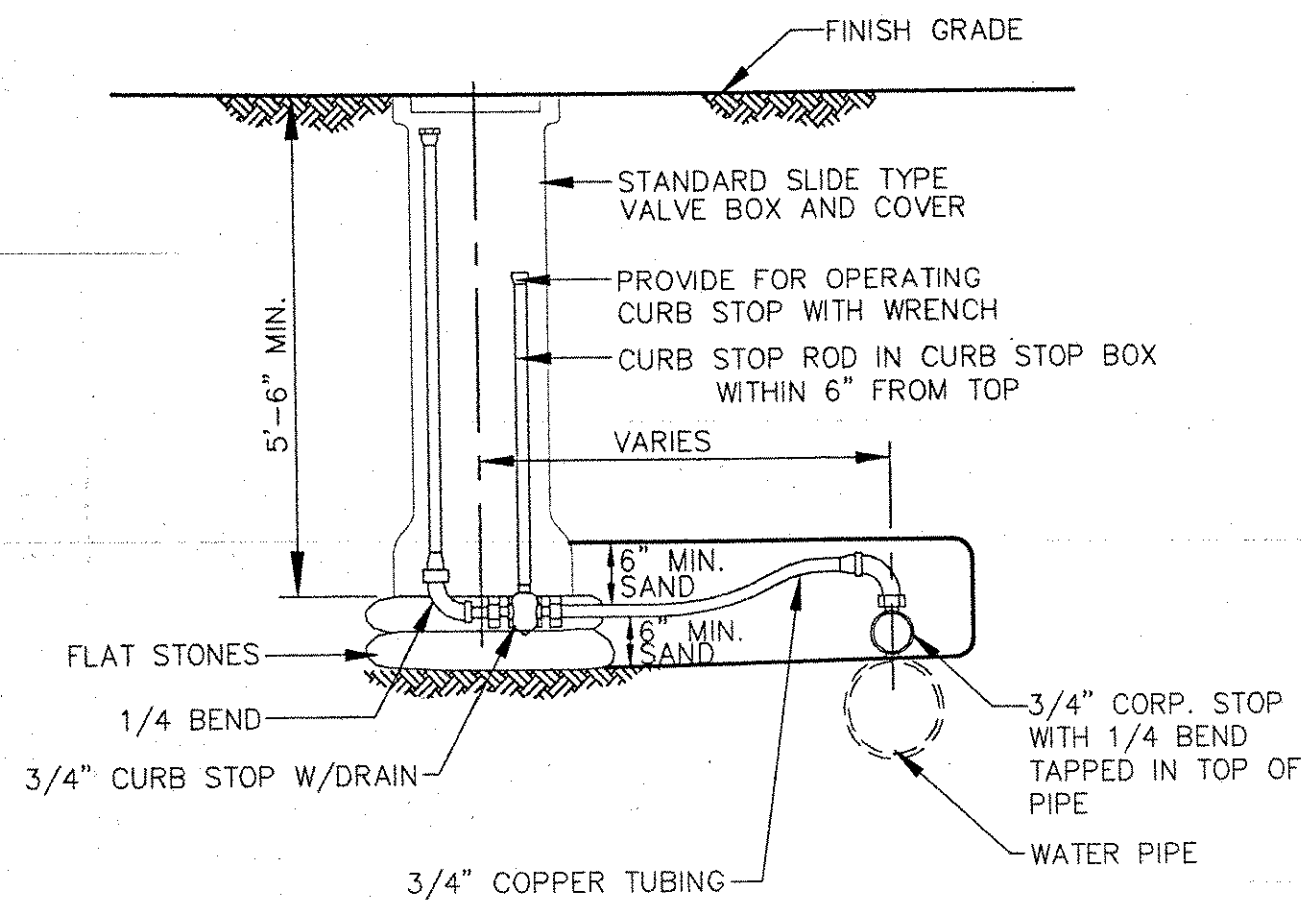


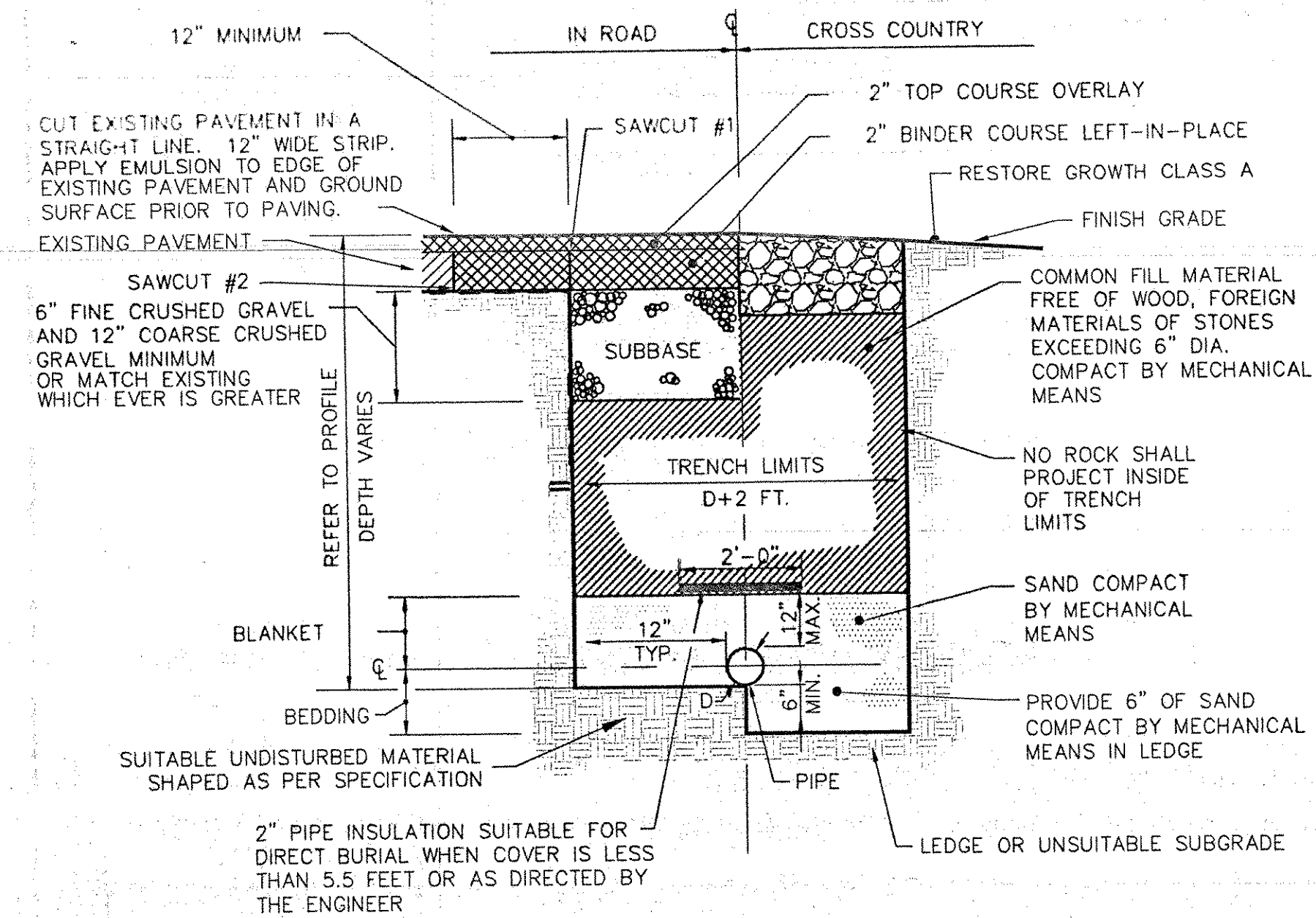
**THRUST BLOCK DETAILS**  
NOT TO SCALE

THRUST BLOCK SCHEDULE		PIPE SIZE														
REACTION TYPE		4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	30"	36"	48"	OTHER TEST PRESSURES FOR THE ABOVE REACTIONS	
TEST PRESSURE = 100 PSIG	A	1.71	2.49	4.29	6.45	9.12	12.26	15.85	19.91	24.43	34.85	53.62	76.81	135.12	TEST PRESSURE TO BE 200 PSI MIN. 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.	
	B	1.21	3.53	6.06	9.12	12.70	17.33	22.42	28.16	34.55	49.29	75.83	108.62	191.09		
	C	0.92	0.95	3.28	4.94	6.98	9.38	12.13	15.24	18.70	26.68	41.04	58.78	103.42		
	D	0.47	0.97	1.67	2.52	3.56	4.78	6.19	7.77	9.53	13.60	20.92	29.97	52.72		
	E	0.24	0.49	0.84	1.26	1.79	2.40	3.41	3.90	4.79	6.83	10.51	15.06	26.49		

- 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 AWWA C111. 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.
  - THRUST BLOCK AREA IS BASED ON SILT SOILS WITH A BEARING STRENGTH OF 1500 LBS/SF AND A SAFETY FACTOR OF 1.5.



**TYPICAL INSTALLATION - TRAVEL WAY FOR MANUAL AIR RELEASE OR CHLORINATION INJECTION**  
NOT TO SCALE



**TYPICAL TRENCH SECTION**  
NOT TO SCALE

NOTE:  
WHERE PIPE IS INSTALLED IN GRAVEL SHOULDER OR IN GRAVELED ROAD, GRAVEL SUB BASE SHALL BE 18" THICK FOR THE WIDTH OF THE TRENCH.



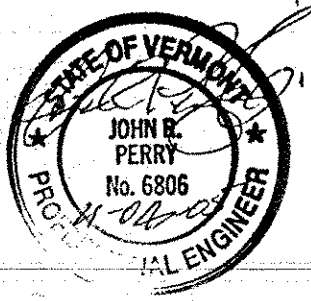
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Project #	413025
Project Mgr.	JRP
Design	JRP
Drawn	GJW
Checked by	RNG
Date	OCTOBER 5, 2004
Scale	AS SHOWN
Approved by	JRP

Revisions:

THE DRAWINGS FOR THIS PROJECT SHALL NOT BE REUSED OR ALTERED IN ANY WAY WITHOUT THE WRITTEN APPROVAL AND AUTHORITY OF DUFRESNE & ASSOCIATES, P.C. ANY REVISIONS SHALL BE MADE BY THE ENGINEER.

**Dufresne & Associates, P.C.**



GRANITE STREET BRIDGE IMPROVEMENTS

RECORD DRAWINGS  
GENERAL DETAILS

BARRE, VERMONT

RECORD DRAWINGS

R5