41INFRA072024A

COMPUTED BY: HY DATE: 12/10/2024

CHECKED BY: PMH DATE: 12/10/2024

| PROJECT NO. | SHEET NO. |
|---|---|
| HB-0035 | 3D-1 |

# NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
# DIVISION OF HIGHWAYS

**Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300-5".**

## *LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)*

| LINE & STATION | OFFSET | STRUCTURE NUMBER FROM | STRUCTURE NUMBER TO | TOP ELEVATION FT. | INVERT ELEVATION FT. | INVERT ELEVATION FT. | MINIMUM REQUIRED SLOPE % |
|---|---|---|---|---|---|---|---|
| L 23+55 | 23 RT | 0401 | | 569.9 | | | |
| | | 0401 | 0403 | | 564.8 | 547.8 | |
| L 24+19 | 23 RT | 0402 | | 569.5 | | | |
| | | 0402 | 0401 | | 565.1 | 564.8 | |
| L 17+91 | 0 | 0404 | 0405 | | 576.3 | 575.7 | |
| L 17+91 | 14 RT | 0405 | | 581.1 | | | |
| | | 0405 | 0406 | | 575.7 | 574.5 | |
| L 18+25 | 15 RT | 0406 | | 579.7 | | | |
| | | 0406 | 0407 | | 574.5 | 548.4 | |
| L 19+54 | 28 RT | 0408 | | | | | |
| L 25+59 | 25 RT | 0409 | | 570.3 | | | |
| | | 0409 | 0410 | | 565.9 | 565.7 | |
| L 25+40 | 18 RT | 0410 | | 571.1 | | | |
| | | 0410 | 0402 | | 565.7 | 565.1 | |
| L 17+92 | 29 LT | | | | | | |
| L 17+92 | 40 LT | | | | | | |
| L 25+98 | 30 RT | | | | | | |

| LINE & STATION | FROM | TO | Drainage Pipe (RCP, CSP, CAAP, HDPE, PVC, or PP PIPE) 12 | 15 | 18 | 24 | 30 | 36 | | C. S. PIPE 12 (.064) | 15 (.064) | 18 (.064) | 24 (.064) | 30 (.079) | 36 (.079) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L 23+55 | 0401 | | | | | | | | | | | | | | | |
| | 0401 | 0403 | | 60 | | | | | | | | | | | | |
| L 24+19 | 0402 | | | | | | | | | | | | | | | |
| | 0402 | 0401 | | | | | | | | | | | | | | |
| L 17+91 | 0404 | 0405 | | | | | | | | | | | | | | |
| L 17+91 | 0405 | | | | | | | | | | | | | | | |
| | 0405 | 0406 | | | | | | | | | | | | | | |
| L 18+25 | 0406 | | | | | | | | | | | | | | | |
| | 0406 | 0407 | | | | | | | | | | | 68 | | | |
| L 19+54 | 0408 | | | 60 | | | | | | | | | | | | |
| L 25+59 | 0409 | | | | | | | | | | | | | | | |
| | 0409 | 0410 | | | | | | | | | | | | | | |
| L 25+40 | 0410 | | | | | | | | | | | | | | | |
| | 0410 | 0402 | | | | | | | | | | | | | | |
| L 17+92 | | | | | | | | | | | | | | | | |
| L 17+92 | | | | | | | | | | | | | | | | |
| L 25+98 | | | | | | | | | | | | | | | | |
| SHEET TOTALS | | | | 120 | | | | | | | | | 68 | | | |
| PROJECT TOTALS | | | | 120 | | | | | | | | | 68 | | | |

| LINE & STATION | FROM | TO | R. C. PIPE CLASS III 12 | 15 | 18 | 24 | 30 | 36 | | R. C. PIPE CLASS IV 12 | 15 | 18 | 24 | 30 | 36 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L 23+55 | 0401 | | | | | | | | | | | | | | | |
| | 0401 | 0403 | | | | | | | | | | | | | | |
| L 24+19 | 0402 | | | | | | | | | | | | | | | |
| | 0402 | 0401 | | 60 | | | | | | | | | | | | |
| L 17+91 | 0404 | 0405 | | 52 | | | | | | | | | | | | |
| L 17+91 | 0405 | | | | | | | | | | | | | | | |
| | 0405 | 0406 | | 36 | | | | | | | | | | | | |
| L 18+25 | 0406 | | | | | | | | | | | | | | | |
| | 0406 | 0407 | | | | | | | | | | | | | | |
| L 19+54 | 0408 | | | | | | | | | | | | | | | |
| L 25+59 | 0409 | | | | | | | | | | | | | | | |
| | 0409 | 0410 | | 24 | | | | | | | | | | | | |
| L 25+40 | 0410 | | | | | | | | | | | | | | | |
| | 0410 | 0402 | | 120 | | | | | | | | | | | | |
| L 17+92 | | | | | | | | | | | | | | | | |
| L 17+92 | | | | | | | | | | | | | | | | |
| L 25+98 | | | | | | | | | | | | | | | | |
| SHEET TOTALS | | | | 292 | | | | | | | | | | | | |
| PROJECT TOTALS | | | | 292 | | | | | | | | | | | | |

| LINE & STATION | FROM | TO | ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CY | REINFORCED ENDWALLS CY | DRAINAGE STRUCTURE MASONRY CY | QUANTITIES FOR DRAINAGE STRUCTURES (NOTE: TOTAL LIN. FT. FOR PAY QUANTITY SHALL BE A + (1.3 X B)) 0' THRU 5' EACH | A 5' THRU 10' LIN. FT. | B 10' AND ABOVE LIN. FT. | C.B. STD. 840.01 OR STD. 840.02 | FRAME, GRATES, AND HOOD STD. 840.03 GRATE TYPE E | F | G | | CONCRETE TRANSITIONAL SECTION D.I. STD. 852.04 OR STD. 852.06 | C.B. STD. 852.05 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L 23+55 | 0401 | | | | | 1 | 0.1 | | 1 | | 1 | | | | |
| | 0401 | 0403 | | | | | | | | | | | | | |
| L 24+19 | 0402 | | | | | 1 | | | 1 | 1 | | | | | |
| | 0402 | 0401 | | | | | | | | | | | | | |
| L 17+91 | 0404 | 0405 | | | | | | | | | | | | | |
| L 17+91 | 0405 | | | | | 1 | 0.4 | | | | | | | | |
| | 0405 | 0406 | | | | | | | | | | | | | |
| L 18+25 | 0406 | | | | | 1 | 0.2 | | | | | | | | |
| | 0406 | 0407 | | | | | | | | | | | | | |
| L 19+54 | 0408 | | | | | | | | | | | | | | |
| L 25+59 | 0409 | | | | | 1 | | | 1 | | 1 | | | | |
| | 0409 | 0410 | | | | | | | | | | | | | |
| L 25+40 | 0410 | | | | | 1 | 0.4 | | 1 | | | 1 | | | |
| | 0410 | 0402 | | | | | | | | | | | | | |
| L 17+92 | | | | | | | | | | | | | | | |
| L 17+92 | | | | | | | | | | | | | | | |
| L 25+98 | | | | | | | | | | | | | | | |
| SHEET TOTALS | | | | | | 6 | 1.1 | | 4 | 1 | 2 | 1 | | | |
| PROJECT TOTALS | | | | | | 6 | 1.1 | | 4 | 1 | 2 | 1 | | | |

| LINE & STATION | FROM | TO | OPEN THROAT C.B. STD. 840.04 OR STD. 840.05 | CONCRETE BRIDGE APPROACH D.I. STD. 840.13 | D.I. STD. 840.14 OR STD. 840.15 | D.I. FRAME AND GRATES STD. 840.16 | G.D.I. TYPE "A" STD. 840.17 OR STD. 840.26 | G.D.I. TYPE "B" STD. 840.18 OR STD. 840.27 | G.D.I. TYPE "D" STD. 840.19 OR STD. 840.28 | G.D.I. (W.S. FLAT) FRAME WITH GRATE STD. 840.20 | G.D.I. (W.S. FLAT) FRAME W/ 2 GRATES STD. 840.20 | G.D.I. (W.S. SAG) FRAME W/ GRATE STD. 840.22 | G.D.I. (W.S. SAG) FRAME W/ 2 GRATES STD. 840.22 | G.D.I. (N.S. SAG) FRAME W/ GRATE STD. 840.24 | G.D.I. (N.S. SAG) FRAME W/ 2 GRATES STD. 840.24 | G.D.I. (N.S. FLAT) FRAME W/ GRATE STD. 840.29 | G.D.I. (N.S. FLAT) FRAME W/ 2 GRATES STD. 840.29 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L 23+55 | 0401 | | | | | | | | | | | | | | | | |
| | 0401 | 0403 | | | | | | | | | | | | | | | |
| L 24+19 | 0402 | | | | | | | | | | | | | | | | |
| | 0402 | 0401 | | | | | | | | | | | | | | | |
| L 17+91 | 0404 | 0405 | | | | | | | | | | | | | | | |
| L 17+91 | 0405 | | | | | | | | | | | | | | | | 1 |
| | 0405 | 0406 | | | | | | | | | | | | | | | |
| L 18+25 | 0406 | | | | | | | | | | | | | | | | 1 |
| | 0406 | 0407 | | | | | | | | | | | | | | | |
| L 19+54 | 0408 | | | | | | | | | | | | | | | | |
| L 25+59 | 0409 | | | | | | | | | | | | | | | | |
| | 0409 | 0410 | | | | | | | | | | | | | | | |
| L 25+40 | 0410 | | | | | | | | | | | | | | | | |
| | 0410 | 0402 | | | | | | | | | | | | | | | |
| L 17+92 | | | | | | | | | | | | | | | | | |
| L 17+92 | | | | | | | | | | | | | | | | | |
| L 25+98 | | | | | | | | | | | | | | | | | |
| SHEET TOTALS | | | | | | | | | | | | | | | | | 2 |
| PROJECT TOTALS | | | | | | | | | | | | | | | | | 2 |

| LINE & STATION | FROM | TO | DRIVEWAY D.I. STD. 840.30 | FRAME W/ GRATE FOR DRIVEWAY STD. 840.30 | J.B. STD. 840.31 OR STD. 840.32 | ANGLED VANE GRATES AND FRAMES STD. 840.33 | T.B.J.B. STD. 840.34 | T.B.D.I. STD. 840.35 | T.B.D.I. FOR STEEL GRATES STD. 840.36 | SPRING BOX STD. 840.41 | M.H. STD. 840.51, STD. 840.52, OR STD. 840.53 | M.H. FRAME AND COVER STD. 840.54 | 15" DRAINAGE PIPE ELBOW | 15" C.S. ELBOW | 18" C.S. ELBOW | 24" C.S. ELBOW | 30" C.S. ELBOW | 36" C.S. ELBOW | MODIFIED CONC. FLUME | PREFORMED SCOUR HOLE (PER EACH) | ENERGY DISSIPATION BASIN | | FLOWABLE FILL CY | CONCRETE COLLARS CL. "B" STD. 840.72 CY | CONCRETE AND BRICK PIPE PLUG STD. 840.71 CY | PIPE REMOVAL LIN. FT. | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| L 23+55 | 0401 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0401 | 0403 | | | | | | | | | | | 2 | | | | | | | | | | | | | | |
| L 24+19 | 0402 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0402 | 0401 | | | | | | | | | | | | | | | | | | | | | | | | | |
| L 17+91 | 0404 | 0405 | | | | | | | | | | | | | | | | | | | | | | | | | |
| L 17+91 | 0405 | | | | | | | 1 | | | | | | | | | | | | | | | | | | | |
| | 0405 | 0406 | | | | | | | | | | | | | | | | | | | | | | | | | |
| L 18+25 | 0406 | | | | | | | 1 | | | | | | | | | | | | | | | | | | | |
| | 0406 | 0407 | | | | | | | | | | | | | | 2 | | | | | | | | | | | |
| L 19+54 | 0408 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| L 25+59 | 0409 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0409 | 0410 | | | | | | | | | | | | | | | | | | | | | | | | | |
| L 25+40 | 0410 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 0410 | 0402 | | | | | | | | | | | | | | | | | | | | | | | | | |
| L 17+92 | | | | | | | | | | | | | | | | | | | | | | | | | | 5 | |
| L 17+92 | | | | | | | | | | | | | | | | | | | | | | | | | | 17 | |
| L 25+98 | | | | | | | | | | | | | | | | | | | | | | | | | | 21 | |
| SHEET TOTALS | | | | | | | | 2 | | | | | 2 | | | 2 | | | | | | | | | | 43 | |
| PROJECT TOTALS | | | | | | | | 2 | | | | | 2 | | | 2 | | | | | | | | | | 43 | |

**ABBREVIATIONS**

| | |
|---|---|
| C.A.A. | CORRUGATED ALUMINIUM ALLOY |
| C.B. | CATCH BASIN |
| C.S. | CORRUGATED STEEL |
| D.I. | DROP INLET |
| G.D.I. | GRATED DROP INLET |
| H.D.P.E. | HIGH DENSITY POLYETHYLENE |
| J.B. | JUNCTION BOX |
| M.H. | MANHOLE |
| N.S. | NARROW SLOT |
| P.V.C. | POLYVINYL CHLORIDE |
| R.C. | REINFORCED CONCRETE |
| T.B.D.I. | TRAFFIC BEARING DROP INLET |
| T.B.J.B. | TRAFFIC BEARING JUNCTION BOX |
| W.S. | WIDE SLOT |