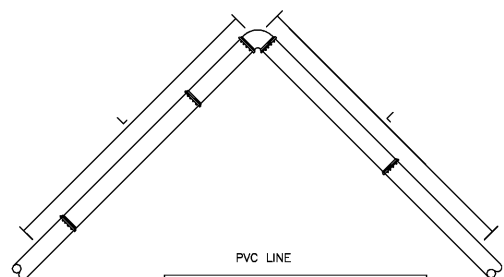


- NOTES:
1. LENGTH OF RESTRAINT SHOWN IS IN FEET. FITTING DIAMETERS ARE IN INCHES.
  2. WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.
  3. U1 AND U2 = UNINTERRUPTED STRAIGHT RUNS OF PIPE IN EACH DIRECTION.
  4. Ur = THE SMALLER OF U1 OR U2
  5. L = MINIMUM RESTRAINED LENGTH ALONG THE BRANCH.
  6. WHERE Lp IS LESS THAN 5', RESTRAIN TEE AS A 90° HORIZONTAL BEND.
  7. INFORMATION IN THE TABLES ABOVE ARE BASED ON THE DESIGN INFORMATION SHOWN. THE ENGINEER SHALL PROVIDE AMENDED RESTRAINT LENGTHS IF SITE CONDITIONS DIFFER

TEE	Ur	PVC LINE			
		5'-10'	11'-20'	21'-35'	> 35'
4X4	43	28	4	*	*
6X4	39	17	*	*	*
6X6	64	49	25	*	*
8X4	34	6	*	*	*
8X6	61	42	10	*	*
8X8	87	72	48	12	*
10X4	29	*	*	*	*
10X6	58	34	*	*	*
10X8	84	66	35	*	*
10X10	106	91	67	31	*
12X4	24	*	*	*	*
12X6	54	26	*	*	*
12X8	82	60	23	*	*
12X10	104	86	57	13	*
12X12	126	112	87	51	*

MINIMUM RESTRAINED LENGTH (L)

\*RESTRAIN AT TEE ONLY.



PIPE DIA.	BEND ANGLE			
	11 1/4'	22 1/2'	45'	90'
4	2	4	8	18
6	3	5	11	25
8	4	7	14	33
10	4	8	16	39
12	5	9	19	45
16	5	9	19	45
20	6	11	23	54
24	8	16	26	62

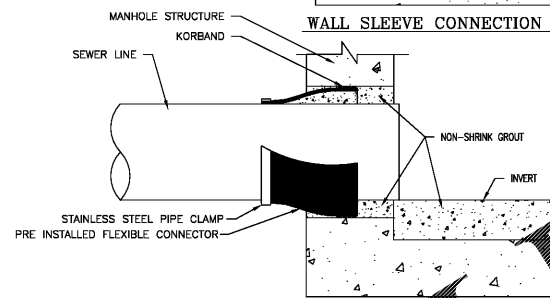
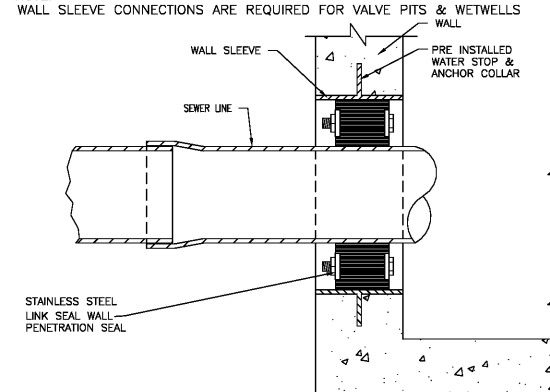
PIPE DIA.	BEND ANGLE			
	11 1/4'	22 1/2'	45'	90'
4	3	5	9	20
6	3	6	12	28
8	4	8	16	36
10	5	9	19	43
12	6	11	22	51
16	7	14	28	65
20	8	16	33	79
24	9	19	38	92

MINIMUM RESTRAINED LENGTH (L)

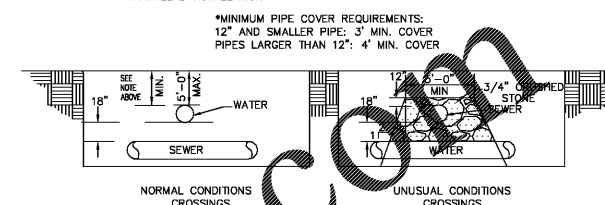
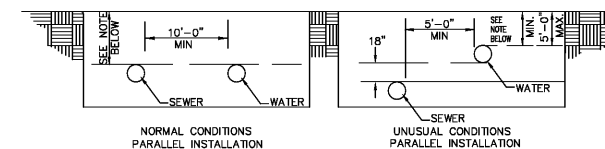
- NOTES:
1. LENGTH OF RESTRAINT SHOWN IS IN FEET. PIPE DIAMETERS ARE IN INCHES.
  2. WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.
  3. INFORMATION IN THE TABLES ABOVE ARE BASED ON THE DESIGN INFORMATION SHOWN. THE ENGINEER SHALL PROVIDE AMENDED RESTRAINT LENGTHS IF SITE CONDITIONS DIFFER



NOTE: WALL SLEEVE CONNECTIONS ARE REQUIRED FOR VALVE PITS & WETWELLS



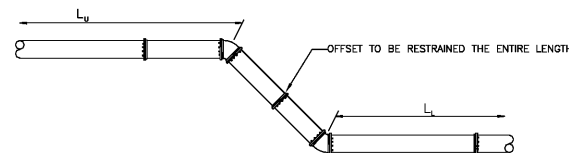
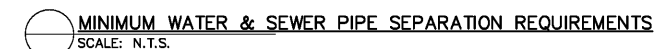
"BOOT" CONNECTION



NOTES:

THE SEPARATION OF WATER MAINS AND SEWERS SHALL COMPLY WITH THE GEORGIA ENVIRONMENTAL PROTECTION DIVISION MINIMUM STANDARDS FOR PUBLIC WATER SYSTEMS, WHICH ARE GENERALLY AS FOLLOWS:

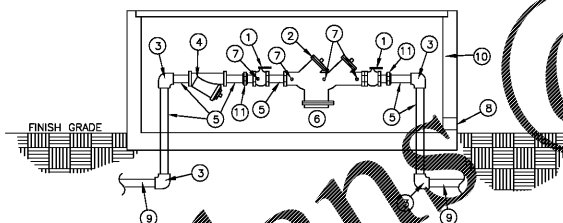
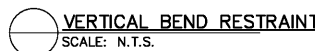
- A. PARALLEL INSTALLATION:
1. NORMAL CONDITIONS: THE INSIDE EDGE OF A WATER LINE SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM THE INSIDE EDGE OF ANY SANITARY SEWER, STORM SEWER OR SEWER MANHOLE.
  2. UNUSUAL CONDITIONS: WHEN LOCAL CONDITIONS PREVENT A HORIZONTAL SEPARATION OF 10 FEET, AND WHEN APPROVED BY THE ENGINEER, THE INSIDE EDGE OF A WATER MAIN MAY BE LAID A MINIMUM OF 5 FEET FROM THE INSIDE EDGE OF A SEWER PROVIDED THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES HIGHER THAN THE TOP OF THE SEWER (SEE DETAIL), AND THE WATER MAIN IS LAID IN A SEPARATE TRENCH OR ON AN UNDISTURBED EARTH SHELVE.
- B. CROSSINGS:
1. NORMAL CONDITIONS: WHENEVER POSSIBLE, THE BOTTOM OF THE WATER MAIN SHALL BE AT LEAST 18 INCHES HIGHER THAN THE TOP OF THE SEWER.
  2. UNUSUAL CONDITIONS: IF A WATER MAIN MUST CROSS UNDER A SEWER, THE TOP OF THE WATER MAIN SHALL BE AT LEAST 18 INCHES LOWER THAN THE BOTTOM OF THE SEWER, THE WATER MAIN PIPE SHALL BE CENTERED AT THE CROSSING SO THAT THE JOINTS ARE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE SEWER, AND ADEQUATE STRUCTURAL SUPPORT SHALL BE PROVIDED FOR THE SEWER TO PREVENT EXCESSIVE DEFLECTION OF THE SEWER AT THE CROSSING. ADEQUATE STRUCTURAL SUPPORT SHALL INCLUDE BACKFILLING THE ENTIRE UTILITY CROSSING AREA WITH 3/4" CRUSHED STONE AS SHOWN IN THE DETAIL.



PIPE DIA.	BEND ANGLE					
	11 1/4'	22 1/2'	45'	90'		
4	4	1	8	2	17	3
6	6	1	11	2	23	4
8	8	2	15	3	30	6
10	9	2	18	4	36	7
12	11	2	21	4	43	8
16	10	3	21	5	42	10
20	13	3	25	6	51	12
24	15	4	29	7	60	15

PIPE DIA.	BEND ANGLE					
	11 1/4'	22 1/2'	45'	90'		
4	6	1	12	2	24	4
6	9	2	17	3	34	5
8	11	2	22	3	45	7
10	13	2	26	4	53	8
12	15	3	30	5	63	9
16	19	3	39	6	80	11
20	23	4	47	7	97	15
24	27	4	55	8	113	17

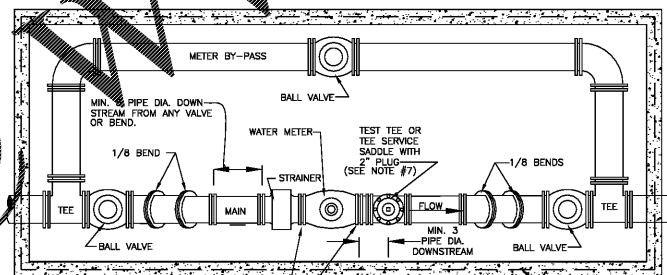
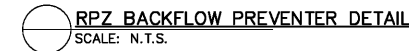
- NOTES:
1. LENGTH OF RESTRAINT SHOWN IS IN FEET. PIPE DIA. IS IN INCHES
  2. WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.
  3. INFORMATION IN THE TABLES ABOVE ARE BASED ON THE DESIGN INFORMATION SHOWN. THE ENGINEER SHALL PROVIDE AMENDED RESTRAINT LENGTHS IF SITE CONDITIONS DIFFER



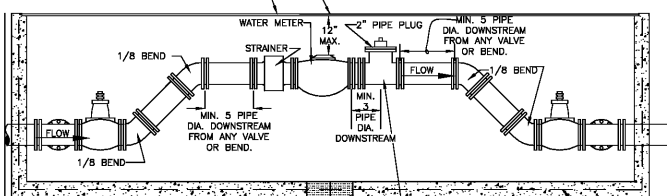
ITEM	QUAN	DESCRIPTION
1	2	1/2" PORT BALL VALVE
2	1	REDUCED PRESSURE ZONE DEVICE
3	4	BRASS ELLS THREADED OR FLANGED
4	1	STRAINER W/ RPZ DEVICE(OPTIONAL), SEE NOTE 3
5	6	BRASS OR COPPER ONLY, NIPPLES CUT TO LENGTH MIN.12" CLEARANCE
6	4	BRASS PLUGS INSERTED IN TEST COCKS
7	4	2" X 2" DRAIN
8	1	POLYETHYLENE OR COPPER
9	1	PREFABRICATED ENCLOSURE BY HOT BOX OR EQUAL
10	2	UNION, SEE NOTE 3

- NOTES:
1. FOR FINAL APPROVAL, ASSEMBLY MUST BE CENTERED IN ENCLOSURE. UNDER NO CONDITION WILL ANY CONNECTION BE ALLOWED BETWEEN THE SERVICE METER AND A BACKFLOW PREVENTER. BACKFLOW PREVENTER SHALL ALWAYS BE INSTALLED IMMEDIATELY DOWNSTREAM OF METER.
  2. UNDER NO CIRCUMSTANCE SHALL TEST PORTS BE MODIFIED OR UTILIZED FOR ANY USE OTHER THAN BACKFLOW DEVICE TESTING.
  3. ITEMS 4 AND 11 (THE STRAINER AND THE UNIONS) MAY BE INSTALLED ON THE VERTICAL RISERS TO REDUCE THE OVERALL LAYING LENGTH

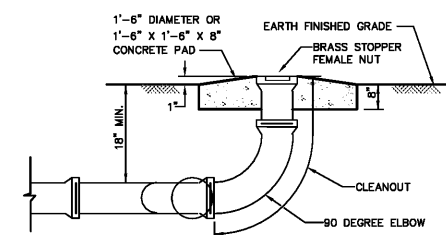
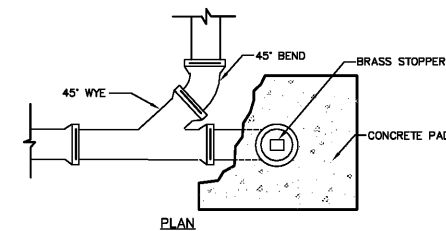
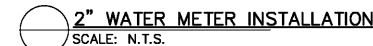
TYPICAL OUTSIDE INSTALLATION  
REDUCED PRESSURE  
TYPE BACKFLOW PREVENTION DEVICE  
(3/4", 1", 1 1/2", 2", & 2 1/2" SIZES)



- NOTE: UNI-FLANGE TO BE INSTALLED EACH SIDE OF METER
- NOTES:
1. USE OF BUTTERFLY VALVE SHALL REQUIRE METER WITH DOUBLE STRAINER.
  2. METER (CLASS B) SHALL HAVE U.L. APPROVED STRAINERS.
  3. COMPLETE BY-PASS ASSEMBLY IS REQUIRED ON ALL METERS.
  4. THE BY-PASS AND ALL VALVES ARE TO BE INSTALLED INSIDE METER PIT.
  5. VALVES: 2" OR LESS SHALL BE BALL VALVES.
  6. INSPECTION LID SHALL BE INSTALLED SUCH THAT ALL METER REGISTERS CAN BE READ WITHOUT REMOVING THE ENTIRE METER PIT LID.
  7. THE TEST TEE OR TEE SERVICE SADDLE SHALL NOT BE REQUIRED IF THE METER IS EQUIPPED WITH A TEST PORT.
  8. ALL MATERIAL SHALL BE BRASS OR COPPER.
  9. A MINIMUM 1" CLEARANCE IS NEEDED BETWEEN ALL FLANGES AND THE INSIDE OF THE BOX.



1. OPTIONAL QUAZITE OR CDR WALT (4"x8" MIN.) CAN BE USED.
2. THE BOX SHALL BE SIZED AS REQUIRED TO HOUSE THE EQUIPMENT.
- NOTE: A JUMBO METER BOX MAY BE SUBSTITUTED



THIS DRAWING IS THE PROPERTY OF T. R. LONG ENGINEERING, P.C. AND MAY NOT BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY MANNER WITHOUT THE EXPRESS WRITTEN PERMISSION OF T. R. LONG ENGINEERING, P.C.



T. R. Long Engineering, P.C.  
SAVANNAH  
306 Commercial Drive  
Savannah, Georgia 31406  
Office (912) 335-1046



HINESVILLE  
114 North Commerce St.  
Hinesville, Georgia 31313  
Office (912) 368-5664

SPECIFIC DEVELOPMENT  
PLAN FOR BURGER KING  
NAHANTA, GEORGIA

SHEET NAME: DETAILS

REVISIONS:

1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

INITIAL DATE: 4/01/2019  
DRAWN BY: BDP  
CHECKED BY: TR L  
PROJECT #: 2018-147

SHEET NUMBER:  
C-II