

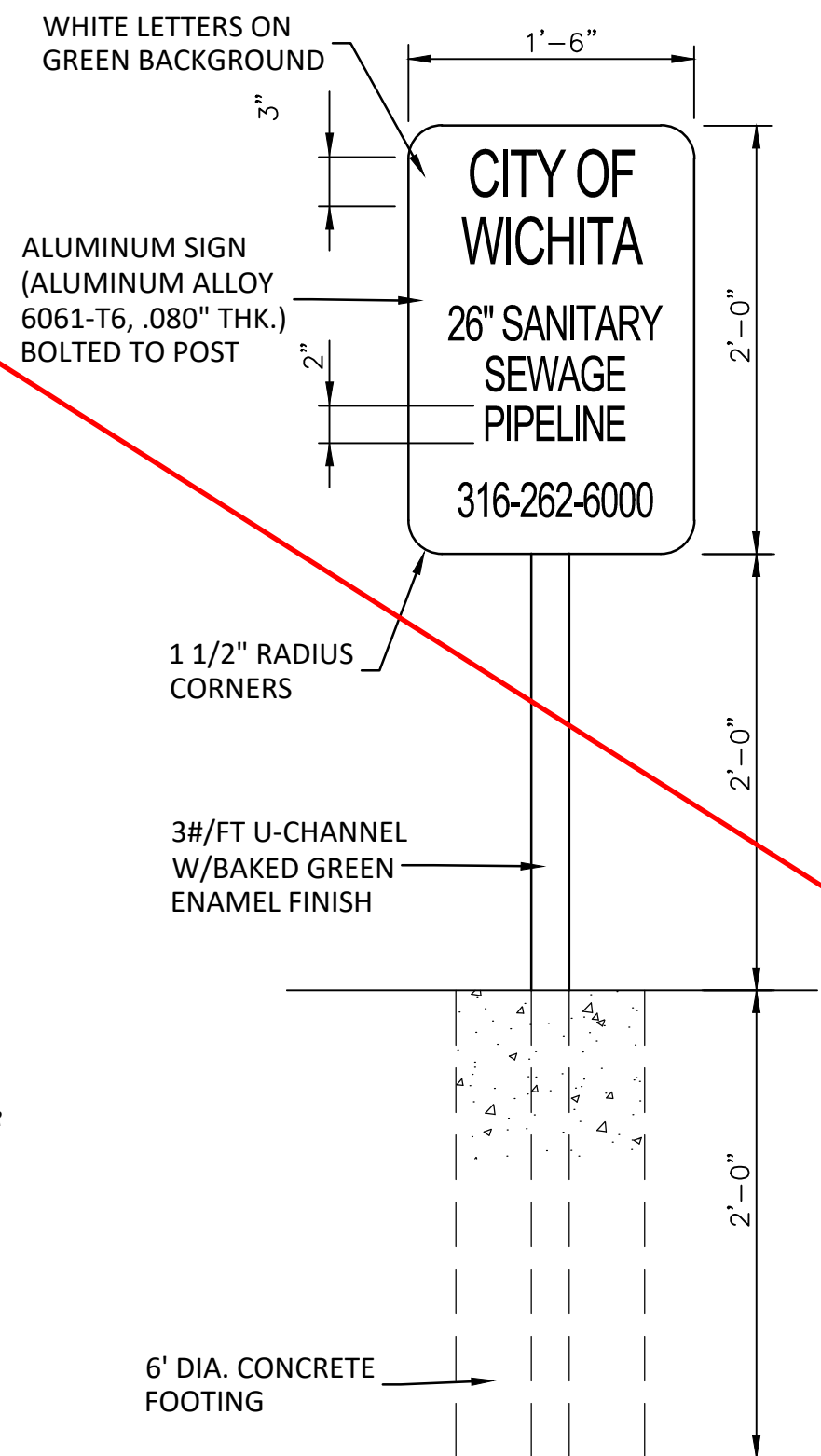
BENCHMARKS

BM #1 - Chiseled "C" in the Top of Curb Located at the Southwest Corner of the Intersection of Hydraulic & Southeast Blvd., 6' East of Fire Hydrant.
Elev. = 1286.43 (NAVD 88)

BM #2 - Chiseled "X" on the Concrete Pad w/ a Vent Pipe Located 500' Southeast of the Intersection of Hydraulic & Southeast Blvd. on the Southwest Side of Southeast Blvd.
Elev. = 1285.59 (NAVD 88)

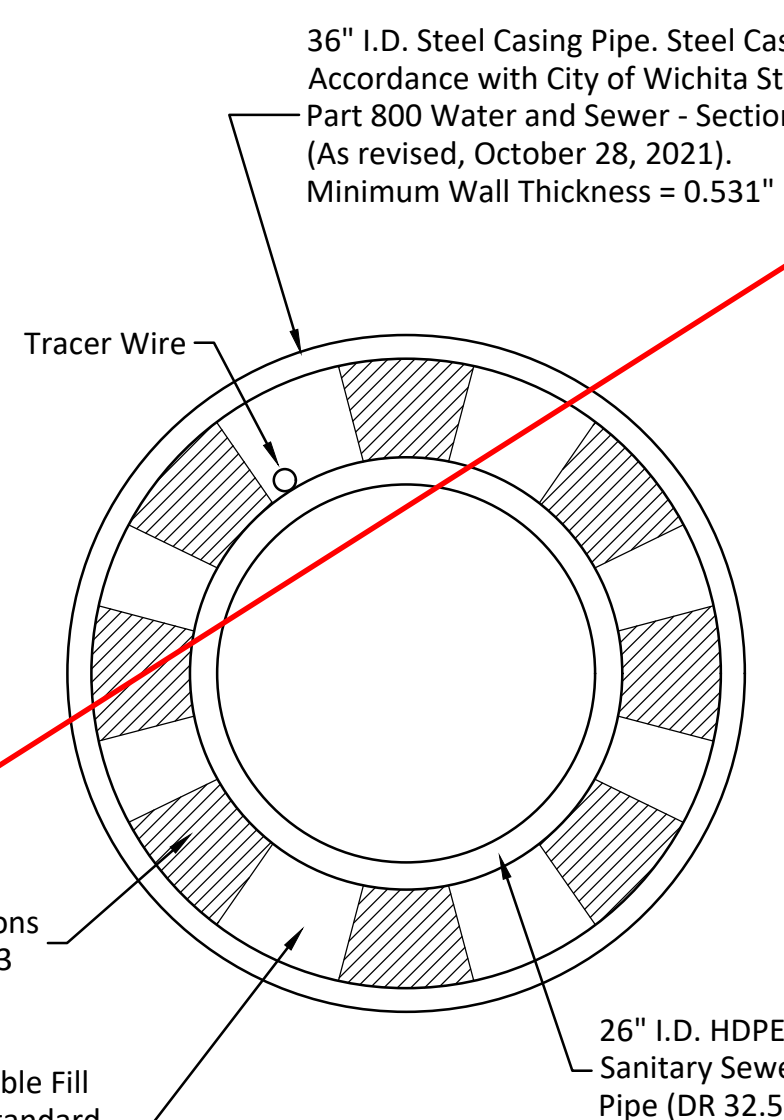
NOTES:

- CONTRACTOR SHALL ADHERE TO THE BNSF UTILITY ACCOMMODATION POLICY (updated February 14, 2022, Part 3 - Utilities Perpendicular to Railroad Property), UNLESS EXPLICITLY STATED OTHERWISE, DURING ALL CASING INSTALLATION, PIPELINE INSTALLATION, OR OTHER CONSTRUCTION RELATED ACTIVITY WITHIN BNSF RIGHT-OF-WAY (ROW).
<https://www.bnsf.com/bnsf-resources/pdf/about-bnsf/utility.pdf>
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL SAFETY LAWS AND REGULATIONS INCLUDING BUT NOT LIMITED TO OSHA REQUIREMENTS FOR TRENCH SAFETY, CONFINED SPACE, PERSONAL PROTECTIVE EQUIPMENT, TUNNELING OPERATIONS AND ELECTRICAL SAFETY. WHERE LAWS OR ORDERS OF PUBLIC AUTHORITY GOVERN, THEY SHALL SUPERSEDE THE PROVISIONS SPECIFIED ON THIS PLAN SHEET.
- PRIOR TO THE COMMENCEMENT OF THE RAILWAY CROSSING, THE CONTRACTOR SHALL SUBMIT FOR REVIEW AND APPROVAL AN UPDATED DESCRIPTION OF WORK PROCESS INCLUDING BUT NOT LIMITED TO ALL PLAN AND FIELD CHANGES / MODIFICATIONS, CERTIFICATES OF COMPLIANCE, WORK PLAN AND SCHEDULED ACTIVITIES FOR WORK THAT MAY AFFECT RAILROAD RIGHT-OF-WAY. THE CONTRACTOR SHALL LAYOUT THE PROPOSED BORE AND RECEIVING PITS FOR INSPECTION AND ACCEPTANCE PRIOR TO COMMENCEMENT OF WORK. THE EXECUTION OF WORK ON RAILROAD PROPERTY SHALL BE SUBJECT TO INSPECTION AND DIRECTION OF THE BNSF ROADMASTER OR HER / HIS REPRESENTATIVE.
- WHEN WORK IS PERFORMED WITHIN TWENTY-FIVE (25) FEET OF THE CENTERLINE OF THE TRACK, RAILROAD FLAGGING WILL BE REQUIRED. FLAGGING SERVICES SHALL BE PERFORMED BY BNSF EMPLOYEES OR THEIR DESIGNATED CONTRACTOR. A WRITTEN REQUEST FOR FLAGGING SERVICES SHALL BE SUBMITTED TO BNSF ROADMASTER NO LESS THAN 72 HOURS PRIOR TO THE TIME WHEN SUCH SERVICES ARE NEEDED. FLAGGER COSTS ARE SUBSIDIARY TO THE COST OF THE DRY JACK & BORE OR TUNNELING METHODS.
- CONTRACTOR TO PROTECT ALL RAILROAD PROPERTY, INCLUDING SIGNAL WIRE CONNECTIONS, RAILS, ETC. INCLUDING SETTLEMENT MONITORING REQUIREMENTS, AS LISTED IN BNSF UTILITY ACCOMMODATION POLICY. SEE NOTE 1.
- BORE PITS SHALL NOT BE LOCATED WITHIN BNSF RIGHT-OF-WAY. THE LOCATION / SIZE OF THE BORE PIT SHALL ADHERE TO THE BNSF UTILITY ACCOMMODATION REQUIREMENTS. SEE NOTE 1.
- REDWOOD OR OTHER APPROVED PRESERVATIVE TREATED WOOD SKIDS SHALL BE SECURED TO THE BARREL OF THE CARRIER PIPE WITH METAL BANDS IN SUCH A MANNER TO SUPPORT THE WEIGHT OF THE PIPE ALONG ITS FULL BARREL LENGTH ON THE WOOD SKIDS WITHOUT ANY OF THE WEIGHT SUPPORTED BY THE PIPE BELL AND IN SUCH A MANNER AS REQUIRED TO PROPERLY POSITION THE CARRIER PIPE TO THE SPECIFIED ELEVATIONS AND ALIGNMENT. CASING SPACERS MAY BE USED IN LIEU OF TREATED WOOD SKIDS. THE CASING SPACERS MUST BE LOCATED AS RECOMMENDED BY THE SPACER MANUFACTURER AND APPROVED BY THE ENGINEER.
- THE CASING PIPE SHALL HAVE A "FUSION BONDED EPOXY COATING" (FBE) WITH AN "ABRASION RESISTANT OVERCOATING" (ARO). THE MINIMUM STEEL CASING PIPE WALL THICKNESS SHALL MEET BNSF AND UAP STANDARDS (0.469" MINIMUM FOR 36" CASING, WHEN COATED OR CATHODICALLY PROTECTED). THE CASING PIPE SHALL FOLLOW BNSF UTILITY ACCOMMODATION POLICY. SEE NOTE 1.
- STEEL CASING PIPE WITHIN BNSF RAILROAD ROW SHALL HAVE EXTERIOR OF PIPE COATED WITH AN EPOXY POLYMER CONCRETE COATING OR AN APPROVED EQUAL.
EPOXY POLYMER CONCRETE COATING:
 - A TWO-PART CHEMICALLY CURED EPOXY PRIMER AND ONE OR MORE COATS OF A DIFFERENT TWO-PART CHEMICALLY CURED EPOXY TOP COAT. STEEL CASING PIPE SHALL BE COATED IN ACCORDANCE WITH AWWA C210 AND MANUFACTURER'S RECOMMENDATIONS.
 - CONTAIN AN ABRASION RESISTANT OVERLAY.
 - CATHODIC DISBONDMENT: MAXIMUM 10 MM.
 - DRY FILM THICKNESS: MINIMUM 16 MILS.
 - ADHESION: 800 PSI PER ASTM D4541 (METHOD E).
 - COATING SHALL HAVE NO HOLIDAYS.
- FILL ANNULAR SPACE WITH SAND FROM END SEAL TO END SEAL AFTER CARRIER PIPE HAS BEEN PERMANENTLY PLACED IN CASING PIPE AND APPROVED, IN SUCH A MANNER AS TO NOT DISTURB THE ALIGNMENT OR GRADE OF CARRIER PIPE. EXCAVATABLE FLOWABLE FILL MAY BE USED IN THE ANNULAR SPACE WHEN APPROVED BY THE ENGINEER.
- THE CONTRACTOR SHALL INSTALL A READILY IDENTIFIABLE AND SUITABLE MARKER AT EACH RAILROAD PROPERTY LINE WHERE IT IS CROSSED BY AN UNDERGROUND UTILITY IDENTIFYING THE SIZE OF THE LINE AND ITS DEPTH, UNLESS WITHIN A PUBLIC GRADE CROSSING. SEE SANITARY SEWER MARKER DETAIL THIS SHEET. UTILITY MARKERS SHALL MEET ALL REQUIREMENTS SET FORTH BY THE BNSF UTILITY ACCOMMODATION POLICY. SEE NOTE 1.
- CONTRACTOR SHALL BE AWARE THAT NO WORKERS WITHOUT PROPER IDENTIFICATION ARE TO ENTER BNSF RIGHT-OF-WAY PROPERTY.

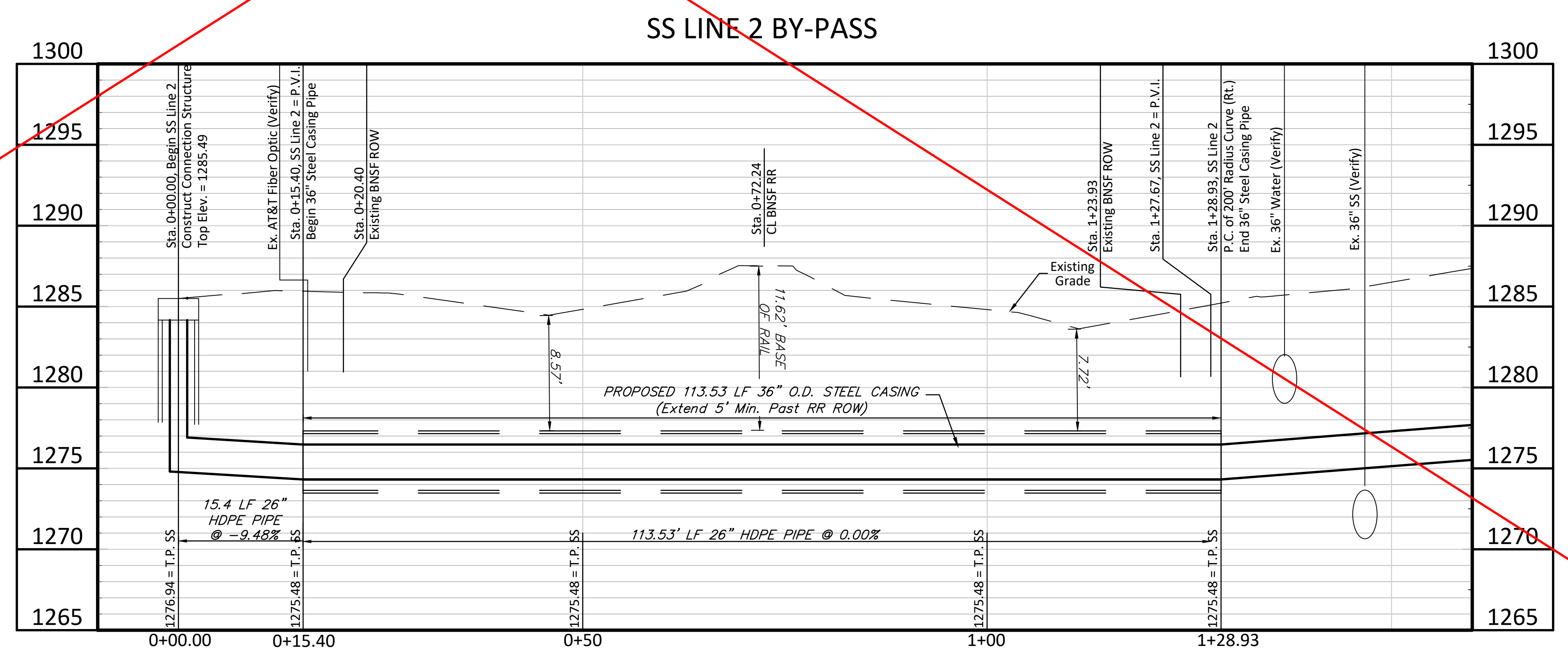
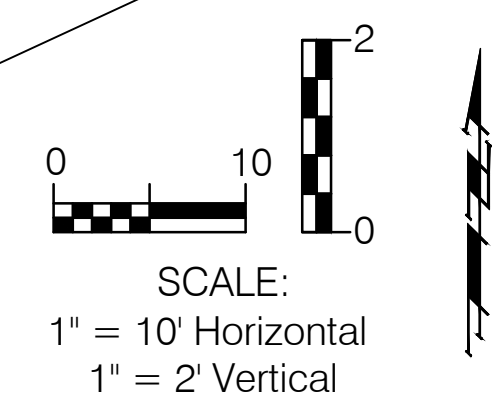
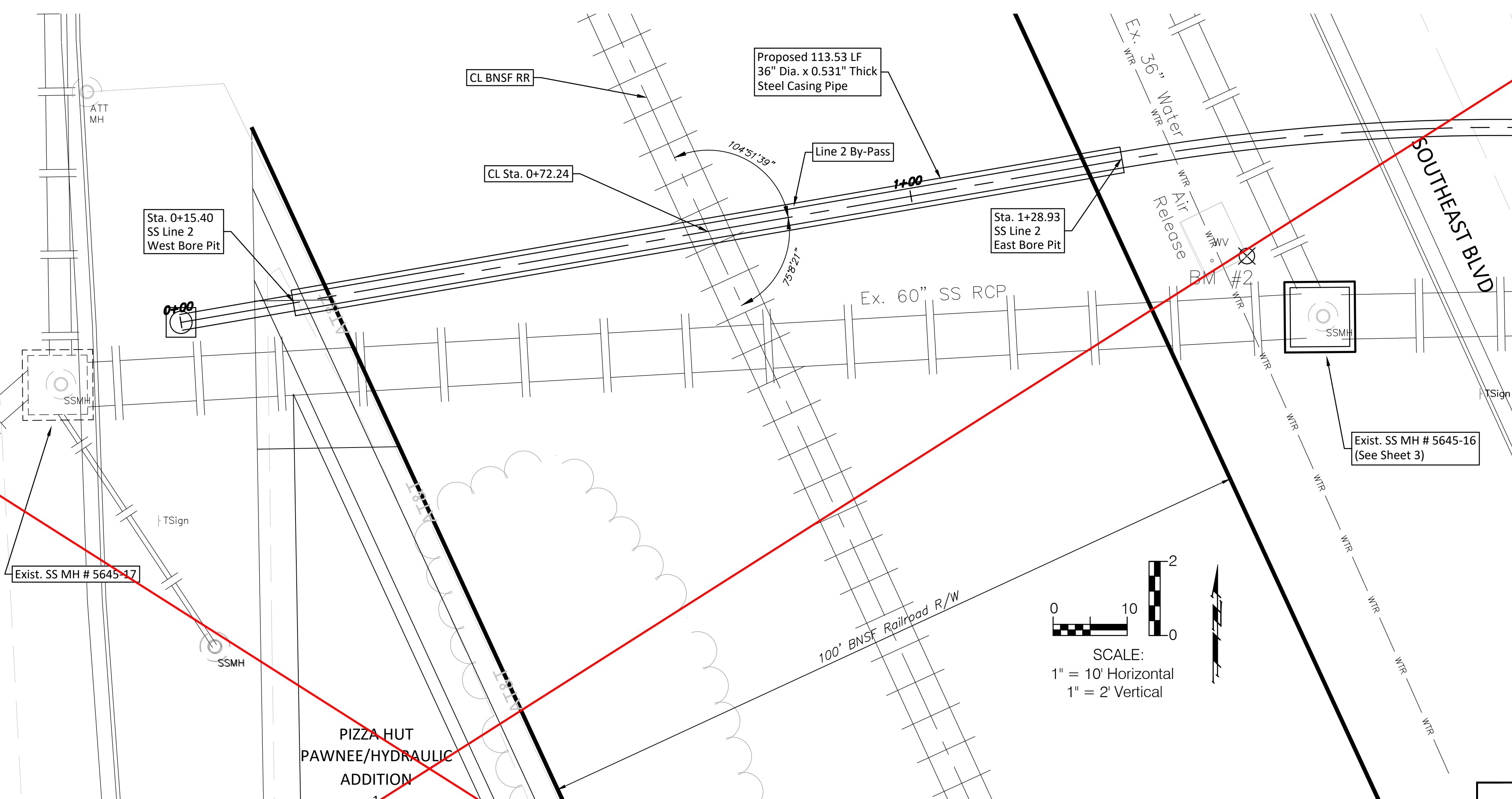


SANITARY SEWER MARKER DETAIL

NOTE:
UTILITY MARKER SHALL MEET ALL REQUIREMENTS SET FORTH BY THE BNSF UTILITY ACCOMMODATION POLICY. SEE NOTE 1.



END VIEW



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HYDRAULIC & SE BLVD SS

SANITARY SEWER LINE 2 DETAILS

CAPITAL IMPROVEMENT PROJECT

PROJECT NUMBER:
468-85276

DESIGN: ENG DRAWN: JSB
DATE: January 26, 2023

SHEET OF 24
4B 24

File: E:\Projects\Hydraulic & SE Blvd SS-17-11-E672\SS Base.dwg