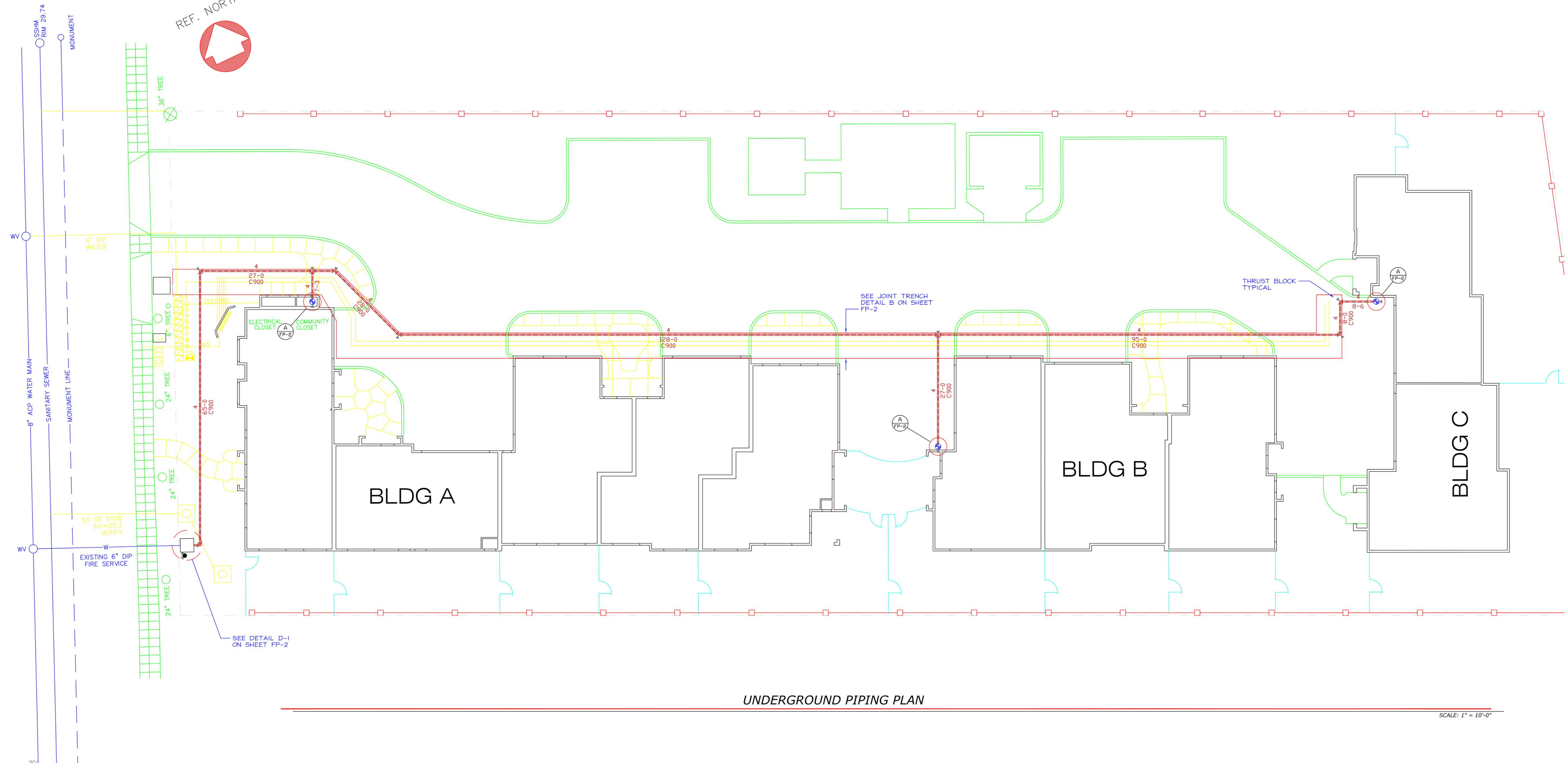




SIERRA VISTA AVENUE



UNDERGROUND PIPING PLAN

SCALE: 1" = 10'-0"

UNDERGROUND NOTES

- Underground to be installed per NFPA 13, NFPA 24, and the requirements of the Mountain View Fire Department.
- All portions of the underground main shall be UL listed for fire service.
- A Hydrostatic pressure test at 200 psi for 2 hours shall be conducted before joints are covered. Pipe shall be center loaded during test.
- The underground piping shall be flushed prior to system tie in. Minimum flow rate shall be 390 gpm.
- Per NFPA 13 chapter 8-1 "contractors manual and test certificate for underground piping" shall be completed, signed and delivered to the fire prevention bureau.
- All pipe fittings and transitions to have approved thrust blocks and/or mechanical restraints meeting all applicable codes.
- All pipe to be PVC C900 with AWWA C907 PVC fittings. Pipe within 5 feet of the building and vertical risers shall be ductile iron. All ferrous metal pipe and fittings shall be wrapped with 8 mil polyethylene and secured with 10 mil poly tape. All nuts and bolts shall be mastic coated.
- Minimum pipe bury to be 36" of cover, see joint trench detail for required location of the fire line.
- All piping shall be inspected by the Fire Department prior to backfill.
- Set the riser flange at +0'-6" above finished floor.
- Provide a 2" annular clearance around pipe and floor slab at the system riser.
- Underground fittings shall be restrained by approved means, see plan for additional information.
- All buried fasteners shall be coated with an approved corrosion retardant material prior to bury.
- Provide a conduit run for the PIV tamper switch at the fire service pit.
- Plans have been prepared by:
Engineered Fire Systems, Inc.
13457 Colfax Highway
Grass Valley, CA 95945
Contact: Eric Price
530-274-9400 (101)

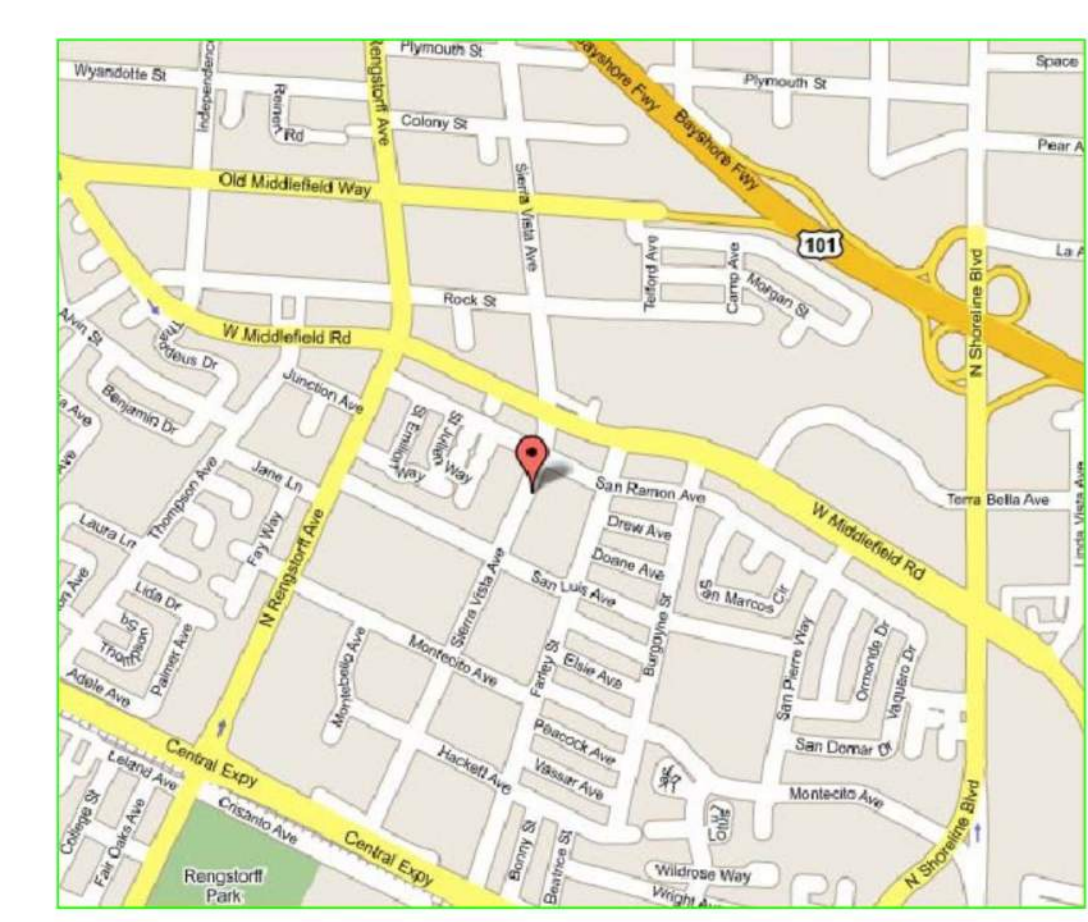
SPECIFIC UNDERGROUND REQUIREMENTS

- The color of the post indicator valve (PIV) and fire department connection (FDC) shall be red. The fire department connection shall be provided with two (2) horizontal rows of 3 inch wide highly reflective tape, spaced 3 inches apart, placed on the upper portion of the fire department connection riser.
- All underground fire lines and hydrants shall be flushed using velocities specified in NFPA 24 prior to any overhead pipe being connected. Contractors shall have the appropriate tools and equipment on-site to complete a flush of all piping and hydrants. There shall be sufficient fire hose to direct the water to a safe location off site. In case of multiple hydrants or risers, a minimum of two (2) appurtenances shall be connected and ready to flush. A minimum of two (2) replacement hoses, along with additional burlap sacks, shall be available on site.
 - 4" pipe shall be flushed through a minimum of one (1) 4" hose or (2) 2-1/2" hoses.
 - 6" pipe shall be flushed through a minimum of one (1) 4" hose or (4) 2-1/2" hoses.
 - 8" pipe shall be flushed through a minimum of two (2) 4" hoses, (1) 4" hose and two (2) 2-1/2" hoses, or six (6) 2-1/2" hoses.
 Note: Fire hydrants shall be flushed using the hose arrangement required for 6" pipe. Wharf hydrants shall be flushed using the hose arrangement required for 4" pipe.
- The FDC shall be provided with frangible metal caps or brass plugs.

SYMBOL LEGEND

- Existing Underground Piping
- New Underground Piping
- System Riser Location
- Fire Dept. Connection
- Fire Hydrant
- Thrust Block
- Key Gate Valve
- AKWA C907 PVC 90°
- AKWA C907 PVC 45°
- AKWA C907 PVC TEE

VICINITY MAP



REVISIONS		
NO.	DATE	DESCRIPTION

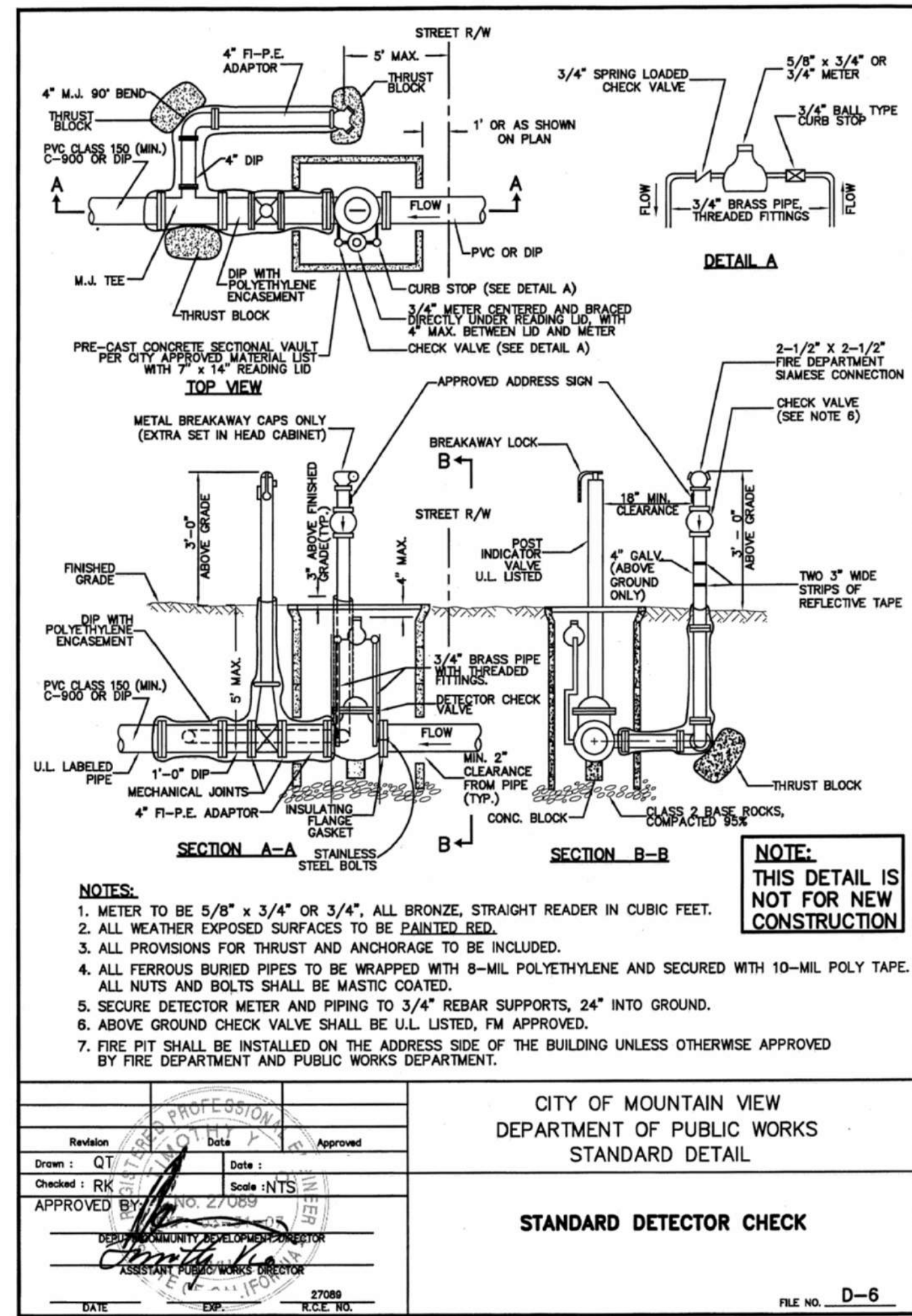
PIPE SUMMARY	
LOCATION	TYPE - U.O.N.
UNDERGROUND	PVC C900

ENGINEERED FIRE SYSTEMS, INC.
AUTOMATIC SPRINKLER "SPECIALISTS"
13457 COLFAX HWY, GRASS VALLEY, CA, 95945, (530) 274-9400

DATE	6-10-25
SCALE	AS NOTED
DRAWN	E. PRICE
FILE NUMBER	10199
SYSTEM	WET
OCCUPANCY	NFPA 13
SHEET TITLE	UNDERGROUND PIPING PLAN
SHEET NUMBER	FP-1
1 OF 2 SHEETS	

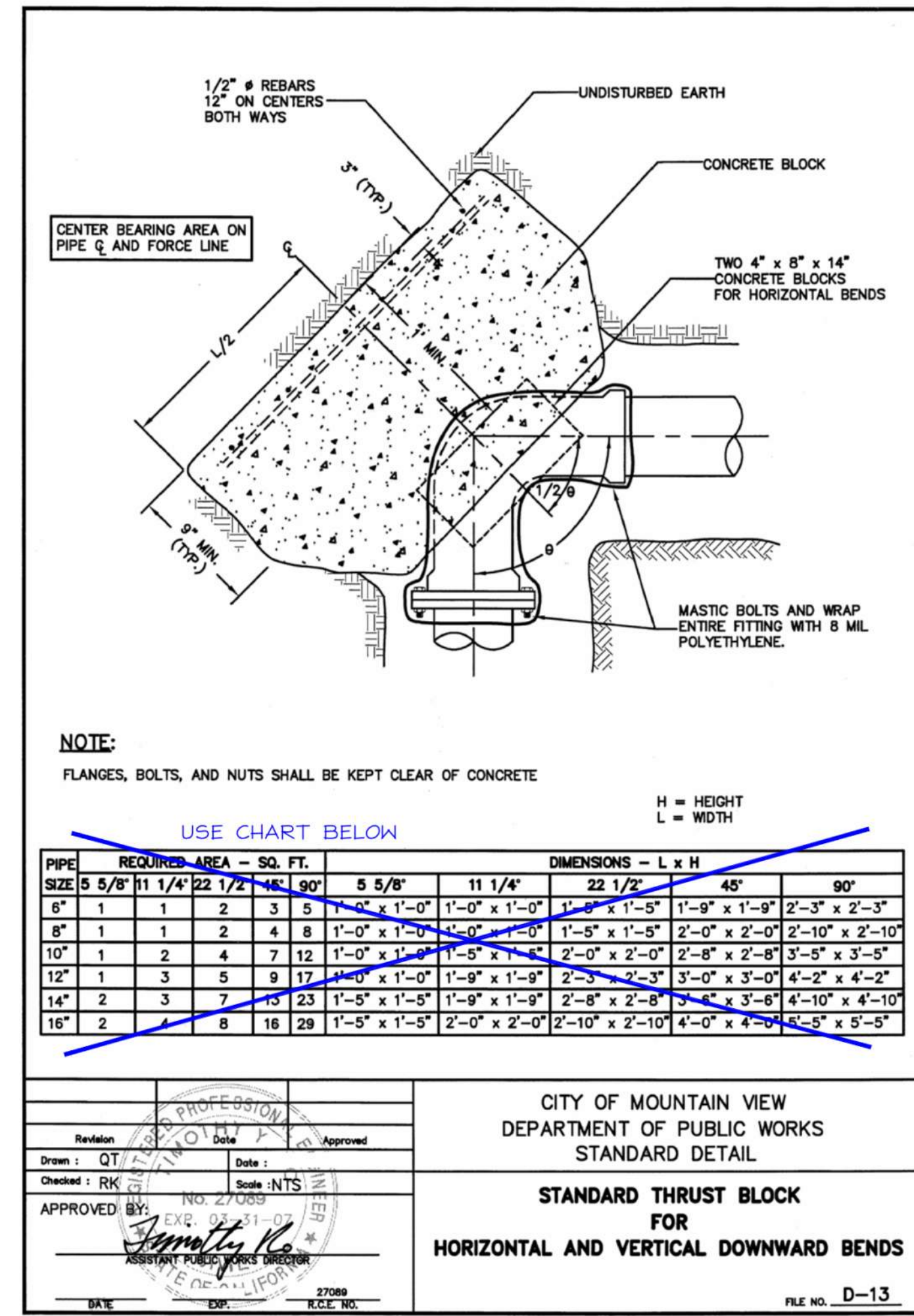


THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT AND THE COUNTY PUBLIC WORKS DEPARTMENT AT LEAST 48 HOURS (2 WORKING DAYS) PRIOR TO BEGINNING ANY EXCAVATION IN THE VICINITY OF UNDERGROUND FACILITIES.



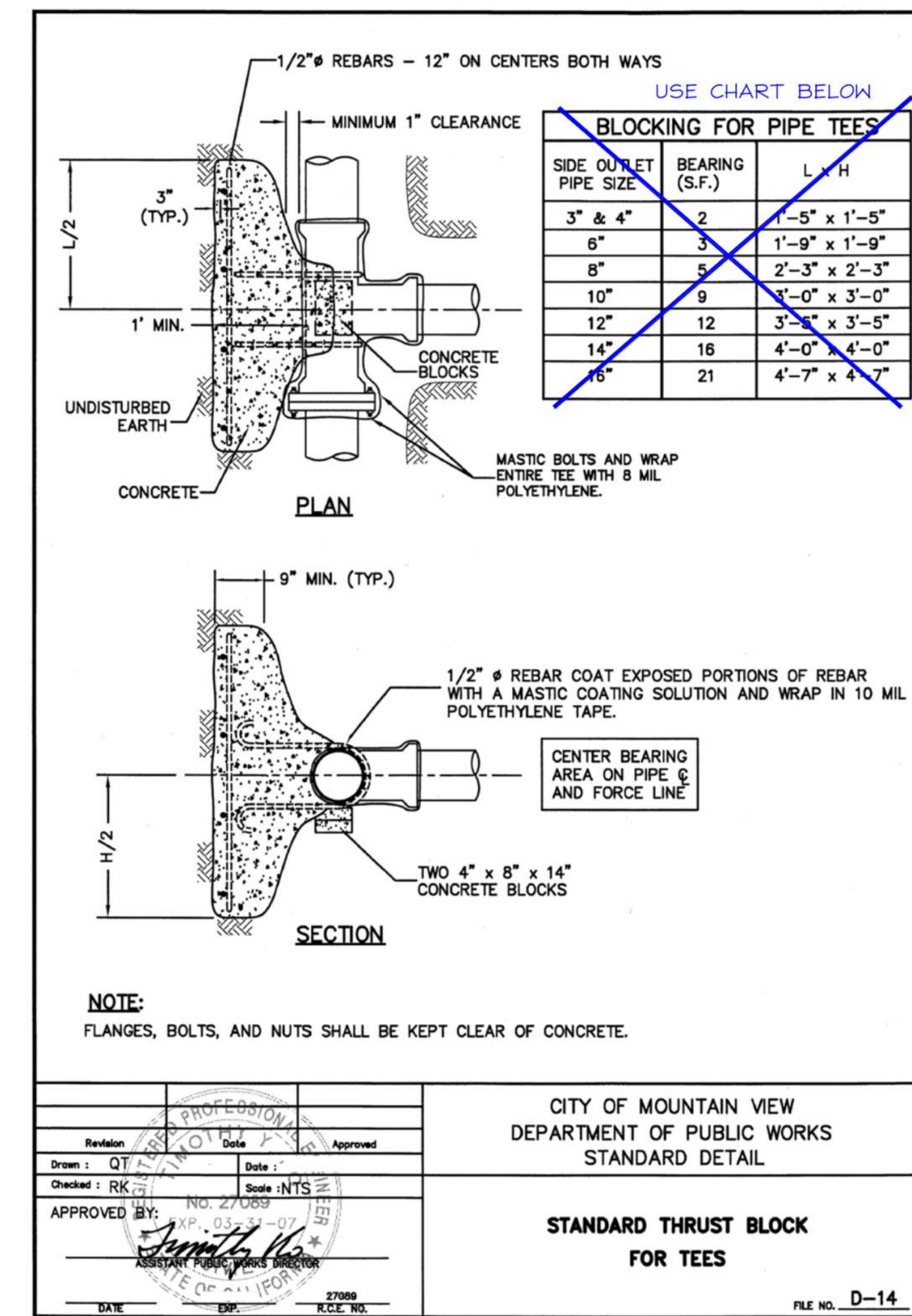
C CITY STANDARD DETAIL D-6

SCALE: NONE



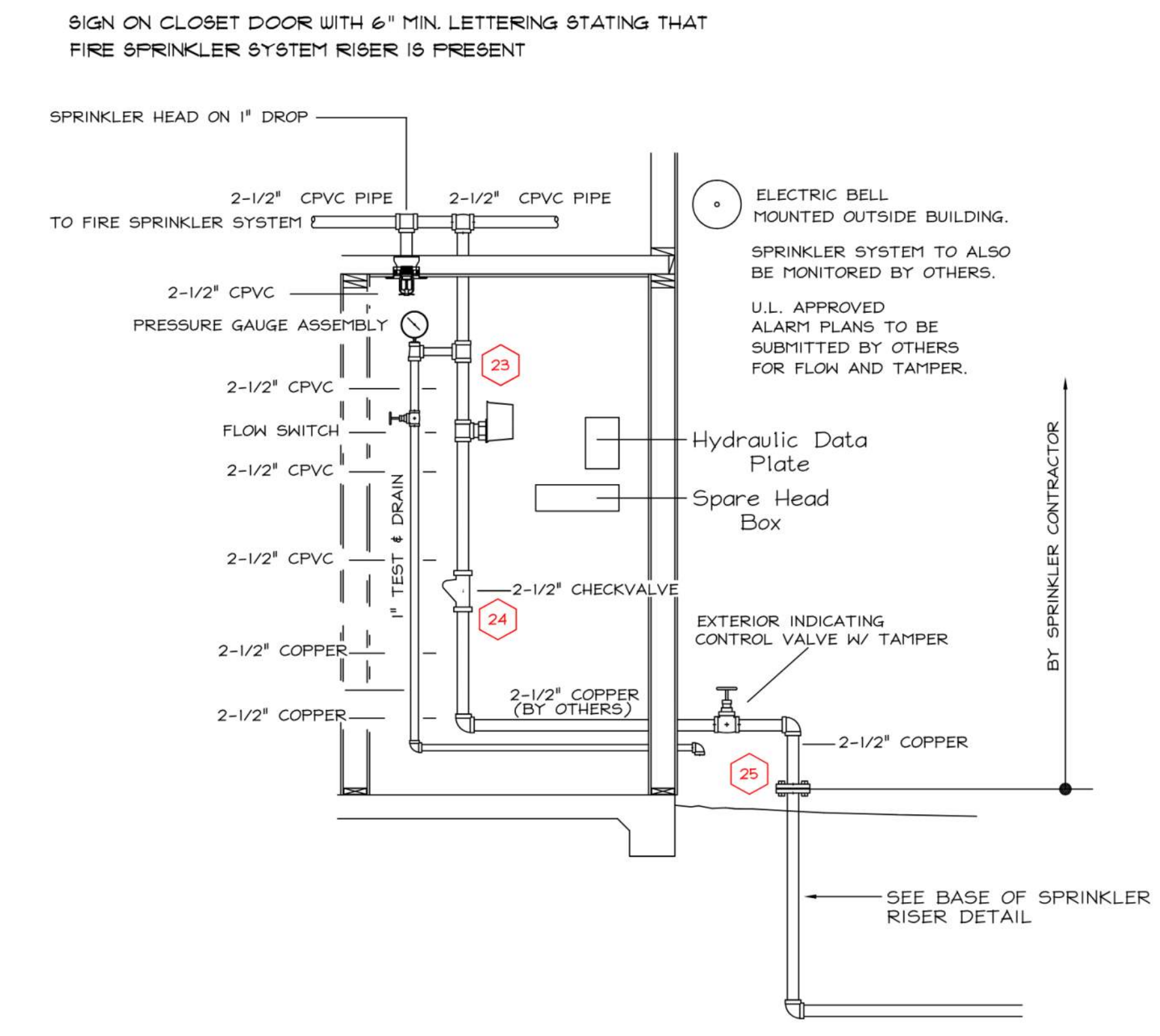
D CITY STANDARD DETAIL D-13

SCALE: NONE



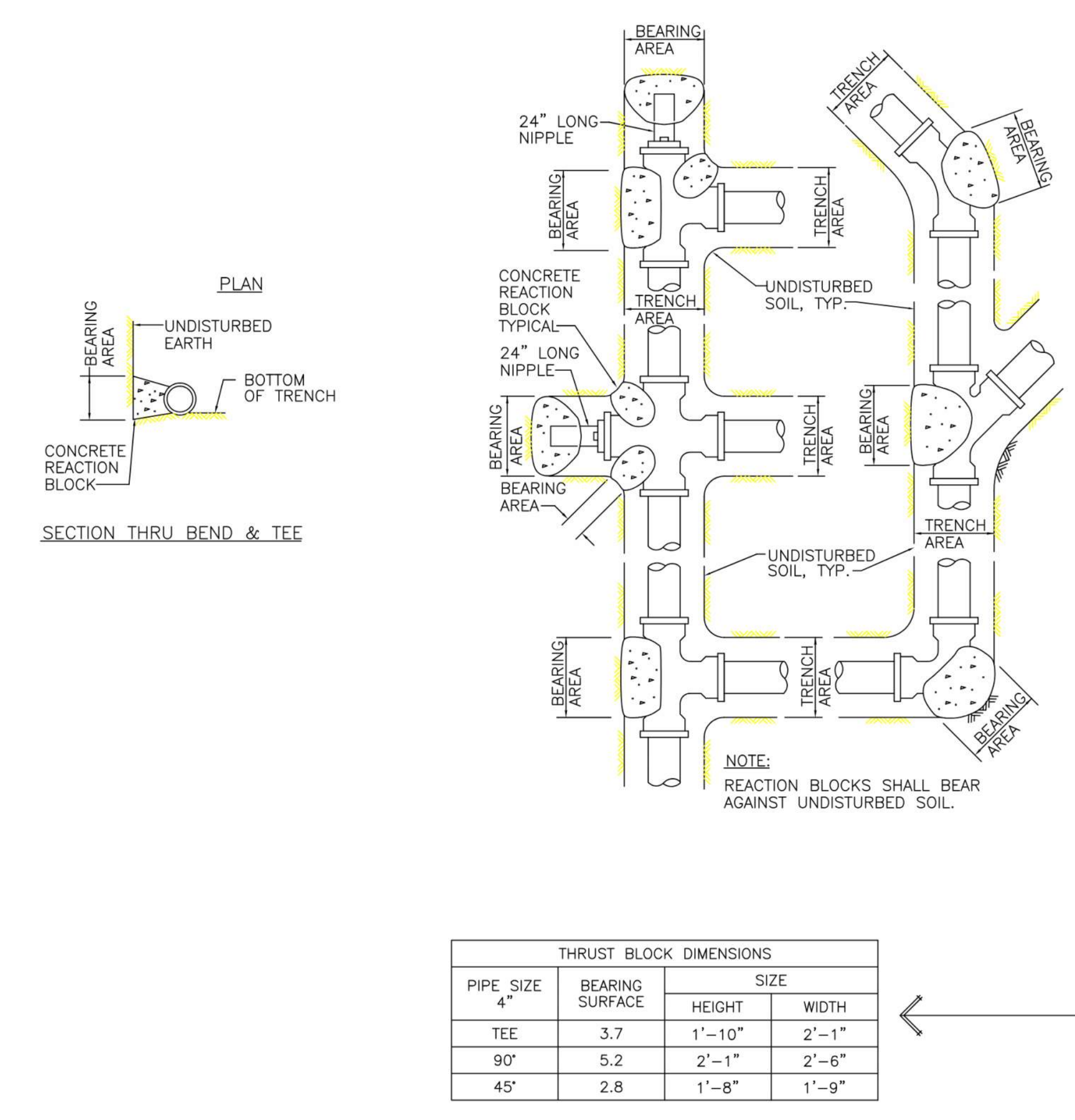
E CITY STANDARD DETAIL D-14

SCALE: NONE



F REFERENCE RISER DETAIL

SCALE: NONE



CONCRETE REACTION BLOCKS FOR PIPE LINES

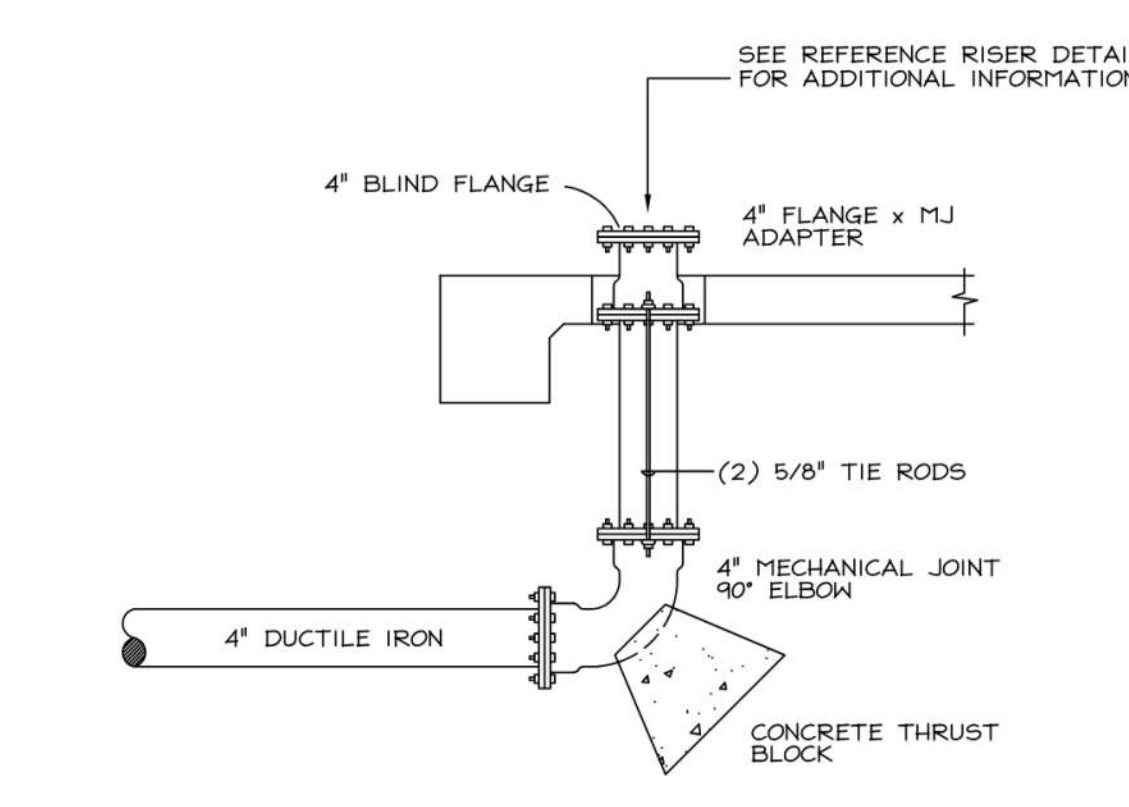
MINIMUM BEARING AREAS (SQ. FT.) FOR HORIZONTAL THRUST BLOCKS

PIPE SIZE	BEND	PRESSURE 200 P.S.I. TYPE OF SOIL CONDITION						
		A	B	C	D	E	F	G
4"	TEES, CAPS	7.4	3.7	2.5	1.9	1.2	1.0	1.0
	90°	10.4	5.2	3.5	2.6	1.7	1.3	1.0
	45°	5.7	2.8	1.9	1.4	1.0	1.0	1.0
6"	TEES, CAPS	15.2	7.6	5.1	3.8	2.5	1.9	1.5
	90°	21.5	10.7	7.2	5.4	3.6	2.7	2.1
	45°	11.6	5.8	3.9	2.9	1.9	1.5	1.2
8"	TEES, CAPS	26.3	13.2	8.8	6.6	4.4	3.3	2.6
	90°	37.2	18.6	12.4	9.3	6.2	4.7	3.7
	45°	20.2	10.1	6.7	5.0	3.4	2.5	2.0
10"	TEES, CAPS	43.0	21.5	14.3	10.8	7.2	5.4	4.3
	90°	60.8	30.4	20.3	15.2	10.1	7.6	6.1
	45°	33.0	16.5	11.0	8.2	5.5	4.1	3.3

TYPE OF SOIL CONDITION **LATERAL BEARING PRESSURE**

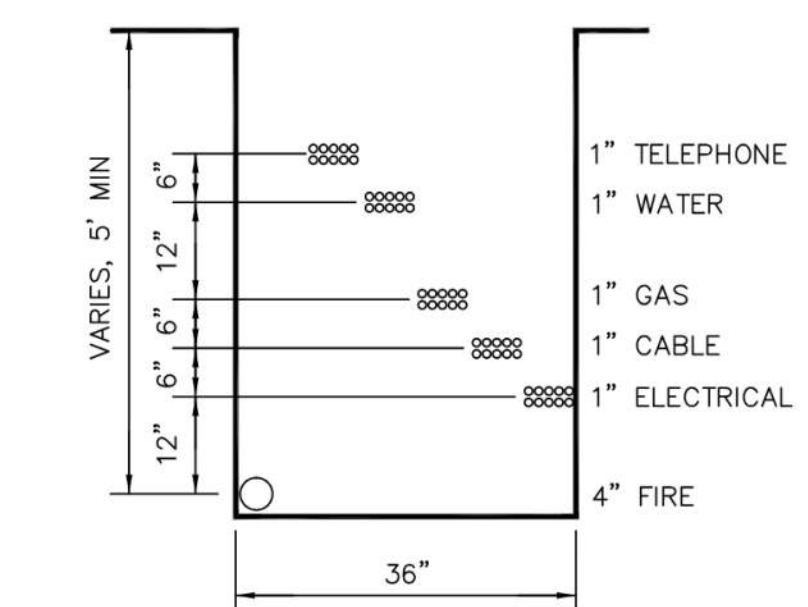
A: SOFT CLAY; FINE LOOSE SAND 500 LBS. PER SQ. FT.
 B: SAND & CLAY; MIXED OR IN LAYERS; FINE 1000
 C: HARD DRY CLAY 1500
 D: COARSE SAND 2000
 E: GRAVEL 3000
 F: SOFT ROCK 4000
 G: HARDPAN 5000

NOTE: ACTUAL FIELD CONDITIONS ARE TO BE VERIFIED DURING INSTALLATION.



A BASE OF SPRINKLER RISER

SCALE: NONE



B JOINT TRENCH DETAIL

SCALE: NONE

PIV Controls ASR's for 465 Sierra Vista Avenue

FDC Supplies ASR's for 465 Sierra Vista Avenue

G SIGNAGE REQUIREMENTS

SCALE: NONE

REVISIONS			PIPE SUMMARY	
NO.	DATE	DESCRIPTION	LOCATION	TYPE - U.O.N.
			UNDERGROUND	PVC C900

ENGINEERED FIRE SYSTEMS, INC.
 AUTOMATIC SPRINKLER "SPECIALISTS"
 13457 COLFAX HWY, GRASS VALLEY, CA, 95945, (530) 274-9400

DATE	6-10-25
SCALE	AS NOTED
DRAWN	E. PRICE
FILE NUMBER	10199
SYSTEM	WET
OCCUPANCY	NFPA 13
SHEET TITLE	NOTES & DETAILS
SHEET NUMBER	FP-2
2 OF 2 SHEETS	