

1. ALL JOINTS SHALL BE RESTRAINED ON BOTH SIDES OF THE FITTING AND DOCUMENTED BY THE INSPECTOR FOR THE LENGTH SHOWN UNLESS OTHERWISE INDICATED.
2. RESTRAINED LENGTH SHOWN REFERS TO ANY DESIGNED OR POTENTIAL LINE STOP, INCLUDING ALL GATE VALVES.
3. RESTRAINED LENGTH SHOWN REFERS TO THE BRANCH LINE ONLY. THE CONTINUOUS PIPE LENGTH OF THE MAIN RUN SHALL BE A MINIMUM OF 10' ON EACH SIDE OF THE TEE.
4. RESTRAINED LENGTH SHOWN IS BASED ON REDUCING PIPE DIAMETER TO ONE SIZE SMALLER THAN PIPE LISTED (ANY OTHER DIAMETER REDUCTION WILL REQUIRE ADDITIONAL CALCULATIONS BEFORE INSTALLATION). RESTRAINED LENGTH SHOWN IS UPSTREAM ON THE LARGE SIDE OF THE REDUCER.
5. **12" AND SMALLER DIAMETER:** IF UNDER 150 PSI WORKING PRESSURE, RESTRAINED JOINT(S) ARE TO BE USED. IF EQUAL TO OR OVER 150 PSI WORKING PRESSURE, BOTH THRUST BLOCK(S) AND RESTRAINED JOINT(S) SHALL BE USED.
- LARGER THAN 12" DIAMETER:** IF UNDER 100 PSI WORKING PRESSURE, RESTRAINED JOINT(S) ARE TO BE USED. IF EQUAL TO OR OVER 100 PSI WORKING PRESSURE, BOTH THRUST BLOCK(S) AND RESTRAINED JOINT(S) SHALL BE USED (UNLESS OTHERWISE APPROVED BY THE PARTICIPATING UTILITY).
6. FOR RESTRAINED JOINT PIPING REQUIREMENTS AT FITTING R.J. AND P.V.C. AND R.J. DIP MAY BE USED INTERCHANGEABLY WITH APPROVAL FROM PARTICIPATING UTILITY. CONTRACTOR MUST PLAN ACCORDINGLY FOR THE DIFFERENCE IN P.V.C. AND DIP BELL AND SPIGOT DIMENSIONS.

MINIMUM THRUST RESTRAINT OF PIPE JOINTS DESIGN LENGTHS

W-19

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- VARIES
(NO OBSTRUCTIONS)
- 2 - 2 1/2" NOZZLES
- 1 - 4 1/2" PUMPER NOZZLE (FACING THE ROAD)
- 1/4" TO 3/4" ABOVE CURB OR EDGE OF PAVEMENT
- 2'X2'X4" CONCRETE PAD
- VALVE BOX (W/ ADAPTOR) IF OUTSIDE PAVEMENT OR VALVE VAULT UNDER PAVEMENT
- STANDARD INSTALLATION INCLUDES FOSTER ADAPTER OR APPROVED EQUAL
- WATER MAIN
- CONTINUOUS SECTION OF PIPE
- CONTINUOUS SECTION OF PIPE
- 3/4" DIA. "GORTON" (NON-CORROSIVE) THREADED ROD AND NUTS
TRACER WIRE SEE GENERAL DETAIL
- APPROVED M.J. LAND RESTRAINT (I.E. MEGALUGS, GRIP RINGS OR UNI-FLANGE) SHALL BE USED AT ALL M.J. FITTINGS
- TEE - MAIN LINE SIZE x 8" TO VALVE AND HYDRANT
- CONCRETE THRUST BLOCK (IF REQUIRED)
- 0.5 CY CLEAN STONE VDOT #57 FOR DRAINAGE
- CONCRETE BASE AND THRUST BLOCK (IF REQUIRED) AGAINST UNDISTURBED SOIL. CONCRETE SHALL NOT COVER HYDRANT DRAIN
- 3" MIN. COVER
- FINISHED GRADE
- AVK MODEL 2780,
AFC MODEL B-84-B-5,
MUELLER CENTURION
A423, KENNEDY K81D OR
EQUIVALENT.
- M.J. FITTINGS SHALL NOT BE ENCASED IN CONCRETE

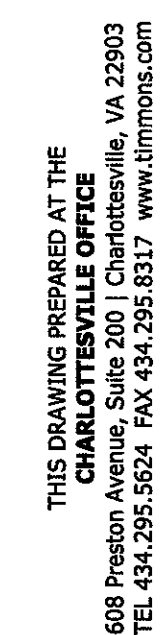
FIRE HYDRANT ASSEMBLY

W-17

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- PLAN VIEW**
- Labels for Plan View:
- ACCESS HATCH TO BE CENTERED OVER PIPING AND LADDER
 - TAPPING SADDLE AND BALL VALVE W/ LOCKING TABS
 - SMOOTH HOLE WITH LINK SEAL (TYPE OF 3)
 - DIP IN
 - DETECTOR CHECK (see notes)
 - CHECK VALVE
 - DOMESTIC METER
 - LOK-PAK METER COUPLING
 - TYPE K COPPER OUT (domestic)
 - DIP OUT
 - W (see notes)
 - L (see notes)
- SECTION VIEW**
- Labels for Section View:
- DOUBLE DOOR GUTTER-FRAME H20 RATED ALUM. ACCESS HATCH
 - 8" MIN.
 - 5,000 PSI REINFORCED CONCRETE
 - DIP IN
 - 12"
 - 6" MIN.
 - 4" BLOCKOUT FOR DETECTOR CHECK
 - RECESSED RADIO READ PAD IN HATCH
 - 1 1/2" HATCH DRAIN
 - 6" TYP.
 - 12" (TYP.)
 - ALUMINUM ACCESS LADDER
 - TYPE K COPPER OUT (domestic)
 - DIP OUT
 - EPOXY COATED STEEL PIPE SUPPORT
 - H (see notes)

COMMERCIAL METER VAULT

W-7



REVISION DESCRIPTION

<h1>ROANOKE FIRESTONE</h1> <p>ROANOKE COUNTY, VIRGINIA</p> <h2>NOTES & DETAILS</h2>	JOB NO.
	<p>44371</p> <p>SHEET NO.</p> <p>C1.2</p>

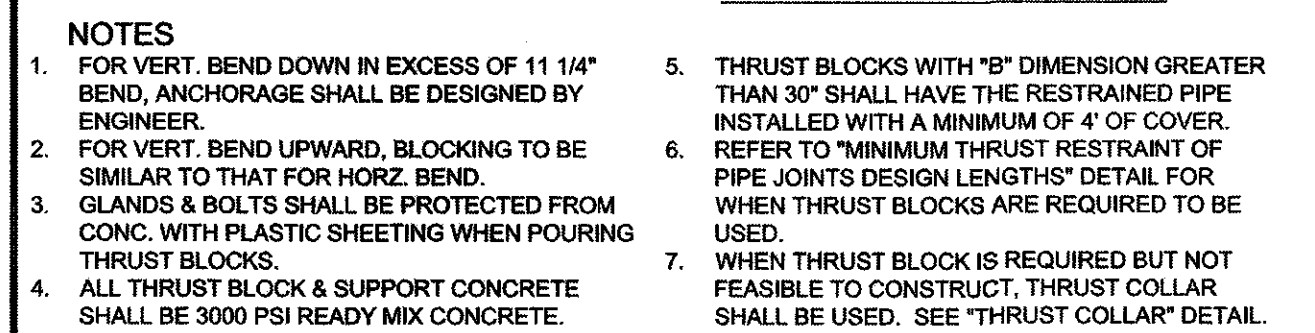
ROANOKE FIRESTONE
ROANOKE COUNTY, VIRGINIA
NOTES & DETAILS

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- CONTRACTOR TO EXPOSE
& CLEAN PIPE IN
ACCORDANCE WITH
MANUFACTURERS
RECOMMENDATIONS

TAPPING SLEEVE AND VALVE

W-2'



PRESSURE = 200psf BEARING = 2000psf FACTOR OF SAFETY = 1.5												
PIPE SIZE	90° BEND		45° BEND		22½° BEND		11½° BEND		TEE		PLUG	
	A	B	A	B	A	B	A	B	A	B	C	D
4"	8"	12"	8"	8"	6"	6"	6"	6"	11"	9"	10"	6"
6"	18"	12"	8"	10"	8"	8"	8"	8"	11"	10"	12"	18"
8"	18"	13"	10"	10"	8"	8"	8"	8"	11"	12"	12"	24"
10"	20"	16"	12"	14"	8"	12"	8"	12"	14"	16"	16"	30"
12"	20"	16"	12"	14"	8"	12"	8"	12"	14"	16"	16"	30"
16"	26"	20"	16"	18"	11"	13"	11"	13"	18"	20"	20"	36"
24"	82"	42"	62"	30"	44"	22"	22"	16"	82"	42"	82"	42"
30"	185"	42"	100"	42"	52"	42"	40"	30"	185"	42"	185"	42"

THRUST BLOCK REQUIREMENTS

W-1:



1. FIRE DEPARTMENT CONNECTION SHALL BE LOCATED WHERE SHOWN ON PLANS.
2. THE FIRE DEPARTMENT CONNECTION SHALL BE INSTALLED AT A MINIMUM OF 16" AND A MAXIMUM OF 42" ABOVE GRADE.
3. THE FIRE DEPARTMENT CONNECTION SHALL CONSIST OF TWO 2 1/2" INLETS WITH NATIONAL STANDARD THREADS AND KNOX LOCKING CAPS.
4. THE SUPPLY LINE FROM THE FIRE DEPARTMENT CONNECTION TO THE RISER MANIFOLD SHALL BE A MINIMUM OF 4" DIAMETER PIPING.
5. PROVIDE SIGNAGE AT FIRE DEPARTMENT CONNECTION AS REQUIRED BY NFPA 13.

REMOTE FIRE DEPARTMENT CONNECTION

No Scale