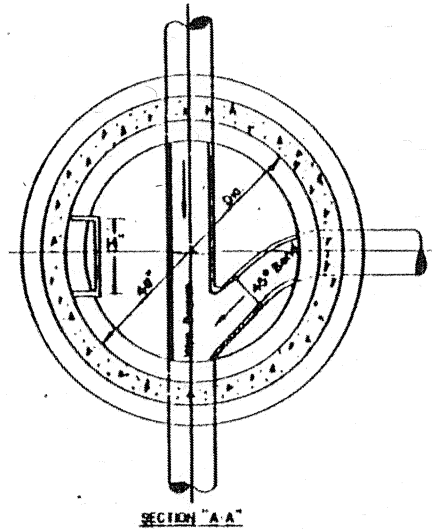
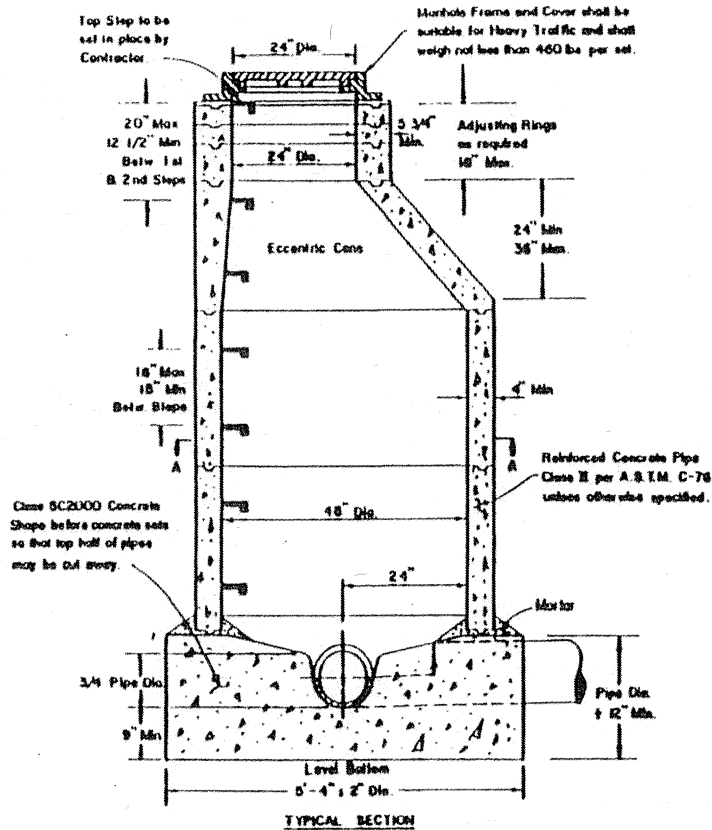


TYPE "A" MANHOLE



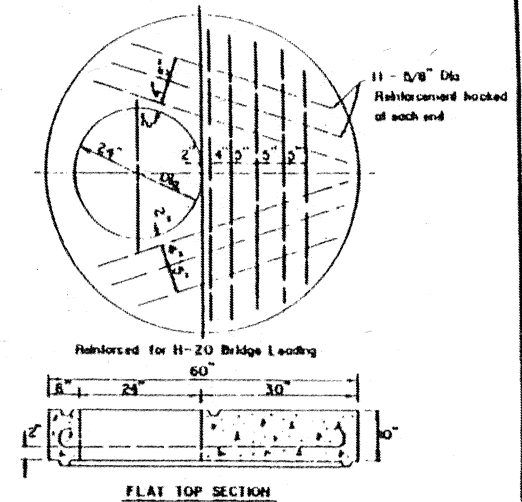
GENERAL NOTES

STANDARD MANHOLE - TYPE "A"

Type "A" Manholes shall be used in all cases, unless otherwise noted on the Plan or in the Specifications.

DROP MANHOLES:
Drop Manholes shall be constructed using a Tee Branch at top Invert and a 90° Bend at the bottom Invert. The entire Drop Section shall be encased in concrete, having a 6 inch minimum cover, from the base of the Manhole to the center of the upper pipe section.

TYPE "B" MANHOLE

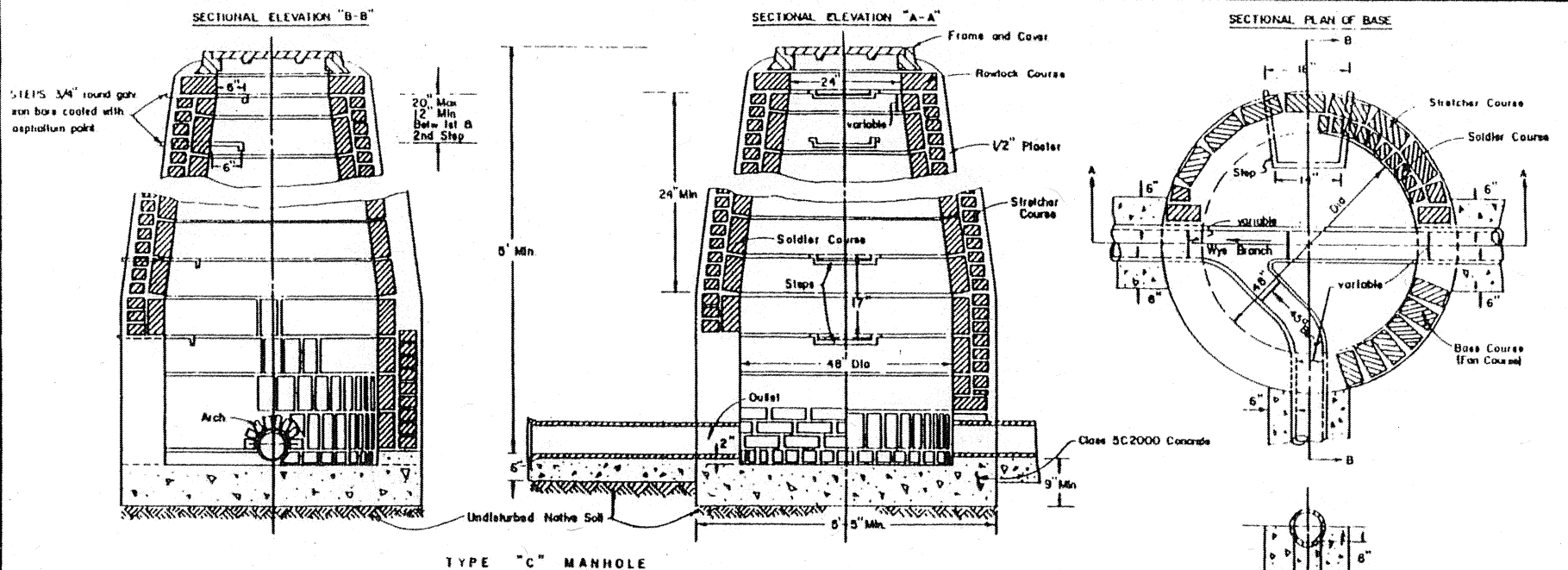


NOTE:

Type "B" Manhole same as Type "A" Manhole except that Flat Top Section shall be used in place of Eccentric Cone Section. B Manhole walls shall be Std Precast Sections having 6" minimum wall thickness. (Minimum reinforcement for Sections having 6" wall thickness shall be No. 4 wire hoops.)

CITY OF UPLAND STANDARD DRAWING

DRAWN BY	DATE	PRECAST CONC. MANHOLES TYPE "A" & TYPE "B" FOR SANITARY SEWER SYSTEMS
WCH	10/21/65	
REVISION BY	DATE	APPROVED BY <i>Fred C. Blanchard</i> CITY ENGINEER
		DRAWING NO. CU-Z-1



GENERAL NOTES

CONCRETE BASE:

During construction, all pipes shall be rigidly supported by brick piers one foot deep, located just outside the structure. Construct top of concrete base 2 inches below invert of lowest pipe. Fill space beneath pipe with mortar and shove from both sides with base course brick to form a water tight joint.

BASE OR FAN COURSE:

Lay brick flat on radial lines with tops to same level.

ARCHES:

Lay spalled brick on edge to form a true radial arch with full mortar joint around all pipe openings. Turn arch of two such courses over pipes 15 inches or more in diameter.

SOLDIER COURSES:

Lay inside brick on radial lines with first four courses vertical. Lay succeeding courses with a uniform batter to obtain an inside diameter of 24" at top of last or fractional soldier course. Use split brick to close soldier course.

STRETCHER COURSES:

Lay outside brick flat in a deep bed of mortar. Shove brick hard together against adjacent soldier course.

ROWLOCK COURSE:

Lay last course of brick on edge across soldier and stretcher courses, on radial lines.

STEPS:

Set lower step on top of third soldier course and notch brick above. Place upper step immediately below rowlock course and project 6 inches. Steps shall be spaced not more than 17 inches apart.

JOINTS:

Inside joints shall be neatly stuck and pointed and shall not exceed 3/8 inch in thickness.

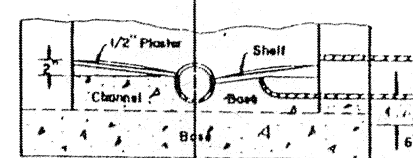
CHANNEL BASE:

The depth of channel in channel base shall be 3/4 of pipe diameter for pipes 15 inches or less, and shall equal the pipe diameter for pipes 18 inches or larger. For special channels in trap or gauging manholes see special plans.

CRADLE:

Cradle first length of pipe at all inlets and outlets with concrete per detail.

CROSS SECTION OF CRADLE

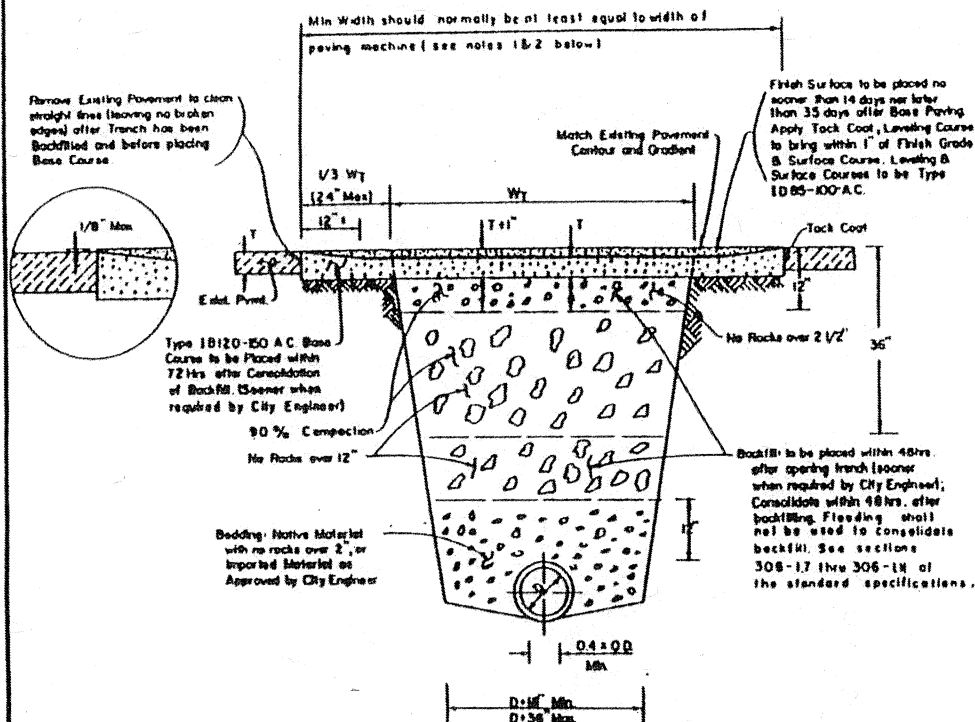


SECTIONAL ELEVATION "B-B" CHANNEL BASE

CITY OF UPLAND STANDARD DRAWING

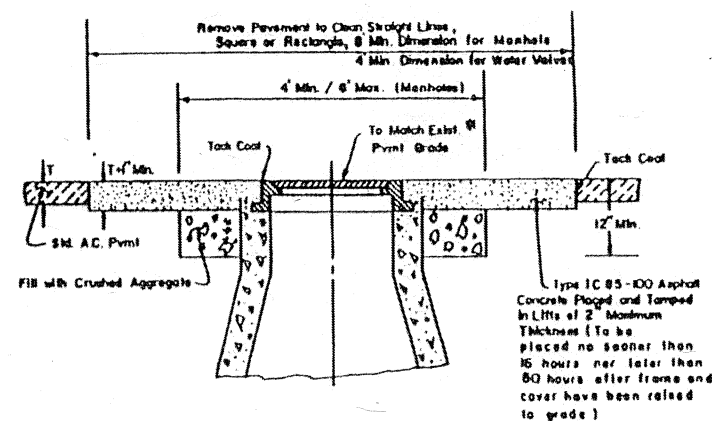
DRAWN BY	DATE	BRICK MANHOLE TYPE "C" FOR SANITARY SEWER SYSTEMS
W o h	10/21/65	
REVISION BY	DATE	APPROVED BY <i>Frederick C. Blanchard</i> CITY ENGINEER
		DRAWING NO. CU-Z-2

DETAIL FOR ADJUSTING MANHOLES & WATER VALVES TO GRADE



GENERAL NOTES

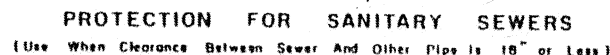
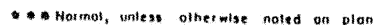
1. Spreader Boxes may be employed for ditch paving jobs less than 500 lin. ft..
2. All Joints shall be vertical butt joints. Lap or feathered joints are not allowed.
3. Unless otherwise instructed by city Engineer, trench patch should be straight grade across width, and should not be crowned at center.



1. * Frame and Cover to be set 3" to 6" below Subgrade before A.C. Pavement is Placed.
2. Frame and Cover to be adjusted to Grade after A.C. Paving. Pavement Repairs to be made per this Detail after Raising to Grade.
3. Reset Top Step in Manhole at the time Frame and Cover are raised to Grade; add additional step when necessary to maintain proper spacing between Steps (see Drains, CU-Z-1 & CU-Z-2 for Correct Spacing of Steps).

CITY OF UPLAND
STANDARD DRAWING

DRAWN BY	DATE	TRENCHING, BACKFILLING, ADJUSTING TO GRADE AND ASSOCIATED PAVEMENT REPAIRS
WAB	10/20/85	
REVISION BY	DATE	
LWA	10-24-86	
L.G.K.	12-22-86	APPROVED BY  CITY ENGINEER
WAB	12-1-70	DRAWING NO. CU-Z-3



1" Finger Hole

Secure Cover With 1/4" Set Screws (2 ea. Req'd)

CASTING: Althombro A1240 or Approved Equal

12"

10"

8" V.C.P.

24" Square (Min.)

3" min.

6" 3"

6" min.

Class 5.5 C-2500 P.C.C.

COVER "DETAIL"

‡ Minimum Slope Shall Be Increased For Dead End Lines Having A Limited Number Of Connections

CITY OF UPLAND STANDARD DRAWING		
Drawn By LWA	Date 4-27-70	SANITARY SEWER SYSTEMS MAIN LINES LATERAL LINES TERMINAL CLEANOUTS
Revisions By B.G.	Date 12-12-73	
B.F	12-4-75	
		Approved By <i>Frank C. Blanchard</i> City Engineer
		DRAWING NO. CU-Z-4