

# UTILITY CONSTRUCTION

**NOTES:**

- SANITARY SEWER REPAIR SHALL BE APPROVED BY ENGINEER PRIOR TO MAKING THE REPAIR. IF THE REPAIR IS WITHIN 20' OF AN EXISTING MANHOLE, THE CONTRACTOR SHALL BE REQUIRED TO REMOVE AND RELAY PIPE TO NEAREST MANHOLE, UNLESS OTHERWISE DIRECTED BY ENGINEER.
- ALL MATERIALS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
- CONTRACTOR SHALL PROVIDE ALL NECESSARY PUMPS, HEADER PIPE, PUMPING EQUIPMENT, ETC. PRIOR TO BEGINNING CONSTRUCTION. DUPLICATE SEWAGE HANDLING PUMPS, PIPING, ETC. SHALL BE ON-SITE AND AVAILABLE FOR IMMEDIATE USE SHOULD PRIMARY PUMP OR FORCE MAIN FAIL. INSURE PUMPS, HEADER PIPING, ETC. ARE PROPERLY SIZED AND OPERATIONAL BEFORE BEGINNING WORK.
- PIPE REPAIR SHALL EXHIBIT STRAIGHT HORIZONTAL ALIGNMENT AND INVERT SHALL BE THE SAME AS THE EXISTING PIPE SLOPE. DEFLECTIONS OF HORIZONTAL AND VERTICAL ALIGNMENT ARE NOT ACCEPTABLE.
- PIPE SHALL BE BACKFILLED AND COMPACTED IN ACCORDANCE WITH THE SPECIAL PROVISIONS.
- REPLACEMENT PIPE SHALL BE PROPERLY BEDDED IN ACCORDANCE WITH FAYPWC STANDARD DETAIL S.13.
- THERE SHALL BE NO MORE THAN 1/4" SPACE BETWEEN THE EXISTING SEWER MAIN AND THE REPLACEMENT PIPE AT EACH END.
- DAMAGED SECTION SHALL BE CUT OUT WITHOUT DAMAGING THE PIPE TO REMAIN.
- DI SEWER PIPE AND FITTINGS SHALL HAVE AN INTERIOR COATING OF CERAMIC EPOXY.
- DI PIPE SHALL BE UTILIZED WHEN STATE MINIMUM SEPARATION REQUIREMENTS CANNOT BE MET OR AS DIRECTED BY ENGINEER.
- PIPE REPAIRS ON MATERIALS OTHER THAN SHOWN, SHALL BE AS DIRECTED BY ENGINEER.
- THE MINIMUM LENGTH OF REPAIR SHALL BE 5 FEET, UNLESS OTHERWISE DIRECTED BY ENGINEER.

GRAVITY SANITARY SEWER PIPE REPAIR		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO. DATE REVISION	
DWG. NO. S.15		FAYPWC		1 01/05 REVISED REPLACEMENT PIPE	
DWG. BY: FAYPWC		WATER RESOURCES ENGINEERING DEPARTMENT		2 07/11 REVISED NOTES	
DATE: JAN. 01, 2018		APPROVED BY: J.E.G.		3 05/29/18 REVISED NOTES 1, 2, 5, 9, 10, 11 AND 12 FOR NCDOT U-4405	

S15-VCP-REPAIR.dwg

GRAVITY SANITARY SEWER PIPE REPAIR		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO. DATE REVISION	
DWG. NO. S.15		FAYPWC		1 01/05 REVISED REPLACEMENT PIPE	
DWG. BY: FAYPWC		WATER RESOURCES ENGINEERING DEPARTMENT		2 07/11 REVISED NOTES, REPAIRS	
DATE: JAN. 01, 2018		APPROVED BY: J.E.G.		3 05/29/18 REVISED CALLOUTS FOR NCDOT U-4405.	

S15-VCP-REPAIR.dwg

GRAVITY SANITARY SEWER PIPE REPAIR		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO. DATE REVISION	
DWG. NO. S.15		FAYPWC		1 01/05 REVISED REPLACEMENT PIPE	
DWG. BY: FAYPWC		WATER RESOURCES ENGINEERING DEPARTMENT		2 07/11 REVISED NOTES	
DATE: JAN. 01, 2018		APPROVED BY: J.E.G.		3 05/29/18 REVISED CALLOUTS FOR NCDOT U-4405.	

S15-VCP-REPAIR.dwg

MANHOLE VENT		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO. DATE REVISION	
DWG. NO. S.17		FAYPWC		1 05/29/18 REVISED NOTES 2 FOR NCDOT U-4405	
DWG. BY: FAYPWC		WATER RESOURCES ENGINEERING DEPARTMENT			
DATE: JAN. 01, 2018		APPROVED BY: J.E.G.			

S17-MH-VENT.dwg

TO FIND "E" ENTER CHART AT LEFT WITH EFFLUENT PIPE SIZE AND ENTER PIPE AT TOP WITH INFLUENT PIPE SIZE. "E" DISTANCE IS POINT OF CONVERGENCE OF COLUMN AND RW.

		DIA						
		4"	6"	8"	12"	15"	18"	24"
D	8"	9.00	9.50	10.00	-	-	-	-
	12"	11.00	11.50	12.00	13.00	-	-	-
	15"	14.25	14.75	15.25	16.25	17.00	-	-
	18"	16.50	17.00	17.50	18.50	19.25	20.00	-
	24"	21.00	21.50	22.00	23.00	23.75	24.50	26.00

WHERE 5' MANHOLE IS REQUIRED ADD 1/2" TO "E" DISTANCE TO ACCOUNT FOR THE ADDITIONAL 6" OF SHELF SLOPE.

MAIN OR LATERAL MIN. SLOPE
4" @ 2.00% MIN.
6" @ 0.75% MIN./MAIN
6" @ 2.00% MIN./LATERAL
8" @ 0.40% MIN.
12" @ 0.22% MIN.
15" @ 0.15% MIN.
18" @ 0.12% MIN.

MH CONNECTION DESIGN GUIDE		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO. DATE REVISION	
DWG. NO. S.18		FAYPWC			
DWG. BY: FAYPWC		WATER RESOURCES ENGINEERING DEPARTMENT			
DATE: JAN. 01, 2018		APPROVED BY: J.E.G.			

S18-PENETRATION-DETAIL.dwg

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 Reeford Road NCDOT U-4405