

5/14/19

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO.	SHEET NO.
U-5536	UC-03D
DESIGNED BY: PRJ	
DRAWN BY: SSM	
CHECKED BY: MAP	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SECTION PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

# PROJECT TYPICAL DETAILS

### Cast Iron Meter Box for 5/8" and 1" Meters

**NOTES:**

- MINIMUM WEIGHTS:  
A- 5/8" BOX w/COVER...103 LBS.  
B- 1" BOX w/COVER...120 LBS.
- METER BOX WILL CONFORM TO ASTM A48, CLASS 30B.
- 5/8" BOX DIMENSIONS ARE SHOWN
- 1" METER BOX IS 6" LONGER THAN 5/8" BOX. ALL OTHER DIMENSIONS ARE SAME AS SHOWN.

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**C-49**

### Cast Iron Valve Box

**NOTES:**

- VALVE BOX WILL CONFORM TO ASTM A48, CLASS 30 B
- MINIMUM WEIGHTS:  
COVER..... 29 LBS.  
TOP SECTION..... 60 LBS.  
BOTTOM SECTION..... 49 LBS.  
TOTAL..... 138 LBS.

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### Concrete Thrust Blocks for Horizontal Bends

FITTING	PIPE SIZE (INCHES)									
	2	4	6	8	12	16	20	24	30	36
90° BEND	1.0	2.0	2.5	3.5	5.0	6.5	8.0	10.0	12.0	14.5
45° BEND	1.0	1.5	2.0	2.5	4.0	5.0	6.0	7.0	9.0	10.5
22 1/2° BEND	0.5	1.0	1.5	2.0	3.0	3.5	4.5	5.0	6.5	7.5
11 1/4° BEND	0.5	1.0	1.0	1.5	2.0	2.5	3.0	4.0	4.5	5.5
PLUG/TEE	1.0	1.5	2.5	3.0	4.5	5.5	7.0	8.0	10.0	12.0

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### Concrete Thrust Blocks w/ Anchors for Top Vertical Bends

PIPE SIZE (INCHES)	NUMBER OF STRAPS
4	1
6	1
8	1
12	2*
16	2*

\* 45° AND 90° BENDS ONLY

FITTING	PIPE SIZE (INCHES)				
	4	6	8	12	16
90° BEND	2.0	3.5	6.0	12.0	21.0
45° BEND	1.0	2.0	3.0	6.5	11.5
22 1/2° BEND	0.5	1.0	1.5	3.5	6.0
11 1/4° BEND	0.2	0.5	1.0	2.0	3.0

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## UTILITY CONSTRUCTION

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### Hydrant and Valve Installation

**NOTES:**

- HYDRANTS, VALVES AND THEIR ACCESSORIES ARE TO BE FURNISHED AS SPECIFIED IN THE TECHNICAL SPECIFICATIONS OF THE ENGINEERING DIVISION OF THE CITY OF WINSTON-SALEM, N.C.
- ANY JOINTS BETWEEN THE VALVE AND HYDRANT MUST HAVE RETAINER GLANDS.

■ = PAY LIMITS FOR "HYDRANT".

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### Polymer Concrete Meter Box for 1 1/2" and 2" Meters

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### Valve Box Installation

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### Typical 3/4" Thru 2" Backflow Preventer Installations

Subject to Approval by Plumbing Code Enforcement Official

Size	Qty	Plastic Box	Size	Qty	Quartzite Box
3/4" thru 1"	(2)	13x24x12	3/4" thru 1"	(2)	17x30x12
1-1/2" thru 2"	(2)	17x30x18	1-1/2" thru 2"	(2)	24x36x18

*Pavement installation not recommended*

Size	Slab Size
3/4" thru 1"	19x34x4
1-1/2" thru 2"	24x48x4
2" Detector Check	30x48x4

- Use #57 stone in bottom of box
- Extend drain to 2" above stone
- Install perforated or slotted cover over drain
- Protect mouse holes from erosion
- Provide minimum 2" drain for double check (detector) assemblies
- Provide adequate drainage for reduced pressure (detector) assemblies

**NOTE:** Drain size for reduced pressure (detector) assemblies should be determined by a design professional or in accordance with manufacture recommendations.

- Formed and troweled or precast slab
- Schedule 40 PVC sleeve thru slab (one plumbing size larger than piping)
- PVC sleeve thru slab for electrical service (offset from assembly)
- Approved heat source
- 12" minimum distance between slab and bottom most of assembly
- 5" minimum distance between upper and lower backflow preventer
- ASSE 1060 certified enclosure, anchored to slab

**NOTE:** It is not recommended to alter enclosure or insulation to achieve a closing fit.