

PROJECT TYPICAL DETAILS



Stantec Consulting Services Inc.
 801 Jones Franklin Road
 Suite 300
 Raleigh, NC 27606
 Tel. (919) 851-6866
 Fax. (919) 851-7024
 www.stantec.com
 License No. F-0672

PROJECT REFERENCE NO.	R-3833C	SHEET NO.	UC-03E
DESIGNED BY:	MCM		
DRAWN BY:	RGR		
CHECKED BY:	MCM		
APPROVED BY:			
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED			

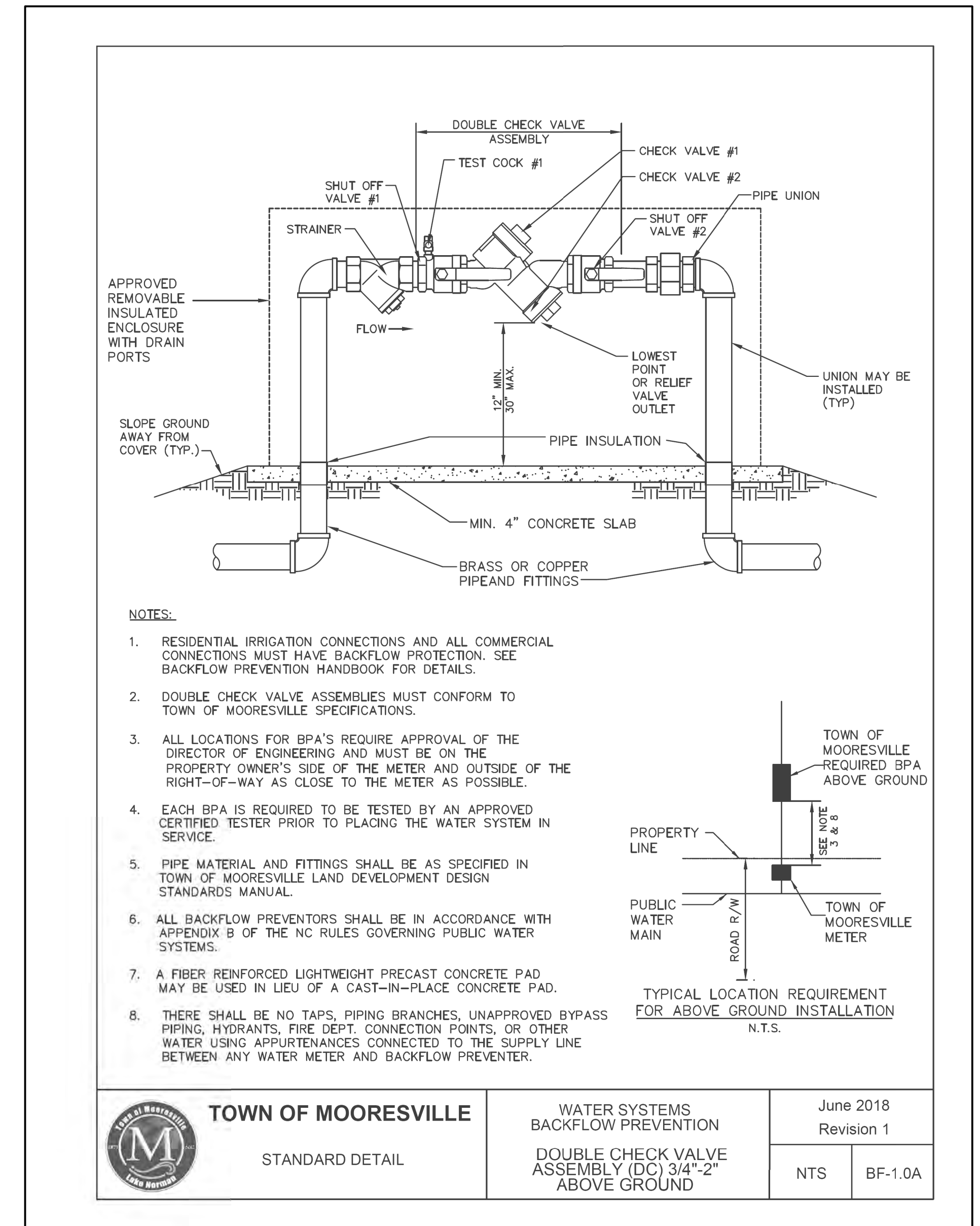
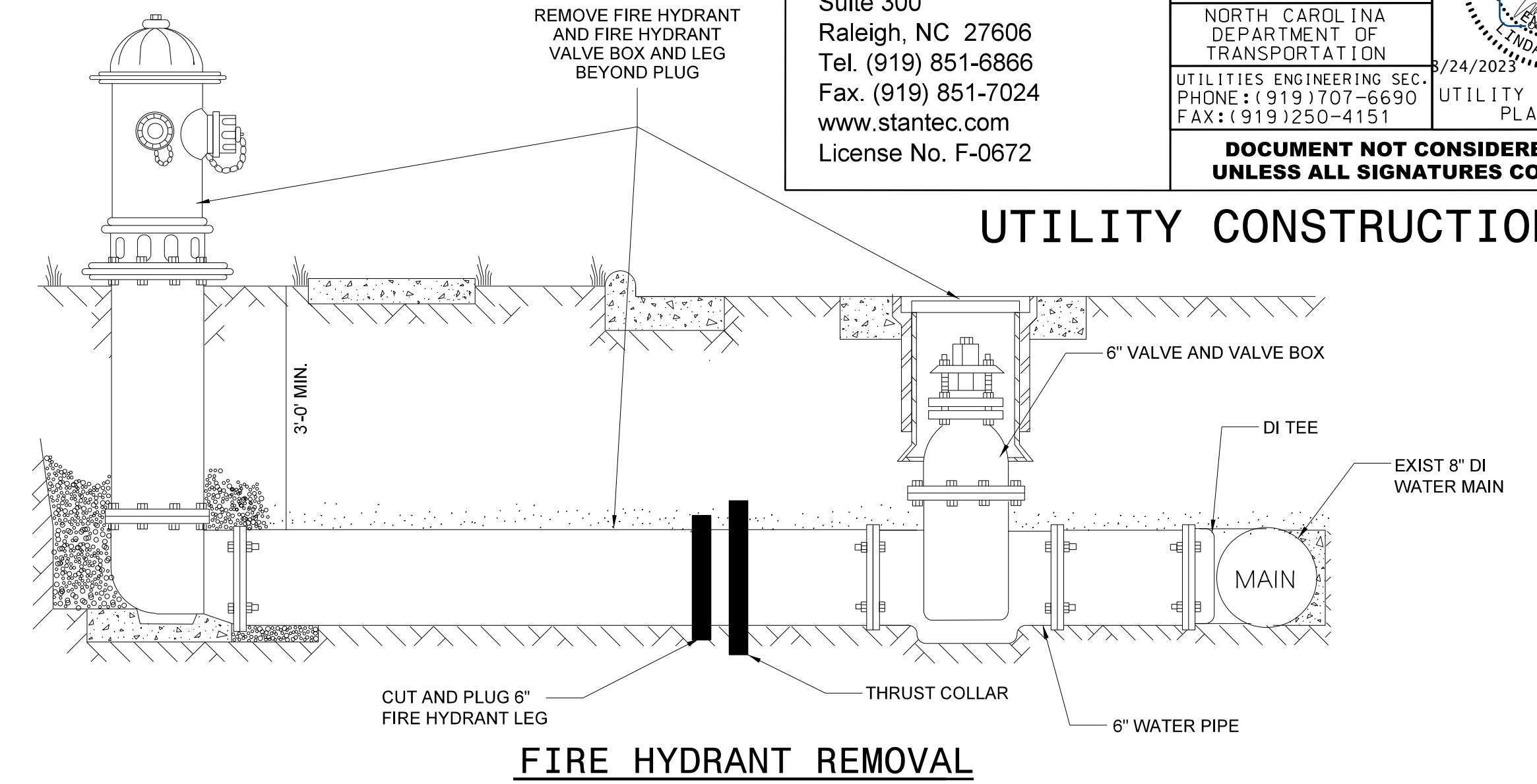
PIPE DIAMETER (INCHES)	RESTRAINED LENGTH IN FEET EACH SIDE OF FITTING JOINT					
	90°	45° (horizontal / vertical up)	45° (vertical down)	22.5°	11.25°	Dead End
6"	60'	25'	60'	15'	10'	145'
8"	75'	30'	80'	15'	10'	185'
10"	75'	40'	90'	20'	10'	225'
12"	75'	45'	110'	20'	10'	265'
16"	130'	55'	110'	25'	15'	335'

PIPE DIAMETER (INCHES)	RESTRAINED LENGTH IN FEET FOR REDUCER				
	6"	8"	10"	12"	16"
6"	-	-	-	-	-
8"	80'	-	-	-	-
10"	140'	75'	-	-	-
12"	190'	140'	75'	-	-
16"	280'	245'	200'	145'	-

PIPE DIAMETER (INCHES)	RESTRAINED LENGTH IN FEET EACH SIDE OF TEE				
	6"	8"	10"	12"	16"
6"	125'	-	-	-	-
8"	115'	165'	-	-	-
10"	110'	160'	200'	-	-
12"	100'	155'	200'	240'	-
16"	90'	145'	190'	235'	315'

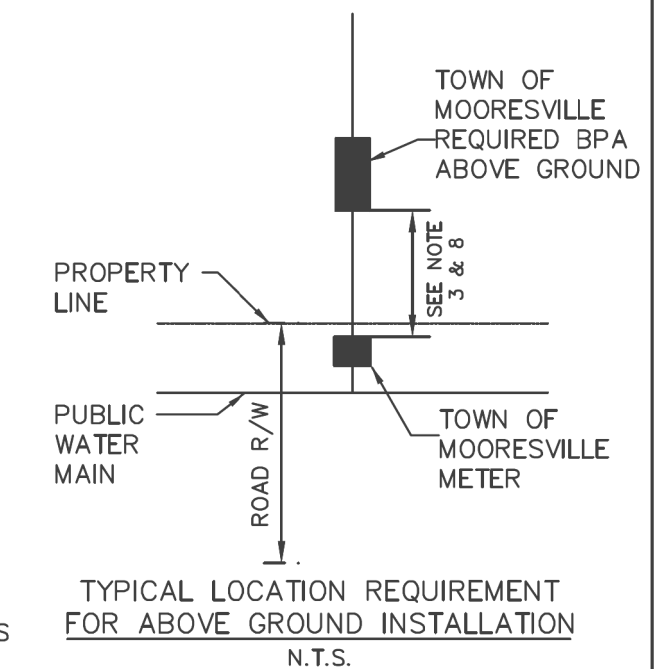
RESTRAINED JOINT TABLE

NOTES:
 1. RESTRAINED JOINT TABLE DEVELOPED USING THE DUCTILE IRON PIPE RESEARCH ASSOCIATION (DIPRA) THRUST RESTRAINT DESIGN FOR DUCTILE IRON PIPE COMPUTER PROGRAM.



NOTES:

- RESIDENTIAL IRRIGATION CONNECTIONS AND ALL COMMERCIAL CONNECTIONS MUST HAVE BACKFLOW PROTECTION. SEE BACKFLOW PREVENTION HANDBOOK FOR DETAILS.
- DOUBLE CHECK VALVE ASSEMBLIES MUST CONFORM TO TOWN OF MOORESVILLE SPECIFICATIONS.
- ALL LOCATIONS FOR BPA'S REQUIRE APPROVAL OF THE DIRECTOR OF ENGINEERING AND MUST BE ON THE PROPERTY OWNER'S SIDE OF THE METER AND OUTSIDE OF THE RIGHT-OF-WAY AS CLOSE TO THE METER AS POSSIBLE.
- EACH BPA IS REQUIRED TO BE TESTED BY AN APPROVED CERTIFIED TESTER PRIOR TO PLACING THE WATER SYSTEM IN SERVICE.
- PIPE MATERIAL AND FITTINGS SHALL BE AS SPECIFIED IN TOWN OF MOORESVILLE LAND DEVELOPMENT DESIGN STANDARDS MANUAL.
- ALL BACKFLOW PREVENTORS SHALL BE IN ACCORDANCE WITH APPENDIX B OF THE NC RULES GOVERNING PUBLIC WATER SYSTEMS.
- A FIBER REINFORCED LIGHTWEIGHT PRECAST CONCRETE PAD MAY BE USED IN LIEU OF A CAST-IN-PLACE CONCRETE PAD.
- THERE SHALL BE NO TAPS, PIPING BRANCHES, UNAPPROVED BYPASS PIPING, HYDRANTS, FIRE DEPT. CONNECTION POINTS, OR OTHER WATER USING APPURTENANCES CONNECTED TO THE SUPPLY LINE BETWEEN ANY WATER METER AND BACKFLOW PREVENTER.



TOWN OF MOORESVILLE

STANDARD DETAIL

WATER SYSTEMS BACKFLOW PREVENTION
 DOUBLE CHECK VALVE ASSEMBLY (DC) 3/4"-2" ABOVE GROUND

June 2018

Revision 1

NTS

BF-1.0A