

NOTE: All adjacent surface restoration will be completed before conducting a sanitary manhole acceptance test, including finish paving and final adjustments to grade. Any test conducted before hand shall be considered informal, and will not count for acceptance. Indicate surface restoration C or I below (complete/incomplete).

Vacuum tests will be conducted in accordance with latest applicable standars, such as established procedures based on ASTM C924-86, starting at 10" Hg of vacuum.

Hydrostatic tests shall be conducted in accordance with the 1990 Oregon APWA Standard Spedifications for Sanitary Sewer Construction, Section 306.3.03. (See Below) Manholes shall be filled to a mark on the iron frame at the start of the test, or to the rim of the frame.

**306.3.03 SANITARY MANHOLE TESTING**

The contractor shall be responsible for process control testing of sanitary manholes and may conduct such tests as necessary during the construction process. The tests required in this subsection are for the information of the engineer. The results of the tests will not indemnify the contractor of responsibility for defects in the construction.

All sanitary sewer manholes shall be tested for acceptance by either hydrostatic or vacuum testing after completion of backfilling, compaction and surface restoration, including paving. If the manhole fails the test, necessary repairs shall be made by an approved method, and the manhole retested. The manhole shall be repaired and retested until a satisfactory test is obtained.

**306.3.03A HYDROSTATIC TESTING**

The hydrostatic test shall consist of plugging all inlets and outlets and filling the manhole with water. Each manhole shall be filled to the rim at the start of the test. Leakage in each manhole shall not exceed 0.2 gallons per hour per foot of head above the invert. Leakage shall be determined by refilling to the rim using a calibrated known-volume container. Manholes may be filled 24 hours prior to the time of testing to permit normal absorption into the manhole walls.

**306.3.03B VACUUM TESTING**

Vacuum testing shall be done in accordance with ASTM C 1244-93. All pipes entering the manhole shall be temporarily plugged, and plugs shall be braced. The test head shall be placed in or on top of the manhole ring. A vacuum of 10 inches of mercury shall be drawn on the manhole, the valve on the vacuum line of the test head closed, and the vacuum pump shut off. The time shall be measured for the vacuum to drop to 9 inches of mercury. The manhole shall pass if the time for the vacuum reading to drop from 10 inches of mercury to 9 inches of mercury meets or exceeds the values indicated in the table below.

**MINIMUM TEST TIMES FOR VARIOUS MANHOLE DIAMETERS & DEPTH**

Depth (feet)	Time (seconds)		
	48 inch	60 inch	72 inch
8 (or less)	20	26	33
10	25	33	41
12	30	39	49
14	35	46	57
16	40	52	65
18	45	59	73
20	50	65	81
22	55	72	89

**MANHOLE TEST RECORD**

Test Date	MH No.	Paved (C or I)	MH Depth	Vacuum				Hydrostatic				Comments	
				MH Diam.	Time Req.	Vac. Start	Vac. End	Time Start	Time End	Vol. Change	Loss (gph)		Pass Fail

Contractor		Project Name		CITY OF GRANTS PASS ENGINEERING DIVISION	
Inspector		Project Number			
DRAWN: FMS		APPROVED: DAP		MANHOLE TEST RECORD	
SCALE: NONE		DWG. NO. 316			