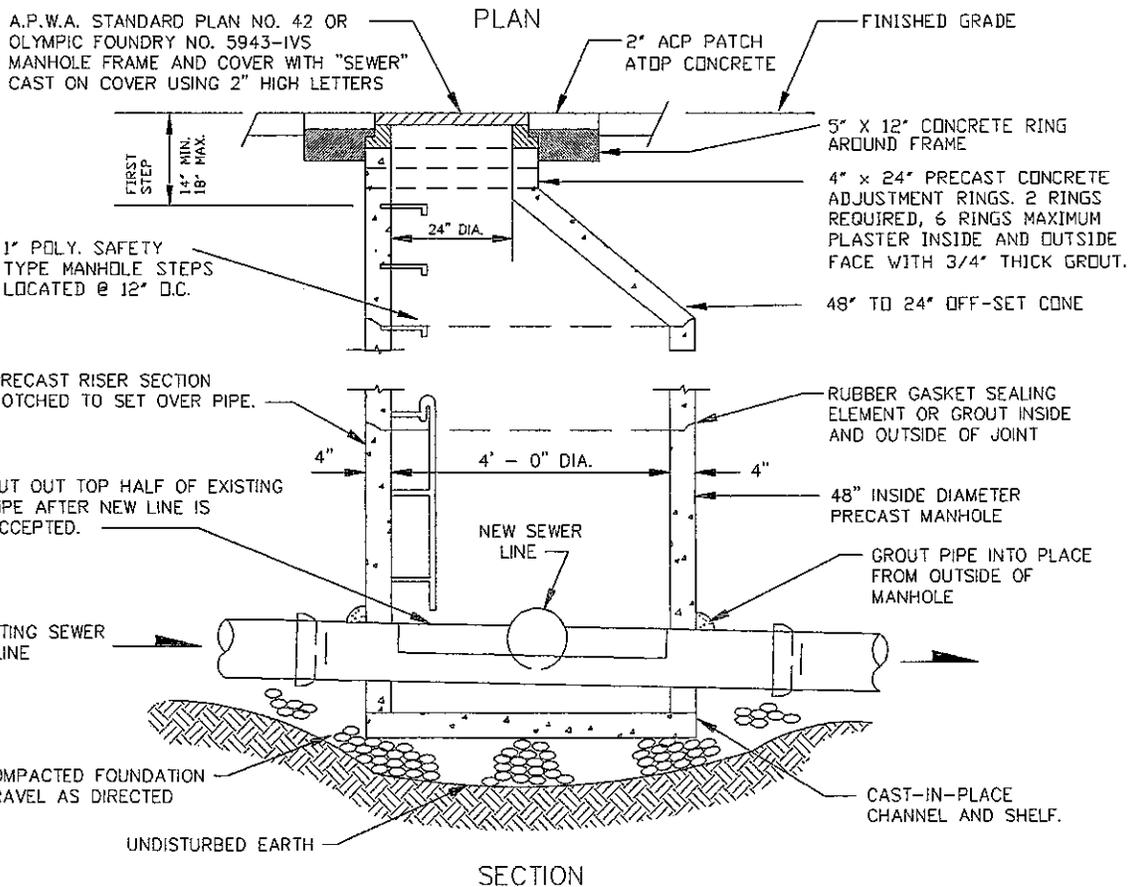
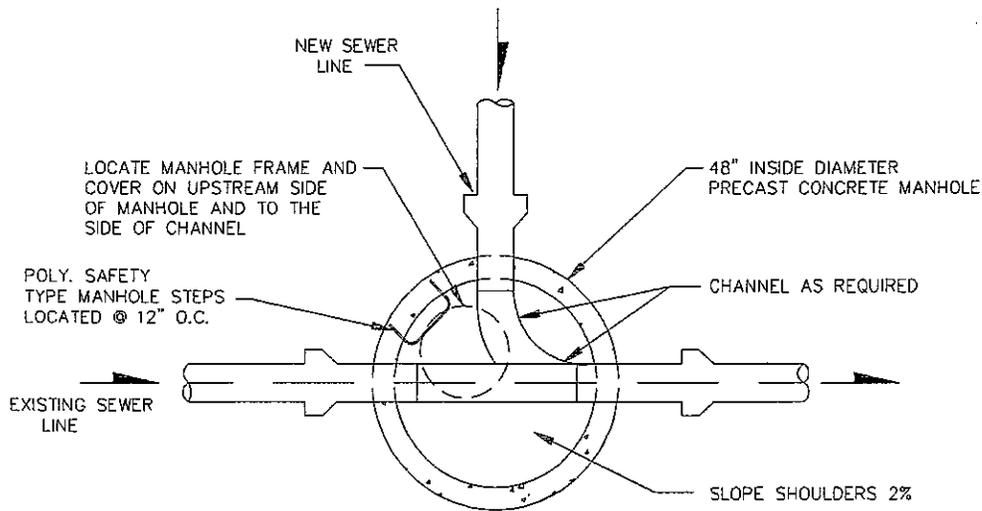


SECTION FOUR TABLE OF CONTENTS

<u>Description</u>	<u>Page</u>
SEWER DESIGNS	4-2
NEW MANHOLE ON EXISTING SEWER	4-2
MANHOLE STEP	4-3
TYPICAL PRECAST MANHOLE	4-4
SIDE SEWER DETAILS	4-5
SANITARY SEWER CLEANOUT - 8" MIN.	4-6
INSIDE DROP SANITARY SEWER MANHOLE	4-7
OUTSIDE DROP SANITARY SEWER MANHOLE	4-8
MANHOLE GRADE ADJUSTMENT DETAIL	4-9
FORCE MAIN SERVICE CONNECTION	4-10

SEWER DESIGNS

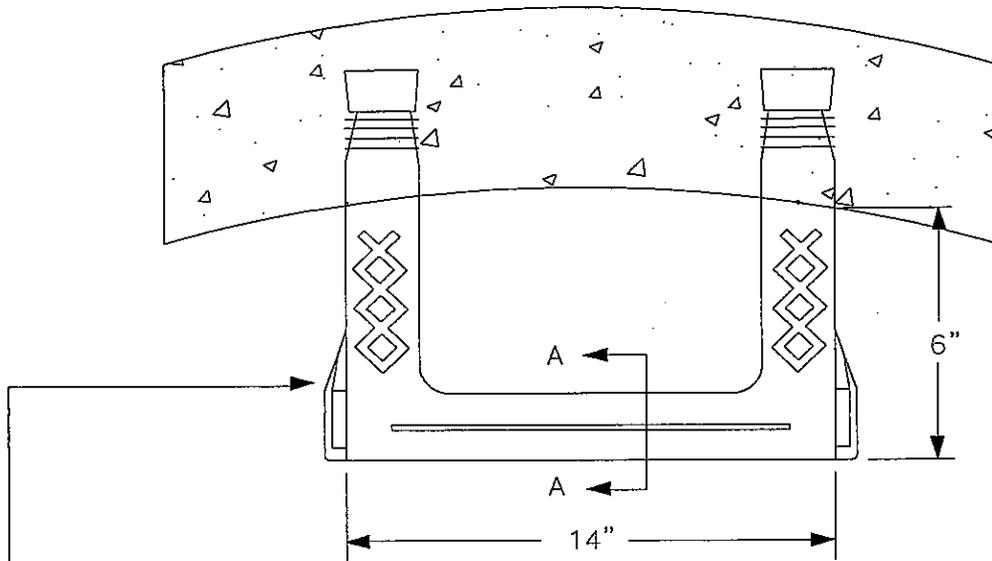
NEW MANHOLE ON EXISTING SEWER



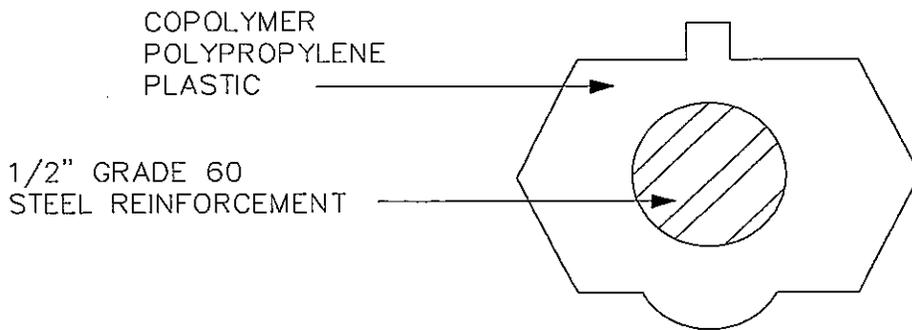
ID-033

MANHOLE STEP

Note: Embedment depth to meet manufacturer's specifications.



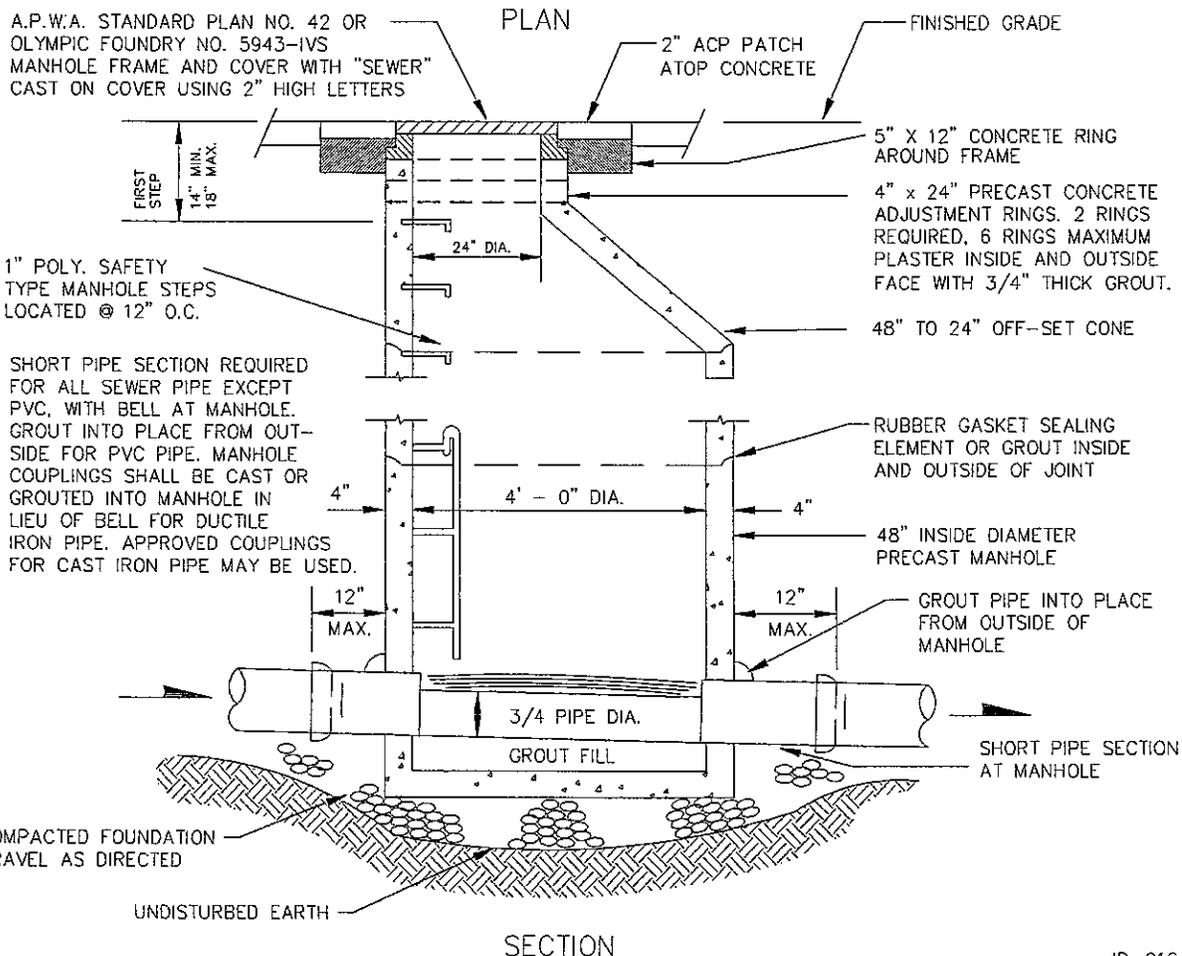
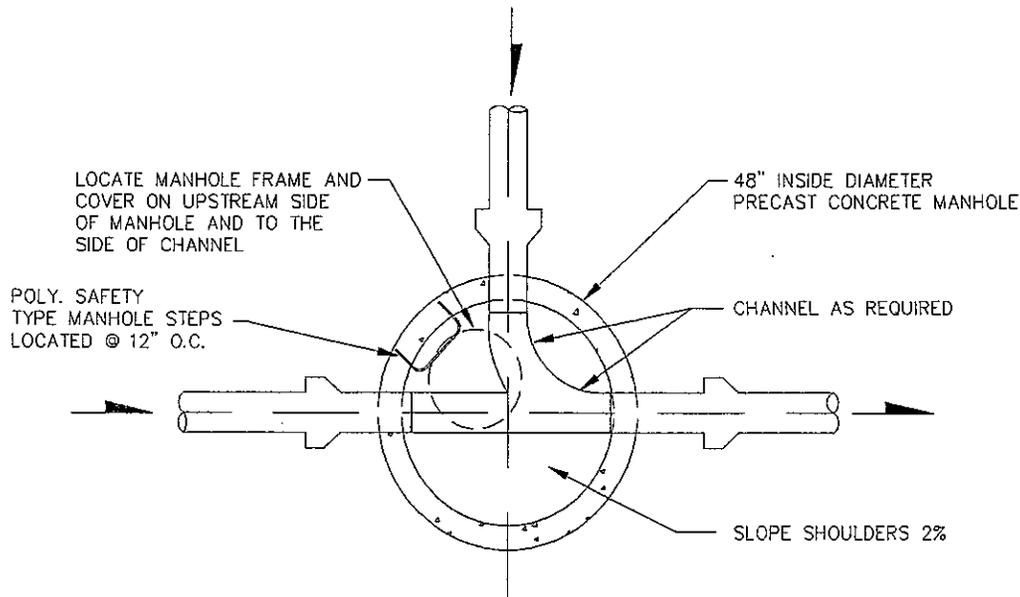
'MA INDUSTRIES, INC.'
1/2" GRADE 60 STEEL
REINFORCED COPOLYMER
POLYPROPYLENE PLASTIC
PS2-PF MANHOLE STEPS



SECTION A-A
N.T.S.

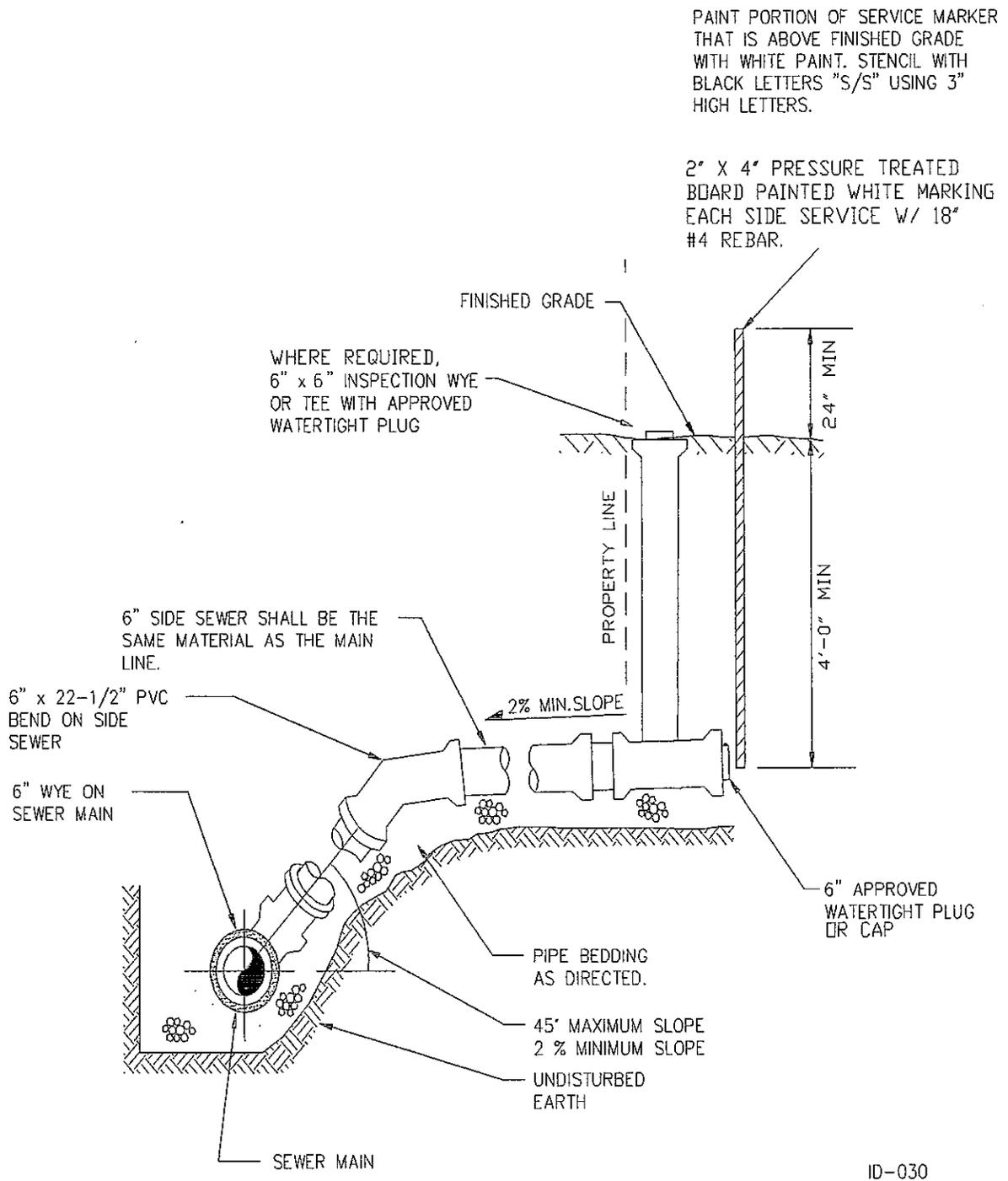
ID-034

TYPICAL PRECAST MANHOLE



ID-016

SIDE SEWER DETAILS

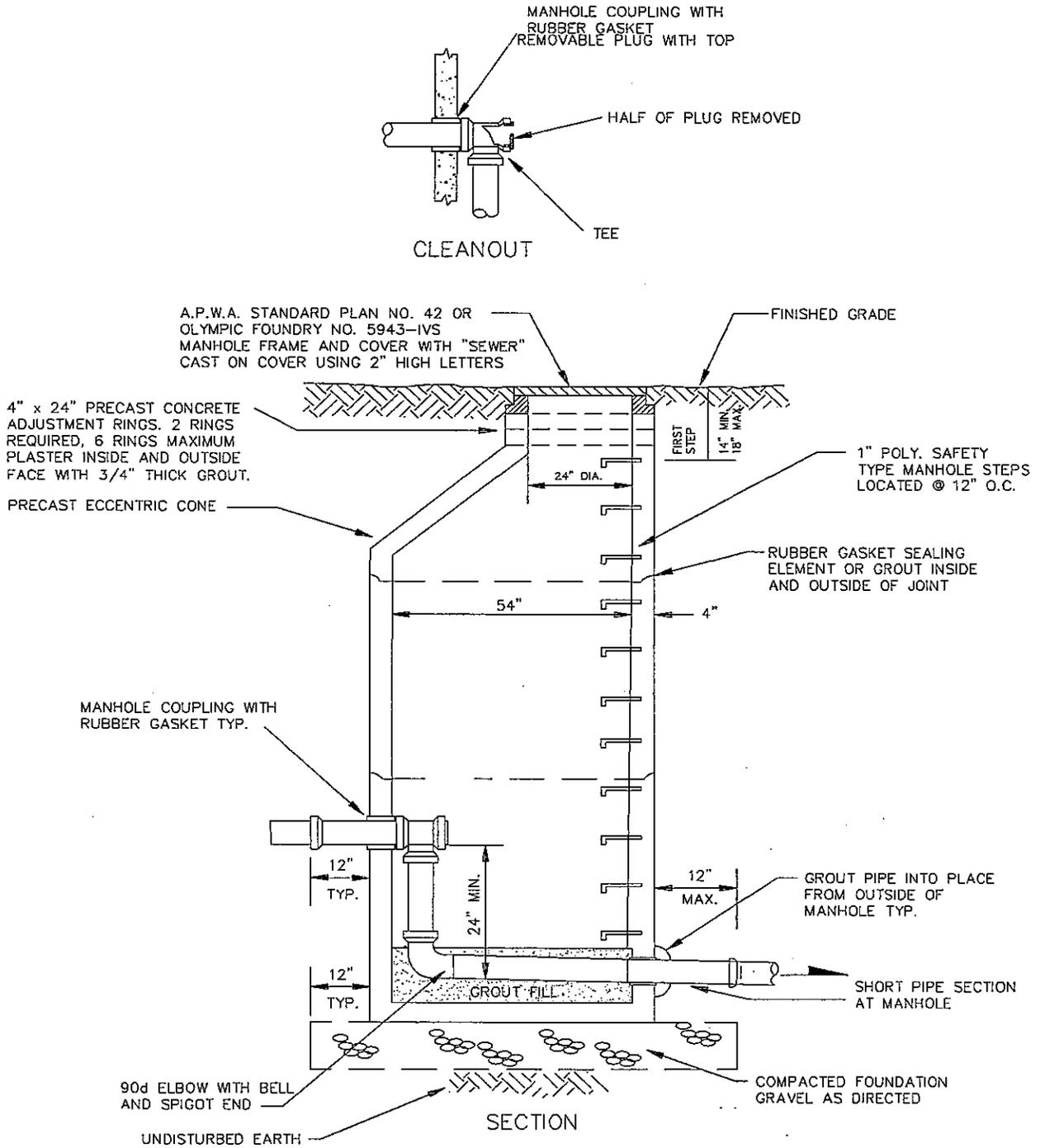


NOTES:

- 1) PROVIDE CONCRETE BLOCK BENEATH SEWER TEE FOR SLOPES EXCEEDING 15%
- 2) IF LOWEST FLOOR SERVED IS LOWER THAN MANHOLE LID, A CHECK VALVE MUST BE INSTALLED AT PROPERTY LINE

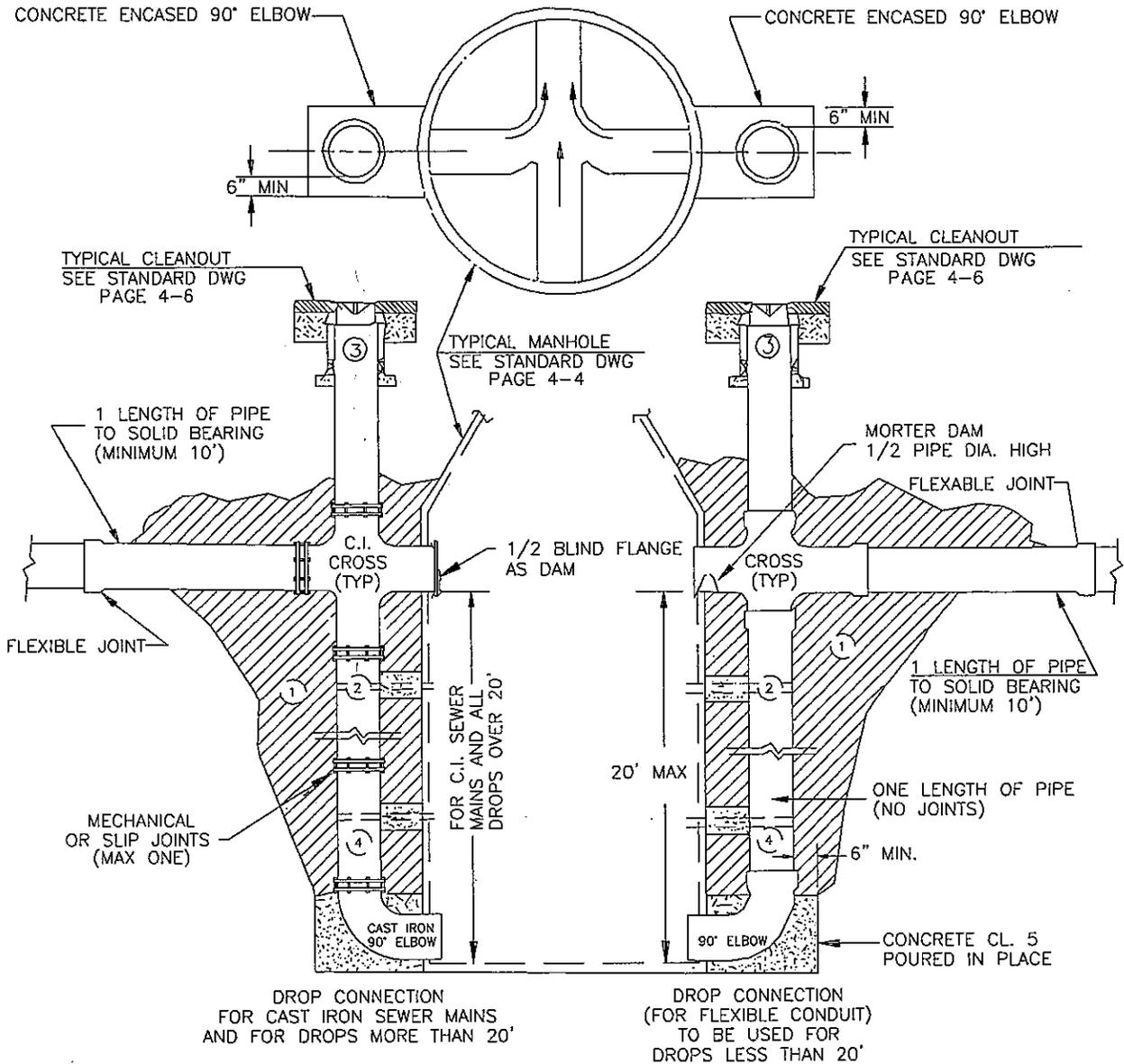
INSIDE DROP SANITARY SEWER MANHOLE

Note: See page 4-4 for channel finishing requirements.



ID-036

OUTSIDE DROP SANITARY SEWER MANHOLE



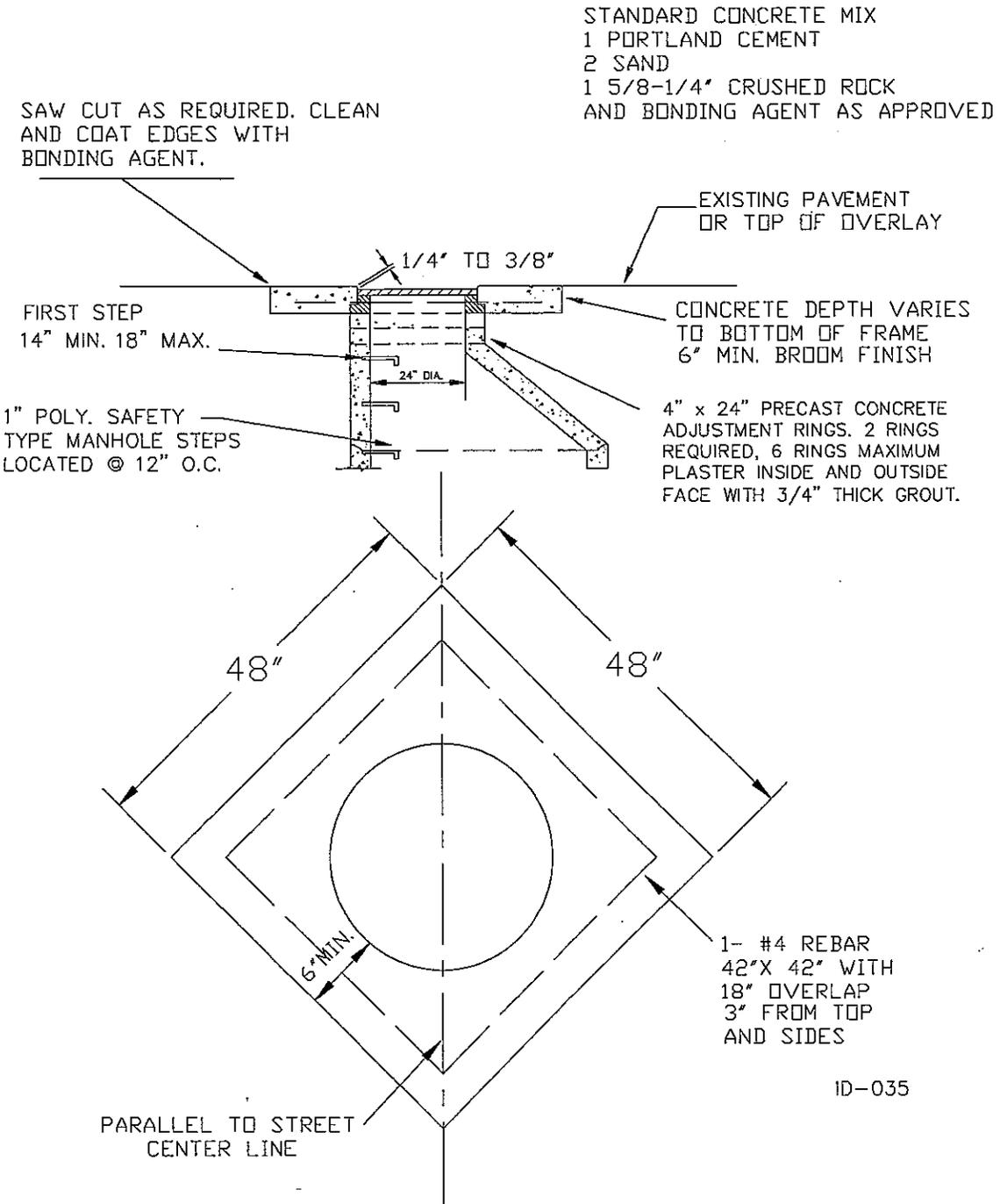
NOTES:

1. SELECT NATIVE BACKFILL MATERIAL OR IMPORTED BACKFILL MATERIAL COMPACTED PER SPECIFICATIONS
2. STAINLESS BANDS WITH CONCRETE SPACER TO MANHOLE (5' MAX. SPACING, 1' MIN.)
3. SEE STD DWG PAGE 4-6 FOR CLEANOUT DETAILS (NOT SHOWN)
4. DROP CONNECTION PIPE DIAMETER AND FITTINGS SHALL BE EQUAL TO OR GREATER THAN THE DIAMETER OF THE SEWER MAIN.
5. SEE PAGE 4-4 FOR CHANNELING FINISH REQUIREMENTS.
6. ALL OUTSIDE DROP M.H. SHALL BE CONSTRUCTED WITH DUCTILE IRON PIPE.

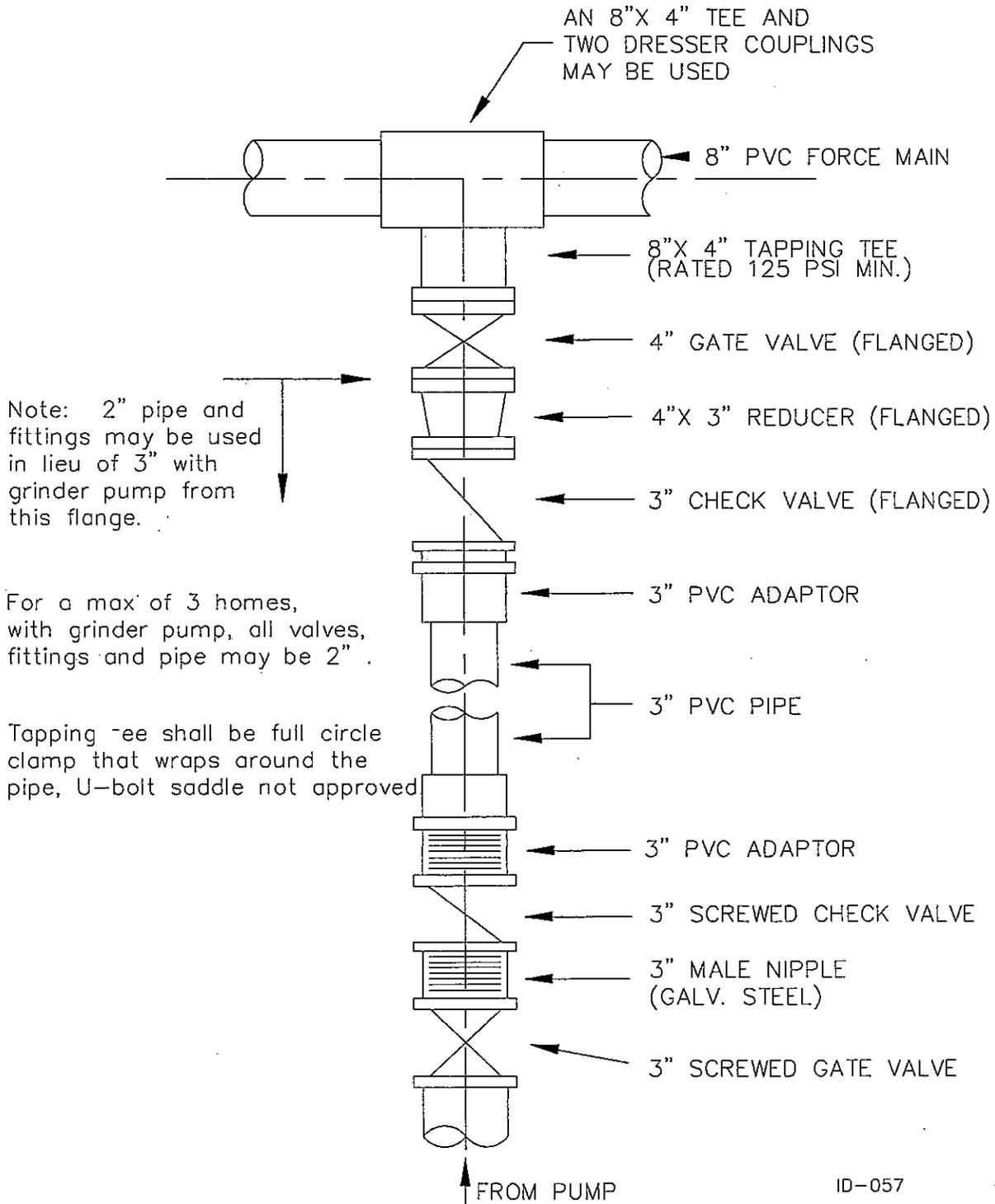
ID-118

MANHOLE GRADE ADJUSTMENT DETAIL (For existing manholes)

- NOTE:** 1. Remove existing frame & lid, bricks, conc. collar and top riser section. Install new reinforced concrete manhole riser section (field verify height) and maximum of four concrete adjustment rings (16") and existing frame and collar.



FORCE MAIN SERVICE CONNECTION



ID-057