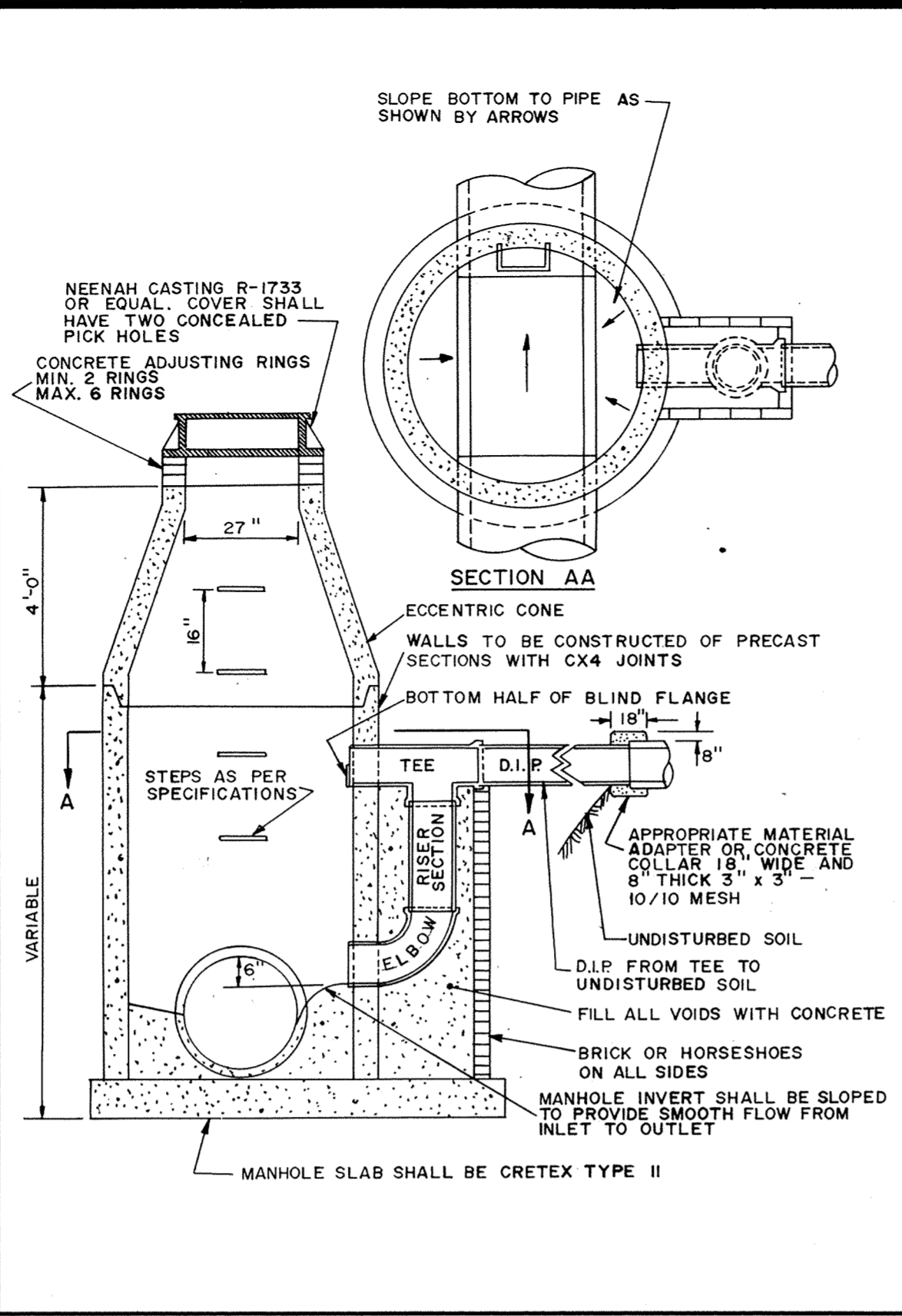
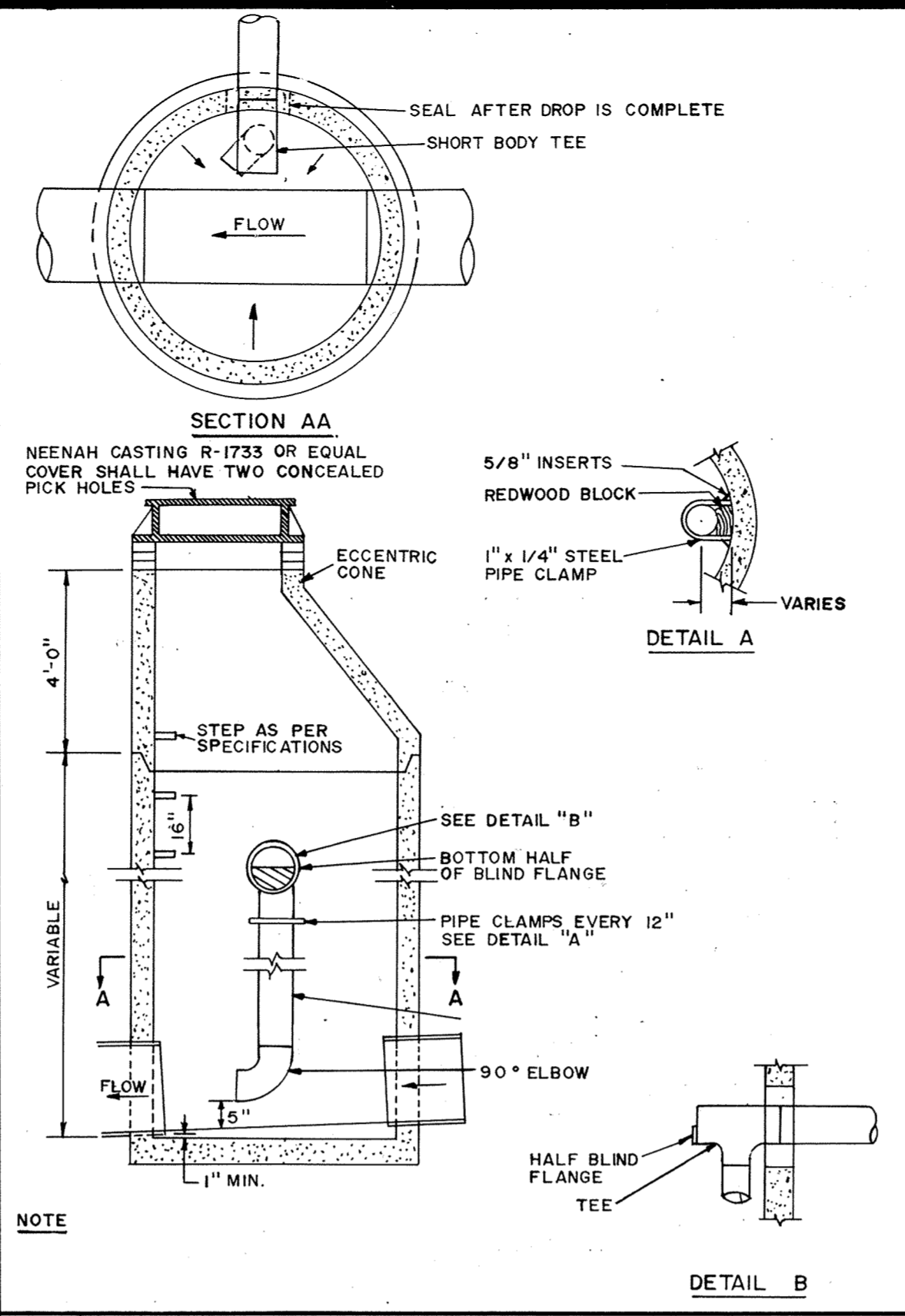


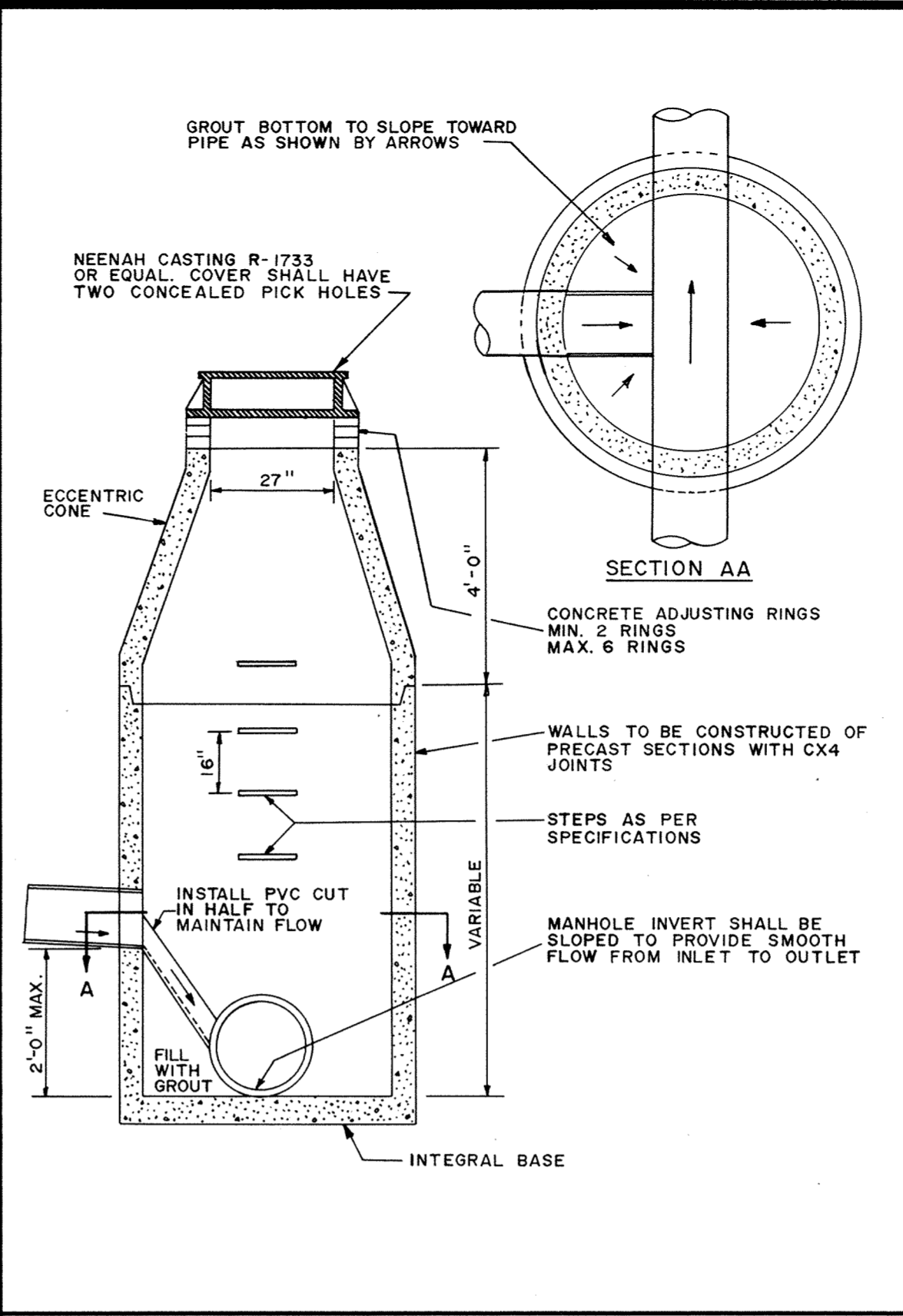
STANDARD AIR RELIEF MANHOLE



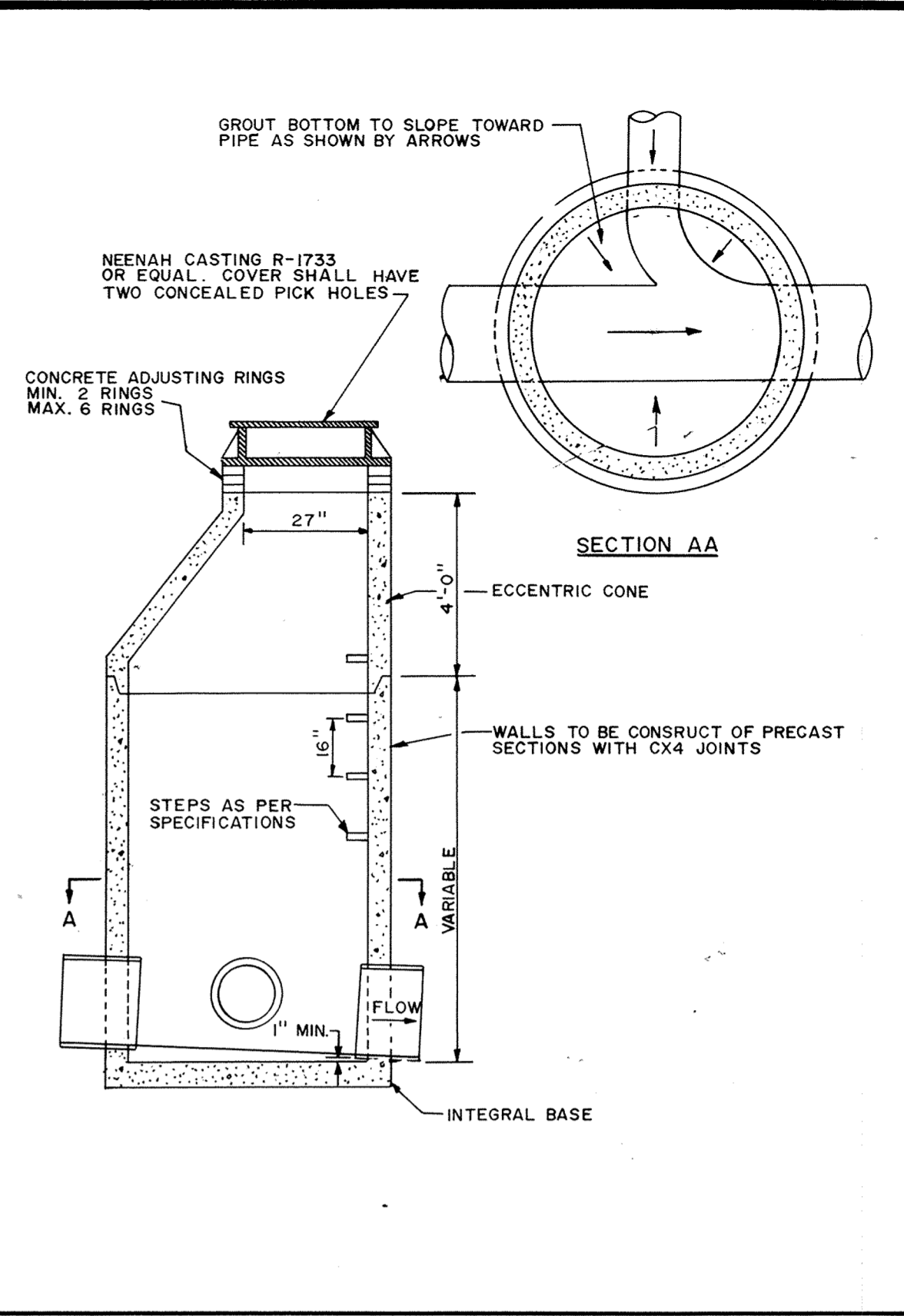
OUTSIDE DROP MANHOLE



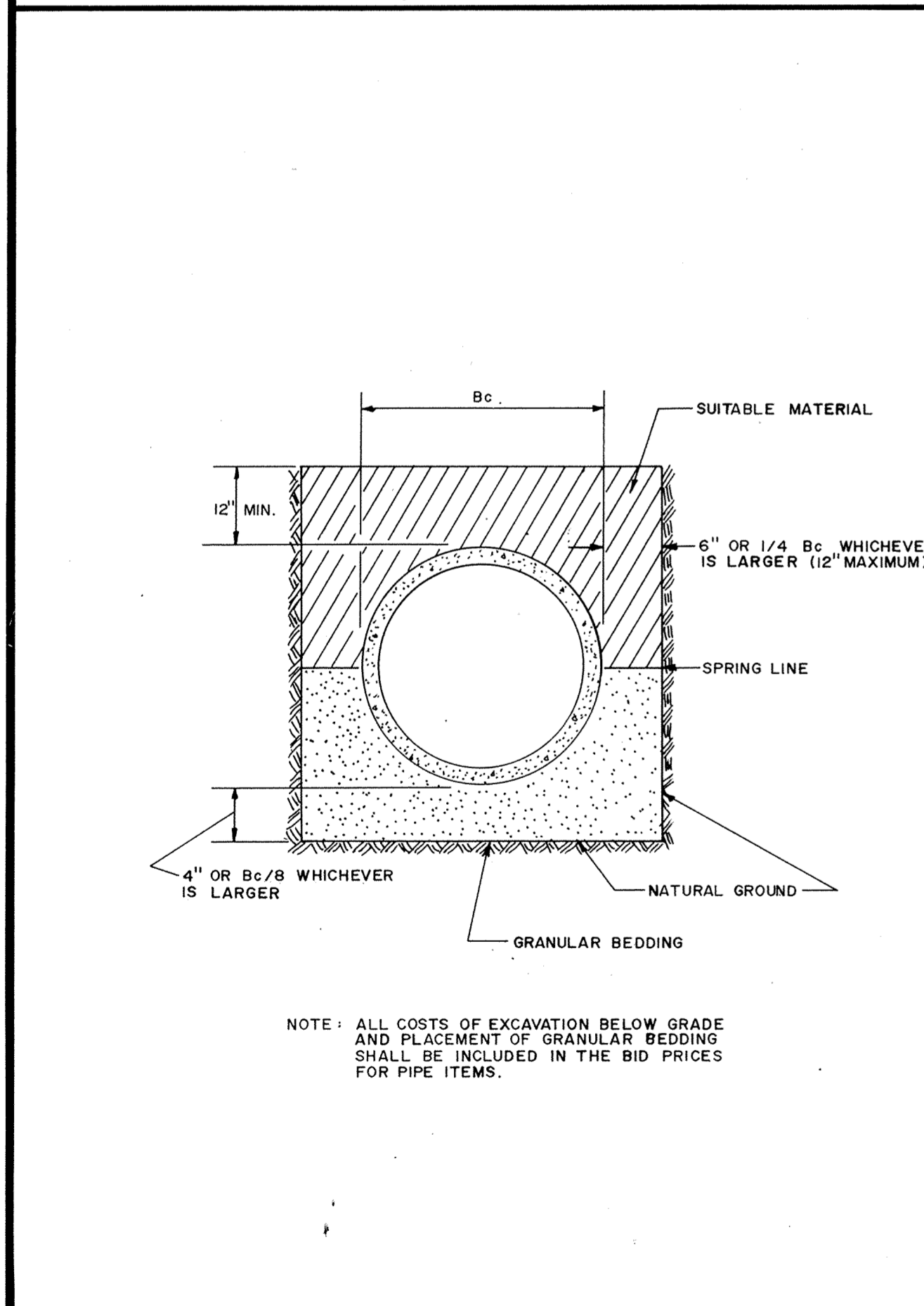
INSIDE DROP MANHOLE



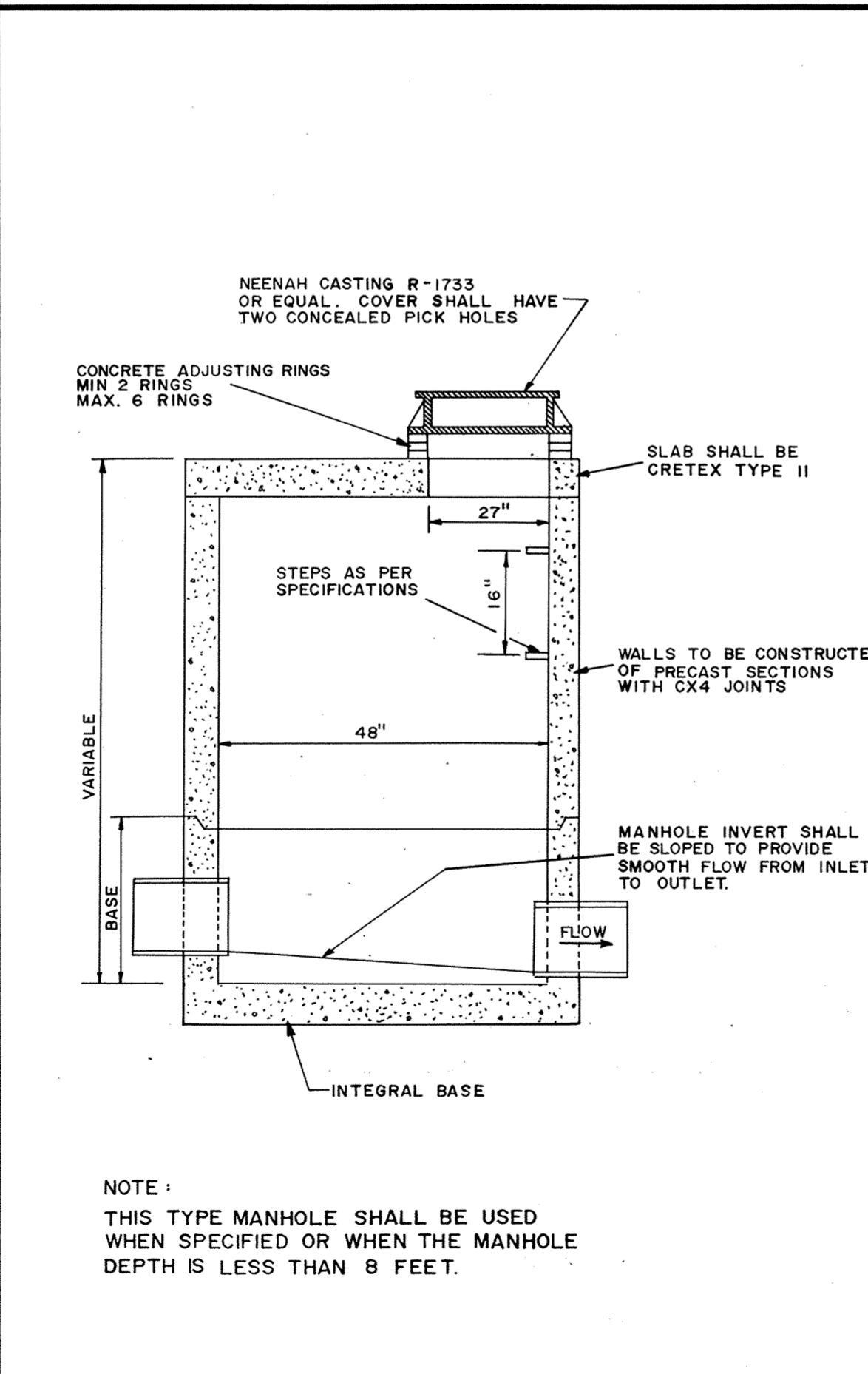
INSIDE DROP MANHOLE (2 FEET OR LESS)



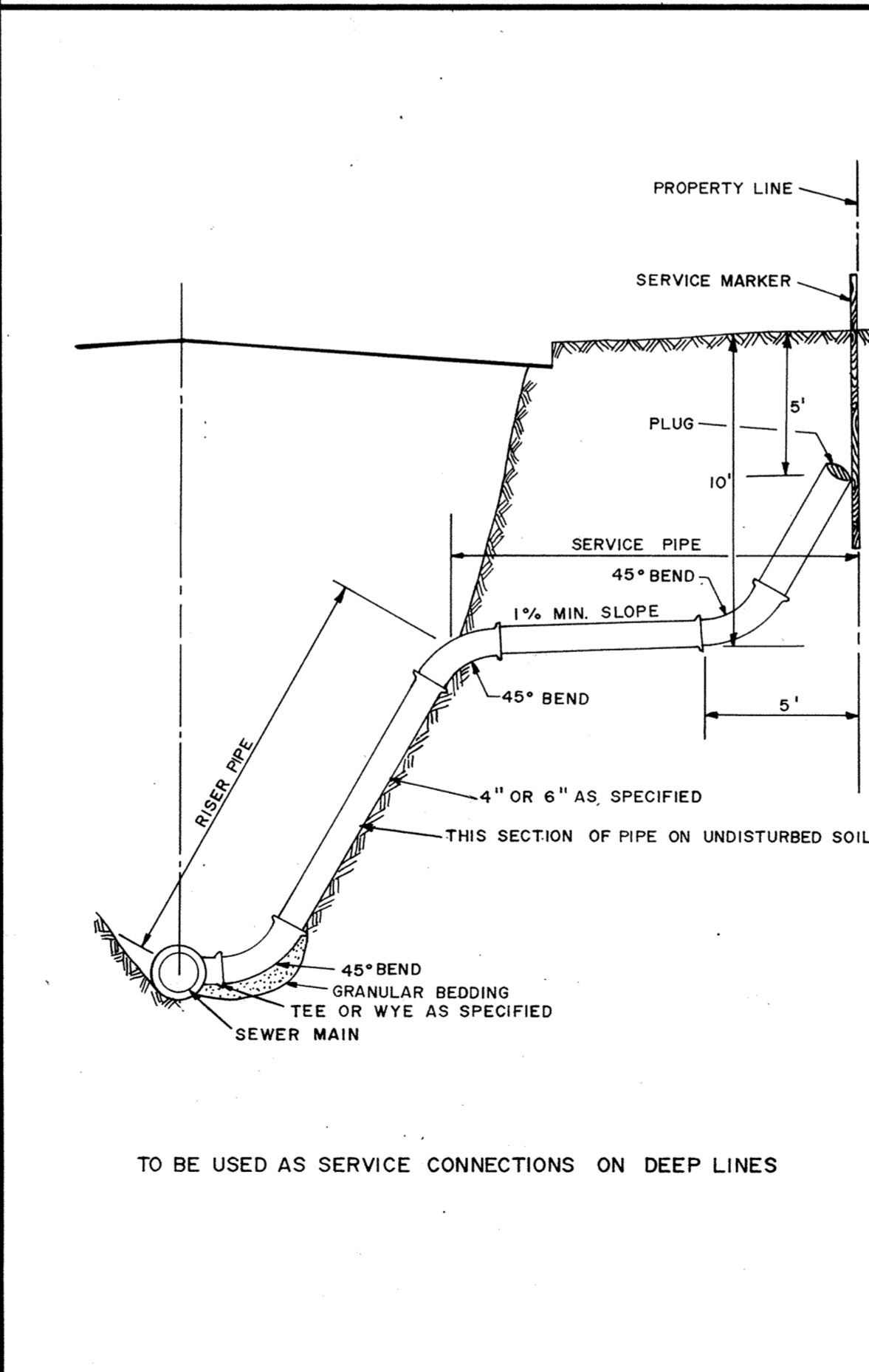
STANDARD MANHOLE



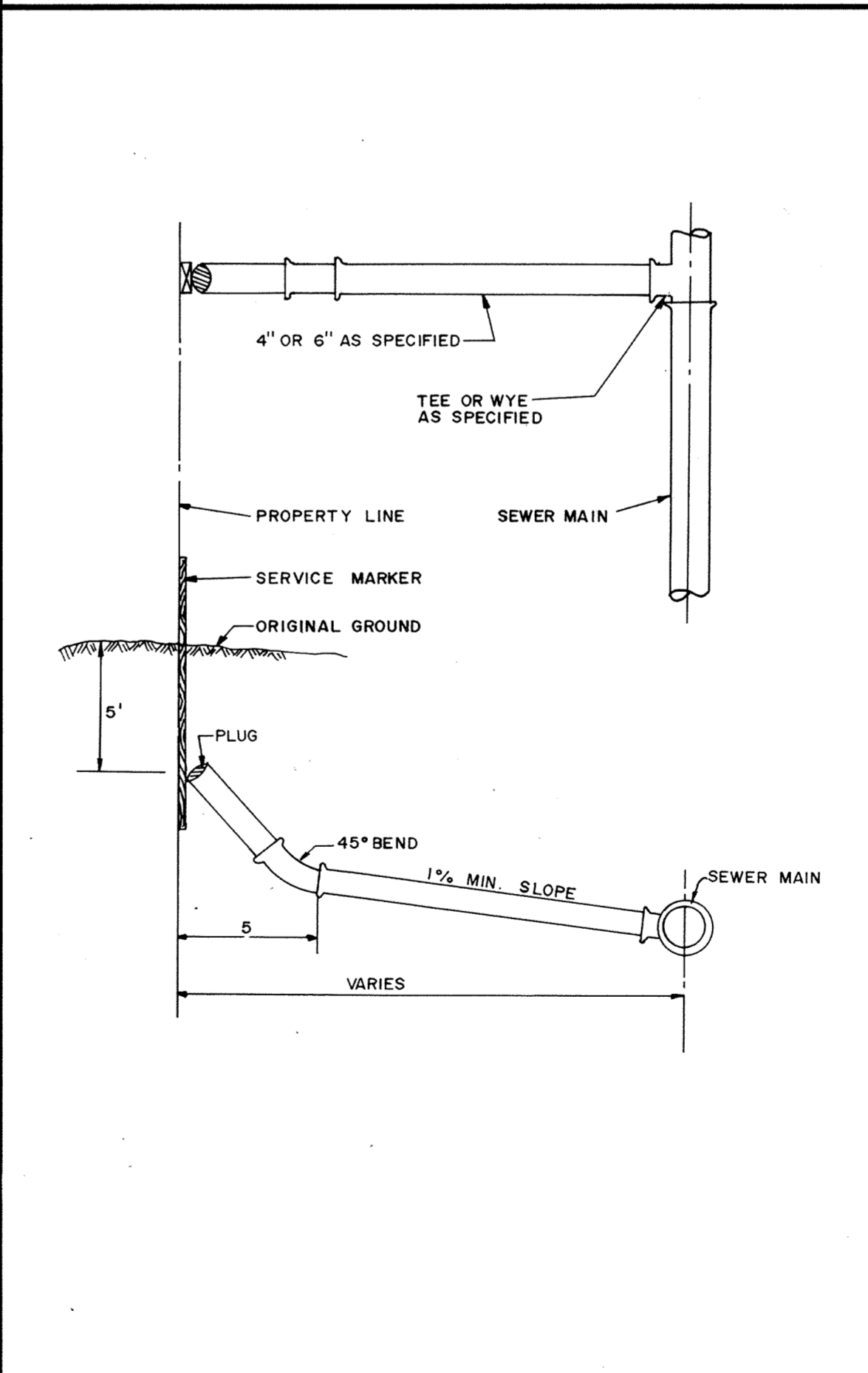
CLASS B PIPE BEDDING



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.
 1959 SLOAN PLACE (612) 774 6021 ST. PAUL, MINNESOTA 55117

REVISIONS	DATE	DESCRIPTION	DESIGNED	CHECKED	DRAWN	GRAPHIC SCALE

CITY OF ELK RIVER
SANITARY SEWER DETAILS
 DATE July 1989 SHEET 13 OF 16 SHEETS PROJECT NO. 230-073

DRAWING NUMBER
 DEER 4.89
 13
 MINNESOTA BLUEPRINT
 SAFCO PRODUCTS • NEW PIPE, MINNESOTA
 REVISIONS
 SAFCO PRODUCTS • NEW PIPE, MINNESOTA
 REVISIONS
 SAFCO PRODUCTS • NEW PIPE, MINNESOTA
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