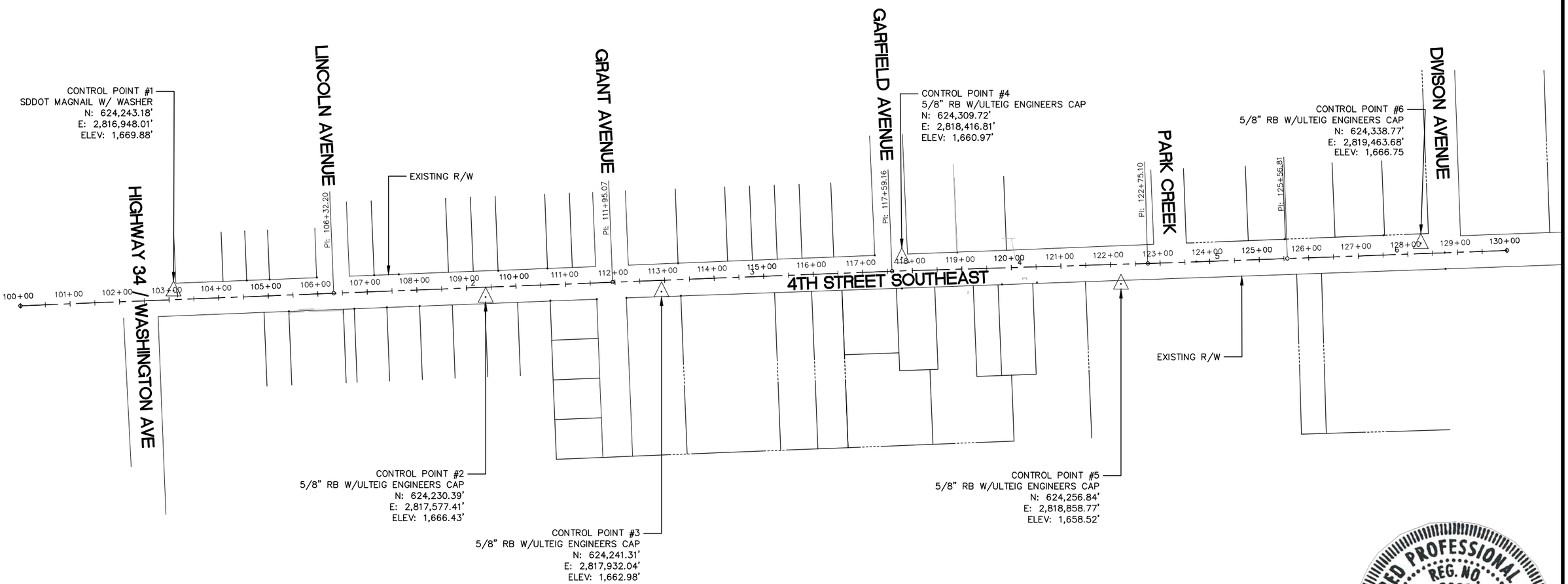
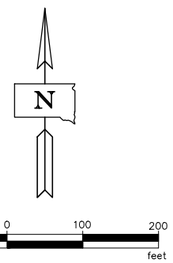
PHONE: 605.330.7000
401 EAST 8TH STREET
SUITE 309
SIOUX FALLS, SD 57103-7032
www.sehinc.com

Horizontal Alignment and Control Data

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	CITY PROJ. 2015–1	12	26





LEGEND

△ CONTROL POINT

ALIGNMENT TABULATION - PROPOSED CENTERLINE

SEGMENT ID	POINT	STATION	LENGTH	NORTHING	EASTING	BEARING
1	POB	100+00.00	632.20	624212.7060	2816639.3235	N 87° 42' 54" E
2	PI	106+32.20	562.87	624237.9111	2817271.0243	N 87° 44' 41" E
3	PI	111+95.07	564.09	624260.0603	2817833.4548	N 87° 44' 21" E
4	PI	117+59.16	515.94	624282.3119	2818397.1092	N 88° 15' 56" E
5	PI	122+75.10	281.71	624297.9269	2818912.8089	N 88° 00' 44" E
6	PI	125+56.81	443.19	624307.6983	2819194.3452	N 87° 52' 39" E

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SOUTH DAKOTA
10/7/14

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Existing Topography, Symbology & Legend

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	CITY PROJ. 2015–1	13	26

- 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 (WET)
- 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 (OH)
- 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 (WET)
- 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 (T/F)
- 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 (P)
- Underground Gas Line (G)
- Underground Sanitary Sewer (S)
- Underground Storm Sewer (S)
- Underground Tank
- Underground Telephone Line (T)
- Underground Television Cable (TV)
- Underground Water Line (W)
- 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

PLANS PREPARED BY:

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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	CITY PROJ. 2015–1	14	26

FOR BIDDING PURPOSES ONLY

Sanitary Sewer & Water Main Plan

Sec. 8-T106N-R52W

STA. 103+28.93 – 13.20' LT
1 EACH – CUT AND TIE TO EX. PVC WATER MAIN
1 EACH – 12" PIPE BEND (45 DEGREE)
2 EACH – 12" WATER MAIN RESTRAINING DEVICE
10 FT – REMOVE WATER MAIN
1 EACH – ABANDON WATER MAIN

STA 103+78.30 – 27.97' LT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 25 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA 104+35.45 – 25.70' LT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 25 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA 105+50.13 – 27.40' LT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 26 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

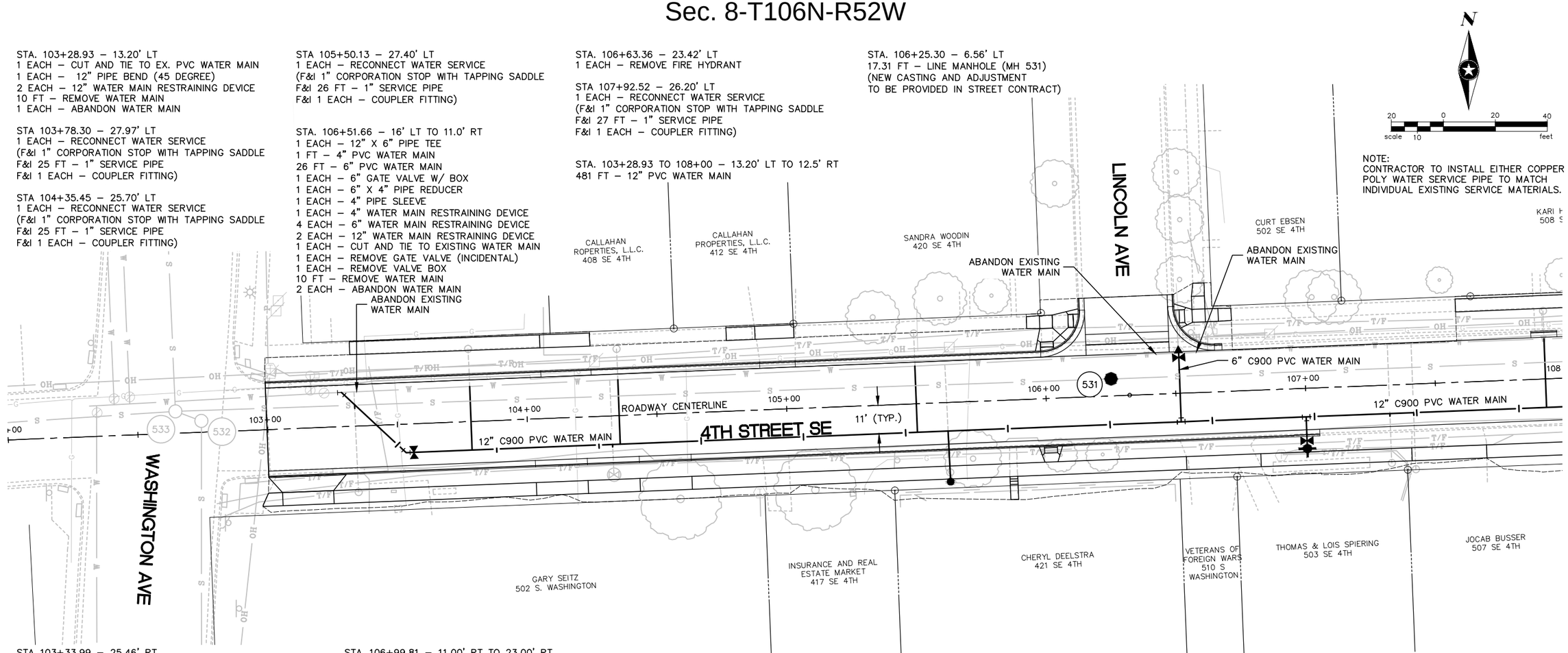
STA. 106+51.66 – 16' LT TO 11.0' RT
1 EACH – 12" X 6" PIPE TEE
1 FT – 4" PVC WATER MAIN
26 FT – 6" PVC WATER MAIN
1 EACH – 6" GATE VALVE W/ BOX
1 EACH – 6" X 4" PIPE REDUCER
1 EACH – 4" PIPE SLEEVE
1 EACH – 4" WATER MAIN RESTRAINING DEVICE
4 EACH – 6" WATER MAIN RESTRAINING DEVICE
2 EACH – 12" WATER MAIN RESTRAINING DEVICE
1 EACH – CUT AND TIE TO EXISTING WATER MAIN
1 EACH – REMOVE GATE VALVE (INCIDENTAL)
1 EACH – REMOVE VALVE BOX
10 FT – REMOVE WATER MAIN
2 EACH – ABANDON WATER MAIN

STA. 106+63.36 – 23.42' LT
1 EACH – REMOVE FIRE HYDRANT

STA 107+92.52 – 26.20' LT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 27 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA. 103+28.93 TO 108+00 – 13.20' LT TO 12.5' RT
481 FT – 12" PVC WATER MAIN

STA. 106+25.30 – 6.56' LT
17.31 FT – LINE MANHOLE (MH 531)
(NEW CASTING AND ADJUSTMENT
TO BE PROVIDED IN STREET CONTRACT)



STA 103+33.99 – 25.46' RT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 1 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA 103+52.93 – 11.00' RT
1 EACH – 12" PIPE BEND (45 DEGREE)
1 EACH – 12" GATE VALVE WITH BOX
4 EACH – 12" WATER MAIN RESTRAINING DEVICE

STA 104+32.52 – 19.57' RT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 1 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA 105+61.96 – 26.92' RT
1 EACH – 1" WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 19.5 FT – 1" SERVICE PIPE
F&I 1 EACH – CURB STOP WITH BOX
F&I 1 EACH – COUPLER FITTING)

STA. 106+99.81 – 11.00' RT TO 23.00' RT
1 EACH – 12" X 6" PIPE TEE
12 FT – 6" PVC WATER MAIN
1 EACH – 6" GATE VALVE WITH BOX
4 EACH – 6" WATER MAIN RESTRAINING DEVICE
2 EACH – 12" WATER MAIN RESTRAINING DEVICE
1 EACH – STANDARD FIRE HYDRANT

STA 107+32.04 – 30.07' RT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 1 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA 107+41.20 – 32.86' RT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 1 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 9089
MICHAEL R. KUNO
SOUTH DAKOTA
10/7/14

BENCHMARK EL. 1669.88
SDDOT MAGNAIL W/ WASHER
STA. = 103+09.66
OFFSET = 18.14 LT

BENCHMARK EL. 1666.43
5/8" RB W/ ULTEIG ENGINEERS CAP
STA. = 109+38.06
OFFSET = 19.57' RT

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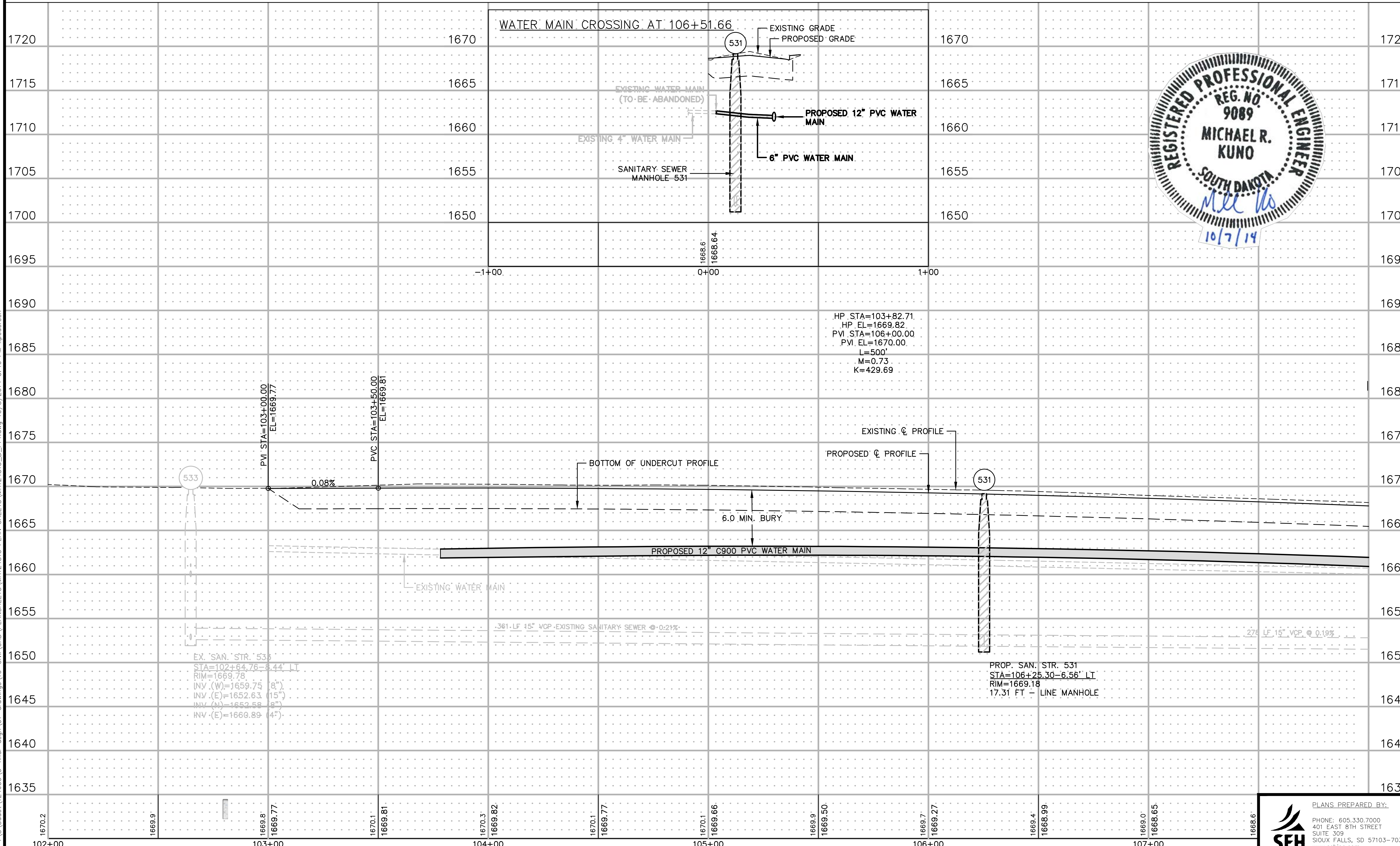
Sanitary Sewer & Water Main Profile

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	CITY PROJ. 2015–1	15	26



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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	CITY PROJ. 2015–1	16	26

FOR BIDDING PURPOSES ONLY

Sanitary Sewer & Water Main Plan

Sec. 8-T106N-R52W

STA 108+78.79 – 27.10' LT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 27 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA 109+31.96 – 25.13' LT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 27 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA 109+95.20 – 26.94' LT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 26 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA 111+15.06 – 27.14' LT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 26 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

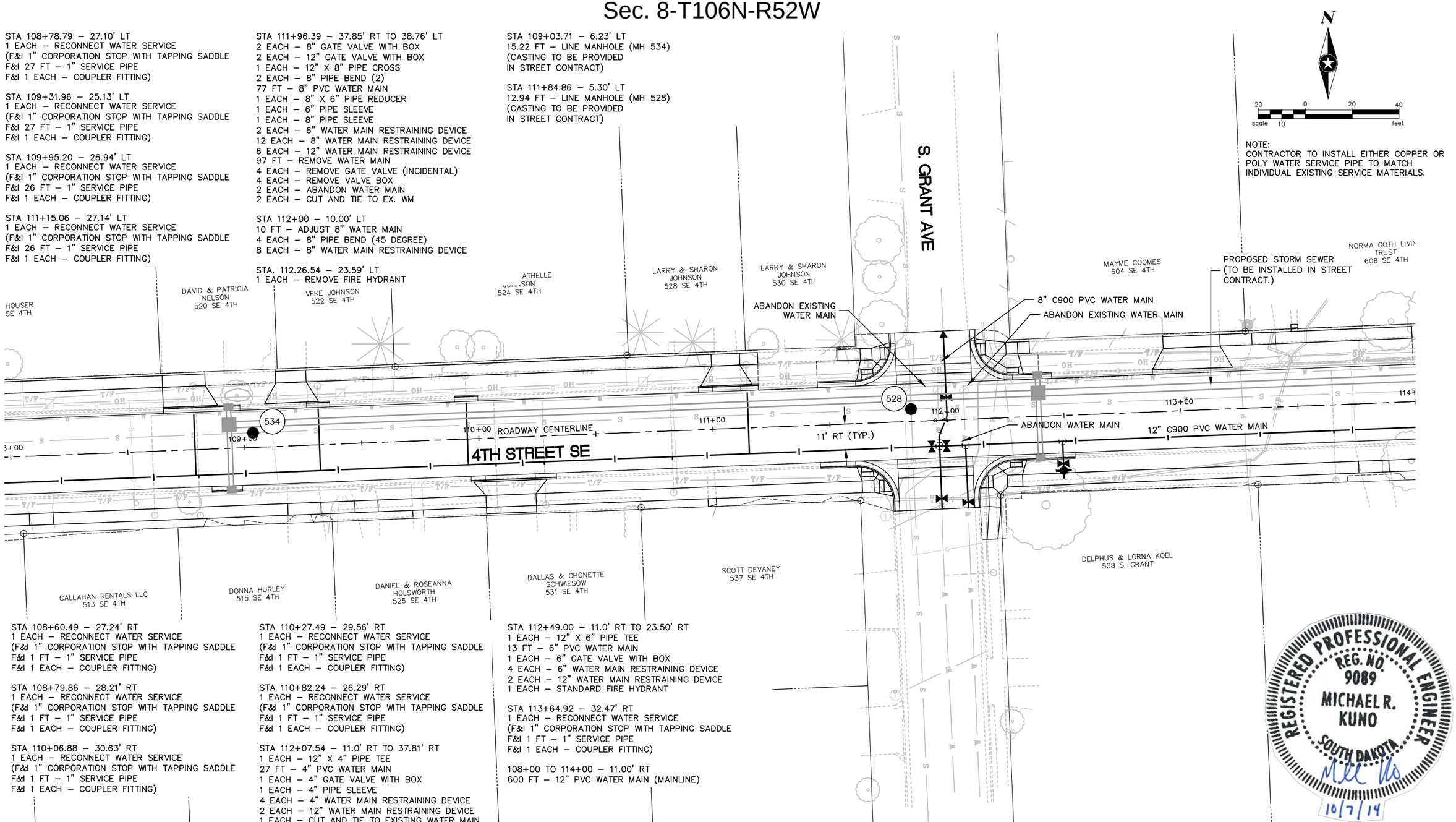
STA 111+96.39 – 37.85' RT TO 38.76' LT
2 EACH – 8" GATE VALVE WITH BOX
2 EACH – 12" GATE VALVE WITH BOX
1 EACH – 12" X 8" PIPE CROSS
2 EACH – 8" PIPE BEND (2)
77 FT – 8" PVC WATER MAIN
1 EACH – 8" X 6" PIPE REDUCER
1 EACH – 6" PIPE SLEEVE
1 EACH – 8" PIPE SLEEVE
2 EACH – 6" WATER MAIN RESTRAINING DEVICE
12 EACH – 8" WATER MAIN RESTRAINING DEVICE
6 EACH – 12" WATER MAIN RESTRAINING DEVICE
97 FT – REMOVE WATER MAIN
4 EACH – REMOVE GATE VALVE (INCIDENTAL)
4 EACH – REMOVE VALVE BOX
2 EACH – ABANDON WATER MAIN
2 EACH – CUT AND TIE TO EX. WM

STA 112+00 – 10.00' LT
10 FT – ADJUST 8" WATER MAIN
4 EACH – 8" PIPE BEND (45 DEGREE)
8 EACH – 8" WATER MAIN RESTRAINING DEVICE

STA. 112.26.54 – 23.59' LT
1 EACH – REMOVE FIRE HYDRANT

STA 109+03.71 – 6.23' LT
15.22 FT – LINE MANHOLE (MH 534)
(CASTING TO BE PROVIDED
IN STREET CONTRACT)

STA 111+84.86 – 5.30' LT
12.94 FT – LINE MANHOLE (MH 528)
(CASTING TO BE PROVIDED
IN STREET CONTRACT)



NOTE:
CONTRACTOR TO INSTALL EITHER COPPER OR POLY WATER SERVICE PIPE TO MATCH INDIVIDUAL EXISTING SERVICE MATERIALS.

STA 108+60.49 – 27.24' RT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 1 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA 108+79.86 – 28.21' RT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 1 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA 110+06.88 – 30.63' RT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 1 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA 110+27.49 – 29.56' RT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 1 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA 110+82.24 – 26.29' RT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 1 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA 112+07.54 – 11.0' RT TO 37.81' RT
1 EACH – 12" X 4" PIPE TEE
27 FT – 4" PVC WATER MAIN
1 EACH – 4" GATE VALVE WITH BOX
1 EACH – 4" PIPE SLEEVE
4 EACH – 4" WATER MAIN RESTRAINING DEVICE
2 EACH – 12" WATER MAIN RESTRAINING DEVICE
1 EACH – CUT AND TIE TO EXISTING WATER MAIN
27 FT – REMOVE WATER MAIN
1 EACH – ABANDON WATER MAIN

STA 112+49.00 – 11.0' RT TO 23.50' RT
1 EACH – 12" X 6" PIPE TEE
13 FT – 6" PVC WATER MAIN
1 EACH – 6" GATE VALVE WITH BOX
4 EACH – 6" WATER MAIN RESTRAINING DEVICE
2 EACH – 12" WATER MAIN RESTRAINING DEVICE
1 EACH – STANDARD FIRE HYDRANT

STA 113+64.92 – 32.47' RT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 1 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

108+00 TO 114+00 – 11.00' RT
600 FT – 12" PVC WATER MAIN (MAINLINE)

BENCHMARK EL. 1666.43
5/8" RB W/ ULTEIG ENGINEERS CAP
STA. = 109+38.06
OFFSET = 19.57' RT

BENCHMARK EL. 1662.98
5/8" RB W/ ULTEIG ENGINEERS CAP
STA. = 112+92.84
OFFSET = 22.67' RT

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 9089
MICHAEL R. KUNO
SOUTH DAKOTA
10/7/14

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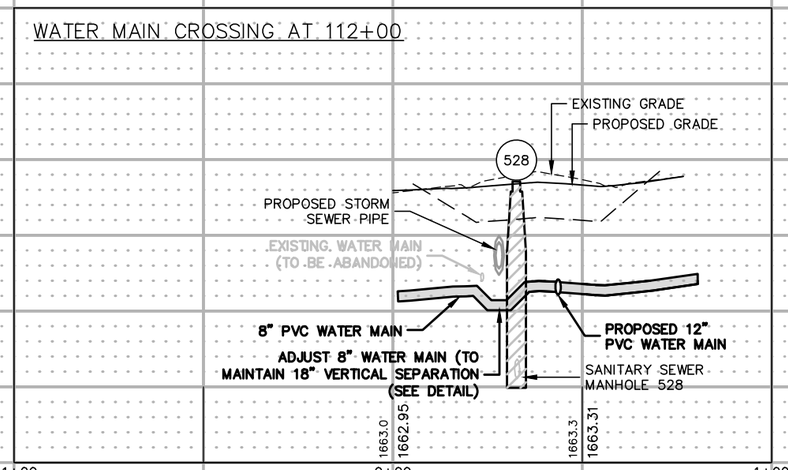
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	CITY PROJ. 2015-1	17	26

FOR BIDDING PURPOSES ONLY

Sanitary Sewer & Water Main Profile



REGISTERED PROFESSIONAL ENGINEER
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MICHAEL R. KUNO
SOUTH DAKOTA
10/7/14

HP STA=103+82.71
HP EL=1669.82
PVI STA=106+00.00
PVI EL=1670.00
L=500'
M=0.73
K=429.69

PVT STA=108+50.00
EL=1667.28

BOTTOM OF UNDERCUT PROFILE

PROPOSED STORM SEWER
(TO BE COMPLETED IN STREET CONTRACT)

-1.09%

PVC STA=111+50.00
EL=1664.02

EXISTING ℄ PROFILE

LP STA=116+50.00
LP EL=1660.86
PVI STA=114+00.00
PVI EL=1661.30
L=500'
M=0.57
K=547.95

PROPOSED ℄ PROFILE

EXISTING WATER MAIN

JB#17 534

346 LF 21" RCP CL III @ 0.97%

6.0' MIN BURY

PROPOSED 12" C900 PVC WATER MAIN

528

JB#14

198 LF 24" RCP CL III @ 0.50%

281 LF 15" VCP EXISTING SANITARY SEWER @ 0.26%

332 LF 15" VCP EXISTING SANITARY SEWER @ 0.24%

EXIST. JB#17
STA=108+93.67-10.00' LT
5' X 5' JUNCTION BOX
RIM=1666.55
FLOOR=1660.78
TOP OF WALL=1665.86
INV (E)=1660.78 (21")
INV (N)=1661.18 (15")
INV (S)=1661.18 (15")

PROP. SAN. STR. 534
STA=109+03.71-6.23' LT
RIM=1666.54
15.22 FT - LINE MANHOLE

PROP. SAN. STR. 528
STA=111+84.86-5.30' LT
RIM=1663.54
12.94 FT - LINE MANHOLE

EXIST. JB#14
STA=112+39.36-10.00' LT
5' X 5' JUNCTION BOX
RIM=1662.93
FLOOR=1657.21
TOP OF WALL=1662.29
INV (W)=1657.41 (21")
INV (E)=1657.21 (24")
INV (N)=1658.32 (15")
INV (S)=1658.32 (15")

1668.2 1667.80 | 1667.6 1667.28 | 1667.0 1666.74 | 1666.4 1666.19 | 1665.9 1665.65 | 1665.3 1665.11 | 1664.9 1664.56 | 1664.6 1664.02 | 1664.2 1663.50 | 1663.6 1663.02 | 1663.1 1662.59 | 1662.6

108+00 109+00 110+00 111+00 112+00 113+00

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SEH
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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	CITY PROJ. 2015–1	18	26

FOR BIDDING PURPOSES ONLY

Sanitary Sewer & Water Main Plan

Sec. 8-T106N-R52W

STA 116+13.27 – 26.89' LT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 27 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA 116+86.19 – 26.80' LT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 27 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA 117+63.20 – 35.48' LT TO 11.00' RT
2 EACH – 12" GATE VALVE WITH BOX
1 EACH – 12" X 6" PIPE TEE
1 EACH – 6" GATE VALVE WITH BOX
49 FT – 6" PVC WATER MAIN
4 EACH – 6" WATER MAIN RESTRAINING DEVICE
6 EACH – 12" WATER MAIN RESTRAINING DEVICE
1 EACH – 6" PIPE SLEEVE
1 EACH – CUT AND TIE TO EXISTING WATER MAIN
24 FT – REMOVE WATER MAIN
1 EACH – REMOVE GATE VALVE (INCIDENTAL)
1 EACH – REMOVE VALVE BOX
2 EACH – ABANDON WATER MAIN

STA 117+63.20 – 10' LT
10 FT – ADJUST 6" WATER MAIN
4 EACH – 6" PIPE BEND (45 DEGREE)
8 EACH – 6" WATER MAIN RESTRAINING DEVICE

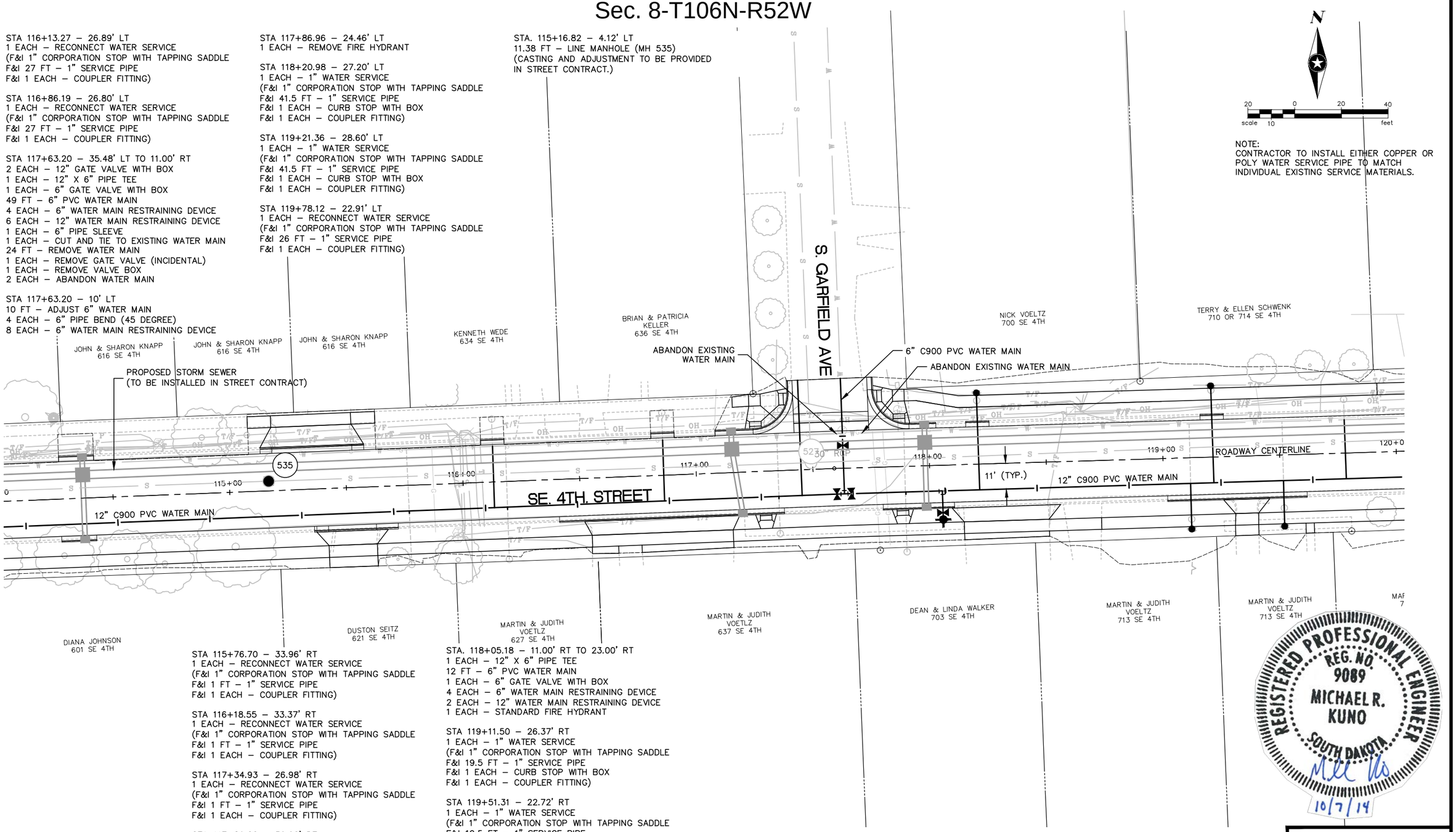
STA 117+86.96 – 24.46' LT
1 EACH – REMOVE FIRE HYDRANT

STA 118+20.98 – 27.20' LT
1 EACH – 1" WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 41.5 FT – 1" SERVICE PIPE
F&I 1 EACH – CURB STOP WITH BOX
F&I 1 EACH – COUPLER FITTING)

STA 119+21.36 – 28.60' LT
1 EACH – 1" WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 41.5 FT – 1" SERVICE PIPE
F&I 1 EACH – CURB STOP WITH BOX
F&I 1 EACH – COUPLER FITTING)

STA 119+78.12 – 22.91' LT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 26 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA. 115+16.82 – 4.12' LT
11.38 FT – LINE MANHOLE (MH 535)
(CASTING AND ADJUSTMENT TO BE PROVIDED IN STREET CONTRACT.)



STA 115+76.70 – 33.96' RT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 1 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA 116+18.55 – 33.37' RT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 1 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA 117+34.93 – 26.98' RT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 1 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA 117+89.22 – 36.62' RT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 1 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA. 118+05.18 – 11.00' RT TO 23.00' RT
1 EACH – 12" X 6" PIPE TEE
12 FT – 6" PVC WATER MAIN
1 EACH – 6" GATE VALVE WITH BOX
4 EACH – 6" WATER MAIN RESTRAINING DEVICE
2 EACH – 12" WATER MAIN RESTRAINING DEVICE
1 EACH – STANDARD FIRE HYDRANT

STA 119+11.50 – 26.37' RT
1 EACH – 1" WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 19.5 FT – 1" SERVICE PIPE
F&I 1 EACH – CURB STOP WITH BOX
F&I 1 EACH – COUPLER FITTING)

STA 119+51.31 – 22.72' RT
1 EACH – 1" WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 19.5 FT – 1" SERVICE PIPE
F&I 1 EACH – CURB STOP WITH BOX
F&I 1 EACH – COUPLER FITTING)

STA 114+00 TO 120+00 – 11.00' RT
600 FT – 12" PVC WATER MAIN (MAIN LINE)

BENCHMARK EL. 1662.98
5/8" RB W/ ULTEIG ENGINEERS CAP
STA. = 112+92.84
OFFSET = 22.67' RT

BENCHMARK EL. 1660.97
5/8" RB W/ ULTEIG ENGINEERS CAP
STA. = 117+97.69
OFFSET = 26.79' LT

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 9089
MICHAEL R. KUNO
SOUTH DAKOTA
10/7/14

PLANS PREPARED BY:
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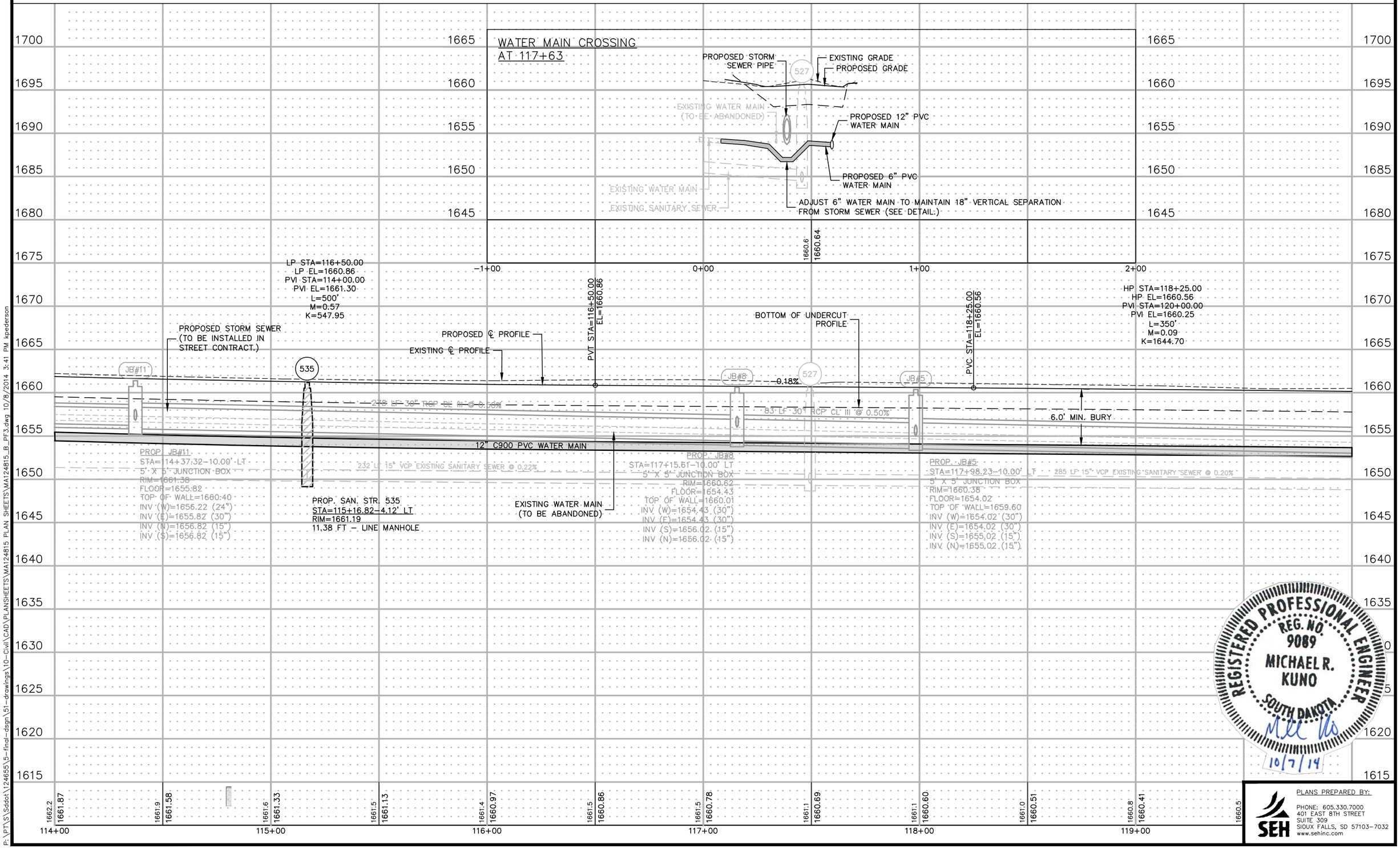
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	CITY PROJ. 2015–1	19	26

FOR BIDDING PURPOSES ONLY

Sanitary Sewer & Water Main Profile



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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	CITY PROJ. 2015–1	20	26

FOR BIDDING PURPOSES ONLY

Sanitary Sewer & Water Main Plan

Sec. 8-T106N-R52W

STA 120+35.32 – 32.30' LT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 30 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA 125+09.01 – 25.78' LT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 5 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

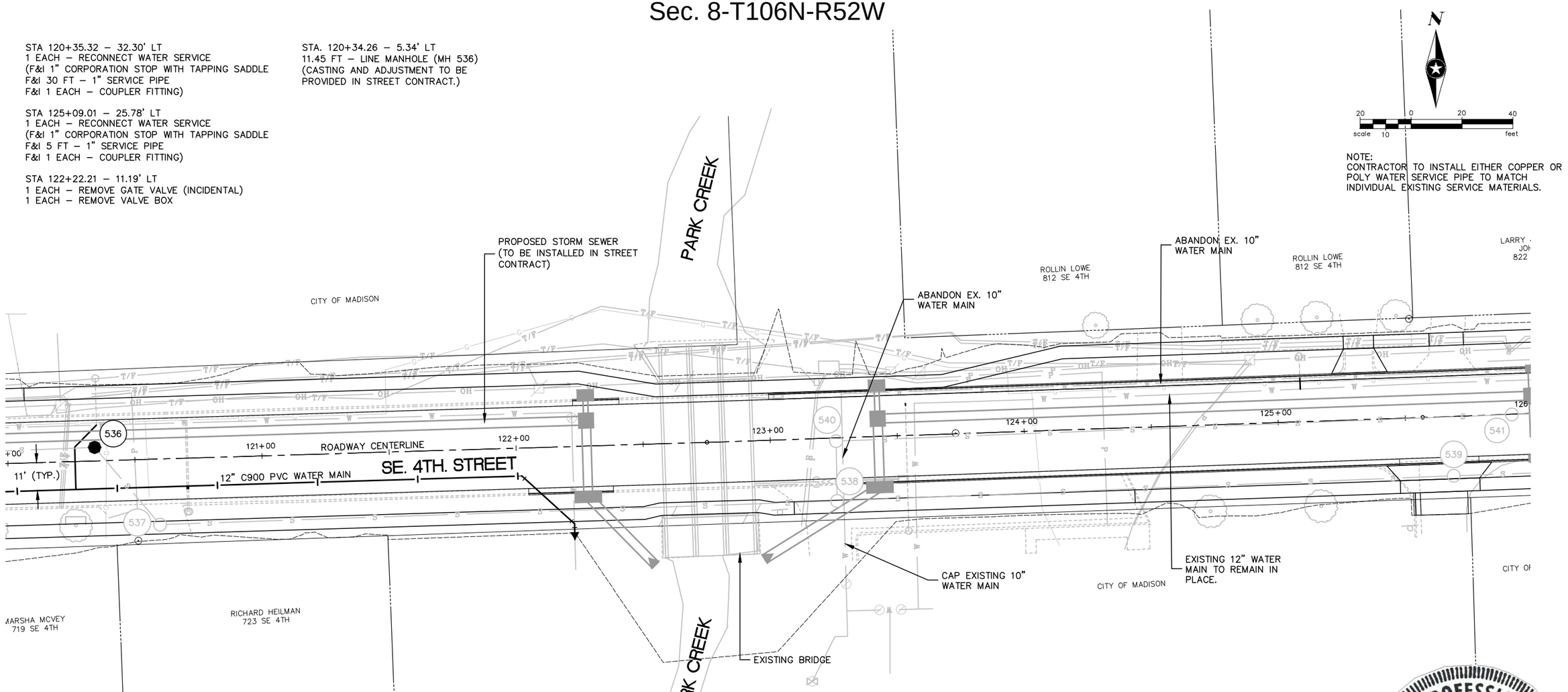
STA 122+22.21 – 11.19' LT
1 EACH – REMOVE GATE VALVE (INCIDENTAL)
1 EACH – REMOVE VALVE BOX

STA. 120+34.26 – 5.34' LT
11.45 FT – LINE MANHOLE (MH 536)
(CASTING AND ADJUSTMENT TO BE
PROVIDED IN STREET CONTRACT.)

N

20 0 20 40
scale 10 feet

NOTE:
CONTRACTOR TO INSTALL EITHER COPPER OR POLY WATER SERVICE PIPE TO MATCH INDIVIDUAL EXISTING SERVICE MATERIALS.



STA 120+70.12 – 21.01' RT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 1 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA 120+72.12 – 21.01' RT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 1 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA 122+01.92 – 11.00' RT
1 EACH – 12" PIPE BEND (45 DEGREE)
2 EACH – 12" WATER MAIN RESTRAINING DEVICE

STA 122+22.07 – 30.40' RT
1 EACH – 12" PIPE BEND (45 DEGREE)
1 EACH – 12" X 10" PIPE REDUCER
1 EACH – 10" PIPE SLEEVE
3 EACH – 10" WATER MAIN RESTRAINING DEVICE
4 EACH – 12" WATER MAIN RESTRAINING DEVICE
10 FT – REMOVE WATER MAIN
2 FT – 10" PVC WATER MAIN
1 EACH – ABANDON WATER MAIN
1 EACH – CUT AND TIE TO EXISTING WATER MAIN

STA 123+53.26 – 37.54' RT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 1 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA 120+00 – 11.00' RT TO 122+22.09–36.60' RT
236 FT – 12" PVC WATER MAIN (MAINLINE)

STA 123+28.46 – 12.70' LT
2 EACH – ABANDON WATER MAIN

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SOUTH DAKOTA
10/7/14

BENCHMARK EL. 1660.97
5/8" RB W/ ULTEIG ENGINEERS CAP
STA. = 117+97.69
OFFSET = 26.79' LT

BENCHMARK EL. 1658.52
5/8" RB W/ ULTEIG ENGINEERS CAP
STA. = 122+19.81
OFFSET = 39.46' RT

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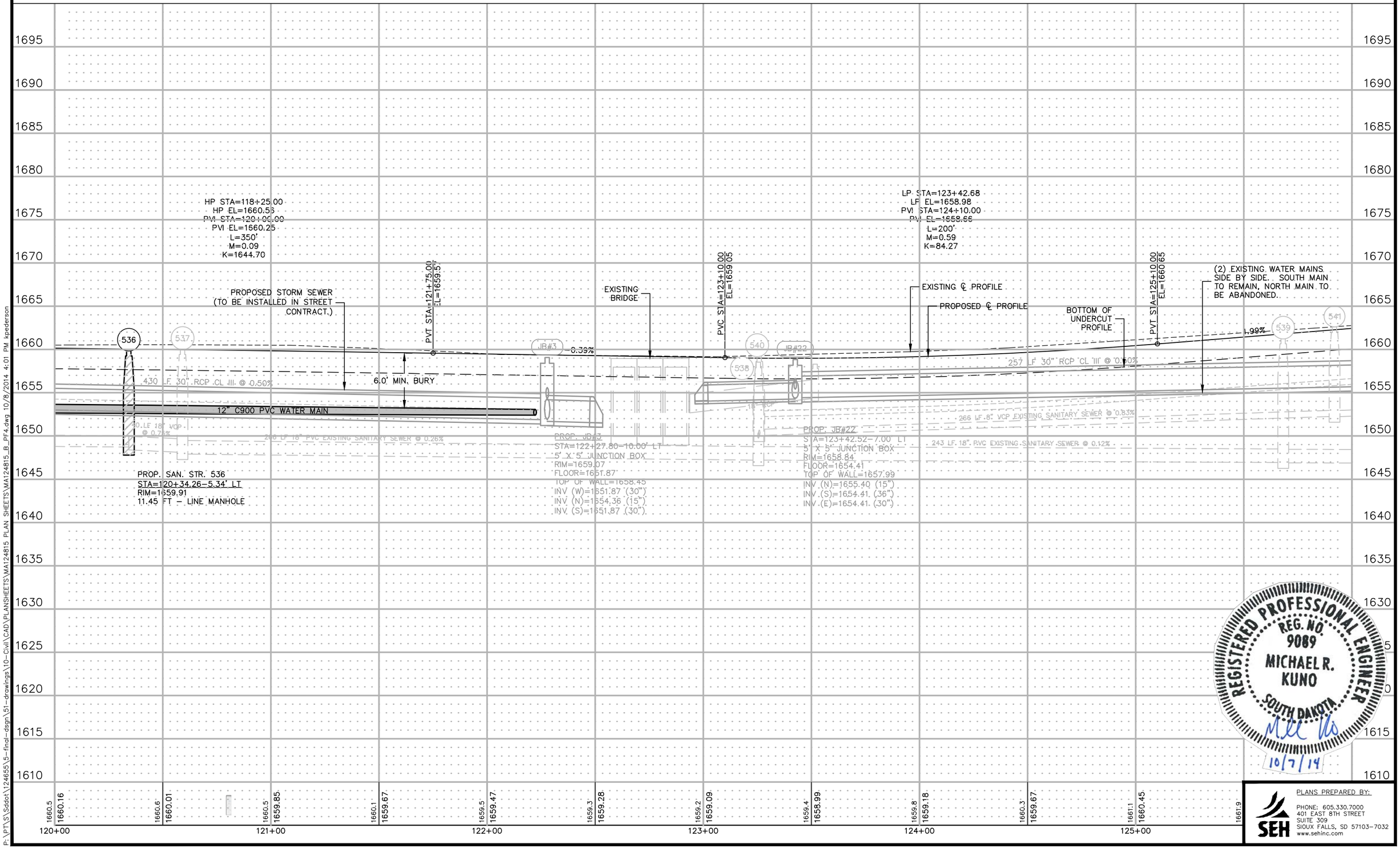
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	CITY PROJ. 2015–1	21	26

Sanitary Sewer & Water Main Profile



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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	CITY PROJ. 2015–1	22	26

FOR BIDDING PURPOSES ONLY

Sanitary Sewer & Water Main Plan

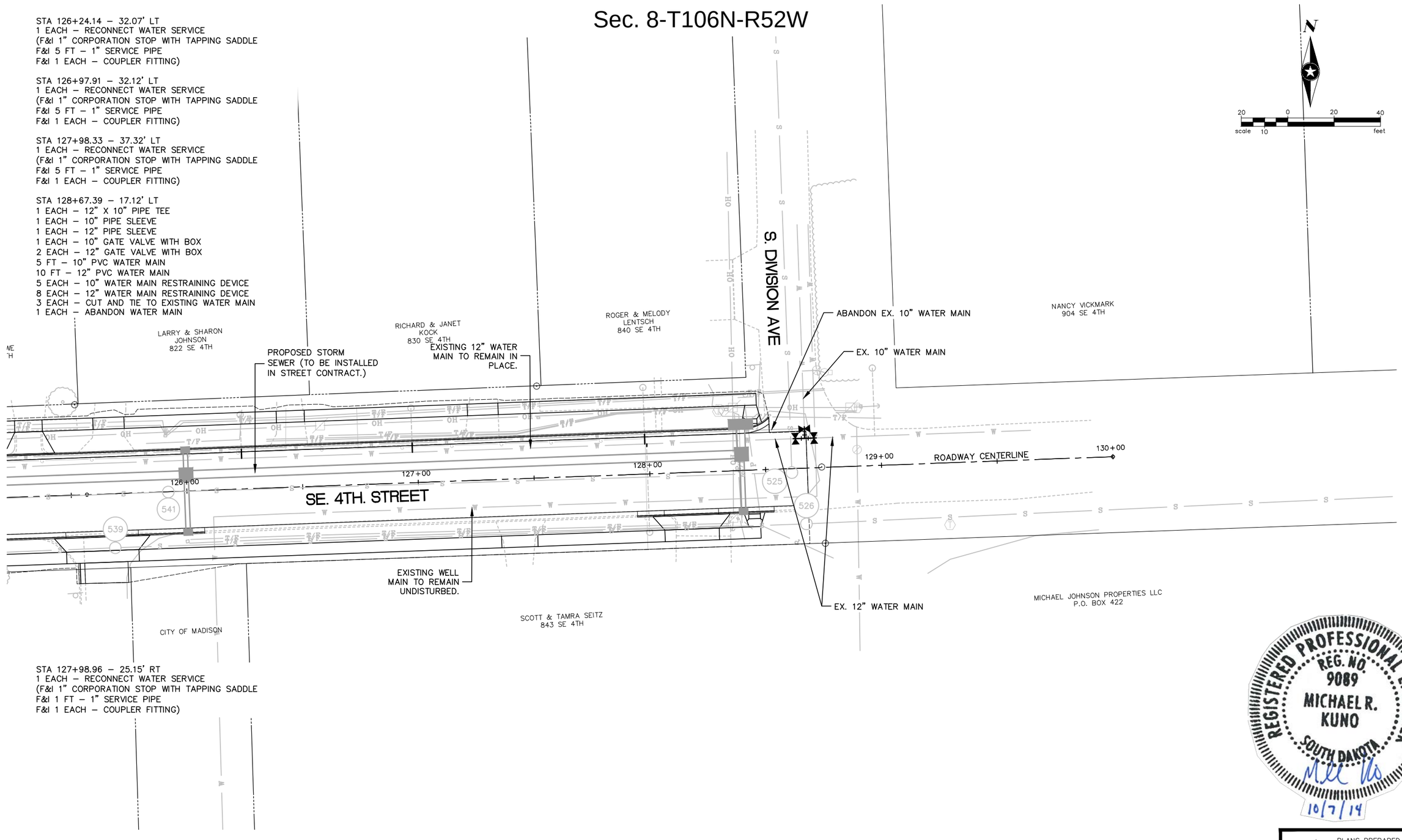
Sec. 8-T106N-R52W

STA 126+24.14 – 32.07' LT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 5 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA 126+97.91 – 32.12' LT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 5 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA 127+98.33 – 37.32' LT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 5 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

STA 128+67.39 – 17.12' LT
1 EACH – 12" X 10" PIPE TEE
1 EACH – 10" PIPE SLEEVE
1 EACH – 12" PIPE SLEEVE
1 EACH – 10" GATE VALVE WITH BOX
2 EACH – 12" GATE VALVE WITH BOX
5 FT – 10" PVC WATER MAIN
10 FT – 12" PVC WATER MAIN
5 EACH – 10" WATER MAIN RESTRAINING DEVICE
8 EACH – 12" WATER MAIN RESTRAINING DEVICE
3 EACH – CUT AND TIE TO EXISTING WATER MAIN
1 EACH – ABANDON WATER MAIN



STA 127+98.96 – 25.15' RT
1 EACH – RECONNECT WATER SERVICE
(F&I 1" CORPORATION STOP WITH TAPPING SADDLE
F&I 1 FT – 1" SERVICE PIPE
F&I 1 EACH – COUPLER FITTING)

BENCHMARK EL. 1658.52
5/8" RB W/ ULTEIG ENGINEERS CAP
STA. = 122+19.81
OFFSET = 39.46' RT

BENCHMARK EL. 1666.75
5/8" RB W/ ULTEIG ENGINEERS CAP
STA. = 128+27.22
OFFSET = 21.07' LT

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SOUTH DAKOTA
10/7/14

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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	CITY PROJ. 2015–1	23	26

FOR BIDDING PURPOSES ONLY

Sanitary Sewer & Water Main Profile

HP STA=128+50.00
HP EL=1666.41
PVI STA=127+50.00
PVI EL=1665.41
L=200'
M=0.25
K=202.95

PVC STA=126+50.00
EL=1663.43

PVT STA=128+50.00
EL=1666.41

PVI STA=129+00.00
EL=1666.91

EXISTING ℄ PROFILE

PROPOSED ℄ PROFILE

BOTTOM OF UNDERCUT PROFILE

PROPOSED STORM SEWER (TO BE INSTALLED IN STREET CONTRACT.)

539 541 JB#24 525 526 JB#27

1.99%

1.00%

240 LF 30" RCP CL III @ 0.67%

269 LF 8" VCP EXISTING SANITARY SEWER @ 0.78%

299 LF 18" PVC EXISTING SANITARY SEWER @ 0.07%

382 LF 18" PVC EXISTING SANITARY SEWER @ 0.40%

(3) EXISTING WATER MAINS NORTH AND SOUTH MAINS TO REMAIN MIDDLE MAIN TO BE ABANDONED.

PROP. JB#24
STA=125+99.90–7.00' LT
5' X 5' JUNCTION BOX
RIM=1662.29
FLOOR=1655.70
TOP OF WALL=1661.28
INV (S)=1657.00 (15")
INV (N)=1657.00 (15")
INV (E)=1655.70 (30")
INV (W)=1655.70 (30")

PROP. JB#27
STA=128+39.85–7.00' LT
5' X 5' JUNCTION BOX
RIM=1666.17
FLOOR=1657.30
TOP OF WALL=1665.38
INV (S)=1660.50 (15")
INV (N)=1660.50 (30")
INV (W)=1657.30 (30")

1700 1695 1690 1685 1680 1675 1670 1665 1660 1655 1650 1645 1640 1635 1630 1625 1620 1615

1661.5 1660.94 1661.9 1661.44 1662.8 1662.43 1663.7 1663.43 1664.7 1664.36 1665.4 1665.16 1666.1 1665.85 1666.7 1666.41 1666.9 1666.91 1666.8

125+25 126+00 127+00 128+00 129+00 130+00

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10/7/14

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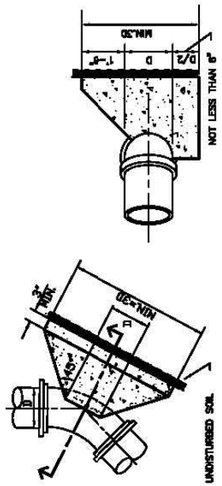
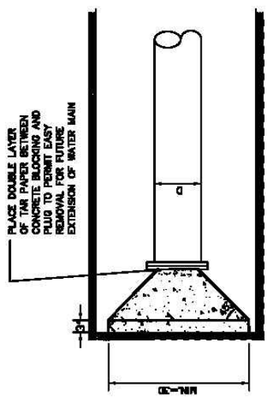
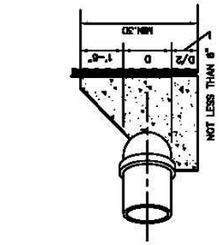
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	CITY PROJ. 2015-1	24	26



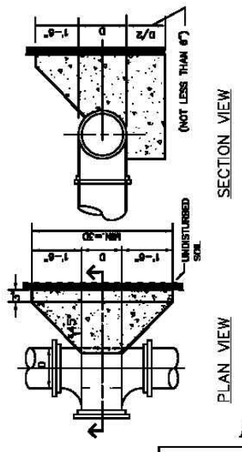
11 1/4 - DEGREE, 22 1/2 - DEGREE AND 45 - DEGREE BENDS



S.J. PLUG



90 - DEGREE BEND



TEE

CONCRETE THRUST BLOCK

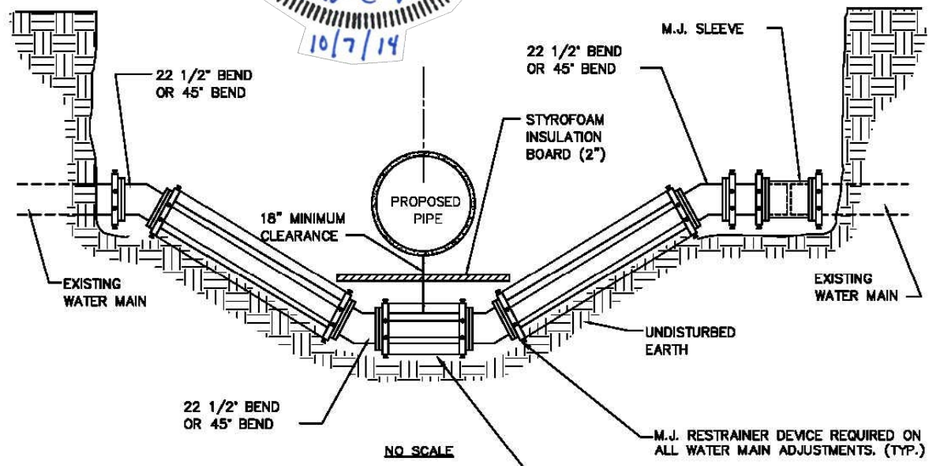
Revised: April 2008

City of Madison
Engineering Department
Concrete Thrust Block
Bends and Tees

MADISON Engineering Department

PO Box 308
116 W. Center Street
Madison, SD 57042
Phone: (605)256-7514
Fax: (605)256-7511

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 9089
MICHAEL R. KUNO
SOUTH DAKOTA
10/7/14



NOTE:
THE PIPE, FITTINGS AND RESTRAINER DEVICES SHALL BE BID AS SEPARATE ITEMS FROM THE WATER MAIN ADJUSTMENT.

*TIE RODS WILL BE CONSIDERED INCIDENTAL TO THE COST OF THE ADJUSTMENT.

NOTE:
TIE TOP BENDS TO EXISTING MAIN WITH M.J. RESTRAINER DEVICES IF A PIPE JOINT IS EXPOSED.

Revised: April 2008

City of Madison
Engineering Department
Water Main
Adjustment / Replacement

MADISON Engineering Department

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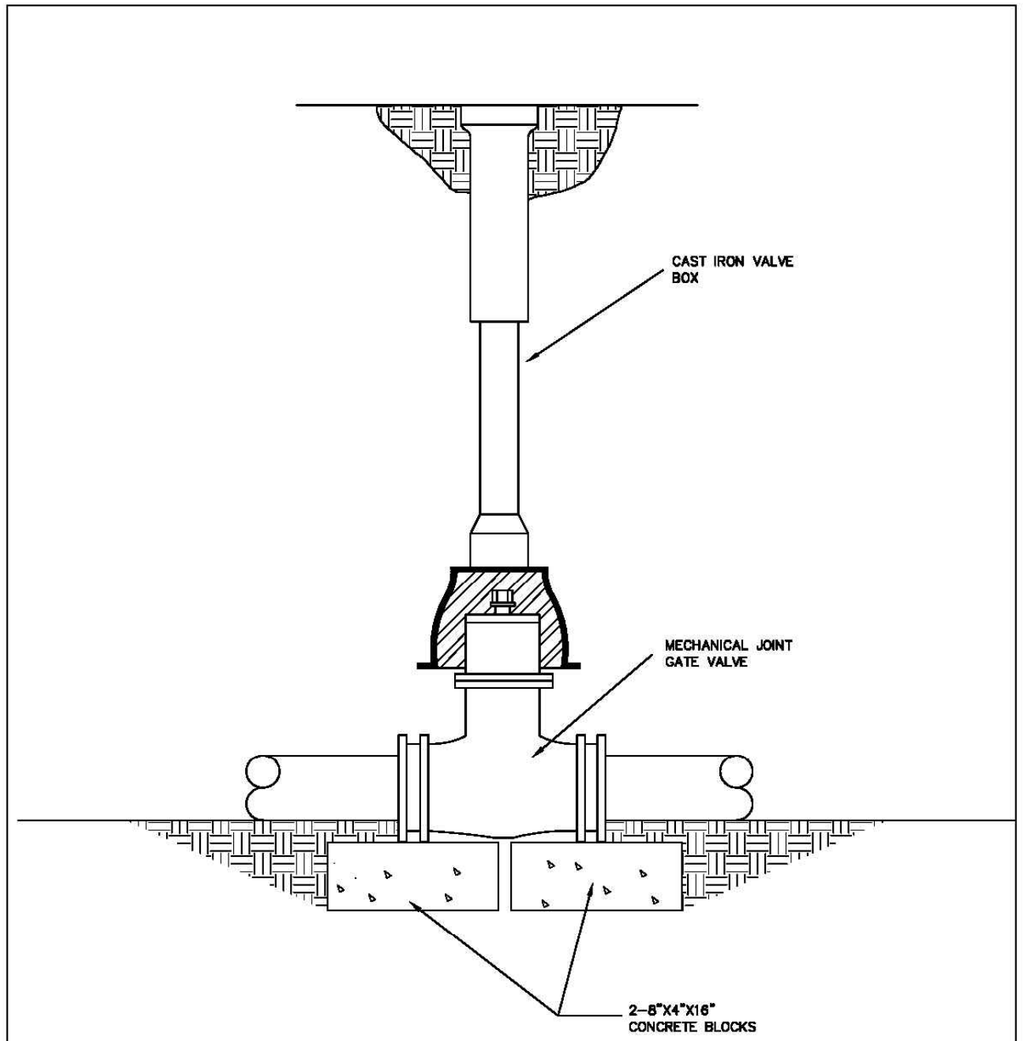
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	CITY PROJ. 2015–1	25	26



Revised: April 2008

City of Madison
Engineering Department
Gate Valve
Installation Drawing

MADISON Engineering Department

PO Box 308
116 W. Center Street
Madison, SD 57042
Phone: (605)256-7514
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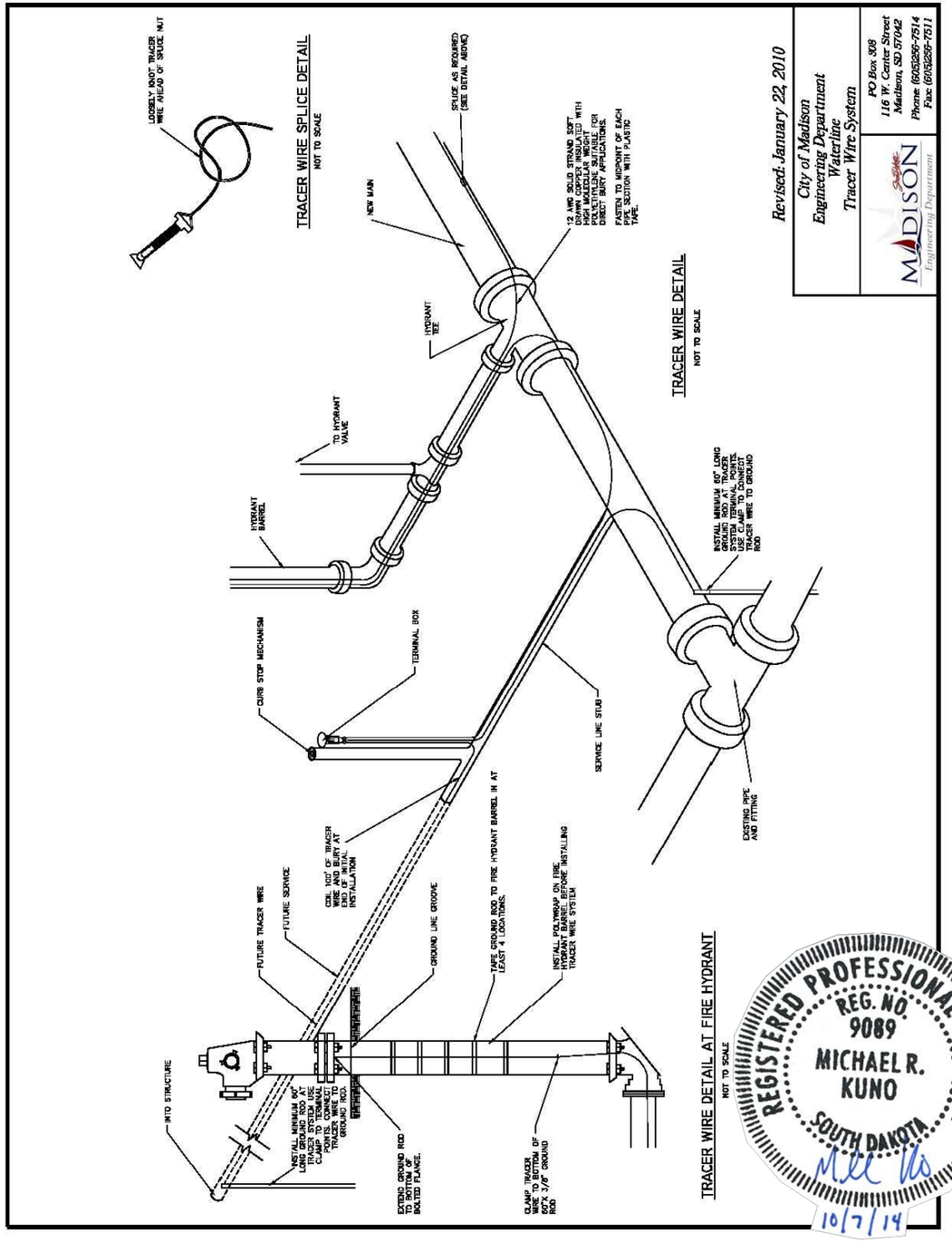

Revised: January 22, 2010

City of Madison
Engineering Department
Waterline
Tracer Wire System

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Phone (605)256-7514
Fax (605)256-7511

MADISON Engineering Department

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10/7/14

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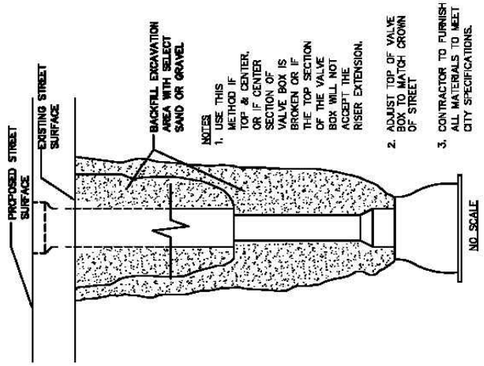
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	CITY PROJ. 2015–1	26	26

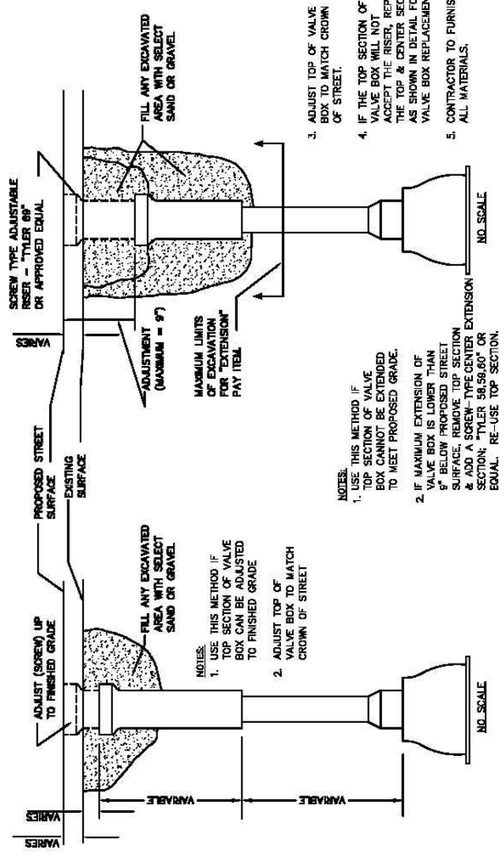
VALVE BOX INSTALLATION



NOTES
1. USE THIS METHOD IF TOP & CENTER, OR IF CENTER SECTION OF VALVE BOX IS BROKEN OR IF THE TOP SECTION OF THE VALVE BOX WILL NOT ACCEPT THE RISER EXTENSION.
2. ADJUST TOP OF VALVE BOX TO MATCH CROWN OF STREET
3. CONTRACTOR TO FURNISH ALL MATERIALS TO MEET CITY SPECIFICATIONS.

VALVE BOX EXTENSION

(OR REPLACEMENT OF TOP SECTION)



3. ADJUST TOP OF VALVE BOX TO MATCH CROWN OF STREET.
4. IF THE TOP SECTION OF VALVE BOX WILL NOT ACCEPT THE RISER, REPLACE THE TOP & CENTER SECTION AS SHOWN IN TOTAL FOR VALVE BOX REPLACEMENT.
5. CONTRACTOR TO FURNISH ALL MATERIALS.

NOTES:
1. USE THIS METHOD IF TOP SECTION OF VALVE BOX CANNOT BE EXTENDED TO MEET PROPOSED GRADE.
2. IF MAXIMUM EXTENSION OF VALVE BOX IS LOWER THAN 9" BELOW PROPOSED STREET SURFACE, REMOVE TOP SECTION AND INSTALL EXTENSION SECTION, "TYLER 58,56,60" OR EQUAL. RE-USE TOP SECTION.

VALVE BOX ADJUSTMENT / REPLACEMENT

NOTES:
1. USE THIS METHOD IF TOP SECTION OF VALVE BOX CAN BE ADJUSTED TO FINISHED GRADE
2. ADJUST TOP OF VALVE BOX TO MATCH CROWN OF STREET

VALVE BOX ADJUSTMENT

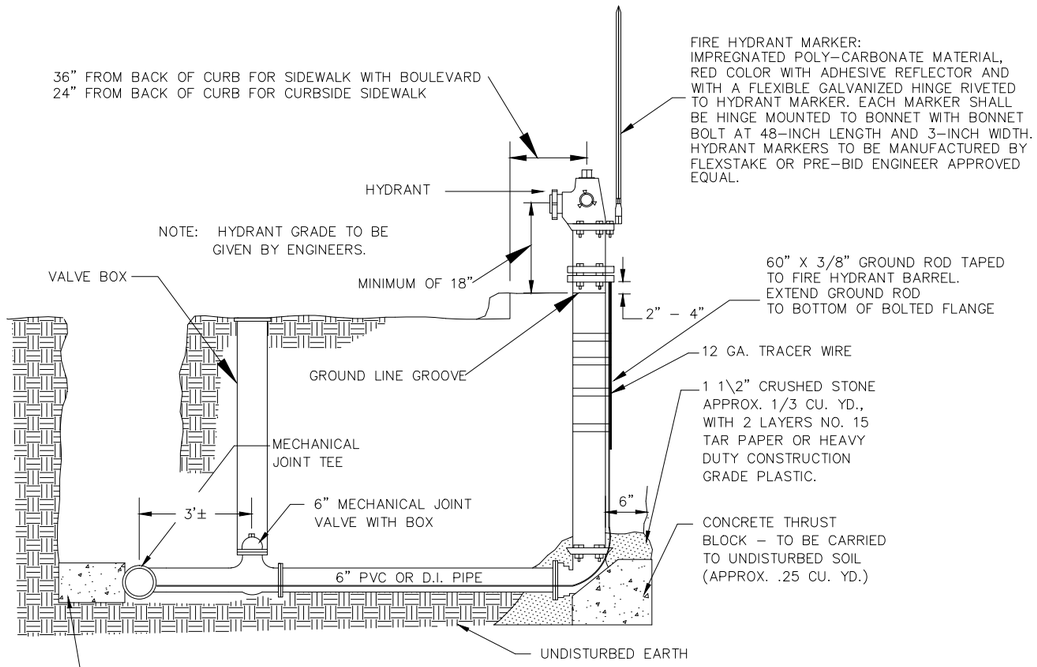
Revised: April 2008

City of Madison
Engineering Department
Valve Box
Adjustment / Replacement

MADISON Engineering Department

PO Box 308
116 W. Center Street
Madison, SD 57042
Phone: (605)256-7514
Fax: (605)256-7511

HYDRANT CONNECTION



VALVE ON FIRE HYDRANT LATERAL SHALL BE RESTRAINED

INSTALL POLYWRAP ON FIRE HYDRANT BARREL TO THE GROUND SURFACE BEFORE INSTALLING TRACER WIRE SYSTEM. DO NOT COVER WEEP HOLES WITH POLYWRAP.

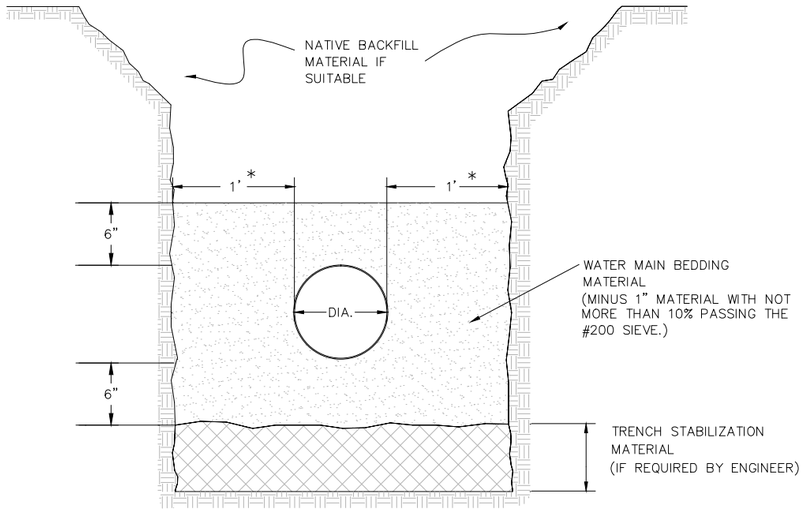
REGISTERED PROFESSIONAL ENGINEER
REG. NO. 9089
MICHAEL R. KUNO
SOUTH DAKOTA
10/7/14

PLANS PREPARED BY:
SEH
PHONE: 605.330.7000
401 EAST 8TH STREET
SUITE 309
SIOUX FALLS, SD 57103–7032
www.sehinc.com

FOR BIDDING PURPOSES ONLY

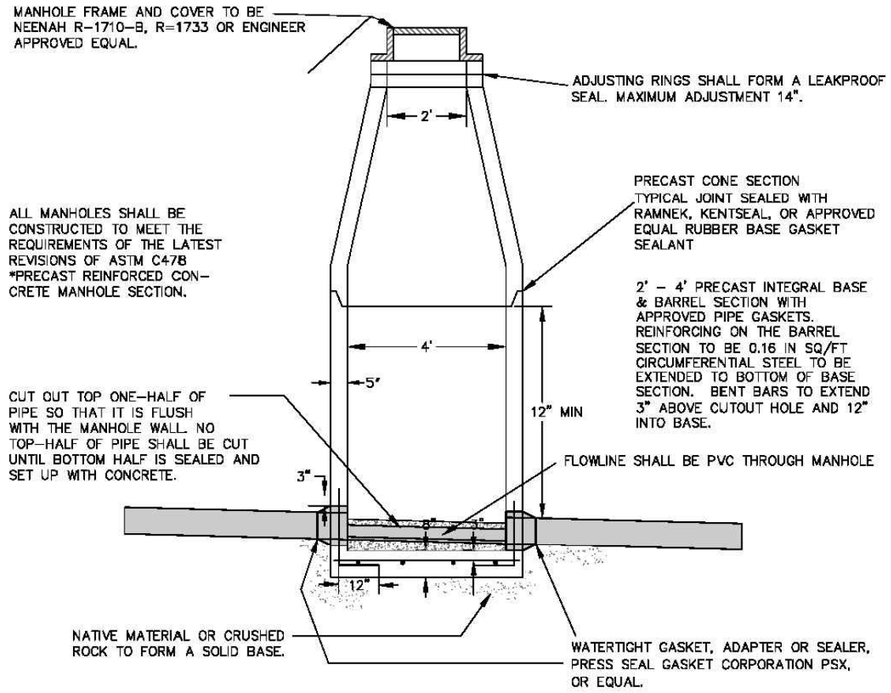
STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	CITY PROJ. 2015–1	27	26

WATER MAIN BEDDING DETAIL

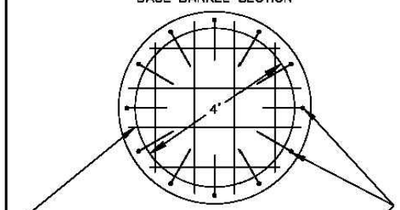


PIPE SIZE DIAMETER	TRENCH WIDTH	TRENCH HEIGHT	TRENCH AREA	PIPE AREA	WATER MAIN BEDDING MAT. AREA	WATER MAIN BEDDING MAT. TONS/LF
4"	28"	16"	3.11 SQ.FT.	.09 SQ.FT.	3.02 SQ.FT.	0.21
6"	30"	18"	3.75 SQ.FT.	.20 SQ.FT.	3.55 SQ.FT.	0.25
8"	32"	20"	4.44 SQ.FT.	.35 SQ.FT.	4.10 SQ.FT.	0.29
10"	34"	22"	5.19 SQ.FT.	.55 SQ.FT.	4.65 SQ.FT.	0.33
12"	36"	24"	6.00 SQ.FT.	.79 SQ.FT.	5.22 SQ.FT.	0.37
16"	40"	28"	7.78 SQ.FT.	1.40 SQ.FT.	6.38 SQ.FT.	0.45
20"	44"	32"	9.78 SQ.FT.	2.18 SQ.FT.	7.60 SQ.FT.	0.53
24"	48"	36"	12.00 SQ.FT.	3.14 SQ.FT.	8.86 SQ.FT.	0.62
30"	60"	42"	17.50 SQ.FT.	4.91 SQ.FT.	12.59 SQ.FT.	0.88

* IF >30" USE DIA./2 ON EACH SIDE OF WATER MAIN PIPE.
* LENGTH BASED ON ONE (1) FOOT OF MAIN.



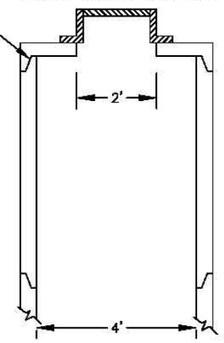
BASE BARREL SECTION



#4 BARS AT 12" C–C BOTH WAYS; 12–#3 BENT BARS, 30"–36" LONG, PLACED AS SHOWN. TO BE DOUBLED AROUND LARGE PIPE CUTOUTS. BENT BARS SHALL EXTEND 3" ABOVE THE CUTOUT HOLE AND 12" HORIZONTAL INTO BASE.

PRECAST FLAT TOP SECTION TYPICAL JOINT SEALED WITH RAMNEK, KENTSEAL, OR APPROVED EQUAL RUBBER BASE GASKET SEALANT (TONGUE AND GROOVE JOINT SHALL BE REQUIRED).

TYPICAL PRECAST & FLAT TOP SECTION (WHERE SPECIFIED)



Revised: April 2008

City of Madison
Engineering Department
Sanitary Sewer Manhole
Cross Sections

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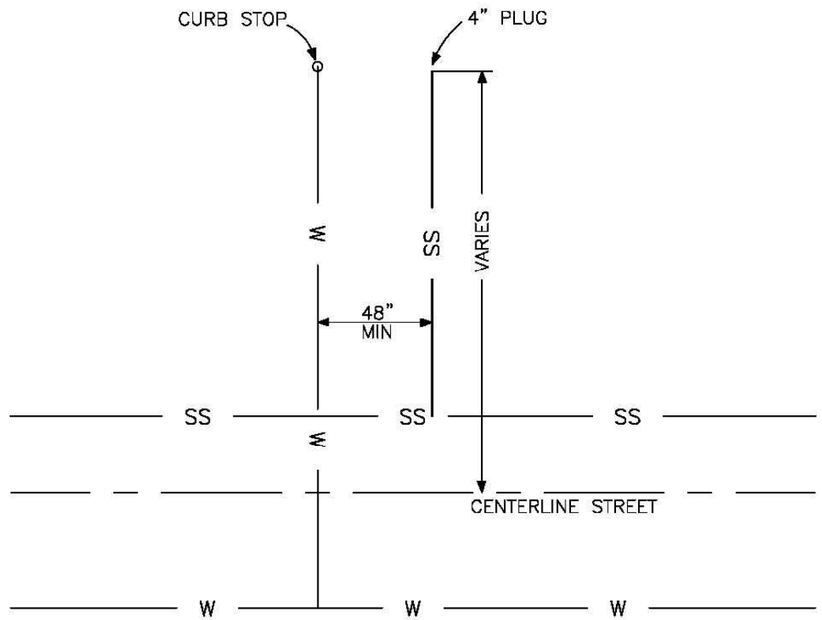
TYPICAL WATER & SANITARY SEWER SERVICE LAYOUT

(NOT TO SCALE)



NOTES: (1) CONTRACTOR SHALL "BENCH" WATER LINE TO PROVIDE AN 18–INCH VERTICAL SEPARATION BETWEEN WATER AND SANITARY SEWER SERVICES.

(2) MARK & RECORD LOCATION OF CURB STOP & PLUGS.

Revised: April 2008

City of Madison
Engineering Department
Water and Sanitary Sewer
Typical Service Layout

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