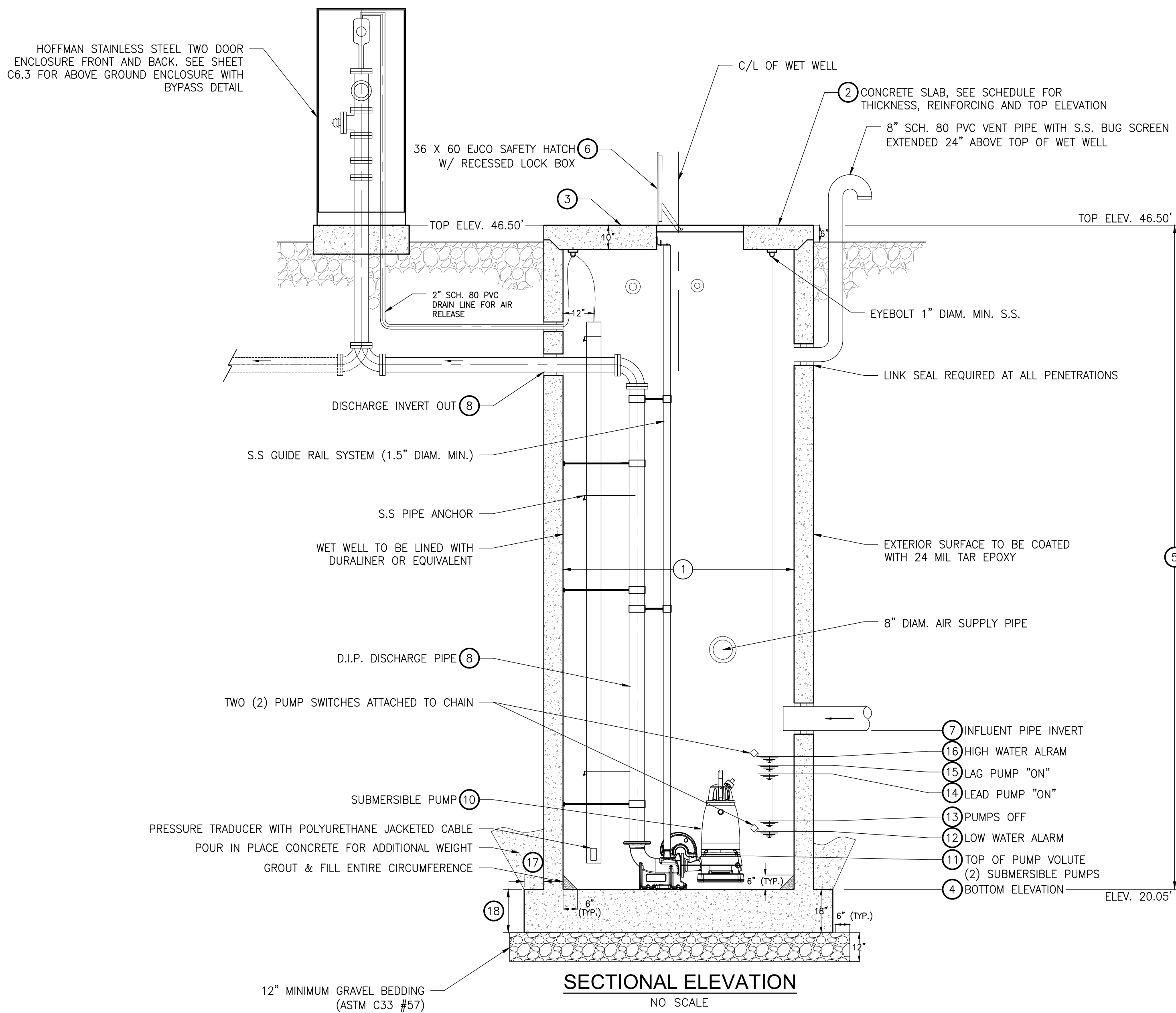
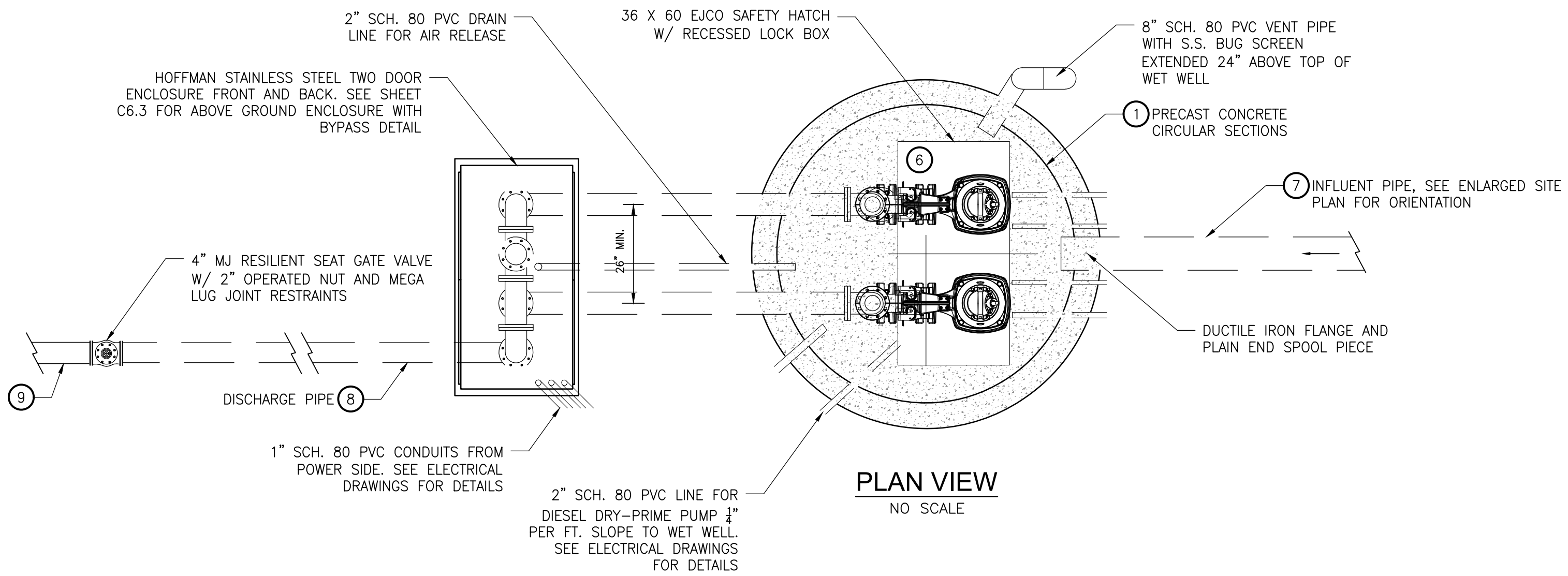




SCALE : 1" = 10'	SHEET NO. C6.0
DESIGN BY : DLB	
DRAWN BY : FHM, RFT	
CHECKED BY : TMG	
GMB FILE : 220023	
DATE : JAN 2026	



BUOYANCY PROTECTION

PUMP STATION PARAMETERS

WET WELL INSIDE DIAM. = 8 FEET
MIN. WALL THICKNESS = 8 INCHES
TOTAL DEPTH = 26.5 FEET (TOP SLAB TO FINISH BOTTOM ELEV.)
TOP SLAB DIAMETER = 8 FEET
TOP SLAB THICKNESS = 10 INCHES
HEIGHT OF CYLINDER = 25.67 FEET
BASE MIN. THICKNESS = 18 INCHES
LIP MIN. THICKNESS = 12 INCHES
WEIGHT OF WATER = 62.4 #/CF
WEIGHT OF SOIL = 110 #/CF
WEIGHT OF CONCRETE = 145 #/CF
ASSUME LIP = 18 INCHES (MINIMUM OF 6")
(ASSUME WATER AT GROUND SURFACE)

UPWARD FORCES

CYLINDER = 80,505 LBS.
(AREA OF CYLINDER * HEIGHT OF CYLINDER * WEIGHT WATER)
TOTAL UP = 80,505

DOWNWARD FORCES

TOP = 2,284 LBS.
 ((PI * RADIUS SQUARED * TOP SLAB THICKNESS) - (VOLUME OF HATCH OPENINGS))
 * (WEIGHT CONCRETE - WEIGHT WATER)
 CYLINDER = 38,482 LBS.
 (AREA OF CONCRETE CYLINDER * HEIGHT OF CYLINDER * (WEIGHT CONCRETE - WEIGHT WATER)
 BASE OF PS = 8,477 LBS.
 (AREA OF CYLINDER * BASE THICKNESS * (WEIGHT CONCRETE - WEIGHT WATER)
 BASE OF LIP = 8,715 LBS.
 (AREA OF LIP * BASE THICKNESS * (WEIGHT CONCRETE - WEIGHT WATER))
 SOIL = 62,371 LBS.
 (AREA OF SOIL CYLINDER ABOVE LIP * HEIGHT OF CYLINDER * (WEIGHT SOIL - WEIGHT WATER))
 TOTAL DOWN = 120,328 LBS.

FACTOR OF SAFETY

DESIRED FACTOR OF SAFETY = 1.5 (IF F.O.S. IS DIFFERENT FROM DESIRED
VALUE, ADJUST LIP)
F.O.S. = 1.50
(TOTAL DOWN / TOTAL UP)

PUMP STATION DESIGN DATA

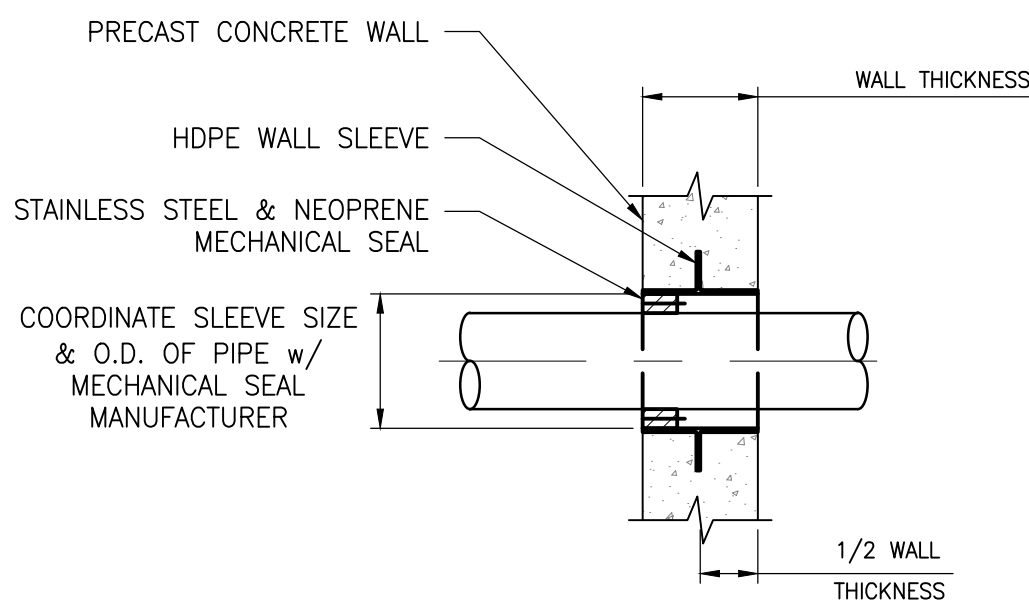
PUMP STATION

PER CAPITA FLOW (Q_0):	62,890 GPD (43.67 GPM)
$Q_0 = \text{EDU} \times 240$	
PEAK DESIGN FLOW (Q_p):	235,838 GPD (164 GPM)
$Q_p = (Q_0 \times \text{PEAK } 4.25)$	
WET WELL VOLUME (GALLONS):	408 GALLONS
$V_{\min} = (T_{\min} \times Q_p) / 4$	
$T_{\min} = 10$	

FORCEMAIN SIZING

FORCEMAIN SIZE:	4-INCH	16-INCH
FORCEMAIN VELOCITY:	3.63 FPS	0.28 FPS
$V = (Q_p \times 0.32) / \text{AREA}$		
FORCEMAIN DISCHARGE SIZE:	4-INCH	
FORCEMAIN DISCHARGE VELOCITY:	3.71 FPS	

NOTE: CALCULATIONS BASED ON INFORMATION PROVIDED IN ARTESIAN
WASTEWATER MANAGEMENT, INC. WASTEWATER STANDARDS AND
SPECIFICATIONS



PIPE THROUGH WALL

NO SCALE

PUMP STATION SCHEDULE		
①	PRECAST CONCRETE PUMP STATION	8'-0"
	MINIMUM WALL THICKNESS	0'-8"
②	TOP SLAB, 4000 PSI CONCRETE	46.50'
	SLAB THICKNESS	10"
	REINFORCEMENT	#5 @ 6" E.W. T&B
③	TOP SLAB DIMENSIONS	8'-8"
④	BOTTOM SLAB, 3500 PSI CONCRETE	20.05'
	SLAB THICKNESS	12"
	REINFORCEMENT	PER MANUFACTURER
⑤	TOTAL DEPTH - TOP TO FINISHED BOTTOM ELEV.	26.45'
⑥	PUMP HATCH WITH FALL PROTECTION GRATE (OPEN CLEAR SPACE DIM.)	36"x60"
⑦	INFLUENT PIPE	10"
	PIPE INSIDE DIAMETER	10"
	INVERT ELEVATION	25.86'
⑧	PUMP DISCHARGE PIPE & FITTING DIA.	4"
	INVERT ELEVATION - OUT	42.00'
⑨	FORCE MAIN PIPE DIAMETER (4' MINIMUM COVER WITH DETECTION WIRE AND DETECTION TAPE)	4"
⑩	SUBMERSIBLE PUMP DESIGN: DUPLEX	162.47
	CAPACITY OF EACH PUMP (GPM)	162.47
	T.D.H. (FT)	152.40
	H.P.	17.0
⑪	NP VOLUTE	20.79'
⑫	LOW WATER ALARM	22.05'
⑬	PUMPS "OFF"	22.55'
⑭	LEAD PUMP "ON"	23.80'
⑮	LAG PUMP "ON"	24.30'
⑯	HIGH WATER ALARM	24.80'
⑰	BASE FLANGE DIMENSION	12"
⑱	BASE MINIMUM THICKNESS	18"
⑲	100-YEAR FLOOD ELEVATION OF POND SWM-6	44.42'

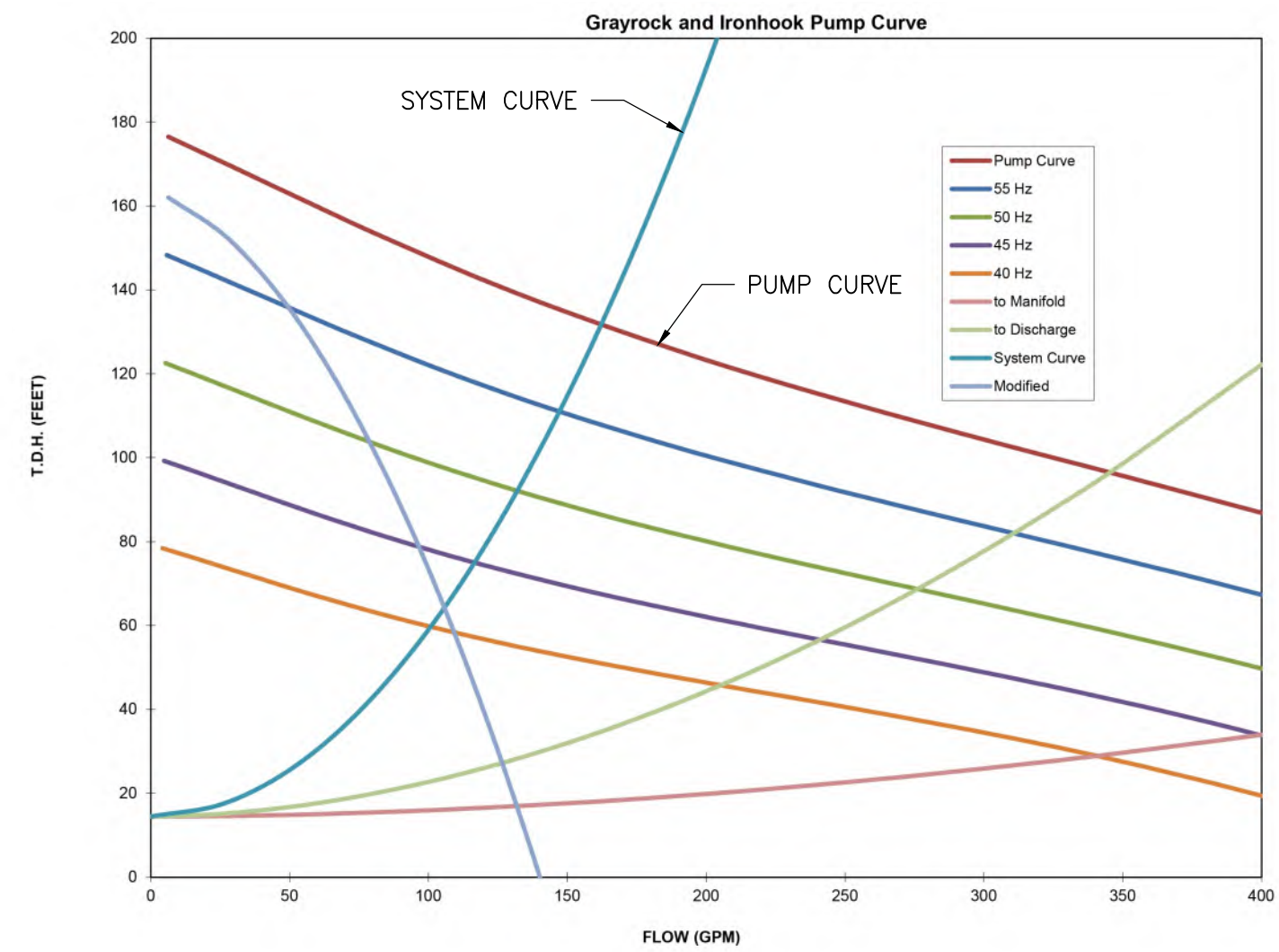
PUMP STATION DESIGN CALCULATIONS

PROPOSED DEVELOPMENT EDUS

TOTAL BUILDOUT EDUs:	261
AVERAGE DAILY FLOW:	62,640 GPD (43.50 GPM)
PEAK FACTOR:	3.75
PEAK DAILY FLOW:	234,900 GPD (163 GPM)

DESIGN (WITH INFILTRATION)

TOTAL EDUs:	262
AVERAGE DAILY FLOW:	62,890 GPD (43.67 GPM)
PEAK FACTOR:	3.75
PEAK DAILY FLOW:	235,838 GPD (164 GPM)



NP 3153 SH 3 PUMP CURVE

[illegible]

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IRONHOOK HARBOR
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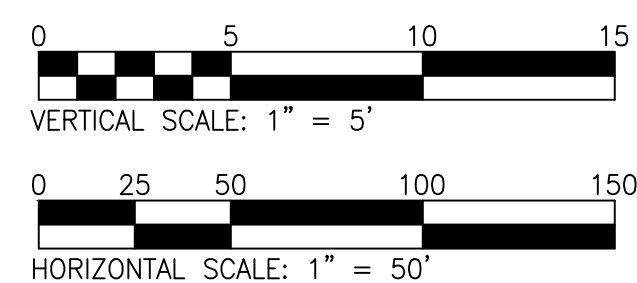
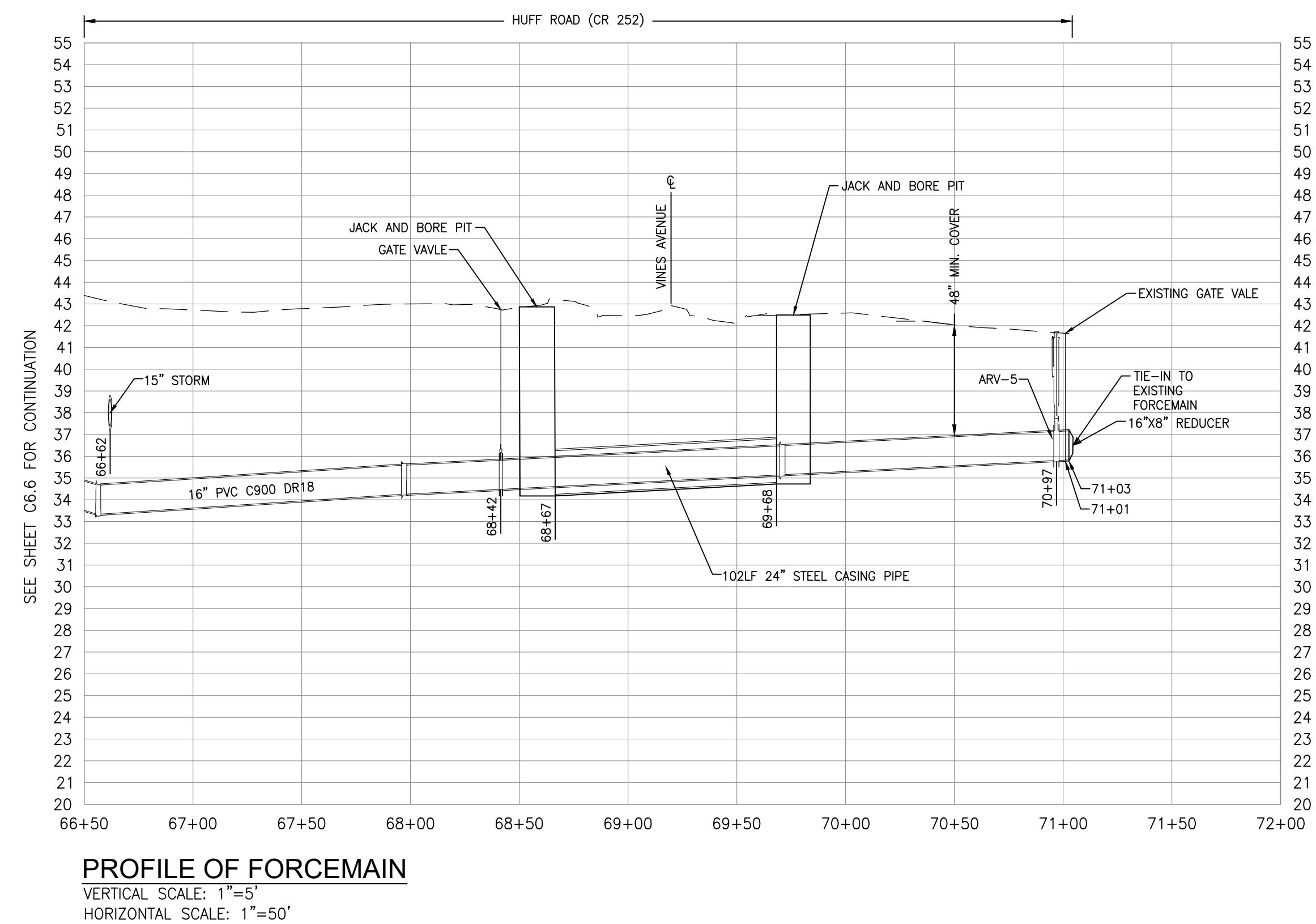
PUMP STATION PLAN AND SECTION

SCALE : NO SCALE	SHEET NO. C6.1
DESIGN BY : DLB	
DRAWN BY : FHM, RFT	
CHECKED BY : TMG	
GMB FILE : 220023	
DATE : JAN 2026	

1. CONTRACTOR TO TEST PIT VERIFY LOCATION AND DEPTH OF EXISTING FORCEMAIN.

CONSTRUCTION NOTES

1 CONTRACTOR TO JACK AND BORE APPROXIMATELY 102LF OF 16" C900 PVC DR 18 PIPE WITH 24" STEEL CASING PIPE UNDER VINES AVENUE ENTRANCE. SEE PROFILE FOR DETAILS. CASING PIPE SHALL EXTEND 5-FEET PAST THE EDGE OF MULTI-MODAL PATH ON BOTH SIDES. SEE SHEET C6.9 FOR DETAILS.

[illegible]

