



D. Stephen Scruggs
UTILITY CONSTRUCTION PLANS ONLY

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

UTILITY CONSTRUCTION

VERTICAL BEND RODDING AND BLOCKING DETAIL
NOT TO SCALE

ROD REQUIREMENTS

SIZE OF 45° BEND	STATIC THRUST IN POUNDS	NUMBER OF RODS REQUIRED
6"	4,328	2
8"	7,694	2
12"	17,312	4
16"	30,779	6
20"	48,091	8
24"	69,252	10

GENERAL NOTES
1. RODS AND NUTS SHALL BE OF TYPE 304 OR TYPE 316 STAINLESS STEEL.
2. CONCRETE SHALL NOT CONTACT BOLTS OR ENDS OF MECHANICAL JOINT BENDS.

Drawn By:	Name	Date	JOHNSTON COUNTY	WATER STANDARD DETAIL	PAGE
Checked By:			Department of Public Utilities	Standard Bend Rodding and Blocking Details	7
Approved By:			P.O. Box 2263		
Scale:			Smithfield, NC 27577		

NOTES:
1. CONCRETE SHALL BE 3,000 PSI MIN.
2. CONCRETE FOR THRUST BLOCKING SHALL BE KEPT FAIRLY DRY, THUS MAKING THE CONCRETE WEDGE SHAPE MORE EASILY FORMED WITH THE WIDEST PART (BLOCKING AREA) AGAINST UNDISTURBED SOIL.
3. NO CONCRETE SHALL COVER ANY BOLTS OR GLANDS.
4. ALL FITTING AND ACCESSORIES TO BE WRAPPED WITH 10 MIL POLYETHYLENE PRIOR TO POURING BLOCKING.
5. VOLUME OF THRUST BLOCKING SHALL BE AS SHOWN ON THE THRUST BLOCKING SCHEDULE.

THRUST BLOCK DETAIL
NOT TO SCALE

PIPE SIZE	90° BEND		45° BEND		22 1/2° BEND		11 1/4° BEND		TEE		PLUG	
	A	B	A	B	A	B	A	B	A	B	C	D
4"	6"	12"	6"	6"	6"	6"	6"	6"	6"	6"	10"	16"
6"	10"	12"	6"	10"	6"	6"	6"	6"	6"	6"	10"	12"
8"	15"	13"	10"	10"	6"	6"	6"	6"	6"	6"	12"	24"
10"	18"	14"	10"	12"	6"	10"	6"	10"	11"	14"	14"	25"
12"	20"	16"	12"	14"	6"	12"	6"	12"	14"	16"	16"	30"
14"	22"	18"	14"	16"	10"	14"	10"	14"	16"	18"	18"	34"
16"	26"	20"	16"	18"	12"	16"	12"	16"	18"	20"	20"	36"
20"	36"	26"	24"	18"	18"	13"	12"	9"	19"	18"	24"	48"
24"	48"	33"	30"	21"	18"	16"	11"	21"	21"	28"	28"	56"

Drawn By:	Name	Date	JOHNSTON COUNTY	WATER STANDARD DETAIL	PAGE
Checked By:			Department of Public Utilities	Thrust Block	8
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HARNESS RESTRAINT DETAIL
NOT TO SCALE

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Checked By:			Department of Public Utilities	Restraint Harness	10
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Scale:			Smithfield, NC 27577		

THRUST COLLAR INSTALLATION
NOT TO SCALE

SCHEDULE

PIPE DIAMETER	CONCRETE THRUST COLLAR		ANCHOR COLLAR	RINGS REQUIRED
	A	B		
6", 8", 12"	1'-0"	1'-0"	2"	ONE
16"	1'-4"	1'-2"	2"	ONE
20"	1'-4"	1'-2"	3"	ONE
24"	1'-4"	1'-0"	3"	TWO
30"	1'-4"	1'-2"	4"	TWO
36"	1'-4"	1'-4"	4"	TWO

NOTE:
6" TO 16" MAINS = 12-NO. 7 BARS
20" TO 36" MAINS = 12-NO. 8 BARS
BARS PLACED AS SHOWN

Drawn By:	Name	Date	JOHNSTON COUNTY	WATER STANDARD DETAIL	PAGE
Checked By:			Department of Public Utilities	Thrust Collar Installation	9
Approved By:			P.O. Box 2263		
Scale:			Smithfield, NC 27577		

3" WATER SERVICE W/ BFP-ABOVE GRADE
NOT TO SCALE

NOTES:
1. PREFABRICATED HOTBOX SHALL HAVE MINIMUM INSIDE DIMENSIONS OF 2' 8" x 4' x 4'. DIMENSIONS OF HOTBOX SHALL INCREASE WITH SERVICE SIZE TO MAINTAIN SAME CLEARANCES. CONFIRM METER DIMENSIONS WITH COUNTY PRIOR TO ORDERING WALL.
2. METER, STRAINER, BFP, AND VALVES MAY BE INSTALLED ABOVE OR BELOW HOTBOX ON 4" CONCRETE PAD. PAD SHALL BE 8" WIDER THAN HOTBOX ON ALL SIDES AND REINFORCED WITH 1 MAT OF #6 W.W.F. HOTBOX SHALL BE SIZED TO HAVE MIN. 9" CLEARANCE ON ALL SIDES OF METER.
3. BYPASS PIPING SHALL BE 2" FOR 3" METERS AND 3" FOR 4" METERS.
4. JOHNSTON COUNTY SHALL FURNISH AND SET METER.
5. A GATE VALVE (SAME SIZE AS SERVICE LINE) SHALL BE INSTALLED AT THE WATER MAIN TAP.
6. ALL MATERIALS USED IN THE POTABLE WATER SYSTEM MUST BE NSF61 AND NSF32 CERTIFIED AND MEET THE LATEST FEDERAL SAFE DRINKING WATER ACT REQUIREMENTS.

Drawn By:	Name	Date	JOHNSTON COUNTY	WATER STANDARD DETAIL	PAGE
Checked By:			Department of Public Utilities	3" Meter & Backflow Assembly	24A
Approved By:			P.O. Box 2263		
Scale:			Smithfield, NC 27577		

HDPE PIPE CONNECTION
NOT TO SCALE

Drawn By:	Name	Date	JOHNSTON COUNTY	WATER STANDARD DETAIL	PAGE
Checked By:			Department of Public Utilities	HDPE PIPE CONNECTION	16
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