



Purchasing Division

Invitation for Bid

IFB-4744-20-DH

River Bend Lift Station Elimination Project

Responses Due:

February 6, 2020 prior to 3:30 p.m.

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 **River Bend Lift Station Elimination 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 mandatory pre-bid meeting on January 28, 2020 at 10:00 am. Meeting location shall be in the City Council Auditorium at City Hall, located at 250 North 5th Street. The purpose of this visit will be to inspect and to clarify the contents of this Invitation for Bids (IFB).
- 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 **\$750.00** 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: Contingency/Force Account 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 Authorization will be directed by the Owner through an approved form. Contingency/Force Account funds are the property of the Owner and any Contingency/Force Account funds, not required for project completion, shall remain the property of the Owner. Contractor is not entitled to any Contingency/Force Account 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.

- 2.30. 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.
- 2.31. 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.
- 2.32. 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.
- 2.33. 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.
- 2.34. Conflict of Interest:** No public official and/or City/County employee shall have interest in any contract resulting from this IFB.
- 2.35. 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.
- 2.36. Employment Discrimination:** During the performance of any services per agreement with the Owner, the Contractor, by submitting a Bid, agrees to the following conditions:
 - 2.36.1.** 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.
 - 2.36.2.** 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.
 - 2.36.3.** 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.

- 2.37. 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.
- 2.38. 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).
- 2.39. 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.
- 2.40. 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.
- 2.41. 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.
- 2.42. 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.
- 2.43. 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.
- 2.44. 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.

2.45. Evaluation of Bids and Offers: The Owner reserves the right to:

- reject any and all Bids,
- waive any and all informalities,
- negotiate final terms with the Successful Bidder, 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.

2.46. 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.

2.47. Ownership: All plans, prints, designs, concepts, etc., shall become the property of the Owner.

2.48. 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.

- 2.49. 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.
- 2.50. Remedies:** The Contractor and Owner agree that both parties have all rights, duties, and remedies available as stated in the Uniform Commercial Code.
- 2.51. 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.
- 2.52. Expenses:** Expenses incurred in preparation, submission and presentation of this IFB are the responsibility of the company and cannot be charged to the Owner.
- 2.53. 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.
- 2.54. 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.
- 2.55. 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.
- 2.56. 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).

2.56.1. "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 **River Bend Lift Station Elimination 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 includes approximately 965 LF of 8" PVC sewer pipe, 870 LF of 10" PVC sewer pipe, 7 sewer manholes, 5 sewer drop manholes, manhole interior corrosion protection, removal of existing sewer manholes and concrete wet well, groundwater dewatering, groundwater discharge ponds excavation, and restoration of disturbed areas.

3.3. SPECIAL CONDITIONS:

3.3.1 Mandatory Pre-Bid Meeting: **Prospective bidders are required to attend a mandatory pre-bid meeting on January 28, 2020 at 10:00 am.** Meeting location shall be in the City Council Auditorium at City Hall, located at 250 North 5th Street. The purpose of this visit will be to inspect and to clarify the contents of this Invitation for Bids (IFB).

3.3.2 QUESTIONS REGARDING SOLICIATION PROCESS/SCOPE OF WORK:

Duane Hoff, Senior Buyer
City of Grand Junction
duaneh@gjcity.org
970-244-1545

3.3.2 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 and Engineering
Attn: Lee Cooper
333 West Ave., Building C
Grand Junction, CO 81501

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

3.3.4 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.

3.3.5 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.

3.3.6 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.

3.3.7 Time of Completion: The scheduled time of Completion for the Project is **90** 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.

3.3.8 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.

3.3.9 Licenses and Permits: Contractor is responsible for obtaining all necessary licenses and permits required for Construction, at Contractors expense. See Section 2.12. Contractor shall supply to Owner all copies of finalized permits.

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

- None

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

- *Colorado Department of Public Health and Environment Dewatering Permit.* 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 to Proceed. The CDPHE Dewatering Permit is provided in Appendix D.

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

- AutoCAD drawings for survey stakeout
- Project newsletters (as necessary)
- Door hangers (as necessary)

- 3.3.12 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 two weeks before the Contractor commences work.
- 3.3.13 Project Sign:** Project signs, if any, will be furnished and installed by the City.
- 3.3.14 Authorized Representatives of the City:** Those authorized to represent the City shall include Purchasing Agent, Engineers, and Inspectors employed by the City, only.
- 3.3.15 Stockpiling Materials and Equipment:** All stockpiling/storage shall be in accordance with General Contract Condition Section 51.
- 3.3.16 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. A Traffic Control Plan shall be prepared by the Contractor and reviewed by the City two days prior to the pre-construction meeting.

Traffic control on this Project will be minimum. The City envisions traffic control being warning signs placed in the adjacent neighborhoods to the Project that inform residents and other street users of the nearby sewer Project.

- 3.3.17 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.
- 3.3.18 Quality Control Testing:** As part of the project, the Contractor shall provide Quality Control testing per Table 1 in the Quality Control (QC) and Quality Assurance (QA) section within the City of Grand Junction's Standard Specifications for Road and Bridge Construction, and Table 101 within the Standard Specifications for the Construction of Underground Utilities. Table 1 and Table 101 provide the testing frequencies.

The Contractor shall provide test frequencies for Full-Time inspection. The testing agency shall meet the minimum requirements as stated in the Standard Specifications section. A submittal of qualified personnel shall be submitted at or before the preconstruction meeting. This submittal shall include all certifications held by the tester assigned to the project. The following items will require QC testing:

- Backfill compaction – Backfill shall be placed in horizontal layers not to exceed 12-inches in loose lift thickness. If the Project Engineer allows the native material to be used for trench backfill, completion of a Proctor analysis will be required by the QC testing agency on the native backfill material. If

the native trench material is too rocky to Proctor test, then compaction of the native material will be done visually by the City.

- Aggregate Base Course (Class 6) – (If necessary, completion of a Proctor analysis will be required by the QC testing agency)
- Hot Bituminous Pavement

Method of Measurement:

Testing for QC will be paid for at the unit price per test.

Basis of Payment:

<u>Pay Item</u>	<u>Pay Unit</u>
Backfill Compaction Tests (Includes Proctor Test)	Each
Aggregate Base Course Density Tests	Each
Hot Bituminous Density Tests	Each

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

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

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

- Construction schedule submitted at or prior to the pre-construction meeting
- Pipe (8" & 10") SDR-35 & SDR-26 PVC
- Pipe Fittings (wyes, elbows, caps)
- Manholes (includes exterior waterproofing)
- Drop Manholes (includes exterior waterproofing)
- Ring and Covers (MH-310-24-C.I.)
- Manhole Grade Rings
- Manhole Corrosion Protection (Drop Manholes Only)
- Bedding Gradation, Type A
- Imported Trench Backfill gradation (Class 3)
- Granular Stabilization Material (Type B)
- Base course gradation, Proctor Curve (Class 6)
- Flow-Fill Material
- Non-woven Geotextile Fabric (If necessary)
- Hot Bituminous Pavement Mix Design
- Traffic Control Plans

- 3.3.20 Uranium Mill Tailings:** It is anticipated that radioactive mill tailings will not be encountered on this Project.
- 3.3.21 Fugitive Petroleum or Other Contamination:** It is anticipated that soil contamination from fugitive petroleum or other contaminants will not be encountered with the Project.
- 3.3.22 Excess Material:** All excess materials shall be disposed in accordance with General Contract Condition Section 50.
- 3.3.23 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.

- 3.3.24 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.
- 3.3.25 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 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.

- 3.3.27 Payment for Damage to Private Property beyond Easement Limits/ROW Limits:** Easement and Rights 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.
- 3.3.28 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 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.
- 3.3.30 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 Project Access for Contractor:** Delivery and removal of Contractor's heavy equipment (track-hoes, loaders, etc.) shall use the gravel road along the 3125 D Road property boundary. Access to this gravel road is from D Road. No heavy equipment shall be hauled on the following streets: Sunnyside Circle, Crystal Drive, Dry Fork Way, Green River Drive, Snake River Drive, Blue River Drive, and Slate River Drive.
- 3.3.31 As-Built Manhole Survey Shots:** All 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.
- 3.3.32 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.

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

3.3.34 References for Manhole Corrosion Protection: The Contractor applying the Geopolymer drop manhole protection shall provide a minimum of 3 references of projects for completed restoration and corrosion barrier liner installation of similar scope and size using Geopolymer as the protective coating. References shall include project name and location; contact information of Owner/Engineer; and description of project and how much geopolymer was used, what the substrate was, and the application procedures.

3.4. SCOPE OF WORK: The Project generally includes approximately 965 LF of 8" PVC sewer pipe, 870 LF of 10" PVC sewer pipe, 7 sewer manholes, 5 sewer drop manholes, manhole interior corrosion protection, removal of existing sewer manholes and concrete wet well, groundwater dewatering, groundwater discharge ponds excavation, and restoration of disturbed areas.

3.5. Attachments:

- Appendix A: Project Submittal Form
- Appendix B: Project Special Provisions
- Appendix C: Geotechnical Investigation Report
- Appendix D: CDPHE's Construction Dewatering Permit Application
- 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**
- **References for Manhole Protective Coating Contractor Only (See SC 3.3.35)**

3.7. IFB TENTATIVE TIME SCHEDULE:

Invitation for Bids available:	January 15, 2020
Mandatory Pre-Bid Meeting:	January 28, 2020
Inquiry deadline, no questions after this date:	January 30, 2020
Addendum Posted:	February 3, 2020
Submittal deadline for proposals (Bid Opening):	February 6, 2020
City Council Approval:	February 19, 2020
Notice of Award & Contract execution:	February 20, 2020
Bonding & Insurance Cert. due:	February 27, 2020
Preconstruction meeting:	February 27, 2020
Work begins no later than:	March 2, 2020
Final Completion:	90 Calendar Days from Notice to Proceed

City Recognized Holidays (No Work): Memorial Day (May 25th)

4. Contractor's Bid Form

Bid Date: _____

Project: IFB-4744-20-DH "River Bend Lift Station Elimination Project"

Bidding Company: _____

Name of Authorized Agent: _____

Email _____

Telephone _____ Address _____

City _____ State _____ Zip _____

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

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

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

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

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

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

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

State number of Addenda received: _____.

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

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

Company: _____

Authorized Signature: _____

Title: _____

Bid Schedule: River Bend Lift Station Elimination Project

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
1	108.2	8" Gravity Sewer Pipe (SDR-35 PVC) (Includes cost of connection to the existing sewer pipe and manholes) (Max-Adaptor couplings or an Engineer Approved Equal shall be used for connecting into existing sewer pipe)	965.	Lin. Ft.	\$ _____	\$ _____
2	108.2	10" Gravity Sewer Pipe (SDR-26 PVC) (Includes cost of connection to the existing sewer pipe and manholes) (Max-Adaptor couplings or an Engineer Approved Equal shall be used for connecting into existing sewer pipe)	870.	Lin. Ft.	\$ _____	\$ _____
3	108.2	Imported Trench Backfill (Class 3) (Includes haul and disposal of unsuitable excavated material) (Assumed Unit Weight = 133 lbs/ft ³)	3,000.	Ton	\$ _____	\$ _____
4	108.3	8" 1/4 Bend Long Elbow (90-degree) (GxG)	4.	Each	\$ _____	\$ _____
5	108.3	8" x 8" Combo Wye & 1/8 Bend Fitting (Full Body Wye) (GxGxG) (Includes 1/8 Bend Elbow)	2.	Each	\$ _____	\$ _____
6	108.3	10" x 8" Combo Wye & 1/8 Fitting (Full Body Wye) (GxGxG) (Includes 1/8 Bend Elbow)	4.	Each	\$ _____	\$ _____
7	108.3	8" Cap (PVC) (Gasketed) (Includes 4-ft long 4x4 wood post) (To be used on "deep" sewer pipe drop manhole pipe)	8.	Each	\$ _____	\$ _____
8	108.3	8" End Cap/Plug (Includes 4-ft long 4x4 wood post) (To be used on "shallow" sewer pipe stubouts)	12.	Each	\$ _____	\$ _____
9	108.5	Sanitary Sewer Basic Manhole (48" I.D.) (Includes Manhole Waterproofing, grade rings, and MH-310-24 CI covers)	6.	Each	\$ _____	\$ _____
10	108.5	Sanitary Sewer Basic Drop Manhole (48" I.D.) (Includes Manhole Waterproofing, grade rings, and MH-310-24 CI covers)	6.	Each	\$ _____	\$ _____
11	108.5	Manhole Barrel Section (D>5') (48" I.D.) (Includes Manhole Waterproofing)	36.	Vert. Ft.	\$ _____	\$ _____
12	108.5	Drop Manhole Barrel Section (D>5') (48" I.D.) (Includes Manhole Waterproofing)	77.	Vert. Ft.	\$ _____	\$ _____

Bid Schedule: River Bend Lift Station Elimination Project

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
13	108.5	Connect to Existing Manhole (8" pipe) (This connection requires coring into the existing sewer manhole (C4-311-037) to accommodate the new 8" PVC "shallow" sewer pipe)	1.	Each	\$ _____	\$ _____
14	108.5	Connect to Existing Manhole (10" pipe) (This connection may require coring the existing sewer manhole (C4-311-037) to accommodate the new 10" PVC "deep" sewer pipe)	1.	Each	\$ _____	\$ _____
15	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)	300.	Ton	\$ _____	\$ _____
16	201	Clearing and Grubbing (Includes trees, bushes, and grasses)	1.	Lump Sum	\$ _____	\$ _____
17	202	Removal of Existing Pipe (Size & type as shown on plans)	870.	Lin. Ft.	\$ _____	\$ _____
18	202	Removal of Asphalt Mat (Full Depth)	56.	Sq. Yd.	\$ _____	\$ _____
19	202	Removal of Manhole	6.	Each	\$ _____	\$ _____
20	202	Removal of Concrete Wet Well (6-ft dia., Approx. 12-ft deep)	1.	Lump Sum	\$ _____	\$ _____
21	202	Removal of Groundwater Well Point	1.	Each	\$ _____	\$ _____
22	202	Dismantle & Remove Existing Shed (Contractor shall carefully dismantle the ex. shed near Station 13+75 and stockpile the shed material off to the side for future use) (Includes all equipment, tooling, labor to dismantle the shed without damaging it)	1.	Lump Sum	\$ _____	\$ _____
23	206	Structure Backfill (Flow-Fill)	70.	Cu. Yd.	\$ _____	\$ _____
24	208	Vehicle Tracking Pad	2.	Each	\$ _____	\$ _____
25	210	Repair Lateral 110 Irrigation Pipe (15" Pipe) (Includes PVC pipe, pipe bedding, and two Max-Adaptor couplings)	1.	Lump Sum	\$ _____	\$ _____
26	210	Reset Fence (Wire Fence)	140.	Lin. Ft.	\$ _____	\$ _____
27	304	Aggregate Base Course (Class 6) (12" thick)	56.	Sq. Yd.	\$ _____	\$ _____

Bid Schedule: River Bend Lift Station Elimination Project

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
28	401	Hot Bituminous Pavement (Patching) (4 " Thick) (Grading SX, PG 64-22) (GYR.=75) (Two 2" Lifts)	56.	Sq. Yd.	\$ _____	\$ _____
29	407	Emulsified Asphalt (Tack Coat)	12.	Gallon	\$ _____	\$ _____
30	420	Geotextile (Separator) (Non-Woven) (Wrap stabilization material with fabric) (Minimum Overlap = 24")	835.	Sq. Yd.	\$ _____	\$ _____
31	620	Portable Sanitary Facility	1.	Each	\$ _____	\$ _____
32	625	Construction Surveying (Includes As-Built Drawings)	1.	Lump Sum	\$ _____	\$ _____
33	626	Mobilization	1.	Lump Sum	\$ _____	\$ _____
34	630	Traffic Control (Complete in Place)	1.	Lump Sum	\$ _____	\$ _____
35	630	Traffic Control Plan	1.	Lump Sum	\$ _____	\$ _____
36	SC 3.3.18	Backfill Compaction Tests (Includes Proctor Test) (Quality Control Testing)	22.	Each	\$ _____	\$ _____
37	SC 3.3.18	Aggregate Base Course Density Tests (Includes Proctor Test) (Quality Control Testing)	1.	Each	\$ _____	\$ _____
38	SC 3.3.18	Hot Bituminous Density Tests (Quality Control Testing)	1.	Each	\$ _____	\$ _____
39	SP	Reconfigure Manhole Bench (Manhole C4-311-037) (The City believes an 8-inch pipe is stubbed out of this manhole to the west and not a 10-inch pipe. As a result, the contractor will need to core thru the manhole wall for the new 10-inch sewer pipe and reconfigure the existing manhole bench) (Coring is paid for separately in Item No. 14 above)	1.	Lump Sum	\$ _____	\$ _____
40	SP	Manhole Corrosion Protection (Geopolymer Liner)	130.	Vert. Ft.	\$ _____	\$ _____
41	SP	Dewatering Trenches (Includes CDPHE Dewatering Permit)	1.	Lump Sum	\$ _____	\$ _____
42	SP	Rock Excavation	120.	Cu. Yd.	\$ _____	\$ _____

Bid Schedule: River Bend Lift Station Elimination Project

Item No.	CDOT, City Ref.	Description	Quantity	Units	Unit Price	Total Price
43	SP	Remove & Relocate Soil Stockpiles (3125 D Road & Senegy Builders Properties) (Estimated quantity of dirt to be removed and relocated out of the way of the new sewer line alignment is 2,000 cyds) (Contractor shall only relocate the amount of dirt needed for a successful and safe sewer pipe installation)	1.	Lump Sum	\$ _____	\$ _____
44	Pump	Bypass Pumping (Wastewater) (As deemed necessary by Contractor)	1.	Lump Sum	\$ _____	\$ _____
45	Pump	Groundwater Retention Ponds (Includes grading the retention ponds to the contours shown on the Plans)	1.	Lump Sum	\$ _____	\$ _____
MCR		Minor Contract Revisions	---	---	---	\$ 80,000.00
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: **River Bend Lift Station Elimination Project**

CONTRACTOR:

PROJECT ENGINEER: Lee Cooper

Description	Date Received	Resubmittal Requested	Resubmittal Received	Date Accepted
CONSTRUCTION				
8" & 10" Gravity Sewer Pipe (SDR-35 PVC & SDR-26 PVC)				
Imported Trench Backfill				
Granular Stabilization Material (Type B)				
Pipe Fittings – Wye, elbow, cap				
Exterior Manhole Waterproofing Coating				
48" I.D. Sewer Manhole and barrel sections				
48" I.D. <u>Drop Manhole</u> and barrel sections				
Manhole Ring and Cover (Castings MH-310-24 C.I.)				
Manhole Grade Rings (See Special Condition 3.3.32)				
Manhole Corrosion Protection				
Geotextile Fabric (Non-woven)				
Flow-Fill				
Pipe Bedding Material, Type A				
Aggregate Base Course, Class 6				
Hot Bituminous Pavement Mix Design				
Quality Control Testing Agency and Certifications				
Construction Schedule				
Construction Dewatering Permit & Means and Methods of Handling Groundwater				

Appendix B

Project Special Provisions

River Bend Lift Station Elimination 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 203 – EXCAVATION AND BACKFILL FOR STRUCTURES

Section 203 of the Standard Specifications is hereby revised for this project as follows:

Subsection 203.05.a, Excavation, shall be replaced with the following:

Rock Excavation: The measurement for payment of this item will be the total number of cubic yards (CY) of bedrock (Mancos Shale) required to be removed for construction/installation of the proposed new sewer line and manholes; however, no measurement for payment will be made for rock excavation beyond the maximum prescribed trench width (6-feet) or for depths exceeding 12-inches below the pipe grade; nor for excavation due to negligence or unauthorized operations by the Contractor. The unit price per cubic yard of rock excavation shall include all of the Contractor's costs of whatsoever nature required to perform the excavation and to replace the void area with Type A bedding and/or other material specifically approved by the Project Engineer. The unit price per cubic yard shall include: excavation, ripping, removal and disposal of rock material; furnishing, placing and compacting the approved backfill material required to fill the void area; and all other related and necessary materials, work, and equipment required to excavate the rock. Large cobbles will not be classified as rock excavation. Per the boring TH-7 in the geotechnical investigation report (Appendix C), the top few feet of the shale bedrock is gray, soft, and highly weathered.

SP-2 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:

Groundwater dewatering for the construction of the new sewer line shall be discharged into the dewatering retention ponds per the construction plans to allow the discharged groundwater to percolate back into the ground. The Contractor is required to grade the retention ponds per plan and discharge the dewatering pipe(s) into the retention ponds. If the Contractor decides that percolation isn't the best option for the discharged groundwater, the Contractor can pursue building these ponds as settling pond(s) that allow sediment to settle before the water is discharged out of the settling pond(s). The Contractor shall follow CDPHE's rules for building dewatering settling ponds so enough time is provided for the sediments to settle out. It is the responsibility of the contractor to obtain the Dewatering Permit from the Colorado Department of Public Health and Environment if necessary.

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

All vehicle and equipment maintenance and fueling shall be performed in a designated area within the construction area that will not interfere with roadway traffic operations unless traffic control is provided. The fueling area shall exhibit Best Management Practices in order to minimize and/or eliminate the potential of fuel spillage. Any spillage of fuel onto the ground shall be immediately cleaned up and any contaminated soil disposed of properly at the Mesa County Landfill. Documentation of spills, leaks and overflows that result in the discharge of pollutants, including logging and reporting of the spill is required to the Water Quality Control Division at their toll-free 24-hour environmental emergency spill reporting line – 1-877-518-5608.

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

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

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

SP-3 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-4 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-5 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: All drop manholes (manholes with fall greater than 0.40' fall through the manhole), force-main outlet manholes, and lift station wet wells shall be coated on the interior surfaces of the manhole base, barrel section(s), cone sections, and other exposed concrete surfaces with a minimum 0.5-inch application of Quadex GeoKrete geopolymer, or an approved equal. The geopolymer liner shall be field applied to concrete after manholes have been installed and fully backfilled. Further, concrete manholes shall have cured 28-days or steam cured over a 24-hour period with an additional 14-days of curing or as required to meet the 28-day strength requirements.

The geopolymer liner shall be applied to a clean concrete surface free of dust, dirt, grease, laitance, curing compounds and other foreign matter by hydro blasting at a minimum of 7,000 psi. City inspection of the manholes is required prior to application of the product to ensure proper surface preparation has been accomplished. Just prior to installation, the surface shall be wetted to a Surface Saturated Dry (SSD) condition. The surface of the concrete to be lined shall be free of bug holes or other imperfections that may allow for porosity in the coating. Any bug holes or other imperfections shall be addressed by the geopolymer contractor and/or applicator prior to the geopolymer being applied. Air surface temperature during application and curing shall be 50 Degrees F or above. Mixing and application shall be accomplished using geopolymer manufacturer approved equipment. Epoxy shall be mixed in a clean dry container free of foreign matter or debris. Mixing rates shall be as recommended by the manufacturer.

Apply liner in accordance with manufacturer's recommendations and allow to cure 24-hours prior to introducing flow into the structures. For application on existing manholes, minimum 1.0-inch application of Quadex GeoKrete geopolymer, or an approved equal, may be used. City inspection of the manhole is required prior to application of the product to ensure proper surface preparation has been accomplished. The manufacturer's recommendations for application in confined space areas shall be followed.

A minimum of nine (9) samples shall be obtained for each 10,000 lbs of material applied and formed into cylinders following ASTM C31 and tested in accordance with ASTM C39 (Compressive Strength). Three samples will be tested at 7 days, and three samples at 28 days, with the remaining three samples serving as retains. The 28-day compressive strength shall be 8,000 psi or greater. The samples must be undisturbed and stored on

the project site for a period of at least 24 hours before they can be transported to the independent testing laboratory. The geopolymer testing requirements shall be included in the scope of work for Manhole Corrosion Protection. The contractor and/or applicator of the geopolymer material shall contract with a testing laboratory to come to the jobsite to produce test samples from the material taken from the hopper of the geopolymer installation equipment. A representative of the testing laboratory will need to return 24 hours later to pick up the samples, transport the samples to the laboratory where they will be stored until appropriate testing dates. The laboratory will perform the testing requirements and provide reporting back to the geopolymer applicator, who shall submit the test results to the Owner (City) upon completion of the Project.

A process to rule out cementitious products and to quantitatively classify a Geopolymer shall include oxide composition testing using X-Ray Fluorescence (XRF). Prior to testing, the geopolymer precursor shall be isolated by screening the original untreated, unground product through a 200# mesh screen, to remove aggregate and fibers. Once isolated, the precursor shall be analyzed by X-Ray Fluorescence (XRF) and shall result in the % weight of Calcium Oxide (CaO) being less than 25% of the total oxides.

Method of Measurement: Manhole Corrosion Protection will be measured by the vertical foot from the manhole invert at centerline of the manhole to the top of the cast iron ring and cover.

Method of Payment: Vertical Foot

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

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

Subsection 103.13, Dewatering Trenches, shall include the following:

Dewatering Trenches for the construction of the new sewer line shall be discharged into the dewatering retention ponds per the construction plans to allow the discharged groundwater to percolate back into the ground. The Contractor is required to grade the retention ponds per plan and discharge the dewatering pipe(s) into the retention pond(s). If the Contractor decides that percolation isn't the best option for the discharged groundwater, the Contractor can pursue building these ponds as settling pond(s) that allow sediment to settle before the water is discharged out of the settling pond(s). If settling ponds are used, the Contractor shall determine where the discharged water goes after leaving the settling ponds. It is the Contractor's responsibility to determine where the discharged water from the settling ponds goes and to get written permission from property owner(s) for the discharged water if discharging onto private property. The Contractor shall follow CDPHE's rules for building dewatering settling ponds so enough detention time is provided for the sediments to settle out.

It is the responsibility of the contractor to obtain the Dewatering Permit from the Colorado Department of Public Health and Environment.

Dewatering Trenches will not be measured, but will be paid for by the Lump Sum. Dewatering Trenches shall include the Contractor acquiring the necessary Colorado Dept. of Public Health and Environment (CDPHE) Dewatering Permit and dewatering the sewer trench for successful pipe and manhole installation. The Lump Sum price for Dewatering Trenches shall include permitting, equipment, tools, labor, pumps, hoses, fuel, well-points, inspection, dewatering pipes, maintenance items, and all necessary items to dewater the sewer trench for successful pipe and manhole installation.

<u>Pay Item</u>	<u>Pay Unit</u>
Dewatering Trenches (Includes CDPHE Dewatering Permit)	Lump Sum

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-7 SECTION 105 – PIPELINE TESTING

This is a new sewer installation project, and as a result, the new sewer pipe shall be tested for leakage and alignment before final acceptance per the City Pipeline Testing Specification.

The City will provide CCTV video inspection of the new sewer lines. The Contractor will not be responsible for CCTV video inspection. All sanitary sewer mains shall be deflection tested using a Mandrel. The Contractor is responsible for Mandrel testing and providing the Mandrel of the correct size.

Appendix C

Geotechnical Investigation Report



Huddleston-Berry
Engineering & Testing, LLC

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

November 4, 2019
Project#00208-0106

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

Attention: Mr. Lee Cooper

Subject: Geotechnical Investigation
Riverbend Lift Station
Grand Junction, Colorado

Dear Mr. Cooper,

At your request, Huddleston-Berry Engineering and Testing, LLC (HBET) conducted a subsurface exploration for the Riverbend Lift Station project. The scope of work included conducting geotechnical borings along the proposed new sewer line in Grand Junction, Colorado. The site location is shown on Figure 1. The boring locations are shown on Figure 2. In addition, typed boring logs are included in Appendix. A. The results of laboratory testing are included in Appendix B.

Borings TH-1 and TH-2, conducted in the western portion of the project area, encountered a thin layer of topsoil above brown, moist to wet, loose sandy silt soils to depths of between 5.0 and 5.5 feet. The silt was underlain by brown, wet, dense sandy gravel and cobble soils to the bottoms of the borings. Groundwater was encountered in TH-1 and TH-2 at depths of 1.5 and 3.5 feet below the existing ground surface, respectively.

Boring TH-3, conducted in the west central portion of the site, encountered a thin layer of topsoil above brown, moist to wet, very loose sandy silt soils to a depth of 5.0 feet. The silt was underlain by brown, wet, loose silty sand soils to a depth of 9.0 feet. Below the sand, brown, wet, dense sandy gravel and cobble soils extended to the bottom of the boring. Groundwater was encountered in B-3 at a depth of 3.5 feet at the time of the investigation.

Borings TH-4 and TH-5, conducted in the east central portion of the site, encountered a thin layer of topsoil or fill above brown, moist to wet, soft to medium stiff lean clay soils to depths of between 6.5 and 12.0 feet. The clay was underlain by brown, wet, dense sandy gravel and cobble soils to the bottoms of the borings. Groundwater was encountered in TH-4 and TH-5 at depths of 3.5 and 9.0 feet below the existing ground surface, respectively.

Boring TH-6, conducted in the eastern portion of the site, encountered a thin layer of topsoil above brown, moist to wet, medium stiff lean clay to a depth of 7.0 feet. The clay was underlain by brown, wet, loose silty sand soils to a depth of 13.0 feet. Below the sand, brown, wet, dense sandy gravel and cobble soils extended to the bottom of the boring. Groundwater was encountered in TH-6 at a depth of 4.0 feet at the time of the investigation.

Boring TH-7, conducted near the east end of the project, encountered a thin layer of topsoil above brown, moist to wet, medium stiff lean clay to a depth of 12.0 feet. The clay was underlain by brown, wet, dense sandy gravel and cobbles to a depth of 18.0 feet. Below the gravel and cobbles, gray, soft, highly weathered shale bedrock extended to the bottom of the boring.

The blow counts (N-values) of the shallow native soils encountered in the borings ranged from 3 to 6 blows-per-foot. The blow counts of the deeper gravel and cobble soils ranged from 29 to 50 blows-per-foot. The moisture contents in the soils ranged from 21 to 31%.

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:
Huddlestone-Berry Engineering and Testing, LLC



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

FIGURES

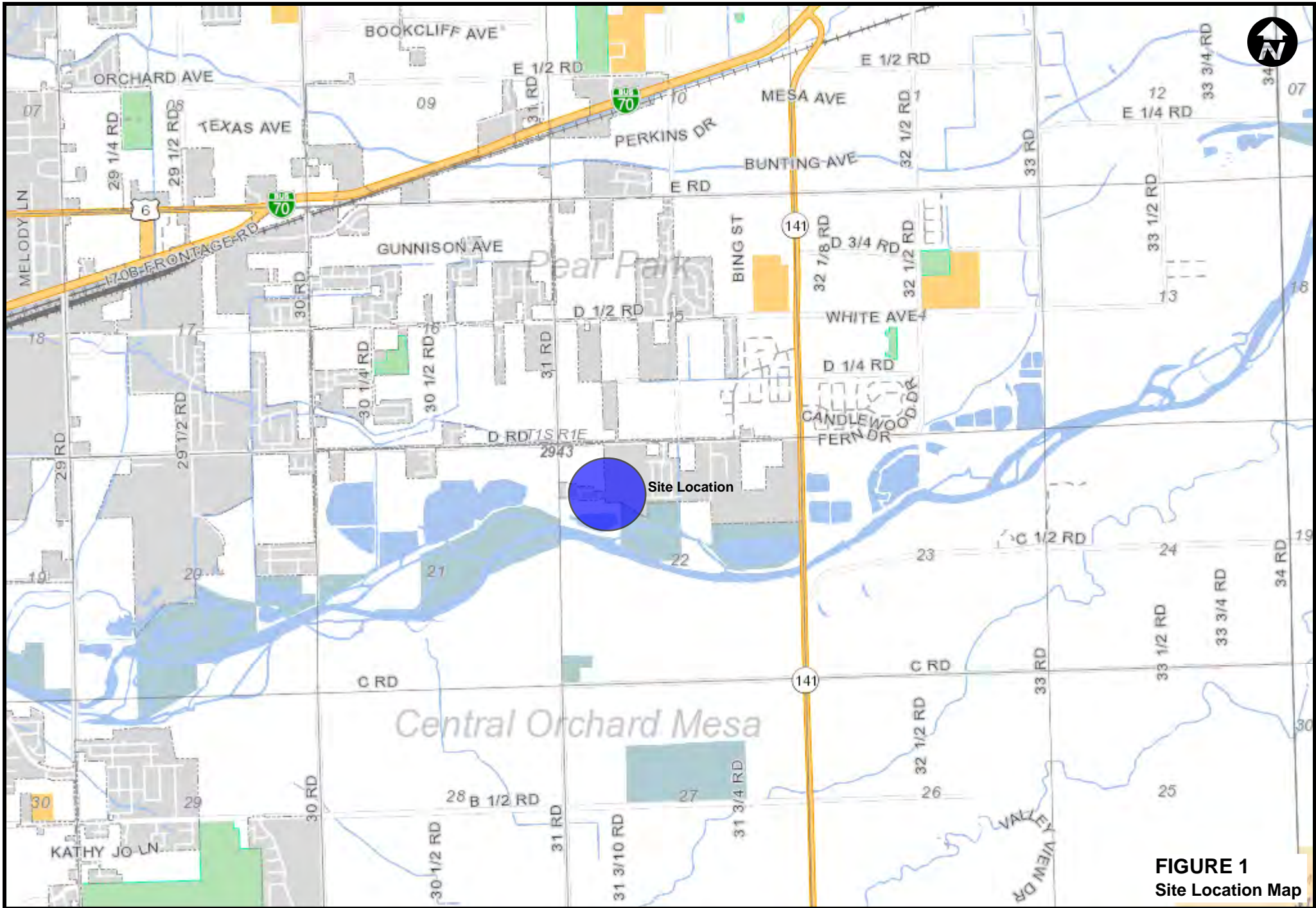
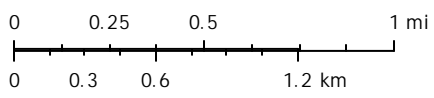


FIGURE 1
Site Location Map

Mesa County Map

The Geographic Information System (GIS) and its components are designed as a source of reference for answering inquiries, for planning and for modeling. GIS is not intended or does not replace legal description information in the chain of title and other information contained in official government records such as the County Clerk and Recordors office or the courts. In addition, the representations of location in this GIS cannot be substituted for actual legal surveys. The information contained herein is believed accurate and suitable for the limited uses, and subject to the limitations, set forth above. Mesa County makes no warranty as to the accuracy or suitability of any information contained herein. Users assume all risk and responsibility for any and all damages, including consequential damages, which may flow from the user's use of this information.



Print Date: October 23, 2019



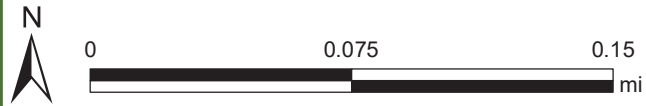
Mesa County, Colorado

GIS/IT Department
gis.mesacounty.us

TEST HOLE LOCATIONS - RIVER BEND LS ELIMINATION PROJECT



FIGURE 2
Site Plan



Date: 9/10/2019

1 inch = 188 feet



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 TH-1

PAGE 1 OF 1

CLIENT City of Grand Junction **PROJECT NAME** Riverbend Lift Station

PROJECT NUMBER 00208-0106 **PROJECT LOCATION** Grand Junction, CO

DATE STARTED 9/19/19 **COMPLETED** 9/19/19 **GROUND ELEVATION** _____ **HOLE SIZE** 4-inches

DRILLING CONTRACTOR S. McCracken **GROUND WATER LEVELS:**

DRILLING METHOD Simco 2000 Truck Rig **▽ AT TIME OF DRILLING** 1.5 ft

LOGGED BY SD **CHECKED BY** MAB **▽ AT END OF DRILLING** 1.5 ft

NOTES _____ **AFTER DRILLING** ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		Sandy SILT with Organics (TOPSOIL)										
		Sandy SILT (ML), brown, moist to wet, loose *** Lab Classified SS1	SS 1	94	3-3-3 (6)			23	NP	NP	NP	63
5		Sandy GRAVEL and COBBLES (gw), brown, wet, dense	SS 2	133	15-18							
10												
15												
20		Bottom of hole at 20.0 feet.										

GEOTECH BH COLUMNS 00208-0106 RIVER BEND LIFT STATION.GPJ GINT US LAB.GDT 10/24/19



Huddlestone-Berry Engineering & Testing, LLC
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 Grand Junction, CO 81501
 970-255-8005
 970-255-6818

BORING NUMBER TH-2

PAGE 1 OF 1

CLIENT City of Grand Junction **PROJECT NAME** Riverbend Lift Station

PROJECT NUMBER 00208-0106 **PROJECT LOCATION** Grand Junction, CO

DATE STARTED 9/19/19 **COMPLETED** 9/19/19 **GROUND ELEVATION** _____ **HOLE SIZE** 4-inches

DRILLING CONTRACTOR S. McCracken **GROUND WATER LEVELS:**

DRILLING METHOD Simco 2000 Truck Rig **▽ AT TIME OF DRILLING** 3.5 ft

LOGGED BY SD **CHECKED BY** MAB **▽ AT END OF DRILLING** 3.5 ft

NOTES _____ **AFTER DRILLING** ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		Sandy SILT with Organics (TOPSOIL)										
		Sandy SILT (ml), brown, moist to wet, loose										
			SS 1	89	3-3-2 (5)							
5												
		Sandy GRAVEL and COBBLES (gw), brown, wet, dense										
			SS 2	78	7-13-16 (29)							
10												
15												
20												
		Bottom of hole at 20.0 feet.										

GEO TECH BH COLUMNS 00208-0106 RIVER BEND LIFT STATION.GPJ GINT US LAB.GDT 10/24/19



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 Grand Junction, CO 81501
 970-255-8005
 970-255-6818

BORING NUMBER TH-3

PAGE 1 OF 1

CLIENT City of Grand Junction **PROJECT NAME** Riverbend Lift Station

PROJECT NUMBER 00208-0106 **PROJECT LOCATION** Grand Junction, CO

DATE STARTED 9/19/19 **COMPLETED** 9/19/19 **GROUND ELEVATION** _____ **HOLE SIZE** 4-inches

DRILLING CONTRACTOR S. McKracken **GROUND WATER LEVELS:**

DRILLING METHOD Simco 2000 Truck Rig **▽ AT TIME OF DRILLING** 3.5 ft

LOGGED BY SD **CHECKED BY** MAB **▼ AT END OF DRILLING** 3.5 ft

NOTES _____ **AFTER DRILLING** ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0.0		Sandy SILT with Organics (TOPSOIL)										
2.5		Sandy SILT (ml), brown, moist to wet, very loose	SS 1	78	0-1-2 (3)							
5.0		Silty SAND (SM), brown, wet, loose										
7.5		*** Lab Classified SS2	SS 2	100	1-3-3 (6)			21	NP	NP	NP	14
10.0		Sandy GRAVEL and COBBLES (gw), brown, wet, dense										
15.0		Bottom of hole at 15.0 feet.										

GEOTECH BH COLUMNS 00208-0106 RIVER BEND LIFT STATION.GPJ GINT US LAB.GDT 10/24/19



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 970-255-8005
 970-255-6818

BORING NUMBER TH-4

PAGE 1 OF 1

CLIENT City of Grand Junction **PROJECT NAME** Riverbend Lift Station

PROJECT NUMBER 00208-0106 **PROJECT LOCATION** Grand Junction, CO

DATE STARTED 9/19/19 **COMPLETED** 9/19/19 **GROUND ELEVATION** _____ **HOLE SIZE** 4-inches

DRILLING CONTRACTOR S. McKracken **GROUND WATER LEVELS:**

DRILLING METHOD Simco 2000 Truck Rig **▽ AT TIME OF DRILLING** 3.5 ft

LOGGED BY SD **CHECKED BY** MAB **▼ AT END OF DRILLING** 3.5 ft

NOTES _____ **AFTER DRILLING** ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		Lean CLAY with Organics (TOPSOIL)										
		Lean CLAY (cl), brown, moist to wet, soft										
			SS 1	61	1-2-2 (4)							
5												
		Sandy GRAVEL and COBBLES (gw), brown, wet, dense										
10												
15												
		Bottom of hole at 16.0 feet.										

GEOTECH BH COLUMNS 00208-0106 RIVER BEND LIFT STATION.GPJ GINT US LAB.GDT 10/24/19



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

BORING NUMBER TH-5

PAGE 1 OF 1

CLIENT City of Grand Junction **PROJECT NAME** Riverbend Lift Station

PROJECT NUMBER 00208-0106 **PROJECT LOCATION** Grand Junction, CO

DATE STARTED 9/19/19 **COMPLETED** 9/19/19 **GROUND ELEVATION** _____ **HOLE SIZE** 4-inches

DRILLING CONTRACTOR S. McKracken **GROUND WATER LEVELS:**

DRILLING METHOD Simco 2000 Truck Rig **▽ AT TIME OF DRILLING** 9.0 ft

LOGGED BY SD **CHECKED BY** MAB **▼ AT END OF DRILLING** 9.0 ft

NOTES _____ **AFTER DRILLING** ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0		Lean CLAY with Gravel and Organics (FILL)										
		Lean CLAY (CL), brown, moist to wet, medium stiff										
5		*** Lab Classified SS2	SS 1	100	1-2-3 (5)			31	45	24	21	95
10		Sandy GRAVEL and COBBLES (gw), brown, wet, dense	SS 2	100	20-30							
15												
20		Bottom of hole at 20.0 feet.										

GEO TECH BH COLUMNS 00208-0106 RIVER BEND LIFT STATION.GPJ GINT US LAB.GDT 10/24/19



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 970-255-8005
 970-255-6818

BORING NUMBER TH-6

PAGE 1 OF 1

CLIENT City of Grand Junction **PROJECT NAME** Riverbend Lift Station

PROJECT NUMBER 00208-0106 **PROJECT LOCATION** Grand Junction, CO

DATE STARTED 9/19/19 **COMPLETED** 9/19/19 **GROUND ELEVATION** _____ **HOLE SIZE** 4-inches

DRILLING CONTRACTOR S. McCracken **GROUND WATER LEVELS:**

DRILLING METHOD Simco 2000 Truck Rig **▽ AT TIME OF DRILLING** 4.0 ft

LOGGED BY SD **CHECKED BY** MAB **▼ AT END OF DRILLING** 4.0 ft

NOTES _____ **AFTER DRILLING** ---

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	POCKET PEN. (tsf)	DRY UNIT WT. (pcf)	MOISTURE CONTENT (%)	ATTERBERG LIMITS			FINES CONTENT (%)
									LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX	
0.0		Lean CLAY with Organics (TOPSOIL)										
2.5		Lean CLAY (cl), brown, moist to wet, medium stiff	SS 1	83	3-2-2 (4)							
7.5		Silty SAND (sm), brown, wet, loose	SS 2	100	1-2-3 (5)							
12.5		Sandy GRAVEL and COBBLES (gw), brown, wet, dense										
15.0		Bottom of hole at 15.0 feet.										

GEO TECH BH COLUMNS 00208-0106 RIVER BEND LIFT STATION.GPJ GINT US LAB.GDT 10/24/19



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 970-255-8005
 970-255-6818

BORING NUMBER TH-7

PAGE 1 OF 1

CLIENT <u>City of Grand Junction</u>	PROJECT NAME <u>Riverbend Lift Station</u>
PROJECT NUMBER <u>00208-0106</u>	PROJECT LOCATION <u>Grand Junction, CO</u>
DATE STARTED <u>10/31/19</u> COMPLETED <u>10/31/19</u>	GROUND ELEVATION _____ HOLE SIZE <u>4-inches</u>
DRILLING CONTRACTOR <u>S. McKracken</u>	GROUND WATER LEVELS: ∇ AT TIME OF DRILLING <u>10.0 ft</u> ▼ AT END OF DRILLING <u>10.0 ft</u> AFTER DRILLING ---
DRILLING METHOD <u>Simco 2000 Truck Rig</u>	
LOGGED BY <u>SD</u> CHECKED BY <u>MAB</u>	
NOTES _____	

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		Lean CLAY with Organics (TOPSOIL)										
0 - 12		Lean CLAY (cl), brown, moist to wet, medium stiff										
12 - 17		Sandy GRAVEL and COBBLES (gw), brown, wet, dense										
17 - 22		SHALE, gray, soft, highly weathered										
22		Bottom of hole at 22.0 feet.										

GEOTECH BH COLUMNS 00208-0106 RIVER BEND LIFT STATION.GPJ GINT US LAB.GDT 11/1/19

APPENDIX B
Laboratory Testing Results



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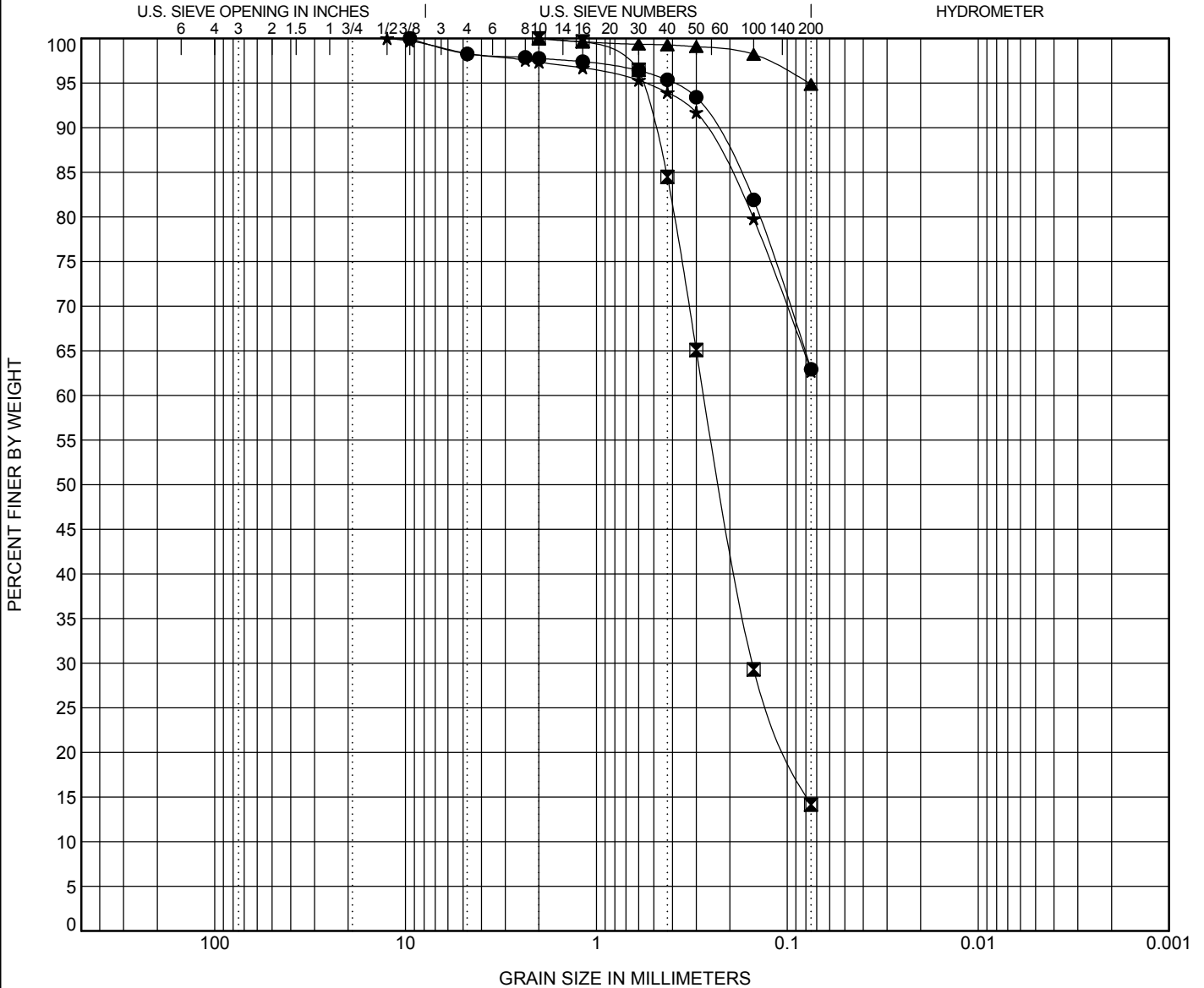
GRAIN SIZE DISTRIBUTION

CLIENT City of Grand Junction

PROJECT NAME Riverbend Lift Station

PROJECT NUMBER 00208-0106

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, SS1 9/2019	SANDY SILT(ML)	NP	NP	NP		
☒ B-3, SS2 9/2019	SILTY SAND(SM)	NP	NP	NP		
▲ B-5, SS2 9/2019	LEAN CLAY(CL)	45	24	21		
★ Composite 9/2019	SANDY SILT(ML)	18	19	NP		

Specimen Identification	D100	D60	D30	D10	%Gravel	%Sand	%Silt	%Clay
● B-1, SS1 9/2019	9.5				1.7	35.3		62.9
☒ B-3, SS2 9/2019	2	0.272	0.152		0.0	85.9		14.1
▲ B-5, SS2 9/2019	2				0.0	5.2		94.8
★ Composite 9/2019	12.5				1.7	35.6		62.7

GRAIN SIZE 00208-0106 RIVER BEND LIFT STATION.GPJ GINT US LAB.GDT 10/23/19



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 970-255-6818

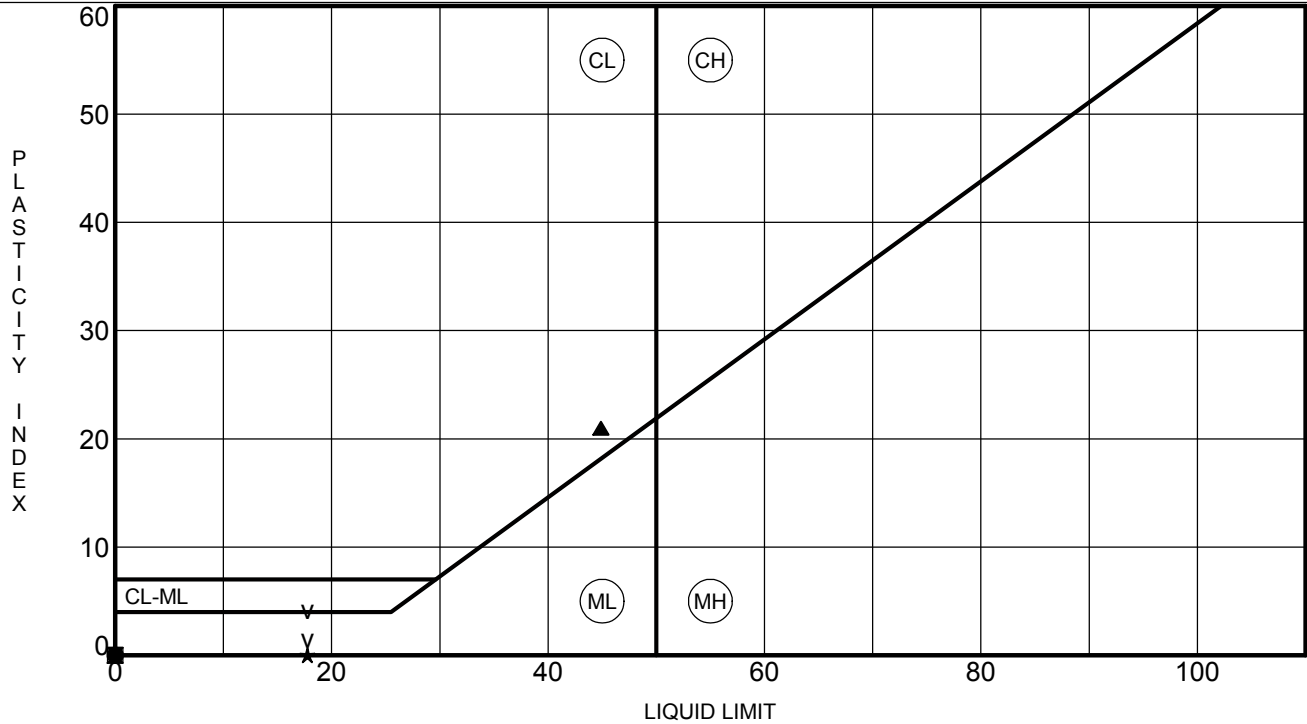
ATTERBERG LIMITS' RESULTS

CLIENT City of Grand Junction

PROJECT NAME Riverbend Lift Station

PROJECT NUMBER 00208-0106

PROJECT LOCATION Grand Junction, CO



Specimen Identification	LL	PL	PI	#200	Classification
● B-1, SS1 9/2019	NP	NP	NP	63	SANDY SILT(ML)
☒ B-3, SS2 9/2019	NP	NP	NP	14	SILTY SAND(SM)
▲ B-5, SS2 9/2019	45	24	21	95	LEAN CLAY(CL)
★ Composite 9/2019	18	19	NP	63	SANDY SILT(ML)



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 970-255-8005
 970-255-6818

MOISTURE-DENSITY RELATIONSHIP

CLIENT City of Grand Junction

PROJECT NAME Riverbend Lift Station

PROJECT NUMBER 00208-0106

PROJECT LOCATION Grand Junction, CO

Sample Date: 9/19/2019
 Sample No.: 19-0534
 Source of Material: Composite
 Description of Material: SANDY SILT(ML)
 Test Method: ASTM D698A

TEST RESULTS

Maximum Dry Density 117.5 PCF
 Optimum Water Content 13.5 %

GRADATION RESULTS (% PASSING)

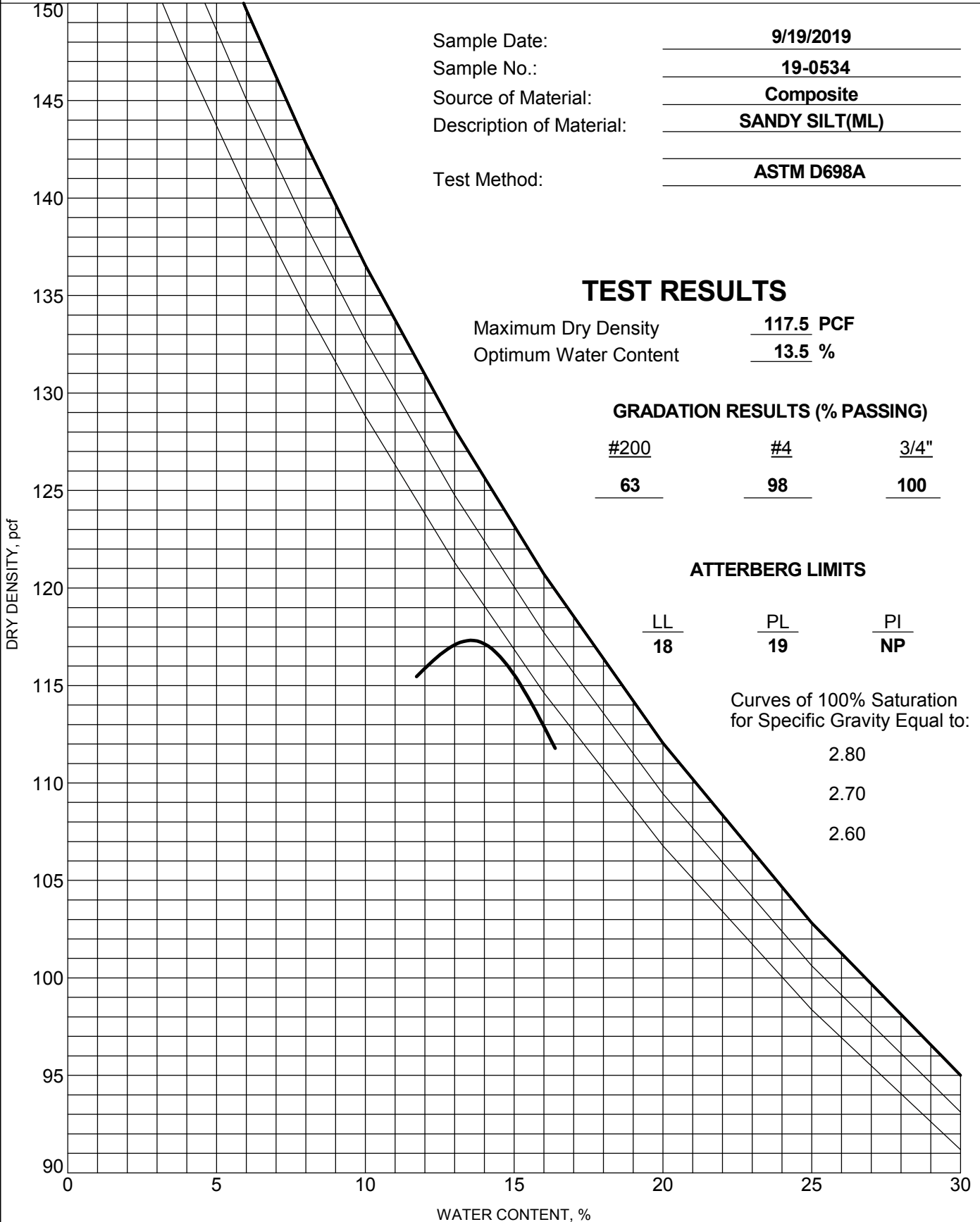
#200	#4	3/4"
<u>63</u>	<u>98</u>	<u>100</u>

ATTERBERG LIMITS

LL	PL	PI
<u>18</u>	<u>19</u>	<u>NP</u>

Curves of 100% Saturation
 for Specific Gravity Equal to:

2.80
 2.70
 2.60



Appendix D

CDPHE Construction Dewatering Permit Application



COLORADO Department of Public Health & Environment

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

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

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

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

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

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

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

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

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

A. PERMIT INFORMATION

Reason for Application: NEW CERT
 RENEW CERT EXISTING CERT # _____

Applicant is: Property Owner Contractor/Operator

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

- Construction Dewatering (COG070000)
- Remediation Activities Discharging to Surface Water (COG315000)
- Remediation Activities Discharging to Groundwater (COG316000)

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



B. CONTACT INFORMATION

1. Permittee Information

Organization Formal Name: _____

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

Responsible Position (Title): _____

Currently Held By (Person): _____

Telephone No: _____

Email address: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

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

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

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

Same as 1) Permittee

Responsible Position (Title): _____

Currently Held By (Person): _____

Telephone No: _____

Email address: _____

Organization: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

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

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



B. CONTACT INFORMATION (cont.)

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

Same as 1) Permittee

Responsible Position (Title): _____

Currently Held By (Person): _____

Telephone No: _____

Email address: _____

Organization: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

4. Operator in Responsible Charge Required for Groundwater Remediation COG315000 or COG316000

Same as 1) Permittee

Same as 3) Site/ Local Contact

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

Operator Number _____ Legal Name: _____

Telephone No: _____ Email address: _____

Company: _____

5. Billing Contact Same as 1) Permittee

Responsible Position (Title): _____

Currently Held By (Person): _____

Telephone No: _____

Email address: _____

Organization: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

6. Other Contact Types (check below) Add pages if necessary:

Responsible Position (Title): _____

Currently Held By (Person): _____

Telephone No: _____

Email address: _____

Organization: _____

Mailing Address: _____

City: _____ State: _____ Zip: _____

Environmental Contact

Facility Inspection Contact

Consultant

Compliance Contact

Property Owner

Other _____



C. PERMITTED FACILITY INFORMATION

Facility or Project Name _____

Street Address (or cross streets) _____

City _____ Colorado, Zip Code _____

County _____

Type of Facility Ownership

- City Government Corporation Private Municipal or Water District
- State Government Mixed Ownership _____

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

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

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

Horizontal Reference Datum: _____

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

1 _____ 2 _____ 3 _____ 4 _____

Receiving Water _____

D. PROJECT DESCRIPTION

D.1. Description of Activity:

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

- b) Is the dewatering and discharge in-stream? (The dewatering operation is considered in-stream where the dewatering activity is conducted within approximately the ordinary high water mark of the stream and/or on the bank of the stream and the discharge is back to the same water body.)
 Yes * No

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



- c) Will the project involve a temporary stream diversion (e.g. diversion channel, pump-around, piped diversion, coffer dam) to reroute water around the construction area?
 - Yes *
 - No

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

- d) Will dewatering be conducted in areas that involve work on (e.g. replacing, repairing, making connections to, etc...) existing sanitary sewer lines, conveyances, or vessels, or in proximity to septic disposal systems?
 - Yes
 - No

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

- Yes
- No *

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

D.2 Description of Discharge:

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

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

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

- c) Discharge Frequency and Duration:

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

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

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

D.3 Discharge Outfalls (Limit 20 outfalls):

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



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

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

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

3 The discharge location is the point where effluent sampling will occur. This location must be at a point after treatment and before the effluent joins or is diluted by any other waste stream, body of water, or substance. If the discharge is to a ditch or storm sewer system, include the name of the ultimate receiving waters where the ditch or storm sewer discharges.



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

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

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

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

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



E. ADDITIONAL INFORMATION

E.1 Nearby Sources of Potential Groundwater Contamination:

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

Yes No

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

Yes* No

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

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

Yes* No

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

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

Yes* No

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

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

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



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

E.2 Chemical Additions

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

CHEMICAL NAME	MANUFACTURER	PURPOSE	DOSAGE

E.3 Site Maps and Schematics

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

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

E.4 Associated Permits

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

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



E.5 Water Rights

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

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

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

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

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

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

Date _____

Name (printed) _____ Title _____

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

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



ATTACHMENT 1

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

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

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

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

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

Trec = Total Recoverable

PD = Potentially Dissolved

Diss = Dissolved

PQL = Practical Quantitation Limit

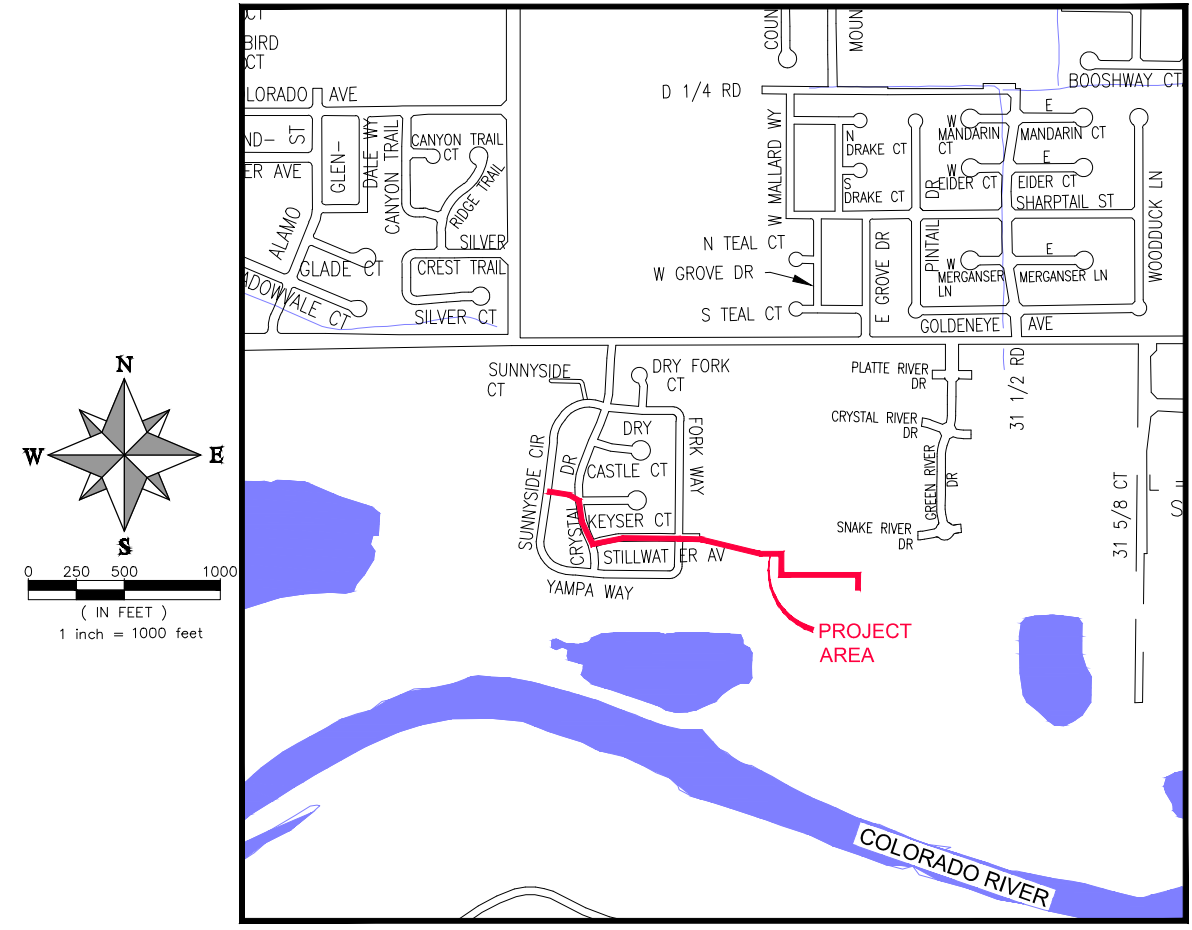
Important table notes:

- 1) Please refer to the permit application Guidance to determine whether analytical data is required with the permit application, and if so, what specific type of data is required.
- 2) Parameter names match the names as they appear in the general permit or, as italicized, as they appear in the **division's *Practical Quantitation Limits Policy* (CW-6)**.
- 3) The division may require analytical data for additional parameters where the project site is located in close proximity to potential sources of contamination for parameters not included in this Attachment 1, including but not limited to pesticide, PCB, radionuclide contamination.
- 4) Applicants applying under the General Permit for Remediation Activities Discharging to Groundwater (COG316000) are encouraged to contact the division prior to sample collection to ensure that the correct metal speciation is included in the sample analysis.
- 5) For the permit application, all sampling should be performed according to specified methods in 40 CFR 136, methods approved by EPA pursuant to 40 CFR 136, or methods approved by the division, in the absence of a method specified in or approved pursuant to 40 CFR 136. In addition, the PQLs listed in Attachment 1 should be met unless otherwise approved by the division.

RIVER BEND LIFT STATION ELIMINATION PROJECT JANUARY 2020

- 1 — Cover Sheet
- 2 — Standard Abbreviations, Legend and Symbols
- 3 — Summary of Approximate Quantities
- 4 — General Notes
- 5 — Sewer Plan & Profile Sta 0 + 00 — 2 + 50
- 6 — Sewer Plan & Profile Sta 2 + 50 — 5 + 00
- 7 — Sewer Plan & Profile Sta 5 + 00 — 7 + 50
- 8 — Sewer Plan & Profile Sta 7 + 50 — 10 + 00
- 9 — Sewer Plan & Profile Sta 10 + 00 — 12 + 50
- 10 — Sewer Plan & Profile Sta 12 + 50 — 15 + 00
- 11 — Sewer Plan & Profile Sta 15 + 00 — 17 + 50
- 12 — Sewer Plan & Profile Sta 17 + 50 — 20 + 00
- 13 — Groundwater Discharge Ponds
- 14-16 — City Standard Details

VICINITY MAP



UTILITIES AND AGENCIES								
AGENCY	NAME	POSITION	ROLE	MAILING ADDRESS	STREET ADDRESS	CITY, STATE	PHONE #	FAX
CITY OF GRAND JUNCTION	LEE COOPER	PROJECT ENGINEER	PROJECT ENGINEER	333 WEST AVE BLDG C	333 WEST AVE BLDG C	GRAND JCT., CO 81501	(970) 256-4155	(970) 256-4022
CITY OF GRAND JUNCTION	KURT CARSON	WASTEWATER MGR.	WASTEWATER MGR.	2145 RIVER ROAD	2145 RIVER ROAD	GRAND JCT., CO 81505	(970) 256-4171	
LATERAL 110 IRRIGATION	???????	???????	IRRIGATION	???????	???????	GRAND JCT., CO 81506	(970) ????????	
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
CLIFTON WATER	DAVID REINERTSEN	ASST. MANAGER	WATER	510 34 ROAD	510 34 ROAD	CLIFTON, CO 81520	(970) 434-7328	(970) 242-9189
XCEL ENERGY	STEVE PIBURN	UNIT MANAGER	ELECTRIC	2538 BLICHMANN AVE	2538 BLICHMANN AVE	GRAND JCT., CO 81506	(970) 244-2664	(970) 244-2664
XCEL ENERGY	SARAH BARRICAU	UNIT MANAGER	GAS	2538 BLICHMANN AVE	2538 BLICHMANN AVE	GRAND JCT., CO 81506	(970) 244-2656	(970) 244-2656

DRAWING STATUS:	
<input type="radio"/>	PROGRESS
<input checked="" type="radio"/>	FINAL CONSTRUCTION DRAWINGS
<input type="radio"/>	ASBUILT
DESIGNED BY:	
LEE COOPER, PROJECT ENGINEER	2020
REVIEWED BY:	
KURT CARSON, WASTEWATER SERVICES MANAGER	2020
AUTHORIZED FOR CONSTRUCTION	
RANDI KIM, CITY UTILITIES DIRECTOR	2020
ACCEPTED AS CONSTRUCTED	
LEE COOPER, PROJECT ENGINEER	2020


Public Works
Engineering Division



N:\Landproj\902-F1704 (River Bend Lift Station Elimination Project).dwg Lift Station Elimination Layouts.dwg, 01 COVER, 1/13/2020 3:57:31 PM

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	_____	_____
REVISION	_____	_____
REVISION	_____	_____
REVISION	_____	_____

RIVER BEND LIFT STATION ELIMINATION PROJECT JANUARY 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

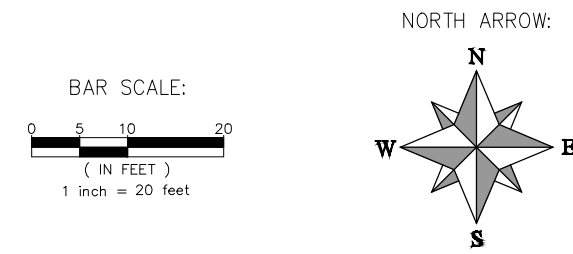
LEGEND

BSWMP	
DRAINAGE BASIN BOUNDARY	--- --- --- --- ---
BSWMP	
ANCHORED STRAW BALES	ASB ASB ASB ASB ASB ASB ASB ASB
BSWMP	
SILT FENCE	SF SF SF SF SF SF SF SF
BUILDING	[Hatched Area]
CONCRETE CURB AND GUTTER	2' CURB AND GUTTER
CONCRETE CURB, GUTTER, & SIDEWALK	7' C, G, & SW
CONCRETE DITCH	[Hatched Area]
CONCRETE SIDEWALK	4' SW
CULVERT	18" RCP
EARTH DITCH	EARTH . . . EARTH . . . EARTH . . .
EDGE OF GRAVEL	---
EDGE OF PAVEMENT	---
FENCE (BARBED WIRE)	---X---
FENCE (CHAIN LINK)	---X---
FENCE (IRON)	---X---
FENCE (PLASTIC)	---X---
FENCE (TEMPORARY CONSTRUCTION)	---X---
FENCE (WOOD)	---X---
FENCE (WOVEN WIRE)	---X---
GUARD RAIL	---X---
HATCHING: INDICATES ASPHALT REMOVAL	[Dotted Pattern]
HATCHING: INDICATES CONCRETE REMOVAL	[Diagonal Hatching]
HATCHING: INDICATES STAGING AREA	[Cross-hatched Pattern]
LINE (CENTER OF IMPROVEMENTS)	---CENTERLINE---
LINE (CITY LIMITS)	---CITY LIMITS---
LINE (CONTROL)	---CONTROL LINE---
LINE (EASEMENT)	---
LINE (MONUMENT/SECTION)	---MONUMENT/SECTION LINE---
LINE (PROPERTY)	---
LINE (RIGHT OF WAY)	---
MATCH LINE	MATCH LINE SEE SHEET NO. ?
PIPE (IRRIGATION)	4" IRR
PIPE (SIPHON)	4" SIPHON

PROPOSED CONCRETE CURB AND GUTTER	[Line Style]
PROPOSED CONCRETE CURB, GUTTER, & SIDEWALK	[Line Style]
PROPOSED CONCRETE SIDEWALK	[Line Style]
PROPOSED "WET" UTILITIES (CONSTRUCTION NOTE WILL INDICATE TYPE, SIZE, AND MATERIAL OF NEW MAIN)	8" PVC SANITARY SEWER
ALL PROPOSED FEATURES NOT SHOWN IN LEGEND WILL BE SHOWN THE SAME AS THEIR EXISTING COUNTERPART, BUT INDICATED BY BOLDER LINETYPE	
RAIL ROAD	[Line Style]
RETAINING WALL	1' RETAINING WALL
STRIPING (CONTINUOUS WHITE)	WHITE
STRIPING (DASHED WHITE)	WHITE
STRIPING (CONTINUOUS YELLOW)	YELLOW
STRIPING (DASHED YELLOW)	YELLOW
TOP OF SLOPE	4570
TOE OF SLOPE	4570
TRAFFIC DETECTOR LOOP	[Line Style]
UTILITY LINE (ABANDON) (THIS CASE A WATER LINE)	W (ABANDON) 8" W
UTILITY LINE (CABLE TV)	TV TV
UTILITY LINE (ELECTRIC)	E E
UTILITY LINE (FIBER OPTIC)	FO OPT-FO
UTILITY LINE (GAS)	G 1 1/4" MBL G
UTILITY LINE (HIGH VOLTAGE OVERHEAD POWER)	HVHP
UTILITY LINE (OVERHEAD POWER)	OHP
UTILITY LINE (OVERHEAD TELEPHONE)	OHT
UTILITY LINE (SANITARY SEWER)	8" SAN
UTILITY LINE (SANITARY SEWER FORCE MAIN)	8" FM
UTILITY LINE (SANITARY SEWER SERVICE)	SS SS
UTILITY LINE (STORM SEWER)	8" STM
UTILITY LINE (STORM SEWER, PERFORATED)	6" PERF
UTILITY LINE (STORM/SANITARY SEWER SEWER COMBINATION)	18" COMB
UTILITY LINE (TELEPHONE)	T T
UTILITY LINE (WATER)	W 8" W

SYMBOLS

BENCH MARK	[Symbol]
CATCH BASIN	[Symbol]
CLEAN OUT	[Symbol]
CURB STOP	[Symbol]
FIRE HYDRANT	[Symbol]
GUY WIRE ANCHOR	[Symbol]
HEADGATE	[Symbol]
IRRIGATION PUMP	[Symbol]
MAILBOX	[Symbol]
MANHOLE (ELECTRIC)	[Symbol]
MANHOLE (GAS)	[Symbol]
MANHOLE (SANITARY/STORM)	[Symbol]
MANHOLE (TELEPHONE)	[Symbol]
MANHOLE (TV)	[Symbol]
MANHOLE (WATER)	[Symbol]
METER (GAS)	[Symbol]
METER (WATER)	[Symbol]
PEDESTAL (TELEPHONE)	[Symbol]
PEDESTAL (TV)	[Symbol]
PROPERTY PIN	[Symbol]
PULL BOX	[Symbol]
REDUCER FITTING	[Symbol]
SIGN OR POST (SIGN TYPE NOTED)	[Symbol]
SPRINKLER HEAD	[Symbol]
STREET LIGHT	[Symbol]
SURVEY MONUMENT (CITY)	[Symbol]
SURVEY MONUMENT (TYPE NOTED)	[Symbol]
TEST HOLE	[Symbol]
TRAFFIC PAINT MARKING	[Symbol]
TRAFFIC SIGNAL POLE AND MAST ARM	[Symbol]
UTILITY POLE	[Symbol]
VALVE (GAS)	[Symbol]
VALVE (IRRIGATION)	[Symbol]
VALVE (WATER)	[Symbol]
VEGETATION (HEDGE OR BUSH)	[Symbol]
VEGETATION (TREE STUMP)	[Symbol]
VEGETATION (TREE) (CALIPER SIZE NOTED)	[Symbol]
WATER HYDRANT	[Symbol]
WEIR	[Symbol]
YARD LIGHT	[Symbol]



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REVISION	DESCRIPTION	DATE	PROJECT NO. 902-F2000
Δ			DRAWN BY JCS DATE 4-02
Δ			DESIGNED BY _____ DATE _____
Δ			CHECKED BY _____ DATE _____
Δ			APPROVED BY _____ DATE _____

SCALES: PLAN & PROFILE



PUBLIC WORKS
ENGINEERING DIVISION

CITY OF GRAND JUNCTION
STANDARD ABBREVIATIONS, LEGEND,
AND SYMBOLS

Bid Schedule: River Bend Lift Station Elimination Project

Item No.	Q001 Qty Ref	Description	Quantity	Units	Unit Price	Total Price																																
1	108 2	8" Gravity Sewer Pipe (SDR 35 PVC) (Includes cost of connection to the existing sewer pipe and manholes) (Max Adaptor couplings on an Engineer Approved Equal shall be used for connecting into existing sewer pipe)	965	Lin Ft	\$ _____	\$ _____	10	108 5	Sanitary Sewer Basic Drop Manhole (48" I.D.) (Includes Manhole Waterproofing grade rings and MH-310-24 CI covers)	6	Each	\$ _____	\$ _____	22	202	Demolish & Remove Existing Shed (Contractor shall carefully dismantle the shed near Station 13+75 and stockpile the shed material off to the side for future use; (Includes all equipment, loading, labor to dismantle the shed without damaging it)	1	Lump Sum	\$ _____	\$ _____	37	80	Aggregate Base Course Density Tests (Includes Proctor Test) (Quality Control Testing)	1	Each	\$ _____	\$ _____											
								11	108 5	Manhole Barrel Section (D=5') (48" I.D.) (Includes Manhole Waterproofing)	36	Vert Ft	\$ _____	\$ _____							38	80	144 Blotmanous Density Tests (Quality Control Testing)	1	Each	\$ _____	\$ _____											
2	108 2	10" Gravity Sewer Pipe (SDR 26 PVC) (Includes cost of connection to the existing sewer pipe and manholes) (Max Adaptor couplings on an Engineer Approved Equal shall be used for connecting into existing sewer pipe)	870	Lin Ft	\$ _____	\$ _____	12	108 5	Drop Manhole Barrel Section (D=5') (48" I.D.) (Includes Manhole Waterproofing)	77	Vert Ft	\$ _____	\$ _____	23	208	Structure Backfill (Flow Fill)	70	Cu Yd	\$ _____	\$ _____	39	50	Reconfigure Manhole Bench (Manhole C4-311-032) (The City believes an 8-inch pipe is stubbed out of this manhole to the west end of a 10-inch pipe. As a result, the contractor will need to come thru the manhole wall for the new 10-inch sewer pipe and reconfigure the existing manhole bench) (Contractor is paid for separately in Item No. 14 above)	1	Lump Sum	\$ _____	\$ _____											
							13	108 5	Connect to Existing Manhole (8" pipe) (This connector requires coming into the existing sewer manhole (C4-311-032) to accommodate the new 8" PVC "shallow" sewer pipe)	1	Each	\$ _____	\$ _____	24	208	Vehicle Tracking Pad	2	Each	\$ _____	\$ _____																		
3	108 2	Imported Trench Backfill (Class 3) (Includes haul and disposal of suitable excavated material) (Assumed Unit Weight = 133 lbs/ft ³)	3,000	Ton	\$ _____	\$ _____	14	108 5	Connect to Existing Manhole (10" pipe) (This connector may require coring the existing sewer manhole (C4-311-032) to accommodate the new 10" PVC "deep" sewer pipe)	1	Each	\$ _____	\$ _____	25	210	Repair Lateral 11.0" Irrigation Pipe (15" Pipe) (Includes PVC pipe, pipe bedding and two Max-Adaptor couplings)	1	Lump Sum	\$ _____	\$ _____	26	210	Reset Fence (Wire Fence)	140	Lin Ft	\$ _____	\$ _____	40	50	Manhole Corrosion Protection (Copolymer Liner)	130	Vert Ft	\$ _____	\$ _____				
4	108 3	8" 1/4 Bend Long Elbow (90-degree) (C&G)	4	Each	\$ _____	\$ _____	15	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)	300	Ton	\$ _____	\$ _____	26	210	Reset Fence (Wire Fence)	140	Lin Ft	\$ _____	\$ _____	27	304	Aggregate Base Course (Class G) (12" Thick)	56	Sq Yd	\$ _____	\$ _____	41	50	Dewatering Trenches (Includes C&G 18" Dewatering Permit)	1	Lump Sum	\$ _____	\$ _____				
5	108 3	8" x 8" Corribu Wye & 1/8 Bend Fitting (Full Body Wye) (C&G) (Includes 1/8 Bend Elbow)	2	Each	\$ _____	\$ _____	16	20	Cleaning and Grubbing (includes trees, bushes, and grasses)	1	Lump Sum	\$ _____	\$ _____	28	401	Hot Bituminous Pavement (Patching) (4" Thick) (Grading SX, PG 64 22; (CYR = 75) (Two 2" Lifts)	56	Sq Yd	\$ _____	\$ _____	28	401	Hot Bituminous Pavement (Patching) (4" Thick) (Grading SX, PG 64 22; (CYR = 75) (Two 2" Lifts)	56	Sq Yd	\$ _____	\$ _____	42	50	Desk Excavation	120	Cu Yd	\$ _____	\$ _____				
6	108 3	10" x 8" Combo Wye & 1/8 Fitting (Full Body Wye) (C&G) (Includes 1/8 Bend Elbow)	4	Each	\$ _____	\$ _____	17	202	Removal of Existing Pipe (Size & type as shown on plans)	870	Lin Ft	\$ _____	\$ _____	29	407	Emulsified Asphalt (Tack Coat)	12	Galon	\$ _____	\$ _____	29	407	Emulsified Asphalt (Tack Coat)	12	Galon	\$ _____	\$ _____	43	50	Remove & Haul Backfill Soil Stockpiles (2025 D) (Based on Security Bulkheads Properties) (Estimated quantity of dirt to be removed and reloaded out of the way of the new sewer line alignment is 2,000 cubic yards) (Contractor shall only relocate the amount of dirt needed for a satisfactory and safe sewer pipe installation)	1	Lump Sum	\$ _____	\$ _____				
7	108 3	8" Cap (PVC) (Casketed) (Includes 4 ft long 4x4 wood post) (To be used on "deep" sewer pipe drop manhole pipe)	8	Each	\$ _____	\$ _____	18	202	Removal of Asphalt Mat (Full Depth)	56	Sq Yd	\$ _____	\$ _____	30	420	Geotextile (Separator) (Non Woven) (Wrap stabilization material with fabric) (Minimum Overlap = 24")	600	Sq Yd	\$ _____	\$ _____	30	420	Geotextile (Separator) (Non Woven) (Wrap stabilization material with fabric) (Minimum Overlap = 24")	600	Sq Yd	\$ _____	\$ _____	44	Pump	Dykes Pumping (Wastewater) (As deemed necessary by Contractor)	1	Lump Sum	\$ _____	\$ _____				
8	108 3	8" Lind Cap Fitting (Includes 4-ft long 4x4 wood post) (To be used on "shallow" sewer pipe sinkhole)	12	Each	\$ _____	\$ _____	19	202	Removal of Manhole	6	Each	\$ _____	\$ _____	31	620	Portable Sanitary Facility	1	Each	\$ _____	\$ _____	31	620	Portable Sanitary Facility	1	Each	\$ _____	\$ _____	45	Pump	Groundwater Reduction Pumps (Includes installing the reduction ponds to the contours shown on the Plans)	1	Lump Sum	\$ _____	\$ _____				
9	108 5	Sanitary Sewer Basic Manhole (48" I.D.) (Includes Manhole Waterproofing grade rings and MH-310-24 CI covers)	6	Each	\$ _____	\$ _____	20	202	Removal of Concrete Wet Well (5 ft dia. Approx. 12 ft deep)	1	Lump Sum	\$ _____	\$ _____	32	625	Construction Surveying (Includes As-Built Drawings)	1	Lump Sum	\$ _____	\$ _____	32	625	Construction Surveying (Includes As-Built Drawings)	1	Lump Sum	\$ _____	\$ _____											
							21	202	Removal of Groundwater Wet Point	1	Each	\$ _____	\$ _____	33	626	Mobilization	1	Lump Sum	\$ _____	\$ _____	33	626	Mobilization	1	Lump Sum	\$ _____	\$ _____											
													34	630	Traffic Control (Complete in Place)	1	Lump Sum	\$ _____	\$ _____	34	630	Traffic Control (Complete in Place)	1	Lump Sum	\$ _____	\$ _____												
													35	630	Traffic Control Plan	1	Lump Sum	\$ _____	\$ _____	35	630	Traffic Control Plan	1	Lump Sum	\$ _____	\$ _____												
													36	SC	Backfill Compaction Tests (Includes Proctor Test) (Quality Control Testing)	22	Each	\$ _____	\$ _____	36	SC	Backfill Compaction Tests (Includes Proctor Test) (Quality Control Testing)	22	Each	\$ _____	\$ _____												

Bid Amount: \$ _____

Bid Amount: _____ dollars

Contractor Name: _____

Contractor Address: _____

Contractor Phone #: _____

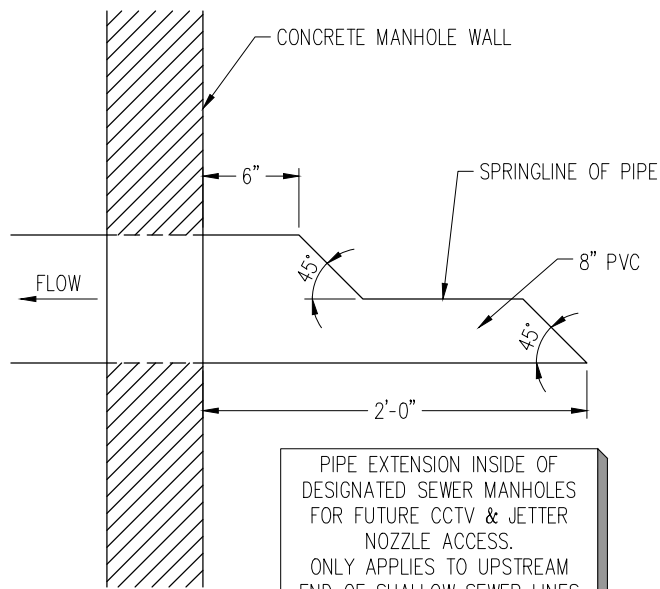
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REVISION Δ	DESCRIPTION	DATE	PROJECT NO. 902-F2000	SCALES: PLAN & PROFILE
REVISION Δ	DRAWN BY HMC	DATE 2020		
REVISION Δ	DESIGNED BY ALC	DATE 2020		
REVISION Δ	CHECKED BY ALC	DATE 2020		
REVISION Δ	APPROVED BY ALC	DATE 2020		



**PUBLIC WORKS
ENGINEERING DIVISION**

**RIVER BEND LIFT STATION ELIMINATION PROJECT
SUMMARY OF APPROXIMATE QUANTITIES**



NOTE:

1. THIS 8-INCH PIPE DETAIL ONLY APPLIES TO THE OUTLET PIPES FOR THE 'SHALLOW' SEWER LINE THAT WILL BE INSTALLED AT A LATER DATE BY THE DEVELOPER. THIS DETAIL IS TO ALLOW EASIER ACCESS TO THE 'SHALLOW' SEWER PIPE FOR CLEANING AND CCTV CAMERA INSPECTION PURPOSES.

DETAIL PIPE EXTENSION

SCALE 1" = 1'

GENERAL CONSTRUCTION NOTES:

1. CONTRACTOR SHALL HAVE ONE COPY OF PLANS AND A COPY OF THE CITY OF GRAND JUNCTION'S STANDARD SPECIFICATIONS AT THE JOB SITE AT ALL TIMES.
2. ALL MATERIALS AND WORKMANSHIP SHALL COMPLY TO THE STANDARDS AND SPECIFICATIONS OF THE CITY OF GRAND JUNCTION. THE CITY OF GRAND JUNCTION RESERVES THE RIGHT TO ACCEPT OR REJECT ANY MATERIALS AND OR WORKMANSHIP THAT DOES NOT CONFORM.
3. ALL SEWER MAINS SHALL BE PVC SDR-35 (ASTM 3034) UNLESS OTHERWISE NOTED. ALL PIPE JOINTS SHALL BE 14-FOOT JOINTS UNLESS OTHERWISE APPROVED BY THE CITY PROJECT ENGINEER. THIS PROJECT IS CALLING OUT 10-INCH SDR-26 PVC SEWER PIPE.
4. ALL TRENCHES SHALL BE COMPACTED TO 95% WITHIN 2% OF OPTIMUM MOISTURE CONTENT AS DETERMINED BY AASHTO T-99. CONTRACTOR SHALL BE REQUIRED TO PERFORM ALL NECESSARY COMPACTION TESTS THROUGH A CERTIFIED SOILS LAB.
5. ALL SEWER MAINS SHALL BE LAID TO GRADE UTILIZING A PIPE LASER.
6. ALL SERVICE LINE CONNECTIONS TO NEW MAINS SHALL BE ACCOMPLISHED WITH FULL-BODY WYES OR TEES. TAPPING SADDLES WILL NOT BE ALLOWED.
7. 4-INCH SERVICES SHALL NOT BE CONNECTED DIRECTLY INTO MANHOLES. ALL 6-INCH SERVICES SHALL BE CONNECTED TO THE MAIN AT A MANHOLE.
8. THE CONTRACTOR SHALL NOTIFY THE CITY INSPECTOR 48 HOURS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
9. THE CONTRACTOR IS RESPONSIBLE FOR ALL REQUIRED SEWER LINE TESTING TO BE COMPLETED IN THE PRESENCE OF THE ENGINEER OR HIS/HER REPRESENTATIVE. PRESSURE TESTING WILL BE PERFORMED AFTER INSTALLATION OF DRY UTILITIES, AFTER ALL COMPACTION OF STREET SUBGRADE, AND PRIOR TO STREET PAVING. FINAL CCTV CAMERA INSPECTION WILL ALSO BE ACCOMPLISHED PRIOR TO FINAL STREET PAVING. THESE TESTS SHALL BE THE MINIMUM BASIS OF ACCEPTANCE OF THE SEWER LINE INSTALLATION. IF DEBRIS IS FOUND INSIDE OF THE NEW SEWER LINES, THE CONTRACTOR WILL BE REQUIRED TO HAVE THE SEWER LINE JETTED AND CLEANED.
10. MANHOLES SHALL BE CONSTRUCTED AS SHOWN ON THE CITY OF GRAND JUNCTION STANDARD SEWER DETAIL SHEETS SS-02, SS-03, AND SS-04. MANHOLE STEPS SHALL NOT BE INSTALLED IN NEW SEWER MANHOLES FOR THIS PROJECT.
11. SEWER SERVICE PIPE AND SEWER PIPE STUB OUTS SHALL BE CAPPED AND PLUGGED. STUB OUT SHALL BE MARKED WITH A 4x4 INCH POST PAINTED GREEN BURIED WITH 3- FEET ABOVE GRADE.
12. RED LINE AS-BUILT DRAWINGS SHALL BE SUBMITTED TO THE CITY PROJECT ENGINEER AT LEAST 72 HOURS PRIOR TO PAVING FOR REVIEW.
13. ALL CEMENT USED IN MORTAR, CONCRETE BASES, RISER SECTIONS, AND CONES FOR SANITARY SEWER MANHOLES, SHALL BE TYPE V OR MODIFIED TYPE II PORTLAND CEMENT WITH LESS THAN 5% TRICALCIUM ALUMINATE.
14. MANHOLE RISER SECTIONS AND CONE SECTIONS SHALL BE PRECAST REINFORCED CONCRETE CONFORMING TO ASTM C-478 OR AASHTO M-199.
15. GRADE RINGS FOR THIS PROJECT SHALL BE LADTECH OR ENGINEER APPROVED EQUAL.
16. MANHOLE RING AND COVERS SHALL BE CASTINGS MH-310-24 CAST IRON OR ENGINEER APPROVED EQUAL.
17. FOR THIS PROJECT, ALL SEWER MANHOLES SHALL HAVE AN EXTERIOR WATERPROOFING APPLIED PER CITY SPECIFICATION 102.11. THE EXTERIOR SURFACES OF THE BASE SECTION, RISER SECTIONS, AND CONE SECTIONS SHALL BE COATED WITH MINIMUM 10 MIL. COAL TAR EPOXY OR ENGINEER APPROVED EQUAL.
18. ALL DROP MANHOLES ON THIS PROJECT SHALL HAVE A GEOPOLYMER CORROSION PROTECTION APPLIED TO THE INSIDE WALLS OF THE MANHOLE AND THE MANHOLE BENCH. SEE PROJECT SPECIAL PROVISIONS FOR MORE INFORMATION.

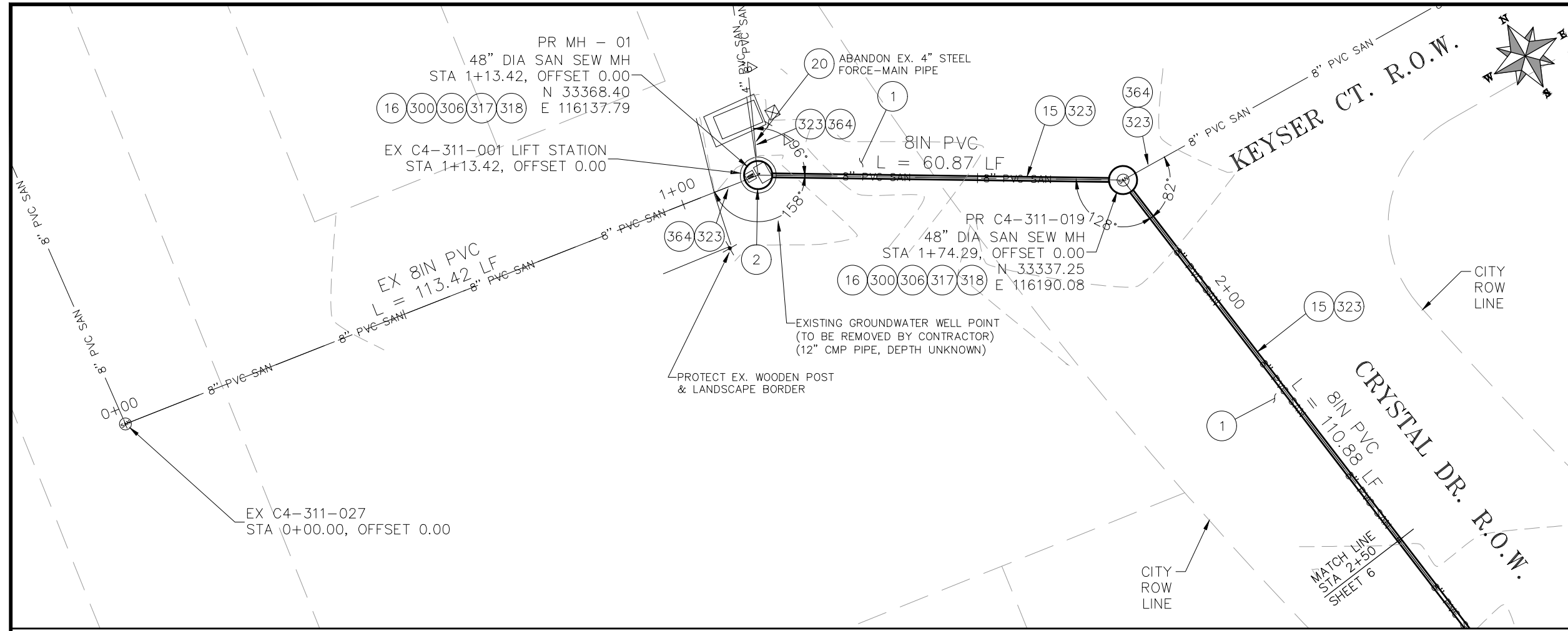
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REVISION Δ			DRAWN BY HMC DATE 2020	
REVISION Δ			DESIGNED BY ALC DATE 2020	
REVISION Δ			CHECKED BY ALC DATE 2020	
REVISION Δ			APPROVED BY ALC DATE 2020	

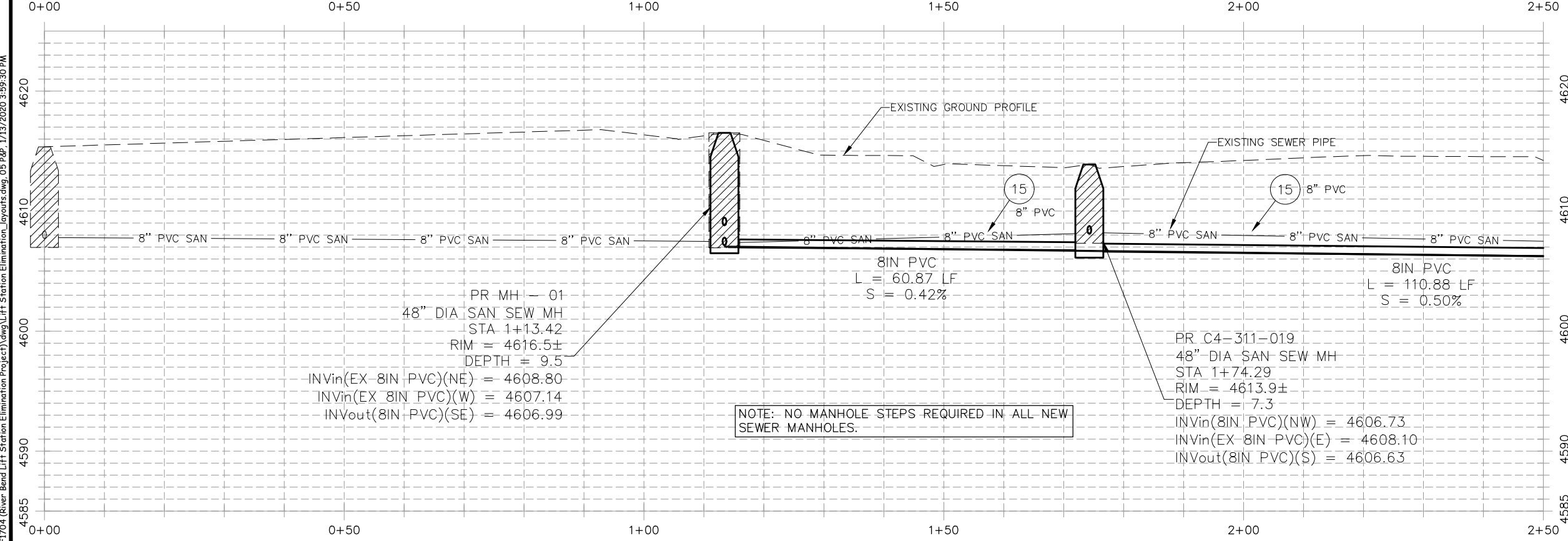


**PUBLIC WORKS
ENGINEERING DIVISION**

**RIVER BEND LIFT STATION ELIMINATION PROJECT
GENERAL NOTES**



- CONSTRUCTION NOTES**
- 1 201 - CLEARING AND GRUBBING (INCLUDES TREE REMOVAL, BUSH REMOVAL, AND STRIPPING OF GRASSES)
 - 2 202 - REMOVAL OF LIFT STATION CONCRETE WET WELL. INCLUDES DISCONNECTION OF ANY REMAINING ELECTRICAL CONDUIT AND FORCE-MAIN PIPE FROM THE WET WELL. CITY OF GRAND JUNCTION WILL BE RESPONSIBLE FOR REMOVAL OF THE LIFT STATION PUMPS, INTERNAL PIPING, AND DISCONNECTION OF ELECTRICAL SUPPLY.
 - 15 202 - REMOVAL OF PIPE AS SHOWN (SEWER PIPE) (EXISTING SEWER PIPE TO BE REMOVED IS PVC PIPE)
 - 16 202 - REMOVAL OF MANHOLE
 - 20 202 - ABANDON PIPE (ABANDON PIPE BY PLUGGING PIPE ENDS WITH CONCRETE)
 - 300 102.11/108.5 - SANITARY SEWER BASIC MANHOLE (48" I.D.) INCLUDES CONNECTION OF ADJACENT SEWER LINES, FORMING INVERTS, EXTERIOR MANHOLE WATERPROOFING, CONCRETE COLLAR, AND ADJUSTING TO FINAL GRADE. (SEE STANDARD DETAIL SS-02)
 - 306 102.11/108.5 - MANHOLE BARREL SECTION (D>5') (48" I.D.) (INCLUDES EXTERIOR WATERPROOFING)
 - 317 104.20 - INSTALL CONCRETE COLLAR W/ #4 REBAR HOOP AS PER STANDARD DETAIL SS-02 (CONCRETE COLLAR IS INCIDENTAL TO THE SEWER MANHOLE PAY ITEMS)
 - 318 102.11 - MANHOLE WATERPROOFING (THE EXTERIOR SURFACES OF THE BASE, RISER SECTIONS, AND CONE SECTIONS SHALL BE COATED WITH A MINIMUM 10 MIL THICKNESS OF COAL TAR EPOXY) (EXTERIOR MANHOLE WATERPROOFING IS INCIDENTAL TO THE SEWER MANHOLE PAY ITEMS)
 - 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.
 - 364 CONNECT TO EXISTING SEWER PIPE. THE CONTRACT PRICE FOR SEWER PIPE SHALL INCLUDE THE COST OF CONNECTION TO THE EXISTING PIPELINE USING A MAX-ADAPTOR COUPLING OR ENGINEER APPROVED EQUAL.



REVISION	DESCRIPTION	DATE
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PROJECT NO. 902-F2000
DRAWN BY HMC DATE 2020
DESIGNED BY ALC DATE 2020
CHECKED BY ALC DATE 2020
APPROVED BY ALC DATE 2020

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

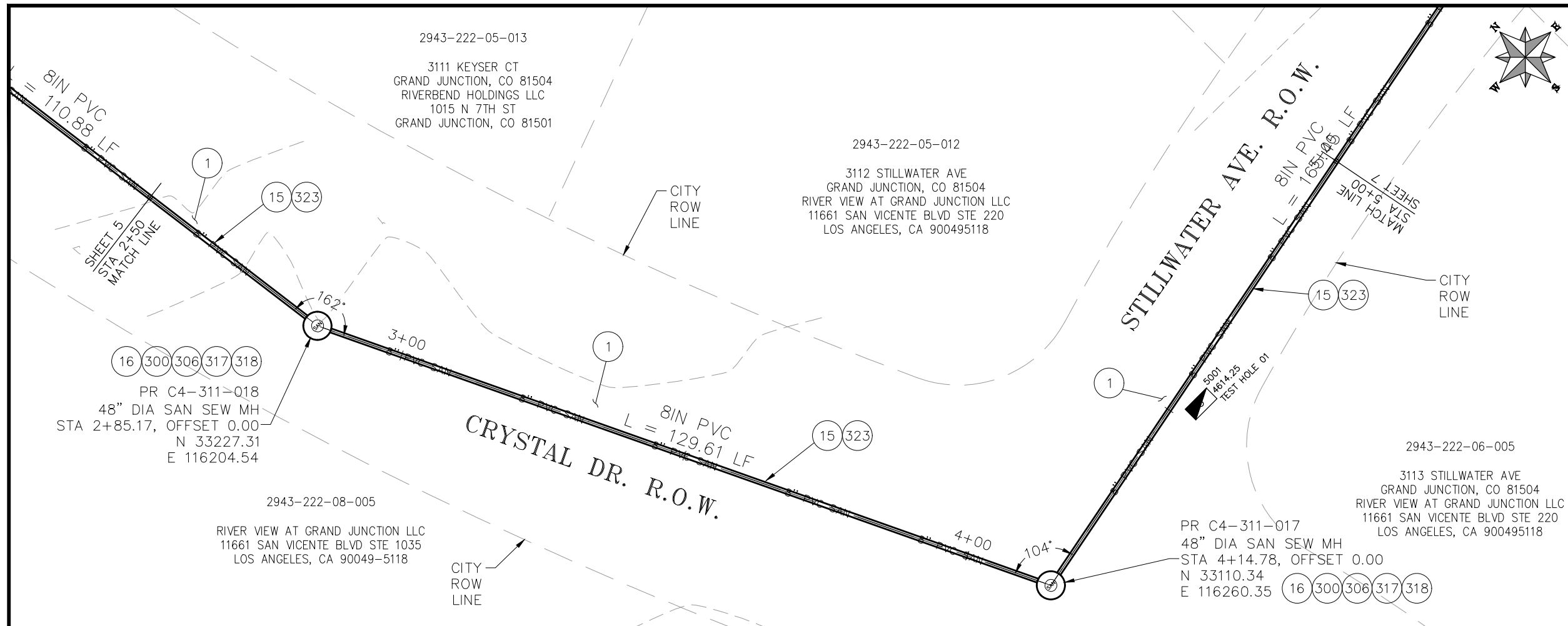


**PUBLIC WORKS
ENGINEERING DIVISION**

**RIVER BEND LIFT STATION ELIMINATION PROJECT
SANITARY SEWER PLAN AND PROFILE
STA 0+00 TO STA 2+50**

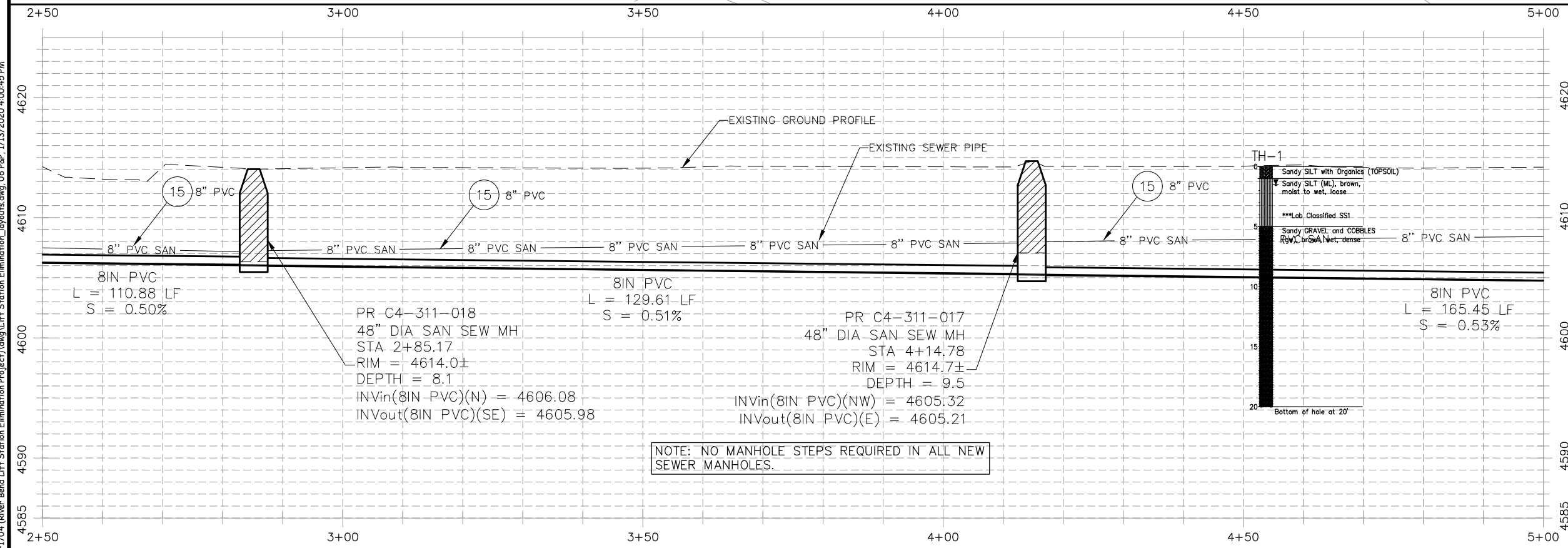


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CONSTRUCTION NOTES

- 1 201 - CLEARING AND GRUBBING (INCLUDES TREE REMOVAL, BUSH REMOVAL, AND STRIPPING OF GRASSES)
- 15 202 - REMOVAL OF PIPE AS SHOWN (SEWER PIPE) (EXISTING SEWER PIPE TO BE REMOVED IS PVC PIPE)
- 16 202 - REMOVAL OF MANHOLE
- 300 102.11/108.5 - SANITARY SEWER BASIC MANHOLE (48" I.D.) INCLUDES CONNECTION OF ADJACENT SEWER LINES, FORMING INVERTS, EXTERIOR MANHOLE WATERPROOFING, CONCRETE COLLAR, AND ADJUSTING TO FINAL GRADE. (SEE STANDARD DETAIL SS-02)
- 306 102.11/108.5 - MANHOLE BARREL SECTION (D>5') (48" I.D.) (INCLUDES EXTERIOR WATERPROOFING)
- 317 104.20 - INSTALL CONCRETE COLLAR W/ #4 REBAR HOOP AS PER STANDARD DETAIL SS-02 (CONCRETE COLLAR IS INCIDENTAL TO THE SEWER MANHOLE PAY ITEMS)
- 318 102.11 - MANHOLE WATERPROOFING (THE EXTERIOR SURFACES OF THE BASE, RISER SECTIONS, AND CONE SECTIONS SHALL BE COATED WITH A MINIMUM 10 MIL THICKNESS OF COAL TAR EPOXY) (EXTERIOR MANHOLE WATERPROOFING IS INCIDENTAL TO THE SEWER MANHOLE PAY ITEMS)
- 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.



NOTE: NO MANHOLE STEPS REQUIRED IN ALL NEW SEWER MANHOLES.



Know what's below.
Call before you dig.

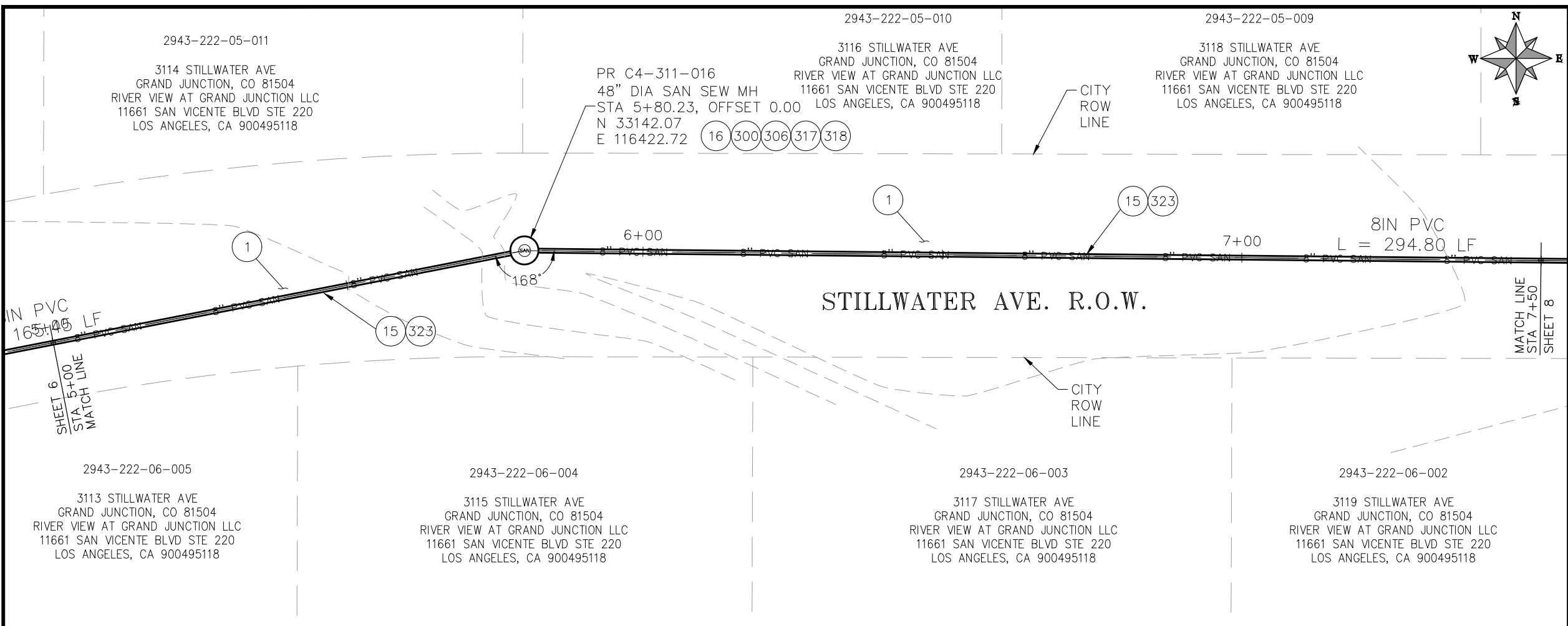
REVISION	DESCRIPTION	DATE	PROJECT NO. 902-F2000
REVISION Δ			DRAWN BY HMC DATE 2020
REVISION Δ			DESIGNED BY ALC DATE 2020
REVISION Δ			CHECKED BY ALC DATE 2020
REVISION Δ			APPROVED BY ALC DATE 2020

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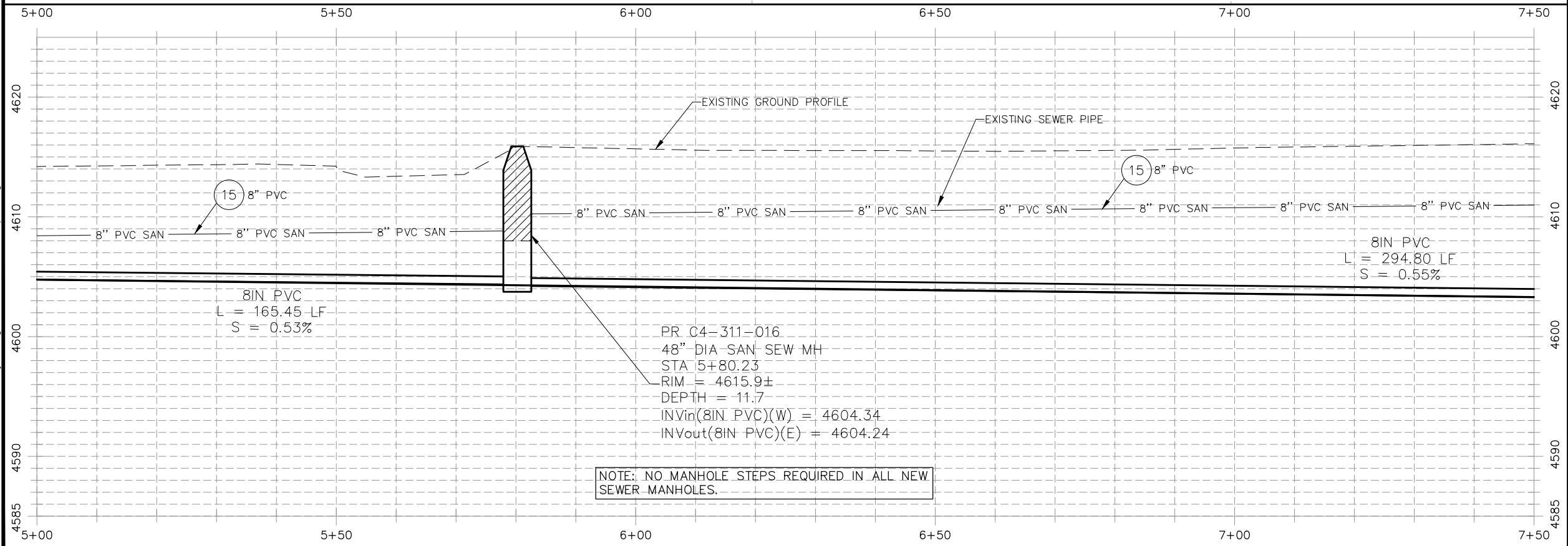


**PUBLIC WORKS
ENGINEERING DIVISION**

**RIVER BEND LIFT STATION ELIMINATION PROJECT
SANITARY SEWER PLAN AND PROFILE
STA 2+50 TO STA 5+00**



- CONSTRUCTION NOTES**
- 1 201 - CLEARING AND GRUBBING (INCLUDES TREE REMOVAL, BUSH REMOVAL, AND STRIPPING OF GRASSES)
 - 15 202 - REMOVAL OF PIPE AS SHOWN (SEWER PIPE) (EXISTING SEWER PIPE TO BE REMOVED IS PVC PIPE)
 - 16 202 - REMOVAL OF MANHOLE
 - 300 102.11/108.5 - SANITARY SEWER BASIC MANHOLE (48" I.D.) INCLUDES CONNECTION OF ADJACENT SEWER LINES, FORMING INVERTS, EXTERIOR MANHOLE WATERPROOFING, CONCRETE COLLAR, AND ADJUSTING TO FINAL GRADE. (SEE STANDARD DETAIL SS-02)
 - 306 102.11/108.5 - MANHOLE BARREL SECTION (D>5') (48" I.D.) (INCLUDES EXTERIOR WATERPROOFING)
 - 317 104.20 - INSTALL CONCRETE COLLAR W/ #4 REBAR HOOP AS PER STANDARD DETAIL SS-02 (CONCRETE COLLAR IS INCIDENTAL TO THE SEWER MANHOLE PAY ITEMS)
 - 318 102.11 - MANHOLE WATERPROOFING (THE EXTERIOR SURFACES OF THE BASE, RISER SECTIONS, AND CONE SECTIONS SHALL BE COATED WITH A MINIMUM 10 MIL THICKNESS OF COAL TAR EPOXY) (EXTERIOR MANHOLE WATERPROOFING IS INCIDENTAL TO THE SEWER MANHOLE PAY ITEMS)
 - 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.



REVISION	DESCRIPTION	DATE	PROJECT NO. 902-F2000
REVISION	△		DRAWN BY HMC DATE 2020
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REVISION	△		APPROVED BY ALC DATE 2020

SCALES: PLAN & PROFILE

HORIZONTAL: 1" = 20'

VERTICAL: 1" = 10'

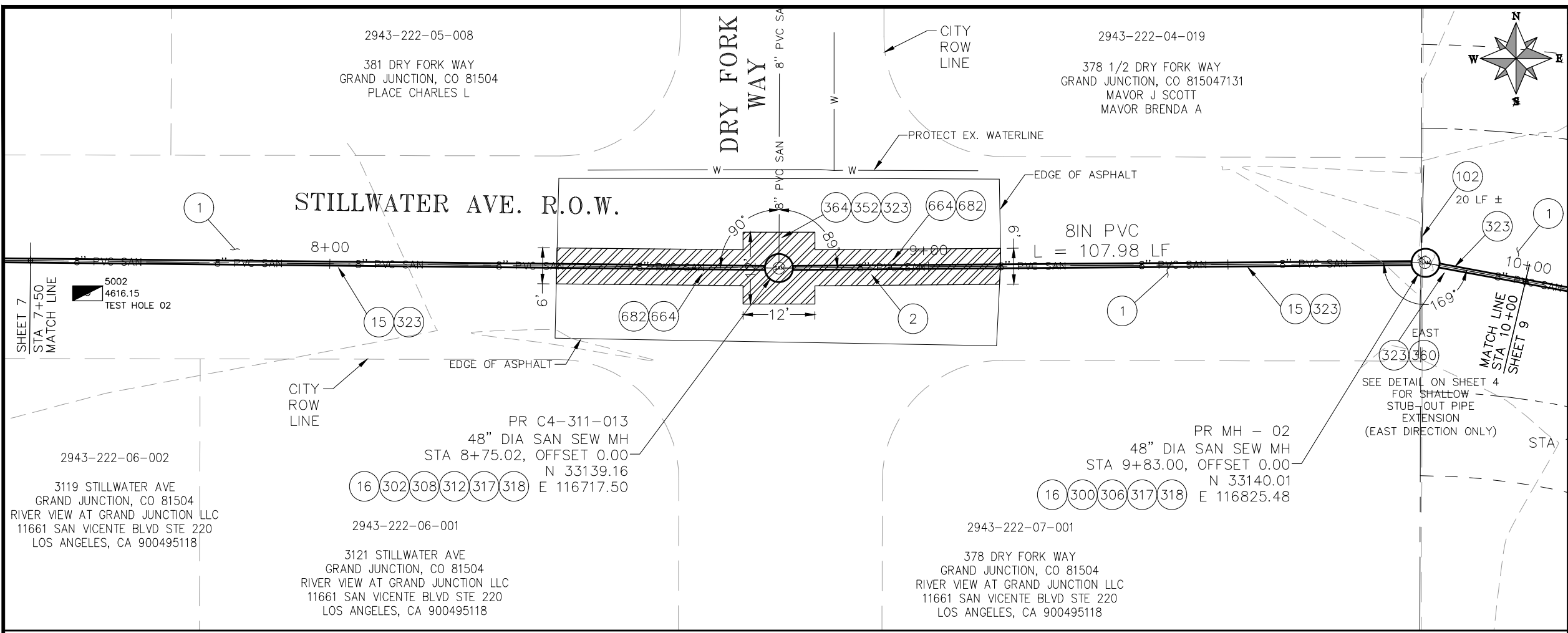


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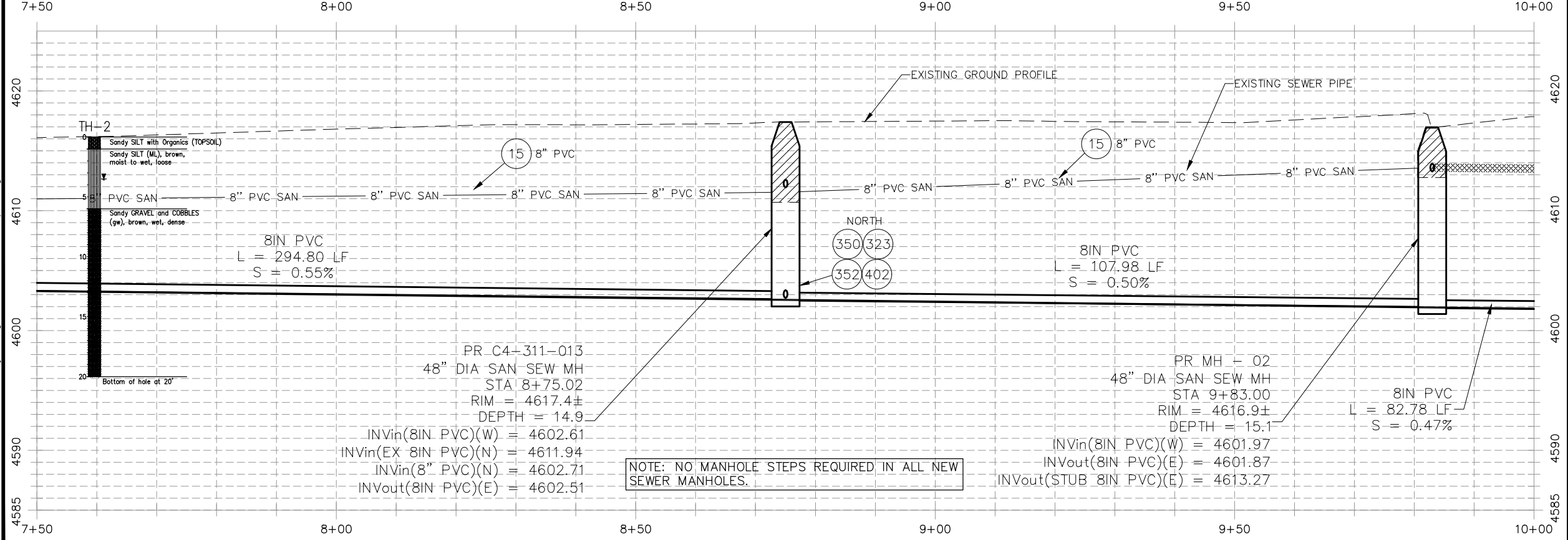
**RIVER BEND LIFT STATION ELIMINATION PROJECT
SANITARY SEWER PLAN AND PROFILE
STA 5+00 TO STA 7+50**



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- CONSTRUCTION NOTES**
- 1 201 - CLEARING AND GRUBBING (INCLUDES TREE REMOVAL, BUSH REMOVAL, AND STRIPPING OF GRASSES)
 - 2 202 - REMOVAL OF ASPHALT MAT (CUT AND REMOVE ASPHALT AS SHOWN (INDICATED BY DOT HATCH PATTERN))
 - 15 202 - REMOVAL OF PIPE AS SHOWN (SEWER PIPE) (EXISTING SEWER PIPE TO BE REMOVED IS PVC PIPE)
 - 16 202 - REMOVAL OF MANHOLE
 - 102 210 - RESET FENCE (WIRE FENCE)
 - 300 102.11/108.5 - SANITARY SEWER BASIC MANHOLE (48" I.D.) INCLUDES CONNECTION OF ADJACENT SEWER LINES, FORMING INVERTS, EXTERIOR MANHOLE WATERPROOFING, CONCRETE COLLAR, AND ADJUSTING TO FINAL GRADE. (SEE STANDARD DETAIL SS-02)
 - 302 102.11/108.5 - SANITARY SEWER BASIC DROP MANHOLE (48" I.D.) INCLUDES CONNECTION OF ADJACENT SEWER LINES, FORMING INVERTS, EXTERIOR MANHOLE WATERPROOFING, ADJUSTING TO FINAL GRADE, AND INSTALLATION OF "SHALLOW" SEWER LINE PIPE STUB-OUTS (SEE STANDARD DETAIL SS-04)
 - 306 102.11/108.5 - MANHOLE BARREL SECTION (D>5') (48" I.D.) (INCLUDES EXTERIOR WATERPROOFING)
 - 308 102.11/108.5 - DROP MANHOLE BARREL SECTION (D>5') (48" I.D.) (INCLUDES EXTERIOR WATERPROOFING)
 - 312 102.11/108.5 - MANHOLE INTERIOR CORROSION PROTECTION (PROTECTIVE GEOPOLYMER COATING SHALL BE APPLIED TO THE PREPARED MANHOLE INTERIOR WALLS AND INVERTS BEFORE ANY WASTEWATER IS INTRODUCED INTO THE NEW MANHOLES) (SEE SPECIAL PROVISIONS)
 - 317 104.20 - INSTALL CONCRETE COLLAR W/ #4 REBAR HOOP AS PER STANDARD DETAIL SS-02 (CONCRETE COLLAR IS INCIDENTAL TO THE SEWER MANHOLE PAY ITEMS)
 - 318 102.11 - MANHOLE WATERPROOFING (THE EXTERIOR SURFACES OF THE BASE, RISER SECTIONS, AND CONE SECTIONS SHALL BE COATED WITH A MINIMUM 10 MIL THICKNESS OF COAL TAR EPOXY) (EXTERIOR MANHOLE WATERPROOFING IS INCIDENTAL TO THE SEWER MANHOLE PAY ITEMS)
 - 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.
 - 350 102.9/108.3 - 8" 1/2 BEND LONG ELBOW (90-DEGREE) (GxG)
 - 352 102.9/108.3 - 8" X 8" COMBO WYE & 1/2 BEND FITTING (FULL BODY WYE) (GxGxG) (INCLUDES 1/2 BEND ELBOW)
 - 360 102.9/108.3 - 8" END CAP/PLUG (INCLUDES 4-FT LONG 4x4 WOOD POST) (TO BE USED ON THE "SHALLOW" SEWER PIPE STUB-OUTS)
 - 364 CONNECT TO EXISTING SEWER PIPE. THE CONTRACT PRICE FOR SEWER PIPE SHALL INCLUDE THE COST OF CONNECTION TO THE EXISTING PIPELINE USING A MAX-ADAPTOR COUPLING OR ENGINEER APPROVED EQUAL.
 - 402 206 - STRUCTURE BACKFILL (FLOW-FILL)
 - 664 304 - AGGREGATE BASE COURSE (CLASS 6) (12" THICK)
 - 682 401.08 - HOT BITUMINOUS PAVEMENT (PATCHING) (4" THICK) (GRADING SX, BINDER GRADE PG 64-22, GYR.=75) (TWO 2" LIFTS)



REVISION	DESCRIPTION	DATE	PROJECT NO. 902-F2000
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REVISION	△		APPROVED BY ALC DATE 2020

SCALES: PLAN & PROFILE	
HORIZONTAL: 1" = 20'	
VERTICAL: 1" = 10'	

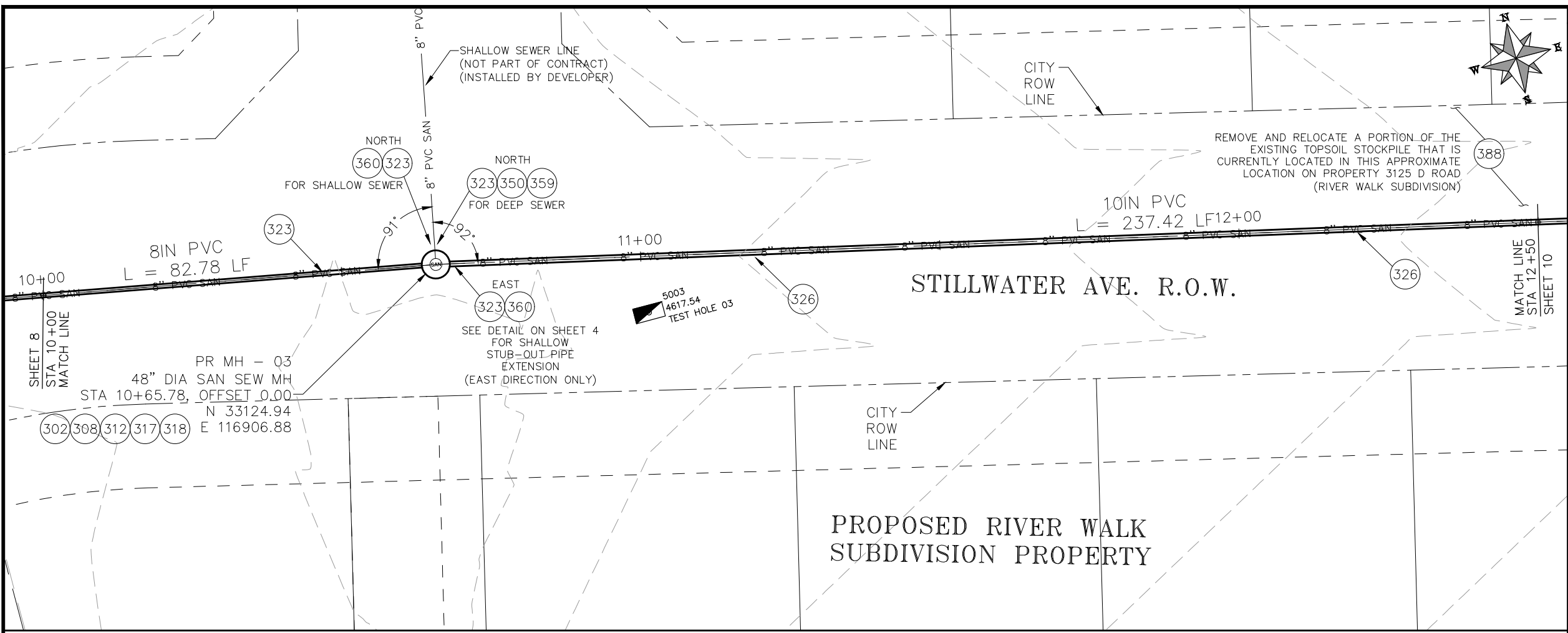


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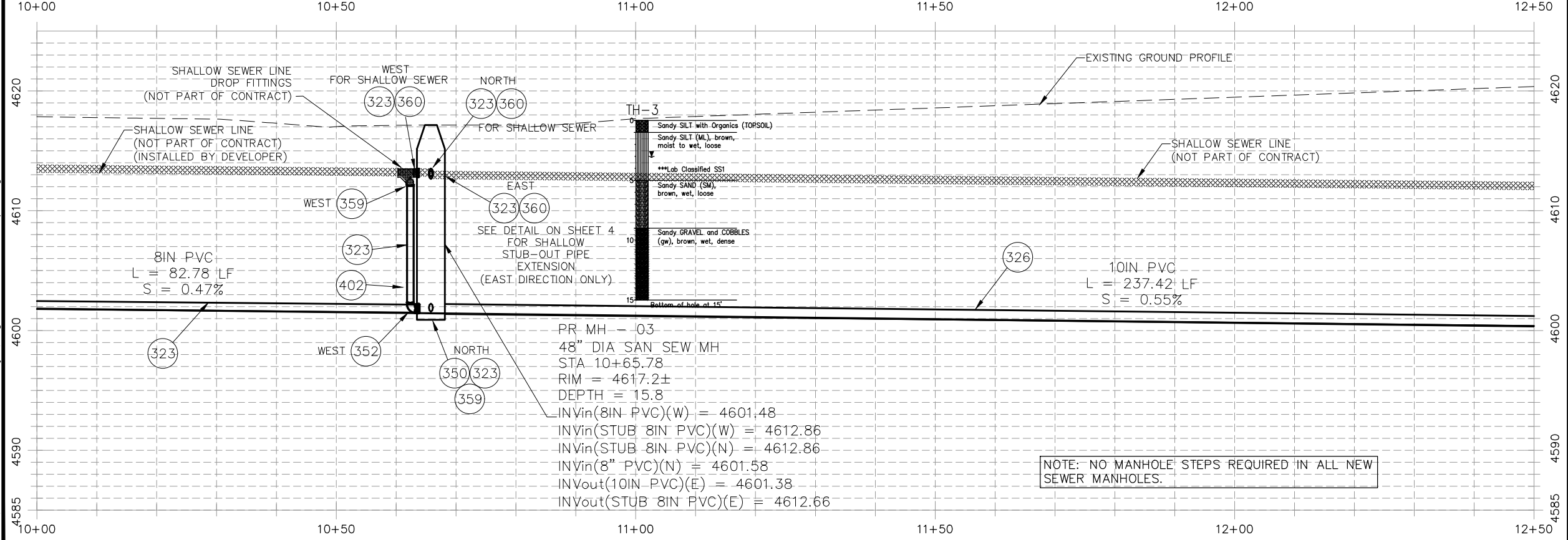
**RIVER BEND LIFT STATION ELIMINATION PROJECT
SANITARY SEWER PLAN AND PROFILE
STA 7+50 TO STA 10+00**



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- CONSTRUCTION NOTES**
- 1 201 - CLEARING AND GRUBBING (INCLUDES TREE REMOVAL, BUSH REMOVAL, AND STRIPPING OF GRASSES)
 - 302 102.11/108.5 - SANITARY SEWER BASIC DROP MANHOLE (48" I.D.) INCLUDES CONNECTION OF ADJACENT SEWER LINES, FORMING INVERTS, EXTERIOR MANHOLE WATERPROOFING, ADJUSTING TO FINAL GRADE, AND INSTALLATION OF "SHALLOW" SEWER LINE PIPE STUB-OUTS (SEE STANDARD DETAIL SS-04)
 - 308 102.11/108.5 - DROP MANHOLE BARREL SECTION (D>5') (48" I.D.) (INCLUDES EXTERIOR WATERPROOFING)
 - 312 102.11/108.5 - MANHOLE INTERIOR CORROSION PROTECTION (PROTECTIVE GEOPOLYMER COATING SHALL BE APPLIED TO THE PREPARED MANHOLE INTERIOR WALLS AND INVERTS BEFORE ANY WASTEWATER IS INTRODUCED INTO THE NEW MANHOLES) (SEE SPECIAL PROVISIONS)
 - 317 104.20 - INSTALL CONCRETE COLLAR W/ #4 REBAR HOOP AS PER STANDARD DETAIL SS-02 (CONCRETE COLLAR IS INCIDENTAL TO THE SEWER MANHOLE PAY ITEMS)
 - 318 102.11 - MANHOLE WATERPROOFING (THE EXTERIOR SURFACES OF THE BASE, RISER SECTIONS, AND CONE SECTIONS SHALL BE COATED WITH A MINIMUM 10 MIL THICKNESS OF COAL TAR EPOXY) (EXTERIOR MANHOLE WATERPROOFING IS INCIDENTAL TO THE SEWER MANHOLE PAY ITEM)
 - 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.
 - 326 102.9/108.2 - 10" GRAVITY SEWER PIPE (SDR-26 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL, AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.
 - 350 102.9/108.3 - 8" 1/2 BEND LONG ELBOW (90-DEGREE) (GXG)
 - 352 102.9/108.3 - 8" X 8" COMBO WYE & 1/2 BEND FITTING (FULL BODY WYE) (GXGXG) (INCLUDES 1/2 BEND ELBOW)
 - 356 102.9/108.3 - 10" X 8" COMBO WYE & 1/2 BEND FITTING (FULL BODY WYE) (GXGXG) (INCLUDES 1/2 BEND ELBOW)
 - 359 102.9/108.3 - 8" CAP (PVC) (GASKETED) (INCLUDES 4-FT LONG 4x4 WOOD POST) (TO BE USED ON THE "DEEP" SEWER PIPE DROP MANHOLE PIPE)
 - 360 102.9/108.3 - 8" END CAP/PLUG (INCLUDES 4-FT LONG 4x4 WOOD POST) (TO BE USED ON THE "SHALLOW" SEWER PIPE STUB-OUTS)
 - 388 REMOVE AND RELOCATE PORTION OF SOIL STOCKPILES
 - 402 206 - STRUCTURE BACKFILL (FLOW-FILL)



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REVISION	△		APPROVED BY ALC DATE 2020

SCALES: PLAN & PROFILE

HORIZONTAL: 1" = 20'

VERTICAL: 1" = 10'

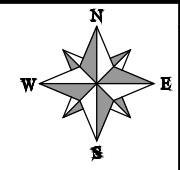
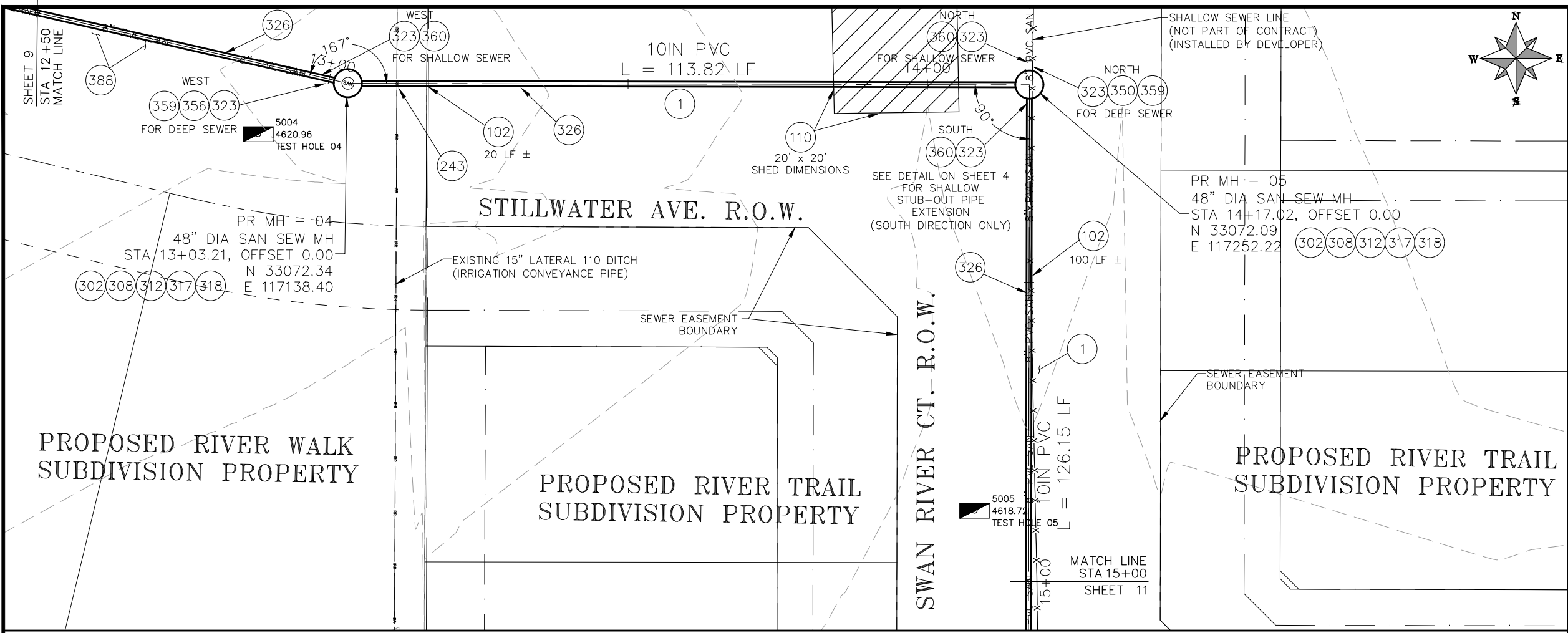


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**RIVER BEND LIFT STATION ELIMINATION PROJECT
SANITARY SEWER PLAN AND PROFILE
STA 10+00 TO STA 12+50**

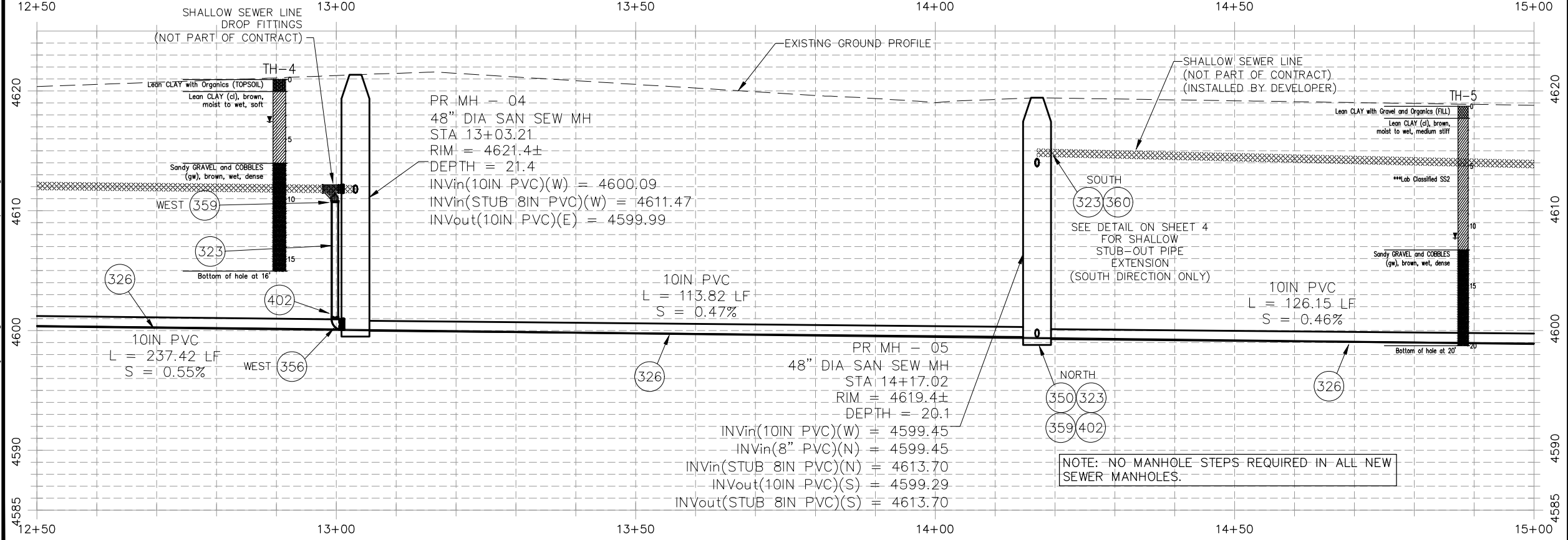


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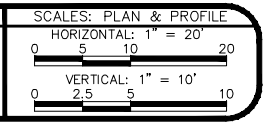


CONSTRUCTION NOTES

- 1 201 - CLEARING AND GRUBBING (INCLUDES TREE REMOVAL, BUSH REMOVAL, AND STRIPPING OF GRASSES)
- 102 210 - RESET FENCE (WIRE FENCE)
- 110 202 - DISMANTLE & REMOVE EXISTING SHED (CONTRACTOR TO CAREFULLY DISMANTLE THE EXISTING SHED AND STOCKPILE THE SHED MATERIAL OFF TO THE SIDE FOR FUTURE USE) (INCLUDES ALL EQUIPMENT, TOOLING, AND LABOR TO DISMANTLE THE SHED WITHOUT DAMAGING IT) (SHED DIMENSIONS ARE 20' x 20')
- 243 108.2 - 15" IRRIGATION PIPE REPAIR (LATERAL 110 IRRIGATION PIPE) (INCLUDES PVC PIPE, PIPE BEDDING, AND TWO MAX-ADAPTOR COUPLINGS)
- 302 102.11/108.5 - SANITARY SEWER BASIC DROP MANHOLE (48" I.D.) INCLUDES CONNECTION OF ADJACENT SEWER LINES, FORMING INVERTS, EXTERIOR MANHOLE WATERPROOFING, ADJUSTING TO FINAL GRADE, AND INSTALLATION OF "SHALLOW" SEWER LINE PIPE STUB-OUTS (SEE STANDARD DETAIL SS-04)
- 308 102.11/108.5 - DROP MANHOLE BARREL SECTION (D>5') (48" I.D.) (INCLUDES EXTERIOR WATERPROOFING)
- 312 102.11/108.5 - MANHOLE INTERIOR CORROSION PROTECTION (PROTECTIVE GEOPOLYMER COATING SHALL BE APPLIED TO THE PREPARED MANHOLE INTERIOR WALLS AND INVERTS BEFORE ANY WASTEWATER IS INTRODUCED INTO THE NEW MANHOLES) (SEE SPECIAL PROVISIONS)
- 317 104.20 - INSTALL CONCRETE COLLAR W/ #4 REBAR HOOP AS PER STANDARD DETAIL SS-02 (CONCRETE COLLAR IS INCIDENTAL TO THE SEWER MANHOLE PAY ITEMS)
- 318 102.11 - MANHOLE WATERPROOFING (THE EXTERIOR SURFACES OF THE BASE, RISER SECTIONS, AND CONE SECTIONS SHALL BE COATED WITH A MINIMUM 10 MIL THICKNESS OF COAL TAR EPOXY) (EXTERIOR MANHOLE WATERPROOFING IS INCIDENTAL TO THE SEWER MANHOLE PAY ITEM)
- 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.
- 326 102.9/108.2 - 10" GRAVITY SEWER PIPE (SDR-26 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL, AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.
- 350 102.9/108.3 - 8" 1/2 BEND LONG ELBOW (90-DEGREE) (GxG)
- 356 102.9/108.3 - 10" X 8" COMBO WYE & 1/2 BEND FITTING (FULL BODY WYE) (GxGxG) (INCLUDES 1/2 BEND ELBOW)
- 359 102.9/108.3 - 8" CAP (PVC) (GASKETED) (INCLUDES 4-FT LONG 4x4 WOOD POST) (TO BE USED ON THE "DEEP" SEWER PIPE DROP MANHOLE PIPE)
- 360 102.9/108.3 - 8" END CAP/PLUG (INCLUDES 4-FT LONG 4x4 WOOD POST) (TO BE USED ON THE "SHALLOW" SEWER PIPE STUB-OUTS)
- 388 REMOVE AND RELOCATE PORTION OF SOIL STOCKPILES
- 402 206 - STRUCTURE BACKFILL (FLOW-FILL)



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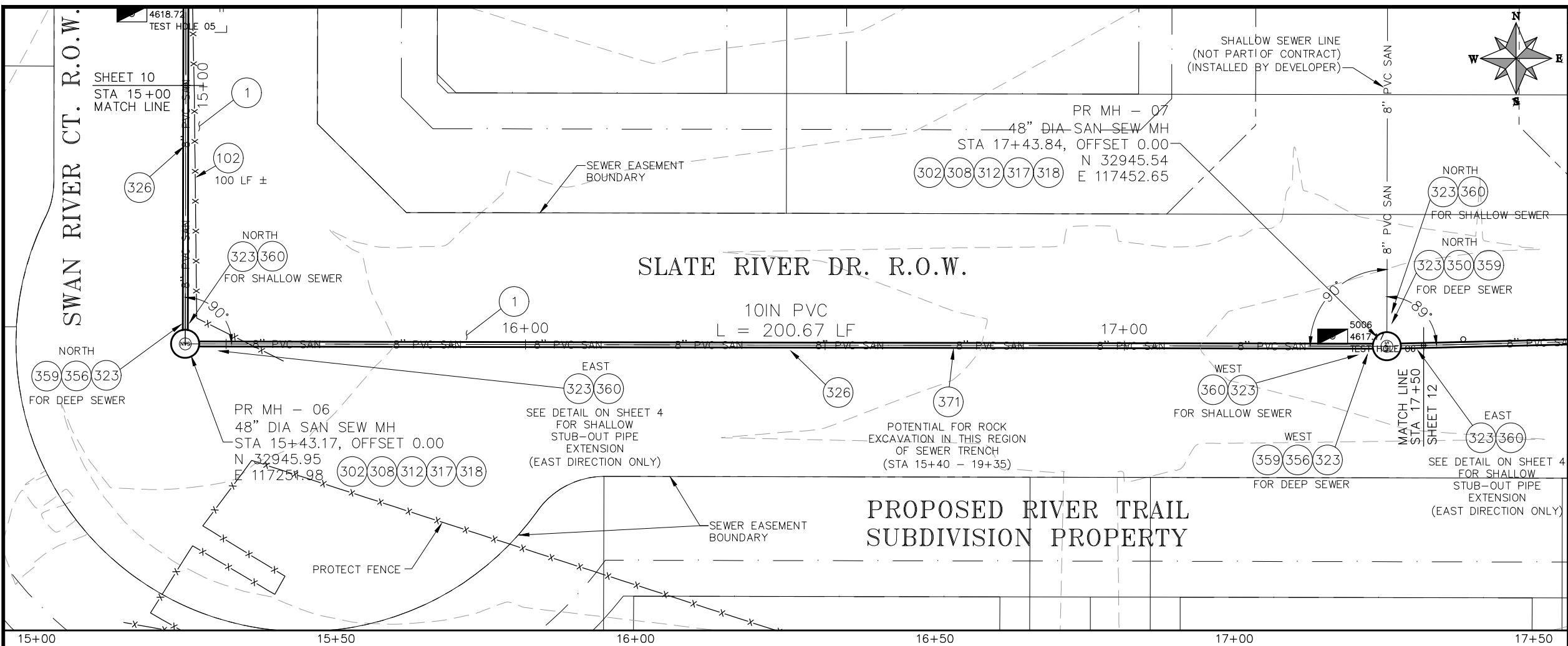


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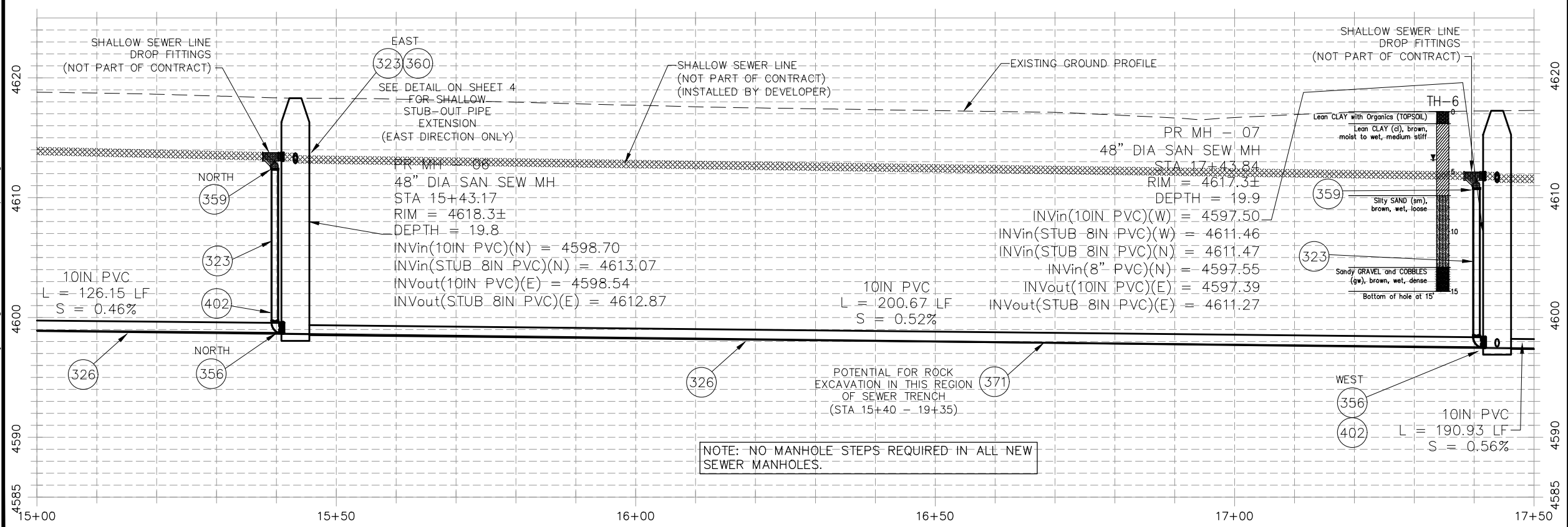
**RIVER BEND LIFT STATION ELIMINATION PROJECT
SANITARY SEWER PLAN AND PROFILE
STA 12+50 TO STA 15+00**



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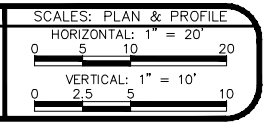


- CONSTRUCTION NOTES**
- 1 201 - CLEARING AND GRUBBING (INCLUDES TREE REMOVAL, BUSH REMOVAL, AND STRIPPING OF GRASSES)
 - 102 210 - RESET FENCE (WIRE FENCE)
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 - 302 102.11/108.5 - SANITARY SEWER BASIC DROP MANHOLE (48" I.D.) INCLUDES CONNECTION OF ADJACENT SEWER LINES, FORMING INVERTS, EXTERIOR MANHOLE WATERPROOFING, ADJUSTING TO FINAL GRADE, AND INSTALLATION OF "SHALLOW" SEWER LINE PIPE STUB-OUTS (SEE STANDARD DETAIL SS-04)
 - 308 102.11/108.5 - DROP MANHOLE BARREL SECTION (D>5') (48" I.D.) (INCLUDES EXTERIOR WATERPROOFING)
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 - 326 102.9/108.2 - 10" GRAVITY SEWER PIPE (SDR-26 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL, AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.
 - 350 102.9/108.3 - 8" 1/2 BEND LONG ELBOW (90-DEGREE) (GXG)
 - 356 102.9/108.3 - 10" X 8" COMBO WYE & 1/2 BEND FITTING (FULL BODY WYE) (GXGXG) (INCLUDES 1/2 BEND ELBOW)
 - 359 102.9/108.3 - 8" CAP (PVC) (GASKETED) (INCLUDES 4-FT LONG 4x4 WOOD POST) (TO BE USED ON THE "DEEP" SEWER PIPE DROP MANHOLE PIPE)
 - 360 102.9/108.3 - 8" END CAP/PLUG (INCLUDES 4-FT LONG 4x4 WOOD POST) (TO BE USED ON THE "SHALLOW" SEWER PIPE STUB-OUTS)
 - 371 103.11/108.8 - ROCK EXCAVATION (SEE SPECIAL PROVISIONS FOR DEFINITION AND PAYMENT)
 - 402 206 - STRUCTURE BACKFILL (FLOW-FILL)



NOTE: NO MANHOLE STEPS REQUIRED IN ALL NEW SEWER MANHOLES.

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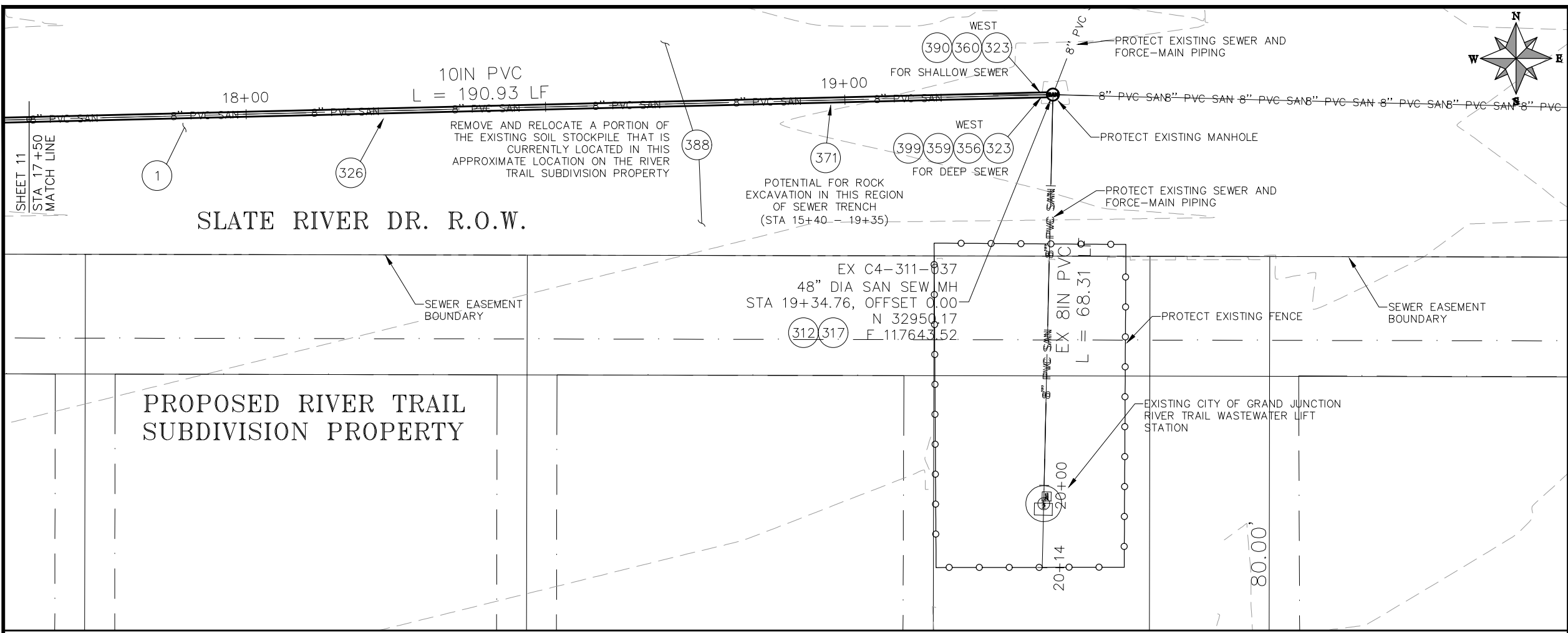


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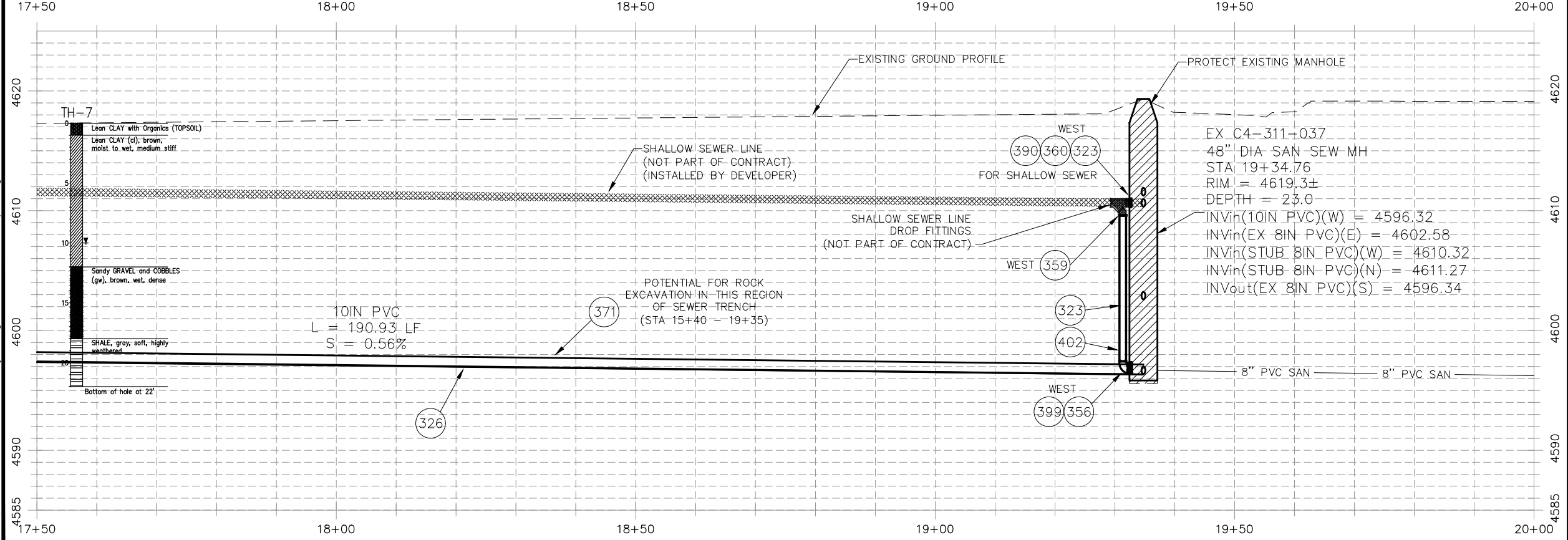
RIVER BEND LIFT STATION ELIMINATION PROJECT
SANITARY SEWER PLAN AND PROFILE
STA 15+00 TO STA 17+50



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- CONSTRUCTION NOTES**
- (1) 201 - CLEARING AND GRUBBING (INCLUDES TREE REMOVAL, BUSH REMOVAL, AND STRIPPING OF GRASSES)
 - (102) 210 - RESET FENCE (WIRE FENCE)
 - (312) 102.11/108.5 - MANHOLE INTERIOR CORROSION PROTECTION (PROTECTIVE GEOPOLYMER COATING SHALL BE APPLIED TO THE PREPARED MANHOLE INTERIOR WALLS AND INVERTS BEFORE ANY WASTEWATER IS INTRODUCED INTO THE NEW MANHOLES) (SEE SPECIAL PROVISIONS)
 - (317) 104.20 - INSTALL CONCRETE COLLAR W/ #4 REBAR HOOP AS PER STANDARD DETAIL SS-02 (CONCRETE COLLAR IS INCIDENTAL TO THE SEWER MANHOLE PAY ITEMS)
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 - (326) 102.9/108.2 - 10" GRAVITY SEWER PIPE (SDR-26 PVC). INCLUDES TYPE A BEDDING AND HAUNCHING MATERIAL, AND BACKFILL OF TRENCH WITH NATIVE MATERIALS MEETING 103.16 EARTH BACKFILL MATERIAL.
 - (350) 102.9/108.3 - 8" 1/2 BEND LONG ELBOW (90-DEGREE) (GXG)
 - (356) 102.9/108.3 - 10" X 8" COMBO WYE & 1/2 BEND FITTING (FULL BODY WYE) (GXGXG) (INCLUDES 1/2 BEND ELBOW)
 - (359) 102.9/108.3 - 8" CAP (PVC) (GASKETED) (INCLUDES 4-FT LONG 4x4 WOOD POST) (TO BE USED ON THE "DEEP" SEWER PIPE DROP MANHOLE PIPE)
 - (360) 102.9/108.3 - 8" END CAP/PLUG (INCLUDES 4-FT LONG 4x4 WOOD POST) (TO BE USED ON THE "SHALLOW" SEWER PIPE STUB-OUTS)
 - (371) 103.11/108.8 - ROCK EXCAVATION (SEE SPECIAL PROVISIONS FOR DEFINITION AND PAYMENT)
 - (388) REMOVE AND RELOCATE PORTION OF SOIL STOCKPILES
 - (390) 108.5 - CONNECT TO EXISTING MANHOLE (8" PIPE) (THIS CONNECTION REQUIRES CORING INTO THE EXISTING SEWER MANHOLE C4-311-037 TO ACCOMMODATE THE NEW 8" PVC "SHALLOW" SEWER PIPE) (SEE CITY STANDARD DETAIL SS-08)
 - (399) 108.5 - CONNECT TO EXISTING MANHOLE (10" PIPE) (THIS CONNECTION MAY REQUIRE CORING THE EXISTING SEWER MANHOLE TO ACCOMMODATE THE NEW 10" PVC PIPE) (SEE CITY STANDARD DETAIL SS-08)
 - (402) 206 - STRUCTURE BACKFILL (FLOW-FILL)



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SCALES: PLAN & PROFILE

HORIZONTAL: 1" = 20'

VERTICAL: 1" = 10'



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ENGINEERING DIVISION**

**RIVER BEND LIFT STATION ELIMINATION PROJECT
SANITARY SEWER PLAN AND PROFILE
STA 17+50 TO STA 20+00**

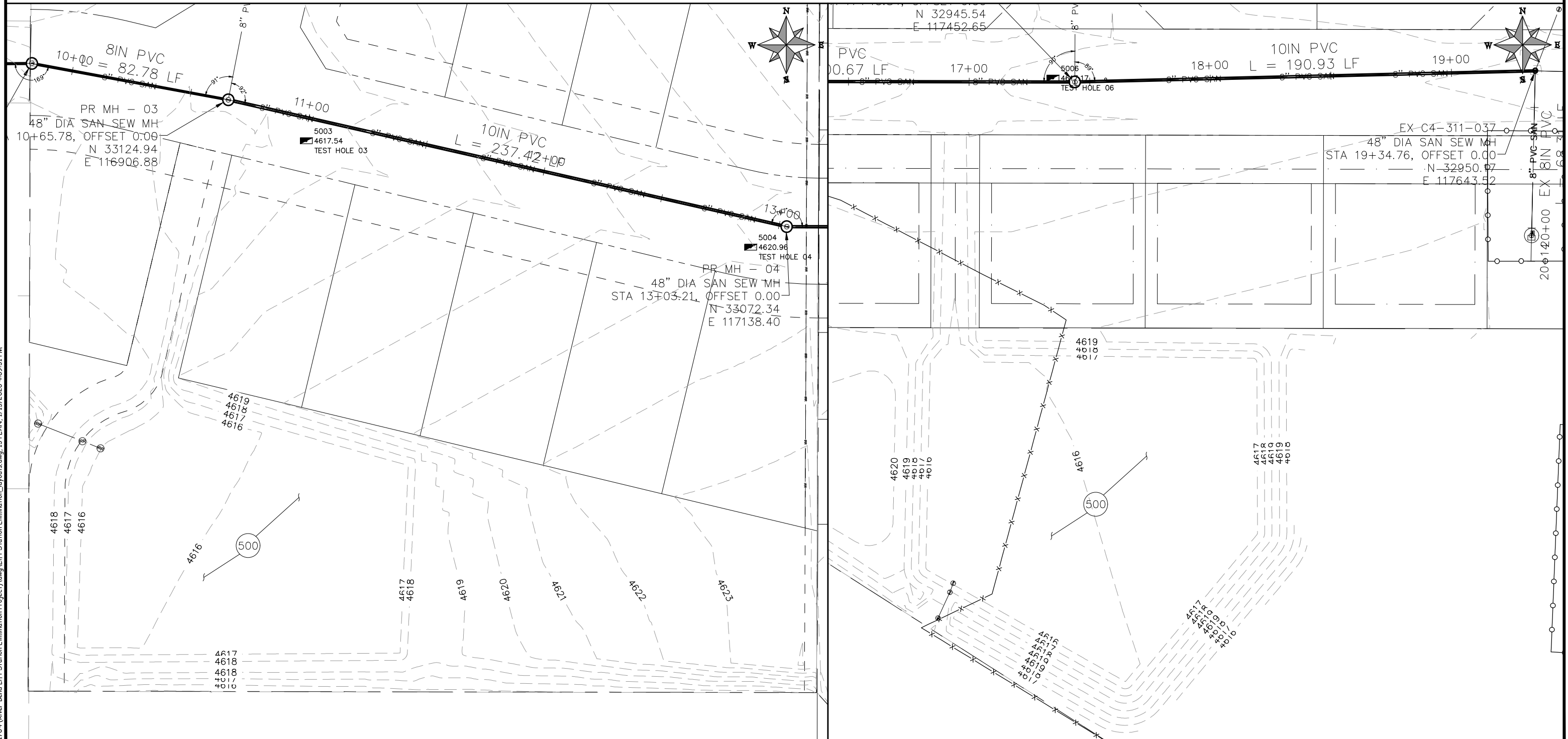


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500 GROUNDWATER RETENTION PONDS (AS PART OF THIS SEWER INSTALLATION PROJECT, THE CONTRACTOR WILL BE REQUIRED TO GRADE RETENTION PONDS TO HANDLE THE DEWATERING OF THE SEWER TRENCH)



Know what's below.
Call before you dig.



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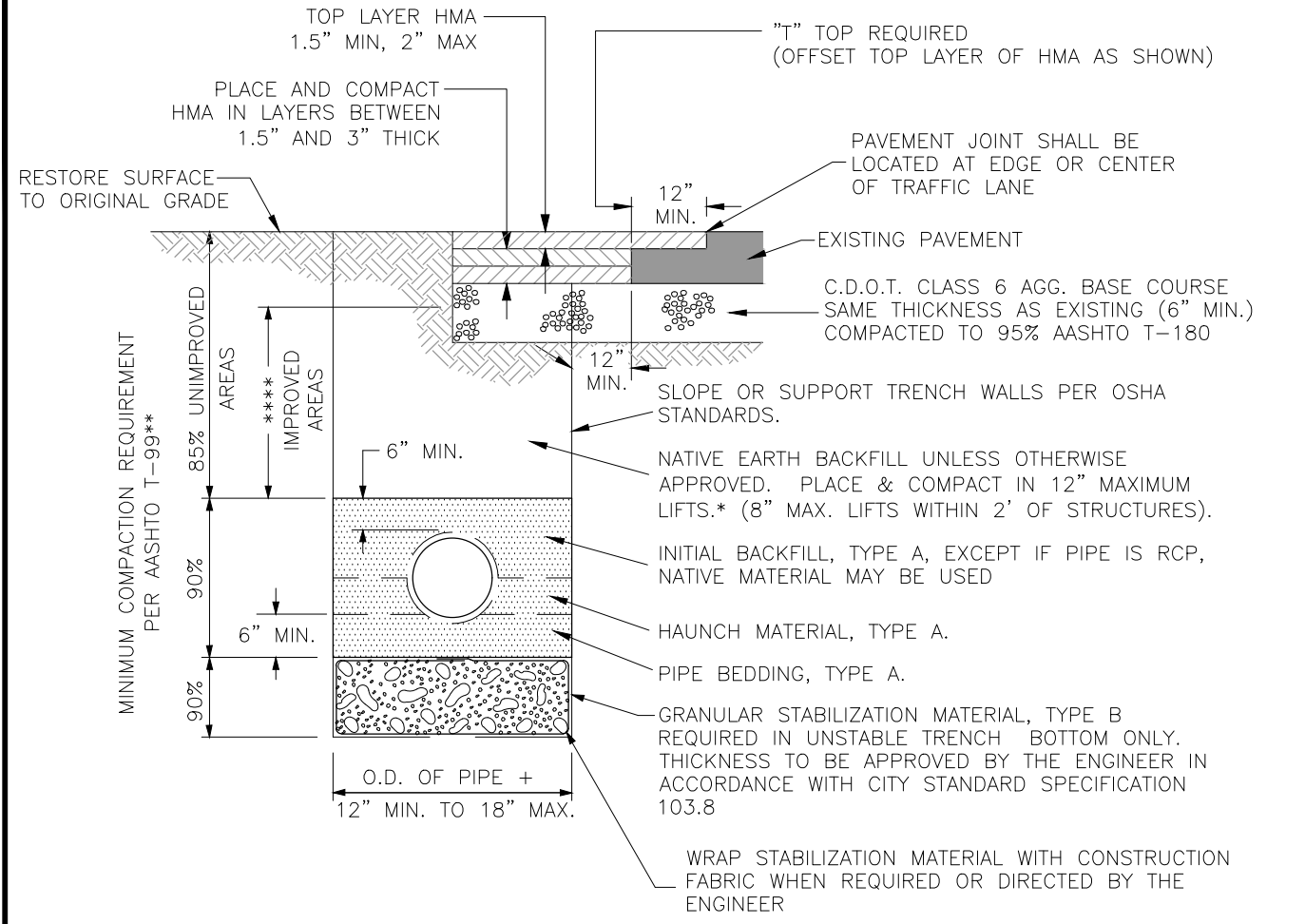
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HORIZONTAL:	1" = 40'



PUBLIC WORKS
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RIVER BEND LIFT STATION ELIMINATION PROJECT
RETENTION PONDS



MAXIMUM PERCENT BY WEIGHT PASSING SQUARE MESH SIEVES			
SIEVE SIZE	PIPE BEDDING, HAUNCH & INITIAL BACKFILL MATERIAL (CRUSHED ROCK, TYPE A)	GRANULAR STABILIZATION MATERIAL (SCREENED OR CRUSHED ROCK, TYPE B)	IMPORTED BACKFILL MATERIAL (USE ONLY WHERE SPECIFIED OR DIRECTED BY THE ENGINEER)
12 INCH	---	---	100
2 INCH	---	100	---
1 INCH	100	---	---
NO 4	---	15 MAX	---
NO 200	20 MAX ***	---	3% - 20% ***

* 24" COMPACTED BACKFILL REQUIRED OVER ALL PLASTIC PIPE PRIOR TO VEHICLE OR HEAVY EQUIPMENT LOADING.

** COMPACT PER AASHTO T-180 WHEN SPECIFIED, DIRECTED OR APPROVED BY THE ENGINEER.

*** PLASTIC INDEX (PI) SHALL NOT BE MORE THAN 7.

**** TRENCH BACKFILL UNDER ASPHALT OR CONCRETE PAVEMENT SHALL BE COMPACTED PER SECTION 103.14 AND TABLE 101 IN THE SSFUU (STANDARD SPECIFICATIONS FOR UNDERGROUND UTILITIES).

ALL BACKFILL MATERIAL SHALL BE UNIFORMLY ADJUSTED TO WITHIN 2% OF THE OPTIMUM MOISTURE CONTENT PRIOR TO PLACEMENT AND COMPACTION.

TYPICAL TRENCH DETAIL

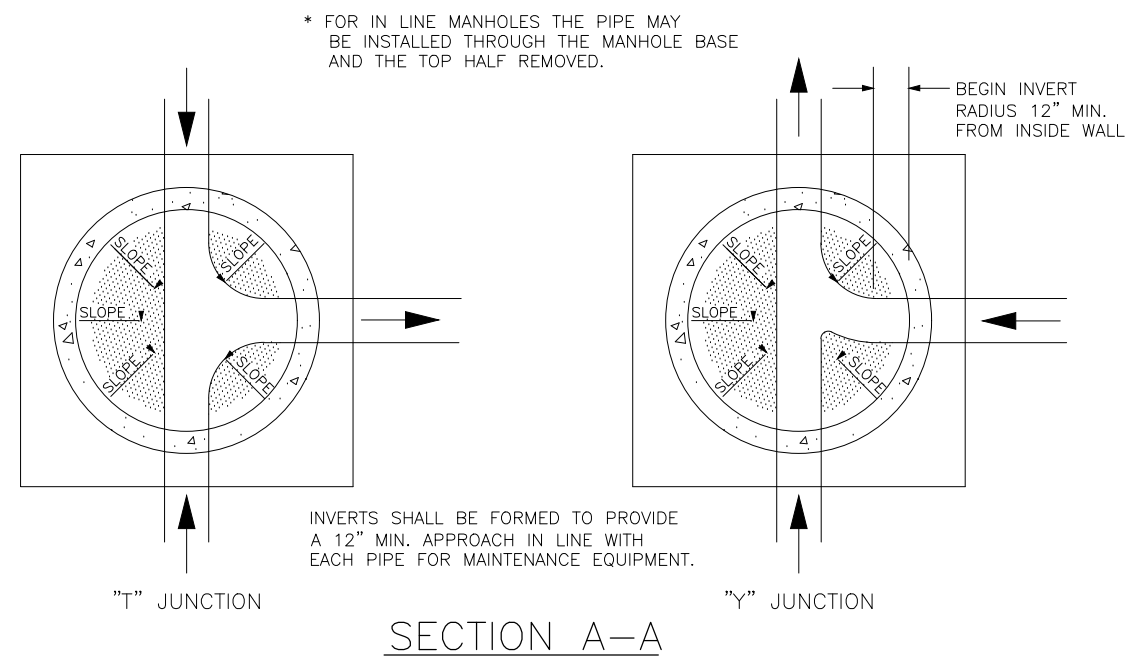
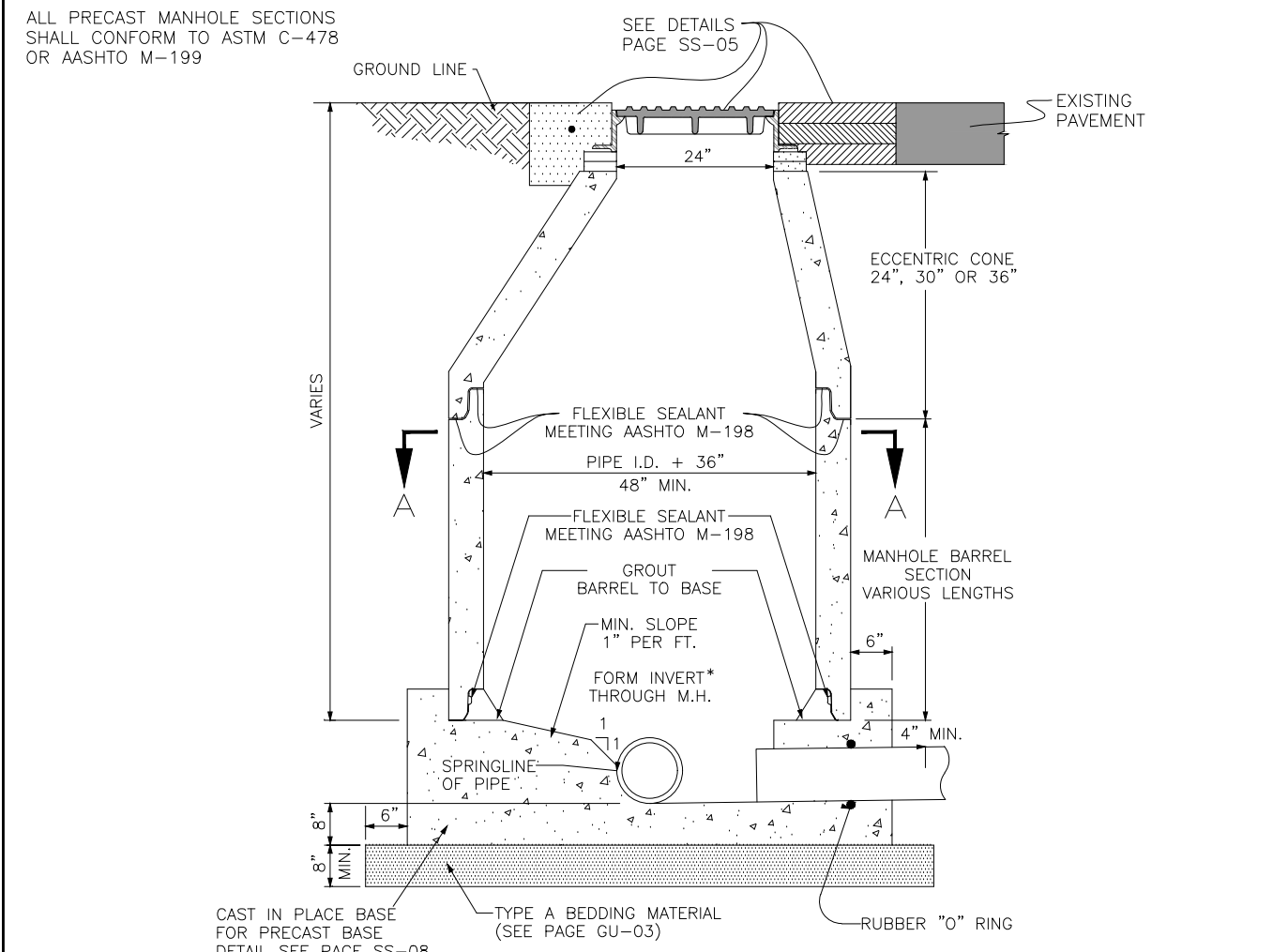
DEPARTMENT OF PUBLIC WORKS AND PLANNING
ENGINEERING DIVISION
CITY OF GRAND JUNCTION, COLORADO

GENERAL UTILITY
DETAIL

APPROVED: DN
REVISED: FEB. 2007
DRAWN: TLT

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STANDARD MANHOLE - CAST IN PLACE BASE

DEPARTMENT OF PUBLIC WORKS AND PLANNING
ENGINEERING DIVISION
CITY OF GRAND JUNCTION, COLORADO

STANDARD SANITARY SEWER
DETAIL

APPROVED: DN
REVISED: FEB. 2007
DRAWN: TLT

PAGE
SS-02

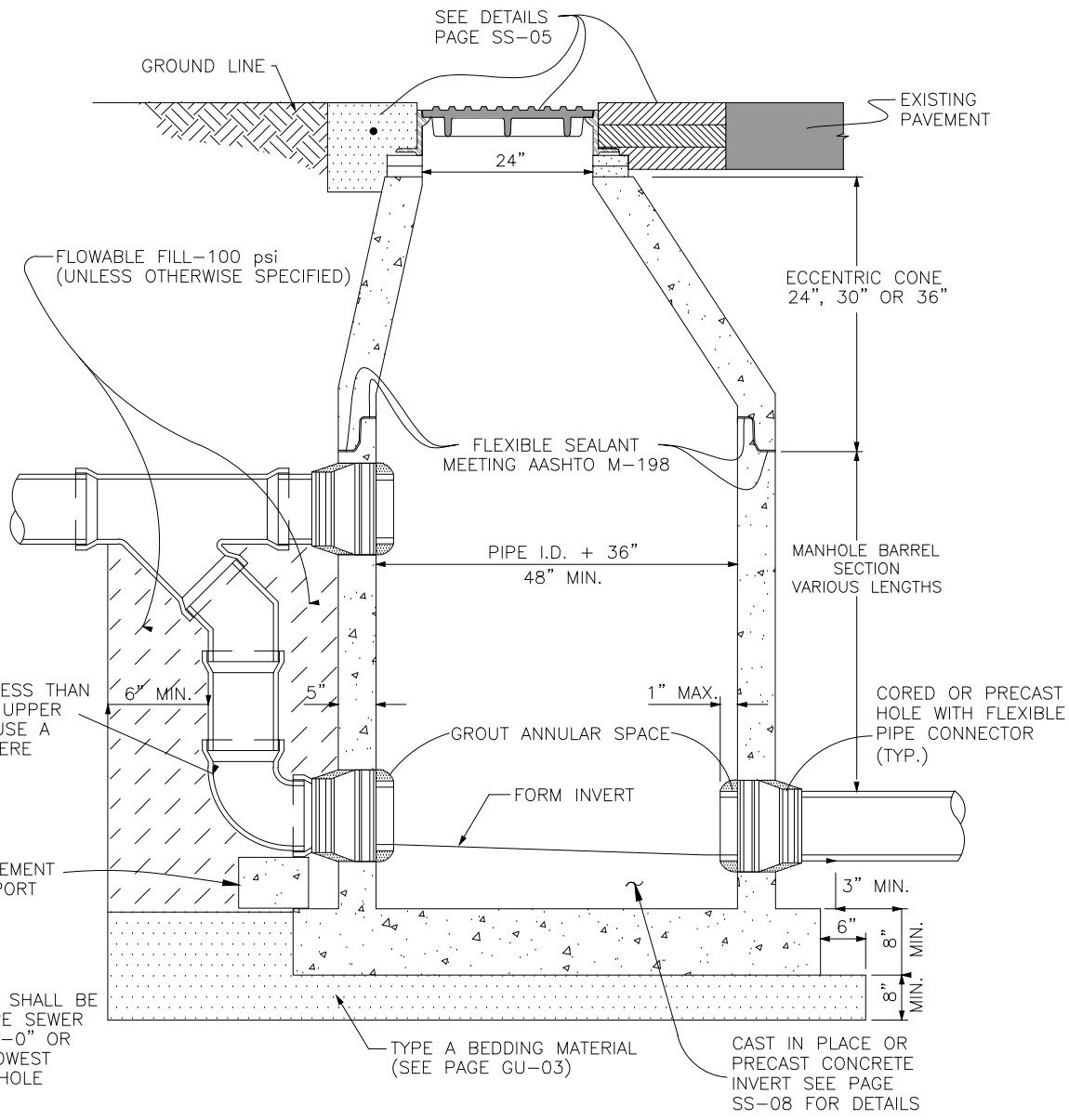


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RIVER BEND LIFT STATION ELIMINATION PROJECT
STANDARD DETAILS

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ALL PRECAST MANHOLE SECTIONS SHALL CONFORM TO ASTM C-478 OR AASHTO M-199



IF DROP IS LESS THAN 4' ELIMINATE UPPER ELBOW AND USE A 45° ELBOW HERE

NOTE: DROP MANHOLE SHALL BE PROVIDED WHERE SEWER ENTERS M.H. 2'-0" OR MORE ABOVE LOWEST INVERT OF MANHOLE

NOTE: THE INTERIOR SURFACES OF ALL DROP MANHOLES SHALL BE EPOXY COATED IN ACCORDANCE WITH SECTION 102 OF THE CITY'S STANDARD SPECIFICATIONS FOR CONSTRUCTION OF UNDERGROUND UTILITIES.

DROP MANHOLE

DEPARTMENT OF PUBLIC WORKS AND PLANNING
ENGINEERING DIVISION
CITY OF GRAND JUNCTION, COLORADO

STANDARD SANITARY SEWER
DETAIL

APPROVED: DN
REVISED: DEC. 2009
DRAWN: JAH

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SS-04

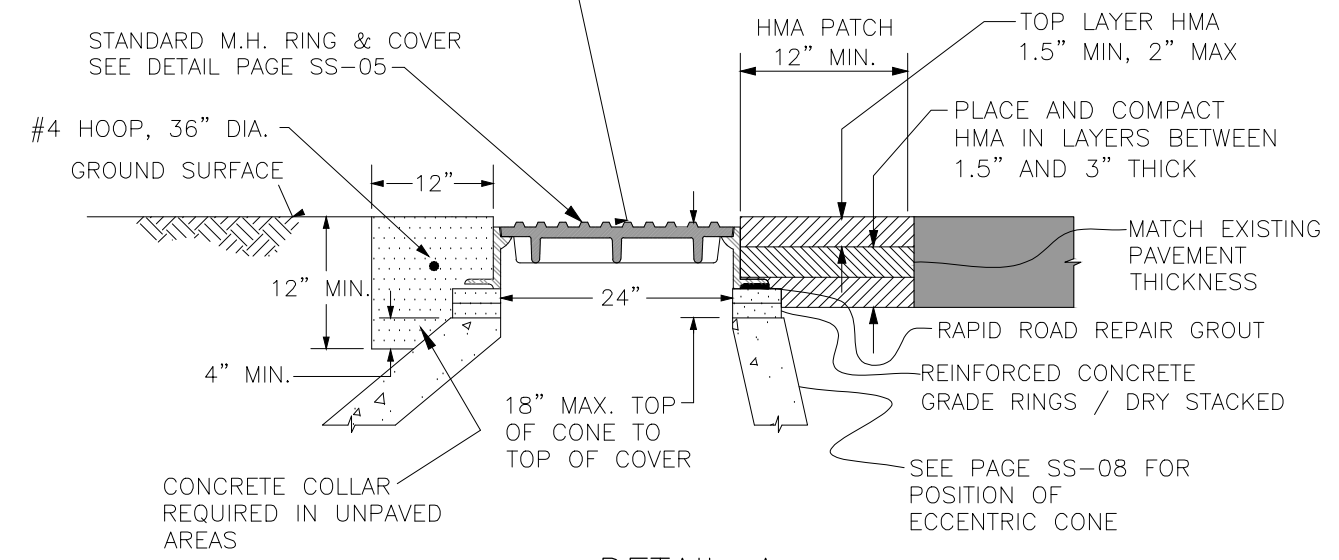
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PROJECT NO.	DATE
902-F2000	2020
HMC	2020
ALC	2020
ALC	2020
ALC	2020

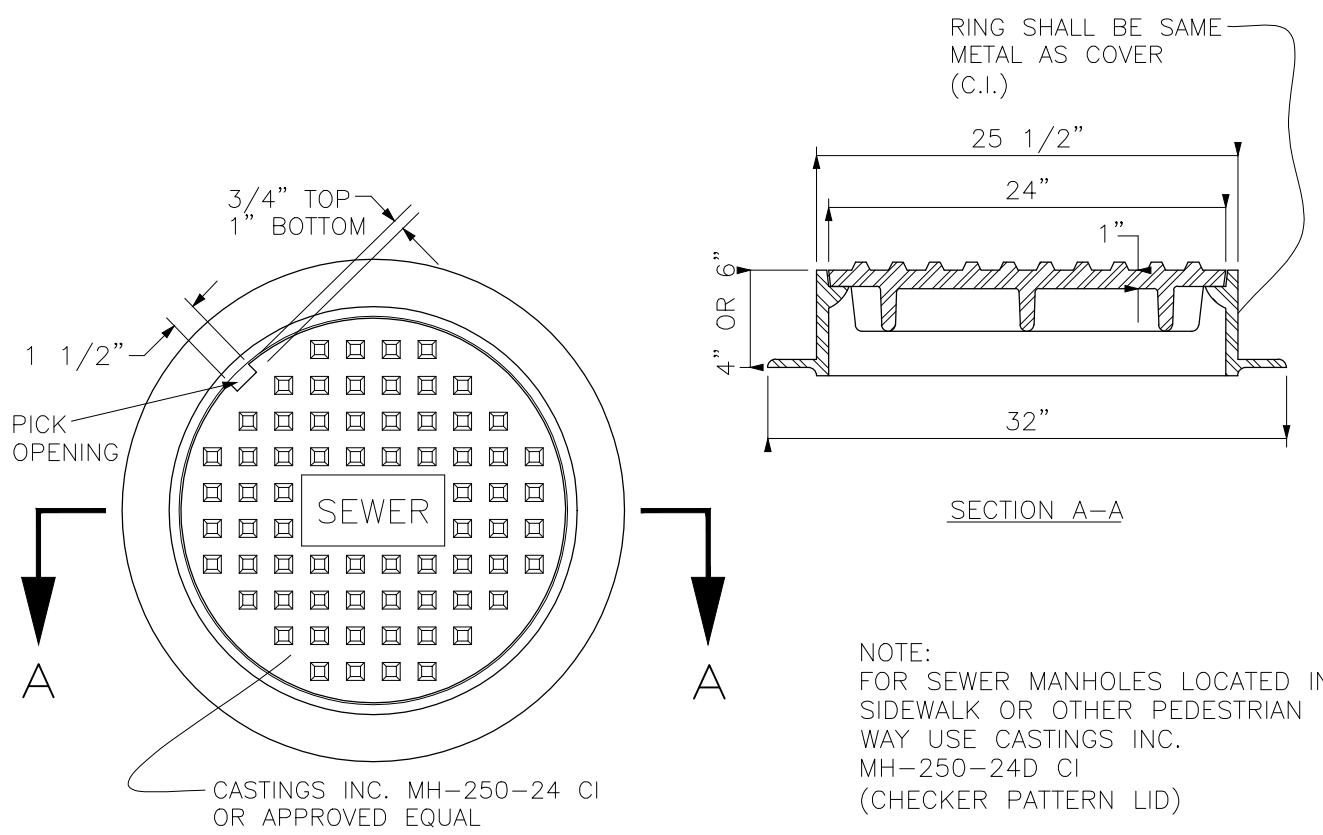
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ADJUST MANHOLE RING AND COVER TO MATCH SLOPE OF PAVEMENT. TOP OF KNOBS ON MANHOLE LID SHALL BE FLUSH WITH, OR NO MORE THAN 1/8" BELOW TOP OF PAVEMENT.



DETAIL A



SECTION A-A

NOTE: FOR SEWER MANHOLES LOCATED IN SIDEWALK OR OTHER PEDESTRIAN WAY USE CASTINGS INC. MH-250-24D CI (CHECKER PATTERN LID)

STANDARD MANHOLE RING AND COVER

DEPARTMENT OF PUBLIC WORKS AND PLANNING
ENGINEERING DIVISION
CITY OF GRAND JUNCTION, COLORADO

STANDARD SANITARY SEWER
DETAIL

APPROVED: SBG
REVISED: JUNE 2010
DRAWN: JAH

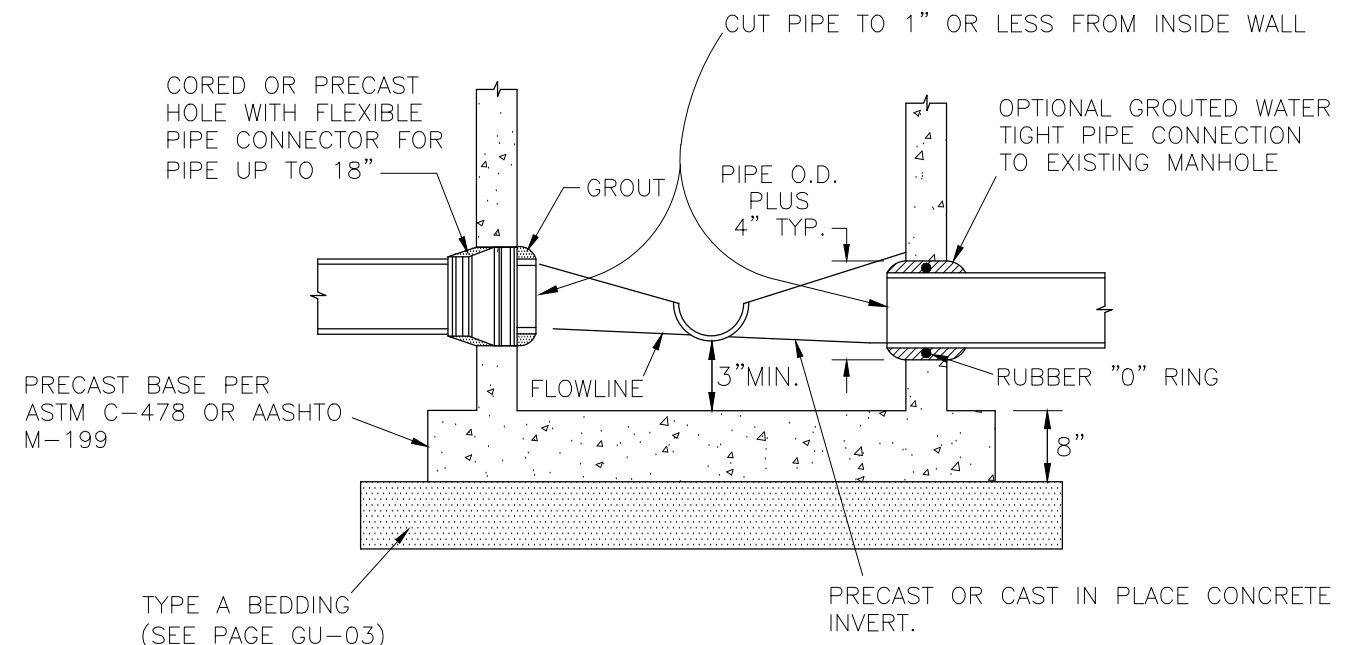
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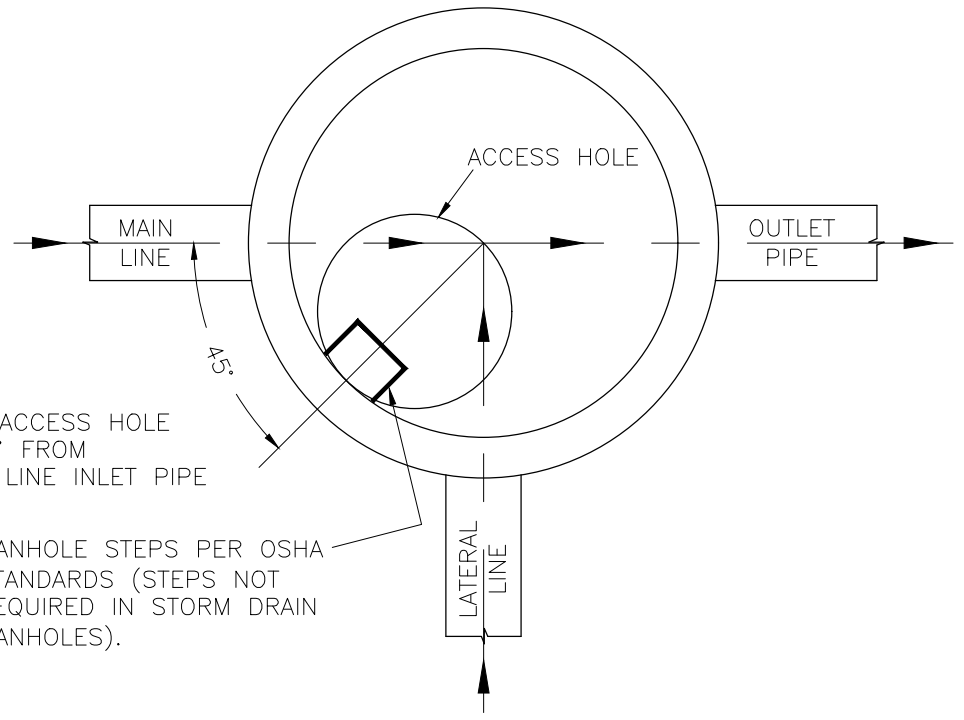
**RIVER BEND LIFT STATION ELIMINATION PROJECT
STANDARD DETAILS**

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GROUT FOR PIPE CONNECTIONS SHALL BE ALL-CRETE (5 OR 20 MINUTE SET) MANUFACTURED BY FOSROC INC. OR AN APPROVED SUBSTITUTE.



PRECAST MANHOLE BASE/TIE TO EXISTING MANHOLE WITHOUT BOOT



MANHOLE ACCESS LOCATION

PRECAST MANHOLE BASE, PIPE CONNECTIONS AND ACCESS HOLE LOCATION

DEPARTMENT OF PUBLIC WORKS AND PLANNING ENGINEERING DIVISION CITY OF GRAND JUNCTION, COLORADO	STANDARD SANITARY SEWER DETAIL	APPROVED: <u>DN</u> DATE: <u>JULY 2005</u> DRAWN: <u>CM</u>	PAGE SS-08
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REVISION	DESCRIPTION	DATE	PROJECT NO. 902-F2000
REVISION Δ			DRAWN BY HMC DATE 2020
REVISION Δ			DESIGNED BY ALC DATE 2020
REVISION Δ			CHECKED BY ALC DATE 2020
REVISION Δ			APPROVED BY ALC DATE 2020

SCALES: PLAN & PROFILE
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PUBLIC WORKS
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RIVER BEND LIFT STATION ELIMINATION PROJECT
STANDARD DETAILS



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