

# TOWN OF BEAN STATION SANITARY SEWER LINE FORCE MAIN & LOW PRESSURE SANITARY SEWER PHASE I

# NOT FOR BID



Index to Drawings		ISSUE DATE	LATEST REVISION DATE
SHEET No.	SHEET TITLE		
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C-1.2	OVERALL FORCE MAIN STATION 72+00 TO STATION 110+75	08/20/2022	09/25/2024
C-1.3	OVERALL LOW PRESSURE SANITARY SEWER TURTLE WAY, LIVINGSTON ROAD, FRED DAVIS ROAD & MCGALL ROAD	08/20/2022	09/25/2024
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C-1.5	OVERALL LOW PRESSURE SANITARY SEWER BAKER LANE, BLUFF VILLAGE ROAD NORTH, BLUFF VILLAGE ROAD SOUTH	08/20/2022	09/25/2024
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C-1.7	SANITARY SEWER FORCE MAIN & LPSS PLAN & PROFILE STATION 10+00 TO 24+50	08/20/2022	09/25/2024
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C-1.10	SANITARY SEWER FORCE MAIN PLAN & PROFILE STATION 51+00 TO 63+50	08/20/2022	09/25/2024
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C-1.12	SANITARY SEWER FORCE MAIN PLAN & PROFILE STATION 75+00 TO 87+00	08/20/2022	09/25/2024
C-1.13	SANITARY SEWER FORCE MAIN PLAN & PROFILE STATION 87+00 TO 99+00	08/20/2022	09/25/2024
C-1.14	SANITARY SEWER FORCE MAIN PLAN & PROFILE STATION 99+00 TO 110+74	08/20/2022	09/25/2024
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C-1.16	TURTLE WAY LPSS PLAN & PROFILE STATION 0+00 TO 3+00	08/20/2022	09/25/2024
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C-1.18	TURTLE WAY LPSS PLAN & PROFILE STATION 16+00 TO 30+50	08/20/2022	09/25/2024
C-1.19	LIVINGSTON ROAD LPSS PLAN & PROFILE STATION 2+00 TO 16+00	08/20/2022	09/25/2024
C-1.20	LIVINGSTON ROAD LPSS PLAN & PROFILE STATION 16+00 TO 25+00	08/20/2022	09/25/2024
C-1.21	LIVINGSTON ROAD LPSS PLAN & PROFILE STATION 25+00 TO 31+38	08/20/2022	09/25/2024
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C-1.23	MCGALL ROAD LPSS PLAN & PROFILE STATION 0+00 TO 8+05	08/20/2022	09/25/2024
C-1.24	CROSBY ROAD LPSS PLAN & PROFILE STATION 0+00 TO 10+50	08/20/2022	09/25/2024
C-1.25	CROSBY ROAD LPSS PLAN & PROFILE STATION 10+50 TO 19+00	08/20/2022	09/25/2024
C-1.26	CROSBY ROAD LPSS PLAN & PROFILE STATION 19+00 TO 24+84	08/20/2022	09/25/2024
C-1.27	PARK DRIVE LPSS PLAN & PROFILE STATION 0+00 TO 6+00	08/20/2022	09/25/2024
C-1.28	PARK DRIVE LPSS PLAN & PROFILE STATION 6+00 TO 12+00	08/20/2022	09/25/2024
C-1.29	PARK DRIVE LPSS PLAN & PROFILE STATION 12+00 TO 16+00	08/20/2022	09/25/2024
C-1.30	PARK DRIVE LPSS PLAN & PROFILE STATION 16+00 TO 22+60	08/20/2022	09/25/2024
C-1.31	PARK DRIVE EXTENSION LPSS PLAN & PROFILE STATION 0+00 TO 2+50	08/20/2022	09/25/2024
C-1.32	LAKE DRIVE LPSS PLAN & PROFILE STATION 0+00 TO 8+28	08/20/2022	09/25/2024
C-1.33	BAKER LANE LPSS PLAN & PROFILE STATION 20+37 TO 26+36	08/20/2022	09/25/2024
C-1.34	BLUFF VILLAGE ROAD NORTH LPSS PLAN & PROFILE STATION 0+00 TO 3+66	08/20/2022	09/25/2024
C-1.35	BLUFF VILLAGE ROAD SOUTH LPSS PLAN & PROFILE STATION 0+00 TO 4+19	08/20/2022	09/25/2024
C-2.0	SANITARY SEWER FORCE MAIN CONSTRUCTION DETAILS	08/20/2022	09/25/2024
C-2.1	SANITARY SEWER PUMPING STATION DETAIL SHEET	08/20/2022	09/25/2024
C-2.2	SANITARY SEWER PUMPING STATION ODOR CONTROL & FLOW METERING DETAIL SHEET	08/20/2022	09/25/2024
C-2.3	SANITARY SEWER FORCE MAIN BRIDGE CROSSING HARDWARE DETAIL SHEET	08/20/2022	09/25/2024
C-2.4	SANITARY SEWER FORCE MAIN BRIDGE NORTH ABUTMENT DETAIL SHEET	08/20/2022	09/25/2024
C-2.5	SANITARY SEWER FORCE MAIN BRIDGE SOUTH ABUTMENT DETAIL SHEET	08/20/2022	09/25/2024
C-2.6	SANITARY SEWER FORCE MAIN BRIDGE MOUNTING ASSEMBLY DETAILS	08/20/2022	09/25/2024
C-3.0	TRAFFIC CONTROL PLAN LIVINGSTON ROAD & STATE ROUTE 32	08/20/2022	09/25/2024
C-3.1	TRAFFIC CONTROL PLAN BUFFALO TRAIL & CHEROKEE PARK ROAD	08/20/2022	09/25/2024
C-3.2	TRAFFIC CONTROL PLAN STATE ROUTE 32 & VARIOUS LOCAL ROADS	08/20/2022	09/25/2024

**MAYOR**  
**BEN WALLER**

**ALDERMAN:**  
**JEFF ATKINS**  
**MICKY ANKROM**  
**EDDIE DOUGLAS**  
**PATSY WINSTEAD HARRELL**

CERTIFICATION OF THE APPROVAL OF SEWER SYSTEM  
I HEREBY CERTIFY THAT THE SEWER SYSTEM PROPOSED FULLY MEETS THE REQUIREMENTS OF THE TOWN OF BEAN STATION AND IS HEREBY APPROVED.

*Ben Waller*  
APPROVED BY: TOWN OF BEAN STATION  
1-26-23  
DATE:

### List of Project Contacts

		FOR HAMBLEN COUNTY		FOR GRAINGER COUNTY			
PROJECT ENGINEER	TELEPHONE	PUBLIC WORKS (WATER)	PUBLIC WORKS (SEWER)	PUBLIC WORKS (WATER)	PUBLIC WORKS (SEWER)	ELECTRIC COMPANY	GAS COMPANY
HATFIELD & ALLEN ASSOCIATES (865) 388-5031 CONTACT: MATTHEW HATFIELD, P.E. 775 RANDELES ROAD STRAWBERRY PLAINS, TN 37871	AT&T COMMUNICATIONS 811	MORRISTOWN UTILITY SYSTEM (423) 317-6314 CONTACT: MICHAEL HOWARD, MANAGER 433 WEST 1ST NORTH STREET MORRISTOWN, TN 37814	MORRISTOWN UTILITY SYSTEM (423) 317-6314 CONTACT: MICHAEL HOWARD, MANAGER 433 WEST 1ST NORTH STREET MORRISTOWN, TN 37814	BEAN STATION UTILITY DISTRICT (865) 993-2326 CONTACT: TAMMY WILSON, MANAGER 584 BROADWAY DRIVE BEAN STATION, TN 37708	TOWN OF BEAN STATION (865) 993-3177 CONTACT: BEN WALLER, MAYOR 785 MAIN STREET BEAN STATION, TN 37708	APPALACHIAN ELECTRIC CO-OP (865) 828-5225 CONTACT: ADAM NEWCOMB, DIRECTOR P.O. BOX 400 NEW MARKET, TN 37820	JEFFERSON - COCKE COUNTY UTILITY 243 E. BROADWAY BLVD. CONTACT: DANNY BARDING (423) 475-7911



TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I  
HAMBLEN COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS
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2) 24-129 Base
3)
4)
5)

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09/23/2024 REVISED LPSS SERVICE LATERALS
09/25/2024 REVISED VALVE VAULT & HGL

PROJ NO.	• 24-129
DWG FILE	• 24-129 C-0
ISSUE DATE	• 08/14/2022

**PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS**

**COVER  
SHEET**

SHEET NUMBER  
**C-0**

FORCE MAIN GENERAL NOTES:

1. THE LOCATION OF UTILITIES SHOWN ON THESE PLANS IS APPROXIMATE ONLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY THE BEAN STATION UTILITY DISTRICT (865) 993-2326 OR MORRISTOWN UTILITY SYSTEM (423) 317-6314
2. THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO INSTALL THE SEWER LINES AND RELATED ACCESSORIES IN ACCORDANCE WITH THE CURRENT STATE OF TENNESSEE, AND THE BEAN STATION UTILITY DISTRICT OR MORRISTOWN UTILITY SYSTEM REGULATIONS AND SPECIFICATIONS.
4. ALL FORCE MAINS, SHALL BE TESTED FOR LEAKAGE BY THE CONTRACTOR. ALL LABOR, MATERIALS, AND EQUIPMENT FOR TESTING, SHALL BE FURNISHED BY THE CONTRACTOR.
5. ALL TESTING SHALL BE PERFORMED IN THE PRESENCE OF A BEAN STATION UTILITY DISTRICT REPRESENTATIVE (865) 993-2326 OR MORRISTOWN UTILITY SYSTEM REPRESENTATIVE (423) 317-6314.
6. THE MEANS AND METHODS OF CONSTRUCTION IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ADHERENCE TO ALL LOCAL, STATE, AND FEDERAL SAFETY STANDARDS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ENSURING EMPLOYEE AND PUBLIC SAFETY THROUGHOUT ALL PHASES OF CONSTRUCTION. HATFIELD & ALLAN ASSOCIATES ASSUMES NO RESPONSIBILITY FOR CONSTRUCTION SITE, SAFETY OR FOR IMPLEMENTATION OF CONSTRUCTION SAFETY.
7. GRIP RINGS SHALL BE ADDED TO ALL VALVE INSTALLATIONS.
8. ALL PIPE SHALL BE 6" PE 4710 DR HDPE 13.5 WITH AN INSIDE DIAMETER OF 5.817 INCHES, MINIMUM WALL THICKNESS OF 0.5111 INCHES, AND OUTSIDE DIAMETER OF 6.90 INCHES WITH WELDED END JOINTS AS INDICATED ON THE DRAWINGS AND SHALL CONFORM TO THE SPECIFICATIONS IN THE SPECIFICATION MANUAL FOR THIS PROJECT.
9. ANY PVC GASKETS REQUIRED FOR THIS PROJECT SHALL COMPLY WITH ASTM F477 AND BE FACTORY INSTALLED.
10. 10 GAUGE COPPER WIRE SHALL BE PLACED IN ALL TRENCHES AND STUBBED UP AT ALL VALVE LOCATIONS.
11. GATE VALVES SHALL MEET AWWA C509 NON-RISING STEM (NRS), O-RING STEM SEAL, COUNTER CLOCKWISE OPENING AS VIEWED FROM THE TOP.
12. FLUSH ENTIRE MAIN AND BRANCH LINE UPON COMPLETION OF LINE INSTALLATION. USE A MINIMUM OF 2.5 FEET PER SECOND FLUSHING VELOCITY TO FLUSH FOREIGN MATERIALS OUT OF VALVES.
13. ALL ISOLATION VALVE COVER LIDS AND THE TOP OF THE FRAMES SHALL BE PAINTED RED.

GENERAL CONSTRUCTION NOTES:

1. THE REQUIREMENTS LISTED BELOW ARE INTENDED TO SERVE AS AN OUTLINE OF GENERAL REQUIREMENTS. ADDITIONAL REQUIREMENTS ARE SET FORTH IN THE PROJECT MANUAL AND GOVERNING REGULATIONS. CONTRACTOR IS CAUTIONED TO CONSIDER ALL REQUIREMENTS OF THE PROJECT MANUAL DURING THE BIDDING PROCESS.
2. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS OF THE TOWN OF BEAN STATION AND WITH THE RULES AND REGULATIONS OF THE TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION.
3. THE MOST UP TO DATE A.D.A. REQUIREMENTS SHALL BE FOLLOWED AT ALL TIMES.
4. CONTRACTORS SHALL OBTAIN ALL NECESSARY PERMITS AND PAY ALL REQUIRED CONNECTION FEES, SERVICE FEES, ACCESS FEES, AND IMPACT FEES BEFORE BEGINNING INSTALLATION.
5. CONTRACTOR SHALL VERIFY WITH THE PUBLIC UTILITY THAT UTILITY SYSTEMS AS INDICATED ON THE CONSTRUCTION DOCUMENTS ARE APPROVED BY THE UTILITY.
6. LOCATION OF EXISTING ABOVE GROUND AND UNDERGROUND UTILITIES AND STRUCTURES INDICATED ARE APPROXIMATE ONLY, AND THOSE SHOWN MAY NOT BE ALL THAT EXIST ON THE PROJECT SITE. CONTRACTOR SHALL DETERMINE ACTUAL LOCATION OF ALL UTILITIES AND STRUCTURES ON THE PROJECT SITE AND SHALL ASSUME RESPONSIBILITY FOR ANY DAMAGE TO UTILITY LINES DURING WORK ON THE PROJECT. FOR UNDERGROUND UTILITY LOCATION CALL TENNESSEE ONE CALL AT 811.
7. PRIOR TO ANY CONSTRUCTION ACTIVITIES THE CONTRACTOR MUST SCHEDULE AND COMPLETE A PRE-CONSTRUCTION CONFERENCE WITH THE PUBLIC UTILITY. THE UTILITY WILL PROVIDE AN INSPECTOR FOR ADHERENCE TO UTILITIES' SPECIFICATIONS.
8. NOTES AND CHANGES MUST BE MAINTAINED ON A RECORD SET OF CONSTRUCTION DRAWINGS THROUGHOUT THE PROJECT AND FURNISHED TO THE OWNER'S REPRESENTATIVE AFTER COMPLETION OF WORK.
9. ANY LINE THAT IS DESIGNATED ON THE PLAN TO BE MAINTAINED BY THE PUBLIC UTILITY SHALL BE OF MATERIALS AND INSTALLATION AS DIRECTED BY THAT UTILITY EVEN IF SUCH A LINE IS "ON-SITE".
10. THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH OSHA STANDARDS FOR THE CONSTRUCTION INDUSTRY.
11. STATE AND LOCAL STORMWATER CONTROL AND POLLUTION PREVENTION REGULATIONS AND MUST PROVIDE COPIES FOR DISPLAY ON SITE.
12. ALL CONSTRUCTION ON CITY OR COUNTY ROAD RIGHTS-OF-WAY SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE GOVERNING HIGHWAY AND PUBLIC WORKS DEPARTMENTS AND WITH ANY APPLICABLE PERMITS REQUIRED AND RECEIVED FOR THE CONSTRUCTION.
13. FIELD ADJUSTMENTS MAY BE REQUIRED TO AVOID CONFLICT WITH OTHER UNDERGROUND UTILITIES. PRE-APPROVED ADJUSTMENTS MAY BE MADE TO MEET THE PUBLIC UTILITY/TDEC REQUIREMENTS.
14. PRE-APPROVED ADJUSTMENTS TO PAY ITEMS WILL BE BASED ON PLUS OR MINUS FOOTAGE CHANGE TO BID QUANTITIES.

EXISTING UTILITIES:

1. 72 HOURS PRIOR TO ANY DISTURBANCE AT THE SITE, A TENNESSEE-ONE-CALL MUST BE MADE IN ACCORDANCE WITH THE REQUIREMENTS TO HAVE ALL EXISTING UTILITIES IDENTIFIED AND LOCATED.
2. TAPS INTO PUBLIC UTILITIES SHALL BE PERFORMED IN ACCORDANCE WITH PUBLIC UTILITY REQUIREMENTS.
3. APPROVED RELOCATION OF EXISTING UTILITIES (IF ANY) SHALL BE COORDINATED BY THE CONTRACTOR WITH ALL GOVERNING AUTHORITIES AS TO TIMING, REPAIRS, CHARGES, ETC. CONTRACTOR SHALL PAY ALL FEES.

SUBMITTALS:

1. PRIOR TO MATERIAL/EQUIPMENT ORDER, SUBMIT MANUFACTURER'S LITERATURE ON LINE, VALVE, AND FITTINGS FOR OWNER'S REPRESENTATIVE APPROVAL.
2. CONSTRUCTION OF THE UTILITY MAY NOT BEGIN WITHOUT APPROVAL OF SUBMITTALS.
3. APPURTENANCES, SPARE MATERIALS AND OTHER DETAILS NOT SHOWN ON THE CONSTRUCTION DRAWINGS OR COVERED IN THE SPECIFICATIONS ARE THE RESPONSIBILITY OF THE CONTRACTOR CONDUCTING THE INSTALLATION/CONSTRUCTION OF THE UTILITY.
4. THE CONTRACTOR MUST REFER TO THE SPECIFICATIONS TO VERIFY ALL REQUIREMENTS ARE MET AND COVERED WITHIN THE CONTRACTOR'S BID PROPOSAL.

EXCAVATION AND BACKFILL:

1. EARTH BACKFILLS WHERE SPECIFIED SHALL BE OF SAME MATERIAL AND COMPACTION AS APPROVED MATERIAL GENERALLY USED FOR STRUCTURAL FILL ELSEWHERE. PIPE BEDS SHALL BE AS SPECIFIED. SAND BACKFILL WHERE REQUIRED SHALL BE OF STANDARD PROPORTION. SAND SHALL BE CLEAN AND WITHOUT DELETERIOUS MATERIAL.
2. THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IMMEDIATELY IF DISCREPANCIES ARE FOUND OR IF CLARIFICATION IS REQUIRED ON THE PLANS.

TESTING AND SANITIZATION

1. ALL SITE MECHANICAL LINES MUST BE TESTED AND APPROVED BY PUBLIC UTILITY INSPECTORS OR UTILITY REPRESENTATIVES AS APPLICABLE PRIOR TO COVERING OF SUCH LINES.
2. COPIES OF UTILITY APPROVAL MUST BE SUBMITTED TO OWNER'S REPRESENTATIVE BEFORE PAYMENT FOR WORK CAN BE AUTHORIZED.
3. ANY LINE THAT IS TO BE MAINTAINED BY THE PUBLIC UTILITY SHALL ALSO BE TESTED IN ACCORDANCE WITH THE REQUIREMENTS AND UNDER THE SUPERVISION OF THE PUBLIC UTILITY.
4. THE FOLLOWING TESTS SHALL BE PERFORMED ON THE SITE MECHANICAL SYSTEMS IN THE PRESENCE OF THE PUBLIC UTILITY INSPECTORS OR UTILITY REPRESENTATIVE AND IN ACCORDANCE WITH THE METHODS WHICH ARE SET FORTH IN THE PROJECT SPECIFICATIONS MANUAL:
  - a. FORCE MAINS A.) PRESSURE TEST
  - b. PUMP STATIONS A.) START-UP TESTING B.) HYDRAULIC TESTING
  - c. MANHOLES/WET WELLS A.) VACUUM TEST

PROJECT SPECIFIC NOTES:

1. RIGHT OF WAY AND BOUNDARY INFORMATION SHOWN ON THE PLAN SHEETS HAVE BEEN TAKEN FROM TENNESSEE DEPARTMENT OF TRANSPORTATION PLANS, GRAINGER AND HAMLEN COUNTY TAX MAPPING AND OTHER SOURCES. ALL RIGHT OF WAY AND BOUNDARY INFORMATION IS APPROXIMATE ONLY AND SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD.
2. THE "FUTURE SANITARY SEWER WET WELL" SHOWN ON SHEET C-1.4 AND SHEET C-1.13 ARE NOT INCLUDED IN THIS CONTRACT.
3. ALL FORCE MAIN PIPE SHALL BE 6-INCH PE 4710 CR 13.5 HDPE WITH WELDED END JOINTS AS INDICATED ON THE DRAWINGS AND SHALL CONFORM TO THE SPECIFICATIONS FOR THIS PROJECT.
4. ALL LOW PRESSURE SANITARY SEWER (LPSS) PIPE SHALL BE SDR 11 HDPE PIPE SIZED PER THE PLAN AND SPECIFICATIONS WITH WELDED END JOINTS AS INDICATED ON THE DRAWINGS AND SHALL CONFORM TO THE SPECIFICATIONS FOR THIS PROJECT.
5. SEE PLAN SHEETS C-1.4 THROUGH C-1.12 FOR THE SANITARY SEWER PHASE I AND PHASE II FORCE MAINS AND LOW PRESSURE SANITARY SEWER (LPSS) LINE SHARING A COMMON TRENCH.
6. SEE PLAN SHEETS C-1.3 THROUGH C-1.33 FOR THE LOW PRESSURE SANITARY SEWER (LPSS) LINES.
7. 10 GAUGE COPPER WIRE SHALL BE PLACED IN ALL TRENCHES AND STUBBED UP AT ALL VALVE LOCATIONS.
8. THE SUBMERSIBLE SEWAGE DUPLEX PUMPING STATION SHALL PROVIDE PUMPS WITH A OPERATING POINT OF 200-GPM AT 125 FEET OF TDH FOR EACH PUMP.
9. THE SUBMERSIBLE DUPLEX PUMP STATION PUMPS SHALL HAVE VARIABLE FREQUENCY DRIVES AND SOFT STARTS.
10. THE ODOR EQUIPMENT SHALL BE KROHNE 6" OPTIFLUX 2000F ELECTROMAGNETIC FLOW SENSOR, PART NUMBER VB144DA0A40B210030600 WITH A KROHNE IFC 100 SIGNAL CONVERTER PART NUMBER VN314NA046001010003.
11. THE FLOW METER SHALL BE KROHNE ENVIROMAG 2000 ELECTROMAGNETIC FLOW SENSOR.

NOT FOR BID



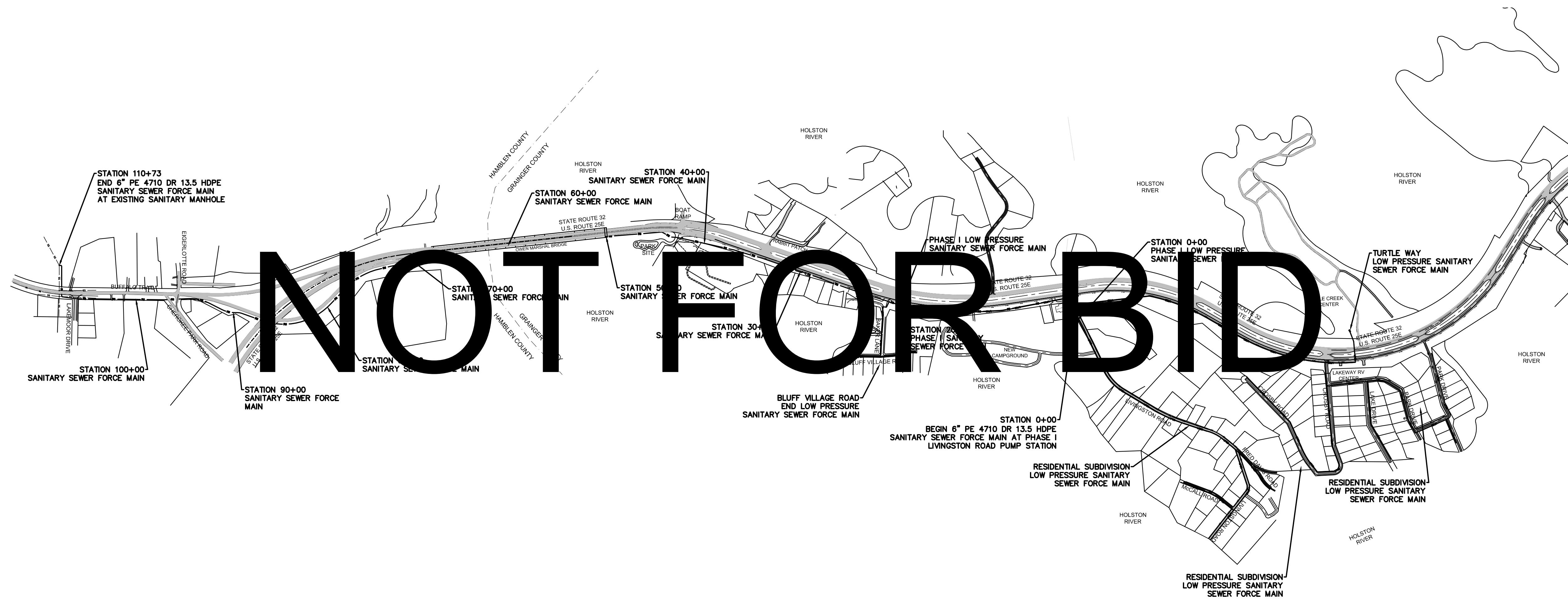
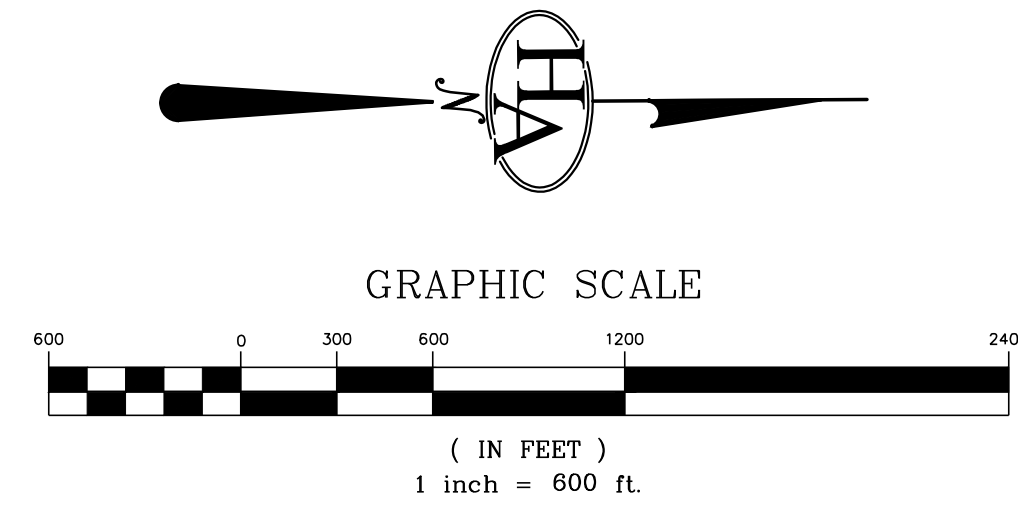
TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I  
HAMLEN COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS	
1)	24-129 bord-d
2)	24-129 Base
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06/26/2024	ADDED LOW PRESSURE SEWER TO PLAN
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PROJ NO.	● 24-129
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ISSUE DATE	● 08/14/2022

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SANITARY SEWER  
FORCE MAIN &  
LPSS  
SANITARY SEWER  
FORCE MAIN & LPSS  
NOTES  
SHEET NUMBER  
**C-0.1**



HATFIELD & ALLEN  
ASSOCIATES  
ENGINEERING & PLANNING  
775 RANDELS ROAD  
STRAWBERRY PLAINS, TN 37871  
PHONE: (865) 388-5031



TOWN OF BEAN STATION  
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PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS

OVERALL PLAN VIEW  
SANITARY SEWER  
FORCE MAIN PHASE I  
AND LPSS

SHEET NUMBER  
**C-1.0**



**SEE PLAN SHEET C-1.5**  
STATION 10+00 TO 24+50

**SEE PLAN SHEET C-1.4**  
STATION 0+00 TO 10+00

**SEE PLAN SHEET C-1.6**  
STATION 24+50 TO 39+00

**SEE PLAN SHEET C-1.9**  
STATION 63+50 TO 75+00

**SEE PLAN SHEET C-1.8**  
STATION 51+00 TO 63+50

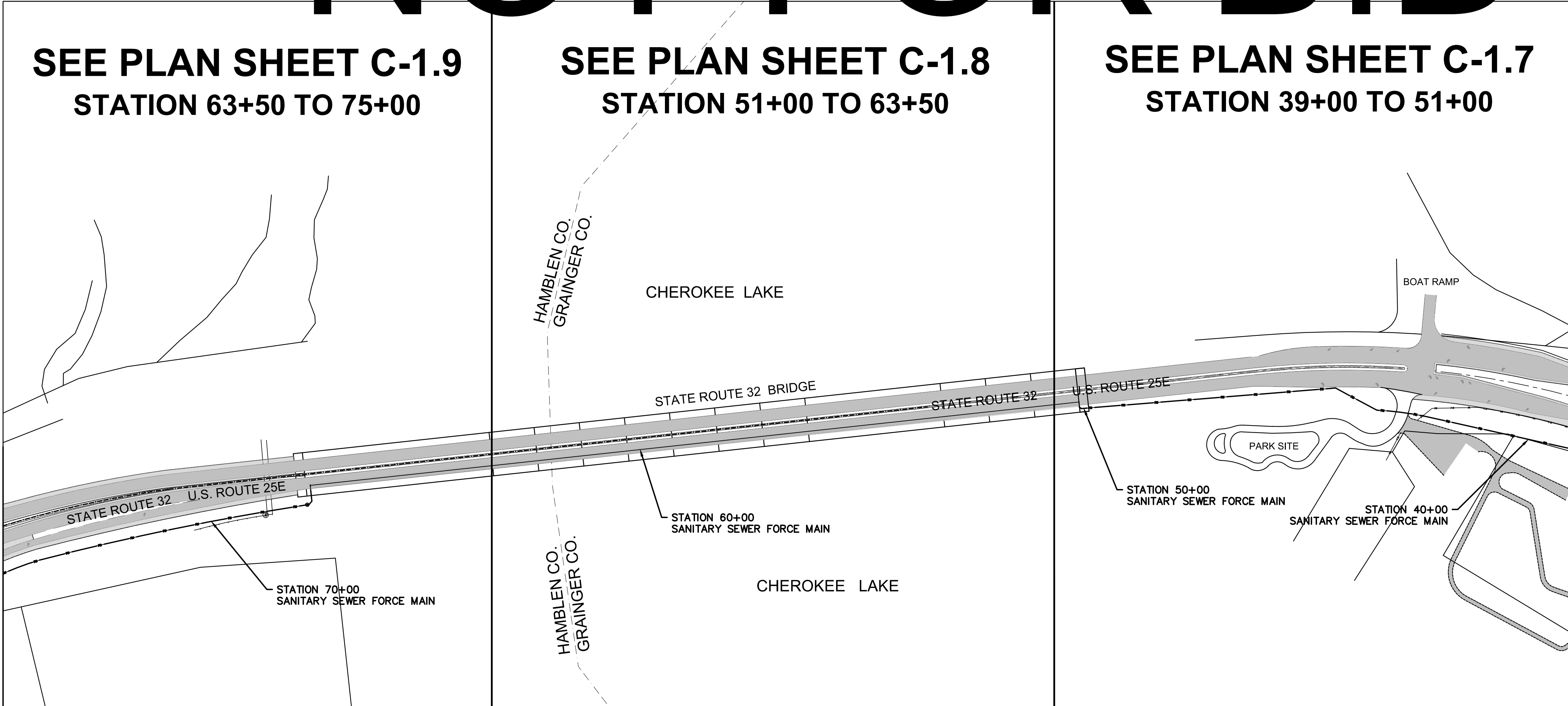
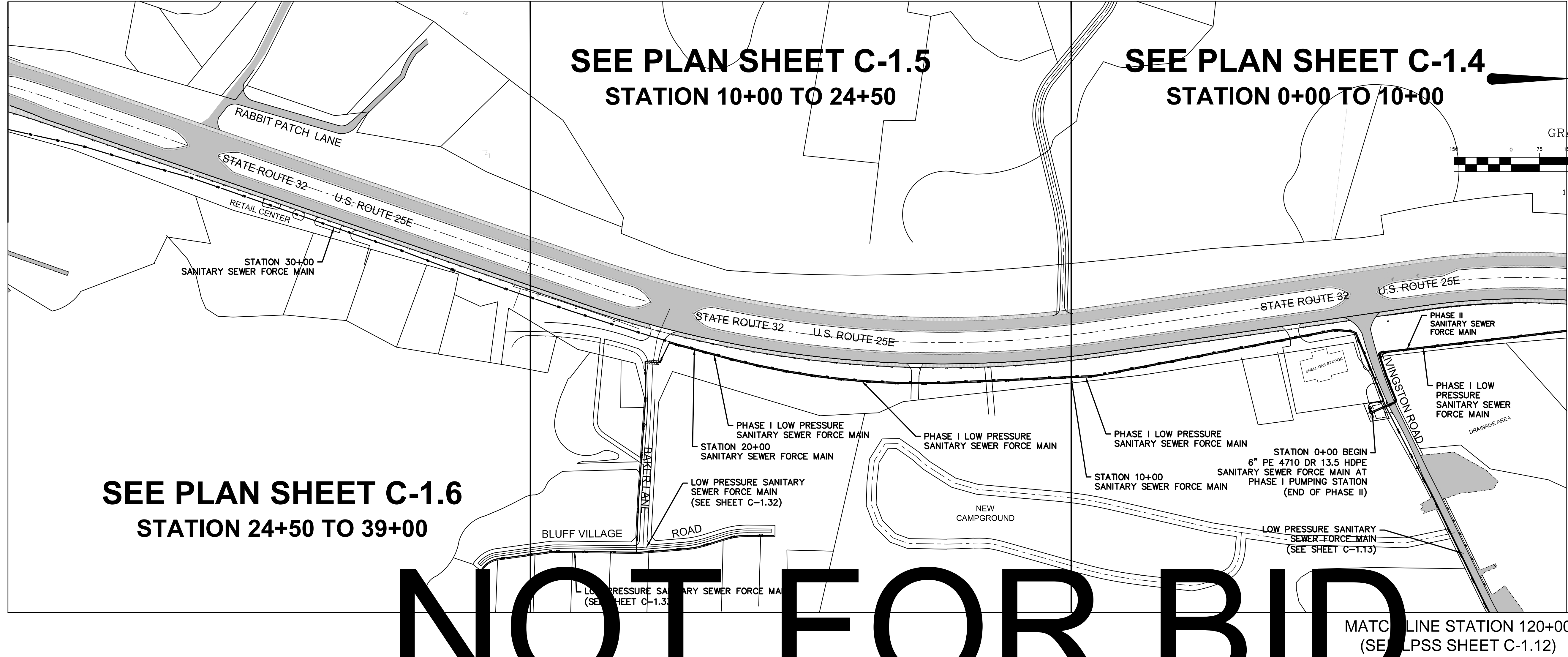
**SEE PLAN SHEET C-1.7**  
STATION 39+00 TO 51+00

**NOT FOR BID**

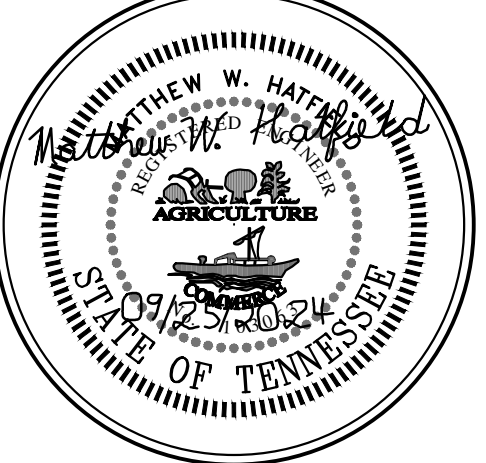
MATCH LINE STATION 39+00  
(CONTINUED FROM ABOVE LEFT)

MATCH LINE STATION 72+00  
(SEE SHEET C-1.1)

MATCH LINE STATION 39+00  
(CONTINUED BELOW RIGHT)



**HA**  
HATFIELD & ALLEN  
ASSOCIATES  
ENGINEERING & PLANNING  
775 RANDELS ROAD  
STRAWBERRY PLAINS, TN 37871  
PHONE: (865) 388-5031



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**SANITARY SEWER**  
**FORCE MAIN &**  
**LPSS**  
OVERALL PLAN VIEW  
STATION 0+00  
TO  
STATION 75+00

SHEET NUMBER  
**C-1.1**



**HA**  
 HATFIELD & ALLEN  
 ASSOCIATES  
 ENGINEERING & PLANNING  
 775 RANDELES ROAD  
 STRAWBERRY PLAINS, TN 37871  
 PHONE: (865) 388-5031



**TOWN OF BEAN STATION  
 SANITARY SEWER FORCE MAIN &  
 LOW PRESSURE SANITARY SEWER  
 PHASE I**  
 HAMBLEN COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

1)	24-129 bord-d
2)	24-129 Base
3)	
4)	
5)	

REVISION HISTORY

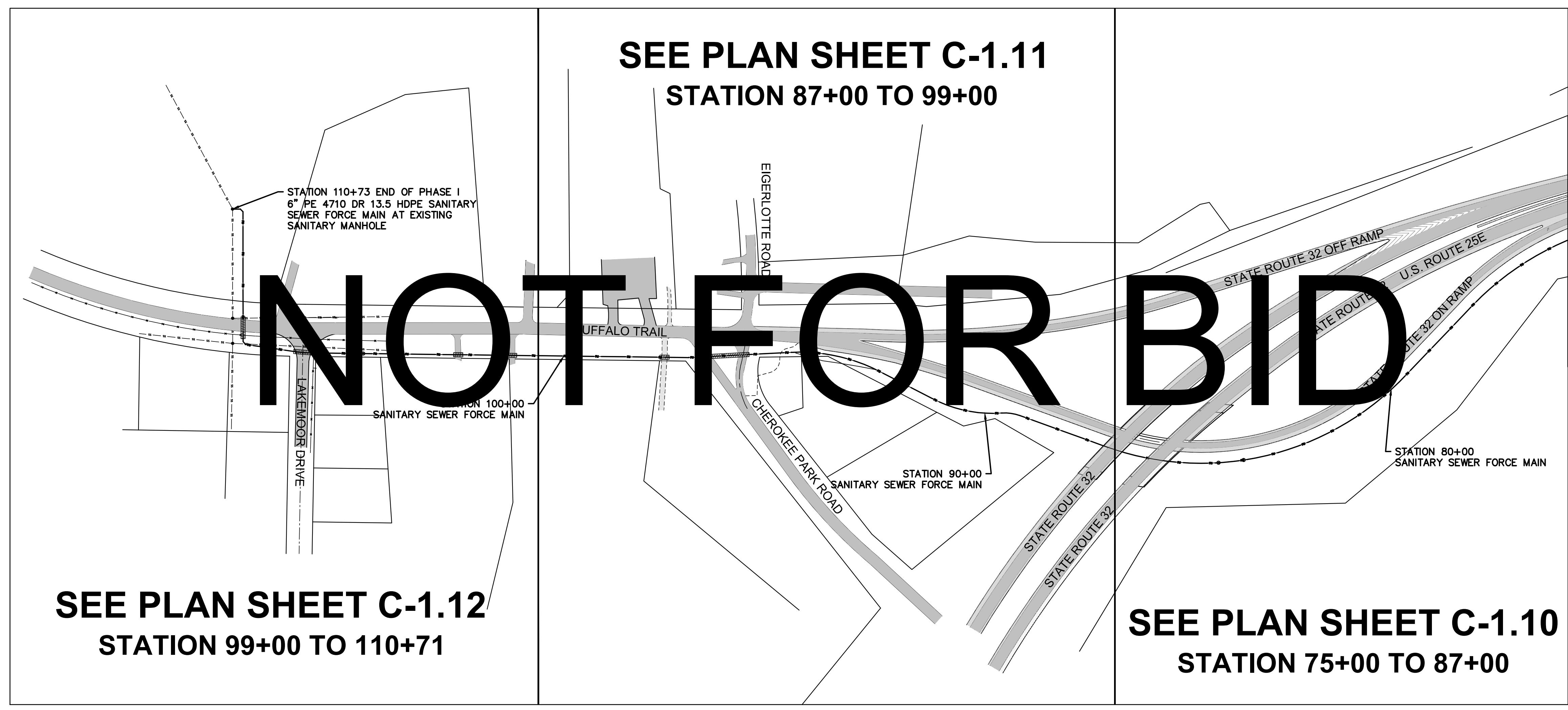
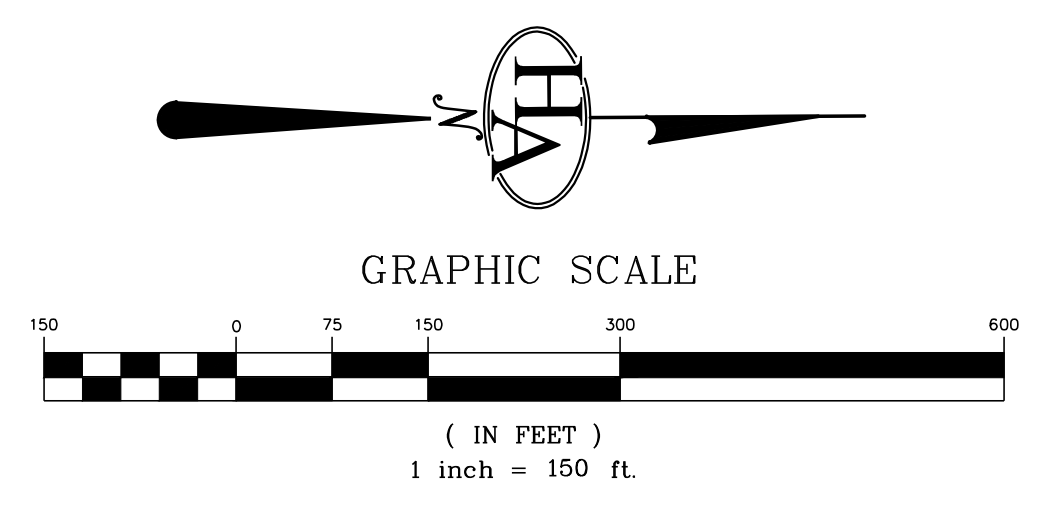
10/11/2023	ADDED AIR RELEASE MANHOLE
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06/26/2024	ADDED LOW PRESSURE SEWER TO PLAN
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08/18/2024	REVISED BRIDGE MOUNTING DETAILS
08/29/2024	REVISED & EXPANDED NOTES & DETAILS
09/23/2024	REVISED LPSS SERVICE LATERALS
09/25/2024	REVISED VALVE VAULT & HGL

PROJ NO. • 24-129  
 DWG FILE • 23-129 C-1.2  
 ISSUE DATE • 08/14/2022

**PHASE I  
 SANITARY SEWER  
 FORCE MAIN &  
 LPSS**

OVERALL PLAN VIEW  
 STATION 75+00  
 TO  
 STATION 110+73

SHEET NUMBER  
**C-1.2**



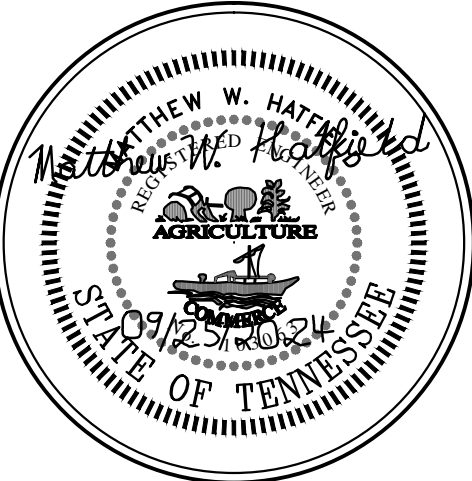
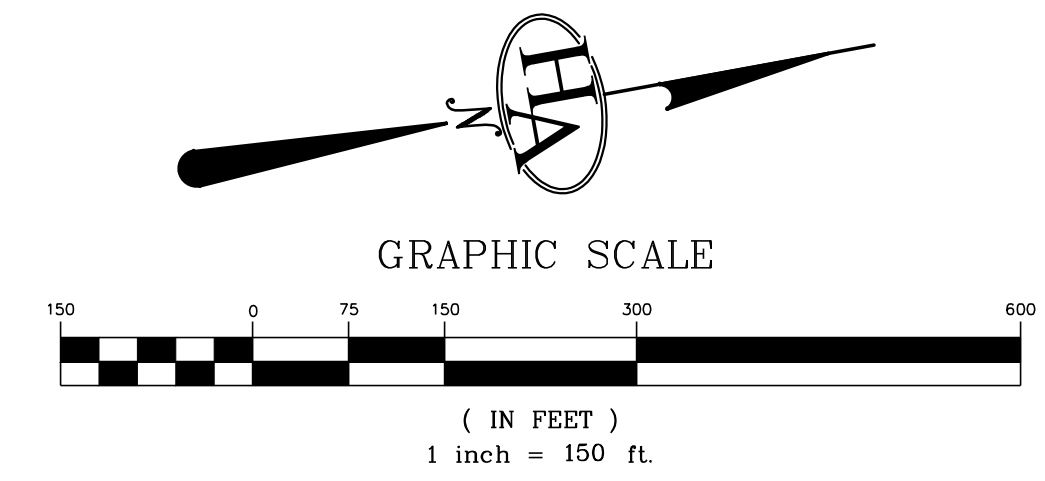
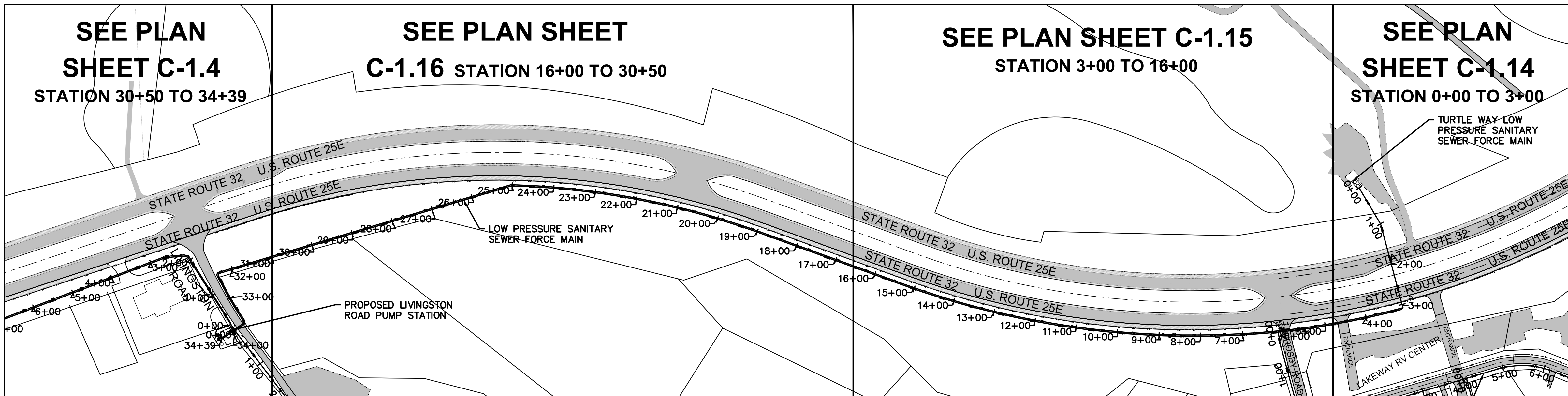
**SEE PLAN SHEET C-1.11  
 STATION 87+00 TO 99+00**

**SEE PLAN SHEET C-1.12  
 STATION 99+00 TO 110+71**

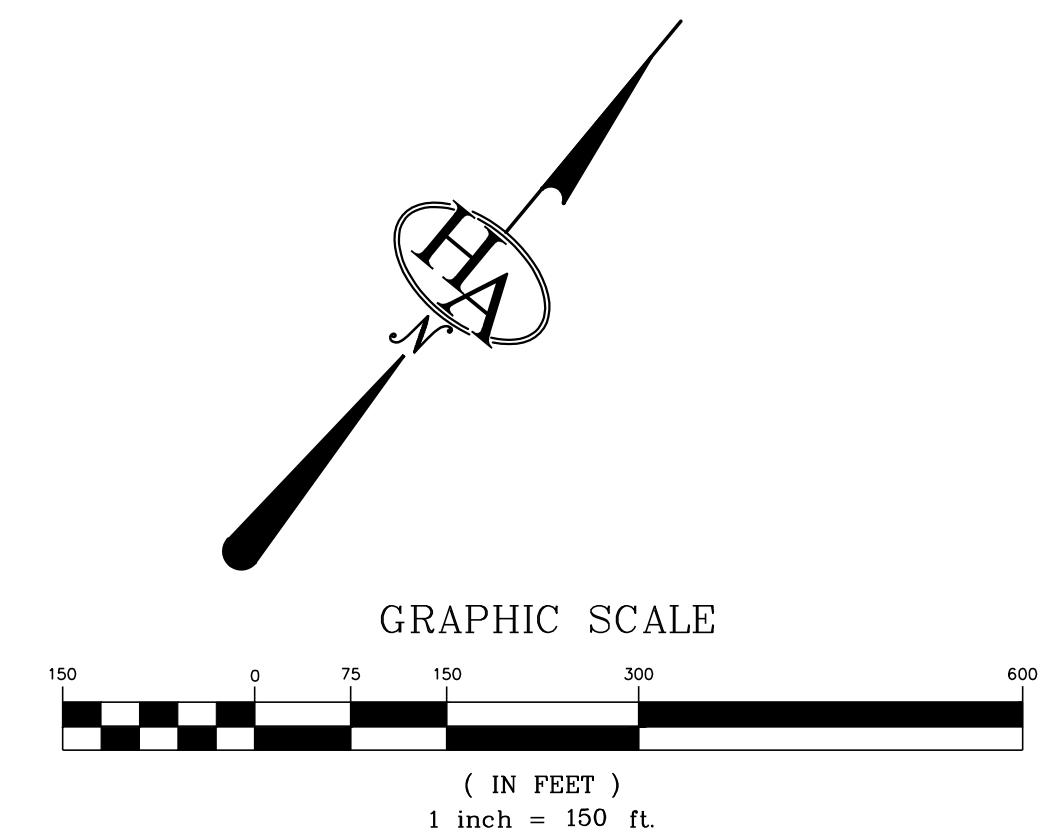
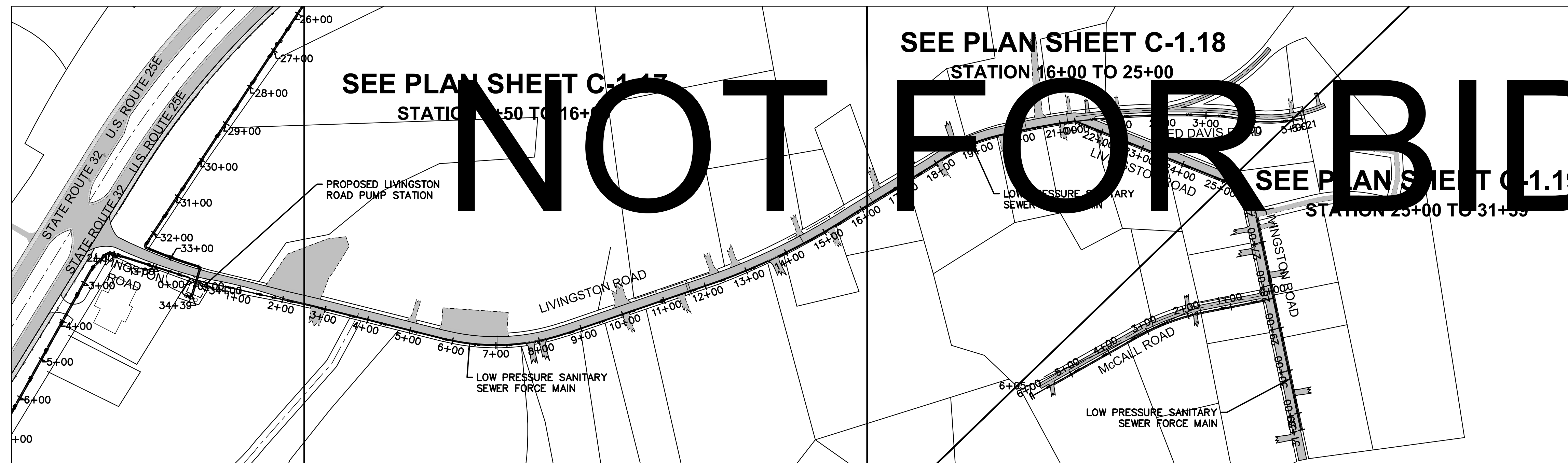
**SEE PLAN SHEET C-1.10  
 STATION 75+00 TO 87+00**

MATCH LINE STATION 75+00  
 (SEE SHEET C-1.0)

# TURTLE WAY PLAN SHEETS



# LIVINGSTON ROAD PLAN SHEETS



TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I  
HAMILLEN COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

1)	24-129 bord-d
2)	24-129 Base
3)	
4)	
5)	

REVISION HISTORY

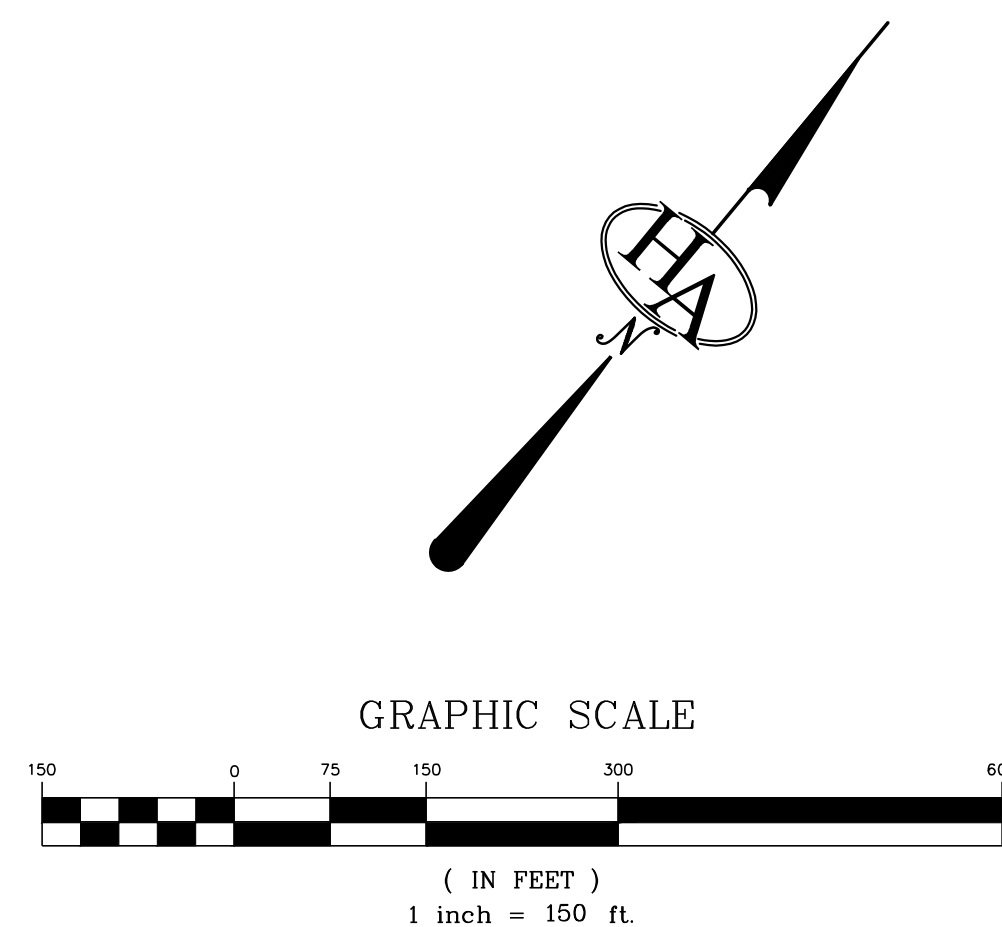
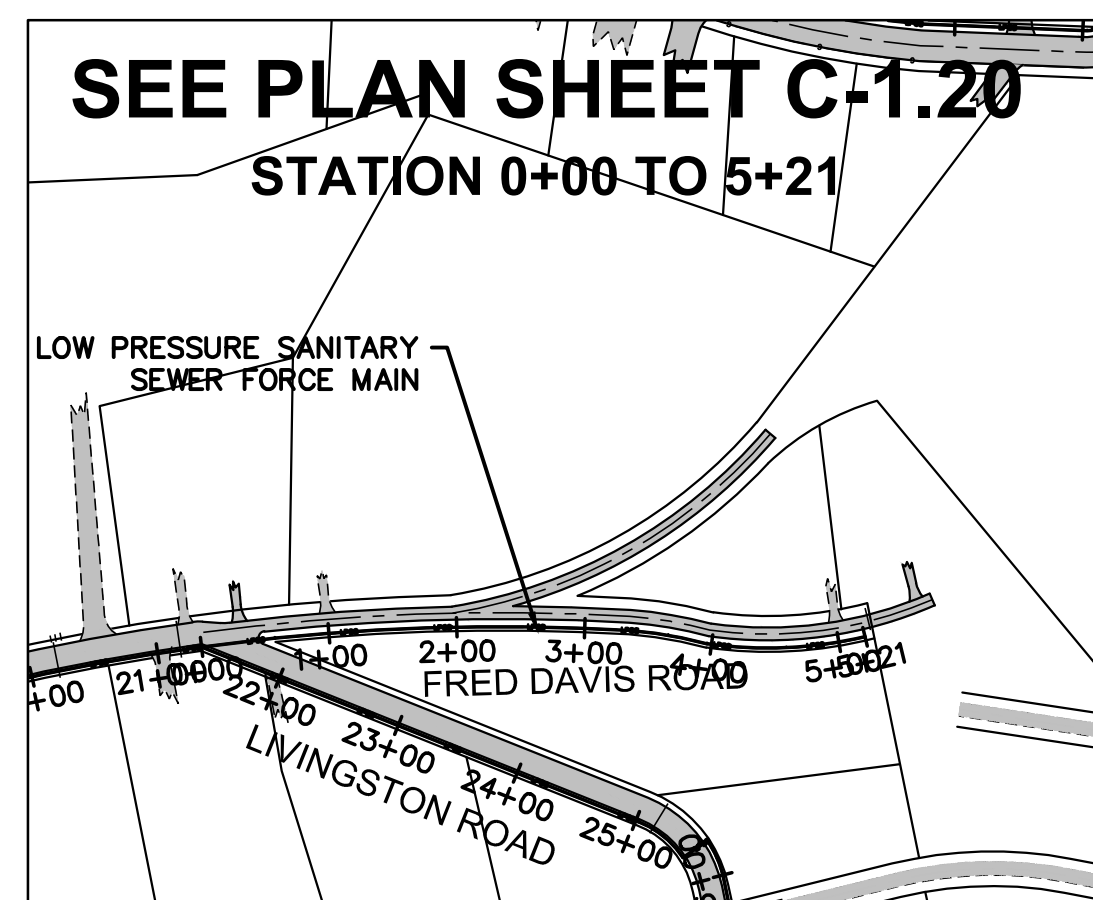
10/11/2023	ADDED AIR RELEASE MANHOLE
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09/25/2024	REVISED VALVE VAULT & HGL

PROJ. NO. • 24-129  
DWG FILE • 23-129 C-1.3  
ISSUE DATE • 08/14/2022

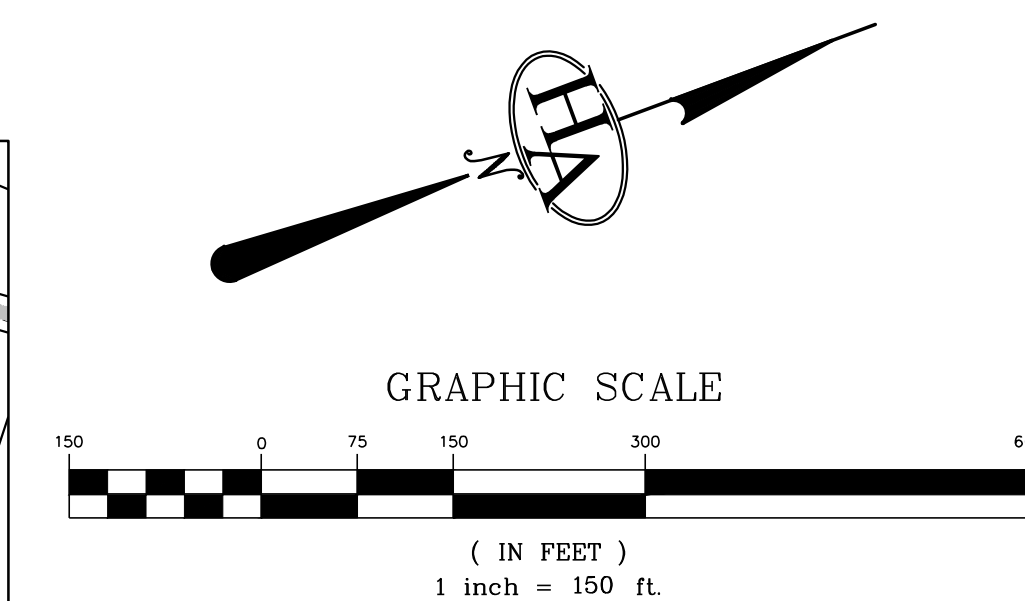
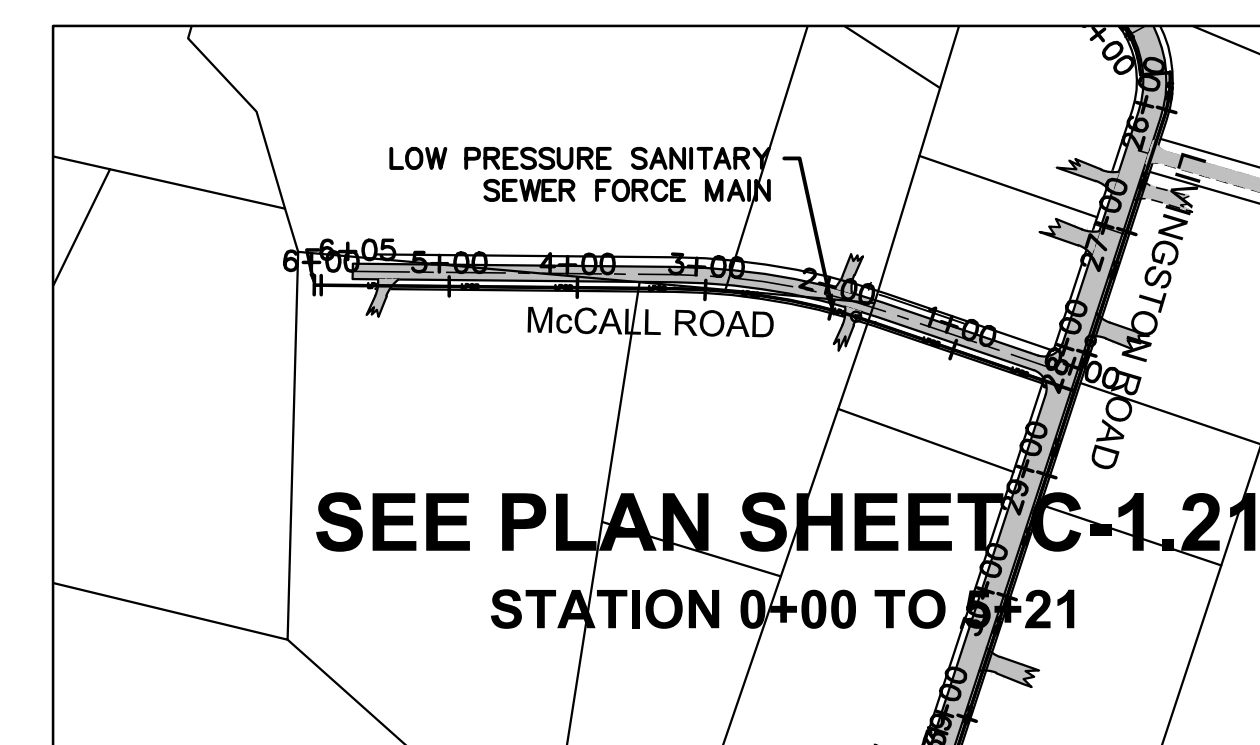
PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS  
OVERALL PLAN VIEW  
TURTLE WAY,  
LIVINGSTON ROAD,  
FRED DAVIS ROAD &  
McCALL ROAD  
SHEET NUMBER

C-1.3

# FRED DAVIS ROAD PLAN SHEET

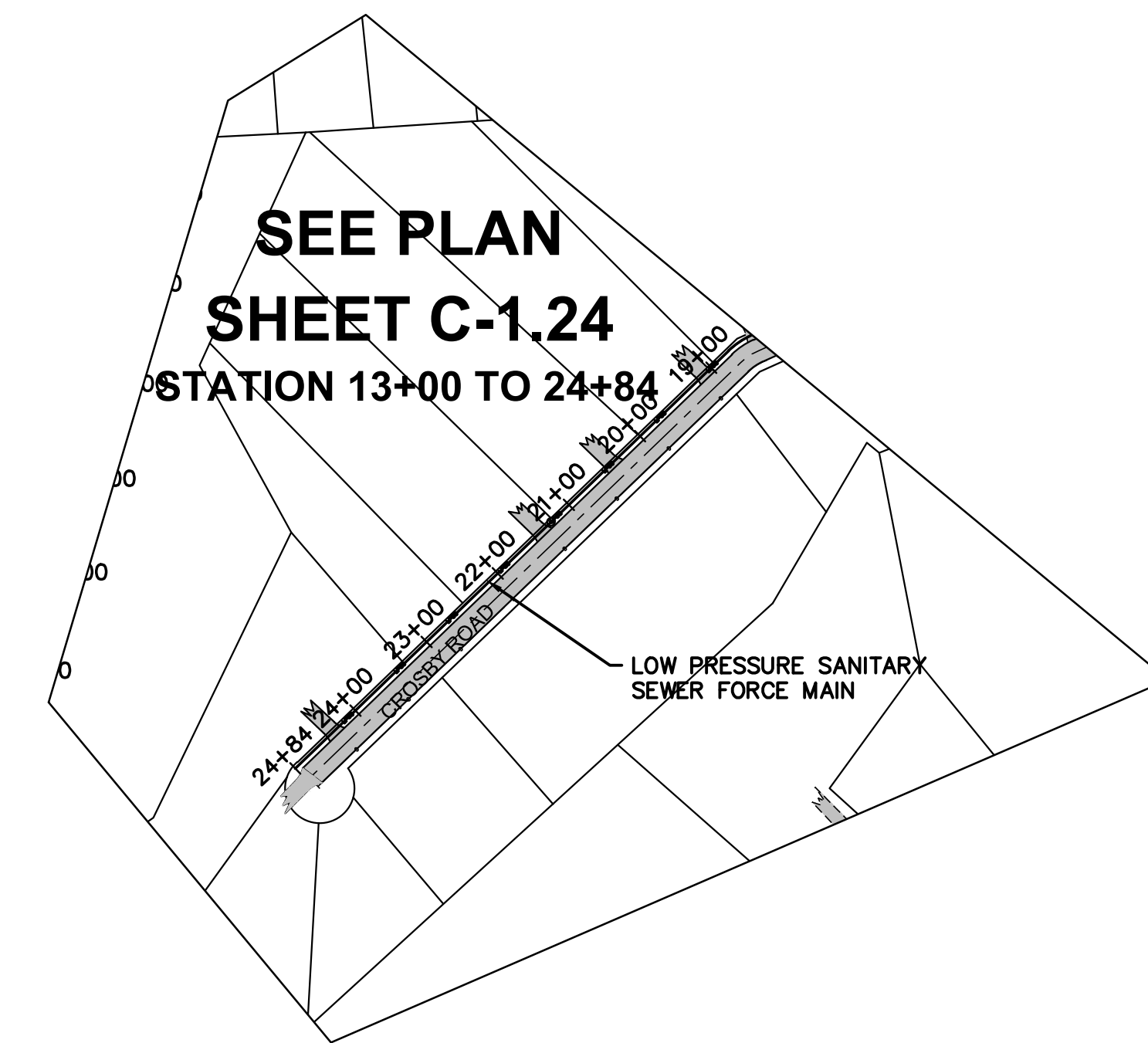
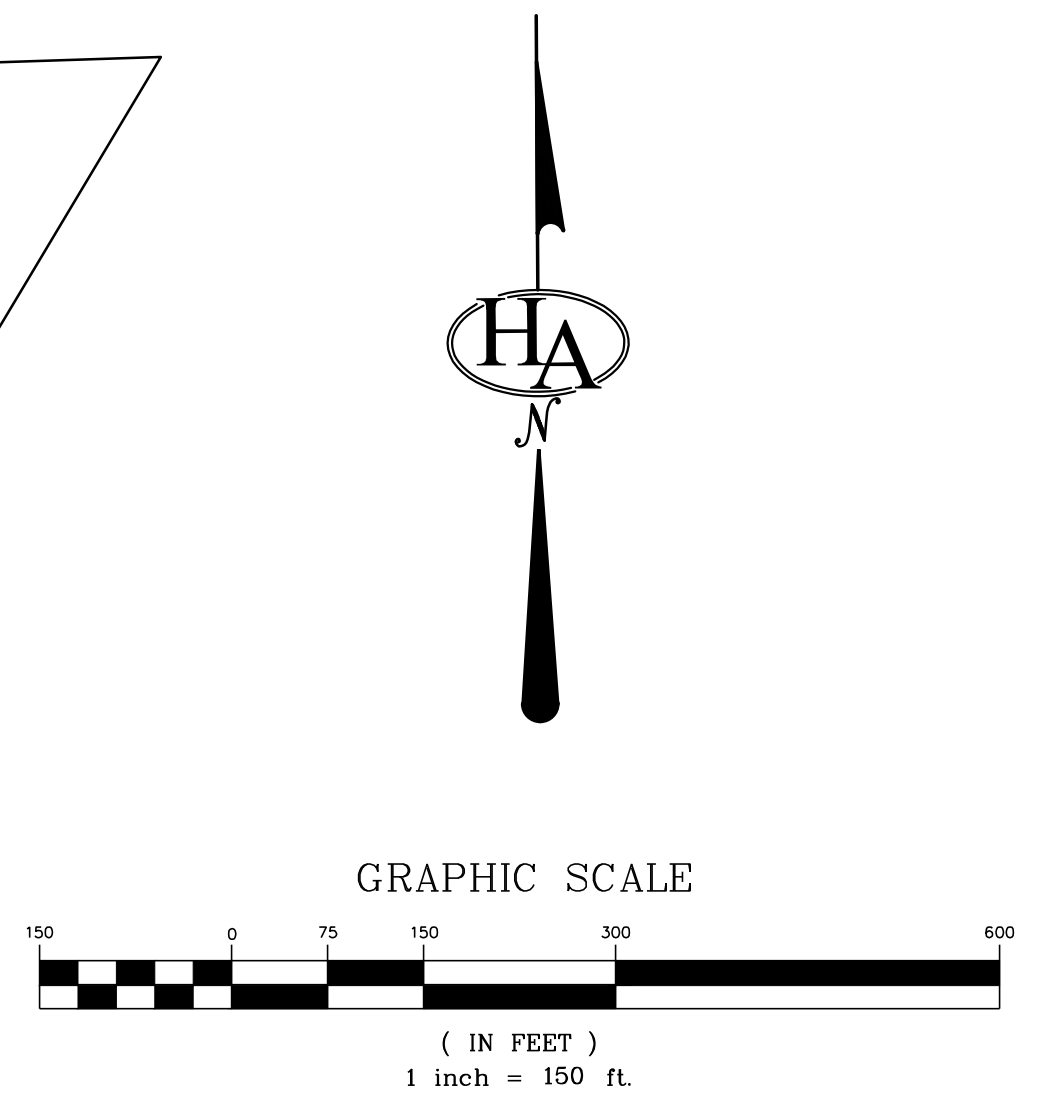
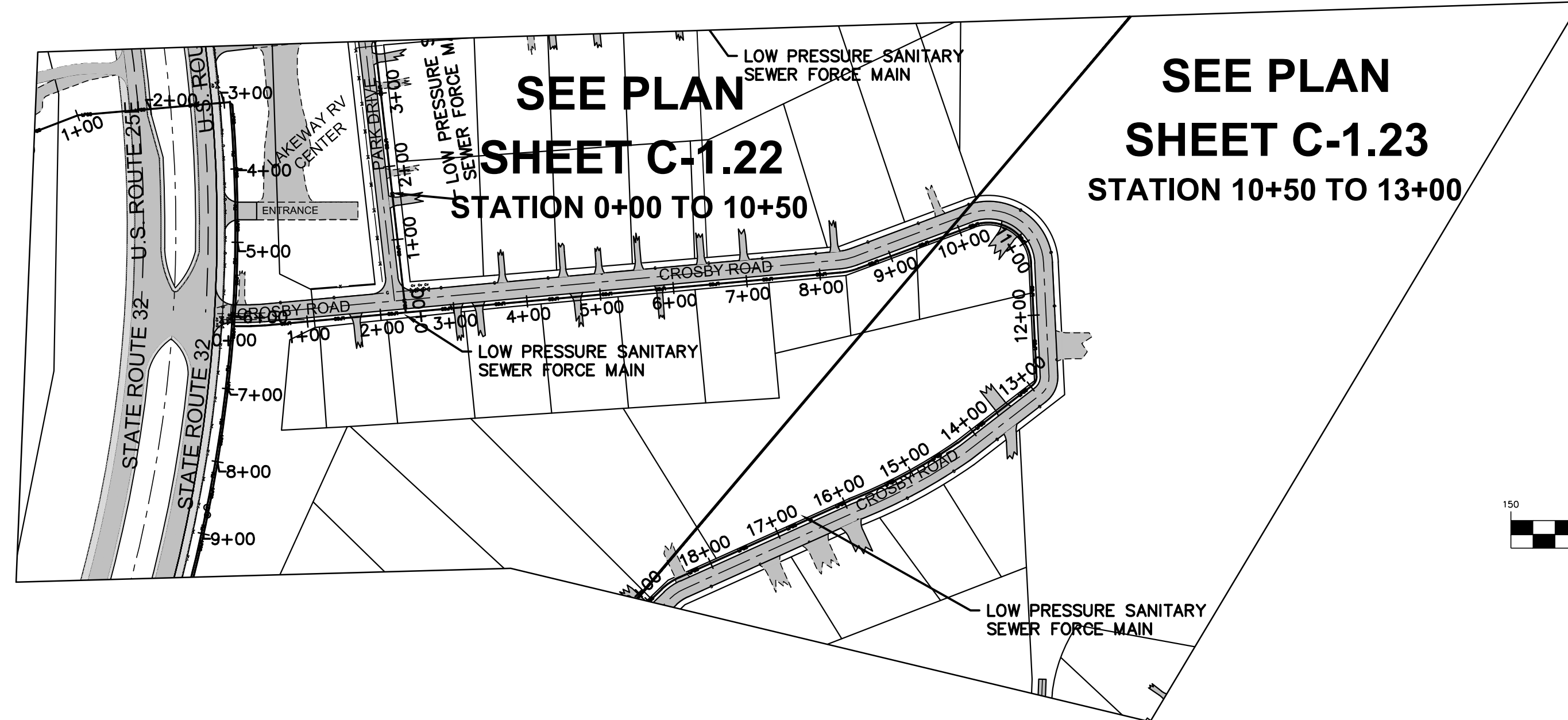


# McCALL ROAD PLAN SHEET

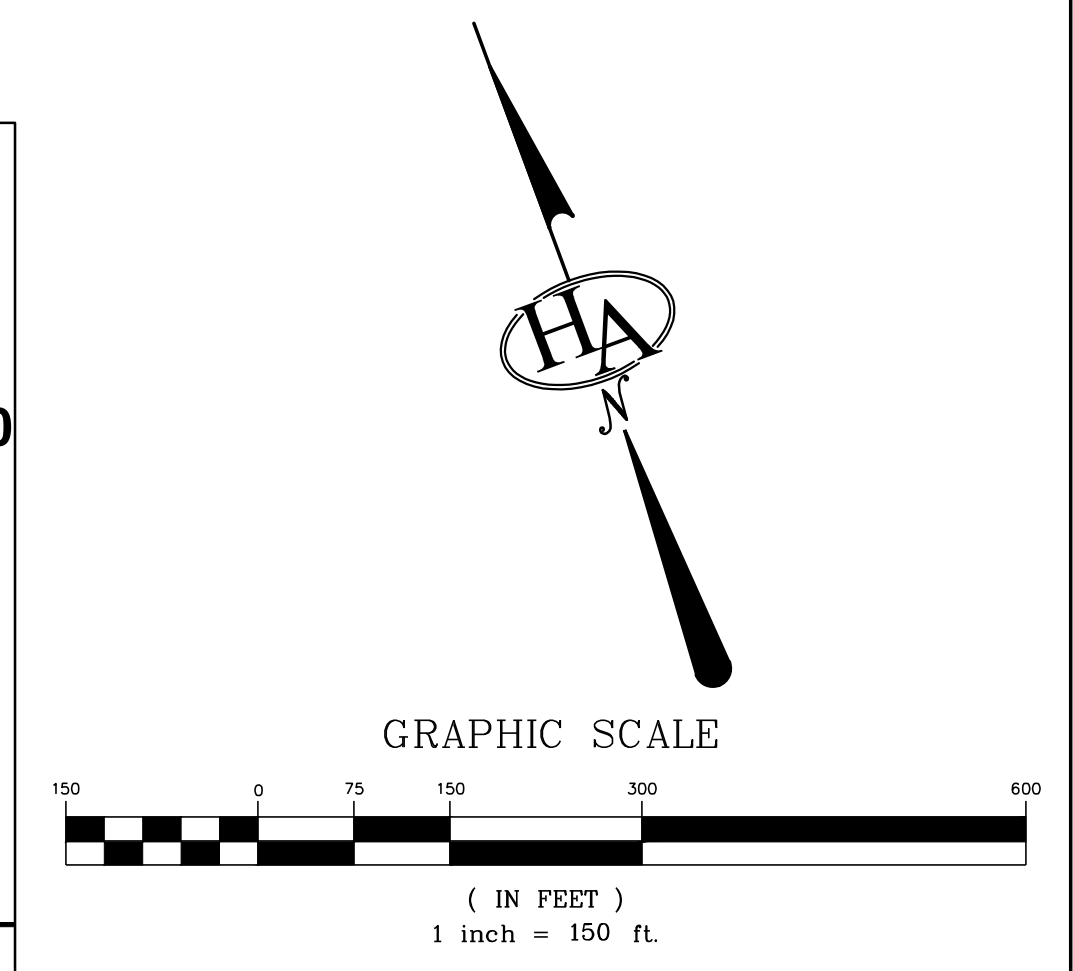
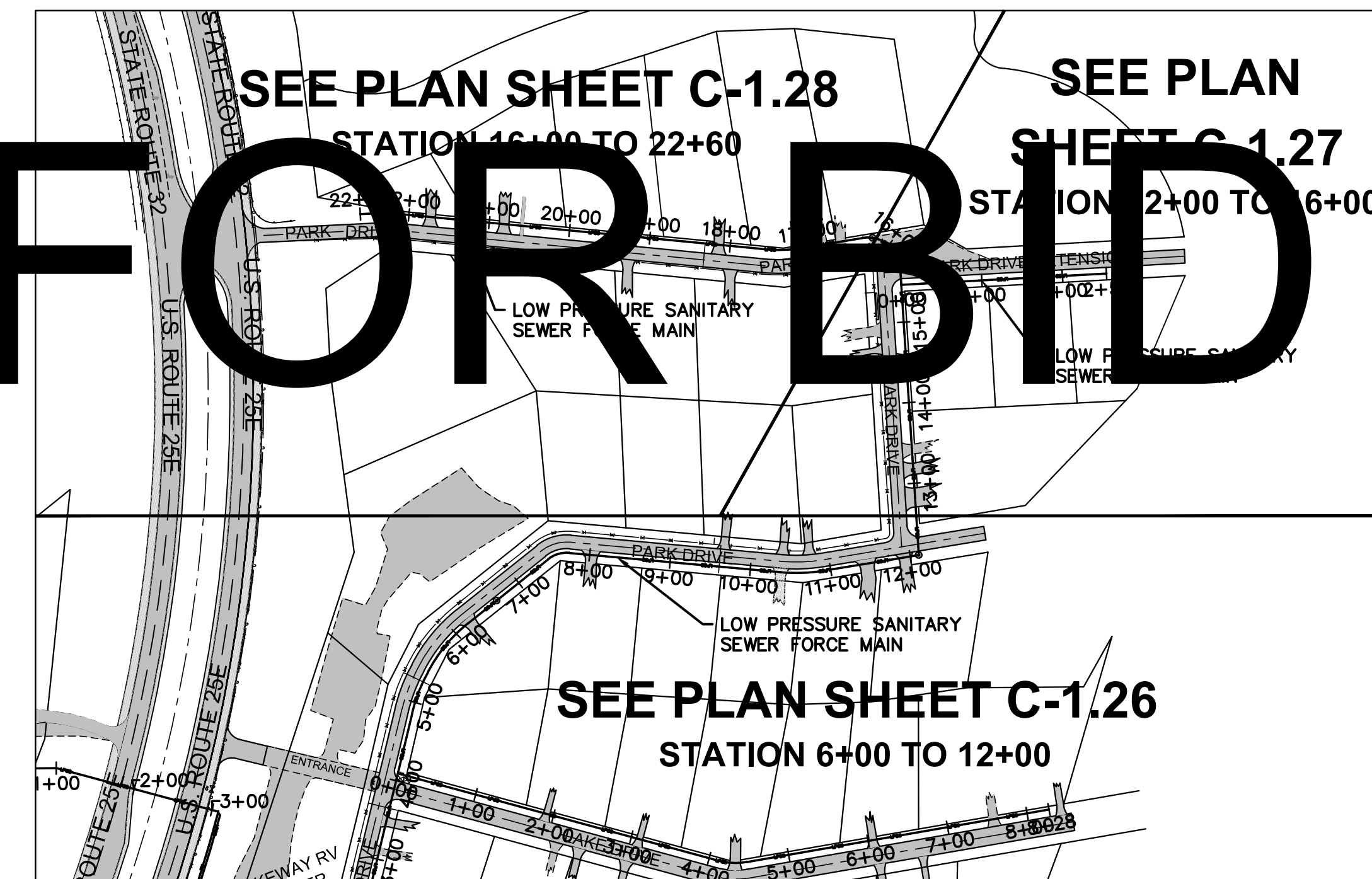
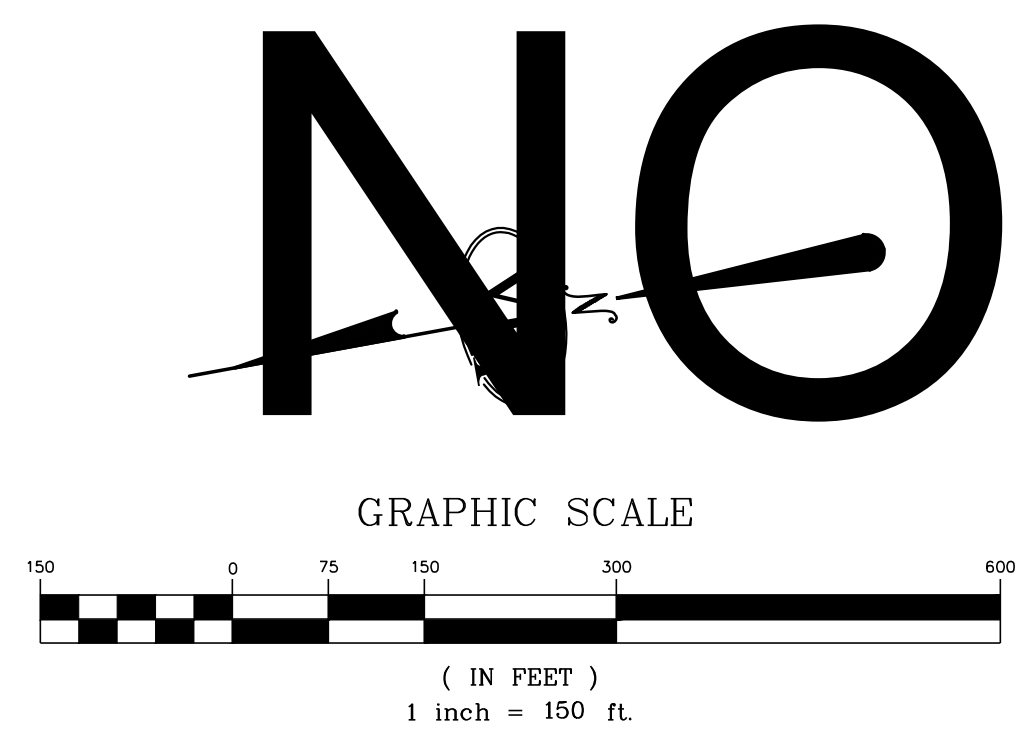
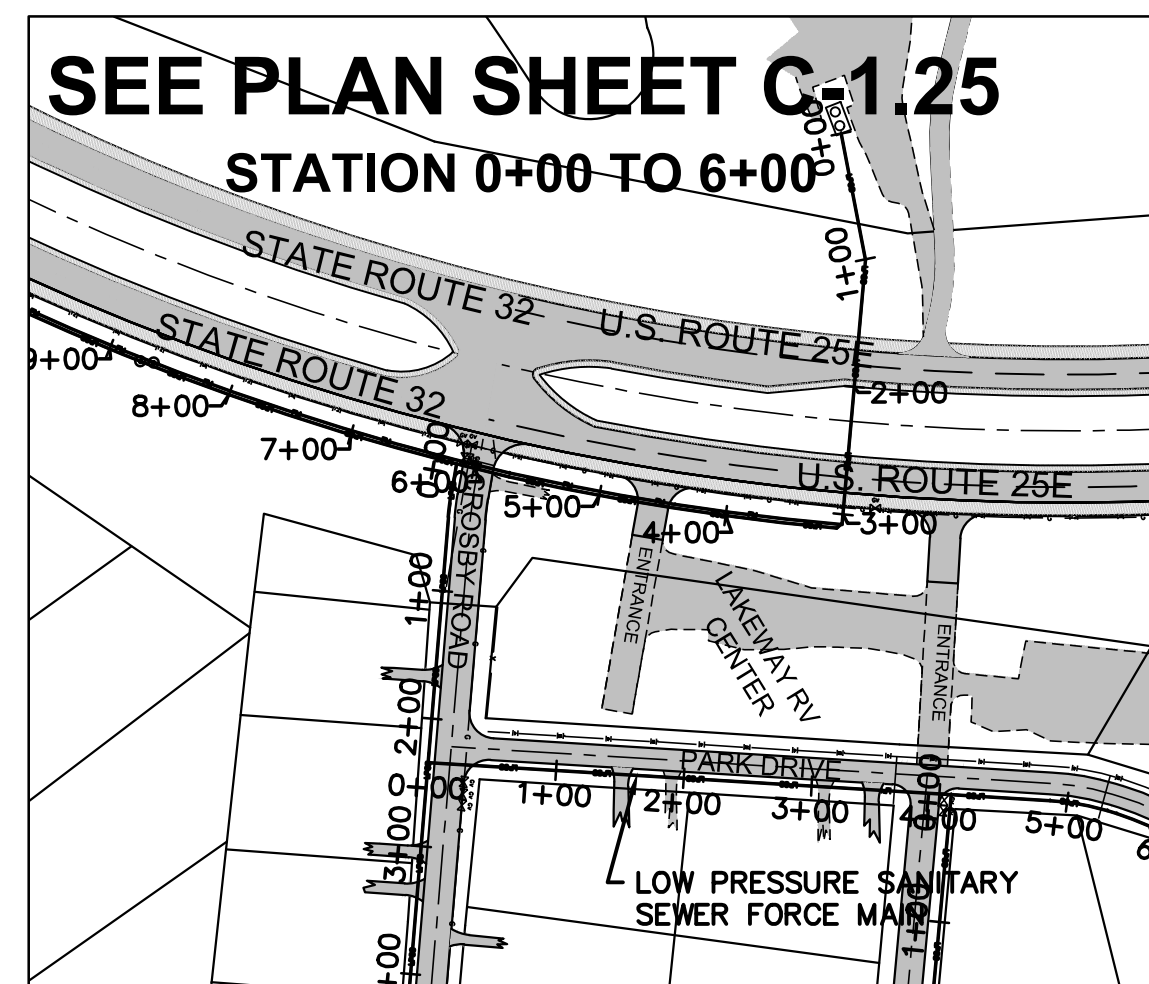




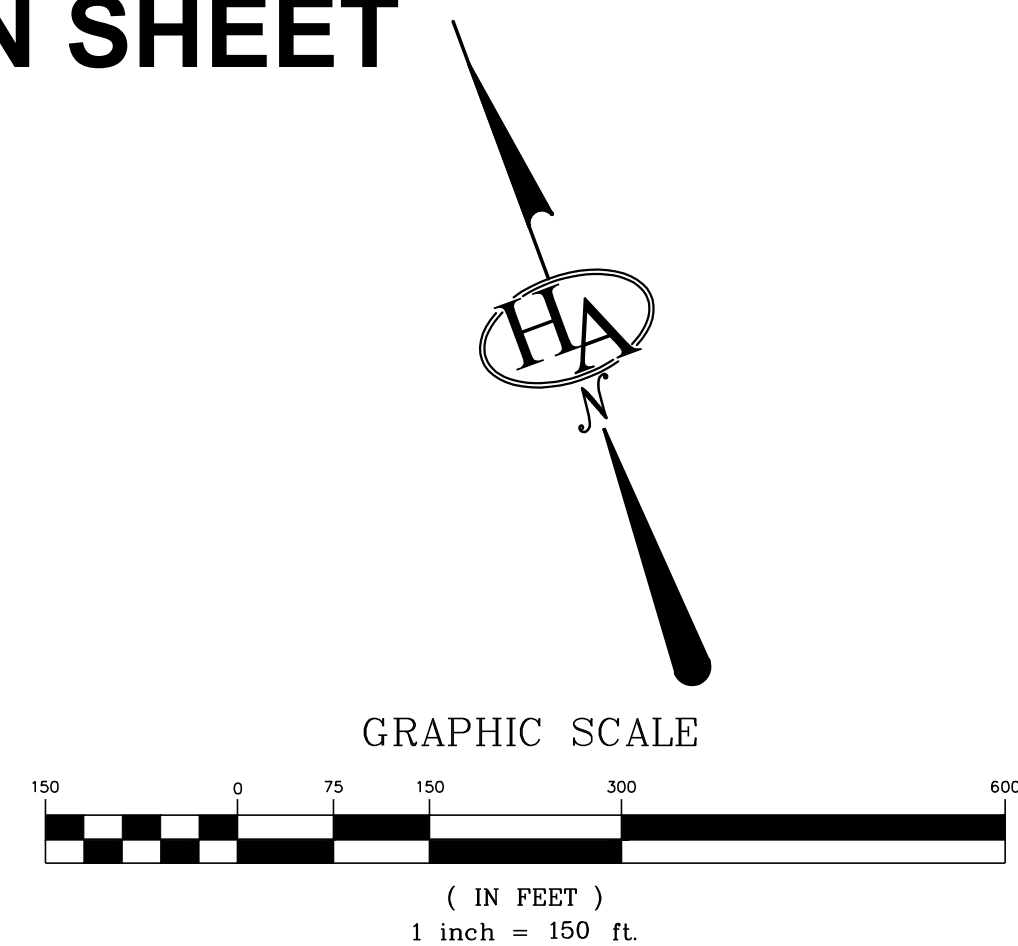
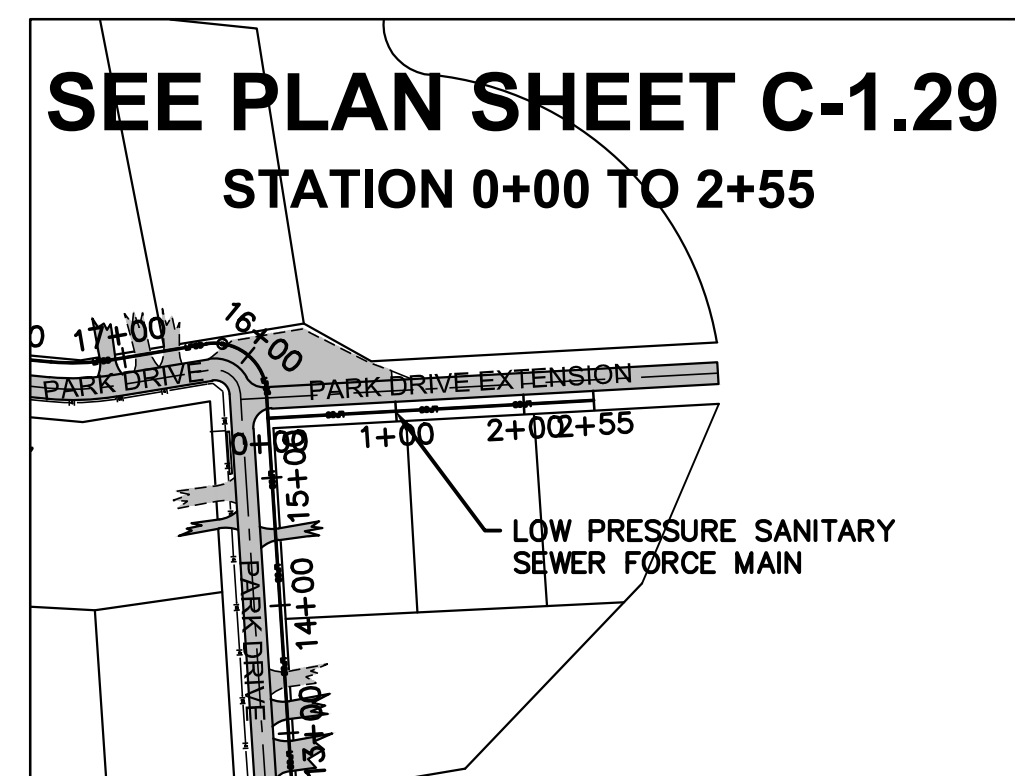
## CROSBY ROAD PLAN SHEETS



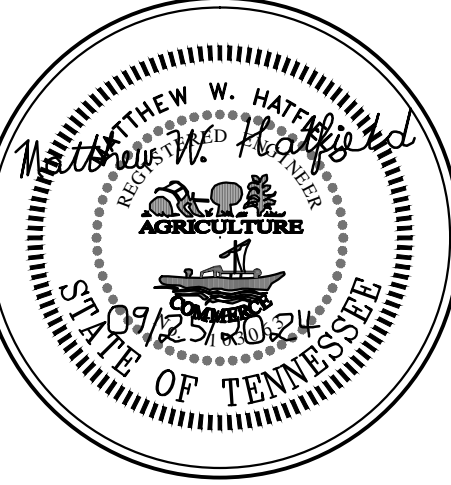
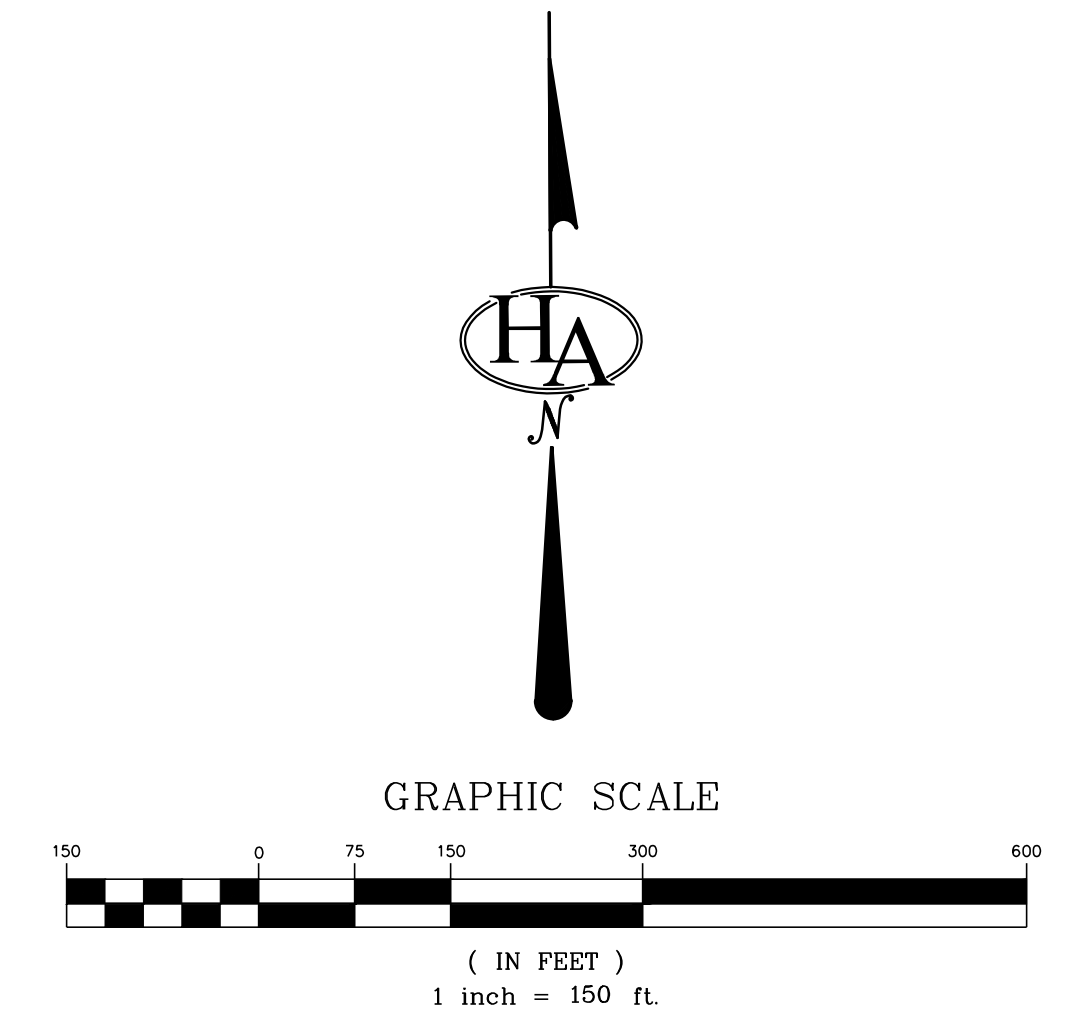
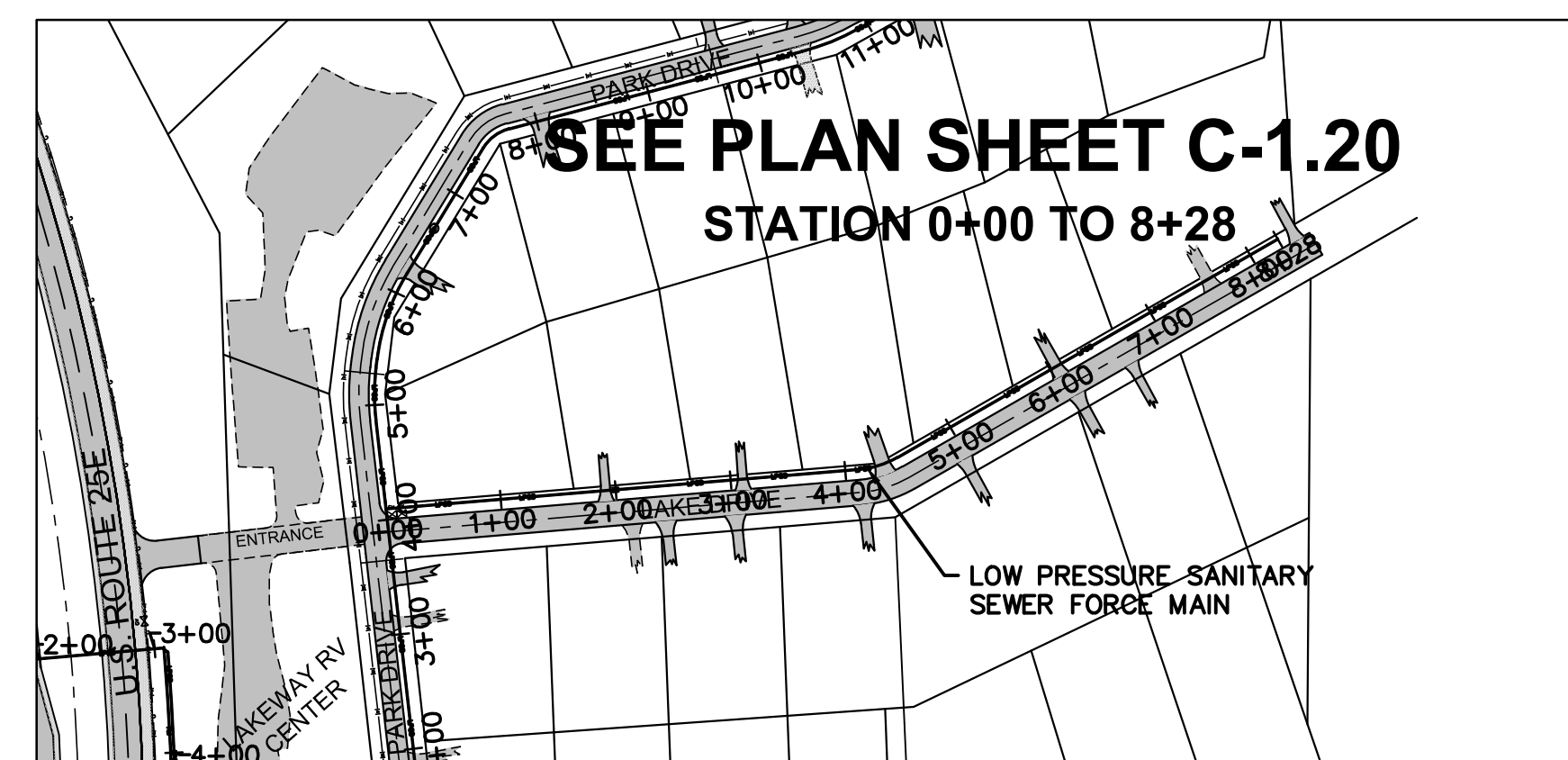
## PARK DRIVE PLAN SHEETS



## PARK DRIVE EXTENSION PLAN SHEET



## LAKE DRIVE PLAN SHEET



TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I  
HAMBLETON COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

1)	24-129 bord-d
2)	24-129 Base
3)	
4)	
5)	

REVISION HISTORY

10/11/2023	ADDED AIR RELEASE MANHOLE
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09/25/2024	REVISED VALVE VAULT & HGL

PROJ. NO. • 24-129  
DWG FILE • 23-129 C-1.4  
ISSUE DATE • 08/14/2022

PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS

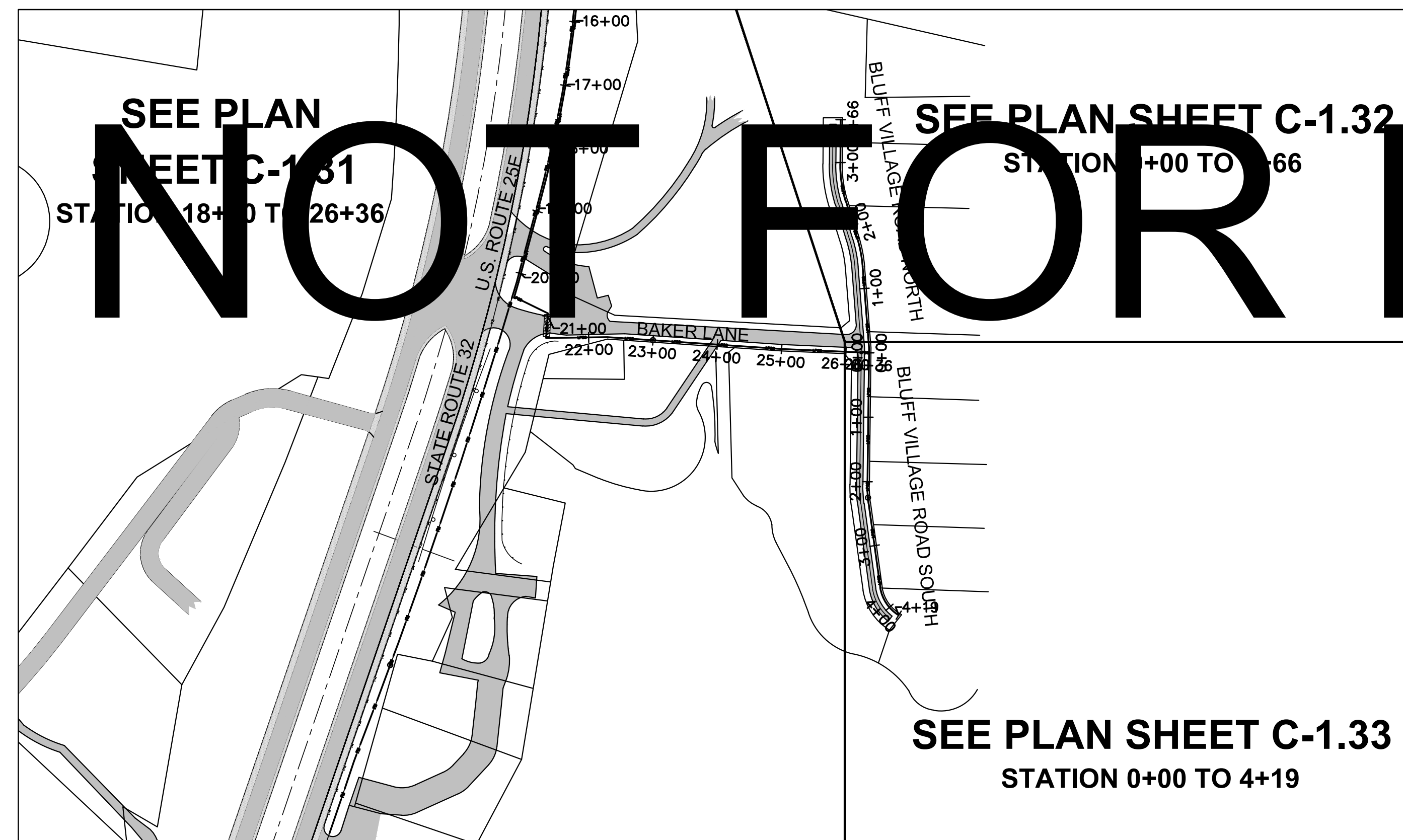
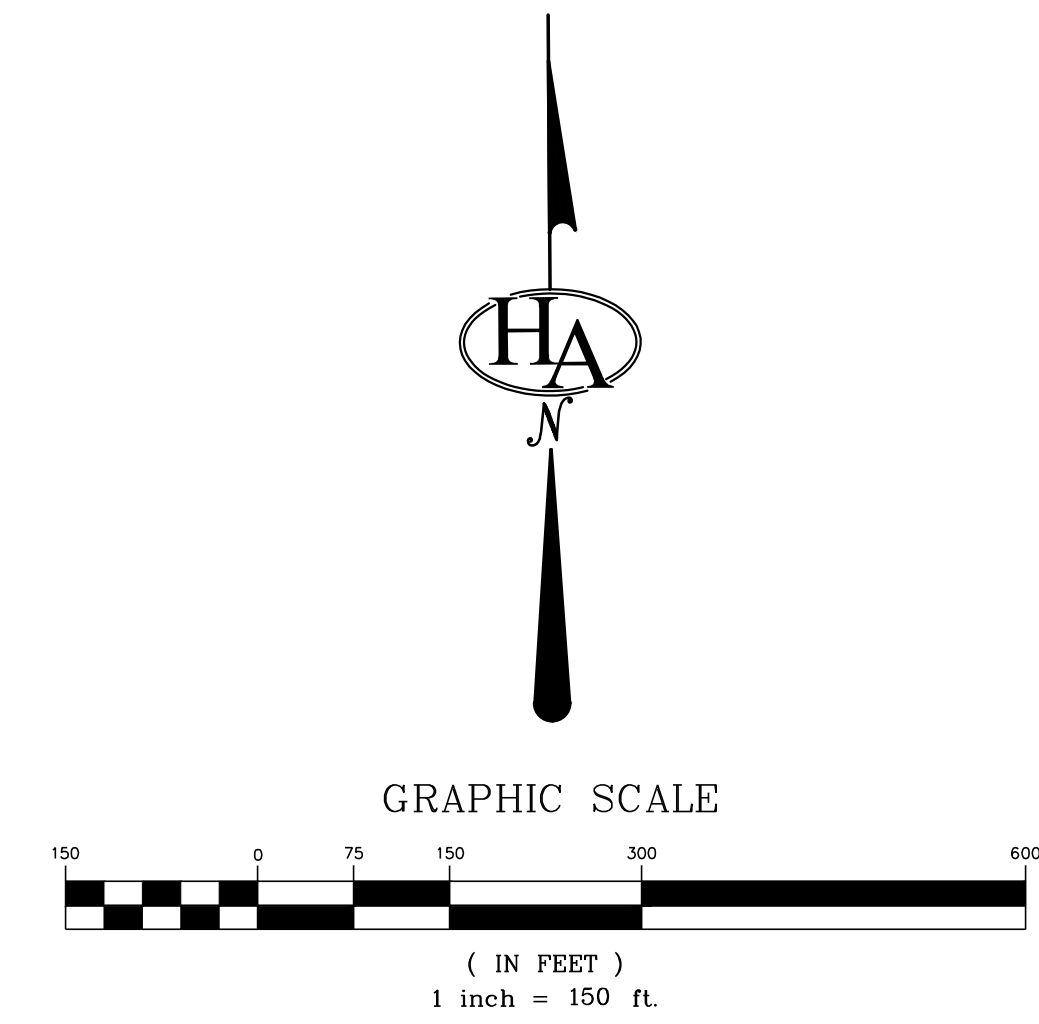
OVERALL PLAN VIEW  
CROSBY ROAD, PARK  
DRIVE, PARK DRIVE EXT.  
& LAKE DRIVE

SHEET NUMBER  
**C-1.4**



**BAKER LANE PLAN SHEETS**

**BLUFF VILLAGE ROAD PLAN SHEETS**



SEE PLAN SHEET C-1.31  
STATION 18+00 TO 26+36

SEE PLAN SHEET C-1.32  
STATION 0+00 TO 66

SEE PLAN SHEET C-1.33  
STATION 0+00 TO 4+19

**NOT FOR BID**

**HA**  
HATFIELD & ALLEN  
ASSOCIATES  
ENGINEERING & PLANNING  
775 RANDES ROAD  
STRAWBERRY PLAINS, TN 37871  
PHONE: (865) 388-5031



**TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I**  
HAMILTON COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

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2)	24-129 Base
3)	
4)	
5)	

REVISION HISTORY

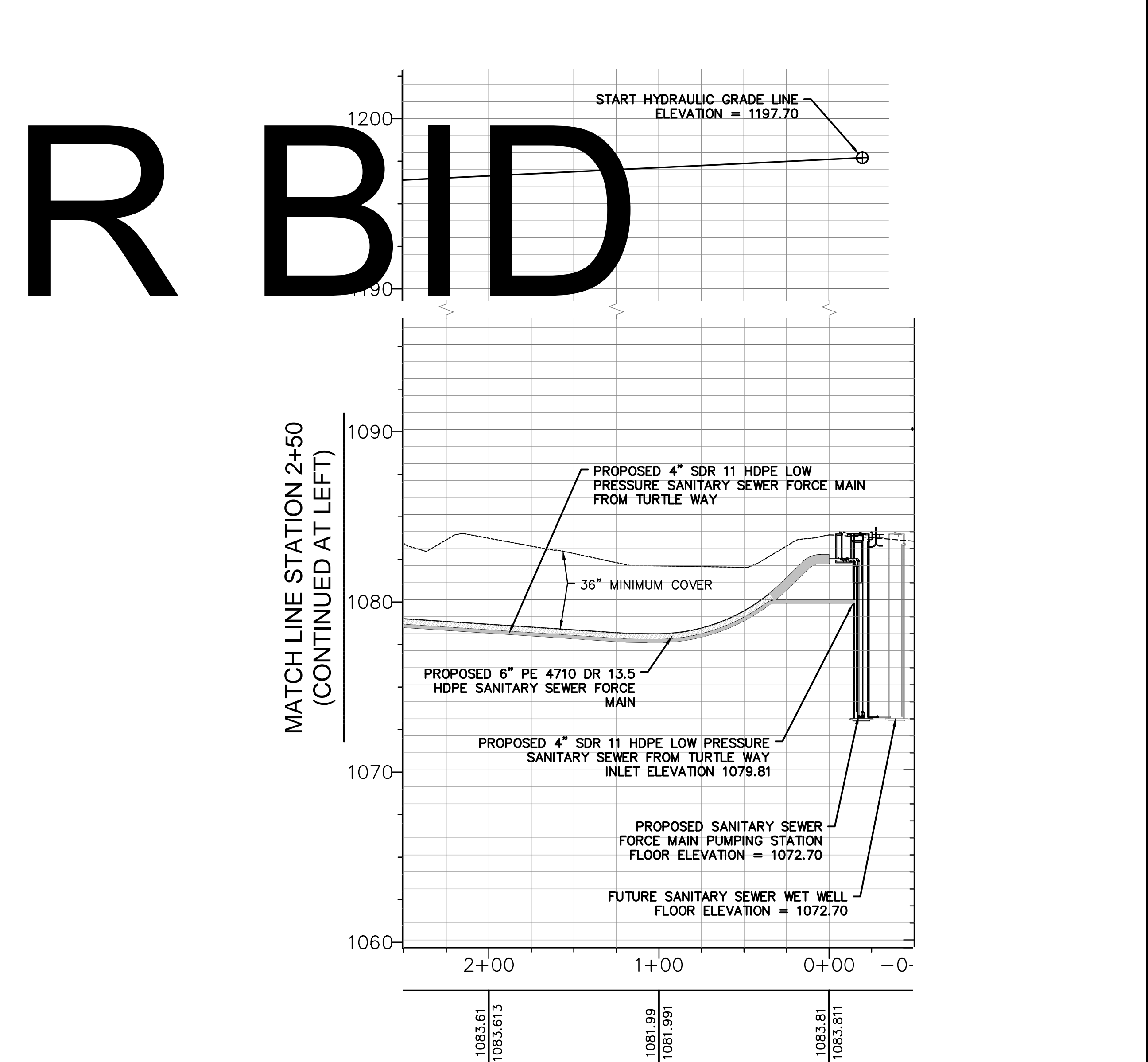
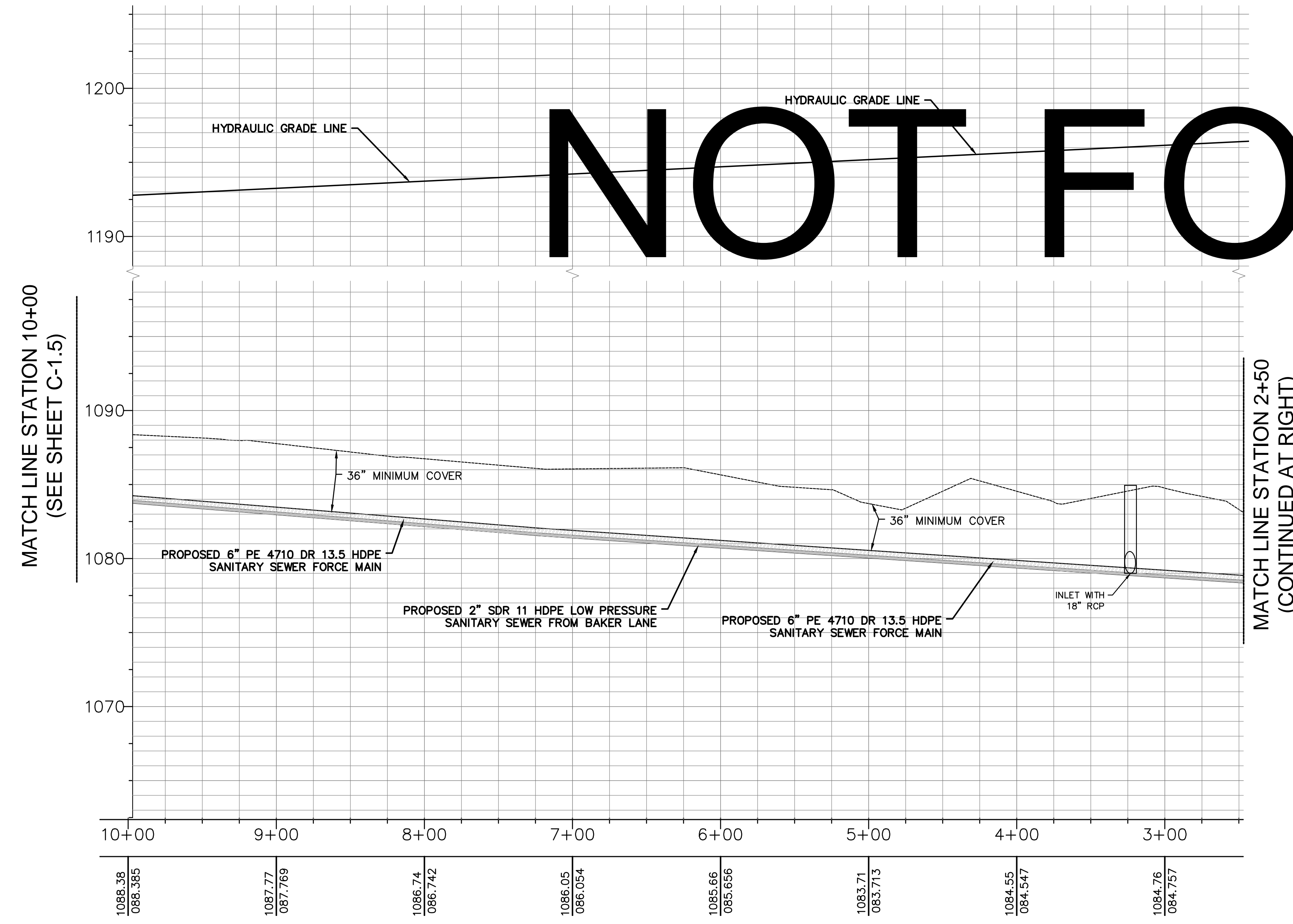
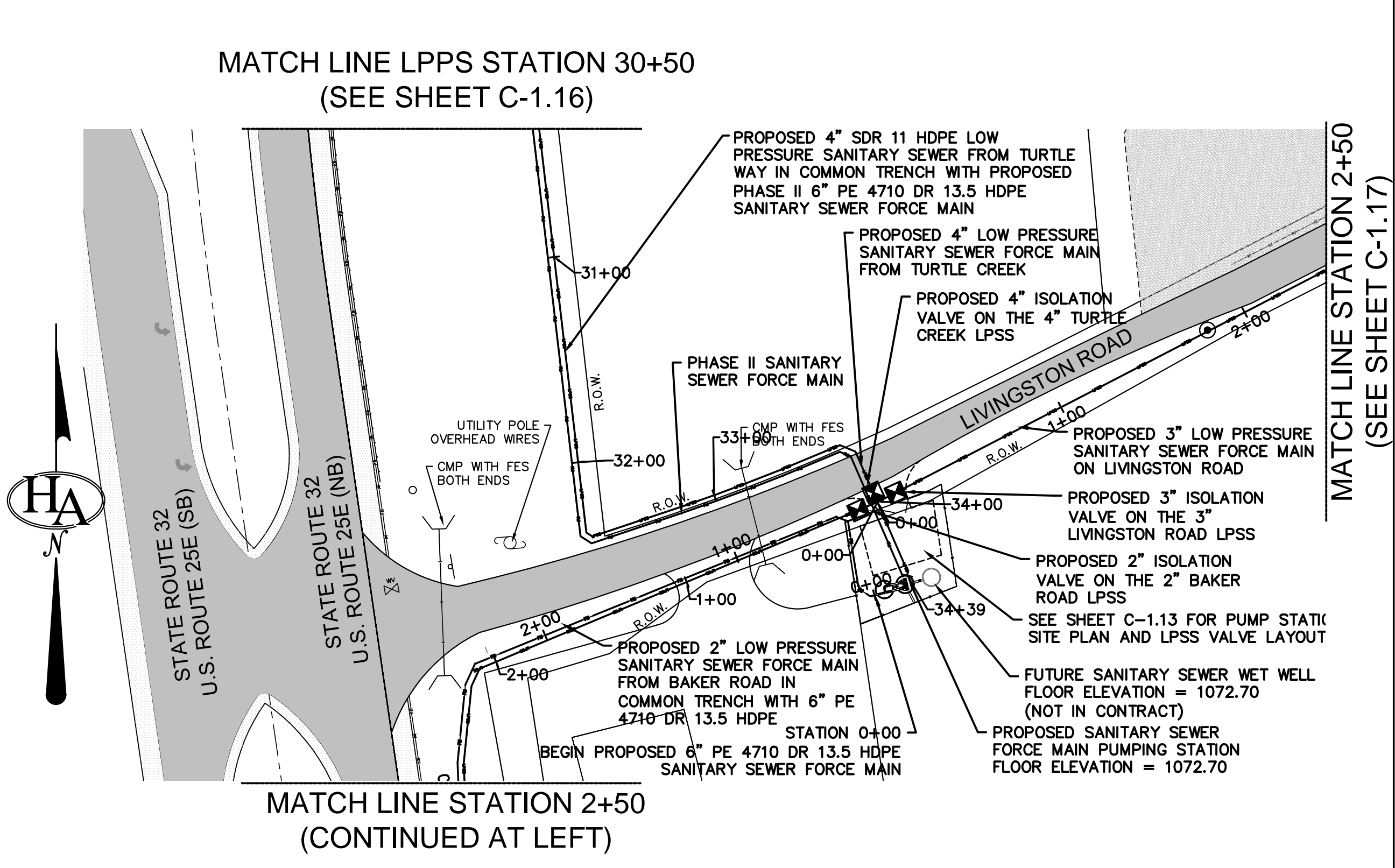
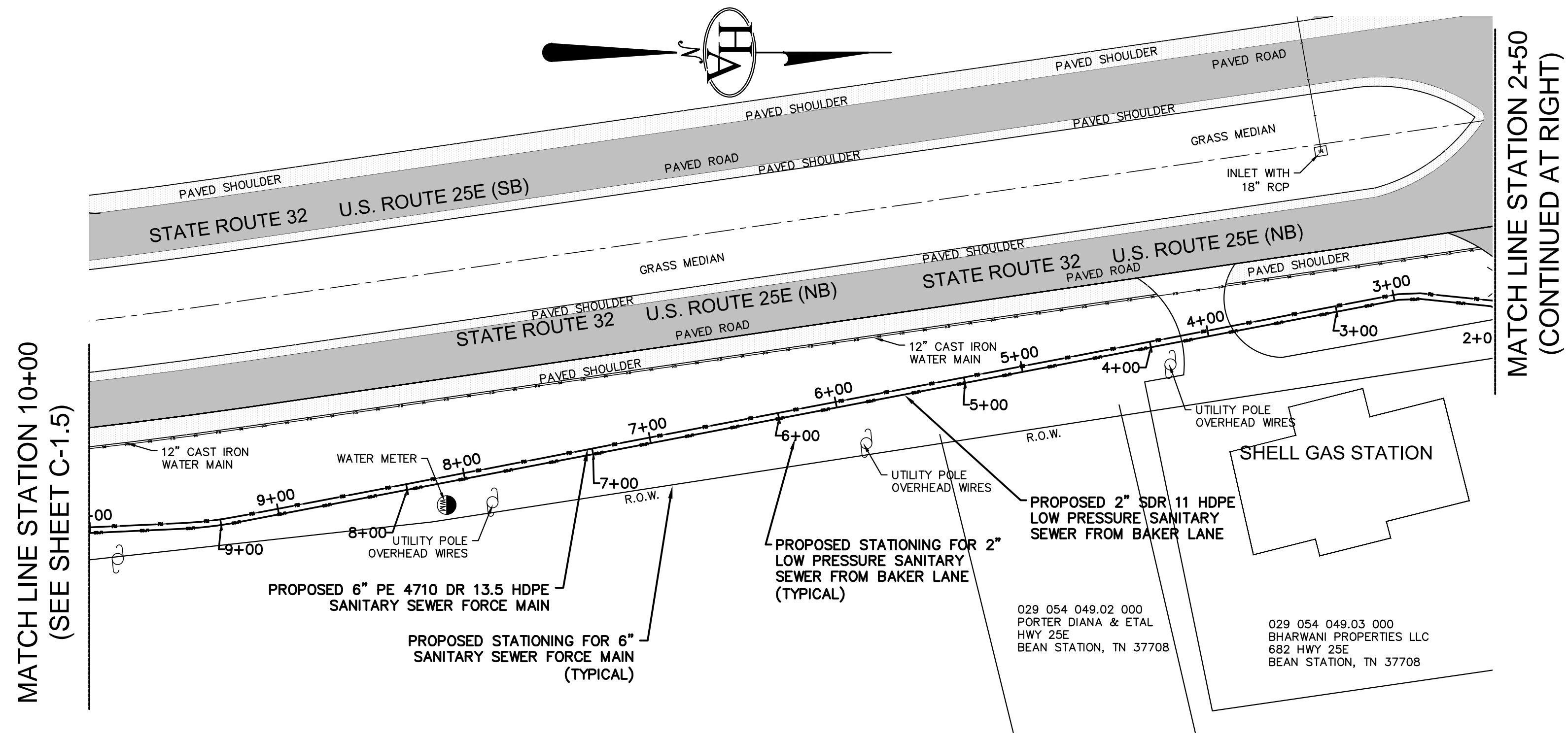
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PROJ NO. • 24-129  
DWG FILE • 23-129 C-1.5  
ISSUE DATE • 08/14/2022

**PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS**

OVERALL PLAN VIEW  
BAKER LANE &  
BLUFF VILLAGE ROAD

SHEET NUMBER  
**C-1.5**



**NOT FOR BID**

SCALES:  
1" = 50' HORIZONTALLY  
1" = 5' VERTICALLY

SCALES:  
1" = 50' HORIZONTALLY  
1" = 5' VERTICALLY

**HA**

HATFIELD & ALLEN ASSOCIATES ENGINEERING & PLANNING  
775 RANDELS ROAD  
STRAWBERRY PLAINS, TN 37871  
PHONE: (865) 388-5031



TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I

HAMBLEN COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

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2)	24-129 Base
3)	
4)	
5)	

REVISION HISTORY

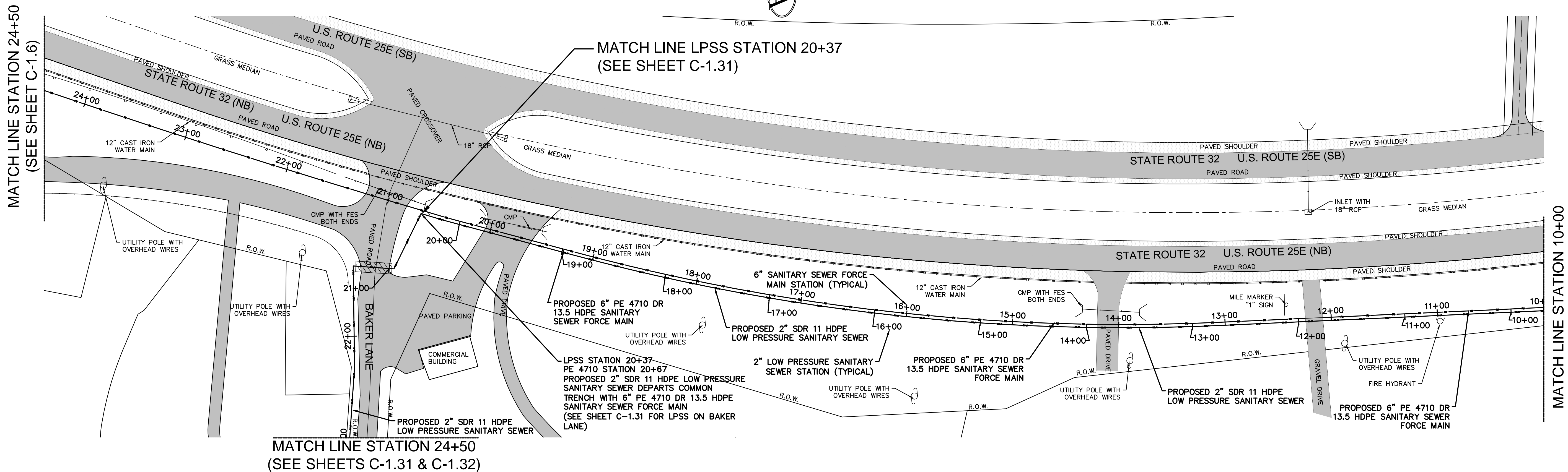
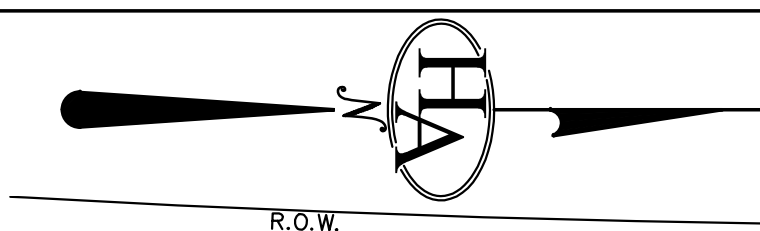
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09/25/2024	REVISED VALVE VAULT & HGL

PROJ. NO. • 24-129  
DWG FILE • 23-129 C-1.6  
ISSUE DATE • 08/14/2022

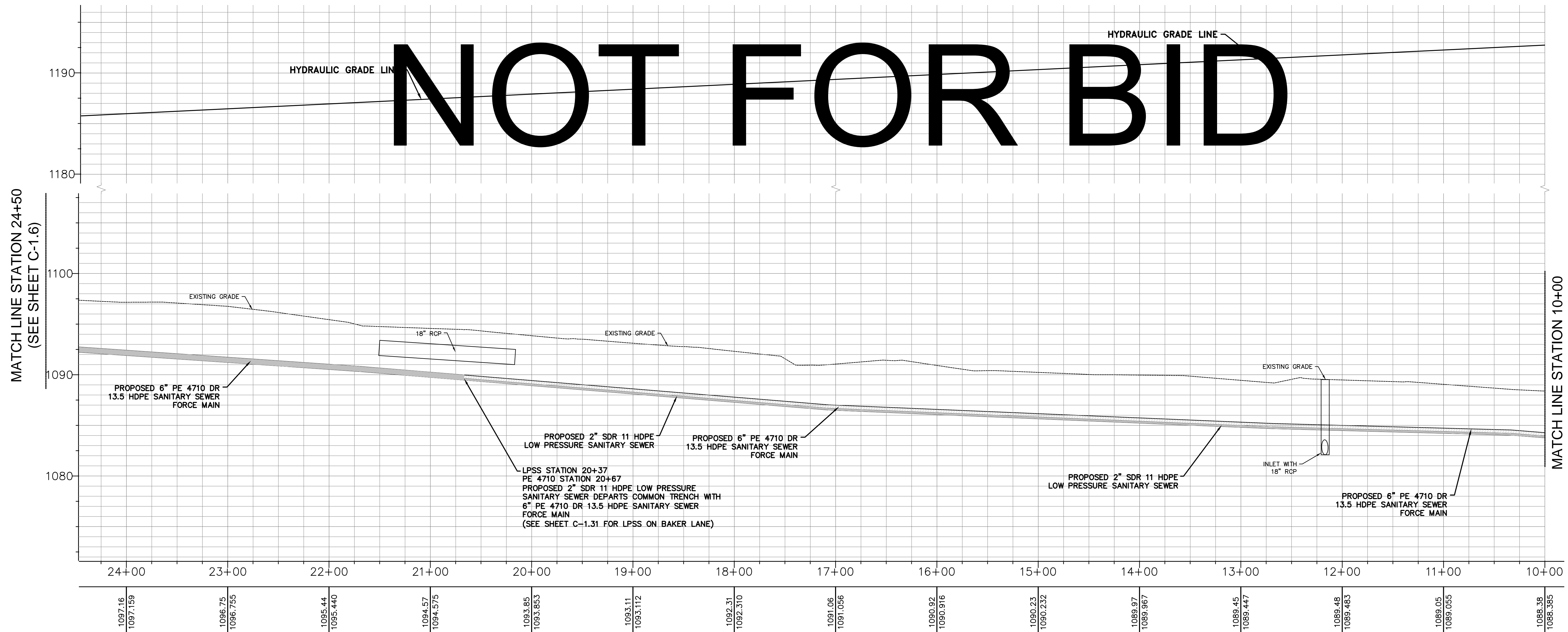
**PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS**

STATION 0+00 TO 2+50  
AND  
STATION 2+50 TO 10+00  
AND  
STATION 30+50 TO 34+55

SHEET NUMBER  
**C-1.6**



# NOT FOR BID



SCALES:  
 1" = 50' HORIZONTALLY  
 1" = 5' VERTICALLY

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 ENGINEERING & PLANNING  
 775 RANDELES ROAD  
 STRAWBERRY PLAINS, TN 37871  
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**TOWN OF BEAN STATION  
 SANITARY SEWER FORCE MAIN &  
 LOW PRESSURE SANITARY SEWER  
 PHASE I**

HAMILLEN COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

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2) 24-129 Base
3)
4)
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REVISION HISTORY

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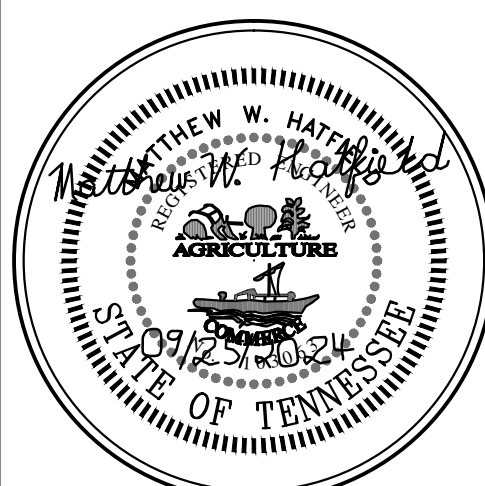
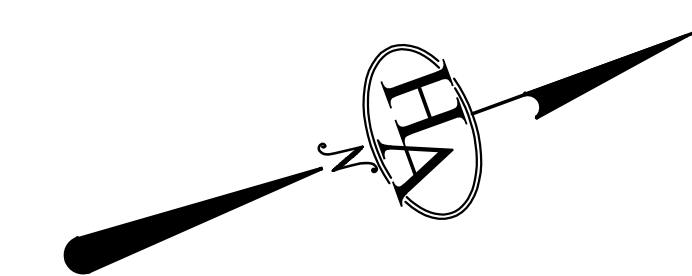
PROJ. NO. • 24-129  
 DWG FILE • 23-129 C-1.7  
 ISSUE DATE • 08/14/2022

**PHASE I  
 SANITARY SEWER  
 FORCE MAIN &  
 LPSS**

**STATION 10+00  
 TO  
 STATION 24+50**

SHEET NUMBER  
**C-1.7**





**TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I**

HAMBLEN COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

1)	24-129 bord-d
2)	24-129 Base
3)	
4)	
5)	

REVISION HISTORY

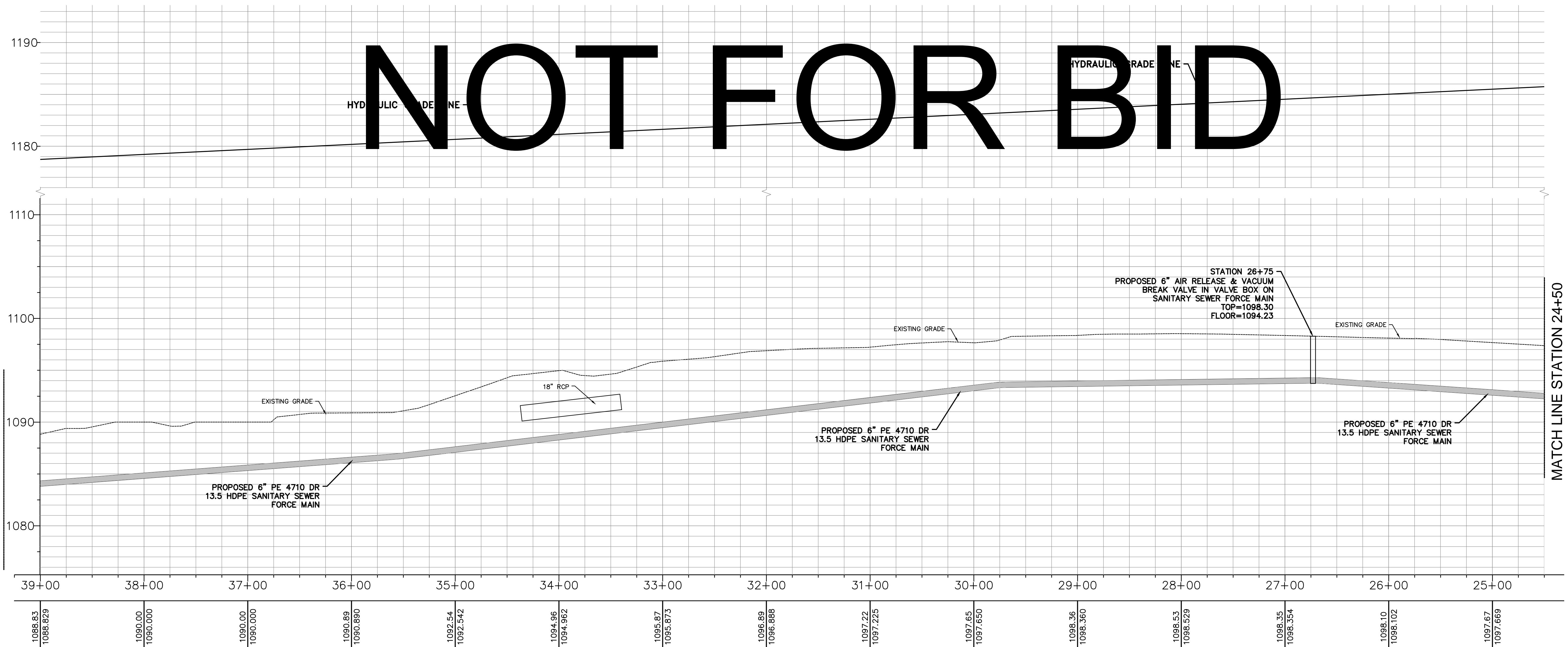
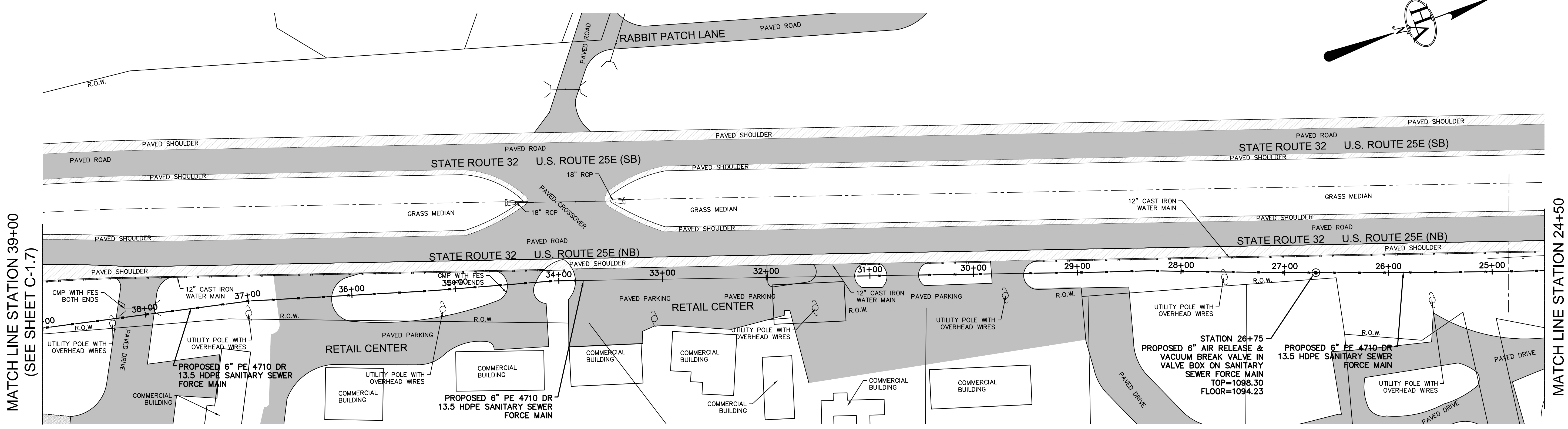
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09/25/2024	REVISED VALVE VAULT & HGL

PROJ NO. • 24-129  
DWG FILE • 23-129 C-1.8  
ISSUE DATE • 08/14/2022

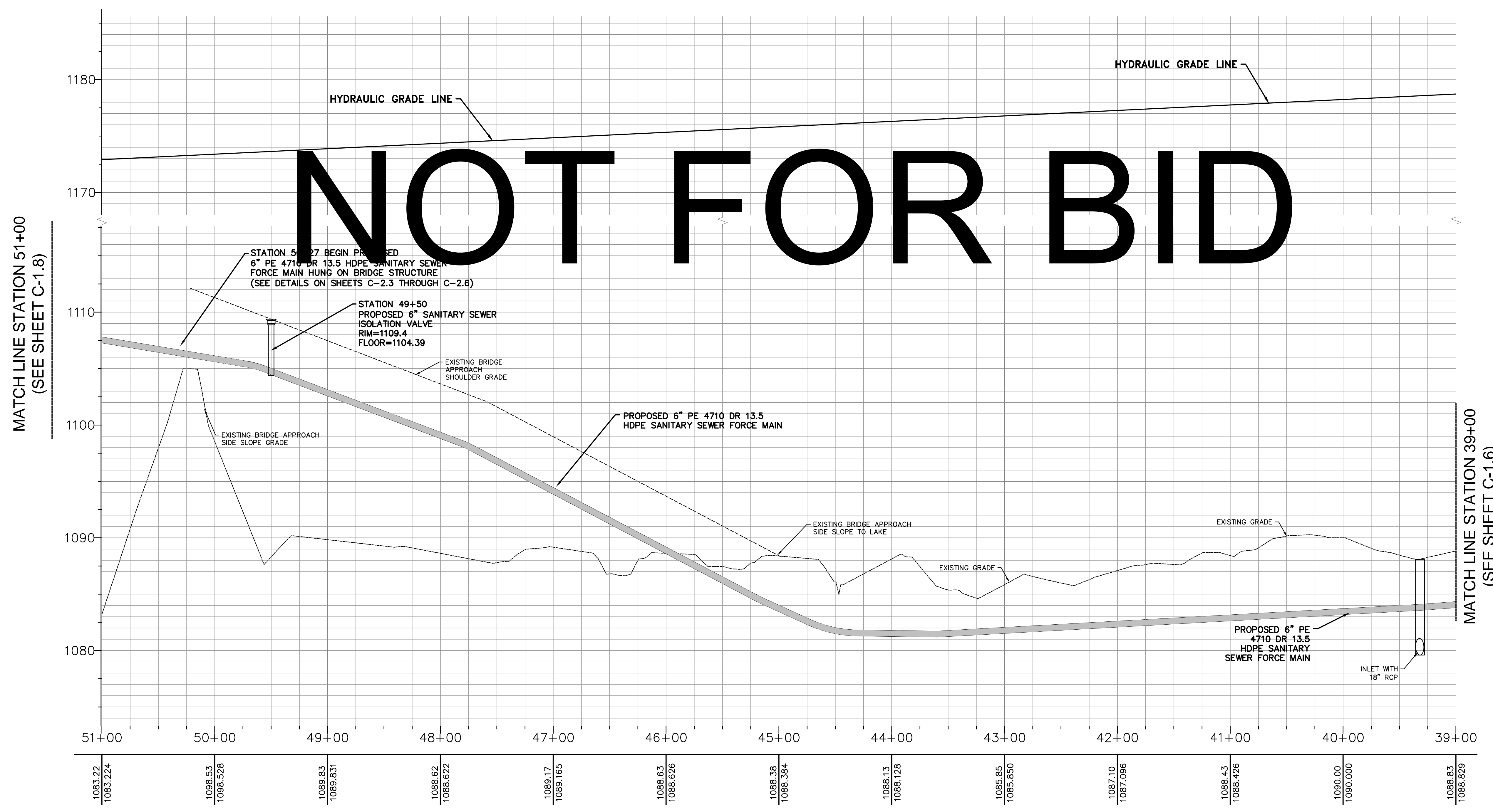
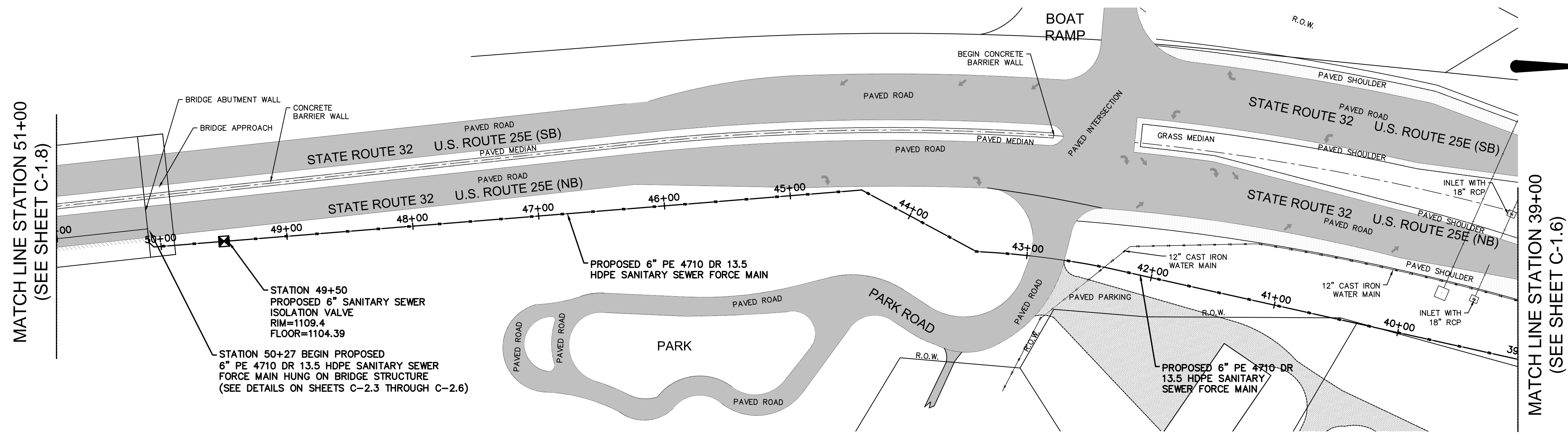
**PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS**

**STATION 24+50  
TO  
STATION 39+00**

SHEET NUMBER  
**C-1.8**



SCALES:  
1" = 50' HORIZONTALLY  
1" = 5' VERTICALLY

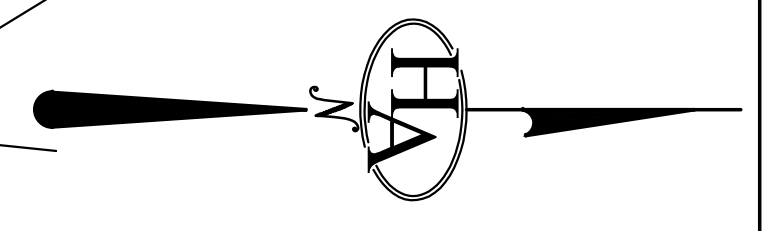


MATCH LINE STATION 51+00  
(SEE SHEET C-1.8)

MATCH LINE STATION 39+00  
(SEE SHEET C-1.6)

1083.22	1083.224	1095.53	1095.528	1089.83	1089.831	1085.62	1085.622	1089.17	1089.165	1085.63	1085.626	1085.38	1085.384	1085.13	1085.128	1085.85	1085.850	1087.10	1087.096	1085.43	1085.426	1090.00	1090.000	1085.83	1085.829
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SCALES:  
1" = 50' HORIZONTALLY  
1" = 5' VERTICALLY



**HA**  
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TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I  
HAMBLETON COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

1) 24-129 bord-d
2) 24-129 Base
3)
4)
5)

REVISION HISTORY

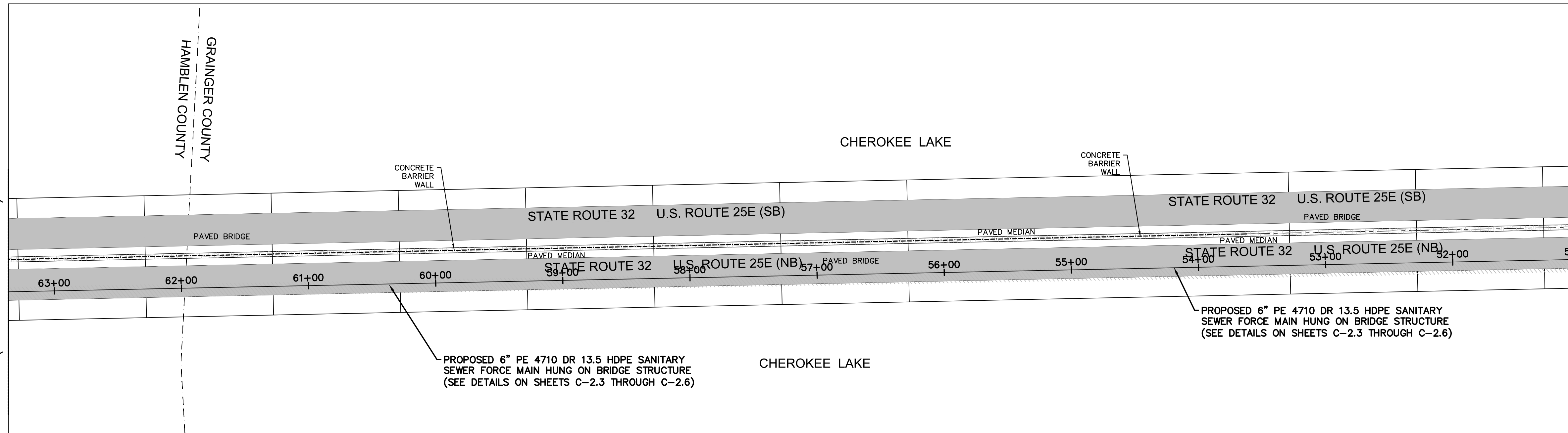
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09/25/2024	REVISED VALVE VAULT & HGL

PROJ. NO.	• 24-129
DWG FILE	• 24-129 C-1.9
ISSUE DATE	• 08/14/2022

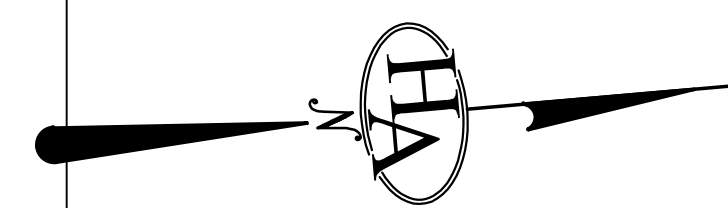
PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS  
FORCE MAIN  
STATION 39+00  
TO  
STATION 51+00

SHEET NUMBER  
**C-1.9**

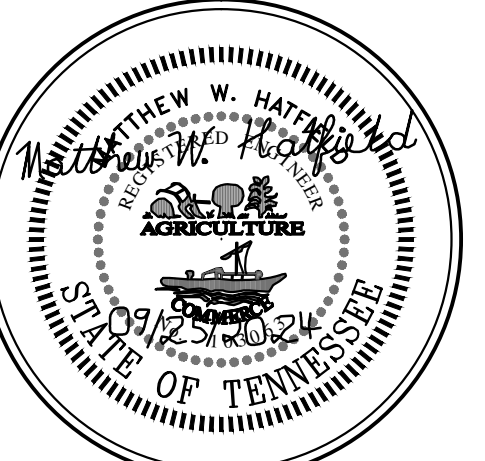
MATCH LINE STATION 63+50  
(SEE SHEET C-1.9)



MATCH LINE STATION 51+00  
(SEE SHEET C-1.7)

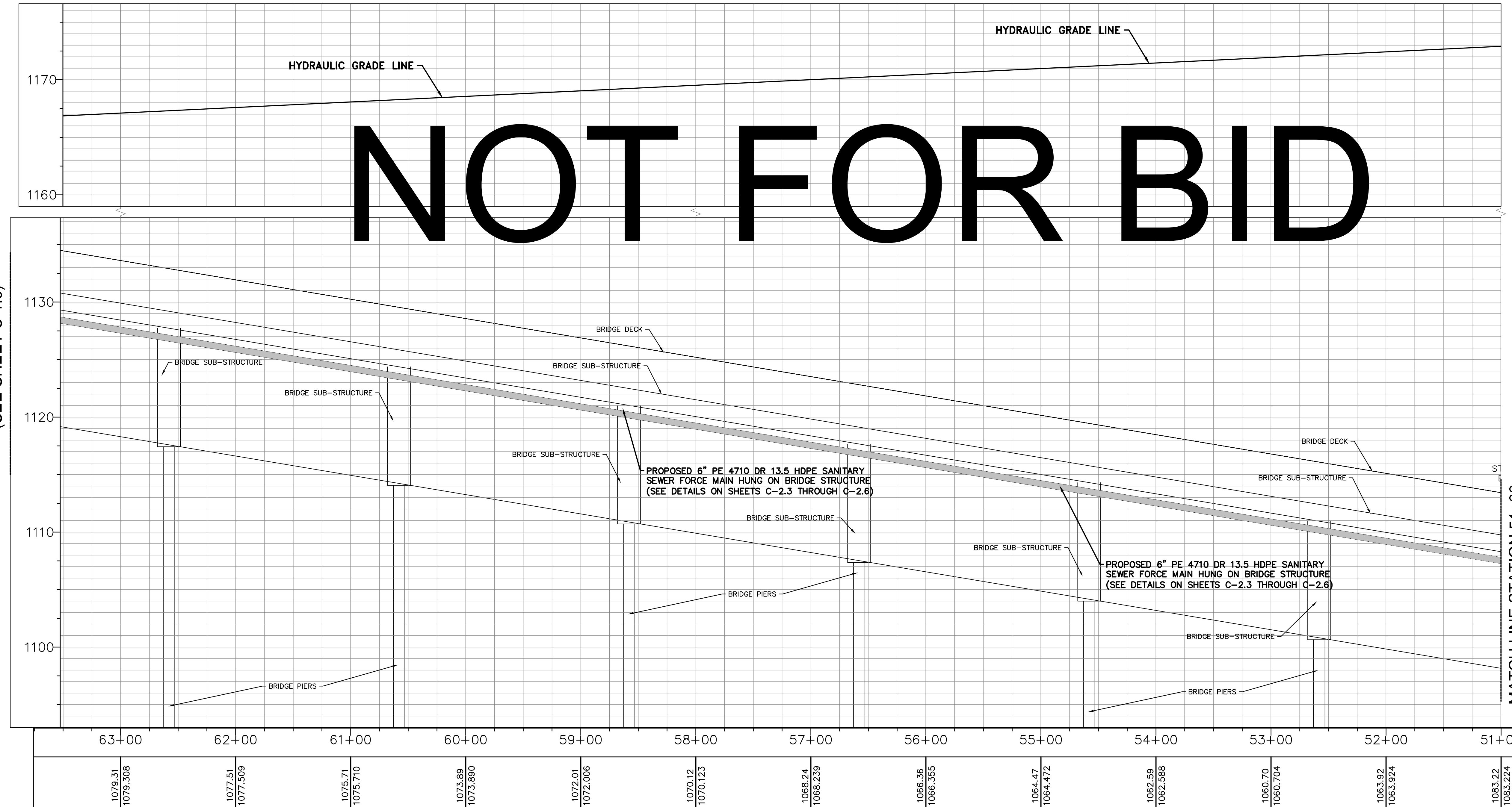


**HA**  
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 775 RANDELS ROAD  
 STRAWBERRY PLAINS, TN 37871  
 PHONE: (865) 388-5031



# NOT FOR BID

MATCH LINE STATION 63+50  
(SEE SHEET C-1.9)



MATCH LINE STATION 51+00  
(SEE SHEET C-1.7)

TOWN OF BEAN STATION  
 SANITARY SEWER FORCE MAIN &  
 LOW PRESSURE SANITARY SEWER  
 PHASE I  
 HAMBLEN COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

1)	24-129 bord-d
2)	24-129 Base
3)	
4)	
5)	

REVISION HISTORY

10/11/2023	ADDED AIR RELEASE MANHOLE
11/01/2023	REVISED SEWER ALIGNMENT & DETAILS
06/26/2024	ADDED LOW PRESSURE SEWER TO PLAN
07/17/2024	MISCELLANEOUS PLAN REVISIONS
08/18/2024	REVISED BRIDGE MOUNTING DETAILS
08/29/2024	REVISED & EXPANDED NOTES & DETAILS
09/23/2024	REVISED LPSS SERVICE LATERALS
09/25/2024	REVISED VALVE VAULT & HGL

PROJ NO. • 24-129  
 DWG FILE • 23-129 C-1.10  
 ISSUE DATE • 08/14/2022

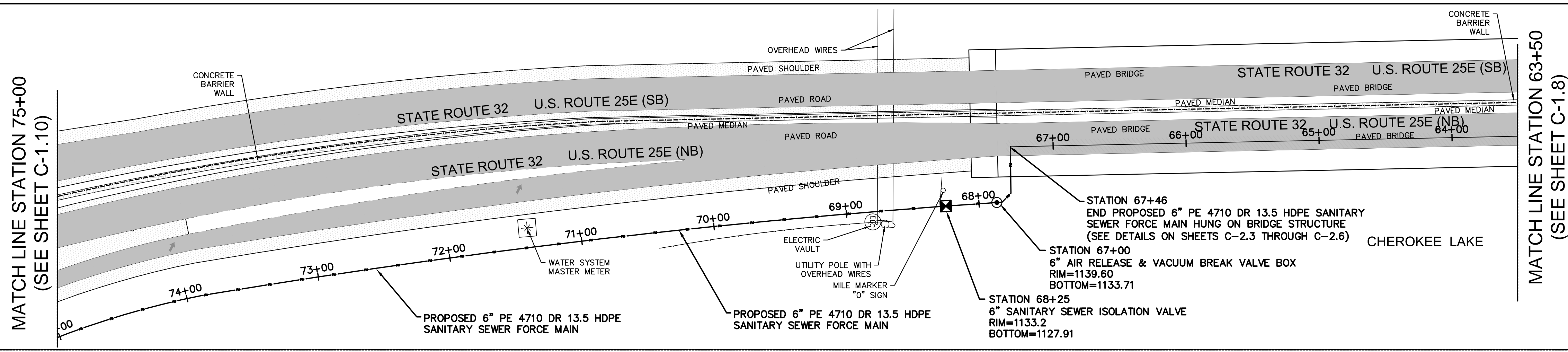
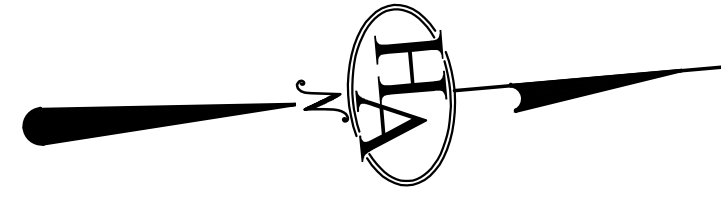
PHASE I  
 SANITARY SEWER  
 FORCE MAIN &  
 LPSS

STATION 51+00  
 TO  
 STATION 63+50

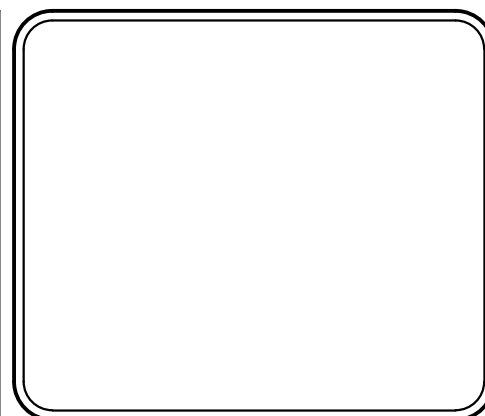
SHEET NUMBER  
**C-1.10**

SCALES:  
 1" = 50' HORIZONTALLY  
 1" = 5' VERTICALLY





NOT FOR BID



**HA**

HATFIELD & ALLEN  
ASSOCIATES  
ENGINEERING & PLANNING  
775 RANDES ROAD  
STRAWBERRY PLAINS, TN 37871  
PHONE: (865) 388-5031



**TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I**

HAMILLEN COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

1)	24-129 bord-d
2)	24-129 Base
3)	
4)	
5)	

REVISION HISTORY

10/11/2023	ADDED AIR RELEASE MANHOLE
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08/29/2024	REVISED & EXPANDED NOTES & DETAILS
09/23/2024	REVISED LPSS SERVICE LATERALS
09/25/2024	REVISED VALVE VAULT & HGL

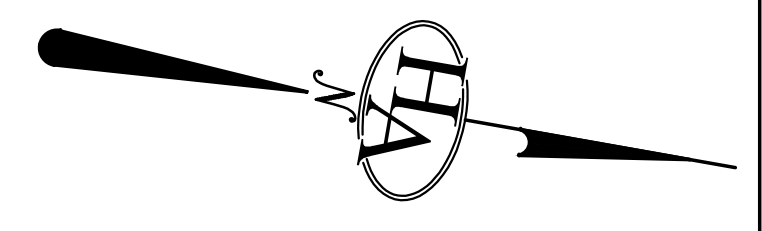
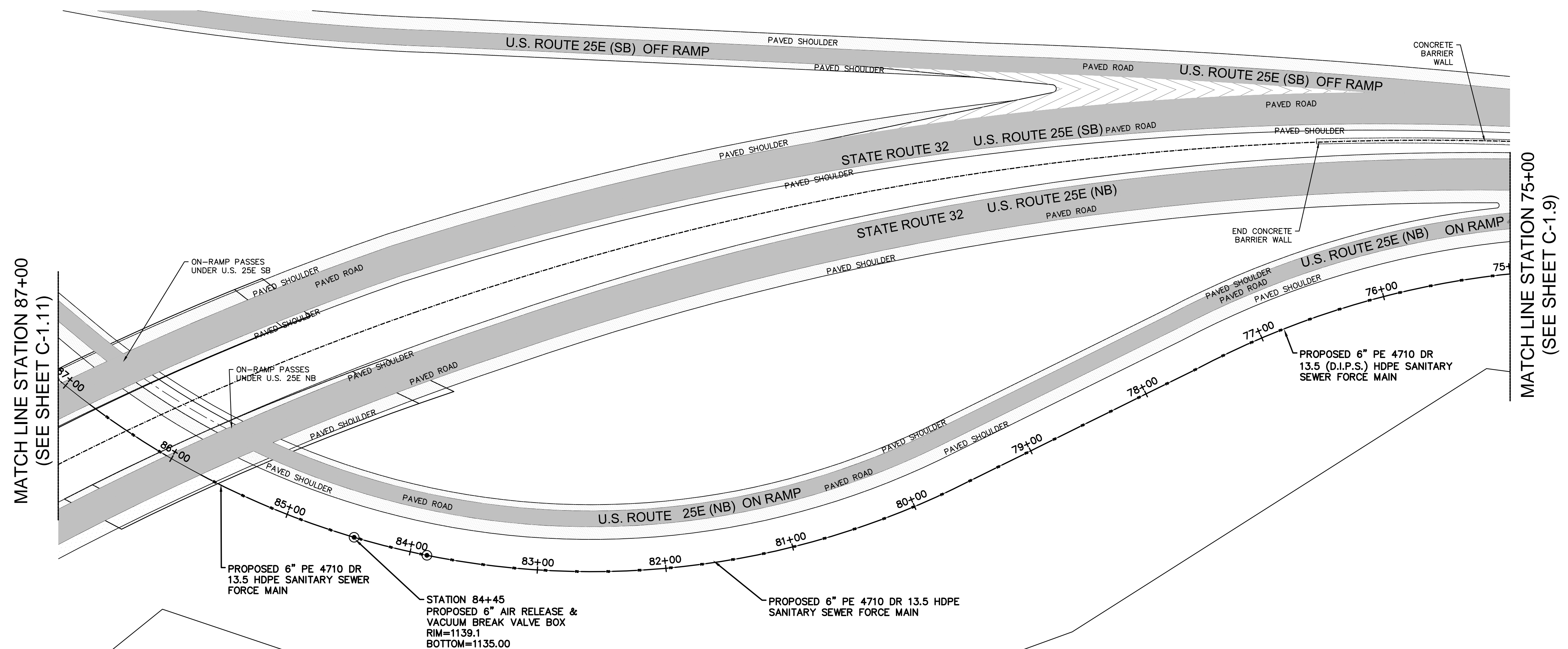
PROJ. NO. • 24-129  
DWG FILE • 23-129 C-1.11  
ISSUE DATE • 08/14/2022

**PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS**

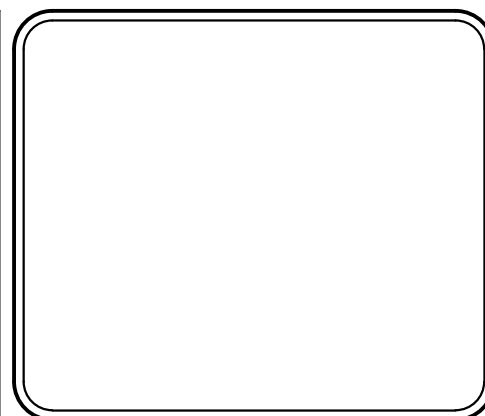
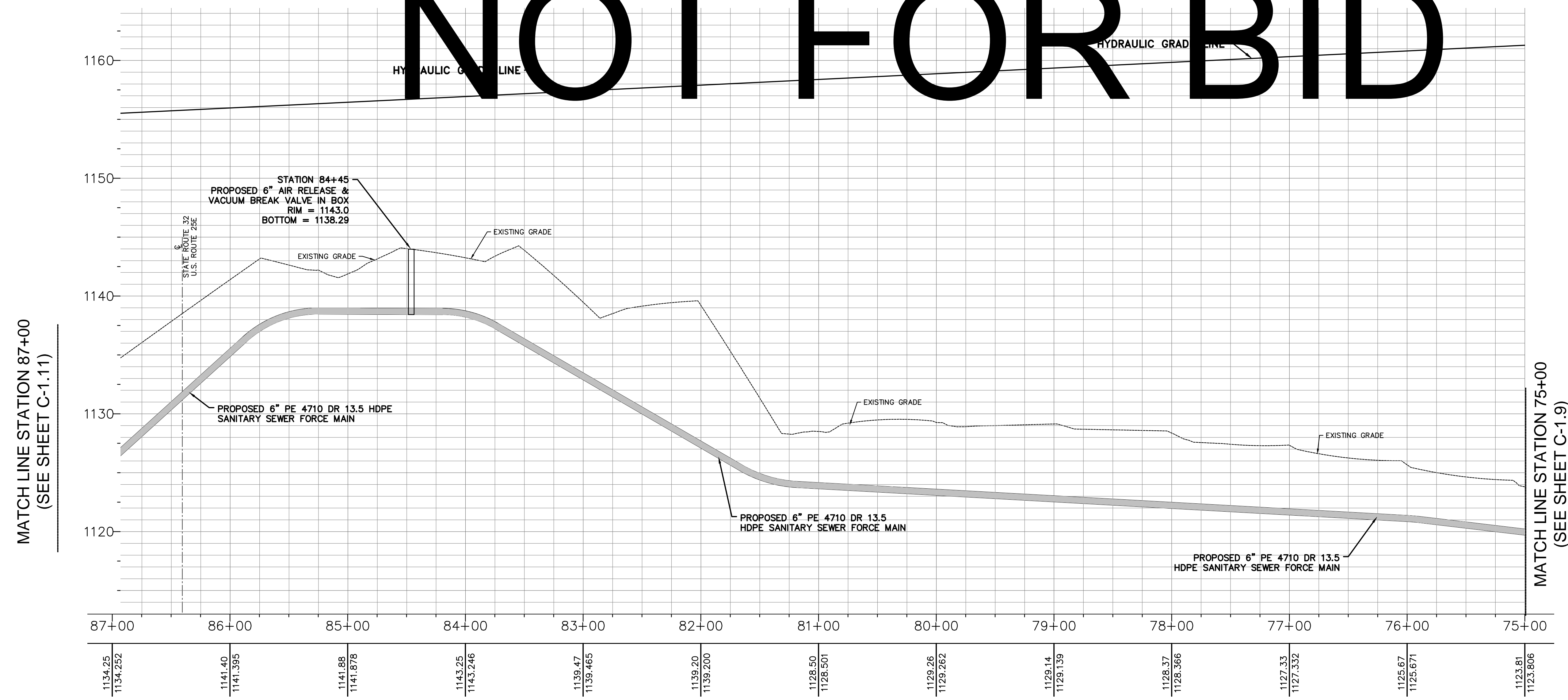
**STATION 63+50  
TO  
STATION 75+00**

SHEET NUMBER  
**C-1.11**

SCALES:  
1" = 50' HORIZONTALLY  
1" = 5' VERTICALLY



# NOT FOR BID



**HATFIELD & ALLEN ASSOCIATES ENGINEERING & PLANNING**  
 775 RANDELS ROAD  
 STRAWBERRY PLAINS, TN 37871  
 PHONE: (865) 388-5031



**TOWN OF BEAN STATION SANITARY SEWER FORCE MAIN & LOW PRESSURE SANITARY SEWER PHASE I**  
 HAMBLEN COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS	
1)	24-129 bord-d
2)	24-129 Base
3)	
4)	
5)	

REVISION HISTORY	
10/11/2023	ADDED AIR RELEASE MANHOLE
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08/29/2024	REVISED & EXPANDED NOTES & DETAILS
09/23/2024	REVISED LPSS SERVICE LATERALS
09/25/2024	REVISED VALVE VAULT & HGL

PROJ. NO. • 24-129  
 DWG FILE • 23-129 C-1.12  
 ISSUE DATE • 08/14/2022

**PHASE I SANITARY SEWER FORCE MAIN & LPSS**  
**STATION 75+00 TO STATION 87+00**

SHEET NUMBER  
**C-1.12**

SCALES:  
 1" = 50' HORIZONTALLY  
 1" = 5' VERTICALLY

**HA**  
 HATFIELD & ALLEN  
 ASSOCIATES  
 ENGINEERING & PLANNING  
 775 RANDELS ROAD  
 STRAWBERRY PLAINS, TN 37871  
 PHONE: (865) 388-5031



**TOWN OF BEAN STATION  
 SANITARY SEWER FORCE MAIN &  
 LOW PRESSURE SANITARY SEWER  
 PHASE I**  
 HAMLEN COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

1)	24-129 bord-d
2)	24-129 Base
3)	
4)	
5)	

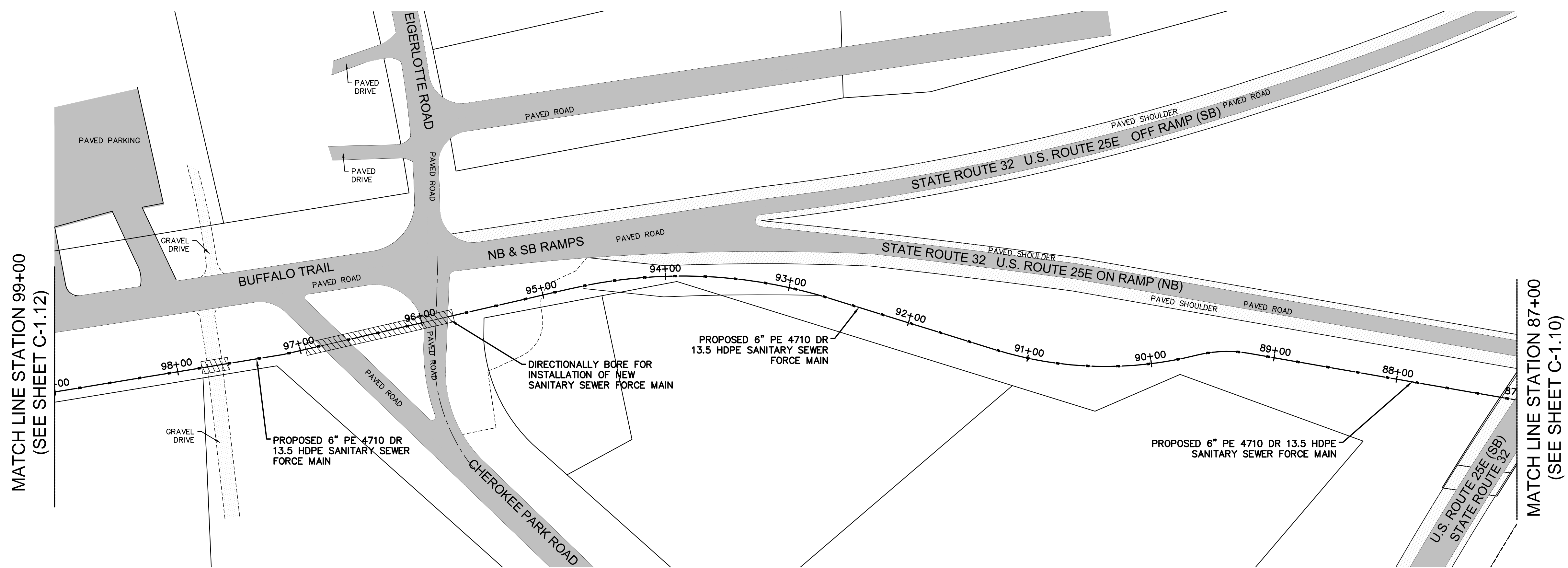
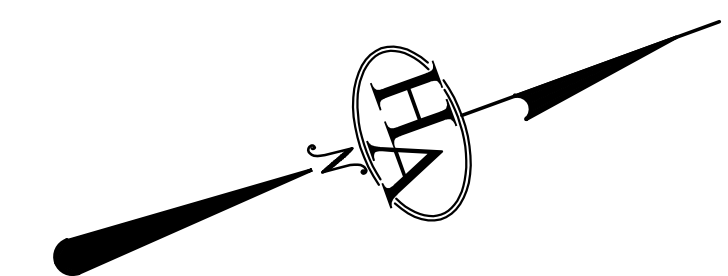
REVISION HISTORY

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09/23/2024	REVISED LPSS SERVICE LATERALS
09/25/2024	REVISED VALVE VAULT & HGL

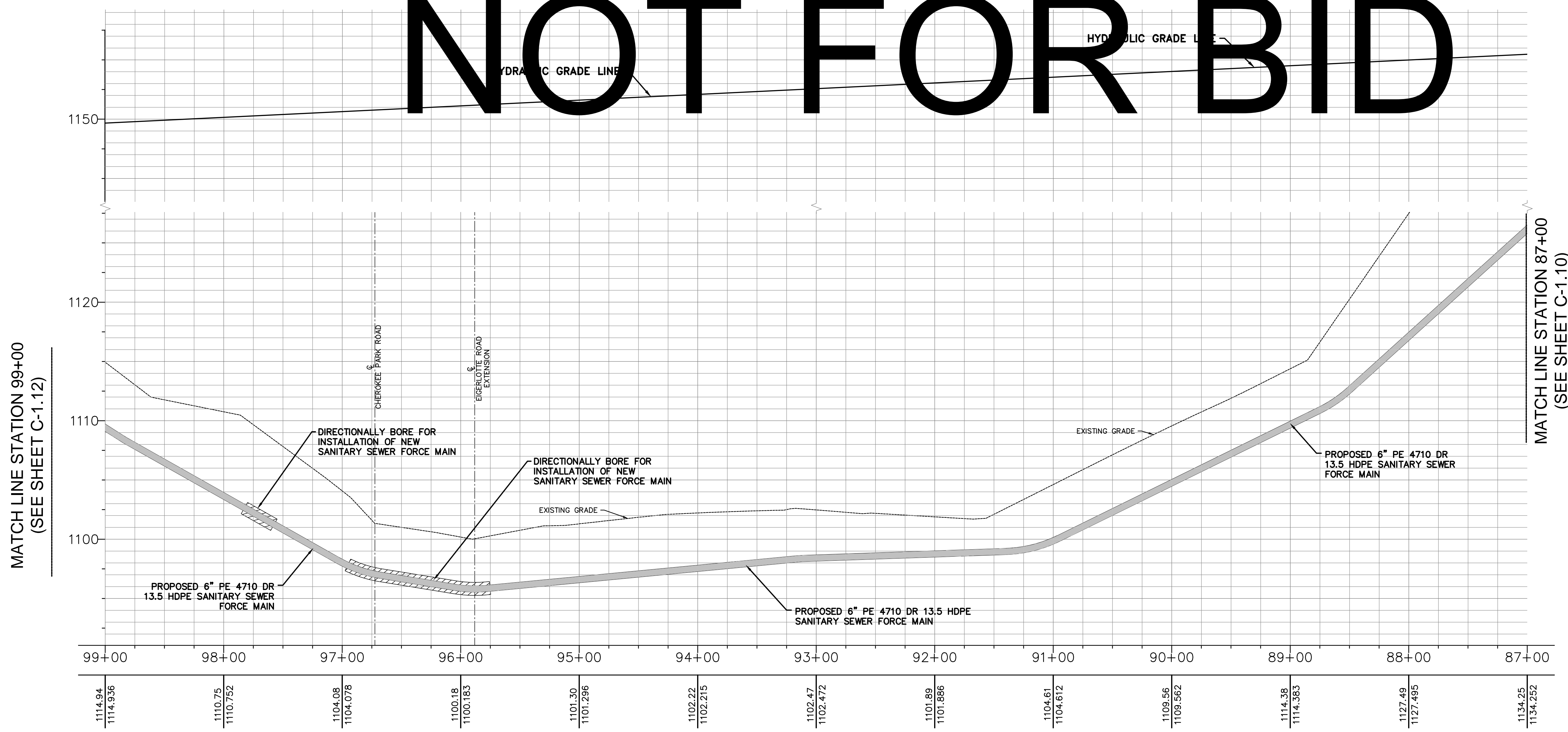
PROJ. NO. • 24-129  
 DWG FILE • 23-129 C-1.13  
 ISSUE DATE • 08/14/2022

**PHASE I  
 SANITARY SEWER  
 FORCE MAIN &  
 LPSS**  
**STATION 87+00  
 TO  
 STATION 99+00**

SHEET NUMBER  
**C-1.13**

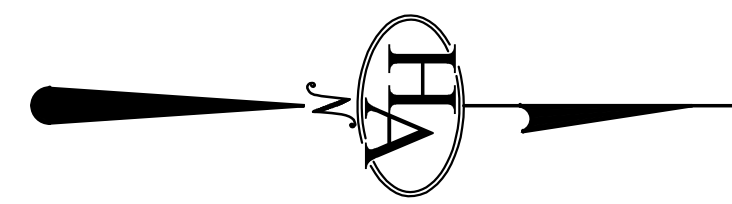


**NOT FOR BID**



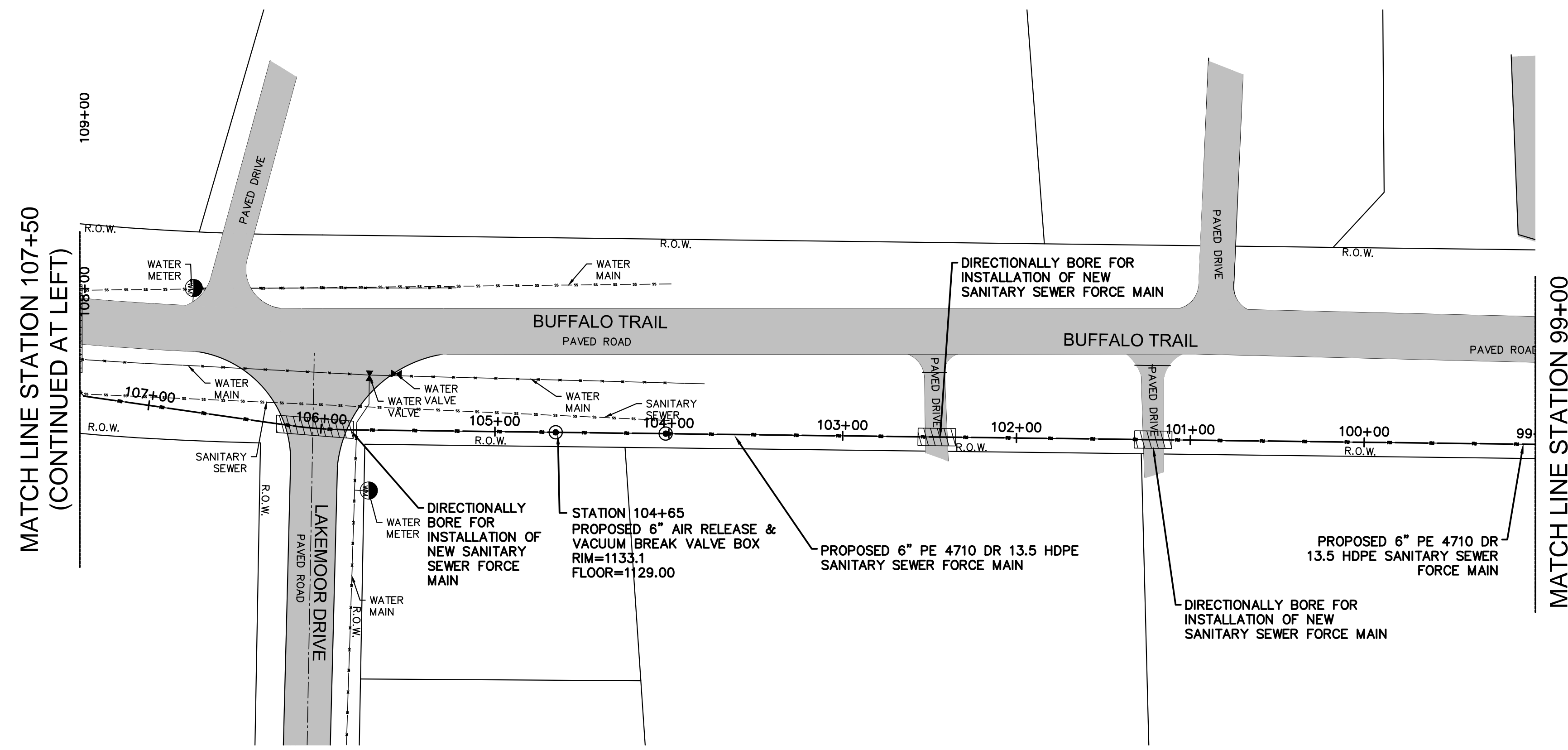
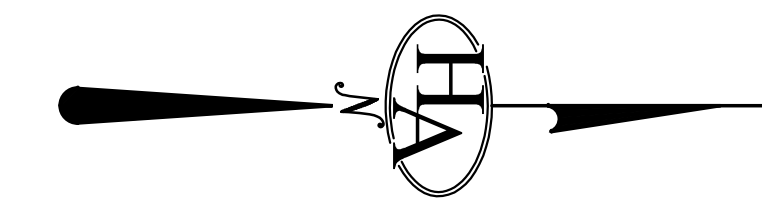
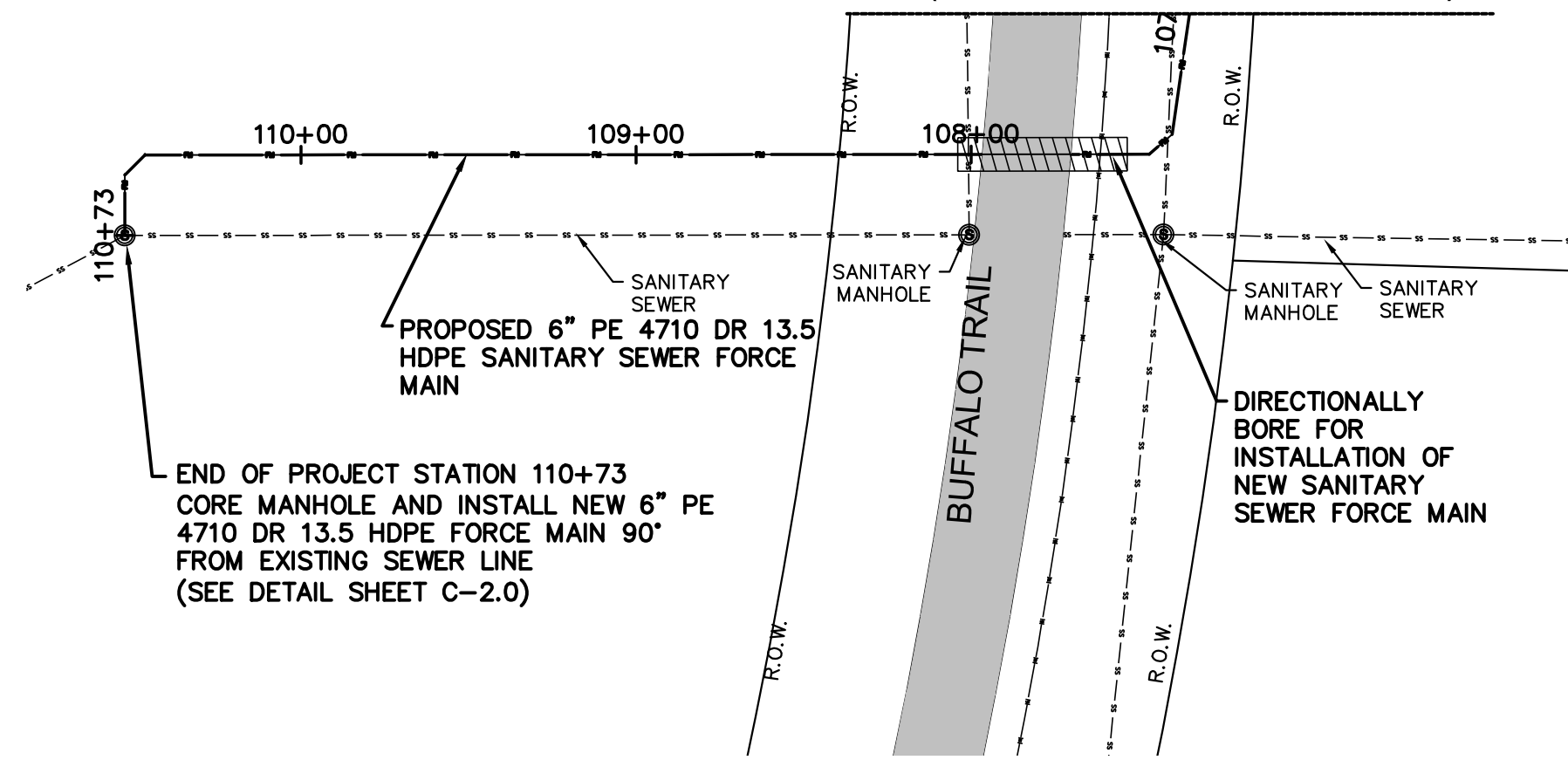
SCALES:  
 1" = 50' HORIZONTALLY  
 1" = 5' VERTICALLY



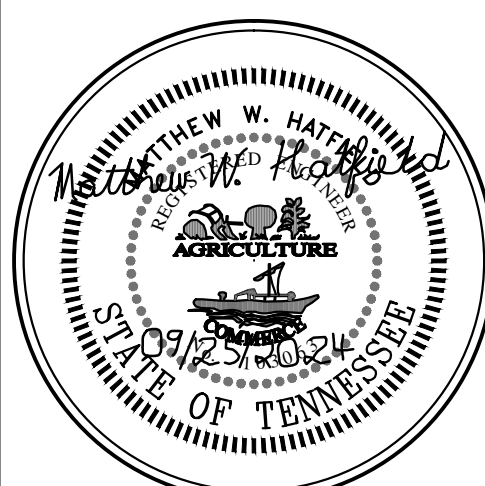
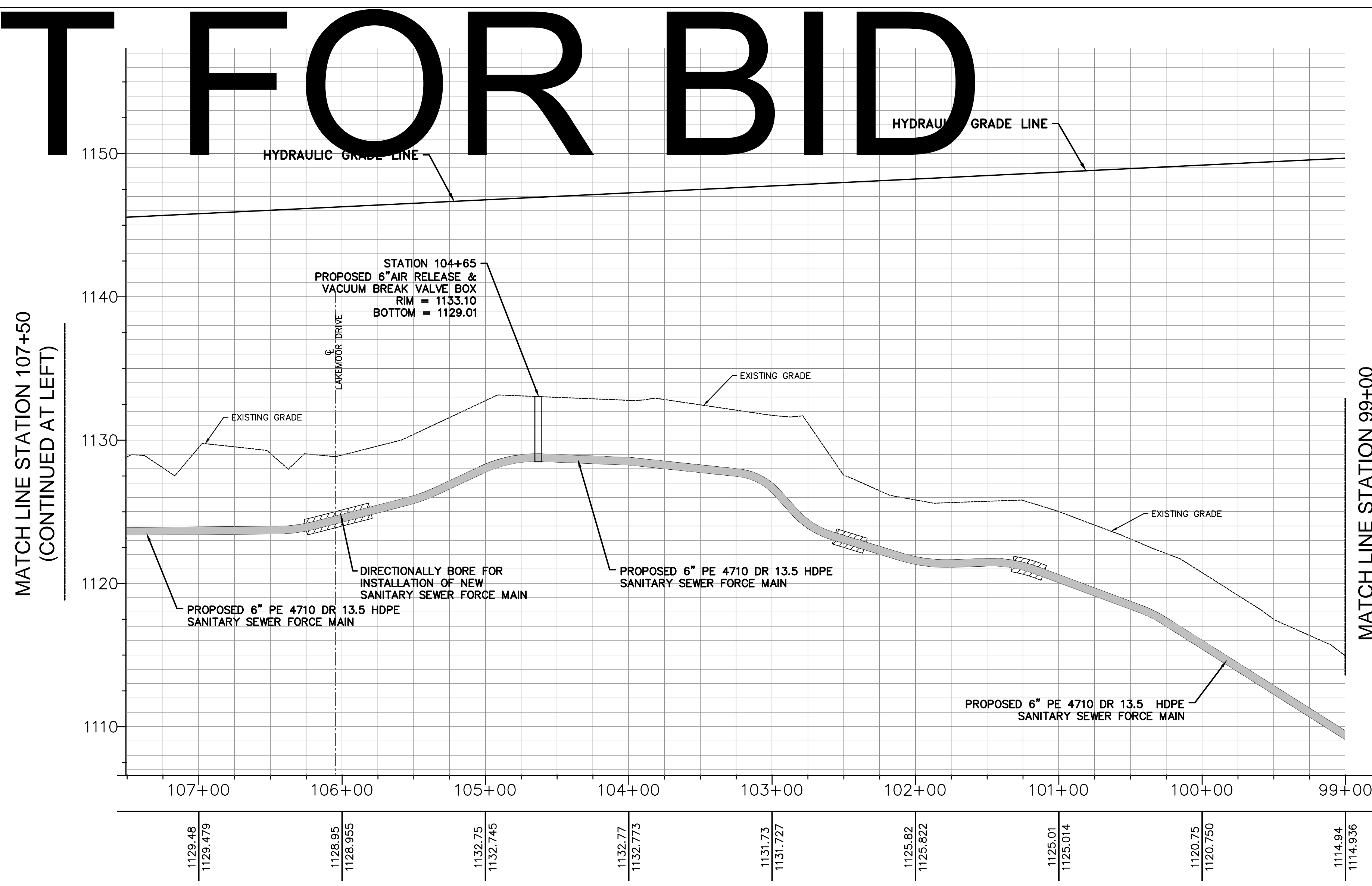
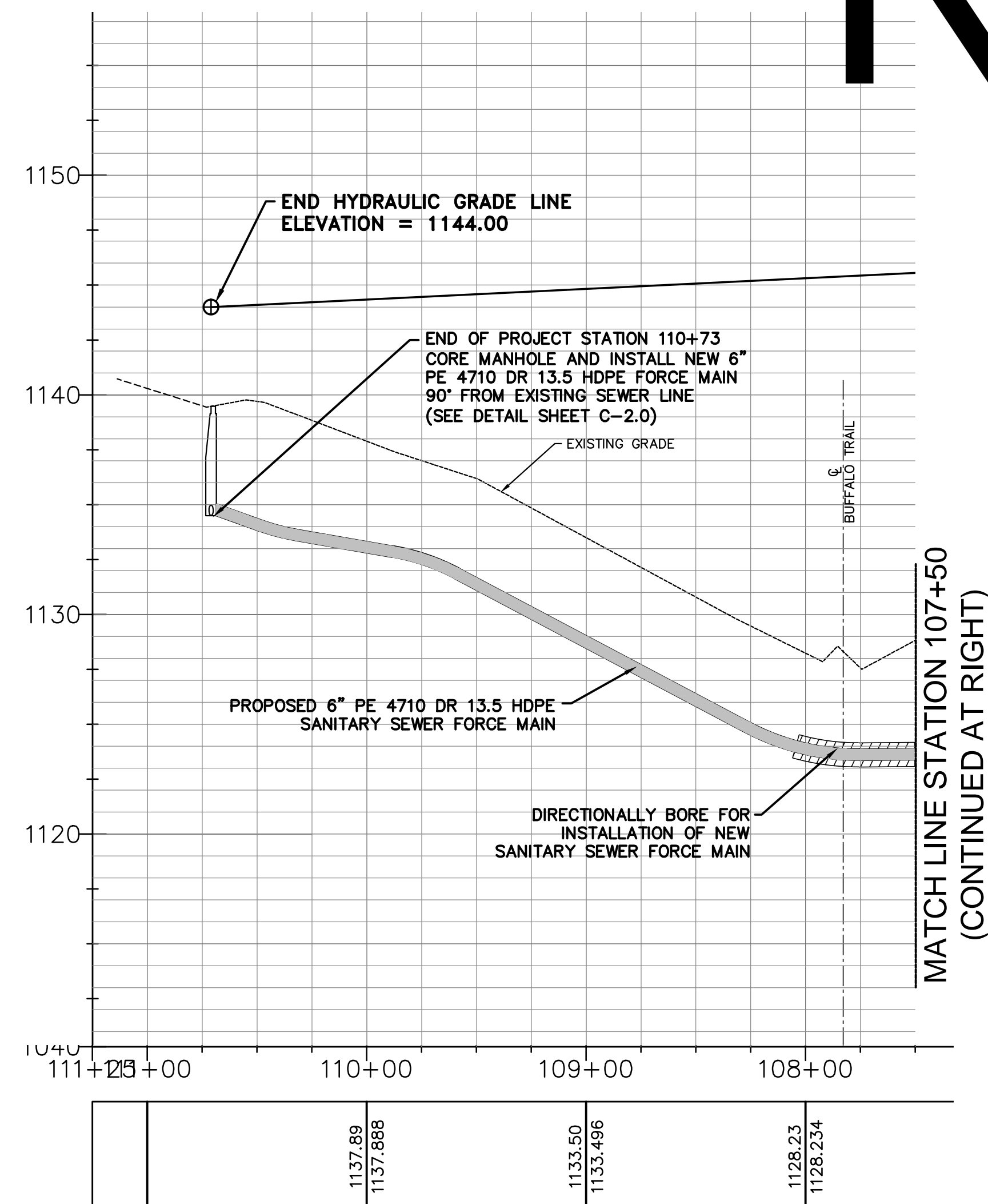


SCALES:  
1"= 50' HORIZONTALLY  
1"= 5' VERTICALLY

MATCH LINE STATION 107+50  
(CONTINUED AT RIGHT)



# NOT FOR BID



TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I  
HAMILTON COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

1)	24-129 bord-d
2)	24-129 Base
3)	
4)	
5)	

REVISION HISTORY

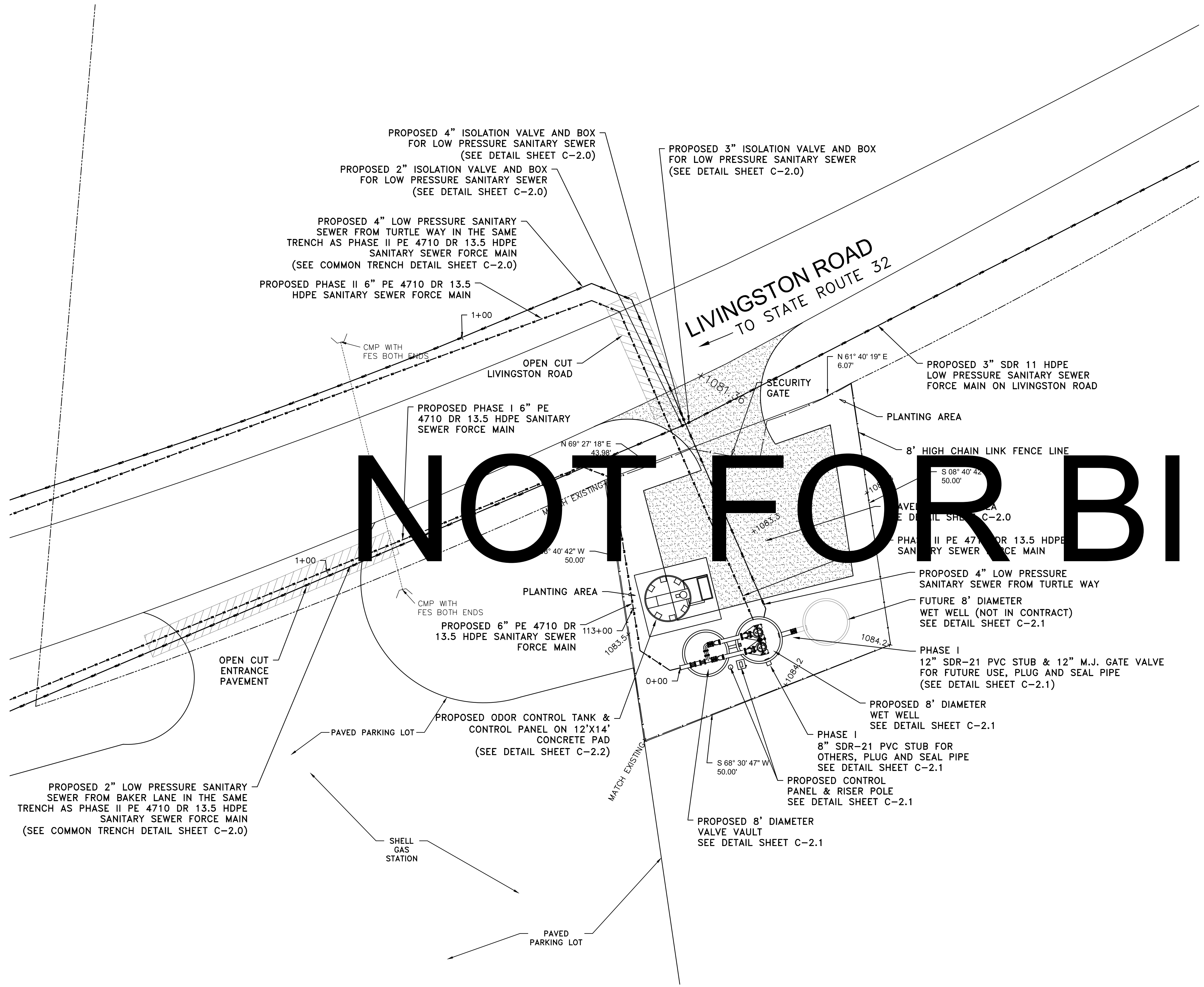
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09/23/2024	REVISED LPSS SERVICE LATERALS
09/25/2024	REVISED VALVE VAULT & HGL

PROJ. NO. • 24-129  
DWG FILE • 23-129 C-1.14  
ISSUE DATE • 08/14/2022

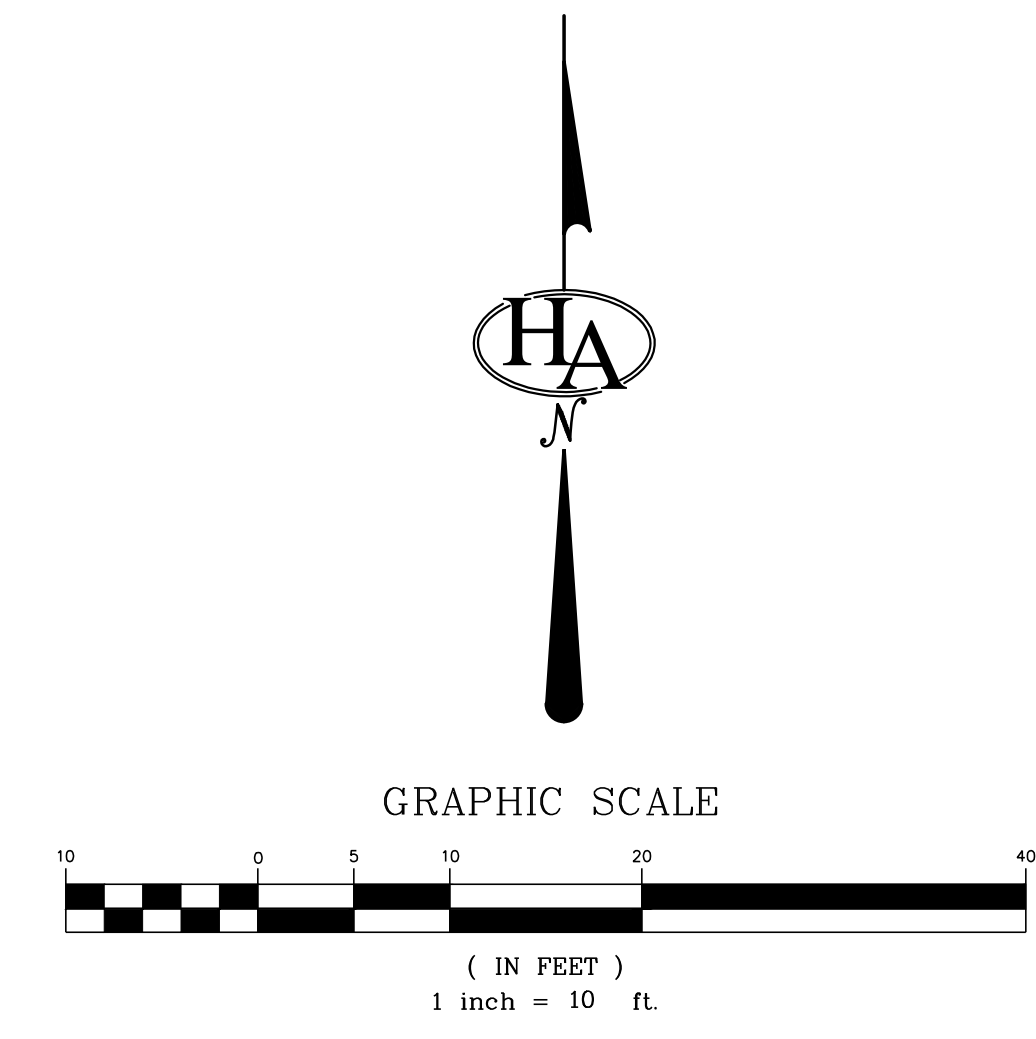
PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS

STATION 99+00 TO 107+50  
AND  
STATION 107+50 TO 110+73

SHEET NUMBER  
**C-1.14**



# NOT FOR BID



**HA**  
HATFIELD & ALLEN  
ASSOCIATES  
ENGINEERING & PLANNING  
775 RANDELS ROAD  
STRAWBERRY PLAINS, TN 37871  
PHONE: (865) 388-5031



TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I  
HAMBLLEN COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

1)	24-129 bord-d
2)	24-129 Base
3)	
4)	
5)	

REVISION HISTORY

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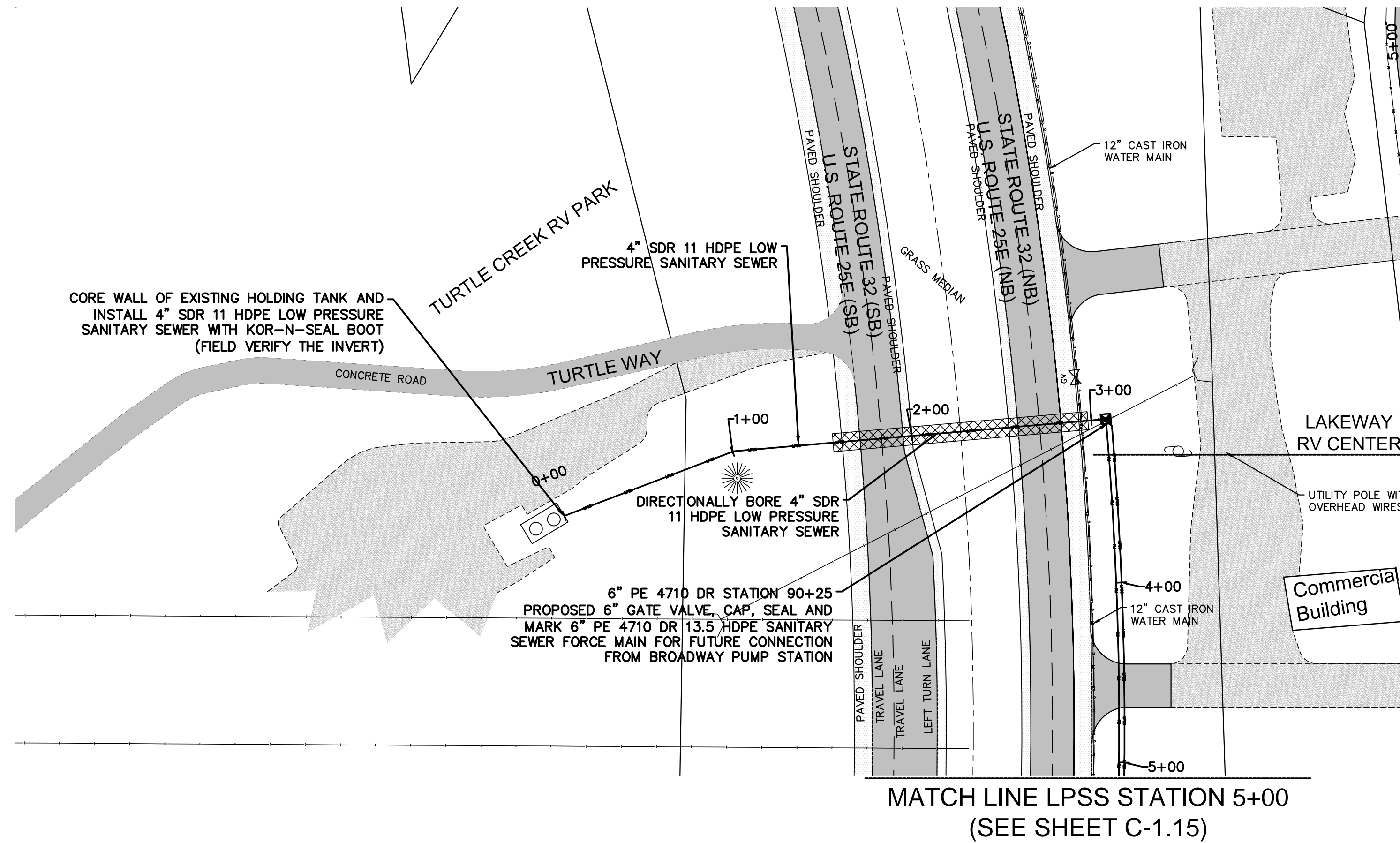
PROJ NO.	• 24-129
DWG FILE	• 23-129 C-1.15
ISSUE DATE	• 08/14/2022

PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS

PUMP STATION  
SITE PLAN

SHEET NUMBER  
**C-1.15**

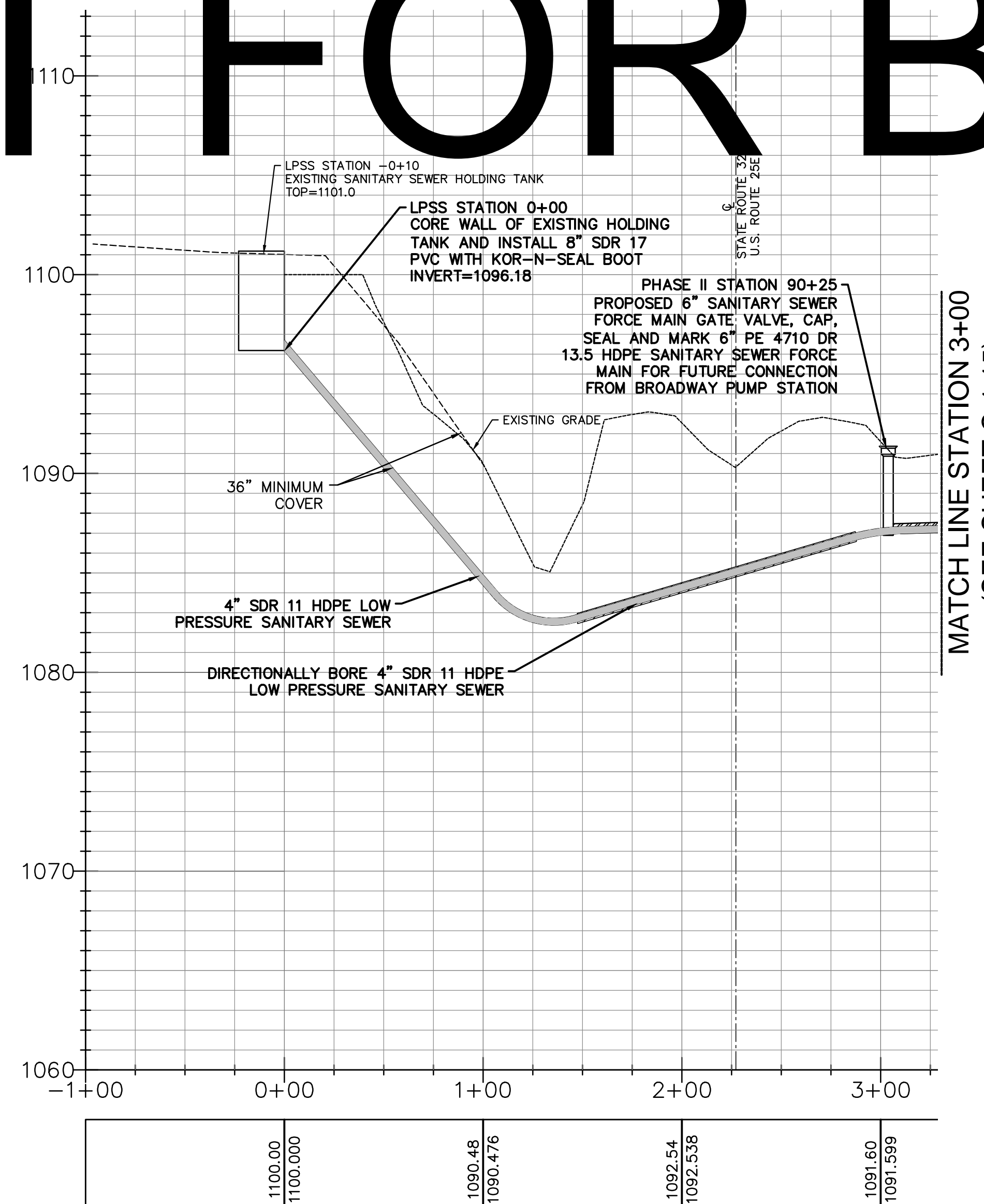
**IMPORTANT NOTES:**  
ROADWAY ALIGNMENT DATA FOR STATE ROUTE 32 (U.S. ROUTE 25E IS DERIVED FROM THE STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION PLANNING AND DESIGN DRAWINGS APD-32(3) 29003-3209-64, DATED 1986 082818-00 APD-NH-32(10) 29002-3231-14 SR32, DATED 1995 FR3202058 SR32 29003-3205-64, DATED 1977 FR3202500 SR34 32003-3208-64, DATED 1973  
SOME DETAIL WAS DERIVED FROM TRACING AERIAL DATA PREPARED BY GOOGLE EARTH.  
SOME DETAIL OF RIGHTS OF WAY, ROAD CENTERLINES AND BUILDINGS ARE APPROXIMATE ONLY, AND HAVE BEEN DIGITIZED FROM TENNESSEE PROPERTY VIEWER (<https://tnmap.tn.gov/assessment/>)



MATCH LINE LPSS TO TURTLE WAY  
STATION 3+00  
(SEE SHEET C-1.15)

MATCH LINE LPSS STATION 5+00  
(SEE SHEET C-1.15)

# NOT FOR BID



SCALES:  
1" = 50' HORIZONTALLY  
1" = 5' VERTICALLY

HATFIELD & ALLEN  
ASSOCIATES  
ENGINEERING & PLANNING  
775 RANDELS ROAD  
STRAWBERRY PLAINS, TN 37871  
PHONE: (865) 388-5031



TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I  
HAMILTON COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

1)	24-129 bord-d
2)	24-129 Base
3)	
4)	
5)	

REVISION HISTORY

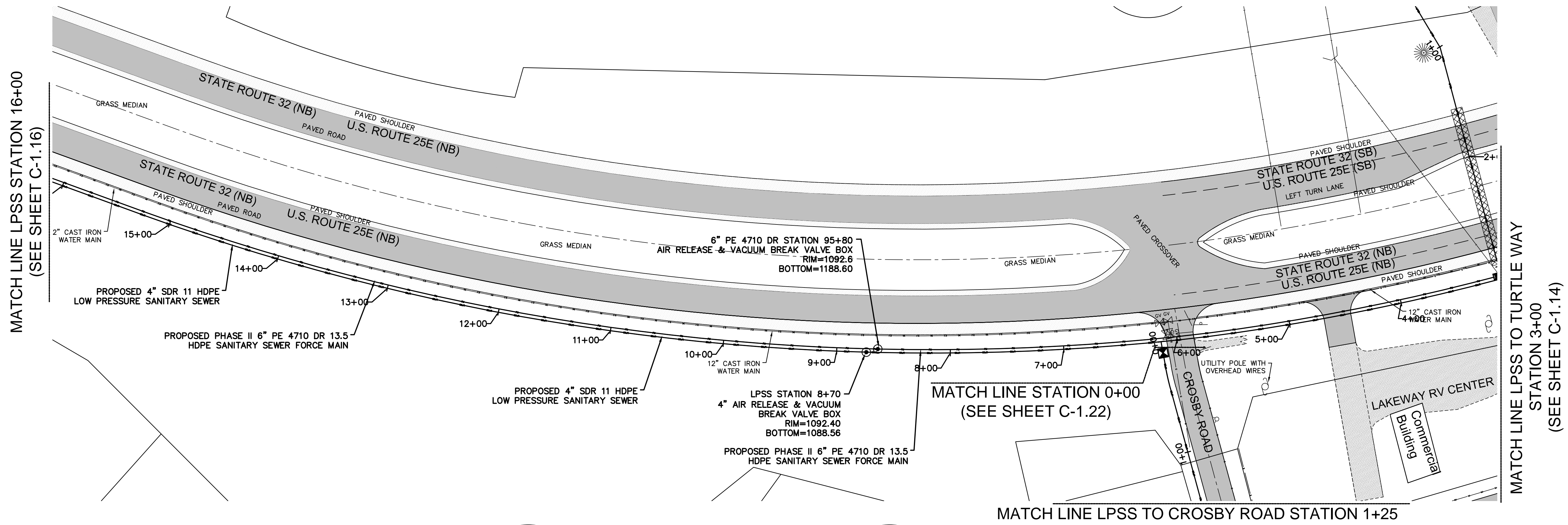
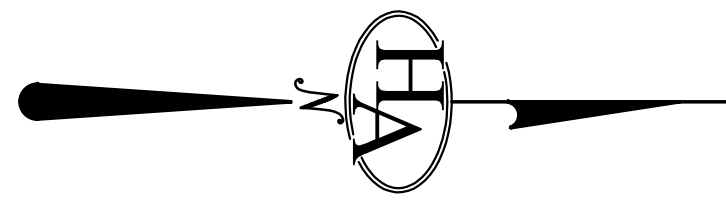
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09/23/2024	REVISED LPSS SERVICE LATERALS
09/25/2024	REVISED VALVE VAULT & HGL

PROJ. NO.	• 24-129
DWG. FILE	• 23-129 C-1.16
ISSUE DATE	• 08/14/2022

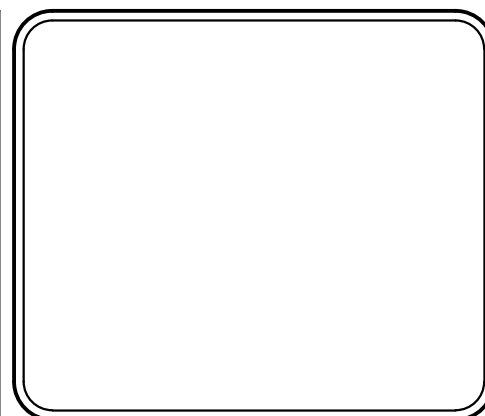
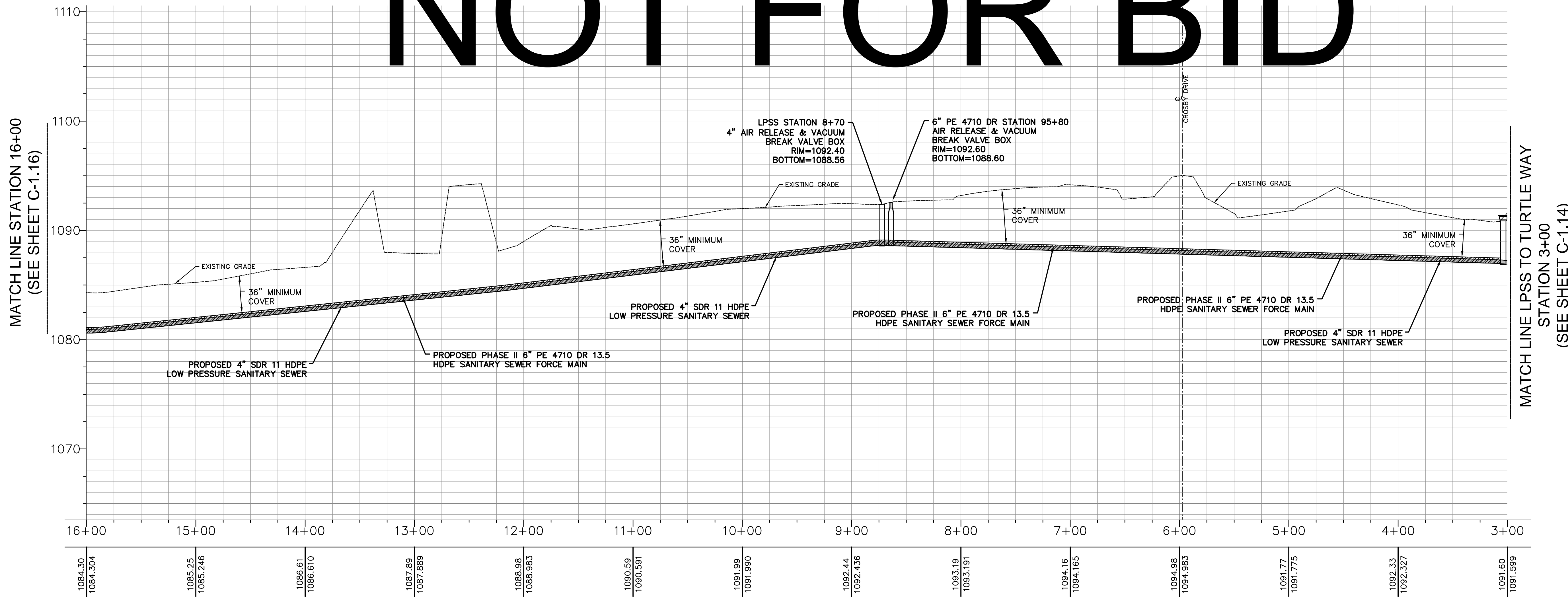
PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS  
TURTLE WAY LPSS  
STATION 0+00  
TO  
STATION 3+00

SHEET NUMBER  
**C-1.16**





# NOT FOR BID



**HA**  
 HATFIELD & ALLEN  
 ASSOCIATES  
 ENGINEERING & PLANNING  
 775 RANDELS ROAD  
 STRAWBERRY PLAINS, TN 37871  
 PHONE: (865) 388-5031



TOWN OF BEAN STATION  
 SANITARY SEWER FORCE MAIN &  
 LOW PRESSURE SANITARY SEWER  
 PHASE I  
 HAMILTON COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

1)	24-129 bord-d
2)	24-129 Base
3)	
4)	
5)	

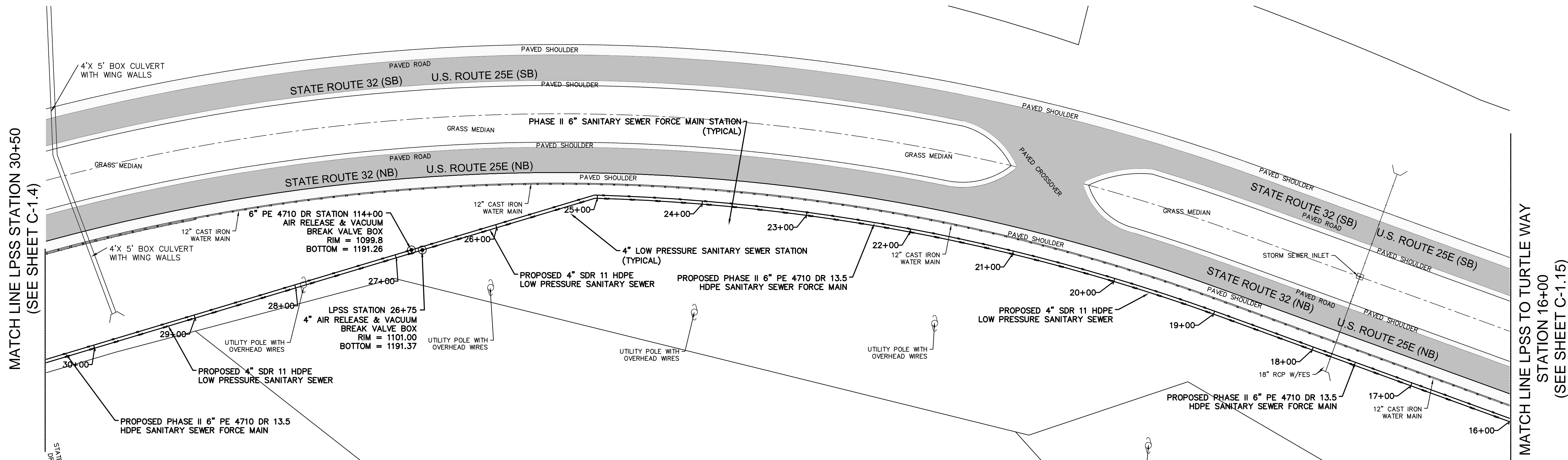
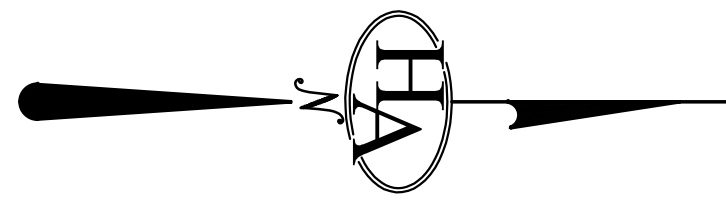
REVISION HISTORY

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11/01/2023	REVISED SEWER ALIGNMENT & DETAILS
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09/25/2024	REVISED VALVE VAULT & HGL

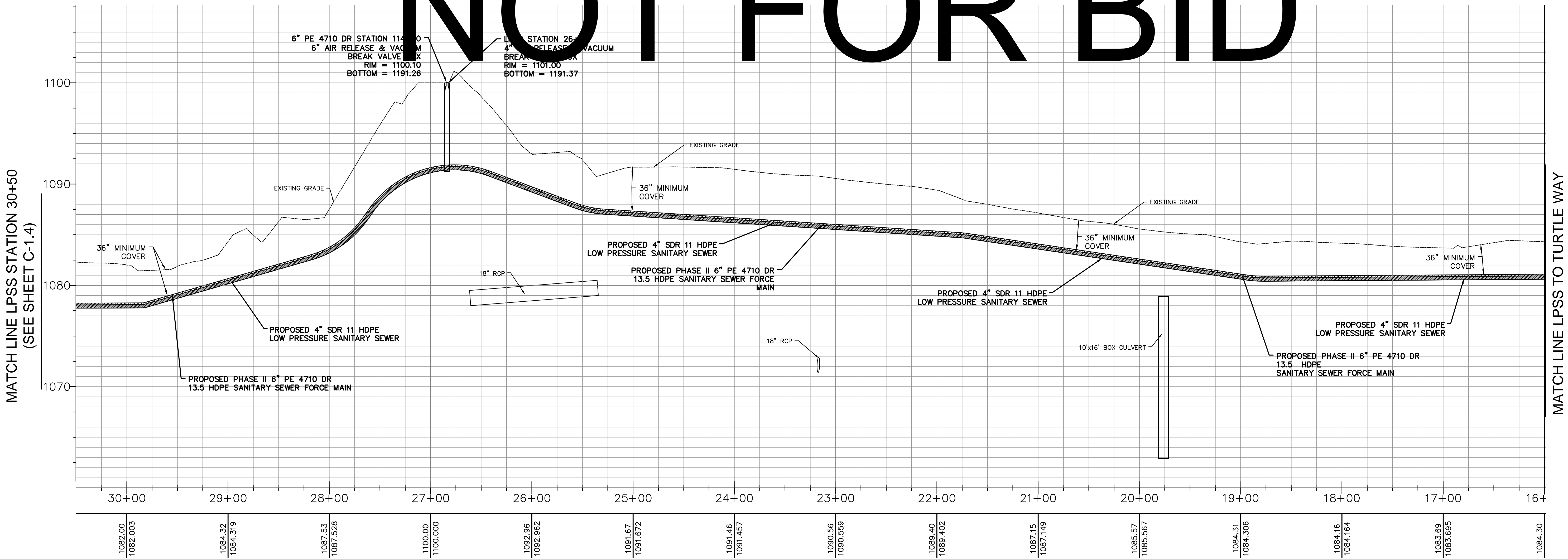
PROJ NO. • 24-129  
 DWG FILE • 23-129 C-1.17  
 ISSUE DATE • 08/14/2022

PHASE I  
 SANITARY SEWER  
 FORCE MAIN &  
 LPSS  
 TURTLE WAY LPSS  
 STATION 3+00  
 TO  
 STATION 16+00

SHEET NUMBER  
**C-1.17**



# NOT FOR BID



SCALES:  
 1" = 50' HORIZONTALLY  
 1" = 5' VERTICALLY

**HA**  
 HATFIELD & ALLEN  
 ASSOCIATES  
 ENGINEERING & PLANNING  
 775 RANDELS ROAD  
 STRAWBERRY PLAINS, TN 37871  
 PHONE: (865) 388-5031



**TOWN OF BEAN STATION  
 SANITARY SEWER FORCE MAIN &  
 LOW PRESSURE SANITARY SEWER  
 PHASE I**  
 HAMLEN COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

1) 24-129 bord-d
2) 24-129 Base
3)
4)
5)

REVISION HISTORY

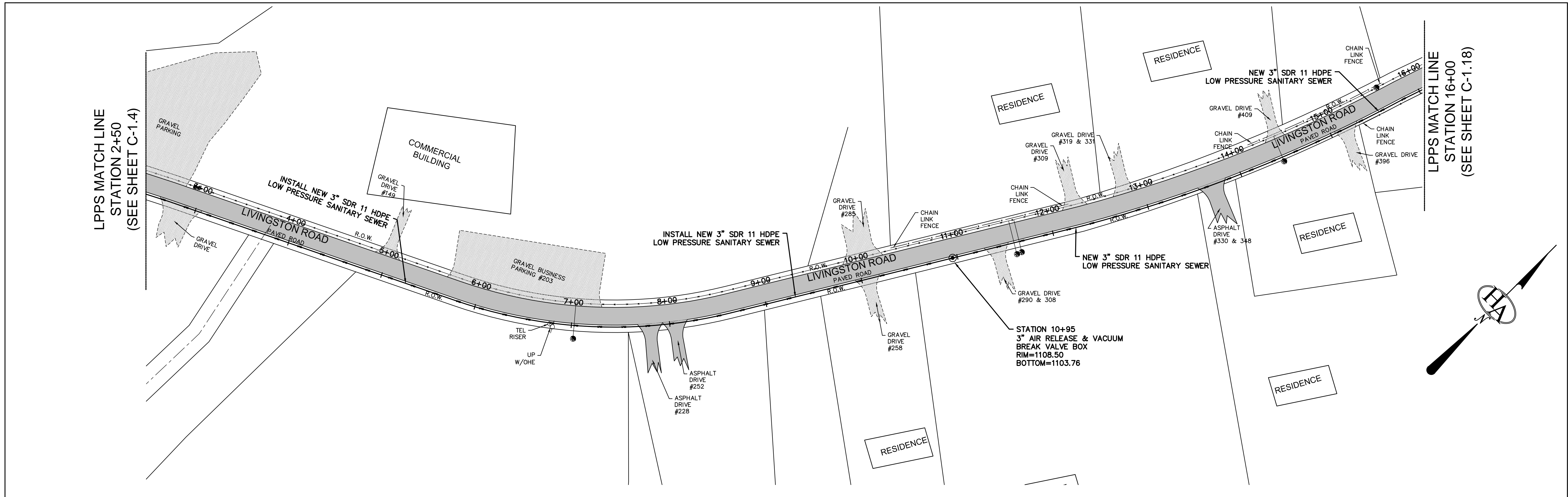
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09/23/2024	REVISED LPSS SERVICE LATERALS
09/25/2024	REVISED VALVE VAULT & HGL

PROJ NO. • 24-129  
 DWG FILE • 23-129 C-1.18  
 ISSUE DATE • 08/14/2022

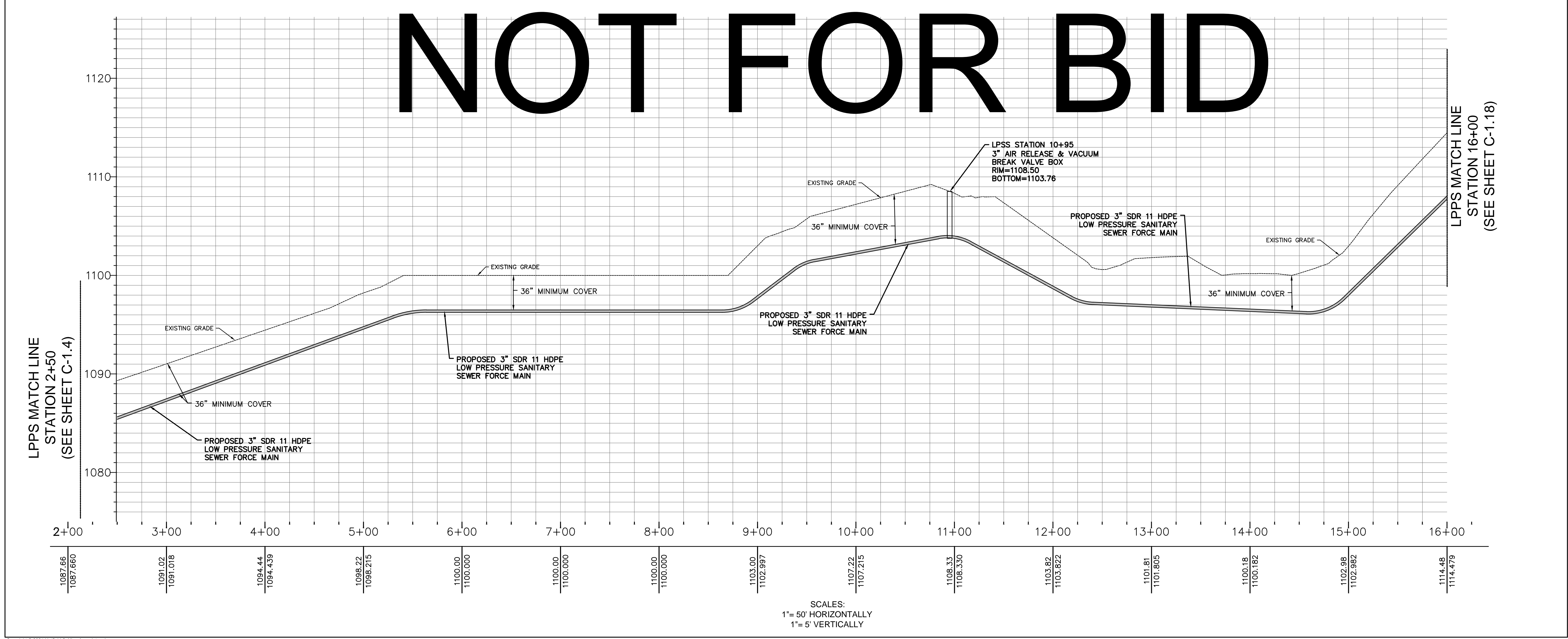
**PHASE I  
 SANITARY SEWER  
 FORCE MAIN &  
 LPSS**  
 TURTLE WAY LPSS  
 STATION 16+00  
 TO  
 STATION 30+50

SHEET NUMBER  
**C-1.18**





# NOT FOR BID



**HATFIELD & ALLEN ASSOCIATES ENGINEERING & PLANNING**  
 775 RANDELES ROAD  
 STRAWBERRY PLAINS, TN 37871  
 PHONE: (865) 388-5031



TOWN OF BEAN STATION  
 SANITARY SEWER FORCE MAIN &  
 LOW PRESSURE SANITARY SEWER  
 PHASE I

HAMBLEN COUNTY & GRAINGER COUNTY, TENNESSEE

**X-REFERENCED DRAWINGS**

1) 24-129 bord-d
2) 24-129 Base
3)
4)
5)

**REVISION HISTORY**

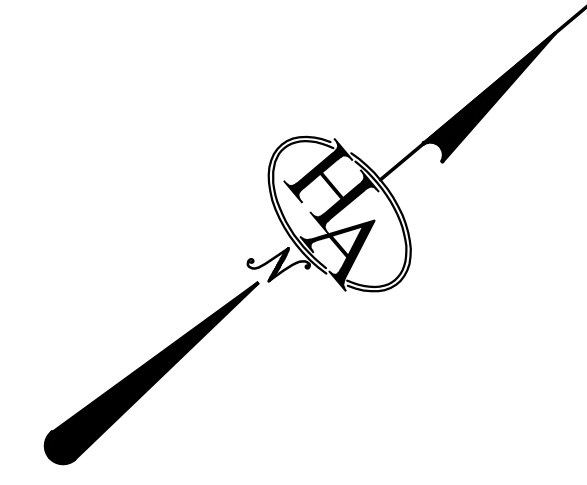
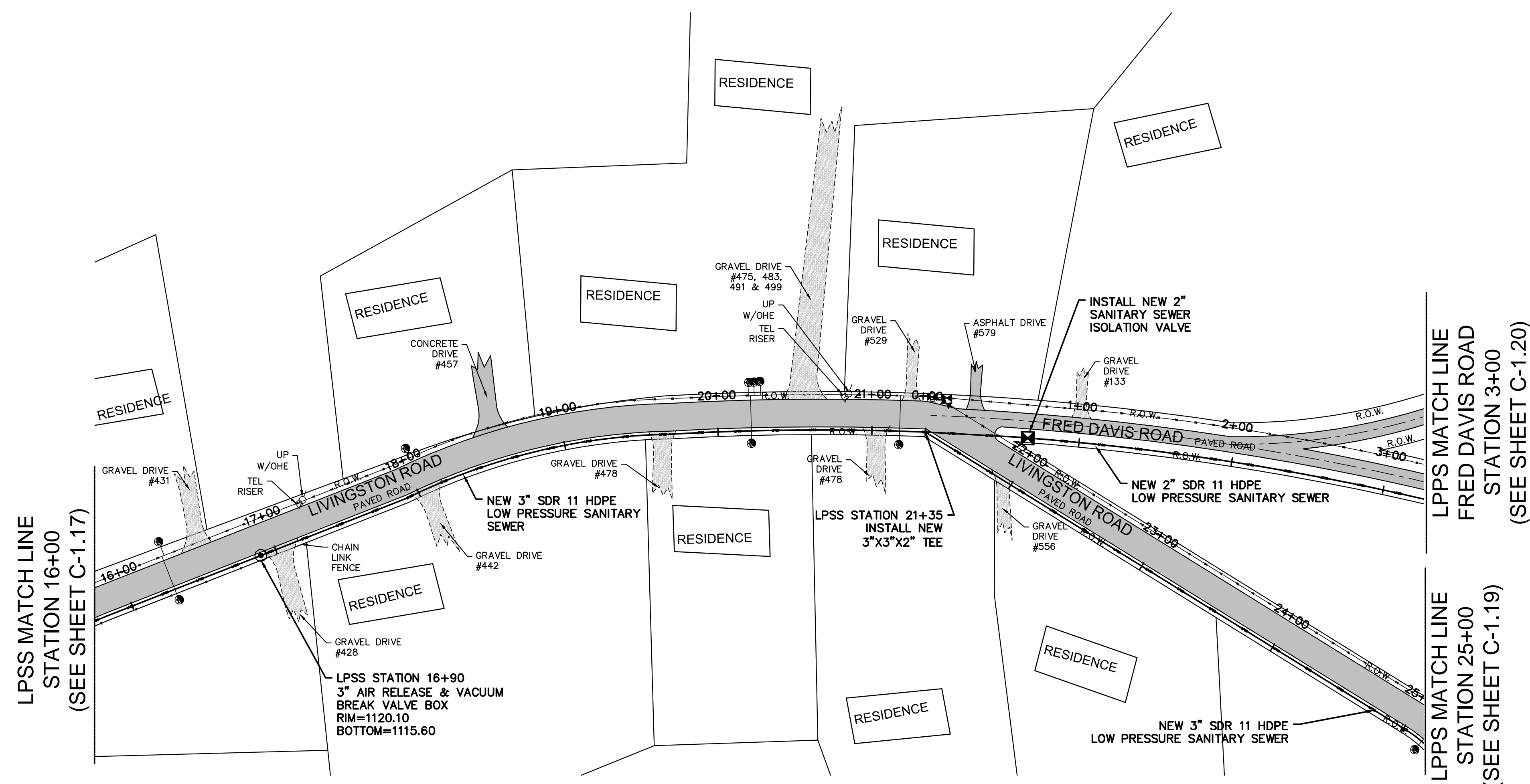
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09/25/2024	REVISED VALVE VAULT & HGL

PROJ NO.	• 24-129
DWG FILE	• 23-129 C-1.19
ISSUE DATE	• 08/14/2022

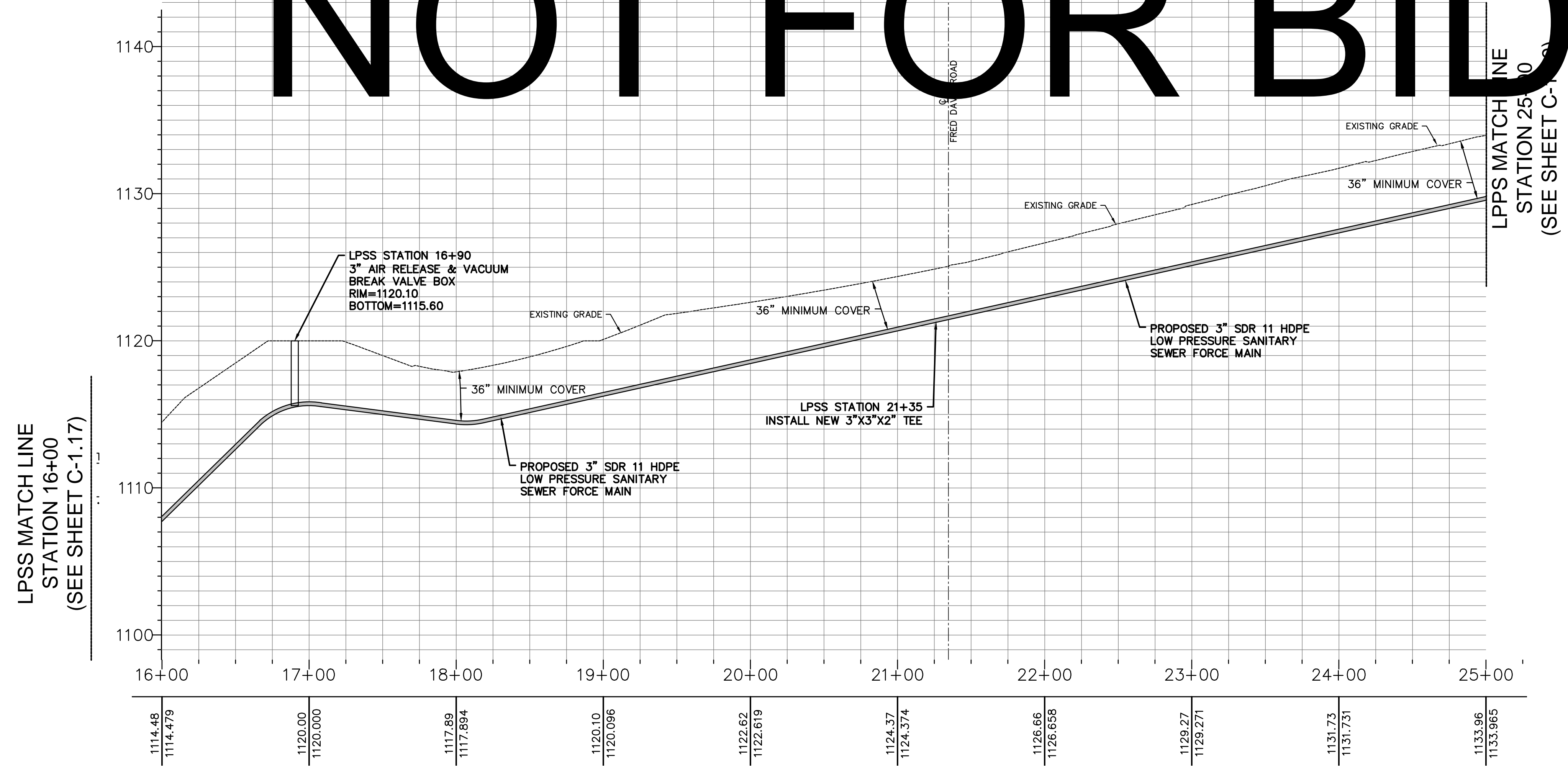
PHASE I  
 SANITARY SEWER  
 FORCE MAIN &  
 LPSS  
 LIVINGSTON ROAD  
 PLAN & PROFILE  
 STATION 2+00  
 TO  
 STATION 16+00  
 SHEET NUMBER

C-1.19





# NOT FOR BID



SCALES:  
 1" = 50' HORIZONTALLY  
 1" = 5' VERTICALLY

**HA**  
 HATFIELD & ALLEN  
 ASSOCIATES  
 ENGINEERING & PLANNING  
 775 RANDELS ROAD  
 STRAWBERRY PLAINS, TN 37871  
 PHONE: (865) 388-5031



TOWN OF BEAN STATION  
 SANITARY SEWER FORCE MAIN &  
 LOW PRESSURE SANITARY SEWER  
 PHASE I  
 HAMLEN COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

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2)	24-129 Base
3)	
4)	
5)	

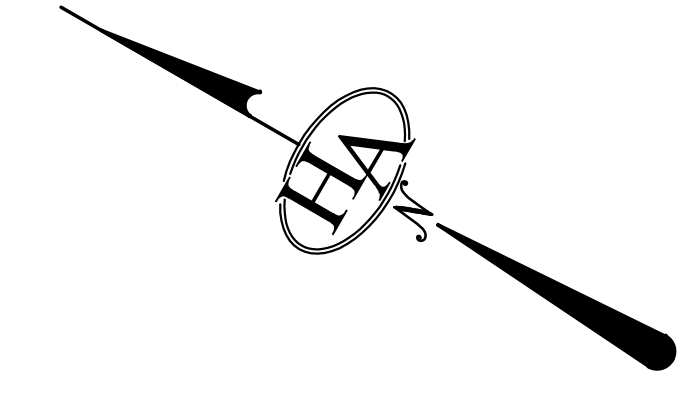
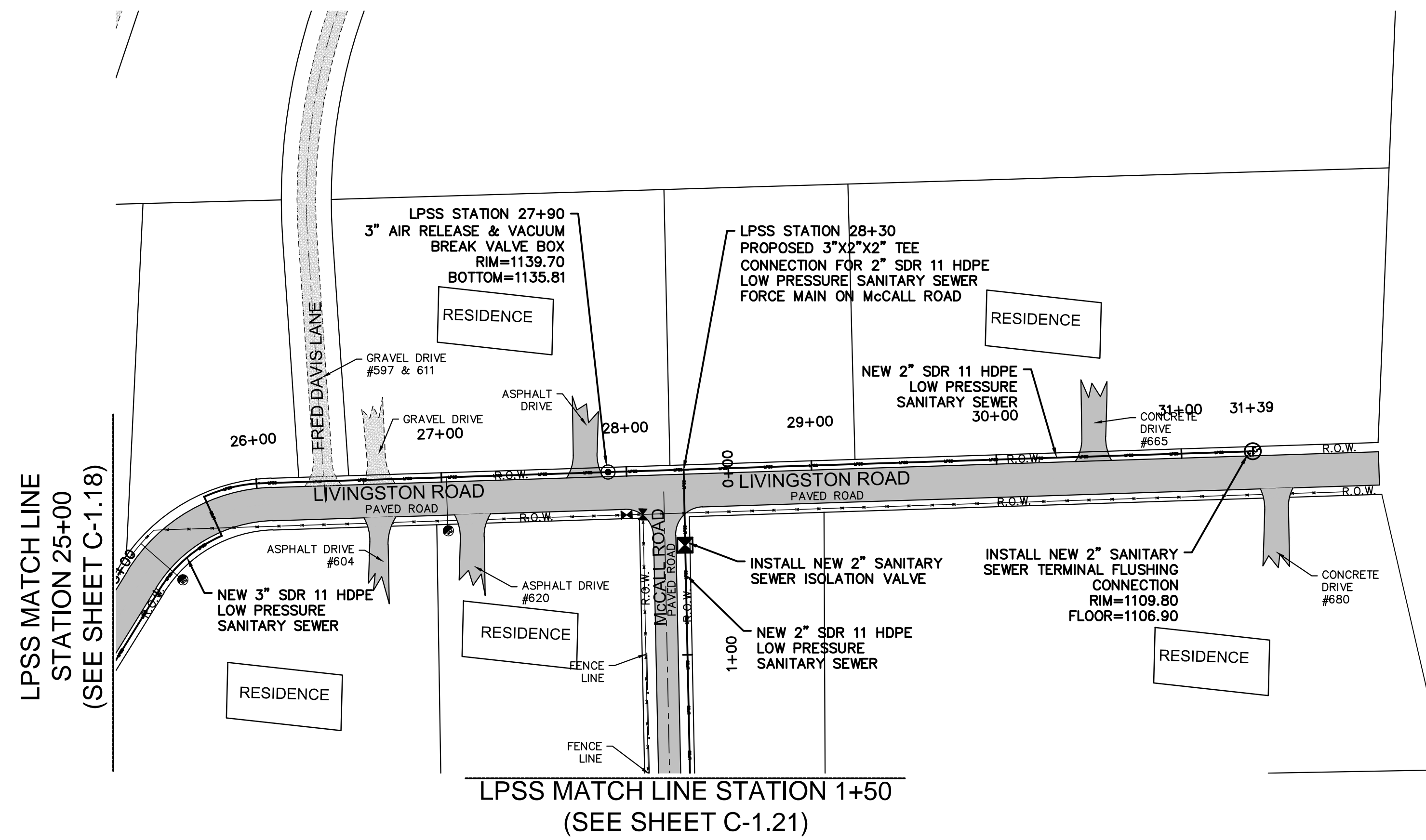
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11/01/2023	REVISED SEWER ALIGNMENT & DETAILS
06/26/2024	ADDED LOW PRESSURE SEWER TO PLAN
07/17/2024	MISCELLANEOUS PLAN REVISIONS
08/18/2024	REVISED BRIDGE MOUNTING DETAILS
08/29/2024	REVISED & EXPANDED NOTES & DETAILS
09/23/2024	REVISED LPSS SERVICE LATERALS
09/25/2024	REVISED VALVE VAULT & HGL

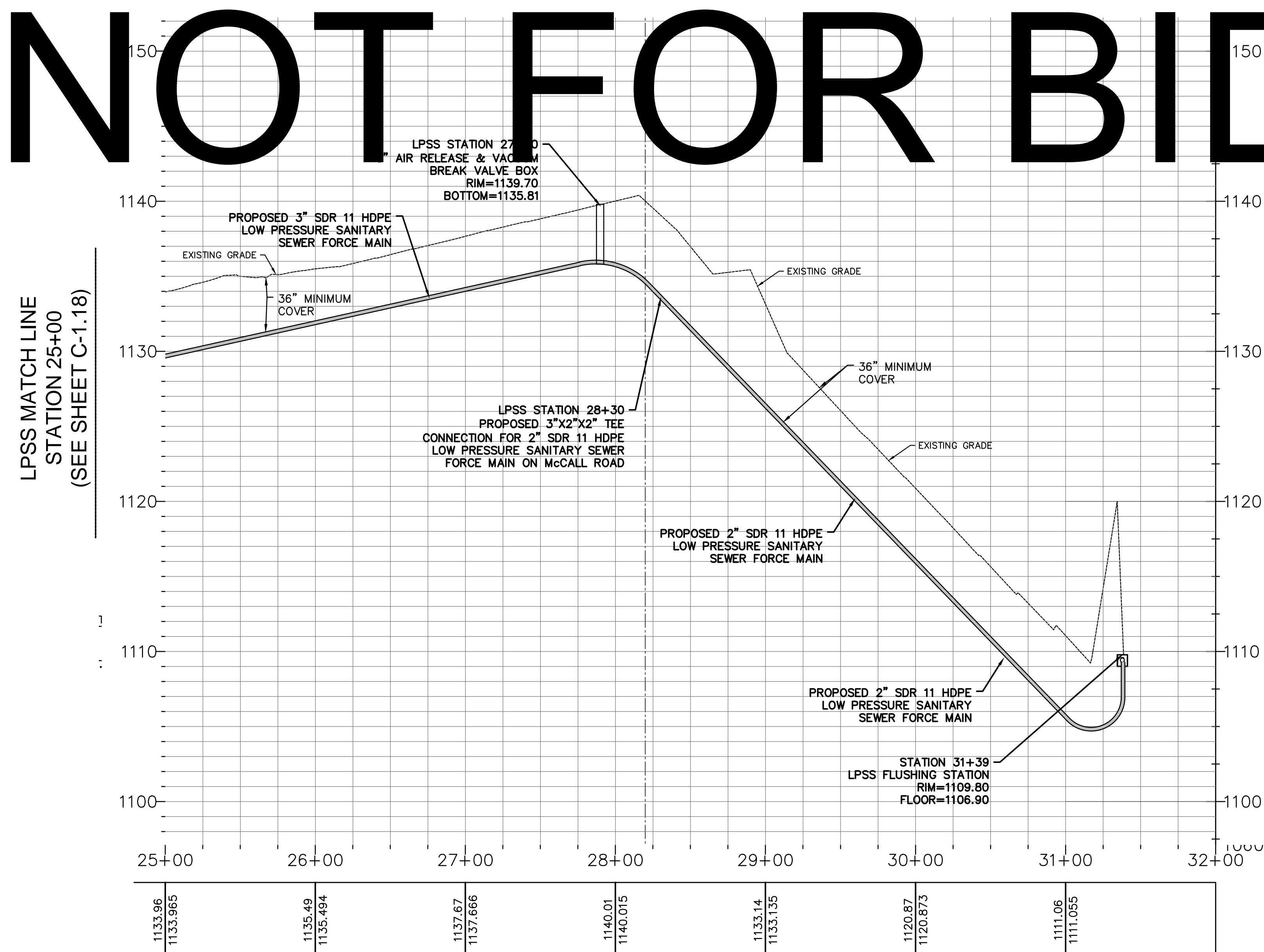
PROJ. NO.	24-129
DWG. FILE	23-129 C-1.20
ISSUE DATE	08/14/2022

PHASE I  
 SANITARY SEWER  
 FORCE MAIN &  
 LPSS  
 LIVINGSTON ROAD  
 PLAN & PROFILE  
 STATION 16+00  
 TO  
 STATION 25+00  
 SHEET NUMBER

**C-1.20**



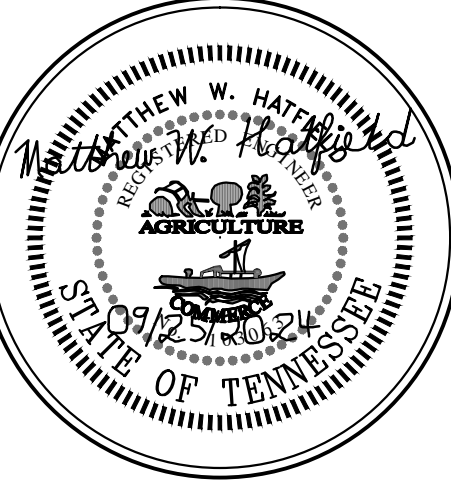
# NOT FOR BID



SCALES:  
 1" = 50' HORIZONTALLY  
 1" = 5' VERTICALLY



HATFIELD & ALLEN  
 ASSOCIATES  
 ENGINEERING & PLANNING  
 775 RANDELES ROAD  
 STRAWBERRY PLAINS, TN 37871  
 PHONE: (865) 388-5031



TOWN OF BEAN STATION  
 SANITARY SEWER FORCE MAIN &  
 LOW PRESSURE SANITARY SEWER  
 PHASE I  
 HAMBLEN COUNTY & GRAINGER COUNTY, TENNESSEE

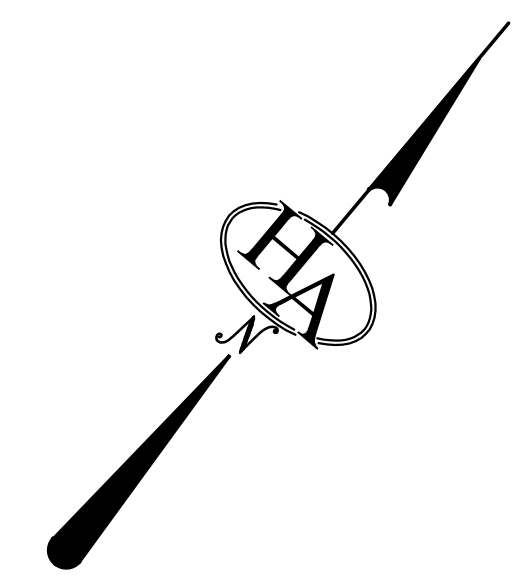
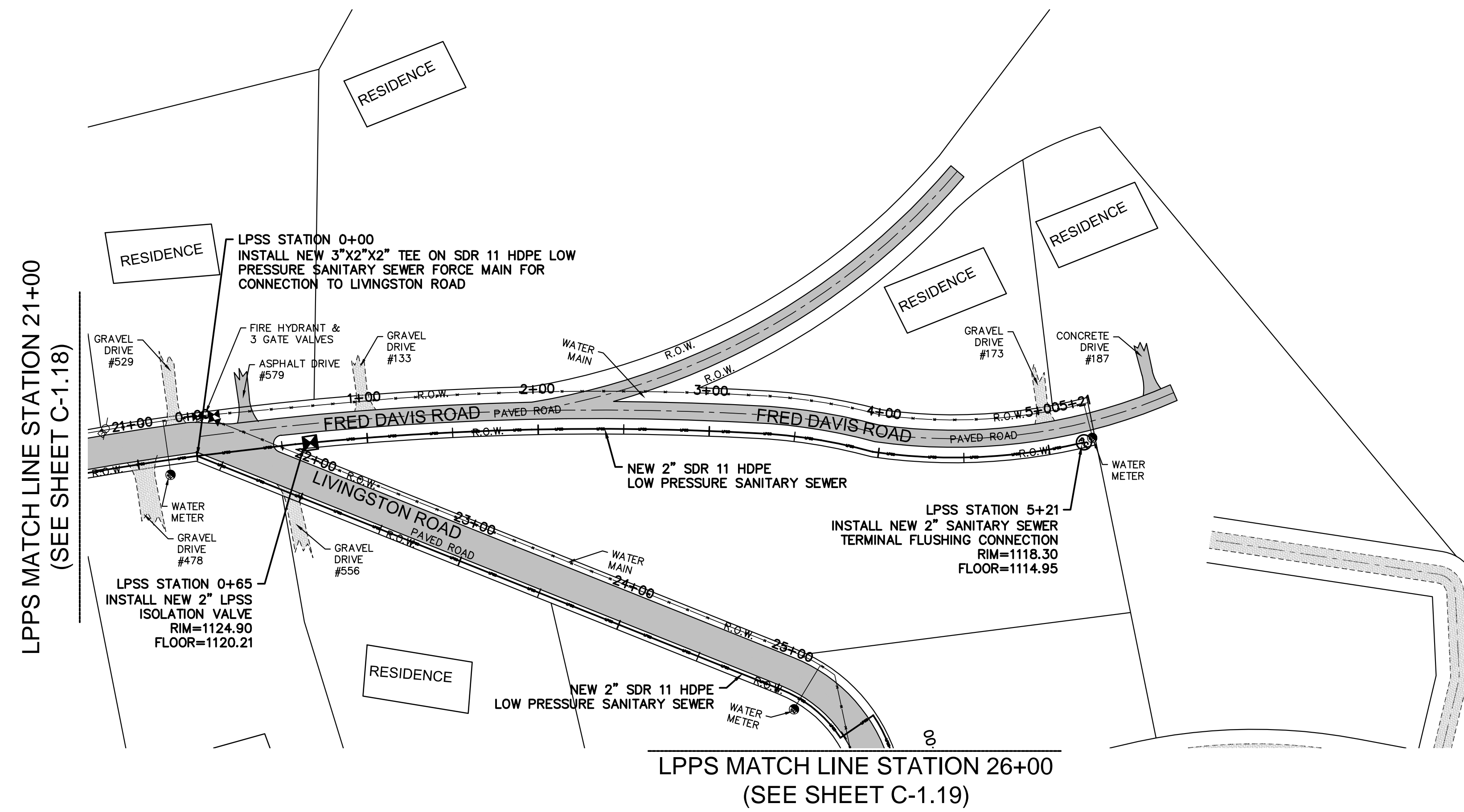
X-REFERENCED DRAWINGS	
1)	24-129 bord-d
2)	24-129 Base
3)	
4)	
5)	

REVISION HISTORY	
10/11/2023	ADDED AIR RELEASE MANHOLE
11/01/2023	REVISED SEWER ALIGNMENT & DETAILS
06/26/2024	ADDED LOW PRESSURE SEWER TO PLAN
07/17/2024	MISCELLANEOUS PLAN REVISIONS
08/18/2024	REVISED BRIDGE MOUNTING DETAILS
08/29/2024	REVISED & EXPANDED NOTES & DETAILS
09/23/2024	REVISED LPSS SERVICE LATERALS
09/25/2024	REVISED VALVE VAULT & HGL

PROJ NO.	• 24-129
DWG FILE	• 23-129 C-1.21
ISSUE DATE	• 08/14/2022

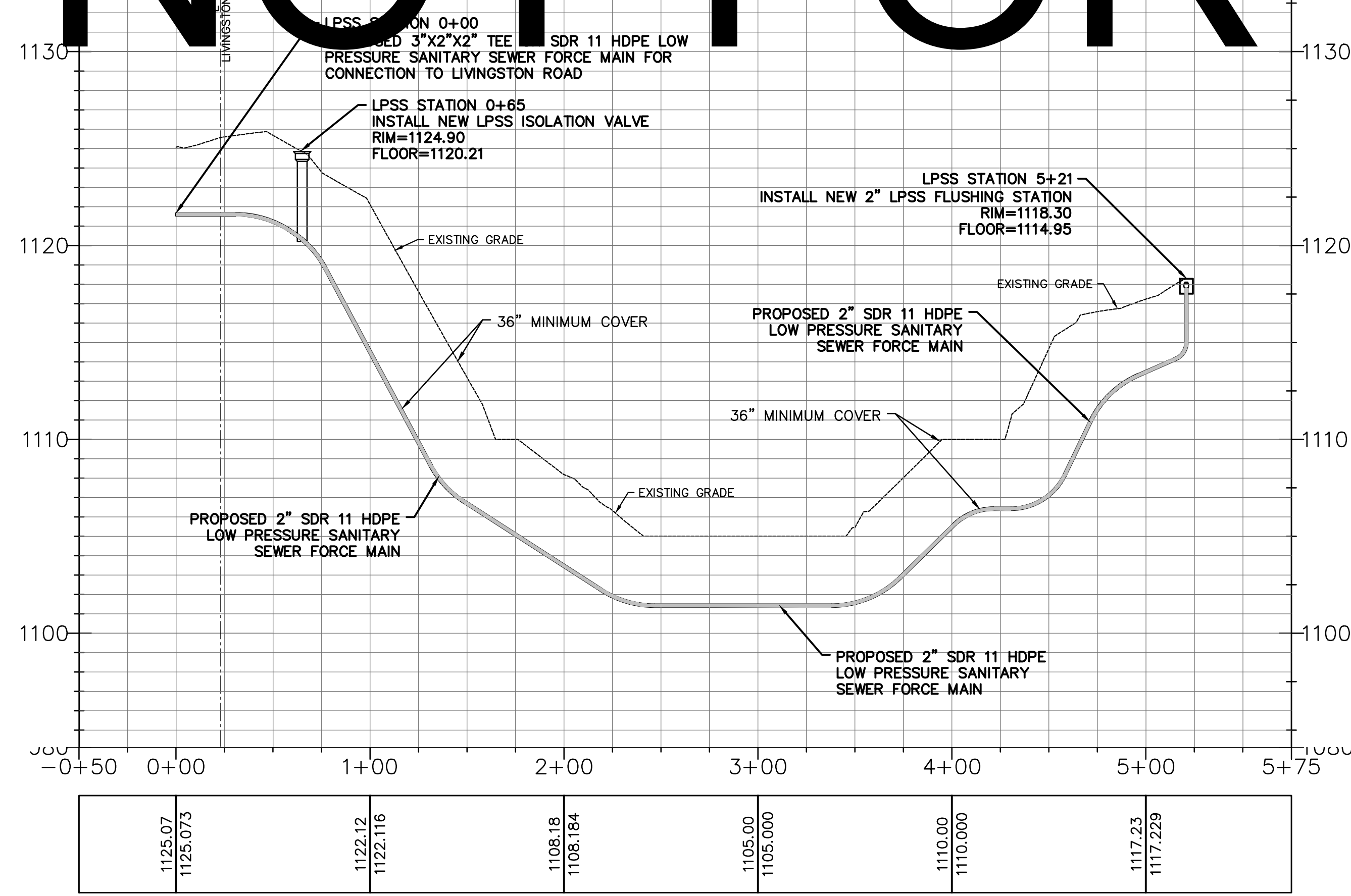
**PHASE I**  
**SANITARY SEWER**  
**FORCE MAIN &**  
**LPSS**  
 LIVINGSTON ROAD  
 PLAN & PROFILE  
 STATION 25+00  
 TO  
 STATION 31+39  
 SHEET NUMBER

C-1.21



# NOT FOR BID

LPSS MATCH LINE STATION 21+00  
(SEE SHEET C-1.18)



SCALES:  
1" = 50' HORIZONTALLY  
1" = 5' VERTICALLY



HATFIELD & ALLEN  
ASSOCIATES  
ENGINEERING & PLANNING  
775 RANDELS ROAD  
STRAWBERRY PLAINS, TN 37871  
PHONE: (865) 388-5031



TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I  
HAMLEN COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

1)	24-129 bord-d
2)	24-129 Base
3)	
4)	
5)	

REVISION HISTORY

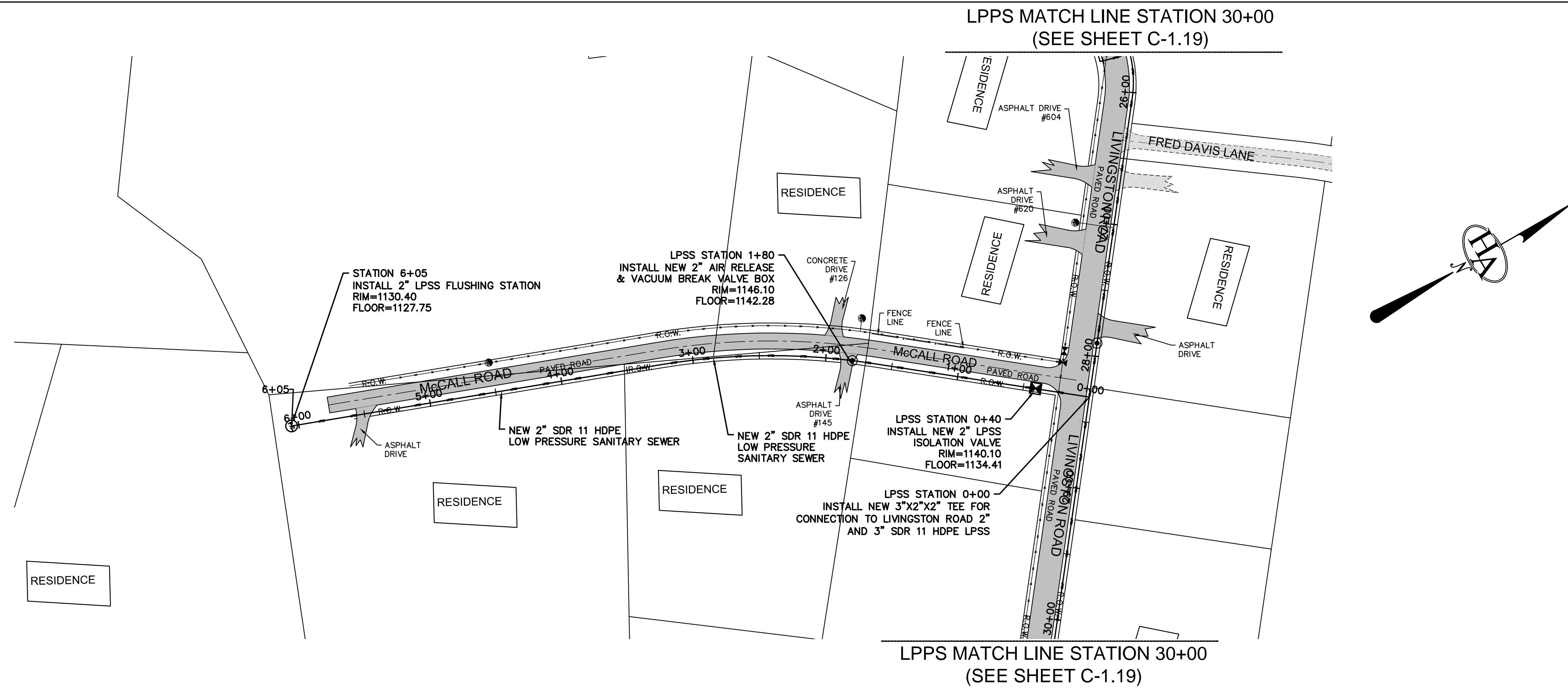
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11/01/2023	REVISED SEWER ALIGNMENT & DETAILS
06/26/2024	ADDED LOW PRESSURE SEWER TO PLAN
07/17/2024	MISCELLANEOUS PLAN REVISIONS
08/18/2024	REVISED BRIDGE MOUNTING DETAILS
08/29/2024	REVISED & EXPANDED NOTES & DETAILS
09/23/2024	REVISED LPSS SERVICE LATERALS
09/25/2024	REVISED VALVE VAULT & HGL

PROJ. NO. • 24-129  
DWG. FILE • 23-129 C-1.22  
ISSUE DATE • 08/14/2022

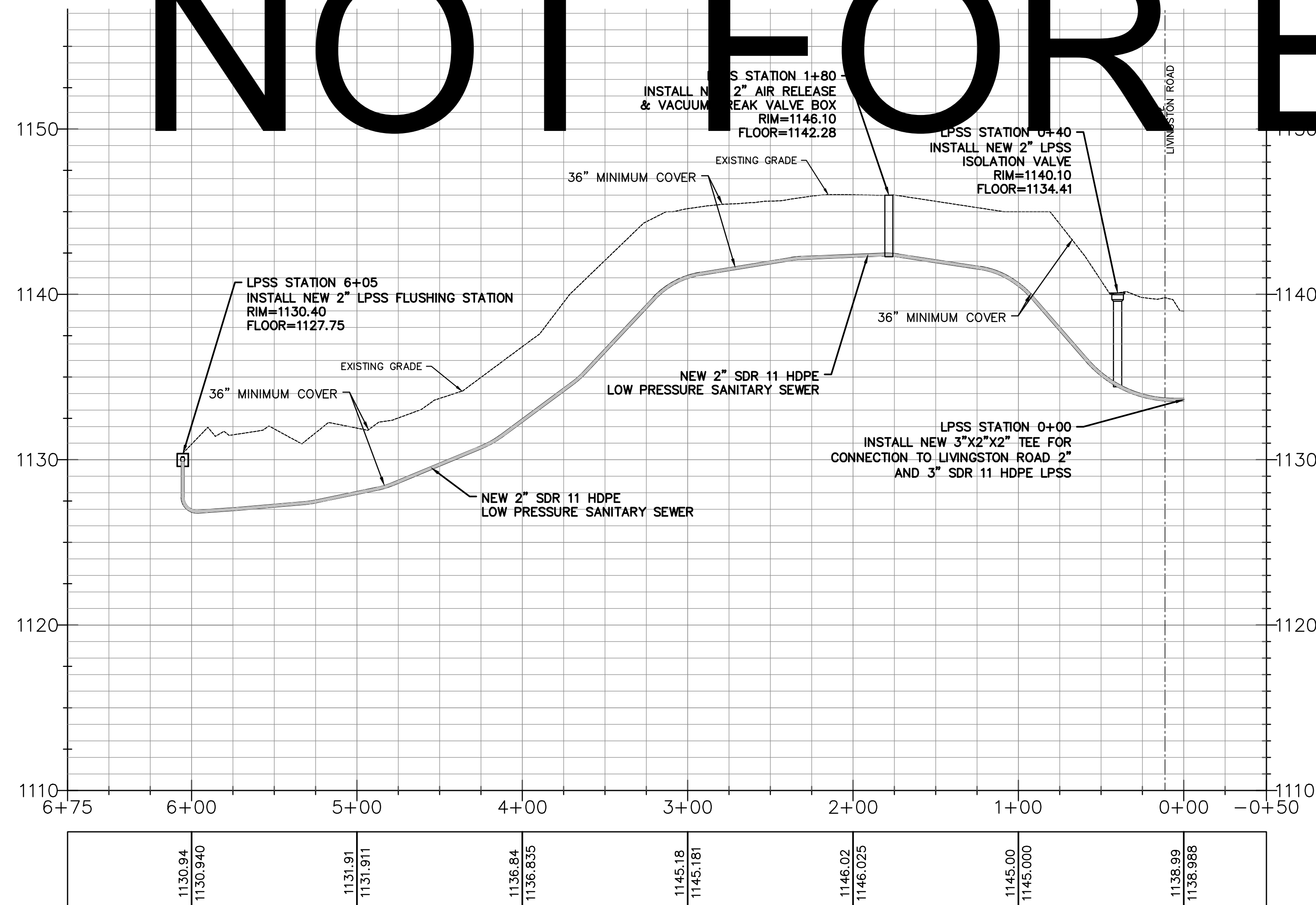
PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS  
FRED DAVIS ROAD  
PLAN & PROFILE  
STATION 0+00  
TO  
STATION 5+21  
SHEET NUMBER

C-1.22





# NOT FOR BID



SCALES:  
1" = 50' HORIZONTALLY  
1" = 5' VERTICALLY

HATFIELD & ALLEN  
ASSOCIATES  
ENGINEERING & PLANNING  
775 RANDELES ROAD  
STRAWBERRY PLAINS, TN 37871  
PHONE: (865) 388-5031



TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I  
HAMILLEN COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

1)	24-129 bord-d
2)	24-129 Base
3)	
4)	
5)	

REVISION HISTORY

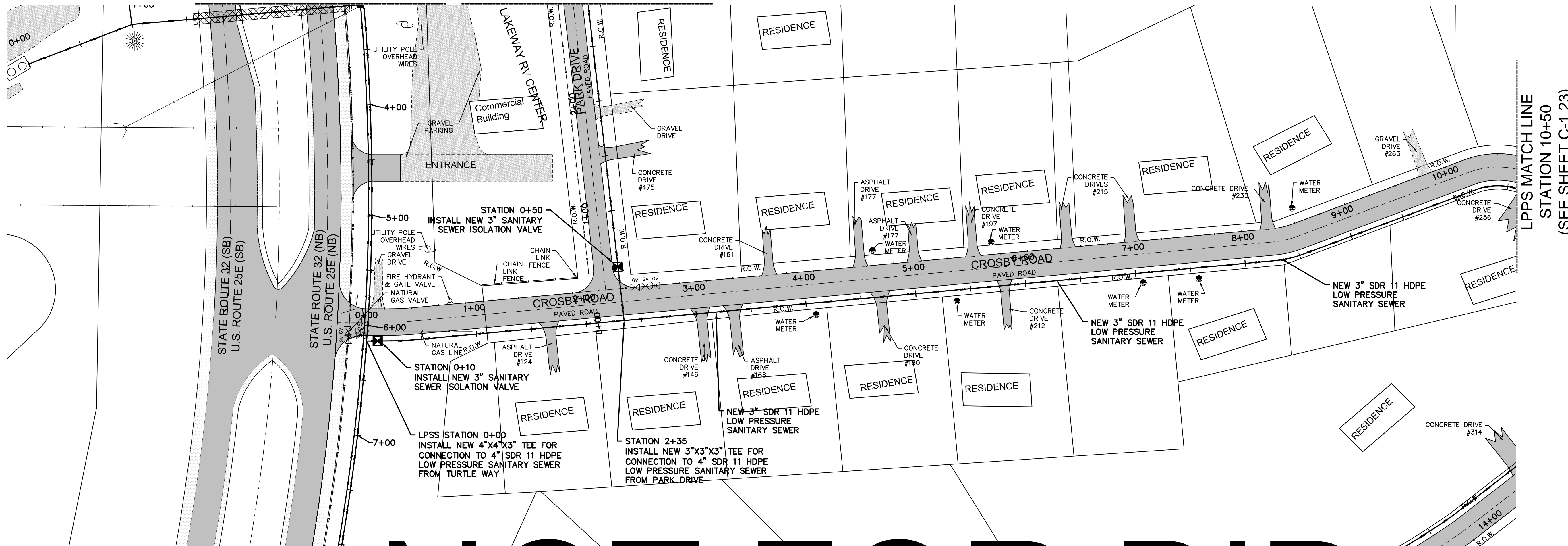
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11/01/2023	REVISED SEWER ALIGNMENT & DETAILS
06/26/2024	ADDED LOW PRESSURE SEWER TO PLAN
07/17/2024	MISCELLANEOUS PLAN REVISIONS
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08/29/2024	REVISED & EXPANDED NOTES & DETAILS
09/23/2024	REVISED LPSS SERVICE LATERALS
09/25/2024	REVISED VALVE VAULT & HGL

PROJ NO. • 24-129  
DWG FILE • 23-129 C-1.23  
ISSUE DATE • 08/14/2022

PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS  
MCCALL ROAD  
PLAN & PROFILE  
STATION 0+00  
TO  
STATION 6+05  
SHEET NUMBER

**C-1.23**

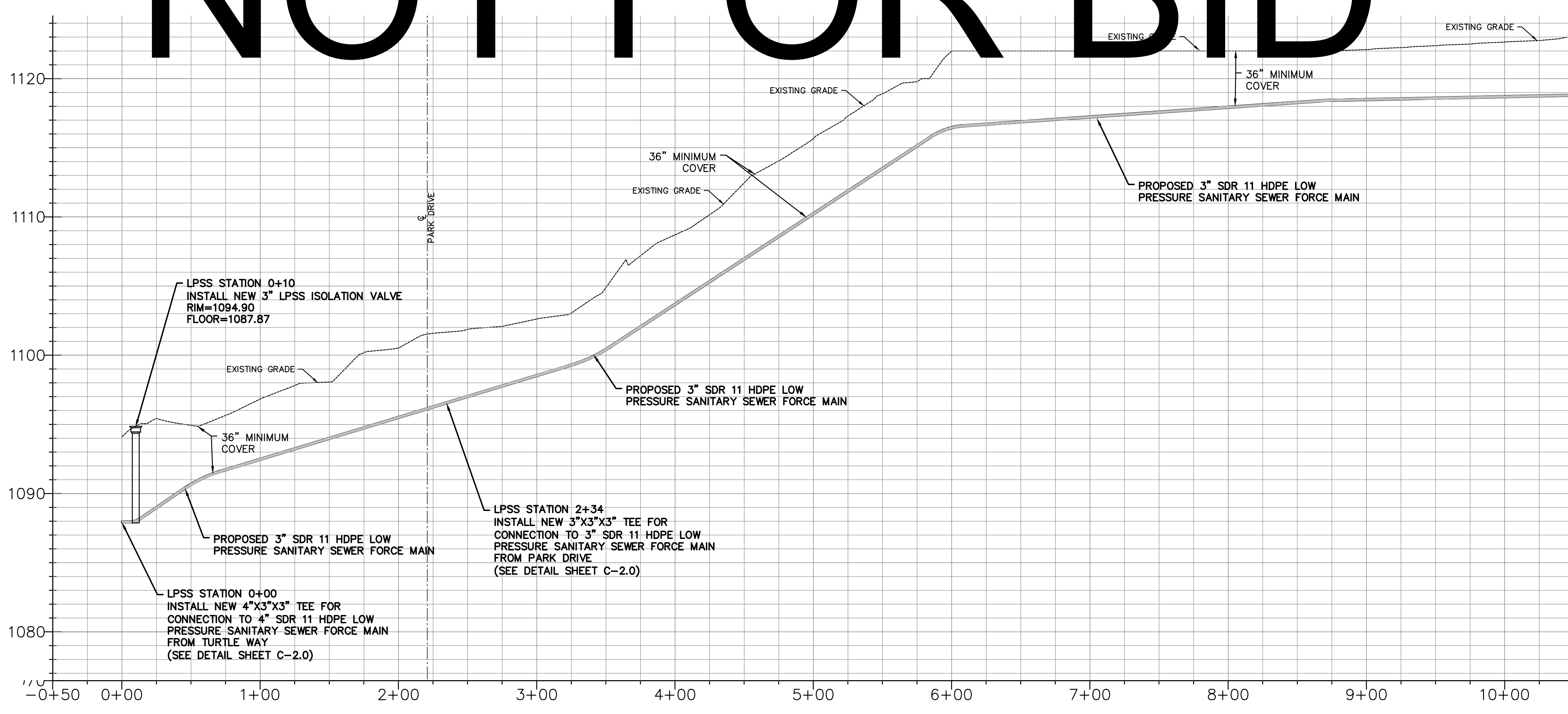
LPPS MATCH LINE STATION 8+00 (SEE SHEET C-1.14) LPPS MATCH LINE STATION 2+75 (SEE SHEET C-1.25)



MATCH LINE STATION 8+00 (SEE SHEET C-1.15)

LPPS MATCH LINE STATION 10+50 (SEE SHEET C-1.23)

# NOT FOR BID



LPPS MATCH LINE STATION 10+50 (SEE SHEET C-1.23)

1094.10 1094.103	1096.83 1096.831	1100.53 1100.525	1102.62 1102.618	1108.70 1108.704	1115.66 1115.658	1122.00 1122.000	1122.00 1122.000	1122.00 1122.000	1122.09 1122.094	1122.65 1122.647
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SCALES:  
1" = 50' HORIZONTALLY  
1" = 5' VERTICALLY



HATFIELD & ALLEN ASSOCIATES ENGINEERING & PLANNING  
775 RANDELS ROAD  
STRAWBERRY PLAINS, TN 37871  
PHONE: (865) 388-5031



TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I  
HAMILTON COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

1) 24-129 bord-d
2) 24-129 Base
3)
4)
5)

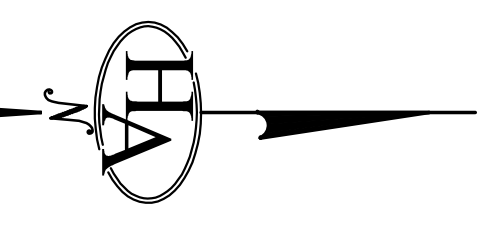
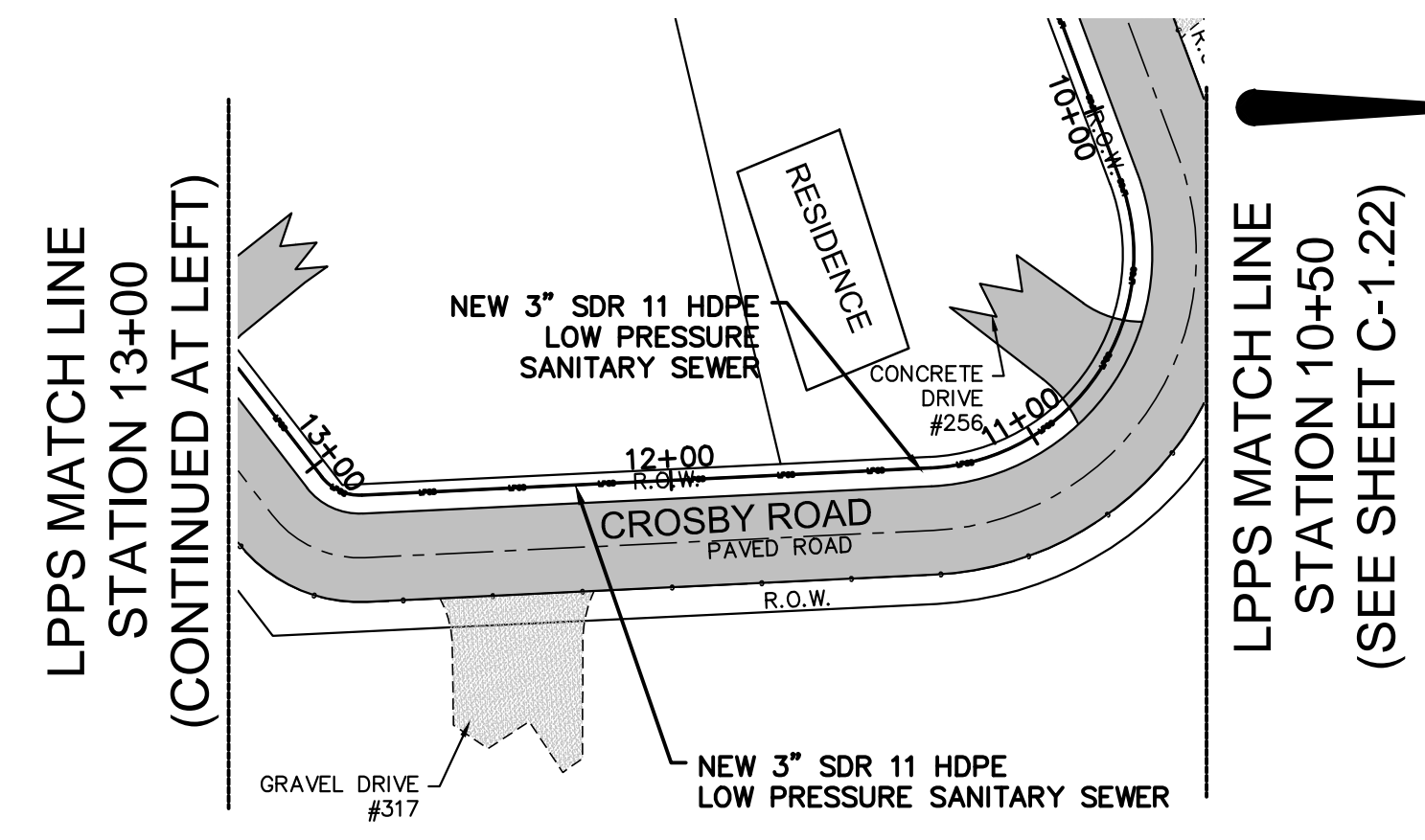
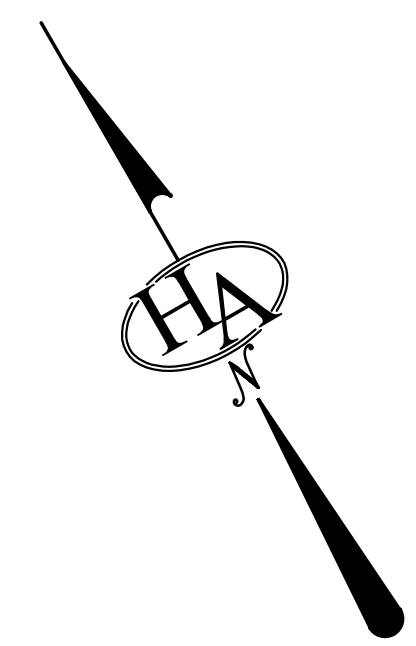
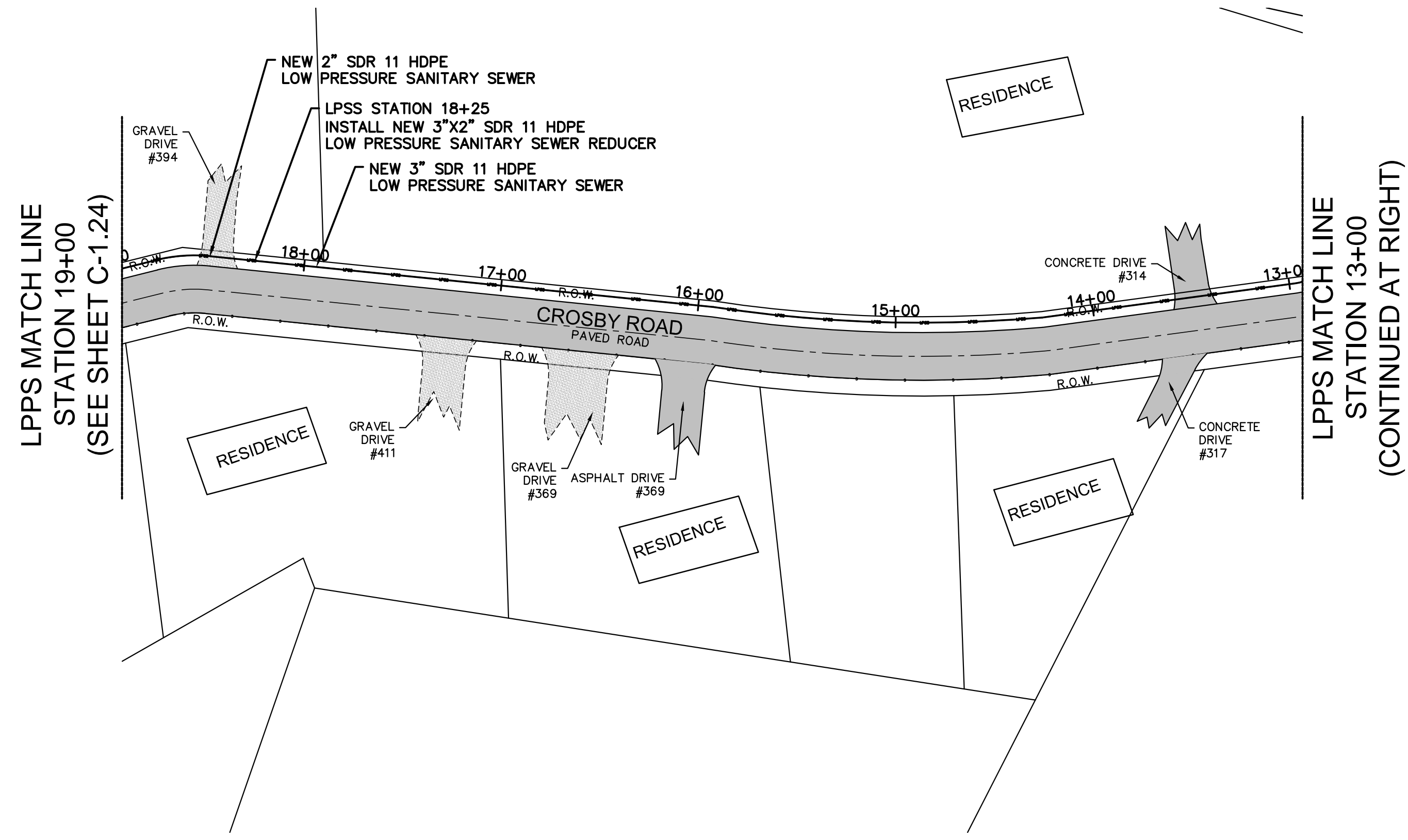
REVISION HISTORY

10/11/2023	ADDED AIR RELEASE MANHOLE
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09/25/2024	REVISED VALVE VAULT & HGL

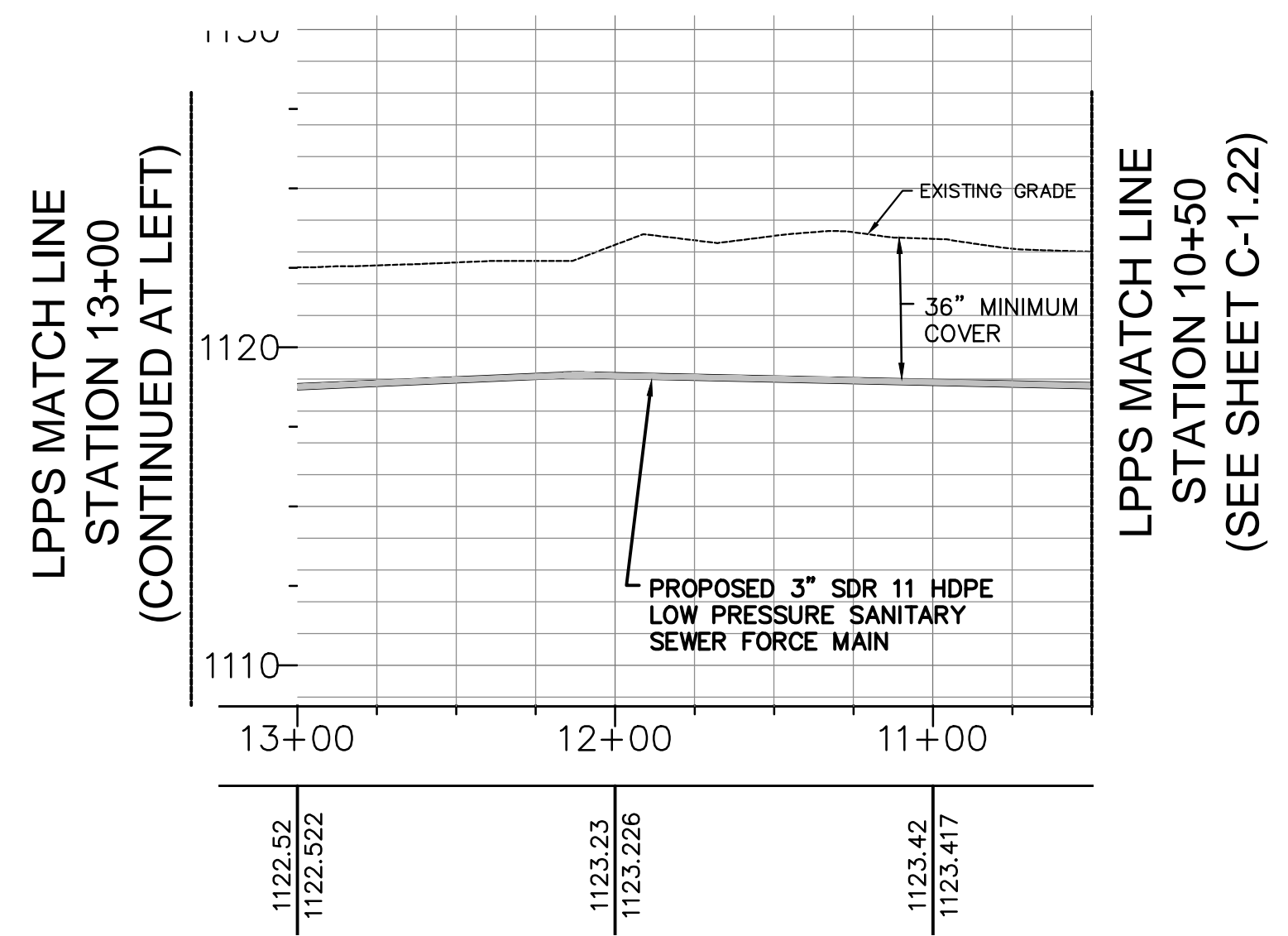
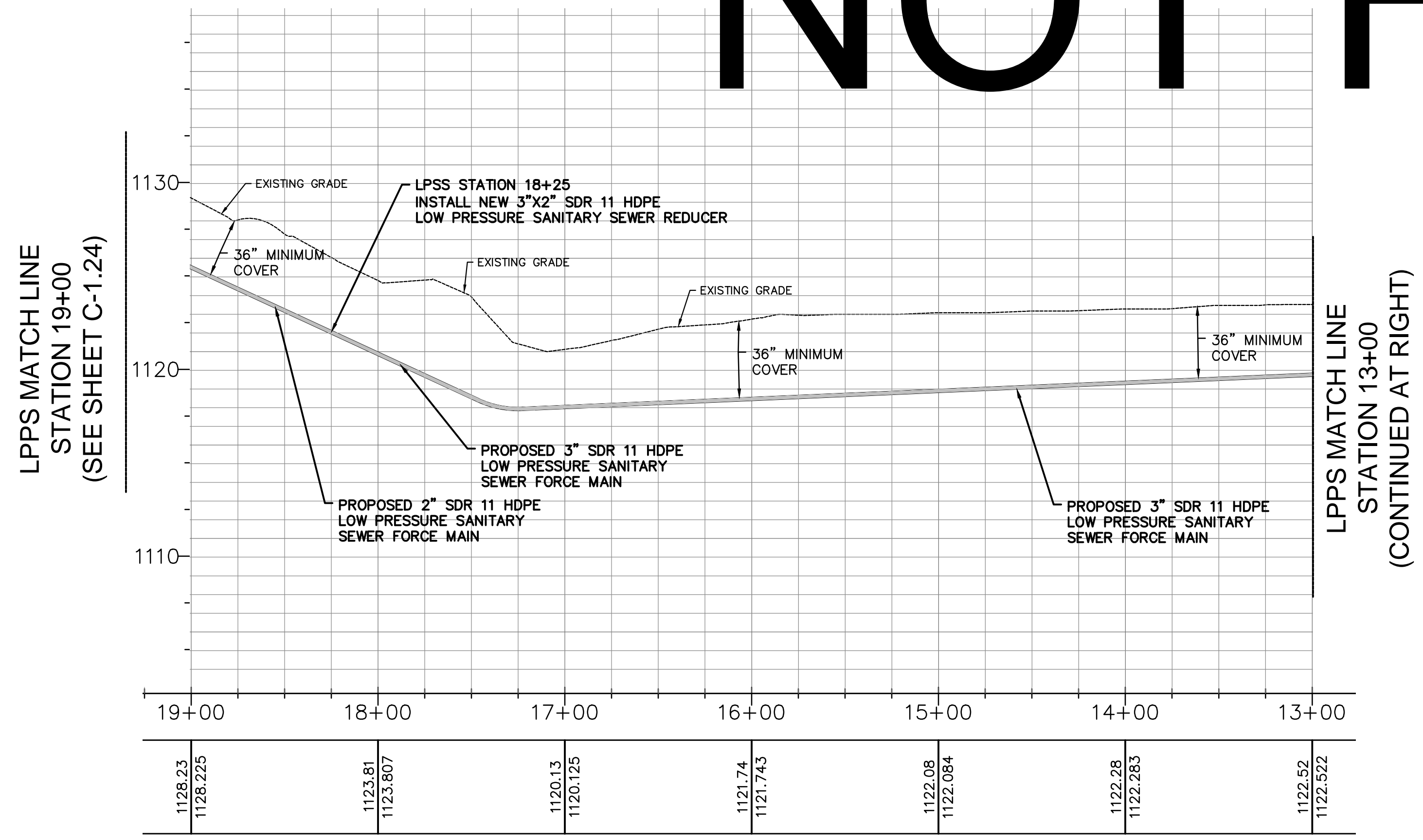
PROJ. NO. • 24-129  
DWG FILE • 23-129 C-1.24  
ISSUE DATE • 08/14/2022

PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPPS  
CROSBY ROAD  
PLAN & PROFILE  
STATION 0+00  
TO  
STATION 10+50  
SHEET NUMBER

**C-1.24**

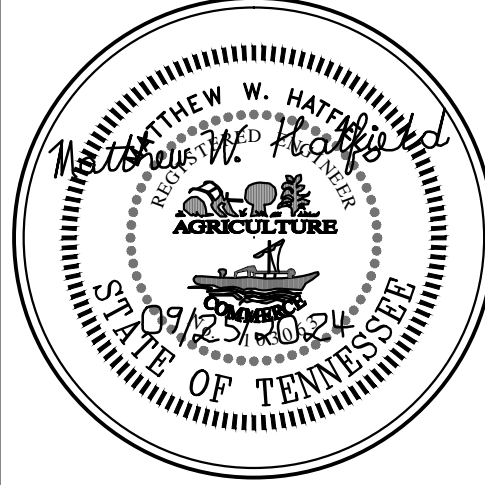


# NOT FOR BID



SCALES:  
 1" = 50' HORIZONTALLY  
 1" = 5' VERTICALLY

HATFIELD & ALLEN ASSOCIATES ENGINEERING & PLANNING  
 775 HANDLES ROAD  
 STRAWBERRY PLAINS, TN 37871  
 PHONE: (865) 388-5031



TOWN OF BEAN STATION  
 SANITARY SEWER FORCE MAIN &  
 LOW PRESSURE SANITARY SEWER  
 PHASE I

HAMBLEN COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS	
1)	24-129 bord-d
2)	24-129 Base
3)	
4)	
5)	

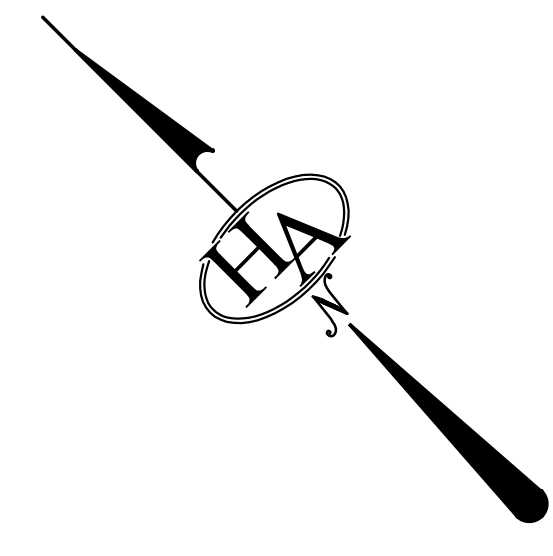
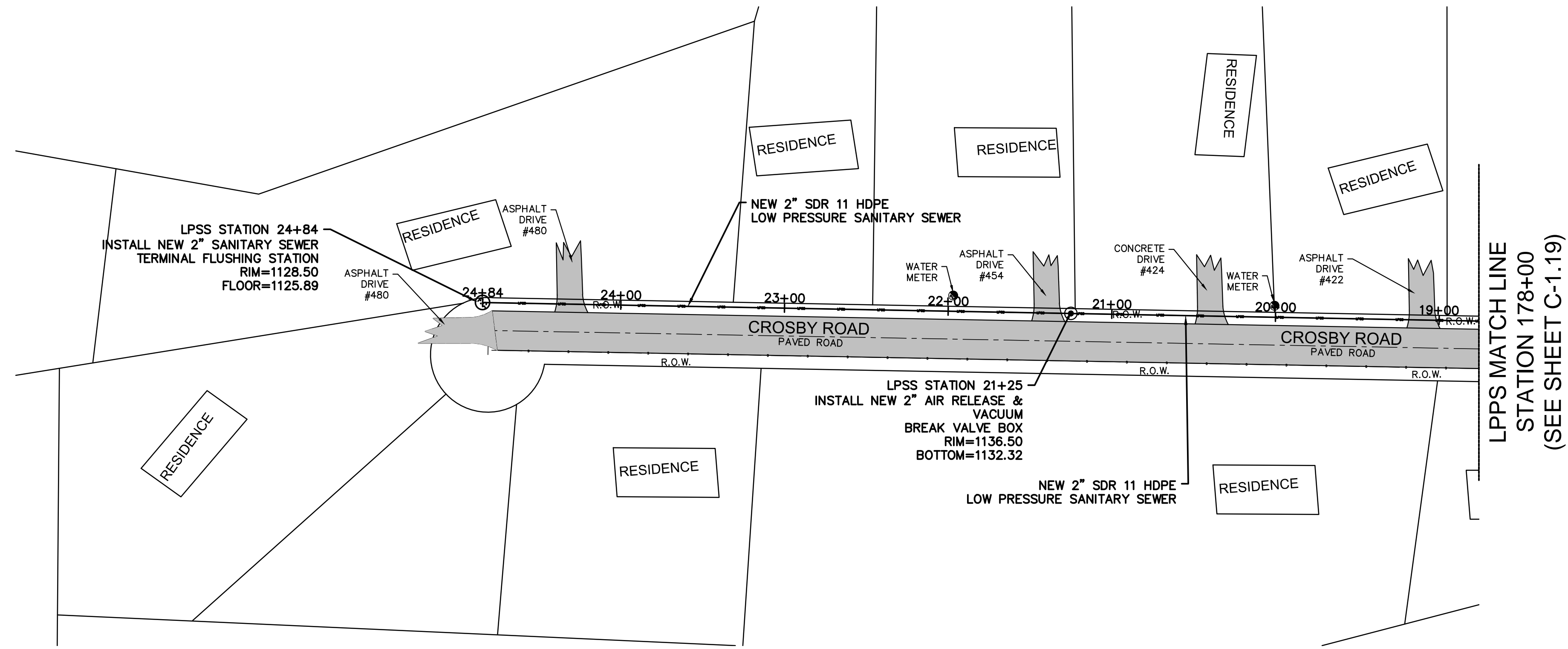
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11/01/2023	REVISED SEWER ALIGNMENT & DETAILS
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08/29/2024	REVISED & EXPANDED NOTES & DETAILS
09/23/2024	REVISED LPSS SERVICE LATERALS
09/25/2024	REVISED VALVE VAULT & HGL

PROJ. NO. • 24-129  
 DWG FILE • 23-129 C-1.25  
 ISSUE DATE • 08/14/2022

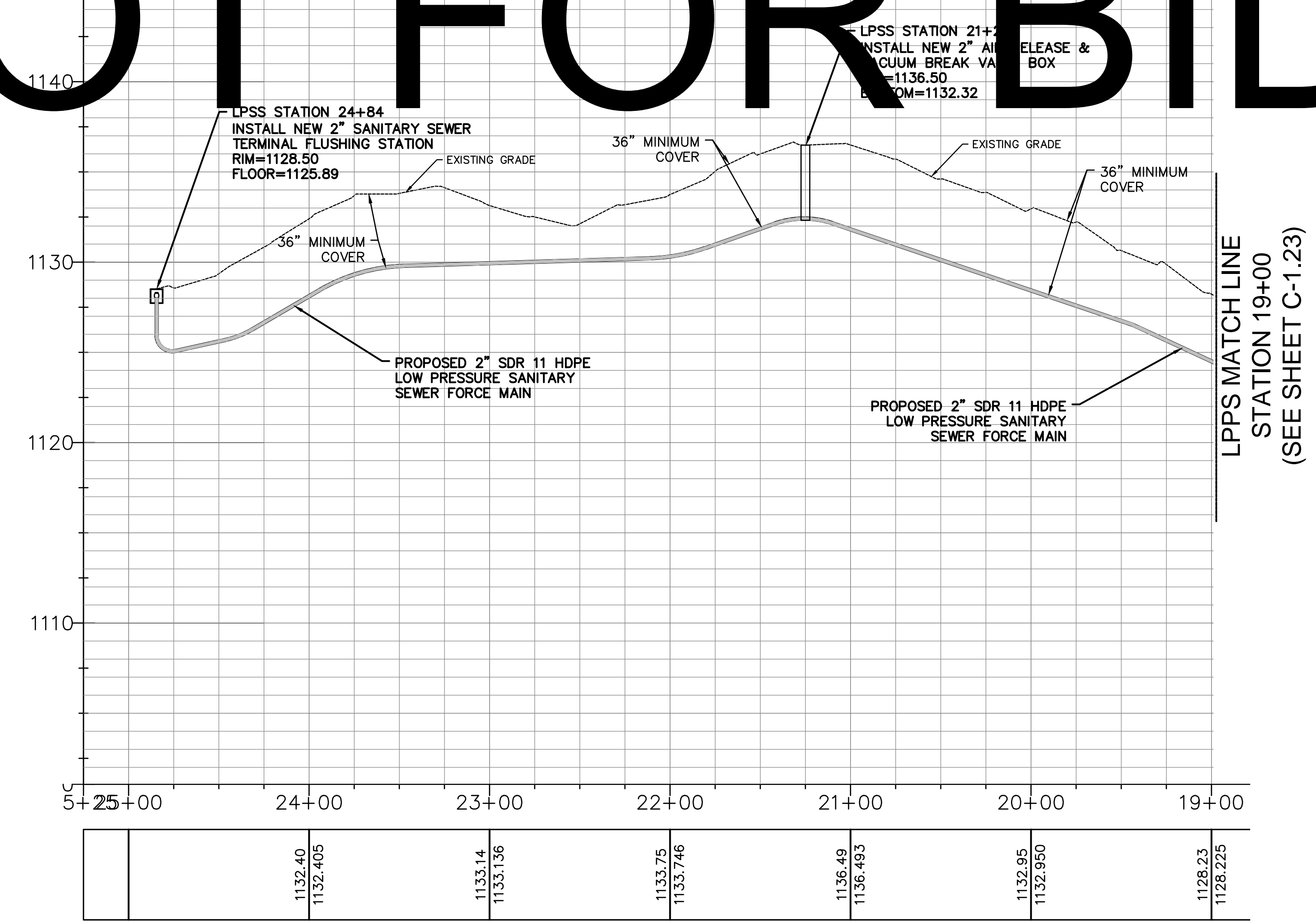
PHASE I  
 SANITARY SEWER  
 FORCE MAIN &  
 LPSS  
 CROSBY ROAD  
 PLAN AND PROFILE  
 STATION 10+50  
 TO  
 STATION 19+00  
 SHEET NUMBER

C-1.25

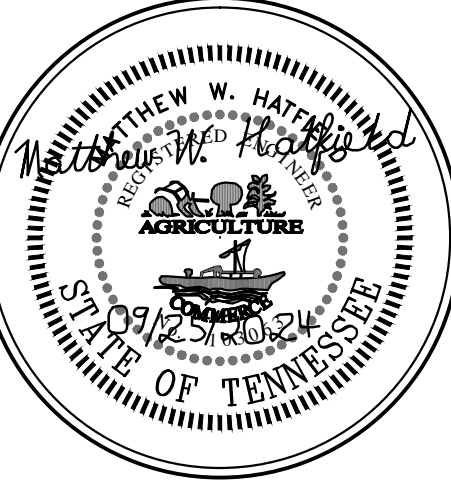




# NOT FOR BID



**HA**  
HATFIELD & ALLEN  
ASSOCIATES  
ENGINEERING & PLANNING  
775 RANDES ROAD  
STRAWBERRY PLAINS, TN 37871  
PHONE: (865) 388-5031



TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I  
HAMILTON COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

1) 24-129 bord-d
2) 24-129 Base
3)
4)
5)

REVISION HISTORY

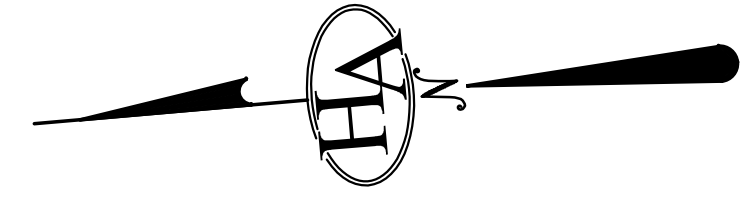
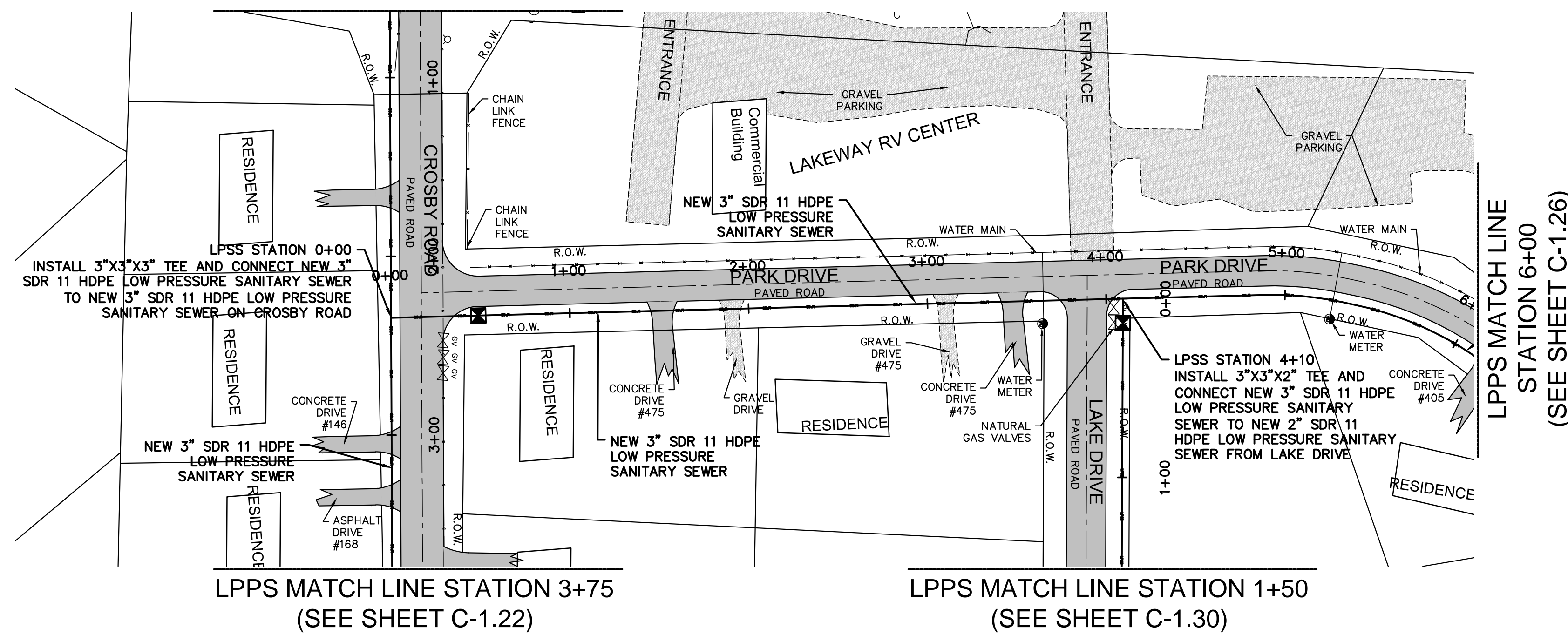
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11/01/2023	REVISED SEWER ALIGNMENT & DETAILS
06/26/2024	ADDED LOW PRESSURE SEWER TO PLAN
07/17/2024	MISCELLANEOUS PLAN REVISIONS
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08/29/2024	REVISED & EXPANDED NOTES & DETAILS
09/23/2024	REVISED LPSS SERVICE LATERALS
09/25/2024	REVISED VALVE VAULT & HGL

PROJ NO. • 24-129  
DWG FILE • 23-129 C-1.26  
ISSUE DATE • 08/14/2022

PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS  
CROSBY ROAD  
PLAN & PROFILE  
STATION 19+00  
TO  
STATION 24+84  
SHEET NUMBER

**C-1.26**

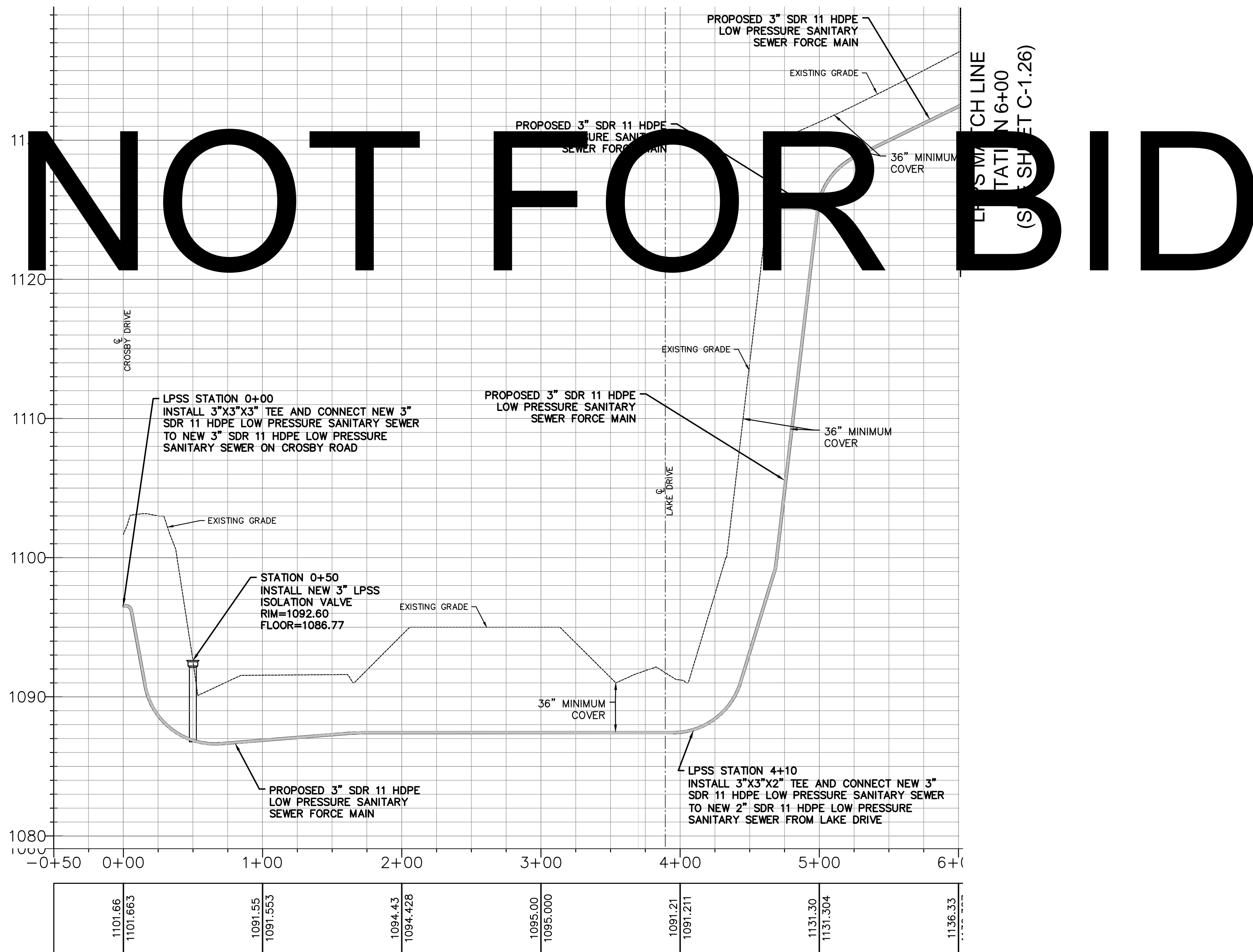
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(SEE SHEET C-1.22)



LPPS MATCH LINE STATION 3+75  
(SEE SHEET C-1.22)

LPPS MATCH LINE STATION 1+50  
(SEE SHEET C-1.30)

LPPS MATCH LINE  
STATION 6+00  
(SEE SHEET C-1.26)



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HATFIELD & ALLEN  
ASSOCIATES  
ENGINEERING & PLANNING  
775 RANDELES ROAD  
STRAWBERRY PLAINS, TN 37871  
PHONE: (865) 388-5031



TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I  
HAMBLEN COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

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2)	24-129 Base
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4)	
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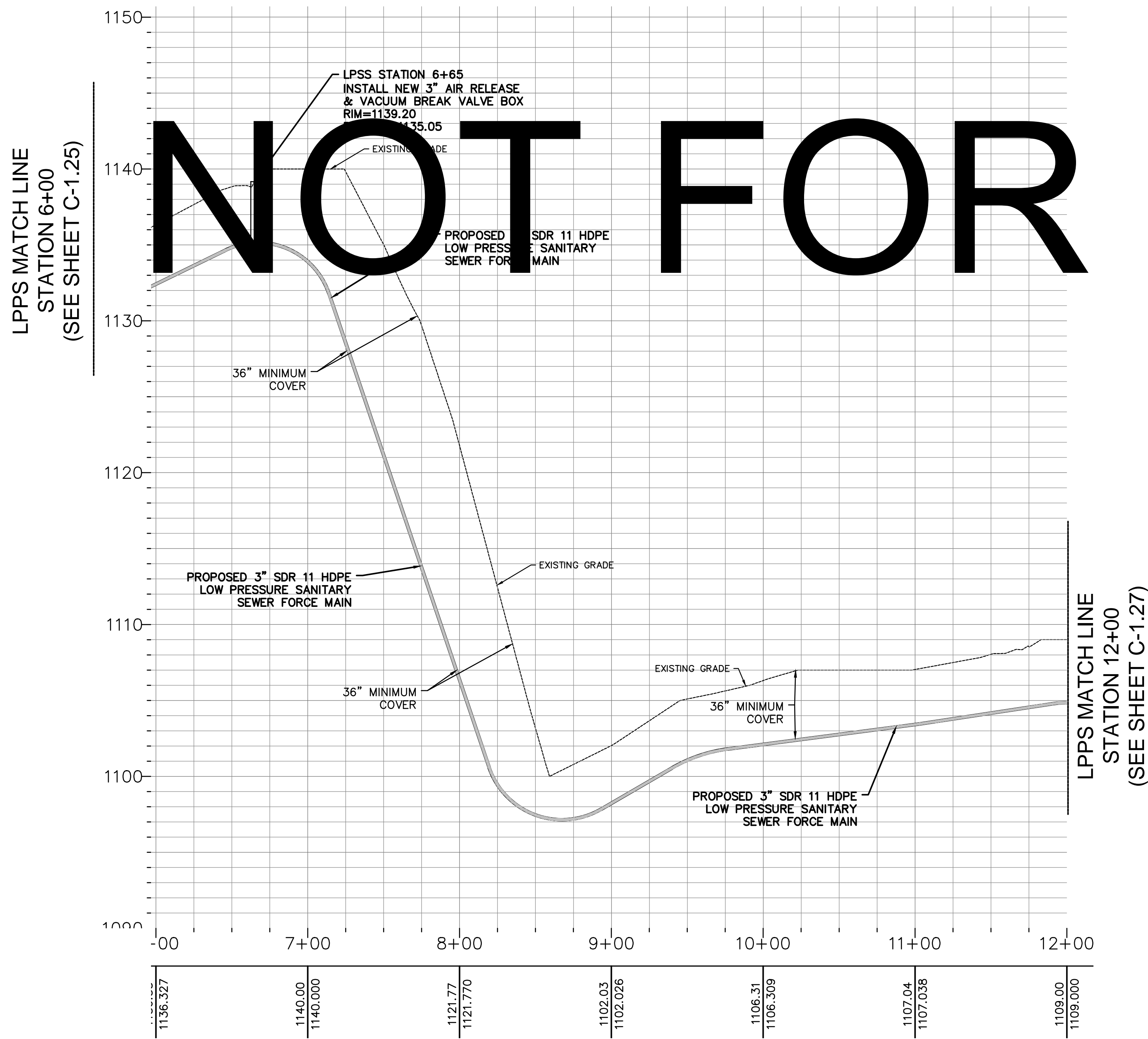
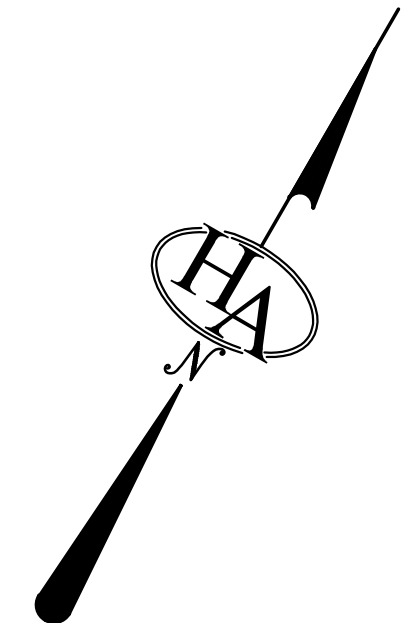
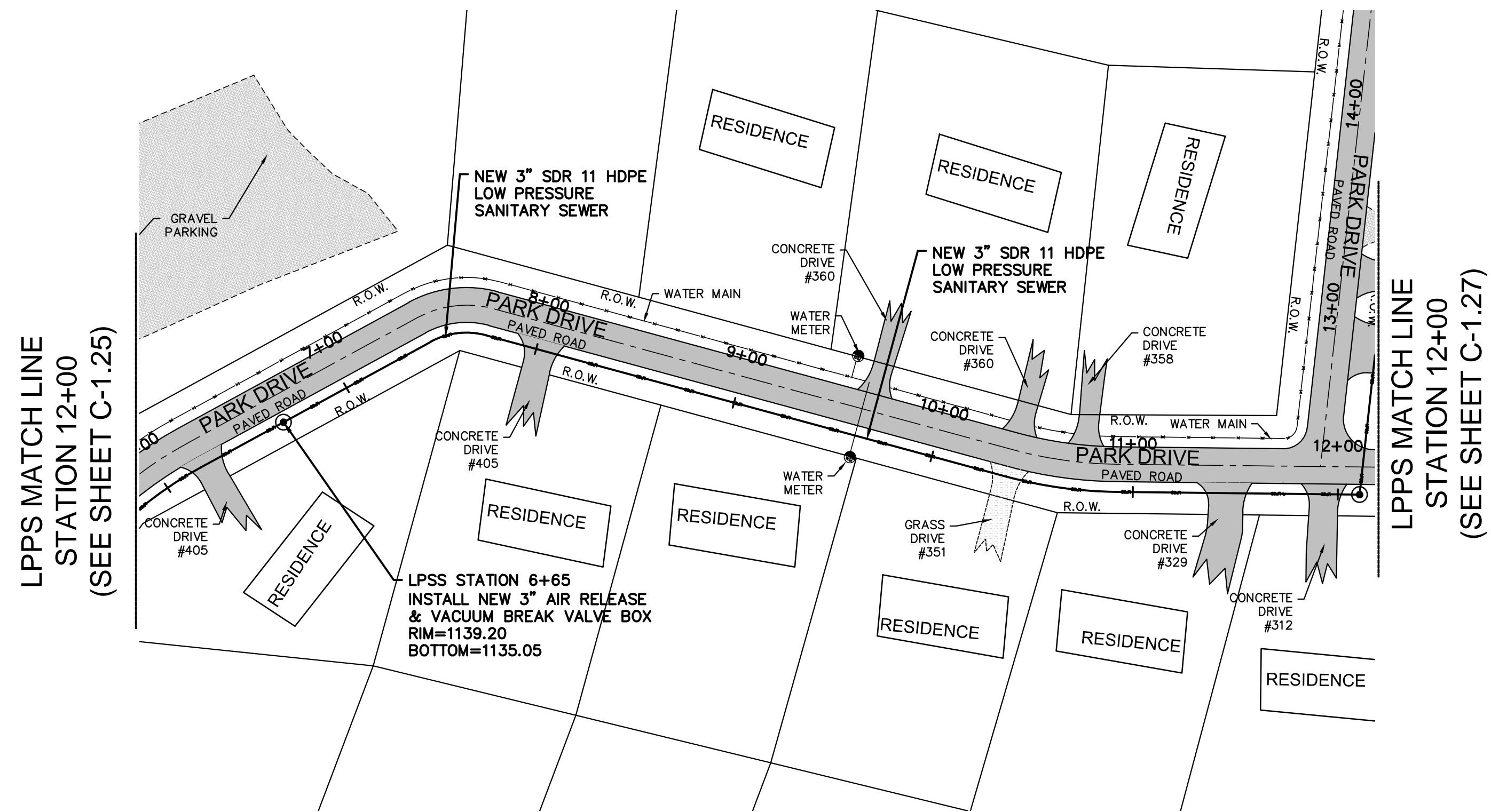
REVISION HISTORY

10/11/2023	ADDED AIR RELEASE MANHOLE
11/01/2023	REVISED SEWER ALIGNMENT & DETAILS
06/26/2024	ADDED LOW PRESSURE SEWER TO PLAN
07/17/2024	MISCELLANEOUS PLAN REVISIONS
08/18/2024	REVISED BRIDGE MOUNTING DETAILS
08/29/2024	REVISED & EXPANDED NOTES & DETAILS
09/23/2024	REVISED LPSS SERVICE LATERALS
09/25/2024	REVISED VALVE VAULT & HGL

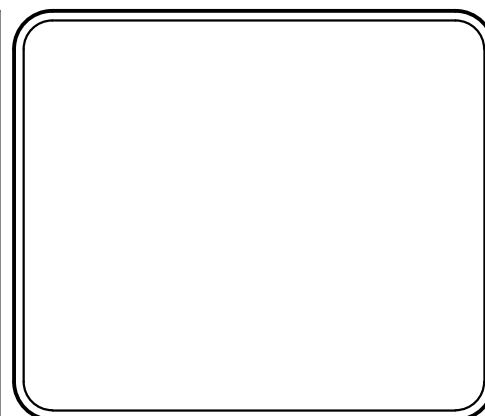
PROJ. NO. • 24-129  
DWG FILE • 23-129 C-1.27  
ISSUE DATE • 08/14/2022

PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS  
PARK DRIVE  
PLAN & PROFILE  
STATION 0+00  
TO  
STATION 6+00  
SHEET NUMBER

C-1.27



NOT FOR BID



**HA**

HATFIELD & ALLEN  
ASSOCIATES  
ENGINEERING & PLANNING  
775 RANDELS ROAD  
STRAWBERRY PLAINS, TN 37871  
PHONE: (865) 388-5031



**TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I**

HAMILTON COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

1)	24-129 bord-d
2)	24-129 Base
3)	
4)	
5)	

REVISION HISTORY

10/11/2023	ADDED AIR RELEASE MANHOLE
11/01/2023	REVISED SEWER ALIGNMENT & DETAILS
06/26/2024	ADDED LOW PRESSURE SEWER TO PLAN
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08/29/2024	REVISED & EXPANDED NOTES & DETAILS
09/23/2024	REVISED LPSS SERVICE LATERALS
09/25/2024	REVISED VALVE VAULT & HGL

PROJ. NO.	• 24-129
DWG. FILE	• 23-129 C-1.28
ISSUE DATE	• 08/14/2022

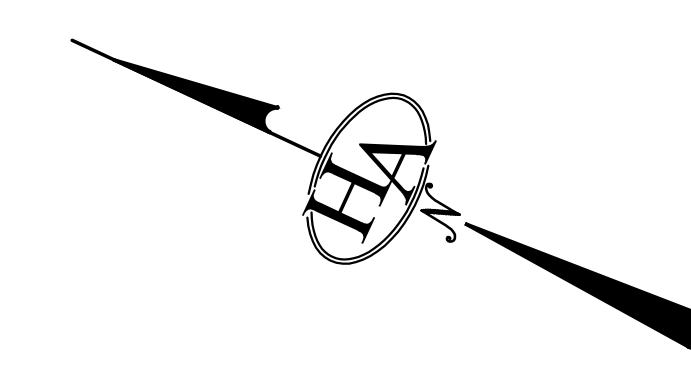
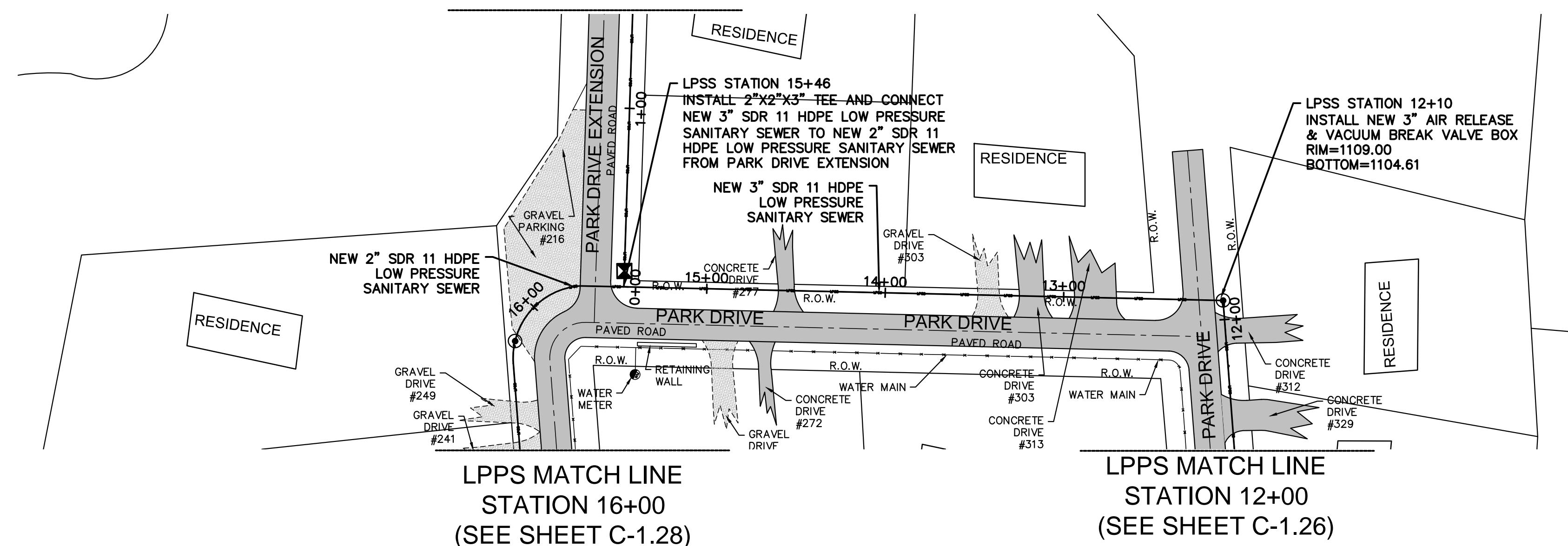
**PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS  
PARK DRIVE  
PLAN & PROFILE  
STATION 6+00  
TO  
STATION 12+00  
SHEET NUMBER**

C-1.28

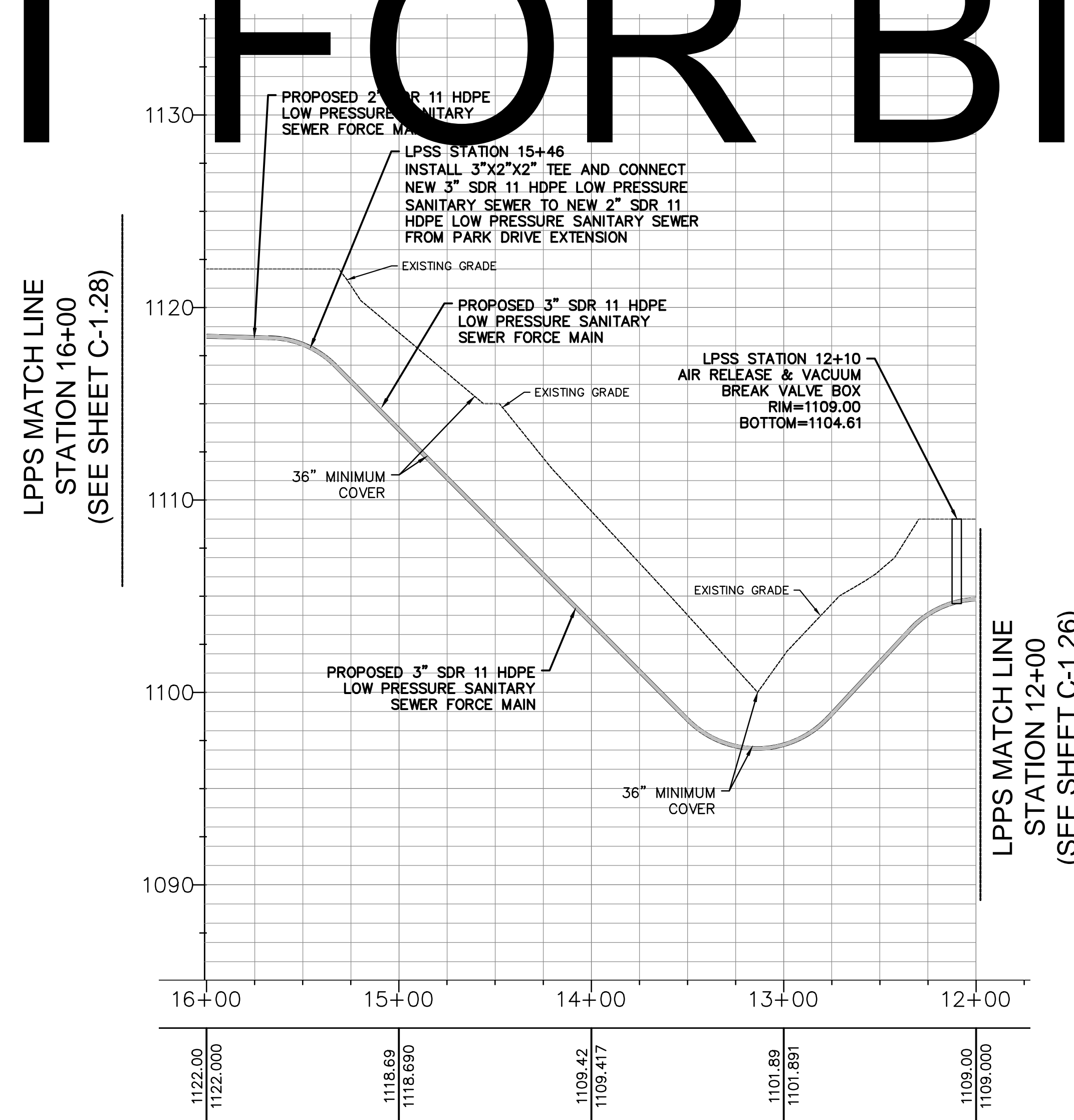
SCALES:  
1" = 50' HORIZONTALLY  
1" = 5' VERTICALLY



SEE SHEET C-1.29 FOR  
LPSS ON PARK DRIVE  
EXTENSION



# NOT FOR BID



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HATFIELD & ALLEN  
ASSOCIATES  
ENGINEERING & PLANNING  
775 RANDELES ROAD  
STRAWBERRY PLAINS, TN 37871  
PHONE: (865) 388-5031



TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I  
HAMILTON COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

1) 24-129 bord-d
2) 24-129 Base
3)
4)
5)

REVISION HISTORY

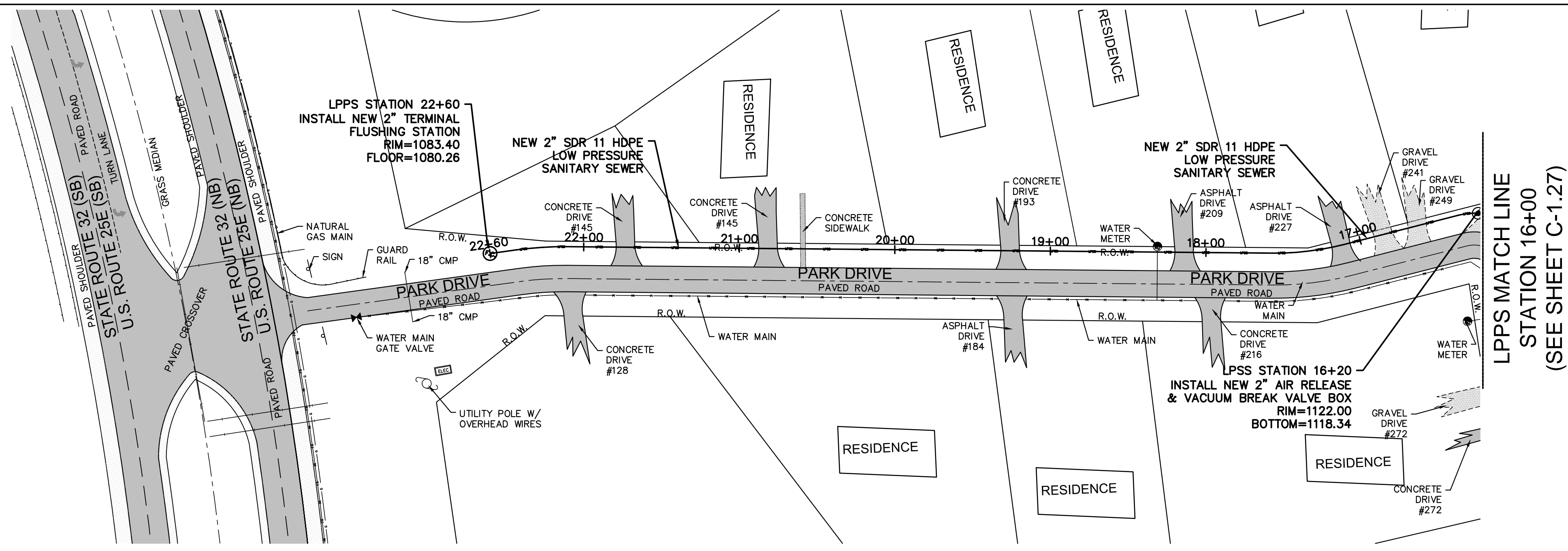
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09/25/2024	REVISED VALVE VAULT & HGL

PROJ NO.	• 24-129
DWG FILE	• 23-129 C-1.29
ISSUE DATE	• 08/14/2022

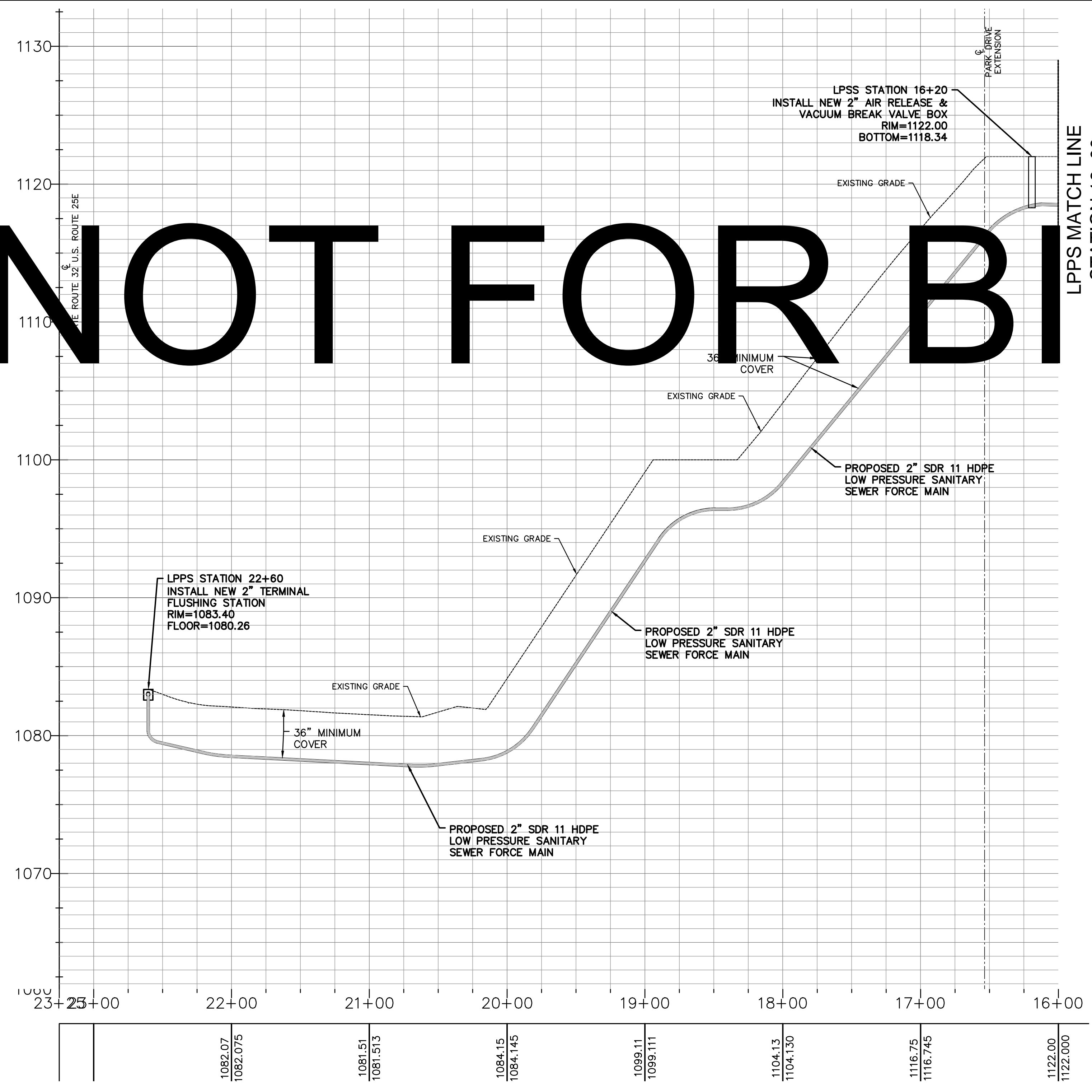
PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS  
PARK DRIVE  
PLAN & PROFILE  
STATION 12+00  
TO  
STATION 16+00  
SHEET NUMBER

**C-1.29**

SCALES:  
1" = 50' HORIZONTALLY  
1" = 5' VERTICALLY



NOT FOR BID



SCALES:  
1" = 50' HORIZONTALLY  
1" = 5' VERTICALLY

**HA**

HATFIELD & ALLEN  
ASSOCIATES  
ENGINEERING & PLANNING  
775 RANDELS ROAD  
STRAWBERRY PLAINS, TN 37871  
PHONE: (865) 388-5031



**TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I**

HAMBLEN COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

1)	24-129 bord-d
2)	24-129 Base
3)	
4)	
5)	

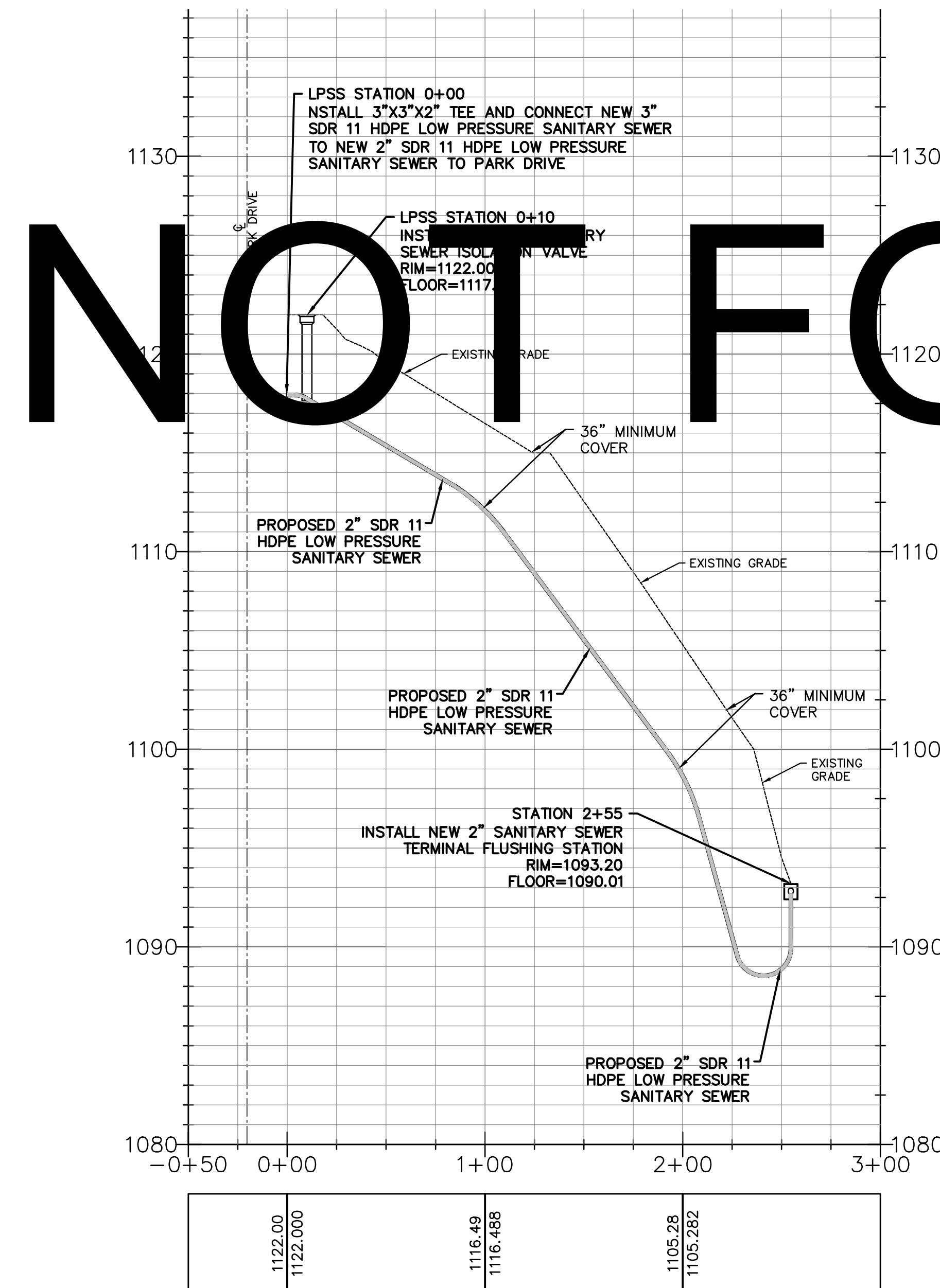
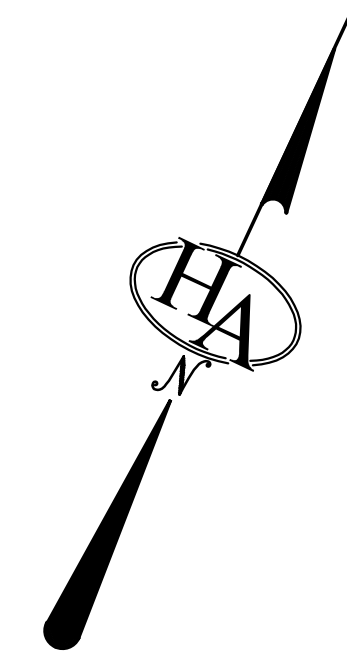
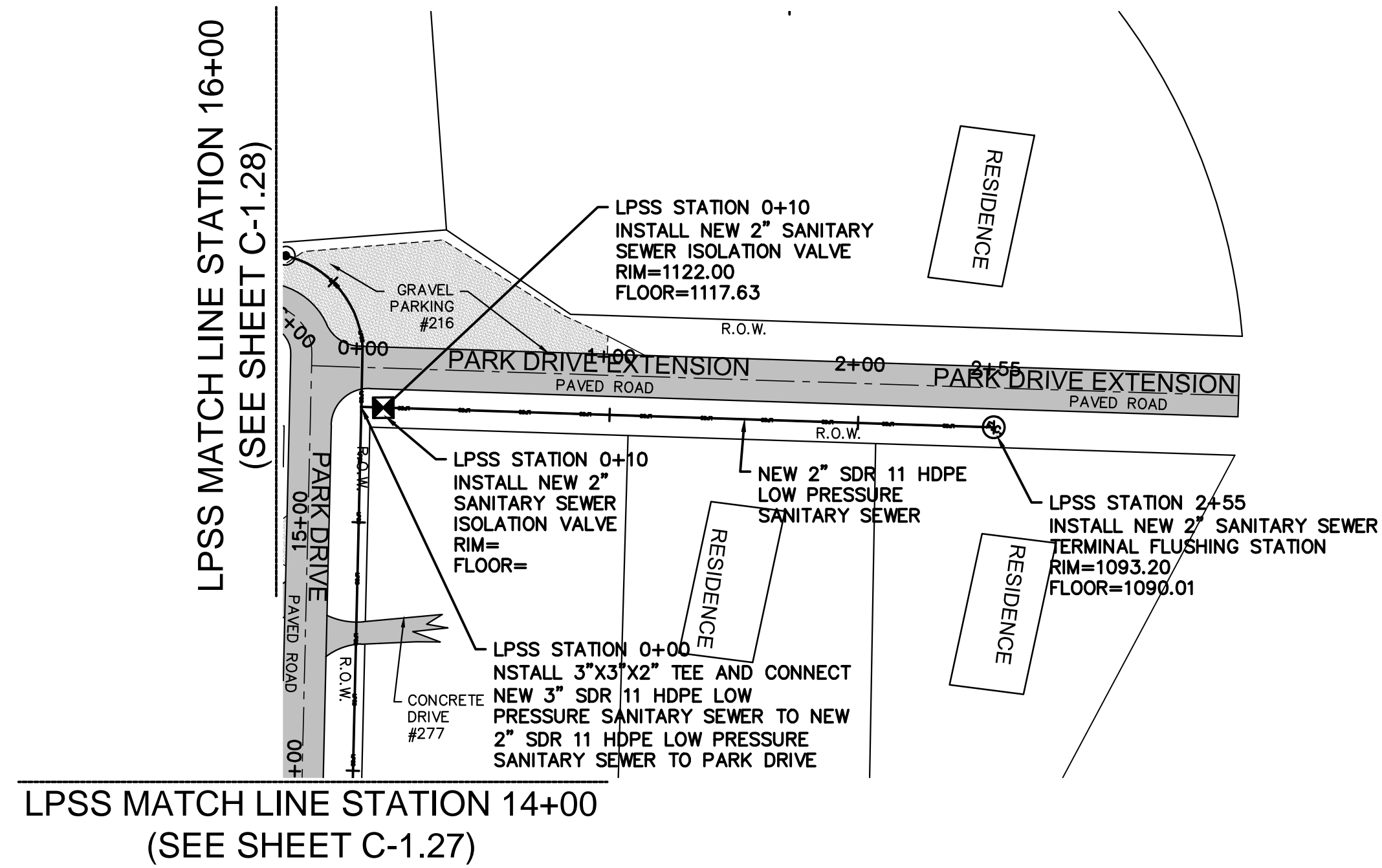
REVISION HISTORY

10/11/2023	ADDED AIR RELEASE MANHOLE
11/01/2023	REVISED SEWER ALIGNMENT & DETAILS
06/26/2024	ADDED LOW PRESSURE SEWER TO PLAN
07/17/2024	MISCELLANEOUS PLAN REVISIONS
08/18/2024	REVISED BRIDGE MOUNTING DETAILS
08/29/2024	REVISED & EXPANDED NOTES & DETAILS
09/23/2024	REVISED LPSS SERVICE LATERALS
09/25/2024	REVISED VALVE VAULT & HGL

PROJ. NO.	24-129
DWG. FILE	23-129 C-1.30
ISSUE DATE	08/14/2022

**PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS  
PARK DRIVE  
PLAN & PROFILE  
STATION 16+00  
TO  
STATION 22+60  
SHEET NUMBER**

C-1.30



NOT FOR BID

SCALES:  
 1"= 50' HORIZONTALLY  
 1"= 5' VERTICALLY

**HA**

HATFIELD & ALLEN  
 ASSOCIATES  
 ENGINEERING & PLANNING  
 775 RANDELS ROAD  
 STRAWBERRY PLAINS, TN 37871  
 PHONE: (865) 388-5031



**TOWN OF BEAN STATION  
 SANITARY SEWER FORCE MAIN &  
 LOW PRESSURE SANITARY SEWER  
 PHASE I**

HAMBLEN COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

1)	24-129 bord-d
2)	24-129 Base
3)	
4)	
5)	

REVISION HISTORY

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09/25/2024	REVISED VALVE VAULT & HGL

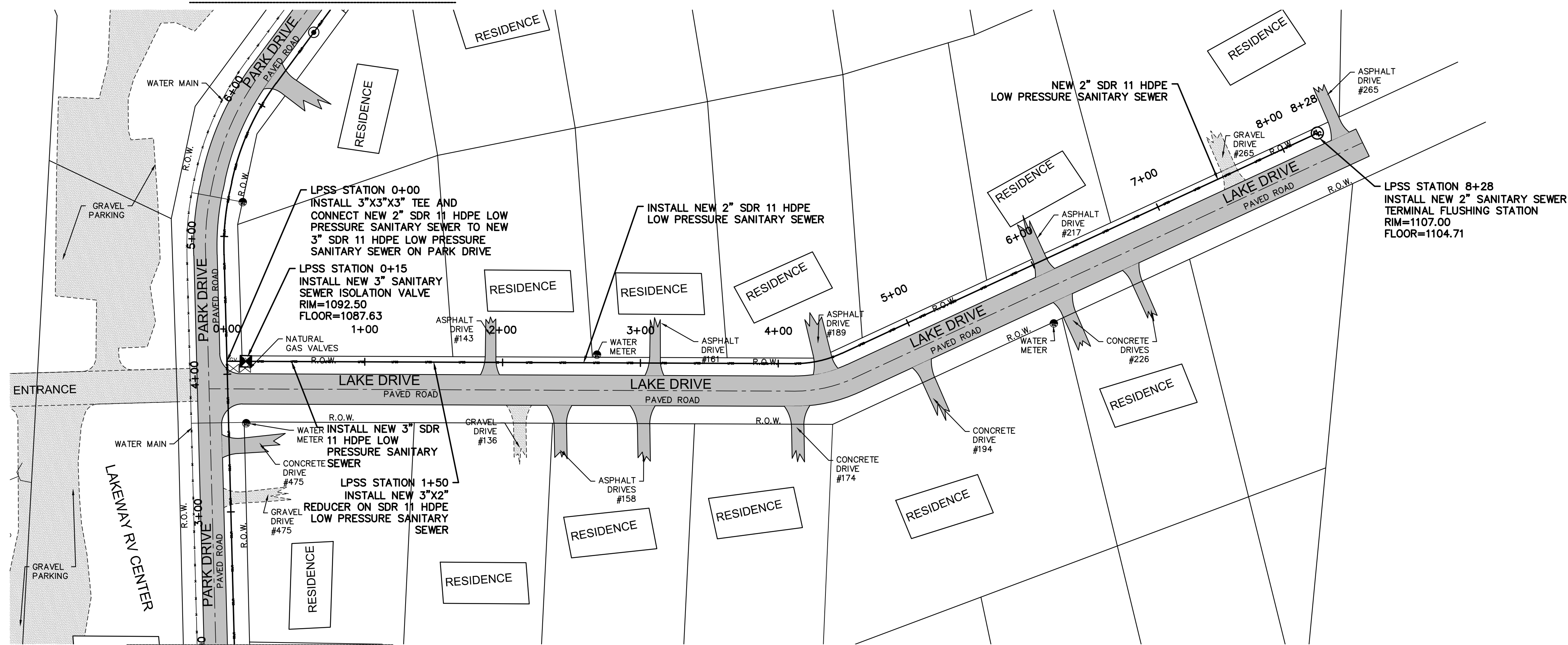
PROJ NO.	• 24-129
DWG FILE	• 23-129 C-1.31
ISSUE DATE	• 08/14/2022

**PHASE I  
 SANITARY SEWER  
 FORCE MAIN &  
 LPSS  
 PARK DRIVE EXT.  
 PLAN & PROFILE  
 STATION 0+00  
 TO  
 STATION 2+55  
 SHEET NUMBER**

**C-1.31**

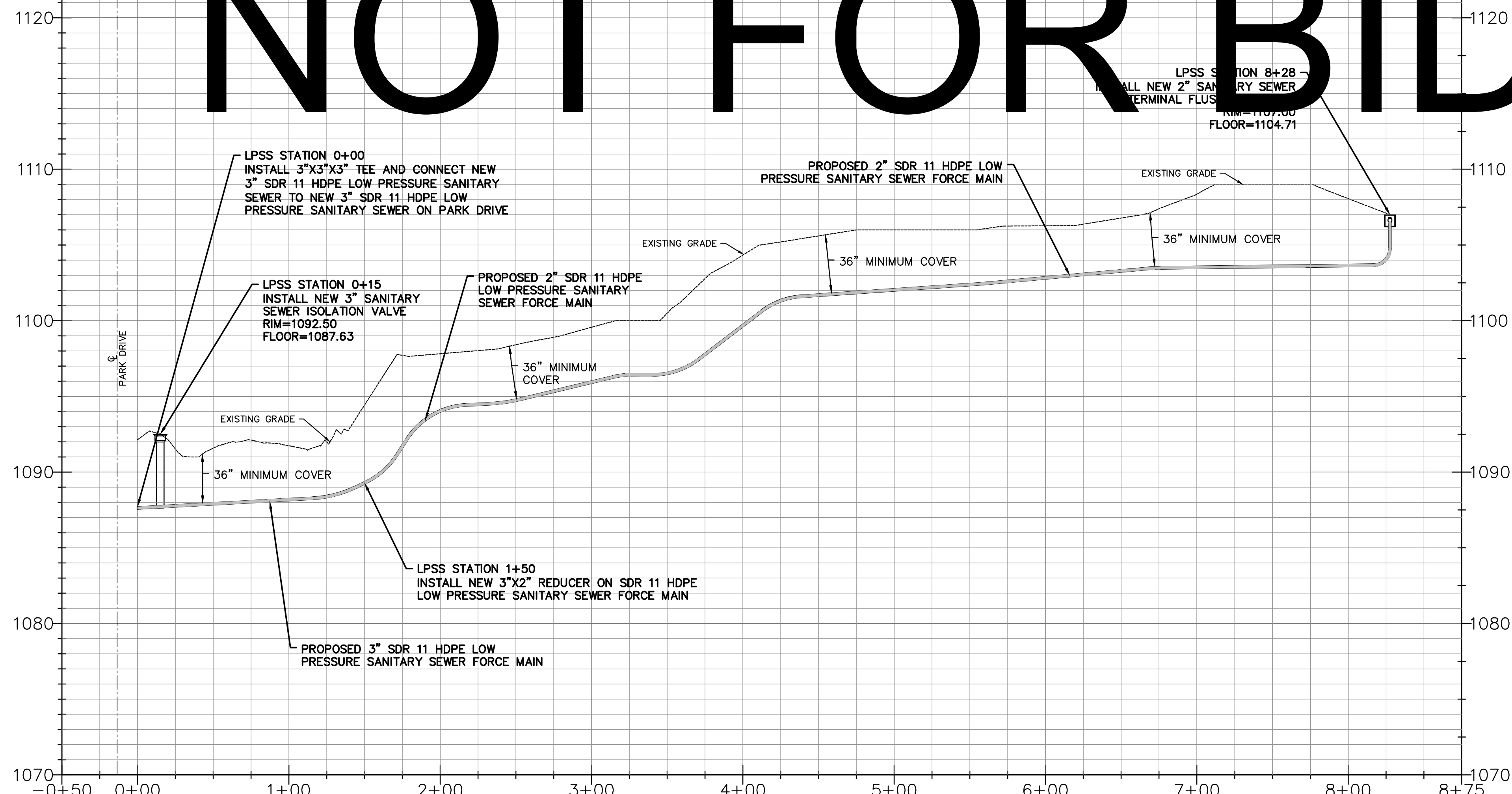


LPSS MATCH LINE STATION 7+00  
(SEE SHEET C-1.26)



LPSS MATCH LINE STATION 2+00  
(SEE SHEET C-1.25)

# NOT FOR BID



1092.15	1092.153	1091.74	1091.737	1097.81	1097.813	1099.56	1099.562	1104.33	1104.330	1106.00	1106.000	1106.26	1106.265	1108.35	1108.346	1108.06	1108.060
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SCALES:  
1" = 50' HORIZONTALLY  
1" = 5' VERTICALLY

**HA**  
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ASSOCIATES  
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STRAWBERRY PLAINS, TN 37871  
PHONE: (865) 388-5031



TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I  
HAMILTON COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

1)	24-129 bord-d
2)	24-129 Base
3)	
4)	
5)	

REVISION HISTORY

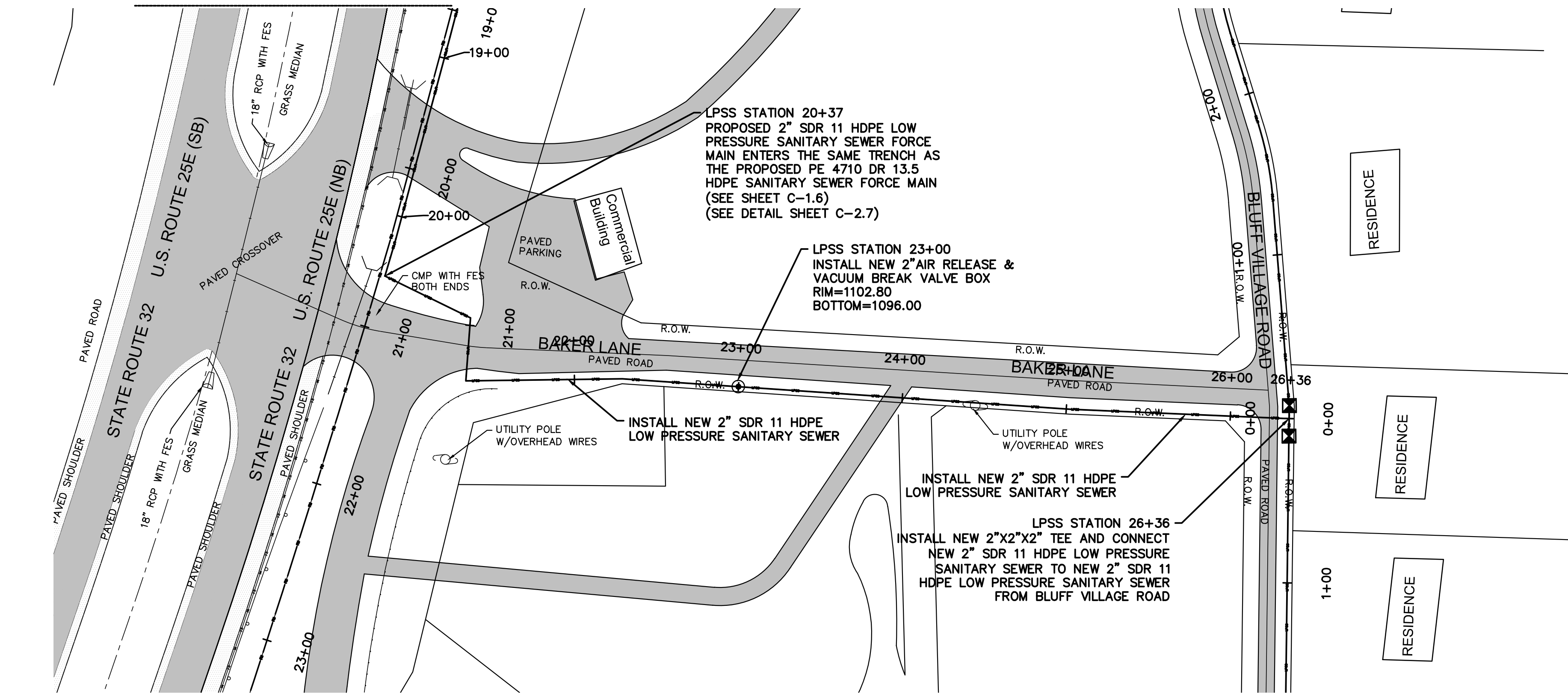
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09/25/2024	REVISED VALVE VAULT & HGL

PROJ. NO.	24-129
DWG. FILE	23-129 C-1.32
ISSUE DATE	08/14/2022

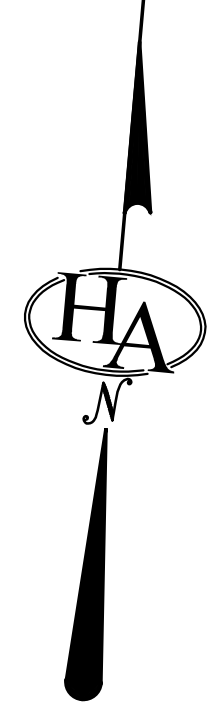
PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS  
LAKE DRIVE  
PLAN & PROFILE  
STATION 0+00  
TO  
STATION 8+28  
SHEET NUMBER

**C-1.32**

MATCH LINE LPSS STATION 18+50  
(SEE SHEET C-1.5)



MATCH LINE FORCE MAIN STATION 23+00  
(SEE SHEET C-1.5)

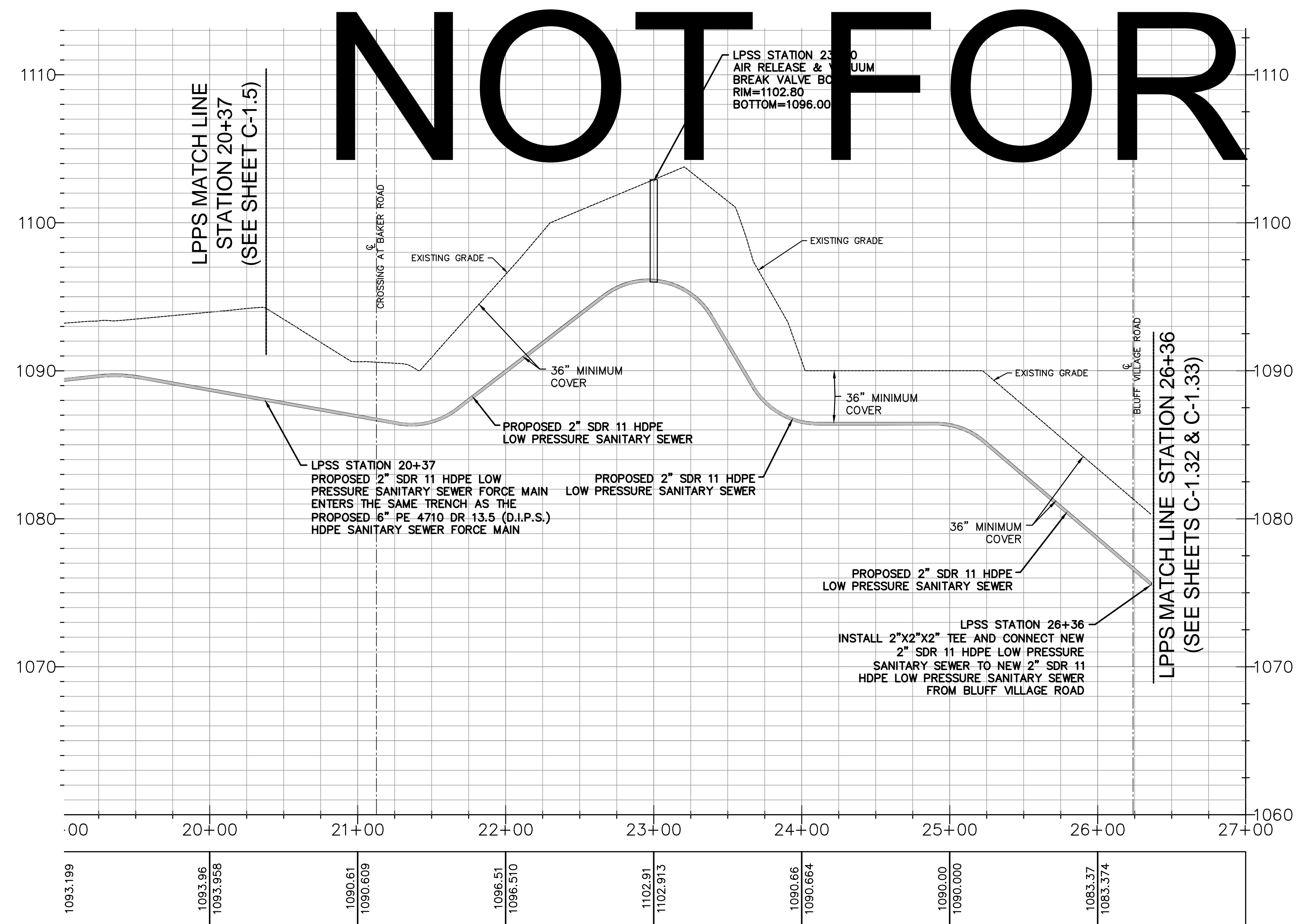


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HATFIELD & ALLEN  
ASSOCIATES  
ENGINEERING & PLANNING  
775 RANDES ROAD  
STRAWBERRY PLAINS, TN 37871  
PHONE: (865) 388-5031



TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I  
HAMILTON COUNTY & GRAINGER COUNTY, TENNESSEE

# NOT FOR BID



X-REFERENCED DRAWINGS

1) 24-129 bord-d
2) 24-129 Base
3)
4)
5)

REVISION HISTORY

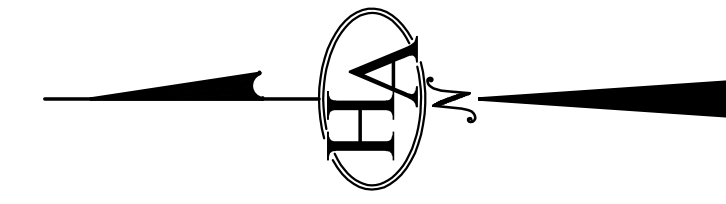
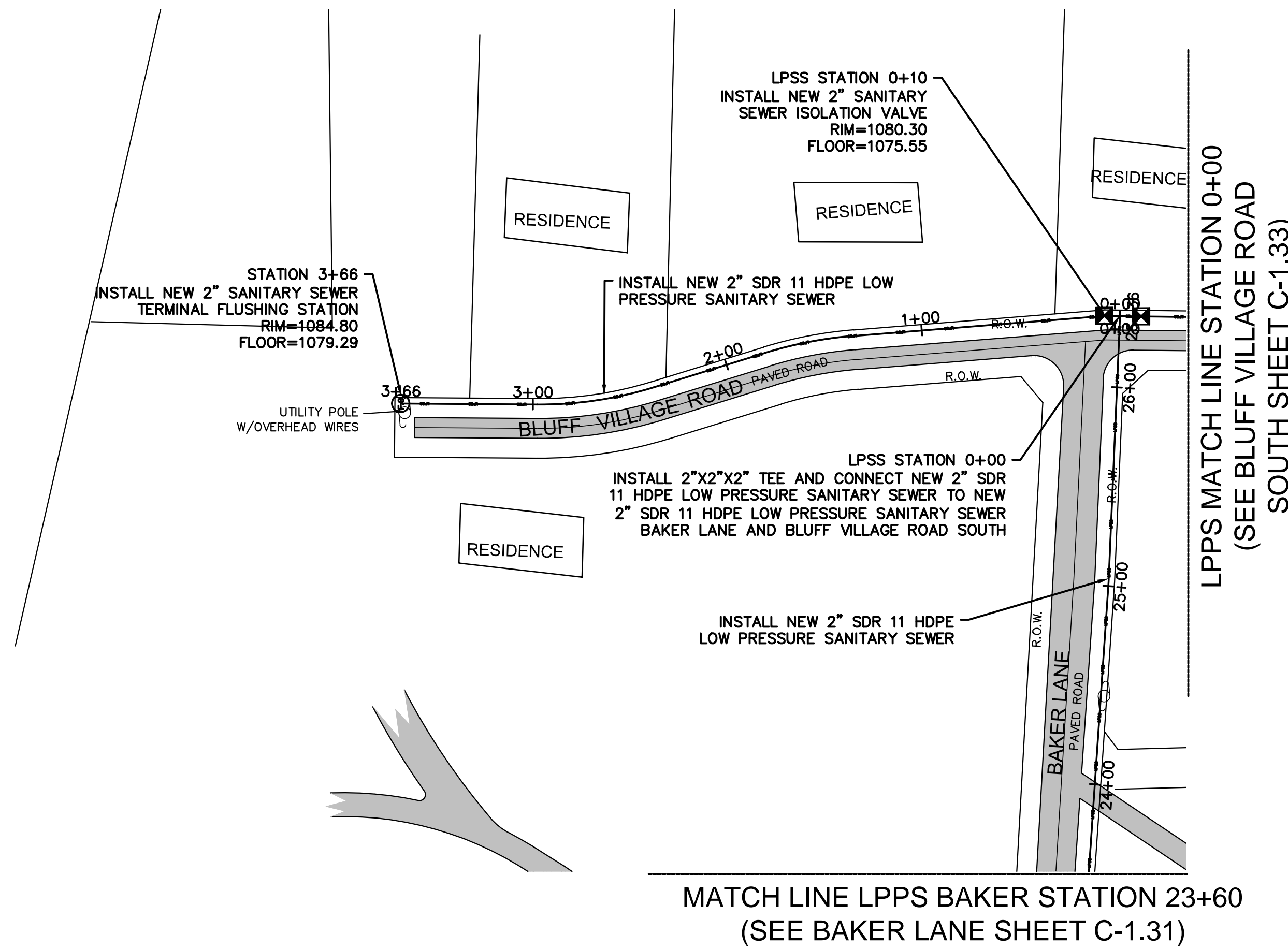
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08/29/2024	REVISED & EXPANDED NOTES & DETAILS
09/23/2024	REVISED LPSS SERVICE LATERALS
09/25/2024	REVISED VALVE VAULT & HGL

PROJ. NO. • 24-129  
DWG FILE • 23-129 C-1.33  
ISSUE DATE • 08/14/2022

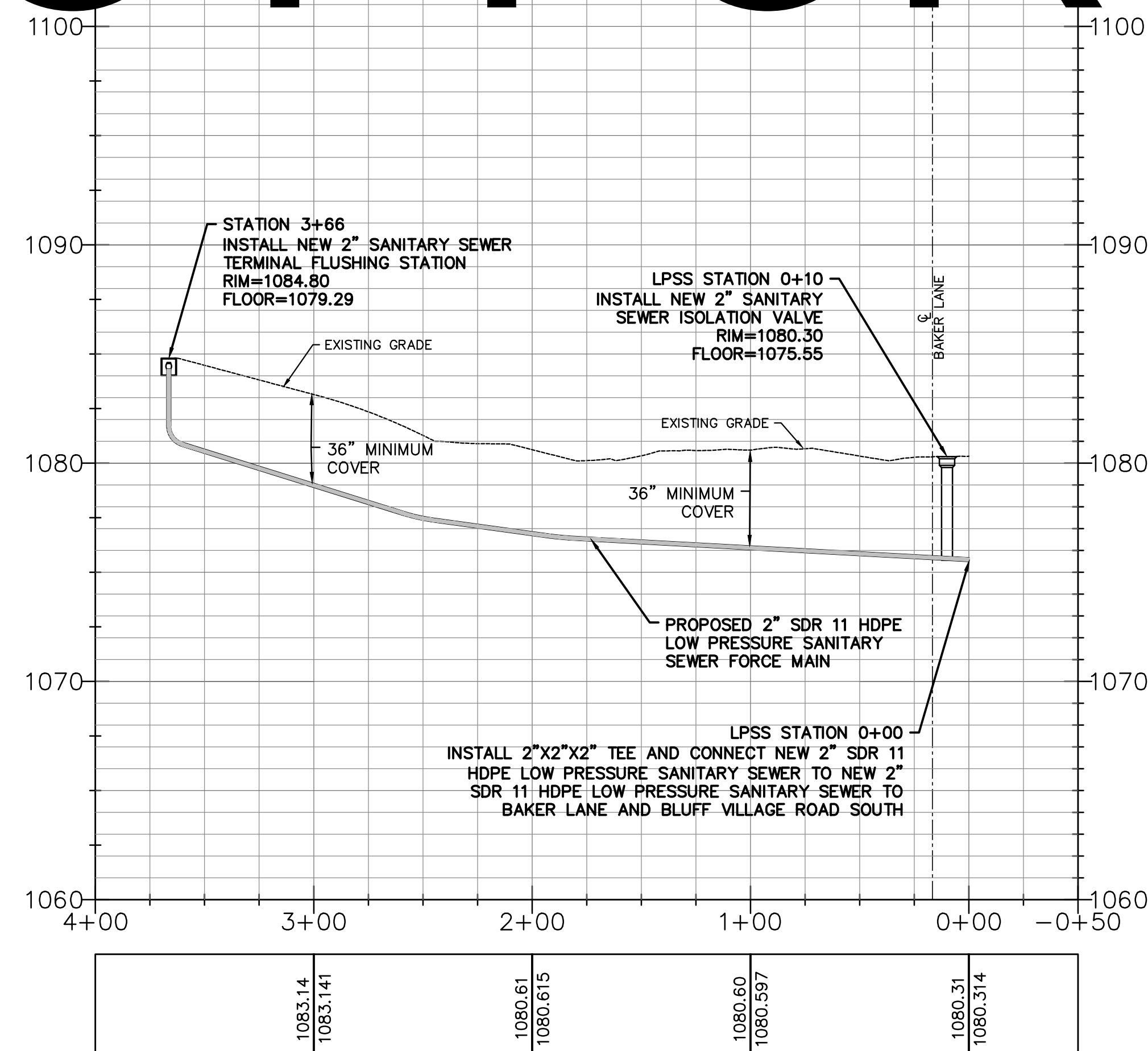
PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS  
BAKER LANE  
PLAN & PROFILE  
STATION 18+50  
TO  
STATION 26+36  
SHEET NUMBER

**C-1.33**

SCALES:  
1"= 50' HORIZONTALLY  
1"= 5' VERTICALLY



# NOT FOR BID



LPSS MATCH LINE STATION 0+00  
(SEE BAKER LANE SHEET C-1.31)  
AND  
BLUFF VILLAGE ROAD SOUTH SHEET C-1.33

SCALES:  
1" = 50' HORIZONTALLY  
1" = 5' VERTICALLY



HATFIELD & ALLEN  
ASSOCIATES  
ENGINEERING & PLANNING  
775 RANDELES ROAD  
STRAWBERRY PLAINS, TN 37871  
PHONE: (865) 388-5031



TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I  
HAMBLEN COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

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2)	24-129 Base
3)	
4)	
5)	

REVISION HISTORY

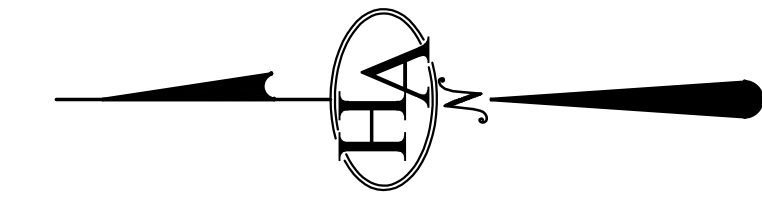
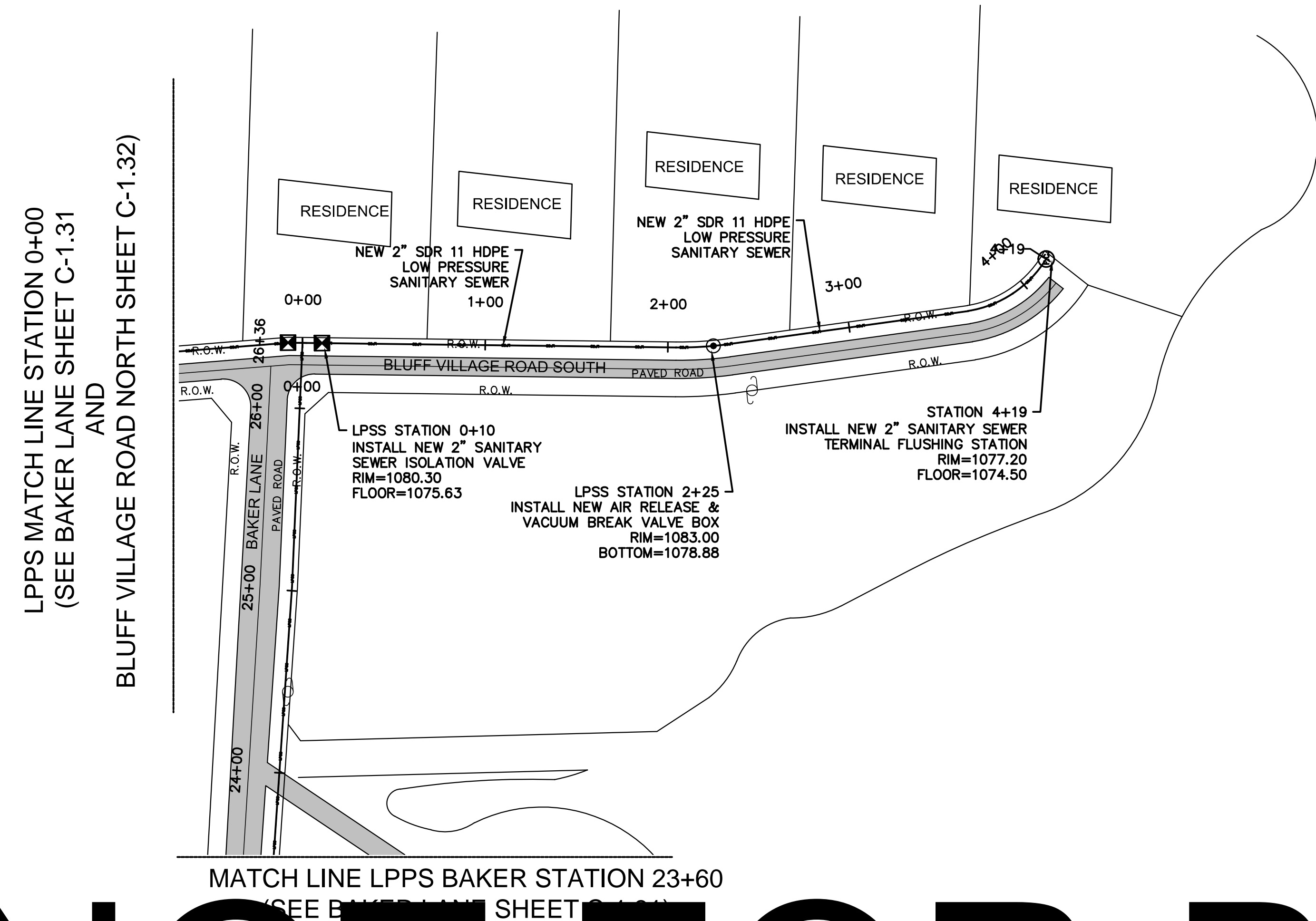
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09/25/2024	REVISED VALVE VAULT & HGL

PROJ NO. • 24-129  
DWG FILE • 23-129 C-1.34  
ISSUE DATE • 08/14/2022

PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS  
BLUFF VILLAGE ROAD NORTH  
PLAN & PROFILE  
STATION 0+00  
TO  
STATION 3+66  
SHEET NUMBER

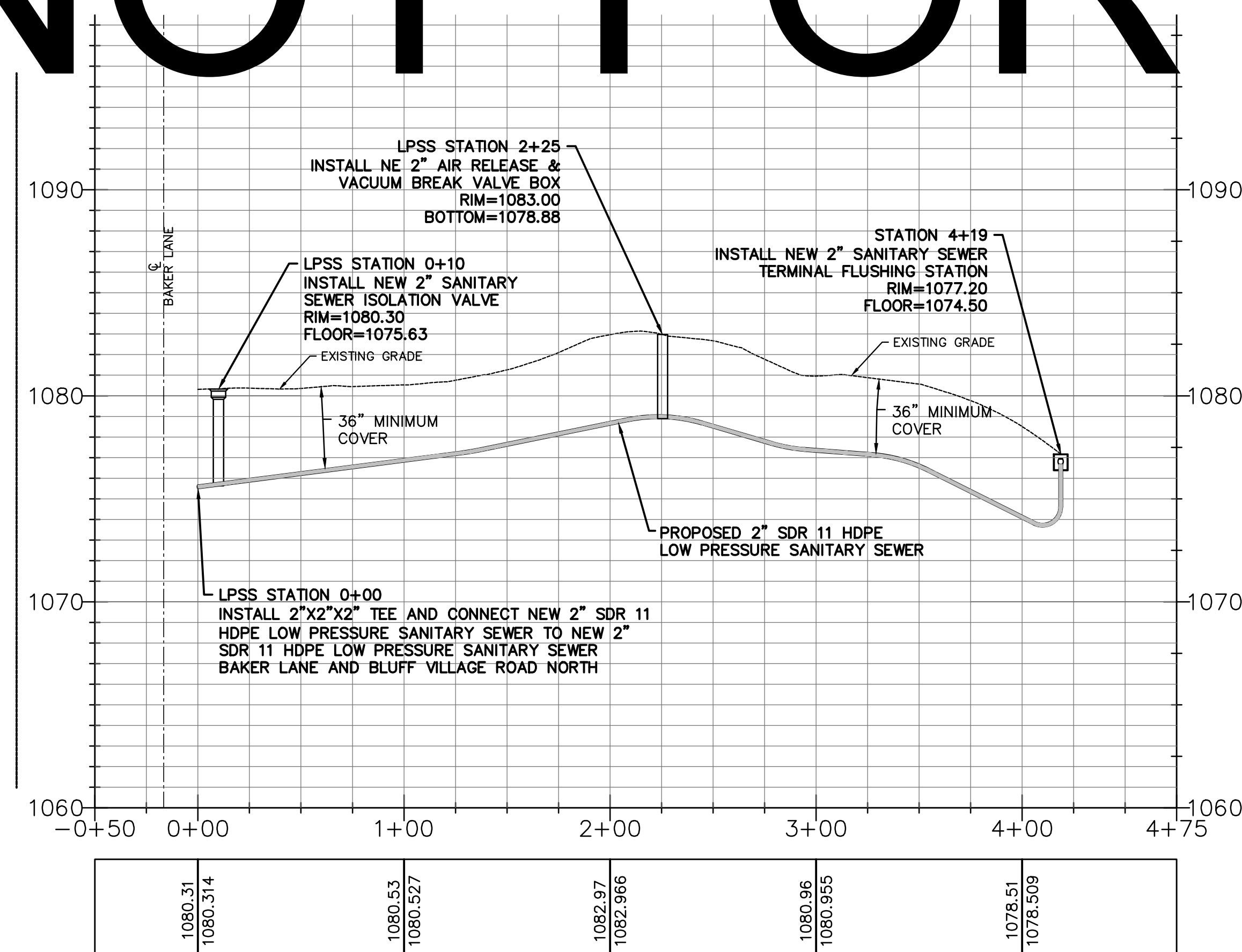
C-1.34





# NOT FOR BID

LPPS MATCH LINE STATION 0+00  
(SEE BAKER LANE SHEET C-1.31  
AND  
BLUFF VILLAGE ROAD NORTH SHEET C-1.32)



SCALES:  
1" = 50' HORIZONTALLY  
1" = 5' VERTICALLY

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PHONE: (865) 388-5031



TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I  
HAMBLEN COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

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2)	24-129 Base
3)	
4)	
5)	

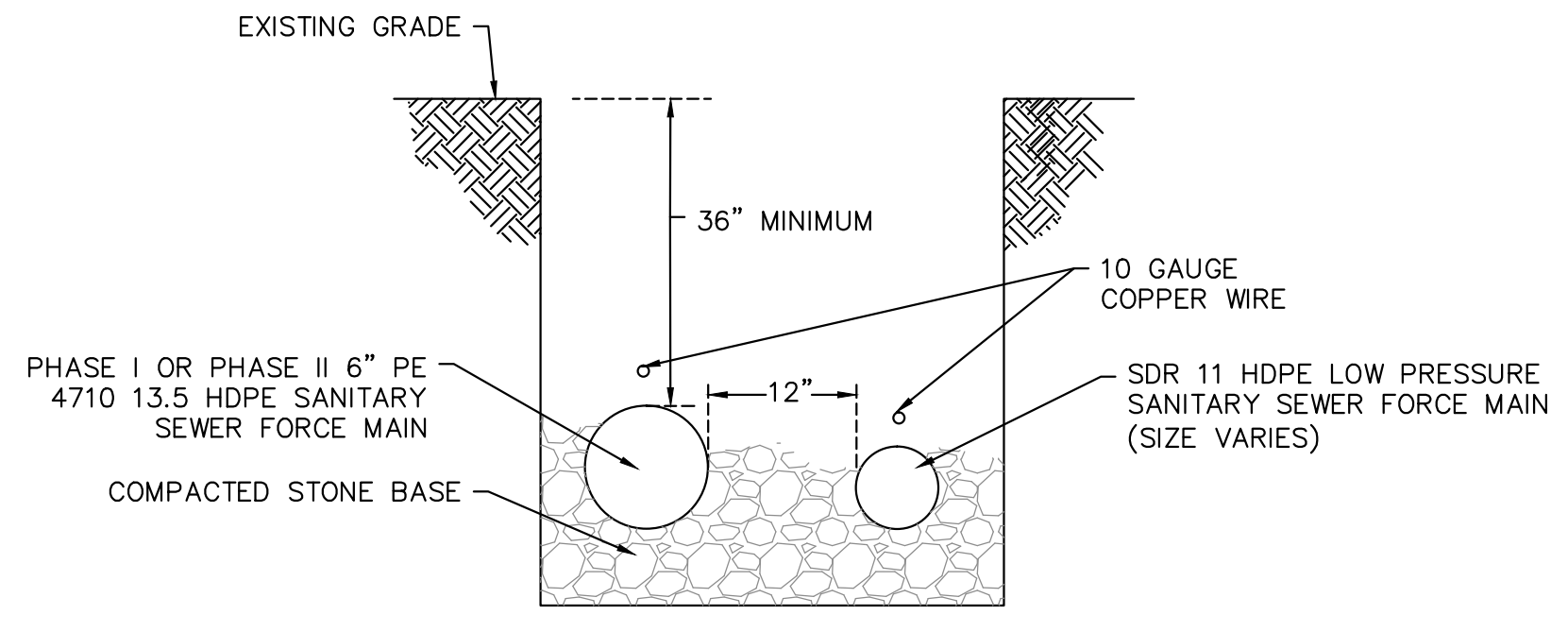
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09/25/2024	REVISED VALVE VAULT & HGL

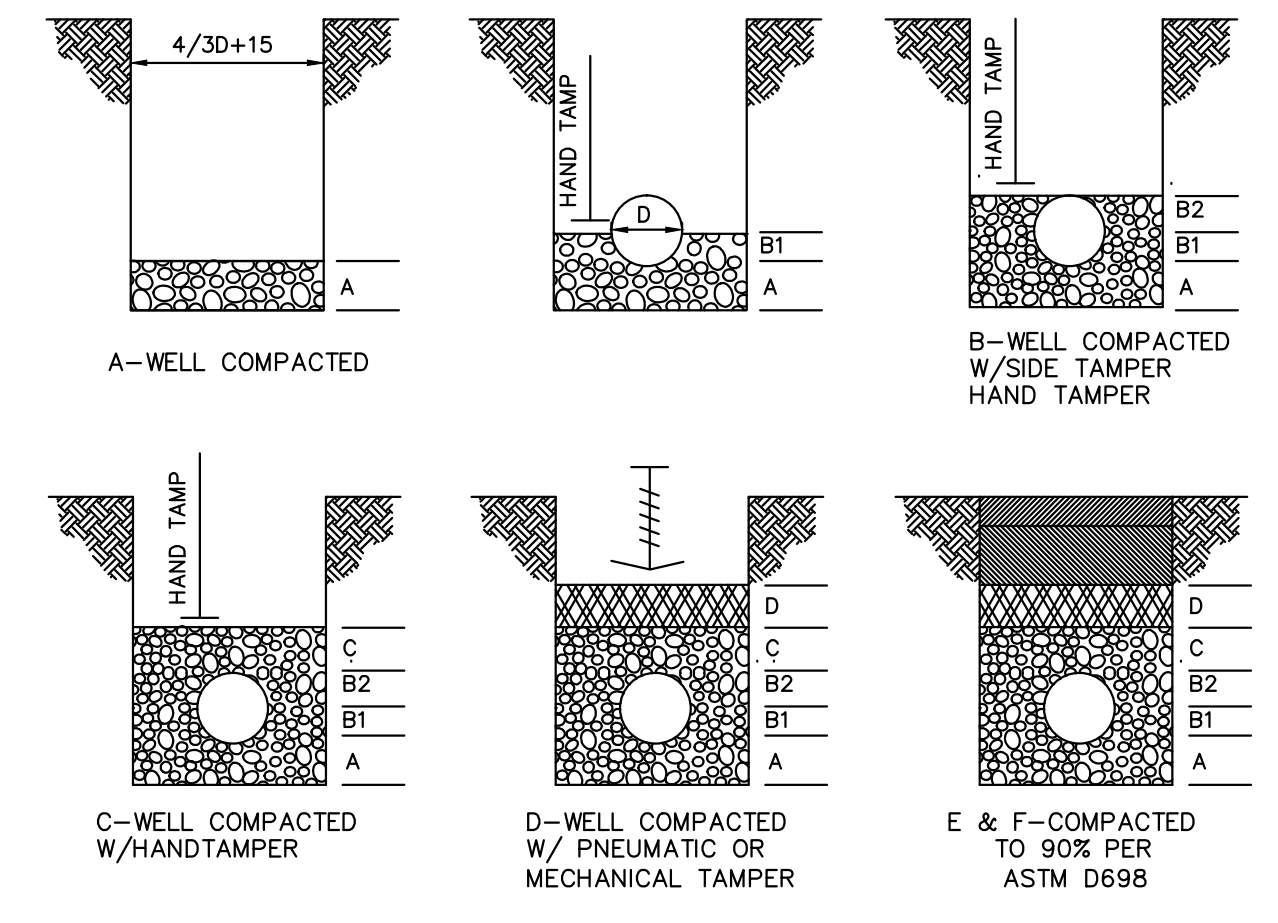
PROJ NO.	• 24-129
DWG FILE	• 23-129 C-1.35
ISSUE DATE	• 08/14/2022

PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS  
BLUFF VILLAGE ROAD SOUTH  
PLAN & PROFILE  
STATION 0+00  
TO  
STATION 4+19

SHEET NUMBER  
**C-1.35**

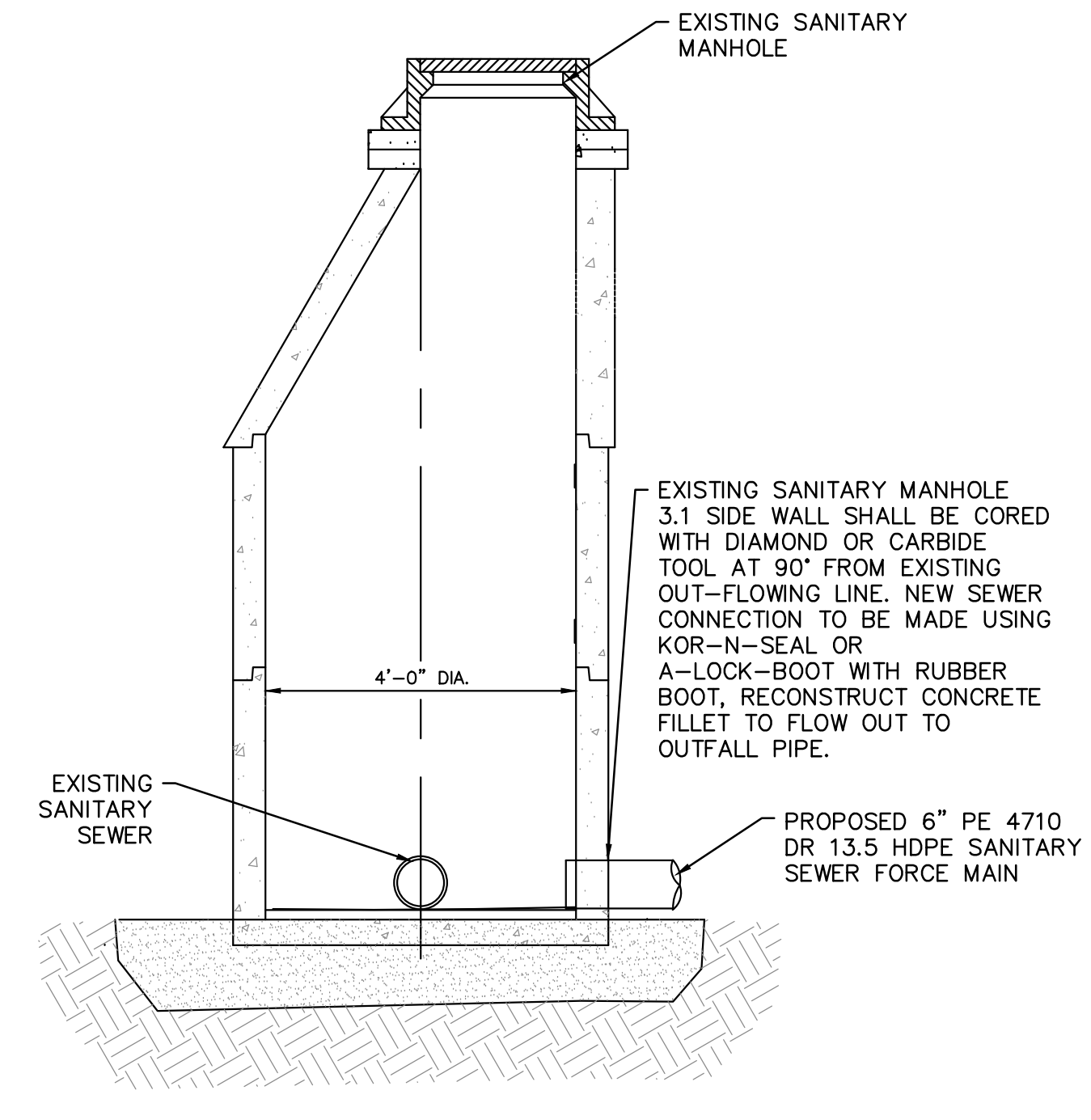


**LPSS & FORCE MAIN  
COMMON TRENCH DETAIL**  
NOT TO SCALE

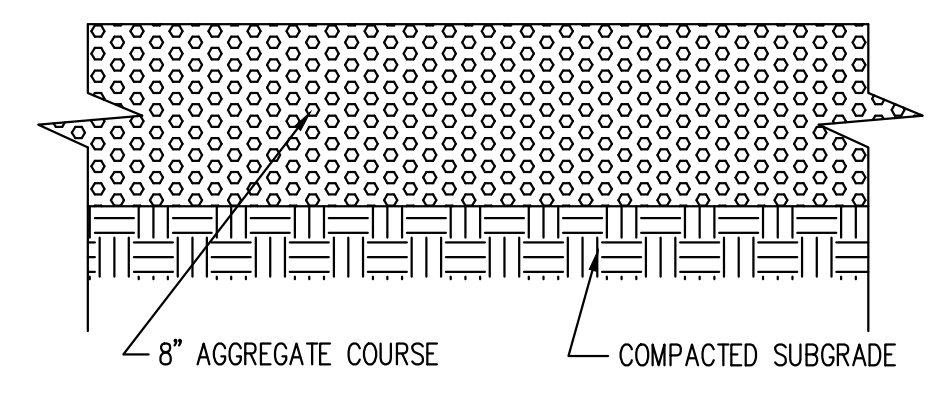


LAYER	DEPTH	MATERIAL
A	6" MIN.	CLASS I FOR PLASTIC PIPE. CLASS I - IV FOR ALL OTHER PIPE
B	VARIES	CLASS I FOR PLASTIC PIPE. CLASS I - IV FOR ALL OTHER PIPE TAMPED IN 6" MAXIMUM LAYERS
C	6"	CLASS I FOR PLASTIC PIPE. CLASS I - IV FOR ALL OTHER PIPE
D	6"	SELECTED BACKFILL MATERIAL - CLASS I - IV FOR ALL OTHER PIPES
E	VARIES	CLASS I - IV FOR ALL PIPE. 75% OF BACKFILL MATERIAL MAY CONTAIN BROKEN STONES NOT EXCEEDING 6" IN DIAMETER TAMPED IN 6" MAXIMUM LAYERS
F	12"	CLASS I - IV FOR ALL PIPE-EXCEPT USE CLASS A. GRADE D. CRUSHED STONE ACROSS OR ALONG EXISTING PAVEMENT UNLESS OTHERWISE NOTED.

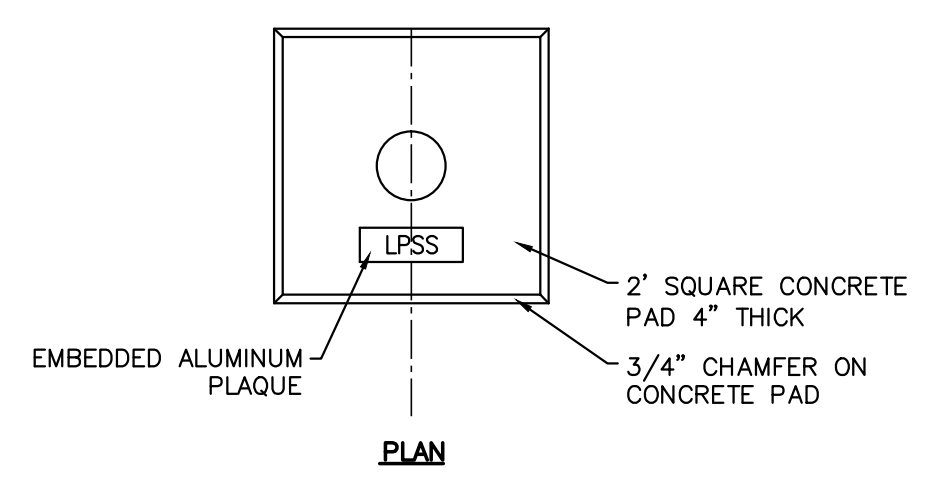
**BACKFILLING & COMPACTION  
OF GRAVITY SEWER TRENCHES  
IN IMPROVED AREAS**



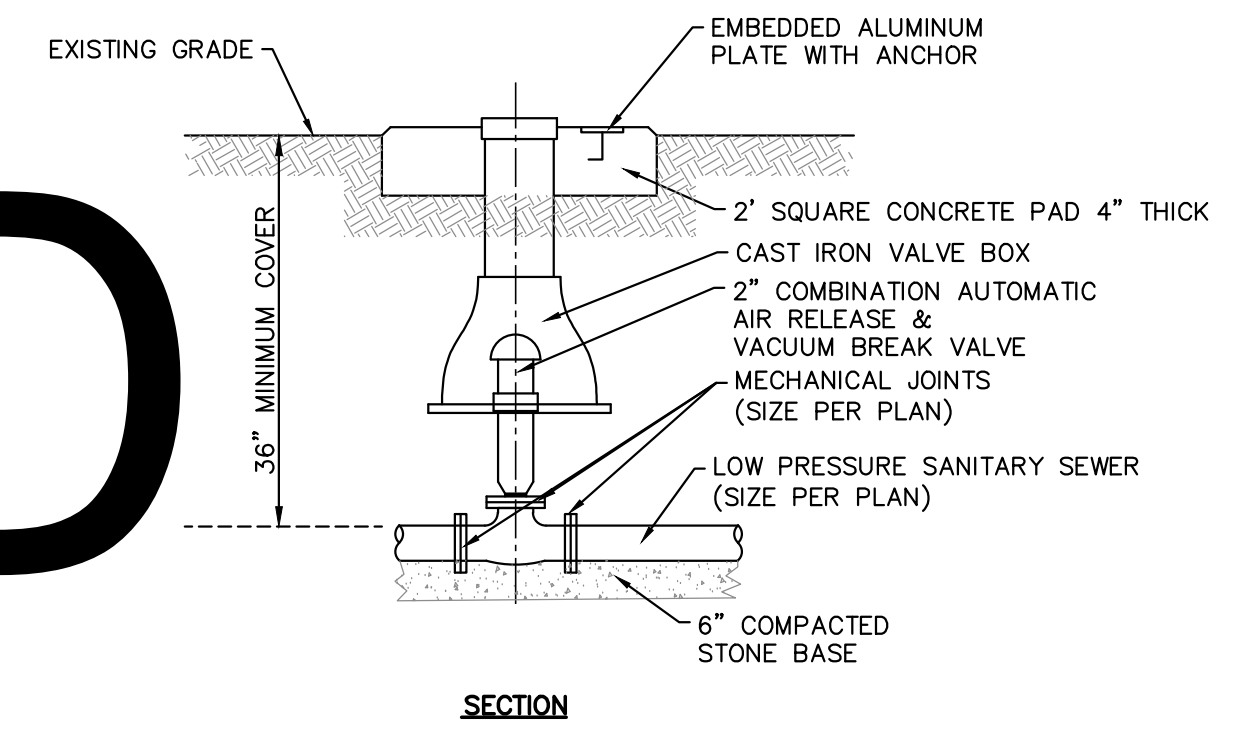
**EXISTING SANITARY MANHOLE DETAIL**  
NOT TO SCALE



**AGGREGATE PARKING LOT**  
NOT TO SCALE

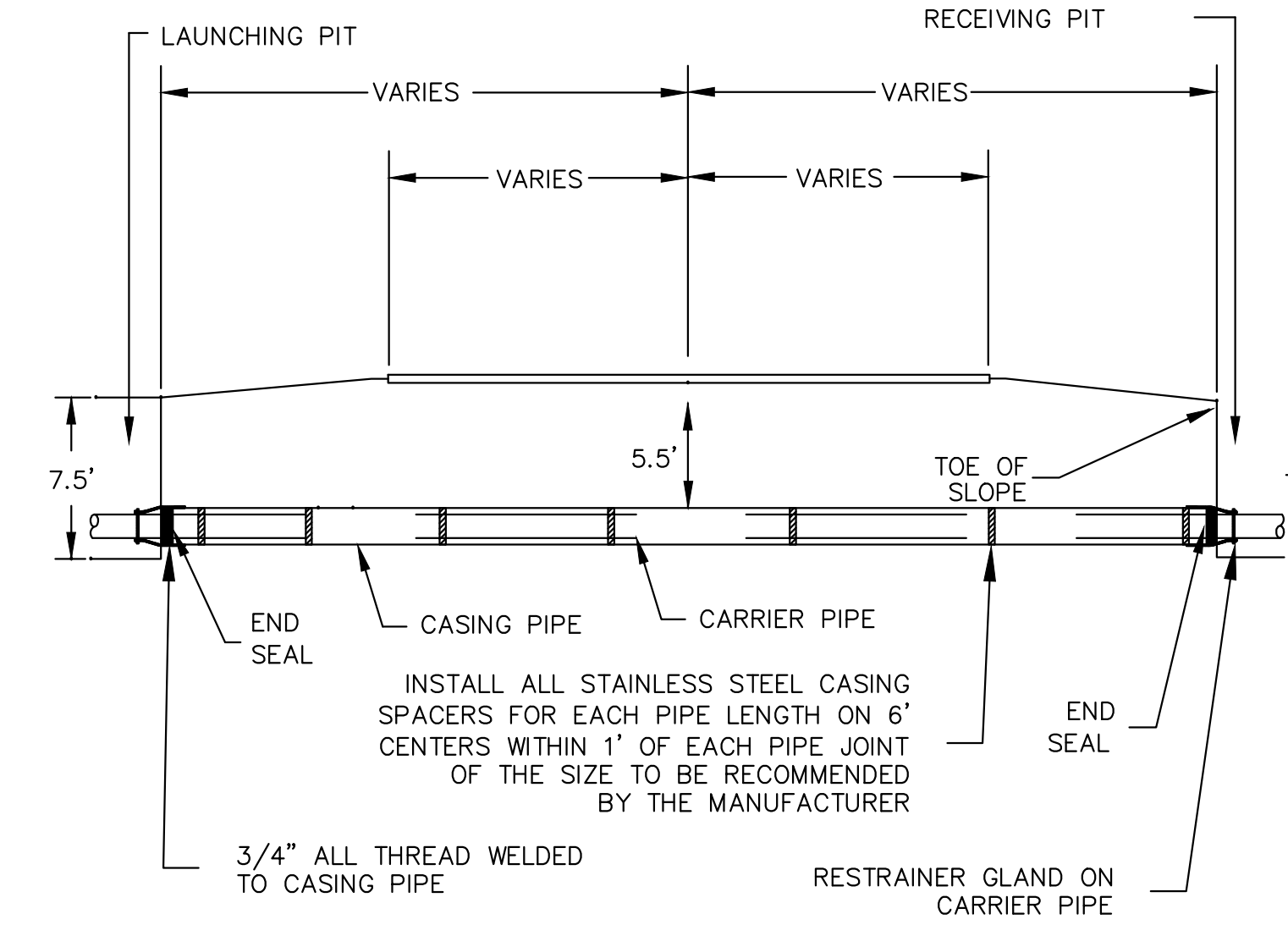


**PLAN**



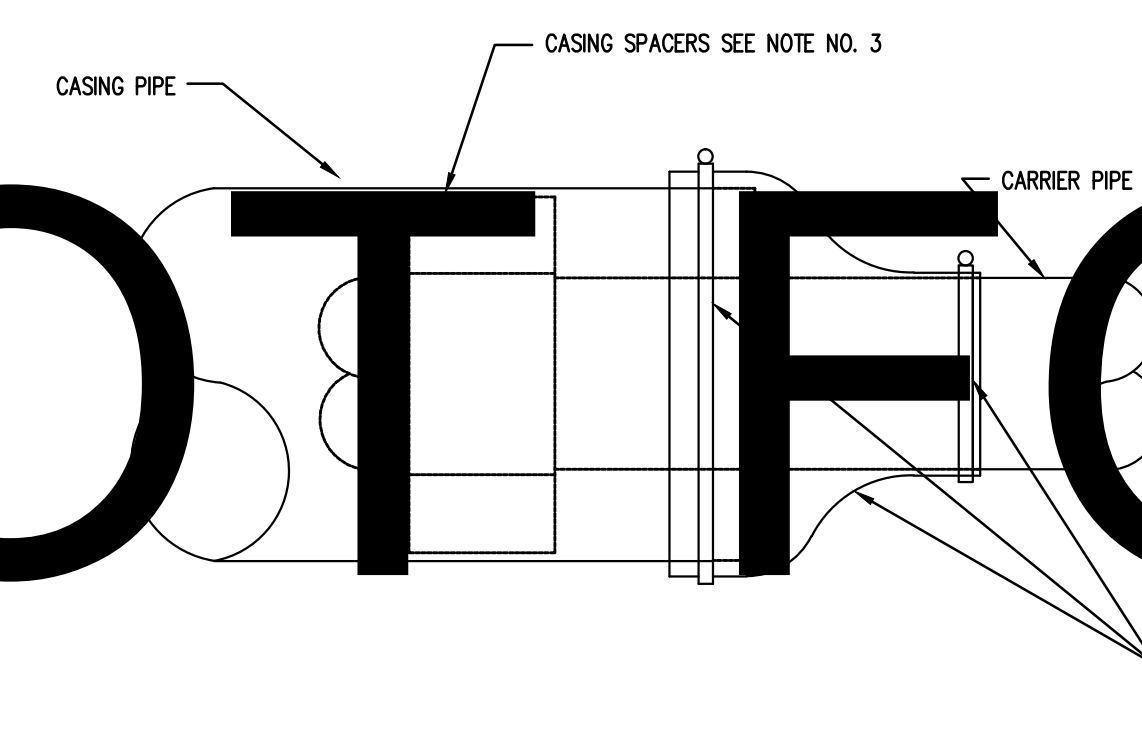
**SECTION**

**AIR RELEASE VALVE BOX DETAIL**  
NOT TO SCALE



**ROAD BORING FOR PIPE DETAIL**  
NOT TO SCALE

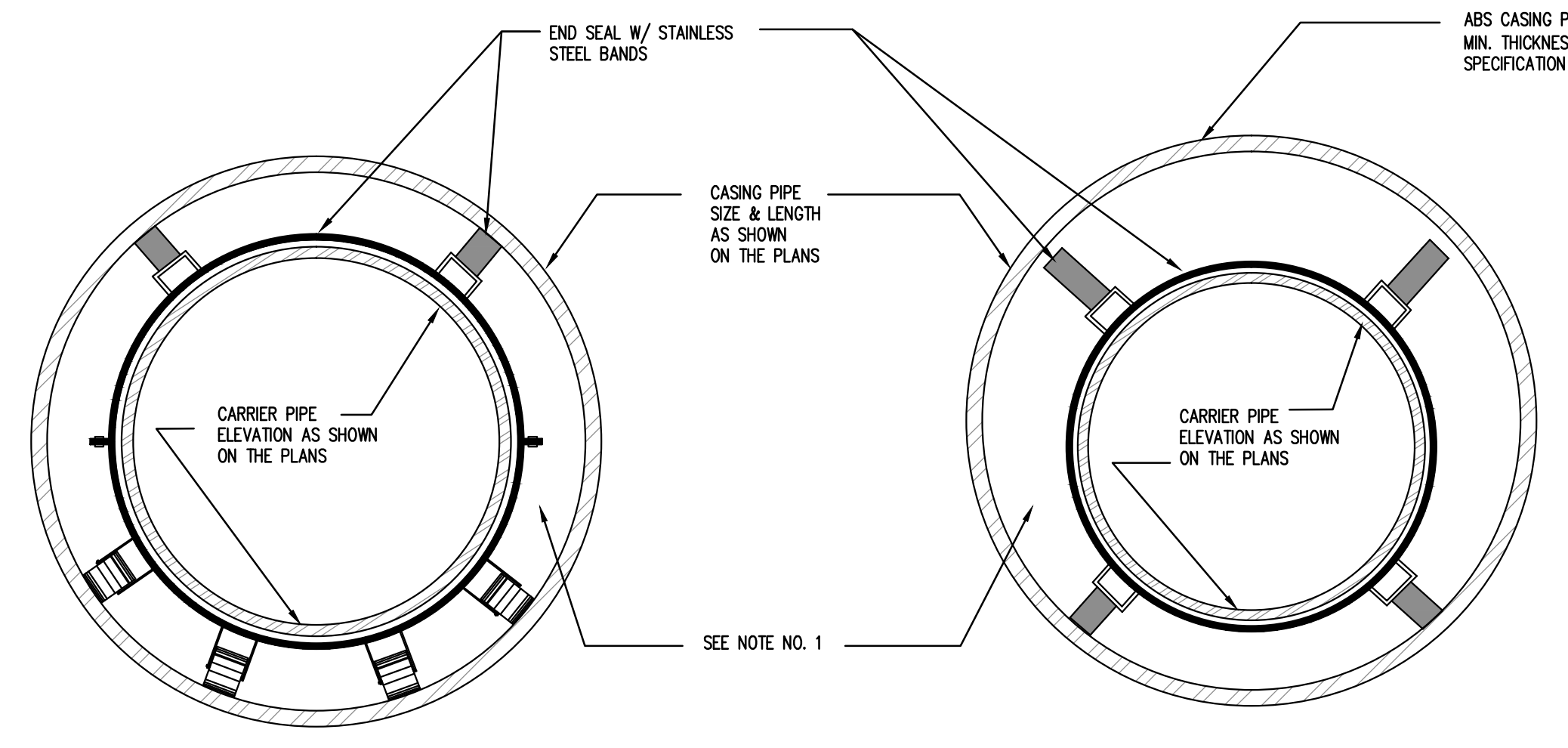
**NOT FOR BID**



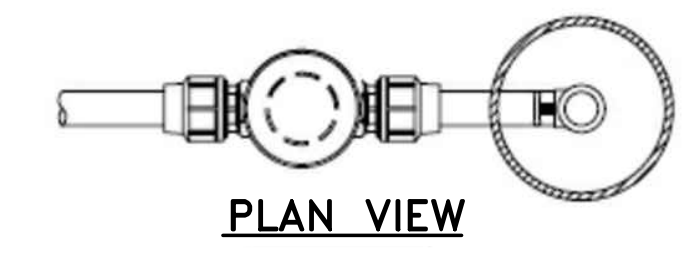
**PROFILE**

**CASING DETAIL**  
NOT TO SCALE

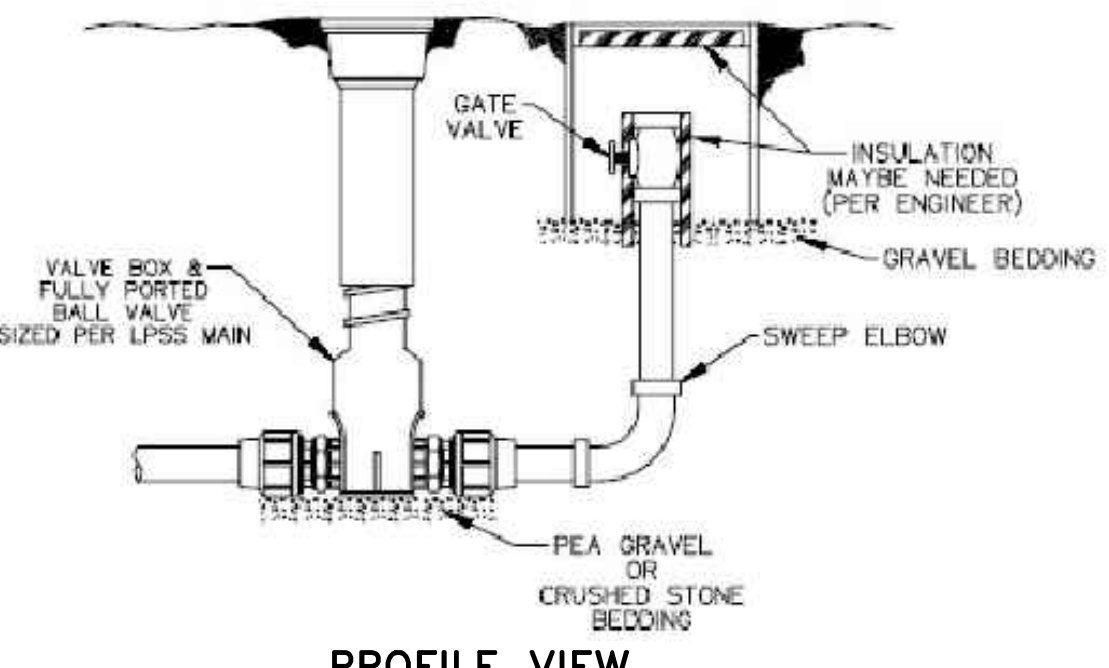
1. FILLING OF ANNULAR SPACE BETWEEN CARRIER PIPE AND CASING PIPE WITH SAND OR PEA GRAVEL IS NOT REQUIRED WHEN UTILIZING CASING SPACERS.
2. WHERE CARRIER PIPE IS NOT CENTERED IN CASING PIPE, PROVIDE CASING SPACERS WITH LEGS THAT REST ON ALL SIDES (RESTRAINER TYPE).
3. PROVIDE AMOUNT OF SPACERS AS INSTRUCTED BY PIPE MANUFACTURER. A MINIMUM OF ONE FULL LENGTH CASING PIPE JOINT, AND ONE FULL LENGTH CARRIER PIPE JOINT, (THREE PER PIPE LENGTH)



**CASING PIPE SPACER DETAIL**  
NOT TO SCALE



**PLAN VIEW**



**PROFILE VIEW**

**TYPICAL FLUSHING CONNECTION DETAIL**  
NOT TO SCALE

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ENGINEERING & PLANNING  
775 RANDELS ROAD  
STRAWBERRY PLAINS, TN 37871  
PHONE: (865) 388-5031



**TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I**  
HAMBLETON COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

1)	24-129 bord-d
2)	24-129 Base
3)	
4)	
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REVISION HISTORY

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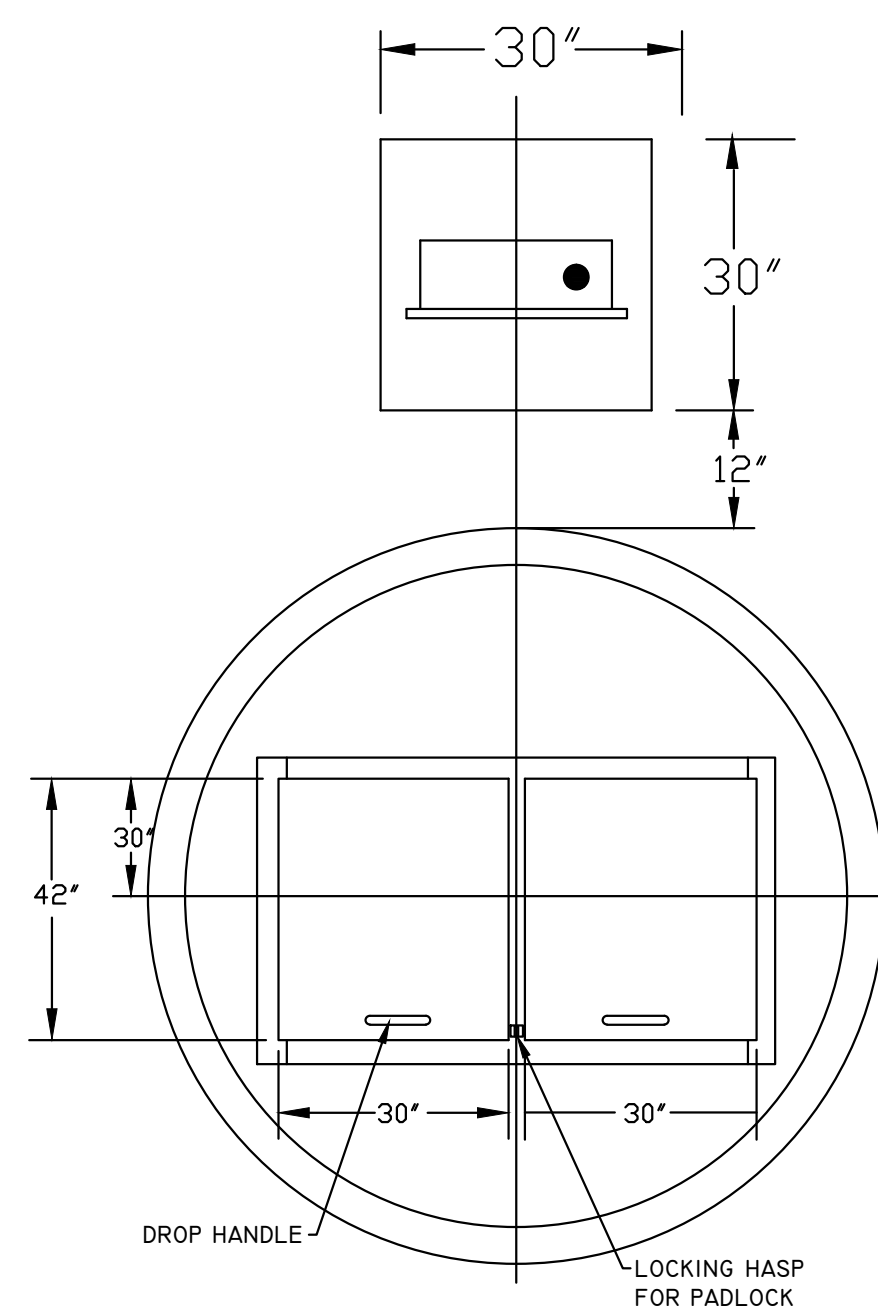
PROJ NO. • 24-129  
DWG FILE • 24-129 C-2.0  
ISSUE DATE • 08/14/2022

**PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS**  
**SANITARY SEWER  
FORCE MAIN & LPSS  
DETAILS**

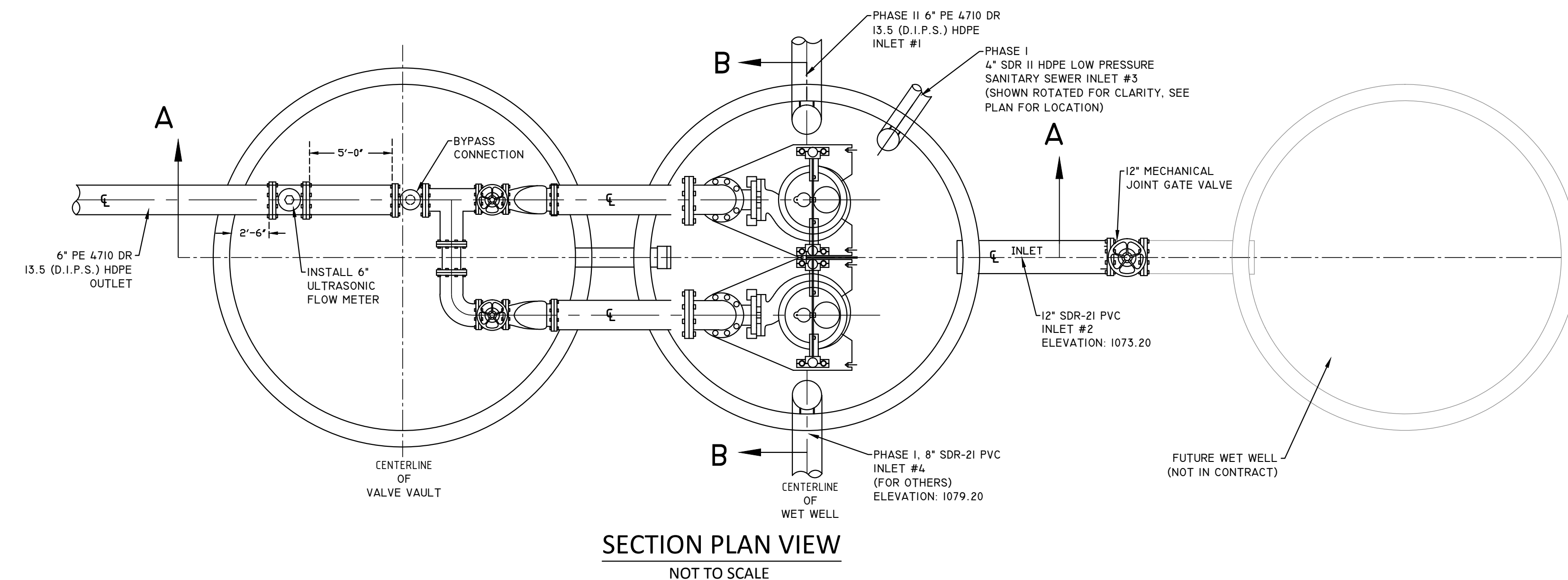
SHEET NUMBER  
**C-2.0**

**Notes:**

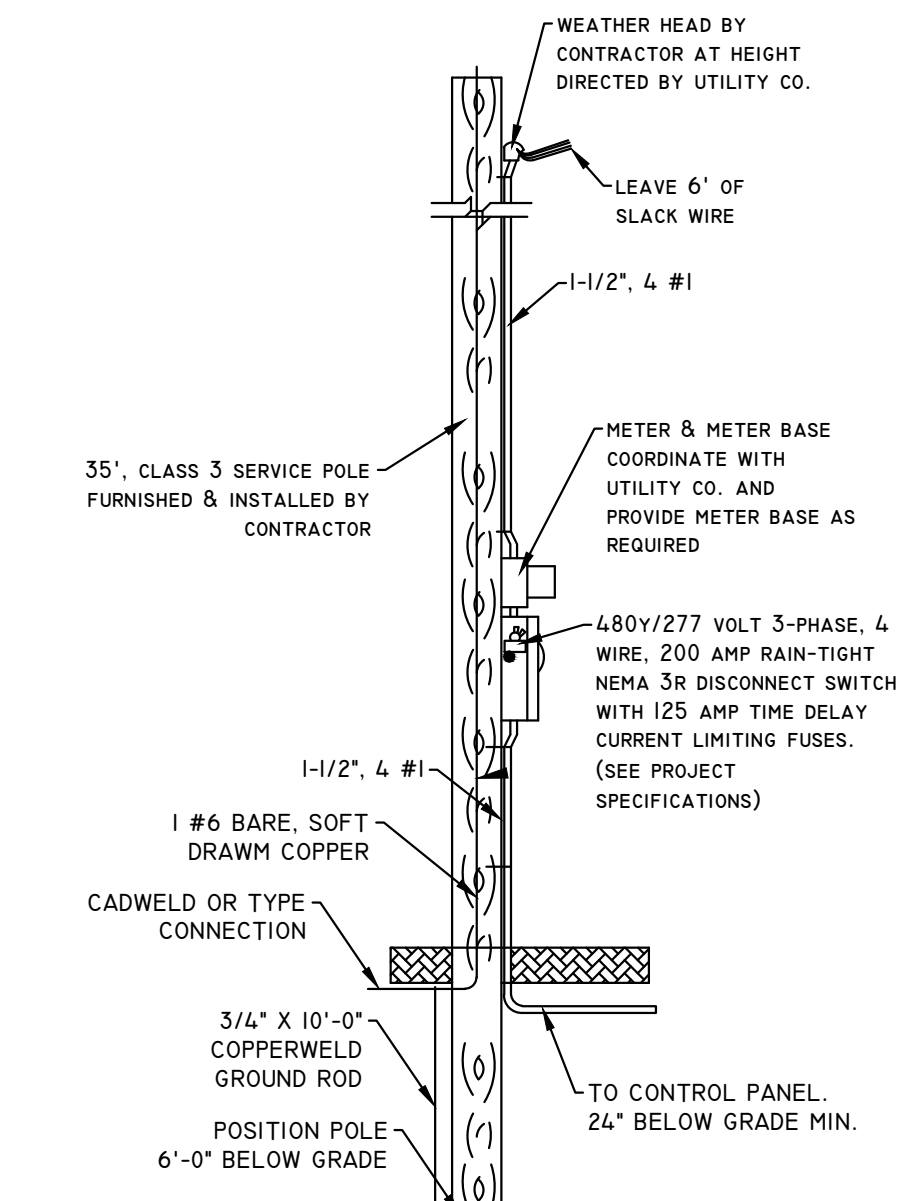
1. The submersible sewage duplex pumping station shall provide pumps with an operating point of 200 GPM at 125 feet of TDH.
2. The submersible duplex pump station pumps shall have variable frequency drives and soft starts.
3. Each pump and motor shall be capable of providing above conditions.
4. Inlet pipe 1 is to be set at an invert elevation of 1080.70. Inlet 2 is to be set at an invert elevation of 1079.81. Inlet 3 is to be set at an invert elevation of 1072.70. Inlet 2 is to be set at an invert elevation of 1078.00.



**WET WELL PLAN VIEW**  
NOT TO SCALE

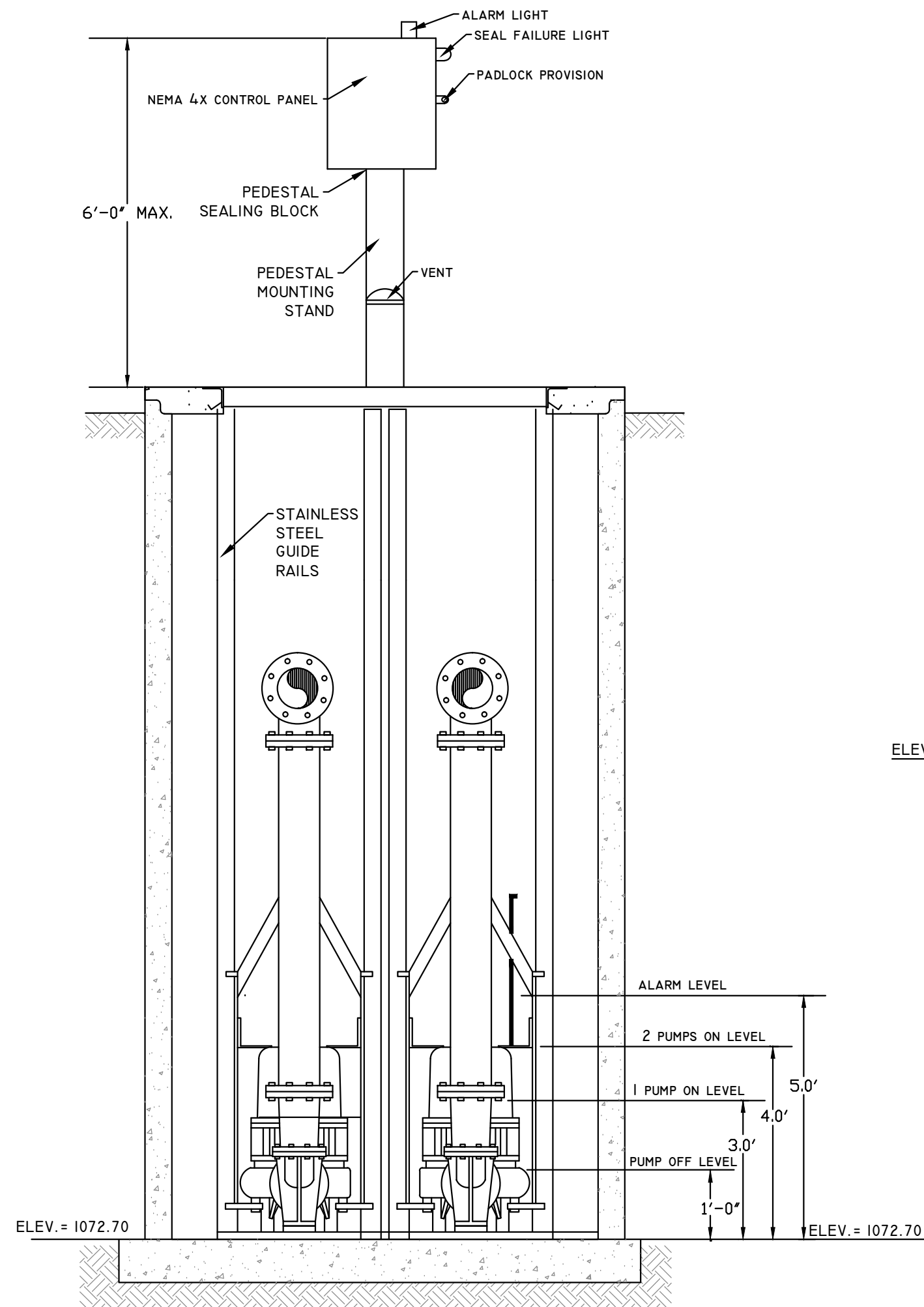


**SECTION PLAN VIEW**  
NOT TO SCALE

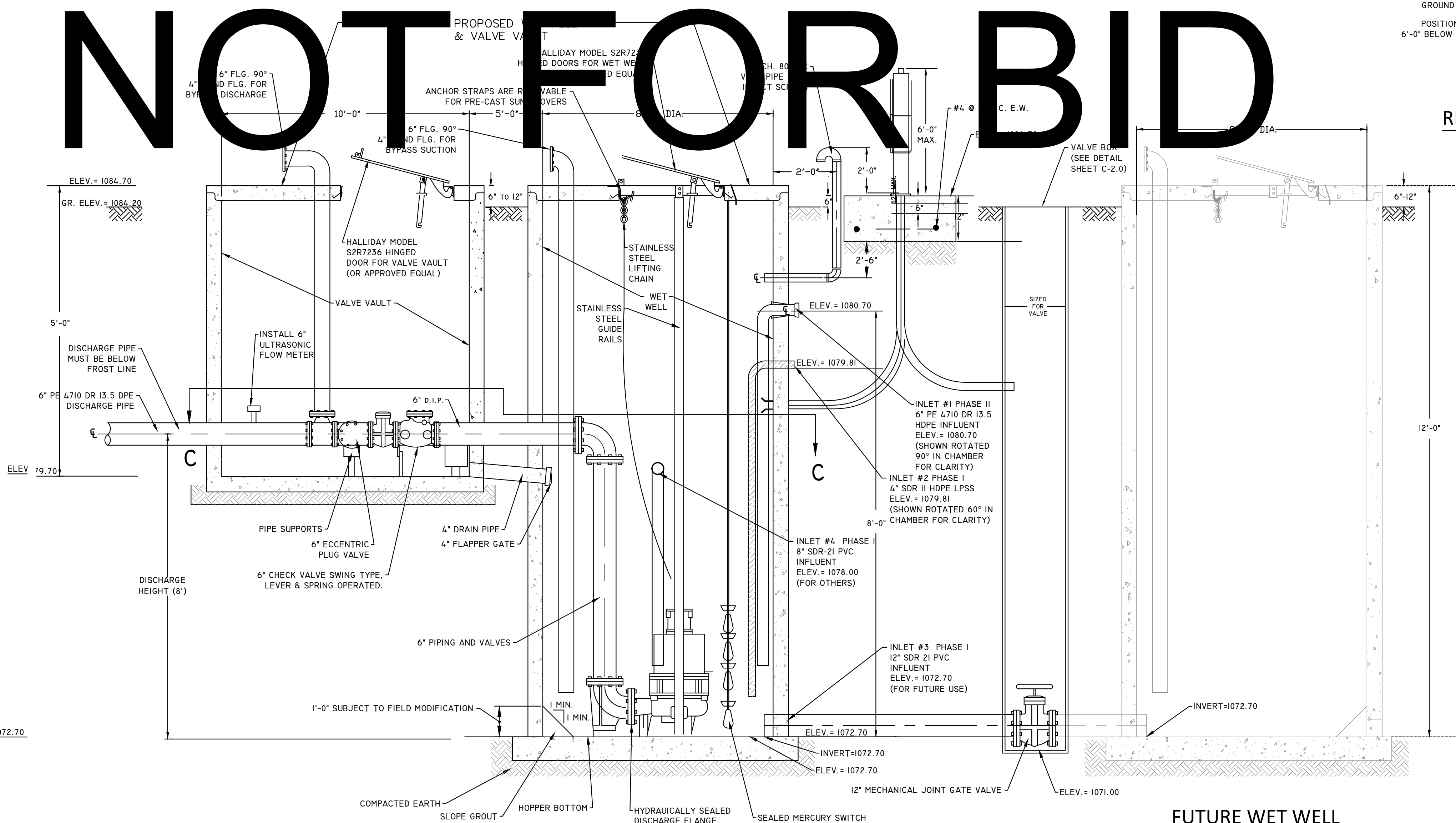


**RISER POLE DETAIL**  
NOT TO SCALE

**NOT FOR BID**



**SECTION B-B**  
NOT TO SCALE



**SECTION A-A**  
NOT TO SCALE

**FUTURE WET WELL**  
NOT TO SCALE

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HATFIELD & ALLEN  
ASSOCIATES  
ENGINEERING & PLANNING  
775 RANDELES ROAD  
STRAWBERRY PLAINS, TN 37871  
PHONE: (865) 388-5031



**TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I**  
HAMILLEN COUNTY & GRAINGER COUNTY, TENNESSEE

**X-REFERENCED DRAWINGS**

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2)	24-129 Base
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**REVISION HISTORY**

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09/25/2024	REVISED VALVE VAULT & HGL

PROJ. NO. • 24-129  
DWG FILE • 24-129 C-2.1  
ISSUE DATE • 08/14/2022

**PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS**

**PUMP  
STATION  
DETAIL**

SHEET NUMBER  
**C-2.1**



**SS 5500 Chemical Feed System**

SS 5500 Chemical Feed System

**Concrete Pad Size:** 168" L X 144" W X 8" D

**Tank Make Up:** XLPE Tank  
 Rated: 12.5 lbs. per gallon  
 Capacity: 5500 Gallons  
 Size: 120.6" W X 132.3" H  
 Note: Comes Equipped With 2" Camlock Ball Valve Fill Line w/2" SCH80 Piping Suction Line Equipped w/Y-Strainer and 1/2" SCH80 Piping

**Chemical Feed System Cabinet:**  
 Material: Stainless Steel  
 Size: 30"W x 72"H x 20" Depth (Shelf 35" From Ground)  
 Closure: 2 Lockable Handles  
 Note: Anchor Stainless Steel System to Concrete w/4 Each 3/8" S/S Anchors

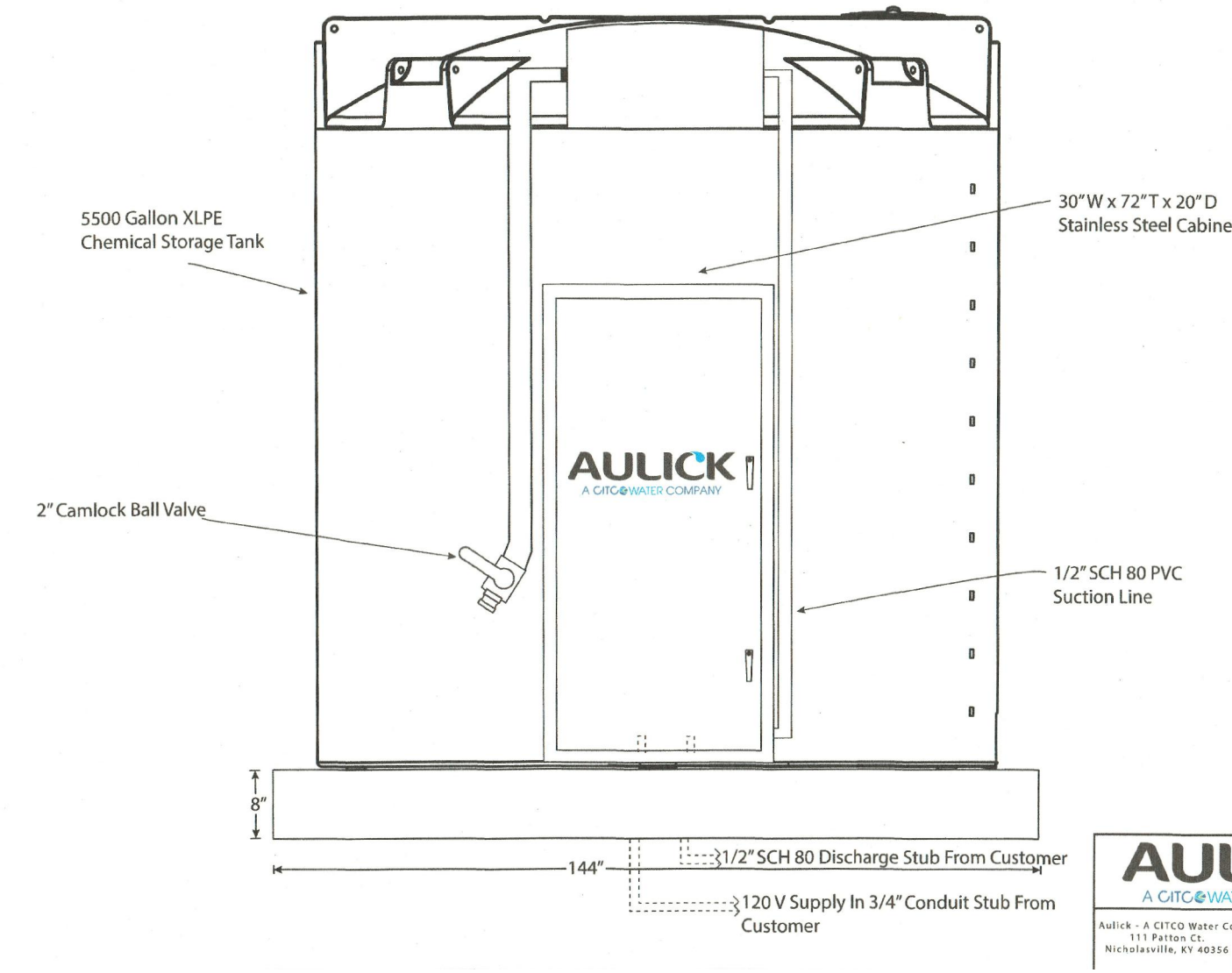
**Chemical Feed Pumps:**  
 Qty: 2 Pumps  
 Pump # 1:  
 Mfg: Blue White  
 Type: M3 FLEXFLO Peristaltic Metering Pump  
 Pump # 2:  
 Mfg: Blue White  
 Type: M3 FLEXFLO Peristaltic Metering Pump

**Accessories:**  
 CFM Cooling Fan, Calibration Column

**Electrical Requirement:** 120VAC/ 15 AMP/ 60 HZ/ SINGLE PHASE

**PVC Requirement/ Chemical Discharge:**  
 Material: 1/2" SCH 80 PVC

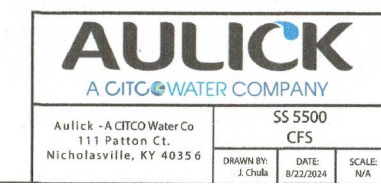
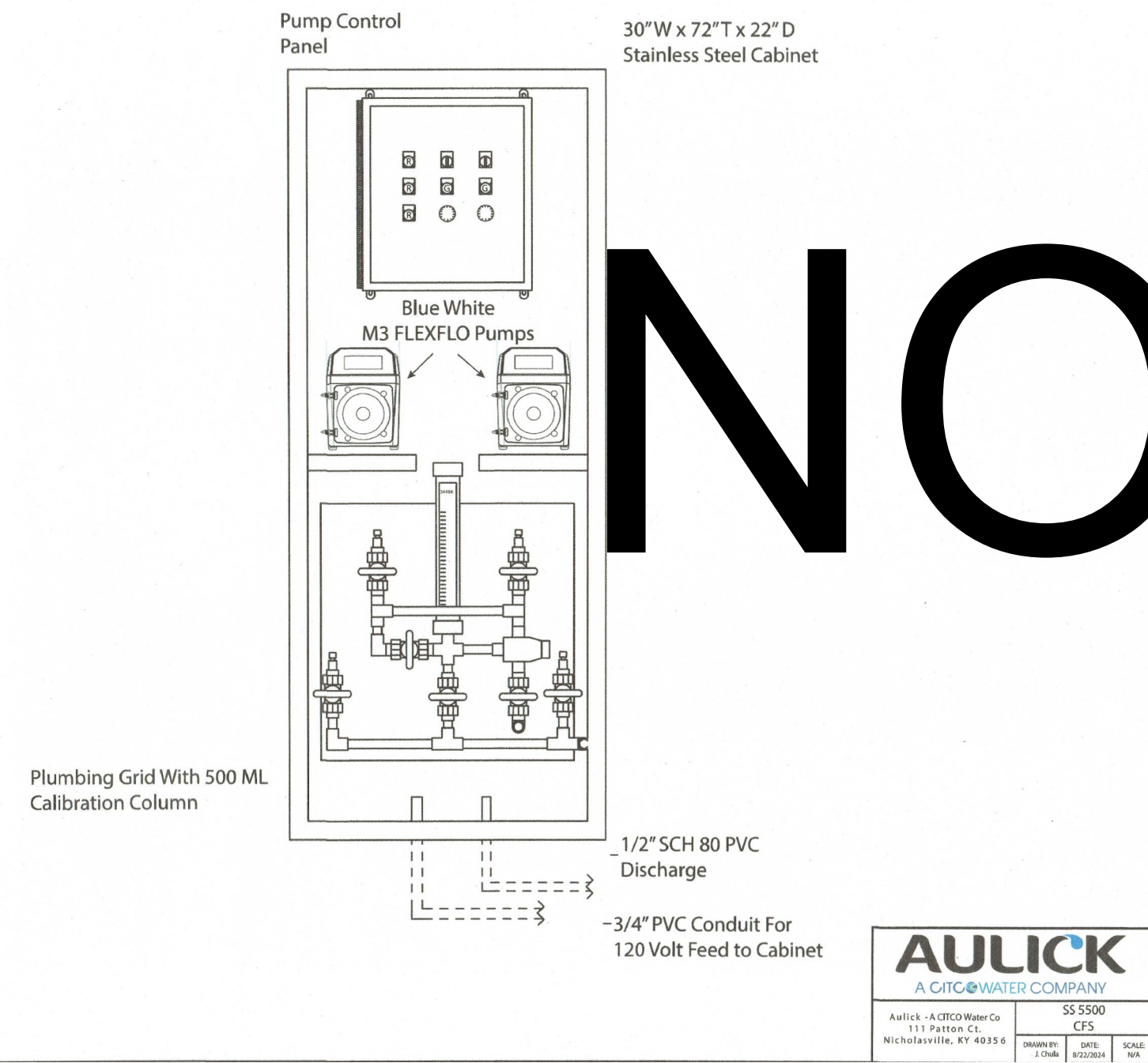
Note: All PVC For Chemical Inlet From Storage Tank To Chemical Feed System Is Included By Aulick



**Technical Data**

Nominal diameter ASME (inch)	VB14				VB15				VB16							
DN (mm)	10	15	20	25	30	40	50	65	80	100	125	150	200	250	300	400
Nominal Flange Pressure	ASME B16.5 - 150 lbs RF ASME B16.5 - 300 lbs RF AWWA - class B FF AWWA - class D FF															
Liner	Polypropylene Hardrubber Polyurethane															
Electrodes (Replaceable)	Stainless steel (AISI 316 L) Hastelloy C22 Hastelloy C4 (Titanium, Tantalum, Platinum available on request)															
Grounding rings	Virtual Reference * Hastelloy C4 Stainless steel (AISI 316 Ti)															
Materials	Measuring tube - austenitic stainless steel Housing - Sheet steel (polyurethane coated) Stainless steel Carbon Steel Flanges - Stainless steel (AISI 316 L) Stainless steel (AISI 304) Connection box - Die-cast aluminum (polyurethane coated) Stainless steel connection box															
Protection category	IP 65 / IEC 60529 (IP 68 / IEC 60529)															
Approvals	General Purpose USA - Ordinary Locations															
Versions	Compact + IFC 300 C Separate + IFC 300 F, R, W Compact + IFC 100 C Separate + IFC 100 W															
Conductivity	Min. conductivity: min. 20 µS/cm															

SS 5500 Chemical Feed System



**NOT FOR BID**

**Temperature Range**

Temperature range [°C]	Process [°C]		Ambient [°C]	
	min.	max.	min.	max.
<b>Hardrubber</b>				
Separate flow sensor ( 2000 F)	-5	80	-40	65
Compact with IFC 300 ( 2300 C)	-5	80	-40	65
Compact with IFC 100 ( 2100 C)	-5	80	-40	60
* Hardrubber available for sizes 1" - 80"				
<b>Polyurethane</b>				
Separate flow sensor ( 2000 F)	-5	69	-40	65
Compact with IFC 300 ( 2300 C)	-5	69	-40	65
Compact with IFC 100 ( 2100 C)	-5	69	-23	60
* Polyurethane available for DN 50-100				
<b>Polypropylene</b>				
Separate flow sensor ( 2000 F)	-5	90	-40	65
Compact with IFC 300 ( 2300 C)	-5	90	-40	65
Compact with IFC 100 ( 2100 C)	-5	90	-25	60
* Polypropylene available for DN 10-15				

Temperature range [°F]	Process [°F]		Ambient [°F]	
	min.	max.	min.	max.
<b>Hardrubber</b>				
Separate flow sensor ( 2000 F)	23	176	-40	149
Compact with IFC 300 ( 2300 C)	23	176	-40	149
Compact with IFC 100 ( 2100 C)	23	176	-13	140
* Hard Rubber available for sizes 1" - 80"				

<b>Polyurethane</b>				
Separate flow sensor ( 2000 F)	23	156	-40	149
Compact with IFC 300 ( 2300 C)	23	156	-40	149
Compact with IFC 100 ( 2100 C)	23	156	-13	140
* Polyurethane available for sizes 2" - 40"				

<b>Polypropylene</b>				
Separate flow sensor ( 2000 F)	23	194	-40	149
Compact with IFC 300 ( 2300 C)	23	194	-40	149
Compact with IFC 100 ( 2100 C)	23	194	-13	140
* Polypropylene available for ASME 3/8" - 1/2"				

**Vacuum Load**

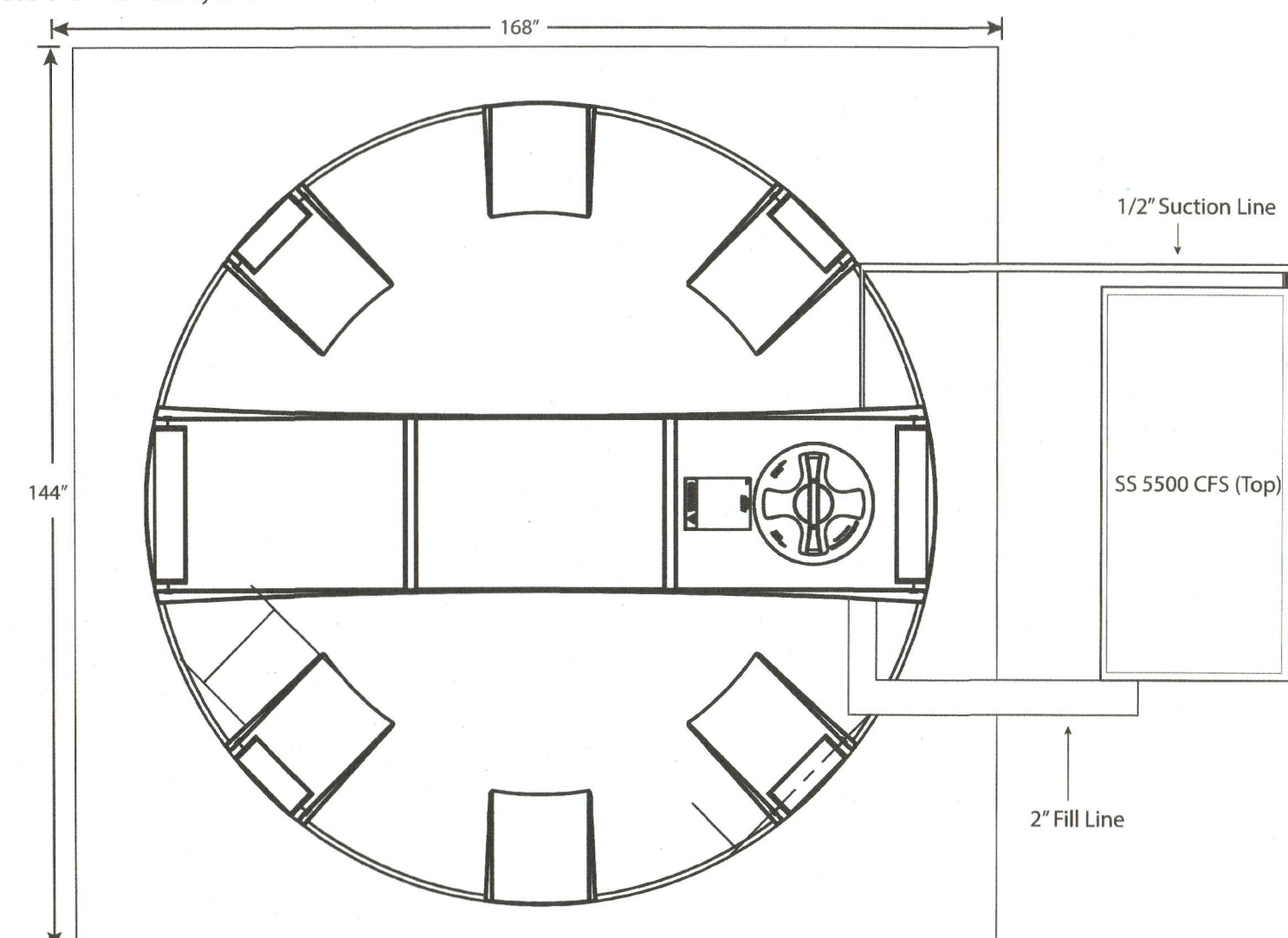
Liner	Diameter (mm)	Minimum operating pressure absolute in mbar (at) at process temperature			
		20°C	40°C	60°C	80°C
Polypropylene	DN 10 - 15	250	250	400	400
Hardrubber and Polyurethane	DN 25 - 300	250	250	400	400
	DN 350 - 1000	500	500	600	600
	DN 1200 - 2000	600	600	750	750

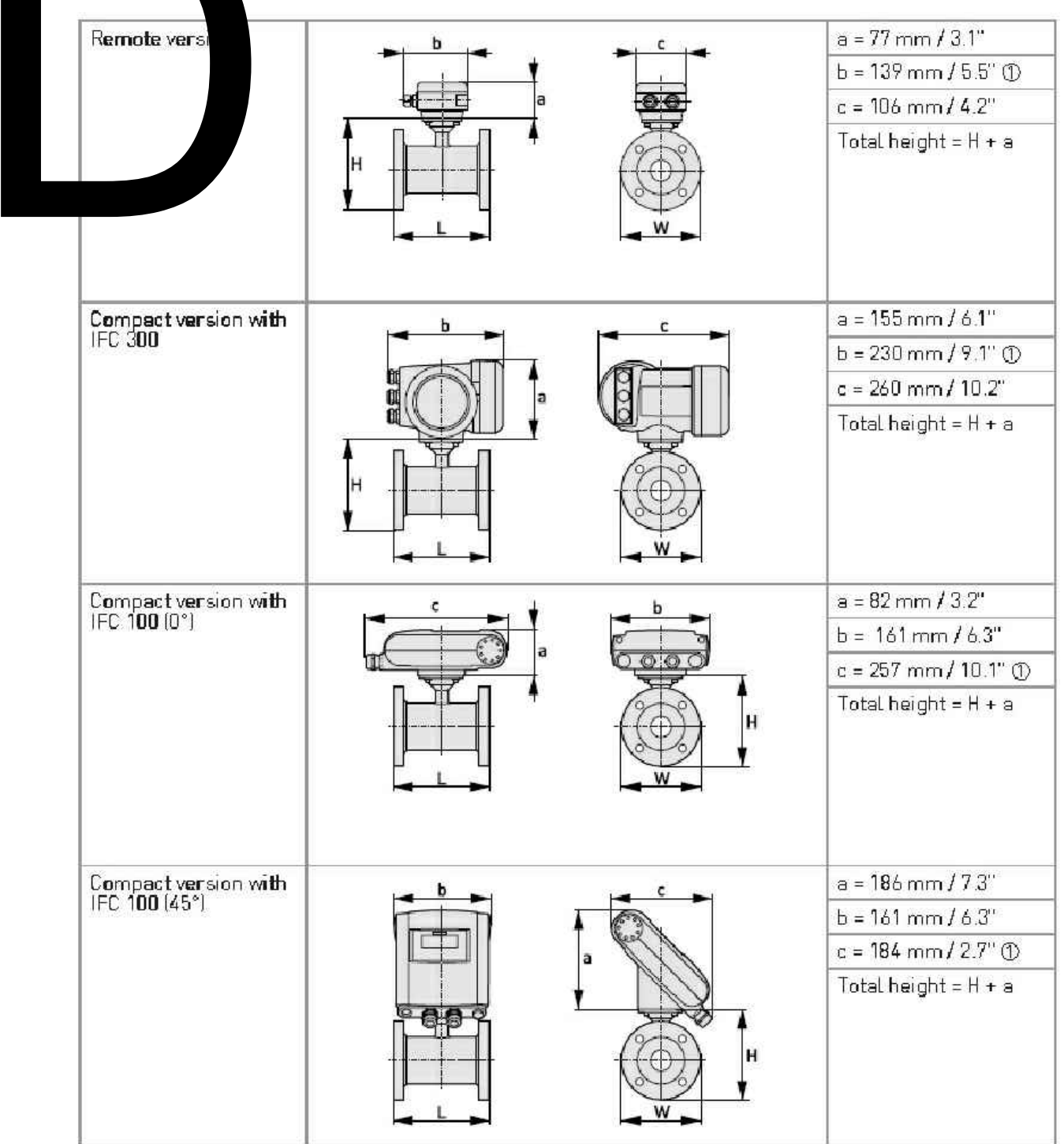
Liner	Diameter (inch)	Minimum operating pressure absolute in psia at process temperature			
		68°F	104°F	140°F	176°F
Polypropylene	3/8"-1/2"	3.6	3.6	5.8	5.8
Hardrubber and Polyurethane	1"-12"	3.6	3.6	5.8	5.8
	14"-40"	7.3	7.3	8.7	8.7
	48"-80"	8.7	8.7	10.9	10.9

Note: Not applicable to Polyurethane liner, exceeds process temperature limit.

SS 5500 Chemical Feed System



**Dimensions and weight**



Ⓣ The value may vary depending on the used cable glands.



**TOWN OF BEAN STATION  
 SANITARY SEWER FORCE MAIN &  
 LOW PRESSURE SANITARY SEWER  
 PHASE I**

HAMBLETON COUNTY & GRAINGER COUNTY, TENNESSEE

**X-REFERENCED DRAWINGS**

1)	24-129 bord-d
2)	24-129 Base
3)	
4)	
5)	

**REVISION HISTORY**

10/11/2023	ADDED AIR RELEASE MANHOLE
11/01/2023	REVISED SEWER ALIGNMENT & DETAILS
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07/17/2024	MISCELLANEOUS PLAN REVISIONS
08/18/2024	REVISED BRIDGE MOUNTING DETAILS
08/29/2024	REVISED & EXPANDED NOTES & DETAILS
09/23/2024	REVISED LPSS SERVICE LATERALS
09/25/2024	REVISED VALVE VAULT & HGL

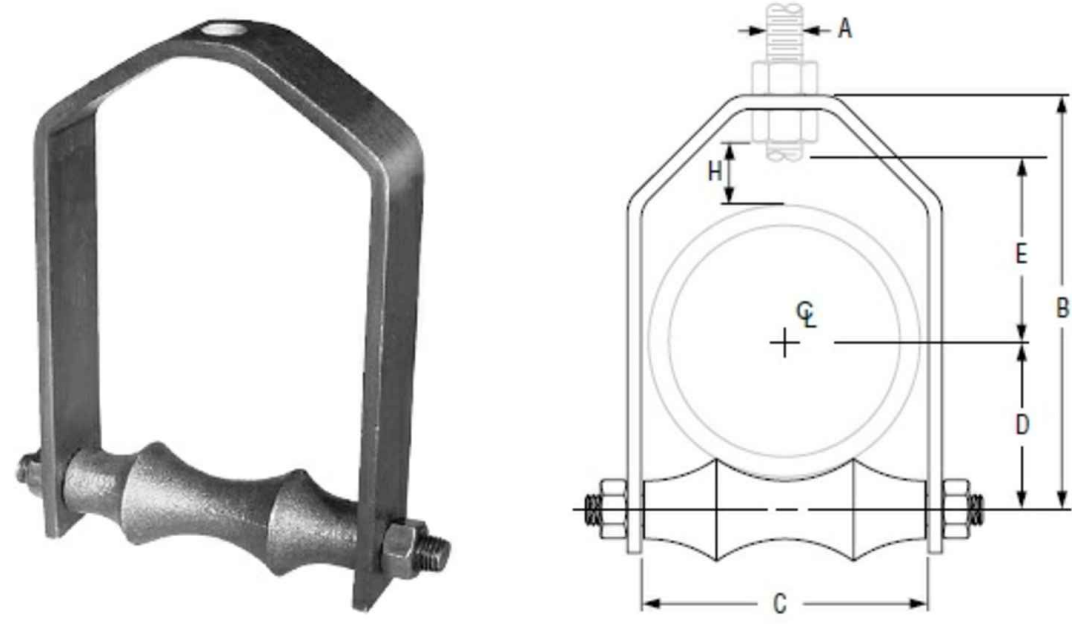
PROJ. NO. • 24-129  
 DWG FILE • 23-129 C-2.2  
 ISSUE DATE • 08/14/2022

**PHASE I  
 SANITARY SEWER  
 FORCE MAIN &  
 LPSS**

**ODOR CONTROL  
 & FLOW METERING  
 DETAILS**

SHEET NUMBER  
**C-2.2**





**SPECIFICATIONS:**

1. ANVIL 8" ROLLER AND STEEL YOKE, OR ENGINEER APPROVED EQUAL.
2. STEEL YOKE, THREADED STEEL ROD AND BEAM CLAMPS SHALL BE SPACED A MAXIMUM OF 24" ON CENTER.

**FIG. 181: DIMENSIONS (IN) • LOADS (LBS) • WEIGHT (LBS)**

Pipe Size	Max O.D. of Covering	Max Load	Weight	Rod Size A	B	C	D	Rod Take Out - E	H
2 1/2	3	225	1.7		5 1/4	3 1/4	1 1/4	2 1/4	1 1/4
3	3 1/2	310	2.2		6 1/4	3 3/4	2 1/4	3 1/4	1 1/4
3 1/2	4 1/4	390	2.5		7	4 1/4	2 1/4	3 1/2	1 1/4
4	4 1/2	475	3.2	3/4	7 1/2	4 1/2	2 1/4	3 1/4	1 1/4
5	5 1/4	685	6.3	1	9 1/4	6	3 1/4	4 1/2	1 1/4
6	6 1/4	780	9.3	1 1/4	10 1/4	7 1/4	4	5	1 1/4
8	9		14.5	1 1/2	12 1/4	9 1/4	5 1/4	6 1/4	2
10	11	965	18.8	1 3/4	15 1/4	11 1/4	6 1/4	7 1/4	2 1/4
12	13		27.7		17 1/4	13 1/4	7 1/4	8 1/4	2 1/4
14	14 1/4	1,200	39.1		18 1/4	14 1/4	8 1/4	8 1/4	2
16	16 1/4		49.1	1	20 1/4	16 1/4	9 1/4	9 1/4	1 1/4
18	18 1/4	1,400	57.8		23 1/4	18 1/4	10 1/4	11 1/4	2 1/4
20	20 1/4	1,600	75.9	1 1/4	26	20 1/4	11 1/4	12 1/4	2 1/2
24	24 1/4	1,800	119.3	1 1/2	32 1/4	24 1/4	13 1/4	15 1/4	4 1/4

**DI/CI ROLL SIZING**

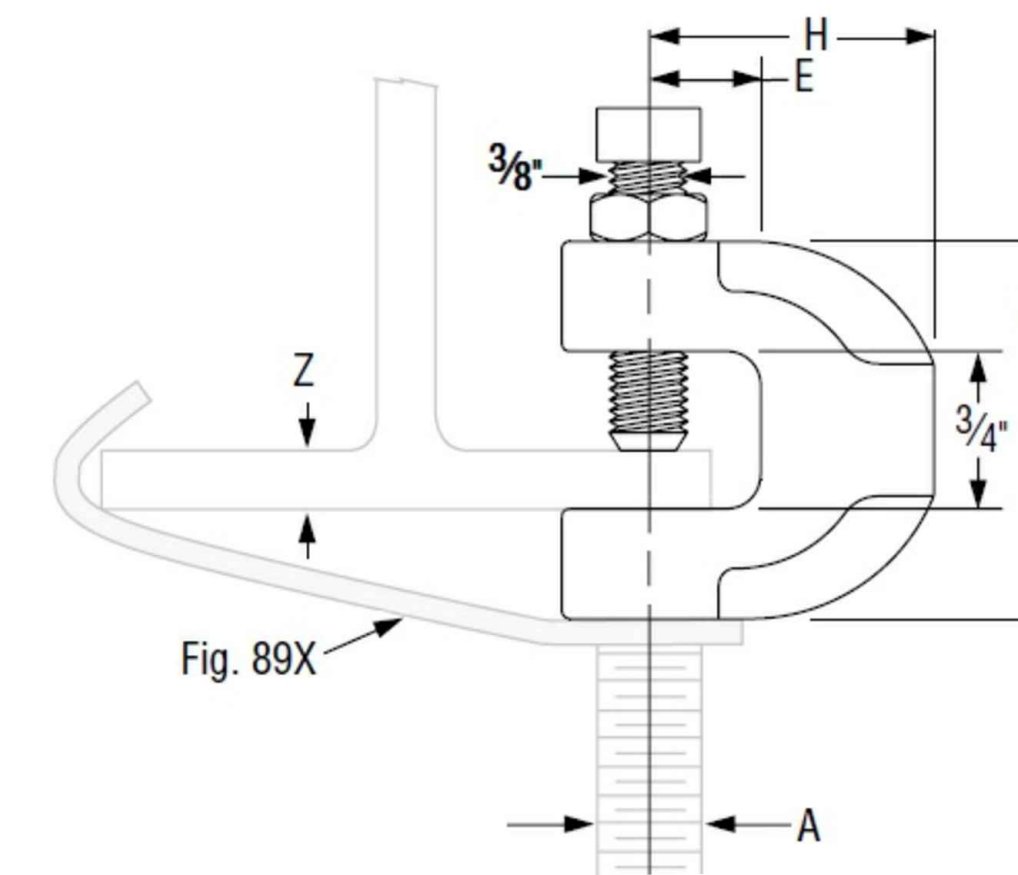
DI/CI Pipe Size	Fig. 181 Roller Size
3	4
4	5
6	6
8	8
10	10
12	14
14	16
16	18
18	20
20	24

**STEEL YOKE DETAIL**  
NOT TO SCALE



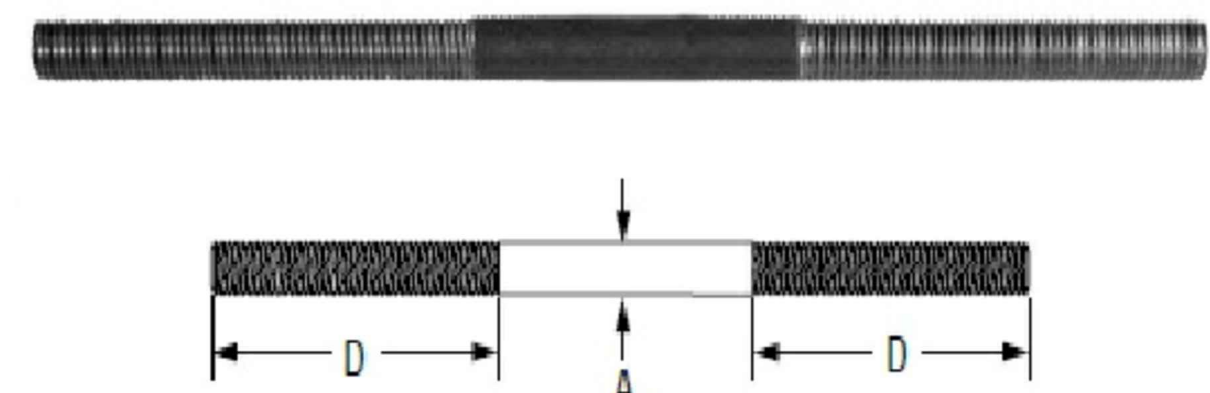
**SPECIFICATIONS:**

1. ANVIL FIGURE 86 C-CLAMP WITH SET SCREW AND LOCK NUT, OR ENGINEER APPROVED EQUAL.
2. STEEL YOKE, THREADED STEEL ROD AND BEAM CLAMPS SHALL BE SPACED A MAXIMUM OF 24" ON CENTER.



Rod Size A	Set Screw Size	Torque Value	Maximum Loads	Weight	C	E	H
3/4"	3/8"	60 ft/lb	500 lbs	0.55 lbs	2"	3/4"	1-1/2"

**BEAM CLAMP DETAIL**  
NOT TO SCALE



**SPECIFICATIONS:**

1. ANVIL 3/4" MACHINE TREADED STEEL ROD WITH 10 THREADS PER INCH, OR APPROVED EQUAL.
2. STEEL YOKE, THREADED STEEL ROD AND BEAM CLAMPS SHALL BE SPACED AS SHOWN ON DETAIL SHEET C-2.5

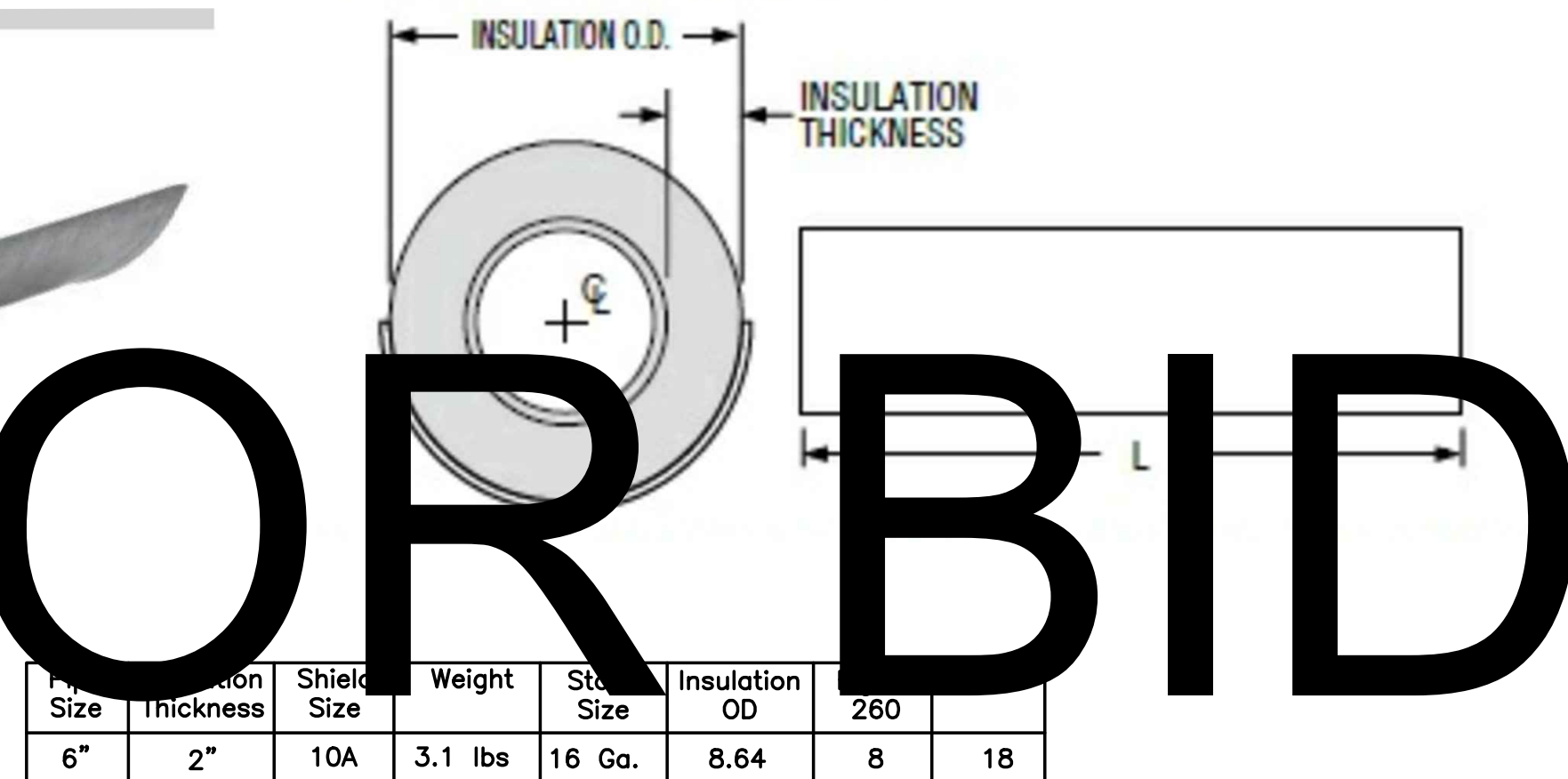
Rod Size A	threads per inch	Torque Value	Maximum Load 650° F	Maximum Load 750° F	Standard Rod Thread Length "D"
3/4"	10	60 ft/lb	3,230 lbs	2,530 lbs	3"

**THREADED STEEL ROD DETAIL**  
NOT TO SCALE

**NOT FOR BID**

**SPECIFICATIONS:**

1. INSULATION PROTECTION WILL BE MOUNTED ON TOP OF THE STEEL HANGER YOKE ROLLER AS SHOWN ON DETAIL SHEET C-2.5 TO PROTECT THE THE PIPE INSULATION AND THERMAL UNITS DURING INSTALLATION AND EXPANSION AND CONTRACTION OF THE BRIDGE STRUCTURE.



INSULATION O.D.	INSULATION THICKNESS	Weight	Std. Size	260
6"	2"	10A	3.1 lbs	16 Ga.
				8.64
				8
				18

**INSULATION PROTECTION SHIELD DETAIL**  
NOT TO SCALE



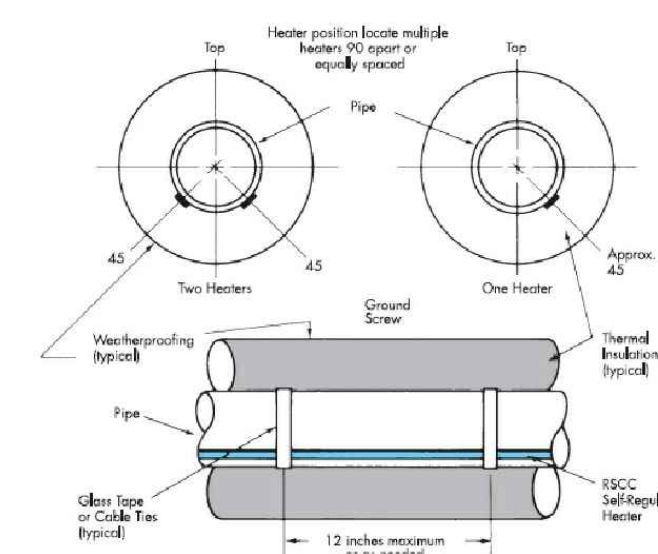
**SPECIFICATIONS:**

1. METAL WRAPPED FIBERGLASS INSULATION WITH HINGE DESIGN AND SELF SEALING FLAP.
2. PIPE INSULATION: FITS 6 IN PIPE SIZE, 2 IN WALL THICK, 0°F TO 850°F, WITH AN R VALUE OF AT LEAST 8.7, OR ENGINEER APPROVED EQUAL.
3. INSULATION WRAP FIBERGLASS WILL BE PROTECTED AGAINST TEARING DURING INSTALLATION AND BEDDING ON THE PROTECTIVE TRAY.

**FIBERGLASS PIPE INSULATION DETAIL**  
NOT TO SCALE

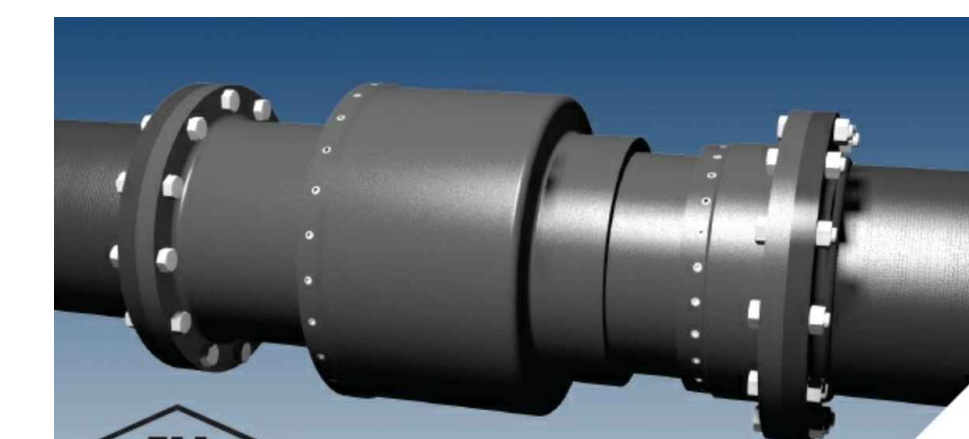


**HEATING ELEMENT DETAIL**  
NOT TO SCALE

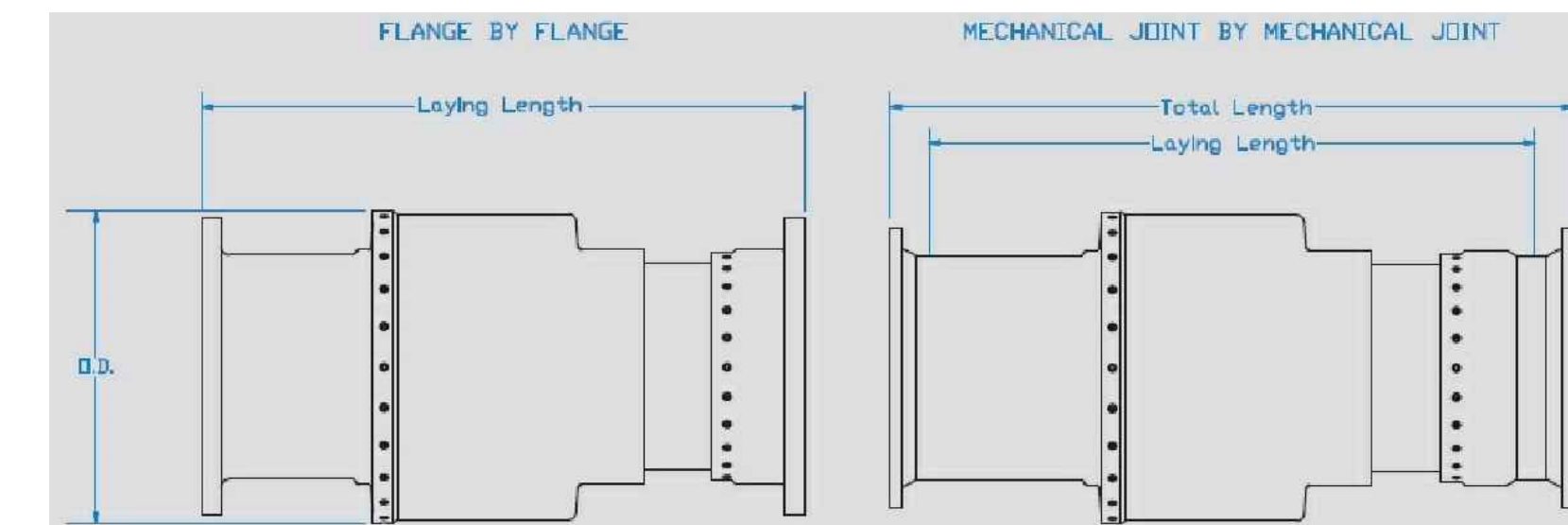


**SPECIFICATIONS:**

1. ETI TRACON MODEL GPT230 DUAL LEAD HEAT TRACE CONTROLLER WITH PROTHERM 2700 SERIES SELF REGULATING HEATING CABLE, OR ENGINEER APPROVED EQUAL.
2. TWO (2) HEATING CABLES SHALL BE PLACED BETWEEN THE PIPE WALL AND THE INSULATION FOR THE ENTIRE LENGTH OF THE BRIDGE SUPPORT SYSTEM WHERE THE PIPE MAY BE EXPOSED TO FREEZING TEMPERATURE.
3. TWO (2) ETI TRACON MODEL GPT230 UAL LEAD HEAT TRACE CONTROLLER WITH PROTHERM 2700 SERIES SELF REGULATING HEATING CABLES WILL BE INSTALLED, ONE ON THE NORTH ABUTMENT AND ONE ON THE SOUTH ABUTMENT OF THE BRIDGE.
4. EACH OF THE CONTROLLERS WILL BE ENCLOSED IN A WEATHER PROOF, LOCKABLE SECURITY CABINET MOUNTED ON THE NORTH AND SOUTH BRIDGE ABUTMENT WALLS.



Nominal Pipe Size	Expansion* (Linear)	Maximum O.D.	Flange by Flange			Mechanical Joint by Mechanical Joint		
			Assembly Number	Laying Length	Total Length	Assembly Number	Laying Length	Total Length
4	8.00	10.2	0204FOB	34.25 (±4.0)	34.25 (±4.0)	0204MOB	34.38 (±4.0)	39.40 (±4.0)
6	8.00	12.3	0206FOB	36.30 (±4.0)	36.30 (±4.0)	0206MOB	34.49 (±4.0)	39.53 (±4.0)
8	8.00	14.9	0208FOB	39.00 (±4.0)	39.00 (±4.0)	0208MOB	37.11 (±4.0)	42.11 (±4.0)
10	8.00	18.1	0210FOB	40.11 (±4.0)	40.11 (±4.0)	0210MOB	37.71 (±4.0)	43.74 (±4.0)
12	8.00	20.8	0212FOB	38.68 (±4.0)	38.68 (±4.0)	0212MOB	38.82 (±4.0)	43.90 (±4.0)



**FORCE MAIN PIPE EXPANDER DETAIL**  
NOT TO SCALE

**HDPE SPECIFICATIONS:**

1. ALL HIGH DENSITY POLYETHYLENE PIPE SHALL MEET OR EXCEED ANSI/AWWA C906, ASTM F714, ASTM D3035.
2. DR 13.5 SHALL HAVE A MINIMUM PIPE WALL THICKNESS OF 0.229 INCHES, AN INSIDE DIAMETER OF 4.045 INCHES AND AN OUTSIDE DIAMETER OF 4.800 INCHES.

**PIPE EXPANDER SPECIFICATIONS:**

1. EXPANSION JOINTS SHALL CONSIST OF TWO (2) TELESCOPING PVC TUBES CONFORMING TO ASTM D1784 WITH TRIPLE (3) EPDM O-RING SEALS INCLUDING A CENTER PRESSURE SEAL AND OUTER DEBRIS SEALS.
2. EXPANSION JOINTS ENDS SHALL BE OF A SOCKET WELD DESIGN CONFORMING TO ASTM D2467.
3. EXPANSION JOINTS SHALL BE DESIGNED TO MEET THE PRESSURES AND TEMPERATURES FOR THE SYSTEM (2) AND BE CAPABLE OF 12 INCH AXIAL MOVEMENT (3).
4. EXPANSION JOINTS SHALL BE FLEXICRAFT INDUSTRIES, MODEL P, OR ENGINEER APPROVED EQUAL.
5. BRIDGE MOUNTING HARDWARE, AS SHOWN ON DETAIL SHEET C-2.5 WILL BE INSTALLED BEGINNING 12-INCHES OUTBOARD (RIVER SIDE) OF THE OUTBOARD END OF THE EXPANDER CONNECTION TO THE HDPE FORCE MAIN.
6. INSULATION WRAP FIBERGLASS WILL BE PROTECTED AGAINST TEARING DURING INSTALLATION AND BEDDING ON THE PROTECTIVE TRAY.



TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I  
HAMBLETON COUNTY & GRAINGER COUNTY, TENNESSEE

X-REFERENCED DRAWINGS

1) 24-129 bord-d
2) 24-129 Base
3)
4)
5)

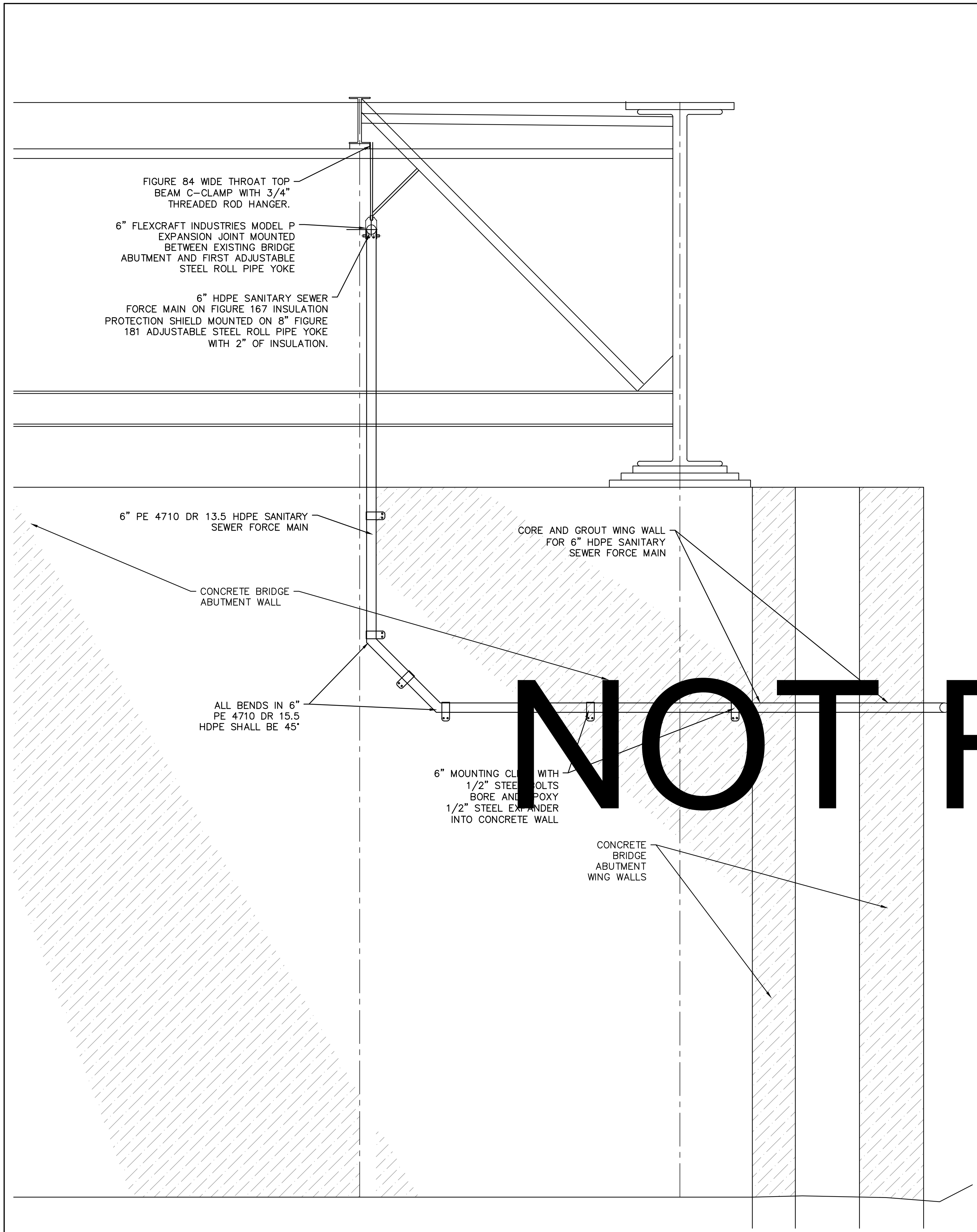
REVISION HISTORY

10/11/2023	ADDED AIR RELEASE MANHOLE
11/01/2023	REVISED SEWER ALIGNMENT & DETAILS
06/26/2024	ADDED LOW PRESSURE SEWER TO PLAN
07/17/2024	MISCELLANEOUS PLAN REVISIONS
08/18/2024	REVISED BRIDGE MOUNTING DETAILS
08/29/2024	REVISED & EXPANDED NOTES & DETAILS
09/23/2024	REVISED LPSS SERVICE LATERALS
09/25/2024	REVISED VALVE VAULT & HGL

PROJ. NO. • 24-129  
DWG FILE • 23-129 C-2.3  
ISSUE DATE • 08/14/2022

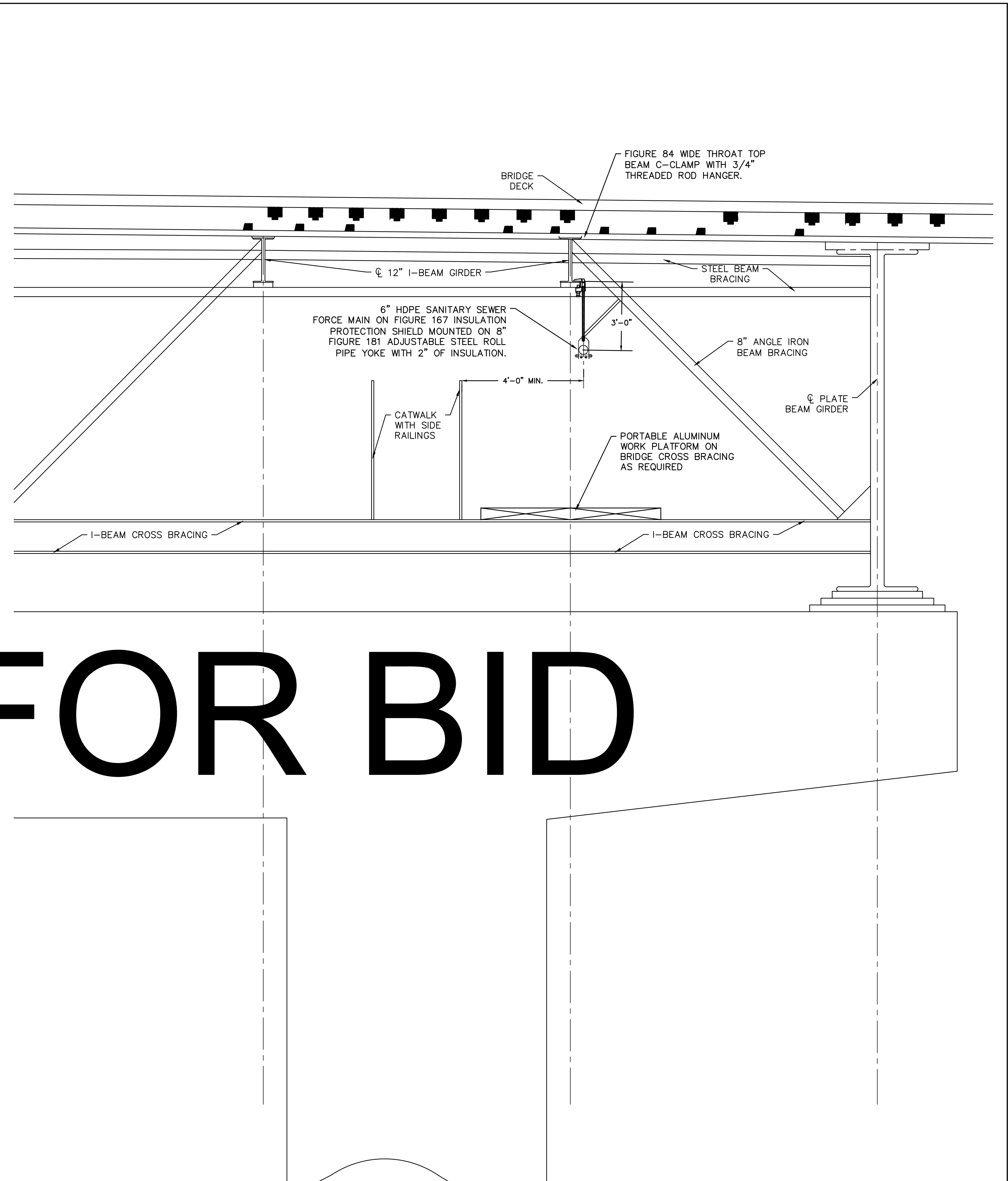
PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS  
BRIDGE MOUNTING  
DETAILS FOR SANITARY  
SEWER  
FORCE MAIN  
SHEET NUMBER  
**C-2.3**





**TYPICAL BRIDGE ABUTMENT MOUNTING DETAIL**

LOOKING NORTH  
NOT TO SCALE  
SEE DETAILS ON SHEET 2.2



**TYPICAL BRIDGE ABUTMENT MOUNTING DETAIL**

LOOKING NORTH  
NOT TO SCALE  
SEE DETAILS ON SHEET 2.2

**NOT FOR BID**

**HA**  
HATFIELD & ALLEN  
ASSOCIATES  
ENGINEERING & PLANNING  
775 RANDELES ROAD  
STRAWBERRY PLAINS, TN 37871  
PHONE: (865) 388-5031



**TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I**  
HAMBLEN COUNTY & GRAINGER COUNTY, TENNESSEE

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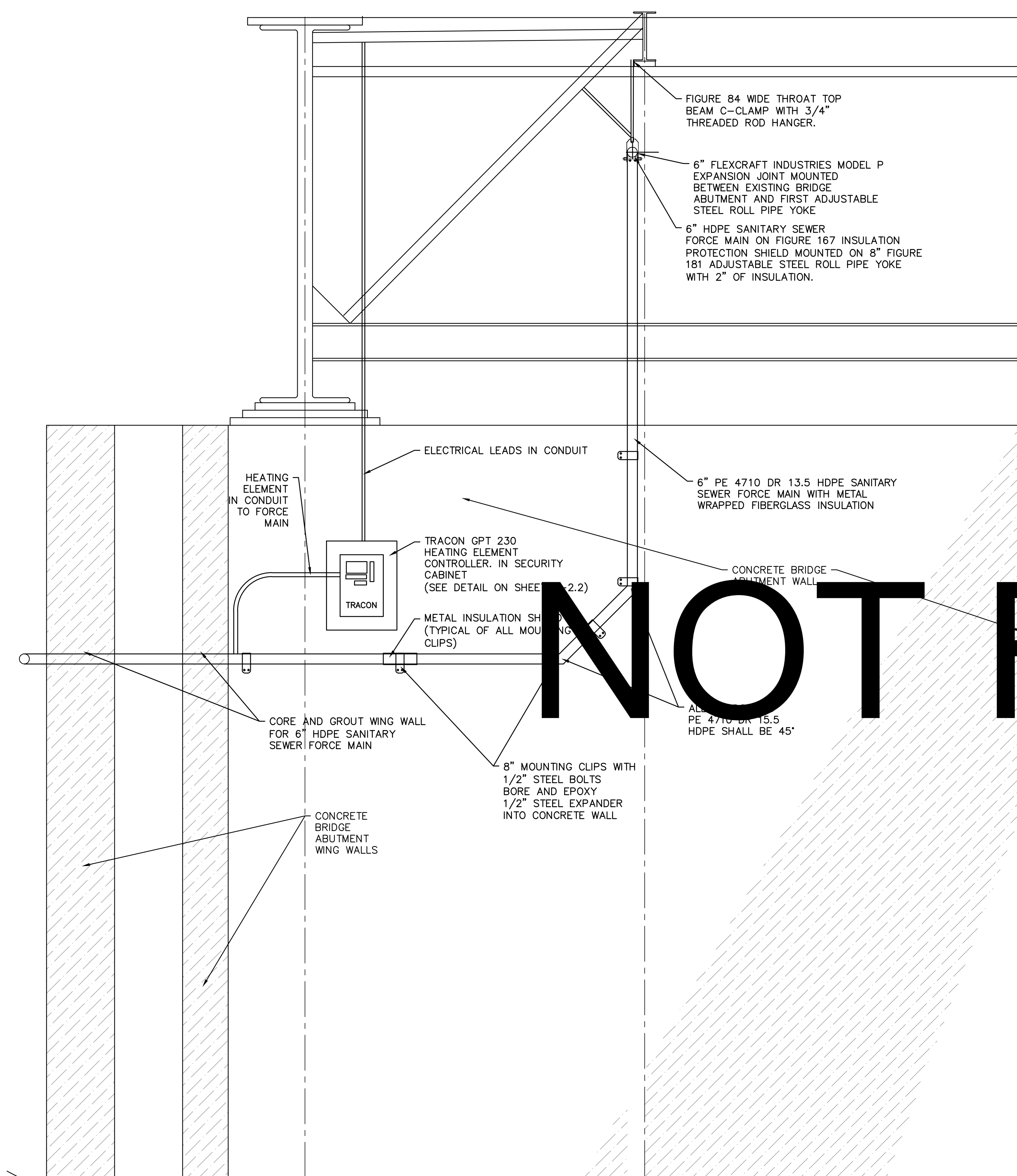
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09/23/2024	REVISED LPSS SERVICE LATERALS
09/25/2024	REVISED VALVE VAULT & HGL

PROJ NO.	• 24-129
DWG FILE	• 24-129 C-2.4
ISSUE DATE	• 08/14/2022

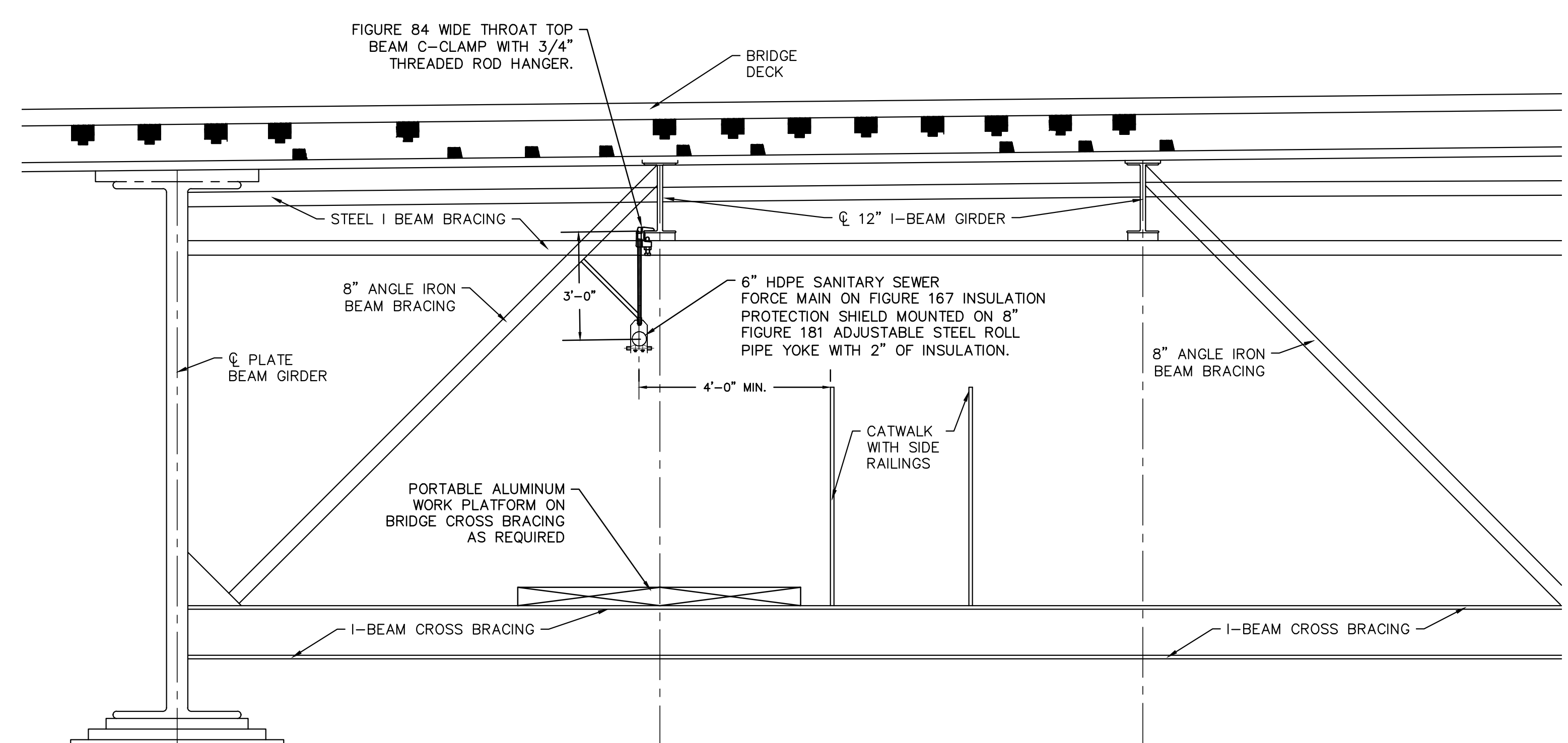
**PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS  
NORTH BRIDGE ABUTMENT  
MOUNTING DETAILS FOR  
SANITARY SEWER  
FORCE MAIN**

SHEET NUMBER  
**C-2.4**





**TYPICAL BRIDGE ABUTMENT MOUNTING DETAIL**  
 LOOKING SOUTH  
 NOT TO SCALE  
 SEE DETAILS ON SHEET 2.2



**TYPICAL BRIDGE ABUTMENT MOUNTING DETAIL**  
 LOOKING SOUTH  
 NOT TO SCALE  
 SEE DETAILS ON SHEET 2.2

**NOT FOR BID**

**HA**  
 HATFIELD & ALLEN ASSOCIATES ENGINEERING & PLANNING  
 775 RANDELS ROAD  
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**TOWN OF BEAN STATION  
 SANITARY SEWER FORCE MAIN &  
 LOW PRESSURE SANITARY SEWER  
 PHASE I**  
 HAMBLEN COUNTY & GRAINGER COUNTY, TENNESSEE

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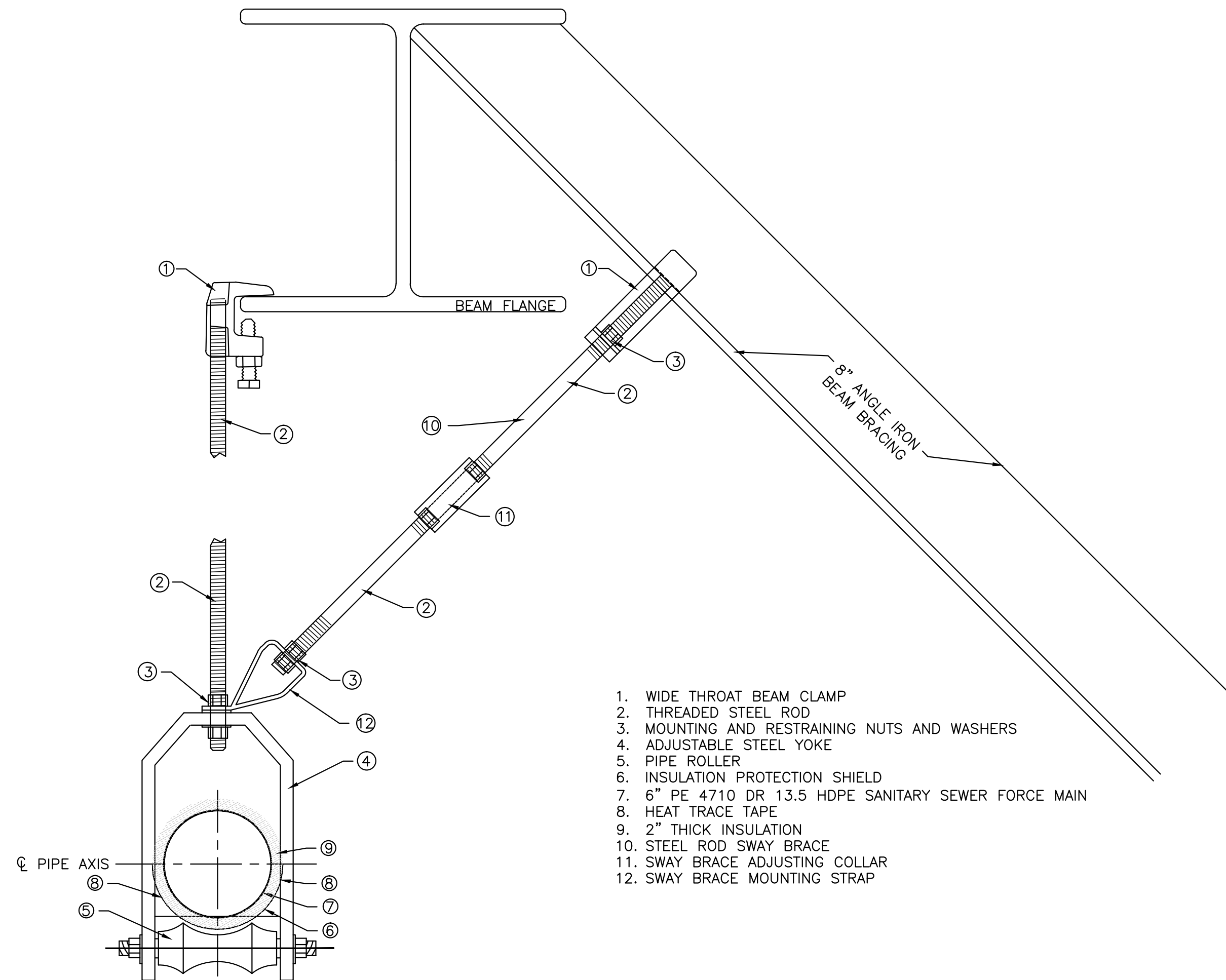
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09/25/2024	REVISED VALVE VAULT & HGL

PROJ NO. • 24-129  
 DWG FILE • 24-129 C-2.5  
 ISSUE DATE • 08/14/2022

**PHASE I  
 SANITARY SEWER  
 FORCE MAIN &  
 LPSS  
 SOUTH BRIDGE ABUTMENT  
 MOUNTING DETAILS FOR  
 SANITARY SEWER  
 FORCE MAIN**

SHEET NUMBER  
**C-2.5**



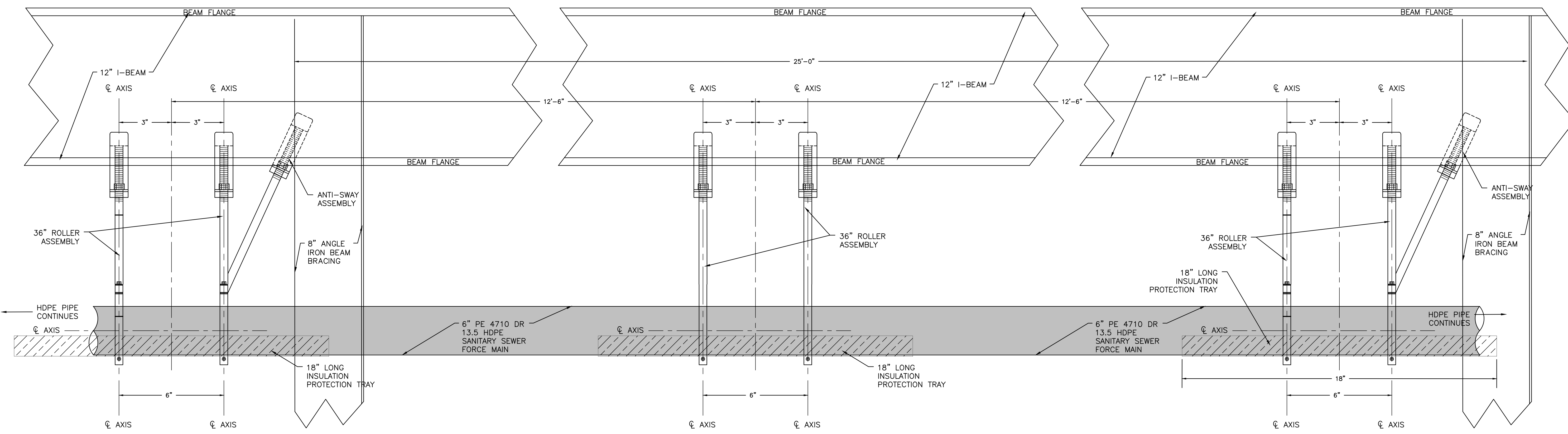
1. WIDE THROAT BEAM CLAMP
2. THREADED STEEL ROD
3. MOUNTING AND RESTRAINING NUTS AND WASHERS
4. ADJUSTABLE STEEL YOKE
5. PIPE ROLLER
6. INSULATION PROTECTION SHIELD
7. 6" PE 4710 DR 13.5 HDPE SANITARY SEWER FORCE MAIN
8. HEAT TRACE TAPE
9. 2" THICK INSULATION
10. STEEL ROD SWAY BRACE
11. SWAY BRACE ADJUSTING COLLAR
12. SWAY BRACE MOUNTING STRAP

**BRIDGE MOUNTING NOTES:**

1. ALL BRIDGE MOUNTING HARDWARE WILL BE AS DESCRIBED IN THE PLAN DETAILS AND IN THE PROJECT SPECIFICATIONS UNLESS AMENDED BY THE PROJECT ENGINEER.
2. THE 6" PE 4710 DR 13.5 HDPE SANITARY SEWER FORCE MAIN WILL BE MOUNTED ON THE BRIDGE ABUTMENT WALL WITH MOUNTING STRAPS HAVING A MINIMUM RADIUS OF 4". THE ENTIRE EXPOSED LENGTH OF FORCE MAIN MOUNTED ON THE ABUTMENT WILL BE COVERED BY A MINIMUM OF 2-INCH METAL WRAPPED FIBERGLASS INSULATION AND THE INSULATION WILL BE PROTECTED WITH A METAL INSULATION PROTECTION SHIELD.
3. THE TRACON HEATING ELEMENT CONTROLLER WILL BE MOUNTED INSIDE A WEATHER RESISTANT, LOCKING METAL CABINET. LEADS FROM THE LOCKING CABINET TO THE STARTING POINT ON THE FORCE MAIN WILL BE JACKETED IN METAL CONDUIT.
4. THE WIDE THROAT BEAM CLAMPS, THREADED STEEL RODS, AND STEEL ROLLER YOKES WILL BE MOUNTED VERTICALLY AND PERPENDICULAR TO THE STEEL BRIDGE SUPPORTING I-BEAM.
5. SWAY BRACE WILL BE MOUNTED ON EACH THE ANGLE IRON DIAGONAL BRIDGE STRUCTURE BRACING FOR THE ENTIRE LENGTH OF THE BRIDGE (APPROXIMATELY 1,700 L.F.).
6. SWAY BRACING WILL BE MOUNTED PERPENDICULAR TO THE ANGLE IRON DIAGONAL BRIDGE STRUCTURE BRACING AND THE LENGTH WILL BE ADJUSTED TO MEET THE YOKE MOUNTING DOWN ROD WHEN THE DOWN ROD IS MOUNTED VERTICALLY SO AS NOT TO INDUCE DEFLECTION IN THE SANITARY SEWER FORCE MAIN.
7. ALL CONNECTIONS TO THE BEAM CLAMPS, STEEL YOKE, AND SWAY ROD BRACE WILL BE SUPPLIED WITH MOUNTING NUTS AND ADDITIONAL LOCKING NUTS TO PREVENT LOOSENING DUE TO TRAFFIC INDUCED BRIDGE VIBRATION AND/OR WIND LOADING.
8. TWO HEATING ELEMENT LEADS WILL BE ADHERED TO THE 6" PE 4710 DR 13.5 HDPE SANITARY SEWER FORCE MAIN AT APPROXIMATELY 30° FROM THE BOTTOM DEAD CENTER ON EACH SIDE OF THE FORCE MAIN.
9. A MINIMUM OF 2-INCH METAL WRAPPED FIBERGLASS INSULATION WILL BE INSTALLED FOR THE ENTIRE LENGTH OF THE SUSPENDED FORCE MAIN APPROXIMATELY 1,700 L.F.).
10. METAL INSULATION PROTECTION SHIELD WILL BE INSTALLED AS SHOWN ON THE ATTACHED DETAIL AT EACH SET OF ROLLERS.

**NOT FOR BID**

TYPICAL ASSEMBLY MOUNTING DETAIL



**TYPICAL ASSEMBLY MOUNTING DETAIL**

LOOKING EAST  
NOT TO SCALE



HATFIELD & ALLEN  
ASSOCIATES  
ENGINEERING & PLANNING  
775 RANDELS ROAD  
STRAWBERRY PLAINS, TN 37871  
PHONE: (865) 388-5031



**TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I**

HAMILTON COUNTY & GRAINGER COUNTY, TENNESSEE

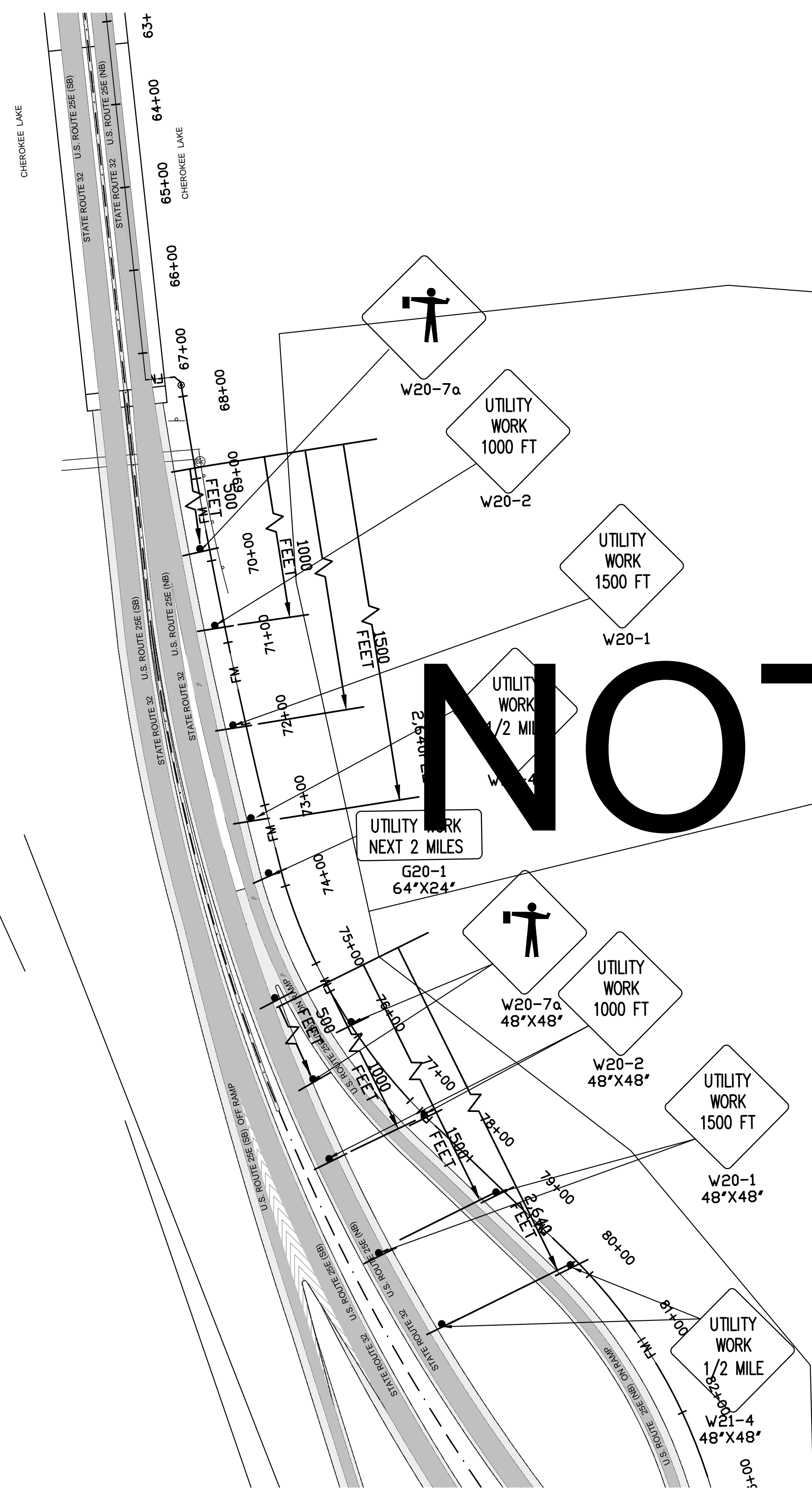
X-REFERENCED DRAWINGS	
1)	24-129 bord-d
2)	24-129 Base
3)	
4)	
5)	

REVISION HISTORY	
10/11/2023	ADDED AIR RELEASE MANHOLE
11/01/2023	REVISED SEWER ALIGNMENT & DETAILS
06/26/2024	ADDED LOW PRESSURE SEWER TO PLAN
07/17/2024	MISCELLANEOUS PLAN REVISIONS
08/18/2024	REVISED BRIDGE MOUNTING DETAILS
08/29/2024	REVISED & EXPANDED NOTES & DETAILS
09/23/2024	REVISED LPSS SERVICE LATERALS
09/25/2024	REVISED VALVE VAULT & HGL

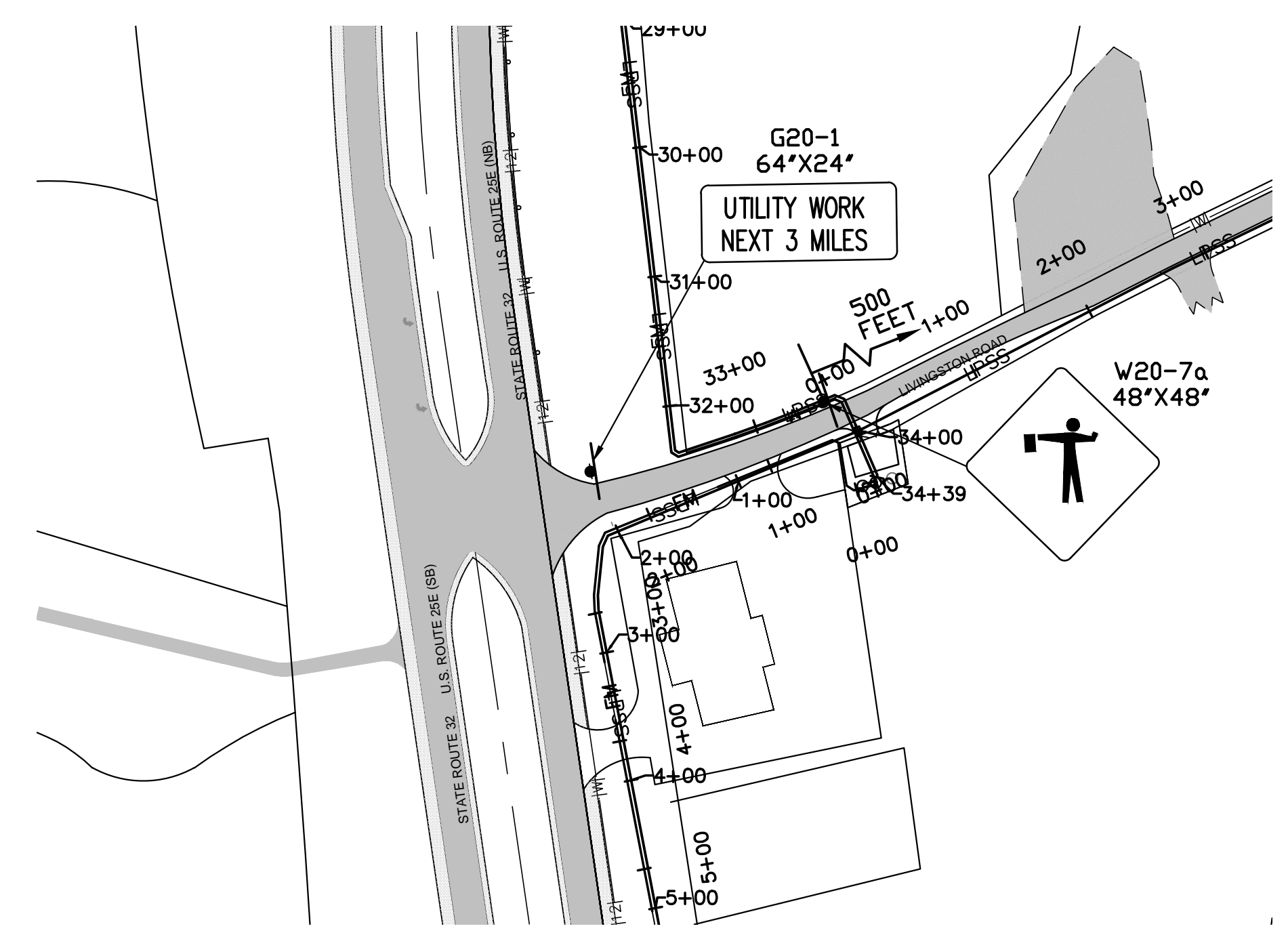
PROJ. NO. • 24-129  
DWG. FILE • 24-129 C-2.6  
ISSUE DATE • 08/14/2022

**PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS  
BRIDGE MOUNTING  
ASSEMBLY DETAILS FOR  
SANITARY SEWER  
FORCE MAIN**

SHEET NUMBER  
**C-2.6**

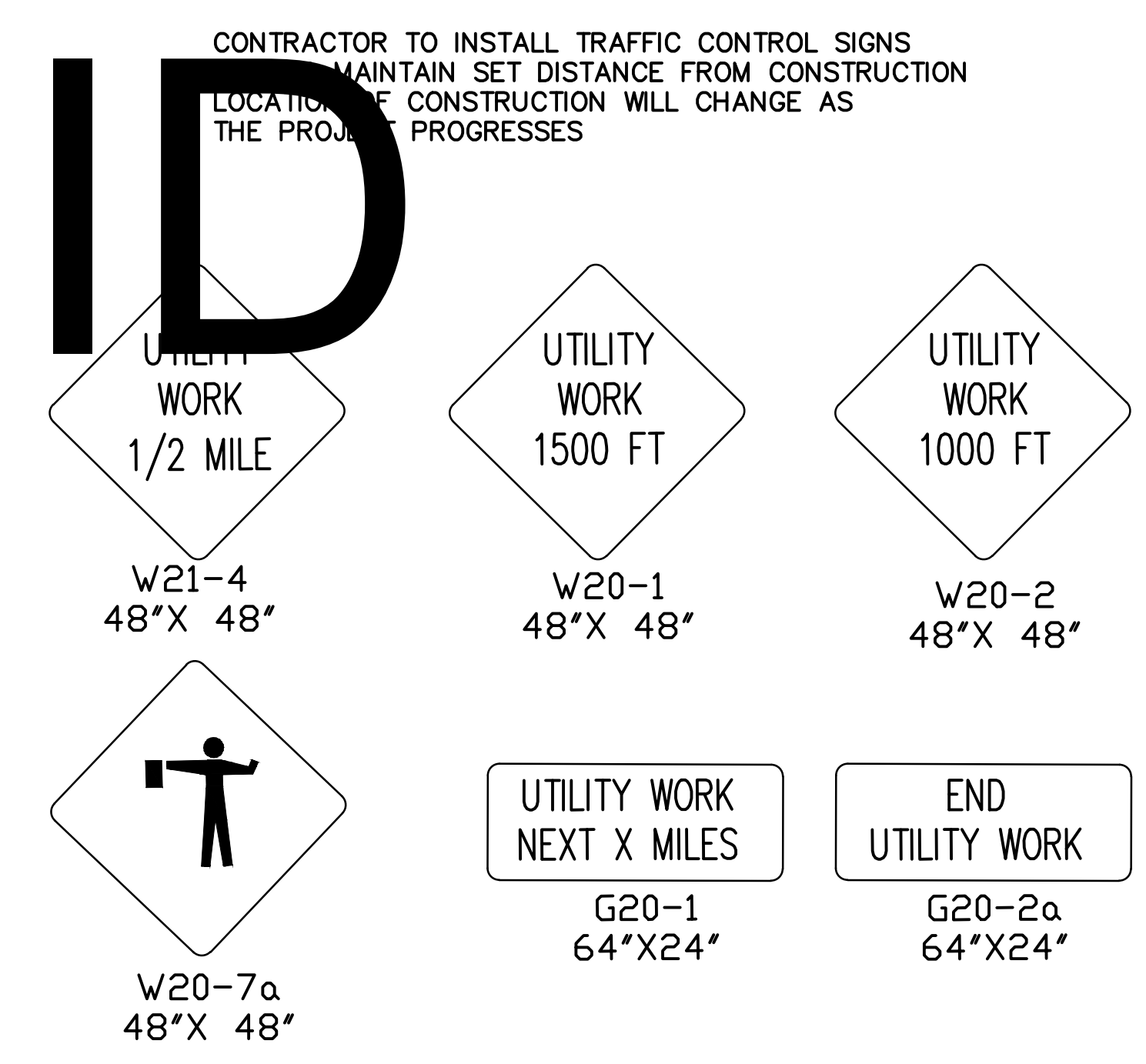


TRAFFIC CONTROL PLAN  
STATE ROUTE 32

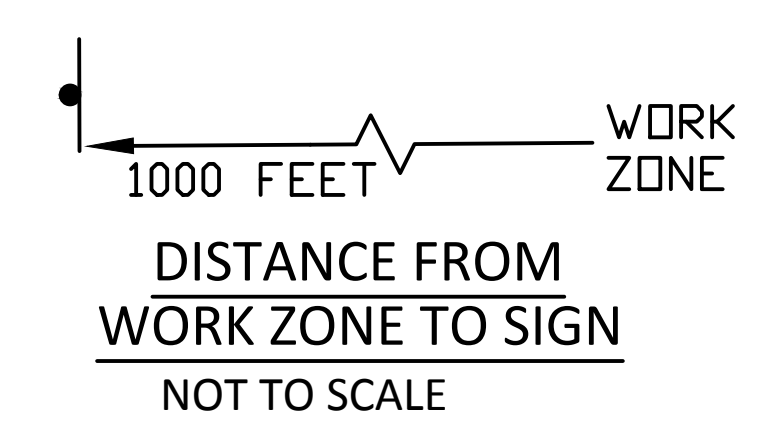


TRAFFIC CONTROL PLAN  
LIVINGSTON ROAD

# NOT FOR BID



TYPICAL WORK ZONE WARNING SIGNS  
NOT TO SCALE



DISTANCE FROM  
WORK ZONE TO SIGN  
NOT TO SCALE

**HA**  
HATFIELD & ALLEN  
ASSOCIATES  
ENGINEERING & PLANNING  
775 RANDELS ROAD  
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TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I  
HAMILLEN COUNTY & GRAINGER COUNTY, TENNESSEE

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2)	24-129 Base
3)	
4)	
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REVISION HISTORY

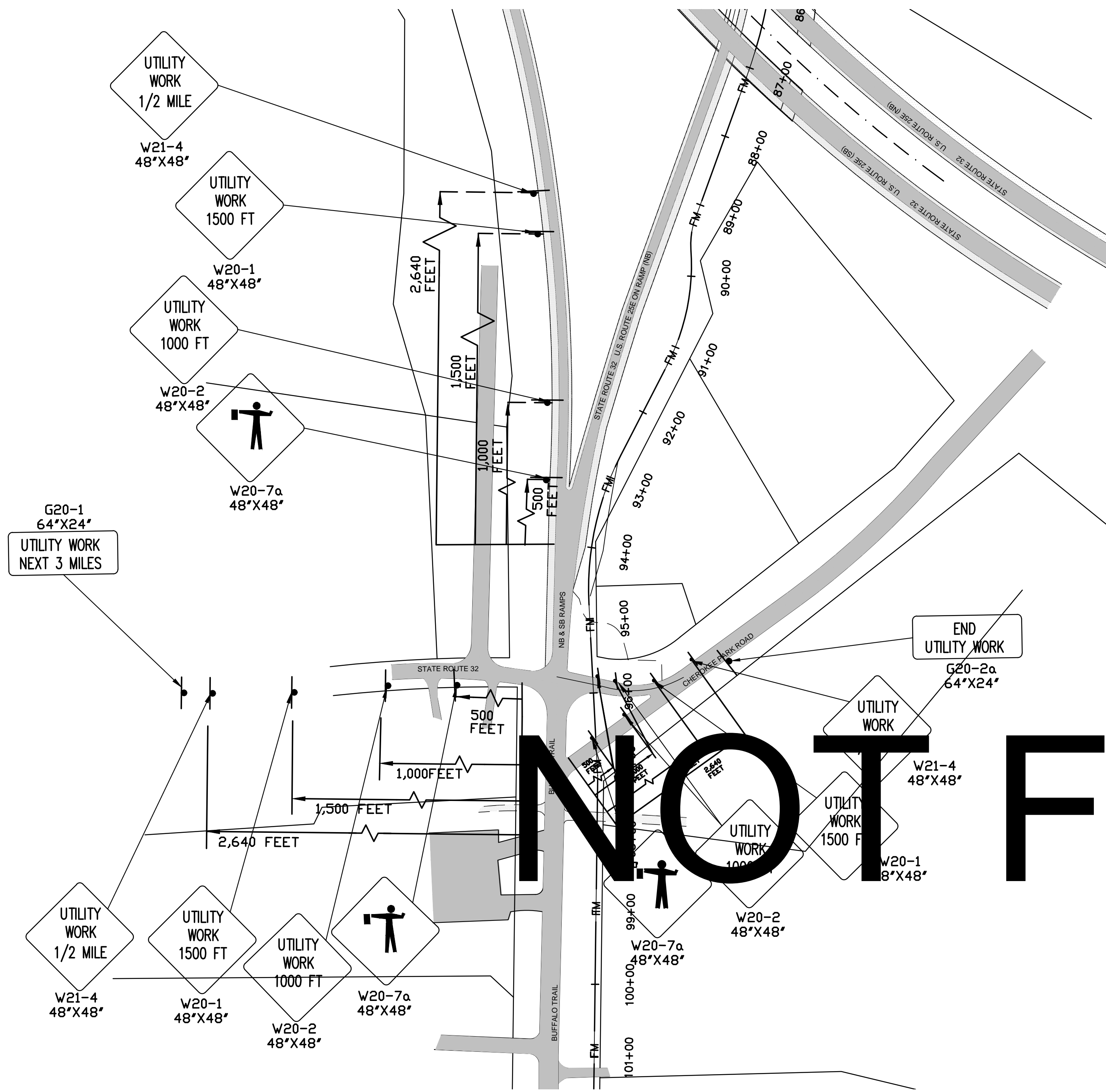
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PROJ NO.	• 24-129
DWG FILE	• 24-129 C-3.0
ISSUE DATE	• 08/14/2022

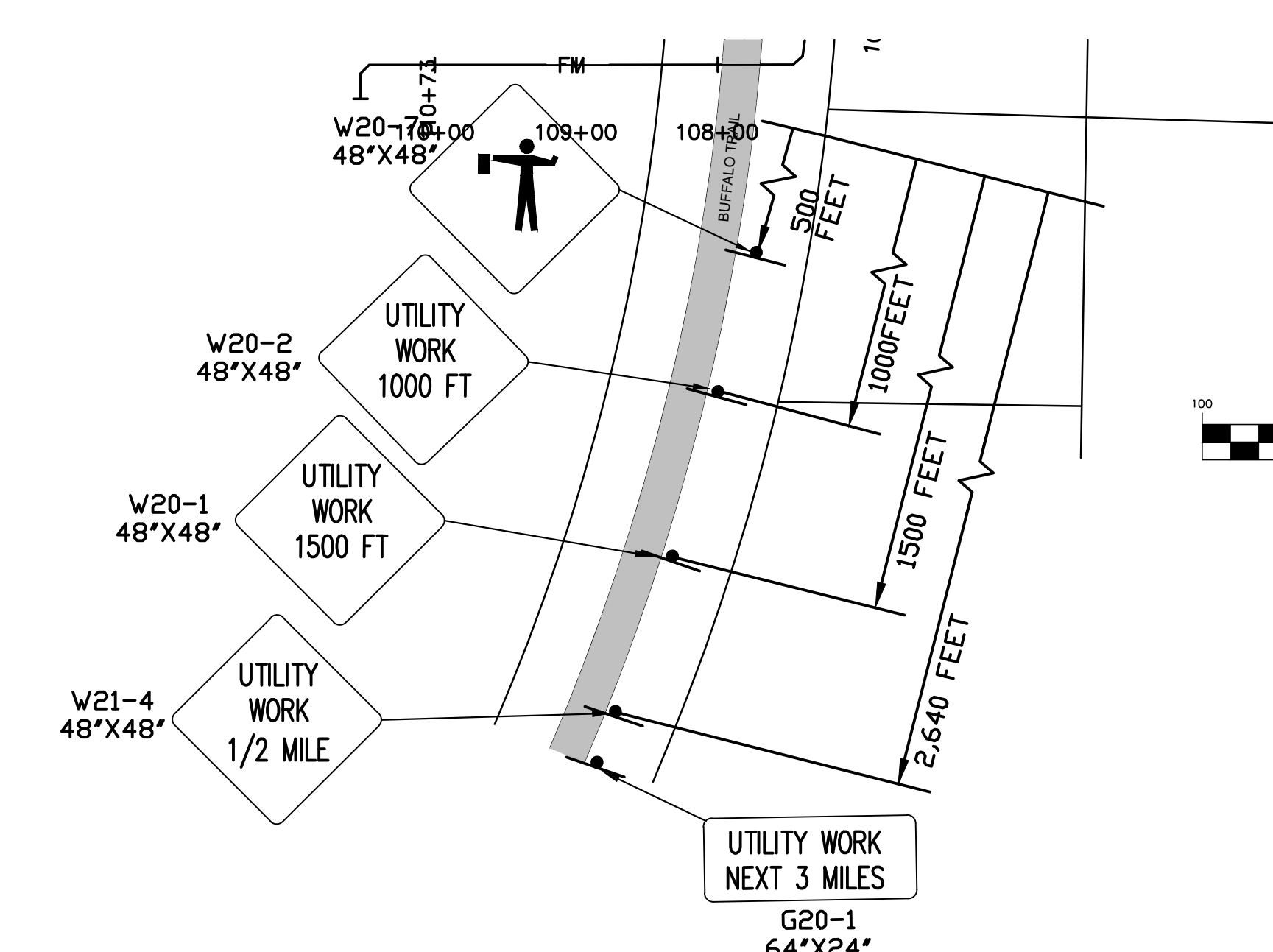
PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS  
TRAFFIC CONTROL PLAN  
LIVINGSTON ROAD  
AND  
STATE ROUTE 32

SHEET NUMBER  
**C-3.0**





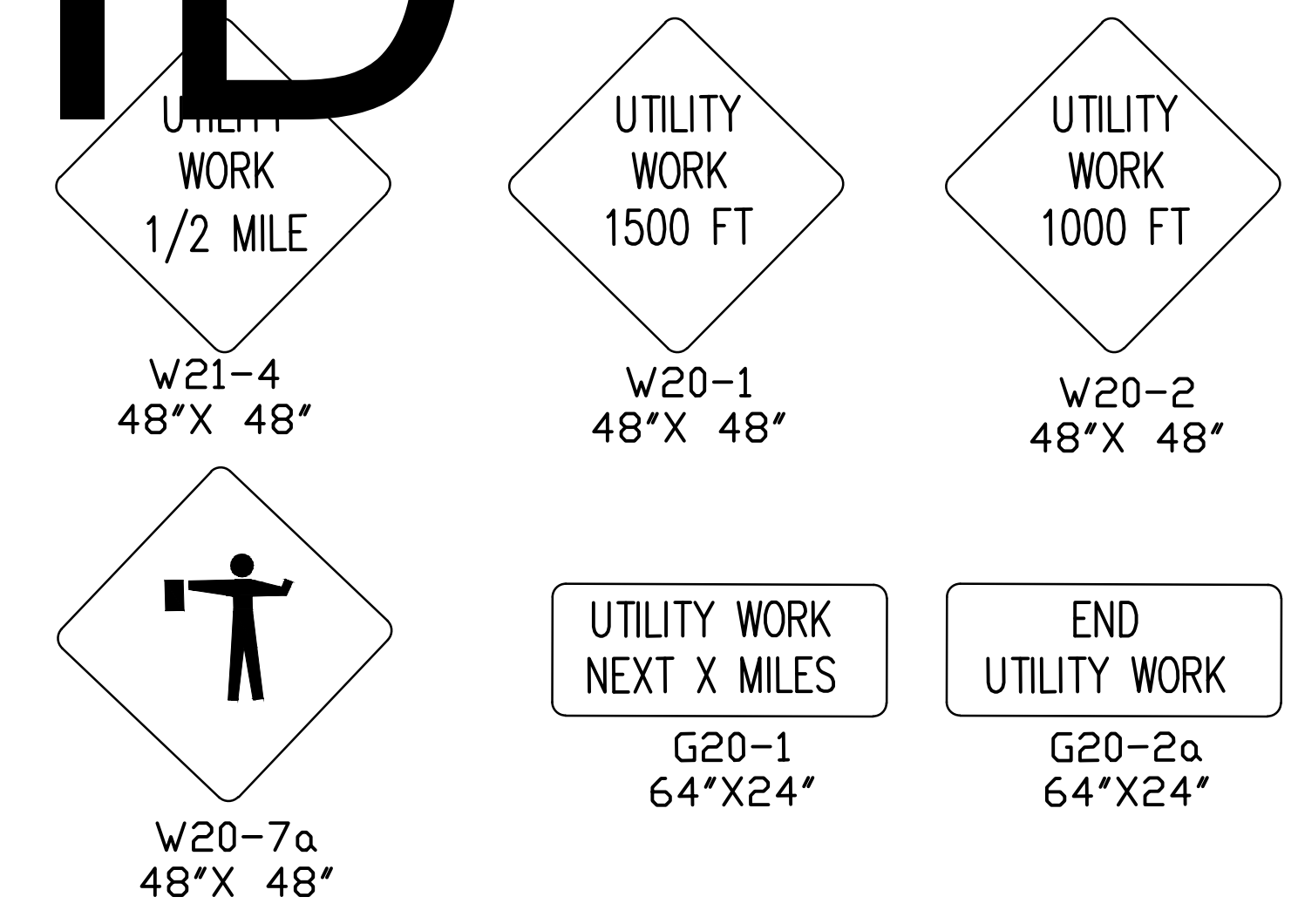
TRAFFIC CONTROL PLAN  
BUFFALO TRAIL & CHEROKEE PARK ROAD



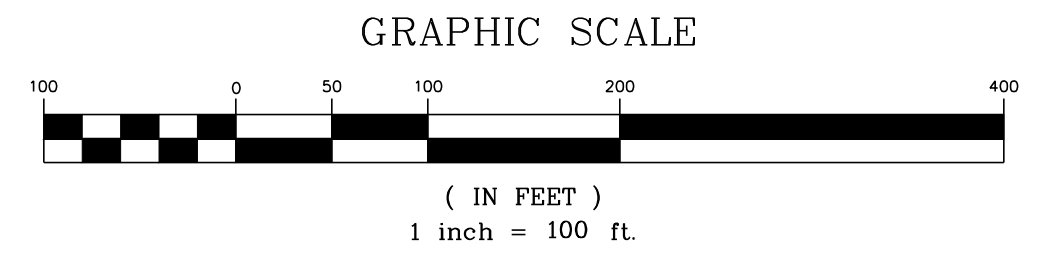
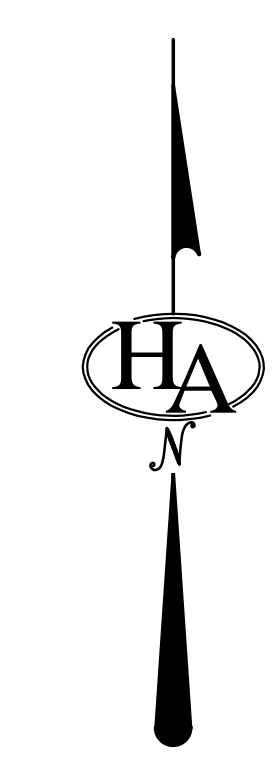
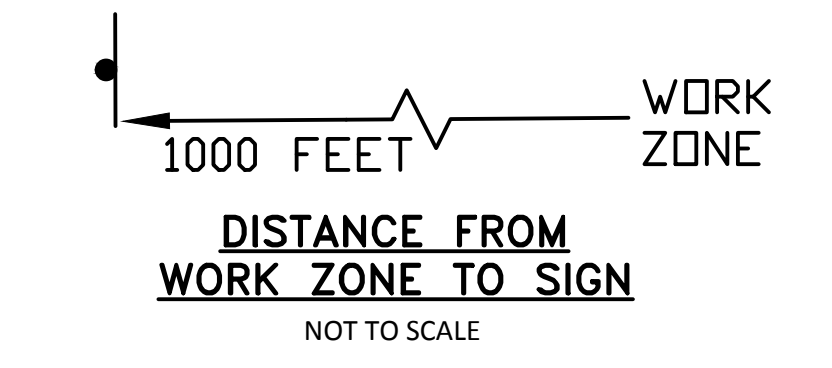
TRAFFIC CONTROL PLAN  
BUFFALO TRAIL

# NOT FOR BID

CONTRACTOR TO INSTALL TRAFFIC CONTROL SIGNS  
AND TO MAINTAIN SET DISTANCE FROM CONSTRUCTION  
LOCATION. LOCATION OF CONSTRUCTION WILL CHANGE AS  
THE PROJECT PROGRESSES



TYPICAL WORK ZONE WARNING SIGNS  
NOT TO SCALE



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TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I  
HAMILLEN COUNTY & GRAINGER COUNTY, TENNESSEE

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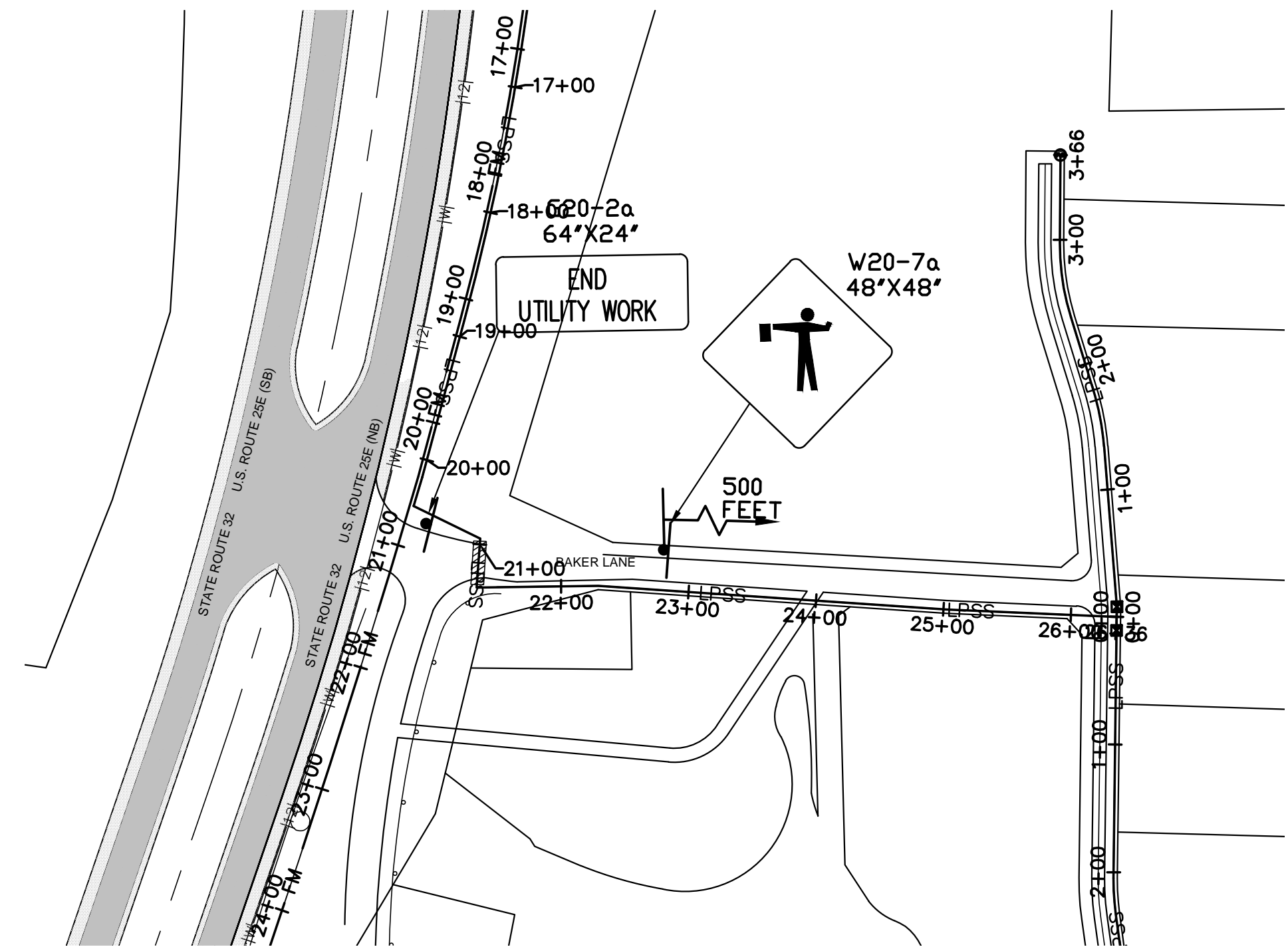
PROJ NO.	• 24-129
DWG FILE	• 24-129 C-3.1
ISSUE DATE	• 08/14/2022

PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS  
TRAFFIC CONTROL PLAN  
BUFFALO TRAIL  
AND  
CHEROKEE PARK ROAD

SHEET NUMBER  
**C-3.1**

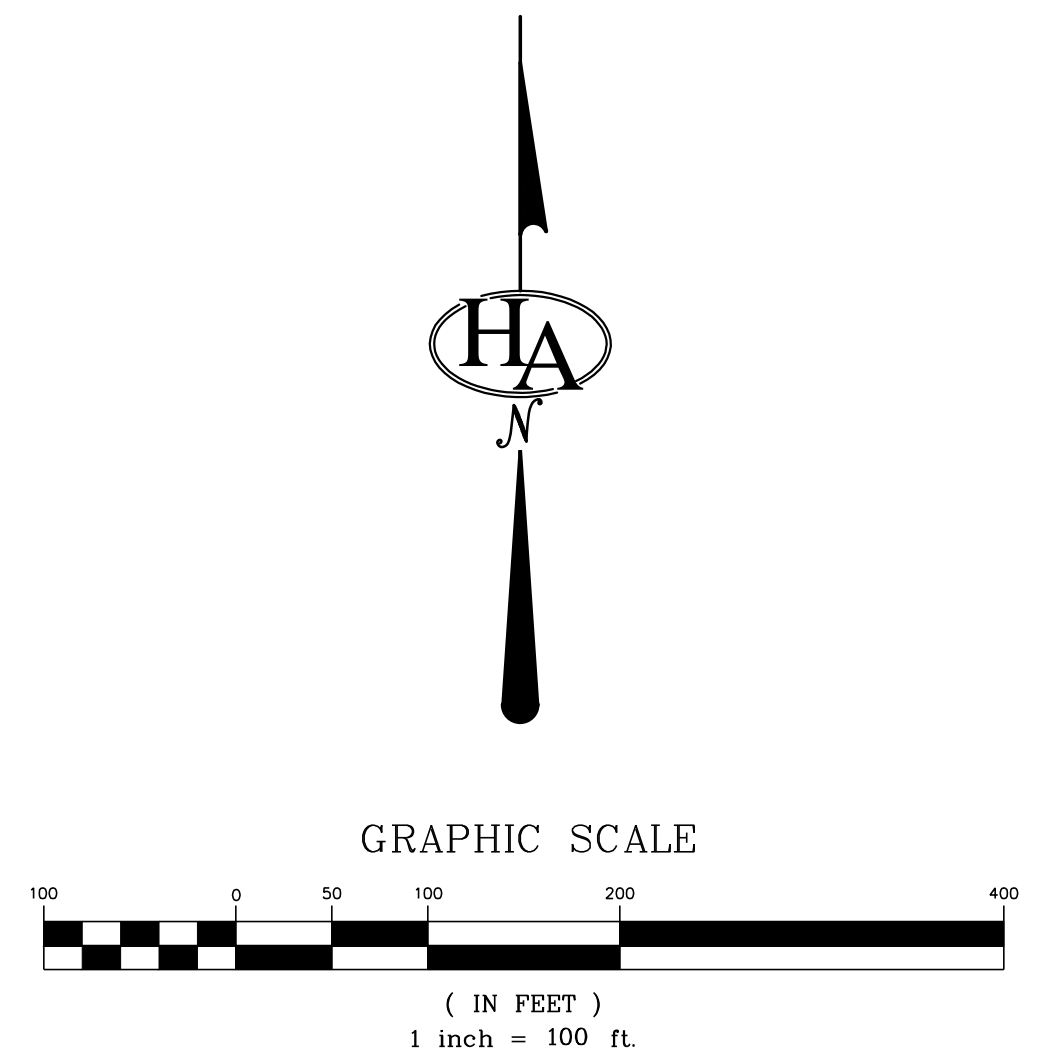


TRAFFIC CONTROL PLAN  
STATE ROUTE 32, CROSBY ROAD,  
PARK DRIVE & TURTLE WAY

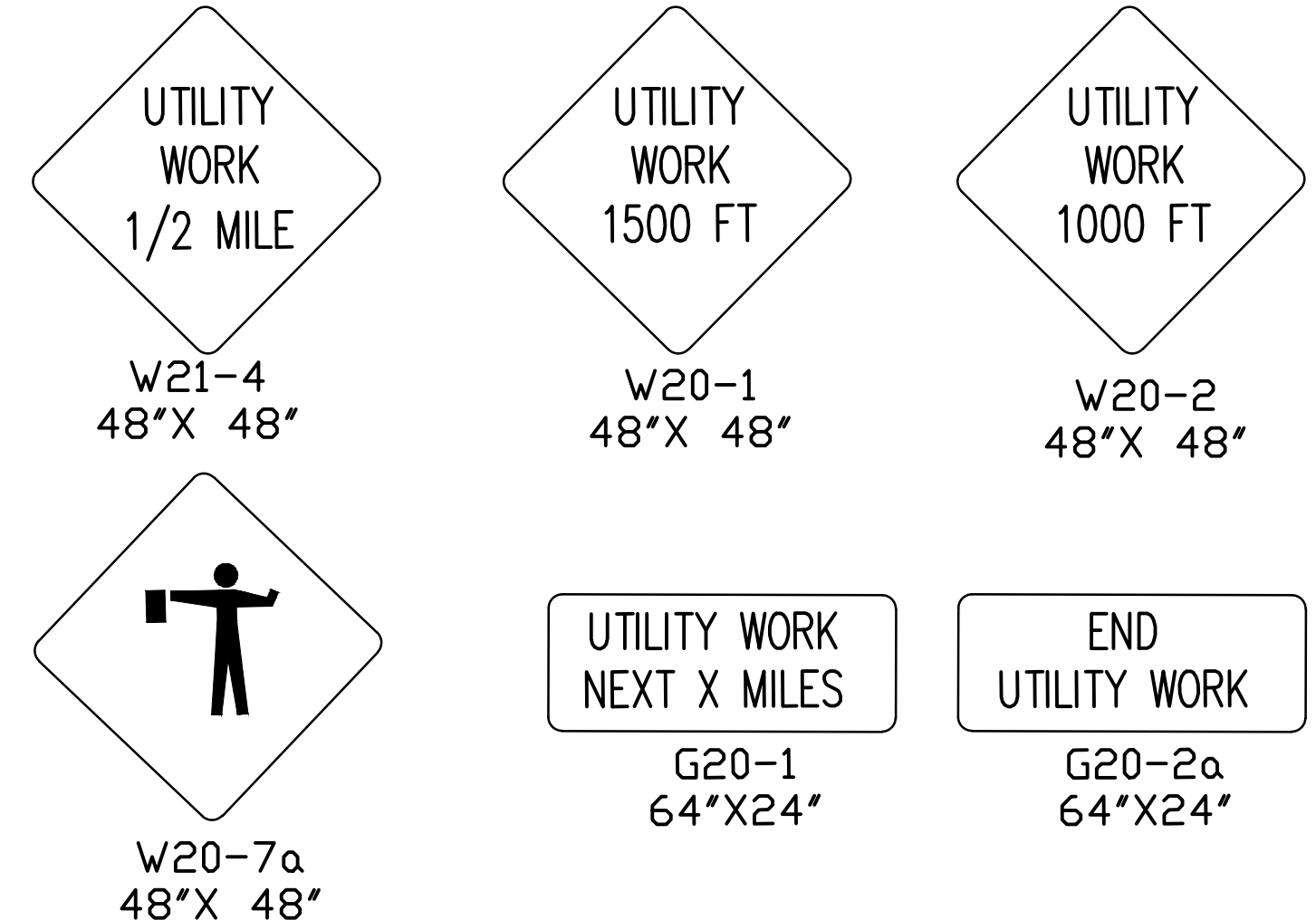


TRAFFIC CONTROL PLAN  
BAKER LANE

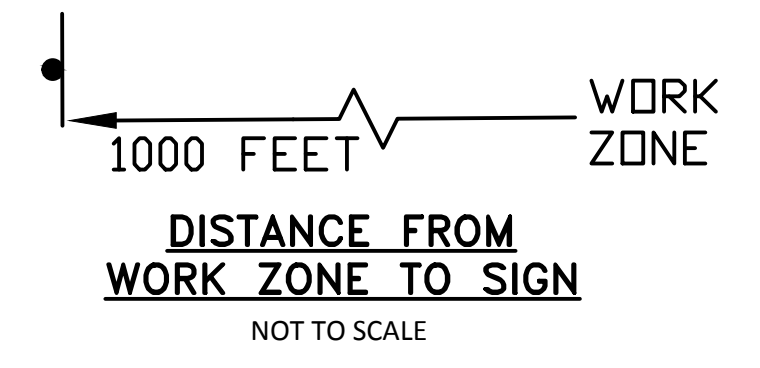
# NOT FOR BID



CONTRACTOR TO INSTALL TRAFFIC CONTROL SIGNS  
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TYPICAL WORK ZONE WARNING SIGNS  
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TOWN OF BEAN STATION  
SANITARY SEWER FORCE MAIN &  
LOW PRESSURE SANITARY SEWER  
PHASE I  
HAMILTON COUNTY & GRAINGER COUNTY, TENNESSEE

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DWG FILE	• 24-129 C-3.2
ISSUE DATE	• 08/14/2022

PHASE I  
SANITARY SEWER  
FORCE MAIN &  
LPSS  
TRAFFIC CONTROL PLAN  
STATE ROUTE 32,  
CROSBY ROAD, PARK  
DRIVE, TURTLE WAY &  
BAKER LANE

SHEET NUMBER  
**C-3.2**