CITY OF Grand Junction COLORADO

Purchasing Division

ADDENDUM NO. 2

DATE: **April 22, 2019**
FROM: **City of Grand Junction Purchasing Division**
TO: **All Offerors**
RE: **2019 South Downtown Water & Sanitary Sewer Replacement Project**
IFB-4628-19-DH

Offerors responding to the above referenced solicitation are hereby instructed that the requirements have been clarified, modified, superseded and supplemented as to this date as hereinafter described.

Please make note of the following clarifications:

1. Q. Who is responsible for handling the CCTV inspections?

   A. The City of Grand Junction's CCTV inspection crew will handle the CCTV inspections of the new sewer lines before the City accepts the sewer line. The Contractor is responsible for notifying the Project Inspector and/or the Project Engineer to schedule the CCTV inspections.

2. Q. Does the pay item quantity for Structural Backfill (Flow-Fill) include the flow-fill quantity required for pay items: Abandon Existing Water Valve and Abandon Manhole?

   A. *Yes, the Structural Backfill (Flow-Fill) quantity takes into account the flow-fill quantity for Abandon Existing Water Valve and Abandon Manhole pay items.*

3. Q. Is tracing wire required to be installed along the new sewer line pipe?

   A. No.

4. Q. Can traffic control close 9th Street, 3rd Ave., 10th Street, D Road, and 15th Street with a hard closure of the street in the vicinity of construction work?

   A. No, the project cannot do any hard closure on any City street without permission from the City Project Engineer. The Contractor can close the road to thru traffic, however, access to businesses, loading docks, other City streets shall be provided.

5. Q. What available staging areas are available on this Project?

   A. The Contractor will be allowed to stage construction equipment and materials within City roadway right-of-way. Staging on the old GJ Steel property is a possibility, as long as, the Contractor obtains written permission from the property owner that equipment and material staging is allowed.

6. Q. After review of your plans and specifications for the South Downtown project bidding May 8th, 2019, we would like to request an "or equal" substitution of Bid Item #116 and the CIPP product requirement as noted in Appendix D.

   Would the City be willing to consider the Insitumain Imain pressure pipe system as a substitute product for the following reasons?

   -The Insitumain (Imain) pressure pipe liner meets NSF Standard 61. See attached Certification
   -The Insitumain liner meets the AWWA Class IV linings system and is a fully structural liner.
   -The Insitumain liner meet ASTM F1216 and ASTM F1743. – Technical Specification is attached.
   -We can use a pull-in place method or a direct inversion process, or a combination of the two.
   -Insituform is ISO 9001 Certified
   -Insituform well exceeds the minimum LF wet experience and installation requirements
   -The Saertex-Liner H2O you propose is a proprietary system that limits the City's ability to get competitive bids and essentially sole sources the product.

   A. Due to budget shortfalls, the project scope for the waterline replacement has been reduced and the CIPP portion of the Project has been deleted from the scope.

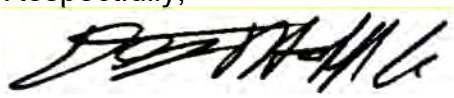
7. The Statement of Work and Appendices for this project has been modified/update. Please see attached.

8. The Price Bid Schedule for this project has been modified/updated. Please see attached. Contractor shall utilize this Addendum 2 Price Bid Schedule when submitting their bid response.

The original solicitation for the project noted above is amended as noted.

All other conditions of subject remain the same.

Respectfully,



Duane Hoff Jr., Senior Buyer
City of Grand Junction, Colorado

Bid Schedule: 2019 South Downtown Water & Sewer Replacement Project

ADDENDUM #2

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
1	108.2	4" Sewer Pipe Service (SDR-35 PVC) (Includes cost of connection to the existing sewer service line)	570.	Lin. Ft.	$ _____	$ _____
2	108.2	6" Gravity Sewer Pipe (SDR-35 PVC) (Includes cost of connection to the existing sewer pipe and/or manhole)	167.	Lin. Ft.	$ _____	$ _____
3	108.2	8" Gravity Sewer Pipe (SDR-35 PVC) (Includes cost of connection to the existing sewer pipe and/or manhole)	1,329.	Lin. Ft.	$ _____	$ _____
4	108.2	10" Gravity Sewer Pipe (SDR-35 PVC) (Includes cost of connection to the existing sewer pipe and/or manhole)	326.	Lin. Ft.	$ _____	$ _____
5	108.2	15" Gravity Sewer Pipe (SDR-35 PVC) (Includes cost of connection to the existing sewer pipe and/or manhole)	2,141.	Lin. Ft.	$ _____	$ _____
6	108.2	Water Main (4") (C-900 PVC, DR-18) (Includes cost of restrained connection to existing pipe)	5.	Lin. Ft.	$ _____	$ _____
7	108.2	Water Main (6") (C-900 PVC, DR-18) (Includes cost of restrained connection to existing pipe)	145.	Lin. Ft.	$ _____	$ _____
8	108.2	Water Main (8") (C-900 PVC, DR-18) (Includes cost of restrained connection to existing pipe)	140.	Lin. Ft.	$ _____	$ _____
9	108.2	Water Main (12") (C-900 PVC, DR-18) (Includes cost of restrained connection to existing pipe)	66.	Lin. Ft.	$ _____	$ _____
10	108.2	Water Main (20") (C-905 PVC, DR-25) (Includes cost of restrained connection to existing pipe)	2,597.	Lin. Ft.	$ _____	$ _____
11	108.2	Storm Drain Pipe (18") (ADS Corrugated HDPE Pipe)	49.	Lin. Ft.	$ _____	$ _____
12	108.2	Imported Trench Backfill (Class 3) (Includes haul and disposal of unsuitable excavated material) (Assumed material unit weight = 133 lbs/ft^3)	5,000.	Ton	$ _____	$ _____

Bid Schedule: 2019 South Downtown Water & Sewer Replacement Project
ADDENDUM #2

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
13	108.3	8" x 4" Sewer Service Tap (Full Body Wye w/ Street 45-deg.) (Includes full body wye, cleanout, and all fittings required to align and connect into the existing sewer service pipe at the locations shown on the plans) (See City Std. Detail SS-06)	7.	Each	$ _____	$ _____
14	108.3	8" x 6" Sewer Service Tap (Full Body Wye w/ Street 45-deg.) (Includes full body wye, cleanout, and all fittings required to align and connect into the existing sewer service pipe at the locations shown on the plans) (See City Std. Detail SS-06)	1.	Each	$ _____	$ _____
15	108.3	10" x 4" Sewer Service Tap (Full Body Wye w/ Street 45-deg.) (Includes full body wye, cleanout, and all fittings required to align and connect into the existing sewer service pipe at the locations shown on the plans) (See City Std. Detail SS-06)	4.	Each	$ _____	$ _____
16	108.3	10" x 6" Sewer Service Tap (Full Body Wye w/ Street 45-deg.) (Includes full body wye, cleanout, and all fittings required to align and connect into the existing sewer service pipe at the locations shown on the plans) (See City Std. Detail SS-06)	1.	Each	$ _____	$ _____
17	108.3	15" x 4" Sewer Service Tap (Full Body Wye w/ Street 45-deg.) (Includes full body wye, cleanout, and all fittings required to align and connect into the existing sewer service pipe at the locations shown on the plans) (See City Std. Detail SS-06)	5.	Each	$ _____	$ _____
18	108.3	15" x 6" Sewer Service Tap (Full Body Wye w/ Street 45-deg.) (Includes full body wye, cleanout, and all fittings required to align and connect into the existing sewer service pipe at the locations shown on the plans) (See City Std. Detail SS-06)	3.	Each	$ _____	$ _____
19	108.3	Sewer Service Clean-out Ring and Cover (Castings Inc. CO-8030-CI or Approved Equal) (Includes concrete collar in unpaved areas per City Std. Detail SS-07)	20.	Each	$ _____	$ _____

Bid Schedule: 2019 South Downtown Water & Sewer Replacement Project
ADDENDUM #2

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
20	108.3	Gate Valve (4")	1.	Each	$ _____	$ _____
21	108.3	Gate Valve (6")	9.	Each	$ _____	$ _____
22	108.3	Gate Valve (8")	3.	Each	$ _____	$ _____
23	108.3	Gate Valve (12")	2.	Each	$ _____	$ _____
24	108.3	Butterfly Valve (20")	4.	Each	$ _____	$ _____
25	108.3	Tee (6" x 6") MJ Swivel Tee (Epoxy Coated)	1.	Each	$ _____	$ _____
26	108.3	Tee (8" x 4") MJ Swivel Tee (Epoxy Coated)	1.	Each	$ _____	$ _____
27	108.3	Tee (8" x 6") MJ Swivel Tee (Epoxy Coated)	3.	Each	$ _____	$ _____
28	108.3	Tee (12" x 12") (Epoxy Coated)	1.	Each	$ _____	$ _____
29	108.3	Tee (20" x 6") MJ Swivel Tee (Epoxy Coated)	5.	Each	$ _____	$ _____
30	108.3	Tee (20" x 8") MJ Swivel Tee (Epoxy Coated)	3.	Each	$ _____	$ _____
31	108.3	Tee (20" x 20") (Epoxy Coated)	1.	Each	$ _____	$ _____
32	108.3	Elbow (6" x 45 deg) (Epoxy Coated)	1.	Each	$ _____	$ _____
33	108.3	Elbow (8" x 45 deg) (Epoxy Coated)	4.	Each	$ _____	$ _____
34	108.3	Elbow (12" x 45 deg) (Epoxy Coated)	4.	Each	$ _____	$ _____
35	108.3	Elbow (20" x 45 deg) (Epoxy Coated)	8.	Each	$ _____	$ _____
36	108.3	Reducer (20" x 12") (Epoxy Coated)	1.	Each	$ _____	$ _____
37	108.3	End Cap/Plug (20") (Includes Concrete Thurstblock per City Std Detail W-07 & W-08)	1.	Each	$ _____	$ _____
38	108.3	Fire Hydrant Assembly	7.	Each	$ _____	$ _____
39	108.3	8" Welded Flange or Hy-Max Solid Sleeve Restrained Coupling with Stiffener for connection to existing HDPE pipe (8" HDPE Pipe)	1.	Each	$ _____	$ _____
40	108.4	Water Service Line (3/4") (Type K Copper) (If Lead or Poly service line is encountered, water service shall be replaced to meter) (Includes cost of connection to existing pipe)	284.	Lin. Ft.	$ _____	$ _____

Bid Schedule: 2019 South Downtown Water & Sewer Replacement Project
ADDENDUM #2

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
41	108.4	Water Service Line (1") (Type K Copper) (If Lead or Poly service line is encountered, water service shall be replaced to meter) (Includes cost of connection to existing pipe)	80.	Lin. Ft.	$ _____	$ _____
42	108.4	Water Service Line (2") (Type K Copper or HDPE 3408) (If lead service line is encountered, water service shall be replaced to meter) (Includes cost of connection to existing pipe)	20.	Lin. Ft.	$ _____	$ _____
43	108.4	Tapping Saddle (20" x 3/4")	11.	Each	$ _____	$ _____
44	108.4	Tapping Saddle (20" x 1")	3.	Each	$ _____	$ _____
45	108.4	Tapping Saddle (20" x 2")	1.	Each	$ _____	$ _____
46	108.4	Corporation Stop (3/4")	11.	Each	$ _____	$ _____
47	108.4	Corporation Stop (1")	3.	Each	$ _____	$ _____
48	108.4	Corporation Stop (2")	1.	Each	$ _____	$ _____
49	108.5	Sanitary Sewer Basic Manhole (48" I.D.) (Includes connection of adjacent sewer line, forming inverts and adjusting to final grade. (See City Std. Detail SS-02) (No steps required in sewer manholes)	13.	Each	$ _____	$ _____
50	108.5	Manhole Barrel Section (D>5') (48" I.D.)	51.	Vert. Ft.	$ _____	$ _____
51	108.5	Connect to Existing Manhole (15" pipe) (Doug Jones Sawmill Property manhole)	1.	Each	$ _____	$ _____
52	108.5	Storm Sewer Basic Manhole (48" I.D.) (Includes connection to adjacent storm sewer lines and adjusting to final grade) (See City Std. Detail D-03)	1.	Each	$ _____	$ _____
53	108.5	Manhole Coating (Castagra Ecodur 201 or Engineer Approved Equal)	72.	Vert. Ft.	$ _____	$ _____
54	108.7	Granular Stabilization Material (Type B) (Crushed Rock) (18" Thick Min.) (Includes haul and disposal of unsuitable excavated material) (Assumed Unit Weight = 138 lbs/ft^3)	1,500.	Ton	$ _____	$ _____
55	202	Abandon Pipe (Abandon pipe by plugging ends with concrete)	35.	Each	$ _____	$ _____

Bid Schedule: 2019 South Downtown Water & Sewer Replacement Project

ADDENDUM #2

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
56	202	Abandon Existing Water Valve (Close valve, remove top half of existing valve box, fill cavity to finished subgrade with flow-fill material)	7.	Each	$ _____	$ _____
57	202	Abandon Manhole (Remove cone section, ring & cover, and fill remaining barrel sections with flow-fill material)	5.	Each	$ _____	$ _____
58	202	Remove Existing Fire Hydrant (Return Hydrant to City Shops)	7.	Each	$ _____	$ _____
59	202	Removal of Existing Pipe (Size & type as shown on plans)	3,375.	Lin. Ft.	$ _____	$ _____
60	202	Removal of Asphalt Mat (Full Depth)	3,802.	Sq. Yd.	$ _____	$ _____
61	202	Removal of Asphalt Mat (Planing) (2" Thick for T-Top Section)	4,274.	Sq. Yd.	$ _____	$ _____
62	202	Removal of Concrete (Includes, but not limited to, curb, gutter, sidewalk, driveway, slabs, V-pans, curb ramps, intersection corners, aprons, landscape borders, and concrete walls)	1,097.	Sq. Ft.	$ _____	$ _____
63	202	Removal of Sod	120.	Sq. Ft.	$ _____	$ _____
64	202	Removal of Manhole (Price to include plugging existing abandoned pipes, if any, and removal and disposal of concrete sections)	9.	Each	$ _____	$ _____
65	202	Removal of Tree (2" dia.)	1.	Each	$ _____	$ _____
66	203	Disposal of Radioactive Material (Dispose at City Shops, 333 West Ave.)	75.	Cu. Yd.	$ _____	$ _____
67	206	Structure Backfill (Flow-Fill) (This flow-fill quantity takes into account the flow-fill quantity necessary for Abandon Existing Water Valve, and Abandon Manhole)	30.	Cu. Yd.	$ _____	$ _____
68	208	Storm Drain Inlet Protection (Gravel Filter at Curb Inlet) (Includes Maintenance & Removal of Debris, & Removal of Inlet Protection)	19.	Each	$ _____	$ _____
69	208	Concrete Washout Facility	1.	Lump Sum	- - -	$ _____

Bid Schedule: 2019 South Downtown Water & Sewer Replacement Project
ADDENDUM #2

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
70	210	Reset Landscape Ground Cover (Match in Kind) (Contractor shall remove ground cover and underlying weed barrier as needed and stockpile materials. Contractor shall reset these materials and provide additional materials as needed)	364.	Sq. Ft.	$ _____	$ _____
71	210	Reset Sprinkler System (Complete in Place) (Various Locations)	1.	Lump Sum	- - -	$ _____
72	210	Reset Fence (5' High Chain-Link)	30.	Lin. Ft.	$ _____	$ _____
73	210	Reset Fence (6' High Chain-Link w/ Barbed Wire Top)	120.	Lin. Ft.	$ _____	$ _____
74	212	Re-Sod Area as Shown (Includes 6" Thick Imported Topsoil placed prior to sod placement)	120.	Sq. Ft.	$ _____	$ _____
75	304	Aggregate Base Course (Class 6) (4" thick) (Shoulder Base)	160.	Sq. Yd.	$ _____	$ _____
76	304	Aggregate Base Course (Class 6) (15" thick)	3,833.	Sq. Yd.	$ _____	$ _____
77	401	Hot Bituminous Pavement (2" Thick) (Grading SX, PG 64-22, GYR.=75) (Mill & Fill Overlay) (3rd Ave. & 10th Street)	2,057.	Sq. Yd.	$ _____	$ _____
78	401	Hot Bituminous Pavement (Patching) (3 " Thick) (Grading SX, PG 64-22) (GYR.=75) (One 3" Lift Bottom Mat)	2,710.	Sq. Yd.	$ _____	$ _____
79	401	Hot Bituminous Pavement (Patching) (2" Thick) (Grading SX, PG 64-22) (GYR.=75) (One 2" Top Mat) **(T-Top)**	2,217.	Sq. Yd.	$ _____	$ _____
80	401	Hot Bituminous Pavement (Patching) (5 " Thick) (Grading SX, PG 64-22) (GYR.=75) (3" Bottom Mat, 2" Top Mat) (9th Street & 15th Street only due to City's 2019 Asphalt Overlay Project)	1,092.	Sq. Yd.	$ _____	$ _____
81	407	Emulsified Asphalt (Tack Coat)	900.	Gallon	$ _____	$ _____
82	420	Geotextile (Separator) (Non-Woven) (Wrap stabilization material with fabric) (Minimum Overlap = 24") (As Needed)	1,500.	Sq. Yd.	$ _____	$ _____
83	608	Concrete Drainage Pan (3' Wide) (Match in Kind)	4.	Sq. Yd.	$ _____	$ _____

Bid Schedule: 2019 South Downtown Water & Sewer Replacement Project

ADDENDUM #2

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
84	608	Concrete Drainage Pan (4' Wide) (Match in Kind)	12.	Sq. Yd.	$ _____	$ _____
85	608	Concrete Curb and Gutter (2' Wide) (Match in Kind)	180.	Lin. Ft.	$ _____	$ _____
86	608	Concrete Valley Gutter (2' Wide) (Match in Kind)	50.	Lin. Ft.	$ _____	$ _____
87	608	Concrete Curb (6" Wide x 12" High) (Match in Kind)	20.	Lin. Ft.	$ _____	$ _____
88	608	Concrete Sidewalk (4" Thick) (Match in Kind)	31.	Sq. Yd.	$ _____	$ _____
89	608	Concrete Pavement (6" Thick) (CDOT Class D, 4500 psi Mix)	27.	Sq. Yd.	$ _____	$ _____
90	608	Cap Top Half of Sewer Pipe in Concrete per City Std. Detail GU-04 (20' long) (If necessary)	2.	Each	$ _____	$ _____
91	608	Encase Sewer Pipe in Concrete per City Std. Detail GU-04 (20' long) (If necessary)	1.	Each	$ _____	$ _____
92	619	30" Steel Casing Pipe (Bore/Jack)	30.	Lin. Ft.	$ _____	$ _____
93	619	30" Casing Pipe End Caps	2.	Each	$ _____	$ _____
94	619	Cascade Waterworks Casing Spacers or Engineer Approved Equal (Spacing and Installation shall be per Manufacturer's Recommendation	1.	Lump Sum	- - -	$ _____
95	620	Portable Sanitary Facility	1.	Each	$ _____	$ _____
96	625	Construction Surveying (Includes As-Built Drawings)	1.	Lump Sum	- - -	$ _____
97	626	Mobilization	1.	Lump Sum	- - -	$ _____
98	630	Traffic Control Plan	1.	Lump Sum	- - -	$ _____
99	630	Traffic Control (Complete in Place)	1.	Lump Sum	- - -	$ _____
100	630	Flagging	1,400.	Hour	$ _____	$ _____
101	SP	Reconfigure Manhole Bench (C3-271-031)	1.	Lump Sum	- - -	$ _____

Bid Schedule: 2019 South Downtown Water & Sewer Replacement Project
ADDENDUM #2

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
102	SP	Coordination with Doug Jones Sawmill Property (Temporarily relocate lumber for sewer installation and then place back lumber in same location)	1.	Lump Sum	- - -	$ _____
103	SC 3.3.18	Quality Control Testing	1.	Lump Sum	- - -	$ _____
104	Pump	Bypass Sewage Pumping (At Contractors Discretion)	1.	Lump Sum	- - -	$ _____
MCR		Minor Contract Revisions	- - -	- - -	- - -	$ 100,000.00
				Bid Amount:		**$** _____

Bid Amount:

_____ **dollars**

Contractor Name:
Contractor Address:
Contractor Phone #:

3. Statement of Work

3.1. GENERAL: The City of Grand Junction is soliciting competitive bids from qualified and interested companies for all labor, equipment, and materials required for the **2019 South Downtown Water and Sanitary Sewer Replacement Project.** All dimensions and scope of work should be verified by Contractors prior to submission of bids.

NOTE: The descriptions of the pay items listed in the Price Bid Schedule for this Project may not agree with those listed in the Standard Specifications. Payment for all Work performed, as required in the Contract Documents, will be in accordance with the items and units listed in the Price Bid Schedule.

The performance of the Work for this Project shall conform to the General Contract conditions presented in the City of Grand Junction's Standard Contract Documents for Capital Improvements Construction, revised July 2010, except as specifically modified or supplemented herein or on the Construction Drawings.

3.2. PROJECT DESCRIPTION: The Project generally consists of: 4,530 L.F. of SDR-35 PVC sewer pipe (sizes 4" – 15"); 2,900 L.F. of C-900 PVC domestic water pipe (sizes 4" – 20"); 13 48" I.D. sanitary sewer manholes, sanitary sewer manhole protective coating application, installation of water and sewer fittings, valves, fire hydrants, restoration of disturbed areas including, gravel and asphalt road surfaces, driveways, and concrete replacement. Work will also include restoration of disturbed landscape areas.

3.3. SPECIAL CONDITIONS & PROVISIONS:

3.3.1 **Mandatory Pre-Bid Meeting: Prospective bidders are required to attend a mandatory pre-bid meeting on Tuesday, April 16th at 10:30 am**. Meeting location shall be in the City Council Auditorium, located at 250 North 5th Street. The purpose of this visit will be to inspect and to clarify the contents of this Invitation for Bids (IFB).

3.3.2 **QUESTIONS REGUARDING SOLICIATION PROCESS/SCOPE OF WORK:**
Duane Hoff, Senior Buyer
City of Grand Junction
duaneh@gjcity.org
970-244-1545

3.3.3 **Project Manager:** The Project Manager for the Project is Lee Cooper, Project Engineer, who can be reached at (970) 256-4155. During Construction, all notices, letters, submittals, and other communications directed to the City shall be addressed and mailed or delivered to:

City of Grand Junction
Department of Public Works, Engineering
Attn: Lee Cooper, Project Manager
333 West Ave., Building C
Grand Junction, CO 81501

3.3.4 **Affirmative Action:** The Contractor is not required to submit a written Affirmative Action Program for the Project.

3.3.5 **Pricing:** Pricing shall be all inclusive to include but not be limited to: all labor, equipment, supplies, materials, freight (F.O.B. Destination – Freight Pre-paid and Allowed to each site), travel, mobilization costs, fuel, set-up and take down costs, and full-time inspection costs, and all other costs related to the successful completion of the project.

The Owner shall not pay nor be liable for any other additional costs including but not limited to: taxes, shipping charges, insurance, interest, penalties, termination payments, attorney fees, liquidated damages, etc.

3.3.6 **Freight/Shipping:** All freight/shipping shall be F.O.B. Destination – Freight Pre-Paid and Allowed to the project site(s), Grand Junction, CO.

Contractor must meet all federal, state, and local rules, regulations, and requirements for providing such services.

3.3.7 **Contract:** A binding contract shall consist of: (1) the IFB and any amendments thereto, (2) the bidder's response (bid) to the IFB, (3) clarification of the bid, if any, and (4) the City's Purchasing Department's acceptance of the bid by "Notice of Award" or by "Purchase Order". All Exhibits and Attachments included In the IFB shall be incorporated into the contract by reference.

A. The contract expresses the complete agreement of the parties and, performance shall be governed solely by the specifications and requirements contained therein.

B. Any change to the contract, whether by modification and/or supplementation, must be accomplished by a formal contract amendment signed and approved by and between the duly authorized representative of the bidder and the City Purchasing Division or by a modified Purchase Order prior to the effective date of such modification. The bidder expressly and explicitly understands and agrees that no other method and/or no other document, including acts and oral communications by or from any person, shall be used or construed as an amendment or modification to the contract.

3.3.8 **Time of Completion:** The scheduled time of Completion for the Project is **110** Calendar Days from the starting date specified in the Notice to Proceed.

Completion is achieved when site cleanup and all punch list items (resulting from the final inspection) have been completed. Completion shall have the meaning set forth in Article I, Section 3 (Definitions and Terms) of the General Contract Conditions.

3.3.9 **Working Days and Hours:** The working days and hours shall be as stated in the General Contract Conditions or as mutually agreed upon in the preconstruction meeting with the following exception:

- Night and/or weekend work will be required for sanitary sewer installation on 9th Street in front of ALSCO Textile Cleaning.

3.3.10 **Licenses and Permits:** Contractor is responsible for obtaining all necessary licenses and permits required for Construction, at Contractors expense. See Section 2.10. Contractor shall supply to Owner all copies of finalized permits.

3.3.11 **Permits:** The following permits are required for the Project and will be obtained by the City at no cost to the Contractor:

- *None*

The following permits are required for the Project and shall be obtained and paid for by the Contractor, with the costs included in the total bid price for the Project:

- *Colorado Department of Public Health and Environment Dewatering Permit*: (If necessary due to the presence of groundwater) For more information, contact the Colorado Dept. of Public Health and Environment: www.cdphe.state.co.us/wq/PermitsUnit/wqcdpmt.html Approximately 7 – 10 days is required for processing of the permit application. The Contractor should begin preparing the permit application immediately upon notice of award.

3.3.12 **City Furnished Materials:** The City will furnish the following materials for the Project:

- Door-hangers (as necessary)
- AutoCAD drawings for survey stake-out
- Variable message boards for upcoming construction locations

3.3.13 **Project Newsletters:** Project newsletter newsletters will not be required for this project. The City will handle notifying the public and residents of the project prior to construction starting. During construction, the City may require the help of the Contractor in handing out door hangers and notifying property owners/residents/tenants of the construction schedule.

3.3.14 **Project Sign:** Project signs, if any, will be furnished and installed by the City.

3.3.15 **Authorized Representatives of the City:** Those authorized to represent the City shall include Purchasing Agent, Engineers, and Inspectors employed by the City, only.

3.3.16 **Stockpiling Materials and Equipment:** All stockpiling/storage shall be in accordance with General Contract Condition Section 51.

3.3.17 **Traffic Control:** The Contractor shall provide and maintain traffic control in accordance with the approved Traffic Control Plan and the *Manual on Uniform Traffic Control Devices (MUTCD)*. The traffic control plans shall be presented to the Project

Engineer at or prior to the pre-construction meeting for review and approval. The following requirements and limitations shall apply to the traffic control:

No personal driveway and/or access point to a property shall be left inaccessible at the end of each work day or over a weekend; and no construction equipment shall be parked in front of a driveway and/or access point during Contractor's non-working hours. When a driveway and/or access point has to be closed off due to construction activity, the Contractor shall provide advanced notification to the affected resident(s) at least two-days prior to closure and arrange an alternative access point to the property. Refer to General Contract Condition 26 – Maintenance of Access and Services.

Special conditions for traffic control:

1. All trenches shall be backfilled or protected at the end of each working day and access restored to all driveways. If trenches are left open at night, the trenches will be limited to 30 feet in length. The entire perimeter of the excavation shall be barricaded with construction equipment and/or temporary construction fence.

2. At all times during the project, the contractor must ensure access is available for the U.S. Postal Service, trash collection trucks, school buses, emergency vehicles, etc., per the General Contract Conditions.

3. The Contractor shall adhere to all traffic control requirements when working within City right-of-way.

4. Detours shall be provided when a section of road is closed to through traffic for water and sewer construction. Residents, employees, property owners shall have access to their respected properties during construction.

5. Access to residents and/or businesses shall be provided at all times during construction.

3.3.18 **Clean-Up:** The Contractor is responsible for cleaning up all loose materials that have been deposited or swept into gutters, and onto sidewalks and driveways as a result of sidewalk operations. The costs for all clean-up work shall be considered incidental and will not be paid for separately.

3.3.19 **Quality Control Testing:** As part of the project, the Contractor shall provide Quality Control testing per Table 1 in the Quality Control (QC) and Quality Assurance (QA) section within the City of Grand Junction's Standard Specifications for Road and Bridge Construction, and Table 101 within the Standard Specifications for the Construction of Underground Utilities. Table 1 and Table 101 provide the testing frequencies.

The Contractor shall provide test frequencies for Full-Time inspection. The testing agency shall meet the minimum requirements as stated in the Standard Specifications section. A submittal of qualified personnel shall be submitted at or

before the preconstruction meeting. This submittal shall include all certifications held by the tester assigned to the project. The following items will require QC testing:

- Backfill compaction – (Compaction Tests) Backfill shall be placed in horizontal layers not to exceed 8-inches in loose lift thickness. If the Project Engineer allows the native material to be used for trench backfill, completion of a Proctor analysis will be required by the QC testing agency on the native backfill material.
- Aggregate Base Course (Class 6) – (Compaction Tests) (If necessary, completion of a Proctor analysis will be required by the QC testing agency)
- Hot Bituminous Pavement (Density Tests)
- Concrete (Compressive Tests)

Method of Measurement:

Testing for QC will not be measured, but will be paid for on a Lump Sum basis.

Basis of Payment:

Pay Item	*Pay Unit*
Quality Control Testing	Lump Sum

A report shall be generated by the testing firm that documents all tests including any re-tests results or failed tests. Included in the test reports shall be station locations of each test and the test results. All test results shall be presented to the Project Engineer prior to final payment and/or final acceptance of the project.

The City will perform and/or contract the Quality Assurance (QA) testing for this project.

3.3.20 Schedule of Submittals: Contractor shall deliver these submittals at least two days prior to the pre-construction meeting:

- Traffic Control Plans
- Construction Schedule
- Hourly rate table for labor & equipment to be used on this project
- Sewer Pipe – SDR-35 PVC
- Water Pipe – C900 & C905 PVC
- Sewer Fittings
- Manholes
- Ring & Covers
- Bedding Gradation, Type A
- Imported Trench Backfill gradation (Class 3)
- Granular Stabilization Material (Type B)
- Base Course Gradation & Proctor Curve (Class 6)
- Non-woven Geotextile Fabric

3.3.21 Uranium Mill Tailings: It is anticipated that radioactive mill tailings can possibly be encountered on this Project. They include:

- 9th Street
- D Road

- 15th Street

If mill tailings are encountered, the Contractor will be required to remove the tailings from the trench and haul the millings to the mill tailings disposal site at City Shops located at 333 West Ave. Consult with Project Engineer prior to removing and hauling to disposal site.

3.3.22 **Fugitive Petroleum or Other Contamination:** It is anticipated that soil contamination from fugitive petroleum or other contaminants will not be encountered with the Project.

3.3.23 **Excess Material:** All excess materials shall be disposed in accordance with General Contract Condition Section 50.

3.3.24 **Existing Utilities and Structures:** The location of existing utilities and structures shown on the Plans are approximate. Not all underground utilities were potholed. It is the responsibility of the Contractor to locate and protect all structures and utilities in accordance with General Contract Condition Section 37. The Contractor and the City shall coordinate with the utility companies any necessary relocation of utilities and schedule work accordingly. Conflicts between water and gas lines and/or storm drain pipe may be encountered. At such conflicts, the Contractor shall relocate the waterlines and/or work with Xcel Energy on the relocation of gas line(s). Payment for waterline relocations will be paid for using the Minor Contract Revision line item assigned to the Project.

If the Contractor discovers a conflict with an existing utility (either horizontal or vertical), the Contractor shall contact the Project Engineer and the utility owner immediately to assist in resolving the conflict.

3.3.25 **Incidental Items:** Any item of work not specifically identified or paid for directly, but which is necessary for the satisfactory completion of any paid items of work, will be considered as incidental to those items, and will be included in the cost of those items.

3.3.26 **Existing Concrete Sidewalks, Pans, Fillets, Curbs and Gutters:** The existing sidewalks, pans, fillets, curb and gutter are in good serviceable condition. In most instances the installation of new sidewalk and pavement will be adjacent to existing concrete. The Contractor will need to protect all concrete adjacent to construction. If the concrete is damaged during construction the Contractor will be responsible for its replacement at no cost to the City. The Contractor, the City Project Inspector, and/or the Project Engineer will walk and record any concrete that is deemed to be damaged before construction has started.

3.3.27 **ACI Concrete and Flatwork Finisher and Technician:** Hand finishing concrete will be permitted only when performed under the direct supervision of a craftsman holding the following certificate: ACI Concrete Flatwork Finisher and Technician (ACICFFT) or other Flatwork Finisher certification program approved by the City Engineering Manager.

3.3.28 **Confined Space Entry:** The Contractor is responsible for providing any and all confined space entry safety equipment; including, but not limited to: air testing

equipment, fresh air blowers, tripods, harnesses, and SCBA equipment. The Contractor's air monitoring devices shall be calibrated and certified. The cost for all confined space entry equipment shall be incidental to the project cost, and will not be paid for separately.

3.3.29 Construction Dewatering: All construction dewatering must meet the requirements specified in the CDPHE Dewatering Permit.

3.3.30 Temporary Steel Plating: If the Contractor chooses to use steel plates to protect an open trench section, the cost for supplying and securely placing the steel plates will not be paid for separately, but shall be included in the work.

3.3.31 Payment for Damage to Private Property beyond Easement Limits/ROW Limits: Easement and Right-of-Way (ROW) lines are indicated on the Construction Plans. Any and all damage to improvements outside of easements and ROW, and/or outside the Construction Limit lines shall be repaired at the Contractor's expense. There will be no additional payment made for restoration of sod, landscaping, gravel, concrete or asphalt driveways, irrigation systems, decorative borders, fences, etc. beyond the property line or the construction easements as shown on the plan set.

3.3.32 Interruption of Utilities and Services: The Contractor shall notify all property owners affected by the interruption of utilities and other services caused by his operation. Such notice shall be given at least 24 hours prior to the interruption. Notice shall be given for, but not limited to the interruption of domestic water, sanitary sewer, trash pickup, mail delivery and changes in access to the property.

3.3.33 Project Location Work Schedule: Due to the City's 2019 Asphalt Overlay Project schedule, the City wants the Contractor to start with the 15th Street sanitary sewer installation and have it completed first so the asphalt overlay contractor can then start scheduling the 15th Street overlay.

Once the 15th Street sewer is completed, the Contractor shall move over to 9th Street to start working on the domestic waterline installation and the short section of sewer replacement on 9th Street in front of ALSCO Textile Cleaning. 9th Street is schedule for an asphalt overlay in 2019.

NIGHT/WEEKEND WORK – Due to the large amount of wastewater ALSCO Textile Cleaning discharges into the sewer pipe on 9th Street, the following locations shall be done at night or on the weekends:

- Sewer replacement between C4-262-045 to C4-262-044 (South 9th Street in front of ALSCO Textile Cleaning)

ALSCO's discharge hours are typically between 6:00 am to 5:00 pm, Monday through Friday. ALSCO does not work weekends. Weekend work shall be completed during the daylight hours.

3.3.34 City Asphalt Overlay Project: The Contractor shall be aware that the City's 2019 Asphalt Overlay Project will be overlaying 9th Street and 15th Street in the south

downtown area. Asphalt overlays on these two streets will begin in August 2019. The Contractor shall have the water and sewer lines on these two streets completed prior to August 2019 or by mid-August 2019.

3.3.35 Utility Relocates: It's anticipated that Xcel Energy will need to relocate a couple gas lines to accommodate the installation of the new 20-inch waterline. The location of these gas lines are located on 9th Street and 3rd Ave. The City is having these gas lines potholed the week of April 1, 2019. Once the City has exact elevations on these gas lines, it will be determined if Xcel will need to relocate these lines. If relocation is required, the City will be contacting Xcel Energy to request relocation. Pothole information will be provided to the Contractor.

3.3.36 Construction Surveying & "As-Built" Drawings: In addition to Items I and II in the General Contract Conditions, Section 54, As-Built record information will be provided to, and approved by City staff prior to Final Acceptance of the Project. Information to be provided must be in electronic format (e.g. AutoCAD and/or survey files) along with a PDF set of As-Built drawings. As-Built electronic files must contain information suitable for the City to maintain Utility records to the standards set forth in the new Colorado 811 One Call/Subsurface Utility Law (effective August 8, 2018) and standards as described in the American Society of Civil Engineers (ASCE) Standard Guidelines for the Collection and Depiction of Existing Subsurface Utility Data (ASCE 38-02).

Electronic information for As-Built records shall include, but is not limited to, verification of all horizontal and vertical changes in pipe alignments, elbows, tees, manholes, valves, control structures, service taps, service pipe (horizontal and vertical deflections to ROW line, meter pits, or clean-outs, whichever is closer), beginning and ending of slip-lined segments, tie-in or connection to existing infrastructure, etc. Distance between As-Built data points along pipe alignment is dependent on the amount of deflection used to install the pipe in the field. There must be sufficient point data to create a plan and profile of all infrastructure accurate to within eighteen inches (18") of the physical structures anywhere along the project.

Sanitary Sewer Service Lines – The Contractor is responsible for providing to the City survey grade accuracy for As-Built locations for all sewer wye fittings, sewer service elbows, and sewer service clean-outs. The Contractor shall provide survey coordinates in the X,Y,Z dimensions for these fittings. The Contractor shall provide this survey information in electronic format (e.g. AutoCAD and/or survey files). The coordinates for this survey data shall be surveyed in the Mesa County Local System (MCLS). Accuracy on survey equipment shall be within 0.1 feet both vertically and horizontally. The Contractor will be required by the City to provide information on equipment being used and if the Contractor will be performing the as-built surveys or if a surveying subcontractor will be performing the as-built surveys.

The cost for all surveying the all fittings, both sewer and water, shall be incidental to the project cost, and will not be paid for separately.

3.3.37 Meeting with Local Businesses: Prior to construction starting, the Contractor shall meet with the local area businesses to present to the businesses the Contractor's

proposed schedule and sequence of work. The City will assist the Contractor in notifying these companies and scheduling a meeting. This meeting will most likely be held in Munro Pumps conference room (808 South 9th Street). To help accommodate the local businesses in the areas of construction, the Contractor needs to be aware of local business operation schedules, shipment and delivery schedules, and any special conditions the businesses may have.

3.3.38 UPRR Railroad Crossings: The local contact for the Union Pacific Railroad is Justin Cordova at 970-628-6019. The Contractor shall provide at least one-weeks advance notice to Justin prior to crossing the railroad tracks at 9th Street and 4th Ave. with the new waterline installation.

3.4. SCOPE OF WORK: The Project generally consists of: 4,530 L.F. of SDR-35 PVC sewer pipe (sizes 4" – 15"); 2,900 L.F. of C-900 PVC domestic water pipe (sizes 4" – 20"); 13 48" I.D. sanitary sewer manholes, sanitary sewer manhole protective coating application, installation of water and sewer fittings, valves, fire hydrants, restoration of disturbed areas including, gravel and asphalt road surfaces, driveways, and concrete replacement. Work will also include restoration of disturbed landscape areas.

3.5. Attachments:

- Appendix A: Project Submittal Form
- Appendix B: Project Special Provisions
- Appendix C: Castagra Ecodur 201 Protective Coating Specification
- Appendix D: Geotechnical Soils Report
- Appendix E: CDPHE's Construction Dewatering Permit **APPLICATION ONLY**
- Construction Plans

3.6. Contractor Bid Documents: For Contractor's convenience, the following is a list of forms/items to be submitted with the Contractor's bid response. However, should a form/item not be listed in this section, but required in the solicitation documents, it is the Contractor's responsibility to ensure all forms/items are submitted.

- **Contractor's Bid Form**
- **Price Bid Schedule**

3.7. IFB TENTATIVE TIME SCHEDULE:

Invitation for Bids available:	April 4, 2019
Mandatory Pre-Bid Meeting:	April 16, 2019
Inquiry deadline, no questions after this date:	May 7, 2019
Addendum Posted:	May 10, 2019
Submittal deadline for proposals (Bid Opening):	May 16, 2019
City Council Approval:	June 5, 2019
Notice of Award & Contract execution:	June 6, 2019
Bonding & Insurance Cert. due:	June 13, 2019
Preconstruction meeting:	June 13, 2019
Work begins no later than:	Upon Receipt of Notice To Proceed
Final Completion:	110 Calendar Days from Notice to Proceed
Holidays:	Independence & Labor Day

4. Contractor's Bid Form

Bid Date: _____

Project: IFB-4628-19-DH "2019 South Downtown Water & Sanitary Sewer Replacement Project"

Bidding Company: _____

Name of Authorized Agent: _____

Email _____

Telephone_____ Address_____

City_____State_____Zip_____

The undersigned Bidder, in compliance with the Invitation for Bids, having examined the Instruction to Bidders, General Contract Conditions, Statement of Work, Specifications, and any and all Addenda thereto, having investigated the location of, and conditions affecting the proposed work, hereby proposes to furnish all labor, materials and supplies, and to perform all work for the Project in accordance with Contract Documents, within the time set forth and at the prices stated below. These prices are to cover all expenses incurred in performing the work required under the Contract Documents, of which this Contractor's Bid Form is a part.

The undersigned Contractor does hereby declare and stipulate that this offer is made in good faith without collusion or connection to any person(s) providing an offer for the same work, and that it is made in pursuance of, and subject to, all terms and conditions of the Instructions to Bidders, the Specifications, and all other Solicitation Documents, all of which have been examined by the undersigned.

The Contractor also agrees that if awarded the Contract, to provide insurance certificates within ten (10) working days of the date of Notification of Award. Submittal of this offer will be taken by the Owner as a binding covenant that the Contractor will be prepared to complete the project in its entirety.

The Owner reserves the right to make the award on the basis of the offer deemed most favorable, to waive any formalities or technicalities and to reject any or all offers. It is further agreed that this offer may not be withdrawn for a period of sixty (60) calendar days after closing time. Submission of clarifications and revised offers automatically establish a new thirty day (30) period.

Prices in the bid proposal have not knowingly been disclosed with another provider and will not be prior to award.

- Prices in this bid proposal have been arrived at independently, without consultation, communication or agreement for the purpose of restricting competition.
- No attempt has been made nor will be to induce any other person or firm to submit a bid proposal for the purpose of restricting competition.
- The individual signing this bid proposal certifies they are a legal agent of the offeror, authorized to represent the offeror and is legally responsible for the offer with regard to supporting documentation and prices provided.
- Direct purchases by the City of Grand Junction are tax exempt from Colorado Sales or Use Tax. Tax exempt No. 98-903544. The undersigned certifies that no Federal, State, County or Municipal tax will be added to the above quoted prices.
- City of Grand Junction payment terms shall be Net 30 days.
- Prompt payment discount of _____ percent of the net dollar will be offered to the Owner if the invoice is paid within _____ days after the receipt of the invoice.

RECEIPT OF ADDENDA: the undersigned Contractor acknowledges receipt of Addenda to the Solicitation, Specifications, and other Contract Documents.

State number of Addenda received: _____.

It is the responsibility of the Bidder to ensure all Addenda have been received and acknowledged.

By signing below, the Undersigned agree to comply with all terms and conditions contained herein.

Company: _____

Authorized Signature: _____

Title: _____

The undersigned Bidder proposes to subcontract the following portion of Work:

Name & address of Sub-Contractor	Description of work to be performed	% of Contract

The undersigned Bidder acknowledges the right of the City to reject any and all Bids submitted and to waive informalities and irregularities therein in the City's sole discretion.

By submission of the Bid, each Bidder certifies, and in the case of a joint Bid each party thereto certifies as to his own organization, that this Bid has been arrived at independently, without collusion, consultation, communication, or agreement as to any matter relating to this Bid with any other Bidder or with any competitor.

Appendix A

Project Submittal Form

PROJECT SUBMITTAL FORM

PROJECT: **2019 South Downtown Water & Sanitary Sewer Replacement Project**

CONTRACTOR:

PROJECT ENGINEER: Lee Cooper

Description	Date Received	Resubmittal Requested	Resubmittal Received	Date Accepted
CONSTRUCTION				
Pipe – Gravity Sewer Pipe (SDR-35 PVC)				
Pipe – Domestic Water Pipe (C-900 & C-905 PVC)				
Pipe – HDPE Water Service Pipe				
Pipe – Copper Tubing Service Pipe				
Valves – 4”, 6”, 8”, 12” Gate Valves				
Valves – 20” Butterfly Valves				
Tracing Wire & Splices				
Fittings – Elbows, Tees, Tapping Saddles, Corp. Stops, Crosses, Couplings, Curb Stops				
Imported Trench Backfill (Class 3)				
Granular Stabilization Material (Type B)				
Sewer Pipe Fittings – Wye Fittings, Elbows, Clean-outs				
48” I.D. Sewer Manhole and barrel sections				
Manhole Ring and Covers				
Manhole Protective Coating				
Water Valve Boxes				
Fire Hydrant Assembly				
Geotextile Fabric (Non-woven)				
Flow-Fill				
Pipe Bedding Gradation, Type A				
Aggregate Base Course, Class 6 (Include Proctor Curve Results)				
Concrete Mix Design, Class D				

Description	Date Received	Resubmittal Requested	Resubmittal Received	Date Accepted
Hot Bituminous Pavement Mix Design (PG 64-22, SX, Gyr. = 75)				
Concrete Washout Structure				
Inlet Basin Protection				
Quality Control Testing Agency and Certifications				
Construction Schedule				
Traffic Control Plan(s)				
Labor and Equipment hourly rate table				
CDPHE Dewatering Permit (If Necessary)				

Appendix B

Project Special Provisions

2019 South Downtown Water & Sanitary Sewer Replacement Project

SPECIAL PROVISIONS

GENERAL:

The descriptions of the pay items listed in the Bid Schedule for this Project may not agree with those listed in the Standard Specifications. Payment for all Work performed, as required in the Contract Documents, will be in accordance with the items and units listed in the Bid Schedule.

STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION:

The ***City of Grand Junction Standard Specifications for Road and Bridge Construction*** are hereby modified or supplemented for this Project by the following modifications to ***The Standard Specifications for Road and Bridge Construction***, State Department of Highways, Division of Highways, State of Colorado:

SP-1 SECTION 208 – EROSION CONTROL

Section 208 of the Standard Specifications is hereby revised for this project as follows:

Subsection 208.04 shall include the following:

If groundwater within the new water line trenches is encountered and requires dewatering, the dewatering pump shall have a filter sock attached to the end of the discharge hose. This will prevent sediment in the discharge water from entering into the City's storm drainage system. The contractor will be responsible for monitoring the levels of sediment within the filter sock and replacing the filter sock when it reaches 50% of its holding capacity. It will also be the responsibility of the contractor to obtain the Dewatering Permit from the Colorado Department of Public Health and Environment if necessary.

Any of the materials to be installed or used for the installation of the sewer line shall be stored within the construction area where the Contractor is working unless permission is granted to store materials elsewhere. Any glues and/or adhesives necessary shall be contained at all times within a spill proof and waterproof container when not being used.

All vehicle and equipment maintenance and fueling shall be performed in a designated area within the construction area that will not interfere with roadway traffic operations unless traffic control is provided. The fueling area shall exhibit Best Management Practices in order to minimize and/or eliminate the potential of fuel spillage. Any spillage of fuel onto the ground shall be immediately cleaned up and any contaminated soil disposed of properly at the Mesa County Landfill. Documentation of spills, leaks and overflows that result in the discharge of pollutants, including logging and reporting of the spill is required to the Water

Quality Control Division at their toll-free 24-hour environmental emergency spill reporting line – 1-877-518-5608.

The Contractor shall clear the site of all on-site waste daily, including scrap from construction materials.

Concrete trucks will be required to wash out in a portable concrete washout pool supplied by the Contractor or the concrete truck can wait to washout back at the concrete batching facility. The Contractor will be responsible for maintaining the washout pool. The washout pool shall be cleaned out and/or replaced when the washout pool reaches 50% of total capacity. The concrete washout pool needs to be dynamic and durable in its ability to be moved with the progress of construction.

The Contractor shall clear the site of all trash and litter daily. Portable toilets will be maintained (cleaned and emptied) by a local supplier.

SP-2 SECTION 420 – GEOSYNTHETICS

Section 420 of the Standard Specification is hereby revised for this project as follows:

Subsection 420.02 in the City of Grand Junction's Standard Specifications shall include the following:

> The materials supplied for the "Geotextile (Non-Woven Separator for use with Type B Granular Stabilization Material)" shall be Contech C-60NW or Nilex NW60, or approved equal. Where specified by the Engineer, Geotextile shall be installed per Std. Detail GU-03.

SP-3 SECTION 601 – STRUCTURAL CONCRETE

Section 601 of the Standard Specifications is hereby revised for this project as follows:

Delete subsection 601.02 from the City of Grand Junction Standard Specifications and replace with the following:

Concrete for construction of curbs, gutters, sidewalks, irrigation structures, curb ramps, driveway approaches, corner fillets, drainage pans, median cover, and trails shall be CDOT Class D concrete per the 2017 CDOT Standard Specifications for Road and Bridge Construction (Red Book).

- Minimum field compressive strength: 4,500 psi at 28 days
- Air Content: 6% +/- 1.5%
- Maximum water cement ratio: 0.45
- Maximum slump at delivery shall be 4-inches. In the event that the concrete slump from the first truck of the day exceeds 5-inches the load will be rejected. Subsequent batches shall be adjusted so that the slump at delivery does not exceed 4-inches.

STANDARD SPECIFICATIONS FOR CONSTRUCTION OF WATER LINES, SANITARY SEWERS, STORM DRAINS, UNDERDRAINS AND IRRIGATION SYSTEMS

The City of Grand Junction ***Standard Specifications for Construction of Water Lines, Sanitary Sewers, Storm Drains, Underdrains and Irrigation Systems*** are hereby modified for this Project as follows:

SP-4 SECTION 102.11 – MANHOLES FOR SANITARY SEWER AND STORM DRAINS

Section 102.11 of the Standard Specifications shall include the following:

Both existing and proposed manholes along 15th Street are to be lined using Castagra Ecodur 201 coating (or Engineer Approved Equal). Application requirements for Ecodur 201 may be found in Appendix C. Prior to manhole lining, proposed manholes shall receive pressure water or abrasive blast cleaning to remove any factory applied coating and achieve surface roughness of NACE 6/SSPC SP 13. The bottom portion of new proposed manholes with the inverts shall be coated prior to delivery to the construction site.

Surface preparation for existing manholes shall also meet NACE 6/SSPC SP 13 requirements, including ensuring no bug holes or voids exist in manhole wall surfaces prior to application of coating. If voids cannot be sufficiently removed by pressure water or abrasive blast cleaning, or if additional cleaning will affect the structural integrity of the concrete, fill voids prior to application using coating manufacturer's recommended process.

NACE 6/SSPC SP 13 requirements can be found in Appendix C.

All interior surfaces of manholes shall be coated on 15th Street only, including but not limited to pipe invert, manhole walls, and base. To ensure coating product and concrete waste is not introduced into sanitary sewer flows of existing manholes, plugs must be placed into pipeline prior to surface preparation or coating application.

Method of Measurement: Manhole coating, as described above for 15th Street, will be measured by the vertical lineal foot from manhole invert at centerline of the manhole to the top of the cast iron ring and cover.

Method of Payment: Vertical lineal foot

SP-5 SECTION 102.11 – MANHOLES FOR SANITARY SEWER AND STORM DRAINS

Addition to Contract – Clarification:

Section 102.11 of the Standard Specifications shall include the following:

New straight through manholes as identified on the plan sheets are to have the pipe laid continuously through the manhole providing a PVC invert through the manhole with no joints located within the manhole. Pipe shall be installed at the proposed grade through the manholes, the invert below the PVC pipe and the manhole bench shall be field poured around the pipe. The top of the pipe shall be removed to spring line for manhole access to the pipe for future maintenance. The pipe shall be cut providing clean neat lines. Coating of the poured concrete bench shall be accomplished prior to removal of the top of pipe to spring line. The poured concrete bench shall have a minimum of 7-days cure time prior to protective coating being applied.

SP-6 SECTION 103 – REMOVALS, EXCAVATION, BACKFILLING AND RESTORATION

Section 103 of the Standard Specifications is hereby revised for this project as follows:

Subsection 103.10, Cutoff Walls, shall include the following:

Payment for this work will not be measured or paid for separately and will be considered incidental to the installation of Water Lines and Gravity Sewer Pipe. Refer to Section 108.13 for list of Incidental Construction items.

Subsection 103.16, Earth Backfill Material, shall include the following:

Native material excavated on site shall be used for backfill on all pipelines and appurtenances above the bedding and haunching material unless the native material is too wet, soft, rocky or otherwise unsuitable for backfill as determined by the Engineer or their representative. In such case, imported trench backfill material, or other approved material, shall be used and paid for per ton of material supplied, placed and compacted. The Contractor will be required to salvage useable materials from the project excavations and mix the useable material with imported trench backfill prior to placing backfill in the trench. The contract price for “Imported Trench Backfill” shall include the disposal of the unsuitable material.

SP-7 CLEARING AND GRUBBING

Addition to Contract - Clarification:

Clearing and grubbing for this project shall be considered incidental to the cost of construction. Clearing and grubbing will not be paid for separately.

SP-8 SECTION 103.3 – REMOVAL OF STRUCTURES AND OBSTRUCTIONS

Addition to Contract:

Section 103.3 of the Standard Specifications shall include the following:

The contractor shall provide temporary security fencing at locations where fencing has been removed to facilitate construction. Temporary security fencing shall be in place whenever work activities are not ongoing near or through the fenced area and at the end of each working day. The temporary fencing shall be securely fastened to the existing fence with wire and/or zip-ties.

Measurement and Payment: Temporary security fencing shall not be measured or paid for separately but shall be incidental to the Reset Fence pay item.

SP-9 PROTECTION OF PROPERTY ADJACENT TO EASEMENTS

Addition to Contract - Clarification:

The contractor shall be responsible for protecting surface or other features located adjacent to and outside any easement procured for this project. This includes pavement, gravel, fencing, structures, etc. located outside easements. Damage as a result of construction activity to objects as described above shall be repaired and/or replaced at the Contractors expense and shall not be the responsibility of the City.

SP-10 RECONFIGURATION OF MANHOLE BENCH

Addition to Contract:

At existing sanitary sewer manhole C3-271-031 (Sta. 1+00, Doug Jones Sawmill Property), no excavation of this manhole is anticipated. All work to reconfigure the invert shall be completed in place. Bypass pumping and/or flow through plugs may be utilized to control flow while completing invert reconfiguration.

The existing manhole bench is to be cored/jackhammered to allow for the connection of the proposed 15-inch sanitary sewer to the northwest.

Surface preparation shall include removal of all latent material, and bush hammering of the existing concrete surfaces where non-shrink grout materials will be placed. A polymer adhesive shall be applied to all bush hammered surfaces immediately prior to placing non-shrink grout. All concrete and grout materials utilized in the reconfiguration of the invert shall be in accordance with Section 102.11 of the City of Grand Junction Standard Specifications for the Construction of Underground Utilities.

The complete reconfigured interior of the manhole shall be coated with Castagra Ecodur 201 in accordance with this project specification and paid for separately under pay item "Manhole Coatings".

Method of Payment: Lump Sum

SP-11 COORDINATION WITH DOUG JONES SAWMILL PROPERTY

Addition to Contract:

Coordination with Doug Jones Sawmill property managers will be necessary to move and reset their lumber stock in the same location along the 15-inch sanitary sewer alignment to facilitate construction. Additional payment will not be made for moving this stock multiple times.

The Contractor is responsible for all coordination.

Method of Payment: Lump Sum

SP-12 SECTION 105 – PIPELINE TESTING

Delete **Section 105.2**. The City of Grand Junction will not require the new sanitary sewer main to be pressure or leakage tested.

All sanitary sewer mains shall be deflection tested using a Mandrel and will be closed captioned (CCTV) inspected by the City of Grand Junction prior to final acceptance.

SP-13 SECTION 619 – 30" STEEL CASING BY BORE/JACK

Addition to Contract:

Contract for waterline will recognize CDOT's Section 619, Subsection 619.03.a for the Bore/Jack operation crossing railroad spur tracks on 9th Street.

Section 619, Subsection 619.03.a of CDOT Specifications shall include the following:

The Contractor shall ensure that method of bore/jack prevents void formation between casing and native soil. Pre and post-construction survey elevations shall be taken by the Contractor of railroad spur to confirm settlement does not occur.

SP-14 MANHOLE GRADE RINGS:

Addition to Contract:

Section 102.11 of the Standard Specifications shall include the following:

Concrete grade rings, shims and non-shrink grout shall not be used on the sewer manhole sections. Approved grade rings for this project shall be either HDPE

Adjusting Rings by LadTech, Inc., or Expanded Polyproplyene grade rings by Cretex Pro-Ring.

Grade rings shall be installed per the manufacturer's recommendations and directions. Caulk and sealants shall be approved by the manufacturer and shall be applied per the manufacturer's recommendation. The top grade ring shall match as close as possible the cross-slope of the existing roadway surface. Both manufacturers of grade rings provide grade rings that can accommodate the existing roadway cross-slope.

Appendix C

Castagra Ecodur 201 Protective Coating Specification

Ecodur 201 Coating, Potable Water – Concrete

PART 1 - GENERAL

1.1 Scope
1.1.1 Specification includes requirements for preparation and installation of a coating installed to concrete substrate.
1.1.2 Standard system – average minimum thickness of 40 mils.

1.2 Definitions
1.2.1 Ecodur 201: A two-component modified urethane coating / lining.

1.3 Reference Organizations
1.3.1 ASTM: American Society for Testing and Materials
1.3.2 SSPC: Society for Protective Coatings
1.3.3 NACE: National Association of Corrosion Engineers
1.3.4 ISO: International Organization for Standardization

1.4. Reference Standards
1.4.1 The below listed standards are incorporated into specification by reference and are a part of requirements for the Work.

ASTM C 627 Robinson type Floor Tester
ASTM D 412 Standard Test Methods for Vulcanized Rubber
ASTM D 6677 Standard Test Method for Evaluating Adhesion by Knife
ISO 16773-2; 2007 Paints and varnishes - Electrochemical Impedance Spectroscopy (EIS) on high-impedance coated specimens
ASTM 4060 Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser
ASTM D 570-98 Standard Test Method for Water Absorption of Plastics
ASTM C 1202 Standard Test Method for Electrical Indication of Concrete's Ability to Resist Chloride Ion Penetration
NACE 6/SSPC-SP 13 Surface Preparation of Concrete

1.5 Submittals
1.5.1 Submit project name and description, Owner's name and address, and name of installing Contractor to Castagra Products, Inc.
1.5.2 Submit product data sheets for material incorporated in Work and this Guide Specification to Owner's Representative.
1.5.3 Submit shop drawings, samples, certifications, project field reports, and warranties as directed.
1.5.4 Submit MSDS sheets for material used in the Work.

1.6 Quality Assurance
1.6.1 Contractor. Employ lead person holding a current certificate from Castagra Products, Inc.
Employ experienced superintendents and installers.
1.6.2 Schedule pre-installation conference to review installation schedule, shut down and restricted access procedures. Indicate Owner's Representative and Contractor's Superintendent.
1.6.3 Schedule post-installation conference for punch list items, Owner check-off on completed work, and submittal of warranty.

1.7 Delivery, Storage, and Handling
1.7.1 Deliver material in manufacturer's original containers.
1.7.2 Store material indoors if possible.

Part A: Storage Temperature: No less than 32°F (0°C). Storage: Recommend storing product upside down for ease of mixing when used and flip over several days before use. Shelf Life: 1 year. Lot numbers indicate date of manufacture are on the labels in YYYYMMDD format.

Part B: Storage Temperature: 75° to 105°F (24° to 41°C). Moisture: Product must be kept free of moisture. Keep container closed because the product absorbs moisture from the air over time. Moisture in the product causes it to produce CO2 gas which may cause pressure build-up inside a sealed container. Shelf Life: 1 year. Once opened, must be used right away. Lot numbers indicate date of manufacture are on the labels in YYYYMMDD format.
1.7.3 Replace material damaged by shipment, weather or job conditions.

1.8 Project Conditions
1.8.1 Assure Owner's material, equipment, and personal possessions are removed to Owner's satisfaction.
1.8.2 Sign removal exception list and retain record copy. List Owner's property to remain in place during preparation and installation of coating system.
1.8.3 Dew point temperature 5°C or 10°F below the substrate temperature. Clean, Dry, Tight.
1.8.4 Assure ventilation of enclosed spaces and illumination is adequate for installation. Submit plan if required.
1.8.5 Assure no personal property is within spray fly pattern during installation of spray components.

1.9 Scheduling
1.9.1 Maintain approved installation schedule. Notify Owner's Representative of changes to the Work.

PART 2 - PRODUCTS
2.1 Manufacturer: Castagra Products, Inc.
5605 Riggins Court, Suite 200
Reno, Nevada, USA 89502
1 (888) 388-2935

2.2. Materials (Physical Properties)
2.2.1 Ecodur 201: A two-component 100% solid modified urethane coating / lining. Certified NSF/ANSI-61 compliant by CSA INTERNATIONAL for use in potable water storage tanks. Install by plural component spray at 40 mils. This is recommended average minimum thickness.

Durability - ASTM C627 (HBT AGRA)	16,000 passes of an average sized car] [No Debonding or Deterioration Occurred]
Estimated Tensile Strength - ASTM D412 (HBT AGRA)	900 psi (6 MPa)
Pull-off Strength from Steel (Charter) -ASTM D4541-09 AT 23°C / 73°F	1000 psi with 95-100% cohesive
Knife Adhesion Test (Charter) -PDO SP-2095 App B.2 / ASTM D6677	0 mm (2 mm allowed) Rating 10 (ASTM D6677)
Estimated Elongation (HBT AGRA) - ASTM D412	20 - 100 % (Equipment typically set up to 20 %-40 %)
Flexibility (Charter) -CSA Z245.20-10 Section 12.11m @-30°C / -22°F Shoe Radius 95mm, Chord 152mm, Arc 178mm	>4.07 degree bend/PD
Chemical Resistance Test (Attached Cell Method) (Charter) (40% MEG & 60% Oilfield formation water) for 7 days @ 93°C/200°F	No defects. No blisters, cracks, delamination. No adhesion loss.
Electrical Impedance Spectroscopy (EIS) (Charter) ISO 16773-2; 2007 96 hours @ 23°C with 5% NaCl followed by 7 day attached cell method chemical test	Log Z value at 0.1 Hz: 9.19 ohms·cm2 before chemical test and 9.46 ohms-cm2 after chemical test - results higher than 9, indicating good barrier and corrosion protection properties that remained excellent after chemical resistance test.

Cathodic Disbondment - EN 10288 (Charter) 48 hours @ 65°C / 149°F @ -1.5V in 3% NaCl electrolyte	6mm (avg. of 6 tests), 7mm allowable for oil & gas 12mm allowable for water
Abrasion Resistance (Polyhedron) ASTM 4060, CS-10, 1000 Cycles, 500g load	25.7 mg loss
Crack Bridging (HBT AGRA)	1/16" (1.6mm)
Estimated Impact Resistance (IZOD) (HBT AGRA) (DROPS SHARPLY AT -20°C) 2 FT-LBSf/INCH (11 Kgf-mm/mm)	2 FT-LBSf/INCH (11 Kgf-mm/mm)
Hardness – Shore Durometer (HBT AGRA)	D 50+/-10
Heat Resistance – Continuous	200°F (93°C)
Minimum Service Temperature	-20 TO -40°F (-30 TO -40°C)
Maximum Service Temperature	200°F (93°C)
Water Absorption ASTM D570 (1993) (HBT AGRA), ASTM D570-98 (2005) (Charter)	0.3 % 30 g/m2 @ 85°C or 185°F - 30 days
Rapid Chloride Permeability (AGRA) ASTM C1202	17 (NIL) COULOMBS [After 6 Hours]
Tensile Bond Strength to Concrete (HBT AGRA) 5 Cycles Freeze/Thaw & Water Immersion	200 - 300 psi (1.5 - 2.0 MPa)
Coefficient of Slip Resistance (HBT AGRA) Rubber Test Surface Wet/Dry Can/CGSB-75.1-M88	0.92 / 0.95

Some Liquid (un-cured) Product Properties for Ecodur 201:

Mix Ratio by Weight
83 Parts Catalyst (Part A)
17 Parts Resin (Part B) (or 5:1 PBW)

Mix Ratio by Volume ***
4.3:1 CAT-Part A to RES-Part B
*** Volume measurements are subject to variations during mixing and stirring that might entrain air.

Pot Life 100 grams at 23°C (easily varied)	Less than 45 minutes
Recommended Cure Cycle	36 hours at 23°C
Mixed Viscosity at 23°C	2000 - 3000 CPS
Resin Viscosity at 23°C	200 CPS
Catalyst Viscosity at 23°C	6000 - 10000 CPS

This information is from independently certified tests performed by HBT AGRA, Charter Coating Services, Polyhedron Laboratories and CSA International. Since conditions of use are beyond our control, we do not assume any liability except to replace that quantity, in containers, of the product which is defective and for which we are responsible.

2.3 Equipment
2.3.1 Provide spray equipment suitable for performance requirements of Ecodur 201 spray material.
2.3.2 Ensure daily maintenance conducted (Refer to daily maintenance worksheet)
2.3.3 Safety glasses and a respirator or a full face mask must be worn whenever working with any hazardous or high pressure equipment or products. Everyone must comply with OSHA regulations. No exceptions.
2.3.4 The user must review all product MSDS (supplied separately with Coating Materials) before using the Coating Materials.

All manufacturers' application and safety instructions must be strictly followed through all phases of the coating application. See Castagra Applicator Manual and PIDS Traffic Membrane for detailed application instructions.

2.4 Source Quality Control
2.4.1 List manufacturer's batch numbers for each unit of material used in Work.

PART 3 - EXECUTION
3.1 Examination
3.1.1 Assure Owner's property removals have been made prior to commencement of preparation and installation of coating.

3.2 Preparation
3.2.1 Perform a soluble salts test. Surface chlorides more than 10 ppm shall be deemed contaminated. Surface must be free of all containments.
3.2.2 Dew point temperature 5°C or 10°F below the substrate temperature.
3.2.3 Provide clean, sound and dry concrete surfaces. Free of any laitance. Free of any curing agents and sealers that have not been determined to be compatible with the coating material. Utilize appropriate controlled high pressure water cleaning or abrasive blasting to achieve a surface of NACE 6/SSPC SP 13. New concrete shall be cured a minimum of 28 days.
3.2.4 Fill bugholes prior to application of the coating system. For filling large holes or voids, simply trowel up to 2 inches thick of product into the holes/vids.
3.2.5 Key in necessary termination areas including penetrations to accept proper application of coating.

3.3 Installation
3.3.1 Spray coat of Ecodur 201 at 40 mils DFT nominal.
3.3.2 Spray additional material to achieve specified system thickness. Retouch as required (See Ecodur M-kit application instructions) product.
3.3.3 Minimize pinholing (see General pinhole tip sheet)

3.4 Field Quality Control
3.4.1 Maintain spray and other installation equipment in proper operating condition throughout installation.
3.4.2 Perform DTF film thickness tests.
3.4.3 Conduct Visual Inspection (pinholes, discoloration, delamination, blisters).
3.4.4 Conduct Spark Tester/Holiday Tester to verify quality of spray.
3.4.5 Conduct Ultra-violet light inspection to check for off-ratio and other defects. Use black light to check for and highlight visual defects. UV frequency range 365-400 nanometers. ASTM E2501 standard applies.
3.4.6 Complete Daily Coating Work Report log file.
3.4.7 Complete Post Spray Inspection Check sheet.
3.4.8 Provide free film cured samples for each spray shift for conformance and physical property testing. Hardness measurements Shore D 50 +/-10 (measured at room temp)
3.4.9 Retain records for quality assurance purposes.

3.5 Cleaning
3.5.1 Clean spills and over sprays as they occur.
3.5.2 Consult manufacturer's literature and MSDS sheets for proper cleaning materials and methods.
3.5.3 Clean site to Owner's satisfaction prior to final acceptance.

3.6 Testing
3.6.1 Conduct water testing if required.

3.7 Protection

3.7.1 Protect installed work prior to acceptance by Owner.

3.8 Schedules
3.8.1 Submit maintenance schedule if required.

Appendix D

Geotechnical Soils Report

Huddleston-Berry
Engineering & Testing, LLC

2789 Riverside Parkway
Grand Junction, Colorado 81501
Phone: 970-255-8005
Fax: 970-255-6818
Info@huddlestonberry.com

March 21, 2019
Project#00208-0095

City of Grand Junction
333 West Avenue, Building C
Grand Junction, Colorado 81501

Attention: Mr. Lee Cooper

Subject: Geotechnical Investigation
2019 Water Line Replacements
Grand Junction, Colorado

Dear Mr. Cooper,

At your request, Huddleston-Berry Engineering and Testing, LLC (HBET) conducted a subsurface exploration for the 2019 Water Line Replacements project. The scope of work included conducting geotechnical borings at five locations in Grand Junction, Colorado. The boring locations are shown on Figure 1. In addition, typed boring logs are included in Appendix. A. The results of laboratory soil classification testing are included in Appendix B.

Boring B-1 was conducted on S. 12th Street, south of Pitkin Avenue. This boring encountered 4.0-inches of asphalt pavement above brown, moist, medium stiff lean clay to a depth of 10.0 feet. The clay was underlain by brown, moist, medium dense silty sand to the bottom of the boring. Groundwater was not encountered in B-1 at the time of the investigation.

Boring B-2 was conducted on S. 15th Street near the intersection with 4th Avenue. This boring encountered 4.0-inches of asphalt pavement above granular base course to a depth of approximately 2.0 feet. Below the pavement materials, brown, moist, medium stiff lean clay extended to a depth of 10.0 feet. The clay was underlain by brown, moist to wet, dense to very dense sandy gravel and cobbles to the bottom of the boring. Groundwater was encountered in B-2 at a depth of 10.0 feet at the time of the investigation.

Boring B-3 was conducted on D Road, east of S. 10th Street. This boring encountered 6.0-inches of asphalt pavement above brown, moist, stiff to soft lean clay soils to a depth of 8.0 feet. The clay was underlain by brown, moist to wet, very loose to medium dense silty sand to the bottom of the boring. Groundwater was encountered in B-3 at a depth of 8.5 feet at the time of the investigation.

Boring B-4 was conducted on S. 9th Street near the intersection with Winters Avenue. This boring encountered 5.0-inches of asphalt pavement above brown, moist to wet, stiff to very soft lean clay to a depth of 12.0 feet. The clay was underlain by brown, wet, dense sandy gravel and cobbles to the bottom of the boring. Groundwater was encountered in B-4 at a depth of 9.5 feet at the time of the investigation.

Boring B-5 was conducted along Pitkin Avenue, near the S. 15th Street alignment. This boring encountered 1.0 foot of topsoil above brown, moist, soft to medium stiff lean clay to the bottom of the boring. Groundwater was not encountered in B-5 at the time of the investigation.

The blow counts (N-values) of the native clay soils encountered in the borings ranged from 1 to 12 blows-per-foot. The N-values of the native sand soils ranged from 17 to 21 blows-per-foot. The N-value of the native gravel and cobble soils was 41 blows-per-foot. The moisture contents in the soils ranged from 14 to 34%.

We are pleased to be of service to your project. Please contact us if you have any questions or comments regarding the contents of this report.

Respectfully Submitted:
Huddleston-Berry Engineering and Testing, LLC

Michael A. Berry, P.E.
Vice President of Engineering

FIGURES

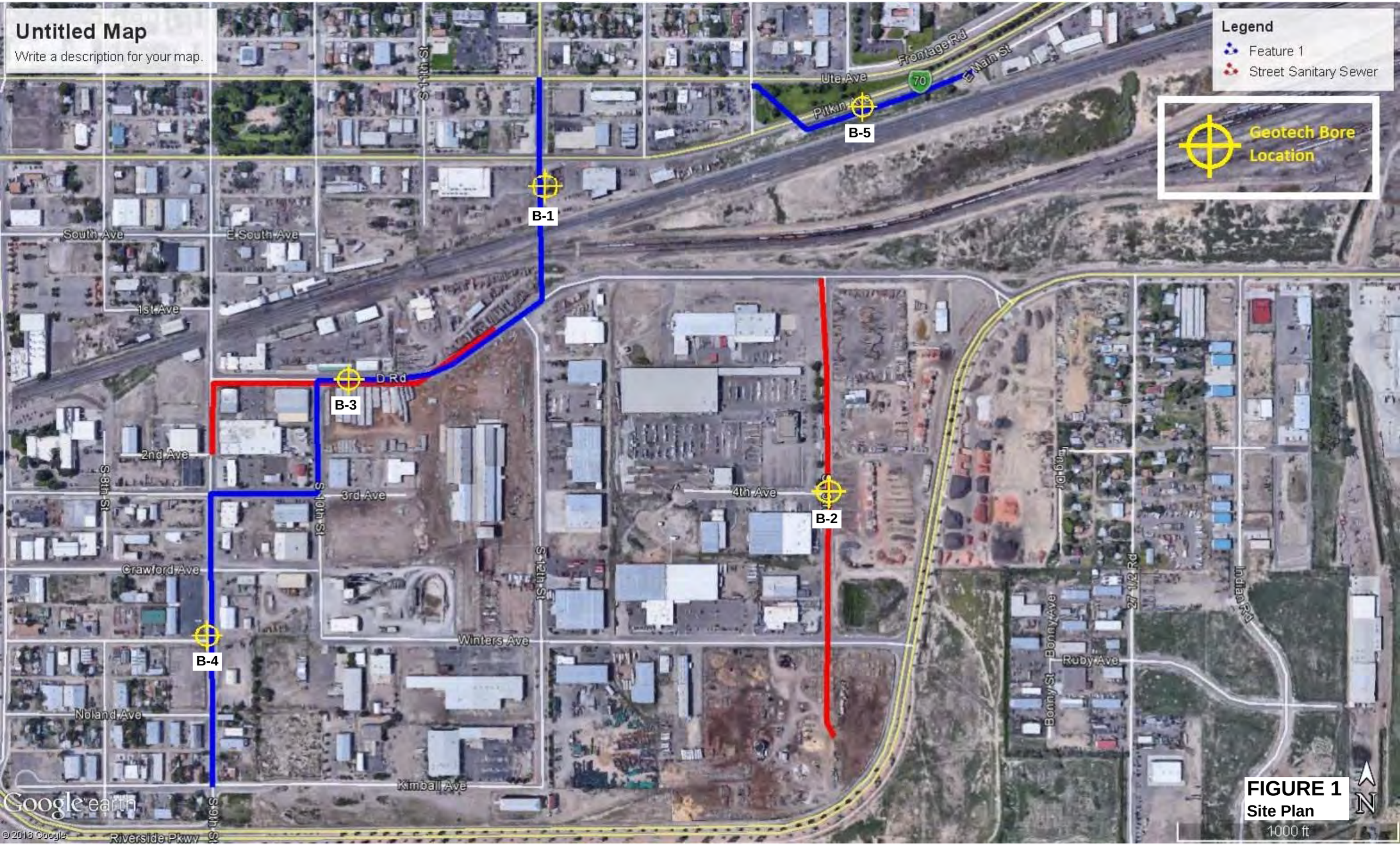


FIGURE 1
Site Plan

APPENDIX A
Typed Boring Logs

Huddleston-Berry Engineering & Testing, LLC
640 White Avenue, Unit B
Grand Junction, CO 81501
970-255-8005
970-255-6818

BORING NUMBER B-1

CLIENT City of Grand Junction
PROJECT NAME 2019 Water Line
PROJECT NUMBER 00208-0095
PROJECT LOCATION Grand Junction, CO
DATE STARTED 2/5/19 **COMPLETED** 2/5/19
GROUND ELEVATION ___ **HOLE SIZE** 4-inches
DRILLING CONTRACTOR S. McKracken
GROUND WATER LEVELS:
DRILLING METHOD Simco 2000 Truck Rig
AT TIME OF DRILLING dry
LOGGED BY SD **CHECKED BY** MAB
AT END OF DRILLING dry
NOTES ___
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0.0		ASPHALT										
		Lean CLAY (CL), brown, moist, medium stiff										
2.5			SS 1	89	3-3-4 (7)			20				
5.0												
7.5		*** Lab Classified SS2	SS 2	83	1-2-3 (5)			24	40	18	22	97
10.0		Silty SAND (sm), brown, moist, medium dense										
12.5												
15.0			SS 3	100	2-6-15-14 (21)			19				
		Bottom of hole at 15.0 feet.										

Huddleston-Berry Engineering & Testing, LLC
640 White Avenue, Unit B
Grand Junction, CO 81501
970-255-8005
970-255-6818

BORING NUMBER B-2

CLIENT City of Grand Junction
PROJECT NAME 2019 Water Line
PROJECT NUMBER 00208-0095
PROJECT LOCATION Grand Junction, CO
DATE STARTED 2/5/19 **COMPLETED** 2/5/19
GROUND ELEVATION ---- **HOLE SIZE** 4-inches
DRILLING CONTRACTOR S. McKracken
GROUND WATER LEVELS:
DRILLING METHOD Simco 2000 Truck Rig
AT TIME OF DRILLING 10.0 ft
LOGGED BY SD **CHECKED BY** MAB
AT END OF DRILLING 10.0 ft
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0.0		ASPHALT										
		Granular BASE COURSE										
2.5		Lean CLAY (CL), brown, moist, medium stiff	SS 1	72	2-3-4 (7)			24				
5.0												
7.5		*** Lab Classified SS2	SS 2	100	2-2-2 (4)			29	32	19	13	97
10.0		Sandy GRAVEL and COBBLES (gw), brown, moist to wet, dense to very dense										
12.5												
15.0		Bottom of hole at 15.0 feet.										

Huddleston-Berry Engineering & Testing, LLC
640 White Avenue, Unit B
Grand Junction, CO 81501
970-255-8005
970-255-6818

BORING NUMBER B-3

CLIENT City of Grand Junction
PROJECT NAME 2019 Water Line
PROJECT NUMBER 00208-0095
PROJECT LOCATION Grand Junction, CO
DATE STARTED 2/5/19 **COMPLETED** 2/5/19
GROUND ELEVATION ---- **HOLE SIZE** 4-inches
DRILLING CONTRACTOR S. McKracken
GROUND WATER LEVELS:
DRILLING METHOD Simco 2000 Truck Rig
AT TIME OF DRILLING 8.5 ft
LOGGED BY SD **CHECKED BY** MAB
AT END OF DRILLING 8.5 ft
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0.0		ASPHALT										
		Lean CLAY (CL), brown, moist, stiff to soft										
2.5		*** Lab Classified SS1	SS 1	83	3-5-5 (10)			21	46	20	26	96
5.0												
7.5			SS 2	100	0-1-2 (3)			31				
		Silty SAND with trace Gravel (sm), brown, moist to wet, very loose to medium dense										
10.0												
12.5			SS 3	100	6-11			17				
		Bottom of hole at 14.0 feet.										

GEOTECH BH COLUMNS 00208-0095 2019 WATER.GPJ GINT US LAB.GDT 3/21/19

Huddleston-Berry Engineering & Testing, LLC
640 White Avenue, Unit B
Grand Junction, CO 81501
970-255-8005
970-255-6818

BORING NUMBER B-4

CLIENT City of Grand Junction
PROJECT NAME 2019 Water Line
PROJECT NUMBER 00208-0095
PROJECT LOCATION Grand Junction, CO
DATE STARTED 2/5/19 **COMPLETED** 2/5/19
GROUND ELEVATION ---- **HOLE SIZE** 4-inches
DRILLING CONTRACTOR S. McKracken
GROUND WATER LEVELS:
DRILLING METHOD Simco 2000 Truck Rig
AT TIME OF DRILLING 9.5 ft
LOGGED BY SD **CHECKED BY** MAB
AT END OF DRILLING 9.5 ft
NOTES
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0.0		ASPHALT										
		Lean CLAY (CL), brown, moist to wet, stiff to very soft										
2.5			SS 1	72	4-5-4 (9)			17				
5.0												
7.5		*** Lab Classified SS2	SS 2	100	0-0-1 (1)			34	27	18	9	91
10.0												
12.5		Sandy GRAVEL and COBBLES (gw), brown, wet, dense	SS 3	44	9-20-21 (41)			14				
		Bottom of hole at 14.5 feet.										

Huddleston-Berry Engineering & Testing, LLC
640 White Avenue, Unit B
Grand Junction, CO 81501
970-255-8005
970-255-6818

BORING NUMBER B-5

CLIENT City of Grand Junction
PROJECT NAME 2019 Water Line
PROJECT NUMBER 00208-0095
PROJECT LOCATION Grand Junction, CO
DATE STARTED 3/5/19 **COMPLETED** 3/5/19
GROUND ELEVATION _____ **HOLE SIZE** 4-inches
DRILLING CONTRACTOR S. McKracken
GROUND WATER LEVELS:
DRILLING METHOD Simco 2000 Truck Rig
AT TIME OF DRILLING dry
LOGGED BY SD **CHECKED BY** MAB
AT END OF DRILLING dry
NOTES _____
AFTER DRILLING ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS: LIQUID LIMIT	ATTERBERG LIMITS: PLASTIC LIMIT	ATTERBERG LIMITS: PLASTICITY INDEX	FINES CONTENT (%)
0.0		Lean CLAY with Organics (TOPSOIL)										
		Lean CLAY (CL), brown, moist, soft to medium stiff										
2.5			SS 1	56	2-1-2 (3)			21				
5.0												
7.5		*** Lab Classified SS2	SS 2	83	4-5-7 (12)			17	39	18	21	95
10.0												
12.5												
15.0			SS 3	75	1-1-3-4 (4)			22				
		Bottom of hole at 15.0 feet.										

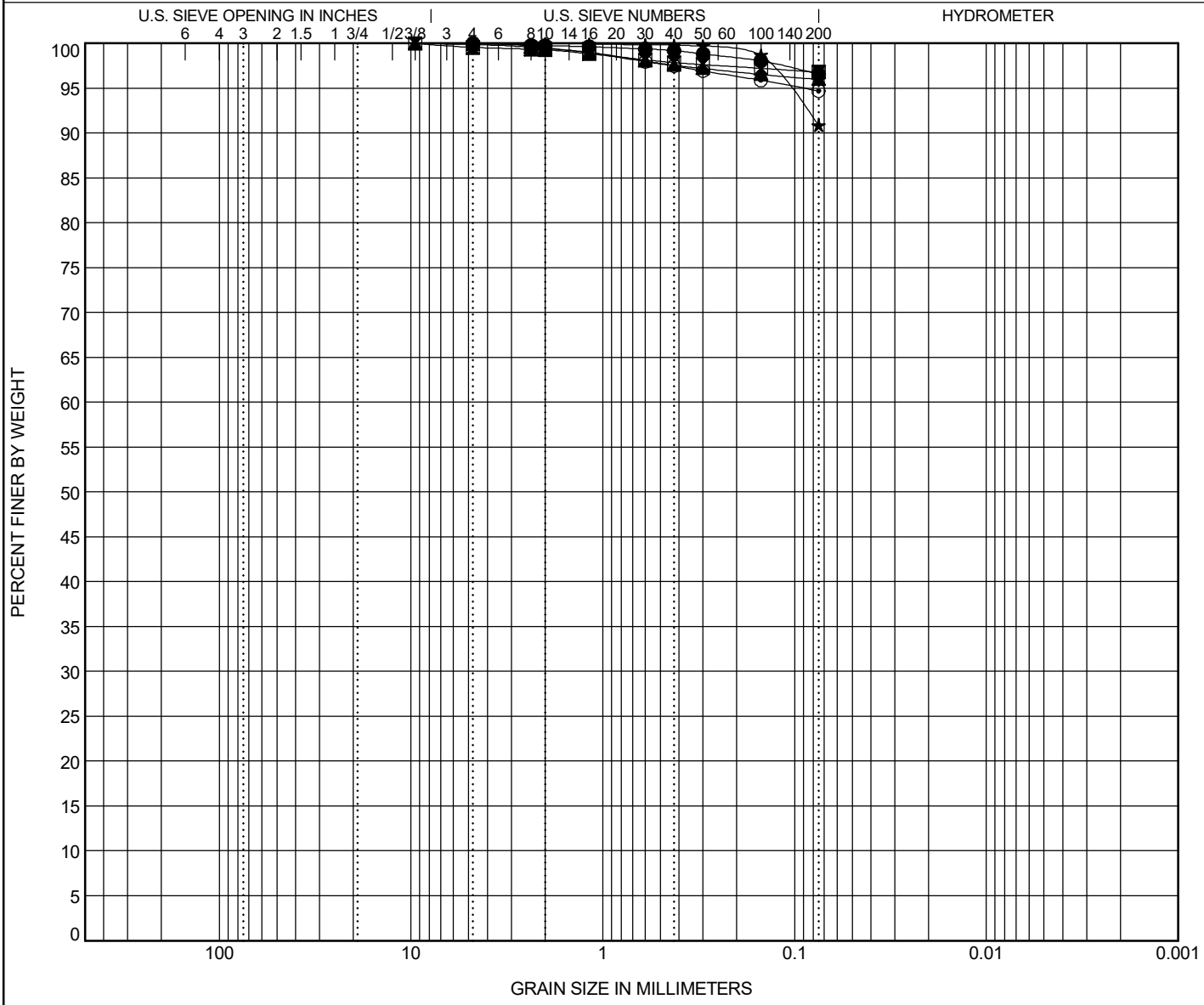
APPENDIX B
Laboratory Testing Results

Huddleston-Berry Engineering & Testing, LLC
640 White Avenue, Unit B
Grand Junction, CO 81501
970-255-8005
970-255-6818

GRAIN SIZE DISTRIBUTION

CLIENT City of Grand Junction **PROJECT NAME** 2019 Water Line

PROJECT NUMBER 00208-0095 **PROJECT LOCATION** Grand Junction, CO



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		Classification	LL	PL	PI	Cc	Cu
●	B-1, SS2	3/19	LEAN CLAY(CL)	40	18	22		
⊠	B-2, SS2	3/19	LEAN CLAY(CL)	32	19	13		
▲	B-3, SS1	3/19	LEAN CLAY(CL)	46	20	26		
★	B-4, SS2	3/19	LEAN CLAY(CL)	27	18	9		
⊙	B-5, SS2	3/19	LEAN CLAY(CL)	39	18	21		

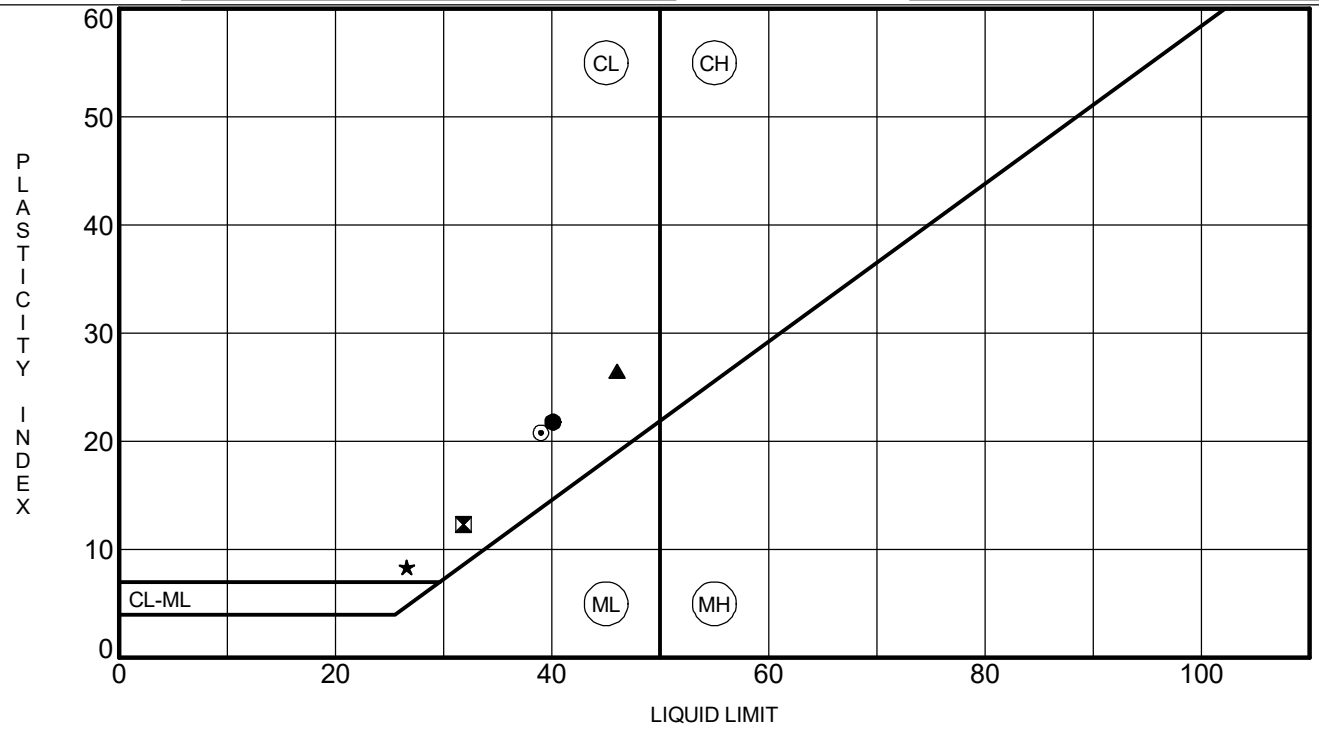
	Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-1, SS2	3/19	4.75				0.0	3.4	96.6	
⊠	B-2, SS2	3/19	9.5				0.4	2.8	96.8	
▲	B-3, SS1	3/19	9.5				0.1	3.9	96.0	
★	B-4, SS2	3/19	2				0.0	9.1	90.9	
⊙	B-5, SS2	3/19	4.75				0.0	5.3	94.7	

Huddleston-Berry Engineering & Testing, LLC
640 White Avenue, Unit B
Grand Junction, CO 81501
970-255-8005
970-255-6818

ATTERBERG LIMITS' RESULTS

CLIENT City of Grand Junction **PROJECT NAME** 2019 Water Line

PROJECT NUMBER 00208-0095 **PROJECT LOCATION** Grand Junction, CO



Specimen Identification			LL	PL	PI	#200	Classification
●	B-1, SS2	3/5/2019	40	18	22	97	LEAN CLAY(CL)
⊠	B-2, SS2	3/5/2019	32	19	13	97	LEAN CLAY(CL)
▲	B-3, SS1	3/5/2019	46	20	26	96	LEAN CLAY(CL)
★	B-4, SS2	3/5/2019	27	18	9	91	LEAN CLAY(CL)
⊙	B-5, SS2	3/5/2019	39	18	21	95	LEAN CLAY(CL)

Appendix E

CDPHE Construction Dewatering Permit (Application Only)

COLORADO
Department of Public Health & Environment

Dedicated to protecting and improving the health and environment of the people of Colorado

For Agency Use Only:
Permit Number Assigned
COG07 - _____
COG315 -_____
COG316 -_____

Application for COLORADO DISCHARGE PERMIT SYSTEM (CDPS) General Permits:

- Construction Dewatering (COG070000)
- Remediation Activities Discharging To Surface Water (COG315000), or
- Remediation Activities Discharging To Groundwater (COG316000)

Please print or type. Original signatures are required. Photo, faxed, pdf or email copies will not be accepted.

This combined permit application is designed to streamline the application process for the three types of discharge permits listed in Part A below, and includes an *Application Guidance Document* to help applicants complete the application and select the right permit coverage for their activity. Please note that one application is intended to cover one project and one type of permit. Where multiple projects or types of permits are required, please submit an appropriate number of permit applications.

The application must be submitted to the Water Quality Control Division at least 30 days (for Construction Dewatering) or 45 days (for Remediation) prior to the anticipated date of discharge, and must be considered complete by the division before the review and approval process begins. The division will notify the applicant if additional information is needed to complete the application. If more space is required to answer any question, please attach additional sheets to the application form. Applications must be submitted by mail or hand delivered to:

Colorado Department of Public Health and Environment
Water Quality Control Division, WQCD-P-B2
4300 Cherry Creek Drive South
Denver, Colorado 80246-1530

IMPORTANT: Please read the Application Guidance Document (Guidance) for this permit application prior to completing this application. The Guidance provides specific and important instructions required for completing this application correctly.

A. PERMIT INFORMATION

Reason for Application: □ NEW CERT

□ RENEW CERT EXISTING CERT # _____

Applicant is: □ Property Owner □ Contractor/Operator

Application is for the following discharge permit (select ONE). See Guidance.

□ Construction Dewatering (COG070000)

□ Remediation Activities Discharging to Surface Water (COG315000)

□ Remediation Activities Discharging to Groundwater (COG316000)

Note: This application is designed for processing each of the three permit types listed above. The division may request additional characterization of the proposed discharge to ensure that the appropriate permit coverage is requested and the appropriate permit certification is issued. The division may deny or change the requested type of discharge permit after review of the submitted application and will notify the applicant of the changes. Coverage under the "Subterranean Dewatering or Well Development" General Permit COG6030000 is not available using this application form.

4300 Cherry Creek Drive S., Denver, CO 80246-1530 P 303-692-2000 www.colorado.gov/cdphe/wqcd
John W. Hickenlooper, Governor | Larry Wolk, MD, MSPH, Executive Director and Chief Medical Officer

B. CONTACT INFORMATION

1. Permittee Information

Organization Formal Name: _____

Permittee Name: the person authorized to sign and certify the permit application. This person receives all permit correspondences and is responsible for ensuring compliance with the permit.

Responsible Position (Title): _____

Currently Held By (Person): _____

Telephone No: _____

Email address: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

This form must be signed by the permittee to be considered complete. Per Regulation 61, in all cases, it shall be signed as follows:

a) In the case of corporations, by a responsible corporate officer. For the purposes of this section, the responsible corporate officer is responsible for the overall operation of the facility from which the discharge described in the application originates.
b) In the case of a partnership, by a general partner.
c) In the case of a sole proprietorship, by the proprietor.
d) In the case of a municipal, state, or other public facility, by either a principal executive officer or ranking elected official.

2. DMR Cognizant Official (i.e. authorized agent) the person or position authorized to sign and certify reports required by permits including Discharge Monitoring Reports [DMR's], Annual Reports, Compliance Schedule submittals, and other information requested by the division. The division will transmit pre-printed DMR's to this person. If more than one, please add additional pages.

□ Same as 1) Permittee

Responsible Position (Title): _____

Currently Held By (Person): _____

Telephone No: _____

Email address: _____

Organization: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

Per Regulation 61: All reports required by permits, and other information requested by the Division shall be signed by the permittee or by a duly authorized representative of that person. A person is a duly authorized representative only if:

a) The authorization is made in writing by the permittee
b) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position)
c) Submitted in writing to the Division

4300 Cherry Creek Drive S., Denver, CO 80246-1530 P 303-692-2000 www.colorado.gov/cdphe/wqcd
John W. Hickenlooper, Governor | Larry Wolk, MD, MSPH, Executive Director and Chief Medical Officer

B. CONTACT INFORMATION (cont.)

3. Site/Local Contact (contact for questions relating to the facility & discharge authorized by this permit.)
   □ Same as 1) Permittee

   Responsible Position (Title): _____
   Currently Held By (Person): _____
   Telephone No: _____
   Email address: _____
   Organization: _____
   Mailing Address: _____
   City: _____ State: _____ Zip: _____

4. Operator in Responsible Charge Required for Groundwater Remediation COG315000 or COG316000
   □ Same as 1) Permittee □ Same as 3) Site/ Local Contact

   **Note: Where the division determines that coverage under the construction dewatering permit is appropriate, an ORC is not required.*

   Operator Number _____ Legal Name: _____
   Telephone No: _____Email address: _____
   Company: _____

5. Billing Contact □ Same as 1) Permittee
   Responsible Position (Title): _____
   Currently Held By (Person): _____
   Telephone No: _____
   Email address: _____
   Organization: _____
   Mailing Address: _____
   City: _____ State: _____ Zip: _____

6. Other Contact Types (check below) Add pages if necessary:
   Responsible Position (Title): _____
   Currently Held By (Person): _____
   Telephone No: _____
   Email address: _____
   Organization: _____
   Mailing Address: _____
   City: _____ State: _____ Zip: _____

   □ Environmental Contact
   □ Facility Inspection Contact
   □ Consultant
   □ Compliance Contact
   □ Property Owner
   □ Other _____

4300 Cherry Creek Drive S., Denver, CO 80246-1530 P 303-692-2000 www.colorado.gov/cdphe/wqcd
John W. Hickenlooper, Governor | Larry Wolk, MD, MSPH, Executive Director and Chief Medical Officer

C. PERMITTED FACILITY INFORMATION

Facility or Project Name _____

Street Address (or cross streets) _____

City_____ Colorado, Zip Code _____

County _____

Type of Facility Ownership

□ City Government □ Corporation □ Private □ Municipal or Water District

□ State Government □ Mixed Ownership _____

Facility or Project Latitude/Longitude — List the latitude and longitude of the excavation resulting in the discharge(s). If the exact excavation location(s) are not known, list the latitude and longitude of the center point of the construction project. If using the center point, be sure to specify that it is the center point of construction activity.

Latitude _____. _____ Longitude _____. _____
Provide coordinates in decimal degrees to 6 decimal places (e.g., 39.703345°,-104.933567°)

Horizontal Collection Method: □ GPS Unspecified □ Interpolation Map - Map Scale Number_____
Reference Point: □ Project/Facility Entrance □ Project/Facility Center/Centroid

Horizontal Reference Datum: _____

Standard Industrial Classification (SIC) Code(s) for this FACILITY (include up to 4, in order of importance)

1_____ 2_____3_____4_____

Receiving Water_____

D. PROJECT DESCRIPTION

D.1. Description of Activity:

a) Provide a brief overview of the project and dewatering activity (e.g., highway, bridge and tunnel construction, storm drain expansion, etc.).

b) Is the dewatering and discharge in-stream? (The dewatering operation is considered in-stream where the dewatering activity is conducted within approximately the ordinary high water mark of the stream and/or on the bank of the stream and the discharge is back to the same water body.)

□ Yes * □ No

**If yes, you must provide a description of how your project meets this definition in the box below. If no description is provided, the work will not be considered in-stream. Please note that in-stream work activities may also require a separate Clean Water Act Section 404 Permit and Colorado 401 Certification.*

4300 Cherry Creek Drive S., Denver, CO 80246-1530 P 303-692-2000 www.colorado.gov/cdphe/wqcd
John W. Hickenlooper, Governor | Larry Wolk, MD, MSPH, Executive Director and Chief Medical Officer

c) Will the project involve a temporary stream diversion (e.g. diversion channel, pump-around, piped diversion, coffer dam) to reroute water around the construction area?

□ Yes * □ No

**By checking yes, the applicant understands that temporary water diversions are not covered under the permit certification and may require coverage under a Clean Water Act Section 404 Permit. Only dewatering discharge outfalls associated with construction-related activities may be covered under the permit certification.*

d) Will dewatering be conducted in areas that involve work on (e.g. replacing, repairing, making connections to, etc…) existing sanitary sewer lines, conveyances, or vessels, or in proximity to septic disposal systems?

□ Yes □ No

If yes, is there the potential that sewage or septage could be in the effluent to be discharged?

□ Yes □ No *

**If no, you must provide a description of the control measures that will be implemented to prevent sewage or septage from entering the discharge (use the box below). The division may add effluent limits for E. coli and/or Total Coliform if the applicant does not demonstrate that adequate measures will be in place.*

D.2 Description of Discharge:

a) Is the discharge to a ditch or storm sewer system? □ Yes* □ No

**If yes, the applicant must contact the owner of the ditch or storm sewer system prior to discharging to address any local ordinances and to determine if additional requirements will be imposed by the owner.*

b) Is the discharge to an impoundment? □ Yes* □ No

c) Discharge Frequency and Duration:

- Estimated discharge start date: _____
- Estimated discharge duration: Years _____ Months _____ Days _____
- Upon completion of construction phase dewatering, will there be long-term subterranean dewatering at the site (e.g. foundation, footer, toe drains, etc…)? □ Yes* □ No

  **If yes, note that construction phase dewatering and long-term subterranean dewatering cannot be covered under the same permit certification.*

d) Provide a brief description of the Best Management Practices (BMPs) to be used in the box below.

D.3 Discharge Outfalls (Limit 20 outfalls):

- Total number of defined outfalls requested: _____
- Total number of undefined outfalls requested:_____ (construction dewatering only)
- Complete Table 2a (for discharges to surface water) and/or 2b (for discharges to land with percolation to groundwater) to identify your defined and undefined outfall locations. Attach additional pages as necessary.

4300 Cherry Creek Drive S., Denver, CO 80246-1530 P 303-692-2000 www.colorado.gov/cdphe/wqcd
John W. Hickenlooper, Governor | Larry Wolk, MD, MSPH, Executive Director and Chief Medical Officer

Table 2a - Requested Outfalls for Discharges to Surface Water (Discharges that may reach surface water through direct discharge or through a conveyance such as a ditch or a storm sewer system)				
OUTFALL NUMBER[1]	NAME OF RECEIVING STREAM(S) (e.g., Cherry Creek, Boulder Creek, Arkansas River)	ESTIMATED MAXIMUM FLOW RATE[2] (gpm)	DESCRIPTION OF DISCHARGE LOCATION[3] (e.g., Discharge enters storm sewer located at the corner of Speer and 8th Ave. with flow to Cherry Creek)	LATITUDE/LONGITUDE OF EACH DISCHARGE OUTFALL
Defined Discharges to Surface Water				
001-A				
002-A				
003-A				
004-A				
Undefined Discharges to Surface Water *(Available for construction dewatering only) (Provide estimated lat/long only for undefined outfalls)*				
001-AU				
002-AU				
003-AU				
004-AU				

1 Identify up to 20 defined or undefined outfalls (undefined for construction dewatering only). Use additional pages as necessary.
2 For construction dewatering the maximum flow limit will be equal to twice the estimated maximum flow rate provided in the permit application. For groundwater remediation the 30-day average flow limit will be based on the design capacity of the treatment as provided in the permit application.
3 The discharge location is the point where effluent sampling will occur. This location must be at a point after treatment and before the effluent joins or is diluted by any other waste stream, body of water, or substance. If the discharge is to a ditch or storm sewer system, include the name of the ultimate receiving waters where the ditch or storm sewer discharges.

4300 Cherry Creek Drive S., Denver, CO 80246-1530 P 303-692-2000 www.colorado.gov/cdphe/wqcd
John W. Hickenlooper, Governor | Larry Wolk, MD, MSPH, Executive Director and Chief Medical Officer

Table 2b - Requested Outfalls for Discharges to Land with the Potential to Percolate to Groundwater (These discharges do not have the potential to reach surface water either directly or through a conveyance.)[4]			
OUTFALL NUMBER[1]	ESTIMATED MAXIMUM FLOW RATE[2] (gpm)	DESCRIPTION OF DISCHARGE LOCATION[3] (e.g., Discharge to a field south of project site and East of I-25)	LATITUDE/LONGITUDE OF EACH DISCHARGE OUTFALL
Defined Discharges to Land with Potential Percolation to Groundwater			
G001-A			
G002-A			
G003-A			
G004-A			
Undefined Discharges to Land with Potential Percolation to Groundwater *(Available for construction dewatering only) (Provide estimated lat/long only for undefined outfalls)*			
G001-AU			
G002-AU			
G003-AU			
G004-AU			

1 Identify up to 20 defined or undefined outfalls (undefined for construction dewatering only). Use additional pages as necessary.

2 For construction dewatering the maximum flow limit will be equal to twice the estimated maximum rate flow rate provided in the permit application. For groundwater remediation the 30-day average flow limit will be based on the design capacity of the treatment as provided in the permit application.

3 The discharge location is the point where effluent sampling will occur. This location must be at a point after treatment and before the effluent joins or is diluted by any other waste stream, body of water, or substance.

4 For discharges of uncontaminated groundwater to land, please review and consider the applicability of the division's *Low Risk Discharge Guidance: Discharges of Uncontaminated Groundwater to Land* before submitting a permit application to the division. This policy is available for download at https://www.colorado.gov/pacific/cdphe/clean-water-construction-compliance-assistance-and-guidance.

4300 Cherry Creek Drive S., Denver, CO 80246-1530 P 303-692-2000 www.colorado.gov/cdphe/wqcd
John W. Hickenlooper, Governor | Larry Wolk, MD, MSPH, Executive Director and Chief Medical Officer

E. ADDITIONAL INFORMATION

E.1 Nearby Sources of Potential Groundwater Contamination:

a) Has the proposed dewatering area been reviewed for possible groundwater contamination, such as plumes from leaking underground storage tanks (LUSTs), hazardous waste sites, or additional sources other than what is normally encountered at excavation and construction sites? *Applicants are expected to exercise due diligence in evaluating their project sites prior to applying for a discharge permit.*

□ Yes ☐ No

b) Is an open LUST located within one-half mile of the site?

□ Yes* ☐ No

**If yes, BTEX analytical data for a source water sample representative of the proposed discharge at the site must be included with the permit application. Failure to include this data may result in delays in processing the permit application until such data is submitted to the Division. See Guidance.*

c) Is a Superfund site or National Priorities List (NLP) site located within one mile of the site?

□ Yes* ☐ No

**If yes, analytical data for all parameters shown in Table 1 of this application (or an alternate list of constituents approved by the division) for a source water sample representative of the proposed discharge must be included with the permit application. Failure to include this data may result in delays in processing the permit application until such data is submitted to the Division. See Guidance.*

d) Is any other (non-LUST, non-Superfund, non-NPL site) known source of contamination, such as a Voluntary Cleanup (VCUP), Environmental Covenant, open RCRA Corrective Action site, or brownfields site located within one-half mile of the site?

□ Yes* ☐ No

**If yes, analytical data for all parameters shown in Table 1 of this application (or an alternate list of constituents approved by the division) for a source water sample representative of the proposed discharge must be included with the permit application. Failure to include this data may result in delays in processing the permit application until such data is submitted to the Division. See Guidance.*

e) If known sources of contamination are located near the site, provide an overview of the source and nature of contamination including:

- The nature of the contamination of the groundwater, alluvial water, stormwater, and/or surface water (the source water) for which treatment and/or remedial activities will occur,
- The primary industrial activities which resulted in the source water contamination,
- The source of the contamination (pipes, leaking underground storage tank, up gradient sources, etc.) or state "unknown."

4300 Cherry Creek Drive S., Denver, CO 80246-1530 P 303-692-2000 www.colorado.gov/cdphe/wqcd
John W. Hickenlooper, Governor | Larry Wolk, MD, MSPH, Executive Director and Chief Medical Officer

f) For contaminated discharges (remediation), provide a narrative description of the type(s) of treatment proposed for use at each identified outfall.

E.2 Chemical Additions

List any chemical additives or other materials to be used in the water or to treat water prior to discharge. Include the Material Safety Data Sheet (MSDS) for each chemical with the application.

CHEMICAL NAME	MANUFACTURER	PURPOSE	DOSAGE

E.3 Site Maps and Schematics

Are required maps and schematics attached? □ Yes
□ No-Application cannot be processed without required maps

✓ Location Map(s) for Outfalls - Application must include a location map(s) that shows the location of the project/facility, the limits of the construction activity, the approximate location of the requested discharge point(s)/outfalls, and the location of potential receiving water(s). If known, the map should also include the approximate location(s) where dewatering is to occur and the location of proposed BMP(s) to be used. A north arrow must be shown. Maps must be on paper that can be folded to 8 ½ x 11 inches.

E.4 Associated Permits

Does the applicant have a Stormwater Permit for Construction Activities? □ YES □ NO □ PENDING
If Yes, Stormwater Construction Permit Number: COR-_____

Does the applicant have a Clean Water Act Section 404 Permit? □ YES □ NO □ PENDING

4300 Cherry Creek Drive S., Denver, CO 80246-1530 P 303-692-2000 www.colorado.gov/cdphe/wqcd
John W. Hickenlooper, Governor | Larry Wolk, MD, MSPH, Executive Director and Chief Medical Officer

E.5 Water Rights

The State Engineers Office (SEO) has indicated that any discharge that does not return water directly to surface waters (i.e. land application, rapid infiltration basins, etc.) has the potential for material injury to a water right. As a result, the SEO needs to determine that material injury to a water right will not occur from such activities. To make this judgment, the SEO requests that a copy of all documentation demonstrating that the requirements of Colorado water law have been met, be submitted to their office for review. The submittal should be made as soon as possible to the following address:

Colorado Division of Water Resources ● 1313 Sherman Street, Room 818 ● Denver, Colorado 80203

Should there be any questions on the issue of water rights; the SEO can be contacted at (303) 866-3581. It is important to understand that any CDPS permit issued by the division does not constitute a water right. Issuance of a CDPS permit does not negate the need to also have the necessary water rights in place. It is also important to understand that even if the activity has an existing CDPS permit, there is no guarantee that the proper water rights are in place.

F. REQUIRED CERTIFICATION SIGNATURE [Reg 61.4(1)(h)]

"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."

Signature (Legally Responsible Party (Page 2 item 1) _____

Date _____

Name (printed) _____Title_____

This form must be signed by the permittee to be considered complete. Per Regulation 61, in all cases, it shall be signed as follows:

a) In the case of corporations, by a responsible corporate officer. For the purposes of this section, the responsible corporate officer is responsible for the overall operation of the facility from which the discharge described in the application originates.
b) In the case of a partnership, by a general partner.
c) In the case of a sole proprietorship, by the proprietor.
d) In the case of a municipal, state, or other public facility, by either a principal executive officer or ranking elected official.

4300 Cherry Creek Drive S., Denver, CO 80246-1530 P 303-692-2000 www.colorado.gov/cdphe/wqcd
John W. Hickenlooper, Governor | Larry Wolk, MD, MSPH, Executive Director and Chief Medical Officer

ATTACHMENT 1
Please Submit the Laboratory Data Package for any Required Analysis with the Permit Application
(See Important Table Notes)

Required Water Quality Data			
Metals	PQL (ug/l) [1]	Metals	PQL (ug/l) [1]
Aluminum-Trec	15	Lead-PD	0.5
Antimony-Trec	2	Manganese-PD	2
Arsenic-Trec	1	Manganese-Diss	2
Arsenic-PD	1	Molybdenum-Trec	0.5
Barium-Trec	1	Nickel-Trec	1
Beryllium-Trec	2	Nickel-PD	1
Cadmium-Trec	0.5	Selenium-Trec	1
Cadmium-PD	0.5	Selenium-PD	1
Chromium III-Trec	20	Silver-Trec	0.5
Chromium III-PD	20	Silver-PD	0.5
Chromium VI-Diss	20	Thallium-Trec	0.5
Chromium-Trec	20	Thallium-PD	0.5
Copper-Trec	2	Uranium-PD	1
Copper-PD	2	Uranium-Trec	1
Iron-Trec	20	Zinc-Trec	10
Iron-Diss	20	Zinc-PD	10
Lead-Trec	0.5		
Volatiles	PQL (ug/l) [1]	Volatiles	PQL (ug/l) [1]
acrolein	15	ethylbenzene	75
benzene	3	methyl bromide	5
bromoform	3	methyl chloride	4.5
carbon tetrachloride	3	1,1,2,2-tetrachloroethane	2
chlorobenzene	60	tetrachloroethylene	2.3
chlorodibromomethane	3	toluene	60
2-chloroethylvinyl ether	0.65 *	1,2-trans-dichloroethylene	0.5 *
chloroform	3	1,1,1-trichloroethane	5
1,2-dichlorethane	3	1,1,2-trichloroethane	2.0
1,1-dichlorethylene	5	trichloroethylene	2.3
1,2-dichlorpropane	2	vinyl chloride	3
1,3-dichlorpropylene	2 *	1,4-Dioxane	0.15 *
Semi-Volatile Organic Compounds	PQL (ug/l) [1]	Semi-Volatile Organic Compounds	PQL (ug/l) [1]
acenaphthene	20	1,2-diphenylhydrazine (as azobenzene)	5 *
acenaphthylene	30	fluorene	20
anthracene	20	fluoranthene	25
benzidine	170	hexachlorobenzene	16
benzo(a)anthracene	12	hexachlorobutadiene	9
benzo(a)pyrene	20	hexachlorcyclopentadiene	50
benzo(b)fluoranthene	35	hexachloroethane	16
benzo(ghi)perylene	20	indeno(1,2,3-cd)pyrene	20
benzo(k)fluoranthene	25	isophorone	25
bis(2-chloroethyl)ether *(or Dichloroethyl ether)*	15	naphthalene	20
bis(2-chloroisopropyl)ether *(or 2,2-dichloroisopropyl ether)*	60	nitrobenzene	19
bis(2-ethylhexyl)phthalate	25	N-nitrosodimethylamine	30

Semi-Volatile Organic Compounds	PQL (ug/l) [1]	Semi-Volatile Organic Compounds	PQL (ug/l) [1]
Butyl benzyl phthalate	25	N-nitrosodi-n-propylamine	30
2-chloronaphthalene	20	N-nitrosodiphenylamine	19
chrysene	18	pyrene	10
dibenzo(a,h)anthracene	20	1,2,4-trichlorobenzene	20
1,2-dichlorobenzene	2.5	2-chlorophenol	35
1,3-dichlorobenzene	2.5	2,4-dichlorophenol	30
1,4-dichlorobenzene	3.5	2,4,-dimethylphenol	30
3,3-dichlorobenzidine	18	4,6-dinitro-o-cresol	17
diethyl phthalate	20	2,4-dinitrophenol	100
dimethyl phthalate	20	4-nitrophenol	25
di-n-butyl phthalate	25	pentachorophenol	36
2,4-dinitrotoluene	17	phenol	15
2,6-dinitrotoluene	20	2,4,6-trichlorophenol	25
xylene	10 *	1,4-Dioxane	0.15 *

[1] PQLs are as listed in the division's *Practical Quantitation Limits Policy* (CW 6) unless noted otherwise.

* This is a recommended PQL based on EPA approved methods. The division's *Practical Quantitation Limits Policy (CW 6)* does not provide a 40 CFR 136 based PQL for this parameter.

Trec = Total Recoverable

PD = Potentially Dissolved

Diss = Dissolved

PQL = Practical Quantitation Limit

Important table notes:

1) Please refer to the permit application Guidance to determine whether analytical data is required with the permit application, and if so, what specific type of data is required.

2) Parameter names match the names as they appear in the general permit or, as italicized, as they appear in the division's *Practical Quantitation Limits Policy* (CW-6).

3) The division may require analytical data for additional parameters where the project site is located in close proximity to potential sources of contamination for parameters not included in this Attachment 1, including but not limited to pesticide, PCB, radionuclide contamination.

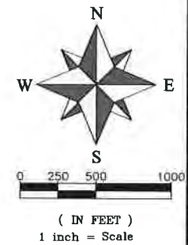
4) Applicants applying under the General Permit for Remediation Activities Discharging to Groundwater (COG316000) are encouraged to contact the division prior to sample collection to ensure that the correct metal speciation is included in the sample analysis.

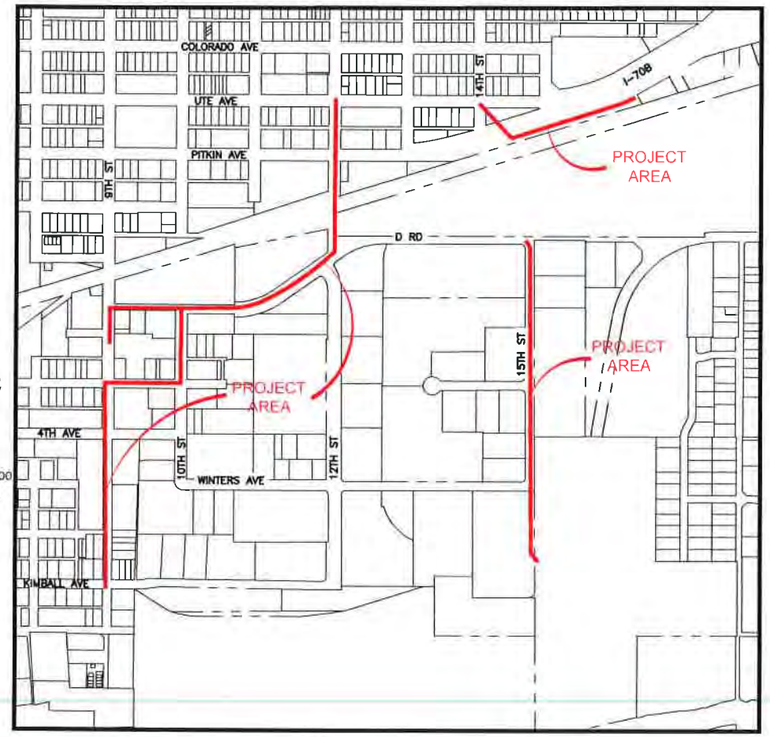
5) For the permit application, all sampling should be performed according to specified methods in 40 CFR 136, methods approved by EPA pursuant to 40 CFR 136, or methods approved by the division, in the absence of a method specified in or approved pursuant to 40 CFR 136. In addition, the PQLs listed in Attachment 1 should be met unless otherwise approved by the division.

PROJECT NO. 81-18-029

CITY OF GRAND JUNCTION
2019 SOUTH DOWNTOWN WATER & SANITARY SEWER REPLACEMENT PROJECT
MARCH 2019

Sheet List Table





VICINITY MAP

UTILITIES AND AGENCIES

AGENCY	NAME	POSITION	ROLE	MAILING ADDRESS	STREET ADDRESS	CITY, STATE	VOICE-WK	FAX
CITY OF GRAND JUNCTION	LEE COOPER	PROJECT ENGINEER	PROJECT ENGINEER	333 WEST AVE BLDG C	333 WEST AVE BLDG C	GRAND JCT., CO 81501	---	(970) 256-4022
CITY OF GRAND JUNCTION	LEE COOPER	PROJECT ENGINEER	SANITARY SEWER	333 WEST AVE BLDG C	333 WEST AVE BLDG C	GRAND JCT., CO 81501	(970) 256-4155	(970) 256-4022
GRAND VALLEY IRRIGATION CO.	PHIL BERTRAND	MANAGER	IRRIGATION	688 26 RD	688 26 RD	GRAND JCT., CO 81506	(970) 242-2762	
SPECTRUM	JEFF VALDEZ	MANAGER	CABLE TV	2502 FORESIGHT CIRCLE	2502 FORESIGHT CIRCLE	GRAND JCT., CO 81504	(970) 245-8750	(970) 245-6803
CENTURYLINK	CHRIS JOHNSON	ENGINEER	TELEPHONE	2524 BLICHMANN AVE	2524 BLICHMANN AVE	GRAND JCT., CO 81504	(970) 244-4311	(970) 240-4349
UTE WATER	JUSTIN BATES	SUPERVISOR	WATER	PO BOX 460	2190 H ¼ RD	GRAND JCT., CO 81502	(970) 242-7491	(970) 242-9189
XCEL	TILLMON MCSHOOLER	UNIT MANAGER	ELECTRIC	2538 BLICHMANN AVE	2538 BLICHMANN AVE	GRAND JCT., CO 81506	(970) 244-2695	(970) 244-2664
XCEL	SARAH BARRICAU	UNIT MANAGER	GAS	2538 BLICHMANN AVE	2538 BLICHMANN AVE	GRAND JCT., CO 81506	(970) 244-2656	(970) 244-2656

COLORADO LICENSED ERIK SNYDER 52740 PROFESSIONAL ENGINEER
4-17-19

NOTE: NOTIFY AFFECTED UTILITY VENDOR 48 HOURS PRIOR TO EXCAVATIONS THAT WILL EXPOSE UTILITY LINES. THE COVER SHEET WILL HAVE A LISTING OF UTILITY VENDORS AND TELEPHONE NUMBERS.

	DESCRIPTION	DATE
REVISION 1	ADDENDUM #1	4/18/2019
REVISION 2		
REVISION 3		
REVISION 4		

Grand Junction

J-U-B ENGINEERS, INC.

OTHER J-U-B COMPANIES: THE LANGDON GROUP a J U B Company; GATEWAY MAPPING INC. a J U B Company

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

DRAWING STATUS:
- ○ PROGRESS
- ● FINAL CONSTRUCTION DRAWINGS
- ○ ASBUILT

DESIGNED BY:
ERIK SNYDER 3/2019

REVIEWED BY:
LEE COOPER 3/2019

AUTHORIZED FOR CONSTRUCTION

ACCEPTED AS CONSTRUCTED

CITY OF GRAND JUNCTION 2019 SOUTH DOWNTOWN WATER, & SANITARY SEWER REPLACEMENT PROJECT

ABBREVIATIONS

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY & TRANSPORTATION OFFICIALS
ABC	AGGREGATE BASE COURSE
AC	ASBESTOS CEMENT
AP	ANGLE POINT
ASB	ANCHORED STRAW BALES
ASP	ALUMINIZED STEEL PIPE
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS
AWWA	AMERICAN WATER WORKS ASSOCIATION
BC	BACK OF CURB
BF	BUTTERFLY VALVE
BOW	BACK OF WALK
BCR	BEGIN CURB RETURN
BOT	BOTTOM
BSWMP	BETTER STORM WATER MANAGEMENT PRACTICES
CH	CHORD
CAP	CORRUGATED ALUMINUM PIPE
CDOT	COLORADO DEPARTMENT OF TRANSPORTATION
CI	CAST IRON
C,G,& SW	CURB, GUTTER & SIDEWALK
℄	CENTER LINE
CL	CLEAR
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT
COMB	COMBINATION (AS IN STORM SEWER AND SANITARY SEWER)
CONC	CONCRETE
CSM	CITY SURVEY MONUMENT
CSP	CORRUGATED STEEL PIPE
CU	COPPER
DI	DUCTILE IRON
DWY	DRIVEWAY
E	ELECTRIC
ECR	END CURB RETURN
EG	EDGE OF GUTTER
EL	ELEVATION
EP	EDGE OF PAVEMENT
EX	EXISTING
FB	FULL BODY
FC	FACE OF CURB
FG	FINISHED GRADE
℄	FLOW LINE
FL	FLANGE
FM	FORCE MAIN
FO	FIBER OPTICS
FS	FAR SIDE
FTG	FOOTING
G	GAS
GB	GRADE BREAK
GM	GAS METER
GV	GATE VALVE
HBP	HOT BITUMINOUS PAVEMENT
HDPE	HIGH DENSITY POLYETHYLENE
INV	INVERT
IRR	IRRIGATION
L	LENGTH OF ARC
LC	LONG CHORD
LF	LINEAR FEET
LL	LONG ARC
LS	SHORT ARC
LT	LEFT
MB	MAILBOX
MCSM	MESA COUNTY SURVEY MONUMENT
MH	MANHOLE
MJ	MECHANICAL JOINT
MW	MILL WRAP
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
NOP	NO ONE PERSON
NRCP	NON-REINFORCED CONCRETE PIPE
NS	NEAR SIDE
NTS	NOT TO SCALE
OHP	OVERHEAD POWER
OHT	OVERHEAD TELEPHONE
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PE	POLYETHYLENE
PERF	PERFORATED
PI	POINT OF INTERSECTION
PIP	PLASTIC IRRIGATION PIPE
POC	POINT ON CURVE
POT	POINT ON TANGENT
PR	PROPOSED
PRC	POINT OF REVERSE CURVATURE
PT	POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
REQ'D	REQUIRED
RG	RESTRAINED GLANDS
RL	LONG RADIUS
ROW	RIGHT OF WAY
RP	RADIUS POINT
RR	RAIL ROAD
RS	SHORT RADIUS
RT	RIGHT
S	SLOPE
SAN	SANITARY
SC	SHORT CHORD
SCD	STANDARD CONTRACT DOCUMENTS
SCH	SCHEDULE
SF	SILT FENCE
SL	SECTION LINE
SSRB	STANDARD SPECIFICATIONS FOR ROAD & BRIDGE CONSTRUCTION
SSUU	STANDARD SPECIFICATIONS FOR CONSTRUCTION OF UNDERGROUND UTILITIES
STA	STATION
STL	STEEL
STM	STORM
T	TELEPHONE
TAN	LENGTH OF TANGENT
TC	TOP OF CURB
TH	TEST HOLE
TV	TELEVISION
(TYP)	TYPICAL
UU	UNDERGROUND UTILITIES
VC	VERTICAL CURVE
VCP	VITRIFIED CLAY PIPE
VPC	VERTICAL POINT OF CURVATURE
VPCC	VERTICAL POINT OF COMPOUND CURVATURE
VPRC	VERTICAL POINT OF REVERSE CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
W	WATER

LEGEND

BSWMP DRAINAGE BASIN BOUNDARY

BSWMP ANCHORED STRAW BALES

BSWMP SILT FENCE

BUILDING

CONCRETE CURB AND GUTTER — 2' CURB AND GUTTER

CONCRETE CURB,GUTTER, & SIDEWALK — 7' C, G, & SW

CONCRETE DITCH — CONCRETE

CONCRETE SIDEWALK — 4' SW

CULVERT — 18" RCP

EARTH DITCH — EARTH

EDGE OF GRAVEL

EDGE OF PAVEMENT

FENCE (BARBED WIRE)

FENCE (CHAIN LINK)

FENCE (IRON)

FENCE (PLASTIC)

FENCE (TEMPORARY CONSTRUCTION)

FENCE (WOOD)

FENCE (WOVEN WIRE)

GUARD RAIL

HATCHING: INDICATES ASPHALT REMOVAL

HATCHING: INDICATES CONCRETE REMOVAL

HATCHING: INDICATES STAGING AREA — ~STAGING AREA~

LINE (CENTER OF IMPROVEMENTS) — CENTERLINE

LINE (CITY LIMITS) — CITY LIMITS

LINE (CONTROL) — CONTROL LINE

LINE (EASEMENT)

LINE (MONUMENT/SECTION) — MONUMENT/SECTION LINE

LINE (PROPERTY)

LINE (RIGHT OF WAY)

MATCH LINE — MATCH LINE SEE SHEET NO ?

PIPE (IRRIGATION)

PIPE (SIPHON)

PROPOSED CONCRETE CURB AND GUTTER

PROPOSED CONCRETE CURB,GUTTER,& SIDEWALK

PROPOSED CONCRETE SIDEWALK

PROPOSED "WET" UTILITIES (CONSTRUCTION NOTE WILL INDICATE TYPE, SIZE, AND MATERIAL OF NEW MAIN) — 8" PVC SANITARY SEWER

ALL PROPOSED FEATURES NOT SHOWN IN LEGEND WILL BE SHOWN THE SAME AS THEIR EXISTING COUNTERPART, BUT INDICATED BY BOLDER LINETYPE

RAIL ROAD

RETAINING WALL — 1' RETAINING WALL

STRIPING (CONTINUOUS WHITE) — WHITE

STRIPING (DASHED WHITE) — WHITE

STRIPING (CONTINUOUS YELLOW) — YELLOW

STRIPING (DASHED YELLOW) — YELLOW

TOP OF SLOPE — 4580

CONTOUR LINES (SHOWN BETWEEN TOP & TOE)

TOE OF SLOPE — 4570

TRAFFIC DETECTOR LOOP

UTILITY LINE (ABANDON) (THIS CASE A WATER LINE) — (ABANDONED)

UTILITY LINE (CABLE TV)

UTILITY LINE (ELECTRIC)

UTILITY LINE (FIBER OPTIC)

UTILITY LINE (GAS)

UTILITY LINE (HIGH VOLTAGE OVERHEAD POWER)

UTILITY LINE (OVERHEAD POWER)

UTILITY LINE (OVERHEAD TELEPHONE)

UTILITY LINE (SANITARY SEWER)

UTILITY LINE (SANITARY SEWER FORCE MAIN)

UTILITY LINE (SANITARY SEWER SERVICE)

UTILITY LINE (STORM SEWER)

UTILITY LINE (STORM SEWER, PERFORATED)

UTILITY LINE (STORM/SANITARY SEWER SEWER COMBINATION)

UTILITY LINE (TELEPHONE)

UTILITY LINE (WATER)

SYMBOLS

BENCH MARK — A

BORE HOLE — B-X

CATCH BASIN

CLEAN OUT

CURB STOP

FIRE HYDRANT

GUY WIRE ANCHOR

HEADGATE

IRRIGATION PUMP — P

MAILBOX — MB

MANHOLE (ELECTRIC) — E

MANHOLE (GAS) — G

MANHOLE (SANITARY/STORM)

MANHOLE (TELEPHONE) — T

MANHOLE (TV) — tv

MANHOLE (WATER) — W

METER (GAS) — GM

METER (WATER)

PEDESTAL (TELEPHONE)

PEDESTAL (TV) — TV

PROPERTY PIN

PULL BOX

REDUCER FITTING

SIGN OR POST (SIGN TYPE NOTED) — STOP

SPRINKLER HEAD

STREET LIGHT

SURVEY MONUMENT (CITY) — CSM

SURVEY MONUMENT (TYPE NOTED) — MCSM

TEST HOLE — TH #1

TRAFFIC PAINT MARKING

TRAFFIC SIGNAL POLE AND MAST ARM

UTILITY POLE

VALVE (GAS) — GV

VALVE (IRRIGATION) — IRR

VALVE (WATER)

VEGETATION (HEDGE OR BUSH)

VEGETATION (TREE STUMP)

VEGETATION (TREE) (CALIPER SIZE NOTED)

WATER HYDRANT — WH

WEIR

YARD LIGHT

BAR SCALE:

GRAPHIC SCALE

0 10 30 70

(IN FEET)
1 inch = 20 feet

NORTH ARROW:

N W E S

DESCRIPTION	DATE
REVISION 1	
REVISION 2	
REVISION 3	
REVISION 4	

DRAWN BY TAG DATE 3/2019
DESIGNED BY ES DATE 3/2019
CHECKED BY BG DATE 3/2019
APPROVED BY BG DATE 3/2019

CITY OF Grand Junction COLORADO

J-U-B ENGINEERS, INC. — THE LANGDON GROUP — GATEWAY MAPPING INC. — OTHER J-U-B COMPANIES

CITY OF GRAND JUNCTION

STANDARD ABBREVIATIONS, LEGEND, SYMBOLS

1	108.2	4" Gravity Sewer Pipe (SDR-35 PVC) (Includes cost of connection to the existing sewer service line)	570	Lin. Ft.
2	108.2	6" Gravity Sewer Pipe (SDR-35 PVC) (Includes cost of connection to the existing sewer pipe and/or manhole)	167	Lin. Ft.
3	108.2	8" Gravity Sewer Pipe (SDR-35 PVC) (Includes cost of connection to the existing sewer pipe and/or manhole)	1329	Lin. Ft.
4	108.2	10" Gravity Sewer Pipe (SDR-35 PVC) (Includes cost of connection to the existing sewer pipe and/or manhole)	326	Lin. Ft.
5	108.2	15" Gravity Sewer Pipe (SDR-35 PVC) (Includes cost of connection to the existing sewer pipe and/or manhole)	2141	Lin. Ft.
6	108.2	Water Main (4") (C-900 PVC, DR-18) (Includes cost of restained connection to existing pipe)	5	Lin. Ft.
7	108.2	Water Main (6") (C-900 PVC, DR-18) (Includes cost of restained connection to existing pipe)	145	Lin. Ft.
8	108.2	Water Main (8") (C-900 PVC, DR-18) (Includes cost of restained connection to existing pipe)	140	Lin. Ft.
9	108.2	Water Main (12") (C-900 PVC, DR-18) (Includes cost of restained connection to existing pipe)	66	Lin. Ft.
10	108.2	Water Main (18") (C 900 PVC, DR 18) (Includes cost of restained connection to existing pipe)	0	Lin. Ft.
11	108.2	Water Main (20") (C-900 PVC, DR-18) (Includes cost of restained connection to existing pipe)	2597	Lin. Ft.
12	108.2	Storm Drain Pipe (18") (ADS Corrugated HDPE Pipe)	49	Lin. Ft.
13	108.2	Imported Trench Backfill (Class 3) (Includes haul and disposal of unsuitable excavated material) (Assumed material unit weight = 133 lbs/ft3)	11008	Ton
14	108.3	8" X 4" Sewer Service Tap (Full Body Wye w/ Street 45 deg.) (Includes full body wye, cleanout, and all fittings required to align and connect into the existing sewer servipce pipe at the locations shown on the plans) (See City Std. Detail SS-06)	7	Each
15	108.3	8" X 6" Sewer Service Tap (Full Body Wye w/ Street 45-deg.) (Includes full body wye, cleanout, and all fittings required to align and connect into the existing sewer servipce pipe at the locations shown on the plans) (See City Std. Detail SS-06)	1	Each
16	108.3	10" X 4" Sewer Service Tap (Full Body Wye w/ Street 45 deg.) (Includes full body wye, cleanout, and all fittings required to align and connect into the existing sewer servipce pipe at the locations shown on the plans) (See City Std. Detail SS-06)	4	Each
17	108.3	10" X 6" Sewer Service Tap (Full Body Wye w/ Street 45-deg.) (Includes full body wye, cleanout, and all fittings required to align and connect into the existing sewer servipce pipe at the locations shown on the plans) (See City Std. Detail SS-06)	1	Each
18	108.3	15" X 4" Sewer Service Tap (Full Body Wye w/ Street 45-deg.) (Includes full body wye, cleanout, and all fittings required to align and connect into the existing sewer servipce pipe at the locations shown on the plans) (See City Std. Detail SS-06)	5	Each
19	108.3	15" X 6" Sewer Service Tap (Full Body Wye w/ Street 45-deg.) (Includes full body wye, cleanout, and all fittings required to align and connect into the existing sewer servipce pipe at the locations shown on the plans) (See City Std. Detail SS-06)	3	Each
20	108.3	Sewer Service Clean-out Ring and Cover (Castings Inc. CO-8030-CI or Approved Equal) (Includes concrete collar in unpaved areas per City Std. Detail SS 07)	20	Each
21	108.3	Gate Valve (4")	1	Each
22	108.3	Gate Valve (6")	9	Each
23	108.3	Gate Valve (8")	3	Each
24	108.3	Gate Valve (12")	2	Each
25	108.3	Butterfly Valve (18")	0	Each
26	108.3	Butterfly Valve (20")	4	Each
27	108.3	Tee (6" x 6") MJ Swivel Tee (Epoxy Coated)	1	Each
28	108.3	Tee (8" x 4") MJ Swivel Tee (Epoxy Coated)	1	Each
29	108.3	Tee (8" x 6") MJ Swivel Tee (Epoxy Coated)	3	Each
30	108.3	Tee (12" x 6") MJ Swivel Tee (Epoxy Coated)	0	Each
31	108.3	Tee (12" x 12") (Epoxy Coated)	1	Each
32	108.3	Tee (18" x 18") (Epoxy Coated)	0	Each
33	108.3	Tee (20" x 6") MJ Swivel Tee (Epoxy Coated)	5	Each
34	108.3	Tee (20" x 8") MJ Swivel Tee (Epoxy Coated)	3	Each
35	108.3	Tee (20" x 18") (Epoxy Coated)	0	Each
36	108.3	Tee (20" x 20") (Epoxy Coated)	1	Each
37	108.3	Elbow (6" x 45 deg) (Epoxy Coated)	1	Each
38	108.3	Elbow (8" x 45 deg) (Epoxy Coated)	0	Each
39	108.3	Elbow (8" x 22.5 deg) (Epoxy Coated)	0	Each
40	108.3	Elbow (8" x 11.25 deg) (Epoxy Coated)	0	Each
41	108.3	Elbow (12" x 45 deg) (Epoxy Coated)	0	Each
42	108.3	Elbow (18" x 45 deg) (Epoxy Coated)	0	Each
43	108.3	Elbow (18" x 22.5 deg) (Epoxy Coated)	0	Each
44	108.3	Elbow (20" x 45 deg) (Epoxy Coated)	8	Each
45	108.3	Elbow (20" x 11.25 deg) (Epoxy Coated)	0	Each
46	108.3	Reducer (20" x 12") (Epoxy Coated)	1	Each
47	108.3	Cross Fitting (12" x 8") (Epoxy Coated)	0	Each
48	108.3	End Cap/Plug (20") (Includes Concrete Thrustblock per City Std Detail W-07 & W-08)	1	Each
49	108.3	Fire Hydrant Assembly	7	Each
50	108.3	8" Welded Flange or Hy-Max Solid Sleeve Restrained Coupling with Stiffener for connection to HDPE pipe (8" HDPE Pipe)	1	Each
51	108.3	20" Welded Flange or Hy-Max Solid Sleeve Restrained Coupling with Stiffener for connection to HDPE pipe (20" HDPE Pipe)	0	Each
52	108.4	Water Service Line (3/4") (Type K Copper) (If Lead or Poly service line is encountered, water service shall be replaced to meter) (Includes cost of connection to existing pipe)	284	Lin. Ft.
53	108.4	Water Service Line (1") (Type K Copper) (If Lead or Poly service line is encountered, water service shall be replaced to meter) (Includes cost of connection to existing pipe)	80	Lin. Ft.
54	108.4	Water Service Line (1-1/2") (Type K Copper or HDPE 3408) (If lead service line is encountered, water service shall be replaced to meter) (Includes cost of connection to existing pipe)	0	Lin. Ft.
55	108.4	Water Service Line (2") (Type K Copper or HDPE 3408) (If lead service line is encountered, water service shall be replaced to meter) (Includes cost of connection to existing pipe)	20	Lin. Ft.
56	108.4	Tapping Saddle (20" x 3/4")	11	Each
57	108.4	Tapping Saddle (20" x 1")	3	Each
58	108.4	Tapping Saddle (20" x 1-1/2")	0	Each
59	108.4	Tapping Saddle (20" x 2")	1	Each
60	102.8j/108.4	Corporation Stop (3/4")	11	Each
61	102.8j/108.4	Corporation Stop (1")	3	Each
62	102.8j/108.4	Corporation Stop (1-1/2")	0	Each
63	102.8j/108.4	Corporation Stop (2")	1	Each
64	108.5	Sanitary Sewer Basic Manhole (48" I.D.) (Includes connection of adjacent sewer line, forming inverts and adjusting to final grade) (See City Std. Detail SS-02) (No steps required in sewer manholes)	13	Each
65	108.5	Manhole Barrel Section (D>5') (48" I.D.)	51	Lin. Ft.
66	108.5	Connect to Existing Manhole (15" pipe) (Doug Jones Sawmill Property manhole)	1	Each
67	108.5	Storm Sewer Basic Manhole (48" I.D.) (Includes connection to adjacent storm sewer lines and adjusting to final grade) (See City Std. Detail D-03).	1	Each
68	108.5	Manhole Coatings (Castagra Ecodur 201 or Engineer Approved Equal)	72	VLF
69	108.7	Granular Stabilization Material (Type B) (Crushed Rock) (18" Thick Min.) (Includes haul and disposal of unsuitable excavated material) (Assumed Unit Weight = 138 lbs/ft3)	2890	Ton
70	202	Abandon Pipe (Abandon pipe by plugging ends with concrete)	35	Each
71	202	Abandon Existing Water Valve (Close valve, remove top half of existing valve box, fill cavity to finish subgrade with flow-fill material)	7	Each
72	202	Abandon Manhole (Remove cone section, ring & cover, and fill remaining barrel sections with flow-fill material)	5	Each
73	202	Remove Existing Fire Hydrant (Return Hydrant to City Shops)	7	Each
74	202	Removal of Existing Pipe (Size & type as shown on plans)	3375	Lin. Ft.
75	202	Removal of Asphalt Mat (Full-Depth)	3656	Sq. Yd.
76	202	Removal of Asphalt Mat (Planing) (2" Thick for T-Top Section)	4128	Sq. Yd.
77	202	Removal of Concrete (Includes but not limited to curb, gutter, sidewalk, driveway, slabs, V pan, curb ramps, intersection corners, aprons, landscape borders, and concrete walls.)	1097	Sq. Ft.
78	202	Removal of Sod	0	Sq. Ft.
79	202	Removal of Manhole (Price to include plugging existing abandoned pipes, if any, and removal and disposal of concrete sections)	9	Each
80	202	Remove Bollard	0	Each
81	202	Removal of Tree (2" dia.)	1	Each
82	203	Disposal of Radioactive Material (Dispose at City Shops, 333 West Ave.)	75	Cu. Yd.
83	206	Structure Backfill (Flow Fill) (Use at CDOT Right of Way road crossing and as required on the Project)	16	Cu. Yd.
84	208	Storm Drain Inlet Protection (Gravel Filter at Curb Inlet) (Includes Maintenance & Removal of Debris, & Removal of Inlet Protection)	19	Each
85	208	Concrete Washout Facility	1	Lump Sum
86	210	Reset Landscape Ground Cover (Match in Kind) (Contractors shall remove ground cover and underlying weed barrier as needed and stockpile materials. Contractor shall reset these materials and provide additional materials as needed)	364	Sq. Ft.
87	210	Reset Sprinkler System (Complete in place)	1	Lump Sum
88	210	Reset Fence (4' High Barbed Wire Fence)	0	Lin. Ft.
89	210	Reset Fence (5' High Chain-Link)	30	Lin. Ft.
90	210	Reset Fence (6' High Chain-Link w/ Barbed Wire Top)	120	Lin. Ft.
91	210	Reset Sign	0	Each
92	212	Re-Sod Area as Shown (Includes 6" Thick Imported Topsoil Placed Prior to Sod Placement)	0	Sq. Ft.
93	304	Aggregate Base Course (Class 6) (4" thick) (Shoulder Base)	160	Sq. Yd.
94	304	Aggregate Base Course (Class 6) (15" thick)	3688	Sq. Yd.
95	401	Hot Bituminous Pavement (2" Thick) (Grading SX, PG 64-22) (GYR=75) (Mill & Fill Overlay) (3rd Ave. & 10th Street)	2057	Sq. Yd.
96	401	Hot Bituminous Pavement (3" Thick) (Grading SX, PG 64 22) (GYR=75) (One 3" Lift Bottom Mat)	2564	Sq. Yd.
97	401	Hot Bituminous Pavement (Patching) (2" Thick) (Grading SX, PG 64-22) (GYR=75) (One 2" Top Mat) (T-Top)	2071	Sq. Yd.
98	401	Hot Bituminous Pavement (Patching) (5" Thick) (Grading SX, PG 64 22) (GYR=75) (3" Bottom Mat, 2" Top Mat) (9th Street & 15th Street)	1092	Sq. Yd.
99	407	Emulsified Asphalt (Tack Coat)	900	Gallon
100	420	Geotextile (Separator) (Non-Woven) (Wrap stabilization material with fabric) (Minimum Overlap = 24") (As Needed)	1900	Sq. Yd.
101	608	Concrete Drainage Pan (3' Wide) (Match in Kind)	3	Sq. Yd.
102	608	Concrete Drainage Pan (4' Wide) (Match in Kind)	10	Sq. Yd.
103	608	Concrete Curb and Gutter (2' Wide) (Match in Kind)	179	Lin. Ft.
104	608	Concrete Valley Gutter (2' Wide) (Match in Kind)	48	Lin. Ft.
105	608	Concrete Curb (6" Wide, 12" High) (Match in Kind)	19	Lin. Ft.
106	608	Concrete Sidewalk (4" Thick) (Match in Kind)	31	Sq. Yd.
107	608	Concrete Pavement (6" Thick) (CDOT Class D, 4500 PSI Mix)	27	Sq. Yd.
108	608	Cap Top Half of Sewer Pipe in concrete per City Std. Detail GU-04 (20' long) (If necessary)	2	Each
109	608	Encase Sewer Pipe in Concrete per City Std. Detail GU-04 (20' long) (If necessary)	1	Each
110	620	Portable Sanitary Facility	1	Each
111	625	Construction Surveying (Includes As-Built Drawings)	1	Lump Sum
112	626	Mobilization	1	Lump Sum
113	630	Traffic Control Plan	1	Lump Sum
114	630	Traffic Control (Complete in Place)	1	Lump Sum
115	630	Flagging	1400	Hour
116	SP	UV Cured CIPP Rehabilitation	0	Lin. Ft.
116A	SP	30" Steel Casing by Bore/Jack	30	Lin. Ft.
117	SP	Cathodic Protection System	1	Lump Sum
118	SP	Reconfigure Manhole Bench (C3-271-031)	1	Lump Sum
119	SP	Coordination with Doug Jones Property (Temporarily relocate lumber for sewer installation and then place back lumber in same location)	1	Lump Sum
120	SC3.3.18	Quality Control Testing	1	Lump Sum
121	Pump	Bypass Sewage Pumping (At Contractors Discretion)	1	Lump Sum
MCR		Minor Contract Revisions	1	Lump Sum

DESCRIPTION	DATE
REVISION 1 ADDENDUM#1	4/18/2019
REVISION 2	
REVISION 3	
REVISION 4	

DRAWN BY TAG DATE 3/2019
DESIGNED BY ES DATE 3/2019
CHECKED BY BG DATE 3/2019
APPROVED BY BG DATE 3/2019

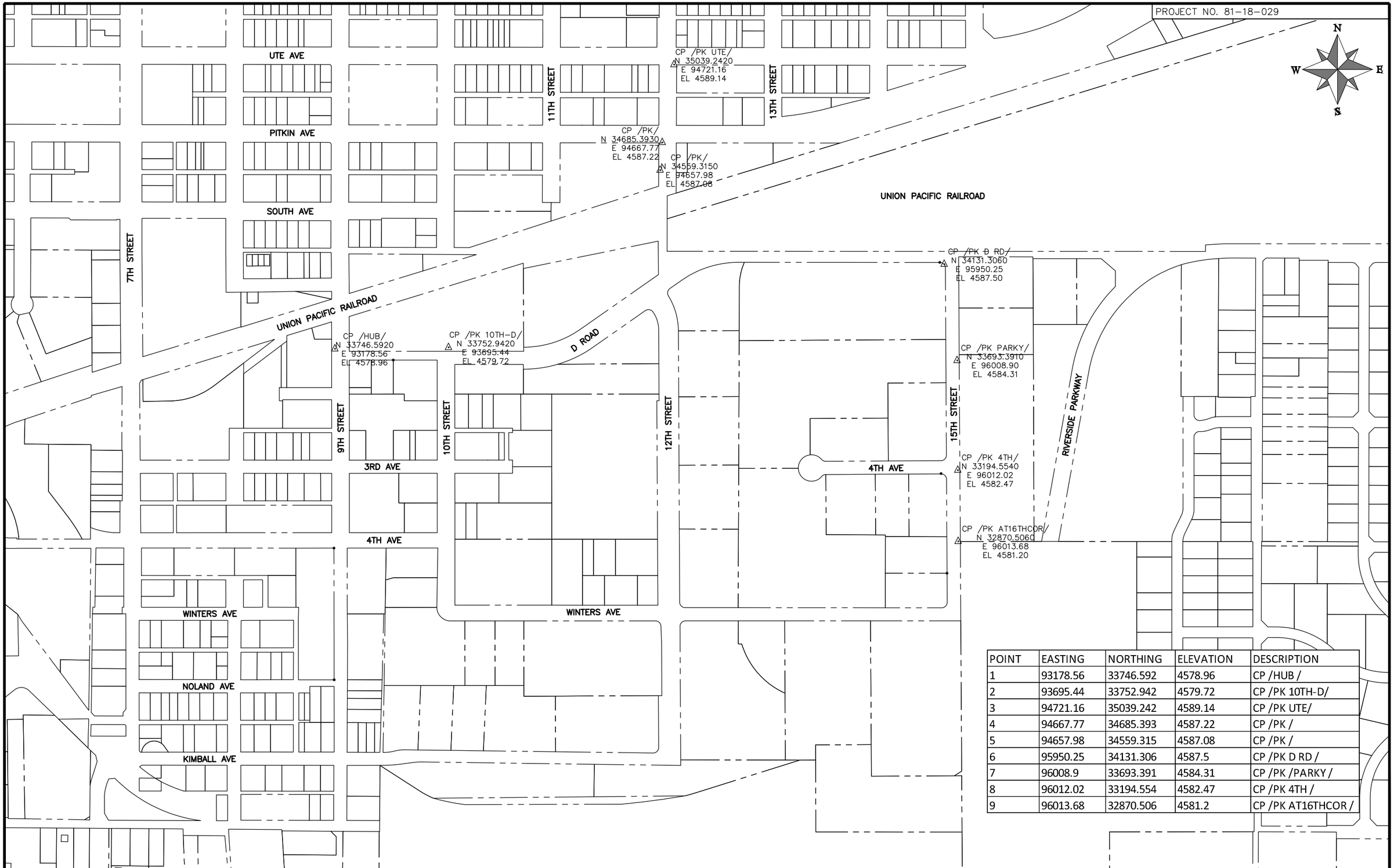
CITY OF Grand Junction COLORADO

J-U-B ENGINEERS, INC. | THE LANGDON GROUP | GATEWAY MAPPING INC. | OTHER J-U-B COMPANIES

CITY OF GRAND JUNCTION

SUMMARY OF APPROXIMATE QUANTITIES

PROJECT NO. 81-18-029



POINT	EASTING	NORTHING	ELEVATION	DESCRIPTION
1	93178.56	33746.592	4578.96	CP /HUB /
2	93695.44	33752.942	4579.72	CP /PK 10TH-D/
3	94721.16	35039.242	4589.14	CP /PK UTE/
4	94667.77	34685.393	4587.22	CP /PK /
5	94657.98	34559.315	4587.08	CP /PK /
6	95950.25	34131.306	4587.5	CP /PK D RD /
7	96008.9	33693.391	4584.31	CP /PK /PARKY /
8	96012.02	33194.554	4582.47	CP /PK 4TH /
9	96013.68	32870.506	4581.2	CP /PK AT16THCOR /

DESCRIPTION	DATE
REVISION 1	
REVISION 2	
REVISION 3	
REVISION 4	

DRAWN BY TAG DATE 3/2019
DESIGNED BY ES DATE 3/2019
CHECKED BY BG DATE 3/2019
APPROVED BY BG DATE 3/2019

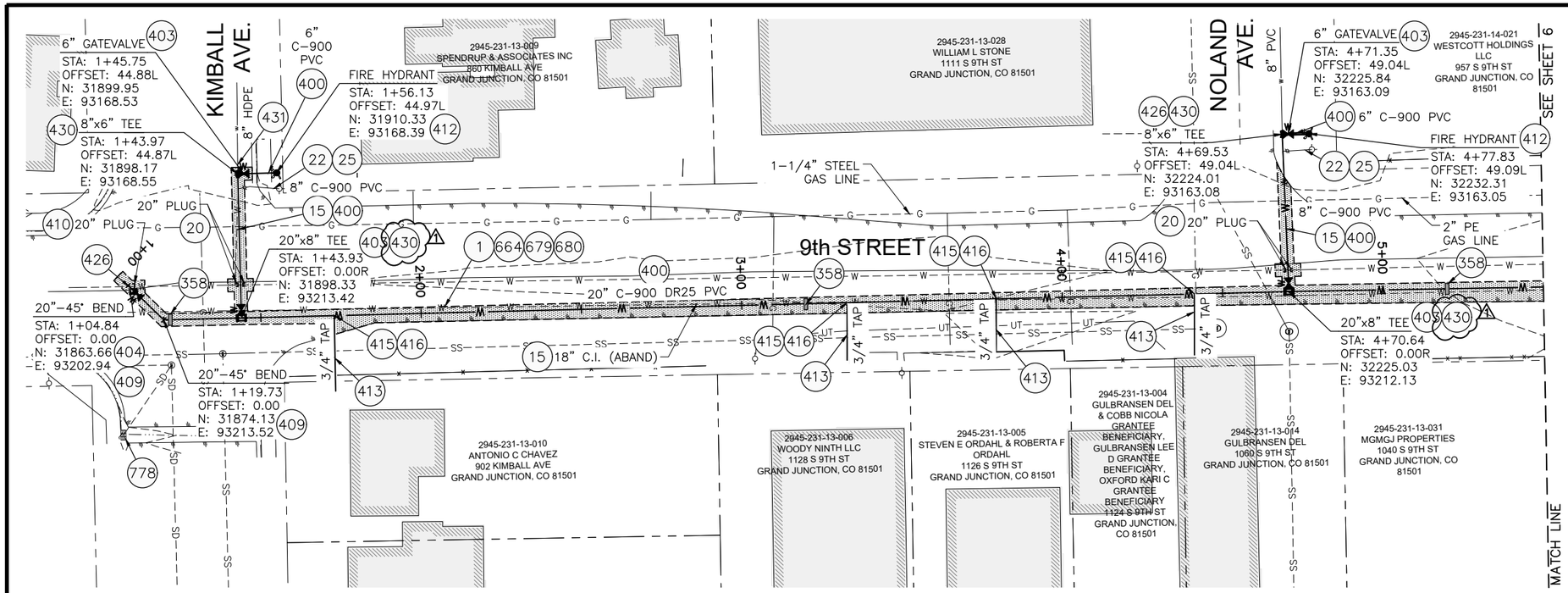
SCALES:
PLAN
HORIZONTAL: 1" = 200'
0 50'100' 200' 400'

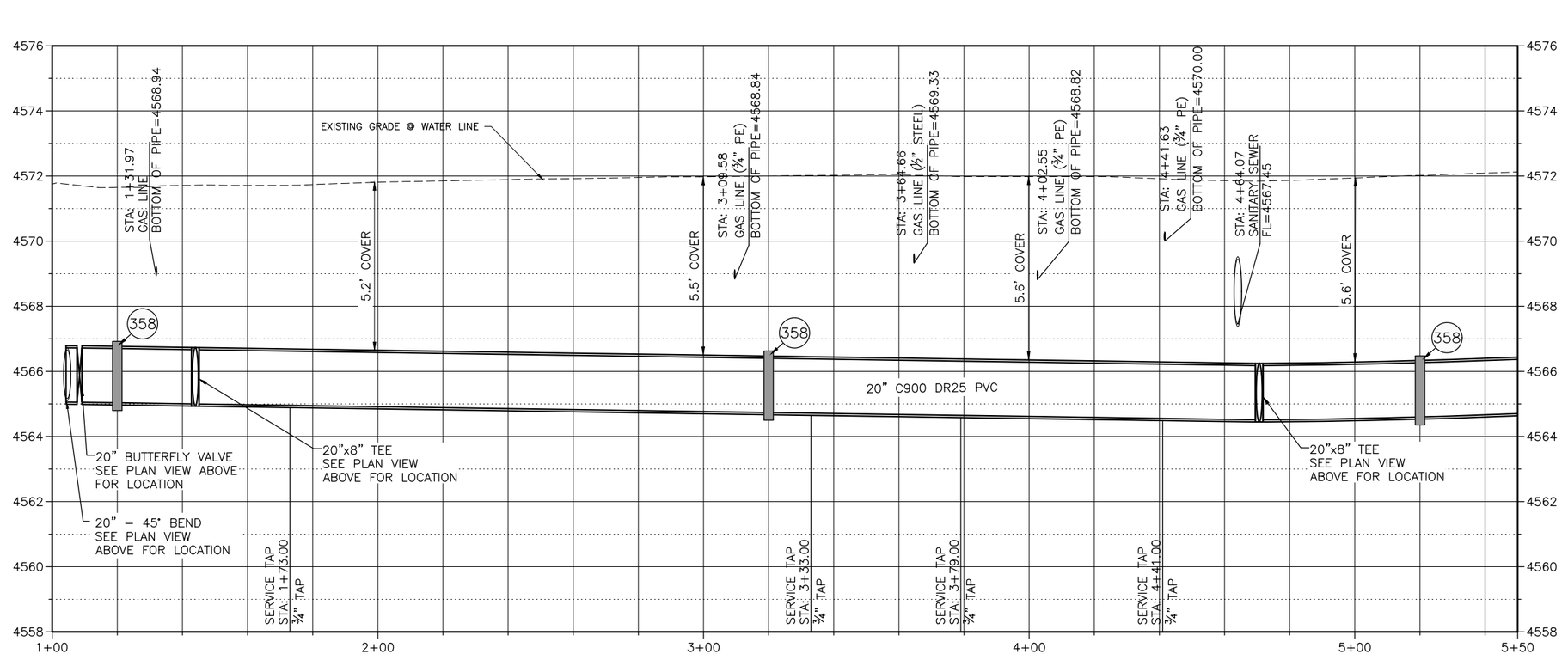
CITY OF Grand Junction COLORADO

J-U-B ENGINEERS, INC. | THE LANGDON GROUP | GATEWAY MAPPING INC. | OTHER J-U-B COMPANIES

CITY OF GRAND JUNCTION

PROJECT CONTROL MAP





PROJECT NO. 81–18–029

(1) 202 – REMOVAL OF ASPHALT MAT. CUT AND REMOVE ASPHALT AS SHOWN. (INDICATED BY DOT HATCH PATTERN)

(15) 202 – REMOVAL OF PIPE AS SHOWN. (SIZE AND TYPE AS SHOWN ON PLAN)

(20) 202 – ABANDON PIPE. ABANDON BY PLUGGING REMAINING ENDS WITH CONCRETE

(22) 202 – REMOVE EXISTING FIRE HYDRANT AND RETURN TO CITY SHOPS.

(25) 202 – ABANDON EXISTING WATER VALVE. CLOSE VALVE, REMOVE TOP HALF OF EXISTING VALVE BOX, FILL CAVITY TO FINISHED SUBGRADE WITH FLOW–FILL MATERIAL.

(358) 103 – CLAY CUT–OFF WALL (INCIDENTAL TO WATERLINE INSTALLATION PAY ITEM)

(400) 102.7/108.2 – WATER MAIN PIPE (C–900 PVC) (SIZE AS SHOWN). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL

(403) 102.8b/108.3 – GATE VALVE. (SIZE AS SHOWN)

(404) 102.8e/108.3 – BUTTERFLY VALVE (SIZE AS SHOWN)

(407) 102.8/108.3 – TEE (SIZE AS SHOWN) ⚠1

(409) 102.8/108.3 – ELBOW (SIZE AND ANGLE AS SHOWN)

(410) 102.8/108.3 – END CAP / PLUG (SIZE AS SHOWN) (INCLUDES THRUST BLOCK)

(412) 102.8a/108.3 – FIRE HYDRANT ASSEMBLY

(413) 102.7c/108.4 – WATER SERVICE LINE (TYPE K COPPER) (SIZE AS SHOWN ON PLAN) IF LEAD OR POLY SERVICE LINE IS ENCOUNTERED, WATER SERVICE SHALL BE REPLACED TO METER.

(415) 102.8k/108.4 – TAPPING SADDLE (SIZE AS SHOWN ON PLAN)

(416) 102.8j/108.4 – CORPORATION STOP (SIZE AS SHOWN ON PLAN)

(426) RESTRAINED CONNECTION TO EXISTING WATER PIPE/VALVE/FITTING. THE UNIT PRICE FOR WATER PIPE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING PIPELINE

(430) 102.8/108.3 – MJ x SWIVEL TEE (SIZE AS SHOWN)

(431) 102.8/108.3 – WELDED FLANGE OR HY–MAX SOLID SLEEVE RESTRAINED COUPLING WITH STIFFENER FOR CONNECTION TO HDPE

(664) 304 – AGGREGATE BASE COURSE (CLASS 6) (15" THICK)

(679) 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (3" THICK) (GRADING SX, BINDER GRADE PG 64–22, GYR=75) (ONE 3" LIFT BOTTOM MAT)

(680) 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (2" THICK) (GRADING SX, BINDER GRADE PG 64–22, GYR=75) (ONE 2" LIFT TOP MAT) (T–TOP PATCH) (SEE CITY STD. DETAIL GU–03)

(778) 208 – STORM DRAIN INLET PROTECTION (GRAVEL FILTER AT CURB INLET) (AS SHOWN AND PER DETAIL)

NOTES:
- ALL WATERLINE FITTINGS SHALL BE EPOXY COATED PER CITY STANDARD SPECIFICATION 102.7a AND WRAPPED WITH 8 MIL POLYETHYLENE AND TO INCLUDE THRUST BLOCK PER CITY STD DETAILS W–07 & W–08
- 36" BURY DEPTH UNLESS OTHERWISE NOTED IN THE PROFILE
- WATERLINE SERVICES INSTALLED OUTSIDE TRENCH LIMITS AND UNDER PAVEMENT TO BE INSTALLED BY TRENCHLESS METHODS
- CONTRACTOR TO REFERENCE EBAA IRON RESTRAINT LENGTH CALCULATOR FOR DETERMINING PIPE RESTRAINT LENGTH ⚠1

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

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

DESCRIPTION	DATE
REVISION ⚠ ADDENDUM #1	4/18/2019
REVISION ⚠	
REVISION ⚠	
REVISION ⚠	

DRAWN BY TAG DATE 3/2019
DESIGNED BY ES DATE 3/2019
CHECKED BY BG DATE 3/2019
APPROVED BY BG DATE 3/2019

SCALES: PLAN HORIZONTAL: 1" = 20' (0 5' 10' 20'); PROFILE HORIZONTAL: 1" = 20' (0 5' 10' 20'), VERTICAL: 1" = 2' (0 0.5' 1' 2')

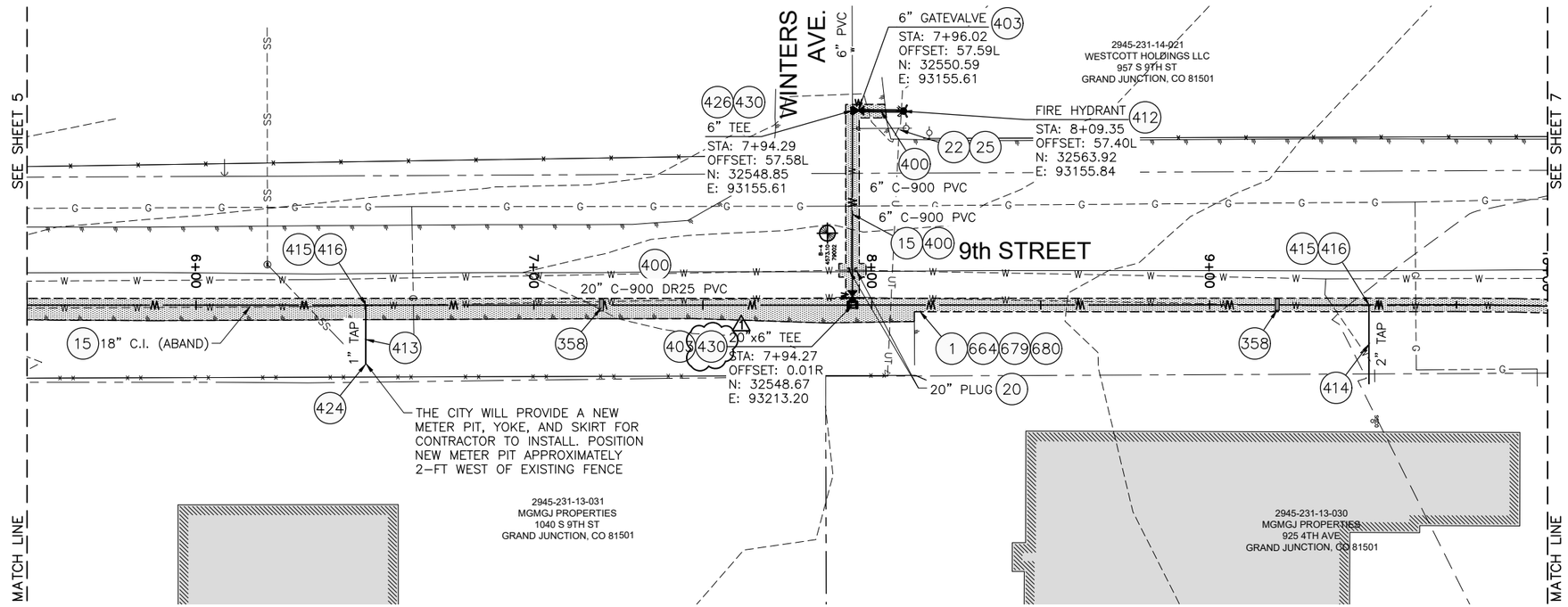
CITY OF Grand Junction COLORADO

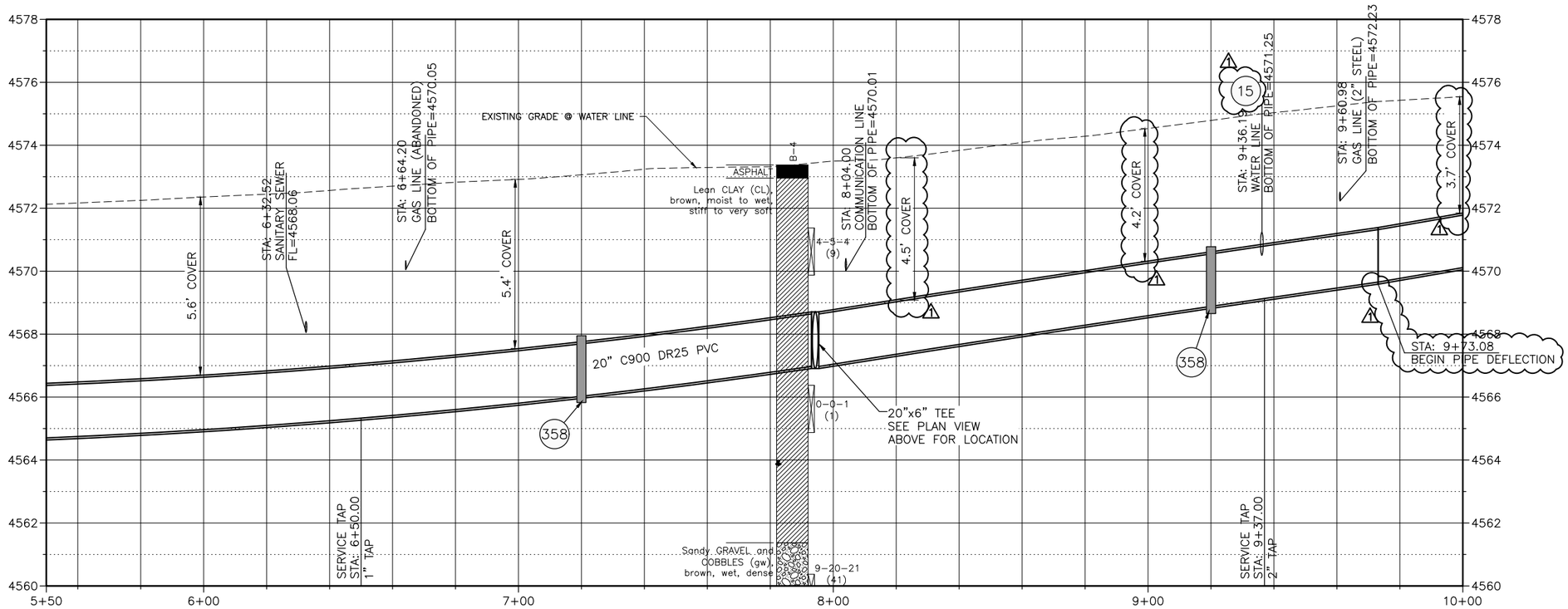
J-U-B ENGINEERS, INC. OTHER J-U-B COMPANIES: THE LANGDON GROUP, GATEWAY MAPPING INC.

2019 SOUTH DOWNTOWN WATER & SANITARY SEWER REPLACEMENT PROJECT
PLAN & PROFILE – 9th STREET WATER LINE

5

Plot Date:4/16/2019 5:33 PM Plotted By: Erik Snyder
Date Created:4/16/2019 \81-PALISADE-G\PUBLIC\PROJECTS\JUB\81-18-029_CITY OF GRAND JUNCTION_ON CALL SERVICES 2019 - AMENDMENT #3\3RD AVE WL\CAD\SHEET\CIVIL\81-18-029_C-201X.DWG





PROJECT NO. 81-18-029

1. 202 – REMOVAL OF ASPHALT MAT. CUT AND REMOVE ASPHALT AS SHOWN. (INDICATED BY DOT HATCH PATTERN)
15. 202 – REMOVAL OF PIPE AS SHOWN. (SIZE AND TYPE AS SHOWN ON PLAN)
20. 202 – ABANDON PIPE. ABANDON BY PLUGGING REMAINING ENDS WITH CONCRETE
22. 202 – REMOVE EXISTING FIRE HYDRANT AND RETURN TO CITY SHOPS
25. 202 – ABANDON EXISTING WATER VALVE. CLOSE VALVE, REMOVE TOP HALF OF EXISTING VALVE BOX, FILL CAVITY TO FINISHED SUBGRADE WITH FLOW-FILL MATERIAL.
358. 103 – CLAY CUT-OFF WALL (INCIDENTAL TO WATERLINE INSTALLATION PAY ITEM)
400. 102.7/108.2 – WATER MAIN PIPE (C-900 PVC) (SIZE AS SHOWN). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL
403. 102.8b/108.3 – GATE VALVE. (SIZE AS SHOWN)
407. ~~102.8/108.3 – TEE (SIZE AS SHOWN)~~ 1
412. 102.8a/108.3 – FIRE HYDRANT ASSEMBLY
413. 102.7c/108.4 – WATER SERVICE LINE (TYPE K COPPER) (SIZE AS SHOWN ON PLAN) IF LEAD OR POLY SERVICE LINE IS ENCOUNTERED, WATER SERVICE SHALL BE REPLACED TO METER.
414. 102.7c/108.4 – WATER SERVICE LINE (TYPE K COPPER OR HDPE 3408 PIPE) (SIZE AS SHOWN ON PLAN) IF LEAD OF POLY SERVICE LINE IS ENCOUNTERED, WATER SERVICE SHALL BE REPLACED TO METER.
415. 102.8k/108.4 – TAPPING SADDLE (SIZE AS SHOWN ON PLAN)
416. 102.8j/108.4 – CORPORATION STOP (SIZE AS SHOWN ON PLAN)
424. 102.8/108.4 – METER PIT (PROVIDED BY CITY)
426. RESTRAINED CONNECTION TO EXISTING WATER PIPE/VALVE/FITTING. THE UNIT PRICE FOR WATER PIPE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING PIPELINE
430. 102.8/108.3 – MJ x SWIVEL TEE (SIZE AS SHOWN)
664. 304 – AGGREGATE BASE COURSE (CLASS 6) (15" THICK)
679. 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (3" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR=75) (ONE 3" LIFT BOTTOM MAT)
680. 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (2" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR=75) (ONE 2" LIFT TOP MAT) (T-TOP PATCH) (SEE CITY STD. DETAIL GU-03)

NOTES:
- ALL WATERLINE FITTINGS SHALL BE EPOXY COATED PER CITY STANDARD SPECIFICATION 102.7a AND WRAPPED WITH 8 MIL POLYETHYLENE AND TO INCLUDE THRUST BLOCK PER CITY STD DETAILS W-07 & W-08
- 36" BURY DEPTH UNLESS OTHERWISE NOTED IN THE PROFILE
- WATERLINE SERVICES INSTALLED OUTSIDE TRENCH LIMITS AND UNDER PAVEMENT TO BE INSTALLED BY TRENCHLESS METHODS
- CONTRACTOR TO REFERENCE EBAA IRON RESTRAINT LENGTH CALCULATOR FOR DETERMINING PIPE RESTRAINT LENGTH 1

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

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

DESCRIPTION	DATE
REVISION 1 ADDENDUM #1	4/18/2019
REVISION 2	
REVISION 3	
REVISION 4	

DRAWN BY TAG DATE 3/2019
DESIGNED BY ES DATE 3/2019
CHECKED BY BG DATE 3/2019
APPROVED BY BG DATE 3/2019

SCALES: PLAN HORIZONTAL: 1" = 20' (0 5' 10' 20'); PROFILE HORIZONTAL: 1" = 20' (0 5' 10' 20'), VERTICAL: 1" = 2' (0 0.5' 1')

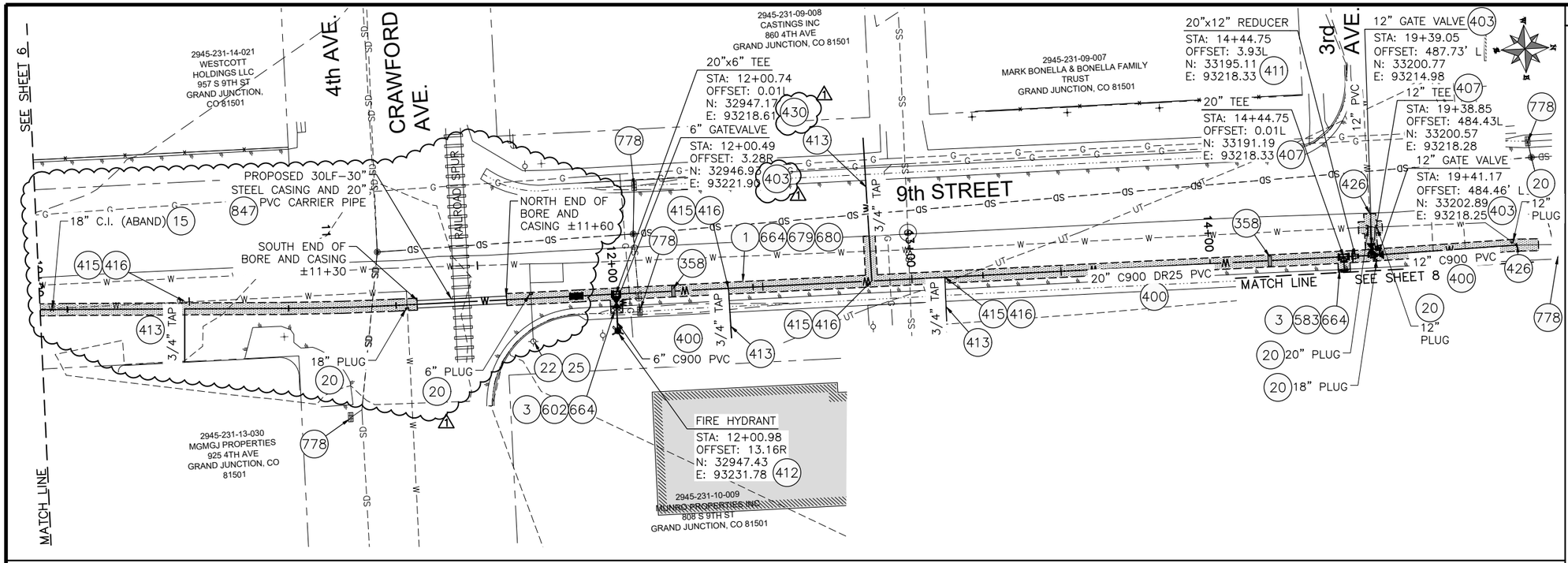
CITY OF Grand Junction COLORADO

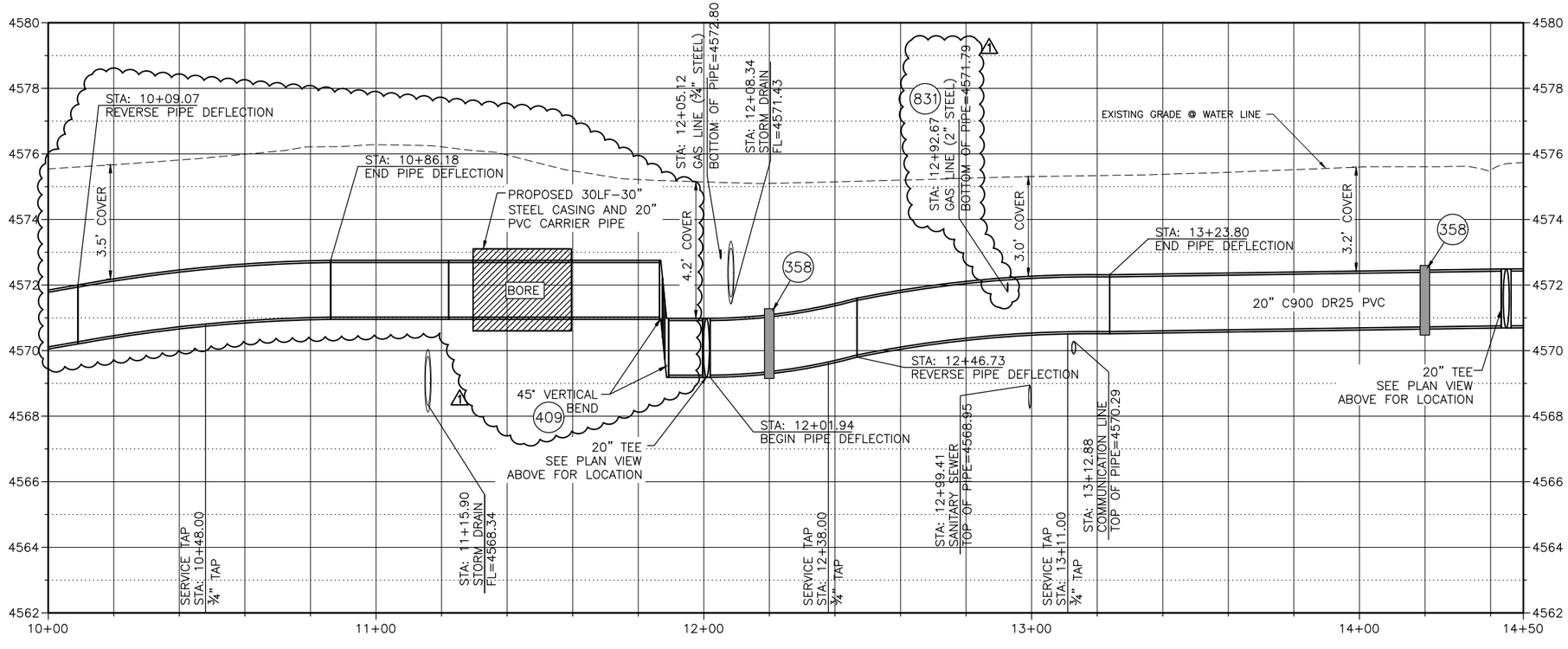
J-U-B ENGINEERS, INC. — OTHER J-U-B COMPANIES: THE LANGDON GROUP, GATEWAY MAPPING INC.

2019 SOUTH DOWNTOWN WATER & SANITARY SEWER REPLACEMENT PROJECT
PLAN & PROFILE – 9th STREET WATER LINE

6

Plot Date:4/16/2019 5:33 PM Plotted By: Erik Snyder
Date Created:4/16/2019 \81-PALISADE-G\PUBLIC\PROJECTS\JUB\1-18-029, CITY OF GRAND JUNCTION, ON CALL SERVICES 2019 - AMENDMENT #3\3RD AVE W\LOADSHEET\CIVIL\81-18-029_C-801X.DWG





PROJECT NO. 81–18–029

(1) 202 – REMOVAL OF ASPHALT MAT. CUT AND REMOVE ASPHALT AS SHOWN. (INDICATED BY DOT HATCH PATTERN)

(3) 202 – REMOVAL OF CONCRETE. SAW CUT AND REMOVE CONCRETE AS SHOWN. (INDICATED BY CROSS HATCH PATTERN) INCLUDES BUT NOT LIMITED TO CURB, GUTTER, SIDEWALK, DRIVEWAY, SLABS, V–PAN, CURB RAMPS, INTERSECTION CORNERS, APRONS, AND LANDSCAPE BORDERS.

(15) 202 – REMOVAL OF PIPE AS SHOWN. (SIZE AND TYPE AS SHOWN ON PLAN)

(20) 202 – ABANDON PIPE. ABANDON BY PLUGGING REMAINING ENDS WITH CONCRETE

(22) 202 – REMOVE EXISTING FIRE HYDRANT AND RETURN TO CITY SHOPS

(25) 202 – ABANDON EXISTING WATER VALVE. CLOSE VALVE, REMOVE TOP HALF OF EXISTING VALVE BOX, FILL CAVITY TO FINISHED SUBGRADE WITH FLOW–FILL MATERIAL.

(358) 103 – CLAY CUT–OFF WALL (INCIDENTAL TO WATERLINE INSTALLATION PAY ITEM)

(400) 102.7/108.2 – WATER MAIN PIPE (C–900 PVC) (SIZE AS SHOWN). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL

(403) 102.8b/108.3 – GATE VALVE. (SIZE AS SHOWN)

(404) 102.8e/108.3 – BUTTERFLY VALVE (SIZE AS SHOWN)

(407) 102.8/108.3 – TEE (SIZE AS SHOWN)

(409) 102.8/108.3 – ELBOW (SIZE AND ANGLE AS SHOWN)

(411) 102.8/108.3 – REDUCER (SIZE AS SHOWN)

(412) 102.8a/108.3 – FIRE HYDRANT ASSEMBLY

(413) 102.7c/108.4 – WATER SERVICE LINE (TYPE K COPPER) (SIZE AS SHOWN ON PLAN) IF LEAD OR POLY SERVICE LINE IS ENCOUNTERED, WATER SERVICE SHALL BE REPLACED TO METER.

(415) 102.8k/108.4 – TAPPING SADDLE (SIZE AS SHOWN ON PLAN)

(416) 102.8j/108.4 – CORPORATION STOP (SIZE AS SHOWN ON PLAN)

(426) RESTRAINED CONNECTION TO EXISTING WATER PIPE/VALVE/FITTING. THE UNIT PRICE FOR WATER PIPE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING PIPELINE

(430) 102.8/108.3 – MJ x SWIVEL TEE (SIZE AS SHOWN)

(583) 608.06 – CONCRETE DRAINAGE PAN (4' WIDE) (MATCH IN KIND)

(602) 608.06 – CONCRETE CURB AND GUTTER (STANDARD) (2' WIDE)

(664) 304 – AGGREGATE BASE COURSE (CLASS 6) (15" THICK)

(679) 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (3" THICK) (GRADING SX, BINDER GRADE PG 64–22, GYR=75) (ONE 3" LIFT BOTTOM MAT)

(680) 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (2" THICK) (GRADING SX, BINDER GRADE PG 64–22, GYR=75) (ONE 2" LIFT TOP MAT) (T–TOP PATCH) (SEE CITY STD. DETAIL GU–03)

(778) 208 – STORM DRAIN INLET PROTECTION (GRAVEL FILTER AT CURB INLET) (AS SHOWN AND PER DETAIL)

(831) COORDINATE WITH XCEL ENERGY FOR RELOCATION OF GAS LINE

(847) THE CONTRACTOR SHALL BORE OR JACK THE WATERLINE UNDER THE RAILROAD SPUR. THE ASPHALT SHALL NOT BE CUT OR PLANED WITHIN 15' OF THE SPUR

NOTES:
- ALL WATERLINE FITTINGS SHALL BE EPOXY COATED PER CITY STANDARD SPECIFICATION 102.7a AND WRAPPED WITH 8 MIL POLYETHYLENE AND TO INCLUDE THRUST BLOCK PER CITY STD DETAILS W–07 & W–08
- CIPP SHALL BE INSTALLED WITHIN ENTIRE LENGTH OF EXISTING STEEL CASING. CIPP STATION LIMITS SHOWN ARE ESTIMATES BASED ON AS–BUILT INFORMATION
- WATERLINE SERVICES INSTALLED OUTSIDE TRENCH LIMITS AND UNDER PAVEMENT TO BE INSTALLED BY TRENCHLESS METHODS
- 36" BURY DEPTH UNLESS OTHERWISE NOTED IN THE PROFILE
- CONTRACTOR TO REFERENCE EBAA IRON RESTRAINT LENGTH CALCULATOR FOR DETERMINING PIPE RESTRAINT LENGTH

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

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

DESCRIPTION		DATE
REVISION 1	ADDENDUM #1	4/18/2019
REVISION 2		
REVISION 3		
REVISION 4		

DRAWN BY TAG DATE 3/2019
DESIGNED BY ES DATE 3/2019
CHECKED BY BG DATE 3/2019
APPROVED BY BG DATE 3/2019

SCALES: PLAN HORIZONTAL: 1" = 20' (0 5' 10' 20'); PROFILE HORIZONTAL: 1" = 20' (0 5' 10' 20'), VERTICAL: 1" = 2' (0 0.5' 1' 2')

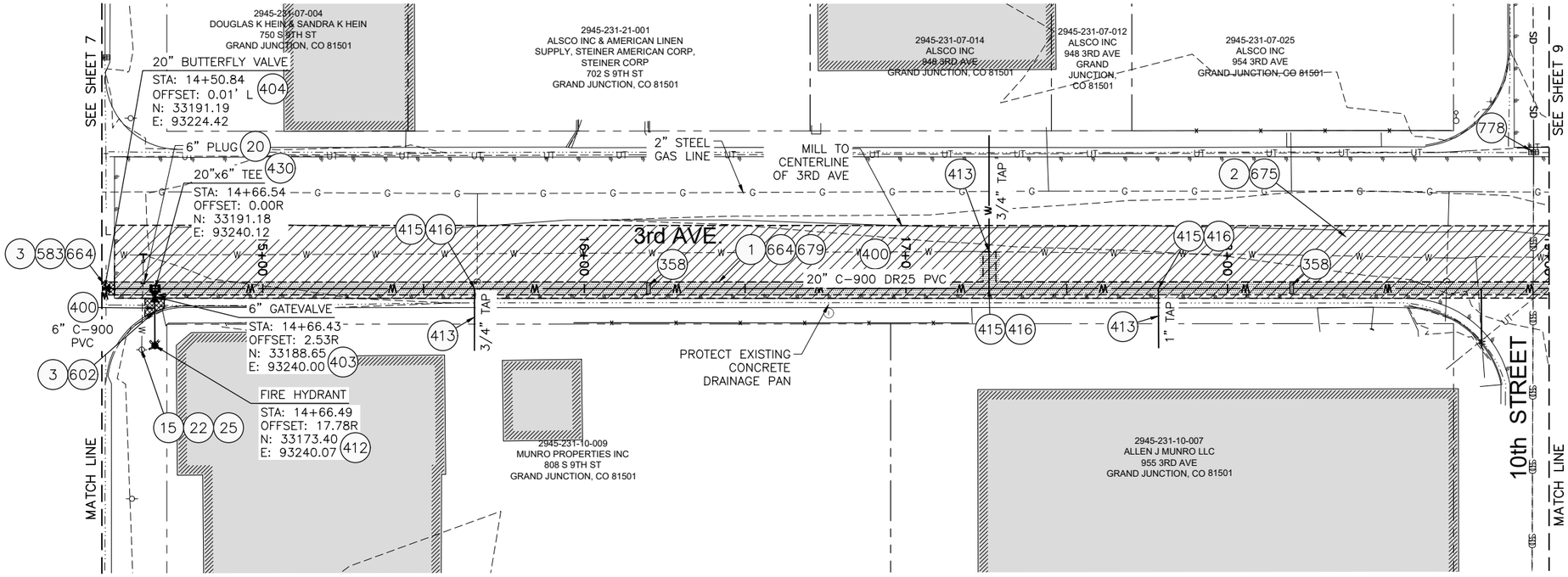
CITY OF Grand Junction COLORADO

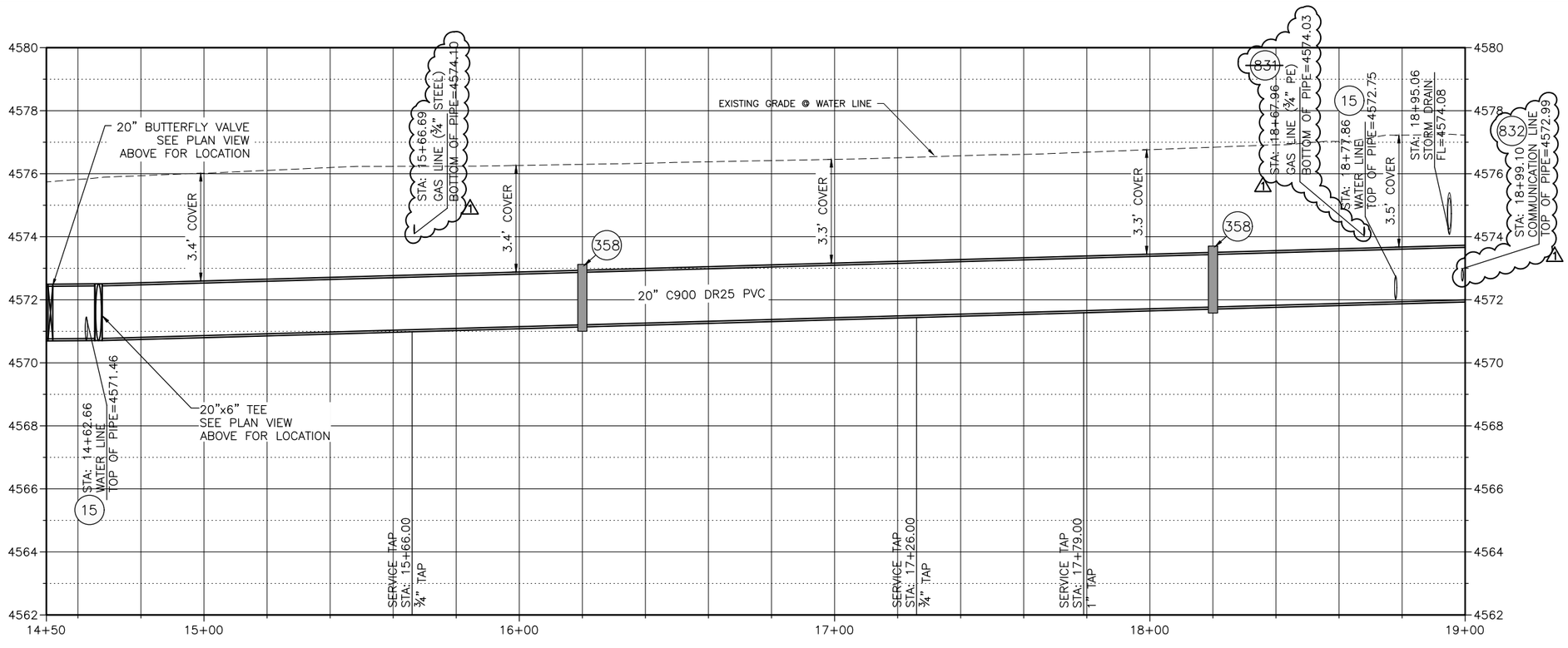
J-U-B ENGINEERS, INC. — OTHER J-U-B COMPANIES: THE LANGDON GROUP, GATEWAY MAPPING INC.

2019 SOUTH DOWNTOWN WATER & SANITARY SEWER REPLACEMENT PROJECT PLAN & PROFILE – 9th STREET WATER LINE

7

Plot Date: 4/16/2019 5:34 PM Plotted By: Erik Snyder
Date Created: 4/16/2019 I:\81-PALISADE-G\PUBLIC\PROJECTS\JUB\81-18-029, CITY OF GRAND JUNCTION, ON CALL SERVICES 2019 - AMENDMENT #3\3RD AVE WL\CADS\SHEET\CIVIL\81-18-029_C-201X.DWG





PROJECT NO. 81-18-029

1. 202 – REMOVAL OF ASPHALT MAT. CUT AND REMOVE ASPHALT AS SHOWN. (INDICATED BY DOT HATCH PATTERN)
2. 202.09 – REMOVAL OF ASPHALT MAT (PLANING). (2" DEPTH)
3. 202 – REMOVAL OF CONCRETE. SAW CUT AND REMOVE CONCRETE AS SHOWN. (INDICATED BY CROSS HATCH PATTERN) INCLUDES BUT NOT LIMITED TO CURB, GUTTER, SIDEWALK, DRIVEWAY, SLABS, V-PAN, CURB RAMPS, INTERSECTION CORNERS, APRONS, AND LANDSCAPE BORDERS
15. 202 – REMOVAL OF PIPE AS SHOWN. (SIZE AND TYPE AS SHOWN ON PLAN)
20. 202 – ABANDON PIPE. ABANDON BY PLUGGING REMAINING ENDS WITH CONCRETE
22. 202 – REMOVE EXISTING FIRE HYDRANT AND RETURN TO CITY SHOPS
25. 202 – ABANDON EXISTING WATER VALVE. CLOSE VALVE, REMOVE TOP HALF OF EXISTING VALVE BOX, FILL CAVITY TO FINISHED SUBGRADE WITH FLOW-FILL MATERIAL.
358. 103 – CLAY CUT-OFF WALL (INCIDENTAL TO WATERLINE INSTALLATION PAY ITEM)
400. 102.7/108.2 – WATER MAIN PIPE (C-900 PVC) (SIZE AS SHOWN). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL
403. 102.8b/108.3 – GATE VALVE (SIZE AS SHOWN)
404. 102.8e/108.3 – BUTTERFLY VALVE (SIZE AS SHOWN)
412. 102.8a/108.3 – FIRE HYDRANT ASSEMBLY
413. 102.7c/108.4 – WATER SERVICE LINE (TYPE K COPPER) (SIZE AS SHOWN ON PLAN) IF LEAD OR POLY SERVICE LINE IS ENCOUNTERED, WATER SERVICE SHALL BE REPLACED TO METER.
415. 102.8k/108.4 – TAPPING SADDLE (SIZE AS SHOWN ON PLAN)
416. 102.8j/108.4 – CORPORATION STOP (SIZE AS SHOWN ON PLAN)
430. 102.8/108.3 – MJ x SWIVEL TEE (SIZE AS SHOWN)
583. 608.06 – CONCRETE DRAINAGE PAN (4' WIDE) (MATCH IN KIND)
602. 608.06 – CONCRETE CURB AND GUTTER (STANDARD) (2' WIDE)
664. 304 – AGGREGATE BASE COURSE (CLASS 6) (15" THICK)
675. 401.08 – HOT BITUMINOUS PAVEMENT (2" THICK) (GRADING SX, BINDER GRADE PG 64-22) (MILL & FILL OVERLAY)
679. 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (3" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR=75) (ONE 3" LIFT BOTTOM MAT)
778. 208 – STORM DRAIN INLET PROTECTION (GRAVEL FILTER AT CURB INLET) (AS SHOWN AND PER DETAIL)
~~831.~~ ~~COORDINATE WITH XCEL ENERGY FOR RELOCATION OF GAS LINE~~
832. RESET TELEPHONE LINE (BY OTHERS)

NOTES:
- ALL WATERLINE FITTINGS SHALL BE EPOXY COATED PER CITY STANDARD SPECIFICATION 102.7a AND WRAPPED WITH 8 MIL POLYETHYLENE AND TO INCLUDE THRUST BLOCK PER CITY STD DETAILS W-07 & W-08
- 36" BURY DEPTH UNLESS OTHERWISE NOTED IN THE PROFILE
- WATERLINE SERVICES INSTALLED OUTSIDE TRENCH LIMITS AND UNDER PAVEMENT TO BE INSTALLED BY TRENCHLESS METHODS

CONTRACTOR TO REFERENCE EBAA IRON RESTRAINT LENGTH CALCULATOR FOR DETERMINING PIPE RESTRAINT LENGTH

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

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

DESCRIPTION	DATE
REVISION 1 ADDENDUM #1	4/18/2019
REVISION 2	
REVISION 3	
REVISION 4	

DRAWN BY TAG DATE 3/2019
DESIGNED BY ES DATE 3/2019
CHECKED BY BG DATE 3/2019
APPROVED BY BG DATE 3/2019

SCALES: PLAN HORIZONTAL: 1" = 20' (0, 5', 10', 20'); PROFILE HORIZONTAL: 1" = 20' (0, 5', 10', 20'), VERTICAL: 1" = 2' (0, 0.5', 1', 2')

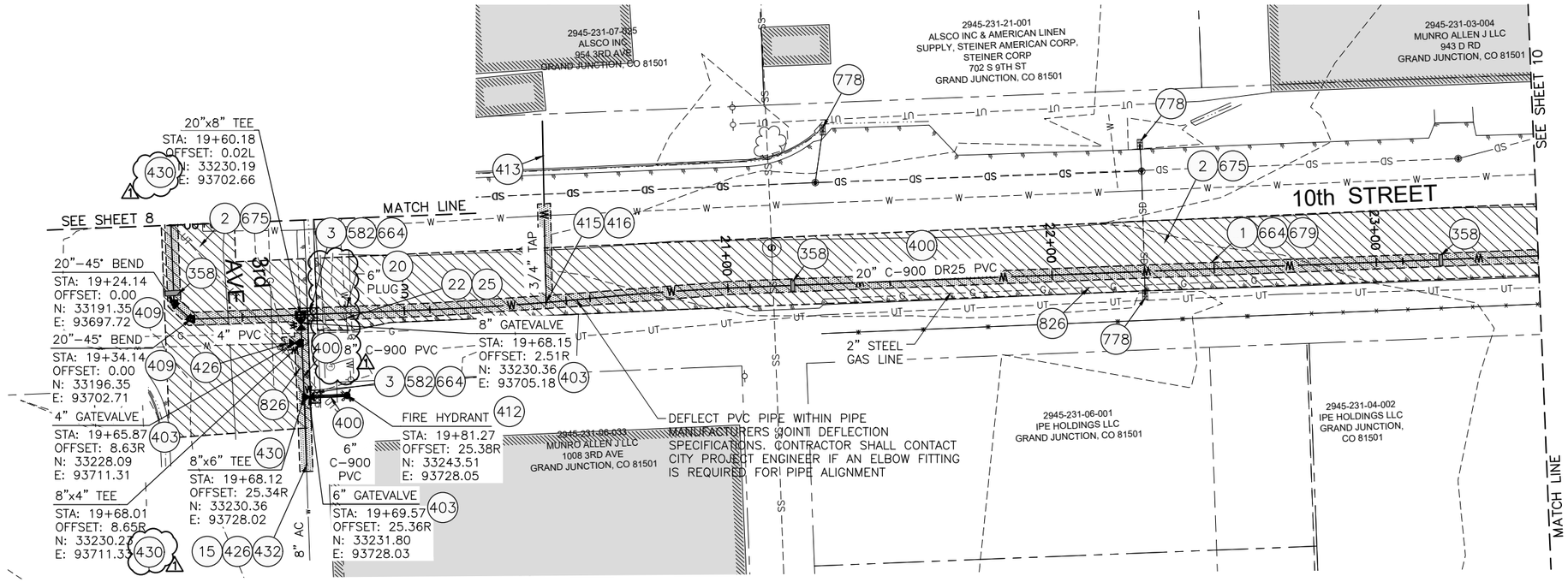
CITY OF Grand Junction COLORADO

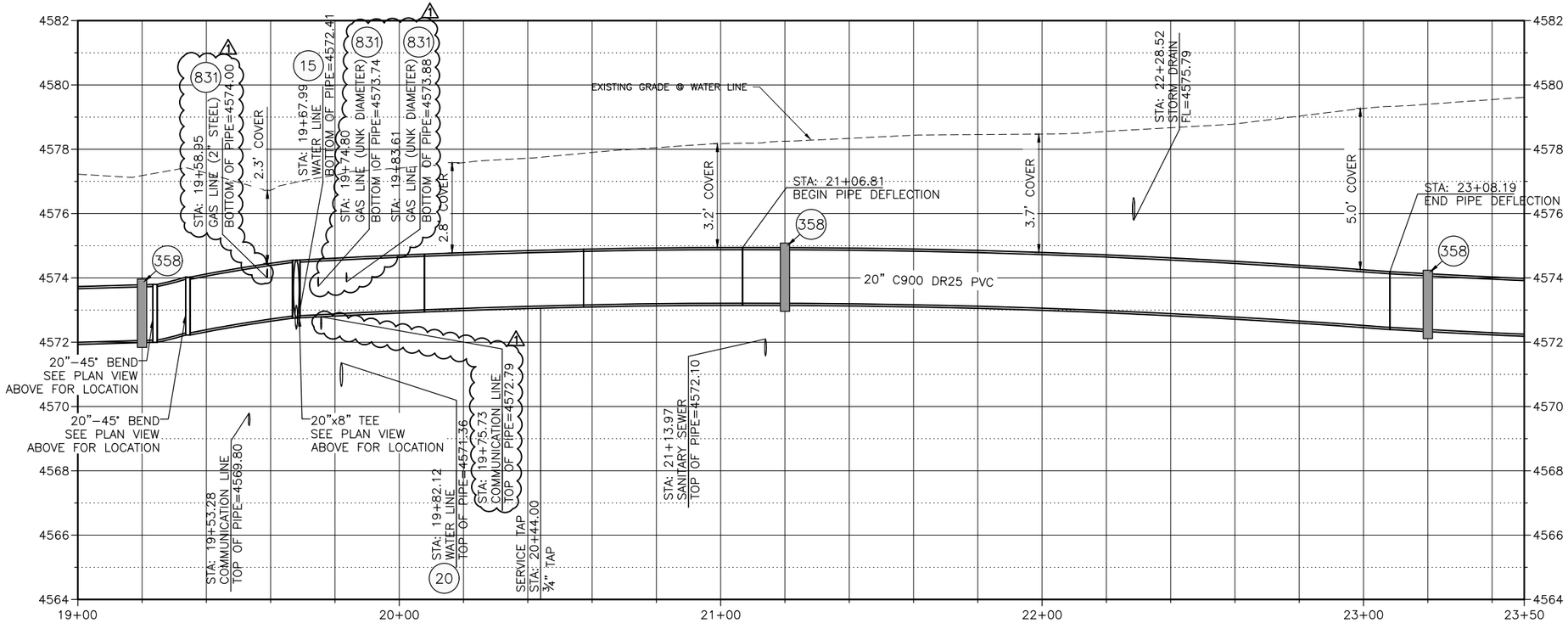
J-U-B ENGINEERS, INC. — OTHER J-U-B COMPANIES: THE LANGDON GROUP, GATEWAY MAPPING INC.

2019 SOUTH DOWNTOWN WATER & SANITARY SEWER REPLACEMENT PROJECT
PLAN & PROFILE – 3rd AVE WATER LINE

8

Plot Date:4/16/2019 5:34 PM Plotted By: Erik Snyder
Date Created:4/16/2019 I:\81-18\SUDE-GI\PUBLIC\PROJECTS\JUB\81-18-029_CITY OF GRAND JUNCTION_ON CALL SERVICES 2019 - AMENDMENT #3\RD AVE WL\CAD\SHEET\DWG\81-18-029_C-201X.DWG





PROJECT NO. 81–18–029

(1) 202 – REMOVAL OF ASPHALT MAT. CUT AND REMOVE ASPHALT AS SHOWN. (INDICATED BY DOT HATCH PATTERN)

(2) 202.09 – REMOVAL OF ASPHALT MAT (PLANING). (2" DEPTH)

(3) 202 – REMOVAL OF CONCRETE. SAW CUT AND REMOVE CONCRETE AS SHOWN. (INDICATED BY CROSS HATCH PATTERN) INCLUDES BUT NOT LIMITED TO CURB, GUTTER, SIDEWALK, DRIVEWAY, SLABS, V–PAN, CURB RAMPS, INTERSECTION CORNERS, APRONS, AND LANDSCAPE BORDERS

(15) 202 – REMOVAL OF PIPE AS SHOWN. (SIZE AND TYPE AS SHOWN ON PLAN)

(20) 202 – ABANDON PIPE. ABANDON BY PLUGGING REMAINING ENDS WITH CONCRETE.

(21) 202 – REMOVE EXISTING WATER VALVE.

(22) 202 – REMOVE EXISTING FIRE HYDRANT AND RETURN TO CITY SHOPS.

(25) 202 – ABANDON EXISTING WATER VALVE. CLOSE VALVE, REMOVE TOP HALF OF EXISTING VALVE BOX, FILL CAVITY TO FINISHED SUBGRADE WITH FLOW–FILL MATERIAL.

(358) 103 – CLAY CUT–OFF WALL (INCIDENTAL TO WATERLINE INSTALLATION PAY ITEM)

(400) 102.7/108.2 – WATER MAIN PIPE (C–900 PVC) (SIZE AS SHOWN). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL

(403) 102.8b/108.3 – GATE VALVE. (SIZE AS SHOWN)

(407) 102.8/108.3 – TEE (SIZE AS SHOWN)

(409) 102.8/108.3 – ELBOW (SIZE AND ANGLE AS SHOWN)

(412) 102.8a/108.3 – FIRE HYDRANT ASSEMBLY

(413) 102.7c/108.4 – WATER SERVICE LINE (TYPE K COPPER) (SIZE AS SHOWN ON PLAN) IF LEAD OR POLY SERVICE LINE IS ENCOUNTERED, WATER SERVICE SHALL BE REPLACED TO METER.

(415) 102.8k/108.4 – TAPPING SADDLE (SIZE AS SHOWN ON PLAN)

(416) 102.8j/108.4 – CORPORATION STOP (SIZE AS SHOWN ON PLAN)

(426) RESTRAINED CONNECTION TO EXISTING WATER PIPE/VALVE/FITTING. THE UNIT PRICE FOR WATER PIPE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING PIPELINE

(430) 102.8/108.3 – MJ x SWIVEL TEE (SIZE AS SHOWN)

(432) 102.8/108.3 – CONNECT TO EXISTING AC PIPE USING FULL 20–FT STICK OF PVC PIPE

(582) 608.06 – CONCRETE DRAINAGE PAN (3' WIDE) (MATCH IN KIND)

(664) 304 – AGGREGATE BASE COURSE (CLASS 6) (15" THICK)

(675) 401.08 – HOT BITUMINOUS PAVEMENT (2" THICK) (GRADING SX, BINDER GRADE PG 64–22) (MILL & FILL OVERLAY)

(679) 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (3" THICK) (GRADING SX, BINDER GRADE PG 64–22, GYR=75) (ONE 3" LIFT BOTTOM MAT)

(778) 208 – STORM DRAIN INLET PROTECTION (GRAVEL FILTER AT CURB INLET) (AS SHOWN AND PER DETAIL)

(826) PROTECT EXISTING UTILITY LINE IN PLACE

(831) COORDINATE WITH XCEL ENERGY FOR RELOCATION OF GAS LINE

NOTES:
- ALL WATERLINE FITTINGS SHALL BE EPOXY COATED PER CITY STANDARD SPECIFICATION 102.7a AND WRAPPED WITH 8 MIL POLYETHYLENE AND TO INCLUDE THRUST BLOCK PER CITY STD DETAILS W–07 & W–08
- 36" BURY DEPTH UNLESS OTHERWISE NOTED IN THE PROFILE
- WATERLINE SERVICES INSTALLED OUTSIDE TRENCH LIMITS AND UNDER PAVEMENT TO BE INSTALLED BY TRENCHLESS METHODS
- CONTRACTOR TO REFERENCE EBAA IRON RESTRAINT LENGTH CALCULATOR FOR DETERMINING PIPE RESTRAINT LENGTH

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

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

DESCRIPTION		DATE
REVISION 1	ADDENDUM #1	4/18/2019
REVISION 2		
REVISION 3		
REVISION 4		

DRAWN BY TAG DATE 3/2019
DESIGNED BY ES DATE 3/2019
CHECKED BY BG DATE 3/2019
APPROVED BY BG DATE 3/2019

SCALES: PLAN HORIZONTAL: 1" = 20' (0 5' 10' 20'); PROFILE HORIZONTAL: 1" = 20' (0 5' 10' 20'), VERTICAL: 1" = 2' (0 0.5' 1')

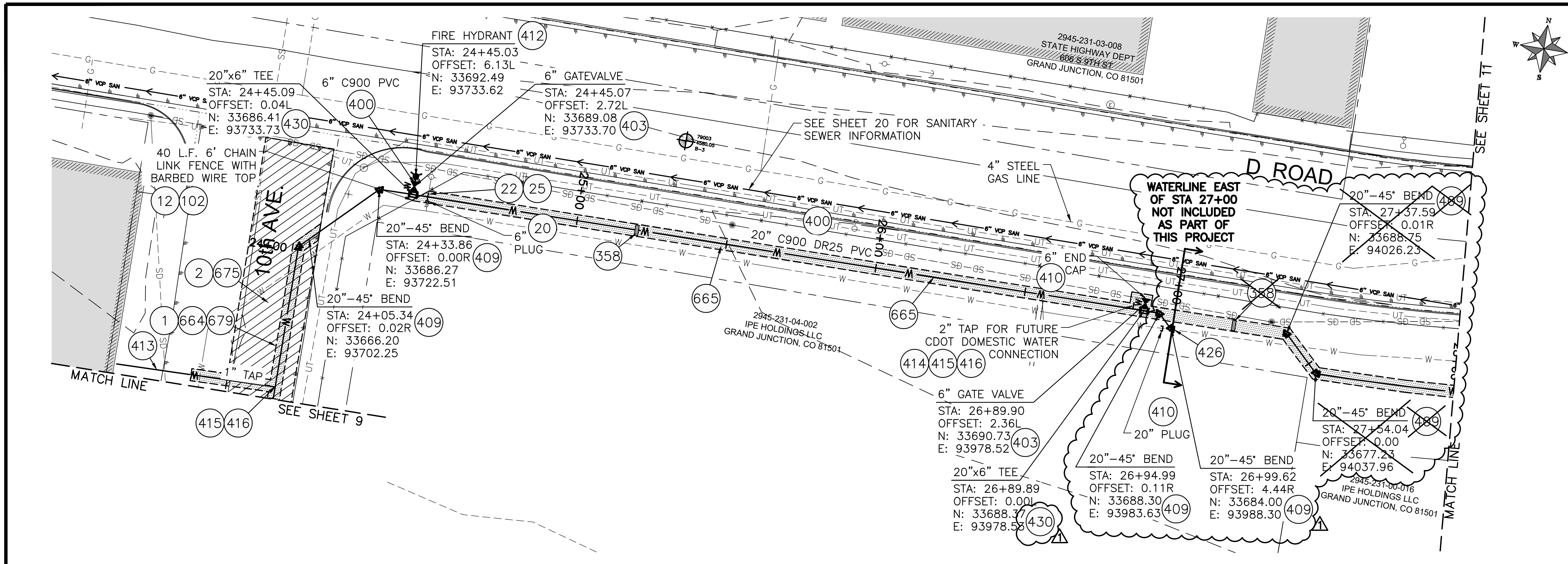
CITY OF Grand Junction COLORADO

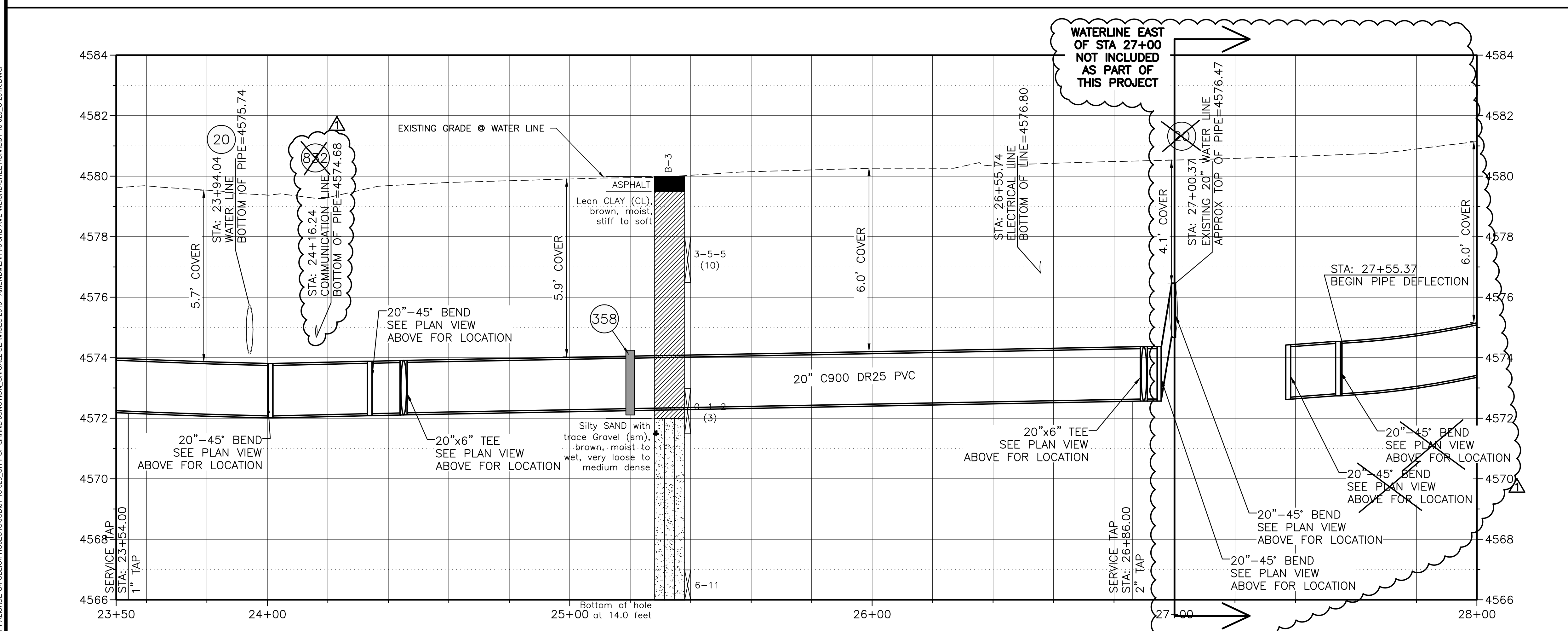
J-U-B ENGINEERS, INC. — OTHER J-U-B COMPANIES: THE LANGDON GROUP, GATEWAY MAPPING INC.

2019 SOUTH DOWNTOWN WATER & SANITARY SEWER REPLACEMENT PROJECT
PLAN & PROFILE – 10th STREET WATER LINE

9

Plot Date:4/16/2019 5:34 PM Plotted By: Erik Snyder
Date Created:4/16/2019 \81-PALISADE-E\PUBLIC\PROJECTS\JUB\1-18-029, CITY OF GRAND JUNCTION, ON CALL SERVICES 2019 - AMENDMENT #3\3RD AVE WL\CADSHEET\CIVIL\81-18-029_C-801X.DWG





PROJECT NO. 81-18-029

1 202 – REMOVAL OF ASPHALT MAT. CUT AND REMOVE ASPHALT AS SHOWN. (INDICATED BY DOT HATCH PATTERN)

2 202.09 – REMOVAL OF ASPHALT MAT (PLANING). (2" DEPTH)

3 202 – REMOVAL OF CONCRETE. SAW CUT AND REMOVE CONCRETE AS SHOWN. (INDICATED BY CROSS HATCH PATTERN) INCLUDES BUT NOT LIMITED TO CURB, GUTTER, SIDEWALK, DRIVEWAY, SLABS, V-PAN, CURB RAMPS, INTERSECTION CORNERS, APRONS, AND LANDSCAPE BORDERS

12 202 – REMOVAL OF FENCE AS SHOWN. (HEIGHT AND MATERIAL AS SHOW ON PLAN)

15 202 – REMOVAL OF PIPE AS SHOWN. (SIZE AND TYPE AS SHOWN ON PLAN)

20 202 – ABANDON PIPE. ABANDON BY PLUGGING REMAINING ENDS WITH CONCRETE.

21 202 – REMOVE EXISTING WATER VALVE

22 202 – REMOVE EXISTING FIRE HYDRANT AND RETURN TO CITY SHOPS.

25 202 – ABANDON EXISTING WATER VALVE. CLOSE VALVE, REMOVE TOP HALF OF EXISTING VALVE BOX, FILL CAVITY TO FINISHED SUBGRADE WITH FLOW-FILL MATERIAL.

102 210 – RESET FENCE. (HEIGHT AND MATERIAL AS SHOW ON PLAN)

358 103 – CLAY CUT-OFF WALL (INCIDENTAL TO WATERLINE INSTALLATION PAY ITEM)

400 102.7/108.2 – WATER MAIN PIPE (C-900 PVC) (SIZE AS SHOWN). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL

403 102.8b/108.3 – GATE VALVE. (SIZE AS SHOWN)

~~407 102.8/108.3 – TEE (SIZE AS SHOWN)~~ 1

409 102.8/108.3 – ELBOW (SIZE AND ANGLE AS SHOWN)

410 102.8/108.3 – END CAP / PLUG (SIZE AS SHOWN) (INCLUDES THRUST BLOCK)

412 102.8a/108.3 – FIRE HYDRANT ASSEMBLY

413 102.7c/108.4 – WATER SERVICE LINE (TYPE K COPPER) (SIZE AS SHOWN ON PLAN) IF LEAD OR POLY SERVICE LINE IS ENCOUNTERED, WATER SERVICE SHALL BE REPLACED TO METER.

414 102.7c/108.4 – WATER SERVICE LINE (TYPE K COPPER OR HDPE 3408 PIPE) (SIZE AS SHOWN ON PLAN) IF LEAD OR POLY SERVICE LINE IS ENCOUNTERED, WATER SERVICE SHALL BE REPLACED TO METER.

415 102.8k/108.4 – TAPPING SADDLE (SIZE AS SHOWN ON PLAN)

416 102.8j/108.4 – CORPORATION STOP (SIZE AS SHOWN ON PLAN)

426 RESTRAINED CONNECTION TO EXISTING WATER PIPE/VALVE/FITTING. THE UNIT PRICE FOR WATER PIPE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING PIPELINE

430 102.8/108.3 – MJ x SWIVEL TEE (SIZE AS SHOWN)

664 304 – AGGREGATE BASE COURSE (CLASS 6) (15" THICK)

665 304 – AGGREGATE BASE COURSE (CLASS 6) (4" THICK) (WIDTH OF TRENCH SURFACE TREATMENT)

675 401.08 – HOT BITUMINOUS PAVEMENT (2" THICK) (GRADING SX, BINDER GRADE PG 64-22) (MILL & FILL OVERLAY)

679 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (3" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR=75) (ONE 3" LIFT BOTTOM MAT)

~~832 RESET TELEPHONE LINE (BY OTHERS).~~ 1

NOTES:

- ALL WATERLINE FITTINGS SHALL BE EPOXY COATED PER CITY STANDARD SPECIFICATION 102.7a AND WRAPPED WITH 8 MIL POLYETHYLENE AND TO INCLUDE THRUST BLOCK PER CITY STD DETAILS W-07 & W-08
- 36" BURY DEPTH UNLESS OTHERWISE NOTED IN THE PROFILE
- WATERLINE SERVICES INSTALLED OUTSIDE TRENCH LIMITS AND UNDER PAVEMENT TO BE INSTALLED BY TRENCHLESS METHODS
- CONTRACTOR TO REFERENCE EBAA IRON RESTRAINT LENGTH CALCULATOR FOR DETERMINING PIPE RESTRAINT LENGTH 1

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

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

DESCRIPTION	DATE
REVISION 1 ADDENDUM #1	4/18/2019
REVISION 2	
REVISION 3	
REVISION 4	

DRAWN BY TAG	DATE 3/2019	
DESIGNED BY ES	DATE 3/2019	
CHECKED BY BG	DATE 3/2019	
APPROVED BY BG	DATE 3/2019	

SCALES: PLAN HORIZONTAL: 1" = 20' — PROFILE HORIZONTAL: 1" = 20', VERTICAL: 1" = 2'

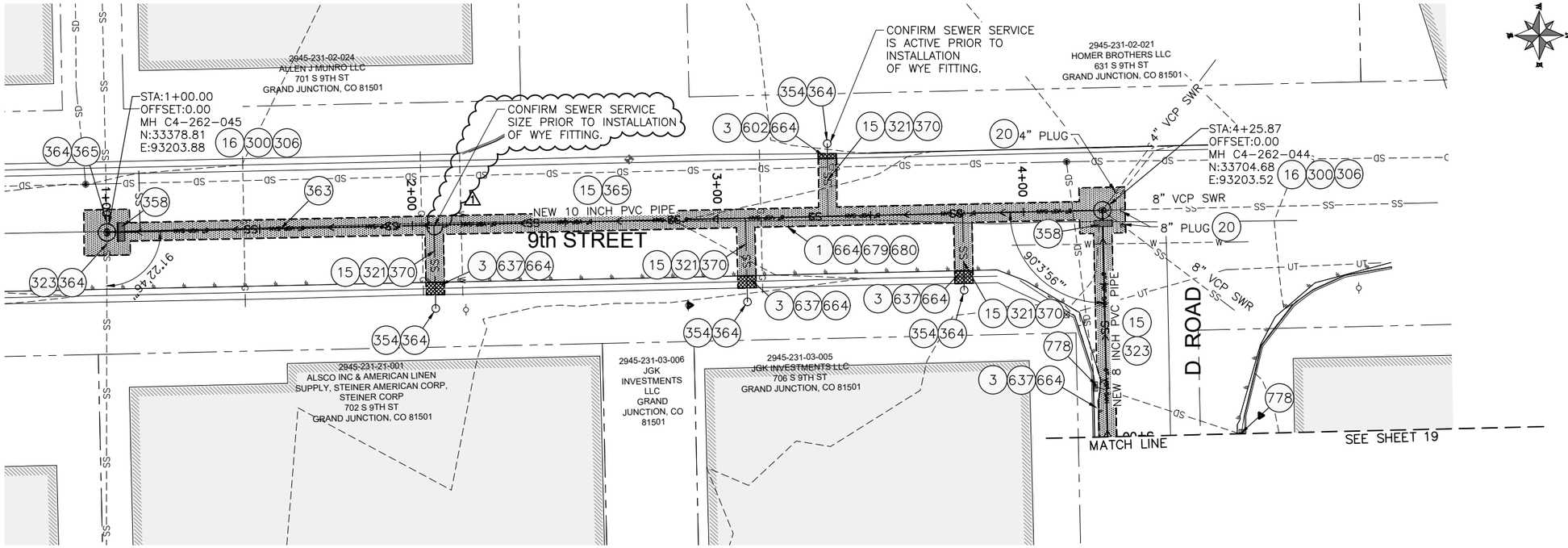
CITY OF Grand Junction COLORADO

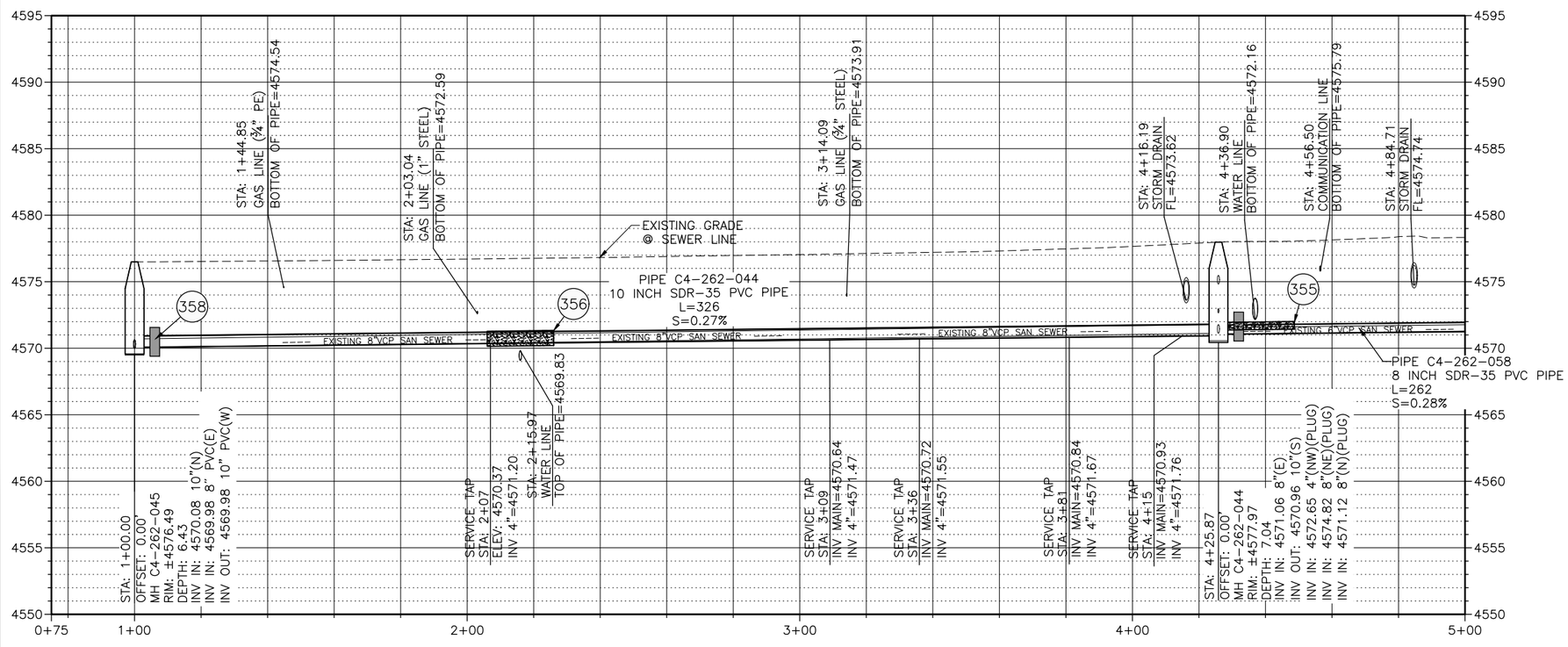
J-U-B J-U-B ENGINEERS, INC. THE LANGDON GROUP, GATEWAY MAPPING INC. OTHER J-U-B COMPANIES

2019 SOUTH DOWNTOWN WATER & SANITARY SEWER REPLACEMENT PROJECT
PLAN & PROFILE – D ROAD WATER LINE

10

Plot Date:4/19/2019 2:19 PM Plotted By: Erik Snyder
Date Created:4/19/2019 \\81-PALISADE-G\PUBLIC\PROJECTS\JUB\81-18-029_CITY OF GRAND JUNCTION_ON CALL SERVICES 2019 - AMENDMENT #3 3RD AVE WL\CAD\SHEET\CIVIL\81-18-029_C-201X.DWG





PROJECT NO. 81-18-029

(1) 202 – REMOVAL OF ASPHALT MAT. CUT AND REMOVE ASPHALT

(3) 202 – REMOVAL OF CONCRETE. SAW CUT AND REMOVE CONCRETE AS SHOWN. (INDICATED BY CROSS HATCH PATTERN) INCLUDES BUT NOT LIMITED TO CURB, GUTTER, SIDEWALK, DRIVEWAY, SLABS, V-PAN, CURB RAMPS, INTERSECTION CORNERS, APRONS, AND LANDSCAPE BORDERS.

(15) 202 – REMOVAL OF PIPE AS SHOWN. (SIZE AND TYPE AS SHOWN ON PLAN)

(16) 202 – REMOVAL OF MANHOLE. CONTRACTOR SHALL SALVAGE RING AND COVER AND DELIVER TO CITY SHOPS

(20) 202 – ABANDON PIPE. ABANDON BY PLUGGING REMAINING ENDS WITH CONCRETE.

(300) 102.11/108.5 – SANITARY SEWER BASIC MANHOLE (48" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE, FORMING INVERTS AND ADJUSTING TO FINAL GRADE. (SEE CITY OF GRAND JUNCTION STANDARD DETAIL SS-02)

(306) 102.11/108.5 – MANHOLE BARREL SECTION (D>5') (48" I.D.)

(321) 102.9/108.2 – 4" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.

(323) 102.9/108.2 – 8" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 130.16 EARTH BACKFILL MATERIAL

(354) 104.20 – INSTALL 2-WAY SANITARY SEWER SERVICE CLEANOUT (STD. DETAIL SS-07). INCLUDES CLEANOUT RING AND COVER AND CONCRETE COLLAR IN UNPAVED AREAS (SEE STD. DETAIL SS-07).

(355) 104.40 – CAP TOP HALF OF SEWER IN CONCRETE PER STD. DETAIL GU-04. (WATER LINE LESS THAN 18" ABOVE SEWER LINE)

(356) 104.40 – ENCASE ENTIRE SEWER IN REINFORCED CONCRETE PER STD. DETAIL GU-04. (ALL CASES WHERE WATER LINE BELOW SEWER LINE OR AT WATERWAY CROSSING)

(358) 103 – CLAY CUT-OFF WALL (INCIDENTAL TO SEWER INSTALLATION PAY ITEM)

(363) BYPASS PUMPING (AS DEEMED NECESSARY BY THE CITY AND CONTRACTOR)

(364) CONNECT TO EXISTING SEWER PIPE. THE CONTRACT PRICE FOR SEWER PIPE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING SEWER PIPES.

(365) 102.9/108.2 – 10" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 130.16 EARTH BACKFILL MATERIAL

(370) 102.9/108.3 – 10"x4" SEWER SERVICE TAP. FULL BODY WYE (SEE STD. DETAIL SS-06)

(602) 608.06 – CONCRETE CURB AND GUTTER (STANDARD) (2' WIDE)

(637) 608.06 – CONCRETE VALLEY GUTTER (MATCH IN KIND)

(664) 304 – AGGREGATE BASE COURSE (CLASS 6) (15" THICK)

(679) 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (3" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR=75) (ONE 3" LIFT BOTTOM MAT)

(680) 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (2" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR=75) (ONE 2" LIFT TOP MAT) (T-TOP PATCH) (SEE CITY STD. DETAIL GU-03)

(778) 208 – STORM DRAIN INLET PROTECTION (GRAVEL FILTER AT CURB INLET) (AS SHOWN AND PER DETAIL)

NOTES:
- DO NOT INSTALL STEPS IN NEW MANHOLES.

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

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

DESCRIPTION	DATE
REVISION 1 ADDENDUM #1	4/18/2019
REVISION 2	
REVISION 3	
REVISION 4	

DRAWN BY TAG DATE 3/2019
DESIGNED BY ES DATE 3/2019
CHECKED BY BG DATE 3/2019
APPROVED BY BG DATE 3/2019

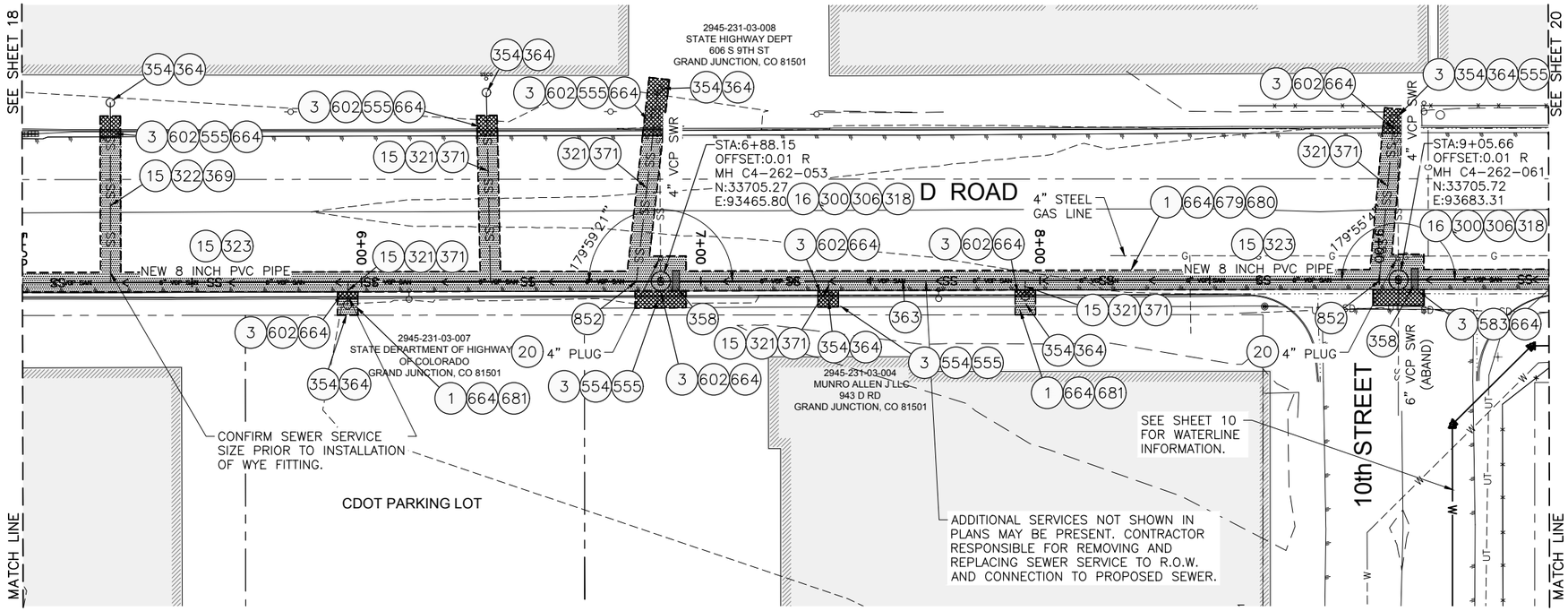
SCALES: PLAN HORIZONTAL: 1" = 20' (0, 5', 10', 20'); PROFILE HORIZONTAL: 1" = 20' (0, 5', 10', 20'), VERTICAL: 1" = 5' (0, 1.25', 2.5', 5')

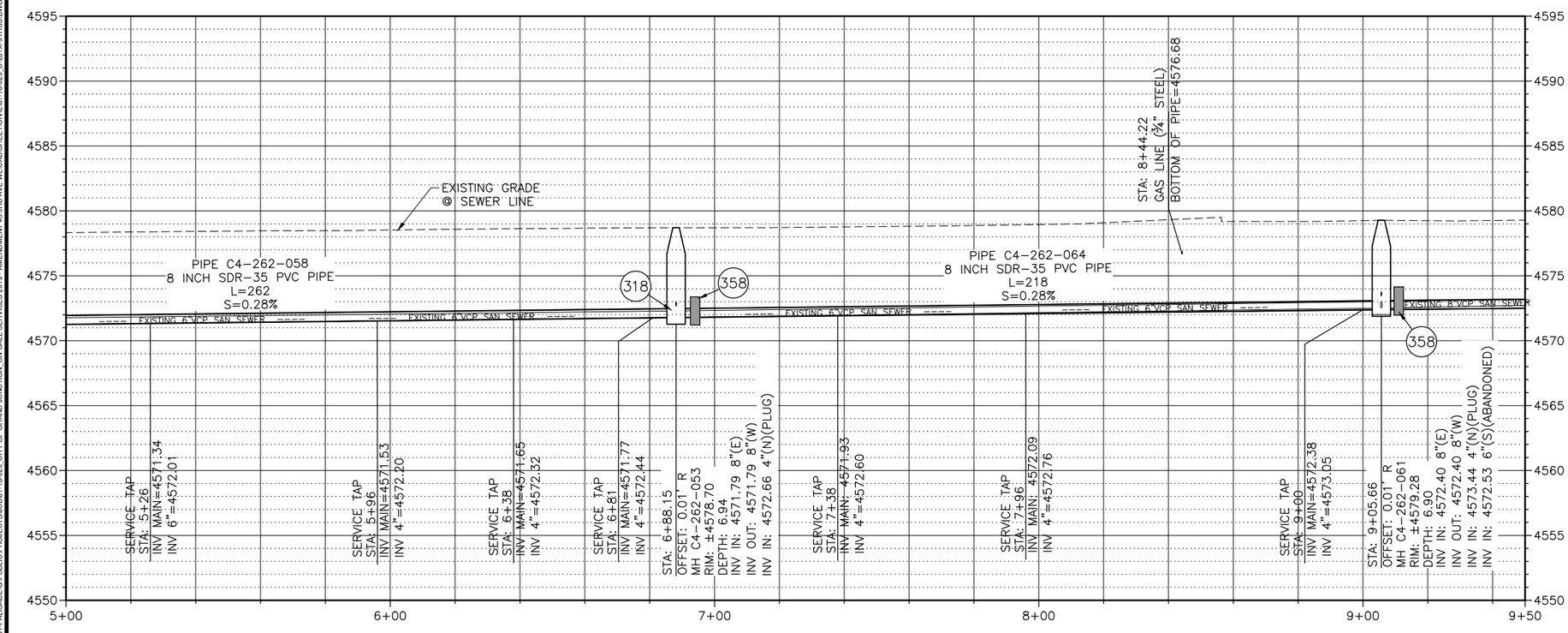
CITY OF Grand Junction COLORADO

J-U-B ENGINEERS, INC. — OTHER J-U-B COMPANIES: THE LANGDON GROUP, GATEWAY MAPPING INC.

2019 SOUTH DOWNTOWN WATER & SANITARY SEWER REPLACEMENT PROJECT
PLAN & PROFILE – 9TH ST SANITARY SEWER

Plot Date:4/16/2019 5:35 PM Plotted By: Erik Snyder
Date Created:4/16/2019 I:\81PALISADE\GIS\PUBLIC\PROJECTS\JUB\81-18-029_CITY OF GRAND JUNCTION_ON CALL SERVICES 2019 - AMENDMENT #3\RD AVE WL\CAD\SHEET\CIVIL\81-18-029_C-201X-9THSS.DWG





PROJECT NO. 81-18-029

(1) 202 – REMOVAL OF ASPHALT MAT. CUT AND REMOVE ASPHALT

(3) 202 – REMOVAL OF CONCRETE. SAW CUT AND REMOVE CONCRETE AS SHOWN. (INDICATED BY CROSS HATCH PATTERN) INCLUDES BUT NOT LIMITED TO CURB, GUTTER, SIDEWALK, DRIVEWAY, SLABS, V-PAN, CURB RAMPS, INTERSECTION CORNERS, APRONS, AND LANDSCAPE BORDERS.

(15) 202 – REMOVAL OF PIPE AS SHOWN. (SIZE AND TYPE AS SHOWN ON PLAN)

(16) 202 – REMOVAL OF MANHOLE. CONTRACTOR SHALL SALVAGE RING AND COVER AND DELIVER TO CITY SHOPS

(300) 102.11/108.5 – SANITARY SEWER BASIC MANHOLE (48" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE, FORMING INVERTS AND ADJUSTING TO FINAL GRADE. (SEE CITY OF GRAND JUNCTION STANDARD DETAIL SS-02)

(306) 102.11/108.5 – MANHOLE BARREL SECTION (D>5') (48" I.D.)

(318) PROVIDE PVC INVERT. (PIPE SHALL BE LAID CONTINUOUSLY THROUGH MANHOLE). COST IS INCIDENTAL TO COST OF MANHOLE INSTALLATION.

(321) 102.9/108.2 – 4" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.

(322) 102.9/108.2 – 6" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.

(323) 102.9/108.2 – 8" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 130.16 EARTH BACKFILL MATERIAL

(354) 104.20 – INSTALL 2-WAY SANITARY SEWER SERVICE CLEANOUT (STD. DETAIL SS-07). INCLUDES CLEANOUT RING AND COVER AND CONCRETE COLLAR IN UNPAVED AREAS (SEE STD. DETAIL SS-07).

(358) 103 – CLAY CUT-OFF WALL (INCIDENTAL TO SEWER INSTALLATION PAY ITEM)

(363) BYPASS PUMPING WILL BE REQUIRED FOR CONSTRUCTION.

(364) CONNECT TO EXISTING SEWER PIPE. THE CONTRACT PRICE FOR SEWER PIPE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING SEWER PIPES.

(369) 102.9/108.3 – 8"x6" SEWER SERVICE TAP. FULL BODY WYE

(371) 102.9/108.3 – 8"x4" SEWER SERVICE TAP. FULL BODY WYE (SEE STD. DETAIL SS-06)

(554) 608.06 – CONCRETE CURB (6" WIDE, 12" HIGH) (MATCH IN KIND)

(555) 608.06 – CONCRETE SIDEWALK (4" THICK) (MATCH IN KIND)

(583) 608.06 – CONCRETE DRAINAGE PAN (4' WIDE)

(602) 608.06 – CONCRETE CURB AND GUTTER (STANDARD) (2' WIDE)

(664) 304 – AGGREGATE BASE COURSE (CLASS 6) (15" THICK)

(679) 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (3" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR=75) (ONE 3" LIFT BOTTOM MAT)

(680) 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (2" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR=75) (ONE 2" LIFT TOP MAT) (T-TOP PATCH) (SEE CITY STD. DETAIL GU-03)

(681) 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (5" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR=75)(ONE 3" BOTTOM LIFT, ONE 2" TOP LIFT)

(852) RELOCATE EXISTING SERVICE FROM CONNECTION TO MANHOLE, TO DOWNSTREAM OF MANHOLE.

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

NOTES:
- DO NOT INSTALL STEPS IN NEW MANHOLES.

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

DESCRIPTION	DATE
REVISION 1	
REVISION 2	
REVISION 3	
REVISION 4	

DRAWN BY TAG DATE 3/2019
DESIGNED BY ES DATE 3/2019
CHECKED BY BG DATE 3/2019
APPROVED BY BG DATE 3/2019

SCALES: PLAN HORIZONTAL: 1" = 20' (0 5' 10' 20'); PROFILE HORIZONTAL: 1" = 20' (0 5' 10' 20'), VERTICAL: 1" = 5' (0 1.25' 2.5' 5')

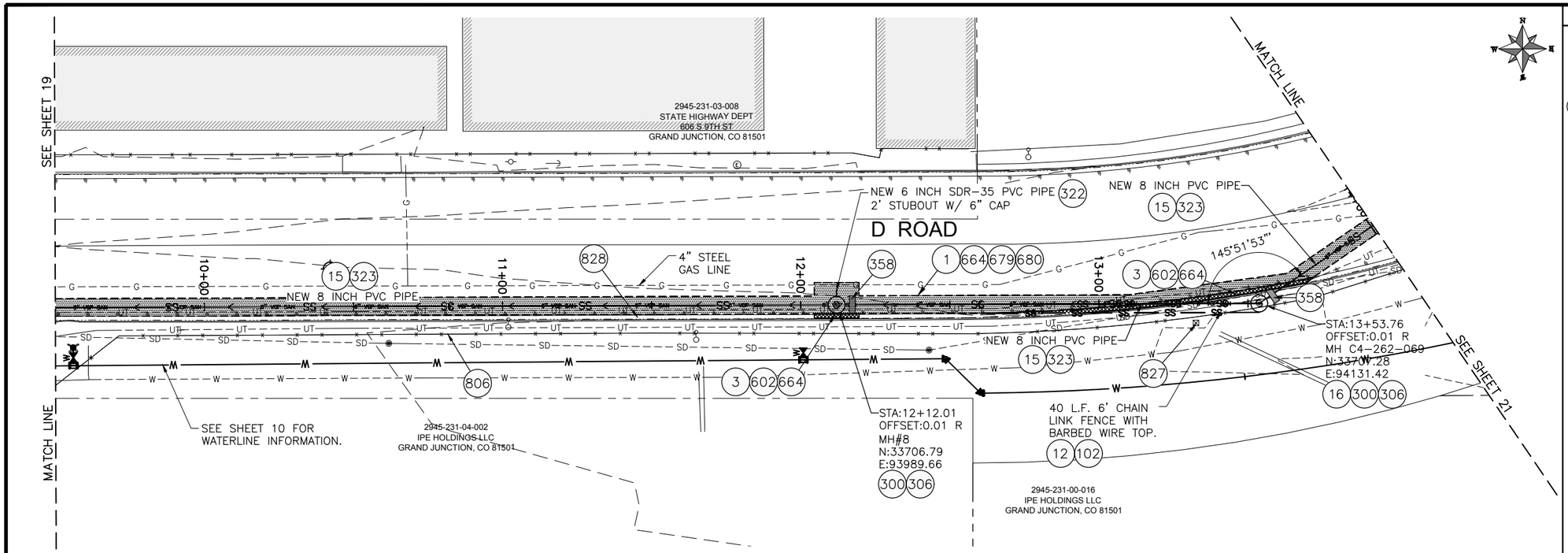
CITY OF Grand Junction COLORADO

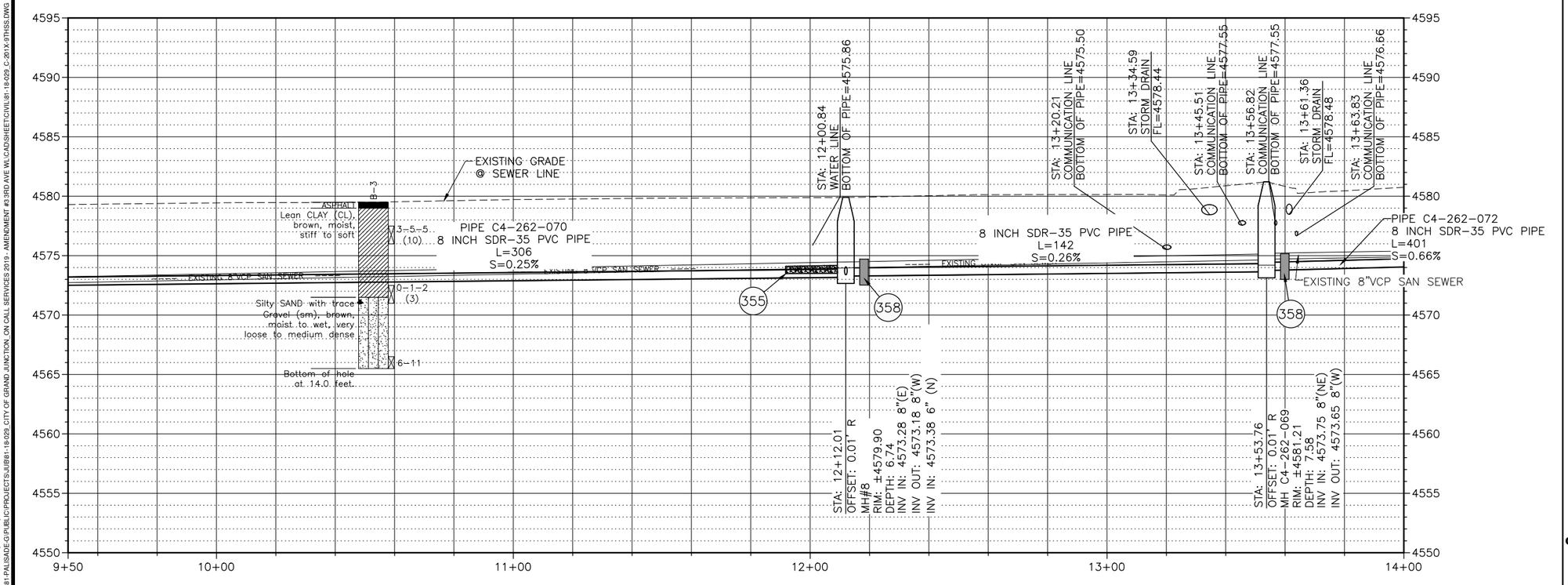
J-U-B ENGINEERS, INC. | THE LANGDON GROUP | GATEWAY MAPPING INC. | OTHER J-U-B COMPANIES

2019 SOUTH DOWNTOWN WATER & SANITARY SEWER REPLACEMENT PROJECT
PLAN & PROFILE – D ROAD SANITARY SEWER

19

Plot Date:3/29/2019 2:00 PM Plotted By: Erik Snyder
Date Created:3/29/2019 \\bl-PALISADE-G\PUBLIC\PROJECTS\JUB\81-18-029_CITY OF GRAND JUNCTION_ON CALL SERVICES 2019 - AMENDMENT #3\3RD AVE WL\CAD\SHEET\CIVIL\81-18-029_C-261X-STRSS.DWG





PROJECT NO. 81-18-029

1 202 – REMOVAL OF ASPHALT MAT. CUT AND REMOVE ASPHALT

3 202 – REMOVAL OF CONCRETE. SAW CUT AND REMOVE CONCRETE AS SHOWN. (INDICATED BY CROSS HATCH PATTERN) INCLUDES BUT NOT LIMITED TO CURB, GUTTER, SIDEWALK, DRIVEWAY, SLABS, V-PAN, CURB RAMPS, INTERSECTION CORNERS, APRONS, AND LANDSCAPE BORDERS.

12 202 – REMOVAL OF FENCE AS SHOWN. (HEIGHT AND MATERIAL AS SHOW ON PLAN)

15 202 – REMOVAL OF PIPE AS SHOWN. (SIZE AND TYPE AS SHOWN ON PLAN)

16 202 – REMOVAL OF MANHOLE. CONTRACTOR SHALL SALVAGE RING AND COVER AND DELIVER TO CITY SHOPS

102 210 – RESET FENCE. (HEIGHT AND MATERIAL AS SHOW ON PLAN)

300 102.11/108.5 – SANITARY SEWER BASIC MANHOLE (48" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE, FORMING INVERTS AND ADJUSTING TO FINAL GRADE. (SEE CITY OF GRAND JUNCTION STANDARD DETAIL SS-02)

306 102.11/108.5 – MANHOLE BARREL SECTION (D>5') (48" I.D.)

322 102.9/108.2 – 6" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.

323 102.9/108.2 – 8" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 130.16 EARTH BACKFILL MATERIAL

355 104.40 – CAP TOP HALF OF SEWER IN CONCRETE PER STD. DETAIL GU-04. (WATER LINE LESS THAN 18" ABOVE SEWER LINE)

358 103 – CLAY CUT-OFF WALL (INCIDENTAL TO SEWER INSTALLATION PAY ITEM)

602 608.06 – CONCRETE CURB AND GUTTER (STANDARD) (2' WIDE)

637 608.06 – CONCRETE VALLEY GUTTER (MATCH IN KIND)

664 304 – AGGREGATE BASE COURSE (CLASS 6) (15" THICK)

679 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (3" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR=75) (ONE 3" LIFT BOTTOM MAT)

680 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (2" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR=75) (ONE 2" LIFT TOP MAT) (T-TOP PATCH) (SEE CITY STD. DETAIL GU-03)

806 PROTECT FENCE

827 PROTECT EXISTING ELECTRIC BOX

828 PROTECT EXISTING CURB AND GUTTER.

NOTES:
- DO NOT INSTALL STEPS IN NEW MANHOLES.

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

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

DESCRIPTION	DATE
REVISION 1	
REVISION 2	
REVISION 3	
REVISION 4	

DRAWN BY	TAG	DATE	3/2019
DESIGNED BY	ES	DATE	3/2019
CHECKED BY	BG	DATE	3/2019
APPROVED BY	BG	DATE	3/2019

SCALES: PLAN HORIZONTAL 1" = 20' (0 5' 10' 20'); PROFILE HORIZONTAL 1" = 20' (0 5' 10' 20'), VERTICAL 1" = 5' (0 1.25' 2.5' 5')

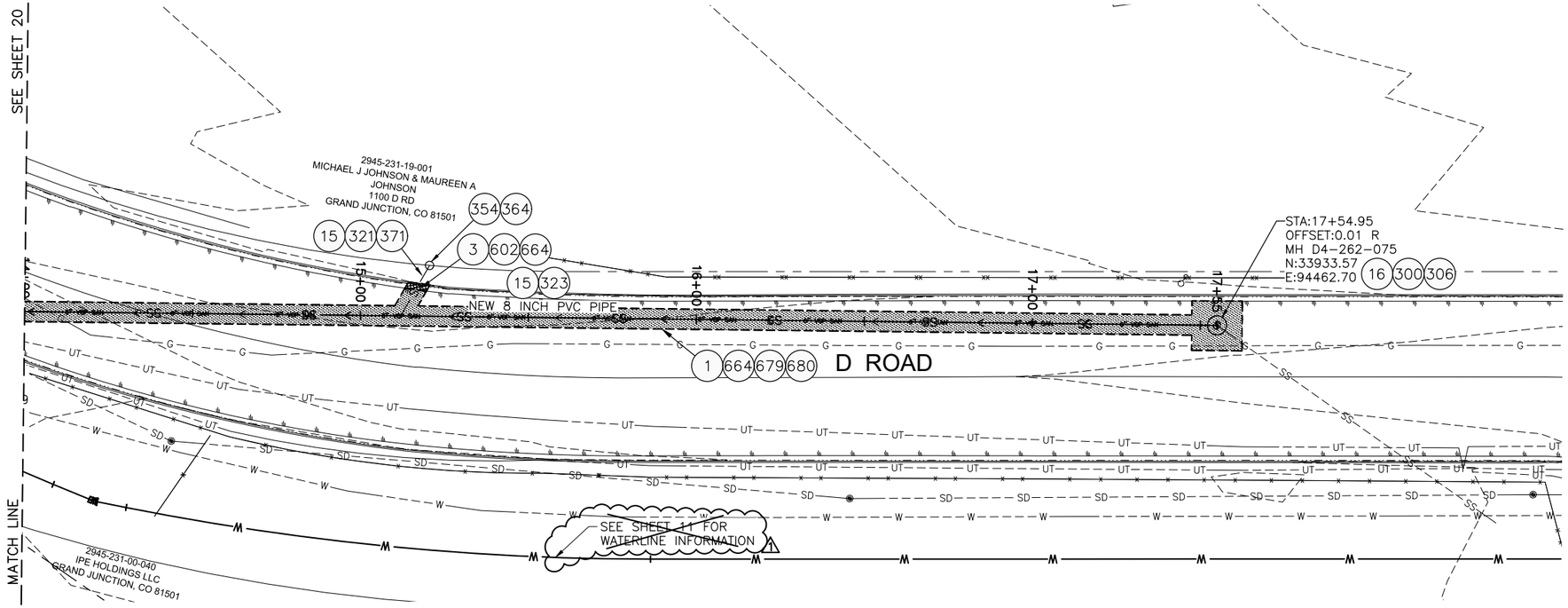
CITY OF Grand Junction COLORADO

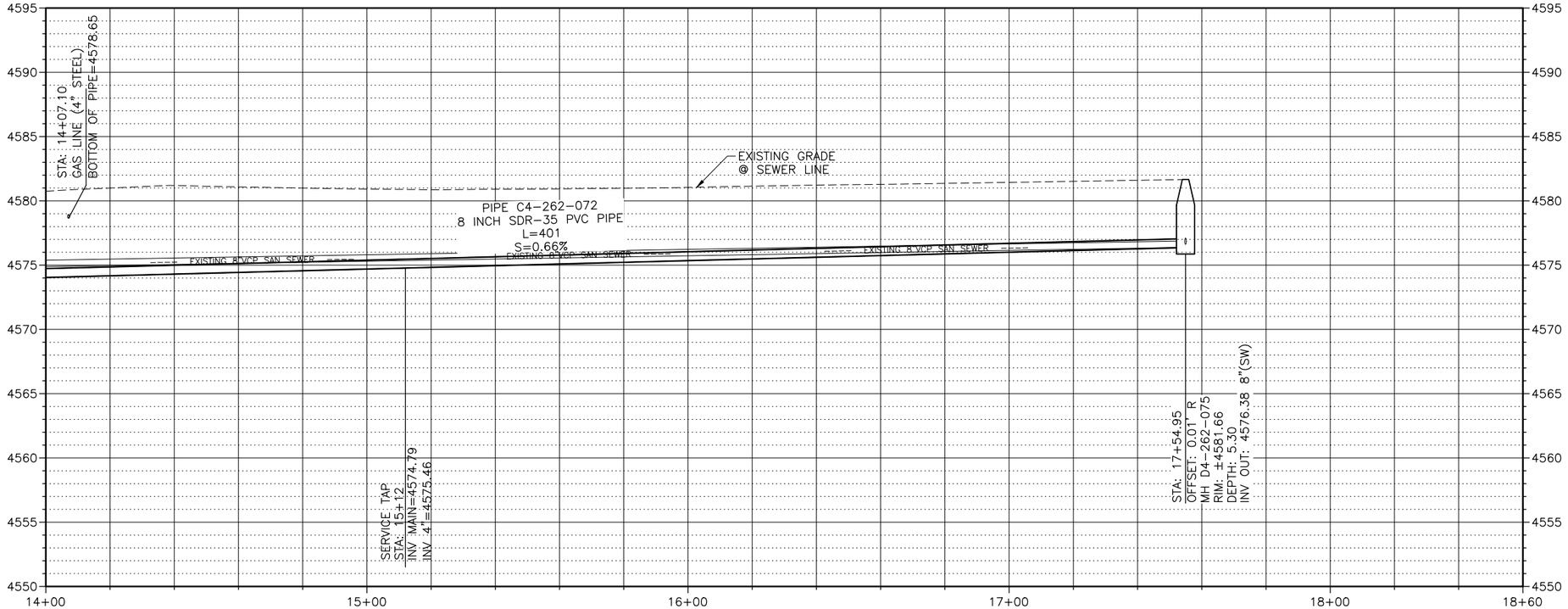
J-U-B ENGINEERS, INC. — OTHER J-U-B COMPANIES: THE LANGDON GROUP, GATEWAY MAPPING INC.

2019 SOUTH DOWNTOWN WATER & SANITARY SEWER REPLACEMENT PROJECT
PLAN & PROFILE – D ROAD SANITARY SEWER

20

Plot Date:3/29/2019 2:01 PM Plotted By: Erik Snyder
Date Created:2/28/2019 \\81-PALISADE-01\PUBLIC\PROJECTS\JUB\81-18-029_CITY OF GRAND JUNCTION_ON CALL SERVICES 2019 - AMENDMENT #3\3RD AVE WL\CAD\SHEET\CIVIL\81-18-029_C-201X-STRSS.DWG





PROJECT NO. 81-18-029

(1) 202 – REMOVAL OF ASPHALT MAT. CUT AND REMOVE ASPHALT

(3) 202 – REMOVAL OF CONCRETE. SAW CUT AND REMOVE CONCRETE AS SHOWN. (INDICATED BY CROSS HATCH PATTERN) INCLUDES BUT NOT LIMITED TO CURB, GUTTER, SIDEWALK, DRIVEWAY, SLABS, V-PAN, CURB RAMPS, INTERSECTION CORNERS, APRONS, AND LANDSCAPE BORDERS.

(15) 202 – REMOVAL OF PIPE AS SHOWN. (SIZE AND TYPE AS SHOWN ON PLAN)

(16) 202 – REMOVAL OF MANHOLE. CONTRACTOR SHALL SALVAGE RING AND COVER AND DELIVER TO CITY SHOPS

(300) 102.11/108.5 – SANITARY SEWER BASIC MANHOLE (48" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE, FORMING INVERTS AND ADJUSTING TO FINAL GRADE. (SEE CITY OF GRAND JUNCTION STANDARD DETAIL SS-02)

(306) 102.11/108.5 – MANHOLE BARREL SECTION (D>5') (48" I.D.)

(321) 102.9/108.2 – 4" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.

(323) 102.9/108.2 – 8" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 130.16 EARTH BACKFILL MATERIAL

(354) 104.20 – INSTALL 2-WAY SANITARY SEWER SERVICE CLEANOUT (STD. DETAIL SS-07). INCLUDES CLEANOUT RING AND COVER AND CONCRETE COLLAR IN UNPAVED AREAS (SEE STD. DETAIL SS-07).

(364) CONNECT TO EXISTING SEWER PIPE. THE CONTRACT PRICE FOR SEWER PIPE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING SEWER PIPES.

(371) 102.9/108.3 – 8"x4" SEWER SERVICE TAP. FULL BODY WYE (SEE STD. DETAIL SS-06)

(602) 608.06 – CONCRETE CURB AND GUTTER (STANDARD) (2' WIDE)

(664) 304 – AGGREGATE BASE COURSE (CLASS 6) (15" THICK)

(679) 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (3" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR=75) (ONE 3" LIFT BOTTOM MAT)

(680) 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (2" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR=75) (ONE 2" LIFT TOP MAT) (T-TOP PATCH) (SEE CITY STD. DETAIL GU-03)

NOTES:
- DO NOT INSTALL STEPS IN NEW MANHOLES.

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

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

DESCRIPTION	DATE
REVISION 1 ADDENDUM #1	– 4/18/2019
REVISION 2	–
REVISION 3	–
REVISION 4	–

DRAWN BY TAG DATE 3/2019
DESIGNED BY ES DATE 3/2019
CHECKED BY BG DATE 3/2019
APPROVED BY BG DATE 3/2019

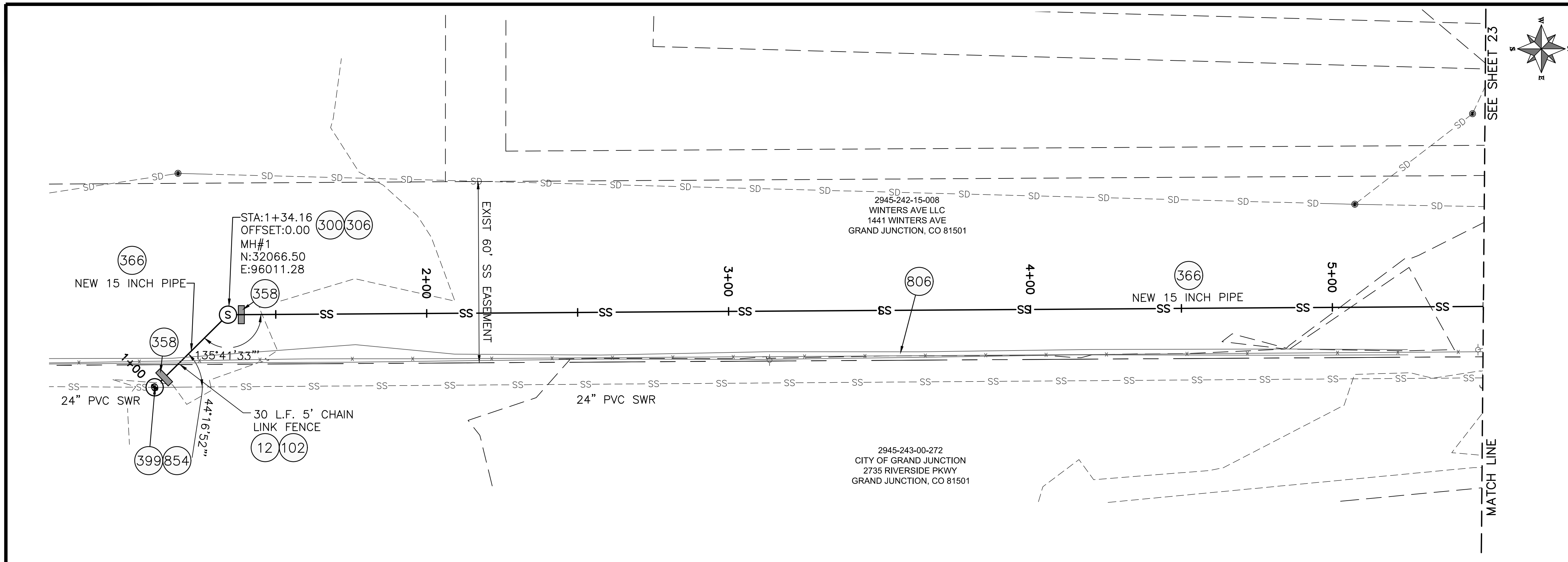
SCALES: PLAN HORIZONTAL 1" = 20' (0 5' 10' 20'); PROFILE HORIZONTAL 1" = 20' (0 5' 10' 20'), VERTICAL 1" = 5' (0 1.25' 2.5' 5')

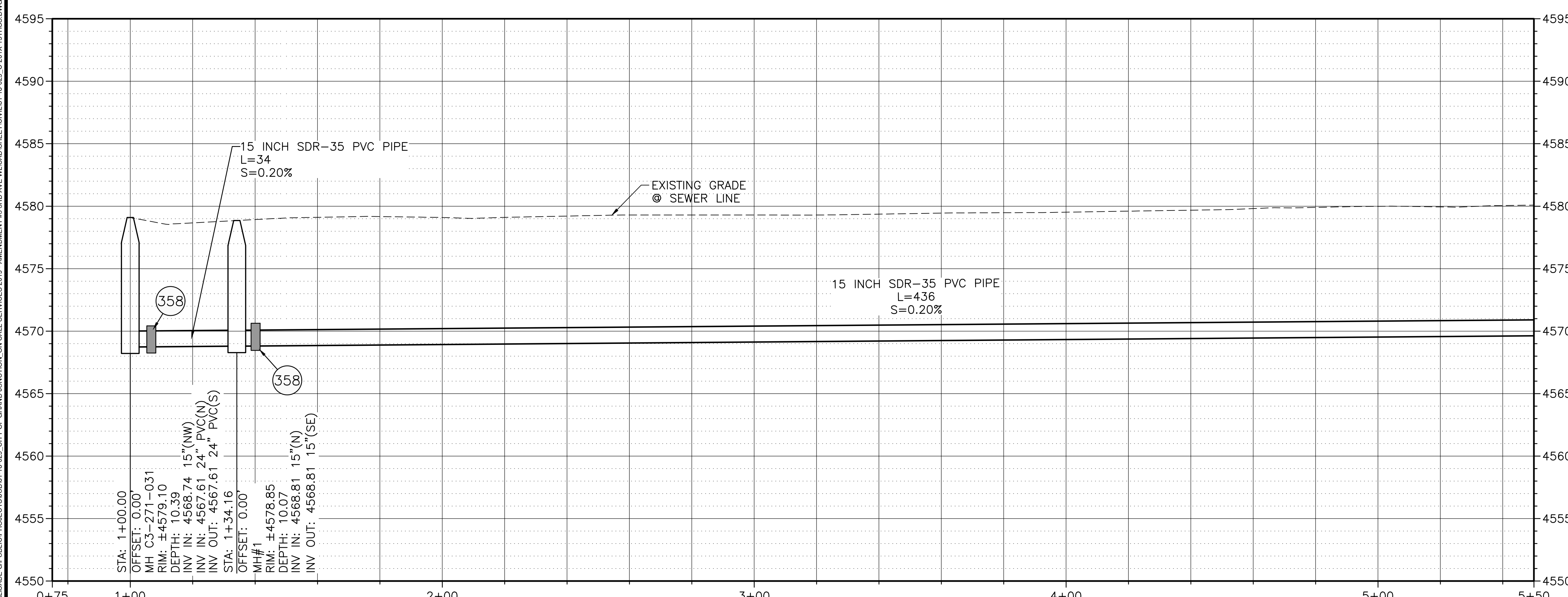
CITY OF Grand Junction COLORADO

J-U-B ENGINEERS, INC. | THE LANGDON GROUP a J-U-B Company | GATEWAY MAPPING INC. a J-U-B Company | OTHER J-U-B COMPANIES

2019 SOUTH DOWNTOWN WATER & SANITARY SEWER REPLACEMENT PROJECT
PLAN & PROFILE – D ROAD SANITARY SEWER

Plot Date:4/16/2019 5:36 PM Plotted By: Erik Snyder
Date Created:4/16/2019 I:\81-PALISADE-G\PUBLIC\PROJECTS\JUB\81-18\029_CITY OF GRAND JUNCTION_ON CALL SERVICES 2019 - AMENDMENT #3\3RD AVE WL\CAD\SHEETS\WL81-18029_C-201X-8THSS.DWG





PROJECT NO. 81-18-029

- (12) 202 – REMOVAL OF FENCE AS SHOWN. (40 L.F. 5' CHAIN LINK FENCE)
- (102) 210 – RESET FENCE. (40 L.F. 5' CHAIN LINK FENCE)
- (300) 102.11/108.5 – SANITARY SEWER BASIC MANHOLE (48" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE, FORMING INVERTS AND ADJUSTING TO FINAL GRADE. (SEE CITY OF GRAND JUNCTION STANDARD DETAILS SS-02).
- (306) 102.11/108.5 – MANHOLE BARREL SECTION (D > 5') (48" I.D.)
- (358) 103 – CLAY CUT-OFF WALL (INCIDENTAL TO SEWER INSTALLATION PAY ITEM)
- (366) 102.9/108.2 – 15" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 130.16 EARTH BACKFILL MATERIAL
- (399) 102.11/105.8 – CONNECT TO EXISTING MANHOLE (15" PIPE). (SEE CITY OF GRAND JUNCTION STANDARD DETAIL SS-08).
- (806) PROTECT FENCE
- (854) RECONFIGURE MANHOLE BENCH TO ALLOW FOR PROPOSED 15" SEWER PIPE

NOTES:
- DO NOT INSTALL STEPS IN NEW MANHOLES.
- CONTRACTOR TO COORDINATE WITH SAWMILL FOR TEMPORARY RELOCATION OF LUMBER DURING CONSTRUCTION

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

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

DESCRIPTION	DATE
REVISION 1	–
REVISION 2	–
REVISION 3	–
REVISION 4	–

DRAWN BY TAG DATE 3/2019
DESIGNED BY ES DATE 3/2019
CHECKED BY BG DATE 3/2019
APPROVED BY BG DATE 3/2019

SCALES:
PLAN: HORIZONTAL: 1" = 20'
PROFILE: HORIZONTAL: 1" = 20'; VERTICAL: 1" = 5'

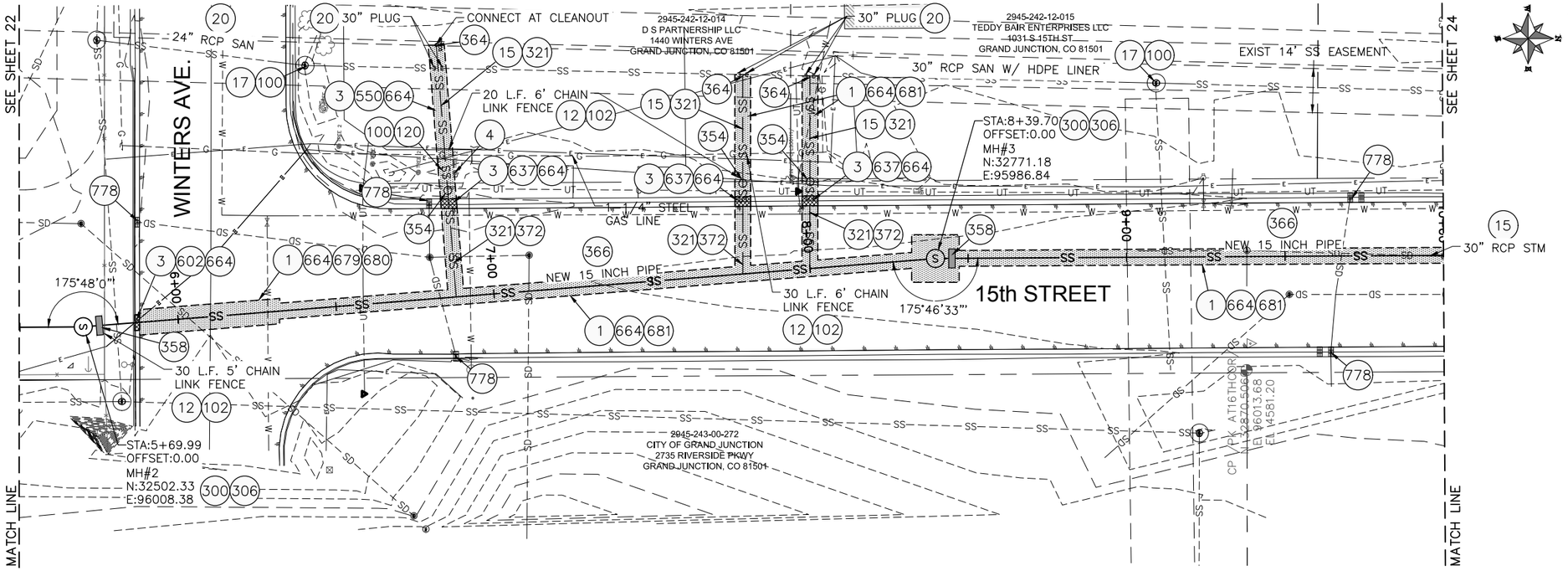
CITY OF Grand Junction COLORADO

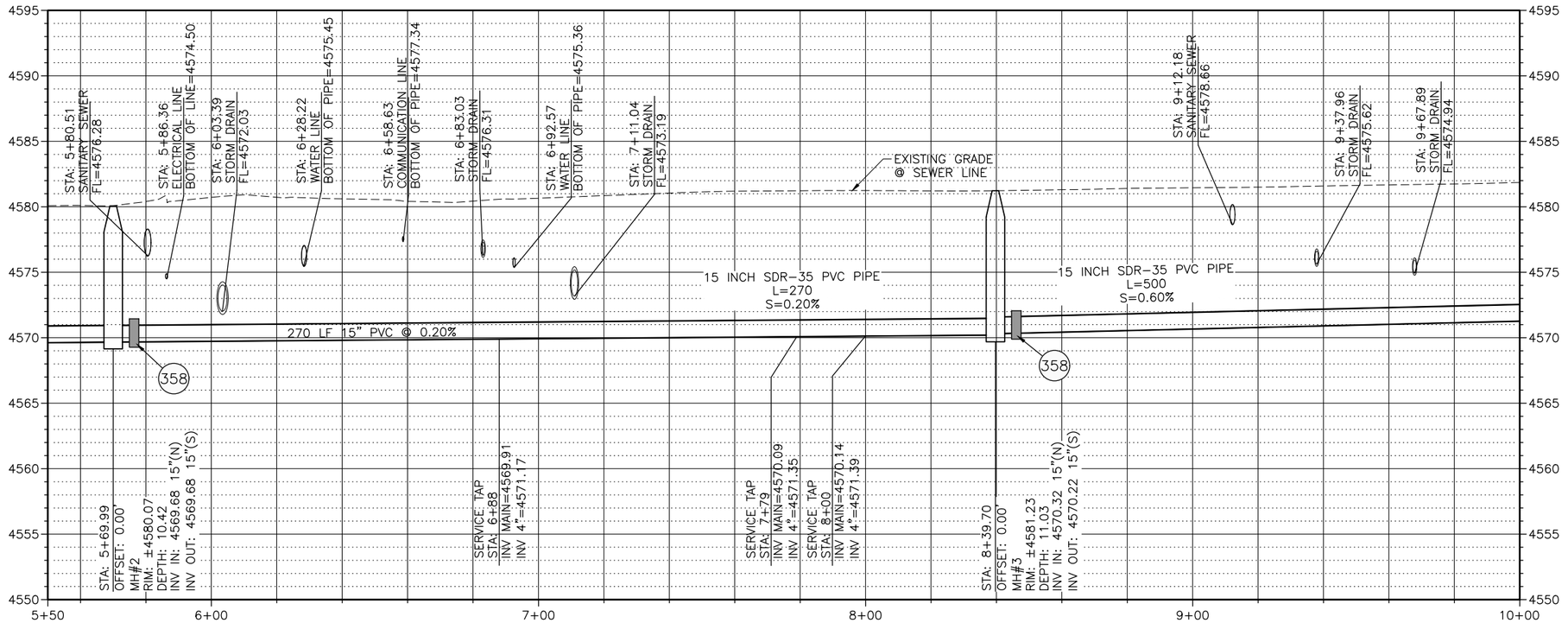
J-U-B ENGINEERS, INC. THE LANGDON GROUP GATEWAY MAPPING INC. OTHER J-U-B COMPANIES

2019 SOUTH DOWNTOWN WATER & SANITARY SEWER REPLACEMENT PROJECT
PLAN & PROFILE – 15TH ST SANITARY SEWER

22

Plot Date:3/29/2019 2:02 PM Plotted By: Erik Snyder
Date Created:3/29/2019 \\81-PALISADE-G\PUBLIC\PROJECTS\JUB\81-18-029_CITY OF GRAND JUNCTION_ON CALL SERVICES 2019 - AMENDMENT #3 3RD AVE WL\CAD\SHEET\CIVIL\81-18-029_C-201X-15THSS.DWG





PROJECT NO. 81-18-029

(1) 202 – REMOVAL OF ASPHALT MAT. CUT AND REMOVE ASPHALT

(3) 202 – REMOVAL OF CONCRETE. SAW CUT AND REMOVE CONCRETE AS SHOWN. (INDICATED BY CROSS HATCH PATTERN) INCLUDES BUT NOT LIMITED TO CURB, GUTTER, SIDEWALK, DRIVEWAY, SLABS, V-PAN, CURB RAMPS, INTERSECTION CORNERS, APRONS, AND LANDSCAPE BORDERS

(4) REMOVAL OF TREE (SIZE AS SHOWN ON PLAN)

(12) 202 – REMOVAL OF FENCE AS SHOWN. (HEIGHT AND MATERIAL AS SHOW ON PLAN)

(15) 202 – REMOVAL OF PIPE AS SHOWN. (SIZE AND TYPE AS SHOWN ON PLAN)

(17) 202 – REMOVE MANHOLE CONE SECTION, RING, AND COVER. CONTRACTOR SHALL SALVAGE RING AND COVER AND DELIVER TO CITY SHOPS. CONTRACTOR SHALL FILL REMAINING BARREL SECTIONS WITH FLOW FILL MATERIAL

(20) 202 – ABANDON PIPE. ABANDON BY PLUGGING REMAINING ENDS WITH CONCRETE

(100) 210 – RESET LANDSCAPE GROUND COVER. CONTRACTOR SHALL REMOVE GROUND COVER AND ANY UNDERLYING WEED BARRIER AS NEEDED AND STOCKPILE MATERIALS. CONTRACTOR SHALL RESET THESE MATERIALS AND PROVIDE ADDITIONAL MATERIALS AS NEEDED TO RESTORE LANDSCAPING.

(102) 210 – RESET FENCE. (HEIGHT AND MATERIAL AS SHOW ON PLAN)

(120) 210 – RESET SPRINKLER SYSTEM (COMPLETE IN PLACE)

(300) 102.11/108.5 – SANITARY SEWER BASIC MANHOLE (48" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE, FORMING INVERTS AND ADJUSTING TO FINAL GRADE. (SEE CITY OF GRAND JUNCTION STANDARD DETAIL SS-02)

(306) 102.11/108.5 – MANHOLE BARREL SECTION (D>5') (48" I.D.)

(321) 102.9/108.2 – 4" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL

(354) 104.20 – INSTALL 2-WAY SANITARY SEWER SERVICE CLEANOUT (STD. DETAIL SS-07). INCLUDES CLEANOUT RING AND COVER AND CONCRETE COLLAR IN UNPAVED AREAS (SEE STD. DETAIL SS-07).

(358) 103 – CLAY CUT-OFF WALL (INCIDENTAL TO SEWER INSTALLATION PAY ITEM)

(364) CONNECT TO EXISTING SEWER PIPE. THE CONTRACT PRICE FOR SEWER PIPE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING PIPELINE.

(366) 102.9/108.2 – 15" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 130.16 EARTH BACKFILL MATERIAL

(372) 102.9/108.3 – 15"x4" SEWER SERVICE TAP. FULL BODY WYE (SEE STD. DETAIL SS-06)

(550) 412 – CONCRETE PAVEMENT (6" THICK) (CDOT CLASS D, 4500 PSI MIX)

(602) 608.06 – CONCRETE CURB AND GUTTER (2' WIDE)

(637) 608.06 – CONCRETE VALLEY GUTTER (MATCH IN KIND)

(664) 304 – AGGREGATE BASE COURSE (CLASS 6) (15" THICK)

(679) 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (3" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR = 75) (ONE 3" LIFT BOTTOM MAT)

(680) 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (2" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR = 75) (ONE 2" LIFT TOP MAT) (T-TOP PATCH) (SEE CITY STD. DETAIL GU-03)

(681) 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (5" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR=75)(ONE 3" BOTTOM LIFT, ONE 2" TOP LIFT)

(778) 208 – STORM DRAIN INLET PROTECTION (GRAVEL FILTER AT CURB INLET) (AS SHOWN AND PER DETAIL)

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

NOTES:
- DO NOT INSTALL STEPS IN NEW MANHOLES.
- CONTRACTOR TO COORDINATE WITH SAWMILL FOR TEMPORARY RELOCATION OF LUMBER DURING CONSTRUCTION

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

DESCRIPTION	DATE
REVISION 1	
REVISION 2	
REVISION 3	
REVISION 4	

DRAWN BY TAG DATE 3/2019
DESIGNED BY ES DATE 3/2019
CHECKED BY BG DATE 3/2019
APPROVED BY BG DATE 3/2019

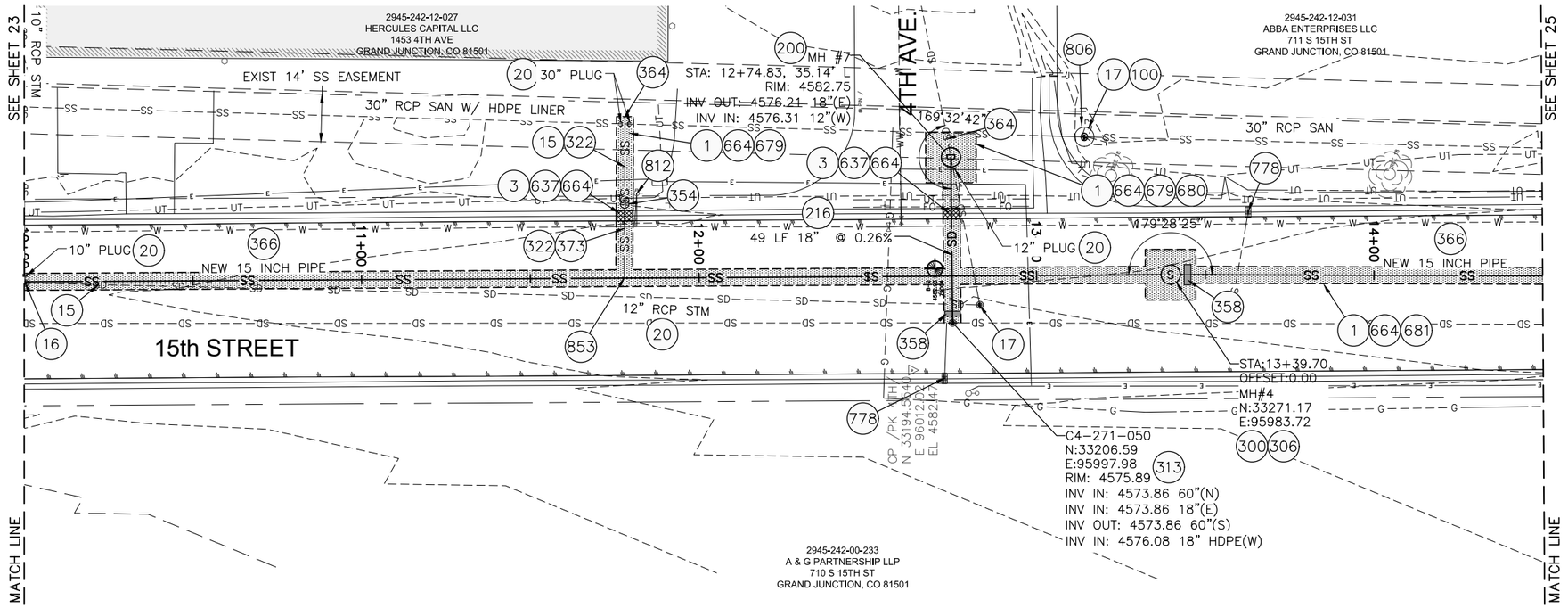
SCALES: PLAN HORIZONTAL: 1" = 20' (0 5' 10' 20'); PROFILE HORIZONTAL: 1" = 20' (0 5' 10' 20'), VERTICAL: 1" = 5' (0 1.25' 2.5' 5')

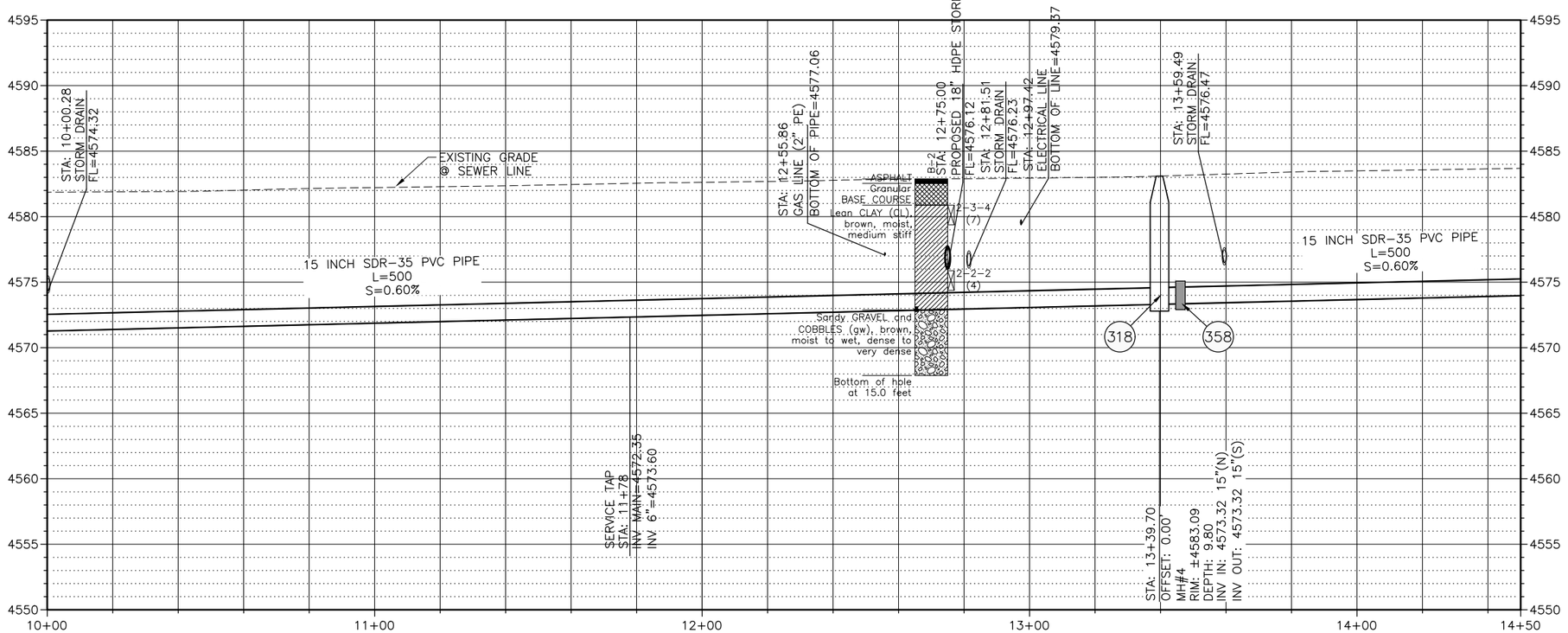
CITY OF Grand Junction COLORADO

J-U-B ENGINEERS, INC. — OTHER J-U-B COMPANIES: THE LANGDON GROUP, GATEWAY MAPPING INC.

2019 SOUTH DOWNTOWN WATER & SANITARY SEWER REPLACEMENT PROJECT
PLAN & PROFILE – 15TH ST SANITARY SEWER

Plot Date:3/29/2019 2:03 PM Plotted By: Erik Snyder
Date Created:3/29/2019 \81-PALISADE-G\PUBLIC\PROJECTS\JUB\1-18-029, CITY OF GRAND JUNCTION, ON CALL SERVICES 2019 - AMENDMENT #3\3RD AVE WL\CADSHEET\CIVIL\81-18-029_C-261X-15THSS.DWG





PROJECT NO. 81-18-029

(1) 202 – REMOVAL OF ASPHALT MAT. CUT AND REMOVE ASPHALT

(3) 202 – REMOVAL OF CONCRETE. SAW CUT AND REMOVE CONCRETE AS SHOWN. (INDICATED BY CROSS HATCH PATTERN) INCLUDES BUT NOT LIMITED TO CURB, GUTTER, SIDEWALK, DRIVEWAY, SLABS, V-PAN, CURB RAMPS, INTERSECTION CORNERS, APRONS, AND LANDSCAPE BORDERS

(15) 202 – REMOVAL OF PIPE AS SHOWN. (SIZE AND TYPE AS SHOWN ON PLAN)

(16) 202 – REMOVAL OF MANHOLE. CONTRACTOR SHALL SALVAGE RING AND COVER AND DELIVER TO CITY SHOPS

(17) 202 – REMOVE MANHOLE CONE SECTION, RING, AND COVER. CONTRACTOR SHALL SALVAGE RING AND COVER AND DELIVER TO CITY SHOPS. CONTRACTOR SHALL FILL REMAINING BARREL SECTIONS WITH FLOW FILL MATERIAL

(20) 202 – ABANDON PIPE. ABANDON BY PLUGGING REMAINING ENDS WITH CONCRETE

(100) 210 – RESET LANDSCAPE GROUND COVER. CONTRACTOR SHALL REMOVE GROUND COVER AND ANY UNDERLYING WEED BARRIER AS NEEDED AND STOCKPILE MATERIALS. CONTRACTOR SHALL RESET THESE MATERIALS AND PROVIDE ADDITIONAL MATERIALS AS NEEDED TO RESTORE LANDSCAPING.

(200) 102.11/108.5 – STORM SEWER BASIC MANHOLE (48" I.D.) INCLUDES CONNECTION OF ADJACENT STORM SEWER LINES, FORMING INVERTS AND ADJUSTING TO FINAL GRADE. (SEE CITY OF GRAND JUNCTION STANDARD DETAIL D-03)

(216) 102.10/108.2 – 18" STORM DRAIN PIPE (ADS CORRUGATED HDPE PIPE). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL

(300) 102.11/108.5 – SANITARY SEWER BASIC MANHOLE (48" I.D.) INCLUDES CONNECTION OF ADJACENT SEWER LINE, FORMING INVERTS AND ADJUSTING TO FINAL GRADE. (SEE CITY OF GRAND JUNCTION SS-02)

(306) 102.11/108.5 – MANHOLE BARREL SECTION (D>5') (48" I.D.)

(313) 102.11/108.5 – CONNECT TO EXISTING MANHOLE (18" PIPE). (SEE CITY OF GRAND JUNCTION STANDARD DETAIL D-12).

(318) PROVIDE PVC INVERT. (PIPE SHALL BE LAID CONTINUOUSLY THROUGH MANHOLE). COST IS INCIDENTAL TO COST OF MANHOLE INSTALLATION.

(322) 102.9/108.2 – 6" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL

(354) 104.20 – INSTALL 2-WAY SANITARY SEWER SERVICE CLEANOUT (STD. DETAIL SS-07). INCLUDES CLEANOUT RING AND COVER AND CONCRETE COLLAR IN UNPAVED AREAS (SEE STD. DETAIL SS-07).

(358) 103 – CLAY CUT-OFF WALL (INCIDENTAL TO SEWER INSTALLATION PAY ITEM)

(364) CONNECT TO EXISTING SEWER PIPE. THE CONTRACT PRICE FOR SEWER PIE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING PIPELINE

(366) 102.9/108.2 – 15" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 130.16 EARTH BACKFILL MATERIAL

(373) 102.9/108.3 – 15"x6" SEWER SERVICE TAP. FULL BODY WYE (SEE STD. DETAIL SS-06)

(637) 608.06 – CONCRETE VALLEY GUTTER (MATCH IN KIND)

(664) 304 – AGGREGATE BASE COURSE (CLASS 6) (15" THICK)

(679) 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (3" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR =75) (ONE 3" LIFT BOTTOM MAT)

(680) 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (2" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR = 75) (ONE 2" LIFT TOP MAP) (T-TOP PATCH) (SEE CITY STD. DETAIL GU-03)

(681) 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (5" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR=75)(ONE 3" BOTTOM LIFT, ONE 2" TOP LIFT)

(778) 208 – STORM DRAIN INLET PROTECTION (GRAVEL FILTER AT CURB INLET) (AS SHOWN AND PER DETAIL)

(806) PROTECT FENCE

(812) PROTECT FIRE HYDRANT

(853) CONTRACTOR SHALL CONFIRM SIZE OF SERVICE PIPE PRIOR TO INSTALLATION OF WYE FITTING

NOTES:
- DO NOT INSTALL STEPS IN NEW MANHOLES.

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

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

DESCRIPTION	DATE
REVISION 1	
REVISION 2	
REVISION 3	
REVISION 4	

DRAWN BY TAG DATE 3/2019
DESIGNED BY ES DATE 3/2019
CHECKED BY BG DATE 3/2019
APPROVED BY BG DATE 3/2019

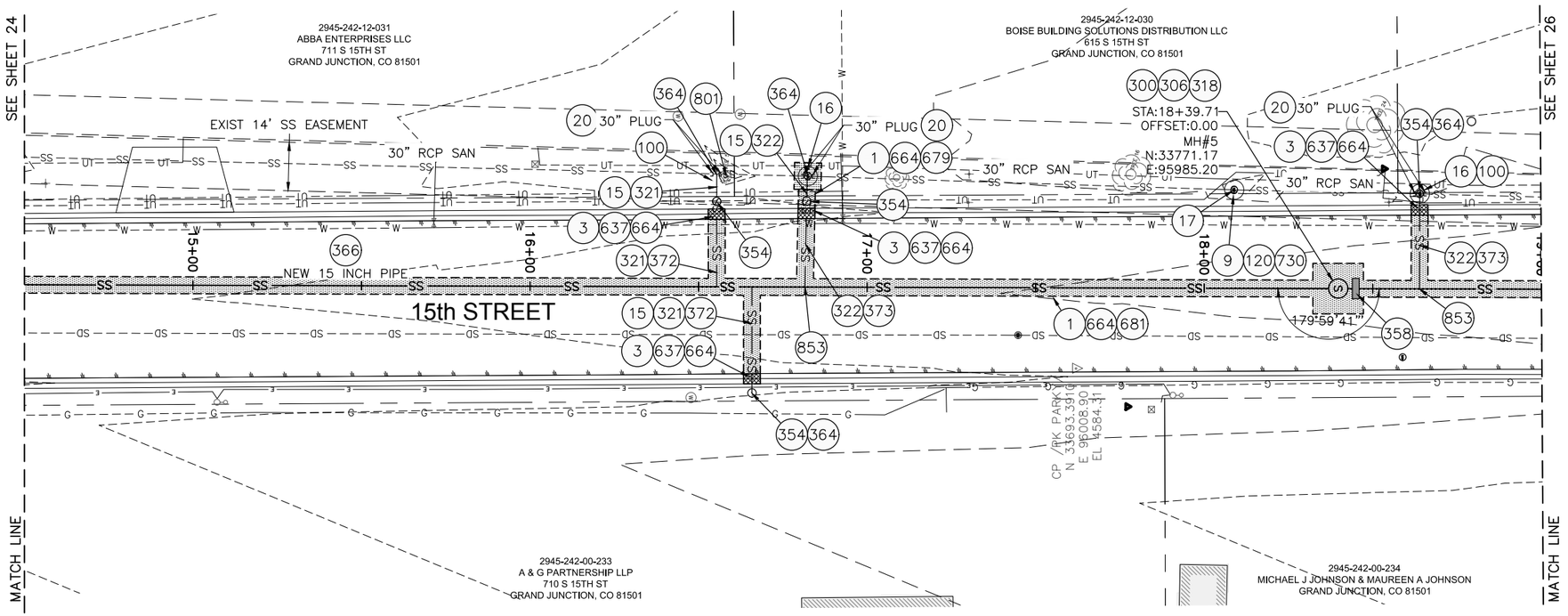
SCALES: PLAN HORIZONTAL: 1" = 20' (0 5' 10' 20'); PROFILE HORIZONTAL: 1" = 20' (0 5' 10' 20'), VERTICAL: 1" = 5' (0 1.25' 2.5' 5')

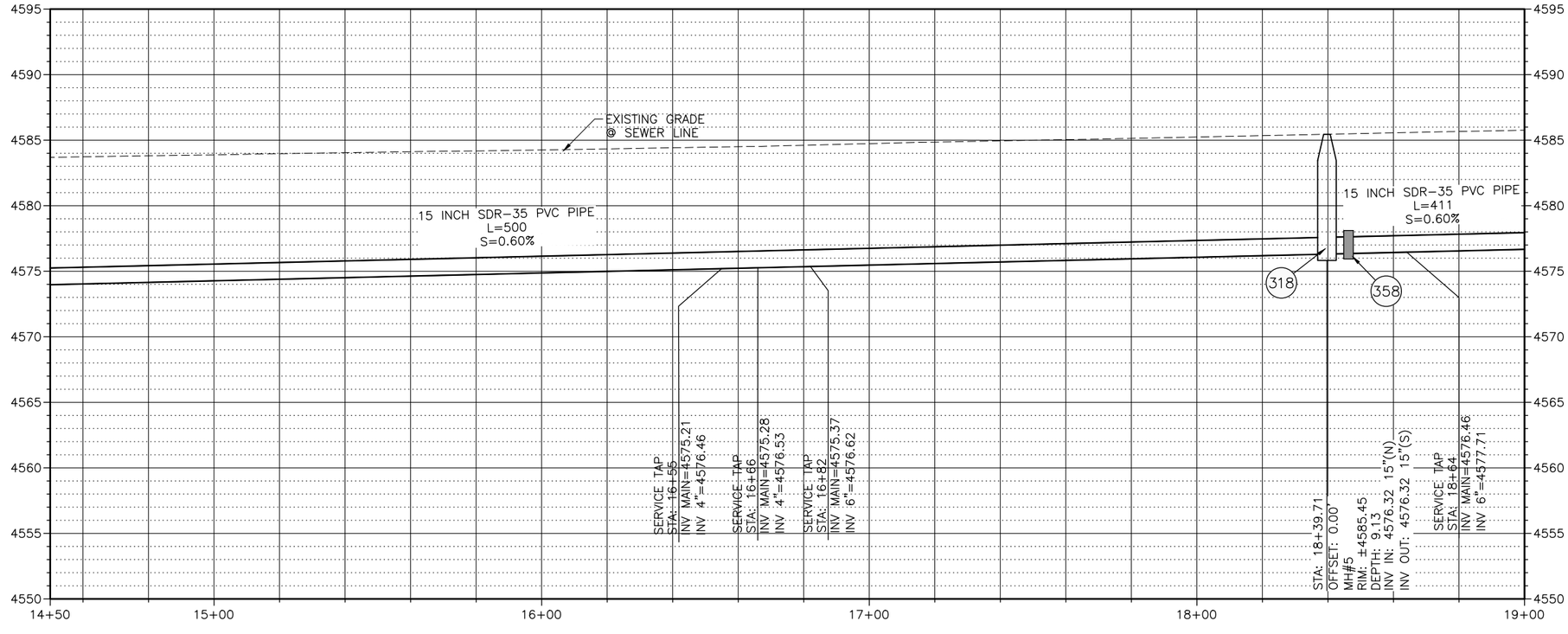
CITY OF Grand Junction COLORADO

J-U-B ENGINEERS, INC. — THE LANGDON GROUP (A J-U-B Company) — GATEWAY MAPPING INC. (A J-U-B Company) — OTHER J-U-B COMPANIES

2019 SOUTH DOWNTOWN WATER & SANITARY SEWER REPLACEMENT PROJECT
PLAN & PROFILE – 15TH ST SANITARY SEWER

Plot Date:3/29/2019 2:04 PM Plotted By: Erik Snyder
Date Created:3/29/2019 \\bl-PALISADE-G\PUBLIC\PROJECTS-UB\81-18-029_CITY OF GRAND JUNCTION_ON CALL SERVICES 2019 - AMENDMENT #3\3RD AVE W\CADSHEET\CIVIL\81-18-029_C-201X-15THSS.DWG





PROJECT NO. 81-18-029

(1) 202 – REMOVAL OF ASPHALT MAT. CUT AND REMOVE ASPHALT

(3) 202 – REMOVAL OF CONCRETE. SAW CUT AND REMOVE CONCRETE AS SHOWN. (INDICATED BY CROSS HATCH PATTERN) INCLUDES BUT NOT LIMITED TO CURB, GUTTER, SIDEWALK, DRIVEWAY, SLABS, V-PAN, CURB RAMPS, INTERSECTION CORNERS, APRONS, AND LANDSCAPE BORDERS

(9) 202 – REMOVAL OF SOD

(15) 202 – REMOVAL OF PIPE AS SHOWN. (SIZE AND TYPE AS SHOWN ON PLAN)

(16) 202 – REMOVAL OF MANHOLE. CONTRACTOR SHALL SALVAGE RING AND COVER AND DELIVER TO CITY SHOPS

(17) 202 – REMOVE MANHOLE CONE SECTION, RING, AND COVER. CONTRACTOR SHALL SALVAGE RING AND COVER AND DELIVER TO CITY SHOPS. CONTRACTOR SHALL FILL REMAINING BARREL SECTIONS WITH FLOW FILL MATERIAL

(20) 202 – ABANDON PIPE. ABANDON BY PLUGGING REMAINING ENDS WITH CONCRETE

(100) 210 – RESET LANDSCAPE GROUND COVER. CONTRACTOR SHALL REMOVE GROUND COVER AND ANY UNDERLYING WEED BARRIER AS NEEDED AND STOCKPILE MATERIALS. CONTRACTOR SHALL RESET THESE MATERIALS AND PROVIDE ADDITIONAL MATERIALS AS NEEDED TO RESTORE LANDSCAPING.

(120) 210 – RESET SPRINKLER

(300) 102.11/108.5 – SANITARY SEWER BASIC MANHOLE (48" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE, FORMING INVERTS AND ADJUSTING TO FINAL GRADE. (SEE CITY OF GRAND JUNCTION STANDARD DETAIL SS-02)

(306) 102.11/108.5 – MANHOLE BARREL SECTION (D>5') (48" I.D.)

(318) PROVIDE PVC INVERT. (PIPE SHALL BE LAID CONTINUOUSLY THROUGH MANHOLE). COST IS INCIDENTAL TO COST OF MANHOLE INSTALLATION.

(321) 102.9/108.2 – 4" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL

(322) 102.9/108.2 – 6" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL

(354) 104.20 – INSTALL 2-WAY SANITARY SEWER SERVICE CLEANOUT (STD. DETAIL SS-07). INCLUDES CLEANOUT RING AND COVER AND CONCRETE COLLAR IN UNPAVED AREAS (SEE STD. DETAIL SS-07).

(358) 103 – CLAY CUT-OFF WALL (INCIDENTAL TO SEWER INSTALLATION PAY ITEM)

(364) CONNECT TO EXISTING SEWER PIPE. THE CONTRACT PRICE FOR SEWER PIPE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING PIPELINE.

(366) 102.9/108.2 – 15" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 130.16 EARTH BACKFILL MATERIAL

(372) 102.9/108.3 – 15"x4" SEWER SERVICE TAP. FULL BODY WYE (SEE STD. DETAIL SS-06)

(373) 102.9/108.3 – 15"x6" SEWER SERVICE TAP. FULL BODY WYE (SEE STD. DETAIL SS-06)

(609) 608.06 – CONCRETE CURB WITH SPILL GUTTER (2' WIDE)

(637) 608.06 – CONCRETE VALLEY GUTTER (MATCH IN KIND)

(664) 304 – AGGREGATE BASE COURSE (CLASS 6) (15" THICK)

(679) 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (3" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR=75) (ONE 3" LIFT BOTTOM MAT)

(680) 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (2" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR=75) (ONE 3" LIFT BOTTOM MAT)

(681) 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (5" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR=75)(ONE 3" BOTTOM LIFT, ONE 2" TOP LIFT)

(730) 212 – RESOD AREA AS SHOWN

(801) PROTECT TREE

(853) CONTRACTOR SHALL CONFIRM SEWER SERVICE SIZE PRIOR TO INSTALLATION OF WYE FITTING

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

NOTES:
- DO NOT INSTALL STEPS IN NEW MANHOLES.

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

DESCRIPTION	DATE
REVISION 1	
REVISION 2	
REVISION 3	
REVISION 4	

DRAWN BY TAG DATE 3/2019
DESIGNED BY ES DATE 3/2019
CHECKED BY BG DATE 3/2019
APPROVED BY BG DATE 3/2019

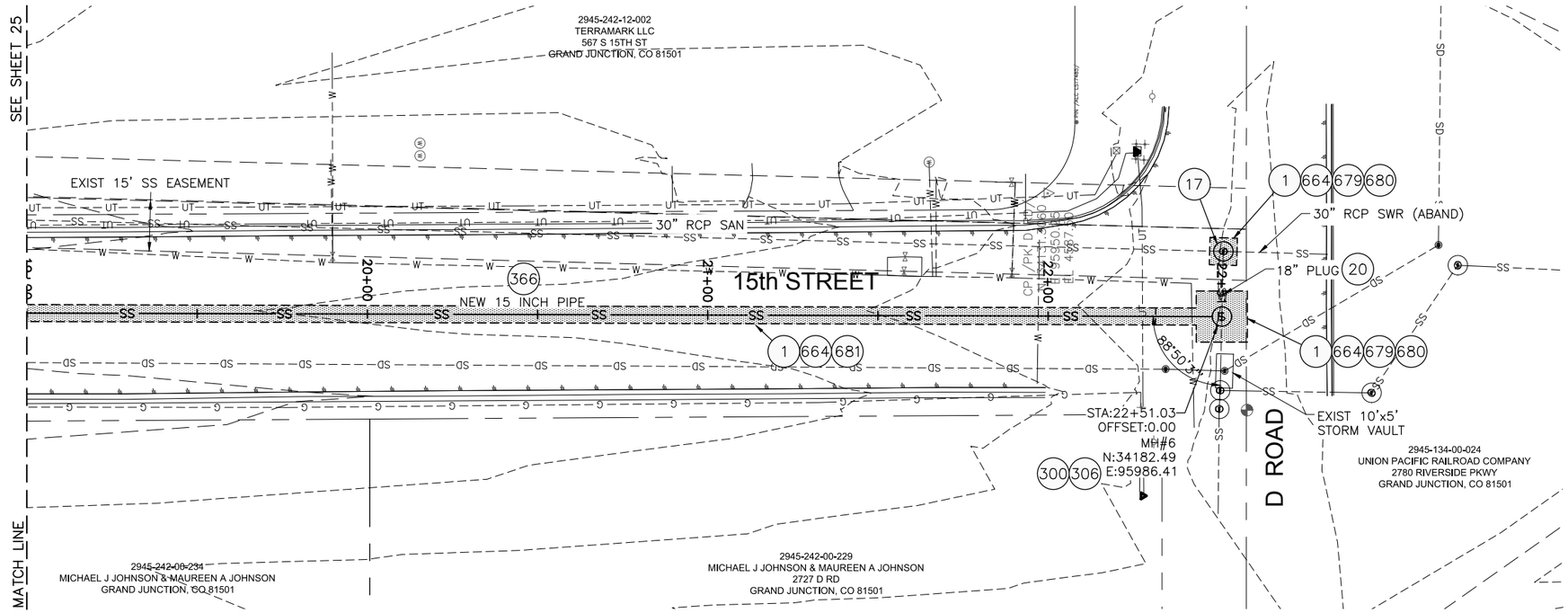
SCALES: PLAN HORIZONTAL: 1" = 20' (0, 5', 10', 20'); PROFILE HORIZONTAL: 1" = 20' (0, 5', 10', 20'), VERTICAL: 1" = 5' (0, 1.25', 2.5', 5')

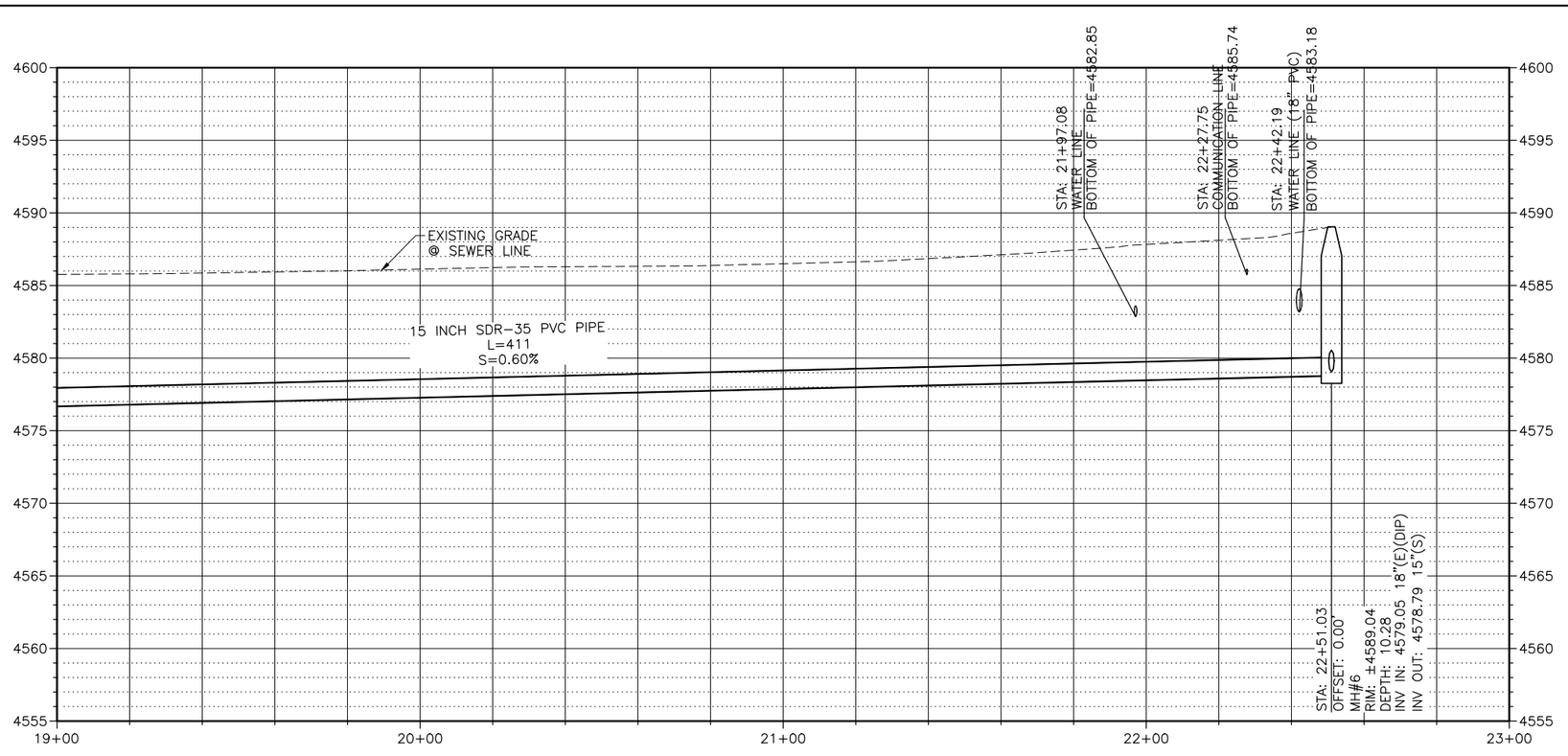
CITY OF Grand Junction COLORADO

J-U-B ENGINEERS, INC. | THE LANGDON GROUP (A J-U-B Company) | GATEWAY MAPPING INC. (A J-U-B Company) | OTHER J-U-B COMPANIES

2019 SOUTH DOWNTOWN WATER & SANITARY SEWER REPLACEMENT PROJECT
PLAN & PROFILE – 15TH ST SANITARY SEWER

Plot Date:3/29/2019 2:04 PM Plotted By: Erik Snyder
Date Created:3/29/2019 I:\81-PALISADE-G\PUBLIC\PROJECTS\JUB\81-18-029_CITY OF GRAND JUNCTION_ON CALL SERVICES 2019 - AMENDMENT #3\3RD AVE W\CADS\SHEETCIVIL\81-18-029_C-291X-15THSS.DWG





PROJECT NO. 81-18-029

(1) 202 – REMOVAL OF ASPHALT MAT. CUT AND REMOVE ASPHALT

(17) 202 – REMOVE MANHOLE CONE SECTION, RING, AND COVER. CONTRACTOR SHALL SALVAGE RING AND COVER AND DELIVER TO CITY SHOPS. CONTRACTOR SHALL FILL REMAINING BARREL SECTIONS WITH FLOW FILL MATERIAL.

(20) 202 – ABANDON PIPE. ABANDON BY PLUGGING REMAINING ENDS WITH CONCRETE

(300) 102.11/108.5 – SANITARY SEWER BASIC MANHOLE (48" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE, FORMING INVERTS AND ADJUSTING TO FINAL GRADE. (SEE CITY OF GRAND JUNCTION STANDARD DETAIL SS-02)

(306) 102.11/108.5 – MANHOLE BARREL SECTION (D>5') (48" I.D.)

(366) 102.9/108.2 – 15" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 130.16 EARTH BACKFILL MATERIAL

(664) 304 – AGGREGATE BASE COURSE (CLASS 6) (15" THICK)

(679) 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (3" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR=75) (ONE 3" LIFT BOTTOM MAT)

(680) 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (2" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR=75) (ONE 2" LIFT TOP MAT) (T-TOP PATCH) (SEE CITY STD> DETAIL GU-03)

(681) 401.08 – HOT BITUMINOUS PAVEMENT (PATCHING) (5" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR=75)(ONE 3" BOTTOM LIFT, ONE 2" TOP LIFT)

NOTES:
- DO NOT INSTALL STEPS IN NEW MANHOLES.

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

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

DESCRIPTION	DATE
REVISION 1	
REVISION 2	
REVISION 3	
REVISION 4	

DRAWN BY TAG DATE 3/2019
DESIGNED BY ES DATE 3/2019
CHECKED BY BG DATE 3/2019
APPROVED BY BG DATE 3/2019

SCALES: PLAN HORIZONTAL: 1" = 20' (0, 5', 10', 20') PROFILE HORIZONTAL: 1" = 20' (0, 5', 10', 20') VERTICAL: 1" = 5' (0, 1.25', 2.5', 5')

CITY OF Grand Junction COLORADO

J-U-B ENGINEERS, INC. — THE LANGDON GROUP — GATEWAY MAPPING INC. — OTHER J-U-B COMPANIES

2019 SOUTH DOWNTOWN WATER & SANITARY SEWER REPLACEMENT PROJECT
PLAN & PROFILE – 15TH ST SANITARY SEWER

Plot Date:3/29/2019 2:05 PM Plotted By: Erik Snyder
Date Created:3/29/2019 \\jh1-PALISADE-01\PUBLIC\PROJECTS\JUB\81-18-029_CITY OF GRAND JUNCTION_ON CALL SERVICES 2019 - AMENDMENT #3\RD AVE W\CAD\SHEET\DWG\81-18-029_C-201X-15THSS.DWG