



# TOWN OF PAONIA

## DORRIS AVE SEWER REPLACEMENT

### PAONIA, CO

JUNE 2023

### LEGEND

—	EX PROPERTY LINE	=====	PP SANITARY SEWER LINE ALIGNMENT
- - -	EX RIGHT-OF-WAY	=====	PP WATER LINE ALIGNMENT
-X-	EX FENCE	WM-----	PP WATER METER & SERVICE
-W-	EX WATER LINE	5540	PP CONTOURS-MAJOR
-SS-	EX SANITARY SEWER LINE	-X-	PP CONTOURS-MINOR
-OHE-	EX O.H. ELECTRIC	-----UG-	PP FENCE
-UGE-	EX U.G. ELECTRIC LINE	-----	PP U.G. ELECTRIC LINE
-GAS-	EX U.G. GAS LINE	-----	PP EROSION CONTROL SILT FENCE
-TEL-	EX U.G. TELEPHONE LINE	-----	PP EROSION CONTROL BALES
-CTV-	EX U.G. CABLE LINE	-----	PP EROSION CONTROL LOG
5539	EX CONTOURS-MAJOR	-----	PP FIRE HYDRANT
-----	EX CONTOURS-MINOR	-----	PP WATER LINE FITTING
⊕	EX FIRE HYDRANT	-----	PP WATER VALVE
⊕	EX WATER VALVE	-----	PP WELL
⊕	EX WATER MANHOLE	-----	PP SPOT ELEVATION
⊕	EX SANITARY SEWER MANHOLE		
⊕	EX TELEPHONE MANHOLE		
⊕	EX STORM SEWER MANHOLE		
⊕	EX GAS METER		
⊕	EX LIGHT POLE		
⊕	EX UTILITY POLE		
⊕	EX OVERHANGING LIGHT POLE		
⊕	EX SIGN		
⊕	EX VEGETATION (SIZE VARIES)		

# FOR BID



**VICINITY MAP**  
N.T.S.

### SHEET INDEX

SHEET NUMBER	DESCRIPTION
	COVER SHEET
<b>GENERAL</b>	
G1	GENERAL NOTES AND DETAILS
<b>CIVIL</b>	
C1	SEWER REPLACEMENT PLAN & PROFILE: STA 0+00 TO 5+84.03
C2	CIVIL DETAILS

### PARTICIPANTS

**OWNER**  
TOWN OF PAONIA  
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PAONIA, COLORADO 81428  
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**CONSULTING/DESIGN ENGINEER**  
RESPEC COMPANY, LLC  
5540 TECH CENTER DR, STE 100  
COLORADO SPRINGS, CO 80903  
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PHONE: (719) 402-0016

### SURVEY DATA

TOPOGRAPHY SURVEY CONDUCTED BY WILMORE & COMPANY (DATED 05/03/23). SEE SURVEY FOR ESTABLISHED CONTROL. THE FOLLOWING COORDINATE SYSTEM AND DATUM RECORD IS AS FOLLOWS:

**HORIZONTAL DATUM:**  
MODIFIED COLO STATE PLANE COORDINATE SYSTEM, CINTRAL ZONE, NORTH AMERICAN DATUM 1983. SCALE FACTOR 1.0002444470. DELTA COUNTY LOCAL COORDINATE SYSTEM (DCLCS08).

**VERTICAL DATUM:**  
BASED UPON (DCLCS08) P001 (3/4" DATUM ROD IN MONUMENT BOX) CALIBRATION 2008. (NAVD 1988).

UTILITIES SHOWN WITHIN THE SURVEY HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION, EXISTING DRAWINGS AND/OR UTILITY LOCATE MARKINGS. THE SURVEYOR NOR ENGINEER MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR AND ENGINEER FURTHER DO NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM THE INFORMATION AVAILABLE.

#### PRE-EXCAVATION CHECKLIST

- Gas and Other Utility Lines Shown on Construction Plans
- Utility Notification Center of Colorado (UNCC) Call at Least Two (2) Business Days Ahead 1-800-922-1987
- Utilities Located & Marked on the Ground
- Employees Briefed on Marking and Color Codes
- Employees Trained on Excavation and Safety Procedures for Natural Gas Lines
- When Excavation Approaches Gas Lines, Employees Must Expose Lines by Careful Probing and Hand-Digging

#### COLOR CODE For Marking Underground Utility Lines

- Proposed Excavation
- Temporary Survey Markings
- Electric
- Gas, Oil, Steam
- Communication, CATV
- Potable Water
- Irrigation, Reclaimed Water, Slurry Lines
- Sewer



### SIGNATURE BLOCKS

#### TOWN APPROVALS

THE TOWN OF PAONIA RECOGNIZES THE DESIGN ENGINEER AS HAVING RESPONSIBILITY FOR THE DESIGN. THE TOWN OF PAONIA HAS LIMITED ITS SCOPE OF REVIEW ACCORDINGLY.

TOWN OF PAONIA DESIGN APPROVAL

BY: \_\_\_\_\_ DATE: \_\_\_\_\_

CIP NO. \_\_\_\_\_

IN CASE OF ERRORS OR OMISSIONS WITH THE WATER DESIGN AS SHOWN ON THIS DOCUMENT, THE STANDARDS AS DEFINED IN THE "RULES AND REGULATIONS FOR INSTALLATION OF WATER MAINS AND SERVICES" SHALL RULE. APPROVAL EXPIRES 180 DAYS FROM DESIGN APPROVAL.

#### ENGINEER'S STATEMENT:

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID DETAILS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE APPLICABLE GOVERNING AGENCIES.

JAMES C. STARNES, PE #52530  
RESPEC COMPANY, LLC

DATE

PROJECT NO.



THE PARTIES RESPONSIBLE FOR THIS PLAN HAVE FAMILIARIZED THEMSELVES WITH ALL CURRENT ACCESSIBILITY CRITERIA AND SPECIFICATION AND THE PROPOSED PLAN REFLECTS ALL SITE ELEMENTS REQUIRED BY THE APPLICABLE ADA DESIGN STANDARDS AND GUIDELINES AS PUBLISHED BY THE UNITED STATES DEPARTMENT OF JUSTICE. APPROVAL OF THIS PLAN BY JURISDICTIONAL AGENCIES DOES NOT ASSURE COMPLIANCE WITH THE ADA OR ANY OTHER FEDERAL OR STATE ACCESSIBILITY LAWS OR ANY REGULATIONS OR GUIDELINES ENACTED OR PROMULGATED UNDER OR WITH RESPECT TO SUCH LAWS.

GENERAL NOTES

PROJECT DESCRIPTION: REPLACEMENT OF APPROXIMATELY 565' OF SANITARY SEWER WITH 8" PVC SDR26 3034 PIPE AND TWO (2) 5' DIAMETER MANHOLES

1. ALL UTILITY CONSTRUCTION TO BE CONDUCTED IN CONFORMANCE WITH THE CURRENT TOWN OF PAONIA (THE TOWN) SPECIFICATIONS.
2. ALL PLANS ON THE JOB SITE SHALL BE SIGNED BY THE TOWN AND THE TOWN'S ENGINEER. ANY REVISION TO THE PLANS SHALL BE SO NOTED WITH THE OLD DRAWING MARKED NOT VALID. EACH OF THEIR JURISDICTIONS, AUTHORITIES AND RESPONSIBILITIES ARE APPLICABLE.
3. ALL STATIONING IS CENTER LINE UNLESS OTHERWISE NOTED. ALL ELEVATIONS ARE INVERTS UNLESS OTHERWISE NOTED.
4. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE TOWN. THE TOWN RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO ITS STANDARDS AND SPECIFICATIONS.
5. THE CONTRACTOR SHALL OBTAIN LOCATES PRIOR TO ANY EXCAVATION
6. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO ANY UTILITY FACILITIES AS A RESULT OF HIS ACTIONS. THE CONTRACTOR SHALL MAKE ALL THE REQUIRED REPAIRS IMMEDIATELY TO THE SATISFACTION OF THE TOWN OF PAONIA.
7. ALL OVER-LOT GRADING MUST BE COMPLETED TO WITHIN ONE (1) FOOT OF FINAL GRADE PRIOR TO INSTALLATION OF WASTEWATER INFRASTRUCTURE.
8. ALL WATER AND SEWER SERVICE LOCATIONS SHALL BE CLEARLY MARKED ON EITHER THE CURB HEAD OR THE FACE OF THE CURB, WITH AN "S" FOR SEWER AND A "W" FOR WATER.
9. CATHODIC PROTECTION ON DUCTILE IRON PIPELINES SHALL BE MODIFIED TO THE EXTENT NECESSARY TO CONFORM WITH THE DESIGN CRITERIA AND STANDARD CONSTRUCTION SPECIFICATIONS OF THE TOWN OF PAONIA AS THEY MAY EXIST AT THE TIME THE WORK IS ACCOMPLISHED. CORROSION PROTECTION IS REQUIRED FOR ALL DUCTILE IRON PIPE AND ALL PROTECTION SHALL COMPLY WITH WASTEWATER STANDARDS.
10. COMPACTION TESTS SHALL BE 95% MODIFIED PROCTOR AS DETERMINED BY ASTM D1557, UNLESS OTHERWISE APPROVED BY THE TOWN OR HIGHER STANDARD AS IMPOSED BY ANOTHER AGENCY HAVING RIGHT-OF-WAY JURISDICTION. THIS SHALL INCLUDE ALL VALVES, FIRE HYDRANT RUNS, WATER & SEWER SERVICE LINES AND MANHOLES. ALL REPORTS SHALL BE SUBMITTED TO THE DESIGN ENGINEER FOR REVIEW AND APPROVAL.
11. THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY. THE LOCATION OF ALL UTILITIES SHALL BE FIELD VERIFIED PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. THE TOWN SHALL BE NOTIFIED OF ANY DEVIATIONS TO THE LINE AND/OR GRADE AS DEPICTED ON THE PLANS. CONTRACTOR SHALL SUBMIT TO THE TOWN AND THE DESIGN ENGINEER OF RECORD A REPORT OF THE FIELD VERIFIED INFORMATION PRIOR TO THE START OF CONSTRUCTION.
12. ALL BENDS SHALL BE FIELD STAKED PRIOR TO THE START OF CONSTRUCTION.
13. BENDS, DEFLECTIONS & CUT PIPE LENGTHS SHALL BE USED TO HOLD HORIZONTAL ALIGNMENT OF SEWER LINES TO NO MORE THAN 0.5' FROM THE DESIGNED ALIGNMENT. CONSTRUCTION STAKES TO BE AT 25' INTERVALS ALONG CURVES TO ASSURE LOCATION OF PIPE LINE CONSTRUCTION.
14. AT ALL LOCATIONS WHERE CAP AND STUB IS NOTED ON DRAWINGS, PROVIDE A PLUG AT THE END OF THE PIPE JOINT NEAREST THE SPECIFIED STATION.
15. THE CONTRACTOR SHALL REPLACE OR REPAIR DAMAGE TO ALL SURFACE IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO FENCES, LANDSCAPING, CURB AND GUTTER AND/OR ASPHALT THAT MAY BE CAUSED DURING CONSTRUCTION.
16. ALL CONTRACTORS WORKING ON OR NEAR A WATER OR SEWER FACILITY (TO INCLUDE SERVICE LINES) SHALL HAVE LIABILITY INSURANCE NAMING THE OWNER AS AN ADDITIONAL INSURED AND SHALL PROVIDE A CURRENT COPY OF WORKERS COMPENSATION INSURANCE ON FILE WITH THE OWNER. NO WORK CAN PROCEED WITHOUT CURRENT CERTIFICATES ON FILE AT THE DISTRICTS' OFFICE. THE TOWN OF PAONIA WILL DETERMINE APPROPRIATE AND NECESSARY INSURANCES IN ACCORDANCE WITH THE INCLUSION AGREEMENT FOR THIS PROJECT AND OTHER APPLICABLE REQUIREMENTS.
17. THE CONTRACTOR SHALL NOTIFY THE TOWN AND ALL AFFECTED UTILITY COMPANIES ADJACENT TO THE PROPOSED UTILITY CONSTRUCTION A MINIMUM OF 48 HOURS AND A MAXIMUM OF 96 HOURS PRIOR TO THE START OF CONSTRUCTION. CONSTRUCTION MEETINGS SHALL BE REQUIRED WITH THE CONTRACTOR, TOWN ENGINEER AND ALL OTHER PARTIES AS DEEMED NECESSARY BY THE TOWN.
18. COMMENCEMENT OF CONSTRUCTION OF WATER/SEWER SYSTEMS WITHIN THE TOWN OF PAONIA:
  - a) PRIOR TO THE START OF CONSTRUCTION, A PRE-CONSTRUCTION MEETING IS REQUIRED A MINIMUM OF 48 HOURS IN ADVANCE OF COMMENCEMENT OF WORK. A REPRESENTATIVE OF THE TOWN, A REPRESENTATIVE OF THE CONTRACTOR AND DESIGN ENGINEER ARE REQUIRED TO ATTEND. CONTACT THE TOWN TO SCHEDULE THE PRE-CONSTRUCTION MEETING. NO PRE-CONSTRUCTION MEETING CAN BE SCHEDULED PRIOR TO THREE (3) SIGNED/APPROVED PLAN SETS ARE RECEIVED BY THE TOWN.
  - b) THE CONTRACTOR IS REQUIRED TO NOTIFY THE TOWN A MINIMUM OF 48 HOURS AND A MAXIMUM OF 2 WEEKS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL ALSO NOTIFY AFFECTED UTILITY COMPANIES AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION ADJACENT TO THE KNOWN UTILITY LINES.
19. ALL THE WASTEWATER TESTING OF FACILITIES ARE TO BE CONSISTENT WITH TOWN OF PAONIA UTILITY PLANS AND SPECS:
  - a) THE CONTRACTOR SHALL NOTIFY THE TOWN A MINIMUM OF 48 HOURS AND A MAXIMUM OF 96 HOURS PRIOR TO THE START OF ANY TESTING.
  - b) ALL SANITARY SEWER FACILITIES ARE TO MEET THE FOLLOWING TESTING REQUIREMENTS
    - ALL LINES SHALL BE JET CLEANED PRIOR TO VACUUM OR PRESSURE TESTING
    - ALL MANHOLES SHALL BE VACUUM TESTED WITH TOWN STAFF PRESENT PRIOR TO CCTV INSPECTION.
    - SEWER MAINS TO BE PRESSURE TESTED PRIOR TO CCTV INSPECTION
    - SHALL BE IN ACCORDANCE WITH THE FINAL SPECIFICATIONS FOR THIS PROJECT AND THE REQUIREMENTS OF THE DESIGN CRITERIA AND STANDARD CONSTRUCTION SPECIFICATIONS OF THE TOWN OF PAONIA.
    - ALL LINES SHALL BE CCTV INSPECTED AND VIDEO SHALL TO BE SUBMITTED TO THE TOWN FOR REVIEW AND APPROVAL.
20. PRELIMINARY ACCEPTANCE SHALL BE DEFINED AS THE POINT IN TIME THAT THE TOWN ACCEPTS THE FACILITY FOR USE. PER TOWN RULES, REGULATIONS, POLICIES AND PROCEDURES ALL SURFACE IMPROVEMENTS AND RESTORATION SHALL BE COMPLETED WITHIN 30 DAYS OF COMMENCEMENT. SHOULD THE CONTRACTOR FAIL TO COMPLETE ALL SURFACE IMPROVEMENTS AND RESTORATION WITHIN 30 DAYS OF COMMENCEMENT OF SERVICE, THE TOWN, AT THEIR DISCRETION, MAY ELECT TO COMPLETE THE IMPROVEMENTS AT THE CONTRACTORS COST.
21. FINAL ACCEPTANCE BY THE TOWN OF ANY LINE OR SYSTEM SHALL NOT OCCUR UNTIL COMPLETION OF FINAL ASPHALT LAYERS AND/OR FINAL COMPLETION AND/OR RESTORATION OF ALL SURFACE IMPROVEMENTS. THE WARRANTY PERIOD FOR ALL FACILITIES PRIOR TO FINAL ACCEPTANCE SHALL BE 24 MONTHS COMMENCING AFTER PRELIMINARY ACCEPTANCE.
22. ACCEPTANCE:
  - c) THE TOWN MAY GIVE PRELIMINARY ACCEPTANCE ONCE ALL OF THE TESTS ON ALL THE LINES HAVE BEEN COMPLETED AND A WALK-THRU HAS OCCURRED.
  - d) A SECOND ACCEPTANCE MAY OCCUR ONCE FIRST LIFT OF ASPHALT GOES DOWN AND A SECOND WALK-THRU OF THE SYSTEM OCCURS. IF ALL FACILITIES ARE CLEAN AND ACCESSIBLE, A FINAL ACCEPTANCE MAY OCCUR.
23. ALL SEWER MAINS, INCLUDING SERVICE LINES, SHALL HAVE "AS-BUILT" DRAWINGS PREPARED AND APPROVED PRIOR TO PRELIMINARY ACCEPTANCE BY THE TOWN.
24. INSPECTION FEES: CALL THE TOWN (970-527-4101) FOR FEE SCHEDULE.
25. REUSE OR SALVAGE OF ANY MATERIAL IS LEFT TO THE DISCRETION OF THE TOWN OF PAONIA INSPECTOR
26. ALL TRENCH BACKFILL AND COMPACTION SHALL BE IN ACCORDANCE WITH SECTION "EXCAVATION, TRENCH EXCAVATION AND BACKFILL" OF THE

TOWN OF PAONIA MUNICIPAL CODE.

27. WHERE EXCESSIVE GROUNDWATER IS ENCOUNTERED, UNDERDRAINS AND PUMPS SHALL BE UTILIZED TO KEEP EXCAVATIONS AND INSTALLED PIPE FREE OF WATER BY PUMPING TO THE NEAREST SUITABLE POINT AS APPROVED BY THE TOWN OF PAONIA, PER THE TOWN OF PAONIA MUNICIPAL CODE, SECTION "DRAINAGE AND GROUNDWATER CONTROL".

SYSTEM INSTALLATION NOTES

28. THE CONTRACTOR SHALL ENSURE THAT WASTEWATER AND WATER SERVICE TO ADJACENT PROPERTIES IS MAINTAINED DURING CONSTRUCTION
29. NO TREES OR STRUCTURES ARE PERMITTED WITHIN FIFTEEN FEET (15') OF A WASTEWATER MAIN
30. ALL FIELD STAKING SHALL COMPLY WITH WASTEWATER STANDARDS
31. SANITARY SEWER LENGTHS ARE MANHOLE CENTER TO MANHOLE CENTER. ALL FORCEMAIN PIPES SHALL BE C900 PVC DR14 OR EQUAL, UNLESS OTHERWISE NOTED. SEWER LINES MAY NOT EXCEED 7% GRADE FOR ANY SIZE WITHOUT PRIOR APPROVAL OF THE TOWN. TAPPING SADDLES MAY ONLY BE USED FOR TAPPING PRE-EXISTING MAINS.
32. ALL MANHOLES SHALL BE BUILT WITH ECCENTRIC CONES WITH STEP TREADS, A FLOW-THROUGH PATH, AND A TEE, AND IN ACCORDANCE WITH THE TOWN OF PAONIA MUNICIPAL CODE, SECTION "MANHOLE MATERIALS".
33. ALL UTILITY LINE CROSSINGS WITH WASTEWATER MAINS SHALL BE CONSTRUCTED ACCORDING TO TOWN OF PAONIA MUNICIPAL CODE, SECTIONS "SEWER, SEWER SYSTEM SPECIFICATIONS" AND "CROSSINGS, STANDARD SPECIFICATIONS".
34. ALL SANITARY SEWER MANHOLES SHALL BE WRAPPED WITH RU116 - RUBR-NEK JOINT WRAP OR EQUIVALENT AND COATED.
35. ALL MANHOLES LOCATED WITHIN THE PROJECT LIMITS SHALL BE ADJUSTED TO FINISH GRADE. IF MANHOLES ARE IN POOR CONDITION OR IF THE DISTANCE BETWEEN THE RING/COVER AND CONE OF THE MANHOLE EXCEEDS THE WASTEWATER STANDARDS, THE CONTRACTOR MAY BE REQUIRED TO REPLACE PART OR ALL OF THE EXISTING MANHOLES
36. ALL SEWER MAINS SHALL BE INSTALLED WITH COATED #12 TRACER WIRE. BRING TRACER WIRE UP THROUGH INSIDE OF MANHOLE ALONG STEP TREADS AND RUN OUT OF MANHOLE BELOW MANHOLE RING (CUT GROOVE IN CONE SECTION OR RISERS TO ALLOW RING TO SIT FLAT).
37. COMMENCEMENT OF USE OF SEWER LINES AND/OR SYSTEMS:
  - g) NO SANITARY SEWER FACILITY SHALL BE PLACED IN SERVICE UNTIL THE COMPLETION OF ALL JET CLEANING, PRESSURE TESTING, VACUUM TESTING, CCTV INSPECTION, COMPACTION TESTING, AND AS-BUILT DRAWINGS ARE SUBMITTED AND APPROVED BY THE DISTRICT.
  - h) NO SANITARY SEWER FACILITY SHALL BE PLACED IN SERVICE UNTIL ALL SERVICE LINES ARE COMPLETED AND THE FIRST LIFT OF ASPHALT IS COMPLETED OVER THE LINE. IN THE CASE WHERE NO ASPHALT IS TO BE PLACED OVER THE LINE, ANY REQUIRED SURFACE IMPROVEMENTS SHALL BE COMPLETED PRIOR TO USE OF THE FACILITY.
  - i) ALL NECESSARY EASEMENTS (PLATTED OR DEEDED) ARE DEDICATED, EXECUTED BY THE TOWN, AND RECORDED.
  - j) DOWNSTREAM PLUG CAN BE REMOVED ONCE FIRST LIFT OF ASPHALT IS DOWN AND THE ABOVE REQUIREMENTS ARE MET.
38. ALL SANITARY PIPE MUST BE NON-BLUE COLOR APPROVED BY ENGINEER AND TOWN.
39. THE PROJECT IS UTILIZING EXISTING WASTEWATER STUB(S) IN AN "AS-IS" CONDITION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE STUB(S), CONNECTION, AND SUBSEQUENT EXTENSION MEET ALL CURRENT WASTEWATER STANDARD AND DO NOT HAVE ANY DEFECTS.
40. THE TOWN OF PAONIA DOES NOT GUARANTEE THE ACCURACY OF THE DEPTH, LOCATION, OR CONDITION OF ANY EXISTING STUB(S) SHOWN ON ANY "AS-BUILT" DRAWINGS. FURTHER, THE EXISTING STUB SHALL BE INCLUDED IN THE TWO-YEAR WARRANTY PERIOD FOR THIS PROJECT.

THE ABOVE GUIDELINES ARE SUBJECT TO CHANGE AT ANY TIME.

CONTACTS

DRAINAGE/WATER/WASTEWATER  
CORY HEINIGER, PUBLIC WORKS DIRECTOR: (970)527-4101

ELECTRIC  
DMEA (877)687-3632

GAS  
BLACK HILLS ENERGY (888)890-5554

SURVEY  
WILMORE AND COMPANY (970)527-4200

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IF BAR DOES NOT MEASURE ONE INCH SCALE OF THE DRAWING HAS BEEN ALTERED

Colorado Springs, CO  
5540 Tech Center Dr., Suite 100  
Colorado Springs, CO 80919  
Phone: 719.227.0072  
www.respec.com



TOWN OF PAONIA  
DORRIS AVE SEWER REPLACEMENT  
GENERAL NOTES

NO.	DESCRIPTION	BY	APP.	DATE
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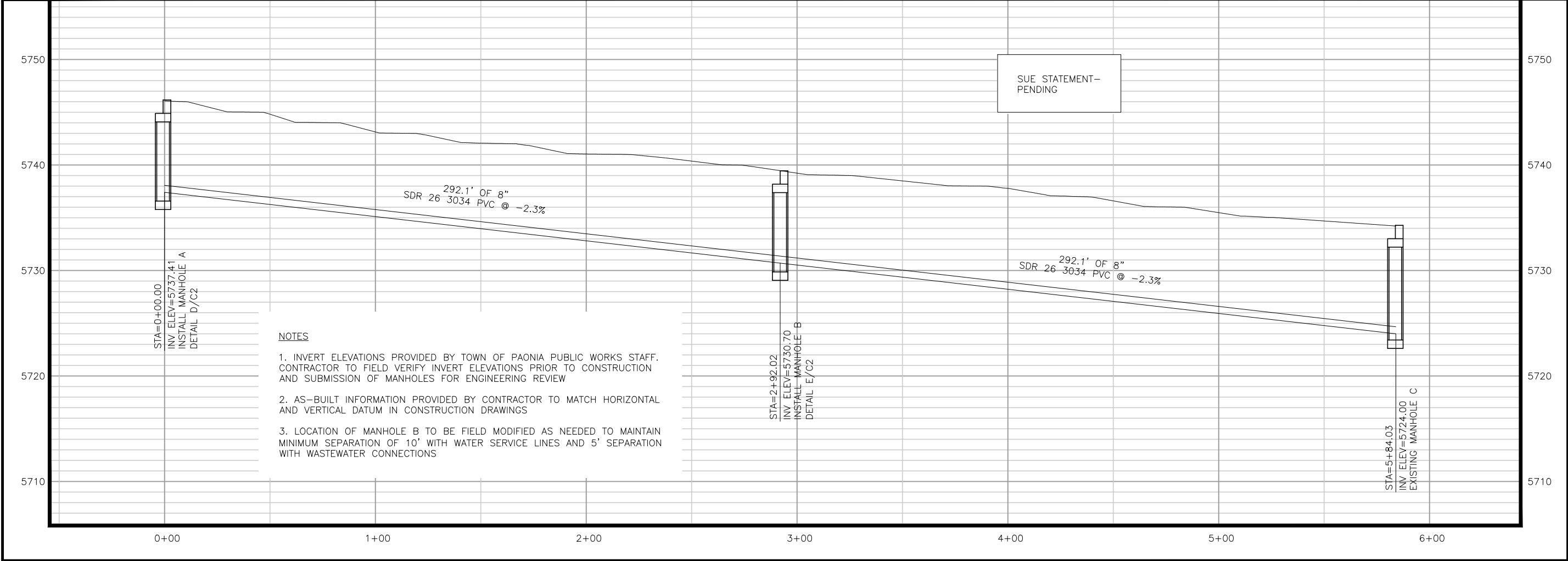
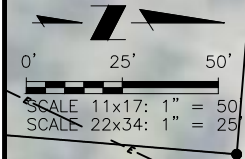
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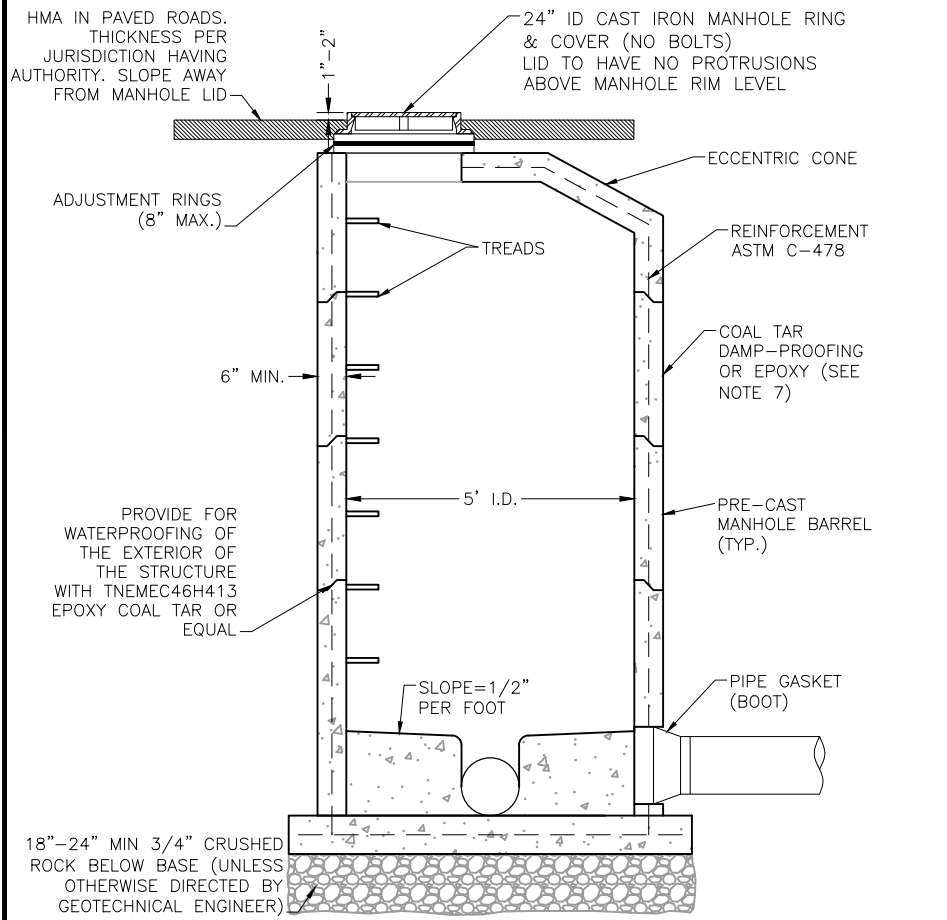
**TOWN OF PAONIA**  
**DORRIS AVE SEWER REPLACEMENT**  
**SEWER REPLACEMENT**

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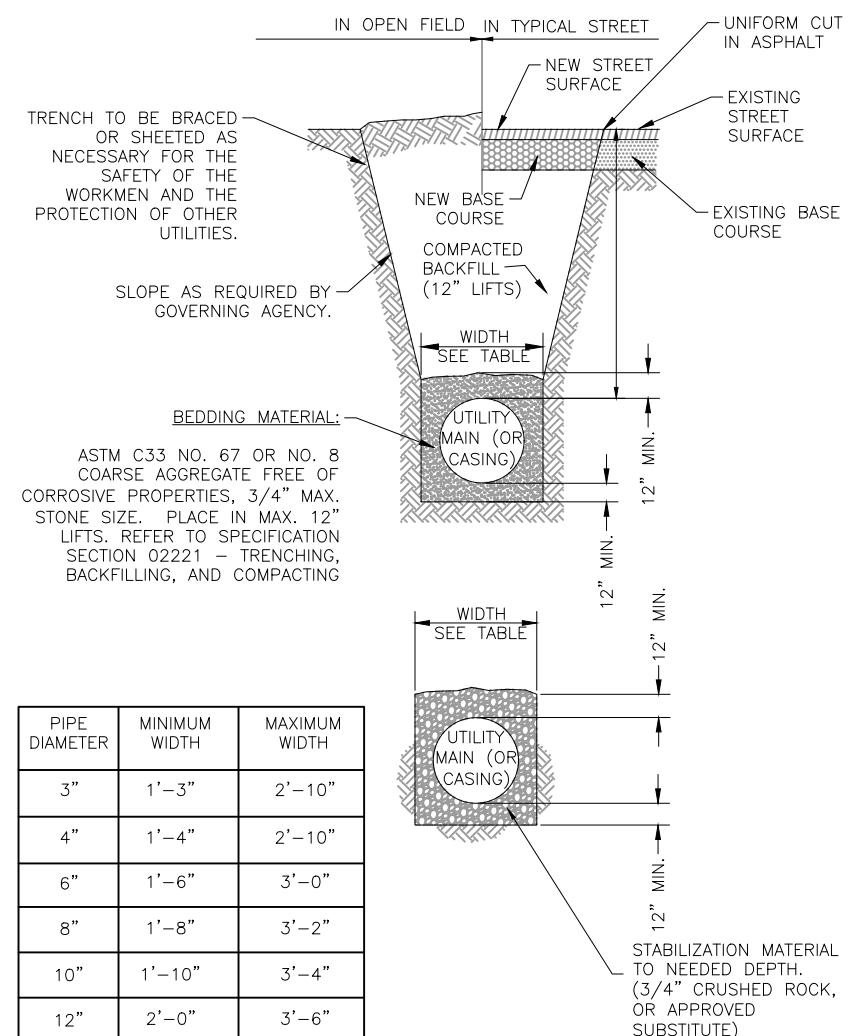
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 Check: JCS

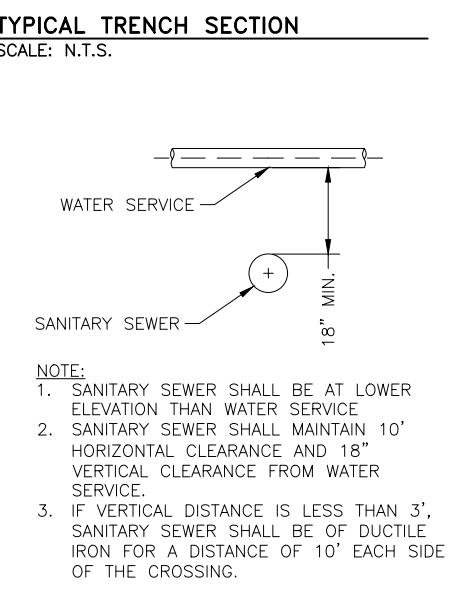
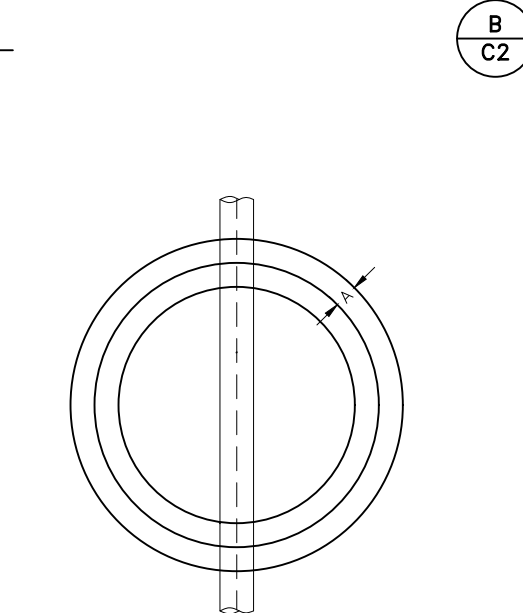
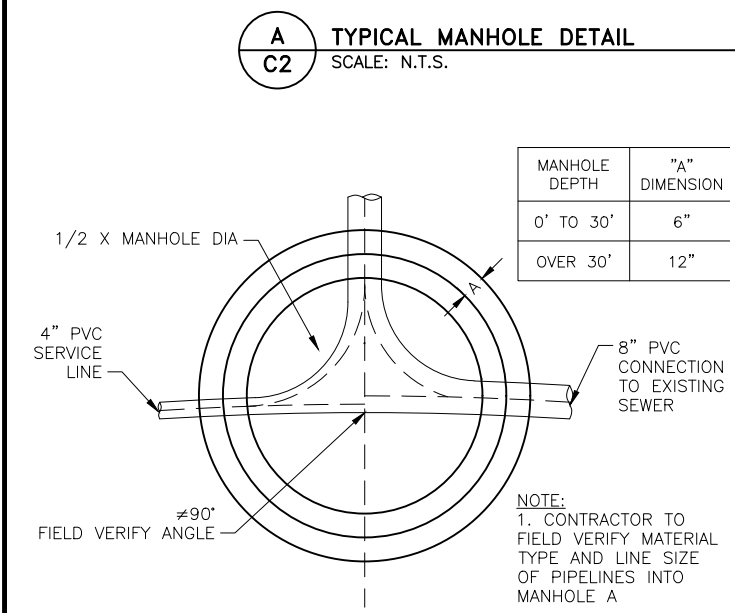
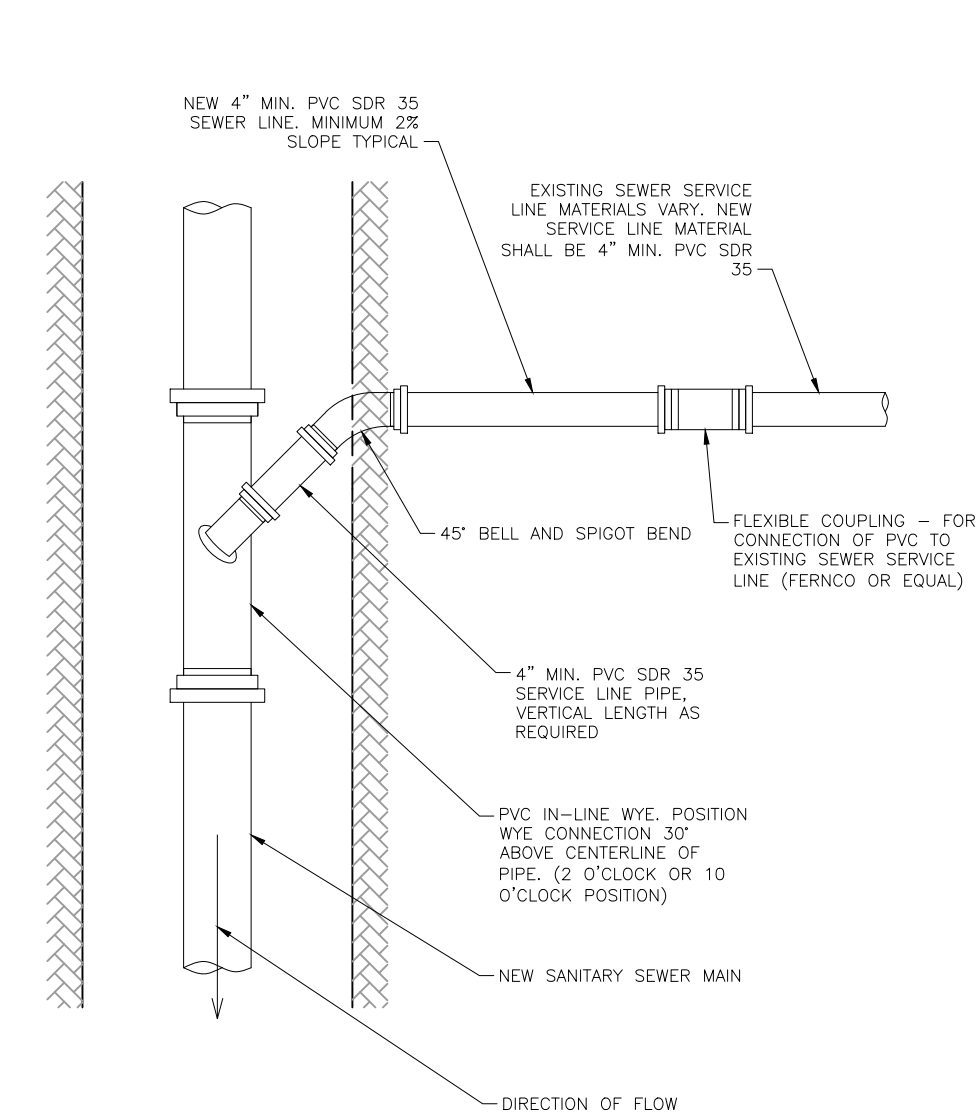
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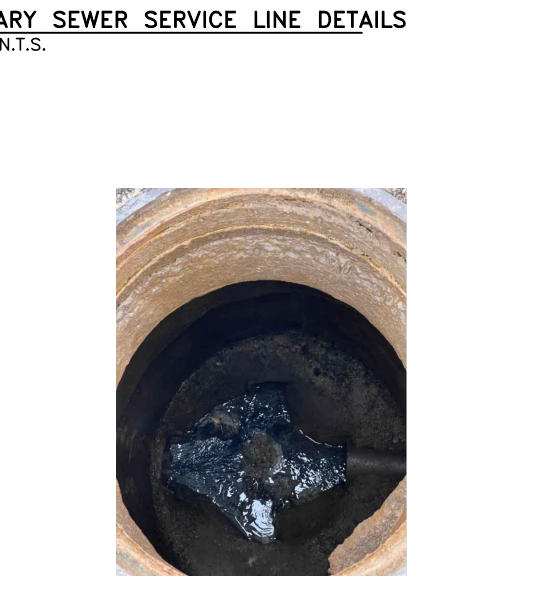
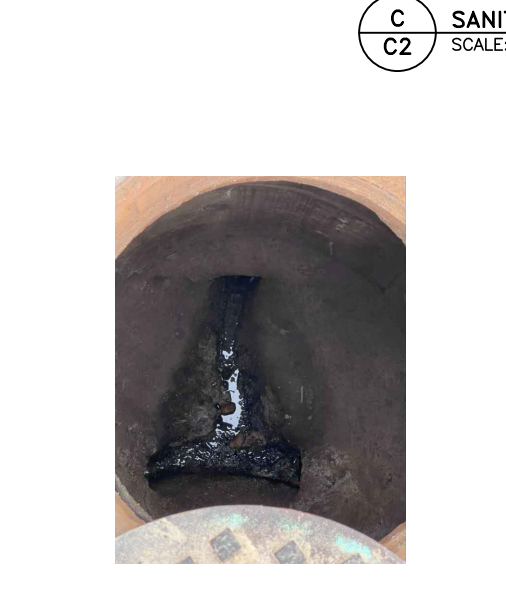
- NOTE:**
1. MANHOLE I.D. SHALL BE MINIMUM 5 FEET.
  2. SHAPING FOR SMOOTH MANHOLE INVERTS MUST BE DONE BY FORMING/SHAPING CONCRETE BASE.
  3. PRE-CAST SECTIONS TO CONFORM TO ASTM C-478
  4. STUB-OUTS SHALL EXTEND A MINIMUM OF 6 FEET OUTSIDE OF MANHOLE AND BE SATISFACTORILY PLUGGED.
  5. CONCRETE MANHOLES MAY BE POURED IN PLACE ONLY WITH PRIOR DESIGN AND INSPECTION APPROVAL.
  6. ALL MORTAR GROUT SHALL BE TYPE V CEMENT.
  7. APPLY TNEMEC46H413 EPOXY COAL TAR DAMP-PROOFING TO ALL EXTERIOR CONCRETE SURFACES.
  8. CENTER REINFORCING IN BASE POUR BELOW PIPE O.D. AT FLOWLINE.
  9. ALL EXTERIOR JOINTS SHALL RECEIVE BUTYL RUBBER JOINT WRAP.
  10. ACTUAL OVER-EXCAVATION TO BE DETERMINED AT THE TIME OF EXCAVATION BY THE GEOTECHNICAL ENGINEER, RMG. ADDITIONAL OVEREXCAVATION MAY BE REQUIRED BASED ON CONDITIONS AT TIME OF EXCAVATION.



PIPE DIAMETER	MINIMUM WIDTH	MAXIMUM WIDTH
3"	1'-3"	2'-10"
4"	1'-4"	2'-10"
6"	1'-6"	3'-0"
8"	1'-8"	3'-2"
10"	1'-10"	3'-4"
12"	2'-0"	3'-6"
18"	2'-10"	3'-9"
24"	3'-4"	4'-3"



- NOTE:**
1. SANITARY SEWER SHALL BE AT LOWER ELEVATION THAN WATER SERVICE
  2. SANITARY SEWER SHALL MAINTAIN 10' HORIZONTAL CLEARANCE AND 18" VERTICAL CLEARANCE FROM WATER SERVICE.
  3. IF VERTICAL DISTANCE IS LESS THAN 3', SANITARY SEWER SHALL BE OF DUCTILE IRON FOR A DISTANCE OF 10' EACH SIDE OF THE CROSSING.



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CIVIL DETAILS

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**FOR BID**

Proj.#: 333.05  
Date: 05/11/23  
Design: JMK  
Drawn: JMK  
Check: JCS

**C2**  
SHEET 3 OF 3