Bradley C Craig

2011.09.27 09:38:13 -04'00'

MATTERN & CRAIG, INC Roanoke, Virginia (UTILITY ENGINEER)

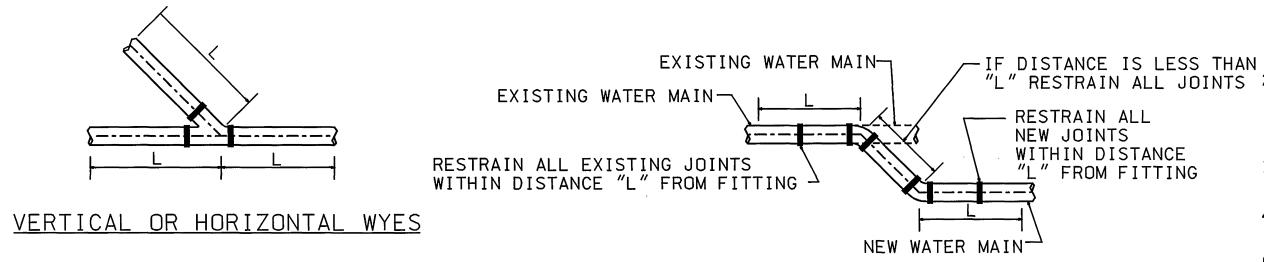
WATER - STANDARD DETAILS

CONSTRUCTION DATA

	PIPE	L = MINIMUM LENGTH OF RESTRAINED PIPE (FT)											
	SIZE (IN.)	<u>_</u> = 90°			<u> </u>			<u> </u>			<u> </u>		
		HORIZ.	VERT. UP	VERT. DOWN	HORIZ.	VERT. UP	VERT. DOWN	HORIZ.	VERT. UP	VERT. DOWN	HORIZ.	VERT. UP	VERT. DOWN
	4	45	45	78	19	19	32	9	9	15	4	4	8
	6	64	64	110	26	26	45	13	13	22	6	6	11
	8	82	82	142	34	34	59	16	16	28	8	8	14
	10	99	99	171	41	41	71	20	20	34	10	10	17
	12	115	115	200	48	48	83	23	23	40	11	11	20
	16	146	146	255	60	60	106	29	29	51	14	14	25
l	18	160	160	282	66	66	117	32	32	56	16	16	28
İ	24	201	201	358	83	83	148	40	40	71	20	20	35
	36	271	271	490	112	112	203	54	54	97	27	27	48

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VERTICAL OR HORIZONTAL TEES VERTICAL OR HORIZONTAL BENDS



CONNECTION TO EXISTING WATER MAIN

FEDERAL AID REVISED STATE PROJECT ROUTE PROJECT BRADLEY C. CRAIG Lic. No. 023879 DESIGN FEATURES RELATING TO CONSTRUCTION

OR TO REGULATION AND CONTROL OF TRAFFIC MAY BE SUBJECT TO CHANGE AS DEEMED NECESSARY BY THE DEPARTMENT

1. MECHANICAL JOINT RESTRAINING DEVICES SHALL BE EBAA IRON, INC. MEGALUG, WITH A WORKING PRESSURE OF 250 PSI AND A MINIMUM DESIGN SAFETY FACTOR OF 2.

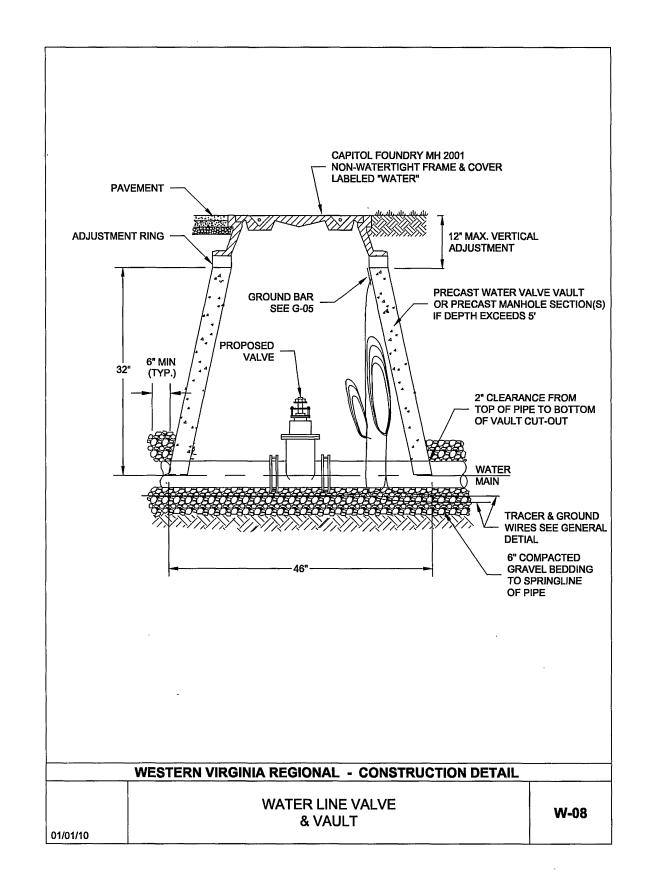
'L" RESTRAIN ALL JOINTS 2. THE RESTRAINED LENGTH OF WATER MAIN IS BASED ON THE FOLLOWING: AN INTERNAL PRESSURE OF 200 PSI WITH A FACTOR OF SAFETY OF 2, 3 FEET OF PIPE COVER, PIPE BEDDED ON 4" OF LOOSE MATERIAL WITH COMPACTED BEDDING EXTENDING TO THE TOP OF PIPE AND A SOIL TYPE CLASSIFICATION OF "ML" AND A FACTOR OF SAFETY OF 2. 3. PLUGS SHALL BE RESTRAINED BASED ON THE RESTRAINED LENGTH FOR 90° VERTICAL

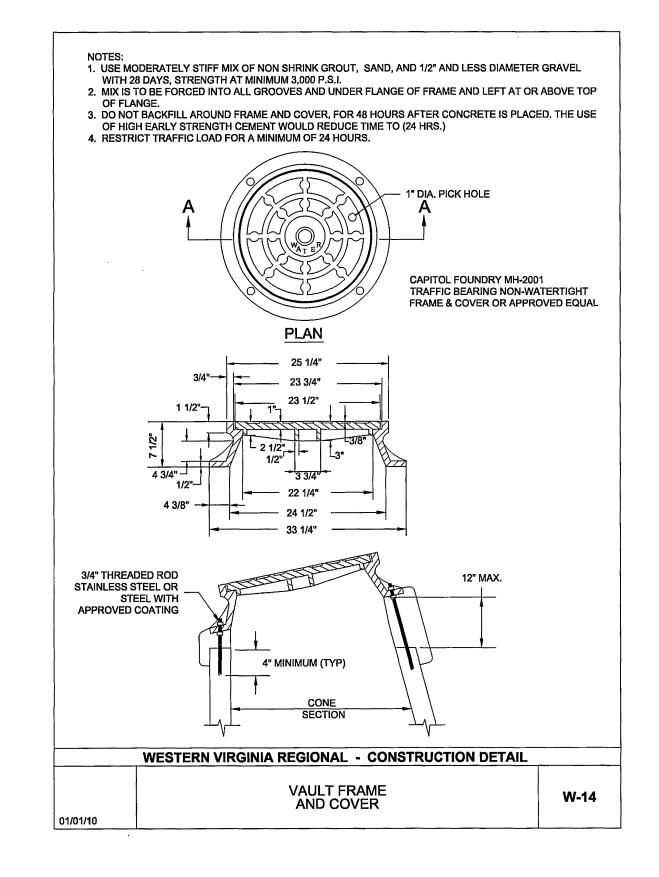
4. VALVES, TEES, AND WYES SHALL BE RESTRAINED BASED ON THE RESTRAINED LENGTH FOR 45° HORIZONTAL BENDS.

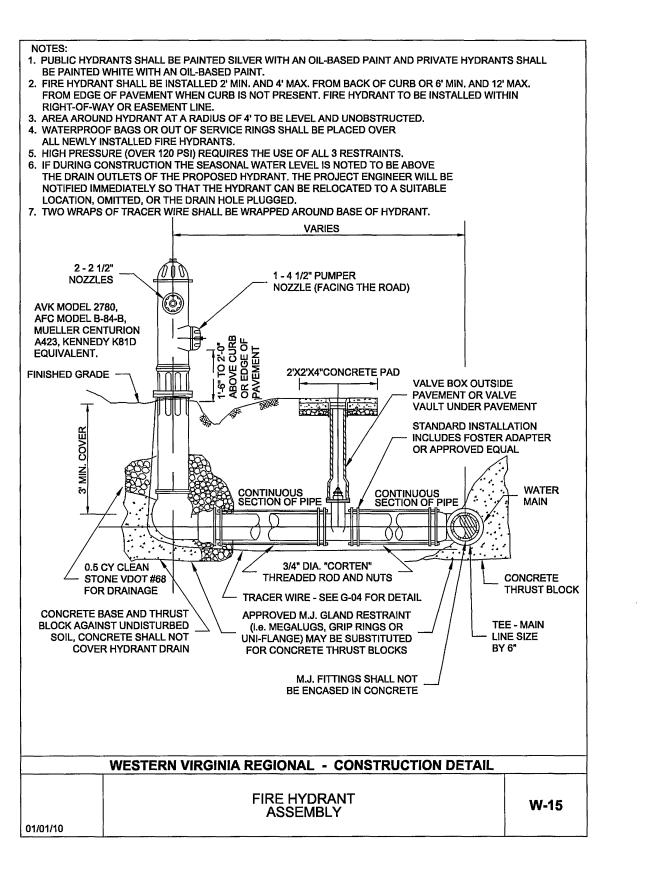
5. EXISTING WATER MAIN ADJACENT TO PROPOSED BENDS, WYES, VALVES, TEES, AND PLUGS SHALL BE UNCOVERED AND THE EXISTING JOINTS SHALL BE RESTRAINED FOR THE LENGTH INDICATED, IF THE EXISTING WATER MAIN WILL NOT ACCEPT THE MECHANICAL JOINT RESTRAINING MECHANISM, THE EXISTING WATER MAIN SHALL BE REPLACED WITH DUCTILE IRON WATER MAIN FOR THE LENGTH INDICATED.

TYPICAL DETAILS AND CONSTRUCTION DATA - MECHANICAL JOINT RESTRAINING DEVICES NOT TO SCALE

. SETTERS TO BE A.Y. McDONALD 50-215WDDD33, FORD TVBHH72-15W-11-33 OR APPROVED EQUAL 2. SADDLES MUST BE USED WITH ALL PLASTIC & DUCTILE IRON PIPE. SERVICE SADDLES SHALL BE USED IN ACCORDANCE WITH SECTION 2665 OF THE WATER STANDARDS. SERVICE SADDLES FOR PLASTIC PIPE. SHALL BE: POWERSEAL 3417, OR 3412AS, ROMAC 202S, OR 306, OR FORD METER FS202 OR FS303, FOR DUCTILE IRON PIPE USE THE ABOVE OR POWERSEAL 3413. ROMAC 202 OR FORD METER F202. 3. METER BOX MUST BE CARSON/MID-STATES PLASTICS. INC. PLASTIC BOX WITH FORD A32-T (ELECTRONIC READ LID) OR A.Y. McDONALD MODEL 74M32C-TC CAST IRON BASE & COVER OR APPROVED EQUAL. 5. S BAR TO BE ST-2-31084-01 WITH PRV OR EQUAL. 6. THIS CONFIGURATION IS REQUIRED WHEN THE WATER PRESSURE AT THE WATER MAIN EXCEEDS 120 PSI UNIT SHALL PROVIDE PRESSURE REDUCING VALVE WITH PRESSURE RELIEF VALVE AS SHOWN ON 7. SERVICE SHALL BE "K" TYPE COPPER OR P.E. 4710, CTS O.D., MINIMUM CELL CLASS 445474E AND 445474D. 8. PRESSURE REDUCING VALVE TO BE WATTS 600 OR APPROVED EQUAL. 9. CORPORATION STOP MUST BE FORD F1000-4-G OR APPROVED EQUAL. RIGHT-OF-WAY EASEMENT LINE METER - SADDLE PRESSURE REDUCING VALVE WITH PRESSURE -PRESSURE RELIEF VALVE METER SETTER & BOX TO BE SET AT FINAL GRADE OF SITE <u> जार्रेहरमात्रास्त्रीमार्ग</u> 3/4" Ø x 6' PIG TAIL - TO BE CAPPED & MARKED OR STAKED 6" STONE VDOT #57 --- 30°- 45° SEE GENERAL DETAIL 1" CORPORATION STOP WITH CTS COMPRESSION CONNECTION SEE NOTE # **WESTERN VIRGINIA REGIONAL - CONSTRUCTION DETAIL** SINGLE RESIDENTIAL WATER SERVICE FOR HIGH PRESSURE W-03 (LINE PRESSURE OVER 120 PSI)







PLAN NO.	PROJECT	FILE NO.	SHEET NO.
	U000-128-132		10(6)

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