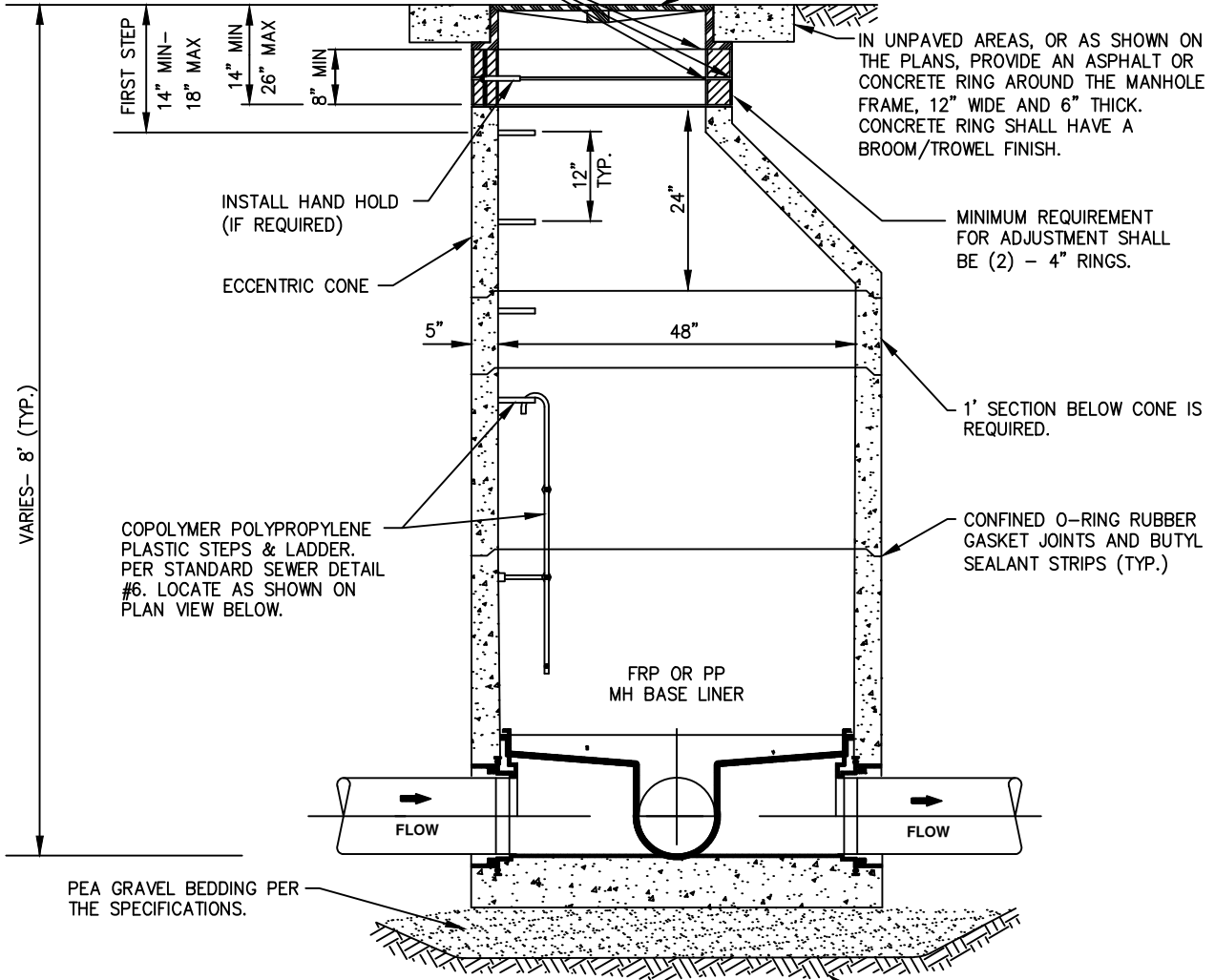


GROUT ADJUSTING RINGS INSIDE, OUTSIDE AND BETWEEN. GROUT UNDER CASTING. INSIDE GROUT SHALL HAVE A SMOOTH BROOM FINISH.

MANHOLE FRAME AND COVER PER THE STANDARD SEWER DETAIL #5. LOCATE AS SHOWN ON PLAN.



VARIES- 8' (TYP.)

FIRST STEP  
14" MIN-  
18" MAX  
14" MIN  
26" MAX  
8" MIN

INSTALL HAND HOLD (IF REQUIRED)  
ECCENTRIC CONE

IN UNPAVED AREAS, OR AS SHOWN ON THE PLANS, PROVIDE AN ASPHALT OR CONCRETE RING AROUND THE MANHOLE FRAME, 12" WIDE AND 6" THICK. CONCRETE RING SHALL HAVE A BROOM/TROWEL FINISH.

MINIMUM REQUIREMENT FOR ADJUSTMENT SHALL BE (2) - 4" RINGS.

1' SECTION BELOW CONE IS REQUIRED.

COPOLYMER POLYPROPYLENE PLASTIC STEPS & LADDER. PER STANDARD SEWER DETAIL #6. LOCATE AS SHOWN ON PLAN VIEW BELOW.

CONFINED O-RING RUBBER GASKET JOINTS AND BUTYL SEALANT STRIPS (TYP.)

FRP OR PP MH BASE LINER

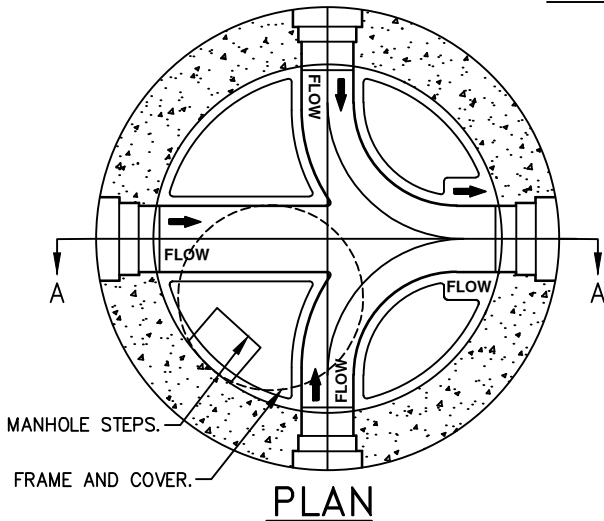
PEA GRAVEL BEDDING PER THE SPECIFICATIONS.

FOUNDATION GRAVEL PER THE SPECIFICATIONS, IF REQUIRED.

### SECTION A-A

#### NOTES:

1. THE MANHOLE BASE LINER SHALL BE A FIBERGLASS REINFORCED PLASTIC (FRP) OR POLYPROPYLENE (PP) BASE LINER SYSTEM PER THE ENGINEERING SPECIFICATIONS. FOR PRIVATE MANHOLES, CONCRETE CHANNELS WILL BE ALLOWED.
2. IF PP BASE LINER IS UTILIZED, A MINIMUM SLOPE OF 0.06' IS ACCEPTABLE ACROSS THE INVERT CHANNEL. THE FRP BASE LINER SHALL REQUIRE THE DISTRICT STANDARD MINIMUM SLOPE OF 0.1' ACROSS THE INVERT CHANNEL.
3. MARKER POSTS MAY BE REQUIRED IN EASEMENTS.
4. FOR MANHOLES LESS THAN 5' IN DEPTH, SEE SEWER STANDARD DETAIL #3, SHALLOW MANHOLE AND SEWER STANDARD DETAIL #16, EXTRA SHALLOW MANHOLE.
5. ALL PICK HOLES SHALL BE GROUTED ON THE INSIDE AND OUTSIDE OF MANHOLE.
6. MANHOLE LID SHALL BE ORIENTED PER THE DISTRICT'S DIRECTION.



## PRECAST MANHOLE W/ BASE LINER

NOT TO SCALE

**DETAIL APPROVALS**  
**EDITOR** TMC  
**MANAGER** SJD

**NORTHSHORE UTILITY DISTRICT**  
2023 STANDARD SEWER DETAILS

**1**

LAST UPDATED  
FEBRUARY 2020