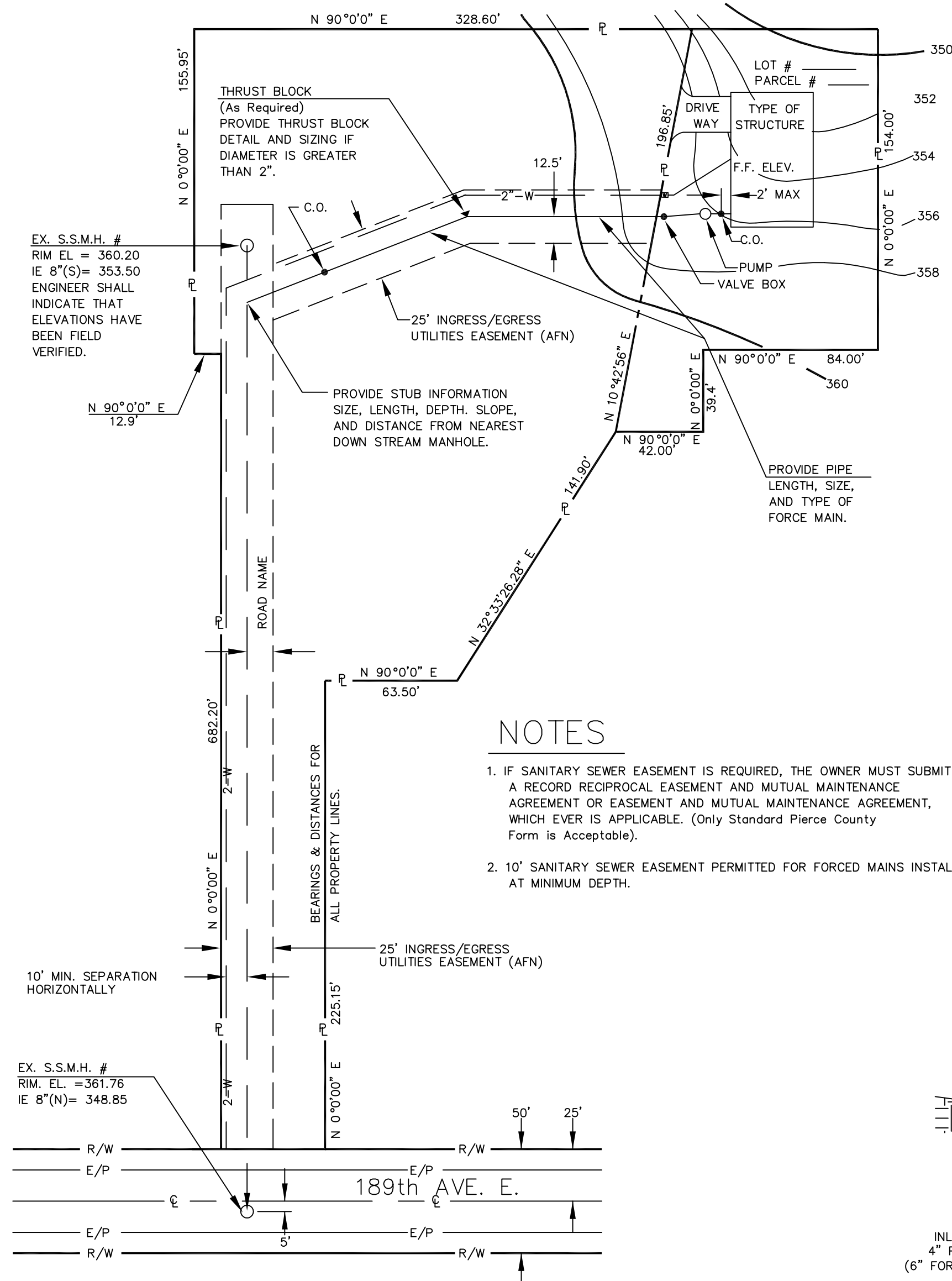


STANDARD PRIVATE GRINDER PUMP DETAIL

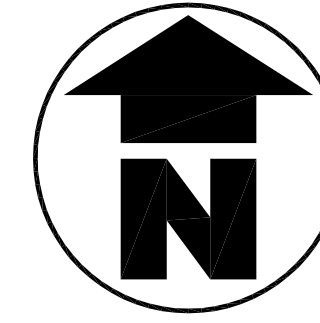
LEAVE THIS AREA BLANK FOR APPROVAL STAMP
(1 1/2" X 4" Space - Minimum)

THIS CONSTRUCTION PLAN WILL EXPIRE ONE YEAR FROM PLAN APPROVAL DATE.



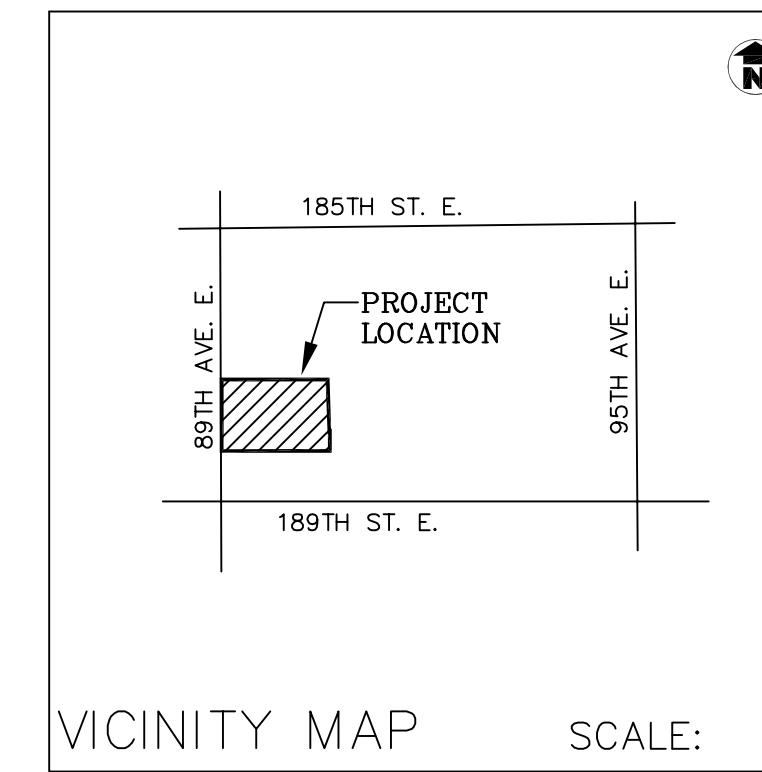
SCALE: 1" = 50'

CONTOUR INTERVALS = 2 FT.
NORTH ARROW TO BE TOWARD TOP OF PAGE OR TO THE RIGHT OR LEFT.



DATUM - PROVIDE LOCATION AND ELEVATION (NO EXCEPTIONS)
N.O.A.A. (U.S.C.G.S./PIERCE COUNTY).

PROVIDE SOURCE OF TOPOGRAPHY AND ON SITE BENCH MARKS.



NOTES

- IF SANITARY SEWER EASEMENT IS REQUIRED, THE OWNER MUST SUBMIT A RECORD RECIPROCAL EASEMENT AND MUTUAL MAINTENANCE AGREEMENT OR EASEMENT AND MUTUAL MAINTENANCE AGREEMENT, WHICH EVER IS APPLICABLE. (Only Standard Pierce County Form is Acceptable).
- 10' SANITARY SEWER EASEMENT PERMITTED FOR FORCED MAINS INSTALLED AT MINIMUM DEPTH.

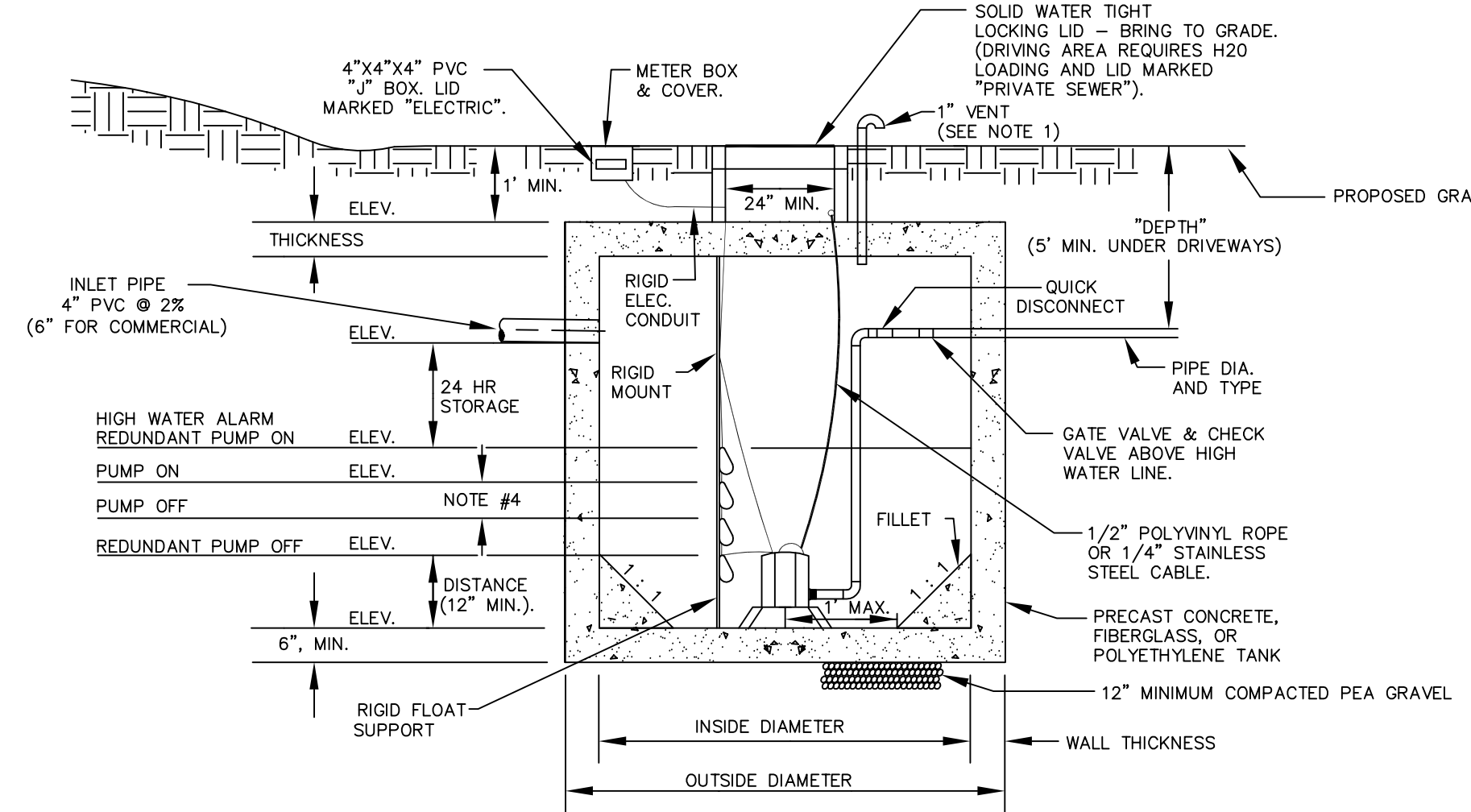
ELEVATIONS

FINISH FLOOR (FT)	WET WELL BASE (FT)	PUMP OFF (FT)	PUMP ON (FT)	ALARM INVERT (FT)	INVERT IN ELEV (FT)	WET WELL TOP (FT)	INVERT OUT (FT)

MINIMUM GRINDER PUMP REQUIREMENTS

PUMP CALCULATIONS SHOULD INCLUDE:

- TOTAL DYNAMIC HEAD (TDH) OF THE PROPOSED SYSTEM.
- SIZE OF PUMP:
 - SIZE OF IMPELLER.
 - TYPE OF PUMP, MANUFACTURER AND MODEL OF PUMP(S).
 - PUMP PERFORMANCE CURVE.
 - PROVIDE CATALOG CUT SHEET OF SELECTED TYPE OF PUMP.
- SIZE OF PIPE (MUST PROVIDE MINIMUM VELOCITY OF 2.0 FEET PER SEC TO PROVIDE ADEQUATE SCOURING VELOCITY).
- SIZE OF WET WELL:
 - SELECTED TYPE OF WET WELL.
 - DETERMINE HOLDING CAPACITY (WET WELL MUST HAVE AT LEAST 24-HOUR HOLDING CAPACITY FROM ALARM ON TO INVERT ELEVATION AT THE BUILDING INTO THE WET WELL).
 - SPECIFICATIONS FOR WET WELL, PUMP AND ALL APPURTENANCES.
- CYCLE TIME FOR PUMP-ON AND PUMP-OFF AT PEAK FLOW.
- SPECIFICATIONS FOR CONTROL PANEL AND ALARM.
- MUST BE GRINDER PUMP UNLESS OTHERWISE APPROVED BY W.D.O.E.
- IF MORE THAN ONE PUMP IS CONNECTED INTO A COMMON PRESSURE MAIN, AN ENGINEERING ANALYSIS IS REQUIRED THAT ADDRESSES THE PROBABILITY AND EFFECT OF MORE THAN ONE PUMP OPERATING AT ONE TIME.
- MINIMUM CYCLE TIME SHALL BE 3 CYCLES PER DAY USING A FLOW OF 220 GALLONS PER DAY PER RESIDENTIAL EQUIVALENT (RE), WITH NO PEAKING FACTORS USED.

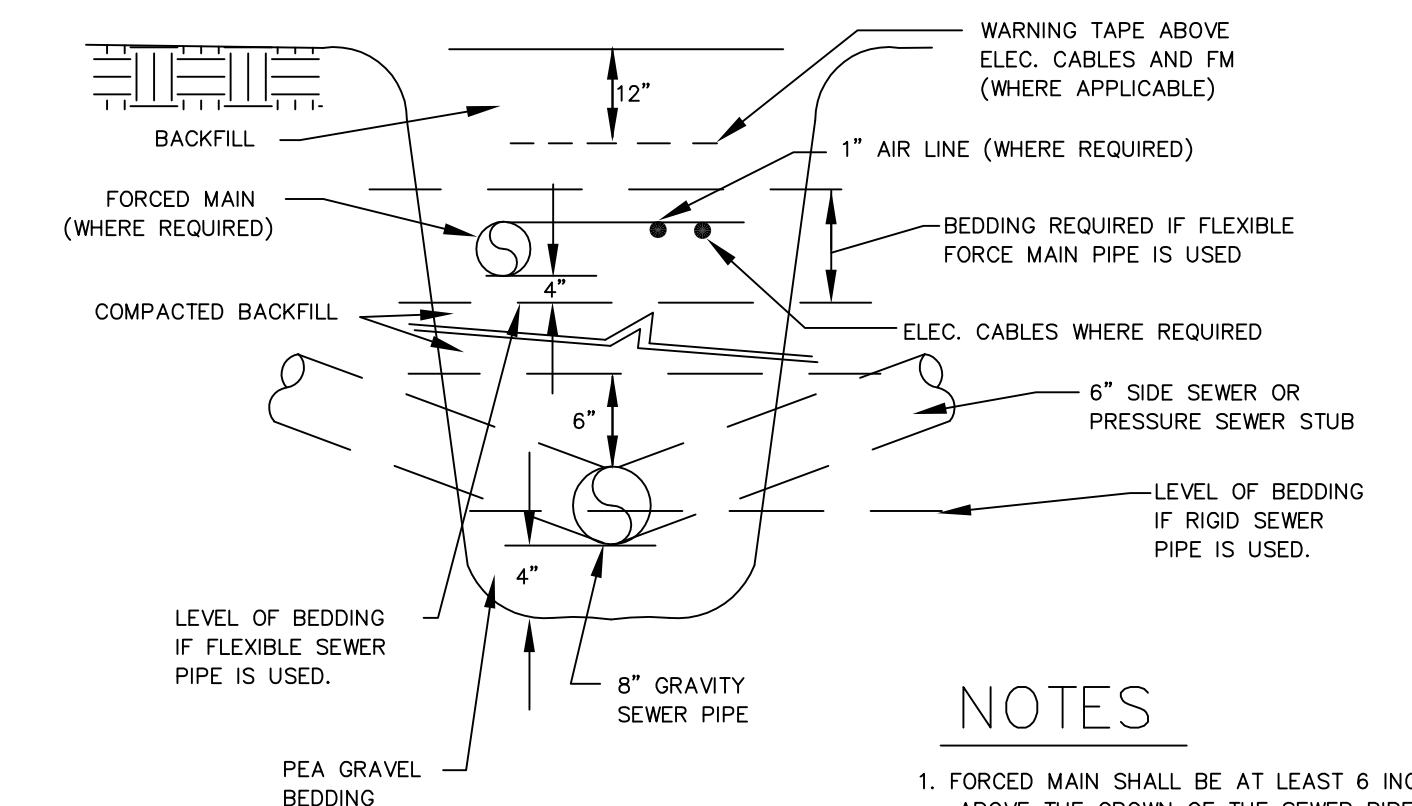


NOTES

- THE WET WELL IS TO HAVE A REDUNDANT OFF FLOAT OR VENTED FOR D.O.E. MINIMUM REQUIREMENTS.
- TYPE OF PUMP, MANUFACTURER AND MODEL OF PUMP IS TO BE PROVIDED.
- TYPE OF WET WELL, MANUFACTURER AND MODEL NUMBER FOR PREFABRICATION FIBERGLASS OR SHOP DRAWINGS FOR CONCRETE WET WELL IS TO BE PROVIDED.
- SEPARATION BETWEEN PUMP ON AND PUMP OFF:
 - ≤ 0.5' = UNACCEPTABLE
 - > 0.5' < 1.0' = PROVIDE SUPPORT LETTER = FROM PUMP/FLOAT MANUFACTURER.
 - ≥ 1.0' = ACCEPTABLE

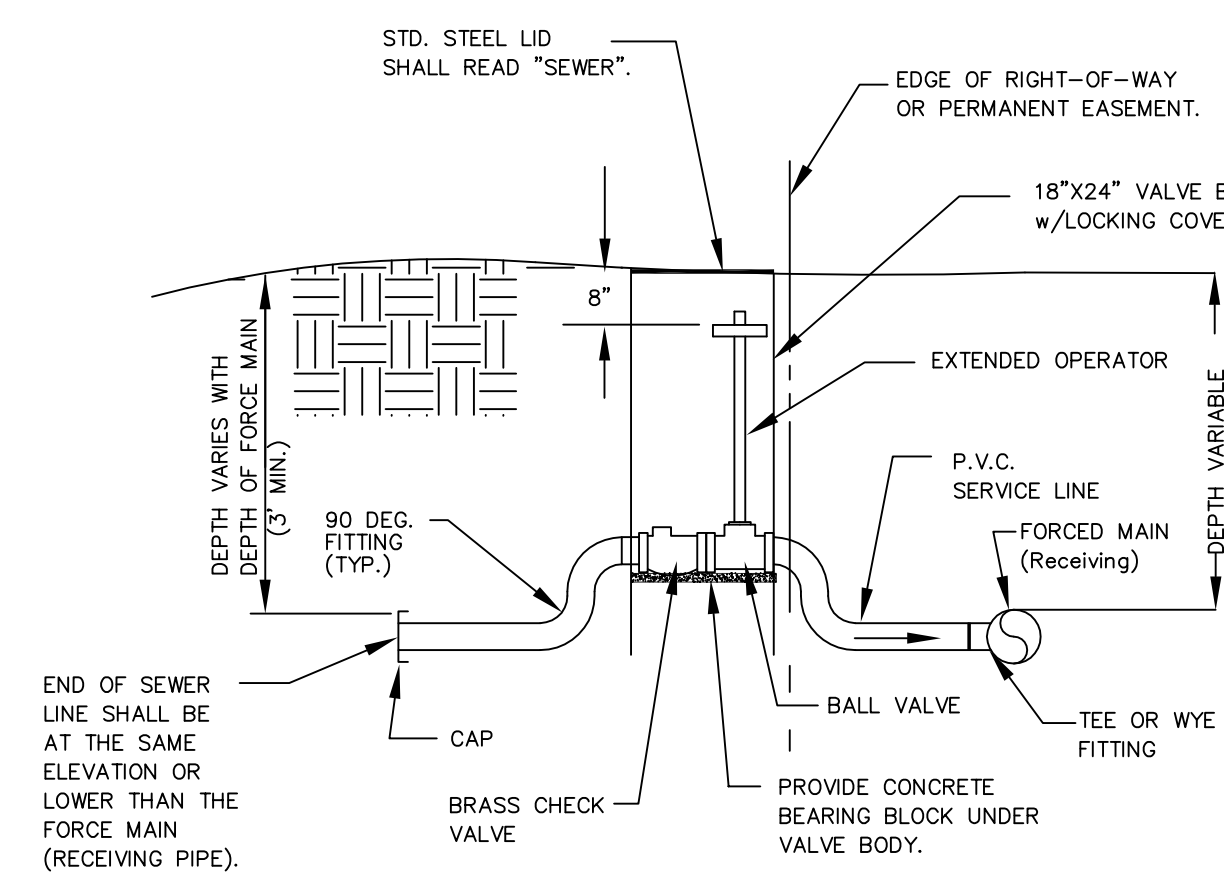
NOTES

- WHERE PRESSURE SIDE SEWER STUBS ARE INDICATED ON THE PLANS, EITHER A TYPE 1 OR A TYPE 2 SHALL BE INSTALLED DEPENDING UPON THE TYPE OF RECEIVING PIPE.
- SERVICE LINE IN BOTH TYPE 1 AND 2 STUBS SHALL BE INSTALLED, SO AS TO PROVIDE A POSITIVE SLOPE UPWARD TOWARD ITS TERMINUS AT EITHER THE 6" GRAVITY PIPE IN TYPE 1 OR THE FORCE MAIN IN TYPE 2.
- IF FORCE MAIN RECEIVING PIPE DEPTH IS 4' OR GREATER USE PRESSURE SIDE SEWER STUB OPTION 2. IF DEPTH IS LESS THAN 4' USE PRESSURE SIDE SEWER OPTION 1.

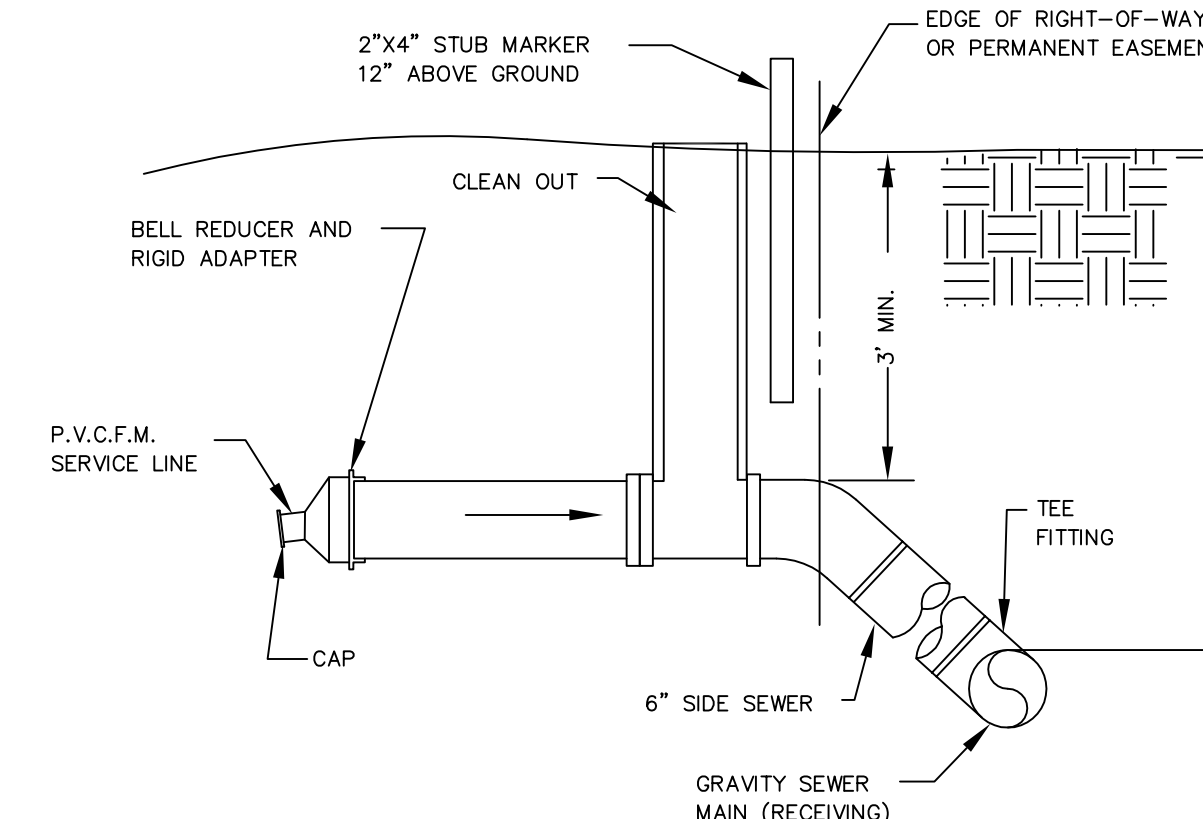


NOTES

- FORCED MAIN SHALL BE AT LEAST 6 INCHES ABOVE THE CROWN OF THE SEWER PIPE UNLESS OTHERWISE APPROVED BY THE DIRECTOR OR HIS DULY AUTHORIZED REPRESENTATIVE.
- FORCE MAIN, AIRLINE AND ELECTRICAL CABLES WHERE APPLICABLE SHALL SKIRT AROUND MANHOLE.



PRESSURE SIDE SEWER STUB TYPE 2
N.T.S.



PRESSURE SIDE SEWER STUB TYPE 1
N.T.S.

ENGINEER STAMP SIGNATURE AND DATE

11/29/94

NO.	REVISION	DATE	APPD.
PROJECT NAME, SITE ADDRESS AND PARCEL NUMBER			
ENGINEER OR FIRM NAME: ADDRESS AND PHONE NUMBER (Plans to be stamped, signed & dated by Professional Engineer)			
DESIGN	DRAWN	CHECKED	JOB NO.
	A.F.C.		APPE. BY
HORIZ. SCALE:		DATE	SHT. OF SHTS.
VERT:			
OWNER'S NAME, ADDRESS & PHONE NUMBER.			