

NOT TO SCALE

HINDE ENGINEERING
 License No. C-2639
 401 Hartson Oaks Blvd., Suite 220 Cary, NC 27513

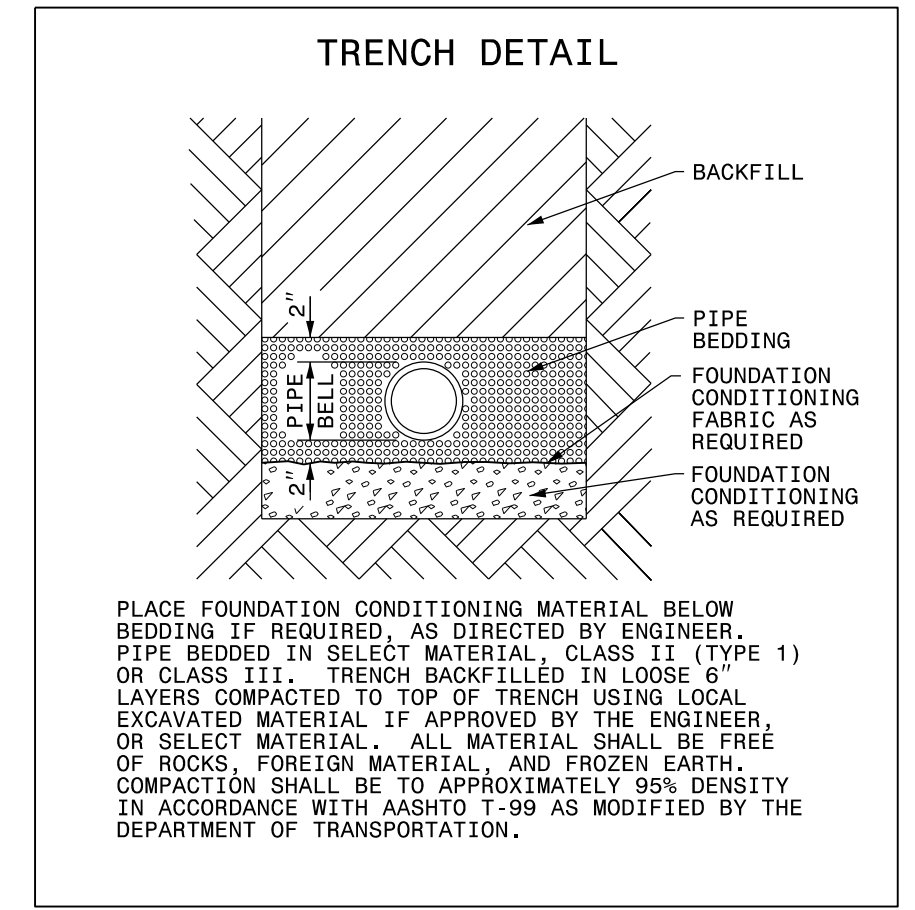
**DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED**

PROJECT REFERENCE NO. Y-4810K	SHEET NO. UC-3A
DESIGNED BY: JKC	
DRAWN BY: JNA	
CHECKED BY: JKC	
APPROVED BY: CLS	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 UTILITY CONSTRUCTION PLANS ONLY	

PROJECT TYPICAL DETAILS

UTILITY CONSTRUCTION

NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)	NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)
4	28	20	44
6	30	24	48
8	32	30	54
10	34	36	60
12	36	42	66
14	38	48	72
16	40	54	78
18	42		



CARRIER PIPE		SPIDER DIMENSIONS		
NOMINAL DIA.	O. D.	A	B	C
6"	6.90"	11"	1 1/4"	5/8"
8"	9.05"	16 1/2"	2 1/4"	1"
12"	13.20"	22 1/2"	3"	1 1/4"
16"	17.40"	28 1/2"	3 1/2"	1 1/2"
24"	25.80"	34 1/4"	4"	2"

NOMINAL DIA.	1	2	3	4
6"	8" x 2" x 1/4" PL	8" x 1 1/2" x 1/4" PL	8" x 1 1/4" PL	3/8" NUT & BOLT
8"	8" x 3" x 1/4" PL	8" x 3 1/4" x 1/4" PL	8" x 1 1/4" PL	1/2" NUT & BOLT
12"	8" x 4" x 1/4" PL	8" x 3 3/8" x 3/8" PL	8" x 3/8" PL	1/2" NUT & BOLT
16"	8" x 4" x 3/8" PL	8" x 4 3/4" x 3/8" PL	8" x 3/8" PL	1/2" NUT & BOLT
24"	8" x 4" x 3/8" PL	8" x 5 1/2" x 3/8" PL	8" x 3/8" PL	1/2" NUT & BOLT

NOTES:
 1. SEE WSACC SPEC 02240 FOR REQUIRED CASING DIAMETER AND MINIMUM THICKNESS.
 2. CARRIER PIPE IS RESTRAINED PUSH-ON JOINT DIP.
 3. PROVIDE TWO SPIDERS PER JOINT OF CARRIER PIPE.
 4. SPIDERS, NUTS, BOLTS & WASHERS SHALL BE STAINLESS STEEL.
 5. ADJUST HEIGHT OF SPIDERS AS NECESSARY TO MAINTAIN SPECIFIED SLOPE.
 6. CASING PIPE MATERIAL IS STEEL.

CASING SPIDER

November 2018
305

RELATION OF WATER & SEWER MAINS TO STORM DRAINS

NOTE: WHEN A WATER MAIN CROSSES OVER OR UNDER A STORM SEWER AND CONDITIONS PREVENT THE REQUIRED 18" MIN VERTICAL SEPARATION, THE WATER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A MINIMUM DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.

NOTE: WHEN A SANITARY SEWER MAIN CROSSES OVER OR UNDER A STORM SEWER AND CONDITIONS PREVENT THE REQUIRED 24" MIN VERTICAL SEPARATION, THE SANITARY SEWER MAIN SHALL BE CONSTRUCTED OF DUCTILE IRON PIPE WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A MINIMUM DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING.

KANNAPOLIS Public Works

November 2018
303

WATER SERVICE
1 1/2" WATER METER CONNECTION

NOTES:
 1. WATER METER TO BE SET DIRECTLY IN FRONT OF RIGHT-OF-WAY.
 2. CONNECTION TO EXISTING PLUMBING SHALL BE THE RESPONSIBILITY OF THE HOME OWNER.
 3. #12 PLASTIC COATED SOLID COPPER WIRE SHALL BE TAPED TO TOP OF WATER SERVICE PIPE.
 4. METER SHALL READ IN GALLONS.
 5. SEE CITY OF KANNAPOLIS LAND DEVELOPMENT STANDARDS MANUAL APPENDIX D FOR LIST OF APPROVED PRODUCTS.

KANNAPOLIS Public Works

November 2018
315

ENCASEMENT PIPES UNDER HIGHWAYS & RAILROADS

NOTES:
 1. SEE DESIGN DRAWINGS FOR LOCATION, SIZE, AND LENGTH OF STEEL PIPE CASINGS.
 2. INSTALL TWO (2) 1" DRAINS EACH SIDE OF CARRIER PIPE IN DOWNHILL ENDWALL.

KANNAPOLIS Public Works

November 2018
306

FIRE HYDRANT

NOTES:
 HYDRANTS SHALL HAVE 5-1/2" VALVE OPENING AND SHALL CONFORM TO WSACC SPECIFICATIONS.

KANNAPOLIS Public Works

November 2018
321

2017-11-15 10:45:45 UC-3A-2022-16-45-45 PROJECTS\2017\A2017401.0000.NCDDOT_Y-4810K\Design\Utilities\Engineering\UC\ProJ\Y4810K\ut-dt\UC03A_psh.dgn