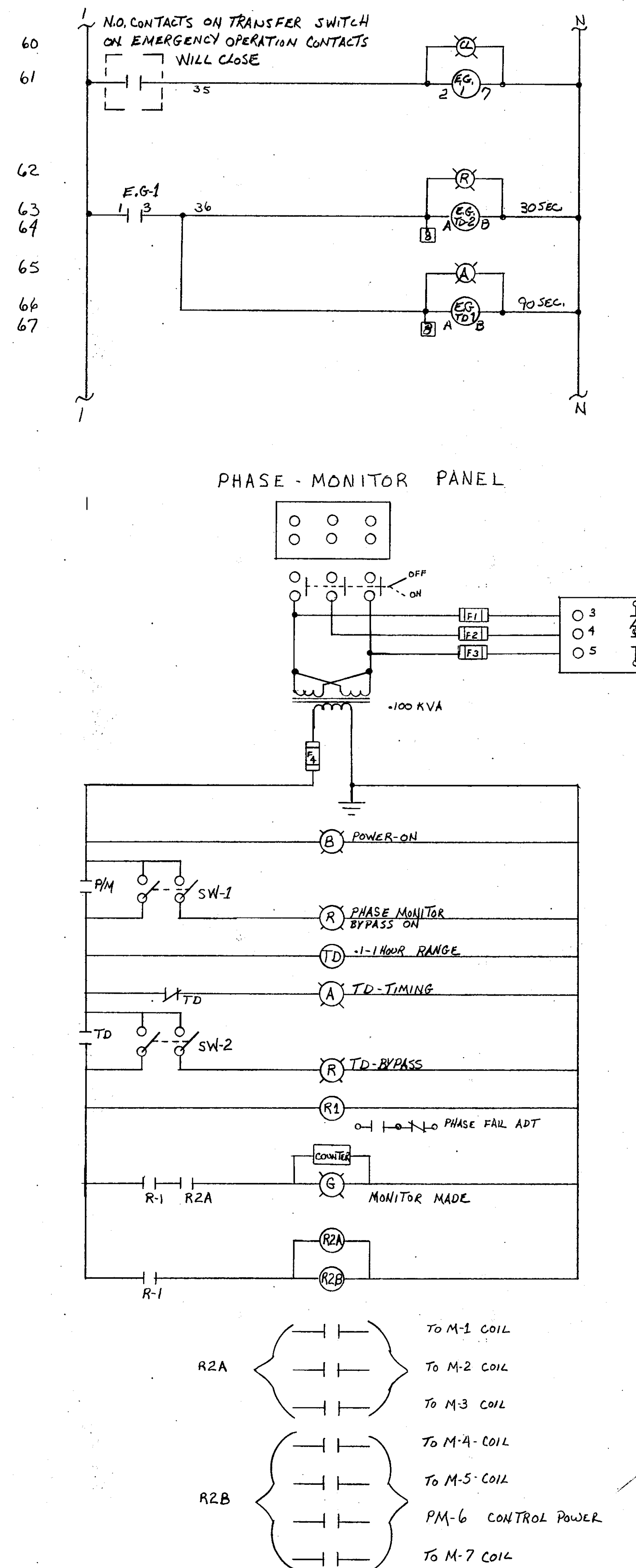
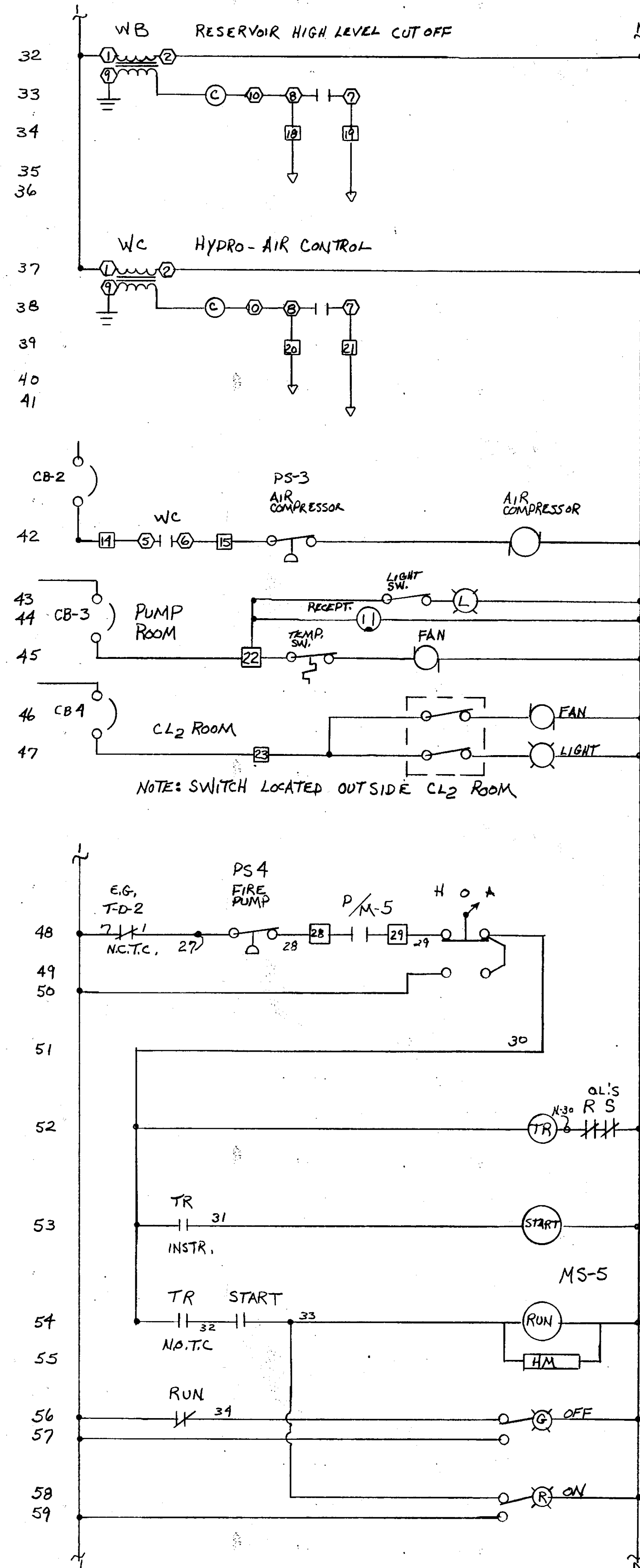
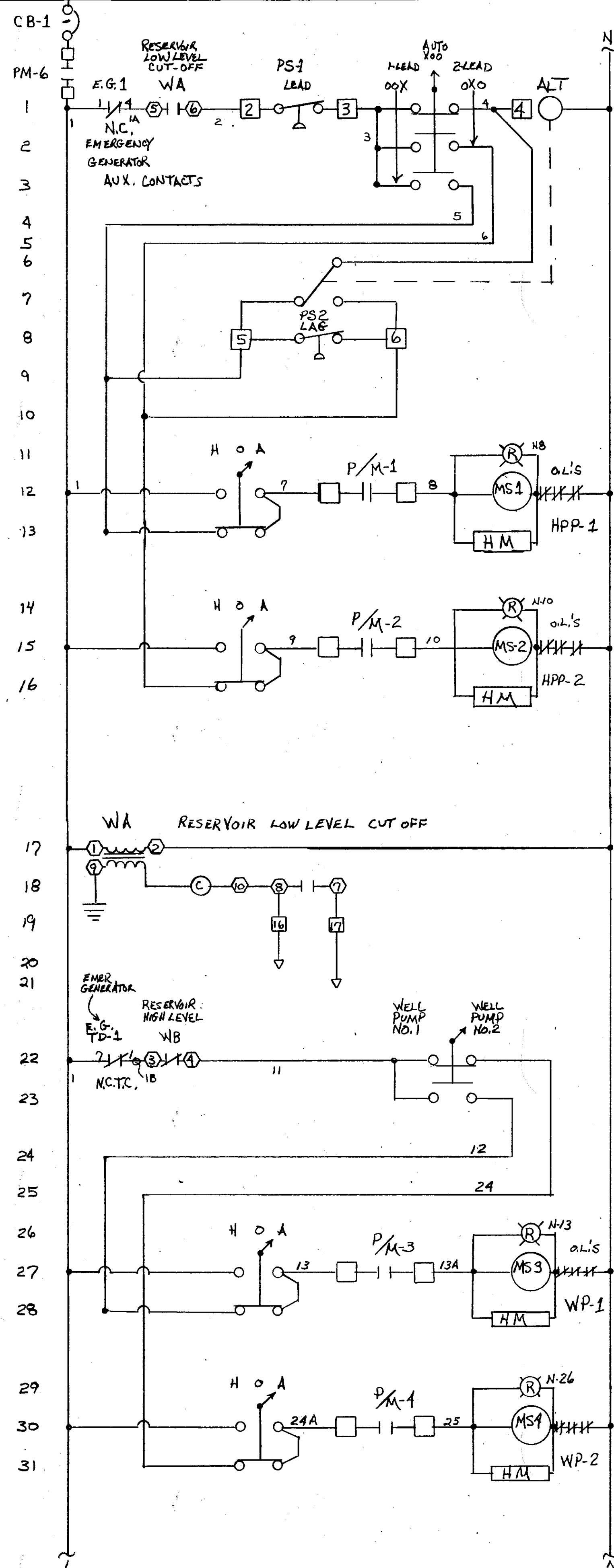
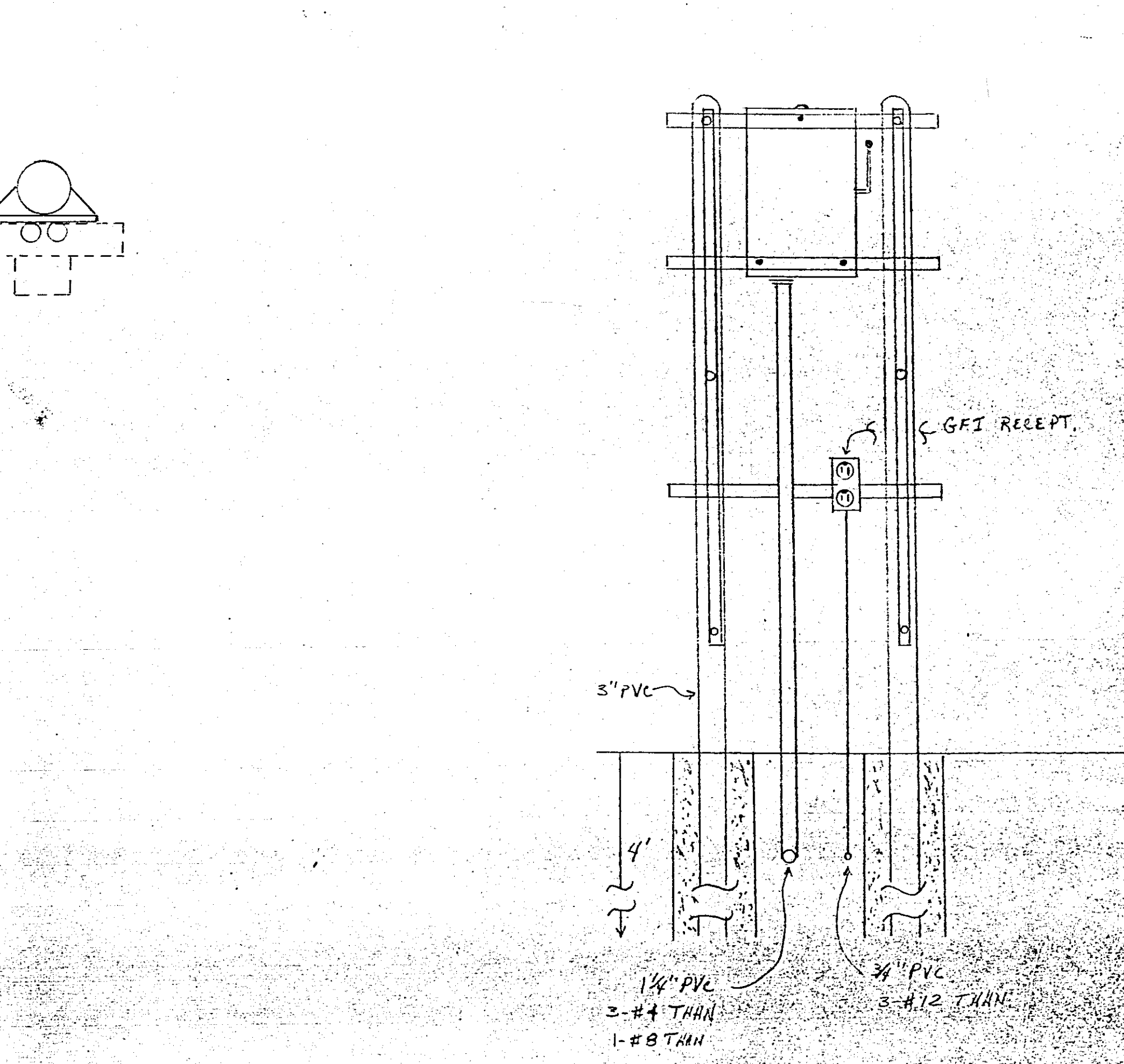
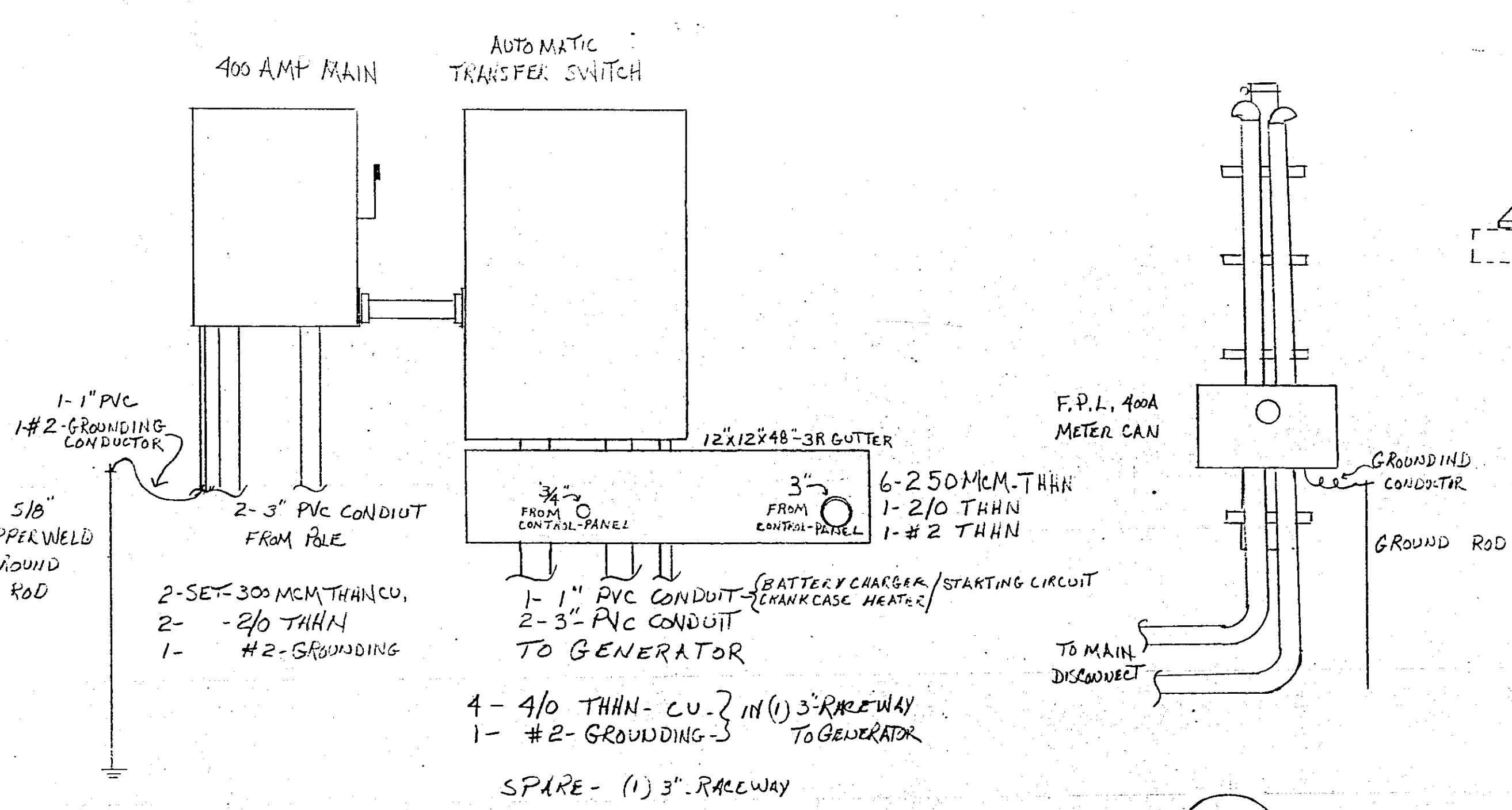
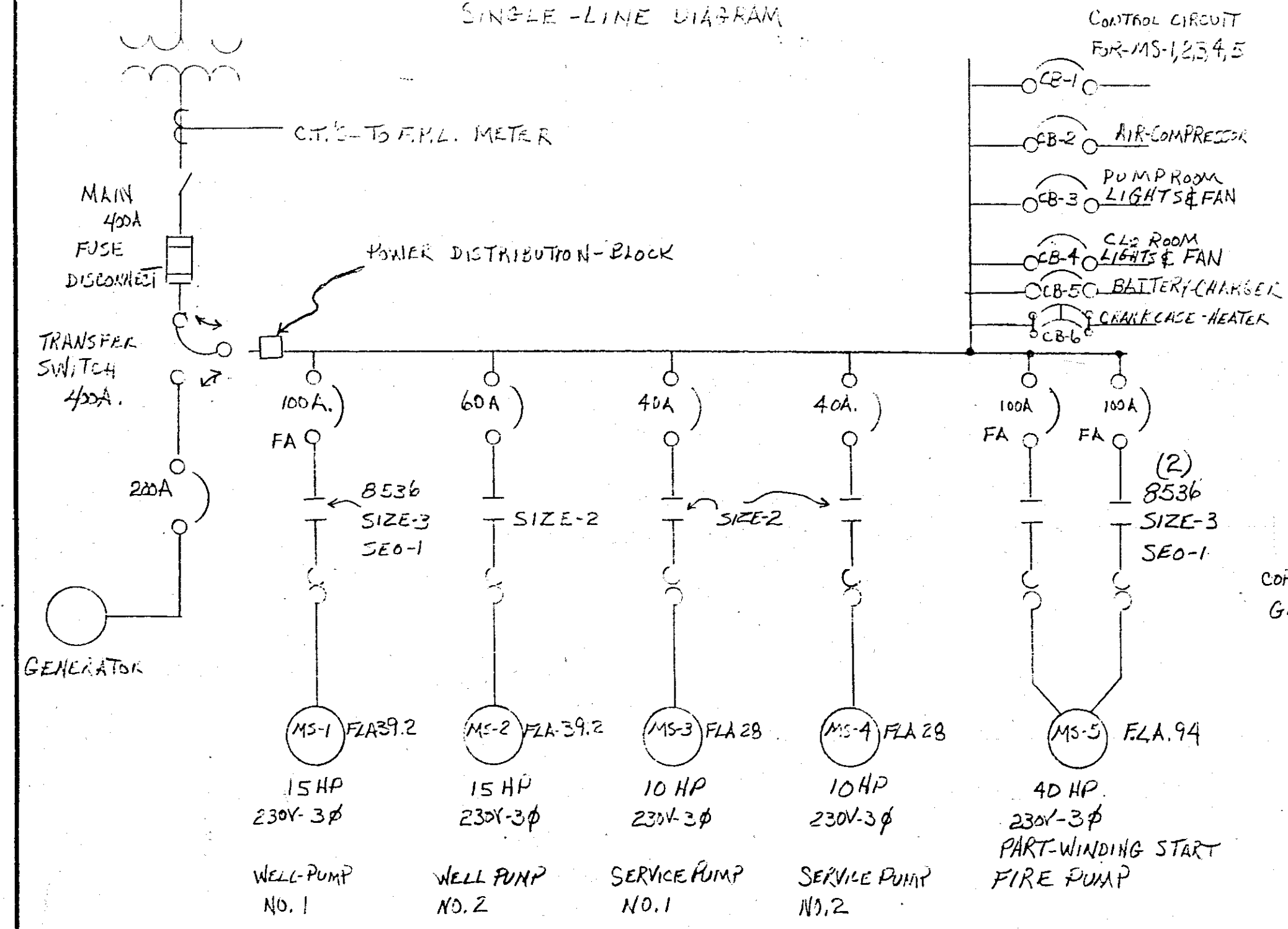


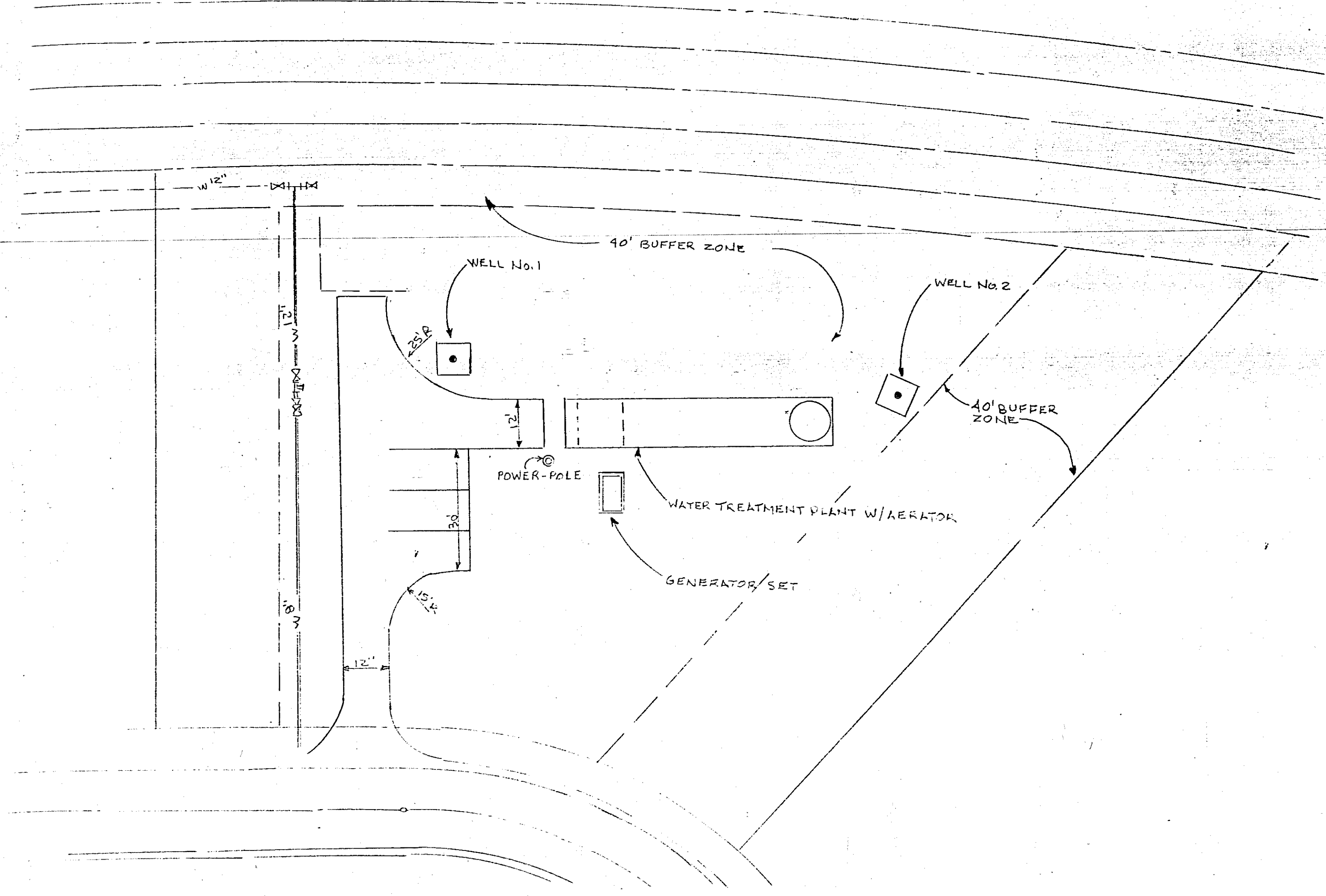


WATER TREATMENT PLANT		
SCALE: N.T.S.	APPROVED BY:	DRAWN BY G.E.M.
DATE: 11-30-87		REVISED G.E.M.
SUN RAY UTILITIES, INC. NASSAU COUNTY, FLORIDA		
YULWTP-009		DRAWING NUMBER 2

SINGLE-LINE DIAGRAM

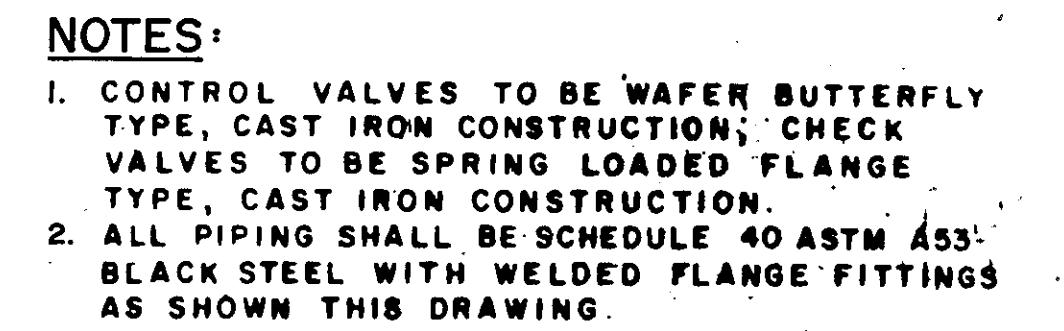


NOTE: 3/4" PVC FROM WATER PLANT TO WELL METER FROM FUTURE



SITE PLAN

WATER TREATMENT PLANT			
SCALE: N.T.S.	APPROVED BY:	DRAWN BY: G.E.M.	
DATE: 11-20-87		REVISED: G.E.M.	
SUN RAY UTILITIES INC. NASSAU COUNTY, FLORIDA			
YULWTP-008			DRAWING NUMBER 1



NOTE: MANUFACTURER/CONTRACTOR SHALL PROVIDE OPERATIONS AND MAINTENANCE MANUALS ACCORDANCE WITH DEPT. OF ENVIRONMENTAL REGULATIONS, CHAPTER 17:22 TO ENGINEER FOR APPROVAL.

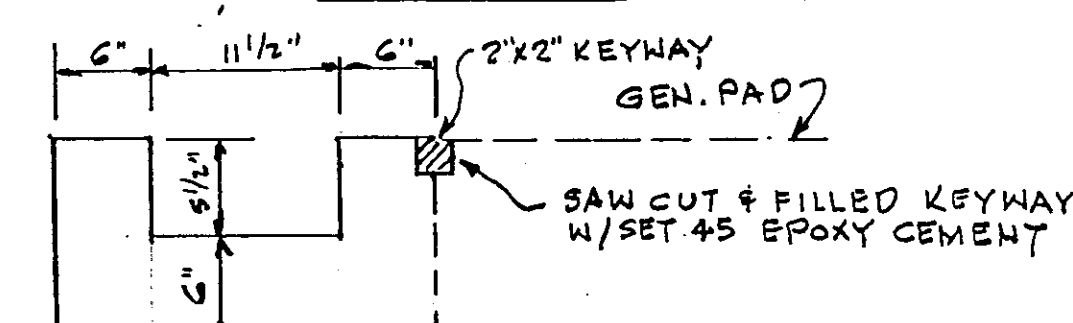
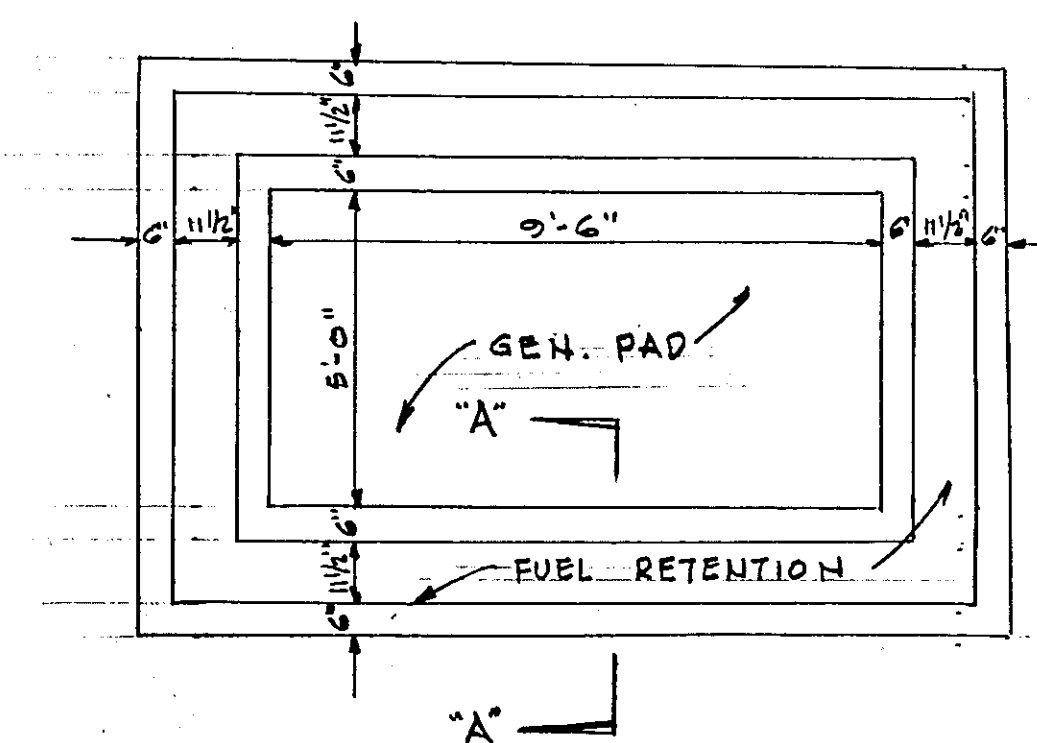
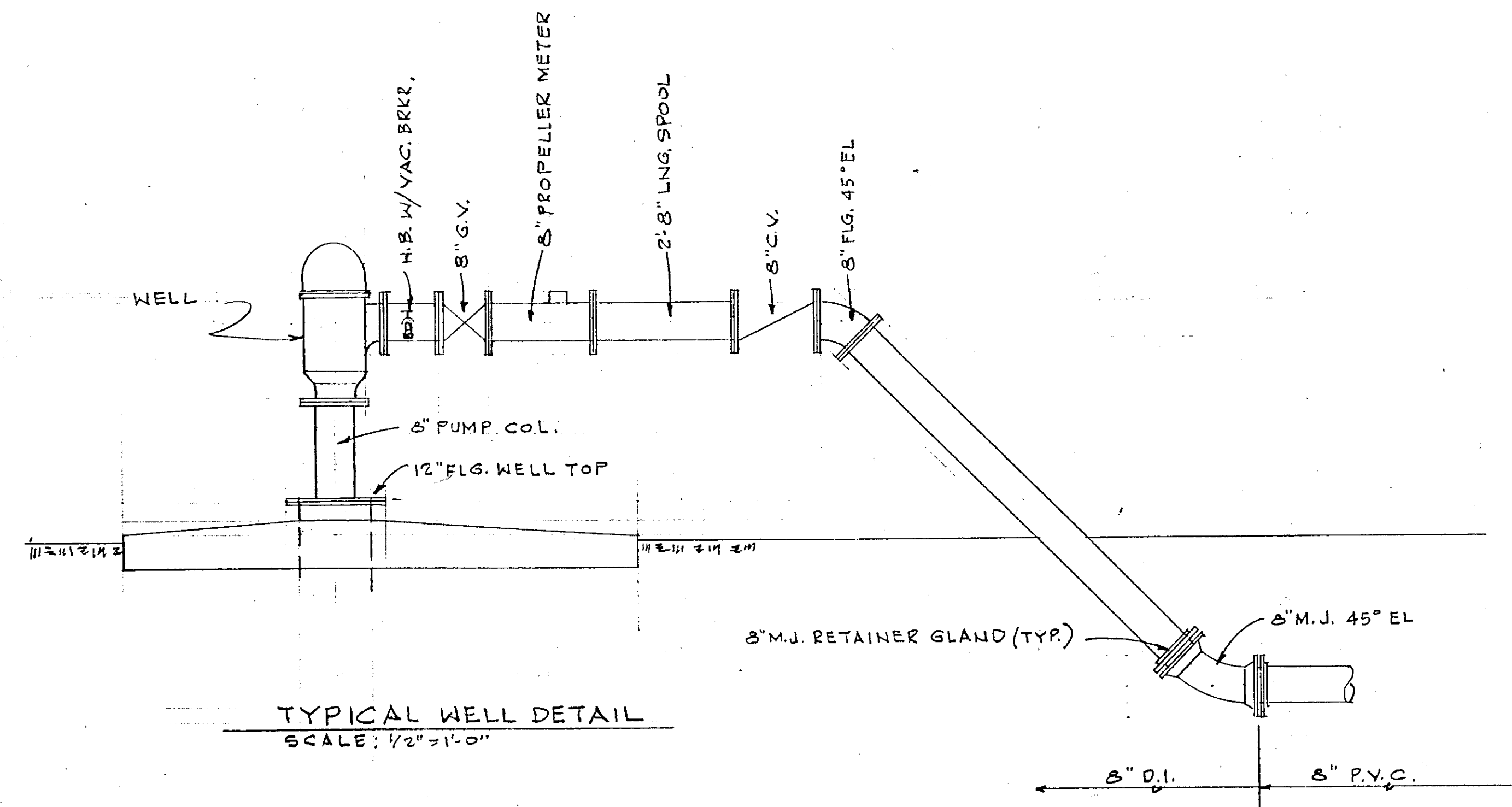
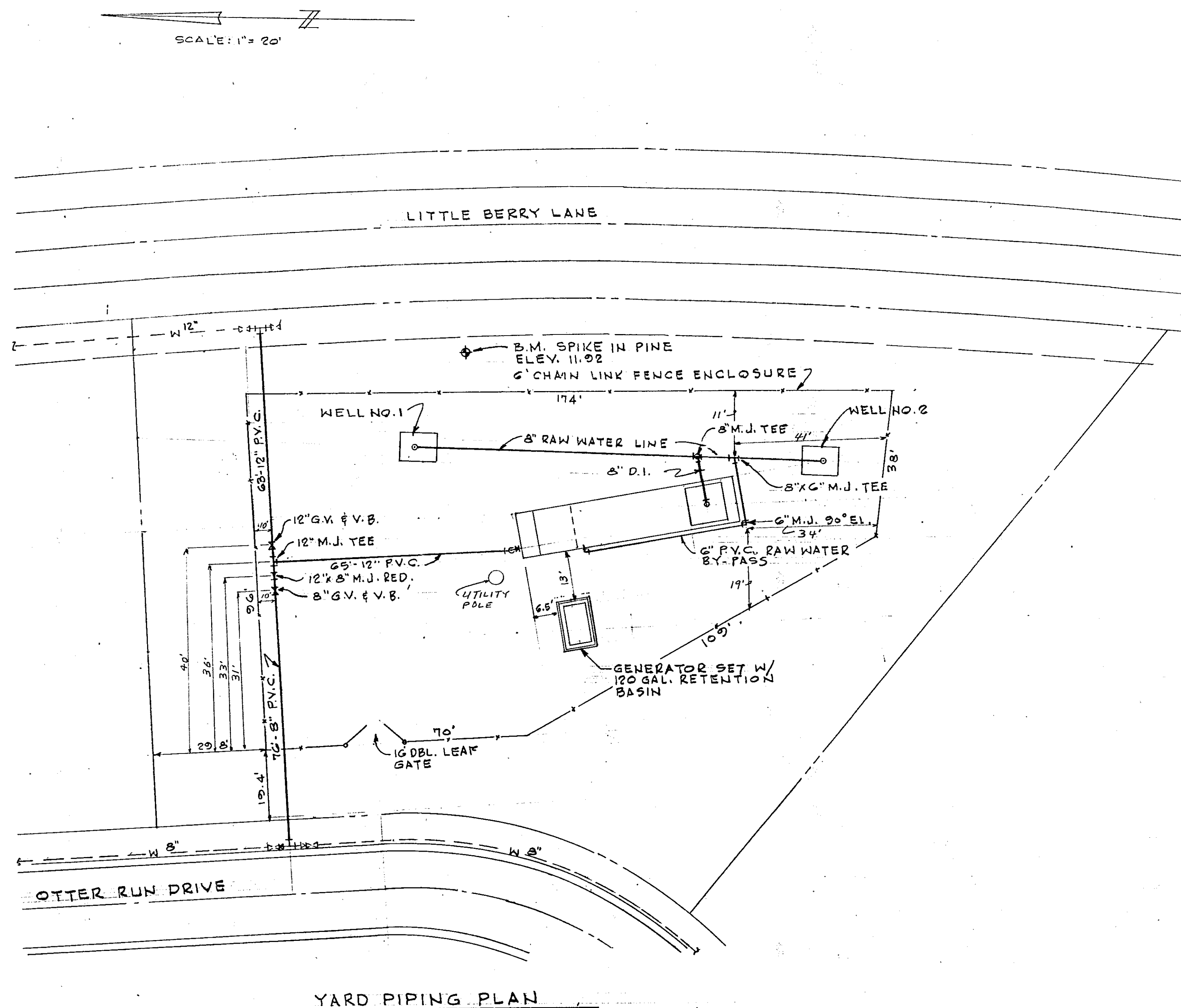


		(SOME ITEMS NOT SHOWN ABOVE)
REVISIONS	3-23-87	REVISED FIRE PUMP PIPING & AERATOR GPM CAPACITY & CHLORINATION SYSTEM PER D.E.R. REQUIREMENTS
	7-10-87	REVISED PLANT SUPPORT PAD

 		Title WATER PLANT 150,000 GPD W/WEAPMENT ROOM	
Dtdm MM/DD		Date 12-31-86	
Chkd		Scale NONE	
P O BOX 1419 THOMASVILLE GA 31792 (912) 276 5733		Dwg no 52-D-552 R-11086TS-D1	

YULWTP-010

DRAWING No. 2



CU. FT. (120 GAL) FUEL RETENTION
BASIN FOR 9.00 CU. FT. FUEL TANK

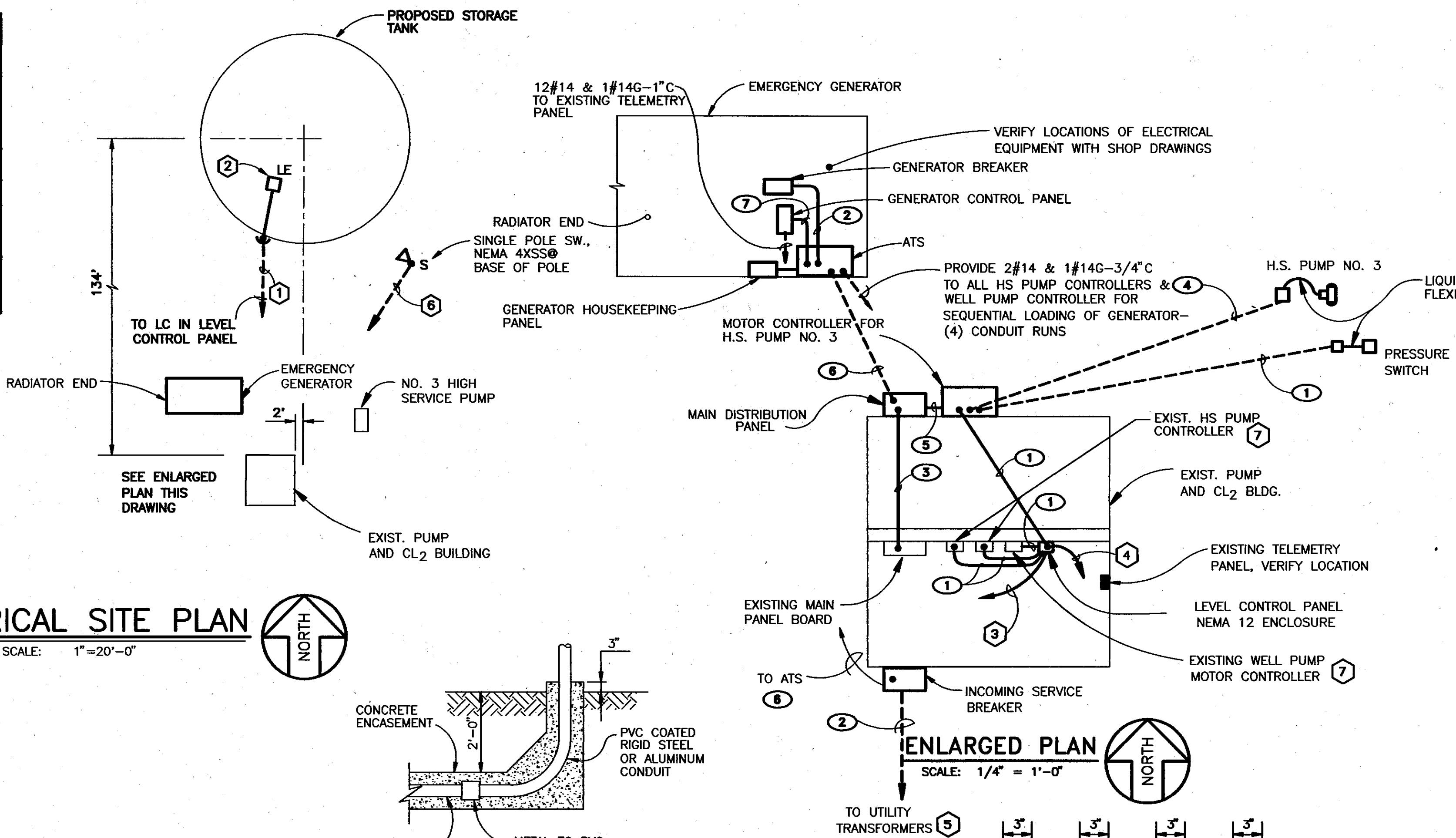
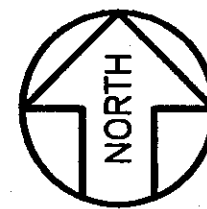
AS BUILT

WATER TREATMENT PLANT FOR		
SUN RAY UTILITIES INC.		
NASSAU COUNTY, FLORIDA		
JAX UTILITIES MANAGEMENT CORP.		
JACKSONVILLE, FLA.		
SCALE:	NOTED	DRAWN: B.A.K.
		CHECKED: D.I.H.
TITLE: YARD PIPING PLAN		
DATE:	DEC. 3/87	D1 YULWTP-006
		1 of 2

CONDUIT & CABLE SCHEDULE	
①	2#14 & 1#14 G - 3/4" C
②	3 RUNS OF 4#300/KCMIL-3"C
③	3 RUNS OF 4#4/0 & 1 #3G-2 1/2"C
④	1 RUN OF 3#4/0 & 1#3G-2 1/2"C & 1 RUN OF 3 #4/0, 2 #12 & 1#3G-2 1/2"C
⑤	2 RUNS OF 3 #4/0 & 1 #3G-2 1/2"C
⑥	3 RUNS OF 4#300 KCMIL & 1#1/0-3"C
⑦	4#14 & 1#14G-3/4"C

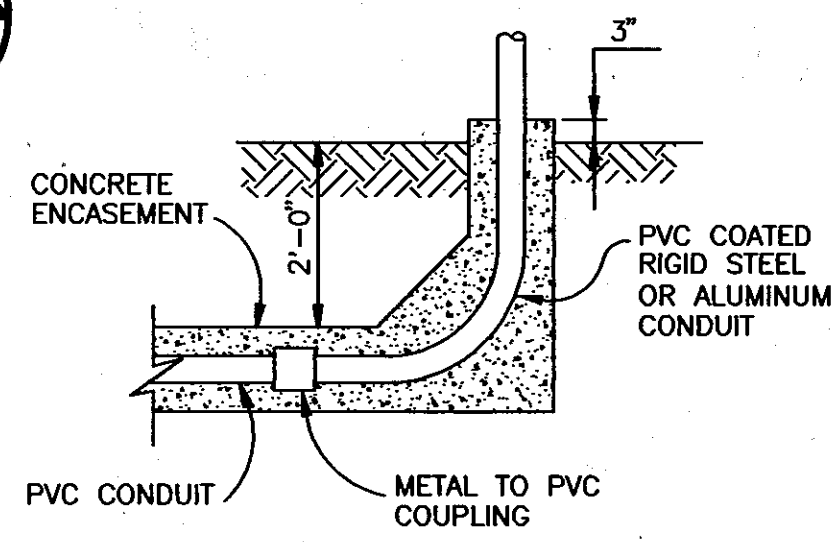
ELECTRICAL SITE PLAN

SCALE: 1"=20'-0"



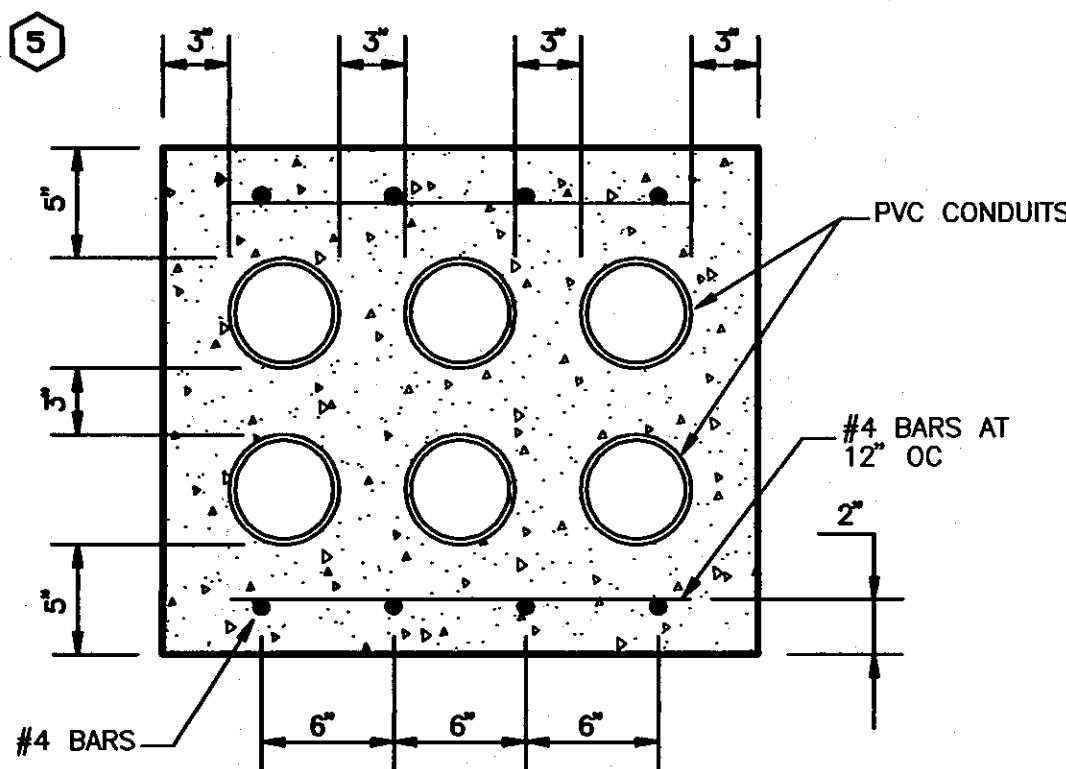
TYPICAL DUCT RISER DETAIL

NOT TO SCALE



TYPICAL CONDUIT BANK DETAIL

NOT TO SCALE



PANEL - MDP		240/120 VOLTS, 3Ø, 4 WIRE - S/N		65,000 A/C @ 240 VOLTS	
①		800 AMPS. □ MAIN BREAKER OR □ M.L.O. FLUSH OR □ SURFACE MOUNTED □ TOP OR □ BOTTOM FED			
KVA	SERVES	TRIP	Ø	Ø	SERVES
100.0	HIGH SERVICE PUMP NO. 3	400	1	2	400
-	↓	-	3	4	-
-	↓	-	5	6	-
SPACE (225A)	↓	7	8	SPACE (225A)	↓
↓	↓	9	10	↓	↓
SPACE (100A)	↓	11	12	SPACE (100A)	↓
↓	↓	13	14	↓	↓
↓	↓	15	16	↓	↓
↓	↓	17	18	↓	↓

FED FROM: UTILITY TRANSFORMER

① PROVIDE GROUND FAULT PROTECTION AND SHUNT TRIP

GENERAL NOTES

- DESIGN DRAWINGS ARE DIAGRAMMATIC AND INTENDED TO SHOW APPROXIMATE INSTALLATION AND EQUIPMENT LOCATIONS.
- ONE COMPLETE SET OF DESIGN DRAWINGS SHALL BE NEATLY MARKED DAILY AS A RECORD OF JOB PROGRESSION AND "AS BUILT" INSTALLATION. THE DRAWINGS SHALL REFLECT THE ACTUAL INSTALLED LOCATIONS OF ALL EQUIPMENT AND INDICATE THE EXACT ROUTING AND ELEVATIONS OF ALL DUCT BANKS AND BURIED/CONCEALED CONDUITS. UPON COMPLETION OF THE PROJECT, THE DRAWINGS SHALL BE COORDINATED WITH THE AS-BUILT DRAWINGS AND SUBMITTED TO THE ENGINEER.
- THE CONTRACTOR SHALL INSPECT THE SITE PRIOR TO BID TO EVALUATE EXISTING CONDITIONS. INSTALLATION OF THE NEW FACILITIES WILL REQUIRE FIELD COORDINATION WITH PLANT OPERATIONS TO PERMIT MAINTENANCE OF OPERATION DURING CONSTRUCTION. DURATION OF POWER OUTAGES SHALL BE THE MINIMUM REQUIRED FOR SAFE INSTALLATION AND SHALL BE SCHEDULED WITH AND APPROVED BY THE OWNER.
- THE CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID EXISTING UNDERGROUND UTILITIES INCLUDING PROCESS PIPING, WATER LINES, CHEMICAL FEED PIPING, ELECTRICAL CONDUITS, TELEPHONE, ETC. HAND EXCAVATION MAY BE REQUIRED IN CONGESTED AREAS WHERE THE EXACT LOCATION OF ALL UTILITIES IS UNKNOWN AND SURFACE LOCATION IS NOT PRACTICAL. FIELD ADJUST LOCATIONS OF NEW FACILITIES TO ACCOMMODATE THE EXISTING SITE CONDITIONS AND UNDERGROUND UTILITIES.
- ALL EQUIPMENT AND MATERIAL SHALL BE NEW AND PROVIDED BY THE CONTRACTOR UNLESS OTHERWISE NOTED.
- ALL EXPOSED CONDUIT RUNS ON TANK SHALL BE ALUMINUM WITH STAINLESS STEEL HARDWARE.
- ALL UNDERGROUND RUNS SHALL BE PVC SCHEDULE 40.

LEGEND

- CONDUIT TURNING UP
- CONDUIT TURNING DOWN
- CHANGE IN CONDUIT ELEVATION USING CONDUIT OUTLET BODIES
- △ POLE MOUNTED EXTERIOR LIGHT FIXTURE PROVIDE LITHONIA CAT# KAD 400S-R4-120-RPDO4-DF-DDB AND SHAKESPEARE B535 BRONZE FIBERGLASS DIRECT BURIAL POLE (30' MOUNTING HT.)
- TVSS TRANSIENT VOLTAGE SURGE SUPPRESSOR WITH INLINE FUSES, PROVIDE IN NEMA 4X SS ENCLOSURE, ADVANCED PROTECTION TECHNOLOGY OR APPROVED EQUAL.
- UNDERGROUND CONDUIT RUN
- EXPOSED CONDUIT RUN
- ⊞ THREE PHASE MOTOR
- LC LEVEL CONTROLLER
- LE LEVEL ELEMENT
- MCP MOTOR CIRCUIT PROTECTOR BREAKER
- ATS AUTOMATIC TRANSFER SWITCH
- S5 SEQUENCE CONTACT
- Ⓜ GROUND FAULT INTERRUPTER
- Ⓢ SHUNT TRIP

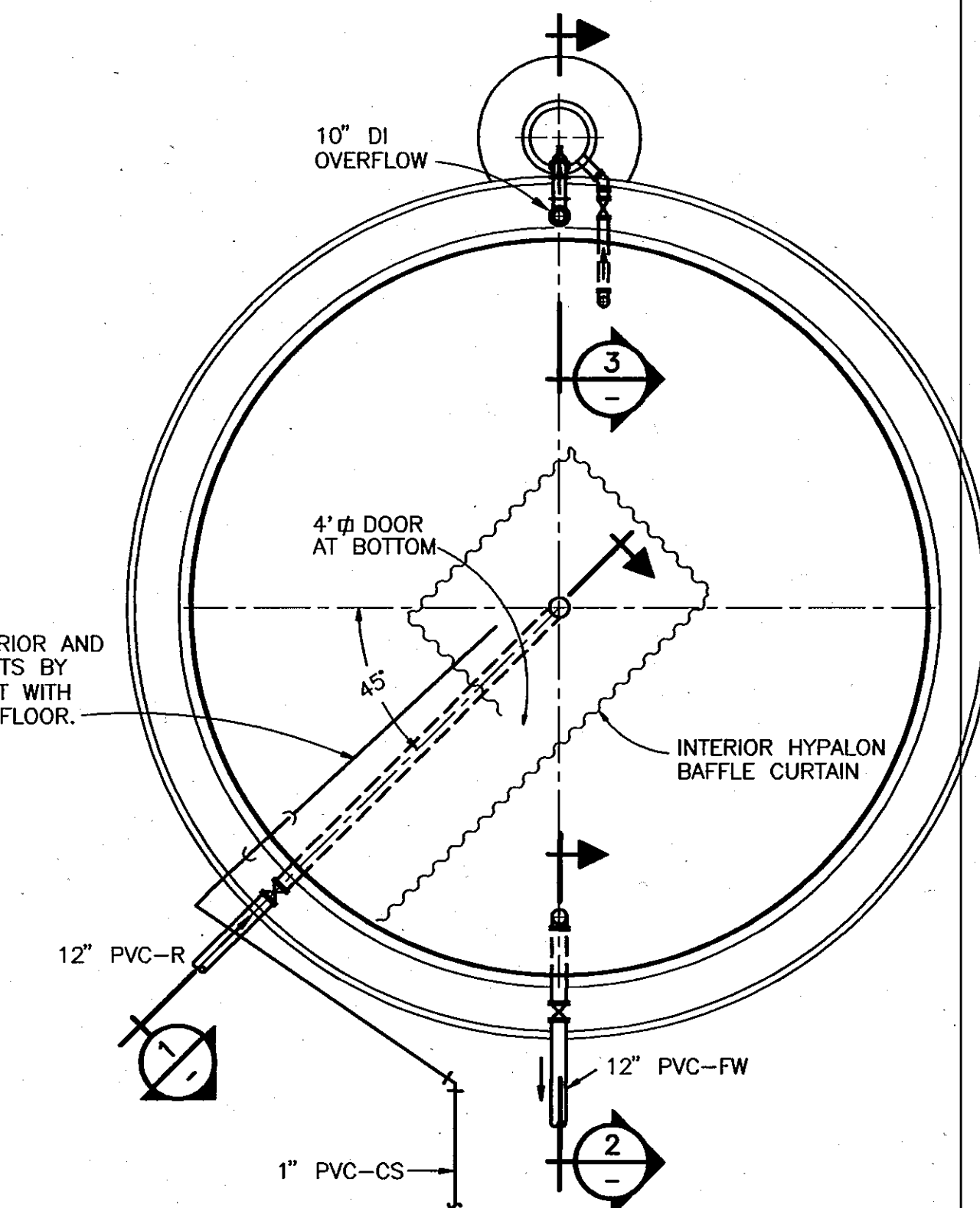
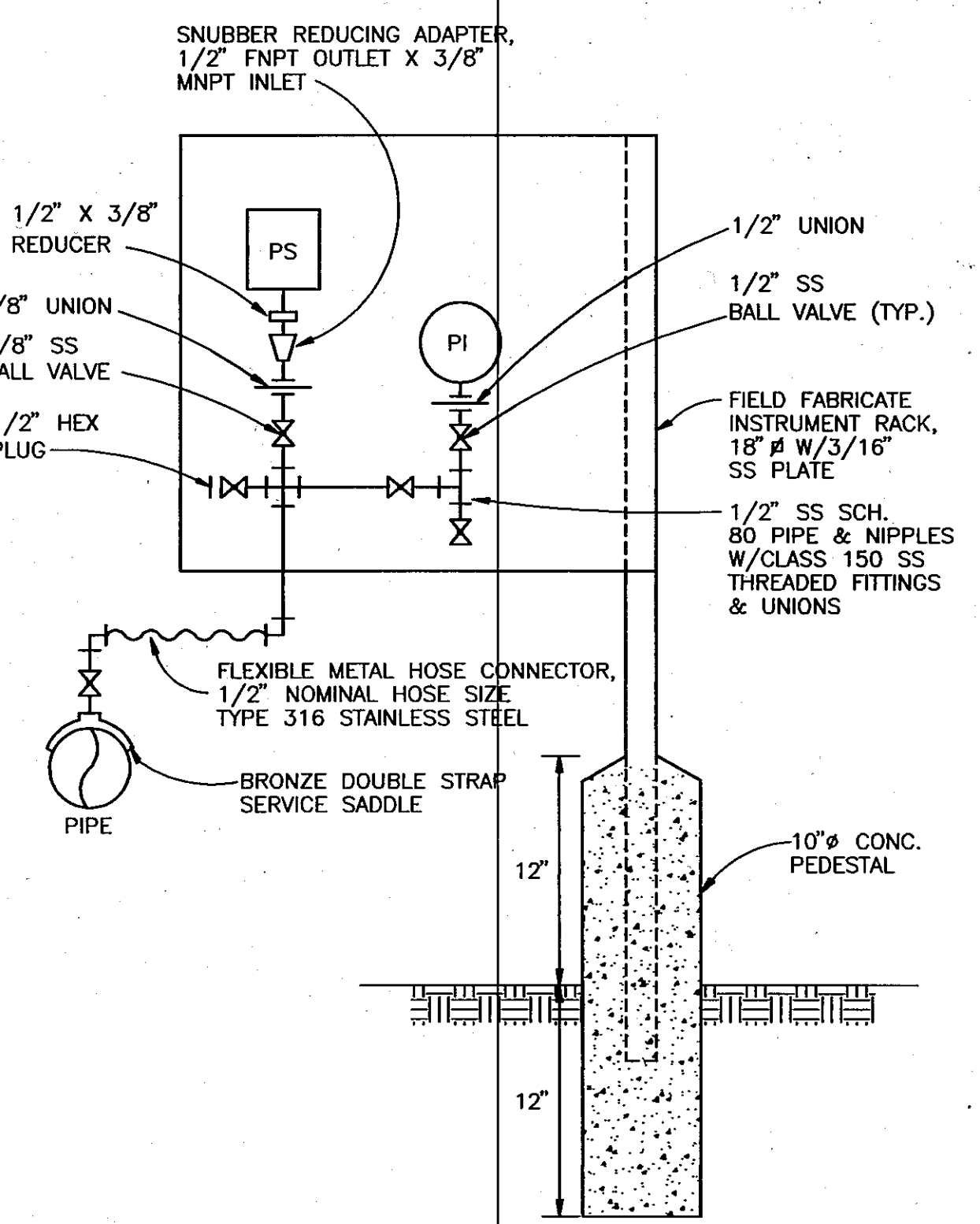
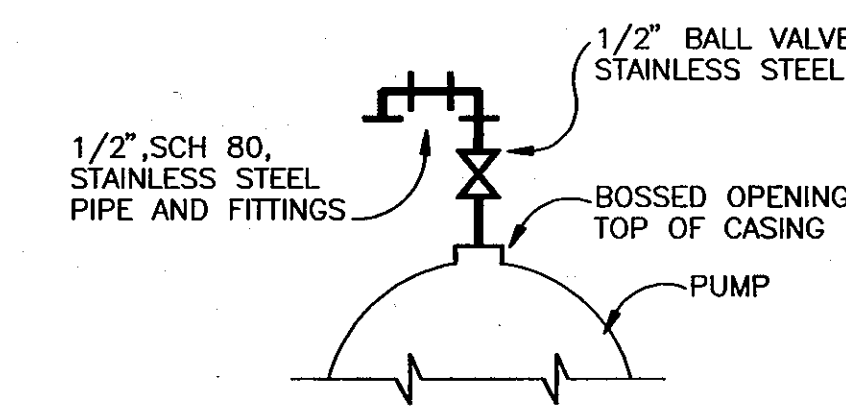
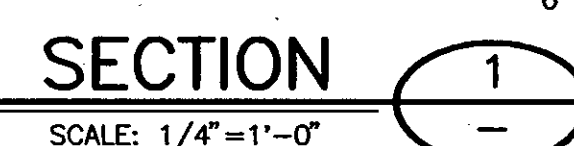
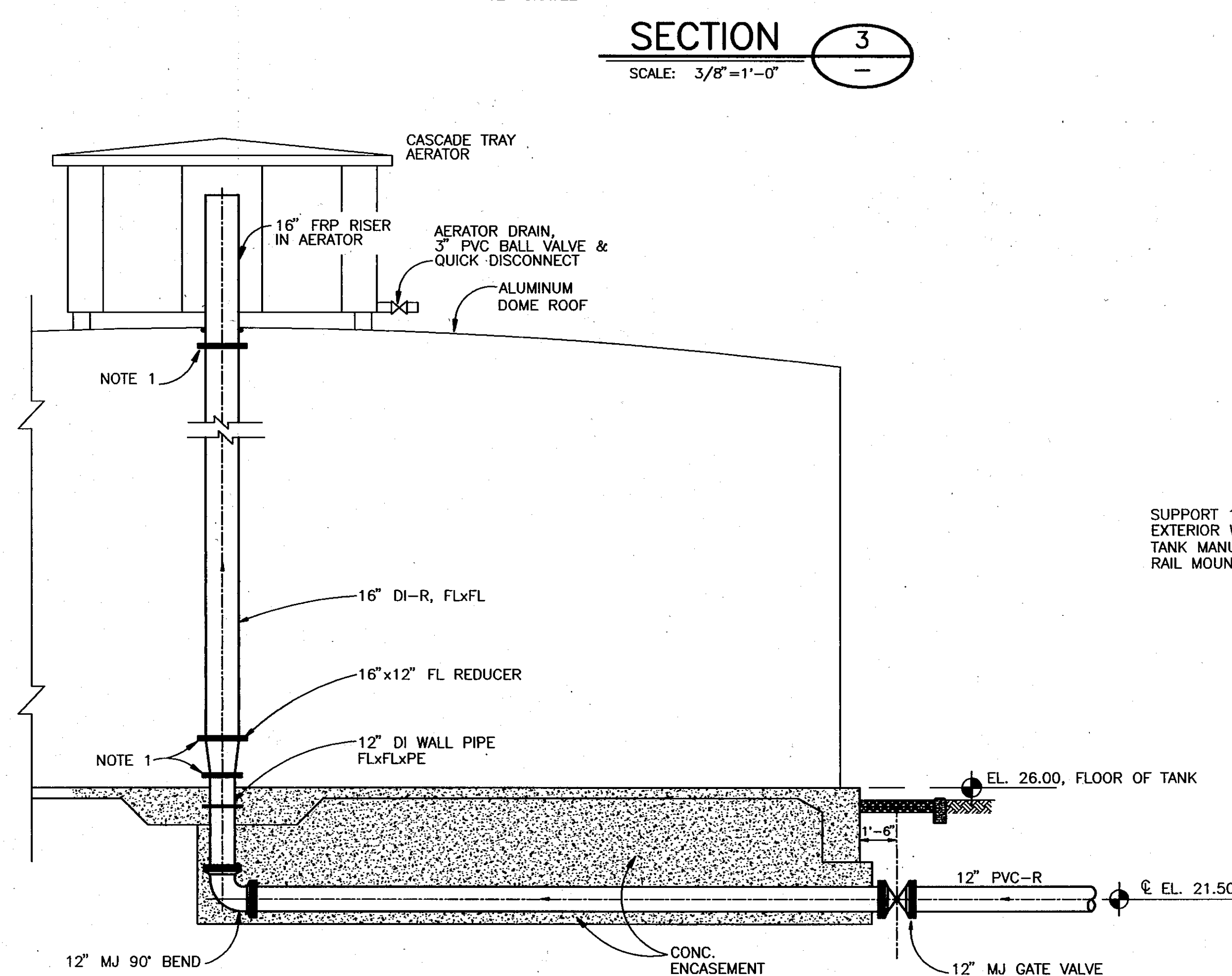
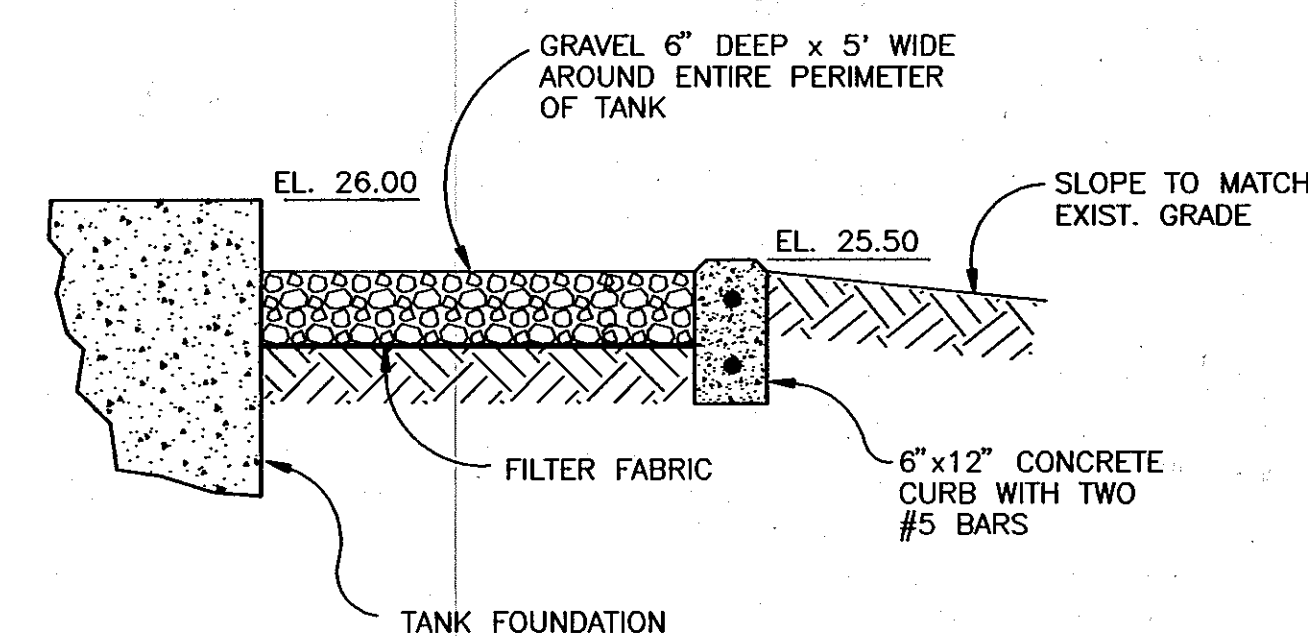
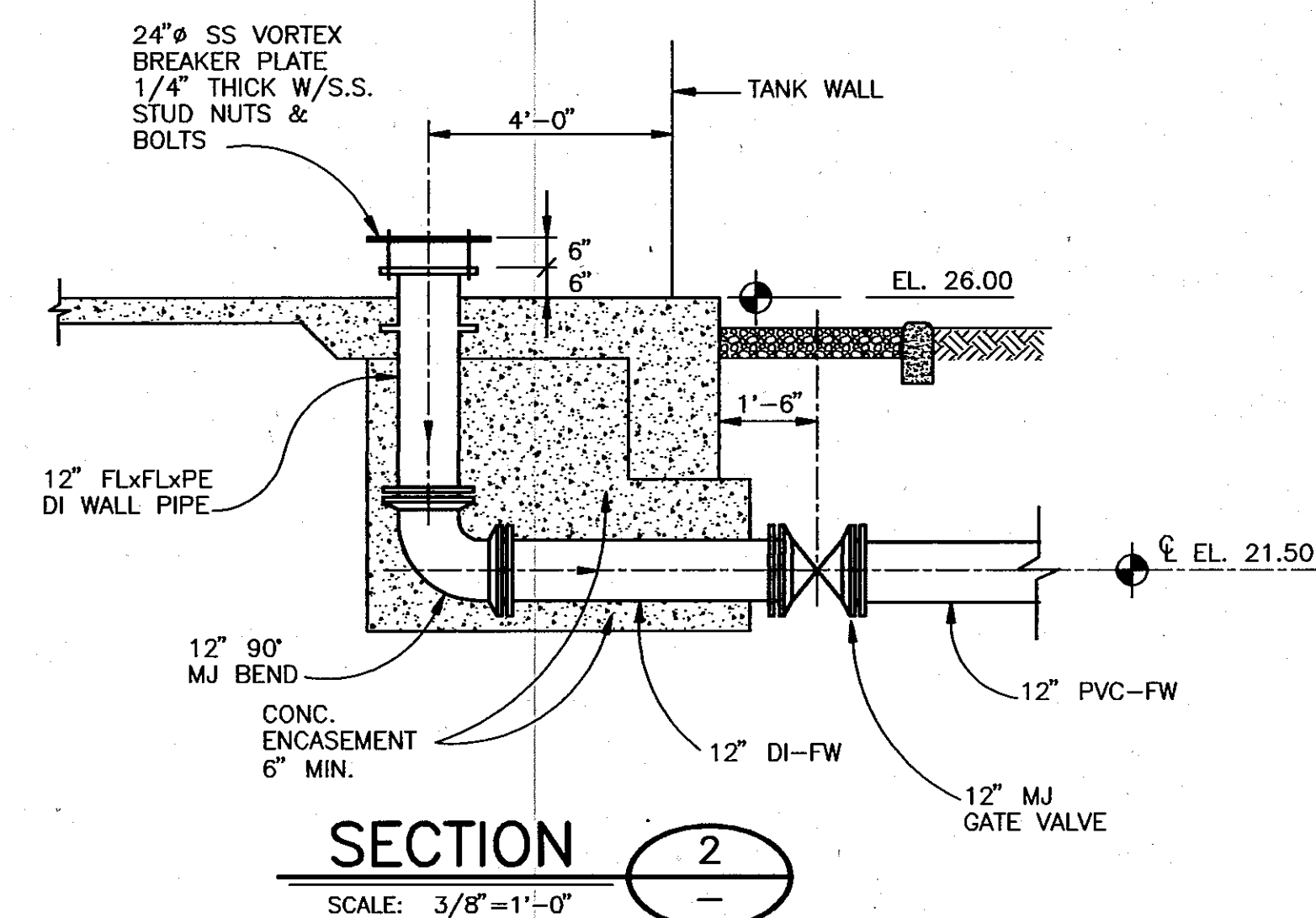
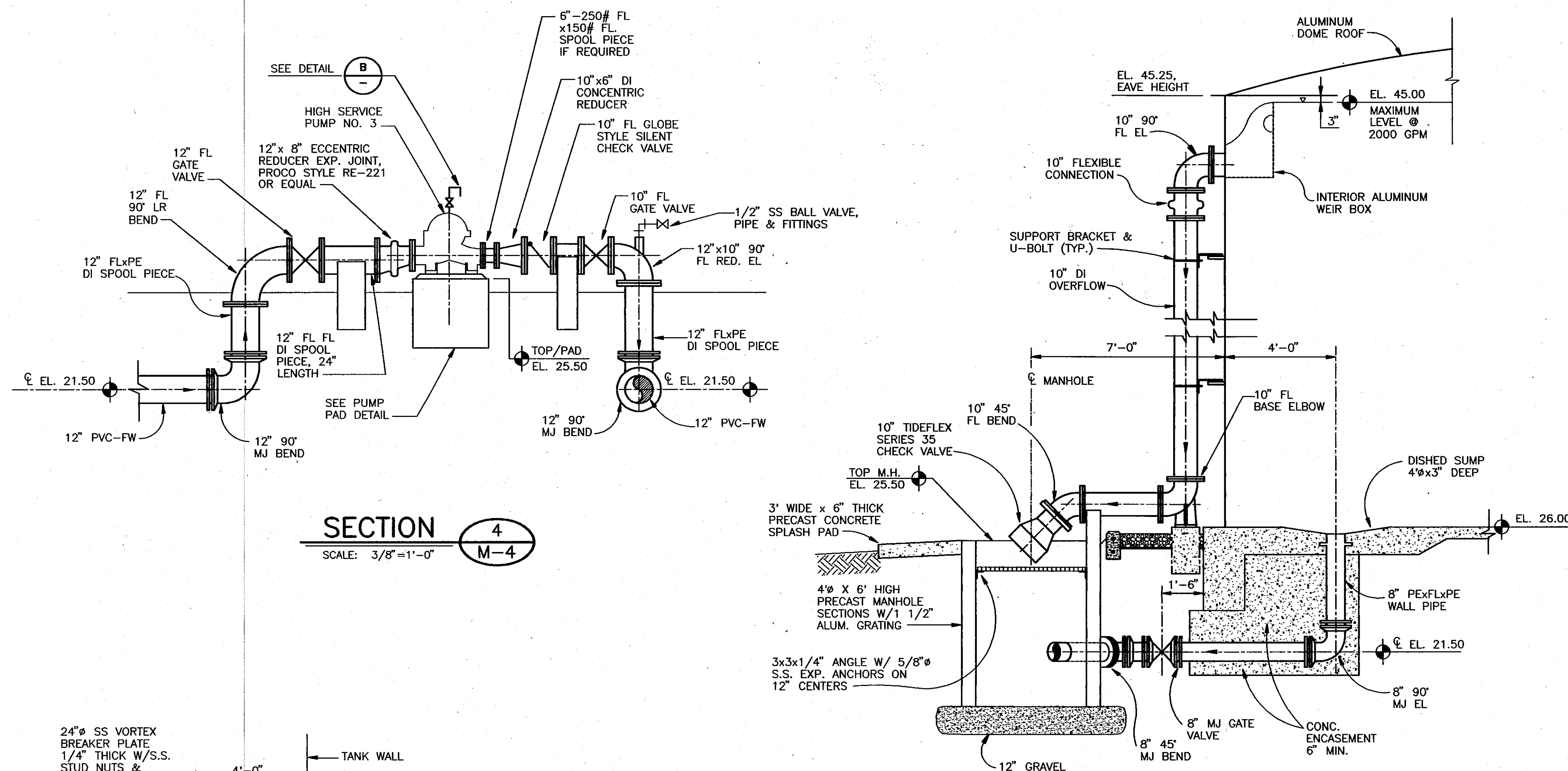
NOTES

- INSTRUMENT CABLE FURNISHED WITH EQUIPMENT, INSTALL IN NEC SIZE CONDUIT.
- NEMA 4X, FIBERGLASS PULLBOX WITH STAINLESS STEEL HARDWARE.
- 2#12 & 1#12 G IN 3/4" C TO EXISTING MAIN PANEL BOARD FOR 120V - 1PH POWER. PROVIDE 20A - 1P BREAKER IN PANEL BOARD.
- 8#14 & 1#14 G - 3/4" C TO EXISTING TELEMETRY PANEL.
- COORDINATE ALL INCOMING SERVICE WORK WITH UTILITY CO. INCLUDING DISCONNECTING EXISTING SERVICE, PROVIDING NEW SERVICE AS INDICATED, METER INSTALLATION, GROUNDING, CONDUITS, FEEDERS, WEATHERHEADS AND CONDUIT RISERS.
- 2# 12 & 1#12 G-3/4"C TO EXISTING MAIN PANEL BOARD. PROVIDE 20A-1P BREAKER FOR EXTERIOR LIGHTING CIRCUIT.
- MODIFY CONTROL WIRING TO INCLUDE GENERATOR LOAD SEQUENCE CONTACT SEE EMERGENCY GENERATOR SPECIFICATIONS.

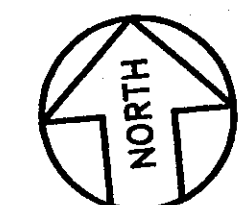
YULWTP-005

ADDENDUM NO: 1

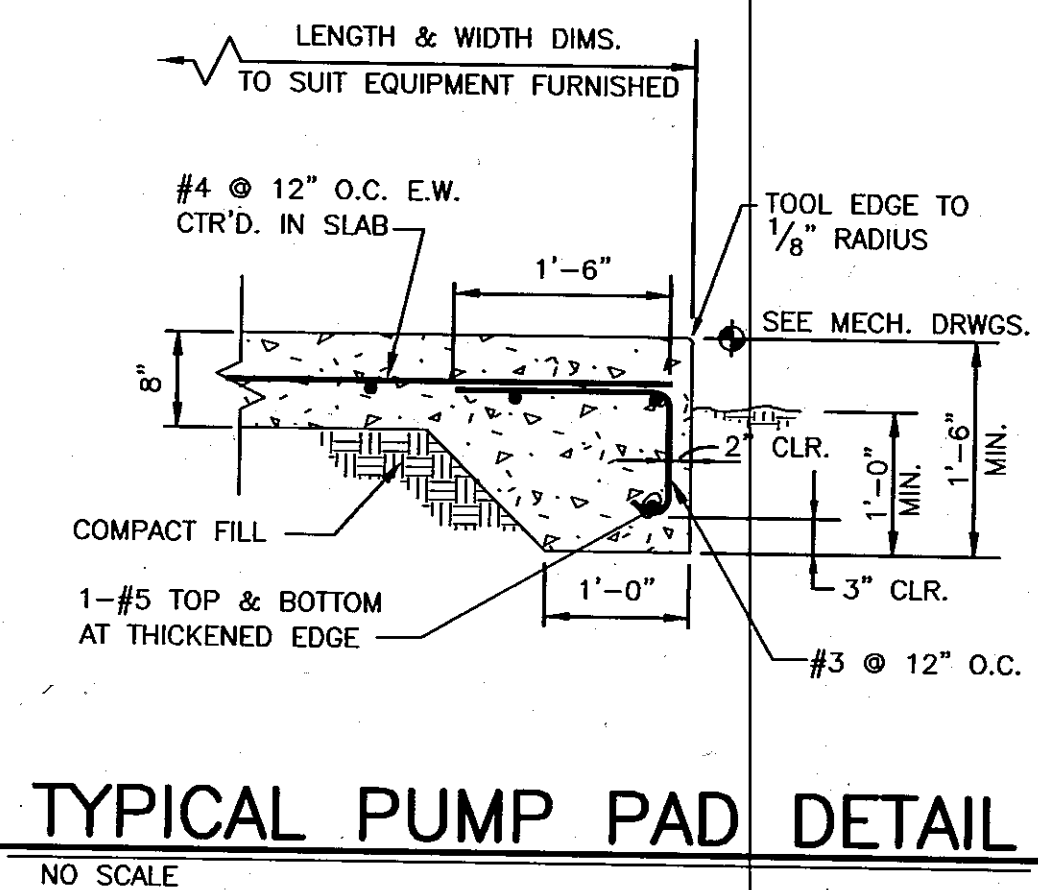
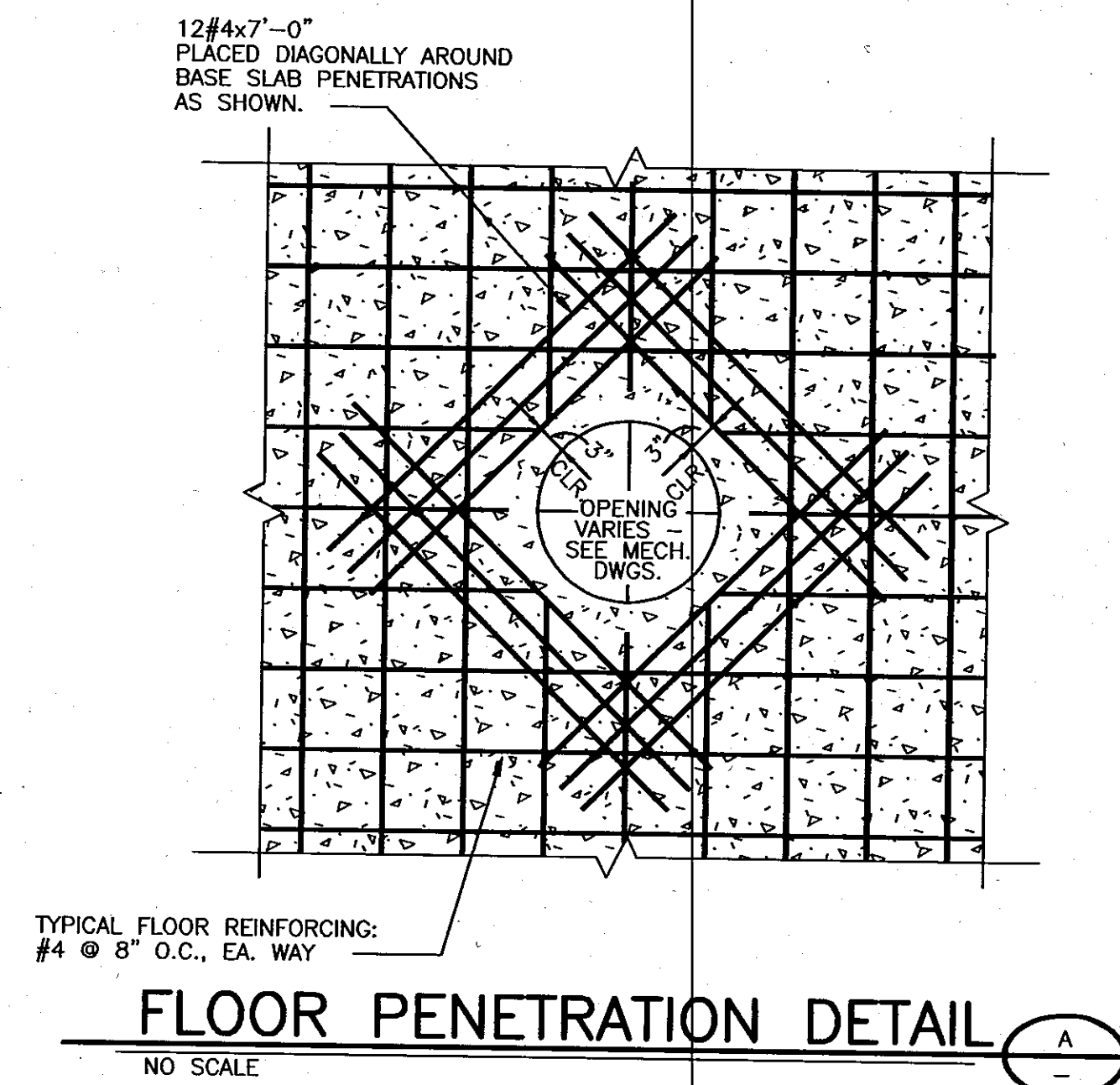
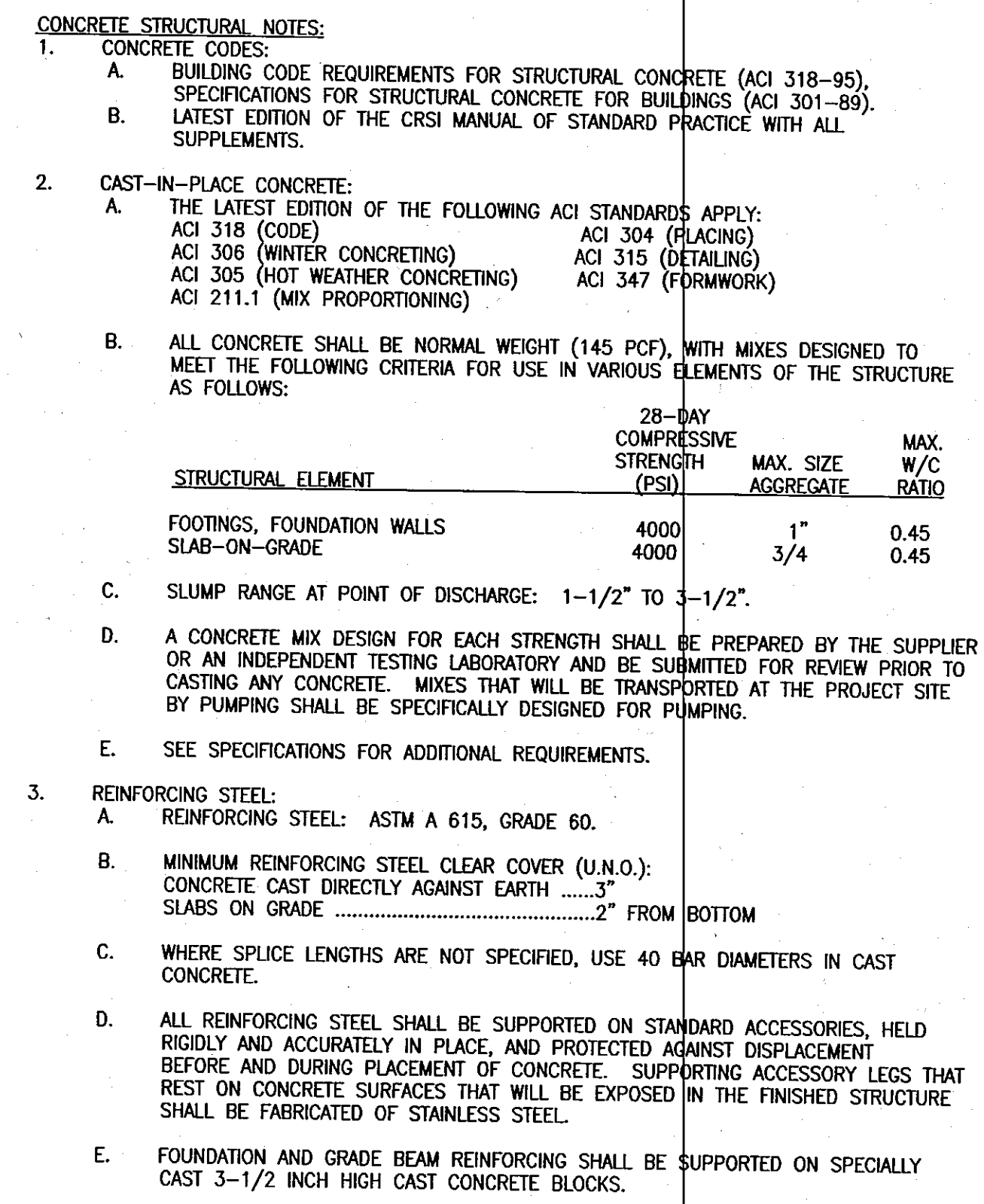
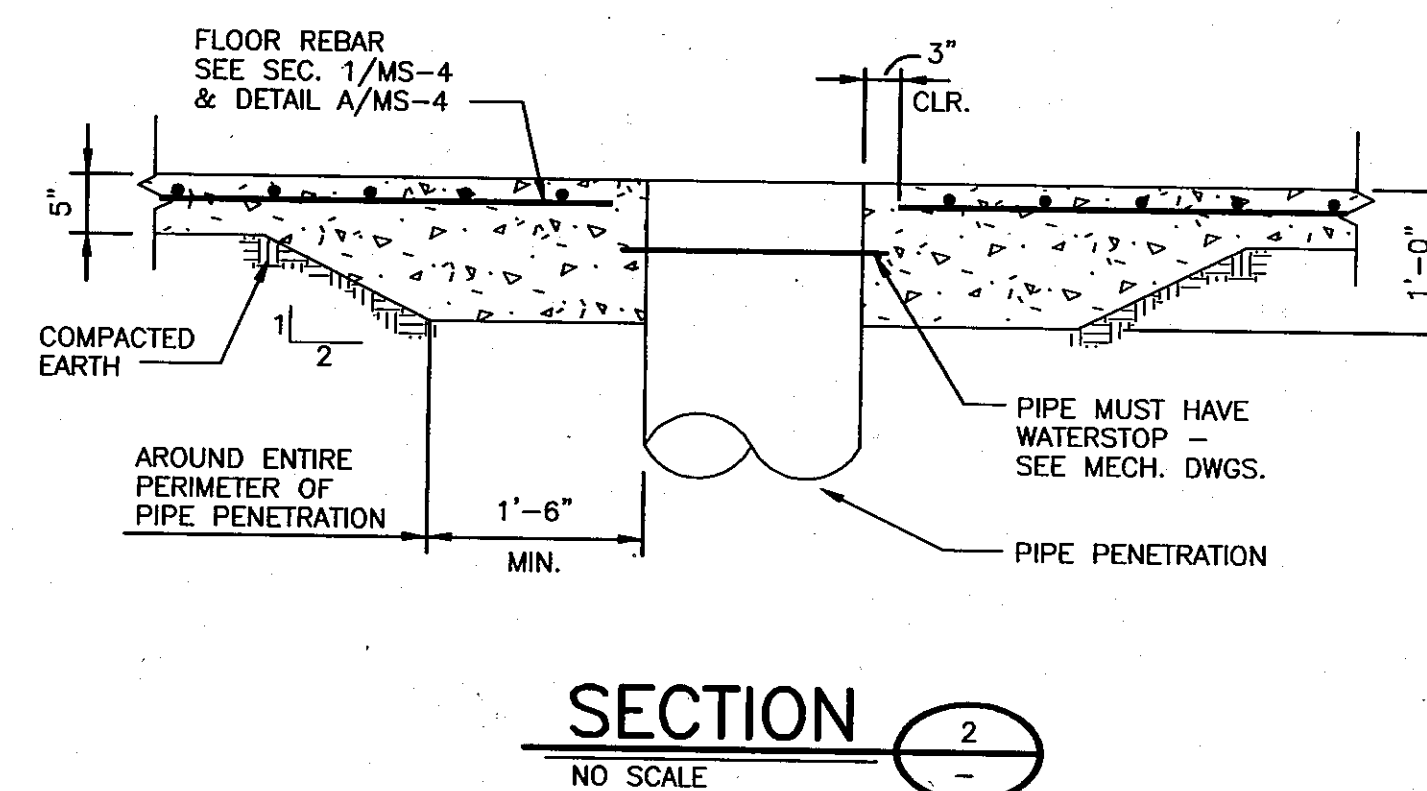
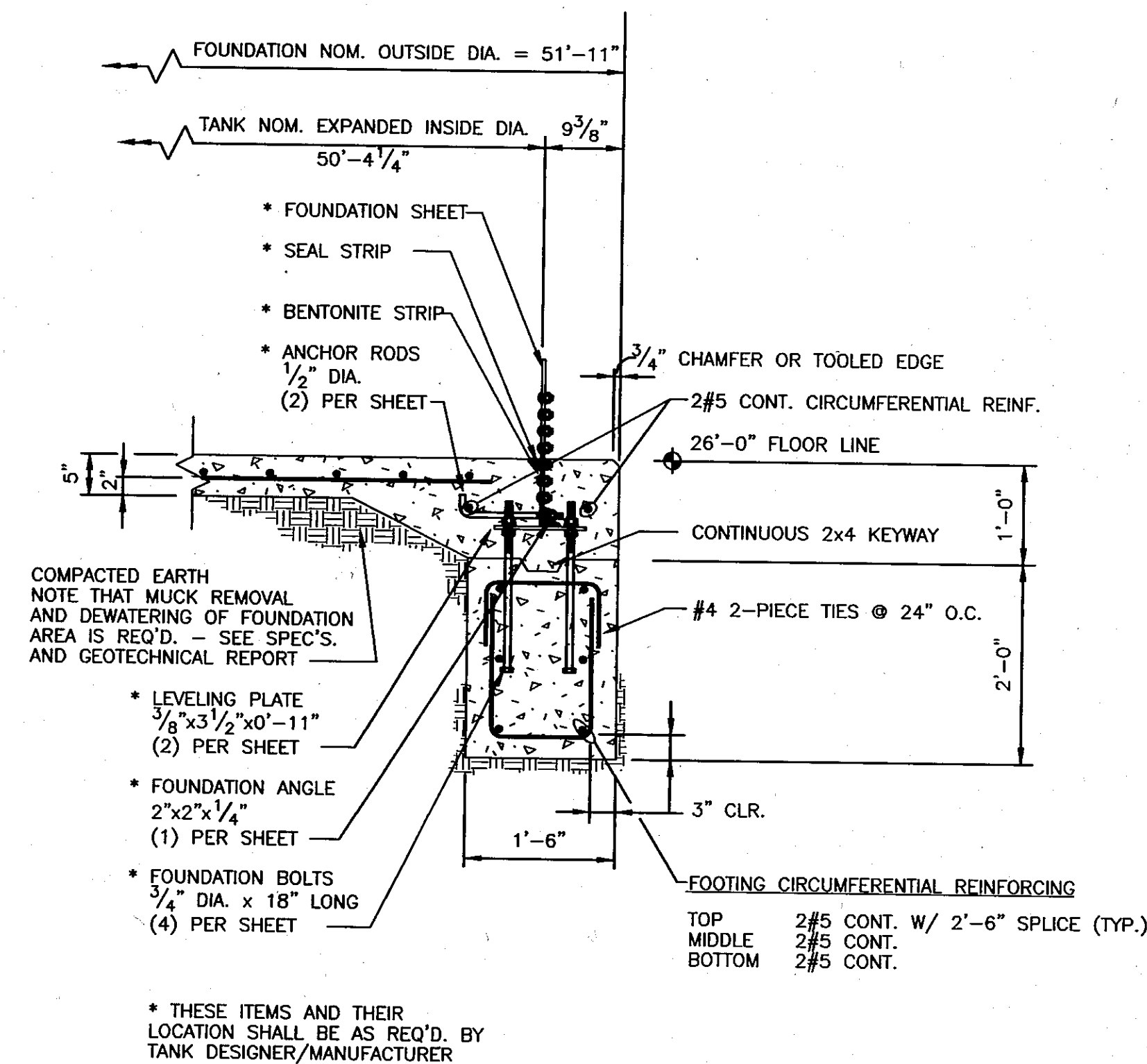
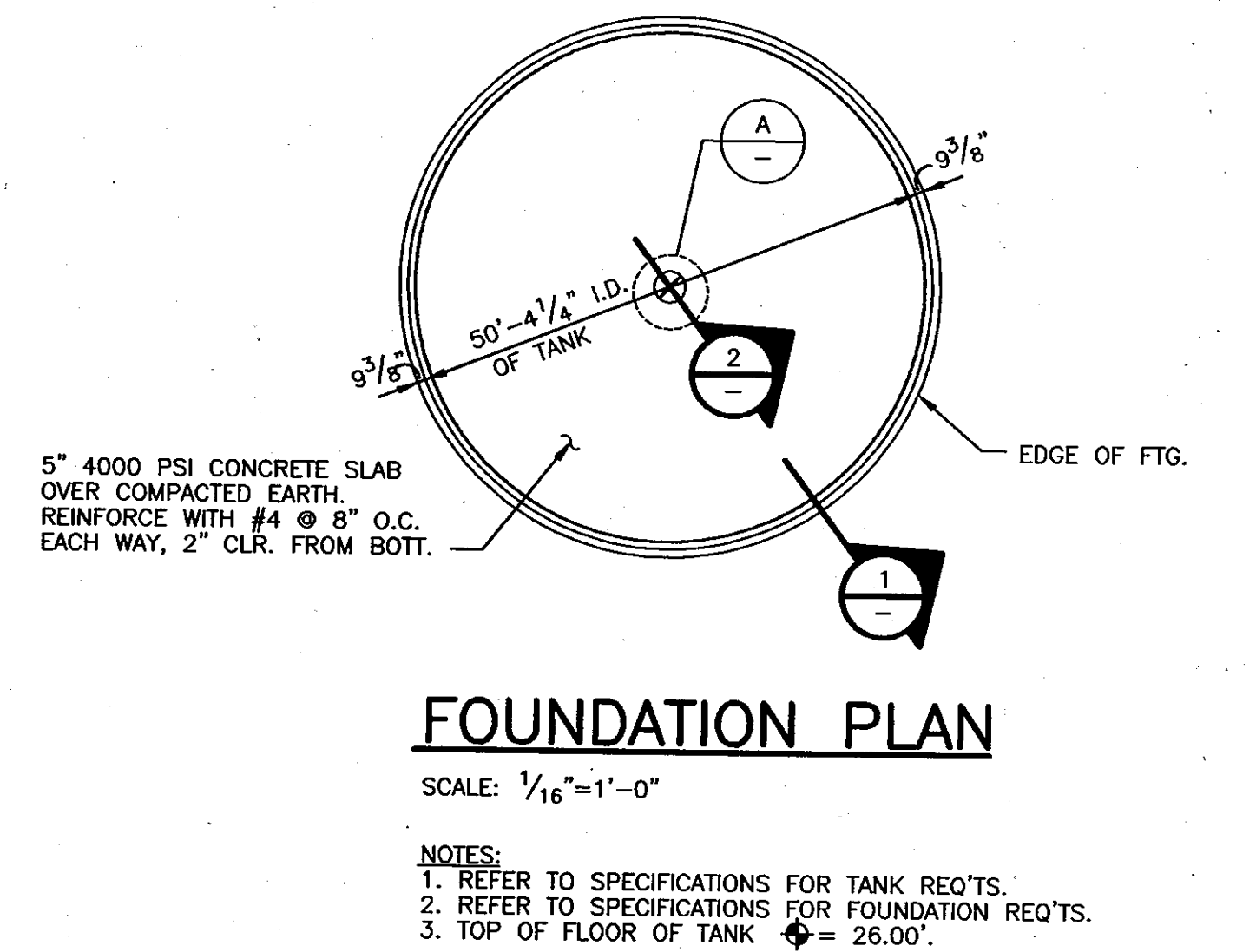
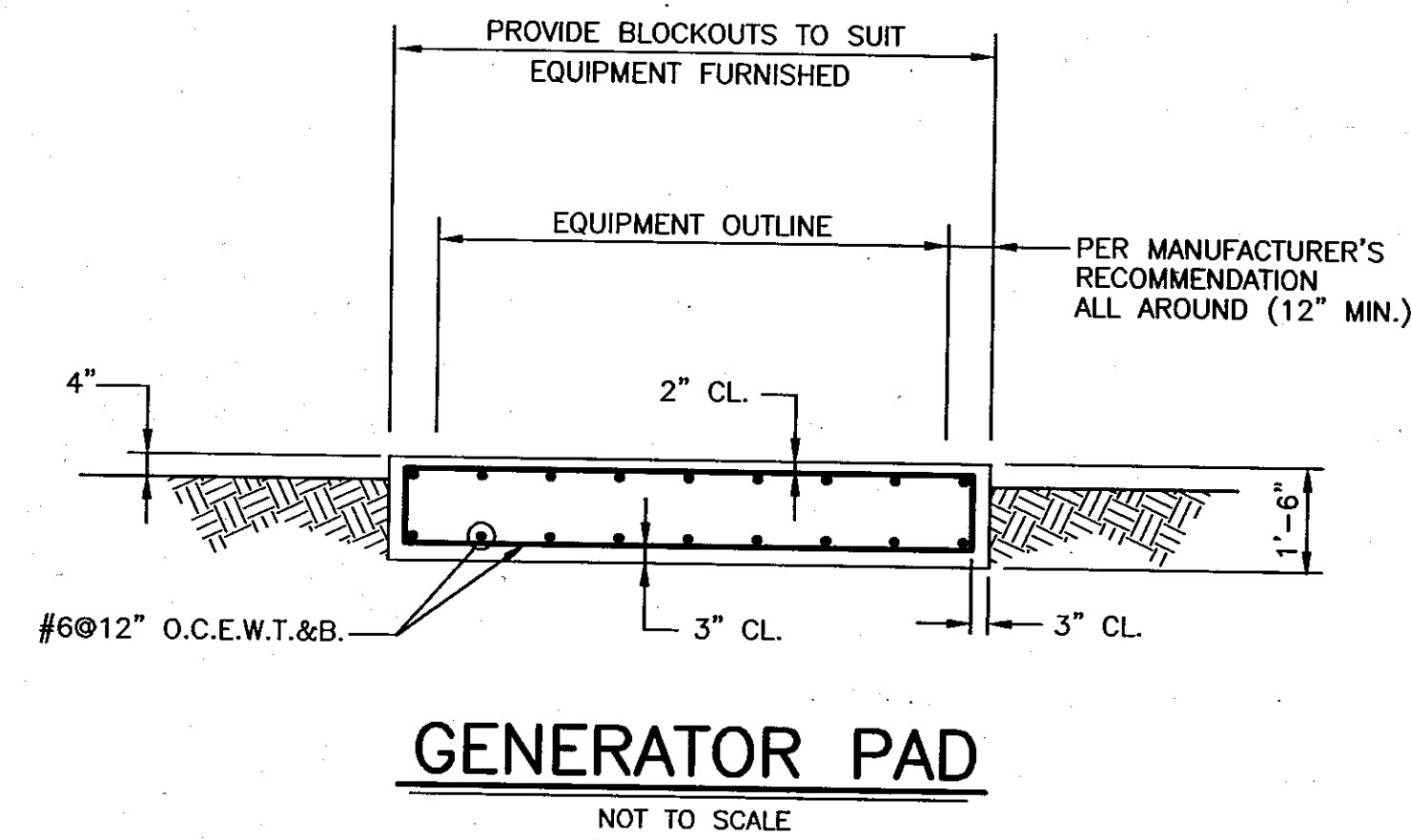
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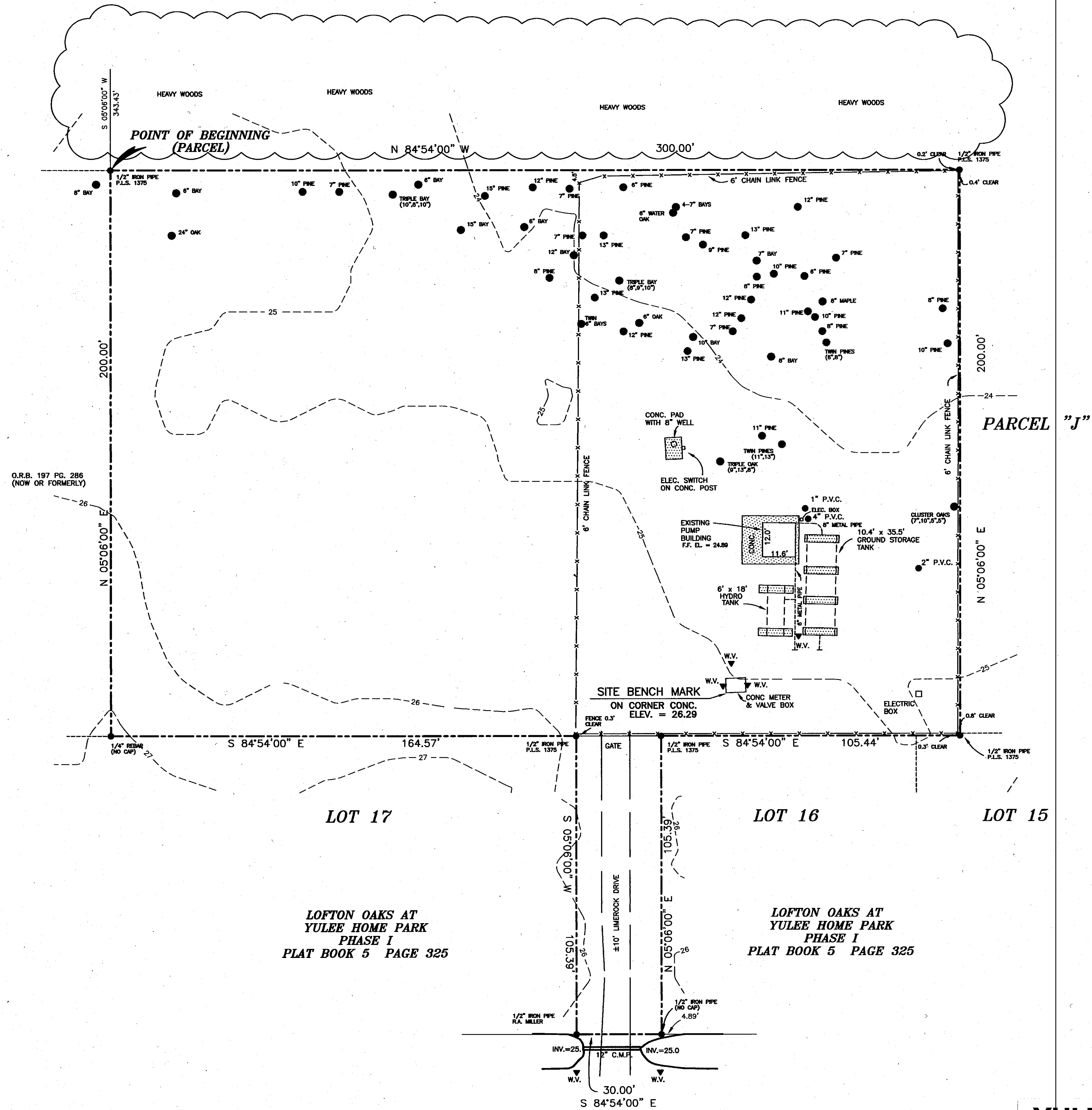
YULWTP-003



(M-4)



RBA-1997141\LOFTON\CL.dwg 09-23-97



EXISTING LOFTON OAKS W.T.P.

300 EAST STUART AVENUE
YULEE, FLORIDA

YULWTP-001

FIELD SURVEY INFORMATION FURNISHED BY:
RICHARD A. MILLER & ASSOCIATES
6701 BEACH BOULEVARD, SUITE #200
JACKSONVILLE, FLORIDA 32216
(904) 721-1226

C-4



GROUND STORAGE IMPROVEMENTS

United Water Florida
JACKSONVILLE, FL 32225
1400 MILLCREE ROAD

NO.	DESCRIPTION	DATE

rb
ROBERT BATES & ASSOCIATES, INC.
SURVEYING & ENGINEERING CONSULTANTS
JACKSONVILLE, FLORIDA

EXISTING SURVEY
LOFTON OAKS WTP

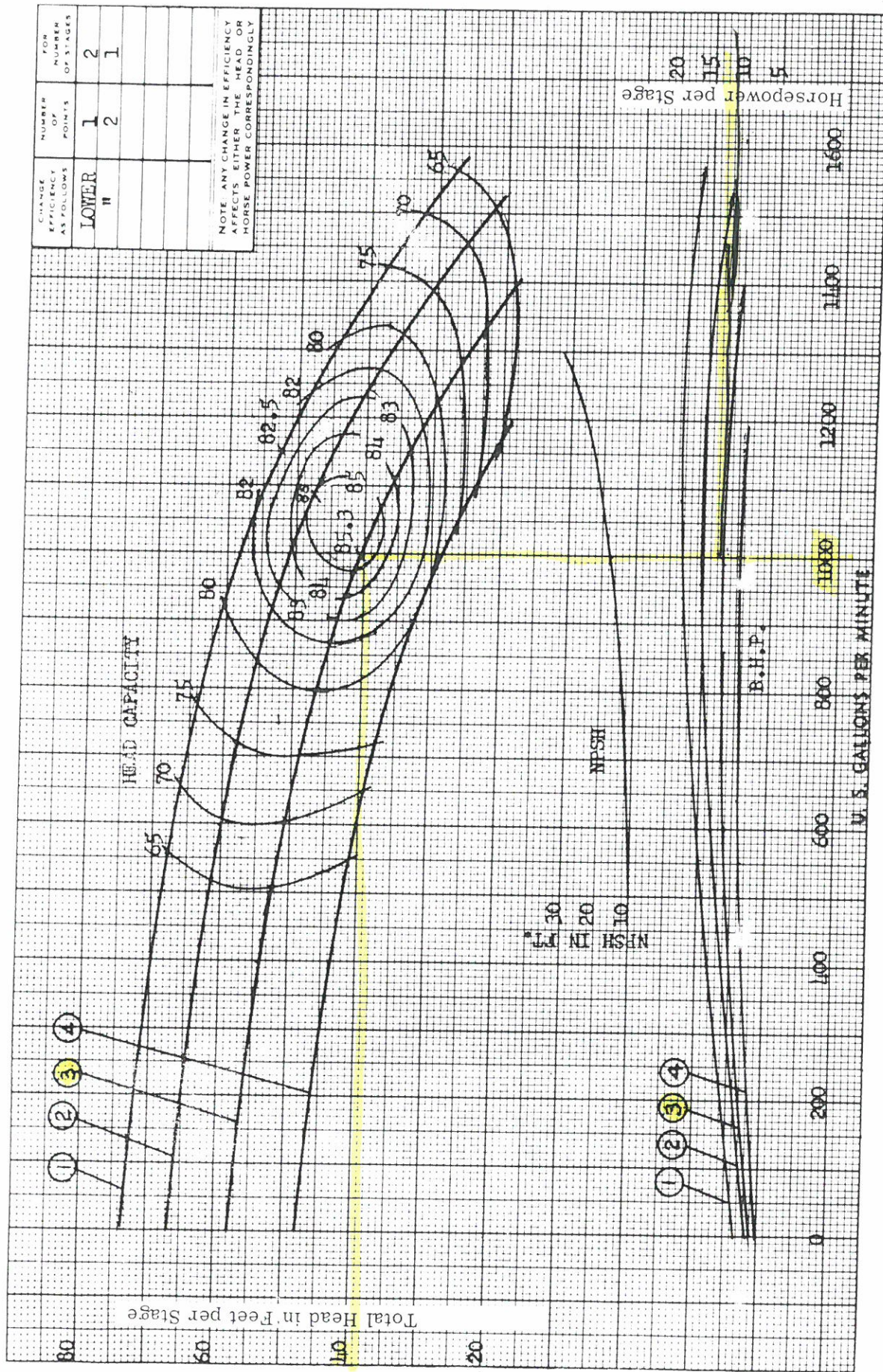
DESIGN BY XXX	SCALE AS SHOWN	DATE 9-10-97	PROJECT NO. 897141	CDA NO. XXX	FILE NO. C4.DWG	SHEET 23 OF 31
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12MB

Curve No. 2846757

Impeller No. 2626936

1760 RPM



12MB

Curve No. 2842929

Impeller No. 2624332

1760 RPM

WELL PUMP FROM OAK HILL WTP; PULLED AUG 2008
RELOCATE TO LOFTON OAKS

WELL PUMP FROM COBBLESTONE WTP

Customer :

STORED @ LARRY FLOYD'S SHOP 8/08



Peerless Pump
426 TRIBLE GAP ROAD-SUITE 002 CUMMING, GEORGIA 30040
Jim Gossart
Phone : 770-889-8300
Fax : 770-889-3994

Project :
Quote No. : US-2931-84

Page No. : 1

Contact :
Phone :
Date : Friday, February 23, 2001

Pump Model: Peerless Vertical - 12MB 2 Stages
Nom. Speed: 1770 RPM, 60 Hz Electric
Market : Vertical Turbine Pump
Impeller No.: 2024331 / HC
Material Spec. Group: A - B: CIE; I: Brz = Standard

Item : 1
Your Ref. :

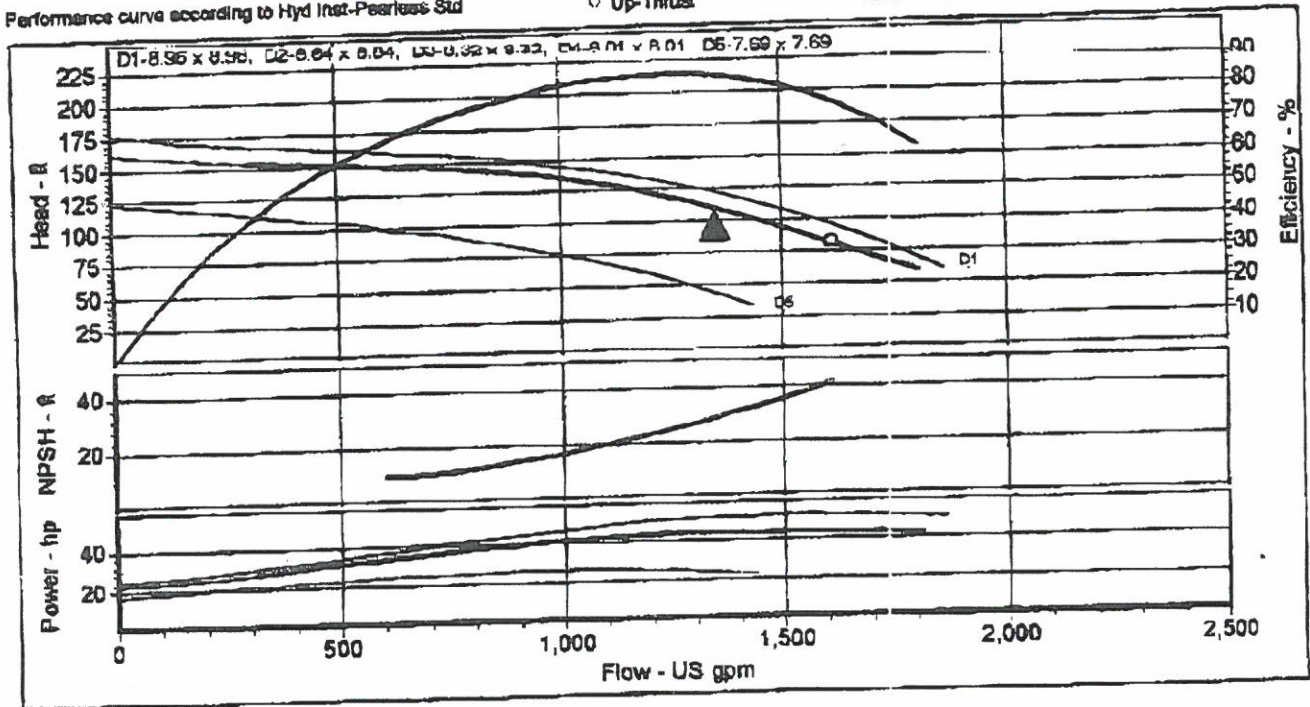
Fluid: Water
Viscosity: 0.922 cSt
Sp. Gravity: 0.997

Stage No.	Trim Status	Imp. Dia. (inch)	D2-in x D2-out
—	Full	—	—
—	Full	8.96 x 8.96	—
1-1	Trimmed F P	8.74 x 8.74	—

Flow rate Q: 1350 US gpm
Discharge Head H: 100 ft
Efficiency: 85 %
Power Required: 44.36 hp
NPSH Required: 28.87 ft

Performance curve according to Hyd Inst-Peerless Std

Up-Thrust



Comments

For a guaranteed condition point, pump must be selected with Hydraulic Institute-Peerless Std. See Standard Hydraulic Performance document in RAPID for testing tolerances & contractual guarantees. Applies to 6-20 inch models.

Flow (US gpm)	Head (ft)	Pump Efficiency (%)	Power Required (hp)	NPSH Required (ft)	Thrust (lb)
0.0	162.43	0.0	22.24		2239.97
226.1	155.34	34.6	25.59		1892.92
452.1	151.18	58.9	30.31		1851.94
678.2	147.23	71.0	35.47	10.16	1634.39
904.3	140.55	80.1	40.05	14.28	1320.19
1130.3	128.62	84.9	43.18	20.90	952.35
1356.4	110.08	84.9	44.37	28.24	548.30
1582.5	85.49	78.0	43.77	39.89	72.11
1808.5	57.98	62.4	42.43		468.86

Revision:	4/2/98	Area:	WS	Eq #:	LO-WTP-W	Facility ID:	2401	Record:	W-WTP	
Location:	LOFTON OAKS WTP							Filename:	LO-WTP-W	
Address:	300 E. STEWART AVE.							QCI #:		
System:	LOFTON OAKS WTP				Subsystem:					
Equipment:	WELL				Eq In Service:		12/01/91			
Eq Mfg:	PEERLESS				Type:					
Eq Mdl:	10MA				Mount Spec:					
Eq Ser:	TI-45351				Impeller:		T84363			
Eq ID:					Imp Code:					
Eq Cat:					Imp Size:					
Code 70's:	4/2/98	DH		Imp Mat:						
Eq DE Brg:					Dia Length:					
Eq ODE Brg:					Shaft Size:		1"			
Turbine:	X	Submersible:		Centrifugal:		Fixed:				
O Ring Kit:					Seals:		Wear Plate:			
Well Size:	12 X 8	Well Depth:		845		Well Casing:				
Stages:	1	Ring Base:				Depth of Pump:		50		
Tail Pipe:					Strainer:		Drawdown:			
Pulley Size:					Belt Size:		Tank #:			
Drill Date:	8/22/89	Drilled By:		JOHN EDDY		Discharge:				
Last Insp:					Next Insp:		Coupling #:			
Coupling Mfg:					Coupling Type:		GPM Last Year:			
GPM Design:	500	GPM This Year:				TDH Last Year:				
TDH Design:	36	TDH This Year:				Mtr Design:		B		
Mtr In Service:					NEMA Design:		Phase:		3	
Mtr Mfg:	US	Frame:		213TP		RPM:		1760		
Mtr Mdl:					HP:		Amps:		20/10	
Mtr Ser:					Volts:		Mtr Type:		TU TL	
Mtr Cat:					SF:		Mtr Code:		H	
Mtr ID:	6760/501R320R052F	Temp:		40		Mtr Insul:				
Mtr Ref:										
Mtr Spec:										
Mtr DE Brg:	7309B-T	Mtr ODE Brg:		6208-2Z-J/C						
Mtr Remarks:										
Last Years Volt a:	244	Last Years Amps a:		19	Last Years Megs a:		1000			
Last Years Volt b:	247	Last Years Amps b:		19	Last Years Megs b:		1000			
Last Years Volt c:	244	Last Years Amps c:		19	Last Years Megs c:		1000			
This Years Volt a:	240	This Years Amps a:		17	This Years Megs a:		1000			
This Years Volt b:	241	This Years Amps b:		17	This Years Megs b:		1000			
This Years Volt c:	241	This Years Amps c:		17	This Years Megs c:		1000			
Plant Brk Mfg:					Panel Brk Mfg:		Mtr Brk Mfg:		CH	
Plant Brk Frm:					Panel Brk Frm:		Mtr Brk Frm:			
Plant Brk Amp:					Panel Brk Amp:		Mtr Brk Amp:		70	
Emer Brk:										
Starter Mfg:	CH	Starter Mdl:		A1	Starter Size:		1			
Starter Heat:	1043	Starter Coil:		1887-1	Starter Kit:		6-23-2			
Starter Remarks:										
Check Mfg:	MH	Disch Mfg:		MH	Suct Mfg:					
Check Size:	8	Disch Size:		8	Suct Size:					
Check Length:	19"	Disch Length:		115/8"	Suct Length:					
Check Type:	SPRING	Disch Type:		GATE	Suct Type:					
a:	PERMIT # 3-089-0034PE CASING BLACK STEEL FLOW TEST BY JOHN EDDY									
b:	IMP CURVE 4806183									
c:										
d:										
e:										
f:										
g:										

Revision:	4/2/98	Area:	WS	Eq #:	LO-WTP-AC	Facility ID:	2400	Record:	W-WTP
Location:	LOFTON OAKS WTP							Filename:	LO-WTP-O
Address:	300 E. STEWART AVE.							QCI #:	
System:	LOFTON OAKS WTP				Subsystem:				
Equipment:	AIR COMPRESSOR						Eq In Service:		
Eq Mfg:	SPEEDAIRE						Type:	AC	
Eq Mdl:	2Z499B						Mount Spec:		
Eq Ser:							Impeller:		
Eq ID:							Imp Code:		
Eq Cat:							Imp Size:		
Code 70's:	4/2/98		DH				Imp Mat:		
Eq DE Brg:							Dia Length:		
Eq ODE Brg:							Shaft Size:		
Turbine:	Submersible:		Centrifugal:				Fixed:		
O Ring Kit:			Seals:				Wear Plate:		
Well Size:			Well Depth:				Well Casing:		
Stages:			Ring Base:				Depth of Pump:		
Tail Pipe:			Strainer:				Drawdown:		
Pulley Size:			Belt Size:				Tank #:		
Drill Date:			Drilled By:						
Last Insp:			Next Insp:				Discharge:		
Coupling Mfg:			Coupling Type:				Coupling #:		
GPM Design:			GPM This Year:				GPM Last Year:		
TDH Design:			TDH This Year:				TDH Last Year:		
Mtr In Service:	12/01/91			NEMA Design:			Mtr Design:		
Mtr Mfg:	DAYTON			Frame:	H56		Phase:	1	
Mtr Mdl:	9K322P			HP:	1		RPM:	3450	
Mtr Ser:				Volts:	230/460		Amps:	17.8/8.9	
Mtr Cat:				SF:	1		Mtr Type:		
Mtr ID:	R603256P			Temp:	40		Mtr Code:		
Mtr Ref:							Mtr Insul:		
Mtr Spec:									
Mtr DE Brg:					Mtr ODE Brg:				
Mtr Remarks:									
Last Years Volt a:	110			Last Years Amps a:	7		Last Years Megs a:	1000	
Last Years Volt b:				Last Years Amps b:			Last Years Megs b:		
Last Years Volt c:				Last Years Amps c:			Last Years Megs c:		
This Years Volt a:	244			This Years Amps a:	10		This Years Megs a:	60	
This Years Volt b:				This Years Amps b:			This Years Megs b:		
This Years Volt c:				This Years Amps c:			This Years Megs c:		
Plant Brk Mfg:				Panel Brk Mfg:			Mtr Brk Mfg:		
Plant Brk Frm:				Panel Brk Frm:			Mtr Brk Frm:		
Plant Brk Amp:				Panel Brk Amp:			Mtr Brk Amp:		
Emer Brk:									
Starter Mfg:	CH			Starter Mdl:	A1		Starter Size:	0	
Starter Heat:				Starter Coil:	1887-1		Starter Kit:	6-22-2	
Starter Remarks:									
Check Mfg:				Disch Mfg:			Suct Mfg:		
Check Size:				Disch Size:			Suct Size:		
Check Length:				Disch Length:			Suct Length:		
Check Type:				Disch Type:			Suct Type:		
a:									
b:									
c:									
d:									
e:									
f:									
g:									

Revision: 4/2/98 Area: WS Eq #: LO-WTP-HS1 Facility ID: 2402 Record: W-WTP
Location: LOFTON OAKS WTP Filename: LO-WTP-P
Address: 300 E. STEWART AVE. QCI #:

System: LOFTON OAKS WTP Subsystem:
Equipment: HS PUMP 1
Eq Mfg: PEERLESS
Eq Mdl:
Eq Ser:
Eq ID:
Eq Cat:
Code 70's: 4/2/98 DH
Eq DE Brg:
Eq ODE Brg:

Eq In Service: 12/01/91
Type: 820A
Mount Spec:
Impeller: V1735B
Imp Code:
Imp Size: 7"
Imp Mat: BRONZE
Dia Length:
Shaft Size:
Fixed:

Turbine: Submersible: Centrifugal: X
O Ring Kit: Seals: PS 361

Wear Plate:
Well Casing:
Depth of Pump:
Drawdown:
Tank #:

Well Size: Well Depth:
Stages: Ring Base:
Tail Pipe: Strainer:
Pulley Size: Belt Size:
Drill Date: Drilled By:

Discharge:
Coupling #:
GPM Last Year:
TDH Last Year:

Last Insp: Next Insp:
Coupling Mfg: Coupling Type:
GPM Design: GPM This Year:
TDH Design: TDH This Year:
Mtr In Service: NEMA Design:

Mtr Design: B
Phase: 3
RPM: 3480
Amps: 36.6/18.3
Mtr Type: UT-4-TE
Mtr Code: G
Mtr Insul: F

Mtr Mfg: US Frame: 215JM
Mtr Mdl: HP: 15
Mtr Ser: Volts: 230/460
Mtr Cat: SF: 1.25
Mtr ID: B085/S05S069R061F Temp: 40
Mtr Ref:

Mtr Spec:
Mtr DE Brg: 6309-2Z-J/C3 Mtr ODE Brg: 6206-2Z-J/C3
Mtr Remarks: EFF. 87.5%

Last Years Volt a:	244	Last Years Amps a:	26	Last Years Megs a:	1000
Last Years Volt b:	246	Last Years Amps b:	24	Last Years Megs b:	1000
Last Years Volt c:	244	Last Years Amps c:	26	Last Years Megs c:	1000
This Years Volt a:	242	This Years Amps a:	26	This Years Megs a:	1000
This Years Volt b:	243	This Years Amps b:	28	This Years Megs b:	1000
This Years Volt c:	241	This Years Amps c:	30	This Years Megs c:	1000

Plant Brk Mfg:		Panel Brk Mfg:		Mtr Brk Mfg:	
Plant Brk Frm:		Panel Brk Frm:		Mtr Brk Frm:	
Plant Brk Amp:		Panel Brk Amp:		Mtr Brk Amp:	

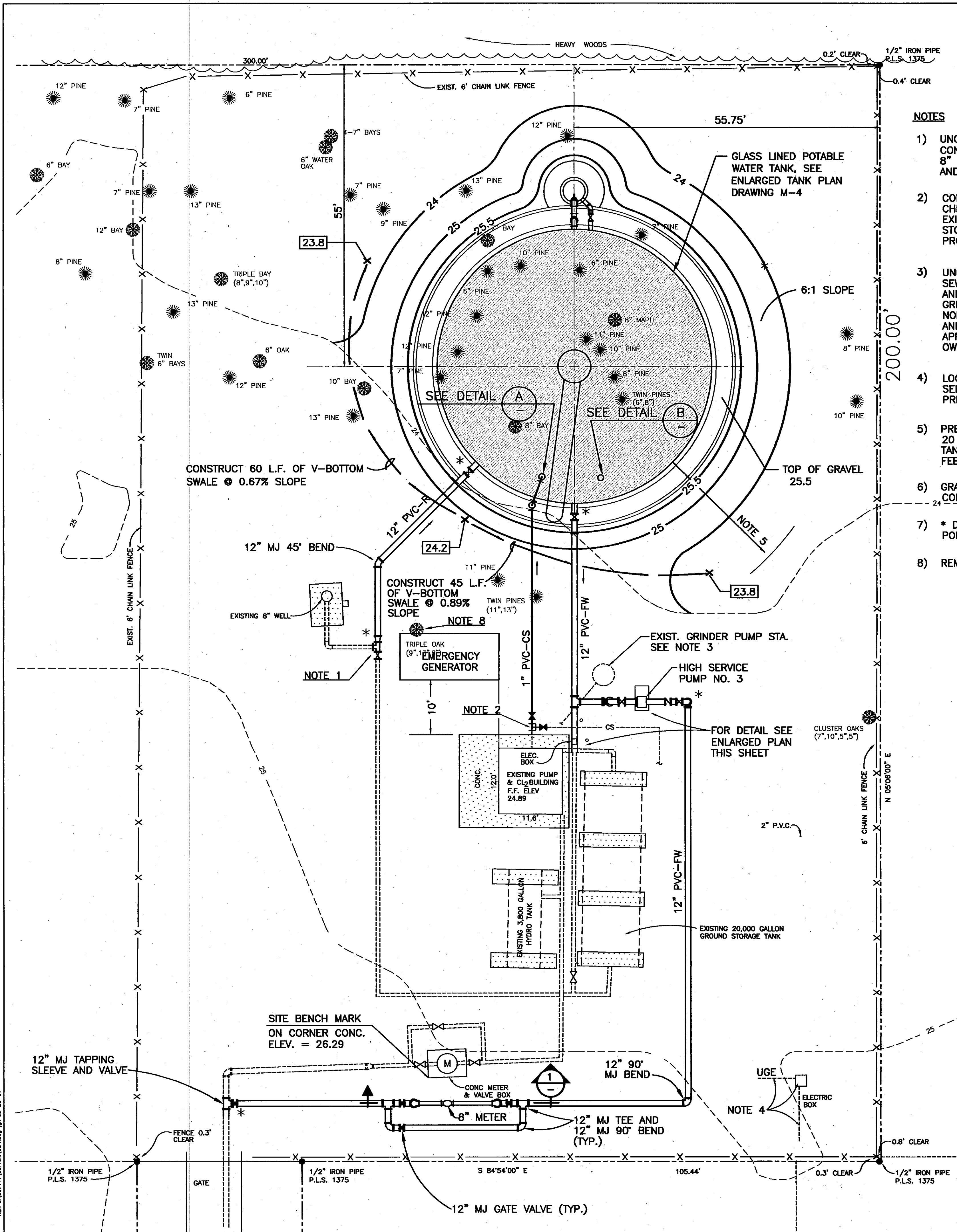
Emer Brk:
Starter Mfg: CH Starter Mdl: B1 Starter Size: 2
Starter Heat: 1043 Starter Coil: 2526-1 Starter Kit: 6-34-2

Starter Remarks:
Check Mfg: Disch Mfg: Suct Mfg:
Check Size: 2" Disch Size: 2" Suct Size: 2.5"
Check Length: 5" Disch Length: Suct Length:
Check Type: INTERN Disch Type: GATE Suct Type: GATE

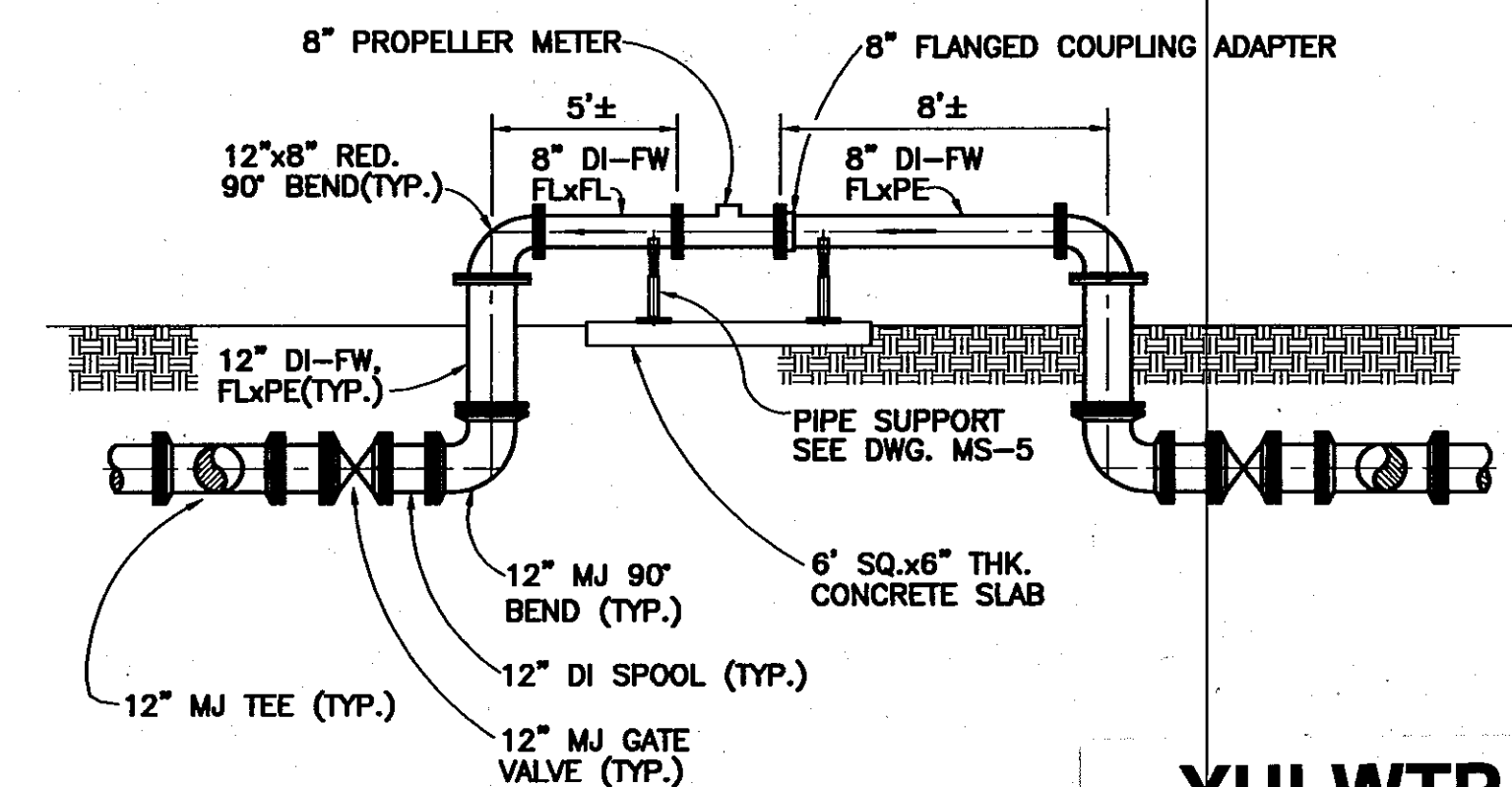
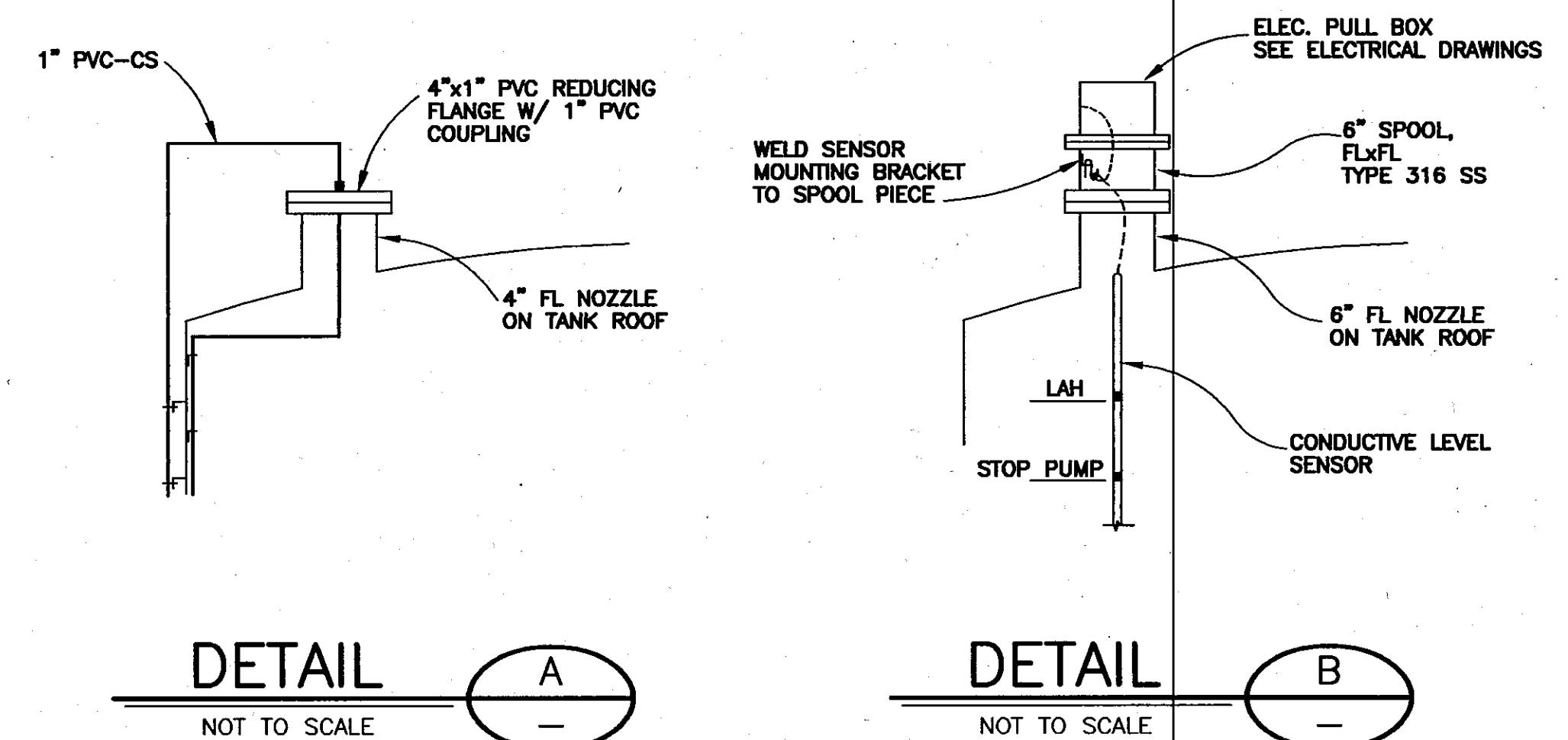
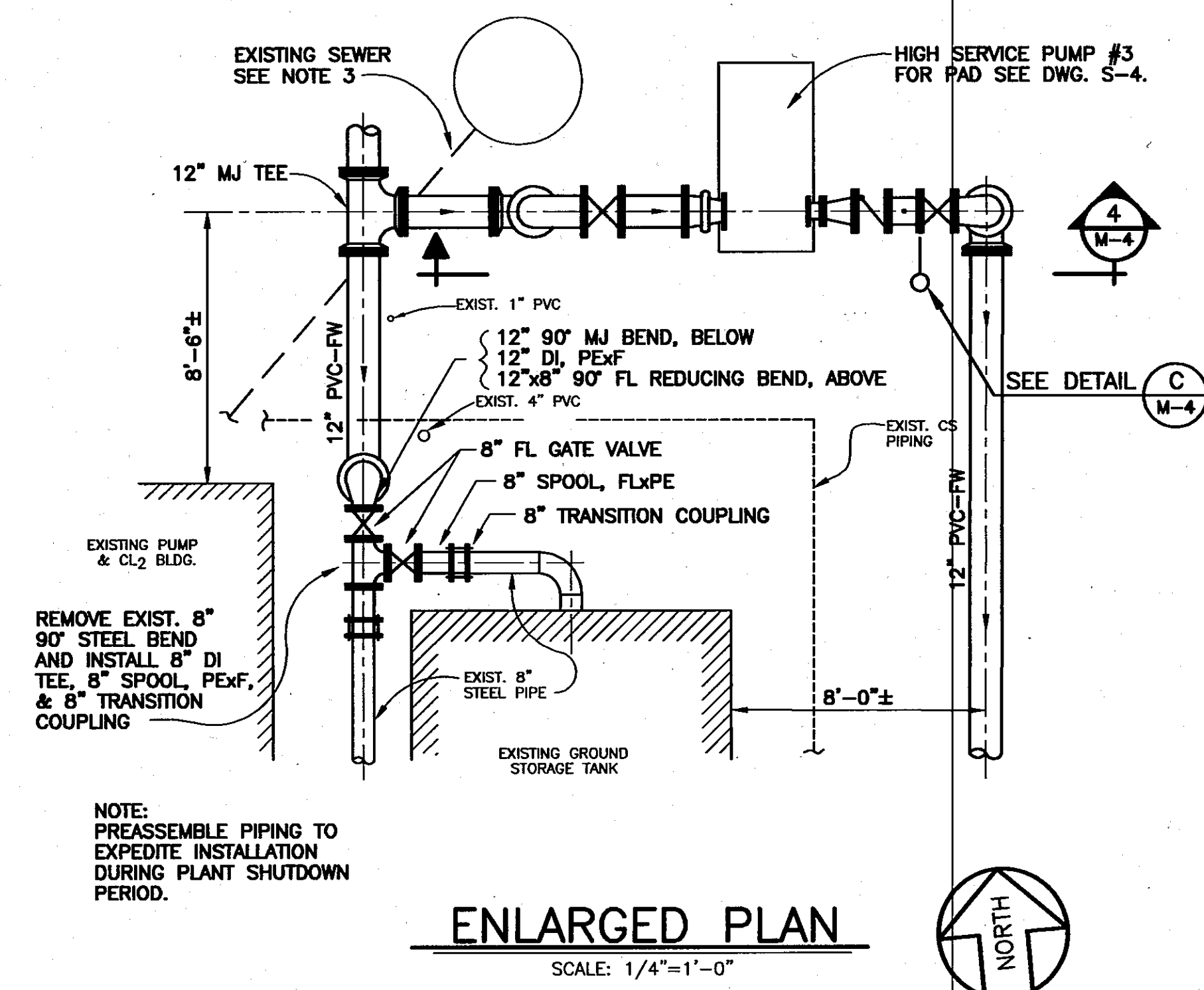
a: INSTALLED A NEW IMPELLER, SEAL, AND GASKET 4/7/98 BY DH, HH. MATERIAL IS BRONZE

b:
c:
d:
e:
f:
g:

Revision:	4/2/98	Area:	WS	Eq #:	LO-WTP-HS2	Facility ID:	2402	Record:	W-WTP
Location:	LOFTON OAKS WTP							Filename:	LO-WTP-P
Address:	300 E. STEWART AVE.							QCI #:	
System:	LOFTON OAKS WTP			Subsystem:					
Equipment:	HS PUMP 2					Eq In Service:	12/01/91		
Eq Mfg:	PEERLESS					Type:	820A		
Eq Mdl:						Mount Spec:			
Eq Ser:						Impeller:	V1735B		
Eq ID:						Imp Code:			
Eq Cat:						Imp Size:	7"		
Code 70's:	4/2/98	DH				Imp Mat:	CAST		
Eq DE Brg:						Dia Length:			
Eq ODE Brg:						Shaft Size:			
Turbine:	Submersible:		Centrifugal:		X	Fixed:			
O Ring Kit:			Seals:		PAC SEAL #361	Wear Plate:			
Well Size:			Well Depth:			Well Casing:			
Stages:			Ring Base:			Depth of Pump:			
Tail Pipe:			Strainer:			Drawdown:			
Pulley Size:			Belt Size:			Tank #:			
Drill Date:			Drilled By:						
Last Insp:			Next Insp:			Discharge:			
Coupling Mfg:			Coupling Type:			Coupling #:			
GPM Design:			GPM This Year:			GPM Last Year:			
TDH Design:			TDH This Year:			TDH Last Year:			
Mtr In Service:			NEMA Design:		B	Mtr Design:	B		
Mtr Mfg:	US		Frame:		215JM	Phase:	3		
Mtr Mdl:			HP:		15	RPM:	3480		
Mtr Ser:			Volts:		230/460	Amps:	36.6/18.3		
Mtr Cat:			SF:		1.25	Mtr Type:	UT-4-TE		
Mtr ID:	B085/RO9R183R016F		Temp:		40	Mtr Code:	G		
Mtr Ref:						Mtr Insul:	F		
Mtr Spec:									
Mtr DE Brg:	6309-2Z-J/C3		Mtr ODE Brg:		6206-2Z-J/C3				
Mtr Remarks:	EFF. 87.5%								
Last Years Volt a:	244		Last Years Amps a:	30		Last Years Megs a:	1000		
Last Years Volt b:	246		Last Years Amps b:	30		Last Years Megs b:	1000		
Last Years Volt c:	244		Last Years Amps c:	32		Last Years Megs c:	1000		
This Years Volt a:	242		This Years Amps a:	28		This Years Megs a:	1000		
This Years Volt b:	243		This Years Amps b:	28		This Years Megs b:	1000		
This Years Volt c:	241		This Years Amps c:	30		This Years Megs c:	1000		
Plant Brk Mfg:			Panel Brk Mfg:			Mtr Brk Mfg:			
Plant Brk Frm:			Panel Brk Frm:			Mtr Brk Frm:			
Plant Brk Amp:			Panel Brk Amp:			Mtr Brk Amp:	70		
Emer Brk:									
Starter Mfg:	CH		Starter Mdl:	B1		Starter Size:	2		
Starter Heat:	1043		Starter Coil:	2526-1		Starter Kit:	6-34-2		
Starter Remarks:									
Check Mfg:			Disch Mfg:			Suct Mfg:			
Check Size:	2"		Disch Size:	2"		Suct Size:	2.5"		
Check Length:	5"		Disch Length:			Suct Length:			
Check Type:	INTERN		Disch Type:	GATE		Suct Type:	GATE		
a:	NEW IMPELLER & SEAL INSTALLED 4/27/98 IMPELLER MATERIAL IS CAST IRON DH, HH								
b:									
c:									
d:									
e:									
f:									
g:									



- NOTES
- 1) UNCOVER AND EXPOSE EXISTING PIPING. CONNECT TO EXISTING PIPING WITH 8" MJ TEE, 8" MJ GATE VALVE AND 12" x 8" MJ REDUCER.
 - 2) CONNECT 1" PVC-CS TO EXISTING CHLORINE SOLUTION LINE FEEDING EXISTING 20,000 GALLON GROUND STORAGE TANK. PROVIDE TWO PVC BALL VALVES.
 - 3) UNCOVER AND EXPOSE EXISTING SEWAGE GRINDER PUMP STATION AND ASSOCIATED PIPING. RELOCATE GRINDER PUMP STATION 20 FEET NORTH. MODIFY INFLUENT PIPING AND FORCE MAIN PIPING AS APPROPRIATE AND AS APPROVED BY OWNER.
 - 4) LOCATION OF EXISTING INCOMING SERVICE UNKNOWN. LOCATE AND PRESERVE.
 - 5) PRESERVE AND PROTECT ALL TREES LOCATED 20 OR MORE FEET BEYOND PERIMETER OF TANK. REMOVE ALL TREES WITHIN 20 FEET OF TANK PERIMETER.
 - 6) GRASS ALL AREAS DISTURBED BY CONSTRUCTION.
 - 7) * DENOTES BACTERIOLOGICAL SAMPLING POINT FOR PIPING.
 - 8) REMOVE TREE.



YULWTP-002



MITTAUER
& ASSOCIATES, INC.
CONSULTING ENGINEERS &
PROJECT FUNDING SPECIALISTS

580-1 WELLS ROAD
ORANGE PARK, FL 32073
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FAX: (904) 278-0840
WWW.MITTAUER.COM

December 2, 2014

Mr. Hai X. Vu, P.E.
Manager, Water Plants Engineering and Construction
JEA
21 West Church Street, T-4
Jacksonville, FL 32202

RE: Engineering Services Agreement
Lofton Oaks WTP Improvements Evaluation
JEA
Mittauer & Associates Project No. 0801-13-1

Dear Mr. Vu:

We are pleased to present the following proposal for Engineering Services related to creation of a 'Project Definition' document for JEA's use in procuring professional engineering services to design the Lofton Oaks Water Treatment Plant (WTP) Improvements project. Mittauer & Associates, Inc., hereinafter referred to as the Engineer, proposes to provide services as described in the Scope of Services to JEA, the Client, for the fees stipulated hereafter.

SCOPE OF SERVICES

1. The Engineer shall review available record drawings, JEA operation & maintenance manuals, and perform site evaluations to determine the existing WTP characteristics and associated facility needs.
2. The Engineer will attend a kick-off meeting with the Client following the site evaluation to discuss findings and begin scoping criteria/requirements for WTP improvements.
3. The Engineer shall develop a rehabilitation and/or replacement concept(s) for the existing WTP for review and comment by the Client. Criteria will include, but is not limited, to the following considerations:
 - a. Electrical service needs and necessary upgrades, as applicable.
 - b. Construction logistics to maintain service during necessary upgrades.
 - c. Building replacement and/or rehabilitation alternatives.
 - d. Control modifications and/or enhancements.

- e. Capacity needs based on the Client's demand projections.
 - f. Treatment requirements, as applicable, based on raw water quality data provided by the Client.
4. The Engineer will develop a conceptual opinion of construction costs based on the JEA approved scope of work defined in Item 2. The estimate will provide a Class 4 level based on the Association for the Advancement of Cost Engineering International, Inc. (AACE) classifications.
5. The Engineer will provide a 'Project Definition (PD)' or 'Technical Memorandum' document with the following elements:
- a. Introduction & Background
 - b. Existing Conditions Assessment & Summary
 - c. Scope of Rehabilitation and/or Replacement Work including but not limited to:
 - i. Design criteria for pumping unit(s) replacement
 - ii. Design criteria for piping and valving replacement
 - iii. Design criteria for electrical and instrumentation systems
 - iv. Design criteria for standby power generation
 - v. Design criteria for building modifications and/or replacement
 - vi. Permitting requirements
 - d. Implementation Schedule (Engineering, Permitting, and Construction)
 - e. Opinion of Probable Construction Cost
6. A DRAFT PD will be issued to the Client for review and comment, and a design review meeting will be coordinated to jointly review the document.
7. After receipt of the Client's comments, the Engineer will incorporate those comments into a FINAL PD.
8. Overall, the scope of work includes two (2) site meetings and two (2) review meetings.
9. Deliverables:
- a. DRAFT and FINAL PD in electronic format.

CONDITIONS

The Client shall provide copies of all available Client records as may be required for the Engineer to complete these services. The Client shall define capacity needs as it related to pumping and storage capacity.

EXCLUSIONS

The following items are specifically excluded from the scope of work:

1. Topographic or other surveys for the project area.
2. Any engineering design beyond conceptual approaches to develop the PD.
3. Permitting.
4. Hydraulic modeling.
5. Geotechnical exploration and/or subsurface utility engineering.
6. Review, acquisition, or preparation of plat maps and aerial tax maps.
7. Any assistance related to land acquisition or easements including but not limited to: property appraisals, legal surveys, easements, title searches, zoning changes, attorney fees, or recording fees.

SCHEDULE OF FEES

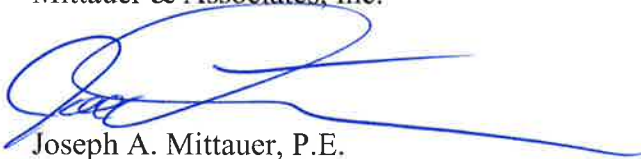
The Engineer shall be paid a Lump Sum Fee of \$22,500.00.

Invoices for services in progress are prepared monthly and are due in accordance with Florida Statute 218, The Local Government Prompt Payment Act. Payments which are not received in accordance herewith are subject to late fees as outlined in the Act as well as collection fees and may cause the Engineer to stop work on the Client's projects. The fees listed above do not include state sales tax, federal sales tax or value added tax (VAT), should it be required by law.

ACCEPTANCE

Acceptance of this proposal may be indicated by the signature of a duly authorized official of the Client in the space provided below. One signed copy of this proposal returned to the Engineer shall serve as Notice-to-Proceed. Should this proposal not be accepted within a period of thirty (30) days, it shall become null and void.

Sincerely,
Mittauer & Associates, Inc.



Joseph A. Mittauer, P.E.
President

Accepted by:
JEA

By: _____

JAM/JRS/mw

Date: _____

Table 1 Lofton Oaks PWS 2454338 (Nassau Grid) Existing Source, Treatment, Pumping, and Finished-Water Storage Facilities
Wells

Name/Location of Well	Pumps from: (Name of Aquifer)	Pumps to: (Name/Location of Water Treatment Plant)	Design Capacity of Well Pump, GPM
Lofton Oaks Well/Lofton Oaks S/D	Floridan 12" Well - 845' deep	Lofton Oaks WTP/Lofton Oaks S/D	500 GPM (0.72 MGD)
Otter Run Well #1/Otter Run S/D	Floridan 12"x8" Well - 920' deep	Otter Run WTP/Otter Run S/D	750 GPM (1.08 MGD)
Otter Run Well #2/Otter Run S/D	Floridan 12"x8" Well - 920' deep	Otter Run WTP/Otter Run S/D	750 GPM (1.08 MGD)
Nassau Regional Well #1/Amelia Concourse	Floridan 16" Well - 900' deep	Yulee Regional WTP/Amelia Concourse	2,000 GPM (2.88 MGD)
Nassau Regional Well #2/Amelia Concourse	Floridan 16" Well - 900' deep	Yulee Regional WTP/Amelia Concourse	2,000 GPM (2.88 MGD)
TOTAL WELL PUMPING:			6,000 GPM (9.36 MGD)

MGD = million gallons per day.

High Service Pumping Stations

Name/Location of Pumping Station	Pumps from:	Pumps to:	Number & Capacity of Pumps	Total Firm Design Capacity of Pumping Station (Excluding Standby Pump), GPM
Lofton Oaks WTP/Lofton Oaks S/D	Lofton Oaks WTP	Nassau Water Grid	HSP #1 250 GPM @ 160'	500 GPM (0.72 MGD)
Lofton Oaks WTP/Lofton Oaks S/D	Lofton Oaks WTP	Nassau Water Grid	HSP #2 250 GPM @ 160'	500 GPM (0.72 MGD)
Otter Run WTP/Otter Run S/D	Otter Run WTP	Nassau Water Grid	HSP #1 300 GPM	
Otter Run WTP/Otter Run S/D	Otter Run WTP	Nassau Water Grid	HSP #2 400 GPM	
Otter Run WTP/Otter Run S/D	Otter Run WTP	Nassau Water Grid	HSP #3 750 GPM	1,450 GPM (2.01 MGD)
Nassau Regional WTP/Amelia Concourse	Nassau Regional WTP	Nassau Water Grid	HSP #1 500 GPM	
Nassau Regional WTP/Amelia Concourse	Nassau Regional WTP	Nassau Water Grid	HSP #2 1,500 GPM	
Nassau Regional WTP/Amelia Concourse	Nassau Regional WTP	Nassau Water Grid	HSP #3 2,000 GPM	4,000 GPM (5.76 MGD)
TOTAL HS PUMPING:				5,950 GPM (8.59 MGD)

MGD = million gallons per day.

Finished-Water Storage Facilities

Name/Location of Pumping Station	Type of Storage Facility	Ground Storage, GAL	Pneumatic Storage, GAL	Total Storage, GAL
Lofton Oaks WTP/Lofton Oaks S/D	Ground and Pneumatic	20,000	3,000	23,000
Otter Run WTP/Otter Run S/D	Ground	65,600	0	65,600
Nassau Regional WTP/Amelia Concourse	Ground	850,000	0	850,000
Total or Combined Storage Capacity of All Storage Facilities:		935,600	3,000	938,600

GAL = Gallons

480 cfm @ 160'
A 10' or 12' pump