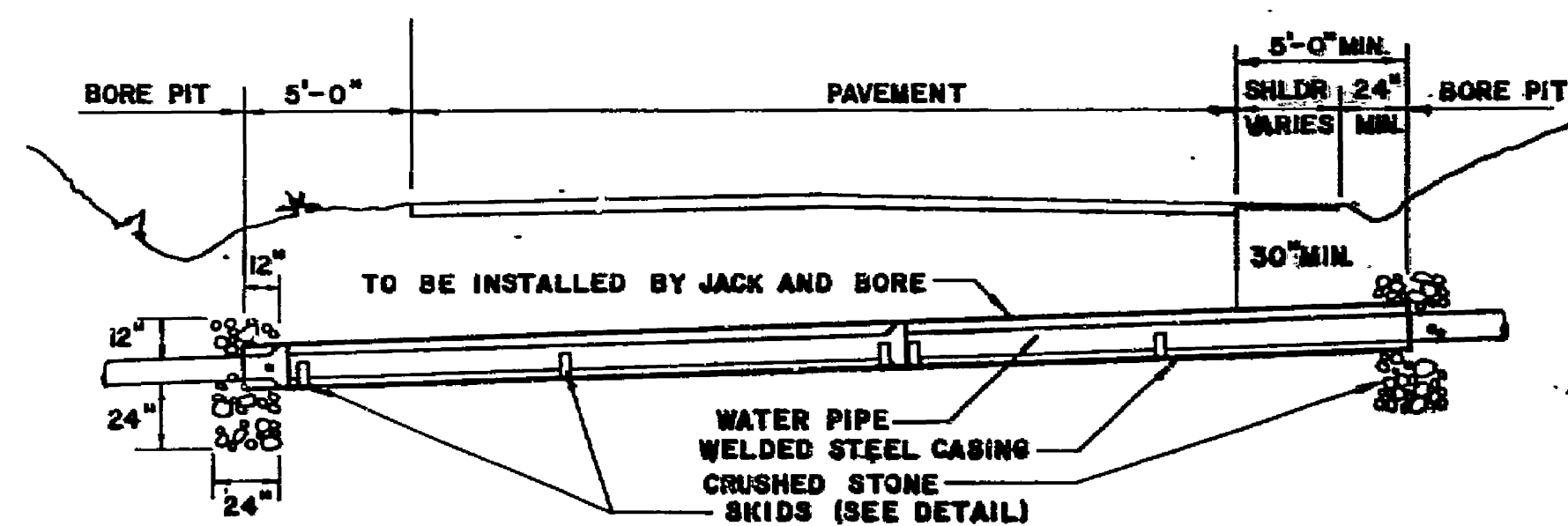
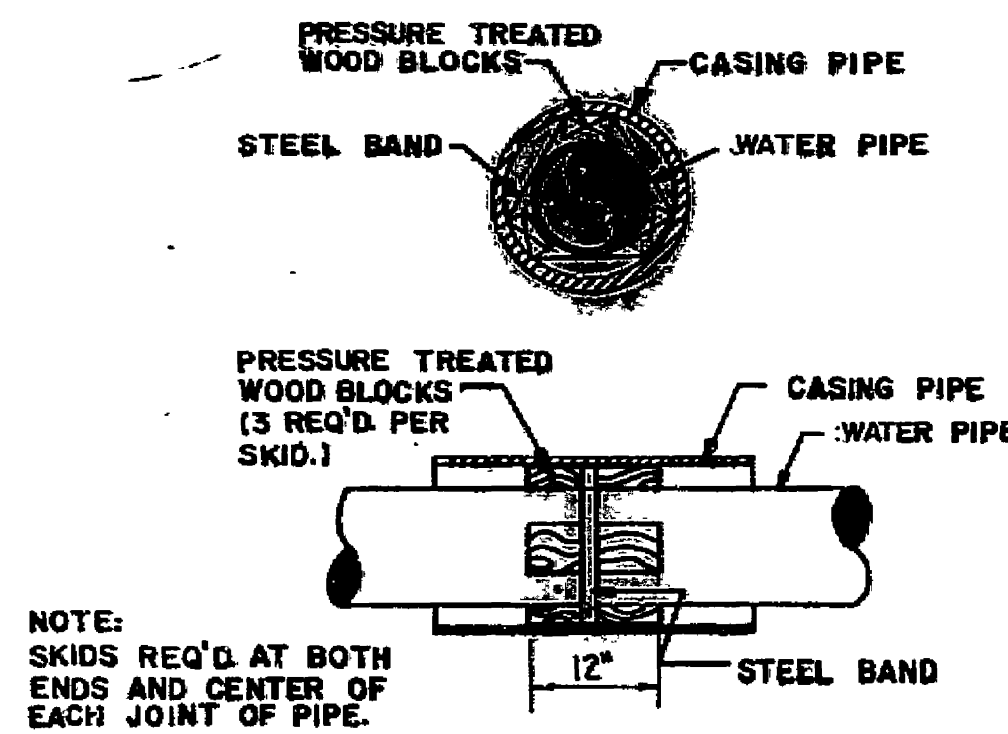
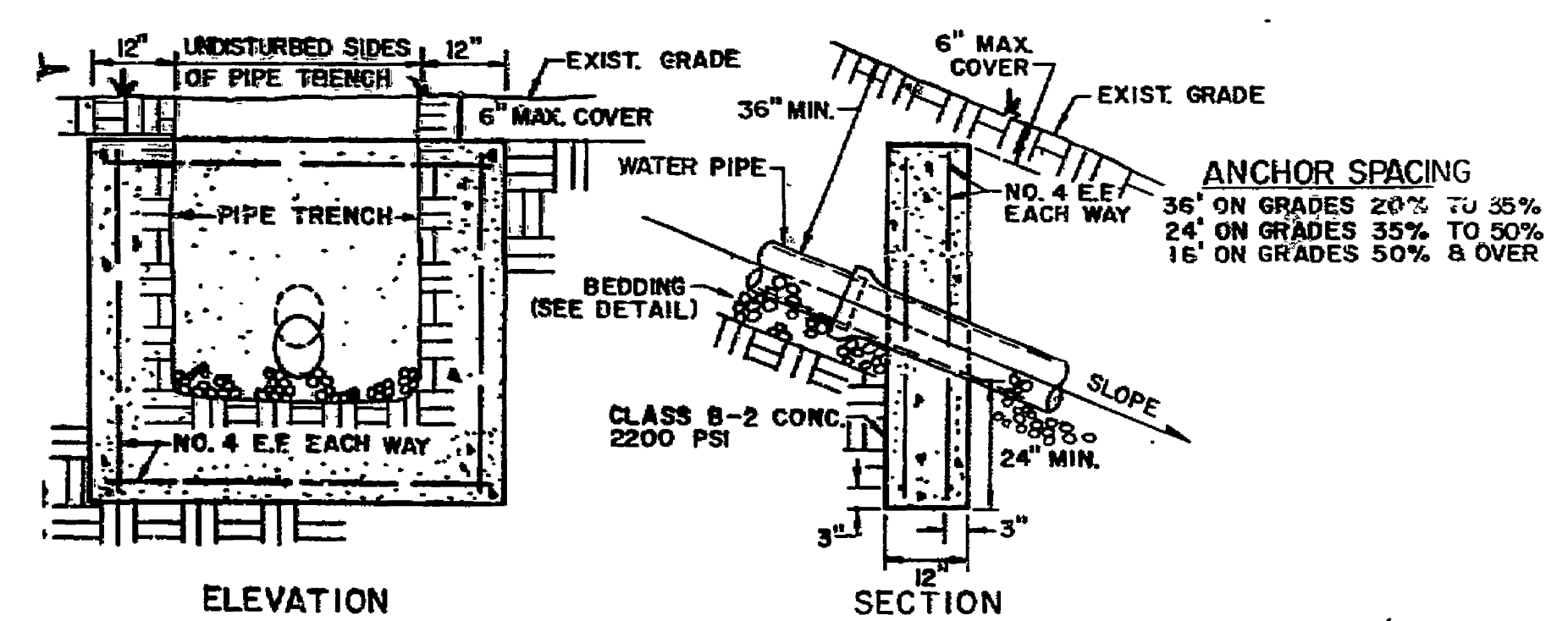




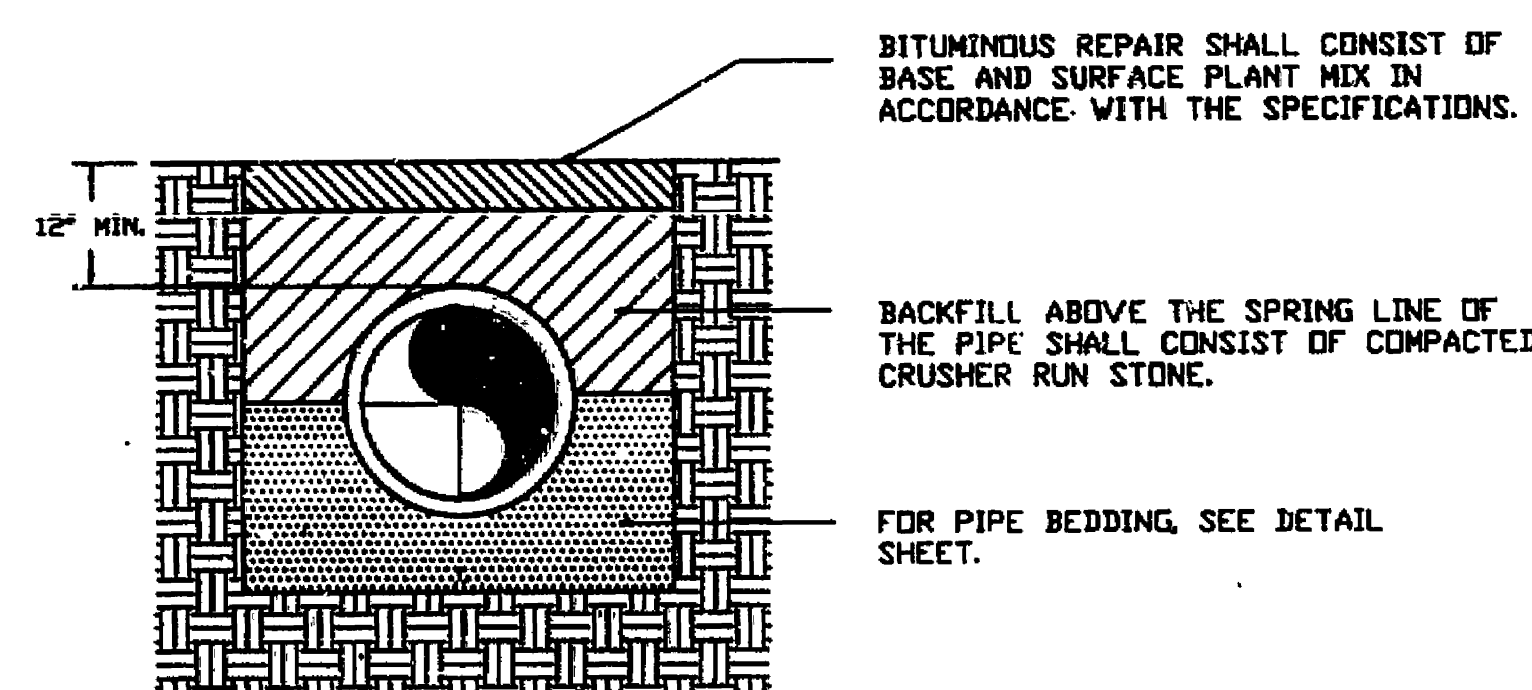
PRIMARY AND SECONDARY ROAD CROSSING



SKID DETAIL

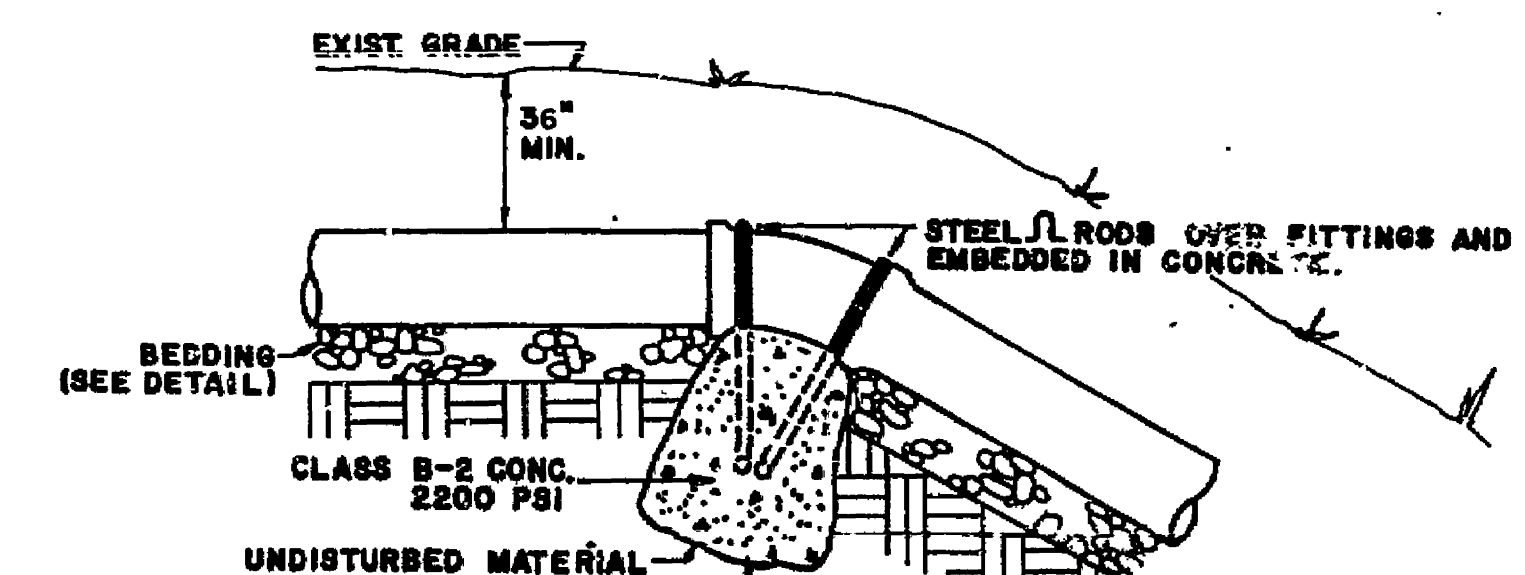


CONCRETE ANCHOR DETAIL



BACKFILL DETAIL
FOR OPEN CUT
ROADWAYS

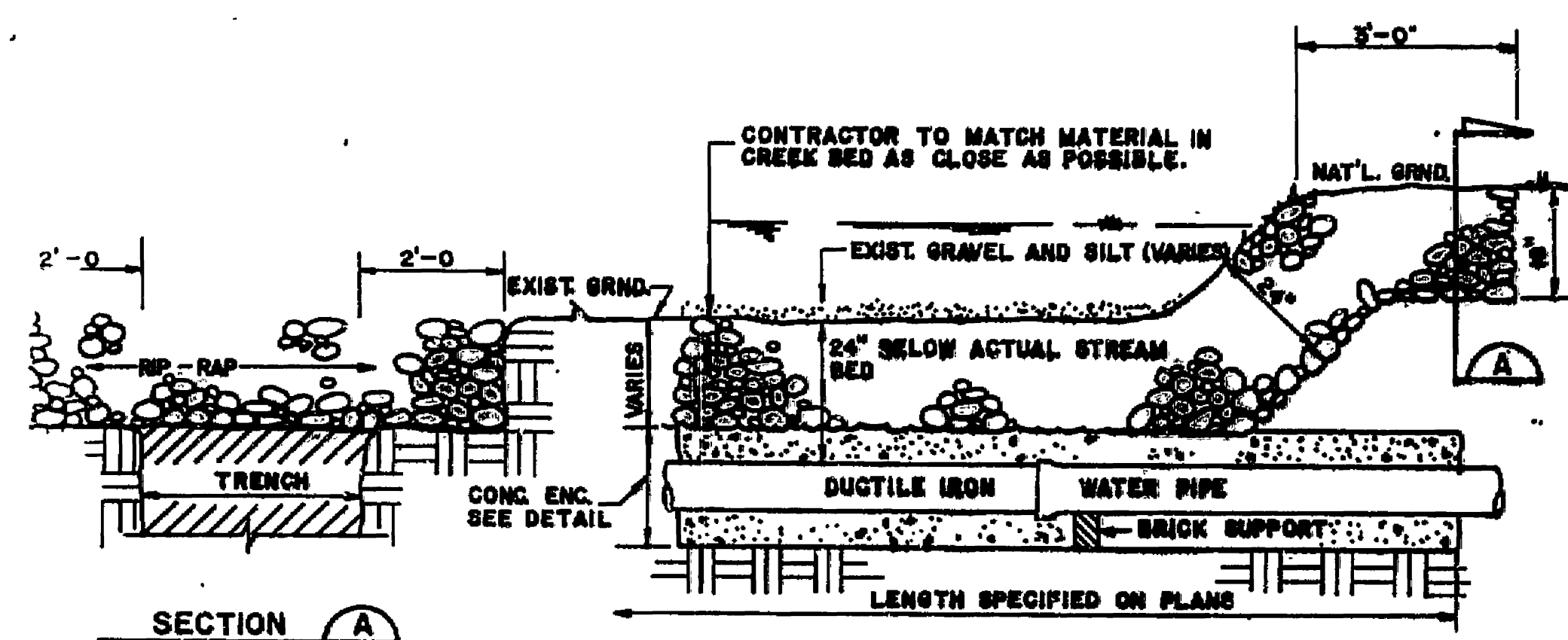
Not to Scale



FITTING SIZE	ROD SIZE	NO. OF RODS	EMBEDMENT	
			24"	36"
4"-6"-8"	NO. 4	2	24"	36"
10"-12"	NO. 5	2	24"	36"
FITTING SIZE	VOLUME OF THRUST BLOCK IN CUBIC YARDS			
	90°	45°	22 1/2°	11 1/4°
4	0.25	0.15	0.1	0.1
6	0.5	0.35	0.25	0.2
8	0.75	0.55	0.5	0.35
10	1.0	0.8	0.8	0.6
12	1.5	1.0	1.0	0.7

1. KEEP CONC. CLEAR OF JOINT AND JOINT ACCESSORIES.
2. THRUST BLOCKS FOR VERTICAL UP BENDS SHALL BE THE SAME VOLUME AS FOR HORIZONTAL BENDS.

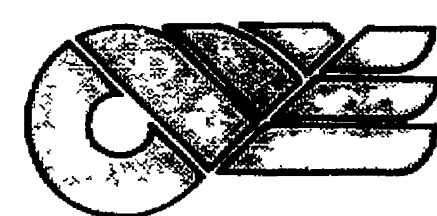
VERTICAL THRUST BLOCK DETAIL



NOTE: AFTER CONSTR. OF EACH CREEK CROSSING THE LINES SHALL BE TESTED FOR INFILTRATION IN ACCORDANCE WITH THE SPECIFICATIONS WITH ZERO INFILTRATION. SHOULD INFILTRATION BE PRESENT, THE CONTRACTOR SHALL RECONSTRUCT THE CROSSING UNTIL ZERO FILTRATION IS OBTAINED.

TYPICAL CREEK CROSSING AND BANK PROTECTION

88-02-W

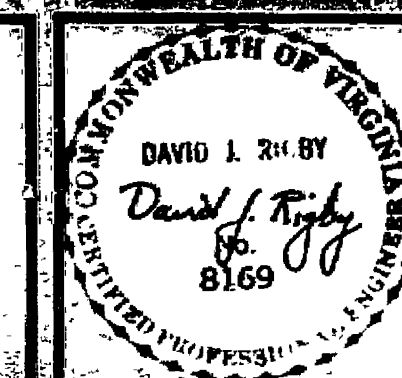


CLEAN WATER ENGINEERS, INC.

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STAUNTON, VIRGINIA 24401

ROANOKE COUNTY WATERLINE EXTENSION
VIRGINIA ROUTE 311 / HANGING ROCK VICINITY
ROANOKE COUNTY, VIRGINIA



REVISIONS		
NO.	DATE	BY

DESIGNED: WGP	SHEET: 8 OF 8
DRAWN: N/A	SCALE: NONE
CHECKED: CCB	DATE: JAN 1988
APPROVED: DJR	PROJECT: 87079

