

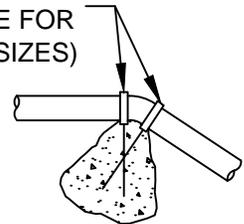
**PLAN (NTS)**

VOLUME OF THRUST BLOCK IN CUBIC YARDS (VERTICAL BENDS)

FITTING SIZE	BEND ANGLE		
	45°	22.5°	11.25°
4	1.1	0.4	0.2
6	2.7	1.0	0.4
8	4.0	1.5	0.6
10	6.0	2.3	0.9
12	8.5	3.2	1.3
14	11.5	4.3	1.8
16	14.8	5.6	2.3

FITTING SIZE	ROD SIZE	EMBEDMENT
12" AND LESS	# 6	30"
14" - 16"	# 4	36"

GALVANIZED RODS OVER FITTING AND EMBEDDED IN CONCRETE (SEE TABLE FOR SIZES)



**PROFILE (NTS)**

BEARING AREA OF THRUST BLOCKS IN SQ. FT. (HORIZONTAL BENDS)

FITTING SIZE	TEE, WYE PLUG OR CAP	90 BEND PLUGGED CROSS	TEE PLUGGED ON RUN		BEND ANGLE		
			A1	A2	45°	22.5°	11.25°
			4	1.0	1.4	1.9	1.4
6	2.1	3.0	4.3	3.0	1.6	1.0	-
8	3.8	5.3	7.6	5.4	2.9	1.5	1.0
10	5.9	8.4	11.8	8.4	4.6	2.4	1.2
12	8.5	12.0	17.0	12.0	6.6	3.4	1.7
14	11.5	16.3	23.0	15.3	8.9	4.6	2.3
16	15.0	21.3	30.0	21.3	11.6	6.0	3.0
18	19.0	27.0	38.0	27.0	14.6	7.6	3.8
20	23.5	33.3	47.0	33.3	18.1	9.4	4.7
24	34.0	48.0	68.0	48.0	26.2	13.6	6.6

**NOTE:**  
WHERE FEASIBLE, ALL THRUST BLOCKS SHALL BE REPLACED WITH MECHANICAL JOINT RESTRAINED FITTINGS



City of Key West

Engineering Services  
3132 Flagler Avenue, Key West, FL 33040

TITLE

THRUST BLOCKS

DRAWN

JTJ

SCALE

NTS

DETAIL

JUL 2015

DETAIL  
14-A

# THRUST BLOCK NOTES

1. KEEP CONCRETE CLEAR OF JOINT AND JOINT ACCESSORIES.
2. CONCRETE THRUST BLOCKING SHALL BE POURED AGAINST UNDISTURBED EARTH.
3. REQUIRED VOLUMES OR BEARING AREAS AT FITTINGS SHALL BE AS INDICATED ON THE THRUST BLOCK DETAIL, ADJUSTED, IF NECESSARY, TO CONFORM TO THE TEST PRESSURE(S) AND ALLOWABLE SOIL BEARING STRESS(ES) STATED IN THE SPECIFICATIONS.
4. THRUST BLOCK VOLUMES FOR VERTICAL BENDS HAVING UPWARD RESULTANT THRUSTS ARE BASED ON TEST PRESSURE OF 150 PSIG AND THE WEIGHT OF CONCRETE = 4050 LBS/CY. TO COMPUTE VOLUMES FOR DIFFERENT TEST PRESSURES, USE THE FOLLOWING EQUATION:  $VOLUME = (TEST\ PRESSURE/150) \times (TABLE\ VALUE)$ .
5. BEARING AREAS FOR HORIZONTAL BEND THRUST BLOCKS ARE BASED ON TEST PRESSURE OF 150 PSIG AND AN ALLOWABLE SOIL BEARING STRESS OF 2000 LBS/SF. TO COMPUTE BEARING AREAS FOR DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION:  $BEARING\ AREA = (TEST\ PRESSURE/150) \times (2000/SOIL\ BEARING\ STRESS) \times (TABLE\ VALUE)$ .
6. THRUST BLOCKS FOR VERTICAL BENDS HAVING DOWNWARD RESULTANT THRUSTS SHALL BE THE SAME AS FOR HORIZONTAL BENDS.
7. BEARING AREAS, VOLUMES, AND SPECIAL BLOCKING DETAILS SHOWN ON PLANS TAKE PRECEDENCE OVER THIS STANDARD.
8. BEARING AREAS OF THRUST BLOCKS SHALL NOT BE LESS THAN 1.0 SF.
9. VERTICAL BENDS THAT REQUIRE A THRUST BLOCK VOLUME EXCEEDING 5 CUBIC YARDS REQUIRE SPECIAL BLOCKING DETAILS. SEE PLANS.

	<h2 style="margin: 0;">City of Key West</h2>	<h2 style="margin: 0;">THRUST BLOCKS</h2>		
	Engineering Services 3132 Flagler Avenue, Key West, FL 33040	DRAWN JTJ SCALE NTS	<h2 style="margin: 0;">NOTES</h2>	JUL 2015 DETAIL 14-B