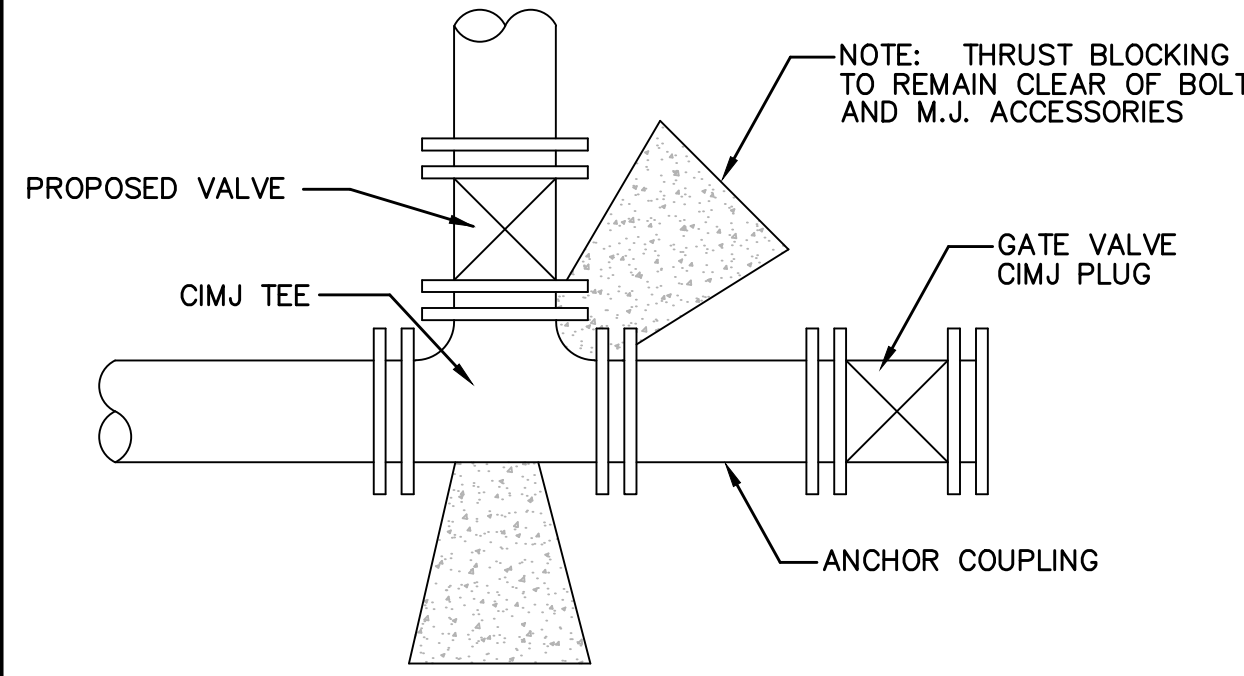


**REINFORCED CONCRETE ENCASEMENT OF SANITARY SEWER**

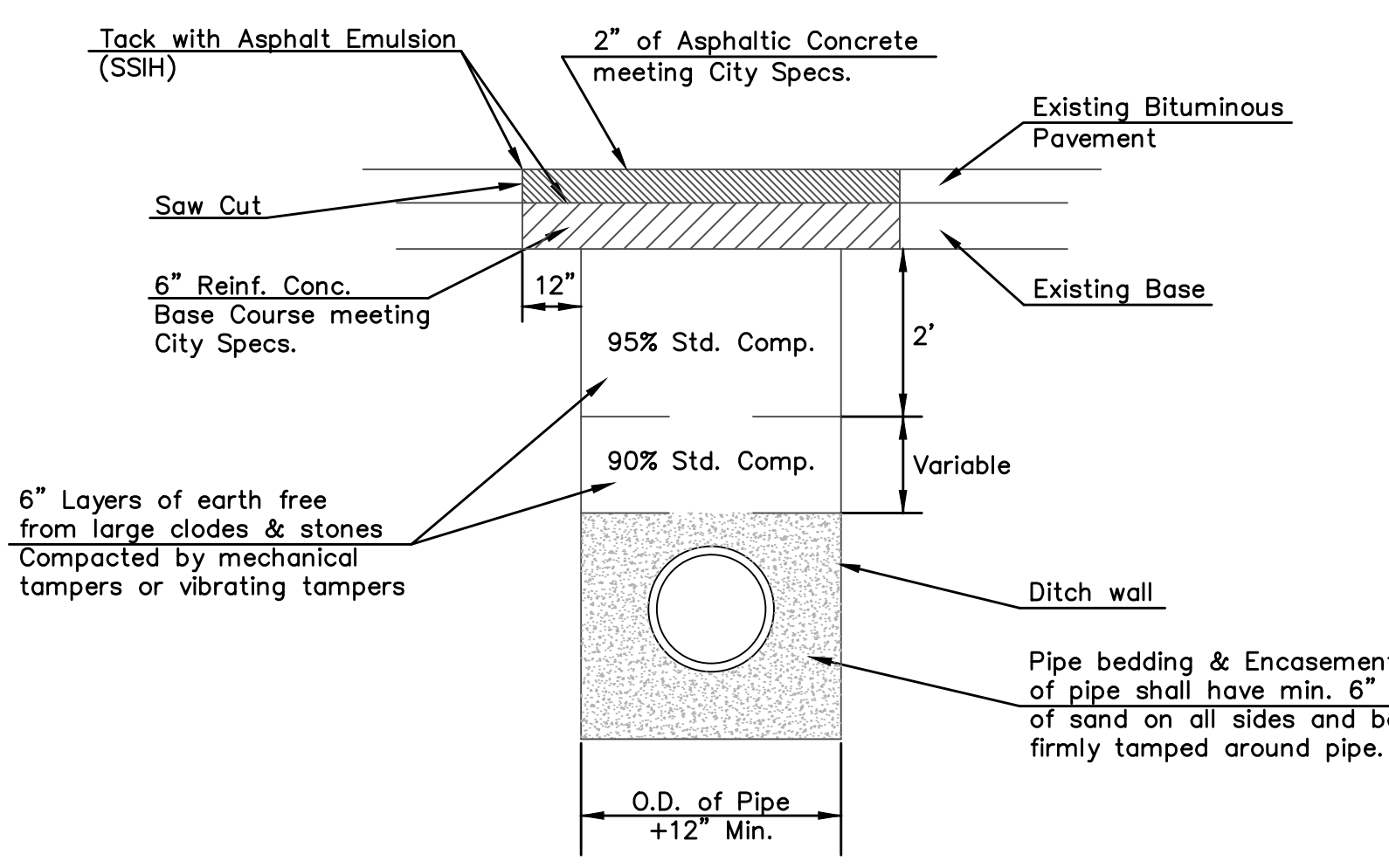
**SETTLEMENT & COMPACTION ON CITY AND COUNTY ROAD RIGHT-OF-WAY EXCEPT UNDER PAVEMENT**

PIPE SIZE	THRUST AT FITTINGS IN TONS-AT 150#/IN <sup>2</sup> P					
	PLUG	90°	45°	22 1/2°	11 1/4°	TEE
6"	2.8	3.95	2.15	1.09	.55	2.8
8"	4.9	6.95	3.75	1.90	.96	4.9
12"	11.4	16.1	8.75	4.45	2.25	11.4
16"	20.15	28.5	15.4	7.85	3.95	20.15
20"	31.15	44.0	23.85	12.15	6.10	31.15
24"	44.55	63.0	34.1	17.4	8.75	44.55

**TYPICAL THRUST BLOCKS**



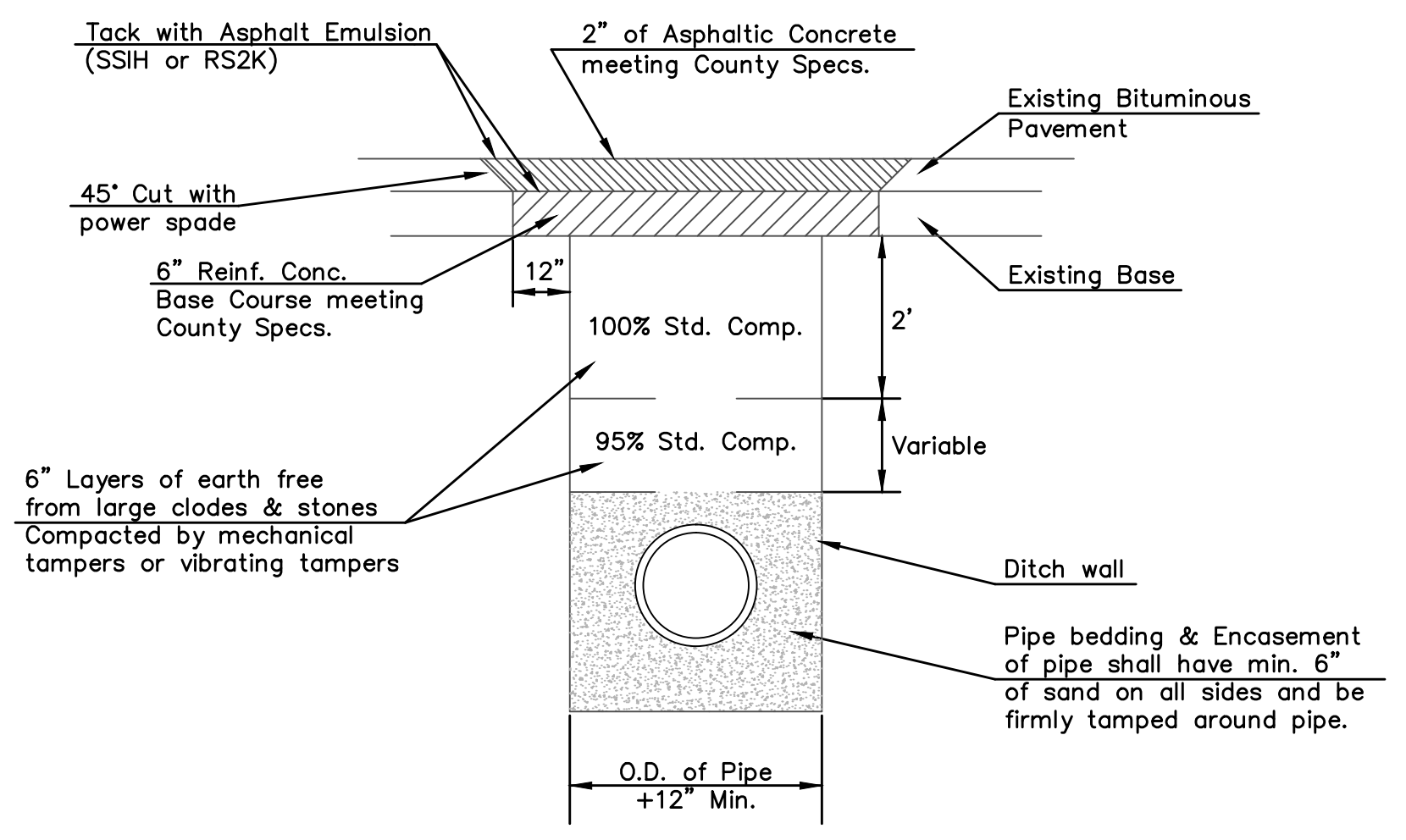
**KEY BLOCK DETAIL**



Standard Density Test, as described in the latest addition of ASTM D698, shall be performed to verify the above requirements to the Satisfaction of the Sedgwick County Director of Public Works. All testing cost shall be included in the unit price bid for the pipe in place.

When laying under paving, parallel with the centerline of the street, a minimum of one (1) Standard Density Test shall be performed on each 300 lineal feet of ditch.

**PAVEMENT REPLACEMENT & DITCH COMPACTION UNDER EXISTING AND PROPOSED CITY ROADS**



Standard Density Test, as described in the latest addition of ASTM D698, shall be performed to verify the above requirements to the Satisfaction of the Sedgwick County Director of Public Works. All testing cost shall be included in the unit price bid for the pipe in place.

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**PAVEMENT REPLACEMENT & DITCH COMPACTION UNDER EXISTING AND PROPOSED COUNTY ROADS**

REV.	DESCRIPTION	DATE

**NORTH IVA & 27TH STREET NORTH**

**DRAINAGE IMPROVEMENTS**

SEC. 2, T27S, R1E  
WICHITA, KANSAS

CERTIFIED ENGINEERING DESIGN, P.A.  
CIVIL ENGINEERING SERVICES



1935 WEST MAPLE STREET  
WICHITA, KANSAS 67213  
PH.(316)262-8808 FAX.(316)262-1669

ISSUED FOR CONSTRUCTION

PROJECT NO.: 20101910  
ISSUE DATE: 10/20/2011  
CONTACT: C WINKLER / H FORAKER  
DRAWN BY: CC, CW | CHECKED BY: HDF

**MISC. WATER MAIN DETAILS**



REVISED APR 97

**VARIOUS WATER DETAILS**

CITY ENGINEER  
**JAMES L. ARMOUR, P.E., L.S.**

PROJECT NUMBER XXX-XXXX	OCA NUMBER XXXXXX	DATE MM/YY
CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202-1620 (316) 268-4501 (316) 268-4114 FAX		DESIGN ABC
		DRAWN DEF
		SHEET