

PROJECT REFERENCE NO.	SHEET NO.
I-5000	UC-3B
DESIGNED BY: BCH	
DRAWN BY: BCH	
CHECKED BY: JLT	
APPROVED BY: JES	
REVISED:	11/7/2016
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY
TGS ENGINEERS 804-C N. LAFAYETTE ST SHELBY, NC 28150 PH (704) 476-0003 CORP. LICENSE NO.: C-0275	

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NOTES:
 1. 6" MIN. CONCRETE SLAB TO BE POURED TO GROUND CUT.
 2. INVERTS TO IN & OUT PIPES TO BE BUILT AFTER MANHOLE HAS BEEN SET SO AS TO EVENLY DISTRIBUTE BEARING LOAD.
 3. MANHOLE TO BE LEVELLED & ASSEMBLED SO AS TO EVENLY DISTRIBUTE BEARING LOAD.
 4. SEE DETAIL 71B-2 FOR REINFORCING DETAILS AND STEP DETAILS.
 5. 6" MIN. EXTENSION BEYOND EXTERIOR WALL OF MANHOLE.
 6. PRECAST MANHOLE JOINTS TO BE SEALED WITH "O" RING JOINT-ASTM C-443 OR WITH APPROVED BUTYL RUBBER SEALANT.
 7. CONCRETE SLAB SHALL EXTEND A MIN. OF 3" ABOVE BOTTOM OF FIRST MANHOLE SECTION.
 8. ALL LIFT HOLES TO BE SEALED WITH TAPERED NEOPRENE PLUGS OR OTHER APPROVED EQUAL. LIFT HOLES TO BE SEALED FROM OUTSIDE.

OPTIONAL CONE FOR SHALLOW MANHOLE

OPTIONAL MONOLITHIC BASE

STANDARD FOOTING AS SHOWN AT LEFT TO BE USED.

REVISED	F.B.	P.G.	DATE:	FEB. 1, 1974
3-13-74			SCALE:	NTS
12/13/84			DRAWN BY:	NBM
3/15/88			CHECKED BY:	RED, FAP
2/7/05			CITY ENGINEER:	DEC

STANDARD DETAIL
 PRECAST CONCRETE MANHOLE

OFFICE OF THE CITY ENGINEER
 GASTONIA, N.C.
 FILE NO. 71B-4

STANDARD DETAIL
 STANDARD FIRE HYDRANT INSTALLATION FOR WATER MAIN IN STREET

REVISED	F.B.	P.G.	DATE:	
12-6-84			SCALE:	NTS
3-29-87			DRAWN BY:	W.P.M.
3-28-88			CHECKED BY:	W.P.M.
08-08-09			CITY ENGINEER:	JPB

OFFICE OF THE CITY ENGINEER
 GASTONIA, N.C.
 FILE NO. 71B-8

PROJECT TYPICAL DETAILS

Standard Detail
 Outside Drop Detail

NOTES:
 1. ALL PIPING & MATERIALS TO BE MECHANICALLY RESTRAINED DIP (MEGA-LUG OR APPROVED EQUAL).
 2. ALL CONNECTIONS TO PRECAST MANHOLE STRUCTURE TO BE WATER TIGHT.

REVISED	DATE:	02-02-2015
	SCALE:	NONE
	DRAWN BY:	BJP, MCB
	CHECKED BY:	GVS, BJP
	CITY ENGINEER:	CCB

OFFICE OF THE CITY ENGINEER
 GASTONIA, N.C.
 FILE NO. 71B-3

STANDARD DETAIL
 SANITARY SEWER LATERAL CONNECTION

NOTE:
 THE FULL LENGTH OF THE SERVICE DITCH SHALL BE COMPACTED IN 6" LAYERS WITH MECHANICAL TAMP. GUARD STAKE REQUIRED AT CLEANOUT LOCATION UNTIL LANDSCAPING IS COMPLETED.

REVISED	F.B.	P.G.	DATE:	6-7-84
10/1/86			SCALE:	NONE
10/1/86			DRAWN BY:	KAB
7-18-96			CHECKED BY:	DCC, FAP
9-21-99			CITY ENGINEER:	DEC, JPB

OFFICE OF THE CITY ENGINEER
 GASTONIA, N.C.
 FILE NO. 71B-19

Standard Detail
 Plastic Manhole Step Detail

NOTE:
 (Step as manufactured by M.A. Industries or approved equal.)

REVISED	DATE:	01-25-16
	SCALE:	NONE
	DRAWN BY:	MGB
	CHECKED BY:	JB
	CITY ENGINEER:	CCB

OFFICE OF THE CITY ENGINEER
 GASTONIA, N.C.
 FILE NO. 71B-2A

Standard Detail
 Manhole Steel Reinforcing & Assembly Detail

REVISED	DATE:	MARCH 13, 1974	
12/13/84		SCALE:	NONE
03/15/88		DRAWN BY:	NBM, MGB
01/25/16		CHECKED BY:	RED, FAP, JPB
		CITY ENGINEER:	DEC, CCB

OFFICE OF THE CITY ENGINEER
 GASTONIA, N.C.
 FILE NO. 71B-2

Standard Detail
 Cast Iron Frame and Cover For Manhole

NOTES:
 1. All castings to be free from sand holes & no plugging will be allowed.
 2. Cast with the use of aluminum patterns.
 3. Gray iron casting shall be supplied with no paint.
 4. Slight draft allowed on straight faces.
 5. Two vent holes required unless specified otherwise on approved plans.
 6. Standard letters unless otherwise specified.
 7. Approximate weight of FRAME - 190 lbs.
 Approximate weight of COVER - 120 lbs.
 Approximate weight of TOTAL - 310 lbs.
 8. The following Rings and Covers meet these specifications:
 East Jordan Iron Works (EJW) V-1384 (a) locking V-2384
 Ennis Enter. MH-GRE-24
 US Foundry & Mfg. Corp. USF 669 & KL Cover (a) USF669 & KL Cover, BWT
 9. TRU logo required from the manufacturer. All castings shall be identified as property of Two Rivers Utilities/ City of Gastonia by casting methods. Water manholes shall be marked "WATER"
 (a) For watertight manholes see plans for required locations.
 (a) Water tight covers EJW, USF w/ BWT and EJW V-1384GS w/ Camlocks

REVISED	DATE:	6/08/81	
1/27/82		SCALE:	NTS
4/20/89		DRAWN BY:	PNR, EZ
11/18/99		CHECKED BY:	FAP
2/05/01		CITY ENGINEER:	JPB
2/20/04			
3/04/05			

OFFICE OF THE CITY ENGINEER
 GASTONIA, N.C.
 FILE NO. 71B-1

STANDARD DETAIL
 STANDARD STREET X-SECTION SHOWING WATER TAP DEPTH

NOTE:
 SEE STD. DETAIL 71B-20 FOR METER, METER BOX & TAP DETAILS.

REVISED	F.B.	P.G.	DATE:	AUG. 14, 1984
			SCALE:	NTS
			DRAWN BY:	MLB
			CHECKED BY:	DCC/FAP
			CITY ENGINEER:	DEC

OFFICE OF THE CITY ENGINEER
 GASTONIA, N.C.
 FILE NO. 71B-21