

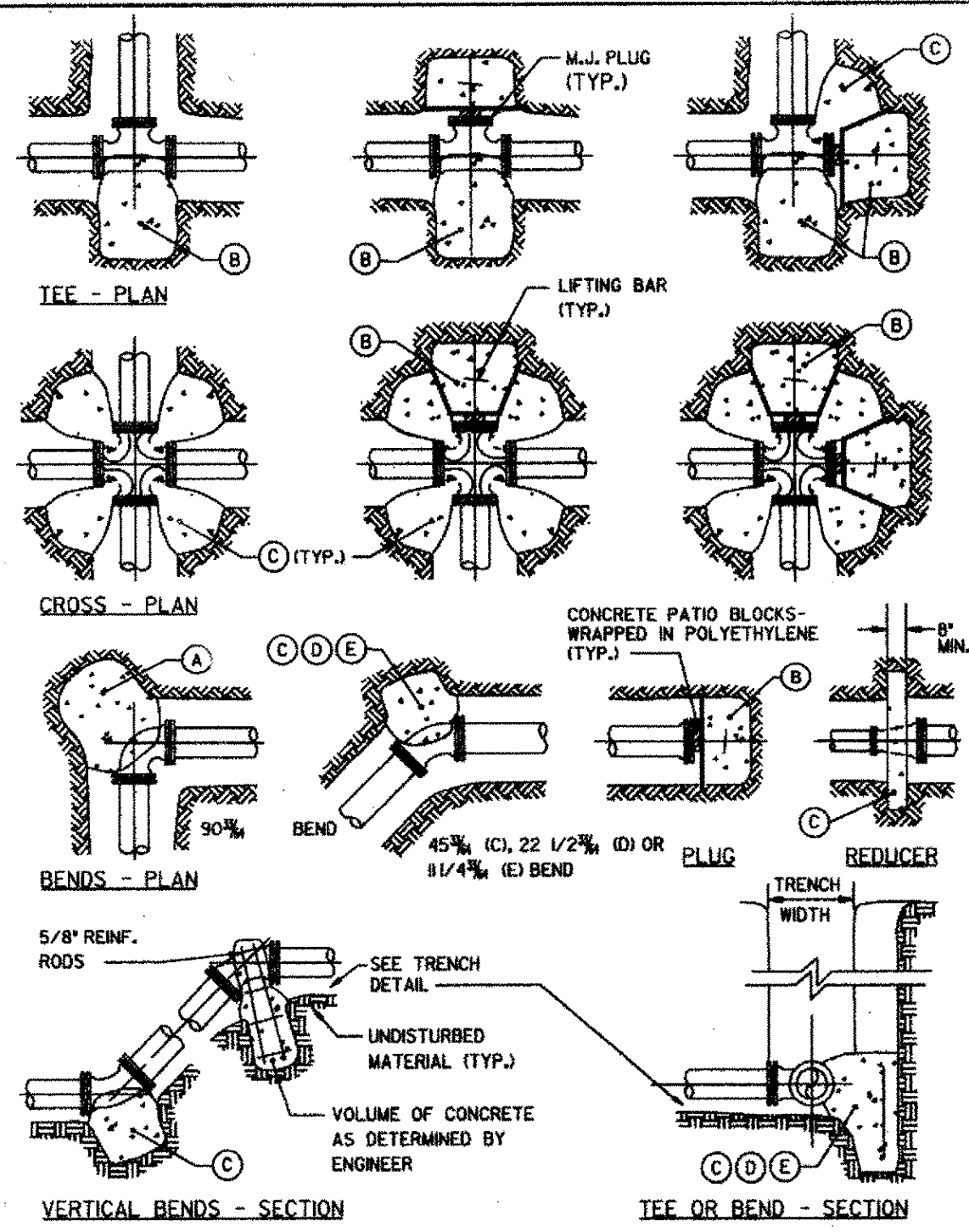
DATE	BY	DESCRIPTION
6-8-00	BLB	CORRECTED SCALE
5-26-00	FEET	VT ADT COMMENTS
5-2-00	BLB	DELETE SEWER
REV.		

TOWN OF ROYALTON AND ROYALTON FIRE DISTRICT No. 1
 WHITE RIVER BRIDGE UTILITY CROSSINGS

WATER DETAILS

VERMONT
SOUTH ROYALTON

Project No.	6170051
Proj. Manager	A. T. RICE
Proj. Designer	R. N. GOODWIN
Drawn By	M. A. MOYER
Checked By	A. T. RICE
Scale	AS SHOWN
Approved	<i>[Signature]</i>
Date	APRIL 2000



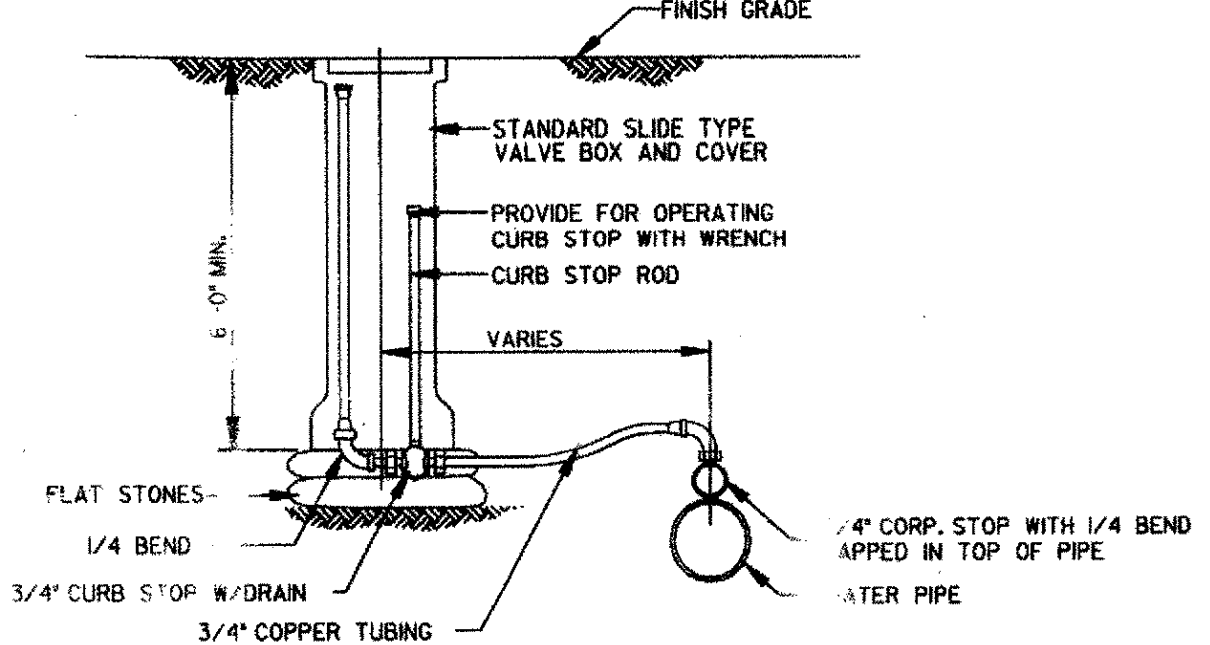
THRUST BLOCK DETAILS
NOT TO SCALE

THRUST BLOCK SCHEDULE
 SQUARE FEET OF CONCRETE THRUST BLOCKING BEARING ON UNDISTURBED MATERIAL

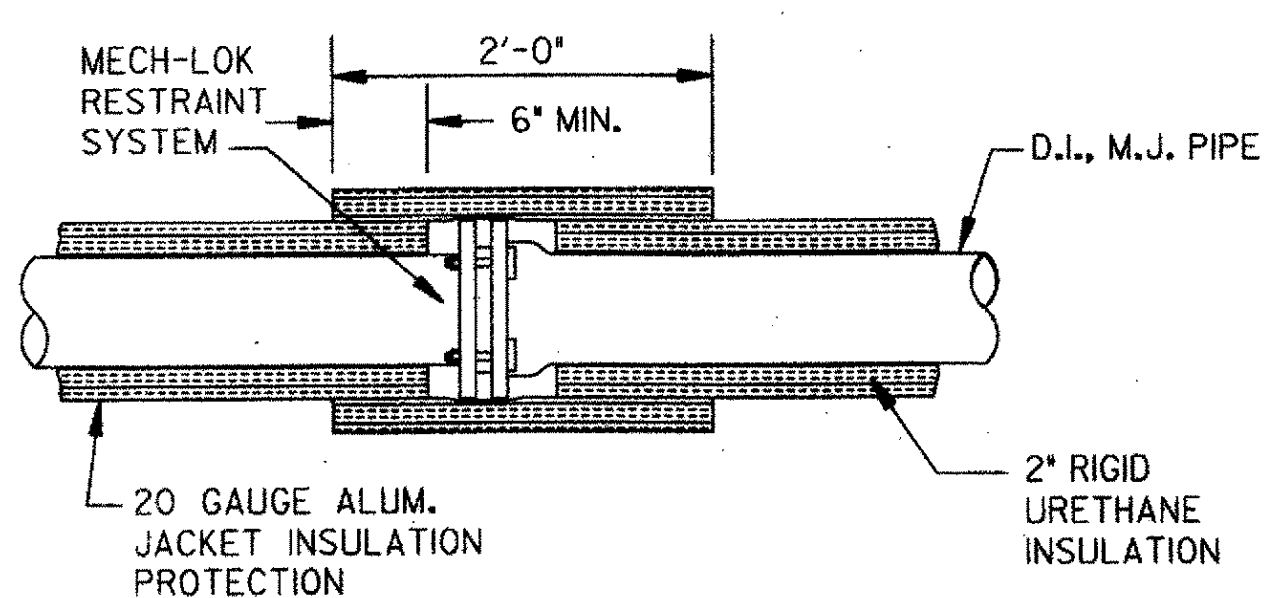
REACTION TYPE	PIPE SIZE											
	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	30"	36"
(A)	0.89	2.19	3.92	5.57	8.62	10.91	15.41	18.02	24.06	34.64	53.83	77.39
(B)	0.65	1.55	2.76	4.19	6.09	8.37	10.89	13.87	17.01	24.49	38.06	54.72
(C)	0.48	1.19	2.12	3.01	4.66	5.91	8.34	9.71	13.02	18.75	29.13	41.88
(D)	0.25	0.60	1.08	1.54	2.37	3.01	4.25	4.97	6.64	9.56	14.85	21.35
(E)	0.13	0.30	0.54	0.77	1.19	1.52	2.12	2.51	3.33	4.79	7.45	10.71

Other test pressures for the above reactions: TEST PRESSURE TO BE 200 PSIMIN. AT LOW END OF THE TEST SECTION. SQUARE FEET OF CONCRETE THRUST BLOCKING FOR OTHER TEST PRESSURES IS DIRECTLY PROPORTIONAL TO THE ABOVE TABLE. FOR INSTANCE, AT 200 PSI TEST PRESSURE FOR ABOVE NUMBERS DOUBLE.

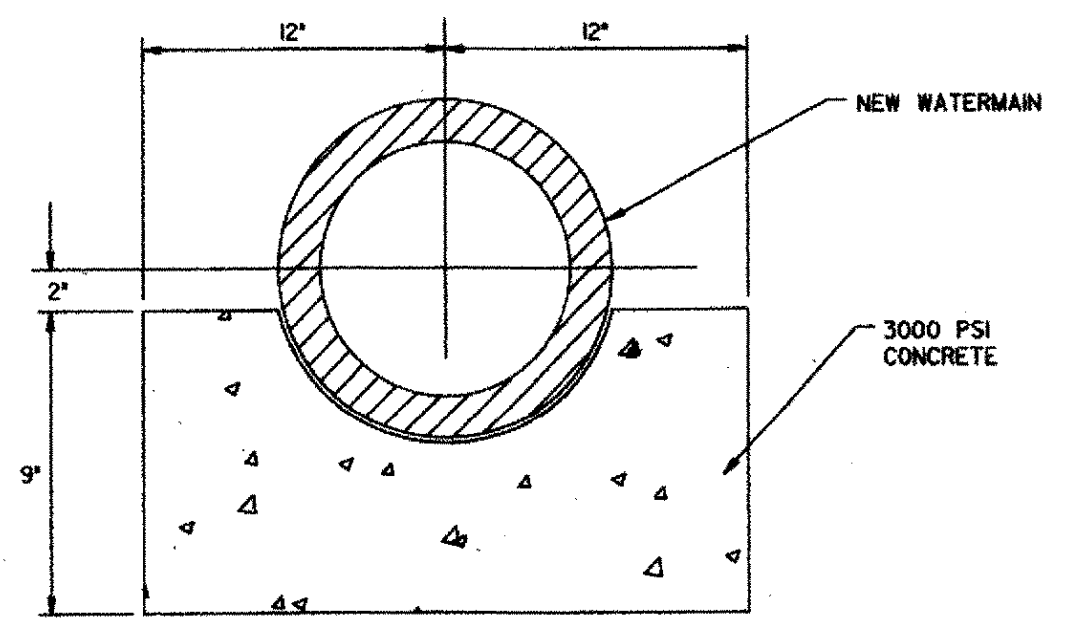
- NOTES:**
- POUR THRUST BLOCKS AGAINST UNDISTURBED MATERIAL. WHERE TRENCH WALL HAS BEEN DISTURBED, EXCAVATE LOOSE MATERIAL AND EXTEND THRUST BLOCK TO UNDISTURBED MATERIAL. NO JOINTS SHALL BE COVERED WITH CONCRETE.
 - ON BENDS AND TEES, EXTEND THRUST BLOCKS FULL LENGTH OF FITTING.
 - PLACE CONCRETE PATIO BLOCKS IN FRONT OF ALL PLUGS BEFORE POURING THRUST BLOCK.
 - REQUIREMENTS OF THE ABOVE TABLE PRESUME MINIMUM SOIL BEARING OF 1 TON PER SQUARE FOOT, AND MAY BE VARIED BY THE ENGINEER TO MEET OTHER CONDITIONS ENCOUNTERED.
 - MEGA-LUG RETAINER GLANDS ARE REQUIRED FOR ALL MECHANICAL JOINTS. THESE GLANDS DO NOT REDUCE THE REQUIREMENTS FOR THRUST RESTRAINT.
 - ALL FITTINGS SHALL BE WRAPPED IN POLYETHYLENE OR BUILDING PAPER PRIOR TO INSTALLATION OF CONCRETE RESTRAINT.
 - THREADED ROD SHALL BE ANSI A242 F150 PIPE RESTRAINT NUTS TO MATCH ANWA C11. THREADED RODS AND NUTS TO BE FIELD COATED WITH BITUMINOUS PAINT.
 - THRUST RESTRAINT IS REQUIRED FOR ALL TEES, BENDS, REDUCERS, CAPS, PLUGS, OR CROSSES.
 - INSTALL LIFT HOOKS INTO THRUST BLOCKS AT END CAPS AND PLUGS.



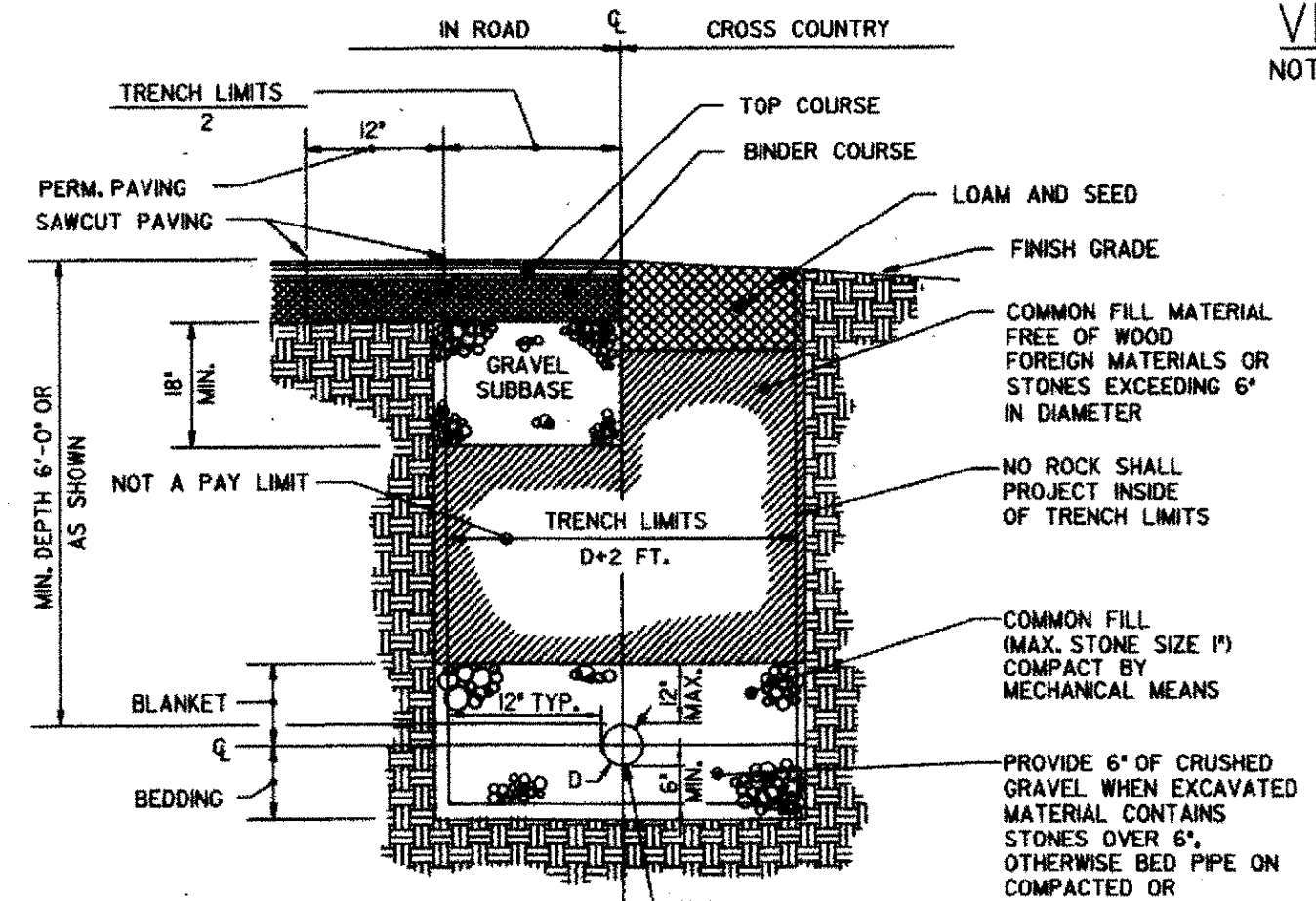
TYPICAL INSTALLATION-TRAVEL WAY FOR AIR VENT OR CHLORINATION IN SECTION
NOT TO SCALE



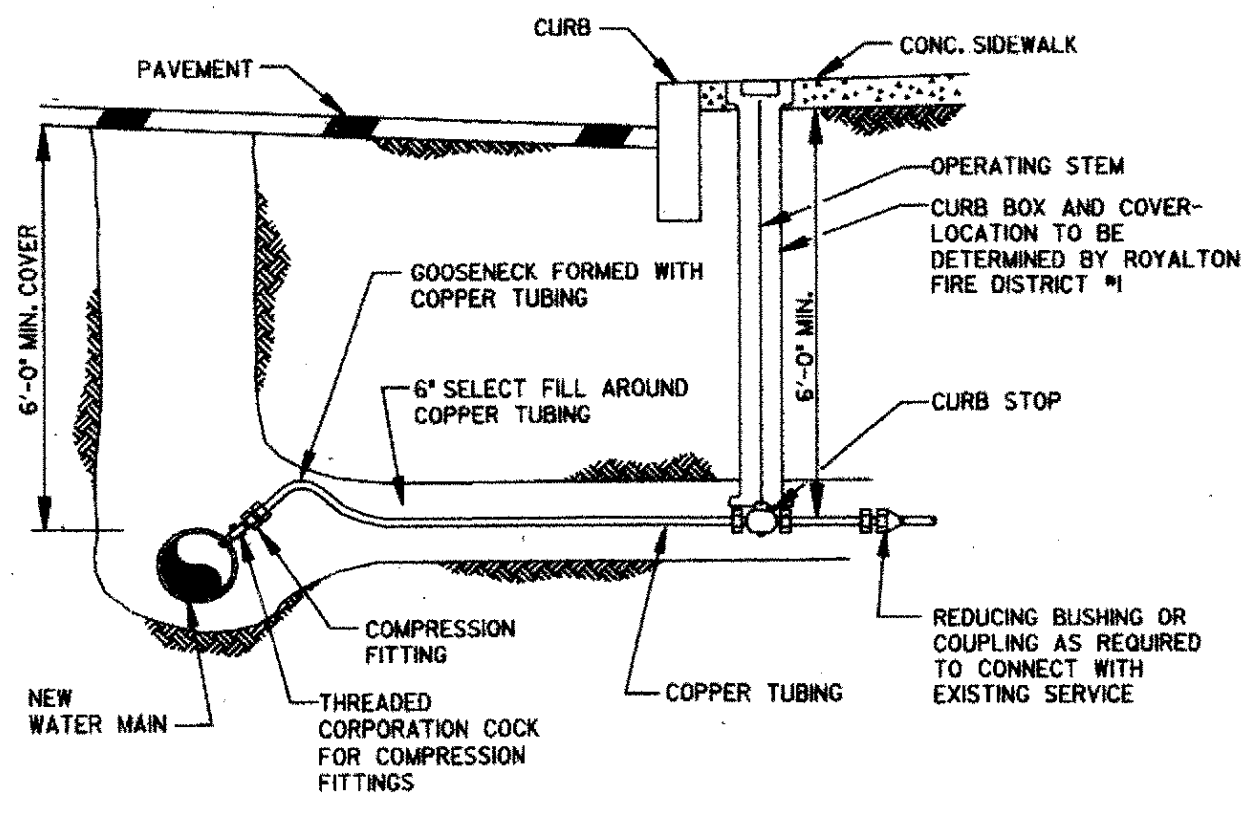
DETAIL OF INSULATION AT JOINT FOR RESTRAINED PIPE
NOT TO SCALE



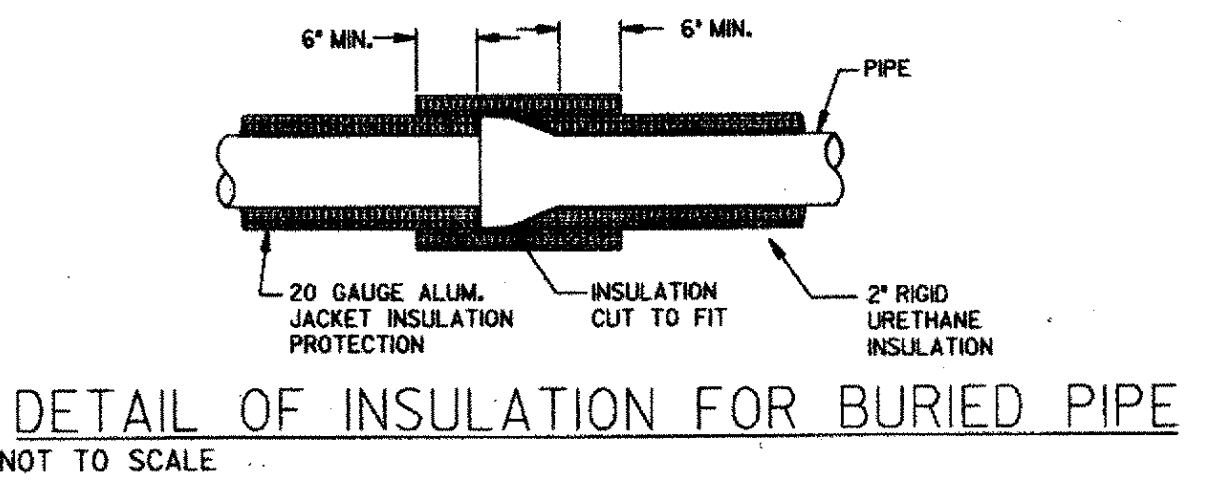
CONCRETE CRADLE DETAIL
NOT TO SCALE



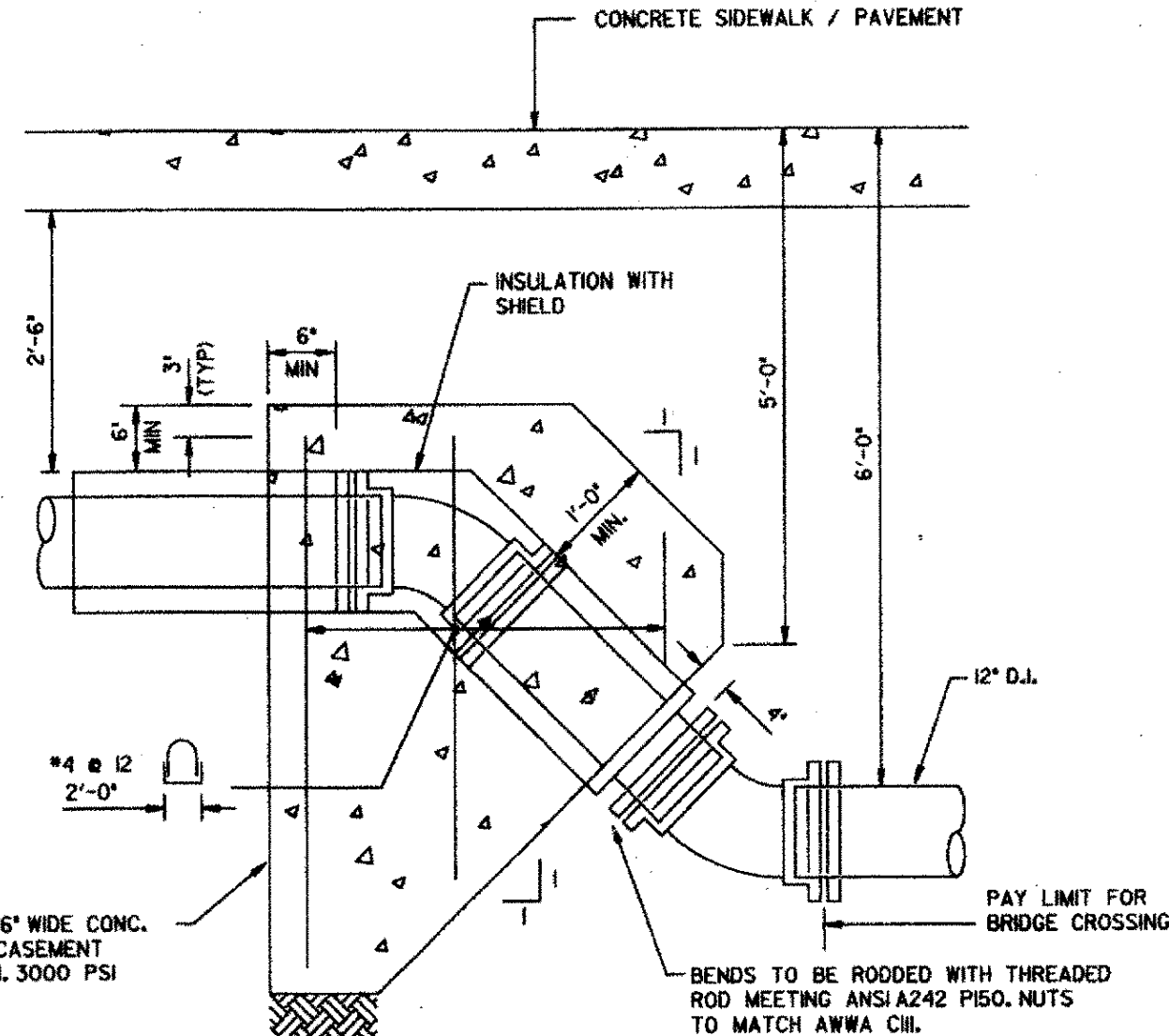
TYPICAL DUCTILE IRON TRENCH DETAIL
NOT TO SCALE



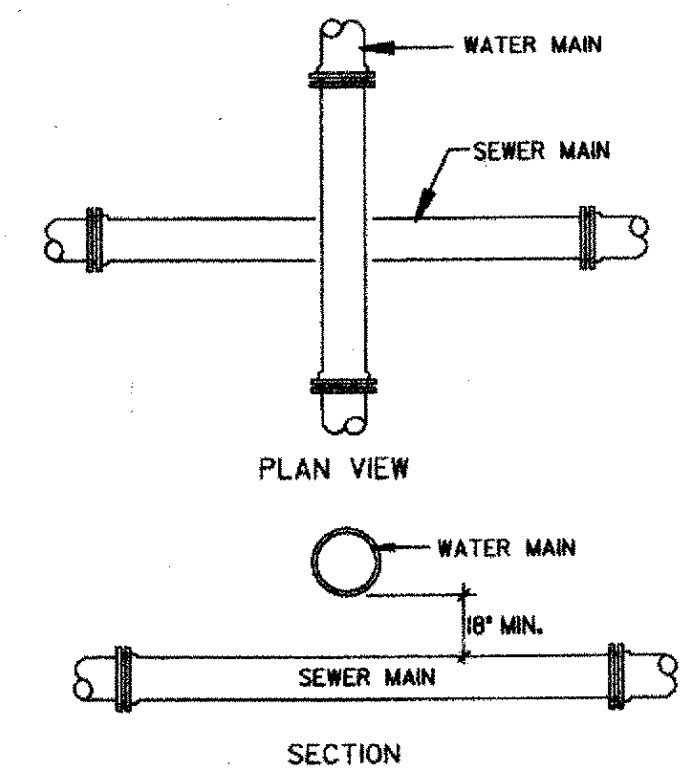
TYPICAL SERVICE CONNECTION DETAIL
NOT TO SCALE



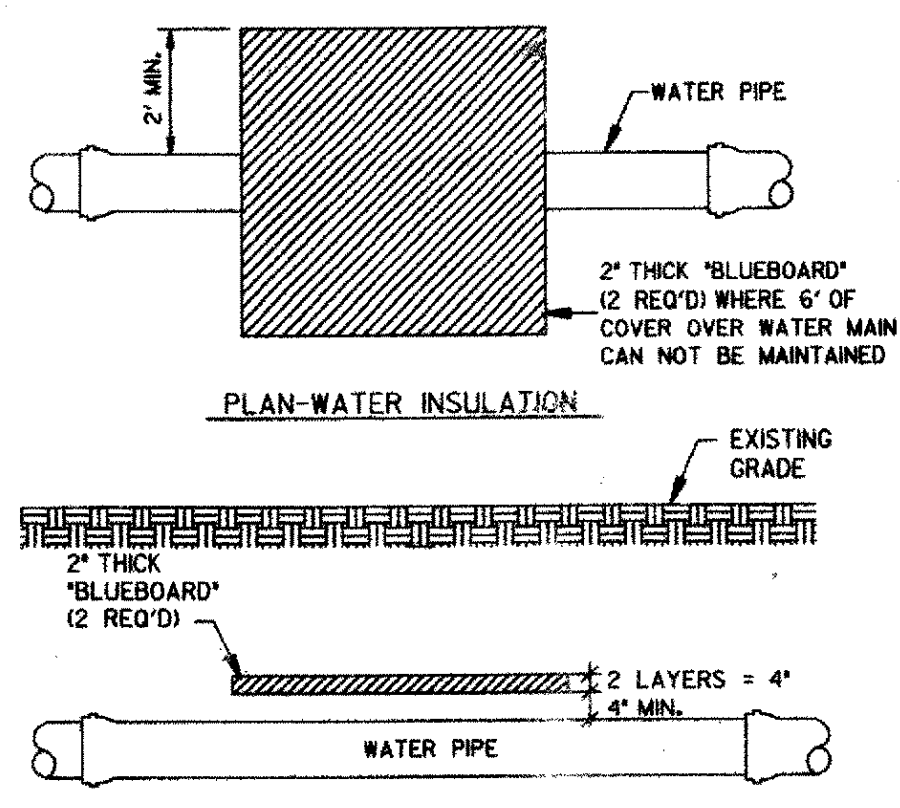
DETAIL OF INSULATION FOR BURIED PIPE
NOT TO SCALE



VERTICAL BEND CONCRETE ENCASEMENT DETAIL
NOT TO SCALE



WATER AND SEWER CROSSING DETAIL
NOT TO SCALE



RIGID BOARD INSULATION DETAIL
NOT TO SCALE

NOTE:
 INFORMATION ON THIS SHEET SHOULD ONLY BE CONSTRUED TO REPRESENT WATER MAIN AND APPURTENANCES. OTHER INFORMATION SHOWING STRUCTURAL ITEMS, STORM SEWER AND SANITARY SEWER IS SHOWN FOR RELATIVE RELATIONSHIPS ONLY. THIS INFORMATION SHOULD BE OBTAINED FROM OTHER DRAWINGS.

GENERAL CONSTRUCTION NOTES:

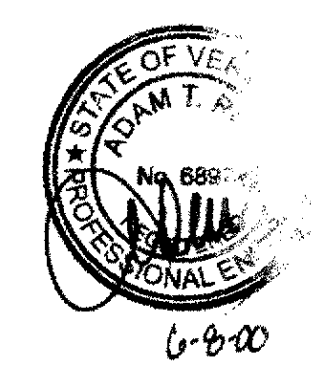
- CONTRACTOR MUST ESTABLISH TEMPORARY WATER SERVICE FOR ALL AFFECTED USERS IN THE PROJECT AREA. THIS TEMPORARY WATER SERVICE MUST BE ESTABLISHED, DISINFECTED, AND TESTED AS PER THE SPECIFICATIONS. POTABLE WATER MUST BE PROVIDED FOR ALL USERS.
- EXPLORATORY EXCAVATION IS REQUIRED TO LOCATE UNDERGROUND UTILITIES. CONTRACTOR SHALL USE EXTREME CAUTION TO PREVENT DAMAGE TO EXISTING UTILITIES.
- LOCATION OF PROPOSED WATER MAIN IS INTENDED NOT TO DISTURB ROOT SYSTEMS OF EXISTING TREES OR SHRUBS. CONTRACTOR SHALL EXERCISE DUE CARE TO PREVENT DAMAGE THERETO. ALL GRASS AREAS DISTURBED SHALL BE RESTORED TO CLASS A RESTORATION. CONTRACTOR IS RESPONSIBLE FOR REMOVAL, CARE & REPLANTING OF ALL PLANTINGS AND SHRUBS DISTURBED DURING CONSTRUCTION.
- ALL WORK TO BE DONE SHALL BE WITHIN PUBLIC RIGHT-OF-WAY OR EASEMENT AREAS.
- MATERIAL MAY BE REQUIRED. SOLID SLEEVE COUPLINGS WILL BE REQUIRED.
- MINIMUM VERTICAL CLEARANCE BETWEEN NEW WATER MAINS AND ALL EXISTING UTILITIES, EXCEPT SEWERS TO BE SIX (6) INCHES AT CROSSING LOCATIONS. FOR SEWERS SEE NOTE BELOW.
- ALTHOUGH NOT SHOWN EXISTING SEWER SERVICES WILL BE REPAIRED OR RELOCATED AS NECESSARY IN ORDER TO MAINTAIN FLOW. THE TOWN OF ROYALTON WILL ASSIST IN LOCATING SERVICES.
- ALL BURIED FITTINGS MUST INCLUDE CONCRETE THRUST BLOCKS. REFER TO THRUST BLOCK, HYDRANT BRANCH, AND TRENCH DETAILS SHOWN ON THIS SHEET.
- MECHANICAL JOINT RESTRAINTS SHALL BE USED WHERE VALVES WILL BE SUBJECTED TO SERVICE PRESSURES ON ONE SIDE BEFORE BEING FULLY INCORPORATED INTO THE DISTRIBUTION SYSTEM.
- WATER MAINS TO HAVE 6.0 FEET MIN. COVER UNLESS OTHERWISE STATED OR SHOWN ON THE PROFILES. WHEN 6.0 FEET OF COVER CANNOT BE MAINTAINED 4\"/>

LOCAL VALVE OPERATION

- EXISTING AND PROPOSED MAIN LINE BUTTERFLY VALVES AND GATE VALVES OPEN LEFT OR COUNTER-CLOCKWISE. OPERATION OF GATE VALVES WILL BE PERFORMED BY THE ROYALTON FIRE DISTRICT #1 STAFF ONLY.
- GATE VALVES SHALL BE RESILIENT WEDGE GATE VALVES AND SHALL MEET OR EXCEED THE REQUIREMENTS ANWA C55. BONNET, BODY AND STUFFING BOX BOLTS AND NUTS SHALL BE STAINLESS STEEL. VALVES SHALL BE AMERICAN FLOW CONTROL SERIES 2500, OR EQUAL.
- BUTTERFLY VALVES SHALL BE THE RUBBER-SEALED TIGHT-CLOSING TYPE AND SHALL MEET OR EXCEED THE REQUIREMENTS OF ANWA C-504. VALVE SHALL BE MUELLER LINESAL XP OR MAH 450 ANWA C-504 BUTTERFLY VALVE, OR EQUAL.
- ALL INTERCONNECTIONS TO THE EXISTING SYSTEM CAN ONLY BE MADE WITH THE WRITTEN PERMISSION OF THE FIELD ENGINEER.

WATER AND SEWER SEPARATION

- PARALLEL INSTALLATION: MAINTAIN 5\"/>



PROJECT:	ROYALTON	PROJECT NO:	BRZ (22)
DESIGN FILE NAME:	Z:\s\c\1\891099\81099bdc.dwg	PLOT DATE:	JULY 98
IPARM FILE NAME:	Z:\s\c\1\891099\81099gdl	SURVEY DATE:	3/91
SURVEYED BY:	B. GILMAN	DRAWN BY:	
SQUAD LEADER:	C.P. WILLIAMS	SHEET:	82 OF 118
WATER DETAILS			