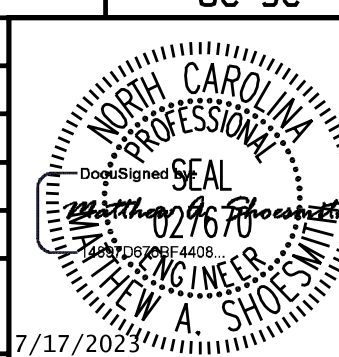


DESIGNED BY: MAS  
DRAWN BY: SJJ  
CHECKED BY: MAS  
APPROVED BY: ---  
REVISED:



NORTH CAROLINA  
DEPARTMENT OF  
TRANSPORTATION

UTILITIES ENGINEERING SEC.  
PHONE: (919) 707-6690  
FAX: (919) 250-4151

UTILITY CONSTRUCTION  
PLANS ONLY

## UTILITY CONSTRUCTION

REVISIONS

**1" OR 3/4" SERVICE CONNECTION**  
(LONG SIDE - PLAN VIEW)

**1" OR 3/4" SERVICE CONNECTION**  
(LONG SIDE - PROFILE VIEW)

**ROAD WITH SIDE DITCH**

**1" OR 3/4" SERVICE CONNECTION**  
(SHORT SIDE)

**DETAIL AT MAIN**  
(LONG SIDE)

**DETAIL AT MAIN**  
(SHORT SIDE)

NO.	DESCRIPTION
1	WATER MAIN
2	DOUBLE STRAP SERVICE SADDLE - CC (TAPER) THREAD OUTLET
3	BALL CORPORATION STOP - CC (TAPER) THREAD x CTS COMPRESSION
4	TYPE K COPPER TUBING OR SDR9 HDPE (POLY) TUBING WITH INSERT STIFFENERS
5	5/8" x 3/4" ANGLE BALL VALVE WITH LOCK WINGS - CTS COMPRESSION x YOKE STAR NUT
6	5/8" DUCTILE IRON YOKE BAR
7	5/8" METER ASSEMBLY (BY CMUD) WITH AMR TRANSMITTER
8	5/8" x 3/4" BRASS 90° YOKE STAR NUT x CTS COMPRESSION CONNECTOR
9	CONCRETE METER BOX - SEE STD. DETAILS
10	HDPE METER BOX LID WITH AMR TRANSMITTER BRACKETS
11	AWG #12 GAUGE COPPER TRACER WIRE (THWN) - WITH BLUE INSULATION - TERMINATE IN METER BOX WITH 24" EXCESS WIRE (COILED)
12	SOLID STANDARD CONCRETE BRICKS - DIAGONAL AT CORNERS - 4 EACH.

**NOTE:**  
A. MIN. DISTANCE CENTER TO CENTER ON SERVICES OR TO BELLS OR SPIGOTS SHALL BE 3'-0" AS MEASURED ALONG THE MAIN.  
B. CENTER ANGLE BALL VALVE - 90° CONNECTOR (5) - (8) IN METER BOX.  
C. SHOWN AS 3/4" SERVICE, USE 1" COMPONENTS FOR 1" DOMESTIC WATER SERVICE.  
D. TRACER WIRE IS NOT REQUIRED WITH ALL COPPER TUBING SERVICE.  
E. WHEN METER BOX MUST BE PLACED IN CONCRETE, IT SHALL BE COMPLETELY IN, AND CENTERED IN CONCRETE PANEL, PER CDOT / NCDOT REQUIREMENTS.  
F. CMUD MAINTENANCE ENDS WITH 90° CONNECTOR (8).

**TYPE A - GRADE RING**  
PRECAST ONLY

**TYPE B - GRADE RING**  
PRECAST OR CAST IN PLACE

**TYPE I - FOOTING - TOP SECTION**  
PRECAST ONLY

**TYPE II - FOOTING - BOTTOM SECTION**  
PRECAST ONLY

**INSTALLATION DETAIL ONE**  
SECTION VIEW

**INSTALLATION DETAIL TWO**  
SECTION VIEW

**DESIGN REQUIREMENTS**  
a. CONCRETE -  $f_c = 4000$  PSI (PRECAST), OR 3600 PSI (CAST-IN-PLACE).  
b. STEEL REINFORCEMENT - REBARS - GRADE 60 (60,000 PSI) - ASTM A-615, OR WELDED WIRE FABRIC - ASTM A-185.  
c. NON WOVEN GEOTEXTILE FABRIC - CARTRIDGE MILLS #FX-40RS, MIRAFI #140N, OR APPROVED EQUAL.

**NOTES:**  
A. FOR PRECAST GRADE RINGS - FILL VOID BETWEEN GRADE RING AND CAST IRON VALVE BOX TOP SECTION WITH NON-SHRINK GROUT.  
B. FOR CAST-IN-PLACE GRADE RINGS - TOP SECTION OF CAST IRON VALVE BOX SHALL BE CAST IN THE CONCRETE.  
C. TYPE A GRADE RINGS SHALL BE REQUIRED ON ROAD SHOULDERS WITHOUT CURB.  
D. TYPE I FOOTINGS SHALL BE REQUIRED IN NEW CONSTRUCTION WHEN THE CAST IRON VALVE BOX IS LOCATED DIRECTLY IN THE ASPHALT.  
E. TYPE II FOOTINGS SHALL BE REQUIRED AT ALL VALVE INSTALLATIONS.  
F. FOR INSTALLATION DETAIL TWO - ONLY ONE VALVE BOX ASSEMBLY (PART #9) SHALL BE REQUIRED. FOOTINGS SHALL NOT REST ON THE VALVE, AND SHALL BE CENTERED ON THE VALVE OPERATING NUT AS SHOWN.

**NO. DESCRIPTION**  
1. CONCRETE GRADE RING.  
2. CONCRETE FOOTING.  
3. NON WOVEN GEOTEXTILE FABRIC X 2 EACH.  
4. SPLIT IN FABRIC - 8 INCHES LONG, ROTATE 90 DEGREES IN SECOND LAYER OF FABRIC.  
5. #4 REBAR - 17-INCH DIAMETER.  
6. #4 REBAR - LENGTH = 56 INCHES, OR (ALTERNATE - 14-INCH DIAMETER).  
7. #4 REBAR - 12-INCH DIAMETER.  
8. #4 REBAR - 8-INCH DIAMETER.  
9. VALVE BOX ASSEMBLY - (SHOWN LEFT TO RIGHT) - VALVE BOX BOTTOM SECTION, OR 6-INCH DIAMETER C590 PVC PIPE, OR 6-INCH DIAMETER SDR 26 PVC PIPE.  
10. VALVE - 12-INCH OR SMALLER.  
11. TOP SECTION OF VALVE BOX.

**1" OR 3/4" SERVICE CONNECTION**  
(SHORT SIDE - IN PAVEMENT)

**METER BOX IN SIDEWALK**  
(REQUIRES PRIOR CMU APPROVAL)

**METER DETAIL**  
(SIDE)

**METER DETAIL**  
(END)

**METER BOX IN SIDEWALK DETAIL**  
(REQUIRES PRIOR CMU APPROVAL)  
(BOX SHALL BE SUPPORTED BY CONCRETE SIDEWALK - AS SHOWN)

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3	BALL CORPORATION STOP - CC (TAPER) THREAD x CTS COMPRESSION
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10	HDPE METER BOX LID WITH AMR TRANSMITTER BRACKET
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**NOTE:**  
A. MIN. DISTANCE CENTER TO CENTER ON SERVICES OR TO BELLS OR SPIGOTS SHALL BE 3'-0" AS MEASURED ALONG THE MAIN.  
B. CENTER ANGLE BALL VALVE - 90° CONNECTOR (5) - (8) IN METER BOX.  
C. SHOWN AS 3/4" SERVICE, USE 1" COMPONENTS FOR 1" DOMESTIC WATER SERVICE.  
D. TRACER WIRE IS NOT REQUIRED WITH ALL COPPER TUBING SERVICE.  
E. WHEN METER BOX MUST BE PLACED IN CONCRETE, IT SHALL BE COMPLETELY IN, AND CENTERED IN CONCRETE PANEL, PER CDOT / NCDOT REQUIREMENTS.  
F. CMUD MAINTENANCE ENDS WITH 90° CONNECTOR (8).

**METER BOX BOX**

**LID**

**PLASTIC LID**

**BODY**

**SECTION A-A**

**SECTION C-C RIB DETAIL**

**SECTION B-B**

**BOTTOM VIEW**

**NOTES:**  
A. MATERIAL SHALL BE HIGH DENSITY POLYETHYLENE.  
B. LOAD RATING = HS20.  
C. COLOR SHALL BE CHARLOTTE GRAY.  
D. SUPPLIER / MANUFACTURER: SOUTHEASTERN DISTRIBUTORS  
MODEL MB 16 - HD.

METER BOX BODY WEIGHT = 13.50 LBS.  
LID WEIGHT - INCLUDING REBARS = 5.30 LBS.