

TYPICAL VALVE SETTING

ALLOWABLE SAFE LATERAL BEARING OF SOILS IN P.S.F.	
MUCK & PEAT	0*
SOFT CLAY	500
SAND	1000
SAND & GRAVEL	2000
SAND & GRAVEL EMENTED W/CLAY	2,000
SHALE	5,000

* USE TIE-ROD ANCHORS, LOCKING JOINT FITTINGS, FLANGED FITTINGS OR TREATED TIMBER PILES W/CONC. THRUST BLOCKS

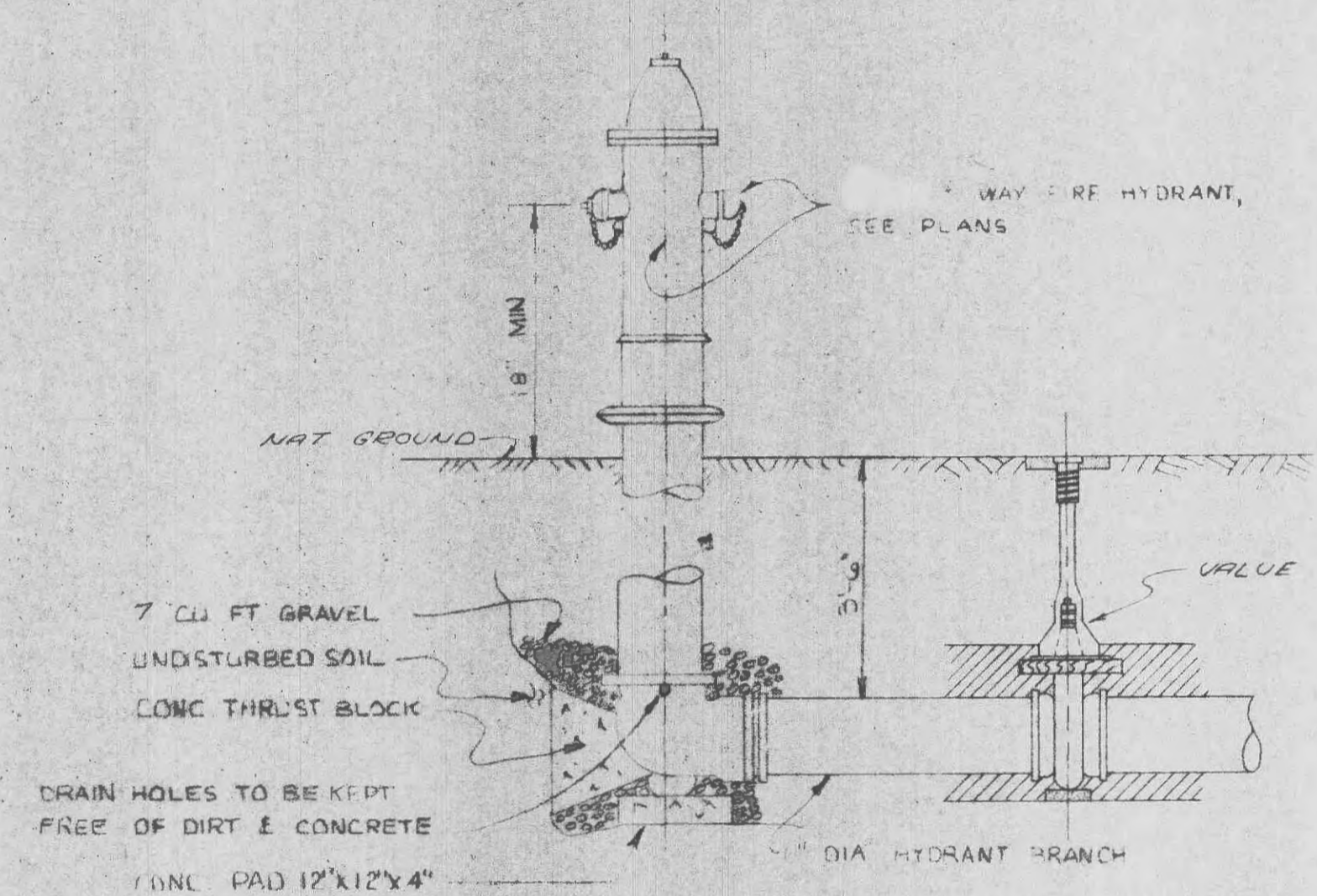
PIPE SIZE	90° BENDS			TEES & DEAD ENDS			45° BENDS			22 1/2° BENDS			11 1/4° BENDS		
	TEST PR.	100#	150#	TEST PR.	150#	100#	TEST PR.	150#	100#	TEST PR.	150#	100#	TEST PR.	150#	100#
2"	1000	700	500	800	500	-	600	400	-	300	-	-	600	400	-
3"	4000	3,000	2,000	5,000	2,000	1,000	3,000	1,500	1,000	1,000	800	500	2,000	1,000	1,000
4"	9,000	6,000	4,000	7,000	4,000	3,000	5,000	2,000	2,000	3,000	2,000	1,000	4,000	2,000	1,000
6"	17,000	11,000	7,000	11,000	8,000	5,000	9,000	4,000	4,000	5,000	3,000	2,000	7,000	4,000	2,000
8"	26,000	17,000	11,000	18,000	12,000	8,000	14,000	7,000	7,000	8,000	5,000	3,000	11,000	6,000	3,000
10"	36,000	24,000	16,000	25,000	17,000	11,000	21,000	14,000	14,000	10,000	7,000	5,000	15,000	8,000	4,000
12"	50,000	33,000	22,000	34,000	23,000	15,000	29,000	19,000	19,000	14,000	10,000	7,000	20,000	11,000	5,000
14"	65,000	43,000	29,000	45,000	30,000	20,000	37,000	25,000	25,000	18,000	12,000	8,000	26,000	14,000	6,000
16"	82,000	54,000	37,000	57,000	38,000	25,000	47,000	32,000	32,000	23,000	15,000	10,000	33,000	18,000	8,000

NOTE: FOR AREA OF THRUST BLOCK IN SQ. FT. DIVIDE APPROPRIATE THRUST BY ALLOWABLE SOIL BEARING. TEST PRESSURES SHALL BE AS INDICATED IN THE SPECIFICATIONS OR SPECIAL CONDITIONS UNDER PRESSURE TESTING OF PIPE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SELECTING THRUST BLOCKS OR ANCHORAGE FOR VARIOUS PIPE SIZE AND FITTINGS ACCORDING TO APPROPRIATE SOIL BEARING AND TEST PRESSURE. COST OF THRUST ANCHORAGE SHALL BE INCLUDED IN PRICE BID FOR FITTINGS OR PIPE.

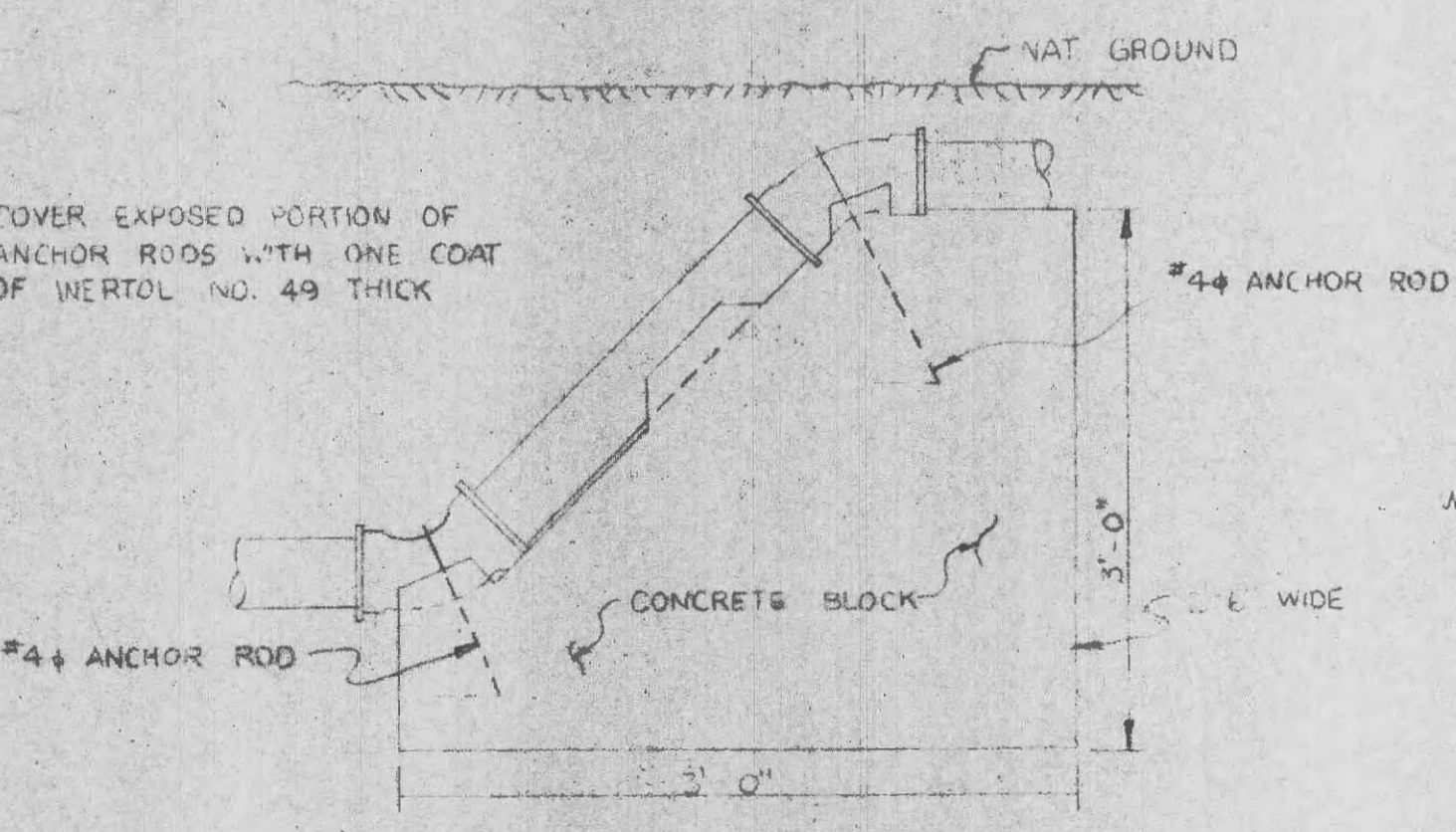
THRUST ANCHORAGE DATA

MAXIMUM SIZE SERVICE STRAP CLAMP PERMITTED				MAXIMUM SIZE TAP PERMITTED IN CAST IRON PIPE	
PIPE SIZE INCHES	CAST IRON SIZE	ASBESTOS CEMENT SIZE	GALVANIZED SIZE	PIPE SIZE	TAP SIZE
2"	1"	-	3/4"	2"	1/2"
3"	1 1/4"	-	1"	3"	1/2"
4"	1 1/2"	-	1 1/2"	4"	3/4"
6"	2"	1"	-	6"	1"
8"	2 1/2"	1 1/2"	-	8"	1 1/4"
10"	3"	2"	-	10"	1 1/2"
12"	4"	2 1/2"	-	12"	2"

MAXIMUM TAP AND SERVICE CLAMP SIZES

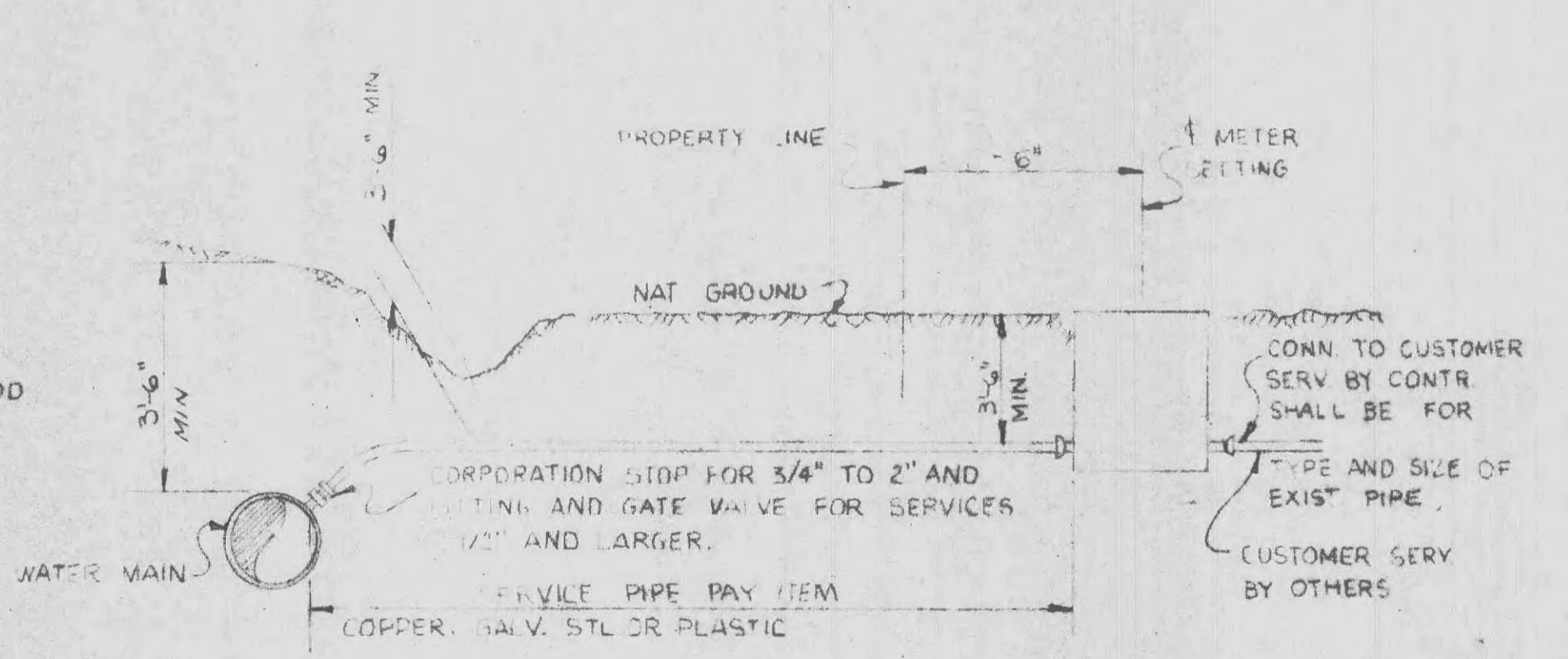


TYPICAL DETAIL FOR FIRE HYDRANT INSTALLATION



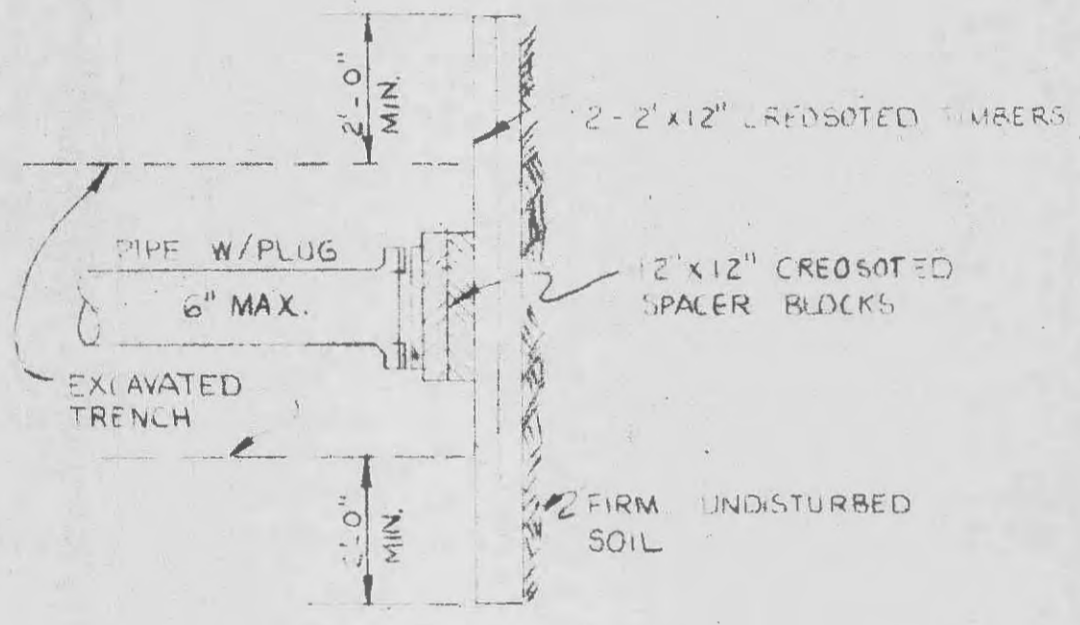
THRUST BLOCK FOR VERTICAL OFFSETS

NOTE: 3/4" FLEXIBLE POLYBUTYLENE PLASTIC SERVICE TUBING (PRT-160) COMPRESSION COUPLINGS W/ INSERT, SHALL BE PROVIDED FOR 5/8" X 3/4" METEE 1 1/2" RIGID PVC SCHEDULE 40 W/ THREADED COUPLINGS SHALL BE PROVIDED FOR 1" AND 1 1/4" METERS.

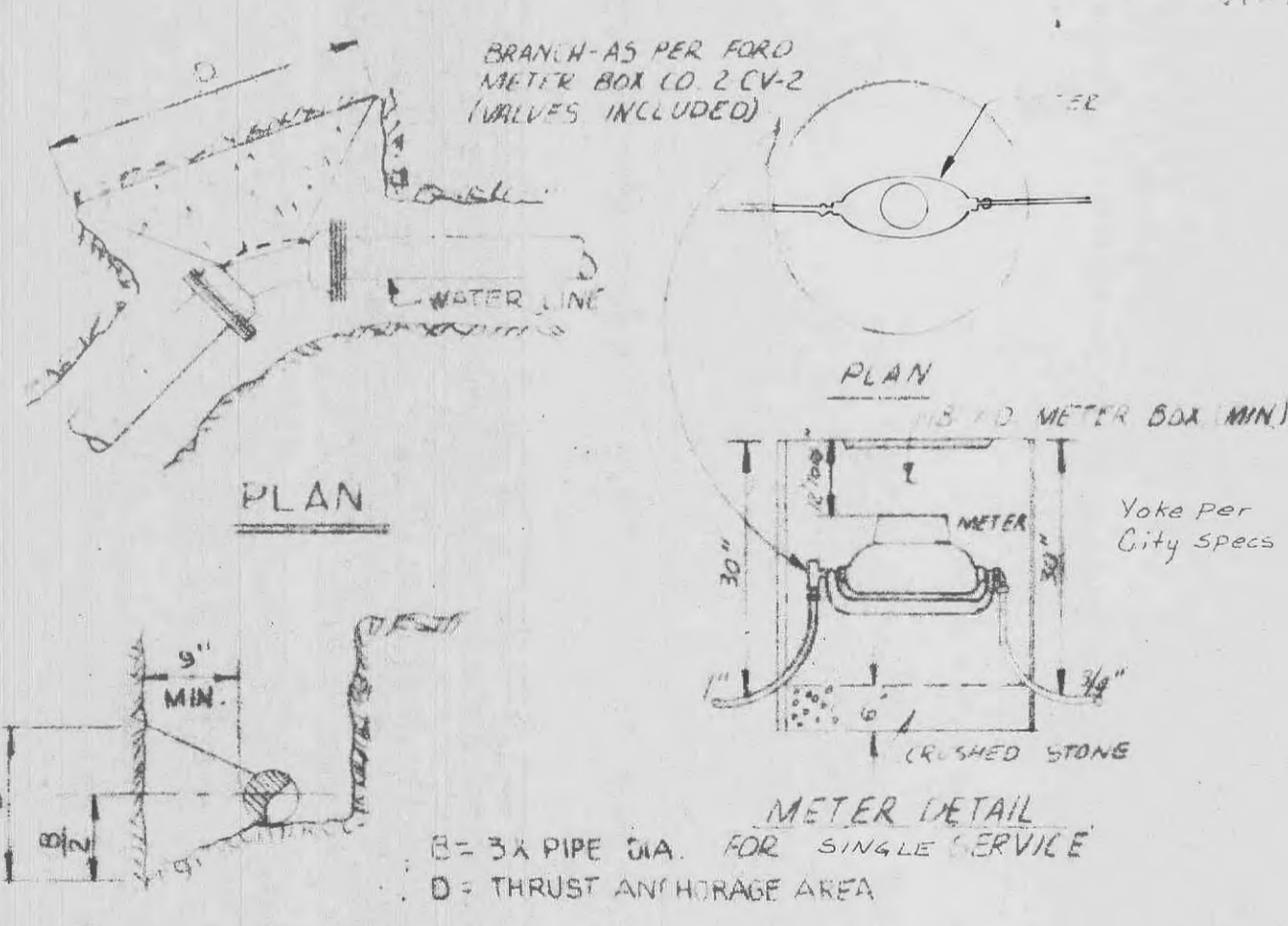


TYPICAL SERVICE ASSEMBLY

NOTE: USE TIMBER THRUST BLOCK FOR TEMPORARY PLUG ON 6" AND LESS PIPE DIA. FOR LARGER PIPE DIA. USE OTHER TYPE OF ANCHORAGE.

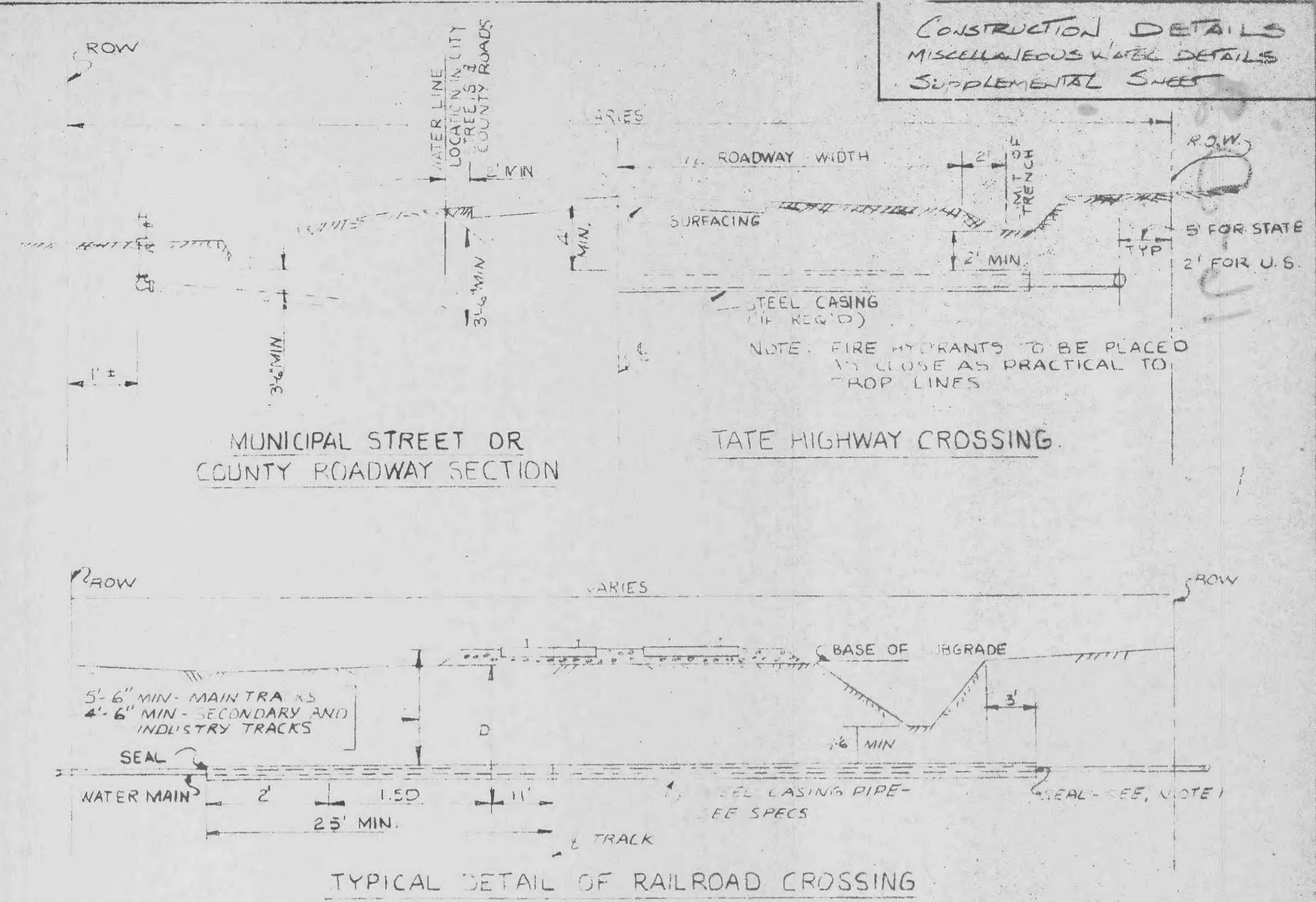


PLAN PLUG DETAIL



ELEVATION

THRUST BLOCK FOR HORIZONTAL OFFSETS



MUNICIPAL STREET OR COUNTY ROADWAY SECTION

TATE HIGHWAY CROSSING

TYPICAL DETAIL OF RAILROAD CROSSING

NOTES: 1. SEAL NOT REQUIRED IF CASING ENDS ABOVE GROUND WHERE DRAINAGE IS AVAILABLE. 2. CASING TO BE JACKED INTO ROAD. 3. INSIDE DIA. OF CASING TO BE A MIN. OF 2" GREATER THAN COUPLING DIA. OF CARRIER PIPE FOR 6" AND LESS DIA. CARRIER PIPES AND 4" GREATER FOR OVER 6" DIA. CARRIER PIPES. 4. CASING TO BE COATED IF AND AS REQ'D BY APPROVING RAILROAD. 5. CROSSINGS TO BE AT 90° TO TRACK, WHERE POSSIBLE.

NOTES: SPECIAL REQ. FOR PLASTIC PIPE: 1. FOR 6" AND 8" V.L. PIPE TEES & CROSSES SHALL BE MECHANICAL JOINT CAST IRON FITTINGS. 2. FOR ALL SIZES OF PVC PIPE, ALL BENDS SHALL BE LONG RADIUS PLASTIC BENDS. 3. FOR ALL SIZES OF PVC PIPE, SCHEDULE 80 PLASTIC ADAPTORS SHALL BE PROVIDED FOR VALVES, TEES, CROSSES & HYDRANTS. 4. FOR ALL SIZES OF PVC PIPE, JOINTS SHALL BE RUBBER RING OR COUPLINGS W/ RUBBER RINGS. 5. SOLVENT WELDING IN THE FIELD WILL NOT BE PERMITTED. HOWEVER, JOINTS OR FITTINGS JOINTS OR FITTINGS WHICH ARE SOLVENT WELDED AT THE FACTORY ARE ACCEPTABLE.

2. SPECIAL REQUIREMENTS FOR SERVICE CONNECTIONS: 1. METAL STRAP SERVICE SADDLES WITH BLAIR NO. B13 OR EQUAL SHALL BE PROVIDED FOR ASBESTOS CEMENT AND PVC PIPE THAT IS 4" OR LARGER. 2. METAL PLASTIC SADDLES SMITH-BLAIR 342 OR EQUAL SHALL BE PROVIDED FOR PVC PIPE THAT IS 4" OR SMALLER. 3. METAL STRAP SERVICE SADDLES WITH BLAIR NO. B13 OR EQUAL SHALL BE PROVIDED FOR 1 1/2" TAPS ON CAST IRON PIPE THAT IS 4" OR LARGER.

3. CONCRETE DRIVEWAYS: A) WHERE CONCRETE DRIVEWAYS ARE ENCOUNTERED ON STATE MAINTAINED HIGHWAYS, TAPPING & BRING WILL BE REQUIRED. 4. OPTIONS: A) ASBESTOS-CEMENT COUPLINGS MAY BE UTILIZED FOR SERVICE CONNECTIONS FOR PVC AND A.C. PIPE. B) PLASTIC TEES W/ RUBBER RINGS MAY BE SUBSTITUTED FOR TAPPED TEES.