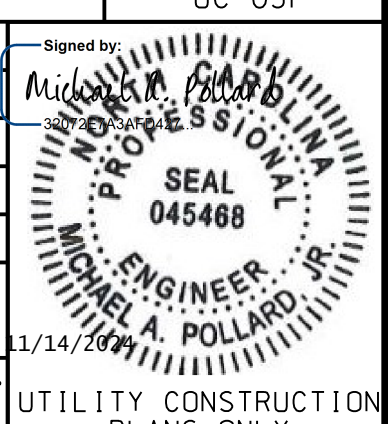




CDM Smith Inc. 5400 Glenwood Avenue Suite 400 Raleigh, NC 27612-3228 NC COA No. F-1255

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO. U-3422 SHEET NO. UC-03F DESIGNED BY: SSM DRAWN BY: SSM CHECKED BY: HMH APPROVED BY: MAP REVISIONS: NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SECTION PHONE: (919) 707-6690 FAX: (919) 250-4151 UTILITY CONSTRUCTION PLANS ONLY



UTILITY CONSTRUCTION

NOTE: ANY REFERENCE TO FAYPWC PROJECT COORDINATOR, PWC COORDINATOR OR FAYPWC (FAYETTEVILLE PUBLIC WORKS COMMISSION) SHALL BE INTERPRETTED AS A REFERENCE TO THE ENGINEER.

- NOTES: 1. PRECAST REINFORCED CONCRETE MANHOLES SHALL BE IN ACCORDANCE WITH ASTM C-478... 2. MINIMUM CONCRETE COMPRESSIVE STRENGTH SHALL BE 4,000PSI... 3. MANHOLES GREATER THAN 12" DEPTH SHALL HAVE MINIMUM 6" EXTENDED BASE... 4. FLEXIBLE BUTYL RESIN JOINT SEALANT SHALL BE IN ACCORDANCE WITH ASTM C990... 5. FLEXIBLE EPDM RUBBER BOOT CONNECTORS SHALL BE IN ACCORDANCE WITH ASTM C920... 6. CONNECTIONS TO EXISTING MANHOLES SHALL BE BY CORING MANHOLE AND FIELD INSTALLING A FLEXIBLE EPDM RUBBER BOOT CONNECTOR... 7. MORTAR USED FOR SEALING JOINTS AND LIFT HOLES SHALL BE QUICK SETTING, NON-SHRINK GROUT MIXED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS... 8. MANHOLE STEPS SHALL BE IN ACCORDANCE WITH ASTM C478 AND OSHA REGULATIONS... 9. PRECAST INVERTS ARE NOT ALLOWED... 10. VERTICAL DROPS BETWEEN THE INFLOW PIPES AND OUTFLOW PIPES SHALL REQUIRE THE FOLLOWING: A. GREATER THAN 2' SEE DROP STRUCTURE DETAIL (MIN. 5" DIAMETER MH REQUIRED) B. LESS THAN 2' SEE PIPE SLIDE DETAIL... 11. AN ECCENTRIC CONE SHALL BE UTILIZED ON ALL MANHOLES, UNLESS OTHERWISE APPROVED BY FAYPWC... 12. INVERT ON PLANS IS TO MANHOLE CENTERLINE... 13. GRADE RINGS SHALL NOT BE USED FOR ABOVE GRADE ADJUSTMENTS (IE. OUTFALL AREAS). USE OF GRADE RINGS IN YARD OR LANDSCAPE AREAS IS ALLOWED, WHERE THE RING AND COVER ARE AT GROUND LEVEL. GRADE RINGS CAN BE EITHER CONCRETE OR HDPE. HDPE GRADE RINGS SHALL MEET THE REQUIREMENTS OF ASTM 4786 FOR MATERIAL, QUALITY, AND PERFORMANCE... 14. THE MINIMUM SLOPE ACROSS THE INVERT OF THE MANHOLE SHALL BE 1% UNLESS OTHERWISE APPROVED BY FAYPWC... 15. THE EXTERIOR MANHOLE RISER JOINTS, INCLUDING THE JOINT AT THE CONE, SHALL BE SEALED ON THE OUTSIDE BY AN APPROVED JOINT WRAP... 16. MANHOLE BOOT FOR 4-INCH LATERALS, SHOULD IT BE NECESSARY TO INSTALL A 4-INCH LATERAL INTO A MANHOLE, THE RUBBER BOOT THAT THE LATERAL IS INSERTED INTO SHALL BE SECURELY FASTENED TO THE CORE HOLE BY UTILIZING A STAINLESS STEEL BAND THAT IS TIGHTENED USING A JACK OR A TORQUE WRENCH (DIRECT DRIVE). BOTH STANDARD SIZE AND STEP DOWN BOOTS ARE ALLOWED... 17. NO MORE THAN 4, FOUR-INCH LATERALS OR 3, SIX-INCH LATERALS (REGARDLESS OF SIZE) SHALL ENTER ALL OTHER 4" DIAMETER MANHOLES... 18. NO MORE THAN 5 LATERALS SHALL ENTER A 5" DIAMETER MANHOLE... 19. USE OF TEE-WYES ON LATERALS IS NOT ALLOWED... 20. ALL MANHOLES SHALL BE VACUUM TESTED IN ACCORDANCE WITH FAYPWC STANDARDS

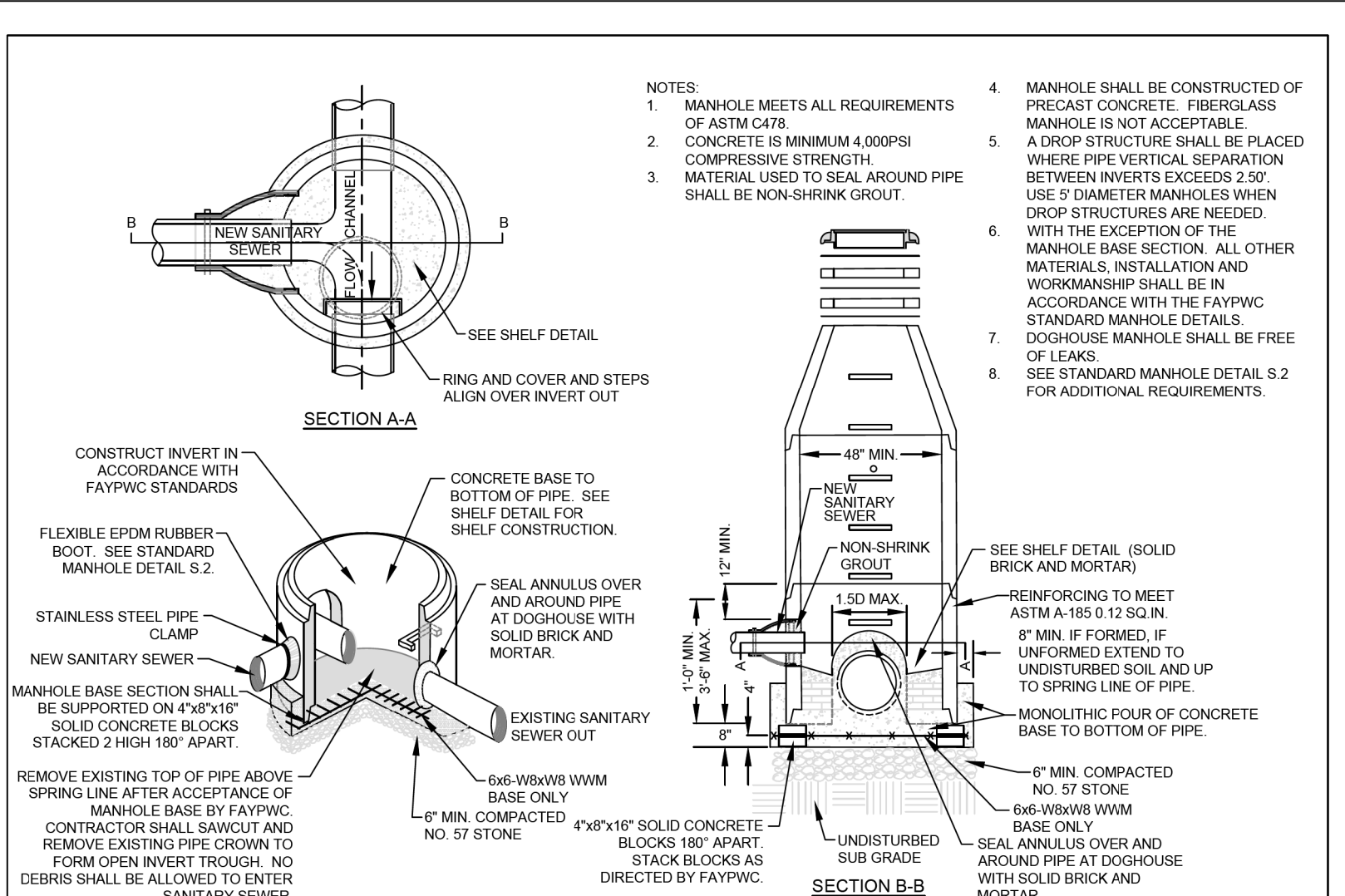


Table with columns: STANDARD MANHOLE, FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C., WATER RESOURCES ENGINEERING DEPARTMENT, NO., DATE, REVISION. Includes revision history for S2-STANDARD-MANHOLE.dwg.

Table with columns: DOGHOUSE MANHOLE (MAINS 15" OR LESS) N.T.S., FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C., WATER RESOURCES ENGINEERING DEPARTMENT, NO., DATE, REVISION. Includes revision history for S3-DOGHOUSE-MH.dwg.

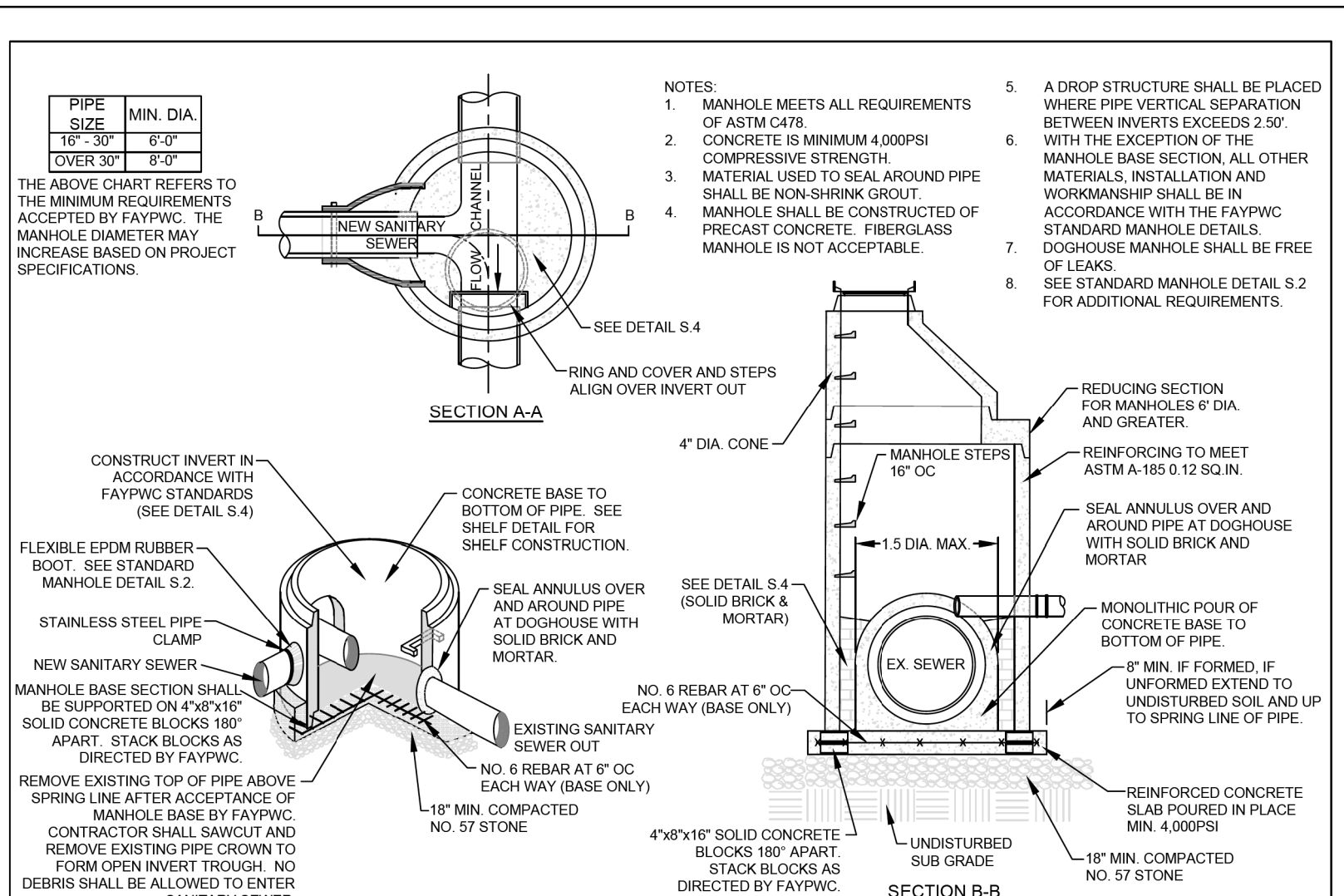


Table with columns: DOGHOUSE MANHOLE (MAINS 16" OR LARGER) N.T.S., FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C., WATER RESOURCES ENGINEERING DEPARTMENT, NO., DATE, REVISION. Includes revision history for S3-DOGHOUSE-MH.dwg.

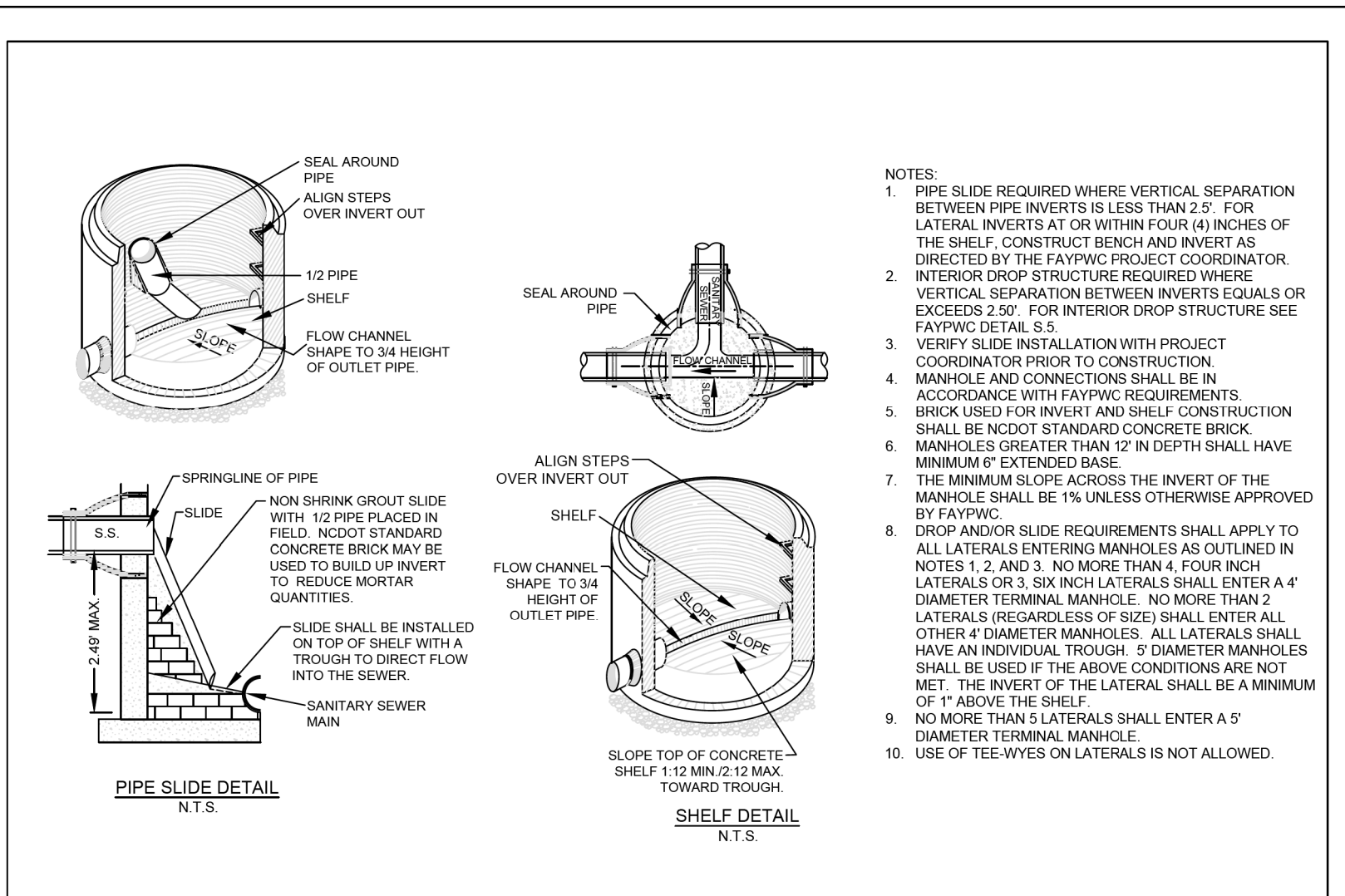


Table with columns: PIPE SLIDE AND SHELF DETAILS N.T.S., FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C., WATER RESOURCES ENGINEERING DEPARTMENT, NO., DATE, REVISION. Includes revision history for S4-PSLIDE.dwg.

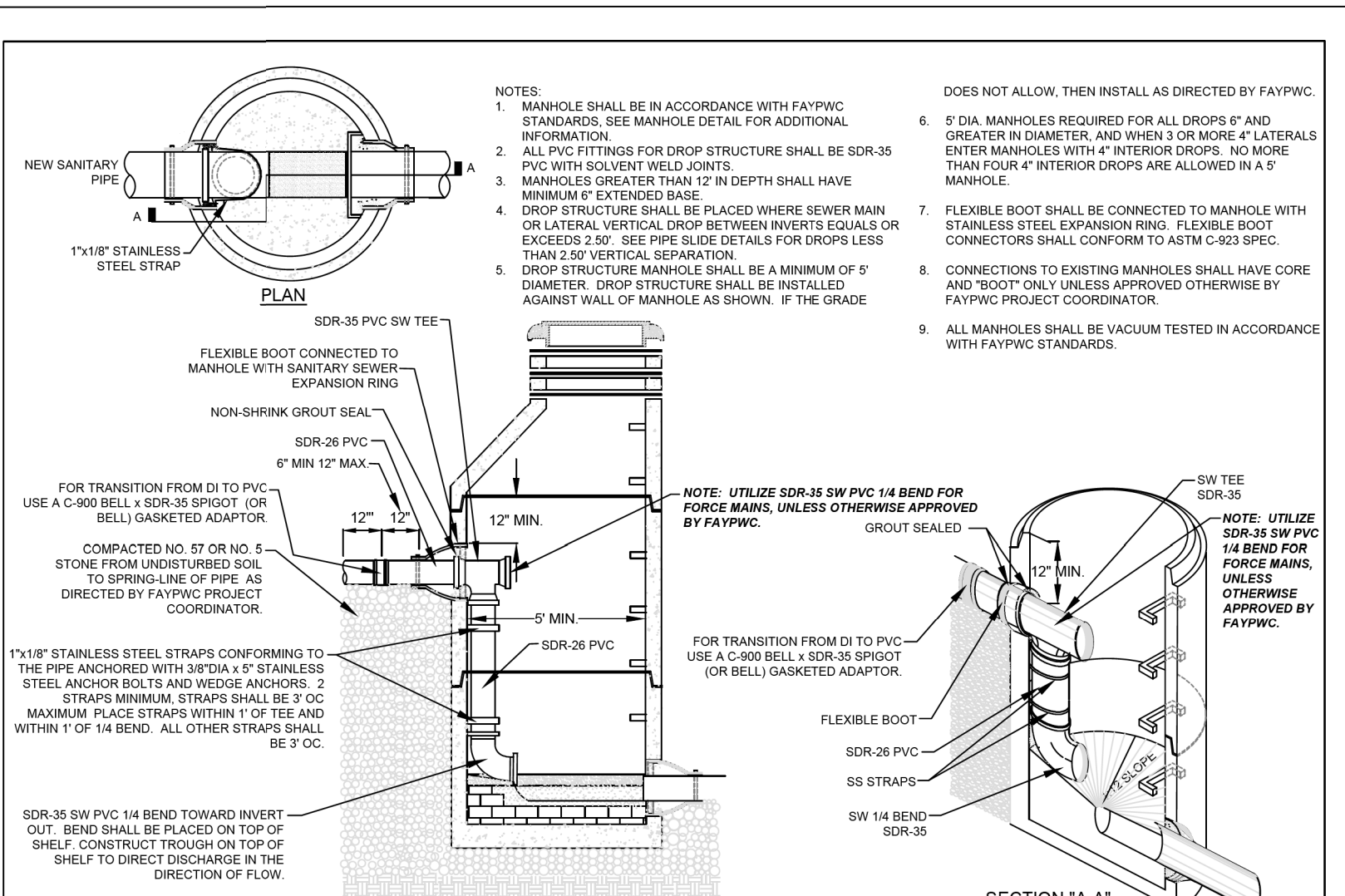


Table with columns: INTERIOR DROP STRUCTURE SEWER MAINS AND LATERALS N.T.S., FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C., WATER RESOURCES ENGINEERING DEPARTMENT, NO., DATE, REVISION. Includes revision history for S5-DROP-MH.dwg.

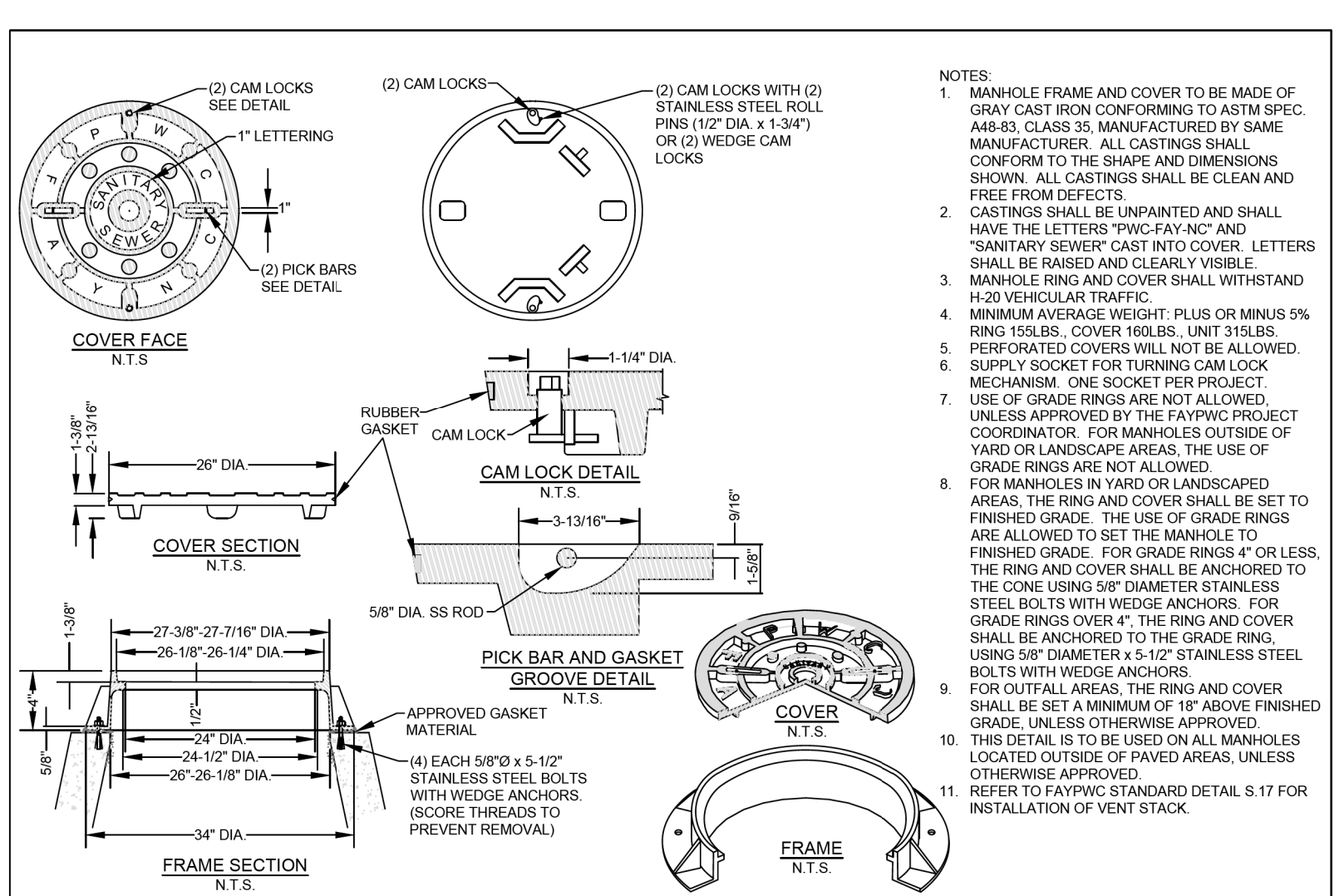


Table with columns: STANDARD NON-TRAFFIC AREA MANHOLE RING AND COVER WITH WIPER GASKET AND CAM LOCK N.T.S., FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C., WATER RESOURCES ENGINEERING DEPARTMENT, NO., DATE, REVISION. Includes revision history for S6-RING-COVER.dwg.

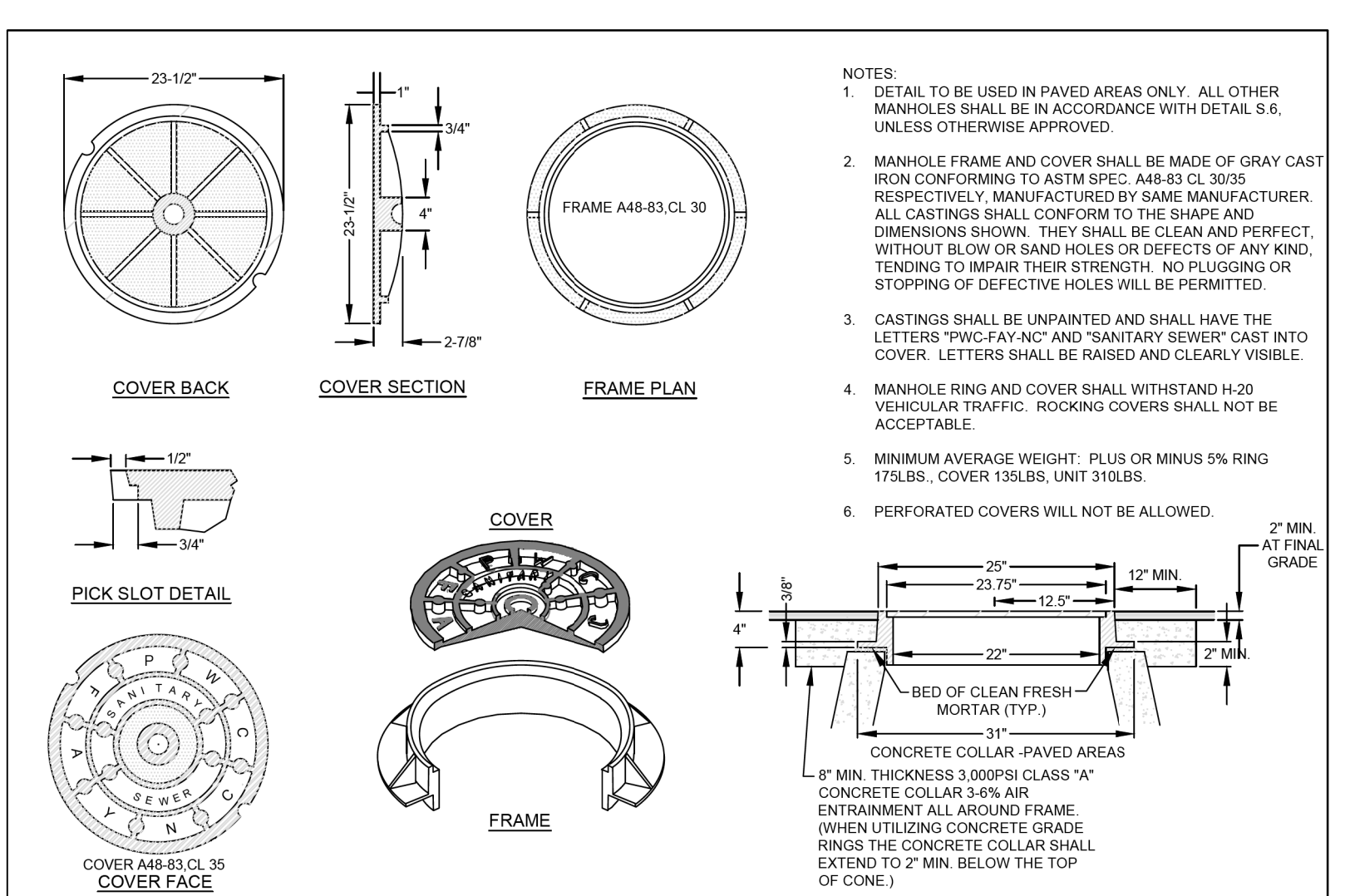


Table with columns: STANDARD TRAFFIC AREA MANHOLE RING AND COVER N.T.S., FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C., WATER RESOURCES ENGINEERING DEPARTMENT, NO., DATE, REVISION. Includes revision history for S7-RING-COVER.dwg.

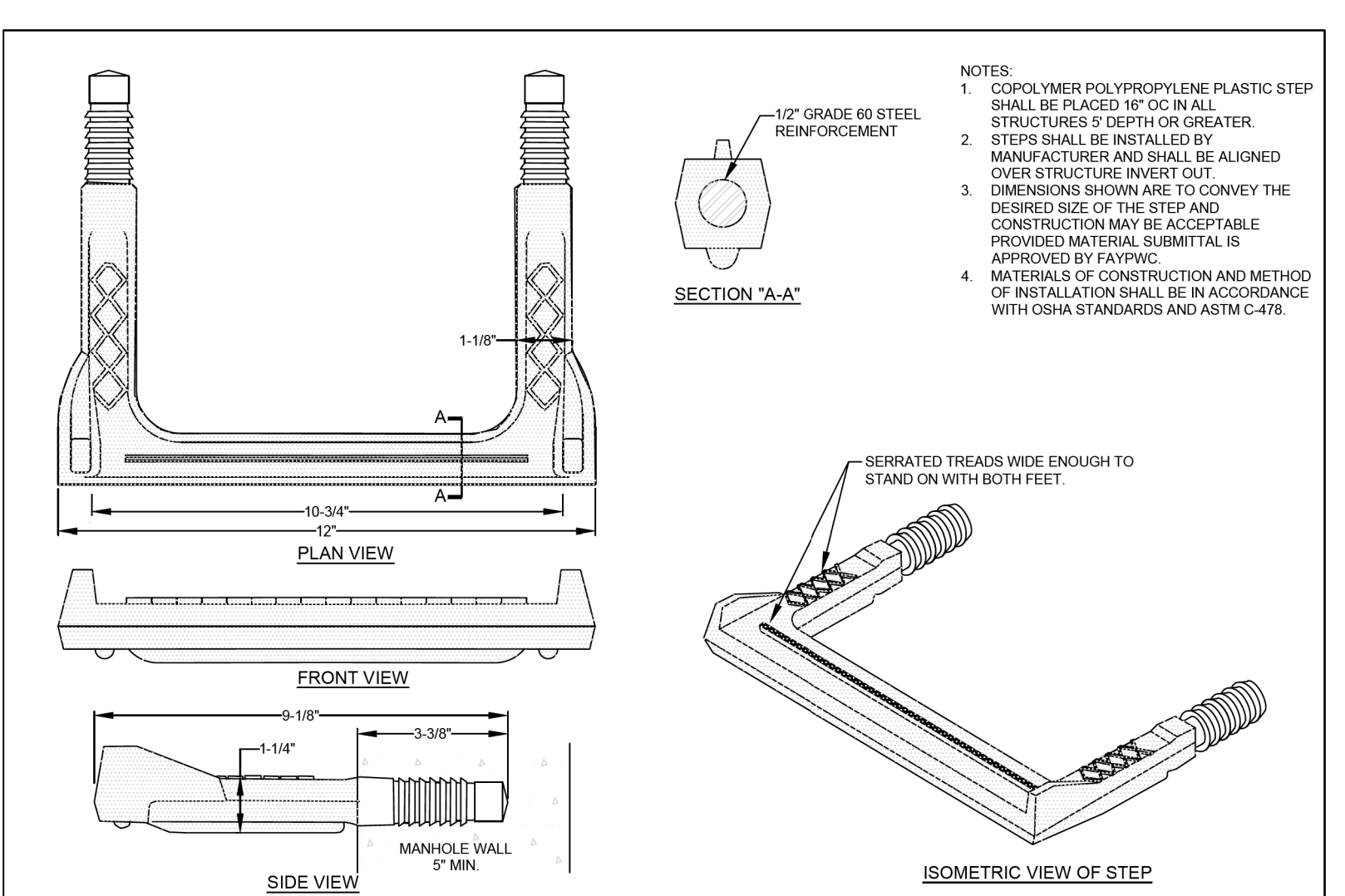


Table with columns: STRUCTURE STEP N.T.S., FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C., WATER RESOURCES ENGINEERING DEPARTMENT, NO., DATE, REVISION. Includes revision history for S8-STEP.dwg.

REVISIONS

SYSTEM: 042922_Ut_dtl_LUC03-3H.dgn USER: JONATHAN