



**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. USE 18" ECCENTRIC CONE AND 2' BASE FOR SHALLOW MANHOLE APPLICATION.
3. 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.
4. MARKER POSTS MAY BE REQUIRED IN EASEMENTS.
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 SHALLOW MANHOLE W/ BASE LINER**

NOT TO SCALE

**DETAIL APPROVALS**

**EDITOR** TMC

**MANAGER** SJD

**NORTHSHORE UTILITY DISTRICT**

**2023 STANDARD SEWER DETAILS**

**3**

LAST UPDATED  
FEBRUARY 2020