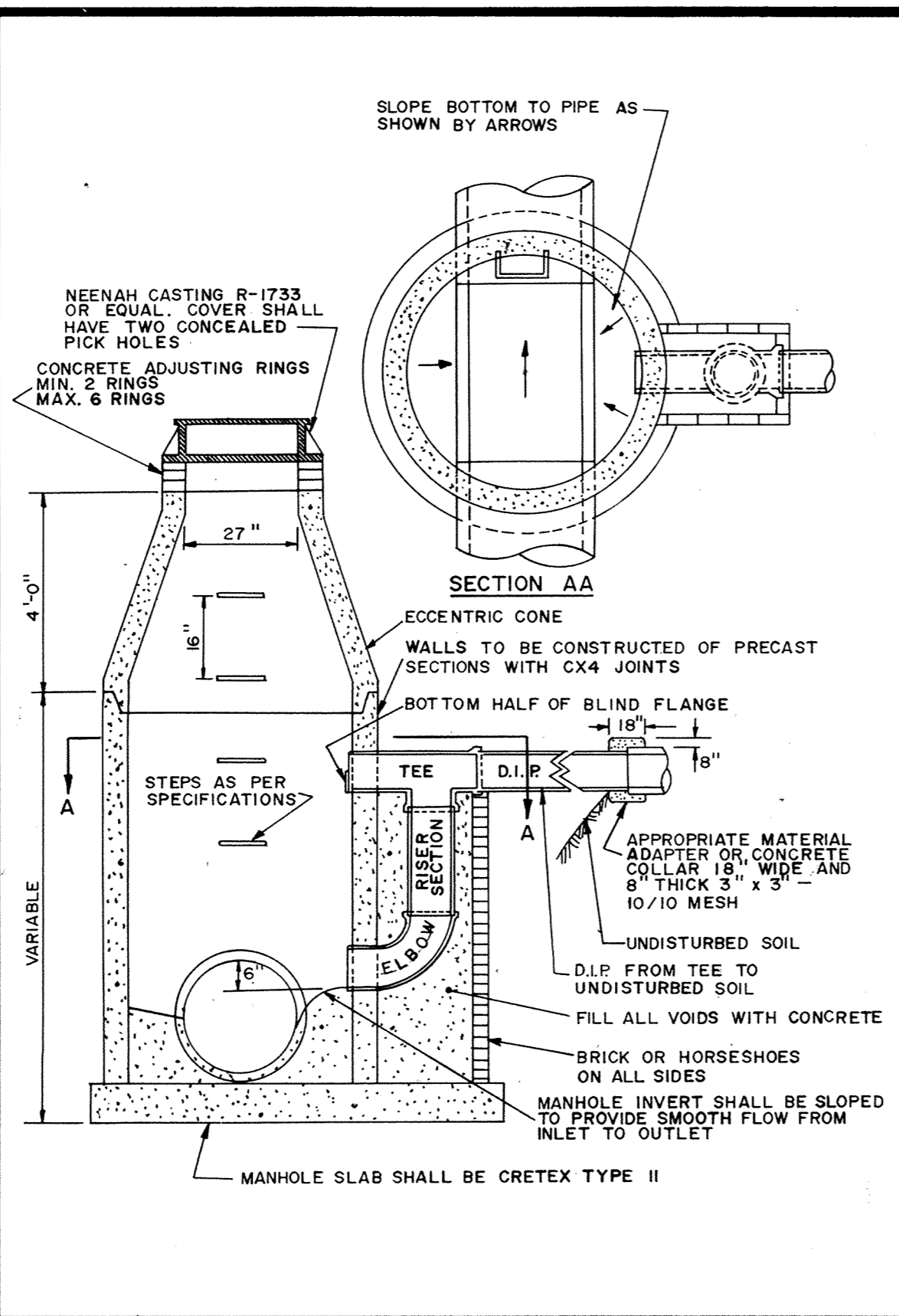
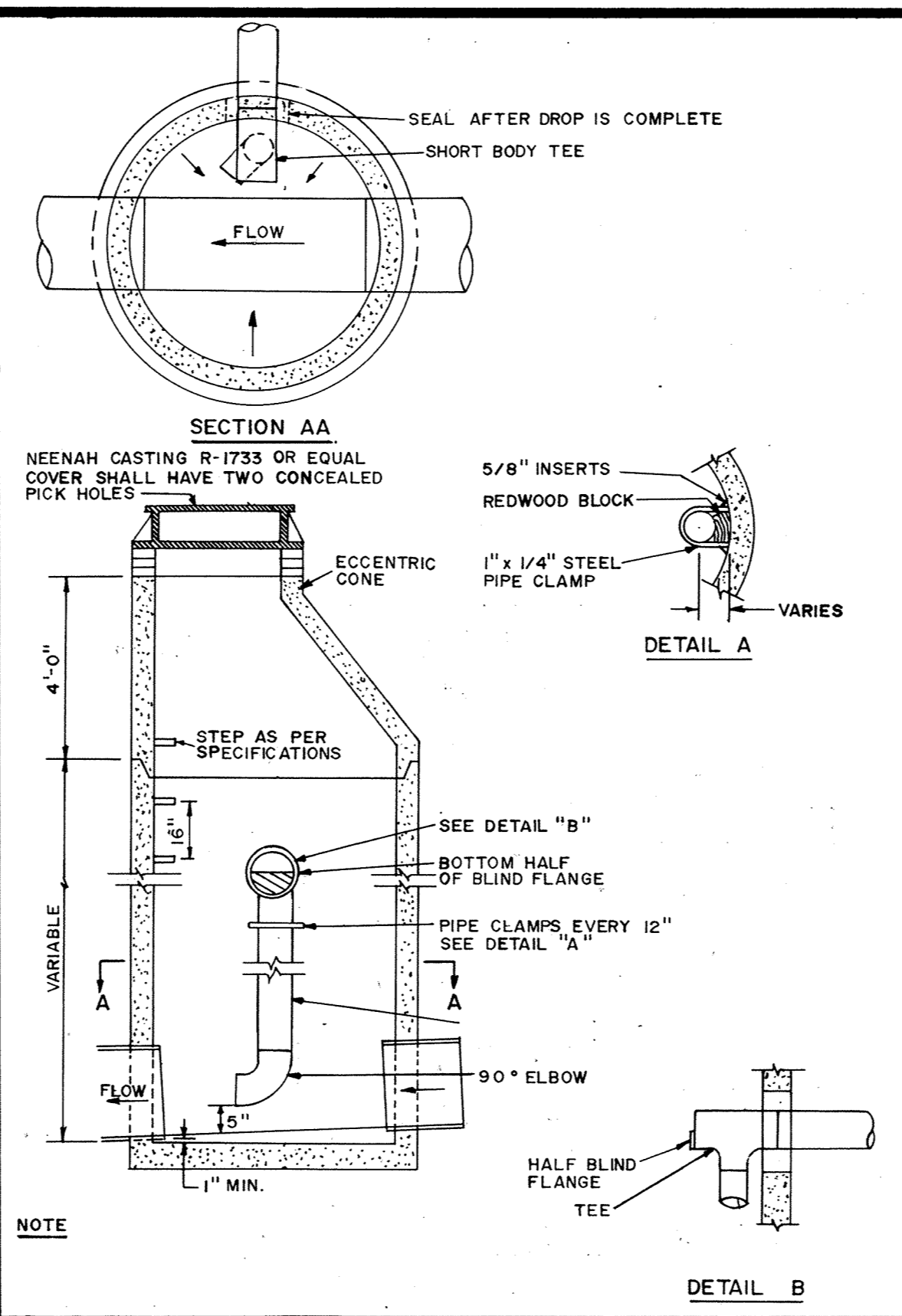


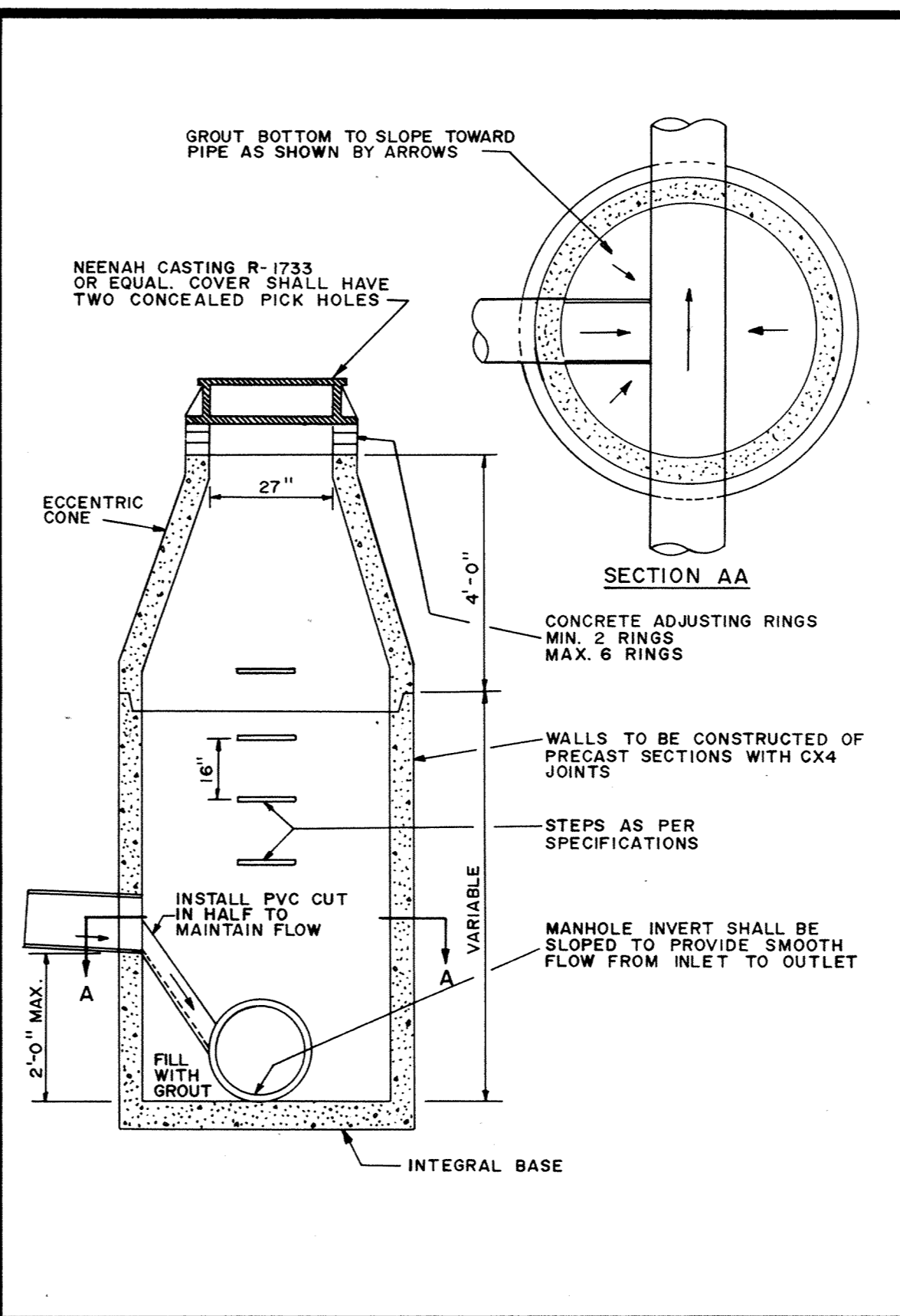
STANDARD AIR RELIEF MANHOLE



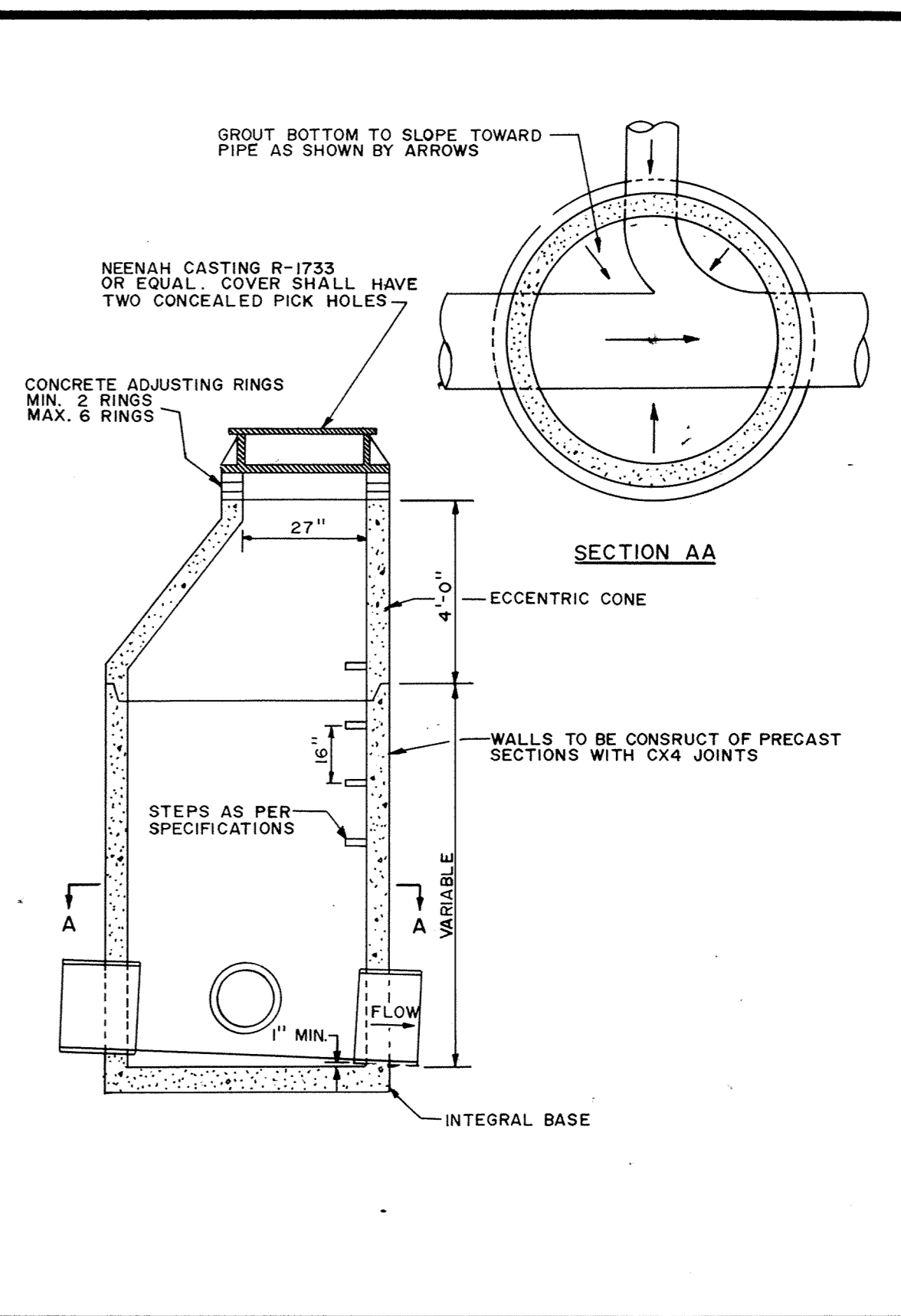
OUTSIDE DROP MANHOLE



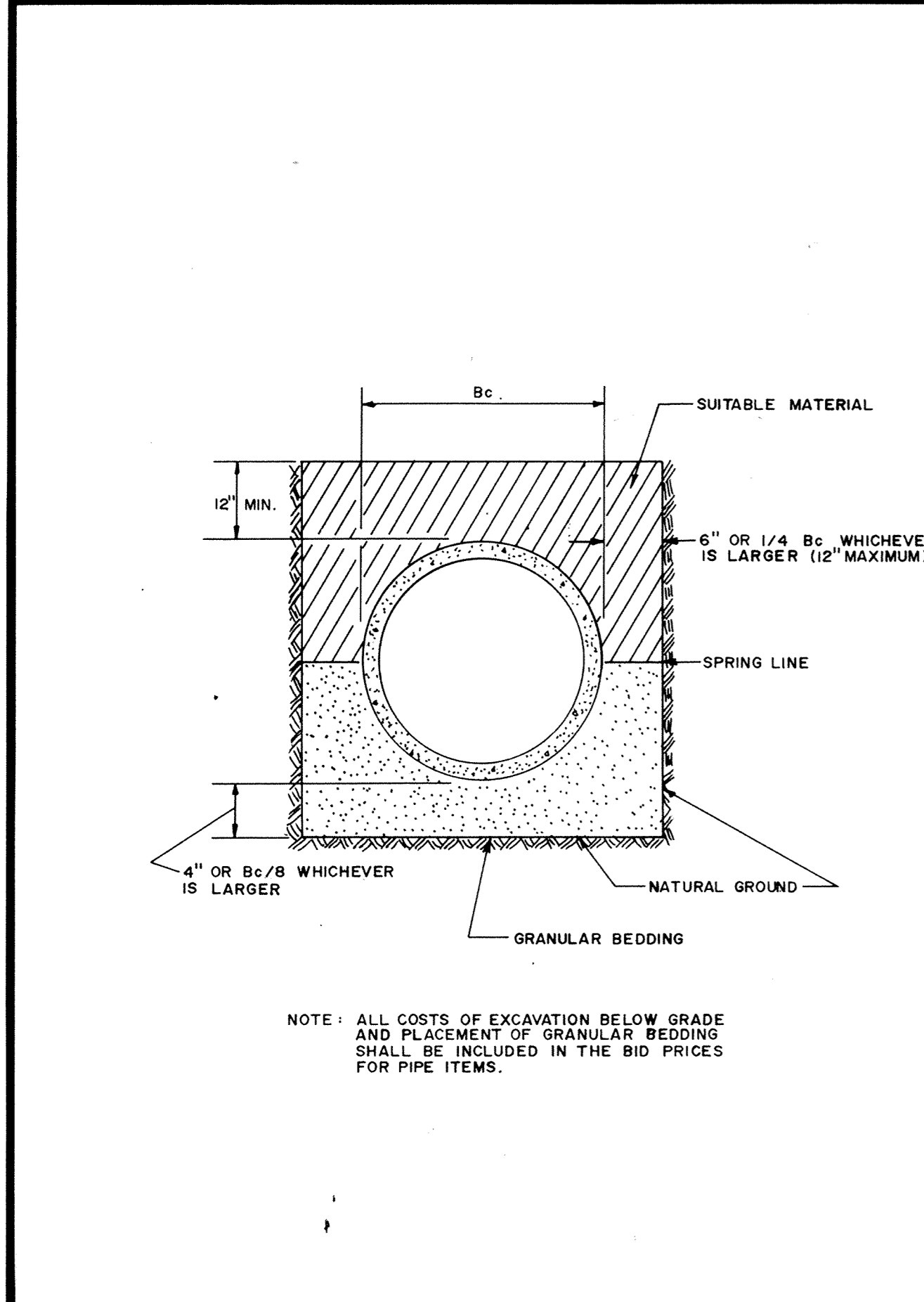
INSIDE DROP MANHOLE



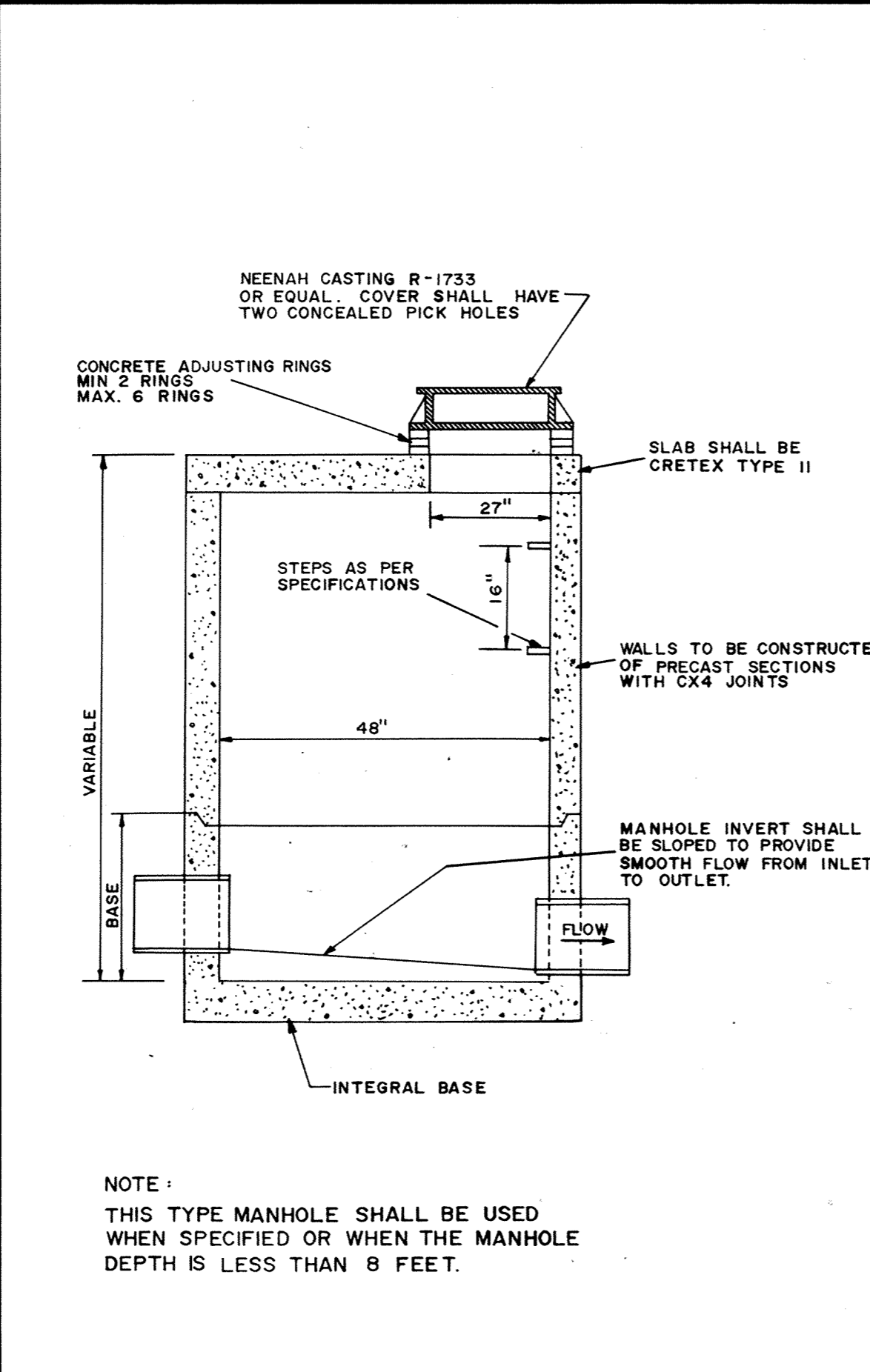
INSIDE DROP MANHOLE (2 FEET OR LESS)



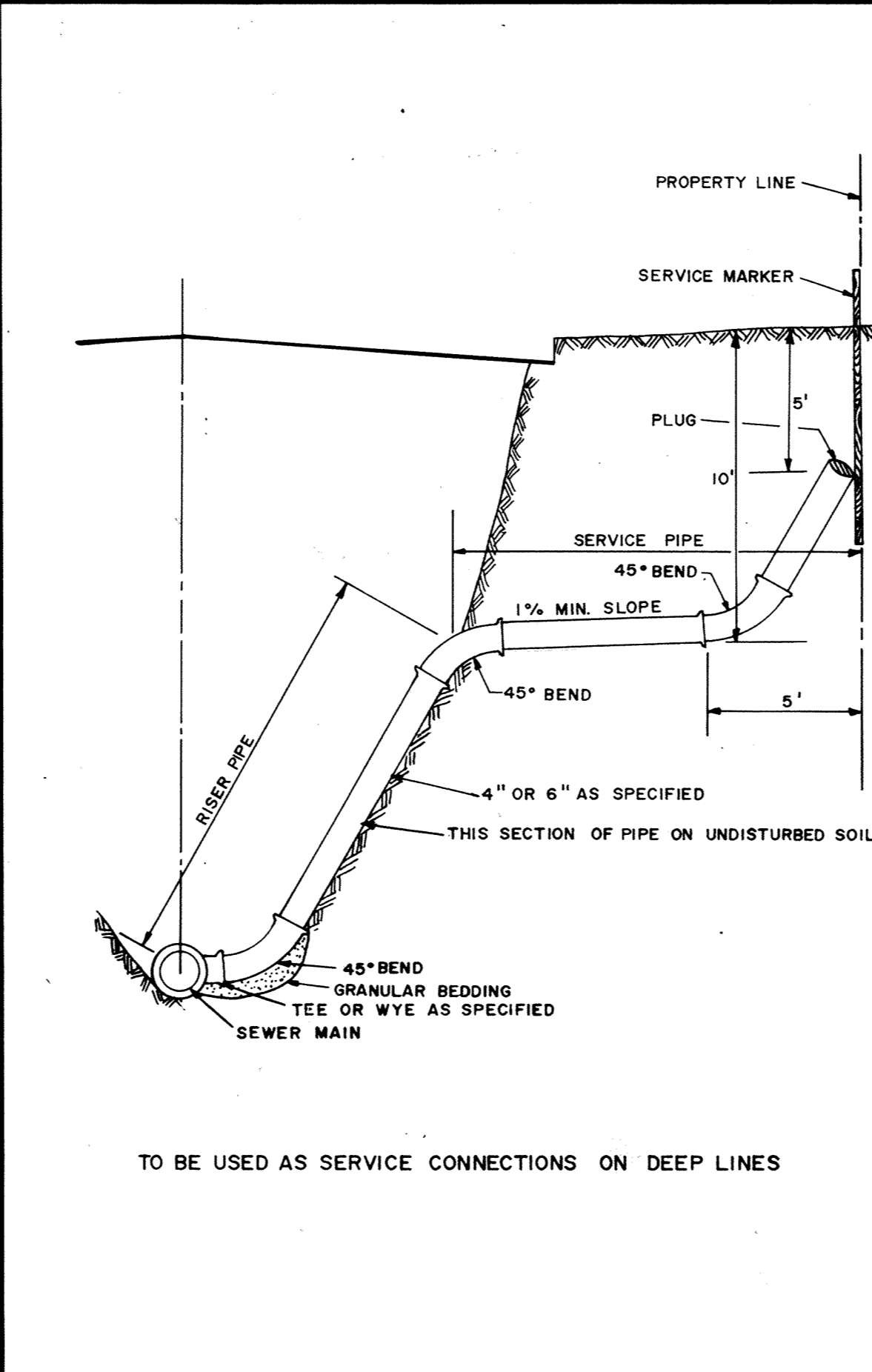
STANDARD MANHOLE



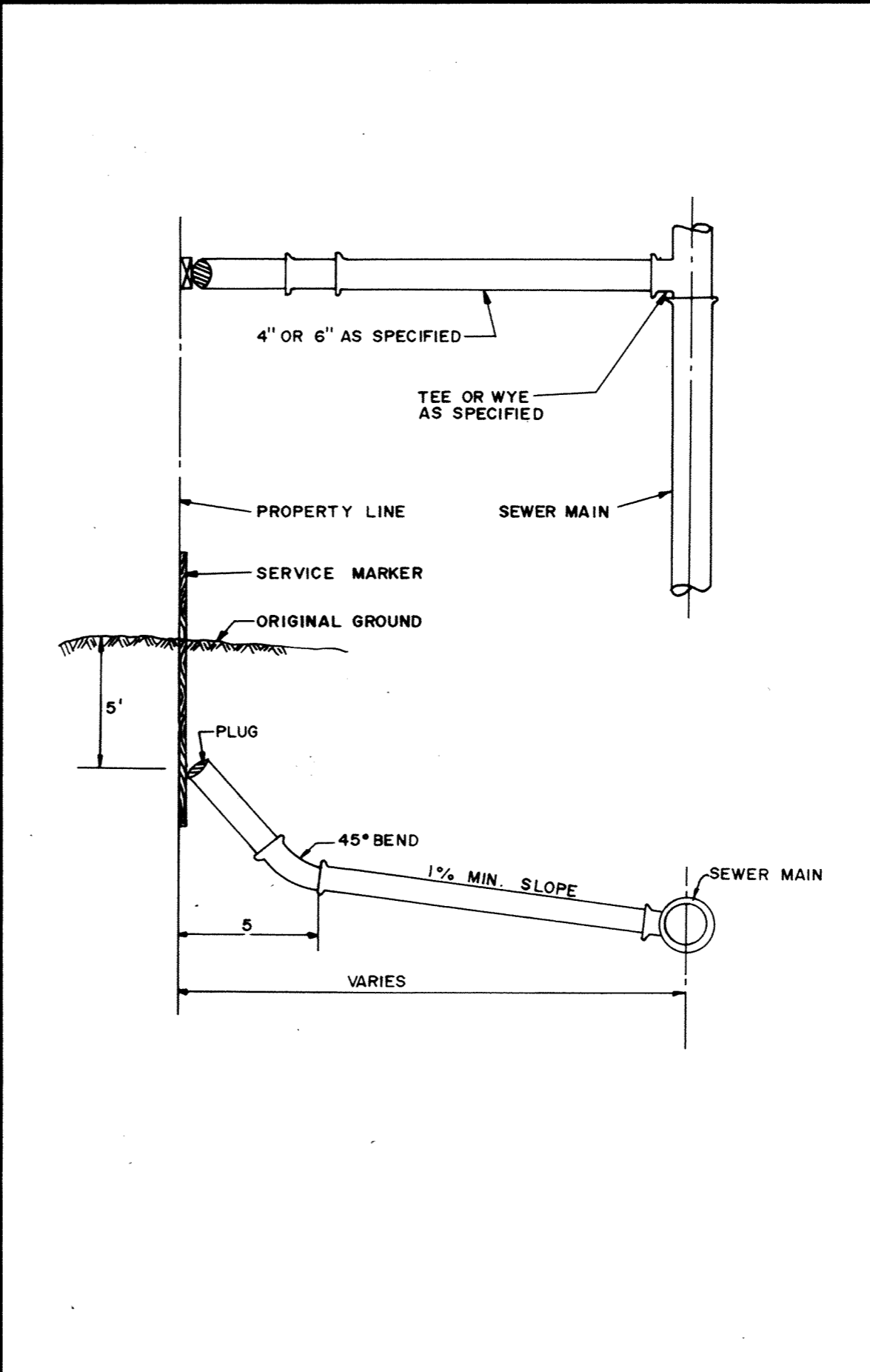
CLASS B PIPE BEDDING



SLAB TOP MANHOLE



SERVICE RISER SECTION



TYPICAL HOUSE SERVICE

NOTE: ALL COSTS OF EXCAVATION BELOW GRADE AND PLACEMENT OF GRANULAR BEDDING SHALL BE INCLUDED IN THE BID PRICES FOR PIPE ITEMS.

NOTE: THIS TYPE MANHOLE SHALL BE USED WHEN SPECIFIED OR WHEN THE MANHOLE DEPTH IS LESS THAN 8 FEET.

TO BE USED AS SERVICE CONNECTIONS ON DEEP LINES

MSA CONSULTING ENGINEERS
Maier Stewart & Associates Inc.
 480 CEDAR STREET (612)227-9475 ST. PAUL, MINNESOTA 55101

REVISIONS	DATE	DESCRIPTION	DESIGNED	CHECKED	DRAWN

GRAPHIC SCALE
 0 HORIZ. NONE
 0 VERT.

CITY OF ELK RIVER
ELK RIVER INDUSTRIAL PARK
SANITARY SEWER DETAILS

DATE JAN. 1987 SHEET 15 OF 17 SHEETS PROJECT NO. 230-002

DRAWING NUMBER
 ERIND 87
 15
 DRAWING NUMBER