



HDR Engineering, Inc. of the Carolinas  
 555 Fayetteville St, Suite 900 Raleigh, N.C. 27601  
 N.C.B.E.L.S. License Number: F-0116

|                                                                                                                           |                    |
|---------------------------------------------------------------------------------------------------------------------------|--------------------|
| PROJECT REFERENCE NO.<br>B-3186 / B-5898                                                                                  | SHEET NO.<br>UC-3B |
| DESIGNED BY: VHM                                                                                                          |                    |
| DRAWN BY: VHM                                                                                                             |                    |
| CHECKED BY: MWW                                                                                                           |                    |
| APPROVED BY:                                                                                                              |                    |
| REVISED:                                                                                                                  |                    |
| NORTH CAROLINA DEPARTMENT OF TRANSPORTATION<br>UTILITIES ENGINEERING SEC.<br>PHONE: (919) 707-6690<br>FAX: (919) 250-4151 |                    |
| UTILITY CONSTRUCTION PLANS ONLY                                                                                           |                    |

# JUNALUSKA SANITARY DISTRICT DETAILS

UTILITY CONSTRUCTION  
 DOCUMENT NOT CONSIDERED FINAL  
 UNLESS ALL SIGNATURES COMPLETED

| TABLE OF "A" DIMENSIONS (IN FEET) |     |     |        |        |     |
|-----------------------------------|-----|-----|--------|--------|-----|
| BEND                              | 90  | 45  | 22 1/2 | 11 1/4 | TEE |
| 6                                 | 1.4 | 1.1 | 1.0    | 1.0    | 1.2 |
| 8                                 | 1.9 | 1.5 | 1.5    | 1.5    | 1.6 |
| 10                                | 2.4 | 1.8 | 1.8    | 1.8    | 2.0 |
| 12                                | 2.8 | 2.1 | 2.0    | 2.0    | 2.4 |
| 16                                | 3.8 | 2.8 | 2.5    | 2.5    | 2.8 |
| 24                                | 5.6 | 4.2 | 3.0    | 3.0    | 4.5 |

NOTES:  
 1. ALL FITTINGS MUST BE RESTRAINED AS SPECIFIED IN SECTION 02660 OF THE TECHNICAL SPECIFICATIONS.  
 2. DIMENSION TABLE GIVEN IS A GUIDE ONLY. ENGINEER SHALL BE RESPONSIBLE TO CALCULATE THRUST BLOCK DIMENSIONS BASED ON ACTUAL SOIL AND OPERATING PRESSURE CONDITIONS.  
 3. FITTING JOINTS SHALL BE KEPT FREE OF CONCRETE. A LAYER OF POLYETHYLENE PLASTIC SHALL BE PLACED BETWEEN THE FITTING AND THE CONCRETE.  
 4. PRE-CAST THRUST BLOCKS ARE NOT ACCEPTABLE.  
 5. CONCRETE SHALL HAVE 4000 P.S.I. COMPRESSIVE STRENGTH.

**TYPICAL THRUST BLOCK FOR TEES**  
 NTS

**TYPICAL THRUST BLOCK FOR BENDS**  
 NTS

**Junaluska Sanitary District**  
 P.O. Box 35  
 Lake Junaluska, NC 28745  
 828.350.7683

| Revisions |             |
|-----------|-------------|
| Date      | Description |
|           |             |
|           |             |
|           |             |

DATE: DECEMBER 2011 SCALE: NOT TO SCALE

**CLASS "C" ALTERNATE**  
**CLASS "C" BEDDING**  
 NOT TO SCALE

**CLASS "D" BEDDING**  
 NOT TO SCALE

NOTE: FOR USE WITH TRENCH EXCAVATED BY BACKHOE. HAND SHAPED BOTTOM - SHAPE BELL HOLES FOR USE IN DRY EARTH TRENCHES ONLY.

NOTE: FOR USE W/ TRENCH EXCAVATED BY BACKHOE IN UNSTABLE SOIL, ROCK AND GROUNDWATER CONDITIONS APPLICABLE TO BOTH EARTH AND ROCK TRENCHES.

NOTE: FOR USE WITH TRENCHING MACHINE. USE IN DRY EARTH TRENCHES ONLY.

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**PRIMARY & SECONDARY ROAD PAVEMENT REPLACEMENT DETAIL**

**CONCRETE DRIVEWAY REPLACEMENT DETAIL**

**DRIVEWAY & PARKING LOT ASPHALT REPLACEMENT DETAIL**

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