



Purchasing Division

Invitation for Bid

IFB-4821-20-DH

2020 Sewer Line Replacement Project

Responses Due:

September 1, 2020 prior to 3:00 pm

Accepting Electronic Responses Only
Responses Only Submitted Through the Rocky Mountain E-Purchasing
System (RMEPS)

<https://www.rockymountainbidsystem.com/default.asp>

(Purchasing Representative does not have access or control of the vendor side of RMEPS. If website or other problems arise during response submission, vendor **MUST** contact RMEPS to resolve issue prior to the response deadline. 800-835-4603)

Purchasing Representative:

Duane Hoff, Senior Buyer
duaneh@gjcity.org
970-244-1545

This document has been developed specifically to solicit competitive responses for this solicitation, and may not be the same as previous City of Grand Junction solicitations. All vendors are urged to thoroughly review this solicitation prior to responding. Submittal by **FAX, EMAIL or HARD COPY IS NOT ACCEPTABLE** for this solicitation.

Invitation for Bids

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1. Instructions to Bidders

- 1.1. **Purpose:** The City of Grand Junction is soliciting competitive bids from qualified and interested companies for all labor, equipment, and materials required for the **2020 Sewer Line Replacement Project**. All dimensions and scope of work should be verified by Contractors prior to submission of bids.

IFB Questions:

Duane Hoff, Senior Buyer

duaneh@gjcity.org

970-244-1545

The City would like to remind all Contractors, Sub-Contractors, Vendors, Suppliers, Manufacturers, Service Providers, etc. that (with the exception of Pre-Bid or Site Visit Meetings) all questions, inquiries, comments, or communication pertaining to any formal solicitation (whether process, specifications, scope, etc.) must be directed (in writing) to the Purchasing Agent assigned to the project, or Purchasing Division. Direct communication with the City assigned Project Managers/Engineers is not appropriate for public procurement, and may result in disqualification.

- 1.2. **Mandatory Pre-Bid Meeting: Prospective bidders are required to attend a pre-bid meeting on August 19, 2020 at 12:00 pm.** Meeting location will in the City Hall Auditorium, located at 250 N. 5th Street, Grand Junction, CO. The purpose of this visit will be to inspect and to clarify the contents of this Invitation for Bids (IFB).
- 1.3. **The Owner:** The Owner is the City of Grand Junction, Colorado and is referred to throughout this Solicitation. The term Owner means the Owner or his authorized representative.
- 1.4. **Procurement Process:** Procurement processes shall be governed by the most current version of the City of Grand Junction [Purchasing Policy and Procedure Manual](#).
- 1.5. **Submission:** **Each bid shall be submitted in electronic format only, and only through the Rocky Mountain E-Purchasing website (<https://www.rockymountainbidsystem.com/default.asp>).** *This site offers both “free” and “paying” registration options that allow for full access of the Owner’s documents and for electronic submission of proposals. (Note: “free” registration may take up to 24 hours to process. Please Plan accordingly.)* Please view our “**Electronic Vendor Registration Guide**” at <http://www.gjcity.org/business-and-economic-development/bids/> for details. (Purchasing Representative does not have access or control of the vendor side of RMEPS. If website or other problems arise during response submission, vendor **MUST** contact RMEPS to resolve issue prior to the response deadline. **800-835-4603**)
- 1.6. **Modification and Withdrawal of Bids Before Opening.** Bids may be modified or withdrawn by an appropriate document stating such, duly executed and submitted to the place where Bids are to be submitted at any time prior to Bid Opening.

- 1.7. Printed Form for Price Bid:** All Price Bids must be made upon the Price Bid Schedule attached, and should give the amounts both in words and in figures, and must be signed and acknowledged by the bidder.

The Offeror shall specify a unit price in figures for each pay item for which a quantity is given and shall provide the products (in numbers) of the respective unit prices and quantities in the Extended Amount column. The total Bid price shall be equal to the sum of all extended amount prices. When an item in the Price Bid Schedule provides a choice to be made by the Offeror, Offeror's choice shall be indicated in accordance with the specifications for that particular item and thereafter no further choice shall be permitted.

Where the unit of a pay item is lump sum, the lump sum amount shall be shown in the "extended amount" column and included in the summation of the total Bid.

All blank spaces in the Price Bid Schedule must be properly filled out.

Bids by corporations must be executed in the corporate name by the president or vice president or other corporate office accompanied by evidence of authority to sign. The corporate address and state of incorporation shall be shown below the signature.

Bids by partnerships must be executed in the partnership name and signed by a partner whose title must appear under the signature and the official address of the partnership must be shown below the signature.

All names must be typed or printed below the signature.

The Offeror's Bid shall contain an acknowledgement of receipt of all Addenda, the numbers of which shall be filled in on the Contractor's Bid Form.

The contact information to which communications regarding the Bid are to be directed must be shown.

- 1.8. Exclusions:** No oral, telephonic, emailed, or facsimile bid will be considered
- 1.9. Contract Documents:** The complete IFB and bidder's response compose the Contract Documents. Copies of bid documents can be obtained from the City Purchasing website, <http://www.gjcity.org/business-and-economic-development/bids/> .
- 1.10. Additional Documents:** The July 2010 edition of the "City Standard Contract Documents for Capital Improvements Construction", Plans, Specifications and other Bid Documents are available for review or download on the Public Works & Planning/Engineering page at www.gjcity.org. Electronic copies may be obtained on a CD format at the Department of Public Works and Planning at City Hall.
- 1.11. Definitions and Terms:** See Article I, Section 3 of the General Contract Conditions in the *Standard Contract Documents for Capital Improvements Construction*.
- 1.12. Examination of Specifications:** Bidders shall thoroughly examine and be familiar with the project Statement of Work. The failure or omission of any Offeror to receive or

examine any form, addendum, or other document shall in no way relieve any Offeror from any obligation with respect to his bid. The submission of a bid shall be taken as evidence of compliance with this section. Prior to submitting a bid, each Offeror shall, at a minimum:

- a. Examine the *Contract Documents* thoroughly;
- b. Visit the site to familiarize themselves with local conditions that may in any manner affect cost, progress, or performance of the Work;
- c. Become familiar with federal, state, and local laws, ordinances, rules, and regulations that may in any manner affect cost, progress or performance of the Work;
- d. Study and carefully correlate Bidder's observations with the *Contract Documents*, and;
- e. Notify the Purchasing Agent of all conflicts, errors, ambiguities or discrepancies in or among the *Contract Documents* within the designated inquiry period.

On request, the Owner will provide each Offeror access to the site to conduct such investigations and tests as each Bidder deems necessary for submission of a Bid. It shall be the Offeror's responsibility to make or obtain any additional examinations, investigations, explorations, tests and studies and obtain any additional information and data which pertain to the physical conditions (including without limitation, surface, subsurface and underground utilities) at or contiguous to the site or otherwise which may affect cost, progress or performance of the work and which the Offeror deems necessary to determine its Bid for performing the work in accordance with the time, price and other terms and conditions of the *Contract Documents*. Location of any excavation or boring made by Offeror shall be subject to prior approval of Owner and applicable agencies. Offeror shall fill all holes, restore all pavements to match the existing structural section and shall clean up and restore the site to its former condition upon completion of such exploration. The Owner reserves the right to require the Offeror to execute an access agreement with the Owner prior to accessing the site.

The lands upon which the Work is to be performed, rights of way, and access thereto, and other lands designated for use by Contractor in performing the Work, are identified on the Drawings.

Information and data reflected in the *Contract Documents* with respect to underground utilities at or contiguous to the site are based upon information and data furnished to the Owner and the Engineer by the owners of such underground utilities or others, and the Owner does not assume responsibility for the accuracy or completeness thereof, unless it is expressly provided otherwise in the *Contract Documents*.

By submission of a Bid, the Offeror shall be conclusively presumed to represent that the Offeror has complied with every requirement of these Instructions to Bidders, that the *Contract Documents* are not ambiguous and are sufficient in scope and detail to

indicate and convey understanding of all terms and conditions for performance of the Work.

- 1.13. Questions Regarding Statement of Work:** Any information relative to interpretation of Scope of Work or specifications shall be requested of the Purchasing Representative, in writing, in ample time, prior to the inquiry deadline.
- 1.14. Addenda & Interpretations:** If it becomes necessary to revise any part of this solicitation, a written addendum will be posted electronically on the City's website at <http://www.gjcity.org/business-and-economic-development/bids/>. The Owner is not bound by any oral representations, clarifications, or changes made in the written specifications by Owner, unless such clarification or change is provided in written addendum form from the City Purchasing Representative.
- 1.15. Taxes:** The Owner is exempt from State retail and Federal tax. The bid price must be net, exclusive of taxes.
- 1.16. Sales and Use Taxes:** The Contractor and all Subcontractors are required to obtain exemption certificates from the Colorado Department of Revenue for sales and use taxes in accordance with the provisions of the General Contract Conditions. Bids shall reflect this method of accounting for sales and use taxes on materials, fixtures and equipment.
- 1.17. Offers Binding 60 Days:** Unless additional time is required by the Owner, or otherwise specified, all formal offers submitted shall be binding for sixty (60) calendar days following opening date, unless the Bidder, upon request of the Purchasing Representative, agrees to an extension.
- 1.18. Exceptions and Substitutions:** Bidders taking exception to the specifications and/or scope of work shall do so at their own risk. The Owner reserves the right to accept or reject any or all substitutions or alternatives. When offering substitutions and/or alternatives, Bidder must state these exceptions in the section pertaining to that area. Exception/substitution, if accepted, must meet or exceed the stated intent and/or specifications and/or scope of work. The absence of such a list shall indicate that the Bidder has not taken exceptions, and if awarded a contract, shall hold the Bidder responsible to perform in strict accordance with the specifications and/or scope of work contained herein.
- 1.19. Collusion Clause:** Each bidder by submitting a bid certifies that it is not party to any collusive action or any action that may be in violation of the Sherman Antitrust Act. Any and all bids shall be rejected if there is evidence or reason for believing that collusion exists among bidders. The Owner may, or may not, accept future bids for the same services or commodities from participants in such collusion.
- 1.20. Disqualification of Bidders:** A Bid will not be accepted from, nor shall a Contract be awarded to, any person, firm, or corporation that is in arrears to the Owner, upon debt or contract, or that has defaulted, as surety or otherwise, upon any obligation to the Owner, or that is deemed irresponsible or unreliable.

Bidders may be required to submit satisfactory evidence that they are responsible, have a practical knowledge of the project bid upon and that they have the necessary financial and other resources to complete the proposed Work.

Either of the following reasons, without limitation, shall be considered sufficient to disqualify a Bidder and Bid:

- a. More than one Bid is submitted for the same Work from an individual, firm, or corporation under the same or different name; and
- b. Evidence of collusion among Bidders. Any participant in such collusion shall not receive recognition as a Bidder for any future work of the Owner until such participant has been reinstated as a qualified bidder.

1.21. Public Disclosure Record: If the bidder has knowledge of their employee(s) or sub-contractors having an immediate family relationship with a City employee or elected official, the bidder must provide the Purchasing Representative with the name(s) of these individuals. These individuals are required to file an acceptable "Public Disclosure Record", a statement of financial interest, before conducting business with the City.

2. General Contract Conditions for Construction Projects

- 2.1. The Contract:** This Invitation for Bid, submitted documents, and any negotiations, when properly accepted by the City, shall constitute a contract equally binding between the City and Contractor. The contract represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral. The contract may be amended or modified with Change Orders, Field Orders, or Addendums.
- 2.2. The Work:** The term Work includes all labor necessary to produce the construction required by the Contract Documents, and all materials and equipment incorporated or to be incorporated in such construction.
- 2.3. Execution, Correlation, Intent, and Interpretations:** The Contract Documents shall be signed by the Owner (City) and Contractor. City will provide the contract. By executing the contract, the Contractor represents that he/she has visited the site, familiarized himself with the local conditions under which the Work is to be performed, and correlated his observations with the requirements of the Contract Documents. The Contract Documents are complementary, and what is required by any one, shall be as binding as if required by all. The intention of the documents is to include all labor, materials, equipment and other items necessary for the proper execution and completion of the scope of work as defined in the technical specifications and drawings contained herein. All drawings, specifications and copies furnished by the City are, and shall remain, City property. They are not to be used on any other project, and with the exception of one contract set for each party to the contract, are to be returned to the owner on request at the completion of the work.

- 2.4. The Owner:** The Owner is the City of Grand Junction, Colorado and is referred to throughout the Contract Documents. The term Owner means the Owner or his authorized representative. The Owner shall, at all times, have access to the work wherever it is in preparation and progress. The Contractor shall provide facilities for such access. The Owner will make periodic visits to the site to familiarize himself generally with the progress and quality of work and to determine, in general, if the work is proceeding in accordance with the contract documents. Based on such observations and the Contractor's Application for Payment, the Owner will determine the amounts owing to the Contractor and will issue Certificates for Payment in such amounts, as provided in the contract. The Owner will have authority to reject work which does not conform to the Contract documents. Whenever, in his reasonable opinion, he considers it necessary or advisable to insure the proper implementation of the intent of the Contract Documents, he will have authority to require the Contractor to stop the work or any portion, or to require special inspection or testing of the work, whether or not such work can be then be fabricated, installed, or completed. The Owner will not be responsible for the acts or omissions of the Contractor, and sub-Contractor, or any of their agents or employees, or any other persons performing any of the work.
- 2.5. Contractor:** The Contractor is the person or organization identified as such in the Agreement and is referred to throughout the Contract Documents. The term Contractor means the Contractor or his authorized representative. The Contractor shall carefully study and compare the General Contract Conditions of the Contract, Specification and Drawings, Scope of Work, Addenda and Modifications and shall at once report to the Owner any error, inconsistency or omission he may discover. Contractor shall not be liable to the Owner for any damage resulting from such errors, inconsistencies or omissions. The Contractor shall not commence work without clarifying Drawings, Specifications, or Interpretations.
- 2.6. Sub-Contractors:** A sub-contractor is a person or organization who has a direct contract with the Contractor to perform any of the work at the site. The term sub-contractor is referred to throughout the contract documents and means a sub-contractor or his authorized representative.
- 2.7. Award of Sub-Contractors & Other Contracts for Portions of the Work:** Contractor shall submit with their bid response to the Owner, in writing for acceptance, a list of the names of the sub-contractors or other persons or organizations proposed for such portions of the work as may be designated in the proposal requirements, or, if none is so designated, the names of the sub-contractors proposed for the principal portions of the work. Prior to the award of the contract, the Owner shall notify the successful Contractor in writing if, after due investigation, has reasonable objection to any person or organization on such list. If, prior to the award of the contract, the Owner has a reasonable and substantial objection to any person or organization on such list, and refuses in writing to accept such person or organization, the successful Contractor may, prior to the award, withdraw their proposal without forfeiture of proposal security. If the successful Contractor submits an acceptable substitute with an increase in the proposed price to cover the difference in cost occasioned by the substitution, the Owner may, at their discretion, accept the increased proposal or may disqualify the Contractor. If, after the award, the Owner refuses to accept any person or organization on such list, the Contractor shall submit an acceptable substitute and the contract sum shall be increased

or decreased by the difference in cost occasioned by such substitution and an appropriate Change Order shall be issued. However, no increase in the contract sum shall be allowed for any such substitution unless the Contractor has acted promptly and responsively in submitting a name with respect thereto prior to the award.

- 2.8. Quantities of Work and Unit Price:** Materials or quantities stated as unit price items in the Bid are supplied only to give an indication of the general scope of the Work, and are as such, estimates only. The Owner does not expressly or by implication agree that the actual amount of Work or material will correspond therewith, and reserves the right after award to increase or decrease the quantity of any unit item of the Work without a change in the unit price except as set forth in Article VIII, Section 70 of the *General Contract Conditions*. The City also reserves the right to make changes in the Work (including the right to delete any bid item in its entirety or add additional bid items) as set forth in Article VIII, Sections 69 through 71 of the *General Contract Conditions*.
- 2.9. Substitutions:** The materials, products and equipment described in the *Solicitation Documents* shall be regarded as establishing a standard of required performance, function, dimension, appearance, or quality to be met by any proposed substitution. No substitution will be considered prior to receipt of Bids unless the Offeror submits a written request for approval to the City Purchasing Division at least ten (10) days prior to the date for receipt of Bids. Such requests for approval shall include the name of the material or equipment for which substitution is sought and a complete description of the proposed substitution including drawings, performance and test data, and other information necessary for evaluation, including samples if requested. The Offeror shall set forth changes in other materials, equipment, or other portions of the Work including changes of the work of other contracts, which incorporation of the proposed substitution would require to be included. The Owner's decision of approval or disapproval of a proposed substitution shall be final. If the Owner approves a proposed substitution before receipt of Bids, such approval will be set forth in an Addendum. Offerors shall not rely upon approvals made in any other manner.
- 2.10. Supervision and Construction Procedures:** The Contractor shall supervise and direct the work, using his best skill and attention. He shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the work under the contract.
- 2.11. Warranty:** The Contractor warrants to the Owner that all materials and equipment furnished under this contract will be new unless otherwise specified, and that all work will be of good quality, free from faults and defects and in conformance with the Contract Documents. All work not so conforming to these standards may be considered defective. If required by Owner, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. If within ten (10) days after written notice to the Contractor requesting such repairs or replacement, the Contractor should neglect to make or undertake with due diligence to the same, the City may make such repairs or replacements. All indirect and direct costs of such correction or removal or replacement shall be at the Contractor's expense. The Contractor will also bear the expenses of making good all work of others destroyed or damaged by the correction, removal or replacement of his defective work.

- 2.12. Permits, Fees, & Notices:** The Contractor shall secure and pay for all permits, governmental fees and licenses necessary for the proper execution and completion of the work. The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations and orders of any public authority bearing on the performance of the work. If the Contractor observes that any of the Contract Documents are at variance in any respect, he shall promptly notify the Owner in writing, and any necessary changes shall be adjusted by approximate modification. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Owner, he shall assume full responsibility and shall bear all costs attributable.
- 2.13. Responsibility for Those Performing the Work:** The Contractor shall be responsible to the Owner for the acts and omissions of all his employees and all sub-contractors, their agents and employees, and all other persons performing any of the work under a contract with the Contractor.
- 2.14. Use of the Site:** The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Contract Documents, and shall not unreasonably encumber the site with any materials or equipment.
- 2.15. Cleanup:** The Contractor at all times shall keep the premises free from accumulation of waste materials or rubbish caused by his operations. At the completion of work he shall remove all his waste materials and rubbish from and about the project, as well as all his tools, construction equipment, machinery and surplus materials.
- 2.16. Insurance:** The Contractor shall secure and maintain such insurance policies as will provide the coverage and contain other provisions specified in the General Contract Conditions, or as modified in the Special Contract Conditions.
- The Contractor shall file a copy of the policies or Certificates of Insurance acceptable to the City with the Engineer within ten (10) Calendar Days after issuance of the Notice of Award. These Certificates of Insurance shall contain a provision that coverage afforded under the policies shall not be canceled unless at least thirty (30) Calendar Days prior written notice has been given to the City.
- 2.17. Indemnification:** The Contractor shall defend, indemnify and save harmless the Owner, and all its officers, employees, insurers, and self-insurance pool, from and against all liability, suits, actions, or other claims of any character, name and description brought for or on account of any injuries or damages received or sustained by any person, persons, or property on account of any negligent act or fault of the Contractor, or of any Contractor's agent, employee, sub-contractor or supplier in the execution of, or performance under, any contract which may result from proposal award. Contractor shall pay any judgment with cost which may be obtained against the Owner growing out of such injury or damages.
- 2.18. Miscellaneous Conditions: Material Availability:** Contractors must accept responsibility for verification of material availability, production schedules, and other pertinent data prior to submission of bid. It is the responsibility of the bidder to notify the Owner immediately if materials specified are discontinued, replaced, or not available for

an extended period of time. **OSHA Standards:** All bidders agree and warrant that services performed in response to this invitation shall conform to the standards declared by the US Department of Labor under the Occupational Safety and Health Act of 1970 (OSHA). In the event the services do not conform to OSHA standards, the Owner may require the services to be redone at no additional expense to the Owner.

- 2.19. Time:** Time is of the essence with respect to the time of completion of the Project and any other milestones or deadline which are part of the Contract. It will be necessary for each Bidder to satisfy the City of its ability to complete the Work within the Contract Time set forth in the Contract Documents. The Contract Time is the period of time allotted in the Contract Documents for completion of the work. The date of commencement of the work is the date established in a Notice to Proceed. If there is no Notice to Proceed, it shall be the date of the Contract or such other date as may be established therein, or as established as entered on the Bid Form. The Date of Final Completion of the work is the date certified by the Owner when all construction, and all other work associated to include, but not be limited to: testing, QA/QC, receipt of required reports and/or forms, grant requirements (if applicable), punch list items, clean-up, receipt of drawings and/or as-builts, etc., is fully complete, and in accordance with the Contract Documents.
- 2.20. Progress & Completion:** The Contractor shall begin work on the date of commencement as defined in the Contract and shall carry the work forward expeditiously with adequate forces and shall complete it within the contract time.
- 2.21. Payment & Completion:** The Contract Sum is stated in the Contract and is the total amount payable by the Owner to the Contractor for the performance of the work under the Contract Documents. Upon receipt of written notice that the work is ready for final inspection and acceptance and upon receipt of application for payment, the Owner's Project Manager will promptly make such inspection and, when he finds the work acceptable under the Contract Documents and the Contract fully performed, the Owner shall make payment in the manner provided in the Contract Documents.
- 2.22. Bid Bond:** Each Bid shall as a guaranty of good faith on the part of the Bidder be accompanied by a Bid Guaranty consisting of: a certified or cashier's check drawn on an approved national bank or trust company in the state of Colorado, and made payable without condition to the City; or a **Bid Bond** written by an approved corporate surety in favor of the City. The amount of the Bid Guaranty shall not be less than 5% of the total Bid amount. Once a Bid is accepted and a Contract is awarded, the apparent successful bidder has ten calendar days to enter into a contractor in the form prescribed and to furnish the bonds with a legally responsible and approved surety. Failure to do so will result in forfeiture of the Bid Guaranty to the City as Liquidated Damages.

Each bidder shall guaranty its total bid price for a period of sixty (60) Calendar Days from the date of the bid opening.

- 2.23. Performance & Payment Bonds:** Contractor shall furnish a Performance and a Payment Bond, each in an amount at least equal to that specified for the contract amount as security for the faithful performance and payment of all Contractor's obligations under the Contract Documents. These bonds shall remain in effect for the duration of the Warranty Period (as specified in the Special Conditions). Contractor shall also furnish

other bonds that may be required by the Special Conditions. All bonds shall be in the forms prescribed by the Contract Documents and be executed by such sureties as (1) are licensed to conduct business in the State of Colorado and (2) are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff, Bureau of Accounts, U.S. Treasury Department. All bonds signed by an agent must be accompanied by a certified copy of the Authority Act. If the surety on any bond furnished by the Contractor is declared bankrupt, or becomes insolvent, or its rights to do business in Colorado are terminated, or it ceases to meet the requirements of clauses (1) and (2) of this section, Contractor shall within five (5) days thereafter substitute another bond and surety, both of which shall be acceptable to the City.

2.24. Retention: The Owner will deduct money from the partial payments in amounts considered necessary to protect the interest of the Owner and will retain this money until after completion of the entire contract. The amount to be retained from partial payments will be five (5) percent of the value of the completed work, and not greater than five (5) percent of the amount of the Contract. When the retainage has reached five (5) percent of the amount of the Contract no further retainage will be made and this amount will be retained until such time as final payment is made.

2.25. Liquidated Damages for Failure to Enter Into Contract: Should the Successful Bidder fail or refuse to enter into the Contract within ten Calendar Days from the issuance of the Notice of Award, the City shall be entitled to collect the amount of such Bidder's Bid Guaranty as Liquidated Damages, not as a penalty but in consideration of the mutual release by the City and the Successful Bidder of all claims arising from the City's issuance of the Notice of Award and the Successful Bidder's failure to enter into the Contract and the costs to award the Contract to any other Bidder, to re-advertise, or otherwise dispose of the Work as the City may determine best serves its interest.

2.26. Liquidated Damages for Failure to Meet Project Completion Schedule: If the Contractor does not achieve Final Completion by the required date, whether by neglect, refusal or any other reason, the parties agree and stipulate that the Contractor shall pay liquidated damages to the City for each such day that final completion is late. As provided elsewhere, this provision does not apply for delays caused by the City. The date for Final Completion may be extended in writing by the Owner.

The Contractor agrees that as a part of the consideration for the City's awarding of this Contract liquidated damages in the daily amount of **\$1,000.00** is reasonable and necessary to pay for the actual damages resulting from such delay. The parties agree that the real costs and injury to the City for such delay include hard to quantify items such as: additional engineering, inspection and oversight by the City and its agents; additional contract administration; inability to apply the efforts of those employees to the other work of the City; perceived inefficiency of the City; citizens having to deal with the construction and the Work, rather than having the benefit of a completed Work, on time; inconvenience to the public; loss of reputation and community standing for the City during times when such things are very important and very difficult to maintain.

The Contractor must complete the Work and achieve final completion included under the Bid Schedule in the number of consecutive calendar days after the City gives its written Notice to Proceed. When the Contractor considers the entire Work ready for its intended use, Contractor shall certify in writing that the Work is fully complete. Final Completion date is the date by which the Contractor shall have fully completed all clean-up, and all items that were identified by the City in the inspection for final completion. Unless otherwise stated in the Special Conditions, for purposes of this liquidated damages clause, the Work shall not be finished and the Contract time shall continue to accrue until the City gives its written Final Acceptance.

If the Contractor shall fail to pay said liquidated damages promptly upon demand thereof after having failed to achieve Final Completion on time, the City shall first look to any retainage or other funds from which to pay said liquidated damages; if retainage or other liquid funds are not available to pay said liquidated damages amounts, the Surety on the Contractor's Performance Bond and Payment Bond shall pay such liquidated damages. In addition, the City may withhold all, or any part of, such liquidated damages from any payment otherwise due the Contractor.

Liquidated damages as provided do not include any sums to reimburse the City for extra costs which the City may become obligated to pay on other contracts which were delayed or extended because of the Contractor's failure to complete the Work within the Contract Time. Should the City incur additional costs because of delays or extensions to other contracts resulting from the Contractor's failure of timely performance, the Contractor agrees to pay these costs that the City incurs because of the Contractor's delay, and these payments are separate from and in addition to any liquidated damages.

The Contractor agrees that the City may use its own forces or hire other parties to obtain Final Completion of the work if the time of completion has elapsed and the Contractor is not diligently pursuing completion. In addition to the Liquidated Damages provided for, the Contractor agrees to reimburse the City for all expenses thus incurred.

2.27. Contingency/Force Account/Minor Contract Revisions: Contingency/Force Account/Minor Contract Revisions work will be authorized by the Owner's Project Manager and is defined as minor expenses to cover miscellaneous or unforeseen expenses related to the project. The expenses are not included in the Drawings, Specifications, or Scope of Work and are necessary to accomplish the scope of this contract. Contingency/Force Account/Minor Contract Revisions Authorization will be directed by the Owner through an approved form. Contingency/Force Account/Minor Contract Revisions funds are the property of the Owner and any Contingency/Force Account/Minor Contract Revisions funds, not required for project completion, shall remain the property of the Owner. Contractor is not entitled to any Contingency/Force Account/Minor Contract Revisions funds, that are not authorized by Owner or Owner's Project Manager.

2.28. Protection of Persons & Property: The Contractor shall comply with all applicable laws, ordinances, rules, regulations and orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damage, injury or loss. Contractor shall erect and maintain, as required by existing safeguards for safety and protection, and all reasonable precautions, including posting danger signs or other warnings against hazards promulgating safety regulations and notifying owners and

users of adjacent utilities. When or where any direct or indirect damage or injury is done to public or private property by or on account of any act, omission, neglect, or misconduct by the Contractor in the execution of the work, or in consequence of the non-execution thereof by the Contractor, he shall restore, at his own expense, such property to a condition similar or equal to that existing before such damage or injury was done, by repairing, rebuilding, or otherwise restoring as may be directed, or it shall make good such damage or injury in an acceptable manner.

- 2.29. Changes in the Work:** The Owner, without invalidating the contract, may order changes in the work within the general scope of the contract consisting of additions, deletions or other revisions, the contract sum and the contract time being adjusted accordingly. All such changes in the work shall be authorized by Change Order and shall be executed under the applicable conditions of the contract documents. A Change Order is a written order to the Contractor signed by the Owner issued after the execution of the contract, authorizing a change in the work or an adjustment in the contract sum or the contract time. The contract sum and the contract time may be changed only by Change Order.
- 2.30. Claims for Additional Cost or Time:** If the Contractor wishes to make a claim for an increase in the contract sum or an extension in the contract time, he shall give the Owner written notice thereof within a reasonable time after the occurrence of the event giving rise to such claim. This notice shall be given by the Contractor before proceeding to execute the work, except in an emergency endangering life or property in which case the Contractor shall precede in accordance with the regulations on safety. No such claim shall be valid unless so made. Any change in the contract sum or contract time resulting from such claim shall be authorized by Change Order.
- 2.31. Minor Changes in the Work:** The Owner shall have authority to order minor changes in the work not involving an adjustment in the contract sum or an extension of the contract time and not inconsistent with the intent of the contract documents.
- 2.32. Field Orders:** The Owner may issue written Field Orders which interpret the Contract Documents in accordance with the specifications, or which order minor changes in the work in accordance with the agreement, without change in the contract sum or time. The Contractor shall carry out such Field Orders promptly.
- 2.33. Uncovering & Correction of Work:** The Contractor shall promptly correct all work rejected by the Owner as defective or as failing to conform to the contract documents whether observed before or after substantial completion and whether or not fabricated installed or competed. The Contractor shall bear all costs of correcting such rejected work, including the cost of the Owner's additional services thereby made necessary. If within one (1) year after the date of completion or within such longer period of time as may be prescribed by law or by the terms of any applicable special guarantee required by the contract documents, any of the work found to be defective or not in accordance with the contract documents, the Contractor shall correct it promptly after receipt of a written notice from the Owner to do so unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discover of condition. All such defective or non-conforming work under the above paragraphs shall be removed from the site where necessary and the work shall be corrected to comply with the contract documents without cost to the Owner. The

Contractor shall bear the cost of making good all work of separate Contractors destroyed or damaged by such removal or correction. If the Owner prefers to accept defective or non-conforming work, he may do so instead of requiring its removal and correction, in which case a Change Order will be issued to reflect an appropriate reduction in the payment or contract sum, or, if the amount is determined after final payment, it shall be paid by the Contractor.

- 2.34. Amendment:** No oral statement of any person shall modify or otherwise change, or affect the terms, conditions or specifications stated in the resulting contract. All amendments to the contract shall be made in writing by the Owner.
- 2.35. Assignment:** The Contractor shall not sell, assign, transfer or convey any contract resulting from this IFB, in whole or in part, without the prior written approval from the Owner.
- 2.36. Compliance with Laws:** Bids must comply with all Federal, State, County and local laws governing or covering this type of service and the fulfillment of all ADA (Americans with Disabilities Act) requirements.
- 2.37. Confidentiality:** All information disclosed by the Owner to the Contractor for the purpose of the work to be done or information that comes to the attention of the Contractor during the course of performing such work is to be kept strictly confidential.
- 2.38. Conflict of Interest:** No public official and/or City/County employee shall have interest in any contract resulting from this IFB.
- 2.39. Contract Termination:** This contract shall remain in effect until any of the following occurs: (1) contract expires; (2) completion of services; (3) acceptance of services or, (4) for convenience terminated by either party with a written *Notice of Cancellation* stating therein the reasons for such cancellation and the effective date of cancellation.
- 2.40. Employment Discrimination:** During the performance of any services per agreement with the Owner, the Contractor, by submitting a Bid, agrees to the following conditions:
 - 2.40.1.** The Contractor shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, age, handicap, or national origin except when such condition is a legitimate occupational qualification reasonably necessary for the normal operations of the Contractor. The Contractor agrees to post in conspicuous places, visible to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
 - 2.40.2.** The Contractor, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, shall state that such Contractor is an Equal Opportunity Employer.
 - 2.40.3.** Notices, advertisements, and solicitations placed in accordance with federal law, rule, or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.

- 2.41. Affirmative Action:** In executing a Contract with the City, the Contractor agrees to comply with Affirmative Action and Equal Employment Opportunity regulations presented in the General Contract Conditions.
- 2.42. Immigration Reform and Control Act of 1986 and Immigration Compliance:** The Offeror certifies that it does not and will not during the performance of the contract employ illegal alien workers or otherwise violate the provisions of the Federal Immigration Reform and Control Act of 1986 and/or the immigration compliance requirements of State of Colorado C.R.S. § 8-17.5-101, *et. seq.* (House Bill 06-1343).
- 2.43. Ethics:** The Contractor shall not accept or offer gifts or anything of value nor enter into any business arrangement with any employee, official, or agent of the Owner.
- 2.44. Failure to Deliver:** In the event of failure of the Contractor to deliver services in accordance with the contract terms and conditions, the Owner, after due oral or written notice, may procure the services from other sources and hold the Contractor responsible for any costs resulting in additional purchase and administrative services. This remedy shall be in addition to any other remedies that the Owner may have.
- 2.45. Failure to Enforce:** Failure by the Owner at any time to enforce the provisions of the contract shall not be construed as a waiver of any such provisions. Such failure to enforce shall not affect the validity of the contract or any part thereof or the right of the Owner to enforce any provision at any time in accordance with its terms.
- 2.46. Force Majeure:** The Contractor shall not be held responsible for failure to perform the duties and responsibilities imposed by the contract due to legal strikes, fires, riots, rebellions, and acts of God beyond the control of the Contractor, unless otherwise specified in the contract.
- 2.47. Independent Contractor:** The Contractor shall be legally considered an Independent Contractor and neither the Contractor nor its employees shall, under any circumstances, be considered servants or agents of the Owner. The Owner shall be at no time legally responsible for any negligence or other wrongdoing by the Contractor, its servants, or agents. The Owner shall not withhold from the contract payments to the Contractor any federal or state unemployment taxes, federal or state income taxes, Social Security Tax or any other amounts for benefits to the Contractor. Further, the Owner shall not provide to the Contractor any insurance coverage or other benefits, including Workers' Compensation, normally provided by the Owner for its employees.
- 2.48. Nonconforming Terms and Conditions:** A bid that includes terms and conditions that do not conform to the terms and conditions of this Invitation for Bid is subject to rejection as non-responsive. The Owner reserves the right to permit the Contractor to withdraw nonconforming terms and conditions from its bid prior to a determination by the Owner of non-responsiveness based on the submission of nonconforming terms and conditions.

Items for non-responsiveness may include, but not be limited to:

- a. Submission of the Bid on forms other than those supplied by the City;

- b. Alteration, interlineation, erasure, or partial detachment of any part of the forms which are supplied herein;
- c. Inclusion of unauthorized additions conditional or alternate Bids or irregularities of any kind which may tend to make the Bid incomplete, indefinite, or ambiguous as to its meaning;
- d. Failure to acknowledge receipt of any or all issued Addenda;
- e. Failure to provide a unit price or a lump sum price, as appropriate, for each pay item listed except in the case of authorized alternative pay items;
- f. Failure to list the names of Subcontractors used in the Bid preparation as may be required in the Solicitation Documents;
- g. Submission of a Bid that, in the opinion of the Owner, is unbalanced so that each item does not reasonably carry its own proportion of cost or which contains inadequate or unreasonable prices for any item;
- h. Tying of the Bid with any other bid or contract; and
- i. Failure to calculate Bid prices as described herein.

2.49. Evaluation of Bids and Offerors: The Owner reserves the right to:

- reject any and all Bids,
- waive any and all informalities,
- take into account any prompt payment discounts offered by Bidder,
- negotiate final terms with the Successful Bidder,
- take into consideration past performance of previous awards/contracts with the Owner of any Contractor, Vendor, Firm, Supplier, or Service Provider in determining final award. and
- disregard any and all nonconforming, nonresponsive or conditional Bids.

Discrepancies between words and figures will be resolved in favor of words. Discrepancies between Unit Prices and Extended Prices will be resolved in favor of the Unit Prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum. The corrected extensions and totals will be shown in the tabulation of Bids.

The Owner may consider the qualifications and experience of Subcontractors and other persons and organizations (including those who are to furnish the principal items of material or equipment) proposed for those portions of the work as to which the identity of Subcontractors and other persons and organizations must be submitted. Operating costs, maintenance considerations performance data, and guarantees of materials and equipment may also be considered by the Owner.

The Owner will conduct such investigations as deemed necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of the Offeror, proposed Subcontractors and other persons and organizations to do the Work in accordance with the *Contract Documents* to the City's satisfaction within the Contract Time.

The Offeror shall furnish the Owner all information and data requested by the Owner to determine the ability of the Offeror to perform the Work. The Owner reserves the right to reject the Bid if the evidence submitted by, or investigation of such Offeror fails to satisfy the Owner that such Offeror is properly qualified to carry out the obligations of the Contract and to complete the Work contemplated therein.

By submitting a Bid, each Offeror authorizes the Owner to perform such investigation of the Offeror as the Owner deems necessary to establish the responsibility, qualifications and financial ability of the Offeror and, by its signature thereon, authorizes the Owner to obtain reference information concerning the Offeror and releases the party providing such information and the Owner from any and all liability to the Offeror as a result of such reference information so provided.

The Owner reserves the right to reject the Bid of any Offeror who does not pass any evaluation to the Owner's satisfaction.

If the Contract is to be awarded, it will be awarded to the Offeror who, by evaluation, the Owner determines will best meet the Owner's interests.

The Owner reserves the right to accept or reject the Work contained in any of the Price Bid Schedules or alternates, either in whole or in part.

2.50. Award of Contract: Unless otherwise indicated, a single award will be made for all the bid items in an individual bid schedule. In the event that the Work is contained in more than one Bid Schedule, the City may award Schedules individually or in combination. In the case of two Bid Schedules which are alternative to each other, only one of such alternative Schedules will be awarded. Within forty-five (45) Calendar Days of Bid Opening, the City will issue a Notice of Award to the Successful Bidder which will be accompanied by four (4) unsigned copies of the Contract and the Performance and Payment Bond forms. Within ten (10) Calendar Days thereafter, the Successful Bidder shall sign and deliver four (4) copies of the Contract, Performance Bond, Payment Bond and Certificates of Insurance to the City. Within ten (10) Calendar Days thereafter, the City will deliver two (2) fully executed counterparts of the Contract to the Contractor. No contract shall exist between the Successful Bidder and the City and the Successful Bidder shall have no rights at law or in equity until the Contract has been duly executed by the City.

The Successful Bidder's failure to sign and submit a Contract and other documents set forth in this Paragraph within the prescribed time shall be just cause of annulment of the award, and forfeiture of the Bid Guaranty. The award of Contract may then be made to the next qualified Bidder in the same manner as previously prescribed.

- 2.51. Ownership:** All plans, prints, designs, concepts, etc., shall become the property of the Owner.
- 2.52. Oral Statements:** No oral statement of any person shall modify or otherwise affect the terms, conditions, or specifications stated in this document and/or resulting agreement. All modifications to this request and any agreement must be made in writing by the Owner.
- 2.53. Patents/Copyrights:** The Contractor agrees to protect the Owner from any claims involving infringements of patents and/or copyrights. In no event shall the Owner be liable to the Contractor for any/all suits arising on the grounds of patent(s)/copyright(s) infringement. Patent/copyright infringement shall null and void any agreement resulting from response to this IFB.
- 2.54. Remedies:** The Contractor and Owner agree that both parties have all rights, duties, and remedies available as stated in the Uniform Commercial Code.
- 2.55. Venue:** Any agreement as a result of responding to this IFB shall be deemed to have been made in, and shall be construed and interpreted in accordance with, the laws of the City of Grand Junction, Mesa County, Colorado.
- 2.56. Expenses:** Expenses incurred in preparation, submission and presentation of this IFB are the responsibility of the company and cannot be charged to the Owner.
- 2.57. Sovereign Immunity:** The Owner specifically reserves its right to sovereign immunity pursuant to Colorado State Law as a defense to any action arising in conjunction to this agreement.
- 2.58. Non-Appropriation of Funds:** The contractual obligation of the Owner under this contract is contingent upon the availability of appropriated funds from this fiscal year budget as approved by the City Council or Board of County Commissioners from this fiscal year only. State of Colorado Statutes prohibit obligation of public funds beyond the fiscal year for which the budget was approved. Anticipated expenditures/obligations beyond the end of the current Owner's fiscal year budget shall be subject to budget approval. Any contract will be subject to and must contain a governmental non-appropriation of funds clause.
- 2.59. Cooperative Purchasing:** Purchases as a result of this solicitation are primarily for the City/County. Other governmental entities may be extended the opportunity to utilize the resultant contract award with the agreement of the successful provider and the participating agencies. All participating entities will be required to abide by the specifications, terms, conditions and pricings established in this Bid. The quantities furnished in this bid document are for only the City/County. It does not include quantities for any other jurisdiction. The City or County will be responsible only for the award for its jurisdiction. Other participating entities will place their own awards on their respective Purchase Orders through their purchasing office or use their purchasing card for purchase/payment as authorized or agreed upon between the provider and the individual entity. The City/County accepts no liability for payment of orders placed by other participating jurisdictions that choose to piggy-back on our solicitation. Orders placed by

participating jurisdictions under the terms of this solicitation will indicate their specific delivery and invoicing instructions.

- 2.60. Keep Jobs in Colorado Act:** Contractor shall be responsible for ensuring compliance with Article 17 of Title 8, Colorado Revised Statutes requiring 80% Colorado labor to be employed on public works. Contractor shall, upon reasonable notice provided by the Owner, permit the Owner to inspect documentation of identification and residency required by C.R.S. §8-17-101(2)(a). If Contractor claims it is entitled to a waiver pursuant to C.R.S. §8-17-101(1), Contractor shall state that there is insufficient Colorado labor to perform the work such that compliance with Article 17 would create an undue burden that would substantially prevent a project from proceeding to completion, and shall include evidence demonstrating the insufficiency and undue burden in its response.

Unless expressly granted a waiver by the Owner pursuant to C.R.S. §8-17-101(1), Contractor shall be responsible for ensuring compliance with Article 17 of Title 8, Colorado Revised Statutes requiring 80% Colorado labor to be employed on public works. Contractor shall, upon reasonable notice provided by the Owner, permit the Owner to inspect documentation of identification and residency required by C.R.S. §8-17-101(2)(a).

2.60.1. "Public project" is defined as:

- (a) any construction, alteration, repair, demolition, or improvement of any land, building, structure, facility, road, highway, bridge, or other public improvement suitable for and intended for use in the promotion of the public health, welfare, or safety and any maintenance programs for the upkeep of such projects
- (b) for which appropriate or expenditure of moneys may be reasonably expected to be \$500,000.00 or more in the aggregate for any fiscal year
- (c) except any project that receives federal moneys.

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 **2020 Sewer Line 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: 2,856 L.F. of SDR-35 PVC sewer pipe (sizes 4" – 15"); 14 48" I.D. sanitary sewer manholes, 3 sanitary sewer drop manholes, interior manhole protective coating, installation of sewer fittings, 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 pre-bid meeting on August 19, 2020 at 12:00 pm.** Meeting location will in the City Hall Auditorium, located at 250 N. 5th Street, Grand Junction, CO. The purpose of this visit will be to inspect and to clarify the contents of this Invitation for Bids (IFB).

3.3.2 QUESTIONS REGARDING 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 **80 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, Section VI - Contractor's Responsibilities, Subsection 36; or as mutually agreed upon in the preconstruction meeting.

3.3.10 Licenses and Permits: Contractor is responsible for obtaining all necessary licenses and permits required for Construction, at Contractor's expense. See Section 2.12. 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:

- CDOT Special Use/Utility Permit: Permit needed for sewer installation work on 1st Street between Pitkin Ave. and Grand Ave.

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: A newsletter for the Project will be prepared and distributed by the City. It will include general information about the Project including interruptions in utility services, street closures, parking restrictions, project schedule, and the names and telephone numbers of the contacts for the City and Contractor. The newsletter will be mailed approximately one week before the Contractor commences work.

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 and CDOT right-of-way. The City is pursuing daytime working hours on 1st Avenue from CDOT. The City proposes for traffic control to close northbound 1st Street and shift traffic to one-lane each direction utilizing the southbound lanes of 1st Street. Similar traffic control setups have been used on North Ave. with success. The City is proposing similar traffic control setups for North Ave.
4. The Contractor shall utilize temporary concrete barriers along 1st Street to help protect the sewer trench from traffic.
5. 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.
6. Access to residents and/or businesses shall always be provided 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 Assurance Testing: The City will be providing quality assurance (QA) testing on this sewer 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 submitted at or prior to the pre-construction meeting
- Sewer Pipe – SDR-35 PVC
- Sewer Fittings (wyes, elbows, caps)
- Manholes
- Drop Manholes
- Manhole Corrosion Protection
- Manhole Ring & Covers
- Bedding Gradation, Type A
- Imported Trench Backfill gradation (Class 3)
- Granular Stabilization Material (Type B)
- Flow-Fill Material
- Base Course Gradation & Proctor Curve (Class 6)
- Hot Bituminous Pavement Mix Design
- 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:

- 1st 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. All underground utilities were **not** potholed. It is the responsibility of the Contractor to locate and protect all structures and utilities in accordance with General Contract Condition Section 37. Conflicts between water and gas lines and/or storm drain pipe may be encountered. At such conflicts, the Contractor shall relocate the water and/or gas lines. Payment for utility relocations due to a conflict with the new sewer 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 Existing Property Pins and Survey Monuments: The City of Grand Junction did not perform an exhaustive search for existing property pins when compiling survey data for this Project. Property pins and survey monuments have been shown on the construction drawings that were found in the field. The Contractor shall be responsible for locating, protecting and resetting property pins when and where necessary, including those shown on the plans, and including those not shown but found in the field during the course of the work. The cost of locating, protecting, referencing and resetting of property pins is incidental to the Construction Surveying pay item. The cost of referencing and resetting of survey monuments shall be paid for as described in Section 629 – Survey Monumentation within the July 2010 Standard Contract Documents.

3.3.26 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.

3.3.27 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 City Project Manager will walk and record any concrete that is deemed to be damaged before construction has started.

- 3.3.28 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.
- 3.3.29 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.
- 3.3.30 Construction Dewatering:** All construction dewatering must meet the requirements specified in the CDPHE Dewatering Permit. Construction dewatering will be considered incidental and will not be measured and paid for separately.
- 3.3.31 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.
- 3.3.32 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.
- 3.3.33 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.
- 3.3.34 Project Location Work Schedule:** Due to the time of year this Project is Bidding, the Contractor shall complete the 1st Street sewer replacement first to ensure asphalt plants are open for asphalt patching.
- 3.3.35 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.

3.3.36 As-Built Manhole Survey Shots: All manhole invert as-built survey shots taken on the installed manholes and drop manholes shall be taken before the Contractor installs the manhole cone sections. This way the surveyor is able to shoot the manhole inverts with the survey rod in a vertical (plumb) position. Invert elevations on the 'shallow' sewer and the 'deep' sewer lines need to be provided to the Project Engineer.

3.3.37 Manhole Grade Rings: 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 Polypropylene 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.

3.3.38 Manhole Ring and Cover: Manhole ring and covers for this project shall be Castings model MH-310-24 Cl.

3.3.39 References for Manhole Corrosion Protection: The Contractor applying the interior manhole corrosion protection shall provide a minimum of 3 references of projects for completed restoration and corrosion barrier liner installation of similar scope and size using the protective coating specified and/or approved equal by the City Project Engineer. References shall include project name and location; contact information of Owner/Engineer; and description of project, what the substrate was, and the application procedures.

3.3.40 Grand Valley Irrigation Co. (GVIC) Sewer Easement Status and the Lakeside Apartments Sewer Replacement: The City's Attorney's office is currently working with GVIC on acquiring additional sewer easement, as well as, a temporary construction easement for the installation of the Lakeside Apartments sewer line. The Bidder's shall be aware that getting easements from GVIC can take months and there's a chance the easements won't be finalized by the time the Contractor is ready to start on the Lakeside sewer replacement phase.

The City wants the 1st Street sewer and Shadow Lake sewer replacements to be completed first to allow the City more time to acquire the sewer easements from GVIC. If the City hasn't been successful in acquiring the sewer easements before the Contractor is ready to start the Lakeside sewer replacement, the City reserves the right to delete the portion of work comprising the Lakeside sewer replacement from the construction contract. The other option is delaying the start of the Lakeside sewer replacement until the City has acquired the necessary easements.

3.4. SCOPE OF WORK: The Project generally consists of: 2,856 L.F. of SDR-35 PVC sewer pipe (sizes 4" – 15"); 14 48" I.D. sanitary sewer manholes, 3 sanitary sewer drop manholes, interior manhole protective coating, installation of sewer fittings, 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 Investigation Report
- 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:	August 11, 2020
Mandatory Pre-Bid Meeting:	August 19, 2020
Inquiry deadline, no questions after this date:	August 24, 2020
Addendum Posted:	August 26, 2020
Submittal deadline for proposals (Bid Opening):	September 1, 2020
City Council Approval:	September 16, 2020
Notice of Award & Contract execution:	September 17, 2020
Bonding & Insurance Cert. due:	September 24, 2020
Preconstruction meeting:	September 24, 2020
Work begins no later than:	Upon Receipt of Notice to Proceed
Final Completion	80 Calendar Days from Notice to Proceed
Holidays:	Thanksgiving, Nov. 26 th

4. Contractor's Bid Form

Bid Date: _____

Project: IFB-4821-20-DH "2020 Sewer Line 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. The Owner reserves the right to take into account any such discounts when determining the bid award.

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: _____

Bid Schedule: 2020 Sewer Line Replacement Project

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) (Shadow Lake)	30.	Lin. Ft.	\$ _____	\$ _____
2	108.2	6" Gravity Sewer Pipe (SDR-35 PVC) (1st Street) (Includes cost of connection to the existing sewer pipe and Type A Bedding and Haunching Material and Backfill of Trench with Class 3 Imported Trench Backfill Material)	117.	Lin. Ft.	\$ _____	\$ _____
3	108.2	8" Gravity Sewer Pipe (SDR-35 PVC) (1st Street) (Includes cost of connection to the existing sewer pipe and Type A Bedding and Haunching Material and Backfill of Trench with Class 3 Imported Trench Backfill Material)	400.	Lin. Ft.	\$ _____	\$ _____
4	108.2	10" Gravity Sewer Pipe (SDR-35 PVC) (1st Street Only) (Includes Type A Bedding and Haunching Material and Backfill of Trench with Class 3 Imported Trench Backfill Material)	910.	Lin. Ft.	\$ _____	\$ _____
5	108.2	10" Gravity Sewer Pipe (Certa-Flo Pipe) (Certa-Flo PVC Gravity Sewer Pipe) (SDR-21) (ASTM D-2241) (20-ft Joints) (Joint Type: Certa-Lok Restrained Joint Integral Bell) (Includes all necessary Pipe-Bursting Installation Equipment) (1st Street Pipe-Bursting)	245.	Lin. Ft.	\$ _____	\$ _____
6	108.2	24" Gravity Sewer Pipe (SDR-35 PVC) (ASTM F-679, PS 46) (1st Street) (Includes cost of connection to the existing sewer pipe and Type A Bedding and Haunching Material and Backfill of Trench with Class 3 Imported Trench Backfill Material)	10.	Lin. Ft.	\$ _____	\$ _____
7	108.2	27" Gravity Sewer Pipe (SDR-35 PVC) (ASTM F-679, PS 46) (1st Street) (Includes cost of connection to the existing sewer pipe and Type A Bedding and Haunching Material and Backfill of Trench with Class 3 Imported Trench Backfill Material)	12.	Lin. Ft.	\$ _____	\$ _____

Bid Schedule: 2020 Sewer Line Replacement Project

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
8	108.2	8" Gravity Sewer Pipe (SDR-35 PVC) (Shadow Lake) (Includes cost of connection to the existing sewer pipe and Type A Bedding and Haunching Material and Backfill of Trench with Native Materials meeting 103.16 Earth Backfill Materials)	274.	Lin. Ft.	\$ _____	\$ _____
9	108.2	10" Gravity Sewer Pipe (SDR-35 PVC) (Shadow Lake) (Includes cost of connection to the existing sewer pipe and Type A Bedding and Haunching Material and Backfill of Trench with Native Materials meeting 103.16 Earth Backfill Materials)	216.	Lin. Ft.	\$ _____	\$ _____
10	108.2	Imported Trench Backfill (Class 3) (Includes haul and disposal of unsuitable excavated material) (Assumed material unit weight = 133 lbs/ft ³)	1,400.	Ton	\$ _____	\$ _____
11	108.3	8" Cap (PVC) (Gasketed) (Includes 4-ft long 4"x4" wood post per City Std. Detail SS-06)	1.	Each	\$ _____	\$ _____
12	108.3	10" x 4" Sewer Service Tap (Full Body Wye w/ Street 45-deg.) (Includes full body wye, 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	\$ _____	\$ _____
13	108.3	10" 45-degree Elbow (GxG) (1st Street Drop Manhole)	1.	Each	\$ _____	\$ _____
14	108.3	10" x 10" Wye Fitting (Full Body Wye) (GxGxG) (1st Street Drop Manhole)	1.	Each	\$ _____	\$ _____
15	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)	11.	Each	\$ _____	\$ _____
16	108.5	Sanitary Sewer Basic Manhole (60" I.D.) (Includes connection of adjacent sewer line, forming inverts and adjusting to final grade. (See City Std. Detail SS-02)	1.	Each	\$ _____	\$ _____
17	108.5	Sanitary Sewer Basic Drop Manhole (60" I.D.) (Includes connection of adjacent sewer line, forming inverts and adjusting to final grade. (See City Std. Detail SS-02)	1.	Each	\$ _____	\$ _____
18	108.5	Manhole Barrel Section (D>5') (48" I.D.)	48.	Vert. Ft.	\$ _____	\$ _____

Bid Schedule: 2020 Sewer Line Replacement Project

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
19	108.5	Manhole Barrel Section (D>5') (60" I.D.)	21.	Vert. Ft.	\$ _____	\$ _____
20	108.5	Connect to Existing Manhole (6" pipe) (Manhole D2-261-259 in alley north of White Ave.)	1.	Each	\$ _____	\$ _____
21	108.5	Manhole Protective Coating (Castagra Ecodur 201 Coating or Approved Equal) (Coating only applies to 1st Street Sewer Manholes) (40 mils Thickness, min.)	107.	Vert. Ft.	\$ _____	\$ _____
22	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)	350.	Ton	\$ _____	\$ _____
23	201	Clearing and Grubbing (Shadow Lake Sewer)	1.	Lump Sum	\$ _____	\$ _____
24	202	Abandon Pipe (Abandon pipe by plugging ends with concrete)	25.	Each	\$ _____	\$ _____
25	202	Abandon Manhole (Remove cone section, ring & cover, and fill remaining barrel sections with flow-fill material)	3.	Each	\$ _____	\$ _____
26	202	Abandon Existing Water Valve Box (Close valve, remove top half of existing valve box, fill cavity to finished subgrade with flow-fill material) (1st Street)	1.	Each	\$ _____	\$ _____
27	202	Removal of Existing Pipe (Size & type as shown on plans)	993.	Lin. Ft.	\$ _____	\$ _____
28	202	Removal of Asphalt Mat (Full Depth)	1,100.	Sq. Yd.	\$ _____	\$ _____
29	202	Removal of Asphalt Mat (Planing) (2" Thick for T-Top Section)	670.	Sq. Yd.	\$ _____	\$ _____
30	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)	53.	Sq. Yd.	\$ _____	\$ _____
31	202	Removal of Sod	42.	Sq. Ft.	\$ _____	\$ _____
32	202	Removal of Manhole (Price to include plugging existing abandoned pipes and removal and disposal of concrete sections)	10.	Each	\$ _____	\$ _____

Bid Schedule: 2020 Sewer Line Replacement Project

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
33	203	Disposal of Radioactive Material (Dispose at City Shops, 333 West Ave.) (If necessary) (Potential for Mill Tailings in 1st Street)	500.	Cu. Yd.	\$ _____	\$ _____
34	206	Structure Backfill (Flow-Fill)	100.	Cu. Yd.	\$ _____	\$ _____
35	208	Storm Drain Inlet Protection (Silt-Sack Style or Approved Equal) (Includes Maintenance & Removal of Debris, & Removal of Inlet Protection)	6.	Each	\$ _____	\$ _____
36	208	Temporary Earth Berm (Shadow Lake Sewer)	443.	Lin. Ft.	\$ _____	\$ _____
37	208	Concrete Washout Facility	1.	Lump Sum	\$ _____	\$ _____
38	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)	32.	Sq. Ft.	\$ _____	\$ _____
39	210	Reset/Repair Sprinkler System (Complete in Place) (1st Street)	1.	Lump Sum	\$ _____	\$ _____
40	210	Reset Irrigation Pipe (Shadow Lake) (PVC Irrigation Pipe) (The City believes 4-inch dia. irrigation pipe was laid above or near the existing sewer line requiring relocation between stations 4+00 to 4+75) (Includes pipe, fittings, equipment, materials, and labor to relocate irrigation pipe)	1.	Lump Sum	\$ _____	\$ _____
41	212	Re-Sod Area as Shown (1st Street) (Includes 6" Thick Imported Topsoil placed prior to sod placement)	42.	Sq. Ft.	\$ _____	\$ _____
42	304	Aggregate Base Course (Class 6) (4" thick) (Shadow Lake Surface Treatment)	640.	Sq. Yd.	\$ _____	\$ _____
43	304	Aggregate Base Course (Class 6) (8" thick)	45.	Sq. Yd.	\$ _____	\$ _____
44	304	Aggregate Base Course (Class 6) (15" thick)	715.	Sq. Yd.	\$ _____	\$ _____
45	401	Cold Mix Asphalt (Temporary Patching) (3" Thick) (To be used on 1st Street as deemed necessary by Project Engineer)	250.	Sq. Yd.	\$ _____	\$ _____

Bid Schedule: 2020 Sewer Line Replacement Project

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
46	401	Hot Bituminous Pavement (Patching) (2" Thick) (Grading SX, PG 64-22) (GYR.=75) (One 2" Top Mat) (T-Top)	1,350.	Sq. Yd.	\$ _____	\$ _____
47	401	Hot Bituminous Pavement (Patching) (4 " Thick) (Grading SX, PG 64-22) (GYR.=75) (Two 2" Lifts)	1,100.	Sq. Yd.	\$ _____	\$ _____
48	407	Emulsified Asphalt (Tack Coat)	355.	Gallon	\$ _____	\$ _____
49	608	Concrete Drainage Pan (3' Wide) (Match in Kind)	120.	Sq. Ft.	\$ _____	\$ _____
50	608	Monolithic Vertical Curb, Gutter, and Sidewalk (7.5-ft wide)	8.	Sq. Yd.	\$ _____	\$ _____
51	608	Monolithic Vertical Curb, Gutter, and Sidewalk (8-ft wide)	9.	Sq. Yd.	\$ _____	\$ _____
52	608	Concrete Driveway Section and Gutter (8" Thick) (CDOT Class D, 4500 psi Mix at 28-days)	22.	Sq. Yd.	\$ _____	\$ _____
53	608	Cap Top Half of Sewer Pipe in Concrete per City Std. Detail GU-04 (20' long) (If necessary)	1.	Each	\$ _____	\$ _____
54	614	Concrete Barrier (Temporary) (Sewer Trench Protection along 1st Street) (Contractor shall provide and move barricades with the installation of the sewer line)	200.	Lin. Ft.	\$ _____	\$ _____
55	620	Portable Sanitary Facility	2.	Each	\$ _____	\$ _____
56	625	Construction Surveying (Includes As-Built Drawings) (1st Street & Shadow Lake Only)	1.	Lump Sum	\$ _____	\$ _____
57	626	Mobilization (1st Street & Shadow Lake Only)	1.	Lump Sum	\$ _____	\$ _____
58	627	Pavement Marking Paint (Water Based) (Single White Line) (Match Existing) (Pufferbelly Restaurant Parking Lot)	125.	Lin. Ft.	\$ _____	\$ _____
59	627	Pavement Marking Paint (Water Based) (Dashed White Line Marking) (1st Street) (Match Existing Dashed Lines)	1,260.	Lin. Ft.	\$ _____	\$ _____
60	627	Preformed Thermoplastic Pavement Marking (Xwalk-Stop Line) (1st Street Intersections)	162.	Sq. Ft.	\$ _____	\$ _____

Bid Schedule: 2020 Sewer Line Replacement Project

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
61	630	Traffic Control Plan	1.	Lump Sum	\$ _____	\$ _____
62	630	Traffic Control (Complete in Place)	1.	Lump Sum	\$ _____	\$ _____
63	630	Flagging	1,500.	Hour	\$ _____	\$ _____
64	Pump	Bypass Sewage Pumping (As deemed necessary by City or Contractor)	1.	Lump Sum	\$ _____	\$ _____
65	----	----		----		
66		<u>Lakeside Sewer Replacement Bid Items:</u> (Bid Items below pertain only to the Lakeside Sewer Replacement Only)				
67	108.2	4" Sewer Pipe Service (SDR-35 PVC) (Includes cost of connection to the existing sewer service line)	50.	Lin. Ft.	\$ _____	\$ _____
68	108.2	6" Gravity Sewer Pipe (SDR-35 PVC) (Includes cost of connection to the existing sewer pipe and/or manhole) (Use MaxAdaptor Coupling for pipe connection or approved equal)	12.	Lin. Ft.	\$ _____	\$ _____
69	108.2	8" Gravity Sewer Pipe (SDR-35 PVC) (Includes cost of connection to the existing sewer pipe and/or manhole) (Use MaxAdaptor Coupling for pipe connection or approved equal)	610.	Lin. Ft.	\$ _____	\$ _____
70	108.2	24" Storm Drain Pipe (CMP)	15.	Lin. Ft.	\$ _____	\$ _____
71	108.2	Imported Trench Backfill (Class 3) (Includes haul and disposal of unsuitable excavated material) (Assumed material unit weight = 133 lbs/ft ³)	300.	Ton	\$ _____	\$ _____
72	108.3	8" x 4" Sewer Service Tap (Full Body Wye) (Includes Wye and all fittings required to align and connect the sewer service pipe to the sewer tap)	1.	Each	\$ _____	\$ _____
73	108.3	8" x 6" Sewer Service Tap (Full Body Wye) (Includes Wye and all fittings required to align and connect the sewer service pipe to the sewer tap)	1.	Each	\$ _____	\$ _____
74	108.3	6" 45-degree Elbow (GxG) (Lakeside Sewer Drop Manholes)	1.	Each	\$ _____	\$ _____
75	108.3	6" x 6" Wye Fitting (Full Body Wye) (GxGxG) (Lakeside Sewer Drop Manholes)	1.	Each	\$ _____	\$ _____

Bid Schedule: 2020 Sewer Line Replacement Project

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
76	108.3	8" 45-degree Elbow (GxG) (Lakeside Sewer Drop Manholes)	2.	Each	\$ _____	\$ _____
77	108.3	8" x 8" Wye Fitting (Full Body Wye) (GxGxG) (Lakeside Sewer Drop Manholes)	2.	Each	\$ _____	\$ _____
78	108.3	Install 2-way Sewer Service Cleanout and Ring and Cover (Castings Inc. CO-8030-CI or Approved Equal) (Includes concrete collar in unpaved areas per City Std. Detail SS-07)	2.	Each	\$ _____	\$ _____
79	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)	3.	Each	\$ _____	\$ _____
80	108.5	Sanitary Sewer Basic Drop Manhole (48" I.D.) (Includes connection of adjacent sewer line, forming inverts and adjusting to final grade. (See City Std. Detail SS-02)	2.	Each	\$ _____	\$ _____
81	108.5	Manhole Barrel Section (D>5') (48" I.D.)	9.	Vert. Ft.	\$ _____	\$ _____
82	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)	150.	Ton	\$ _____	\$ _____
83	202	Abandon Pipe (Abandon pipe by plugging ends with concrete)	6.	Each	\$ _____	\$ _____
84	202	Abandon Manhole (Remove cone section, ring & cover, and fill remaining barrel sections with flow-fill material)	1.	Each	\$ _____	\$ _____
85	202	Removal of Existing Pipe (Size & type as shown on plans)	144.	Lin. Ft.	\$ _____	\$ _____
86	202	Removal of Asphalt Mat (Full Depth)	45.	Sq. Yd.	\$ _____	\$ _____
87	202	Removal of Asphalt Mat (Planing) (2" Thick for T-Top Section)	20.	Sq. Yd.	\$ _____	\$ _____
88	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)	1,060.	Sq. Ft.	\$ _____	\$ _____
89	202	Removal of Sod	630.	Sq. Ft.	\$ _____	\$ _____

Bid Schedule: 2020 Sewer Line Replacement Project

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
90	202	Removal of Tree (Size as shown on Plans)	3.	Each	\$ _____	\$ _____
91	202	Removal of Shrub/Bush	5.	Each	\$ _____	\$ _____
92	202	Removal of Tree Stump	2.	Each	\$ _____	\$ _____
93	202	Removal of Manhole (Price to include plugging existing abandoned pipes and removal and disposal of concrete sections)	4.	Each	\$ _____	\$ _____
94	206	Structure Backfill (Flow-Fill)	15.	Cu. Yd.	\$ _____	\$ _____
95	208	Storm Drain Inlet Protection (Silt-Sack Style or Approved Equal) (Includes Maintenance & Removal of Debris, & Removal of Inlet Protection)	2.	Each	\$ _____	\$ _____
96	208	Concrete Washout Facility	1.	Lump Sum	\$ _____	\$ _____
97	210	Reset/Repair Sprinkler System (Complete in Place) (Lakeside Park Area)	1.	Lump Sum	\$ _____	\$ _____
98	210	Reset Sign	1.	Each	\$ _____	\$ _____
99	212	Re-Sod Area as Shown (Includes 6" Thick Imported Topsoil placed prior to sod placement)	630.	Sq. Ft.	\$ _____	\$ _____
100	304	Aggregate Base Course (Class 6) (4" thick) (Lakeside Surface Treatment)	200.	Sq. Yd.	\$ _____	\$ _____
101	304	Aggregate Base Course (Class 6) (8" thick) (Basketball Court)	93.	Sq. Yd.	\$ _____	\$ _____
102	304	Aggregate Base Course (Class 6) (15" thick) (Lakeside Court)	44.	Sq. Yd.	\$ _____	\$ _____
103	401	Cold Mix Asphalt (Temporary Patching) (3" Thick) (To be used on Lakeside Court)	44.	Sq. Yd.	\$ _____	\$ _____
104	401	Hot Bituminous Pavement (Patching) (2" Thick) (Grading SX, PG 64-22) (GYR.=75) (One 2" Top Mat) (T-Top)	20.	Sq. Yd.	\$ _____	\$ _____
105	401	Hot Bituminous Pavement (Patching) (3" Thick) (Grading SX, PG 64-22) (GYR.=75) (One 3" Lift)	44.	Sq. Yd.	\$ _____	\$ _____
106	407	Emulsified Asphalt (Tack Coat)	6.	Gallon	\$ _____	\$ _____

Bid Schedule: 2020 Sewer Line Replacement Project

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
107	608	Concrete Pavement (Basketball Court) (6" Thick) (Class D, 4500 psi Mix at 28-days) (Includes #5 tie-bars at 12" O.C. spacing) (Joints shall be sealed with an approved joint sealant) (See City Std. Detail C-32 for concrete patch details)	93.	Sq. Yd.	\$ _____	\$ _____
108	608	Monolithic Vertical Curb, Gutter, and Sidewalk (6.5-ft wide)	24.	Sq. Yd.	\$ _____	\$ _____
109	620	Portable Sanitary Facility	1.	Each	\$ _____	\$ _____
110	625	Construction Surveying (Includes As-Built Drawings) (Lakeside Sewer Only)	1.	Lump Sum	\$ _____	\$ _____
111	626	Mobilization (Lakeside Sewer Only)	1.	Lump Sum	\$ _____	\$ _____
112	630	Traffic Control Plan (Lakeside Sewer Only)	1.	Lump Sum	\$ _____	\$ _____
113	630	Traffic Control (Complete in Place) (Lakeside Sewer Only)	1.	Lump Sum	\$ _____	\$ _____
114	Pump	Bypass Sewage Pumping (As deemed necessary by City or Contractor)	1.	Lump Sum	\$ _____	\$ _____
MCR		Minor Contract Revisions	---	---	---	\$ <u>75,000.00</u>

Bid Amount: \$ _____

Bid Amount:

dollars

Contractor Name:
Contractor Address:
Contractor Phone #:

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

<u>Name & address of Sub-Contractor</u>	<u>Description of work to be performed</u>	<u>% of Contract</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

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: **2020 Sewer Line Replacement Project**

CONTRACTOR:

PROJECT ENGINEER: Lee Cooper

Description	Date Received	Resubmittal Requested	Resubmittal Received	Date Accepted
CONSTRUCTION				
Gravity Sewer Pipe (SDR-35 PVC)				
Imported Trench Backfill				
Granular Stabilization Material (Type B)				
Pipe Fittings – Wye, elbow, cap				
Sewer Manhole and barrel sections				
Drop Manhole and barrel sections				
Manhole Ring and Cover (Castings MH-310-24 C.I.)				
Manhole Grade Rings (See Special Condition 3.3.37)				
Manhole Corrosion Protection (See Appendix C)				
Geotextile Fabric (Non-woven)				
Flow-Fill				
Pipe Bedding Material, Type A				
Aggregate Base Course, Class 6				
Hot Bituminous Pavement Mix Design				
Construction Schedule				

Appendix B

Project Special Provisions

2020 Sewer Line 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:

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 – MATERIALS

Section 102 of the Standard Specification is hereby revised for this project as follows:

Within subsection 102.11, replace the Corrosion Protection section with the following:

Corrosion Protection: See Appendix C for manhole corrosion protection specification.

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 and/or otherwise unsuitable for backfill as determined by the Project Engineer or the Project Inspector. 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-5 SECTION 105 – PIPELINE TESTING

The City will provide CCTV video inspection of the new sewer lines. The Contractor will not be responsible for CCTV video inspection.

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/m ² @ 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/voids.

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 Investigation 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 12, 2019
Project#00208-0094

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

Attention: Mr. Lee Cooper

Subject: Geotechnical Investigation
2019 Sewer Replacements
Grand Junction, Colorado

Dear Mr. Cooper,

At your request, Huddleston-Berry Engineering and Testing, LLC (HBET) conducted a subsurface exploration for the 2019 Sewer Replacements project. The scope of work included conducting geotechnical borings at five locations in Grand Junction, Colorado. The boring locations are shown on the attached figures. 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 Sundra Avenue, between 29 and 29½ Roads. This boring encountered 4.0-inches of asphalt pavement above granular base course to a depth of 1.5 feet. Below the base course, brown, moist, medium stiff to very loose lean clay with layers of clayey sand extended 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 N. 1st Street, just south of Rood Avenue. This boring encountered 50-inches of asphalt pavement above brown, moist, stiff to soft lean clay with sand soils to the bottom of the boring. Groundwater was not encountered in B-2 at the time of the investigation.

Boring B-3 was conducted on the west side of a pond located in the Lakeside Subdivision. This boring encountered 1.0 foot of topsoil above gray, moist, soft to medium hard, moderately weathered shale bedrock to the bottom of the boring. Groundwater was not encountered in B-3 at the time of the investigation.

Boring B-4 was conducted on Formay Avenue, between 29 and 29½ Roads. This boring encountered 4.0-inches of asphalt pavement above brown, moist, medium stiff lean clay to the bottom of the boring. Groundwater was not encountered in B-4 at the time of the investigation.

Boring B-5 was conducted on Court Road, south of Walnut Avenue. This boring encountered 5.0-inches of asphalt pavement above granular base course to a depth of 1.0 foot. The base course was underlain by brown, moist, stiff to medium stiff sandy lean clay soils to the bottom of the boring. Groundwater was not encountered in B-5 at the time of the investigation.

2019 Sewer
#00208-0094
03/12/19



The blow counts (N-values) of the native soils encountered in the borings ranged from 3 to 14 blows-per-foot. The moisture contents in the soils ranged from 6 to 22%. The N-values of the shale bedrock ranged from 34 to 40 blows-per-foot. The moisture content of the bedrock ranged from 11 to 12%.

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

Untitled Map
Write a description for your map.

Legend
Sanitary Sewer

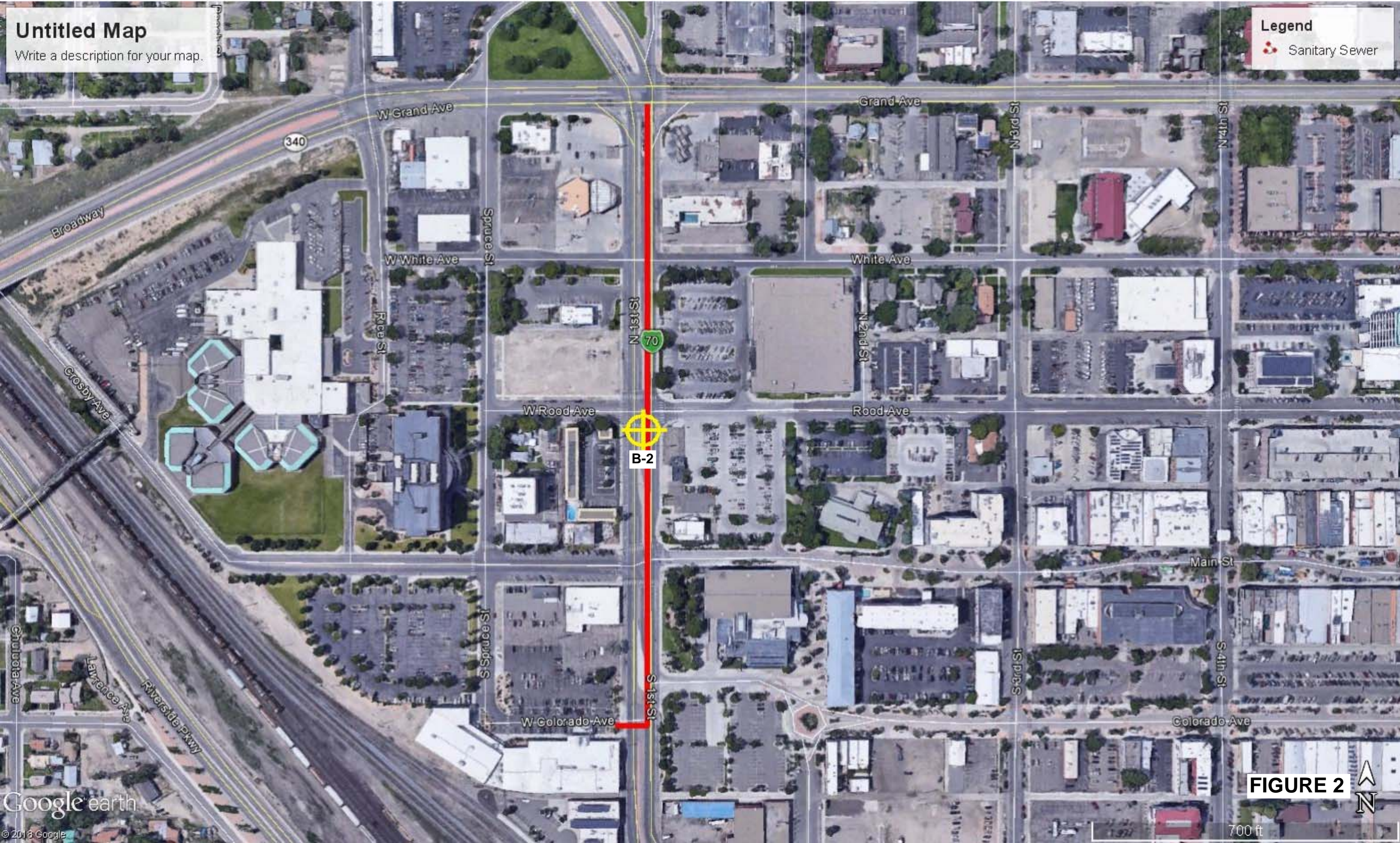


FIGURE 2

Untitled Map
Write a description for your map.

Legend
Sanitary Sewer

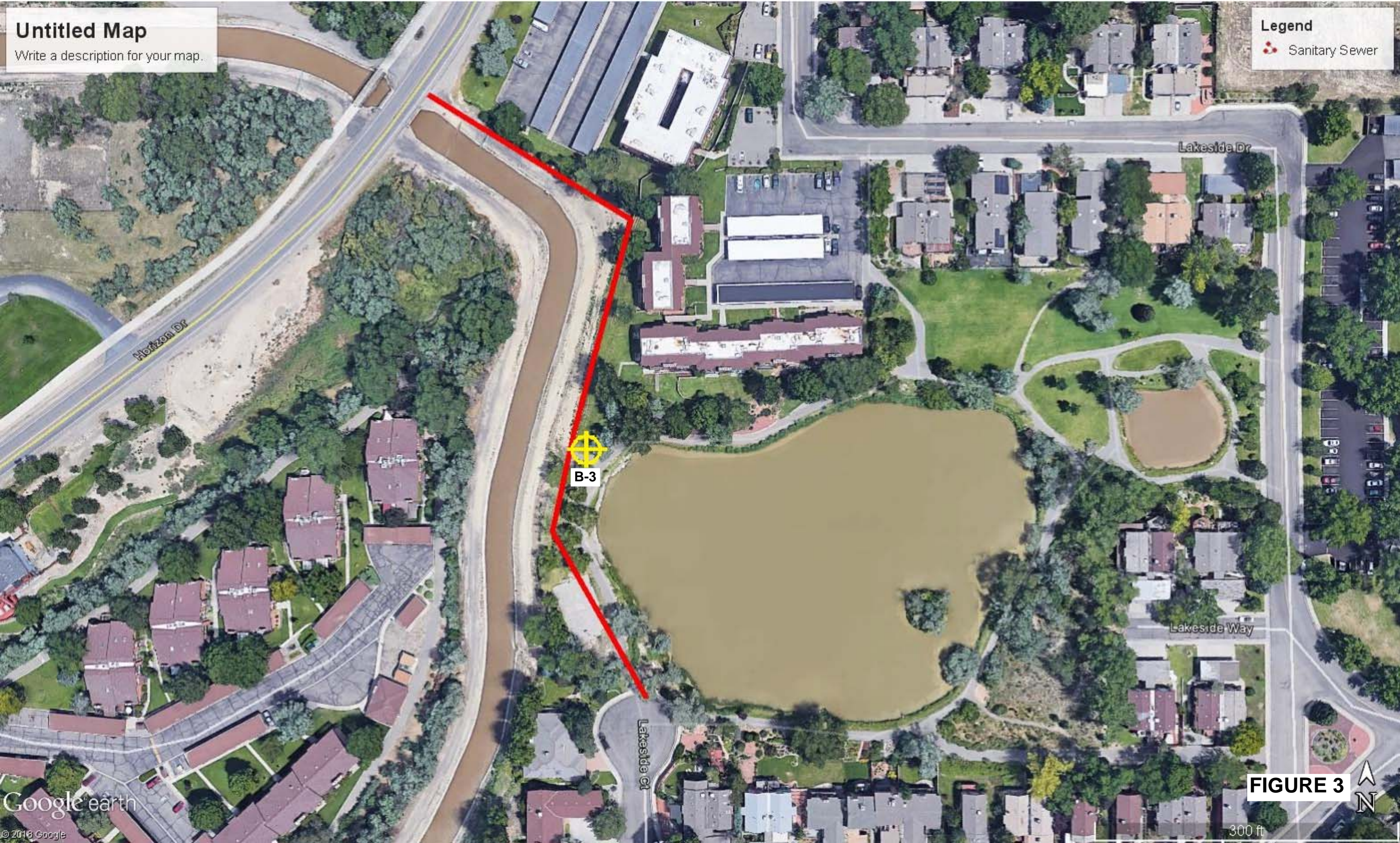


FIGURE 3

APPENDIX A
Typed Boring Logs



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

BORING NUMBER B-2

PAGE 1 OF 1

CLIENT <u>City of Grand Junction</u>	PROJECT NAME <u>2019 Sewer Line</u>	
PROJECT NUMBER <u>00208-0094</u>	PROJECT LOCATION <u>Grand Junction, CO</u>	
DATE STARTED <u>2/5/19</u> COMPLETED <u>2/5/19</u>	GROUND ELEVATION _____ HOLE SIZE <u>4-inches</u>	
DRILLING CONTRACTOR <u>S. McCracken</u>	GROUND WATER LEVELS:	
DRILLING METHOD <u>Simco 2000 Truck Rig</u>		AT TIME OF DRILLING <u>dry</u>
LOGGED BY <u>SD</u> CHECKED BY <u>MAB</u>		AT END OF DRILLING <u>dry</u>
NOTES _____	AFTER DRILLING <u>---</u>	

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			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0.0		ASPHALT										
2.5		Lean CLAY with Sand (CL), brown, moist, stiff to soft	SS 1	89	5-4-5 (9)			19				
7.5		***Lab Classified SS2	SS 2	100	2-1-2 (3)			18	26	16	10	77
12.5			SS 3	75	2-2-2-2 (4)			22				
15.0		Bottom of hole at 15.0 feet.										

GEOTECH BH COLUMNS 00208-0094 2019 SEWER.GPJ GINT US LAB.GDT 3/12/19



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

BORING NUMBER B-3

PAGE 1 OF 1

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

PROJECT NUMBER 00208-0094 **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			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0.0		Lean CLAY with Organics (TOPSOIL)										
		SHALE, grey, moist, soft to medium hard, moderately weathered										
2.5			SS 1	100	17-23			11				
5.0												
7.5			SS 2	100	17-17			12	45	22	23	
10.0												
12.5			SS 3	100	16-23			11				
		Bottom of hole at 14.0 feet.										

GEOTECH BH COLUMNS 00208-0094 2019 SEWER.GPJ GINT US LAB.GDT 3/12/19

APPENDIX B
Laboratory Testing Results

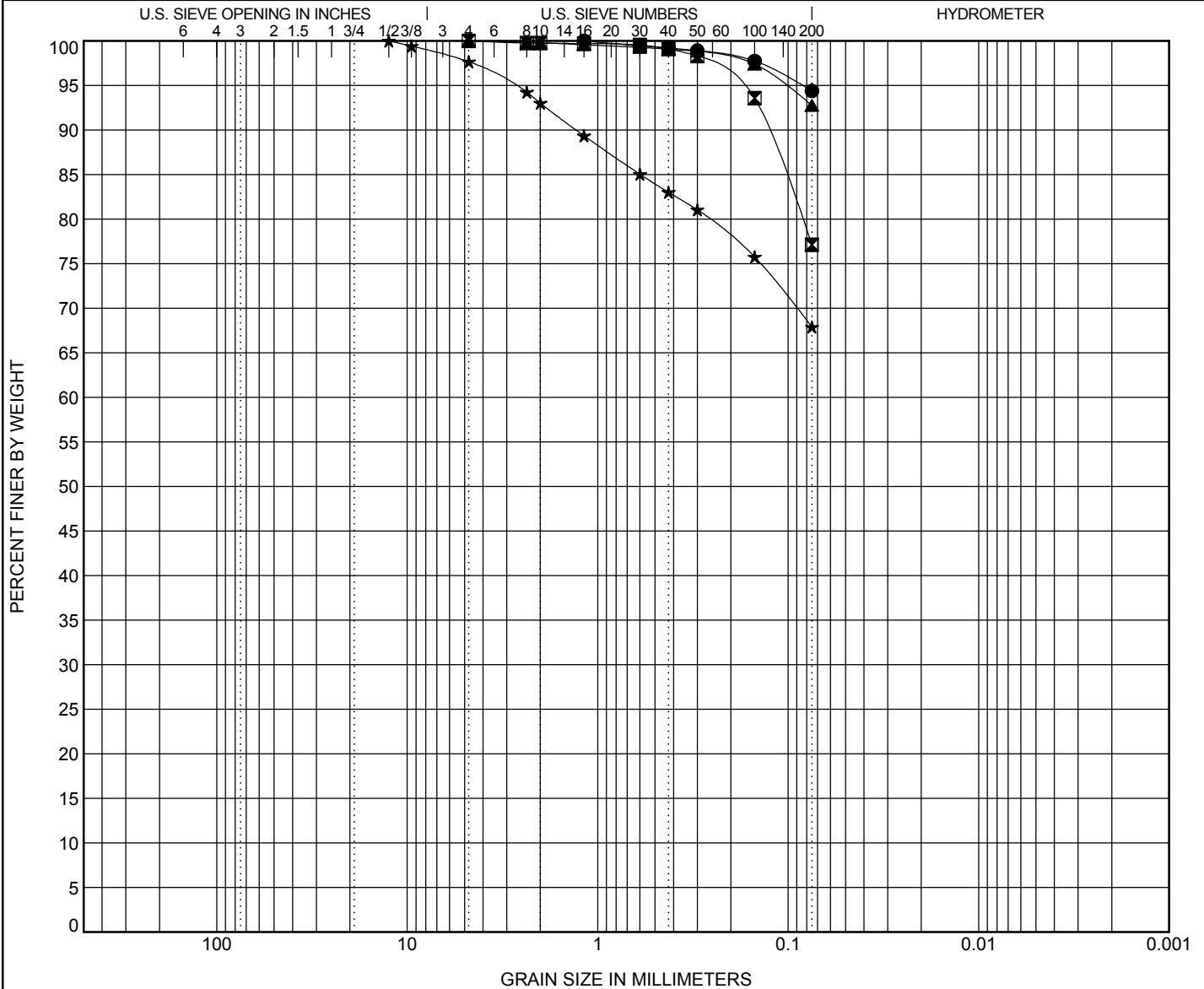


CLIENT City of Grand Junction

PROJECT NAME 2019 Sewer Line

PROJECT NUMBER 00208-0094

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, SS3 2/2019	LEAN CLAY(CL)	32	19	13		
■	B-2, SS2 2/2019	LEAN CLAY with SAND(CL)	26	16	10		
▲	B-4, SS3 2/2019	LEAN CLAY(CL)	31	19	12		
★	B-5, SS3 2/2019	SANDY LEAN CLAY(CL)	27	19	8		

Specimen Identification		D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
●	B-1, SS3 2/2019	1.18				0.0	5.6		94.4
■	B-2, SS2 2/2019	4.75				0.0	22.9		77.1
▲	B-4, SS3 2/2019	4.75				0.0	7.2		92.8
★	B-5, SS3 2/2019	12.5				2.3	29.8		67.9

GRAIN SIZE 00208-0094 2019 SEWER.GPJ GINT US LAB.GDT 3/6/19



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

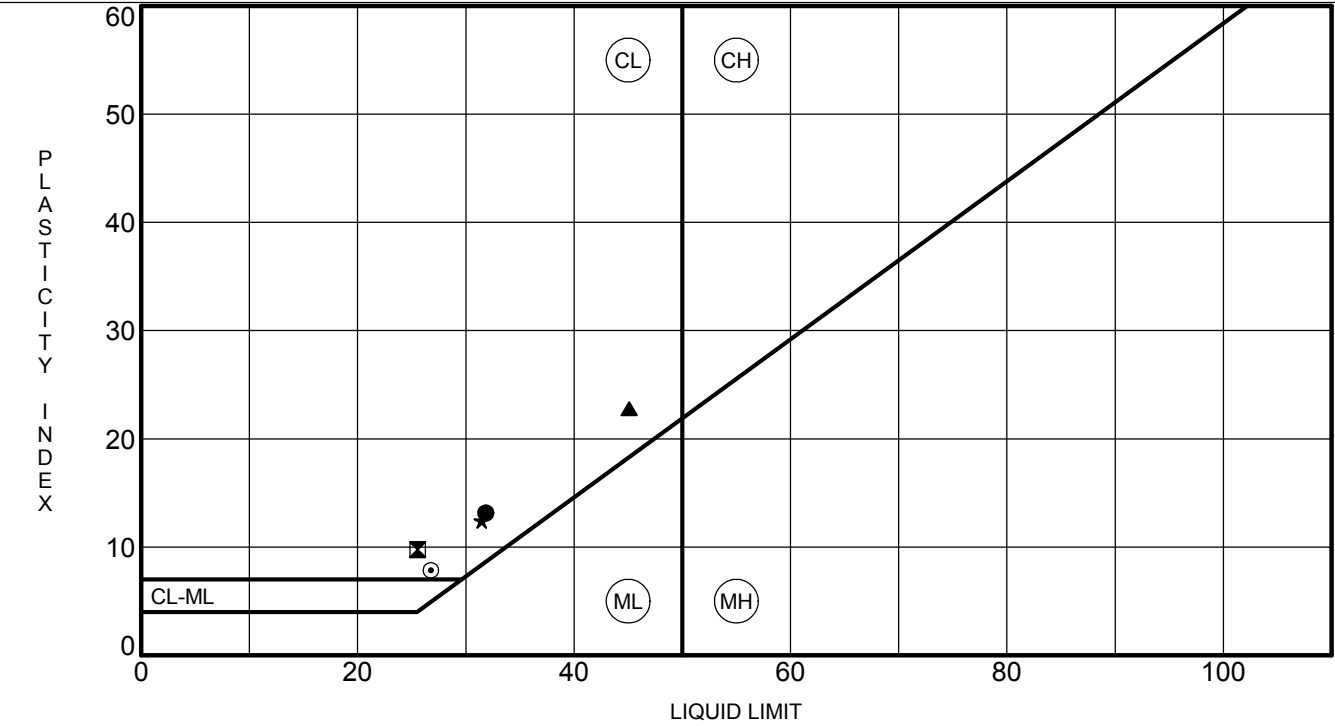
ATTERBERG LIMITS' RESULTS

CLIENT City of Grand Junction

PROJECT NAME 2019 Sewer Line

PROJECT NUMBER 00208-0094

PROJECT LOCATION Grand Junction, CO

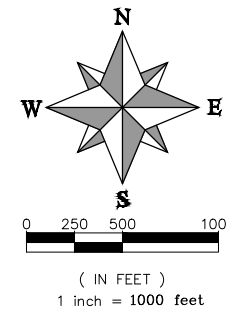


Specimen Identification	LL	PL	PI	#200	Classification
● B-1, SS3 2/2019	32	19	13	94	LEAN CLAY(CL)
☒ B-2, SS2 2/2019	26	16	10	77	LEAN CLAY with SAND(CL)
▲ B-3, SS2 2/2019	45	22	23		
★ B-4, SS3 2/2019	31	19	12	93	LEAN CLAY(CL)
⊙ B-5, SS3 2/2019	27	19	8	68	SANDY LEAN CLAY(CL)

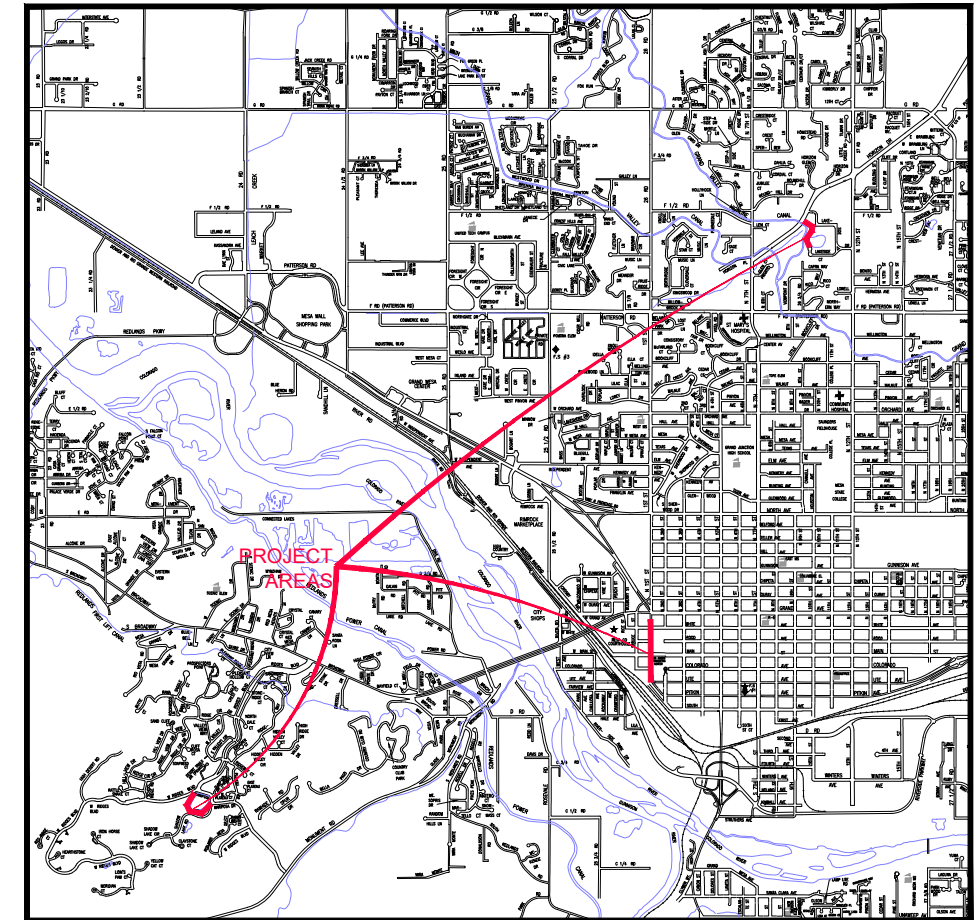
ATTERBERG LIMITS 00208-0094 2019 SEWER.GPJ GINT US LAB.GDT 3/6/19

CITY OF GRAND JUNCTION 2020 SEWER LINE REPLACEMENT PROJECT AUGUST 2020

- 1 — COVER SHEET
- 2 — STANDARD ABBREVIATIONS, LEGEND AND SYMBOLS
- 3 — SUMMARY OF APPROXIMATE QUANTITIES
- 4-7 — 1st STREET SEWER PLAN & PROFILE
- 8-9 — SHADOW LAKE SEWER PLAN & PROFILE
- 10-11 — LAKESIDE SEWER PLAN & PROFILE



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	SANITARY SEWER	333 WEST AVE BLDG C	333 WEST AVE BLDG C	GRAND JCT., CO 81501	(970) 256-4155	(970) 256-4022
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	STEVE PIBURN	UNIT MANAGER	ELECTRIC	2538 Blichmann Ave	2538 Blichmann Ave	GRAND JCT., CO 81506	(970) 244-2664	(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



*Public Works
Engineering Division*



Know what's below.
Call before you dig.

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.

REVISION	DESCRIPTION	DATE
REVISION Δ XXX		201X
REVISION Δ XXX		201X
REVISION Δ XXX		201X
REVISION Δ XXX		201X

DRAWING STATUS:	
○ PROGRESS	● FINAL CONSTRUCTION DRAWINGS
○ ASBUILT	
DESIGNED BY:	
LEE COOPER, PROJECT ENGINEER	2020
REVIEWED BY:	
LEE COOPER, PROJECT ENGINEER	2020
AUTHORIZED FOR CONSTRUCTION	
RANDI KIM, CITY UTILITIES DIRECTOR	2020
ACCEPTED AS CONSTRUCTED	
LEE COOPER, PROJECT ENGINEER	2020

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
C	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
F	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
Δ	DELTA ANGLE

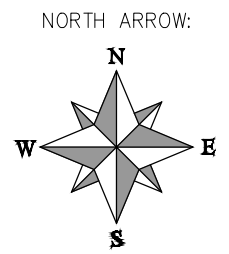
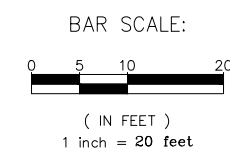
LEGEND

BSWMP	BSWMP
DRAINAGE BASIN BOUNDARY	
BSWMP ANCHORED STRAW BALES	
BSWMP SILT FENCE	
BUILDING	
CONCRETE CURB AND GUTTER	
CONCRETE CURB, GUTTER, & SIDEWALK	
CONCRETE DITCH	
CONCRETE SIDEWALK	
CULVERT	
EARTH DITCH	
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	
LINE (CENTER OF IMPROVEMENTS)	
LINE (CITY LIMITS)	
LINE (CONTROL)	
LINE (EASEMENT)	
LINE (MONUMENT/SECTION)	
LINE (PROPERTY)	
LINE (RIGHT OF WAY)	
MATCH LINE	
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)	
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	
STRIPING (CONTINUOUS WHITE)	
STRIPING (DASHED WHITE)	
STRIPING (CONTINUOUS YELLOW)	
STRIPING (DASHED YELLOW)	
TOP OF SLOPE	
CONTOUR LINES (SHOWN BETWEEN TOP & TOE)	
TOE OF SLOPE	
TRAFFIC DETECTOR LOOP	
UTILITY LINE (ABANDON) (THIS CASE A WATER LINE)	
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	
CATCH BASIN	
CLEAN OUT	
CURB STOP	
FIRE HYDRANT	
GUY WIRE ANCHOR	
HEADGATE	
IRRIGATION PUMP	
MAILBOX	
MANHOLE (ELECTRIC)	
MANHOLE (GAS)	
MANHOLE (SANITARY/STORM)	
MANHOLE (TELEPHONE)	
MANHOLE (TV)	
MANHOLE (WATER)	
METER (GAS)	
METER (WATER)	
PEDESTAL (TELEPHONE)	
PEDESTAL (TV)	
PROPERTY PIN	
PULL BOX	
REDUCER FITTING	
SIGN OR POST (SIGN TYPE NOTED)	
SPRINKLER HEAD	
STREET LIGHT	
SURVEY MONUMENT (CITY)	
SURVEY MONUMENT (TYPE NOTED)	
TEST HOLE	
TRAFFIC PAINT MARKING	
TRAFFIC SIGNAL POLE AND MAST ARM	
UTILITY POLE	
VALVE (GAS)	
VALVE (IRRIGATION)	
VALVE (WATER)	
VEGETATION (HEDGE OR BUSH)	
VEGETATION (TREE STUMP)	
VEGETATION (TREE) (CALIPER SIZE NOTED)	
WATER HYDRANT	
WEIR	
YARD LIGHT	



REVISION Δ	DESCRIPTION	DATE	DRAWN BY	JCS	DATE	4-02
REVISION Δ			DESIGNED BY		DATE	
REVISION Δ			CHECKED BY		DATE	
REVISION Δ			APPROVED BY		DATE	

SCALES: PLAN & PROFILE



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ENGINEERING DIVISION

CITY OF GRAND JUNCTION
STANDARD ABBREVIATIONS, LEGEND,
AND SYMBOLS

Bid Schedule: 2020 Sewer Line Replacement Project. Table with 6 columns: Item No., CDOT City Ref., Description, Quantity, Units, Unit Price, Total Price. Rows include items like 4" Sewer Service Pipe, 6" Gravity Sewer Pipe, 8" Gravity Sewer Pipe, etc.

Bid Schedule: 2020 Sewer Line Replacement Project. Table with 6 columns: Item No., CDOT City Ref., Description, Quantity, Units, Unit Price, Total Price. Rows include items like Manhole Protective Coating, Granular Stabilization Material, Clearing and Grubbing, etc.

Bid Schedule: 2020 Sewer Line Replacement Project. Table with 6 columns: Item No., CDOT City Ref., Description, Quantity, Units, Unit Price, Total Price. Rows include items like Emulsified Asphalt, Concrete Drainage Pan, Monolithic Vertical Curb, etc.

Bid Schedule: 2020 Sewer Line Replacement Project. Table with 6 columns: Item No., CDOT City Ref., Description, Quantity, Units, Unit Price, Total Price. Rows include items like 8" x 8" Sewer Service Tap, 6" 45-degree Elbow, 8" x 8" Wye Fitting, etc.

Bid Schedule: 2020 Sewer Line Replacement Project. Table with 6 columns: Item No., CDOT City Ref., Description, Quantity, Units, Unit Price, Total Price. Rows include items like Aggregate Base Course, Hot Bituminous Pavement, Concrete Pavement, etc.

Revision table with 4 columns: REVISION, DESCRIPTION, DATE, DRAWN BY. Includes fields for DESIGNED BY, CHECKED BY, and APPROVED BY.

SCALES: PLAN & PROFILE



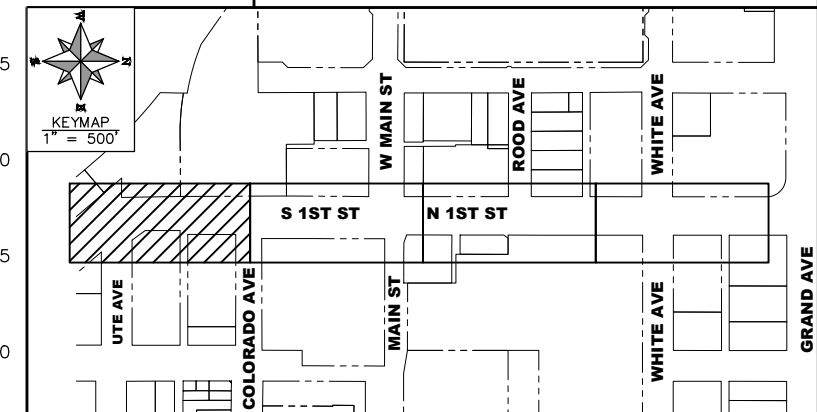
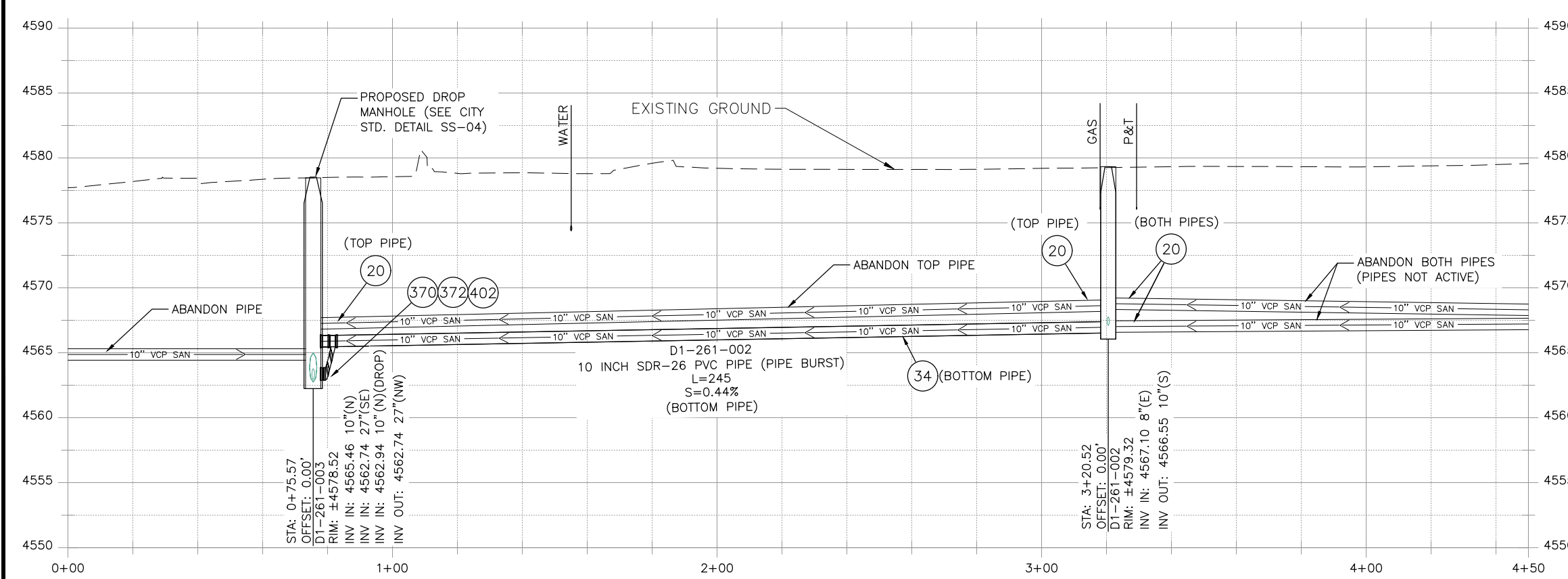
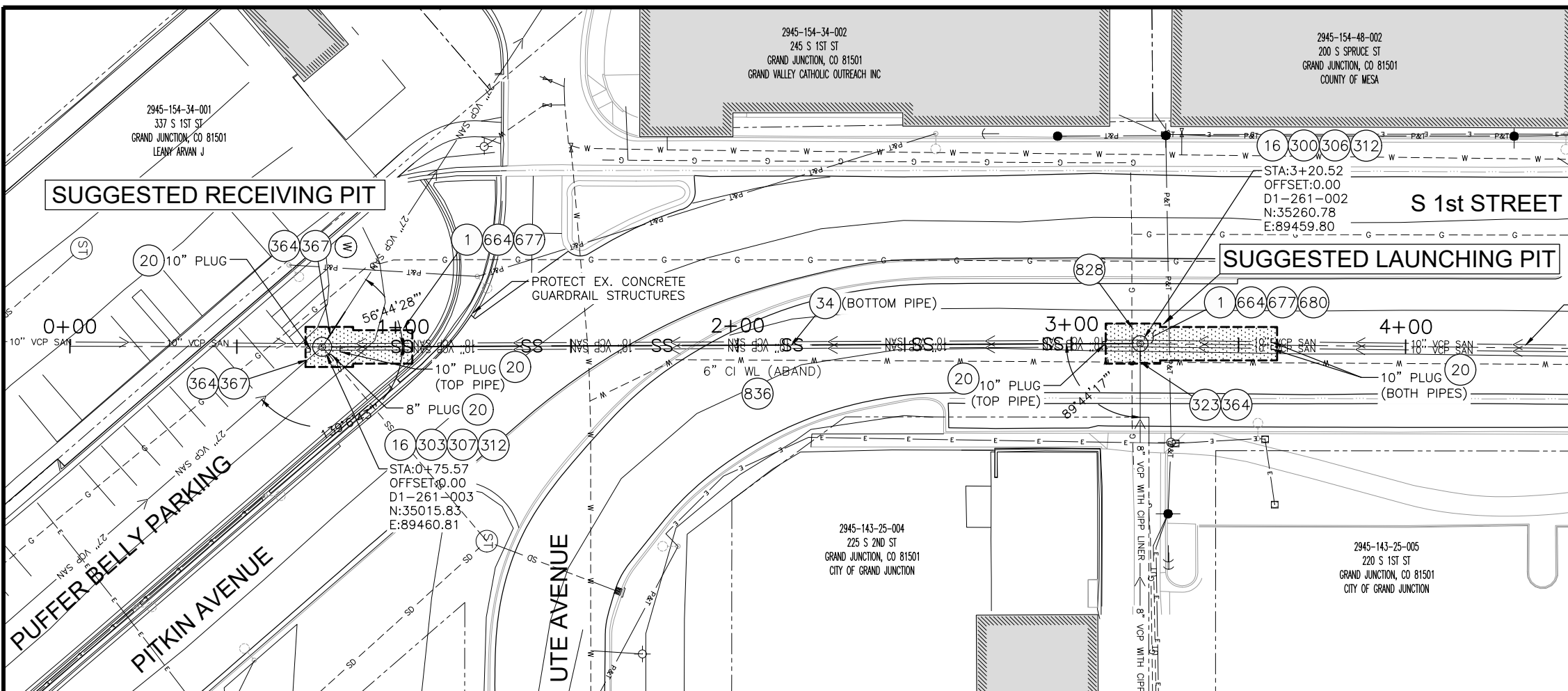
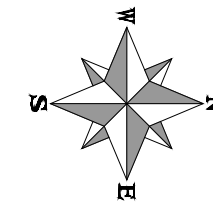
PUBLIC WORKS ENGINEERING DIVISION

2020 SEWER LINE REPLACEMENTS SUMMARY OF APPROXIMATE QUANTITIES

CONSTRUCTION NOTES

- 1 202 - REMOVAL OF ASPHALT MAT. CUT AND REMOVE ASPHALT AS SHOWN. (INDICATED BY DOT HATCH PATTERN)
- 16 202 - REMOVAL OF MANHOLE
- 20 202 - ABANDON PIPE. ABANDON BY PLUGGING REMAINING ENDS WITH CONCRETE.
- 34 SP - PIPE BURST EXISTING SANITARY SEWER PER PROJECT SPECIFICATIONS (10" SDR 26 CERTAFLO GREENLINE PVC PIPE WITH CERTA-LOK ASSEMBLY OR ENGINEER APPROVED EQUAL)(20' JOINTS). FIELD VERIFY SIZE/MATERIAL PRIOR TO PIPE BURSTING. DURING NEW PIPE INSTALLATION, IT WILL BE NECESSARY TO BYPASS PUMP SEWAGE AROUND WORK TO DOWNSTREAM MANHOLE. MAINTAIN ACCESS TO ALL BUSINESSES DURING INSTALLATION.
- 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).
- 303 102.11/108.5 - SANITARY SEWER BASIC DROP MANHOLE (60" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE, FORMING INVERTS AND ADJUSTING TO FINAL GRADE. (SEE CITY OF GRAND JUNCTION STANDARD DETAIL SS-04).
- 306 102.11/108.5 - MANHOLE BARREL SECTION (D>5') (48" I.D.).
- 307 102.11/108.5 - MANHOLE BARREL SECTION (D>5') (60" I.D.).
- 312 102.11/108.5 - MANHOLE INTERIOR CORROSION PROTECTION (CASTAGRA ECODUR 201 PROTECTIVE COATING OR APPROVED EQUAL) (PROTECTIVE COATING SHALL BE APPLIED TO PREPARED MANHOLE INVERT, BENCH, BARRELS, AND CONE SECTIONS. MANHOLE INVERTS AND BENCHES SHALL BE COATED PRIOR TO WASTEWATER INTRODUCTION) (30 MIL MINIMUM THICKNESS) (APPLIES ONLY TO 1ST STREET SEWER MANHOLES)
- 323 102.9/108.2 - 8" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH CLASS 3 IMPORTED TRENCH BACKFILL MATERIAL.
- 363 BYPASS PUMPING (AS DEEMED NECESSARY BY THE CITY OR CONTRACTOR)
- 364 CONNECT TO EXISTING SEWER PIPE. THE CONTRACT PRICE FOR SEWER PIPE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING PIPELINE.
- 365 102.9/108.2 - 10" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH CLASS 3 IMPORTED TRENCH BACKFILL MATERIAL.
- 367 102.9/108.2 - 27" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH CLASS 3 IMPORTED TRENCH BACKFILL MATERIAL.
- 370 102.9/108.3 - 10" 45° ELBOW (GxG)
- 372 102.9/108.3 - 10" x 10" WYE FITTING (FULL BODY WYE) (GxGxG)
- 402 206 - STRUCTURE BACKFILL (FLOW-FILL) (REQUIRED AROUND DROP MANHOLE PIPE PER CITY STD. DETAIL SS-04)
- 664 304 - AGGREGATE BASE COURSE (CLASS 6) (15" THICK)
- 677 401.08 - HOT BITUMINOUS PAVEMENT (4" THICK) (GRADING SX, BINDER GRADE PG 64-22) (TWO 2" LIFTS)
- 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)
- 828 PROTECT GAS LINE
- 836 LOCATION SHOWN FOR ABANDONED WATERLINE IS APPROXIMATE AND BASED ON AS-BUILT DATA. CONTRACTOR RESPONSIBLE FOR REMOVAL OF PIPE WHERE NECESSARY.

NOTES:
• DO NOT INSTALL STEPS IN NEW MANHOLES.



REVISION	DESCRIPTION	DATE	DRAWN BY	DATE
REVISION A			MF	07/2019
REVISION B			ES	07/2019
REVISION C			ES	07/2019
REVISION D			BG	07/2019

SCALES: PLAN & PROFILE	
HORIZONTAL: 1" = 20'	0 10 20 40
VERTICAL: 1" = 5'	0 2.5 5 10

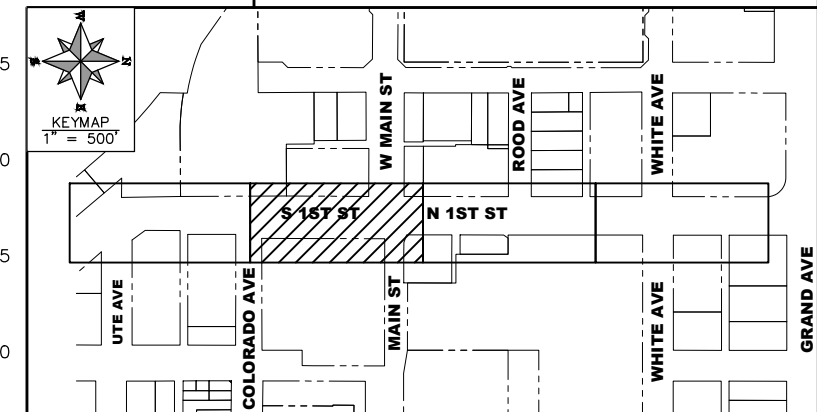
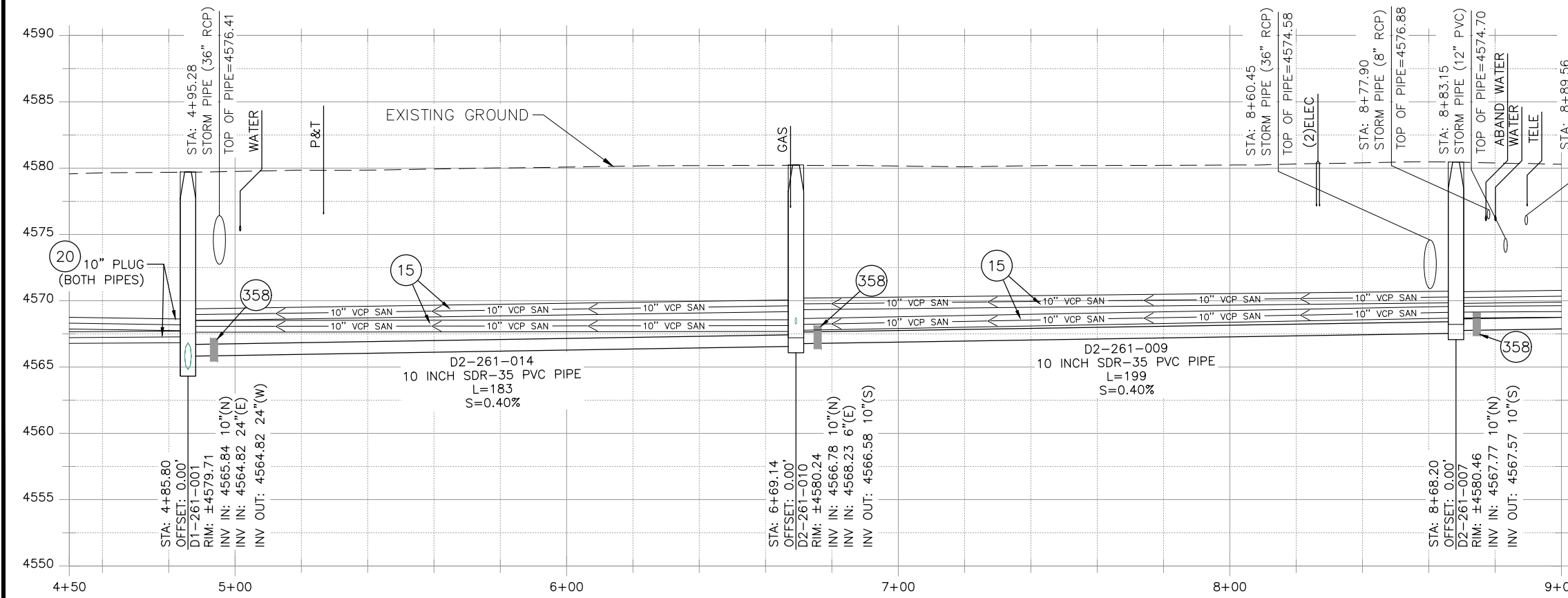
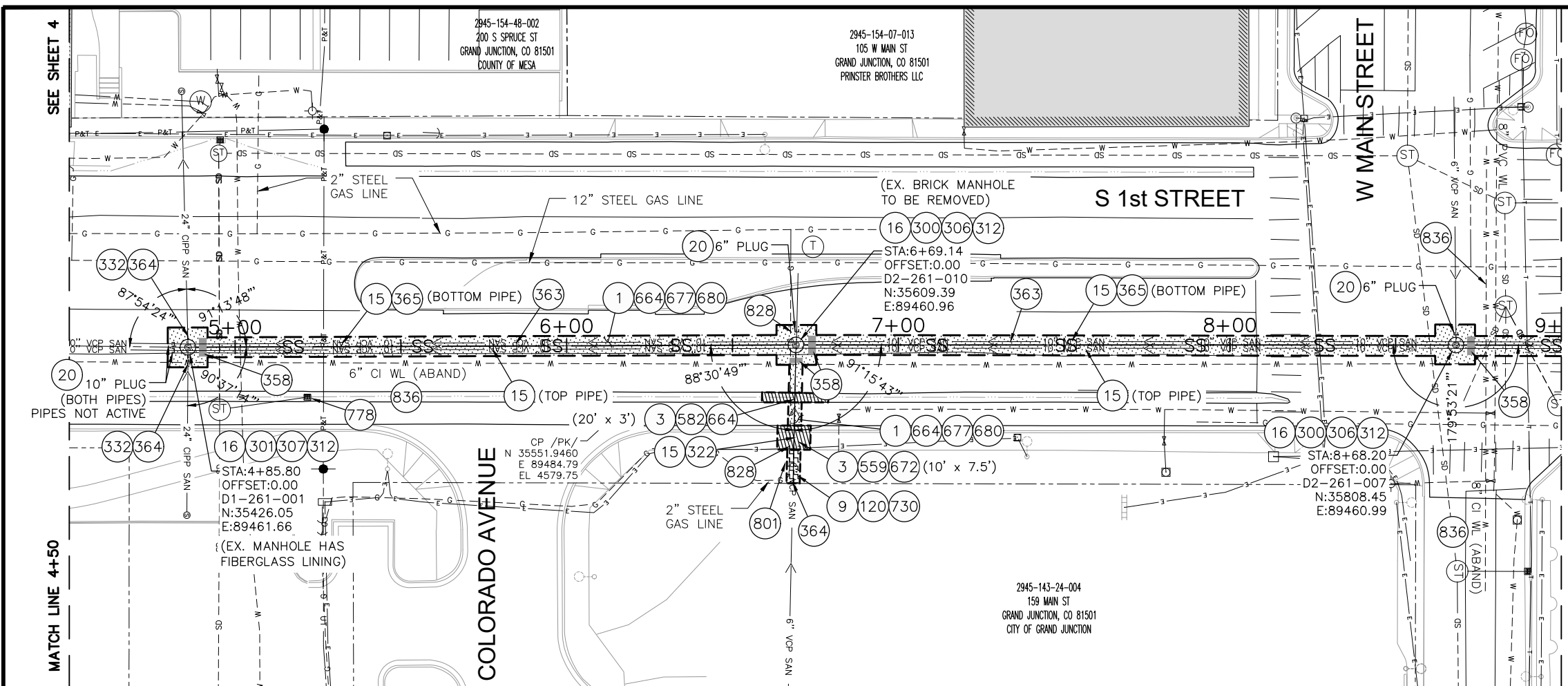
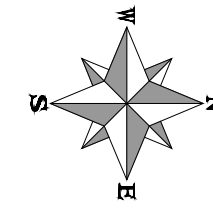


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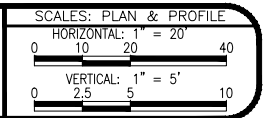
**2020 SEWER LINE REPLACEMENTS
1st STREET SEWER PLAN & PROFILE
STA. 0+00 TO 4+50**

CONSTRUCTION NOTES

- 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.
- 9 202 - REMOVAL OF SOD.
- 15 202 - REMOVAL OF PIPE AS SHOWN. (SIZE AND TYPE AS SHOWN ON PLAN)
- 16 202 - REMOVAL OF MANHOLE.
- 20 202 - ABANDON PIPE. ABANDON PIPE BY PLUGGING REMAINING ENDS WITH CONCRETE.
- 120 210 - RESET/REPAIR SPRINKLER IRRIGATION SYSTEM. (IF NECESSARY)
- 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).
- 301 102.11/108.5 - SANITARY SEWER BASIC MANHOLE (60" 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>S') (48" I.D.).
- 307 102.11/108.5 - MANHOLE BARREL SECTION (D>S') (60" I.D.).
- 312 102.11/108.5 - MANHOLE INTERIOR CORROSION PROTECTION (CASTAGRA ECODEUR 201 PROTECTIVE COATING OR APPROVED EQUAL) (PROTECTIVE COATING SHALL BE APPLIED TO PREPARED MANHOLE INVERT, BENCH, BARRELS, AND CONE SECTIONS. MANHOLE INVERTS AND BENCHES SHALL BE COATED PRIOR TO WASTEWATER INTRODUCTION) (30 MIL MINIMUM THICKNESS) (APPLIES ONLY TO 1ST STREET SEWER MANHOLES)
- 322 102.9/108.2 - 6" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH CLASS 3 IMPORTED TRENCH BACKFILL MATERIAL.
- 332 102.9/108.2 - 24" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH CLASS 3 IMPORTED TRENCH BACKFILL MATERIAL.
- 358 103 - CLAY CUT-OFF WALL (INCIDENTAL TO SEWER INSTALLATION PAY ITEM)
- 363 BYPASS PUMPING (AS DEEMED NECESSARY BY THE CITY OR CONTRACTOR)
- 364 CONNECT TO EXISTING SEWER PIPE. THE CONTRACT PRICE FOR SEWER PIPE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING PIPELINE.
- 365 102.9/108.2 - 10" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH CLASS 3 IMPORTED TRENCH BACKFILL MATERIAL.
- 559 608.06 - MONOLITHIC VERTICAL CURB, GUTTER AND SIDEWALK (7.5' WIDE)
- 582 608.06 - CONCRETE DRAINAGE PAN (3' WIDE) (8" THICK MIN.)
- 664 304 - AGGREGATE BASE COURSE (CLASS 6) (15" THICK)
- 672 304 - AGGREGATE BASE COURSE (CLASS 6) (8" THICK)
- 677 401.08 - HOT BITUMINOUS PAVEMENT (4" THICK) (GRADING SX, BINDER GRADE PG 64-22) (TWO 2" LIFTS)
- 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)
- 730 212 - RESOD AREA AS SHOWN (INCLUDES 6" OF TOPSOIL PLACEMENT PRIOR TO SOD PLACEMENT)
- 778 208 - STORM DRAIN INLET PROTECTION (SILT-SACK STYLE OR APPROVED EQUAL) (NO GRAVEL/ROCK BAG FILTERS ARE ALLOWED)
- 801 PROTECT TREE
- 828 PROTECT GAS LINE
- 836 LOCATION SHOWN FOR ABANDONED WATERLINE IS APPROXIMATE AND BASED ON AS-BUILT DATA. CONTRACTOR RESPONSIBLE FOR REMOVAL OF PIPE WHERE NECESSARY.



REVISION	DESCRIPTION	DATE	DRAWN BY	DATE
REVISION A			MF	08/2019
REVISION B			ES	08/2019
REVISION C			ES	08/2019
REVISION D			BG	08/2019

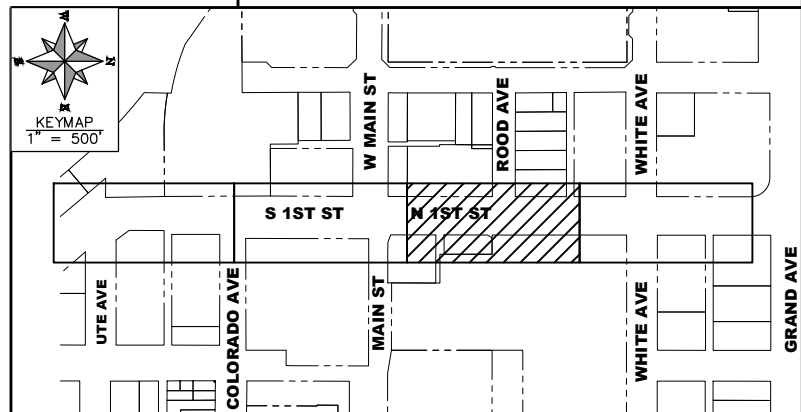
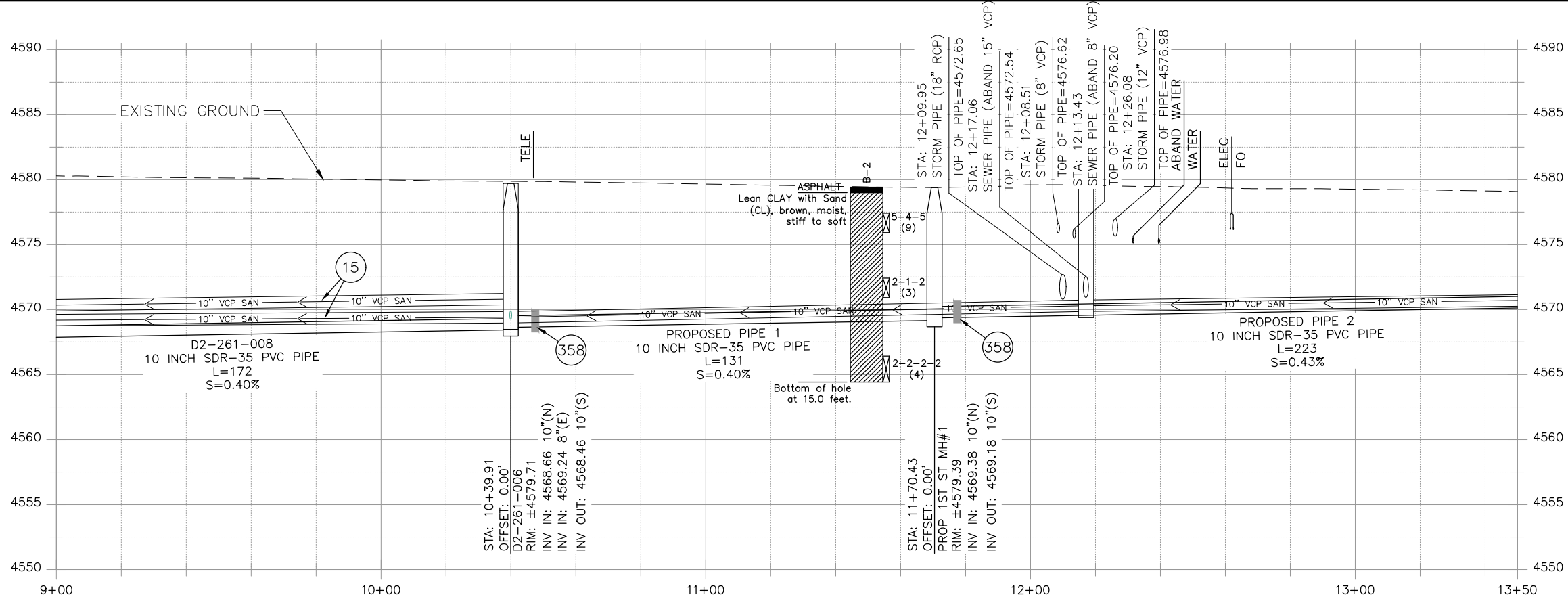
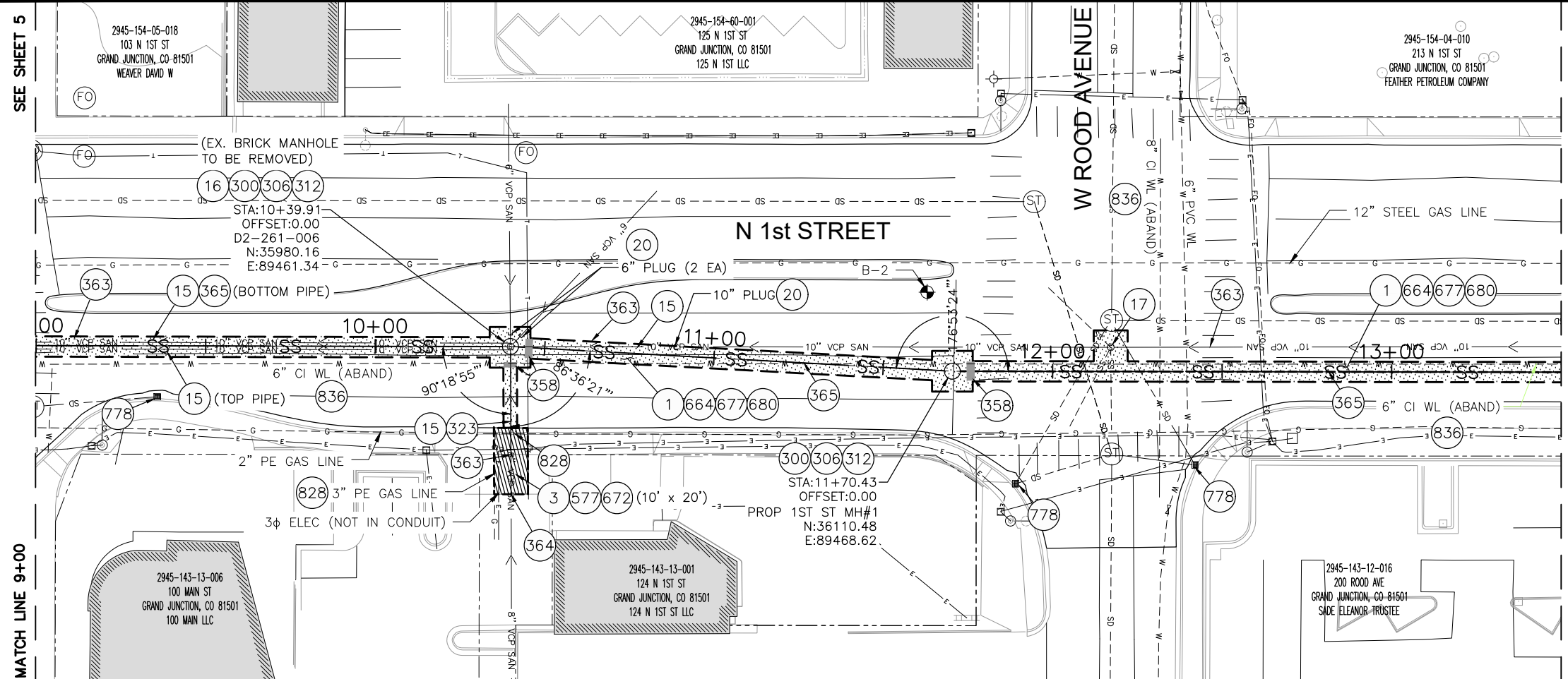
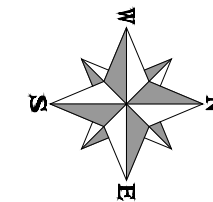


PUBLIC WORKS
ENGINEERING DIVISION

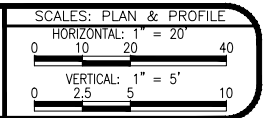
2020 SEWER LINE REPLACEMENTS
1st STREET SEWER PLAN & PROFILE
STA. 4+50 TO 9+00

- 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)
- 16 202 - REMOVAL OF MANHOLE
- 17 202 - ABANDON MANHOLE (REMOVE CONE SECTION, RING, AND COVER, PLUG EXISTING SEWER PIPES AND 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.).
- 312 102.11/108.5 - MANHOLE INTERIOR CORROSION PROTECTION (CASTAGRA ECODUR 201 PROTECTIVE COATING OR APPROVED EQUAL) (PROTECTIVE COATING SHALL BE APPLIED TO PREPARED MANHOLE INVERT, BENCH, BARRELS, AND CONE SECTIONS. MANHOLE INVERTS AND BENCHES SHALL BE COATED PRIOR TO WASTEWATER INTRODUCTION) (30 MIL MINIMUM THICKNESS) (APPLIES ONLY TO 1ST STREET SEWER MANHOLES)
- 323 102.9/108.2 - 8" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH CLASS 3 IMPORTED TRENCH BACKFILL MATERIAL.
- 358 103 - CLAY CUT-OFF WALL (INCIDENTAL TO SEWER INSTALLATION PAY ITEM)
- 363 BYPASS PUMPING (AS DEEMED NECESSARY BY THE CITY OR CONTRACTOR)
- 364 CONNECT TO EXISTING SEWER PIPE. THE CONTRACT PRICE FOR SEWER PIPE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING PIPELINE.
- 365 102.9/108.2 - 10" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH CLASS 3 IMPORTED TRENCH BACKFILL MATERIAL.
- 577 608.06 - CONCRETE DRIVEWAY SECTION AND GUTTER (8" THICK) (COMMERCIAL)
- 664 304 - AGGREGATE BASE COURSE (CLASS 6) (15" THICK)
- 672 304 - AGGREGATE BASE COURSE (CLASS 6) (8" THICK)
- 677 401.08 - HOT BITUMINOUS PAVEMENT (4" THICK) (GRADING SX, BINDER GRADE PG 64-22) (TWO 2" LIFTS)
- 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 (SILT-SACK STYLE OR APPROVED EQUAL) (NO GRAVEL/ROCK BAG FILTERS ARE ALLOWED)
- 828 PROTECT GAS LINE
- 836 LOCATION SHOWN FOR ABANDONED WATERLINE IS APPROXIMATE AND BASED ON AS-BUILT DATA. CONTRACTOR RESPONSIBLE FOR REMOVAL OF PIPE WHERE NECESSARY.

NOTES:
 • DO NOT INSTALL STEPS IN NEW MANHOLES.



REVISION	DESCRIPTION	DATE	DRAWN BY	DATE
REVISION A			MF	07/2019
REVISION B			ES	07/2019
REVISION C			ES	07/2019
REVISION D			BG	07/2019

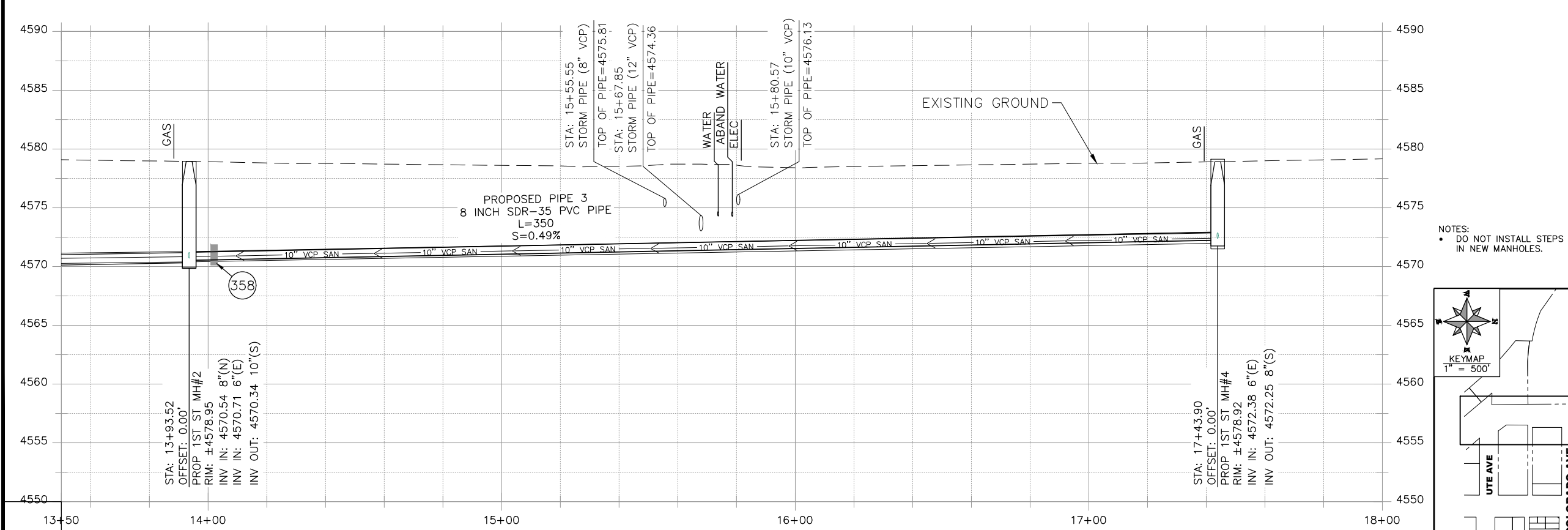
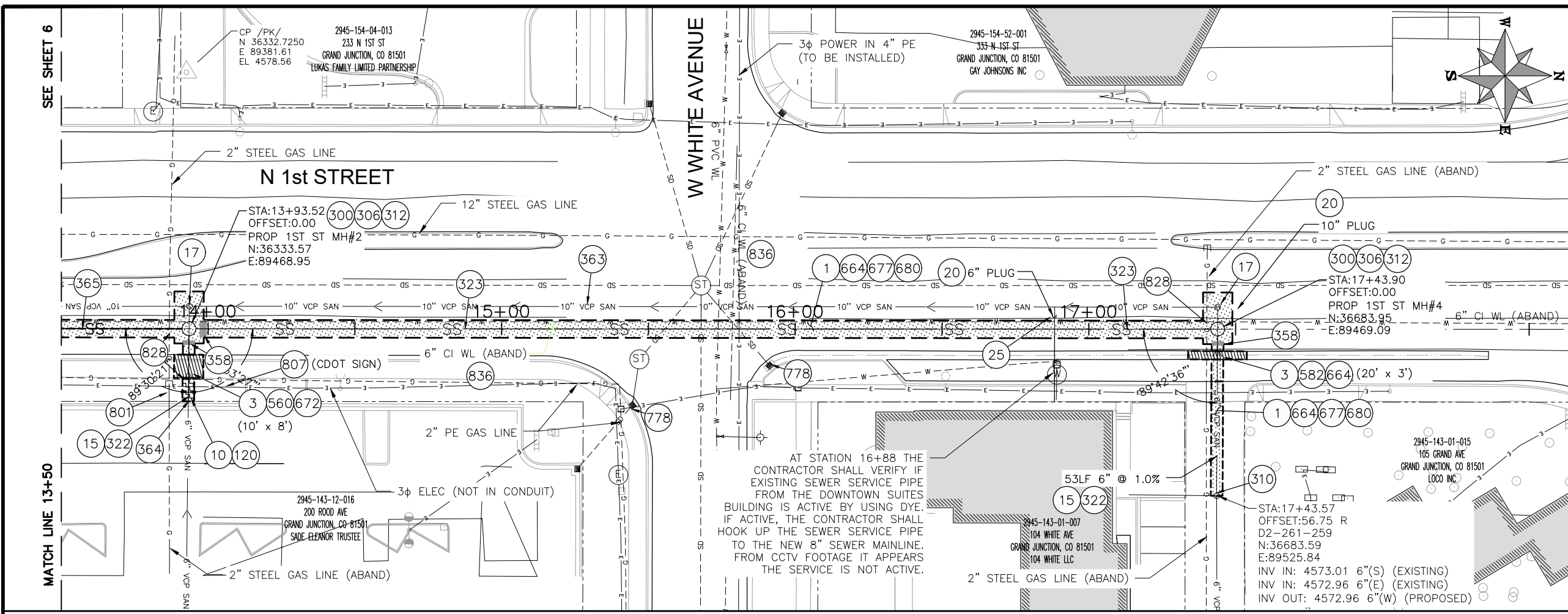


PUBLIC WORKS
ENGINEERING DIVISION

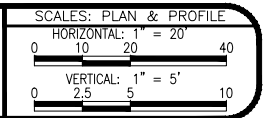
2020 SEWER LINE REPLACEMENTS
1st STREET SEWER PLAN & PROFILE
STA. 9+00 TO 13+50

CONSTRUCTION NOTES

- 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.
- 10 202 - RESET LANDSCAPE GROUND COVER (MATCH IN KIND) (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)
- 15 202 - REMOVAL OF PIPE AS SHOWN. (SIZE AND TYPE AS SHOWN ON PLAN)
- 17 202 - ABANDON MANHOLE (REMOVE CONE SECTION, RING, AND COVER, PLUG EXISTING SEWER PIPES AND FILL REMAINING BARREL SECTIONS WITH FLOW-FILL MATERIAL)
- 20 202 - ABANDON PIPE. ABANDON BY PLUGGING REMAINING ENDS WITH CONCRETE.
- 25 202 - ABANDON EXISTING WATER VALVE BOX (CLOSE VALVE, REMOVE TOP HALF OF EXISTING VALVE BOX, FILL CAVITY TO FINISHED SUBGRADE WITH FLOW-FILL MATERIAL)
- 120 210 - RESET/REPAIR SPRINKLER IRRIGATION SYSTEM. (IF NECESSARY)
- 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.).
- 310 102.11/108.5 - CONNECT TO EXISTING MANHOLE (6" PIPE). (SEE CITY OF GRAND JUNCTION STANDARD DETAIL SS-08).
- 312 102.11/108.5 - MANHOLE INTERIOR CORROSION PROTECTION (CASTAGRA ECODUR 201 PROTECTIVE COATING OR APPROVED EQUAL) (PROTECTIVE COATING SHALL BE APPLIED TO PREPARED MANHOLE INVERT, BENCH, BARRELS, AND CONE SECTIONS. MANHOLE INVERTS AND BENCHES SHALL BE COATED PRIOR TO WASTEWATER INTRODUCTION) (30 MIL MINIMUM THICKNESS) (APPLIES ONLY TO 1ST STREET SEWER MANHOLES)
- 322 102.9/108.2 - 6" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH CLASS 3 IMPORTED TRENCH 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 CLASS 3 IMPORTED TRENCH BACKFILL MATERIAL.
- 358 103 - CLAY CUT-OFF WALL (INCIDENTAL TO SEWER INSTALLATION PAY ITEM)
- 363 BYPASS PUMPING (AS DEEMED NECESSARY BY THE CITY OR CONTRACTOR)
- 364 CONNECT TO EXISTING SEWER PIPE. THE CONTRACT PRICE FOR SEWER PIPE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING PIPELINE.
- 365 102.9/108.2 - 10" GRAVITY SEWER PIPE (SDR 35 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL AND BACKFILL OF TRENCH WITH CLASS 3 IMPORTED TRENCH BACKFILL MATERIAL.
- 560 608.06 - MONOLITHIC VERTICAL CURB, GUTTER AND SIDEWALK (8' WIDE)
- 582 608.06 - CONCRETE DRAINAGE PAN (3' WIDE) (8" THICK MIN.)
- 664 304 - AGGREGATE BASE COURSE (CLASS 6) (15" THICK)
- 672 304 - AGGREGATE BASE COURSE (CLASS 6) (8" THICK)
- 677 401.08 - HOT BITUMINOUS PAVEMENT (4" THICK) (GRADING SX, BINDER GRADE PG 64-22) (TWO 2" LIFTS)
- 680 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (2" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR = 75) (ONE 2" LIFT TOP MAT) (1-TOP PATCH) (SEE CITY STD. DETAIL GU-03)
- 778 208 - STORM DRAIN INLET PROTECTION (SILT-SACK STYLE OR APPROVED EQUAL) (NO GRAVEL/ROCK BAG FILTERS ARE ALLOWED)
- 801 PROTECT TREE
- 807 PROTECT SIGN (LARGE CDOT TRAFFIC SIGN)
- 828 PROTECT GAS LINE
- 836 LOCATION SHOWN FOR ABANDONED WATERLINE IS APPROXIMATE AND BASED ON AS-BUILT DATA. CONTRACTOR RESPONSIBLE FOR REMOVAL OF PIPE WHERE NECESSARY.



REVISION	DESCRIPTION	DATE	DRAWN BY	DATE
REVISION A			MF	07/2019
REVISION B			ES	07/2019
REVISION C			ES	07/2019
REVISION D			BG	07/2019



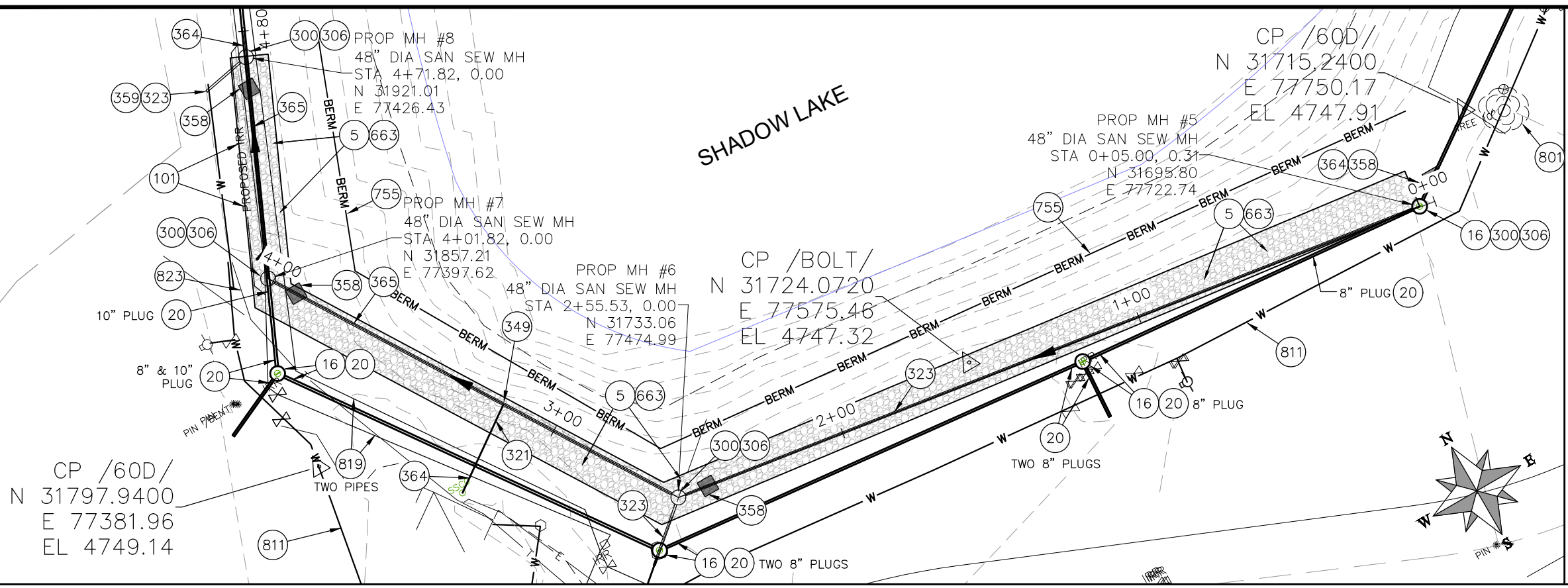
PUBLIC WORKS
ENGINEERING DIVISION

2020 SEWER LINE REPLACEMENTS
1st STREET SEWER PLAN & PROFILE
STA. 13+50 TO STA 17+44

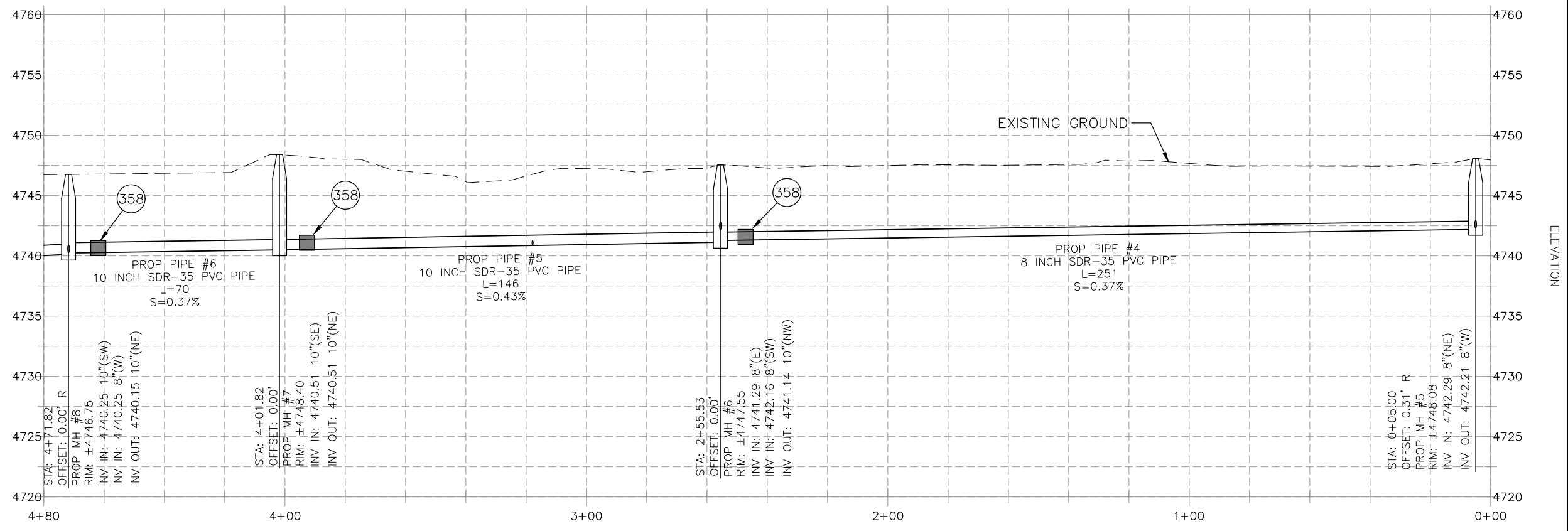
CONSTRUCTION NOTES

- (5) 201 - CLEARING AND GRUBBING (INCLUDES TREE REMOVAL, BUSH REMOVAL, AND STRIPPING OF GRASSES)
- (15) 202 - REMOVAL OF PIPE AS SHOWN. (SIZE AND TYPE AS SHOWN ON PLAN)
- (16) 202 - REMOVAL OF MANHOLE
- (20) 202 - ABANDON PIPE. ABANDON BY PLUGGING REMAINING ENDS WITH CONCRETE.
- (101) 210 - RESET IRRIGATION PIPE (SHADOW LAKE) (PVC IRRIGATION PIPE) (THE CITY BELIEVES THE EXISTING IRRIGATION PIPE IS 4-INCH DIA. PLASTIC PIPE. THIS PIPE BELIEVE TO HAVE BEEN LAID ABOVE OR NEAR THE EXISTING SEWER LINE REQUIRING RELOCATION BETWEEN STATIONS 4+00 TO 4+75) (INCLUDES PIPE, FITTINGS, EQUIPMENT, MATERIALS, AND LABOR TO RELOCATE THE IRRIGATION PIPE FOR NEW SEWER PIPE INSTALLATION)
- (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 103.16 EARTH BACKFILL MATERIAL.
- (349) 102.9/108.3 - 10" x 4" SEWER SERVICE TAP (FULL-BODY WYE) (SEE CITY STD. DETAIL SS-06)
- (358) 103 - CLAY CUT-OFF WALL (INCIDENTAL TO SEWER INSTALLATION PAY ITEM)
- (359) 102.9/108.3 - 8" CAP (PVC) (GASKETED) (INCLUDES 4-FT LONG 4x4 WOOD POST PER CITY STD. DETAIL SS-06)
- (363) BYPASS PUMPING (AS DEEMED NECESSARY BY THE CITY OR CONTRACTOR)
- (364) CONNECT TO EXISTING SEWER PIPE. THE CONTRACT PRICE FOR SEWER PIPE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING PIPELINE USING A MAX-ADAPTOR COUPLING OR ENGINEER APPROVED EQUAL.
- (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 103.16 EARTH BACKFILL MATERIAL.
- (663) 304 - AGGREGATE BASE COURSE (CLASS 6) (4" THICK) (12' WIDE) (PATH)
- (755) 208 - TEMPORARY COMPACTED EARTH BERM
- (801) PROTECT TREE
- (811) PROTECT WATERLINE AND WATER VALVE
- (819) PROTECT EX. IRRIGATION PIPE
- (823) PROTECT TELEPHONE LINE
- (829) PROTECT ELECTRIC LINE

NOTES:
 • DO NOT INSTALL STEPS IN NEW MANHOLES.



STATION



REVISION	DESCRIPTION	DATE	DRAWN BY	DATE
REVISION Δ			KSO	NOV, 2019
REVISION Δ			KSO	NOV, 2019
REVISION Δ			ALC	NOV, 2019
REVISION Δ				

SCALES: PLAN & PROFILE

HORIZONTAL: 1" = 40'

VERTICAL: 1" = 10'



PUBLIC WORKS
ENGINEERING DIVISION

2020 SEWER LINE REPLACEMENTS
SHADOW LAKE SEWER PLAN & PROFILE
STA 0+00 TO 4+80

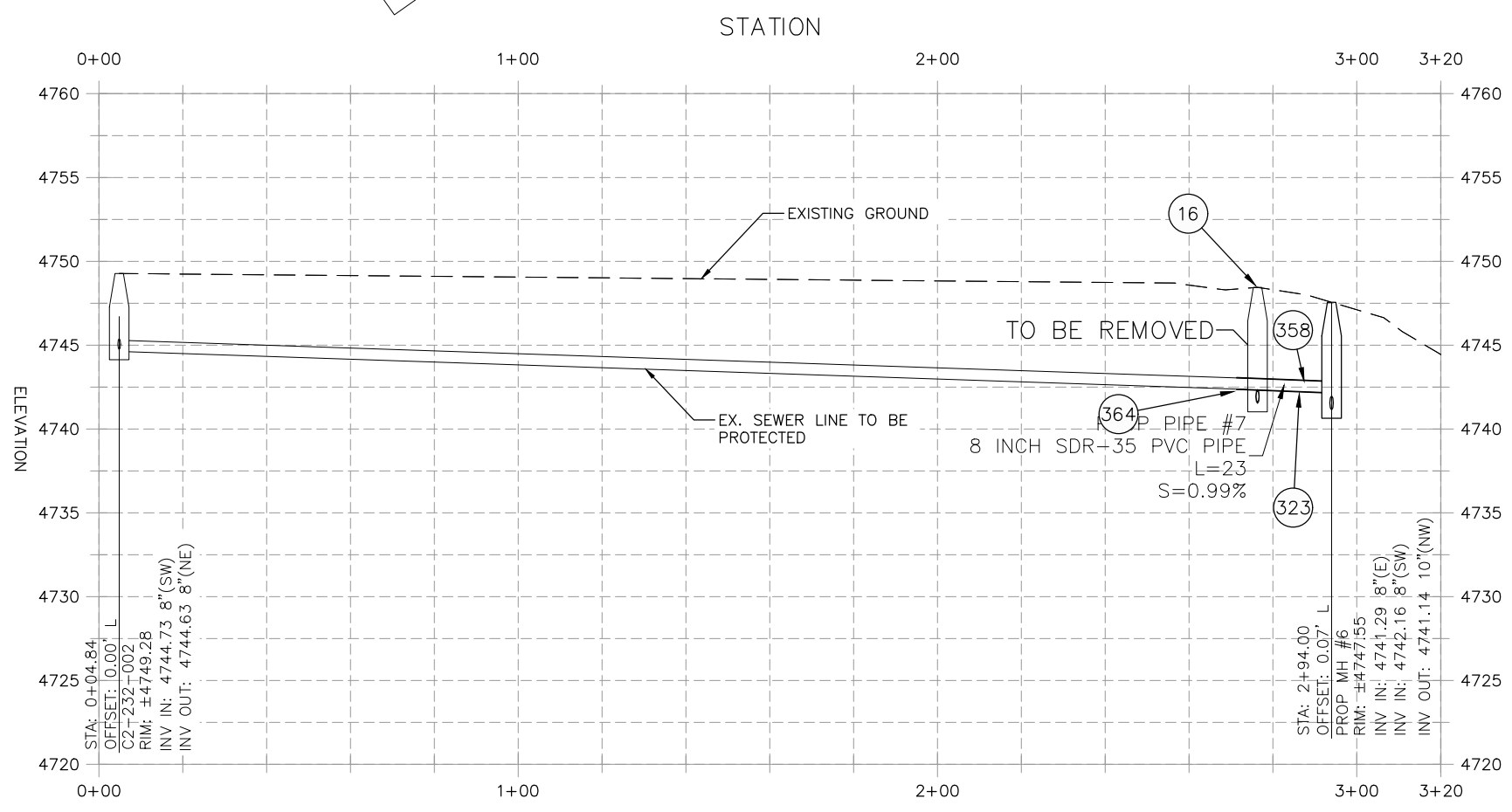
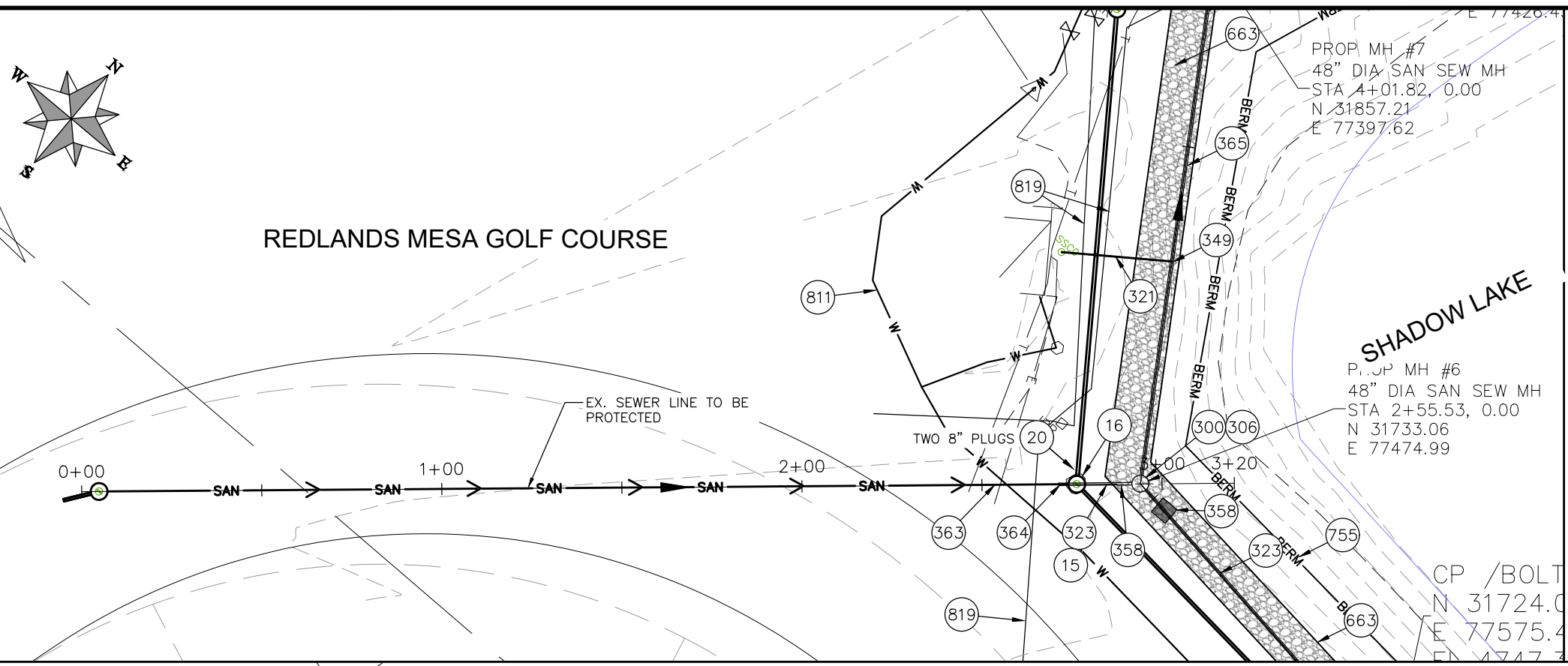
CONSTRUCTION NOTES

- (5) 201 - CLEARING AND GRUBBING (INCLUDES TREE REMOVAL, BUSH REMOVAL, AND STRIPPING OF GRASSES)
- (15) 202 - REMOVAL OF PIPE AS SHOWN. (SIZE AND TYPE AS SHOWN ON PLAN)
- (16) 202 - REMOVAL OF MANHOLE
- (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 103.16 EARTH BACKFILL MATERIAL.
- (349) 102.9/108.3 - 10" x 4" SEWER SERVICE TAP (FULL-BODY WYE) (SEE CITY STD. DETAIL SS-06)
- (358) 103 - CLAY CUT-OFF WALL (INCIDENTAL TO SEWER INSTALLATION PAY ITEM)
- (363) BYPASS PUMPING (AS DEEMED NECESSARY BY THE CITY OR CONTRACTOR)
- (364) CONNECT TO EXISTING SEWER PIPE. THE CONTRACT PRICE FOR SEWER PIPE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING PIPELINE USING A MAX-ADAPTOR COUPLING OR ENGINEER APPROVED EQUAL.
- (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 103.16 EARTH BACKFILL MATERIAL.
- (663) 304 - AGGREGATE BASE COURSE (CLASS 6) (4" THICK) (12' WIDE) (PATH)
- (755) 208 - TEMPORARY COMPACTED EARTH BERM
- (811) PROTECT WATERLINE AND WATER VALVE
- (819) PROTECT EX. IRRIGATION PIPE
- (823) PROTECT TELEPHONE LINE
- (828) PROTECT ELECTRIC LINE

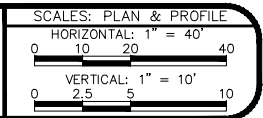
NOTES:
 • DO NOT INSTALL STEPS IN NEW MANHOLES.

REDLANDS MESA GOLF COURSE

SHADOW LAKE



REVISION	DESCRIPTION	DATE	DRAWN BY	KSO	DATE	DEC, 2019
REVISION			DESIGNED BY	KSO	DATE	DEC, 2019
REVISION			CHECKED BY	ALC	DATE	DEC, 2019
REVISION			APPROVED BY		DATE	



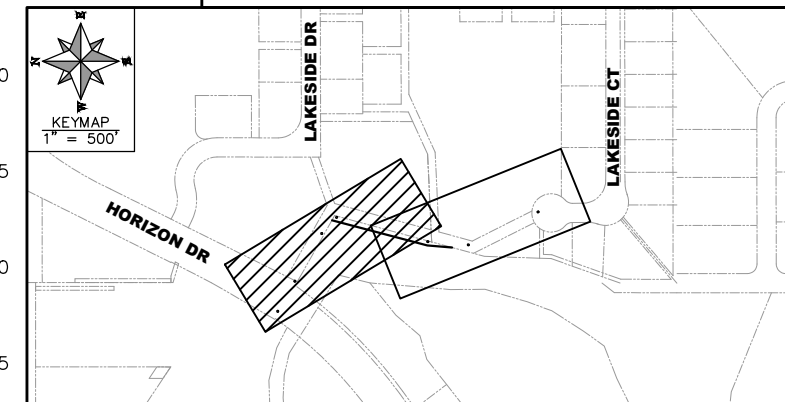
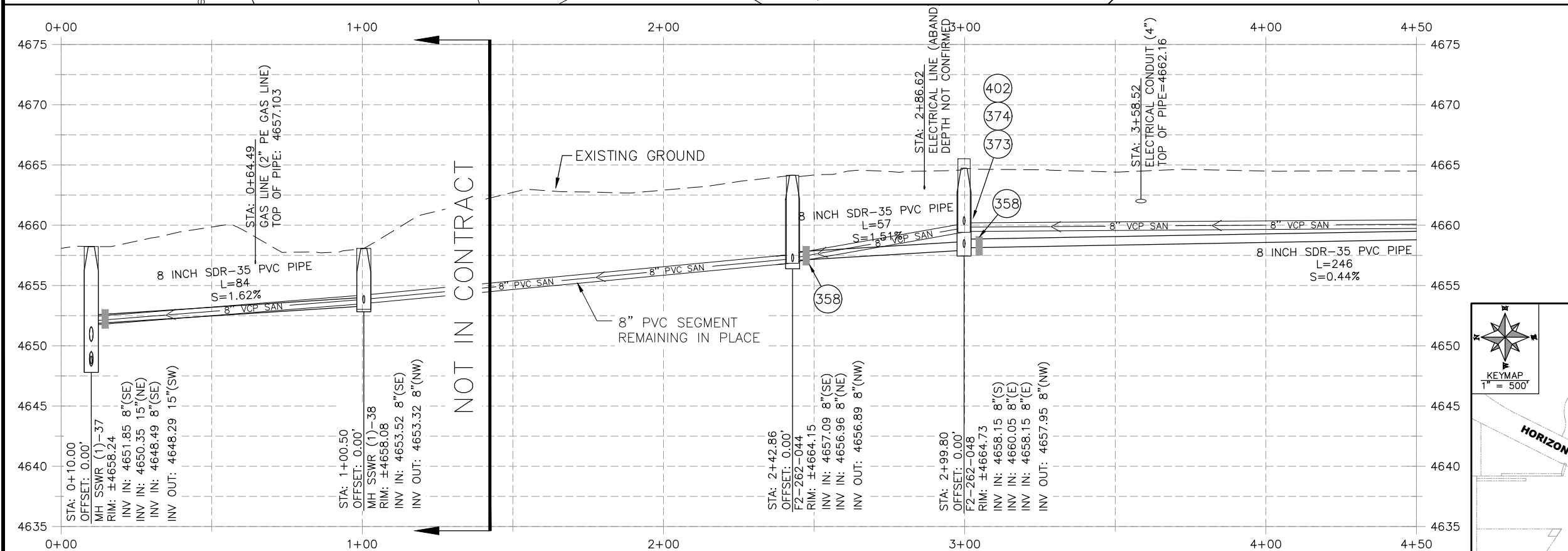
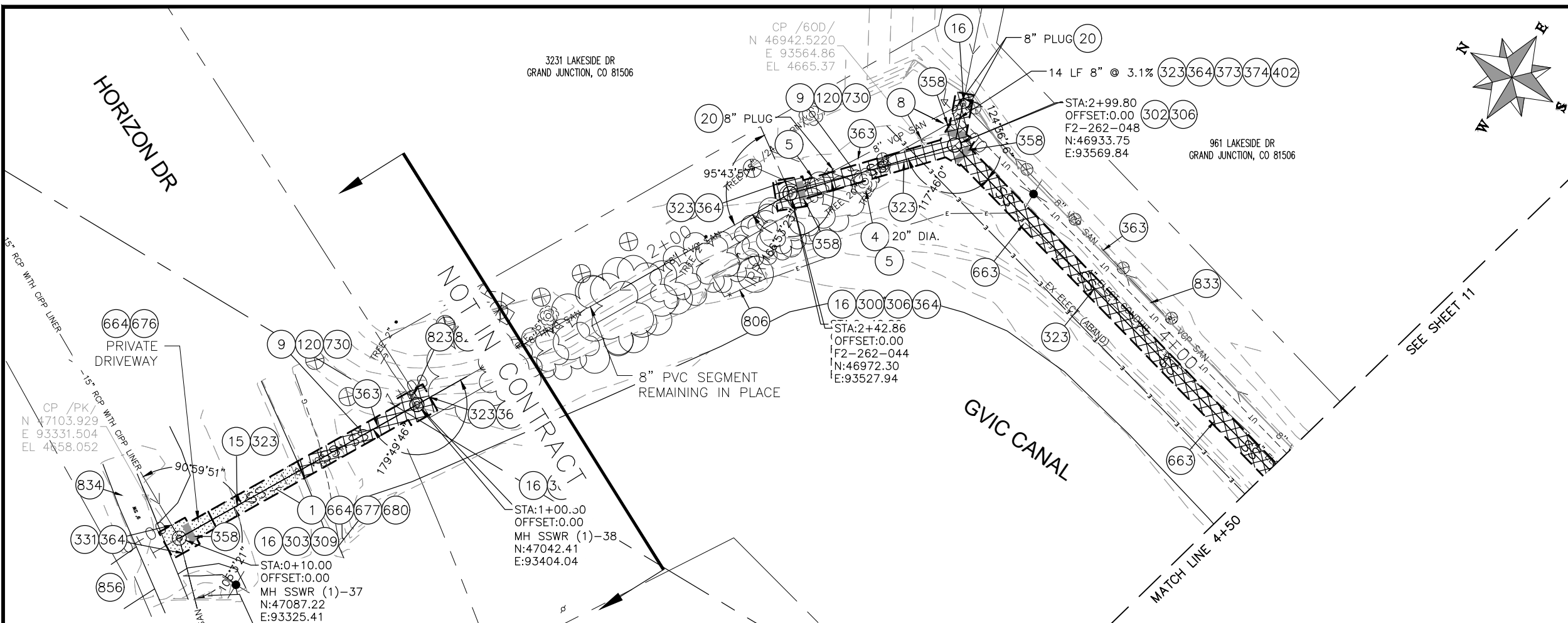
PUBLIC WORKS
ENGINEERING DIVISION

2020 SEWER LINE REPLACEMENTS
SHADOW LAKE SEWER PLAN & PROFILE
STA 0+00 TO 3+20

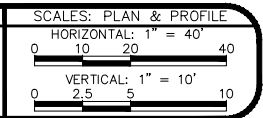
CONSTRUCTION NOTES

- 4 202 - REMOVAL OF TREE (SIZE AS SHOWN ON PLAN)
- 5 202 - REMOVAL OF BUSH/SHRUB
- 8 202 - REMOVAL OF TREE STUMP
- 9 202 - REMOVAL OF SOD
- 10 202 - REMOVAL OF LANDSCAPE GROUND COVER AND ANY UNDERLYING BARRIER.
- 15 202 - REMOVAL OF PIPE AS SHOWN. (SIZE AND TYPE AS SHOWN ON PLAN)
- 16 202 - REMOVAL OF MANHOLE
- 20 202 - ABANDON PIPE. ABANDON BY PLUGGING REMAINING ENDS WITH CONCRETE.
- 120 210 - RESET/REPAIR SPRINKLER IRRIGATION SYSTEM (IF NECESSARY)
- 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).
- 302 102.11/108.5 - SANITARY SEWER BASIC DROP MANHOLE (48" I.D.). INCLUDES CONNECTION OF ADJACENT SEWER LINE, FORMING INVERTS AND ADJUSTING TO FINAL GRADE. (SEE CITY STD. DETAIL SS-04)
- 306 102.11/108.5 - MANHOLE BARREL SECTION (D>5") (48" I.D.).
- 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 103.16 EARTH BACKFILL MATERIAL.
- 358 103 - CLAY CUT-OFF WALL (INCIDENTAL TO SEWER INSTALLATION PAY ITEM)
- 363 BYPASS PUMPING (AS DEEMED NECESSARY BY THE CITY OR CONTRACTOR)
- 364 CONNECT TO EXISTING SEWER PIPE. THE CONTRACT PRICE FOR SEWER PIPE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING PIPELINE.
- 373 102.9/108.3 - 8" 45° ELBOW (GxG)
- 374 102.9/108.3 - 8" x 8" WYE FITTING (FULL BODY WYE) (GxGxG)
- 402 206 - STRUCTURE BACKFILL (FLOW-FILL) (REQUIRED AROUND DROP MANHOLE PIPE PER CITY STD. DETAIL SS-04)
- 663 304 - AGGREGATE BASE COURSE (CLASS 6) (4" THICK)
- 730 212 - RESOD AREA AS SHOWN (INCLUDES 6" OF TOPSOIL PLACEMENT PRIOR TO SOD PLACEMENT)
- 738 610 - GROUND COVER MATERIAL (MATCH EXISTING)
- 801 PROTECT TREE (LIMITED PRUNING AS NECESSARY)
- 806 PROTECT FENCE
- 824 PROTECT UTILITY PEDESTAL
- 833 PROTECT CONCRETE RETAINING WALL
- 836 LOCATION SHOWN FOR ABANDONED WATERLINE IS APPROXIMATE AND BASED ON AS-BUILT DATA. CONTRACTOR RESPONSIBLE FOR REMOVAL OF PIPE WHERE NECESSARY.

NOTES:
 • DO NOT INSTALL STEPS IN NEW MANHOLES.



REVISION	DESCRIPTION	DATE	PROJECT NO.	DATE
△			HMC	2020
△			ALC	2020
△			ALC	2020
△			ALC	2020

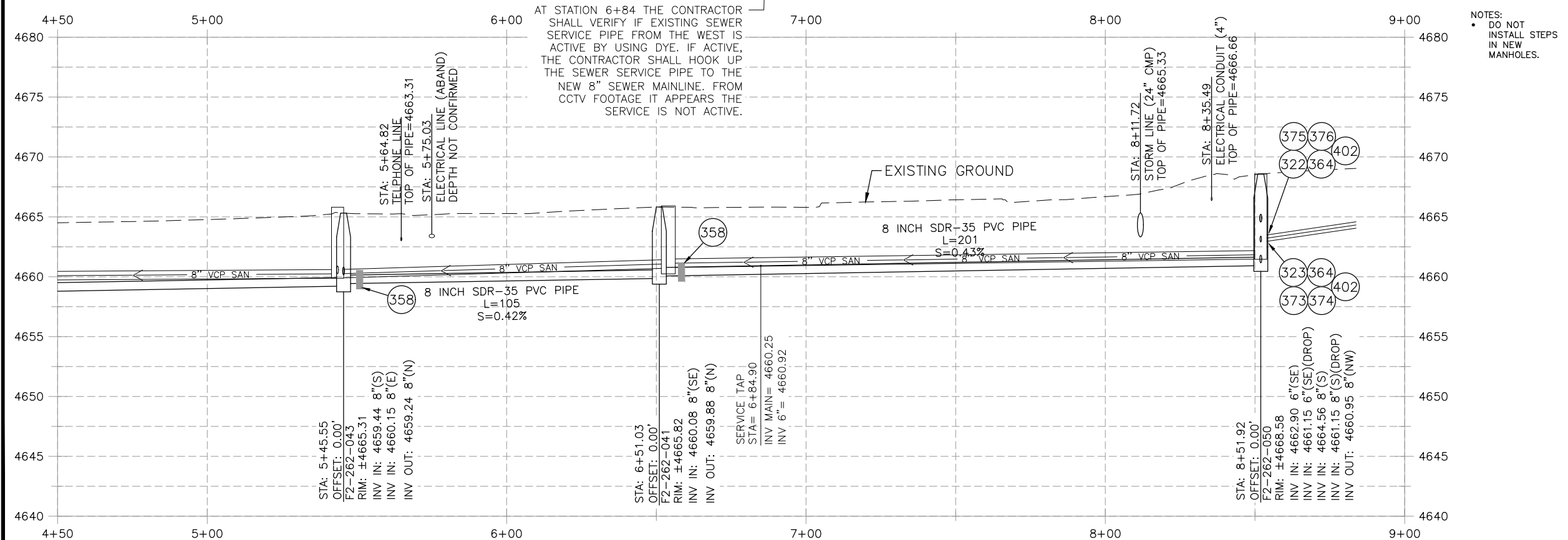
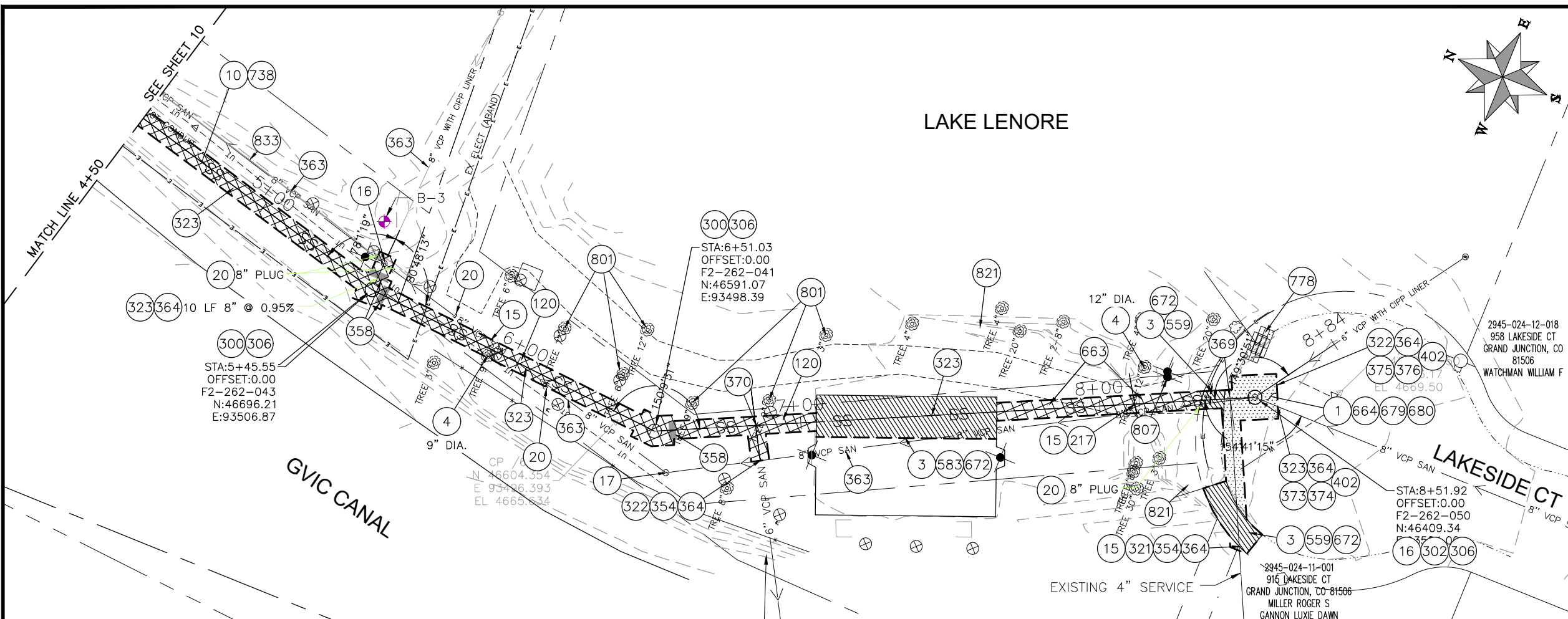


PUBLIC WORKS
 ENGINEERING DIVISION

2020 SEWER LINE REPLACEMENTS
 LAKESIDE SEWER PLAN & PROFILE
 STA 2+42 TO STA 4+50

CONSTRUCTION NOTES

- 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.
- 4 202 - REMOVAL OF TREE (SIZE AS SHOWN ON PLAN)
- 10 202 - REMOVAL OF LANDSCAPE GROUND COVER AND ANY UNDERLYING BARRIER.
- 15 202 - REMOVAL OF PIPE AS SHOWN. (SIZE AND TYPE AS SHOWN ON PLAN)
- 16 202 - REMOVAL OF MANHOLE
- 17 202 - ABANDON MANHOLE (REMOVE CONE SECTION, RING, AND COVER, PLUG EXISTING SEWER PIPES AND FILL REMAINING BARREL SECTIONS WITH FLOW-FILL MATERIAL)
- 20 202 - ABANDON PIPE. ABANDON BY PLUGGING REMAINING ENDS WITH CONCRETE.
- 103 210 - RESET SIGN
- 120 210 - RESET/REPAIR SPRINKLER IRRIGATION SYSTEM (IF NECESSARY)
- 217 102.10/108.2 - 24" STORM DRAIN PIPE (CMP). INCLUDES BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL. PIPE IS NOT TO BE BEDDED IN TYPE A BEDDING 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 STANDARD DETAIL SS-02).
- 302 102.11/108.5 - SANITARY SEWER BASIC DROP MANHOLE (48" I.D.) INCLUDES CONNECTION OF ADJACENT SEWER LINE, FORMING INVERTS AND ADJUSTING TO FINAL GRADE. (SEE CITY STD. DETAIL SS-04)
- 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.
- 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 103.16 EARTH BACKFILL MATERIAL.
- 354 104.20 - INSTALL 2-WAY SANITARY SEWER SERVICE CLEANOUT (INCLUDES CLEANOUT RING AND COVER AND CONCRETE COLLAR IN UNPAVED AREAS. SEE CITY STD. DETAIL SS-07)
- 358 103 - CLAY CUT-OFF WALL (INCIDENTAL TO SEWER INSTALLATION PAY ITEM)
- 363 BYPASS PUMPING (AS DEEMED NECESSARY BY THE CITY OR CONTRACTOR)
- 364 CONNECT TO EXISTING SEWER PIPE. THE CONTRACT PRICE FOR SEWER PIPE SHALL INCLUDE THE COST OF CONNECTION TO EXISTING PIPELINE.
- 369 102.9/108.3 - 8" x 4" SEWER SERVICE TAP. FULL BODY WYE (SEE CITY STD. DETAIL SS-06)
- 370 102.9/108.3 - 8" x 6" SEWER SERVICE TAP. FULL BODY WYE (SEE CITY STD. DETAIL SS-06)
- 373 102.9/108.3 - 8" 45° ELBOW (GXG)
- 374 102.9/108.3 - 8" x 8" WYE FITTING (FULL BODY WYE) (GXGXG)
- 375 102.9/108.3 - 6" 45° ELBOW (GXG)
- 376 102.9/108.3 - 6" x 6" WYE FITTING (FULL BODY WYE) (GXGXG)
- 402 206 - STRUCTURE BACKFILL (FLOW-FILL) (REQUIRED AROUND DROP MANHOLE PIPE PER CITY STD. DETAIL SS-04)
- 559 608.06 - MONOLITHIC VERTICAL CURB, GUTTER AND SIDEWALK (6.5-FT WIDE) (MATCH EXISTING)
- 583 608.06 - CONCRETE PAVEMENT (BASKETBALL COURT) (6" THICK)
- 663 304 - AGGREGATE BASE COURSE (CLASS 6) (4" THICK)
- 664 304 - AGGREGATE BASE COURSE (CLASS 6) (15" THICK)
- 672 304 - AGGREGATE BASE COURSE (CLASS 6) (8" THICK)
- 679 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (3" THICK) (GRADING SX, BINDER GRADE PG 64-22) (ONE 3" LIFT)
- 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)
- 738 610 - GROUND COVER MATERIAL (MATCH EXISTING)
- 778 208 - STORM DRAIN INLET PROTECTION (SILT-SACK STYLE OR APPROVED EQUAL) (NO GRAVEL/ROCK BAG FILTERS ARE ALLOWED)
- 801 PROTECT TREE. LIMITED PRUNING AS NECESSARY
- 821 PROTECT BENCH
- 833 PROTECT CONCRETE RETAINING WALL



AT STATION 6+84 THE CONTRACTOR SHALL VERIFY IF EXISTING SEWER SERVICE PIPE FROM THE WEST IS ACTIVE BY USING DYE. IF ACTIVE, THE CONTRACTOR SHALL HOOK UP THE SEWER SERVICE PIPE TO THE NEW 8" SEWER MAINLINE. FROM CCTV FOOTAGE IT APPEARS THE SERVICE IS NOT ACTIVE.

NOTES:
• DO NOT INSTALL STEPS IN NEW MANHOLES.

REVISION	DESCRIPTION	DATE	PROJECT NO.	DATE
REVISION	△		HMC	2020
REVISION	△		ALC	2020
REVISION	△		ALC	2020
REVISION	△		ALC	2020

SCALES: PLAN & PROFILE
HORIZONTAL: 1" = 40'
VERTICAL: 1" = 10'



PUBLIC WORKS
ENGINEERING DIVISION

2020 SEWER LINE REPLACEMENTS
LAKESIDE SEWER PLAN & PROFILE
STA 4+50 TO STA 8+52