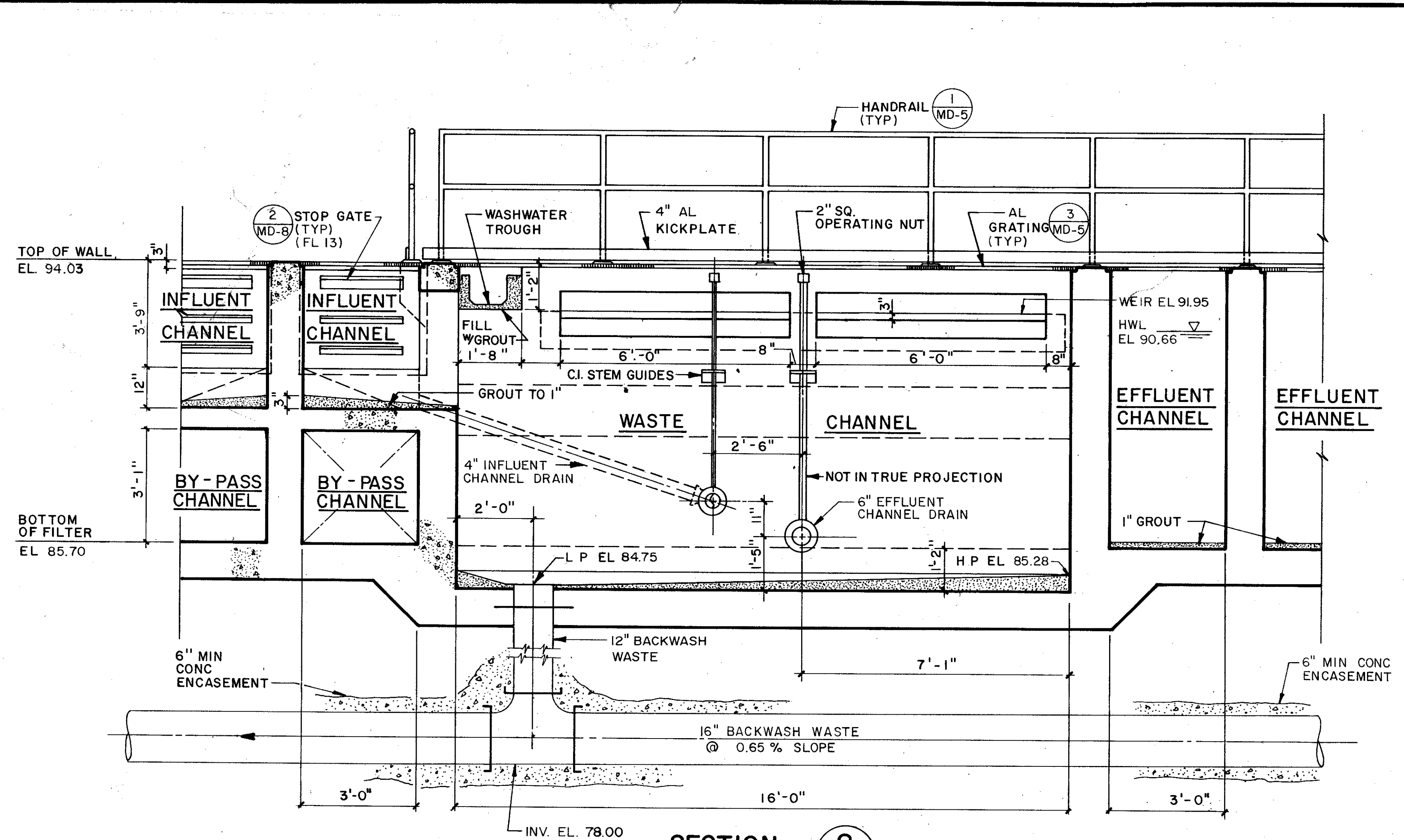
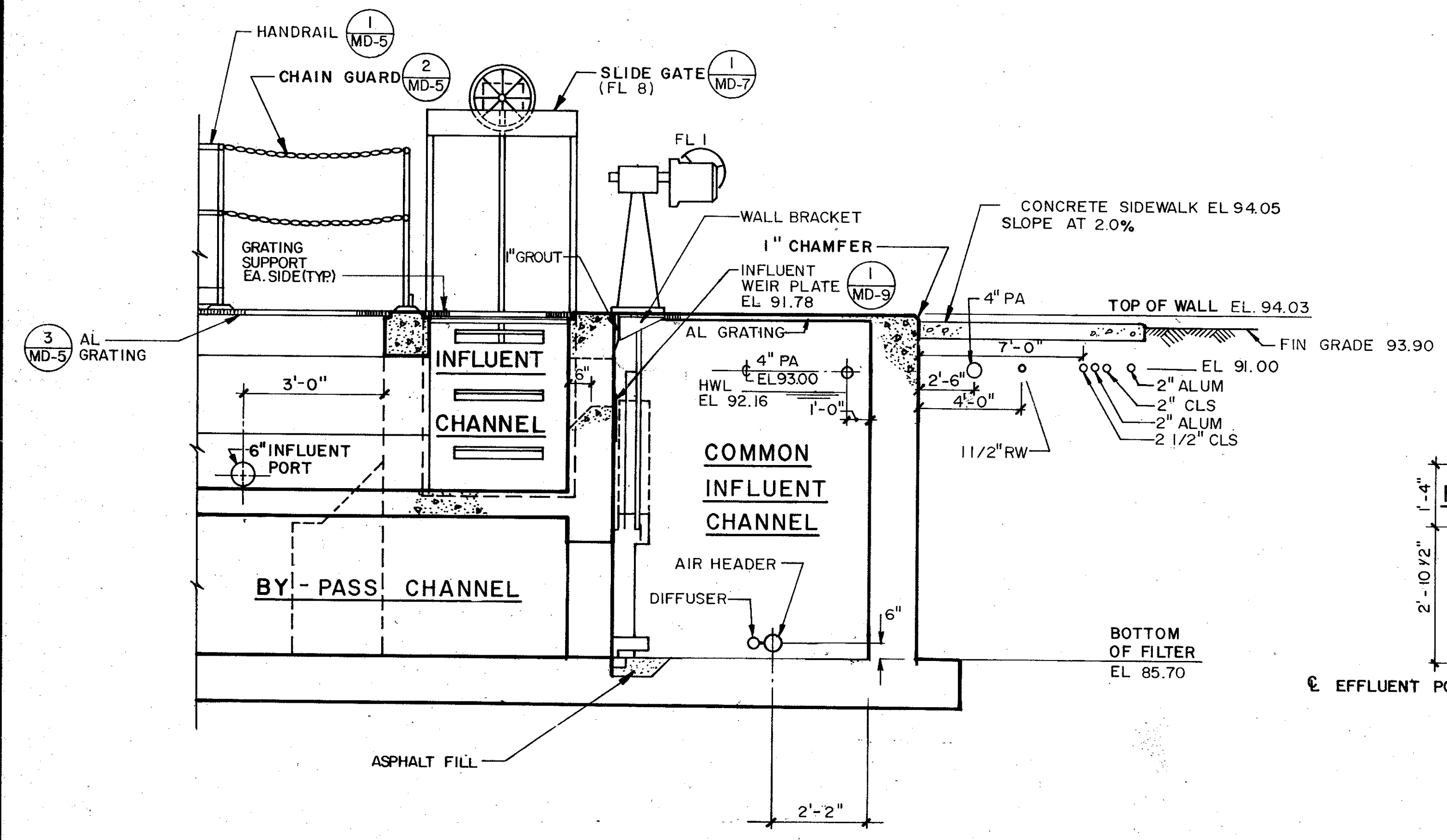


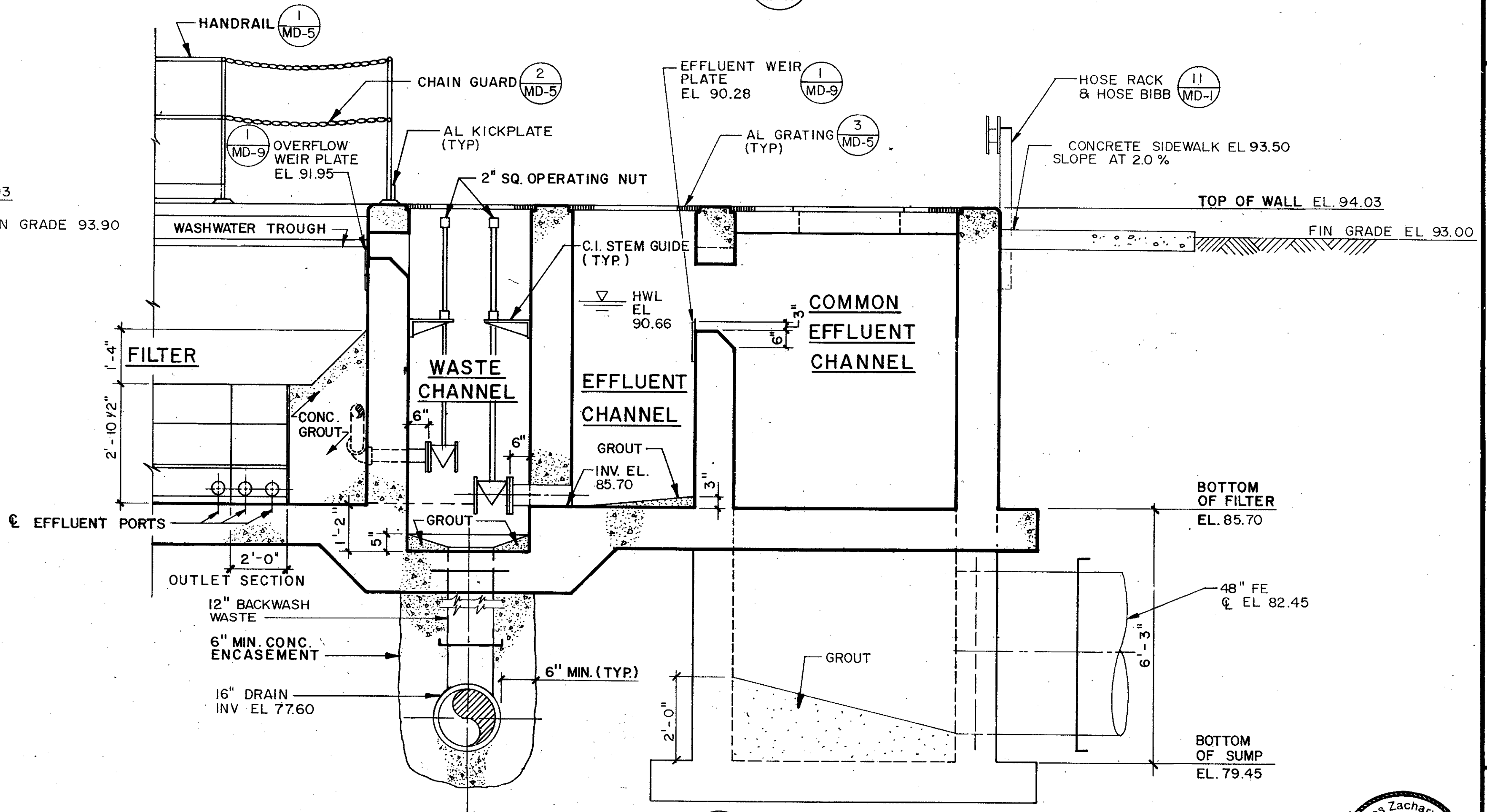
SECTION 1
NTS M-47



SECTION 2
NTS M-47

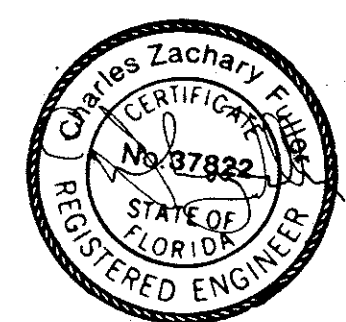


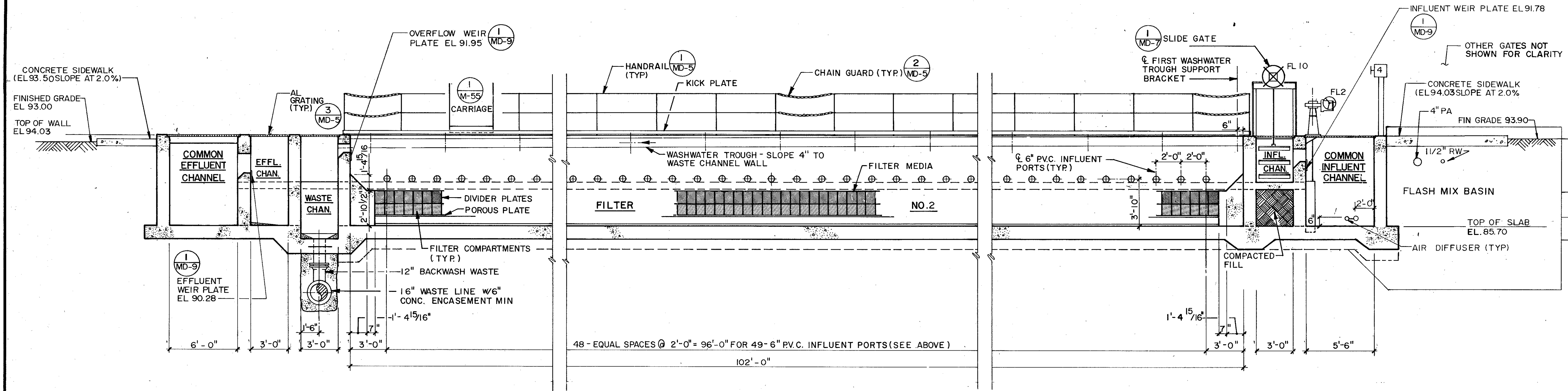
SECTION 3
NTS M-47



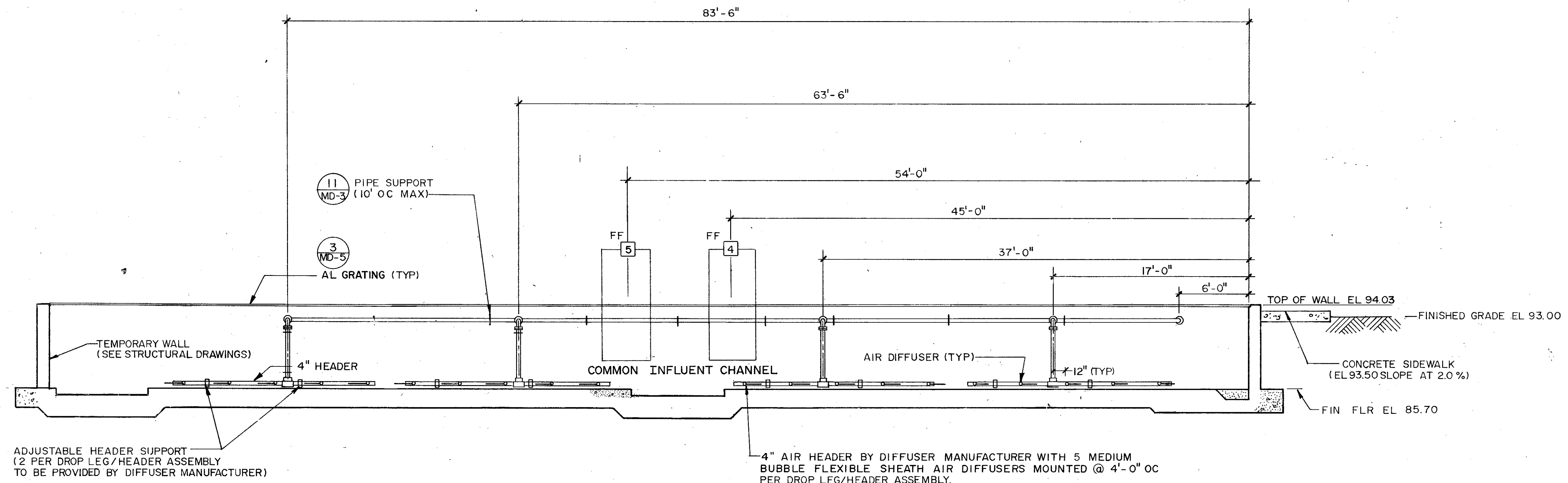
SECTION 4
NTS M-47

REMARKS	CONFORMED DWG.
DESIGNED BY: B.S.	DATE: 4/88
DRAWN BY: J.E.K.	SAF
CHECKED BY: B.S.	DATE: MARCH 1988
APPROVED BY: C.Z.F.	
CDM	
CAMP DRESSER & MCKEE INC.	
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION	
AUTOMATIC BACKWASH FILTERS - SECTIONS	
ORANGE COUNTY, FLORIDA	
PROJECT NO.	6059-SL3R
SHEET NO.	M-53





SECTION I
NTS M-47



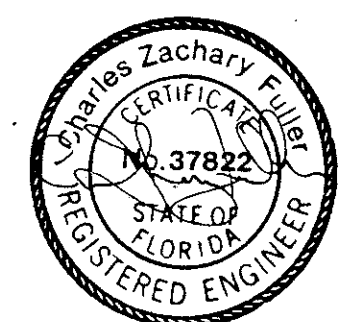
SECTION 2
NTS M-47

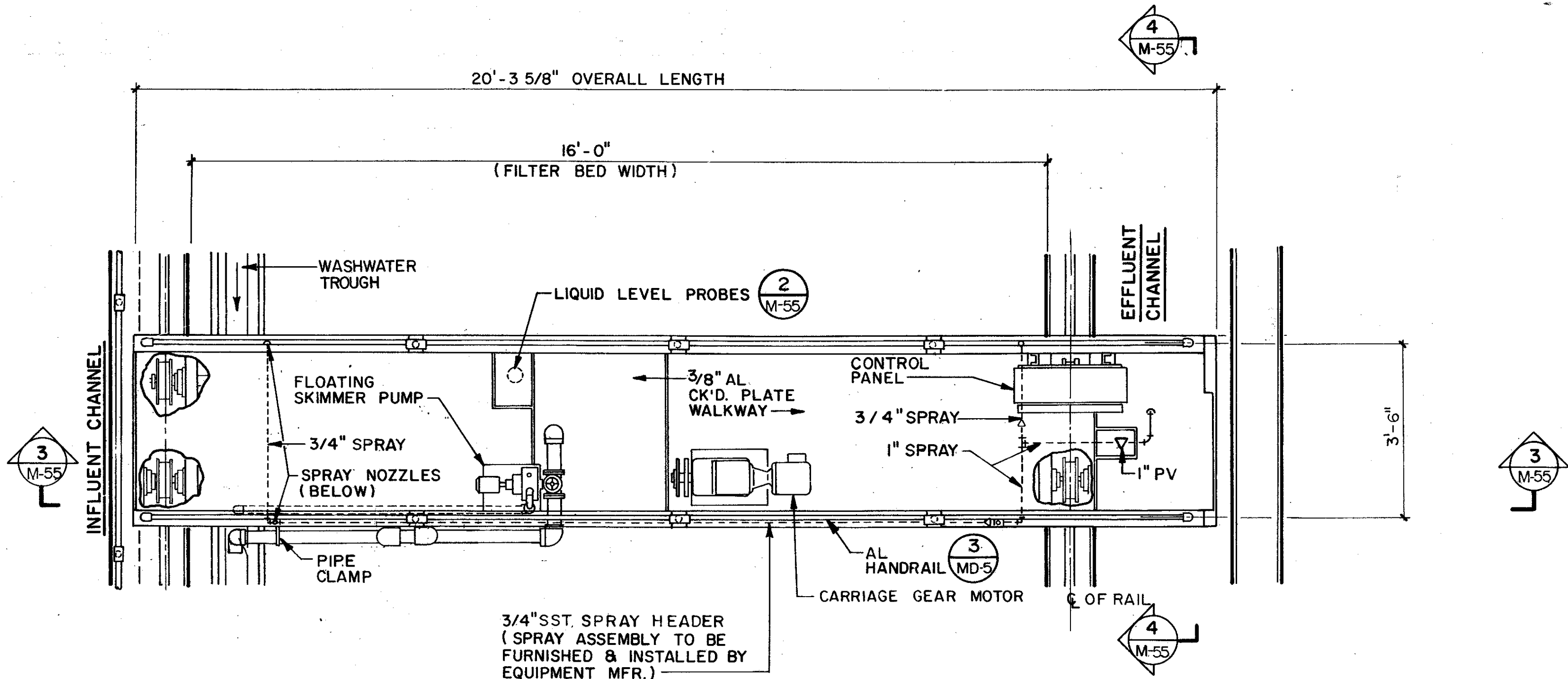
REMARKS	CONFORMED DWG.
DRWN	SAF
DATE	4/88
REV	
DESIGNED BY: BKS	
DRAWN BY: K.N.P.	
CHECKED BY: BKS	
APPROVED BY: J.P.F.	
DATE: MARCH, 1988	

CAMP DRESSER & MCKEE INC.
environmental engineering, construction, planning, & management consultants

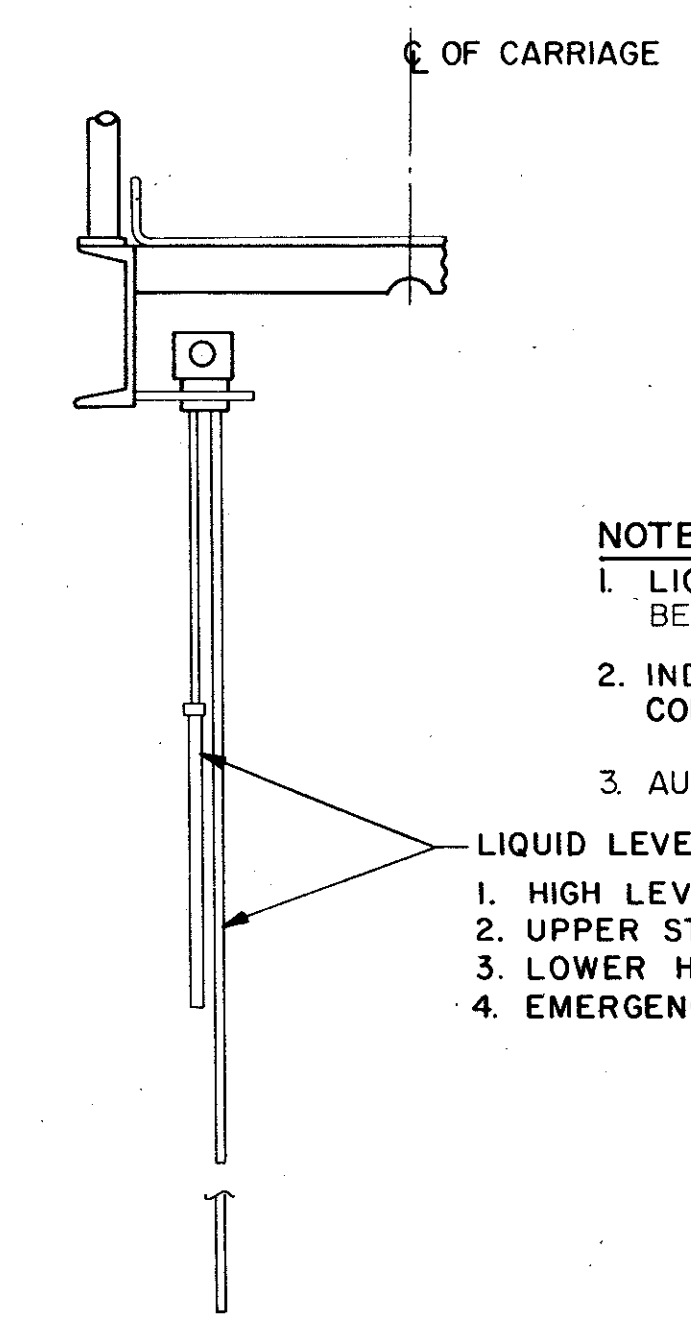
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION
AUTOMATIC BACKWASH FILTERS - SECTIONS
 ORANGE COUNTY, FLORIDA

PROJECT NO.
6059-SL3R
 SHEET NO.
M-54



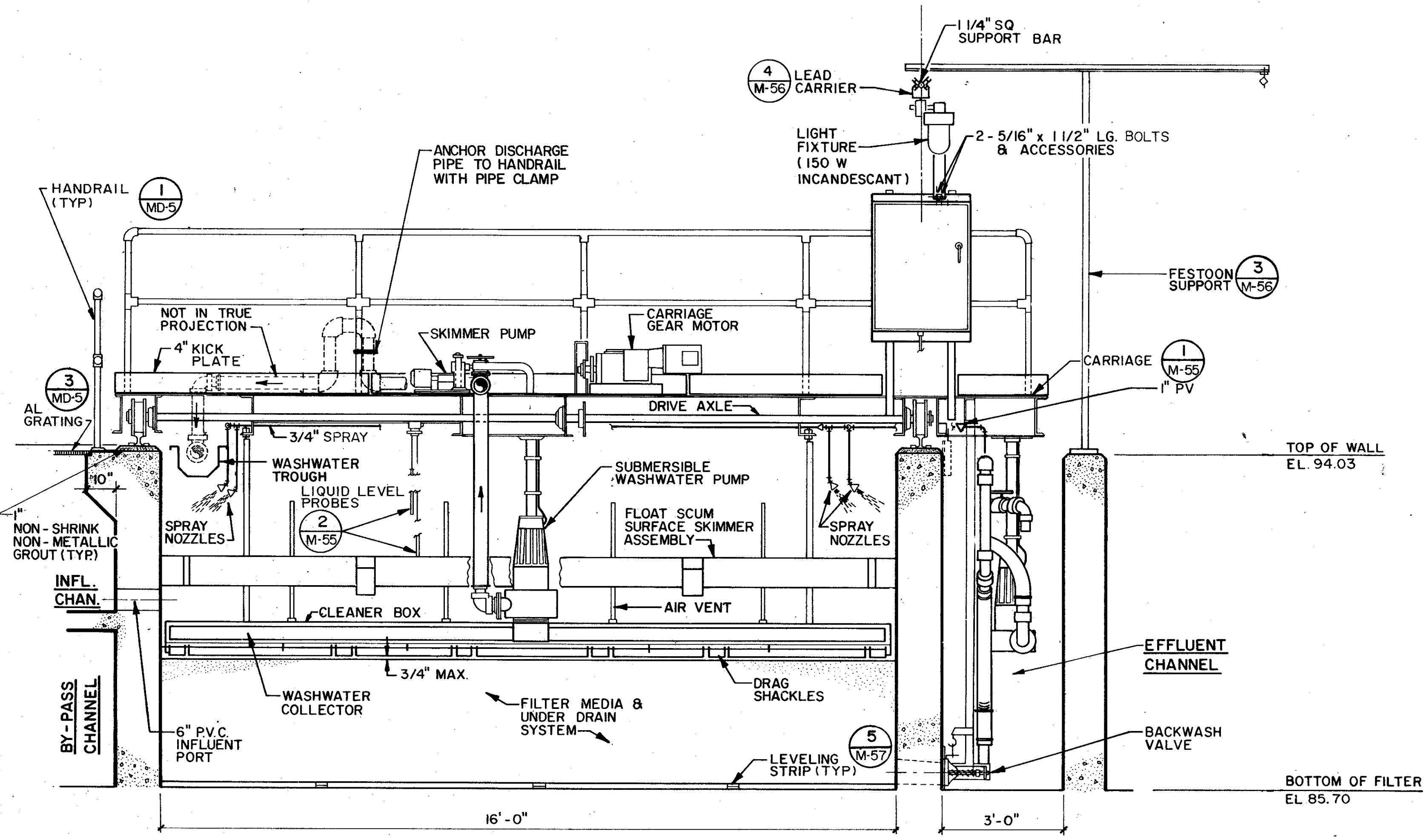


CARRIAGE
PLAN
NTS



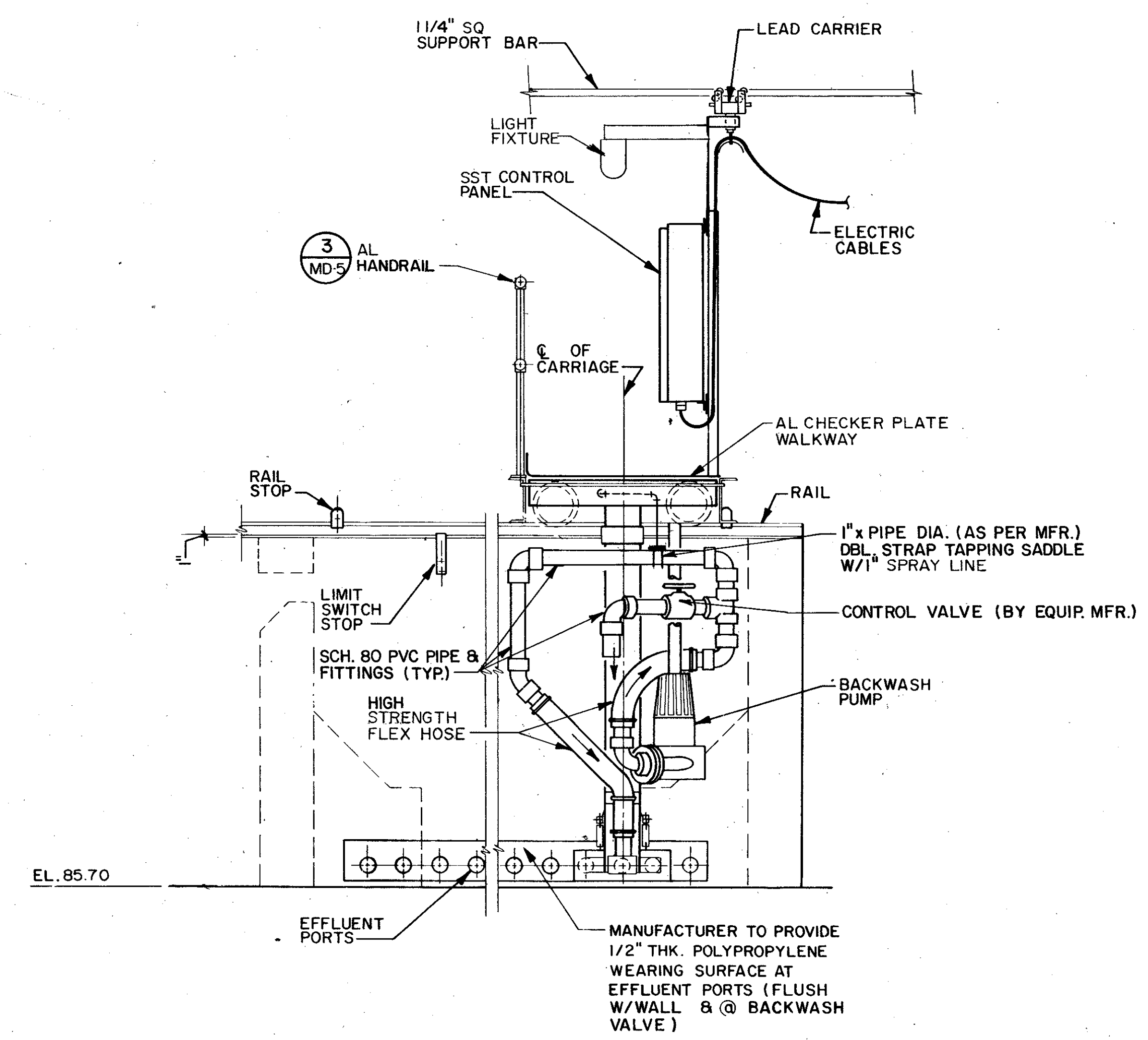
- NOTES**
- LIQUID LEVEL PROBES ON ALL CARRIAGES TO BE PROVIDED BY MANUFACTURER.
 - INDICATING LIGHTS & ALARMS REQUIRED IN BRIDGE CONTROL PANEL.
 - AUXILIARY CONTACTS REQUIRED FOR REMOTE INDICATION
- LIQUID LEVEL PROBES (4 REQ'D.)
- HIGH LEVEL ALARM ELECTRODE.
 - UPPER START WASH CYCLE ELECTRODE.
 - LOWER HOLD WASH CYCLE ELECTRODE.
 - EMERGENCY CUT-OFF ELECTRODE.

LIQUID LEVEL PROBES DETAIL
NTS



NOTE:
SKIMMER PUMP AND CARRIAGE GEAR MOTOR MAY ALTERNATELY, BE MOUNTED BELOW BRIDGE. MANUFACTURER TO PROVIDE DETAILS OF SUPPORT.

SECTION
NTS



SECTION
NTS

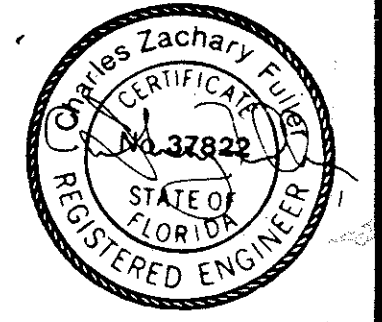
DESIGNED BY: BRS	REV. NO.	DATE	DRWN/CHKD	REMARKS
DRAWN BY: KMP	4/88	SAF		CONFORMED DWG.
CHECKED BY: BRS				
APPROVED BY: CZE				
DATE: MARCH, 1989				

CDM
environmental engineers, scientists, planners, & management consultants

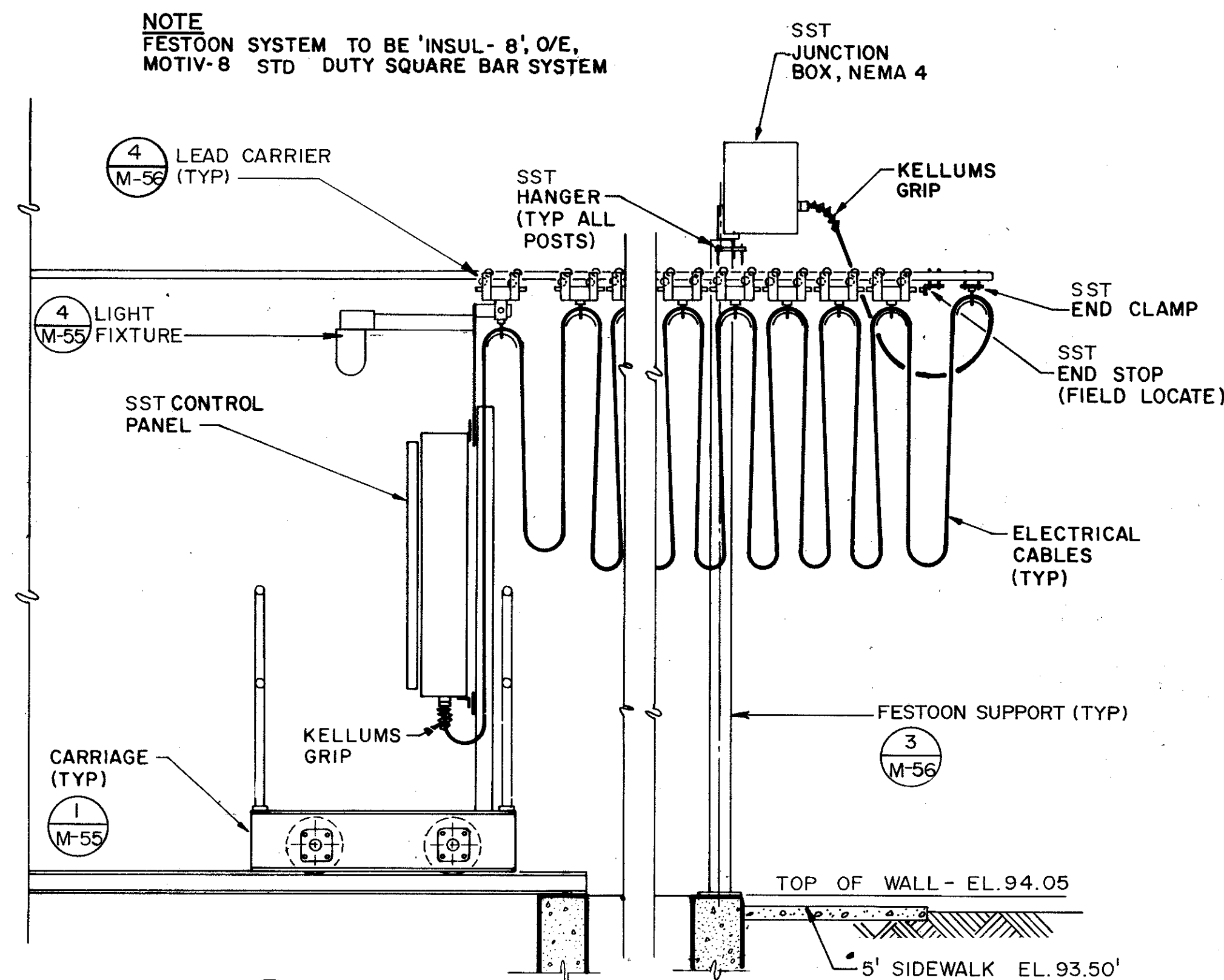
CAMP DRESSER & MCKEE INC.

SAND LAKE ROAD WASTE WATER TREATMENT FACILITIES
PHASE 3A EXPANSION
**AUTOMATIC BACKWASH FILTERS
SECTIONS & DETAILS**
ORANGE COUNTY, FLORIDA

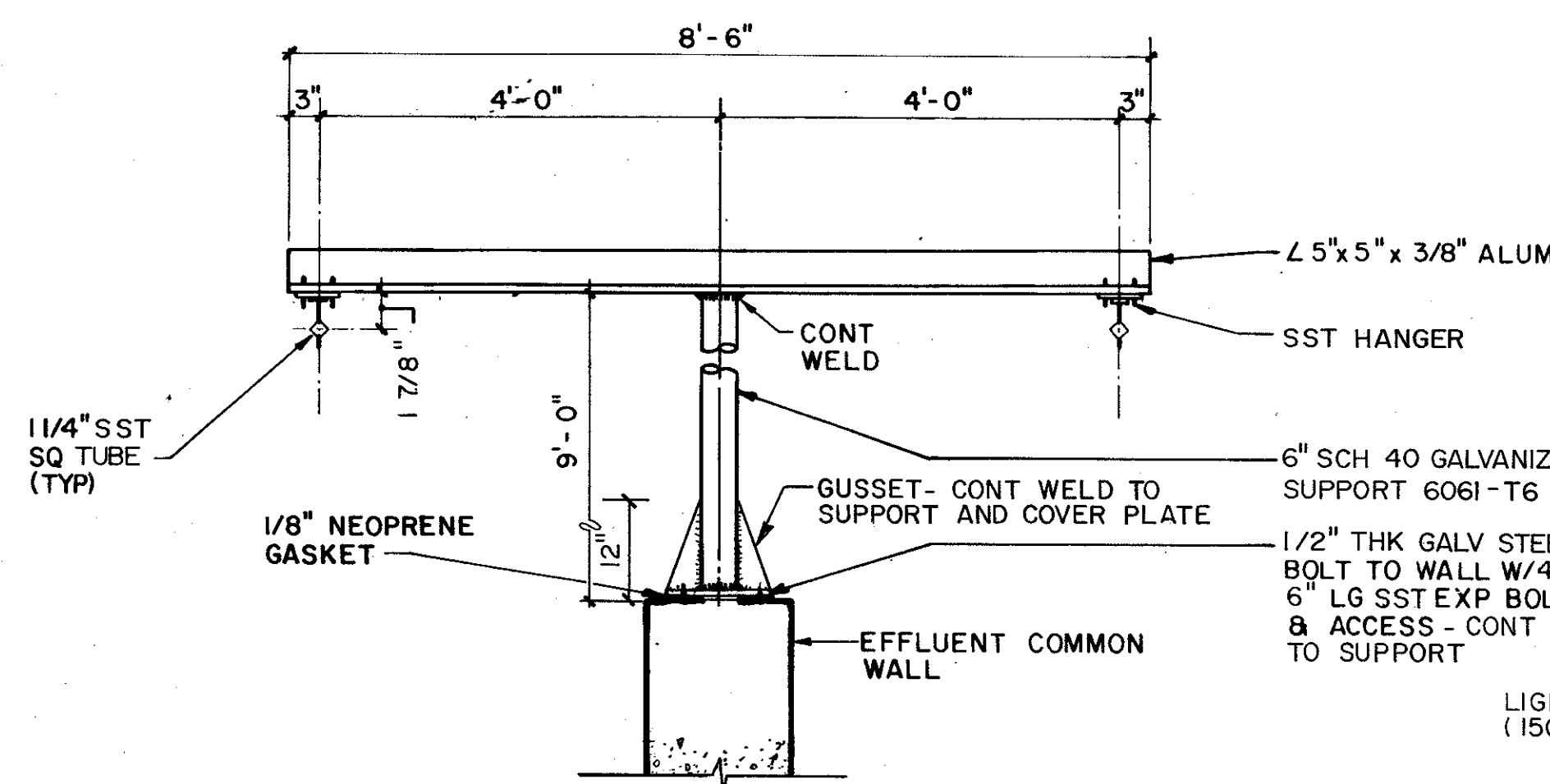
PROJECT NO. 6059 - SL3R
SHEET NO. M-55



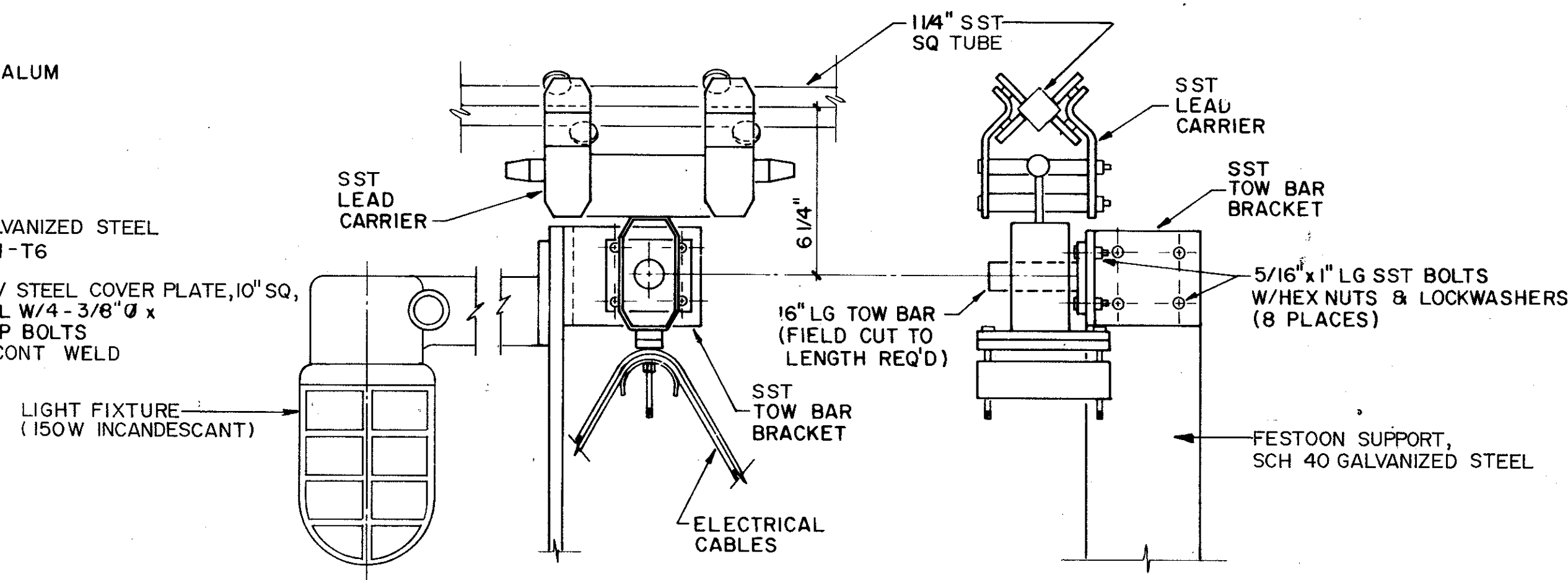
NOTE
FESTOON SYSTEM TO BE 'INSUL- 8', O/E,
MOTIV-8 STD DUTY SQUARE BAR SYSTEM



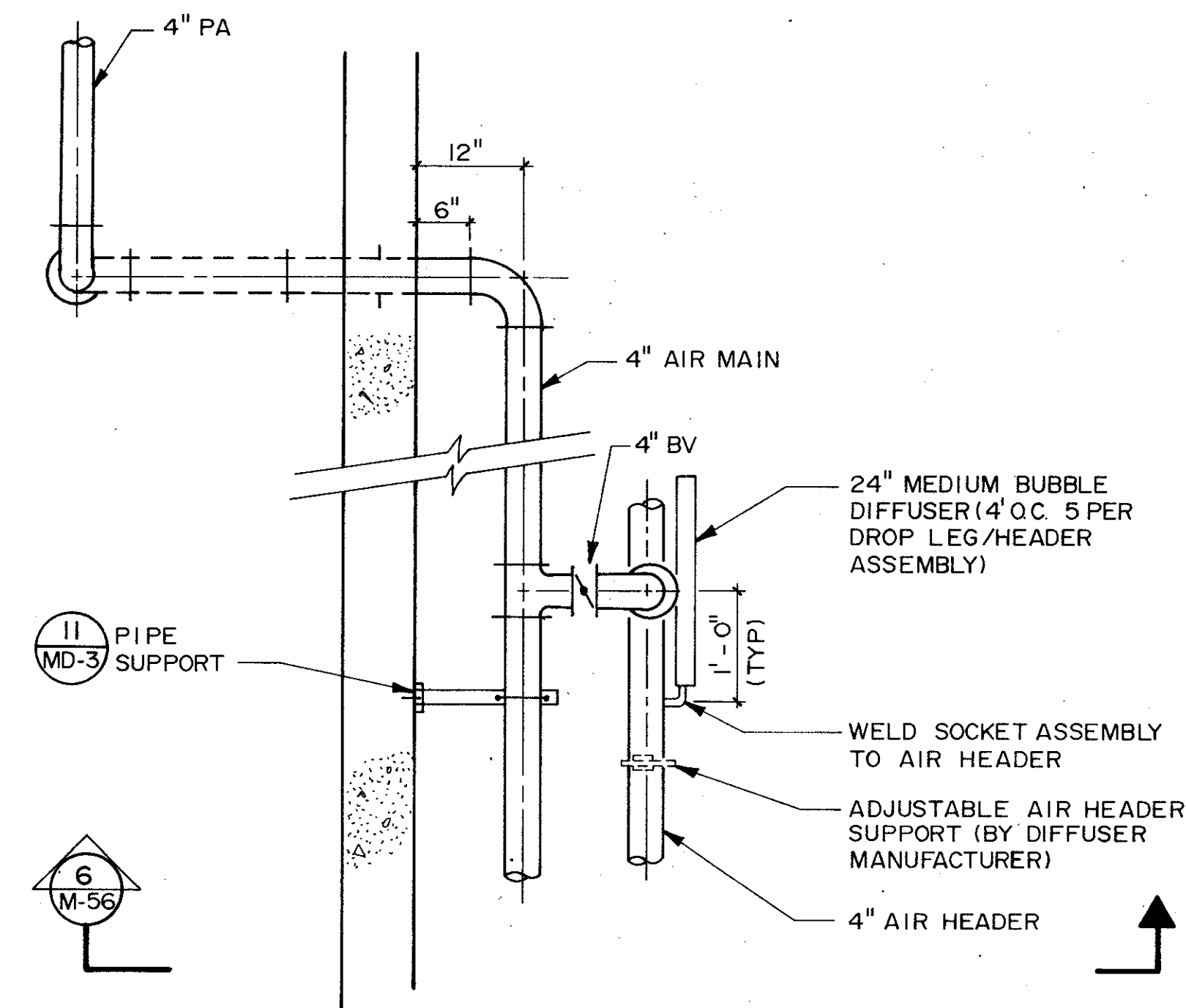
ELECTRICAL CABLE FESTOON SYSTEM (1)
NTS



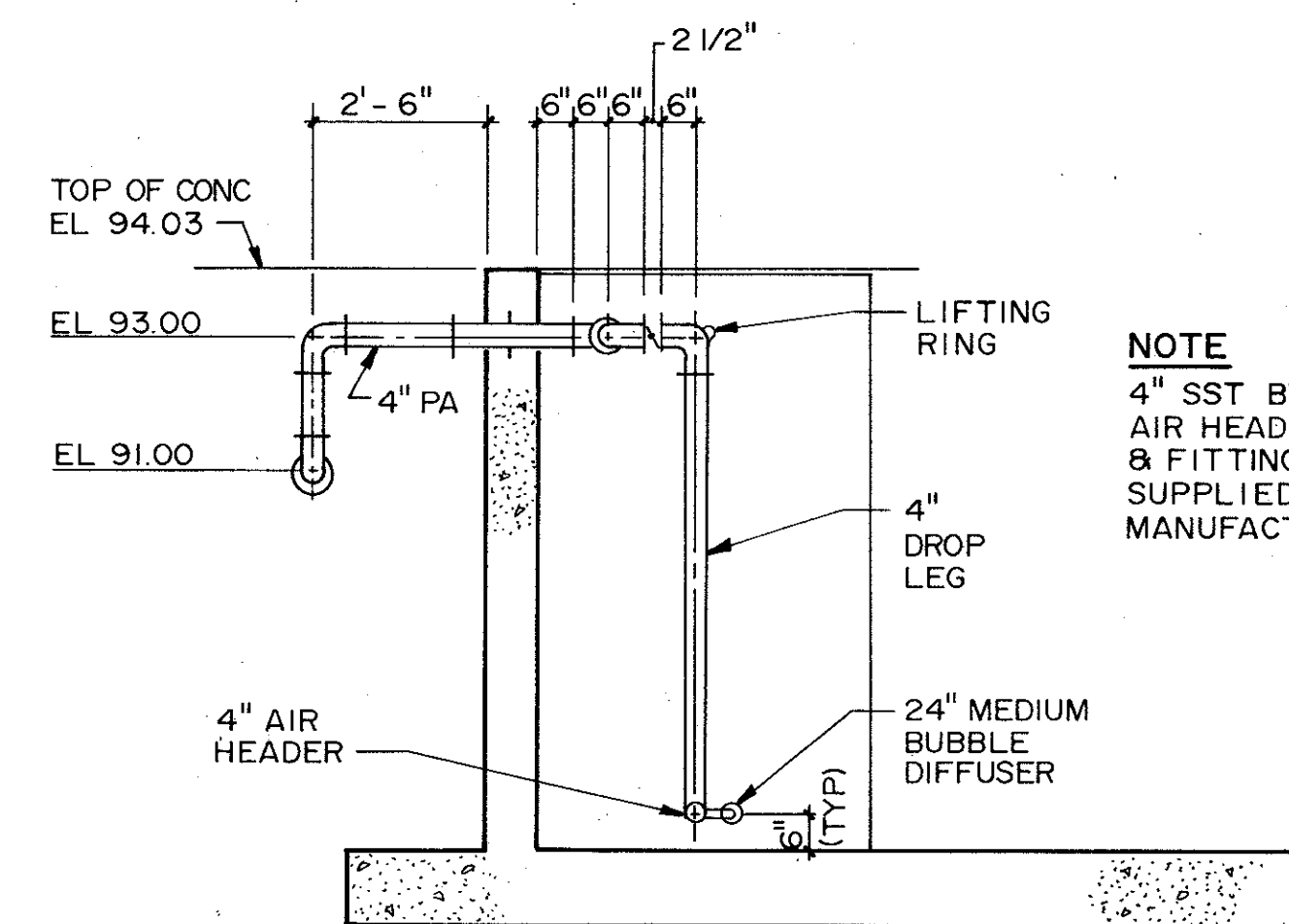
DETAIL (3)
NTS



LEAD CARRIER DETAIL (4)
NTS

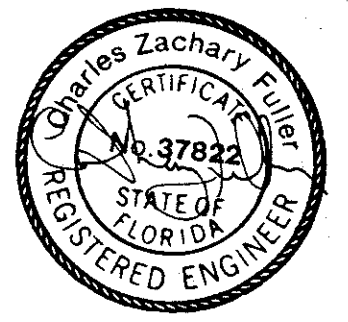


PROCESS AIR PARTIAL PLAN (5)
3/4" = 1'-0"

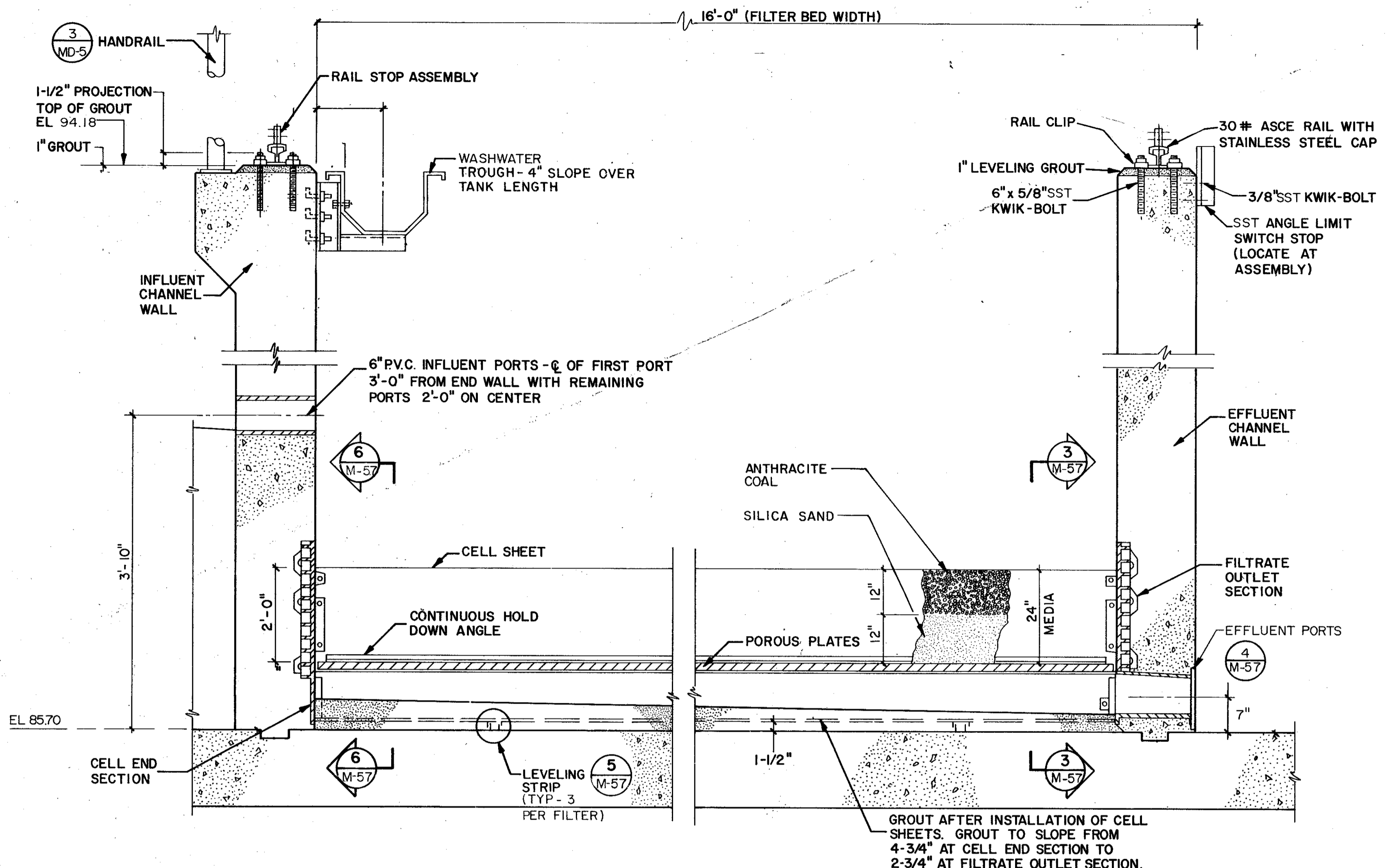


SECTION (6)
3/8" = 1'-0"

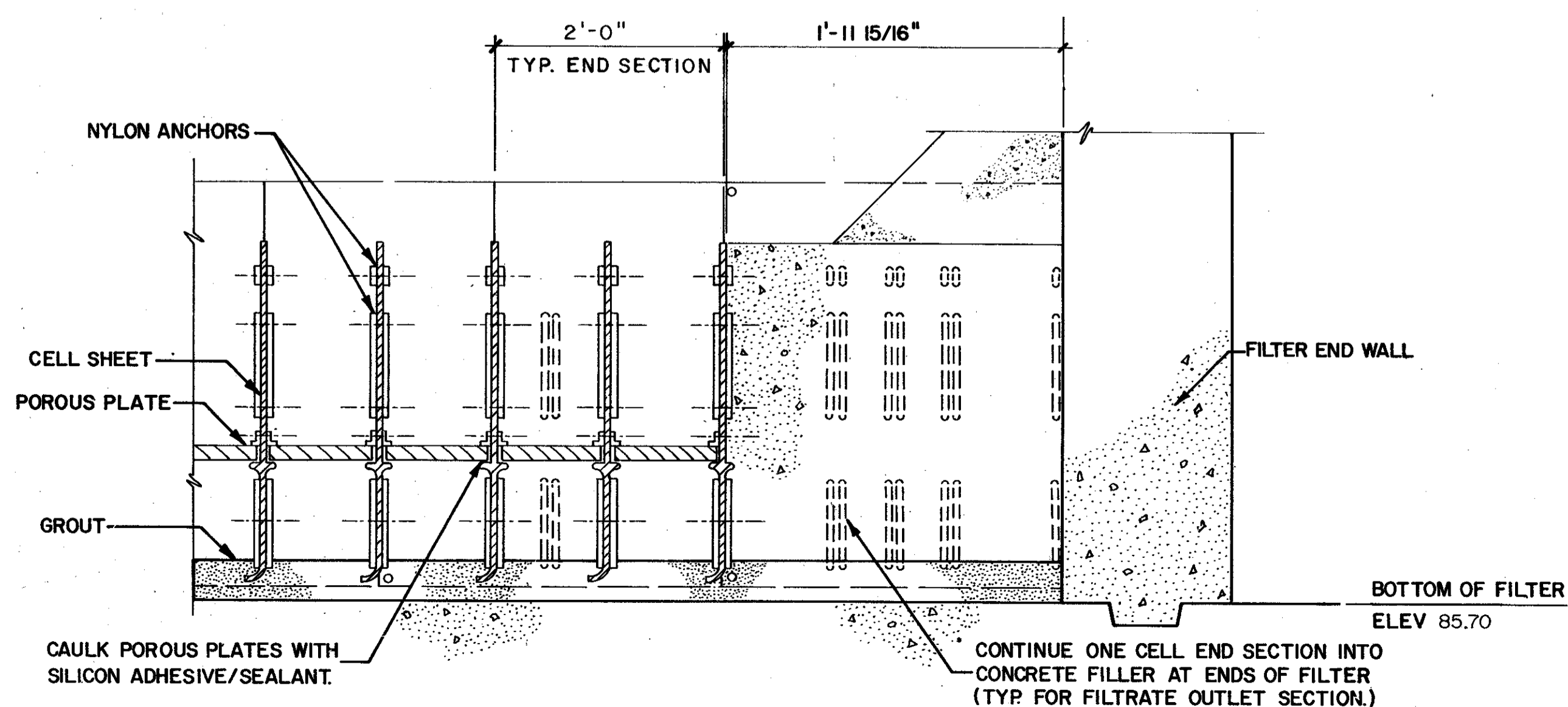
REMARKS	CONFORMED DWG.
DATE	4/88
DRWN	SAF
DESIGNED BY	BKS
DRAWN BY	KMP
CHECKED BY	BKS
APPROVED BY	CZF
DATE	MARCH 1989
CDM	
CAMP DRESSER & MCKEE INC.	
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION AUTOMATIC BACKWASH FILTERS SECTIONS & DETAILS ORANGE COUNTY, FLORIDA	
PROJECT NO	6059 - SL3R
SHEET NO	M-56



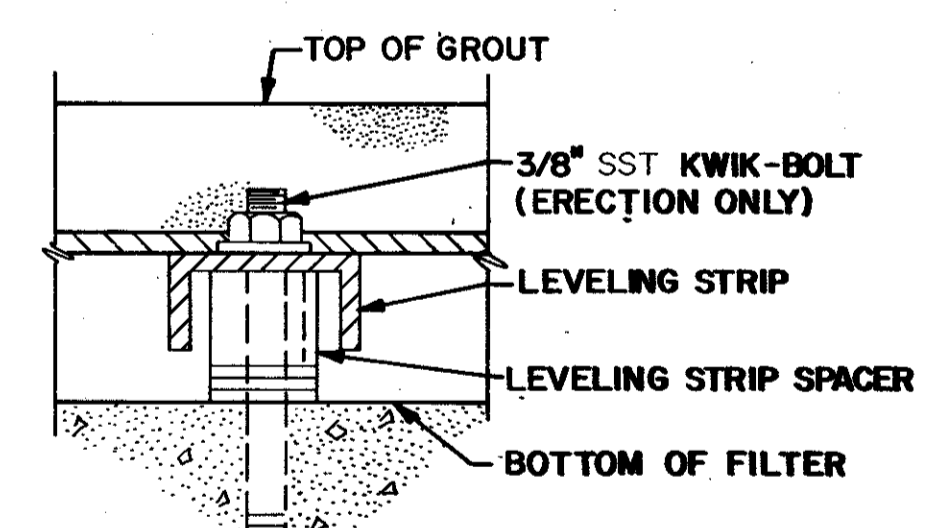
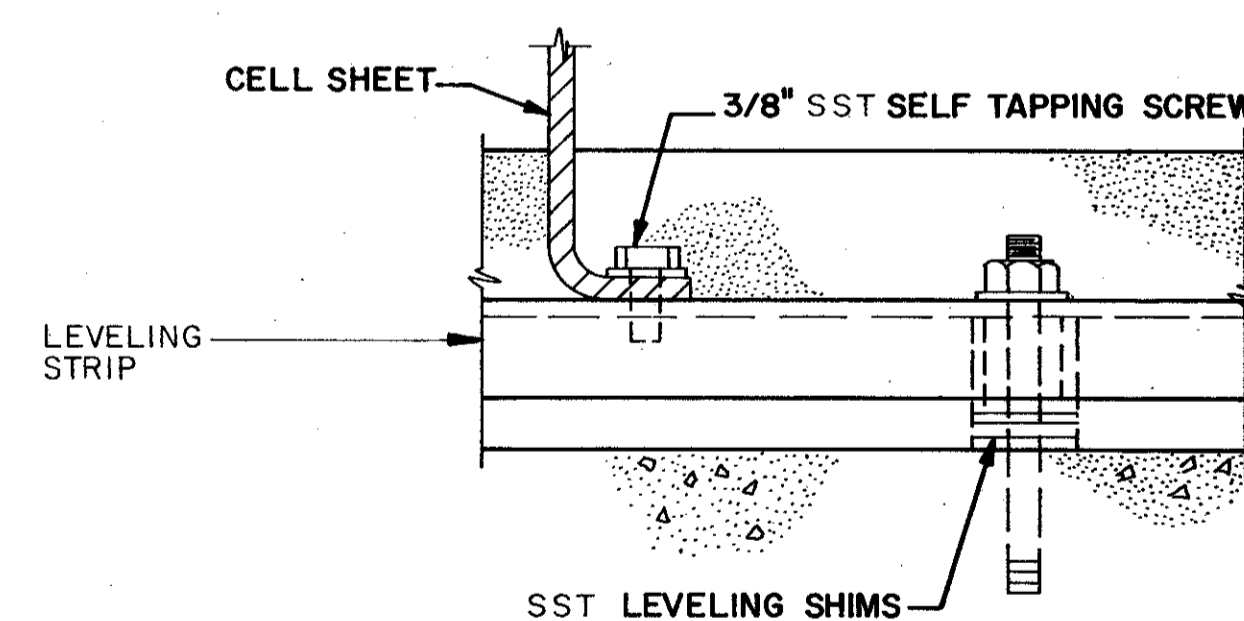
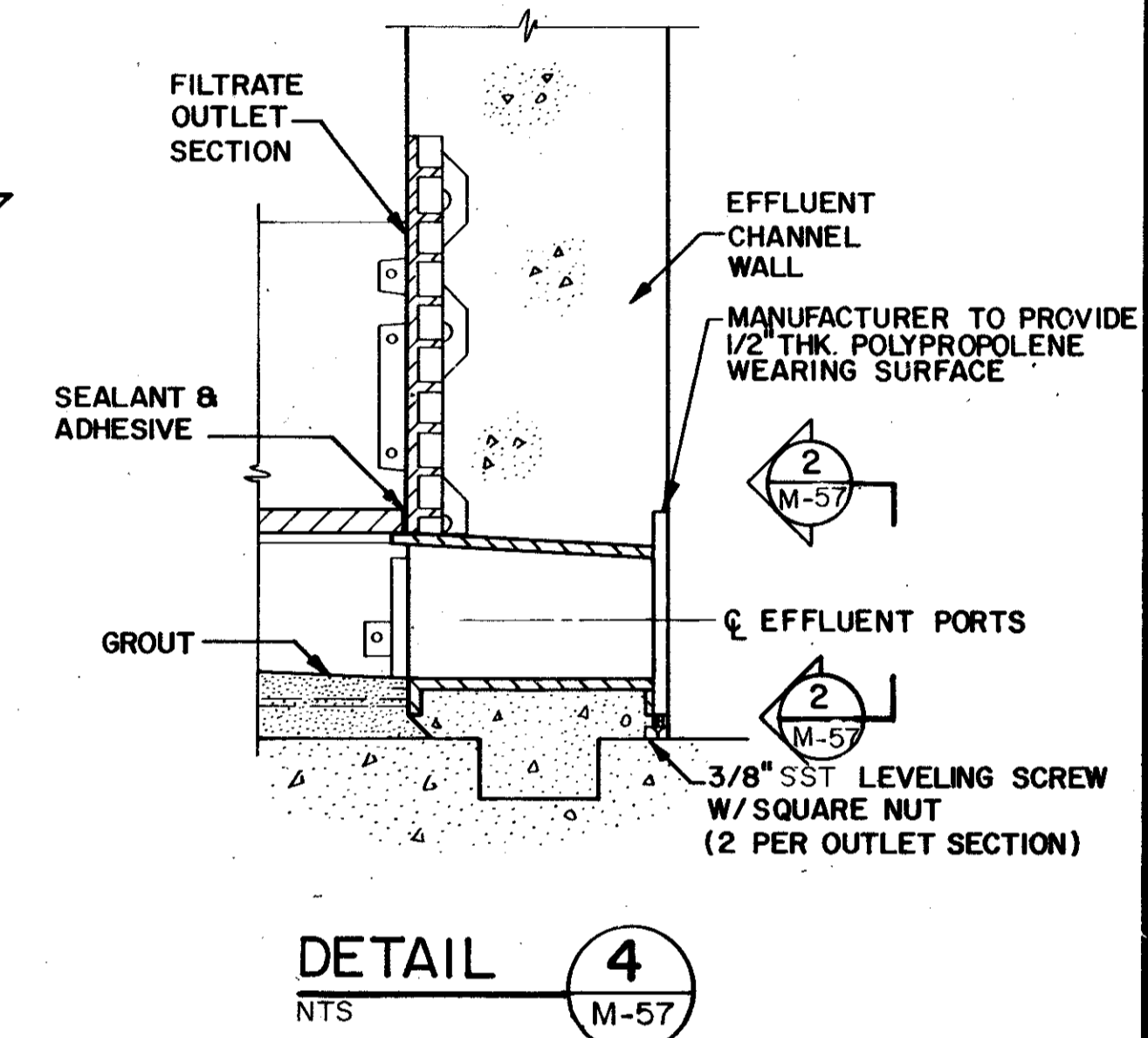
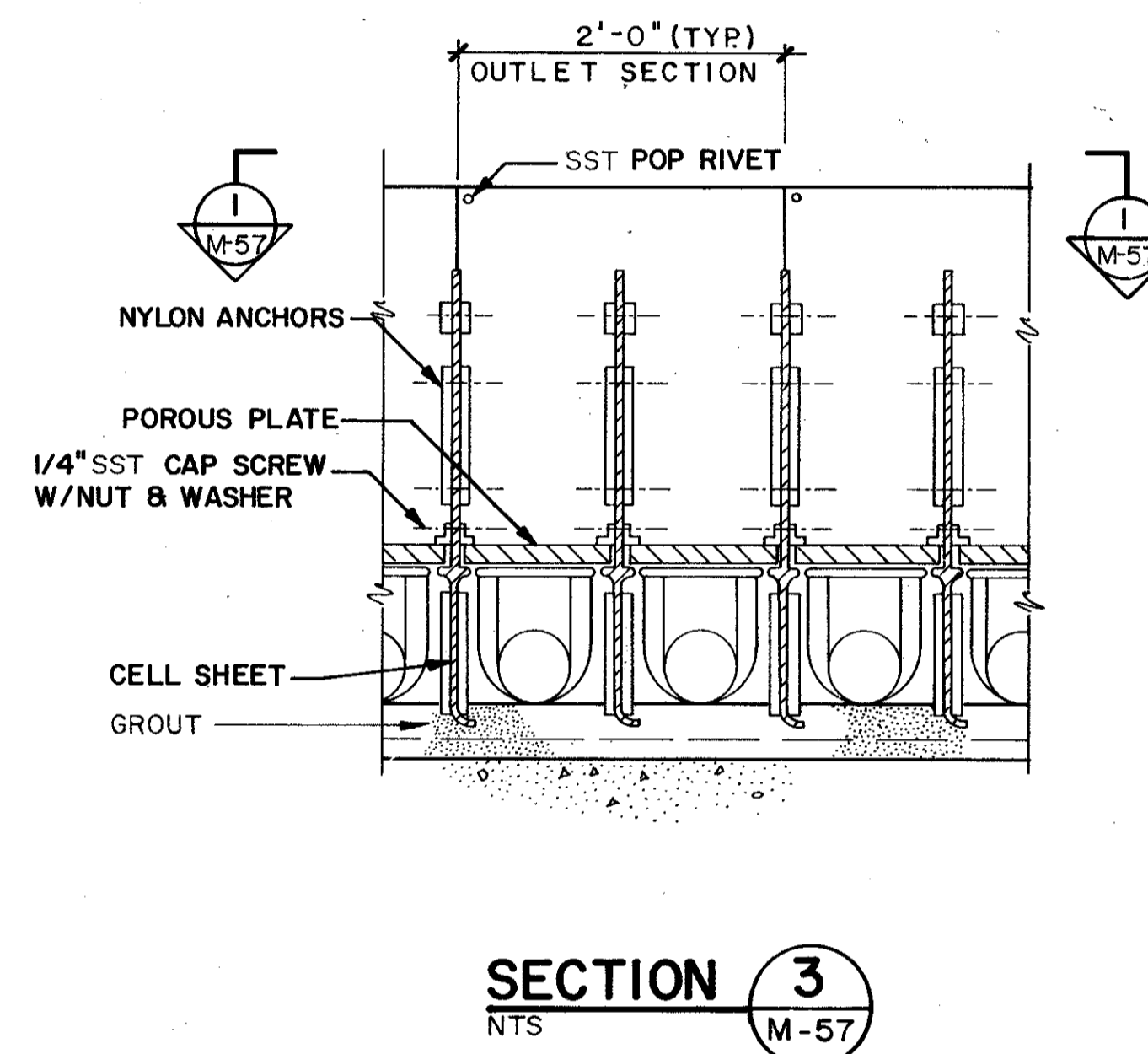
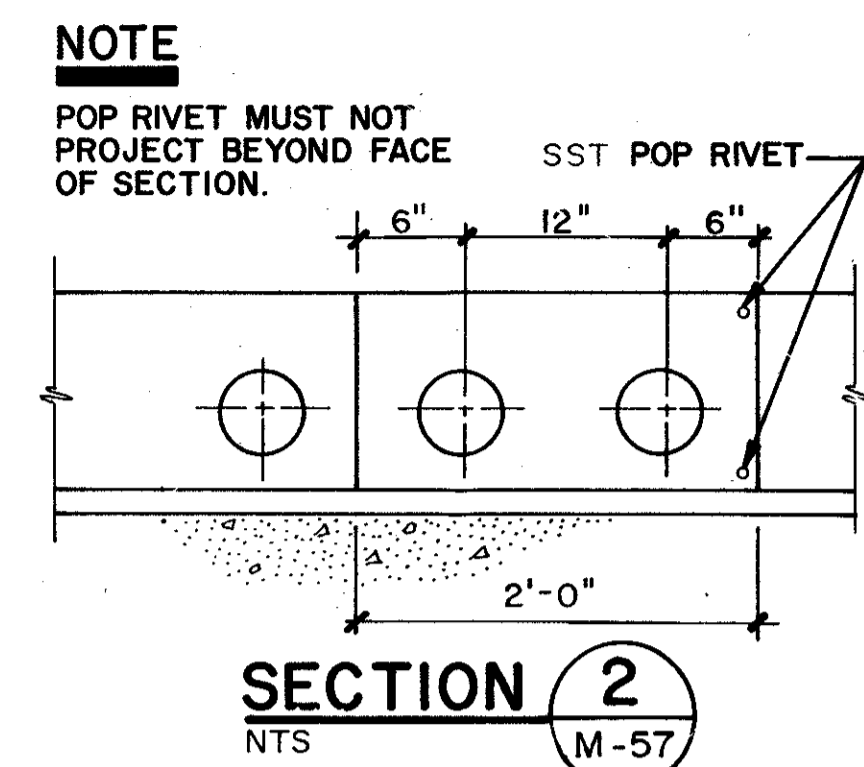
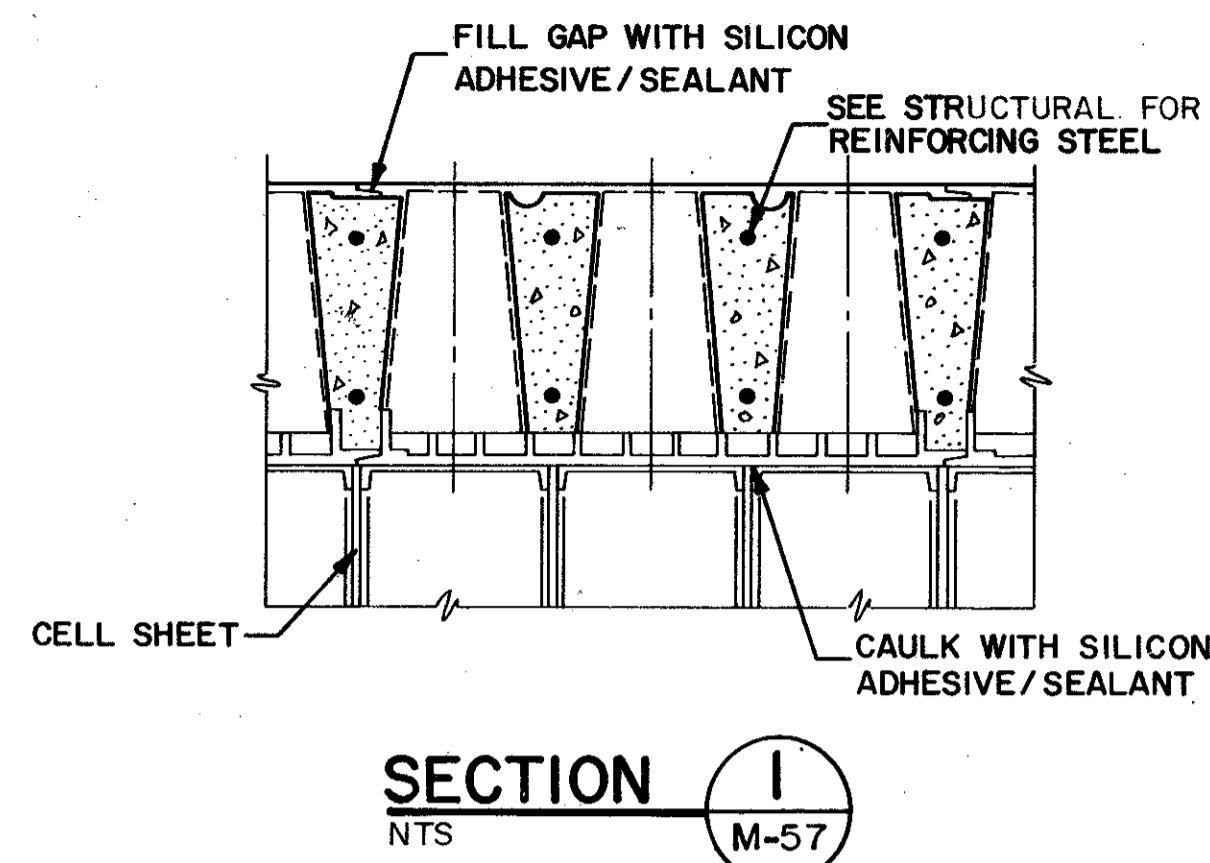
M-56



TYPICAL SECTION - FILTER BED
NTS



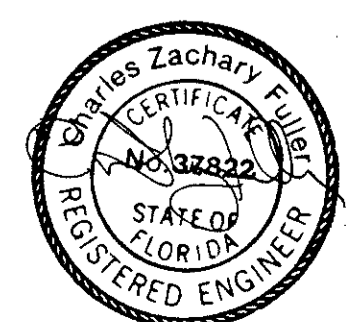
SECTION 6
NTS M-57



SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
AUTOMATIC BACKWASH FILTERS
SECTIONS & DETAILS
ORANGE COUNTY, FLORIDA

PROJECT NO
6059 - SL3R

SHEET NO
M-57

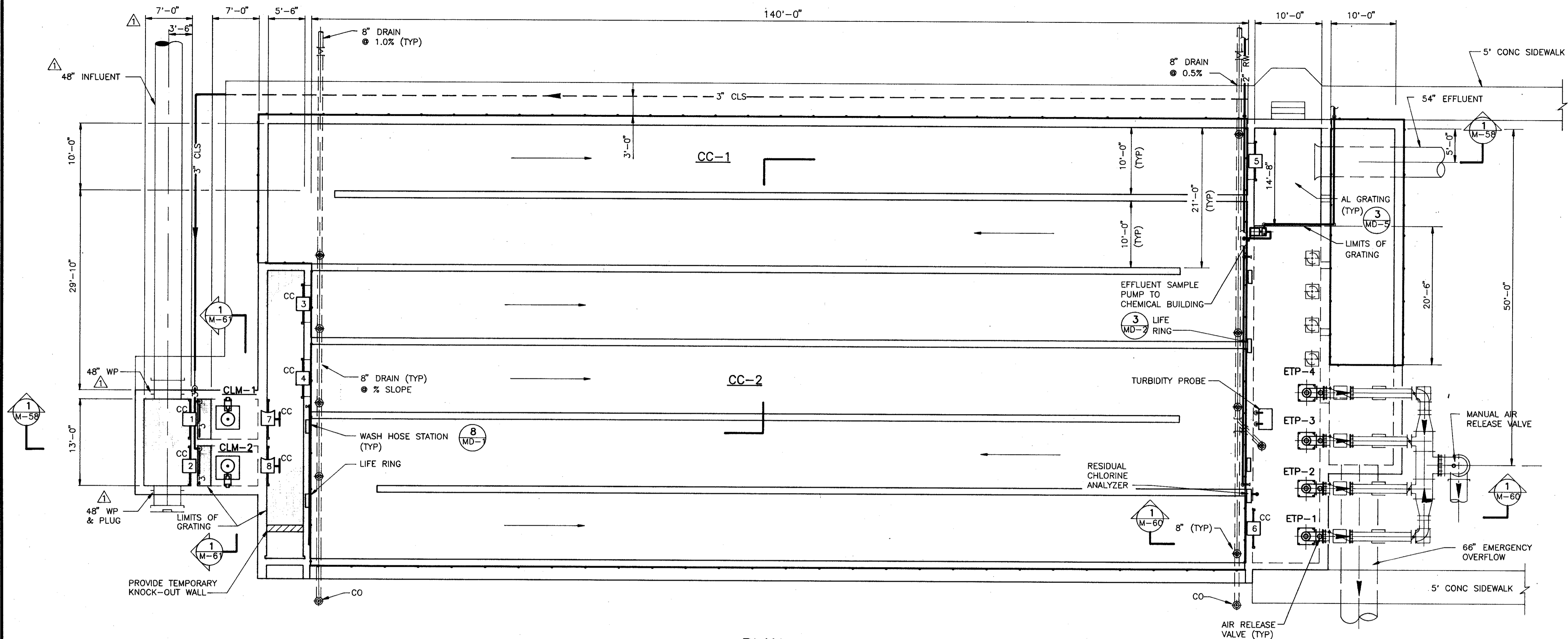


DESIGNED BY: BKS
DRAWN BY: KMP
CHECKED BY: BKS
APPROVED BY: CZF
DATE: MARCH, 1988

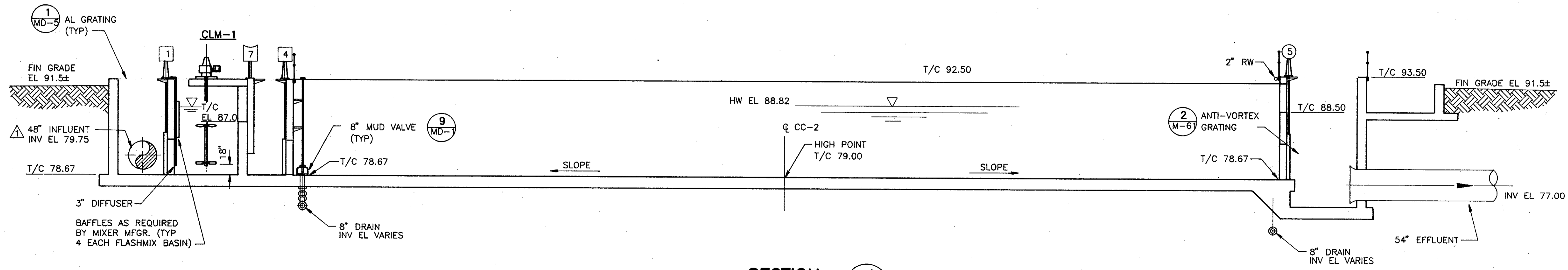
CAMP DRESSER & MCKEE INC.

CDMI
environmental engineering, sciences,
planning & management consultants

REV NO	DATE	DRWN	CHKD	REMARKS
4/88		SAF		CONFORMED DWG.



PLAN
1/8" = 1'-0"



SECTION 1
1/8" = 1'-0" M-58

DESIGNED BY	CHK	REMARKS
DRAWN BY	CAC	ADDENDUM NO 1
CHECKED BY	SAF	CONFORMED DWG.
APPROVED BY		
DATE		

DESIGNED BY: CAC
 DRAWN BY: SAF
 CHECKED BY: CAC
 APPROVED BY: CAC
 DATE: 4/88

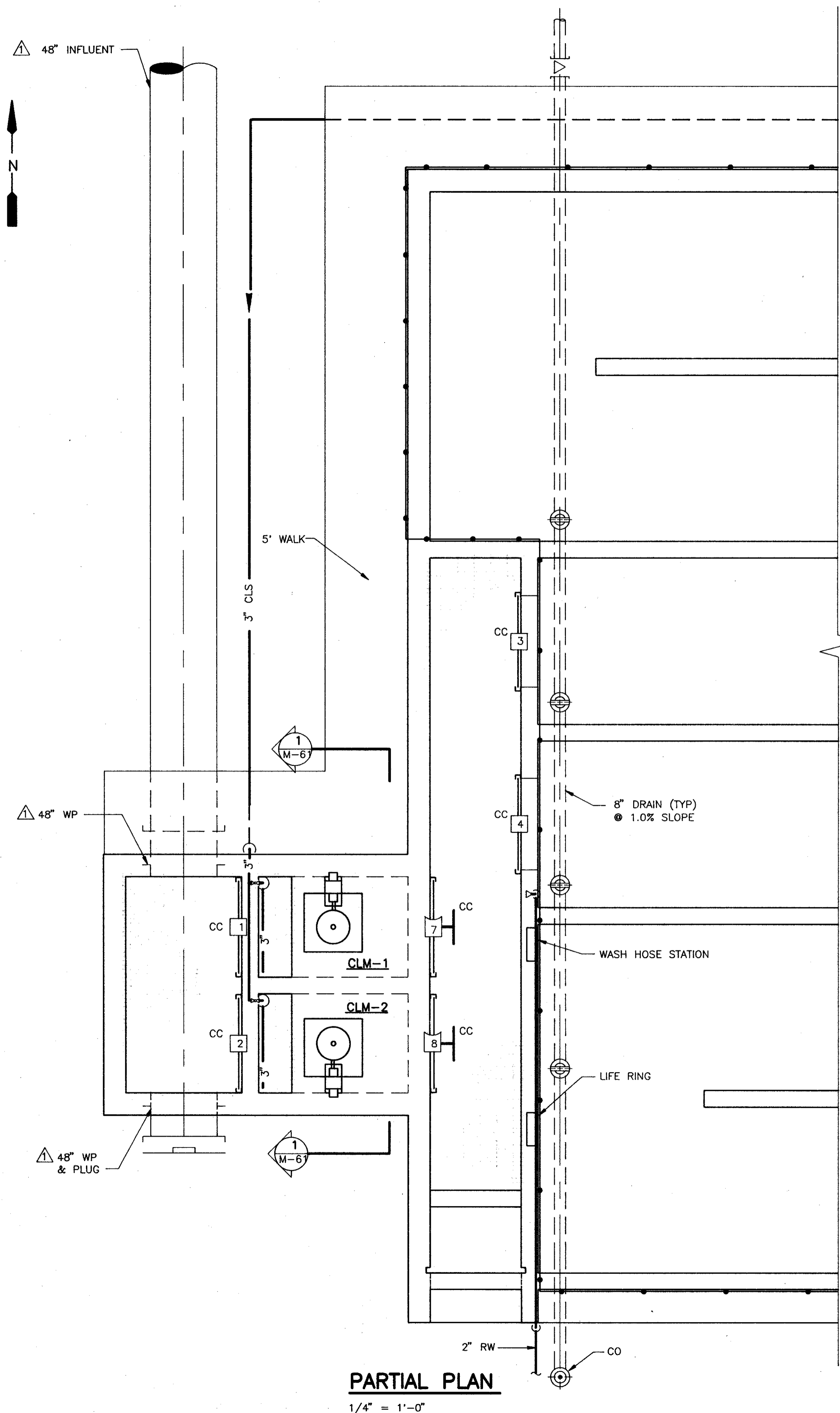
CAMP DRESSER & MCKEE INC.
 PROFESSIONAL ENGINEERS, SCIENTISTS
 PLANNERS & MANAGEMENT CONSULTANTS

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION
**CHLORINE CONTACT CHAMBER -
 OVERALL PLAN**
 ORANGE COUNTY, FLORIDA

PROJECT NO
 6059 - SL3R

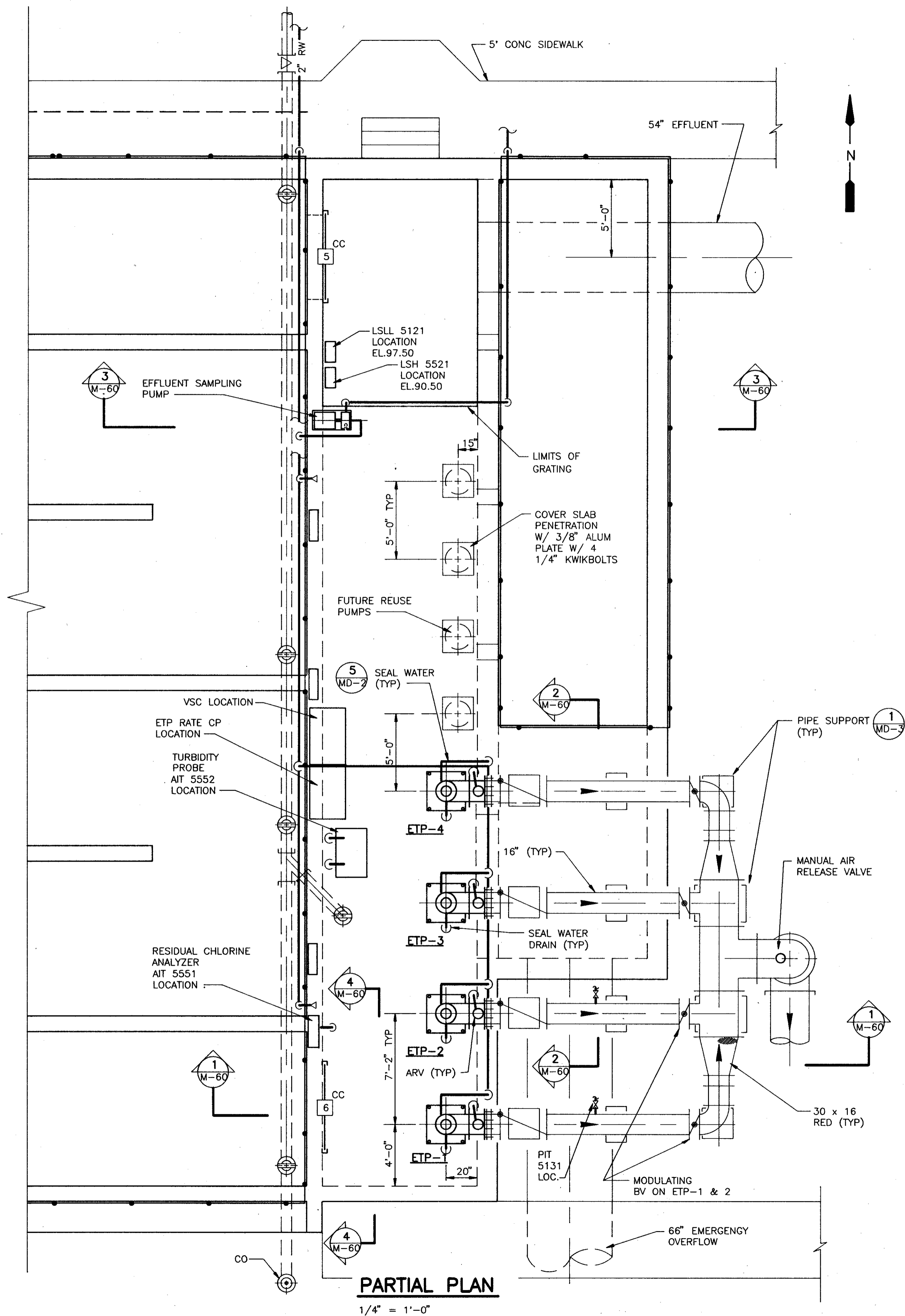
SHEET NO.

M-58



PARTIAL PLAN

1/4" = 1'-0"



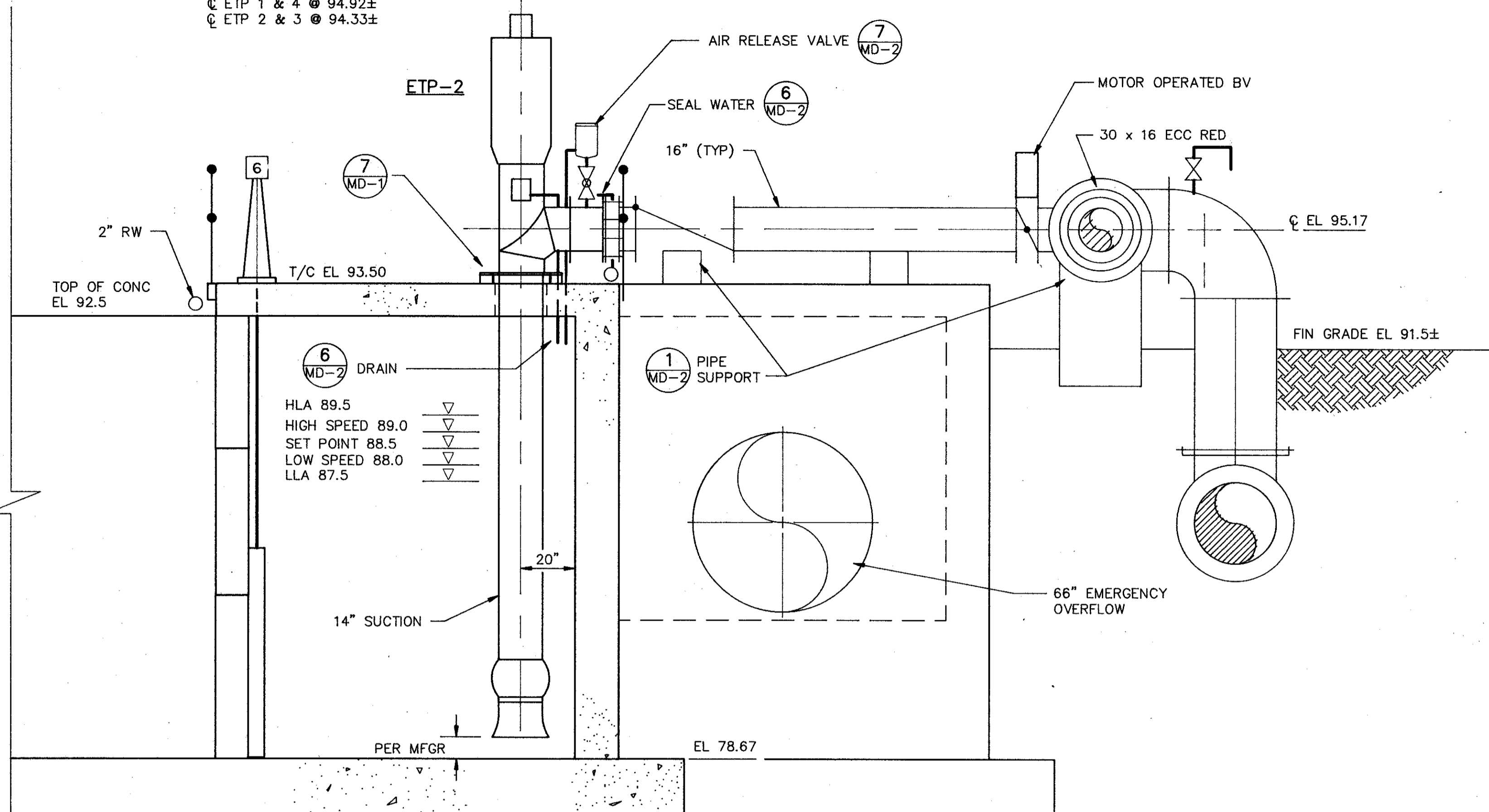
PARTIAL PLAN

1/4" = 1'-0"

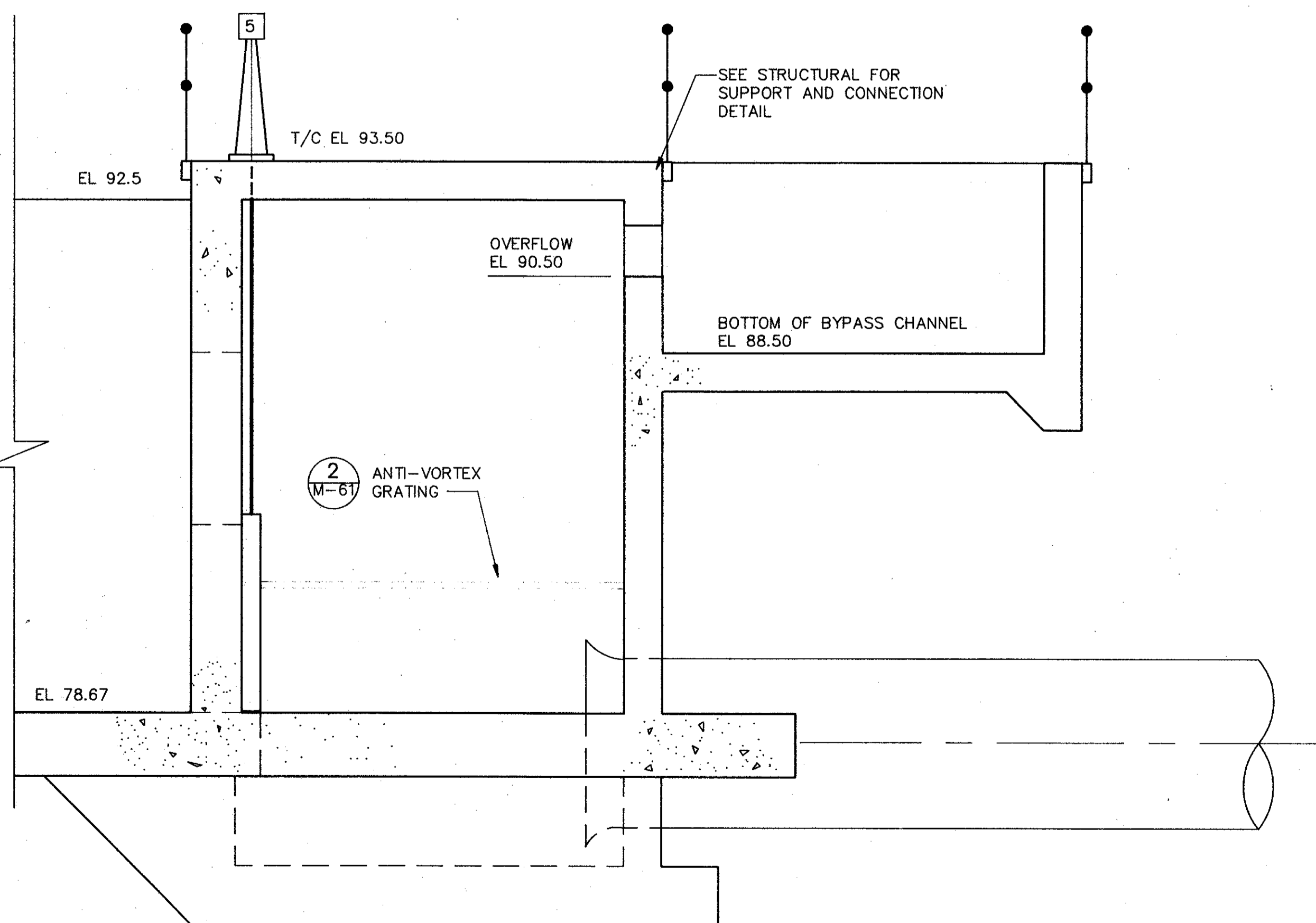
DESIGNED BY	CHKD	REMARKS
DRAWN BY	CHKD	
CHECKED BY	CHKD	
APPROVED BY	CHKD	
DATE	DATE	DATE
4/88	4/88	4/88
SAF	SAF	SAF
ADDENDUM NO. 1		
CONFORMED DWG.		

CAMP DRESSER & MCKEE INC.	
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION	
CHLORINE CONTACT CHAMBER - PARTIAL PLAN	
ORANGE COUNTY, FLORIDA	
PROJECT NO.	6059 - SL3R
SHEET NO.	M-59

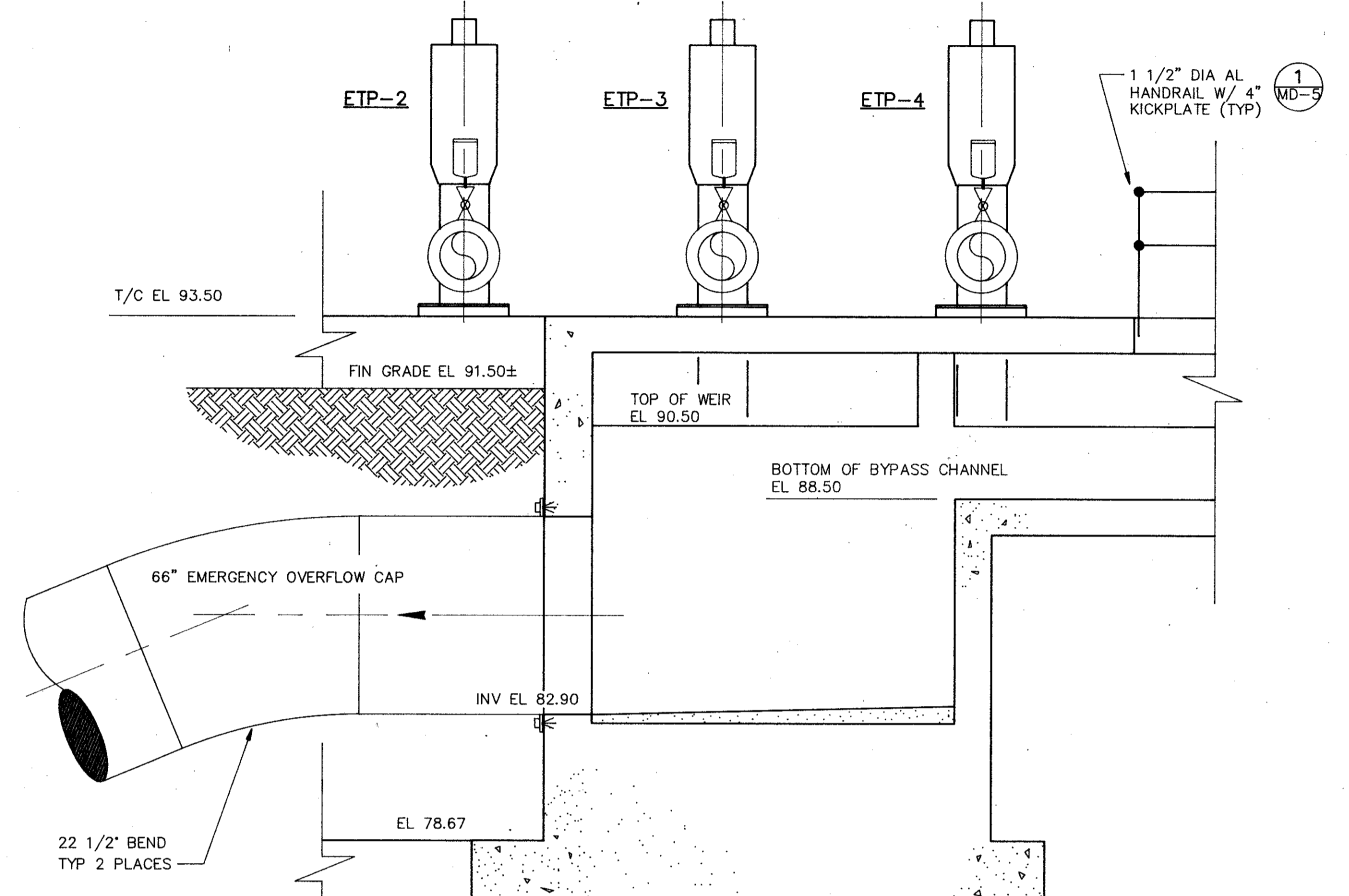
NOTE :
 Ⓞ ETP 1 & 4 @ 94.92±
 Ⓞ ETP 2 & 3 @ 94.33±



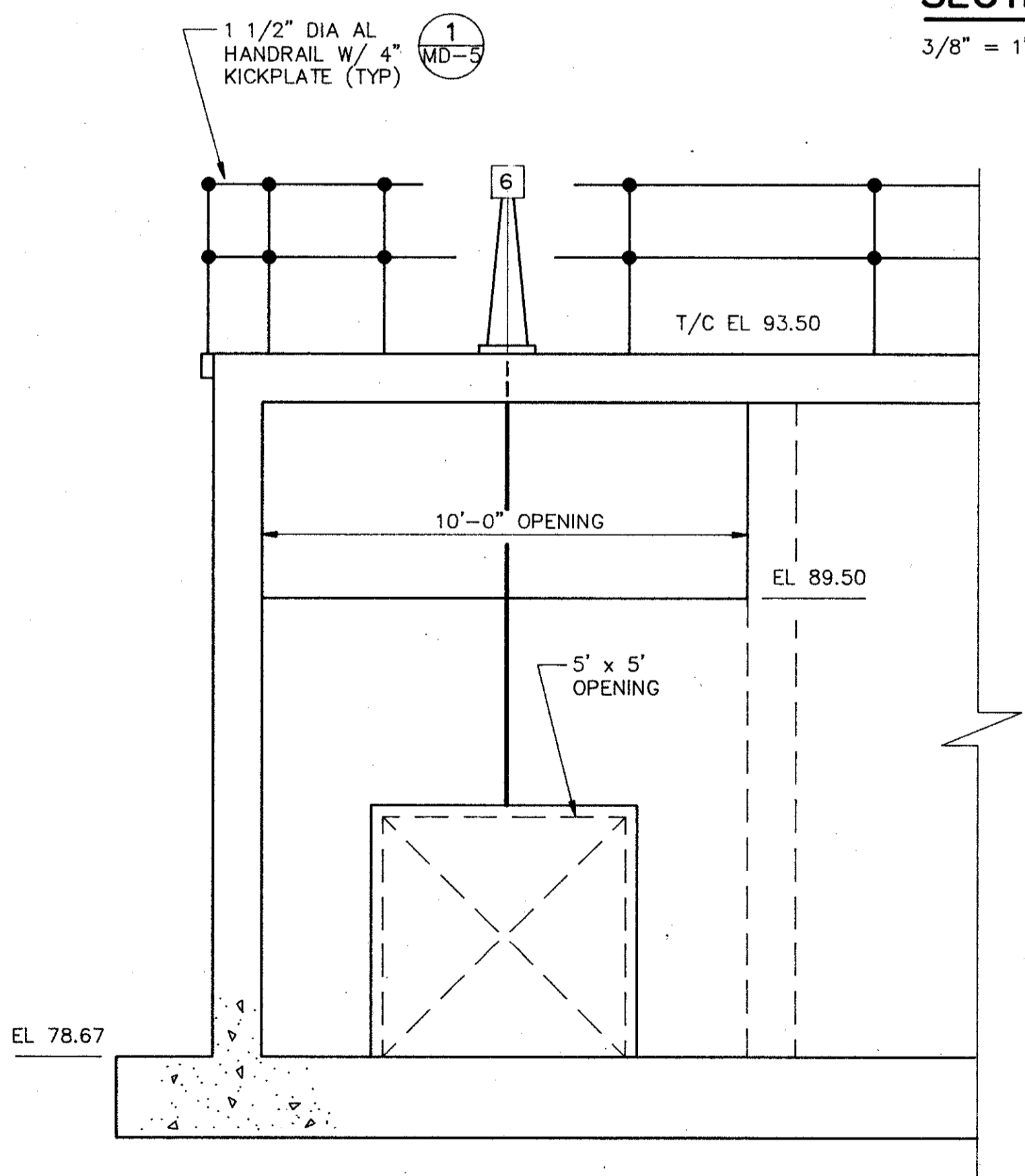
SECTION 1
 3/8" = 1'-0" M-59



SECTION 3
 3/8" = 1'-0" M-59

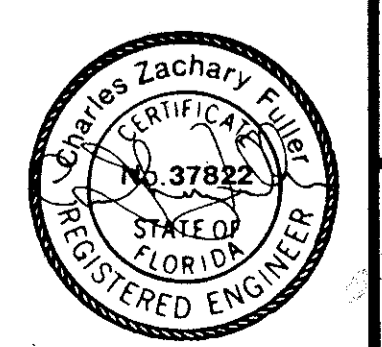


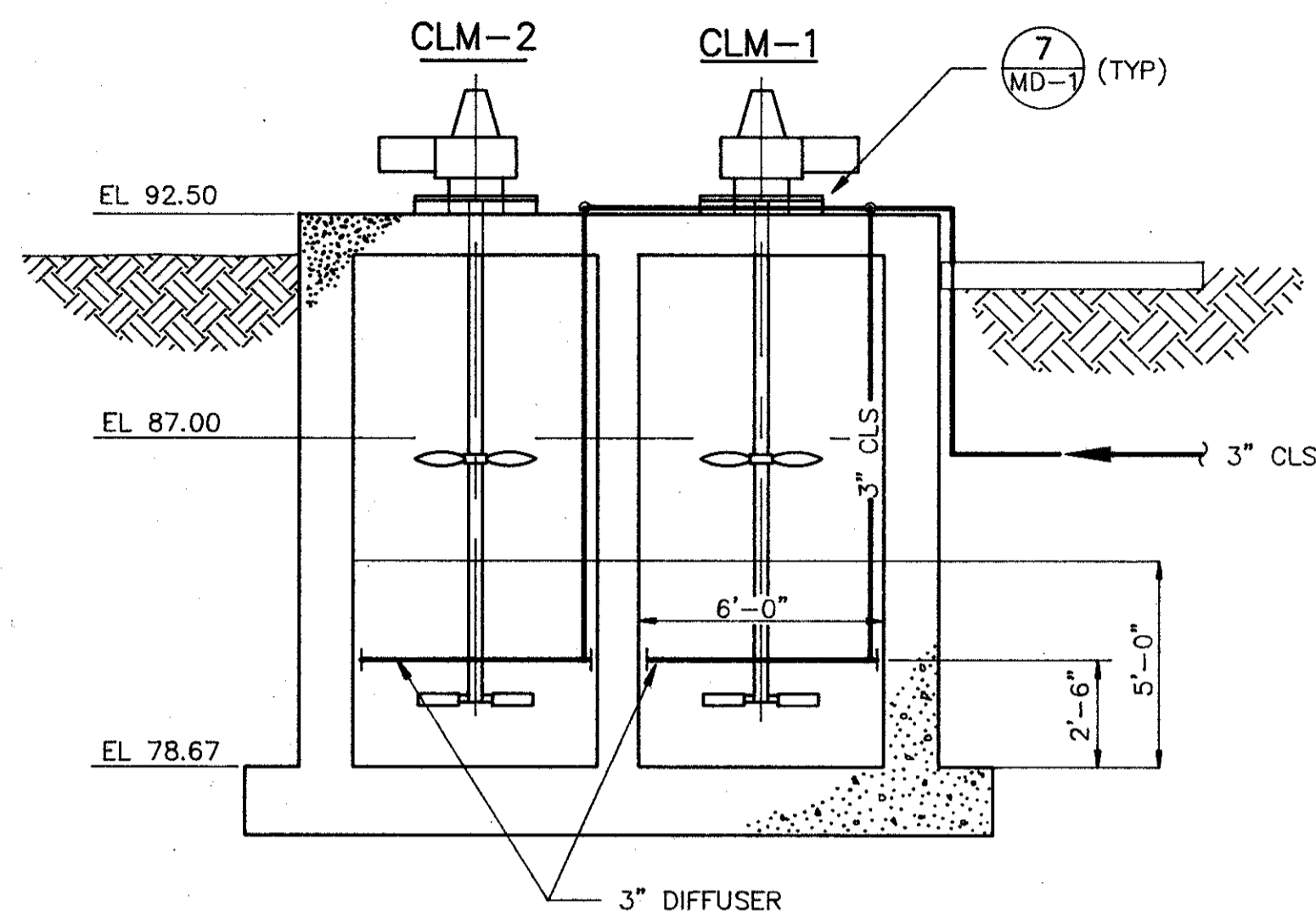
SECTION 2
 3/8" = 1'-0" M-59



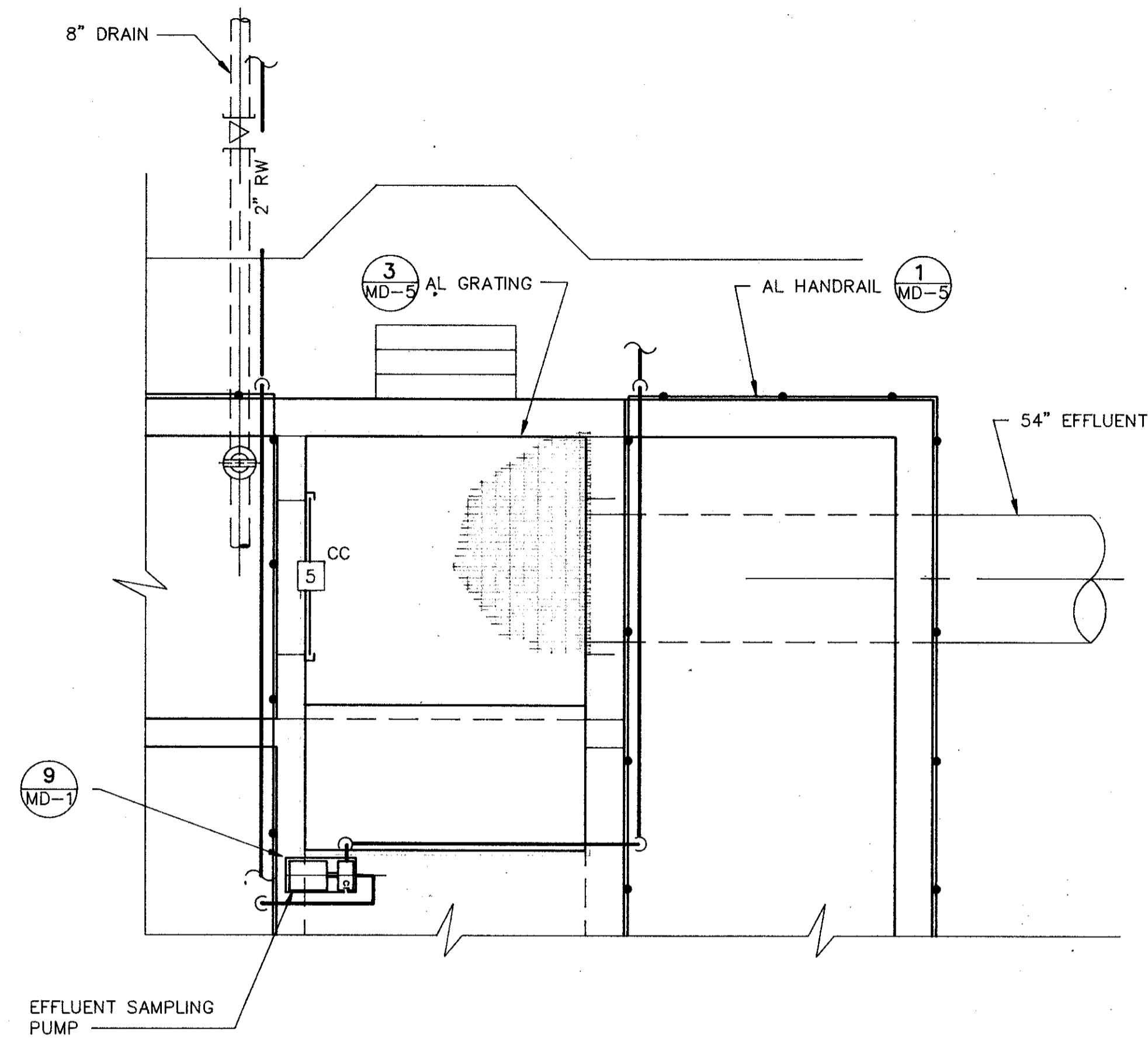
SECTION 4
 3/8" = 1'-0" M-59

REMARKS	
CONFORMED DWG.	
DATE	4/88
DRWN	SAF
CHKD	
DESIGNED BY	CJK
DRAWN BY	JCM
CHECKED BY	CJK
APPROVED BY	CZF
DATE	1/15/88
CDM	
CAMP DRESSER & MCKEE INC.	
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION	
CHLORINE CONTACT CHAMBER — SECTIONS	
ORANGE COUNTY, FLORIDA	
PROJECT NO.	6059 SL3R
SHEET NO.	M-60

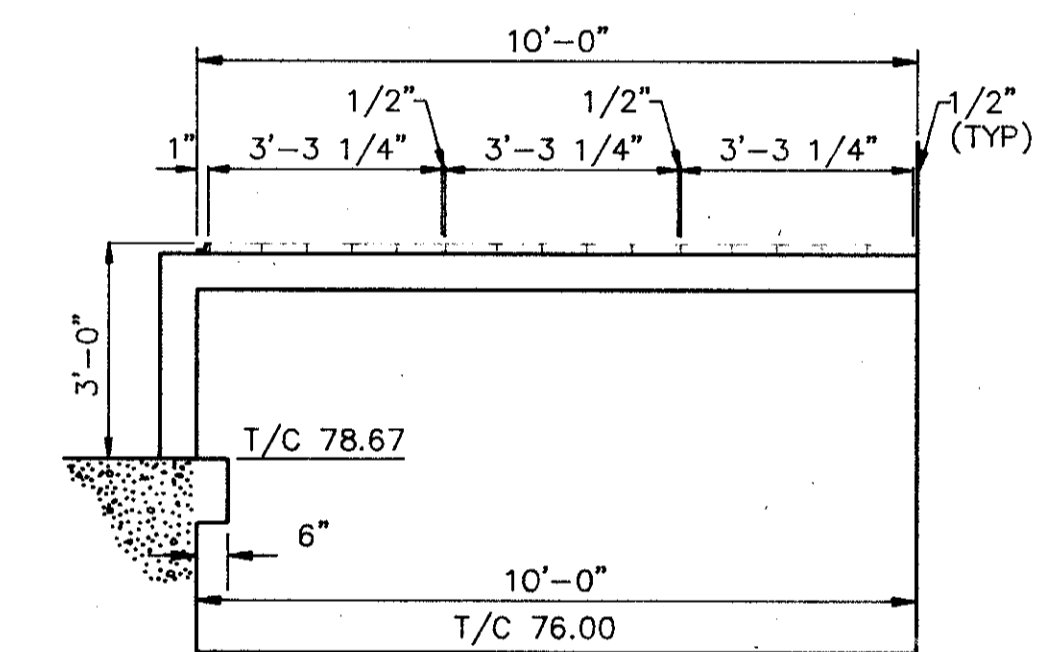
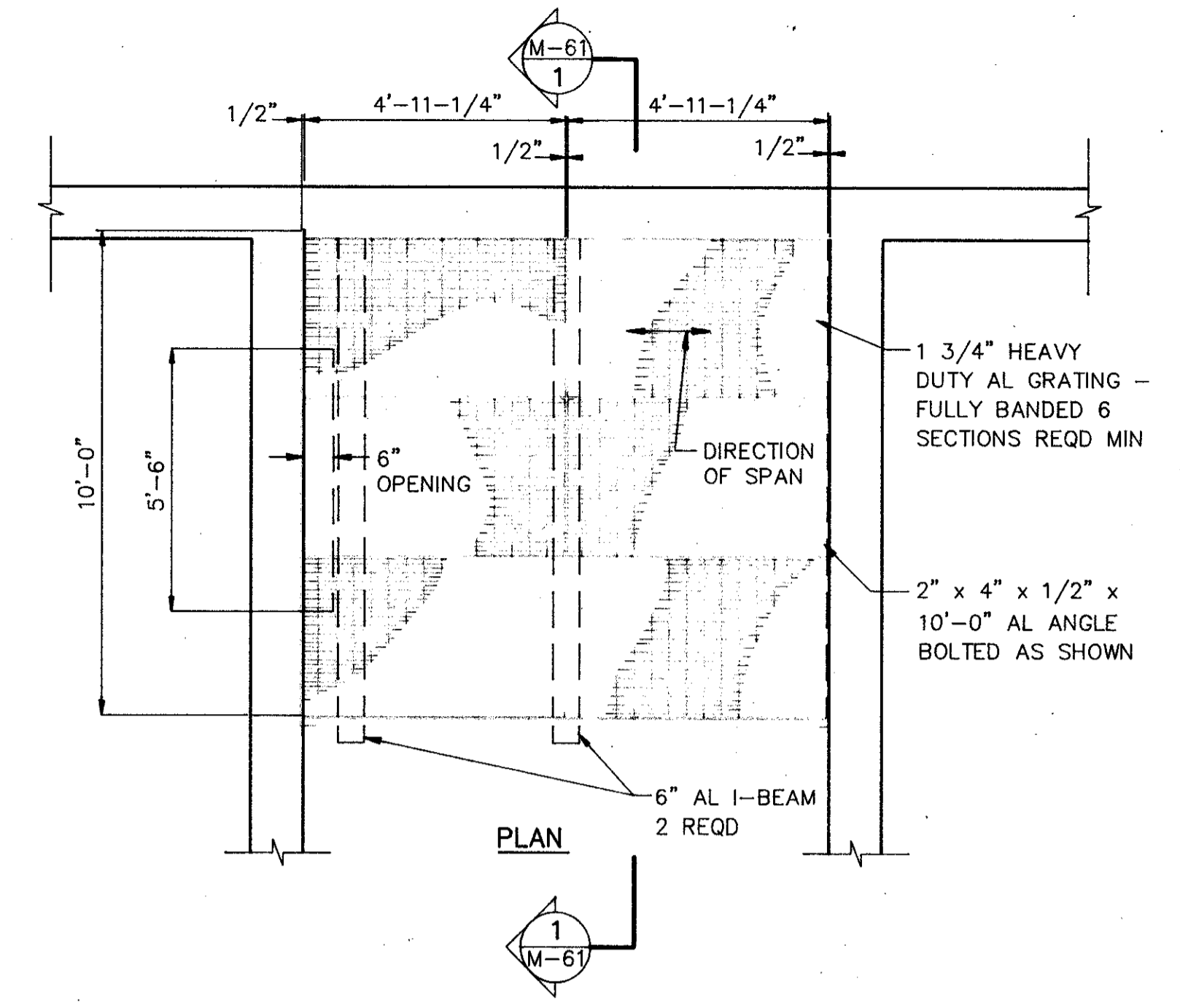




SECTION 1
1/4"=1'-0"
M-59



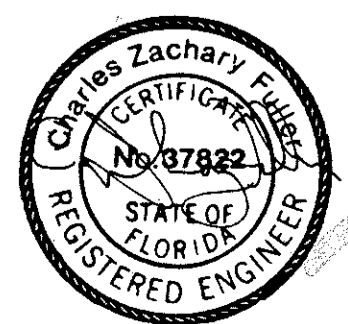
PARTIAL PLAN
1/4"=1'-0"

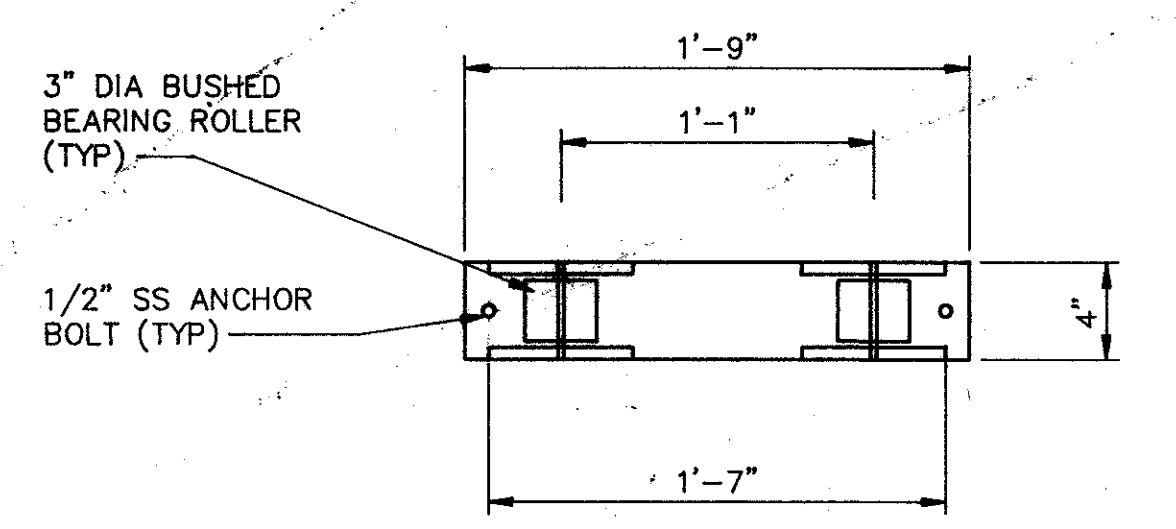


SECTION
ANTI-VORTEX GRATING

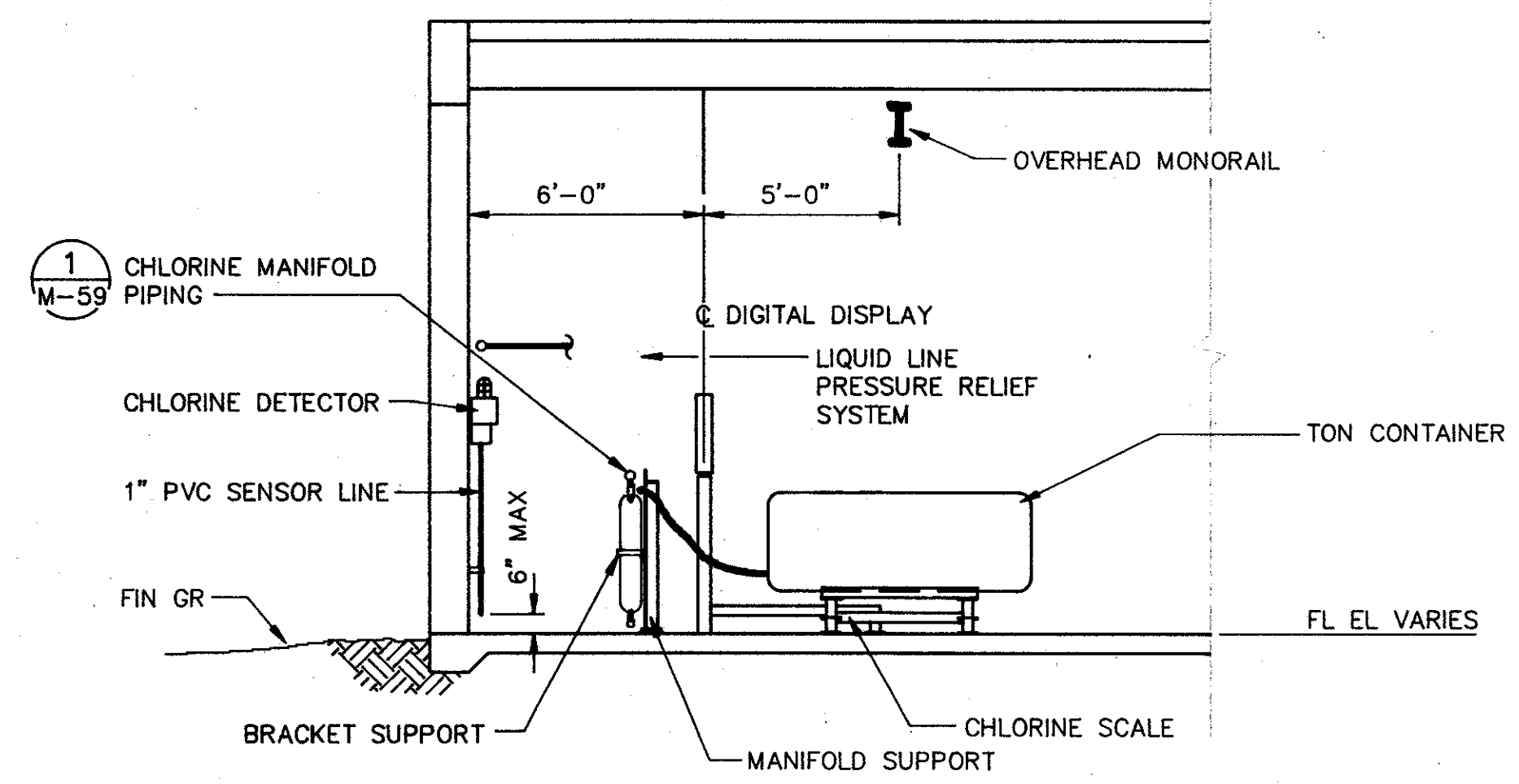
SECTION 1
NTS
M-61

DESIGNED BY <i>CJK</i>	CHKD	REMARKS
DRAWN BY <i>KMB</i>	DATE	
CHECKED BY <i>CJK</i>	4/88	SAF
APPROVED BY <i>CEP</i>		
DATE <i>MARCH 1988</i>		
CONFORMED DWG.		
CDM		
CAMP DRESSER & MCKEE INC.		
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION		
CHLORINE CONTACT CHAMBER - SECTIONS & DETAILS		
ORANGE COUNTY, FLORIDA		
PROJECT NO	6059-SL3R	
SHEET NO	M-61	

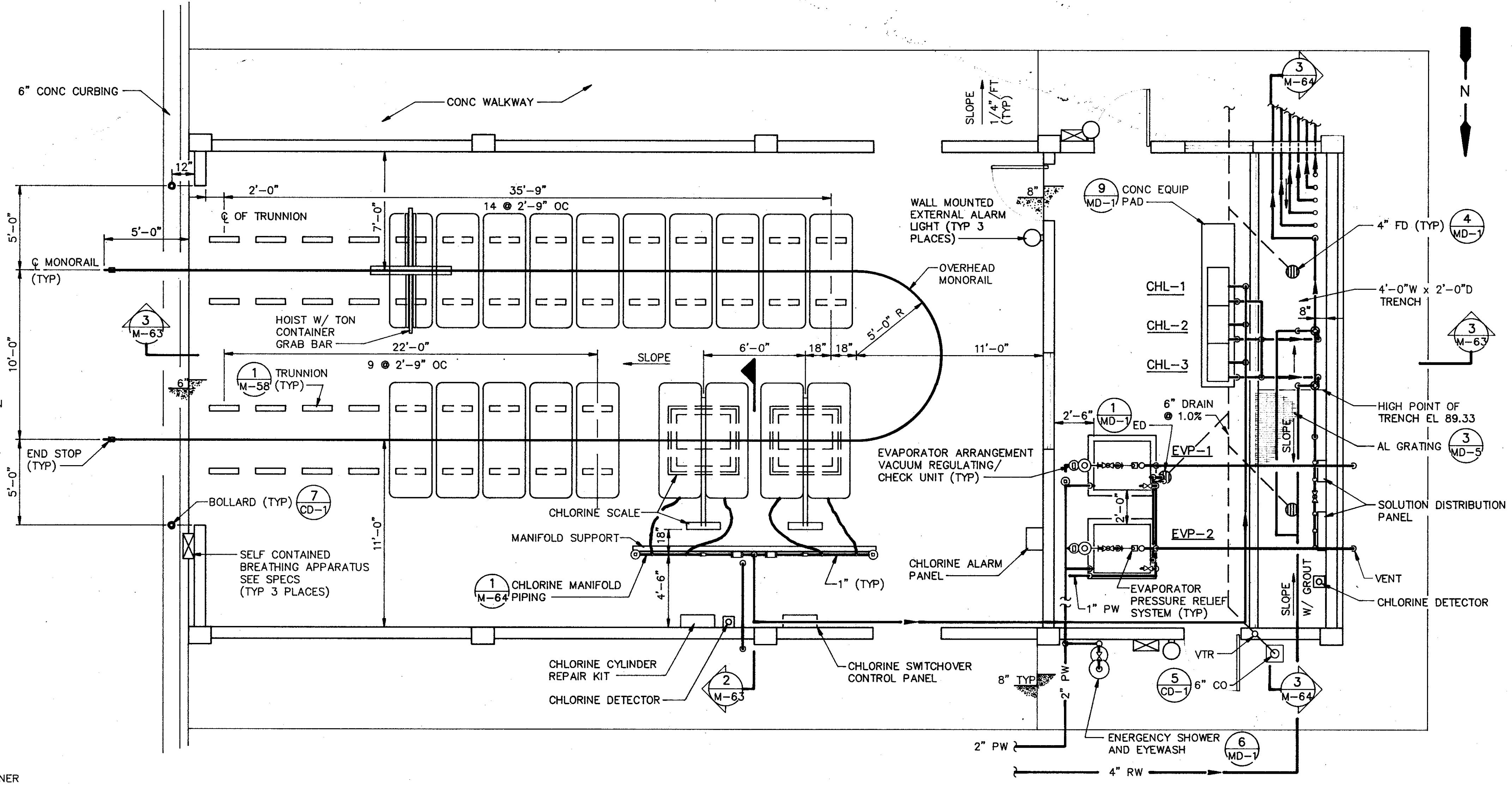




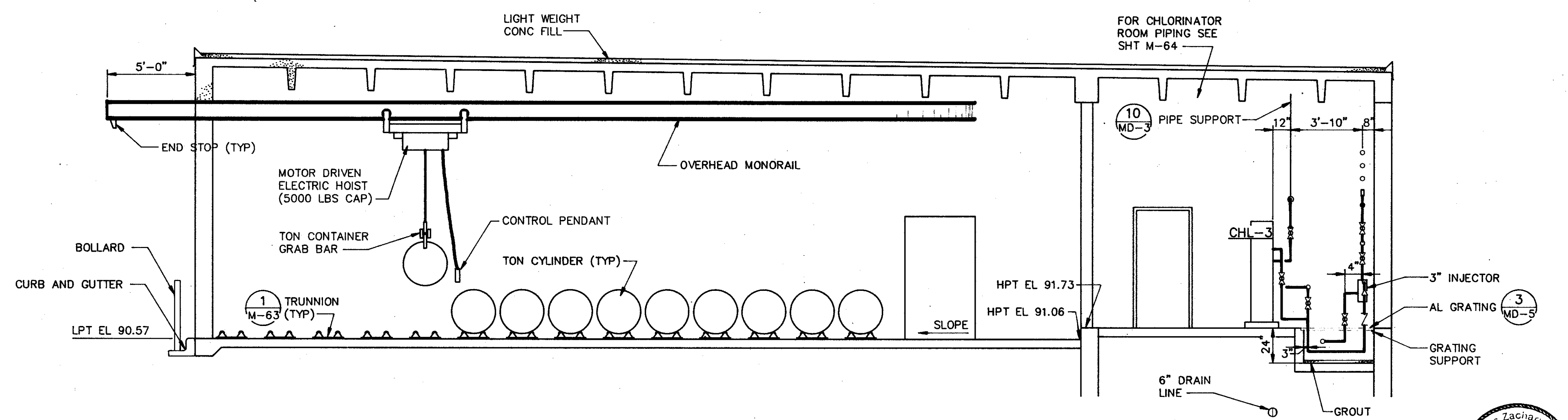
TRUNNION
DETAIL 1
1 1/2"=1'-0" M-63



SECTION 2
1/4"=1'-0" M-63



PLAN
1/4"=1'-0"

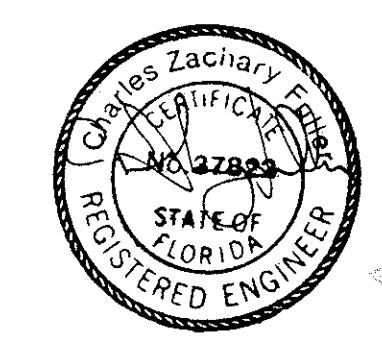


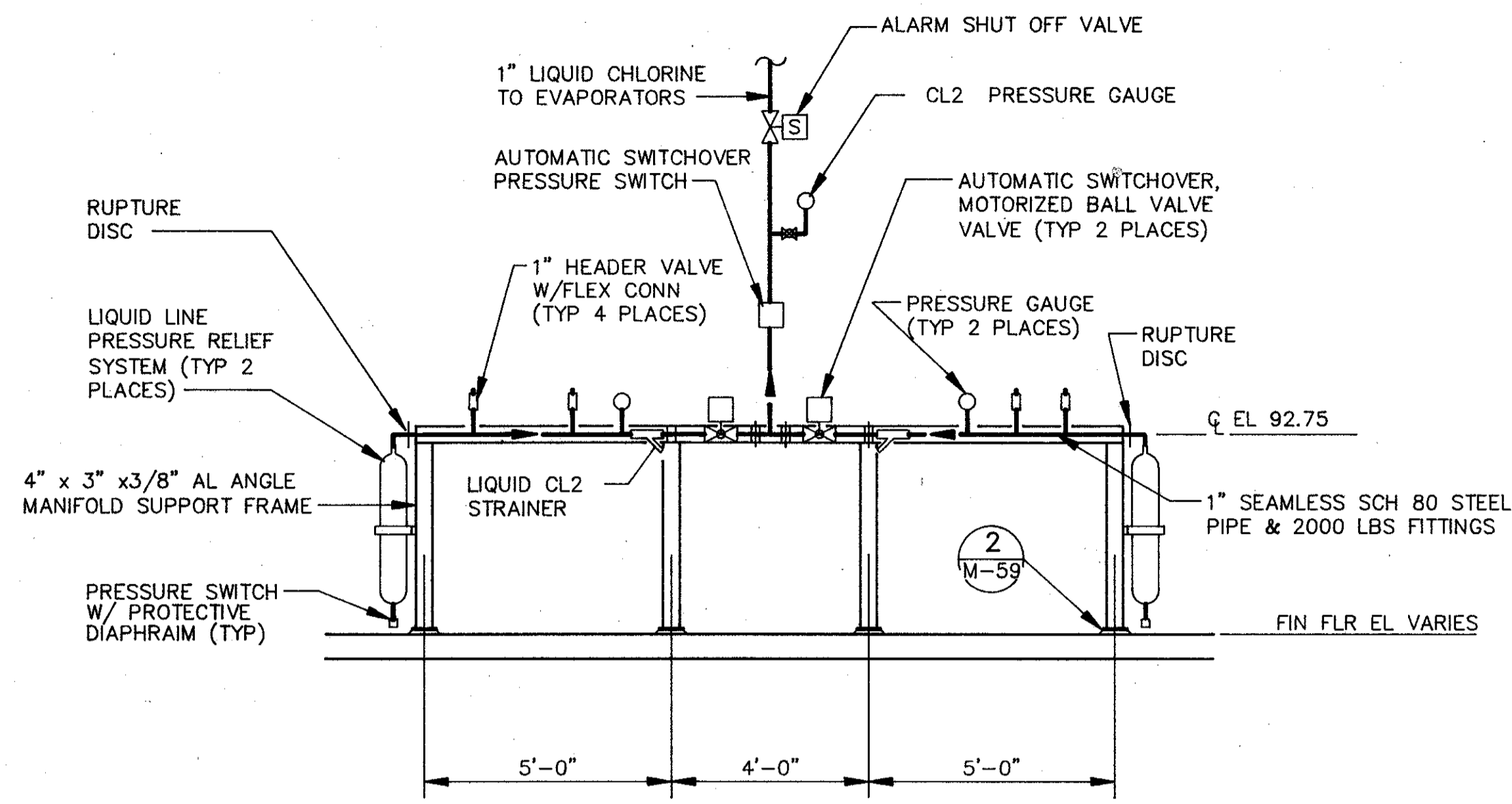
SECTION 3
1/4"=1'-0" M-63

REMARKS	
CONFORMED DWG.	
DESIGNED BY	JGL
DRAWN BY	RMB
CHECKED BY	JGL
APPROVED BY	CZE
DATE	March 1988
REV NO	4/88
DATE	
CHD	
SAF	
PROJECT NO.	6059-SL3R
SHEET NO.	M-63

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
CHLORINE BUILDING - PLAN & SECTIONS
ORANGE COUNTY, FLORIDA

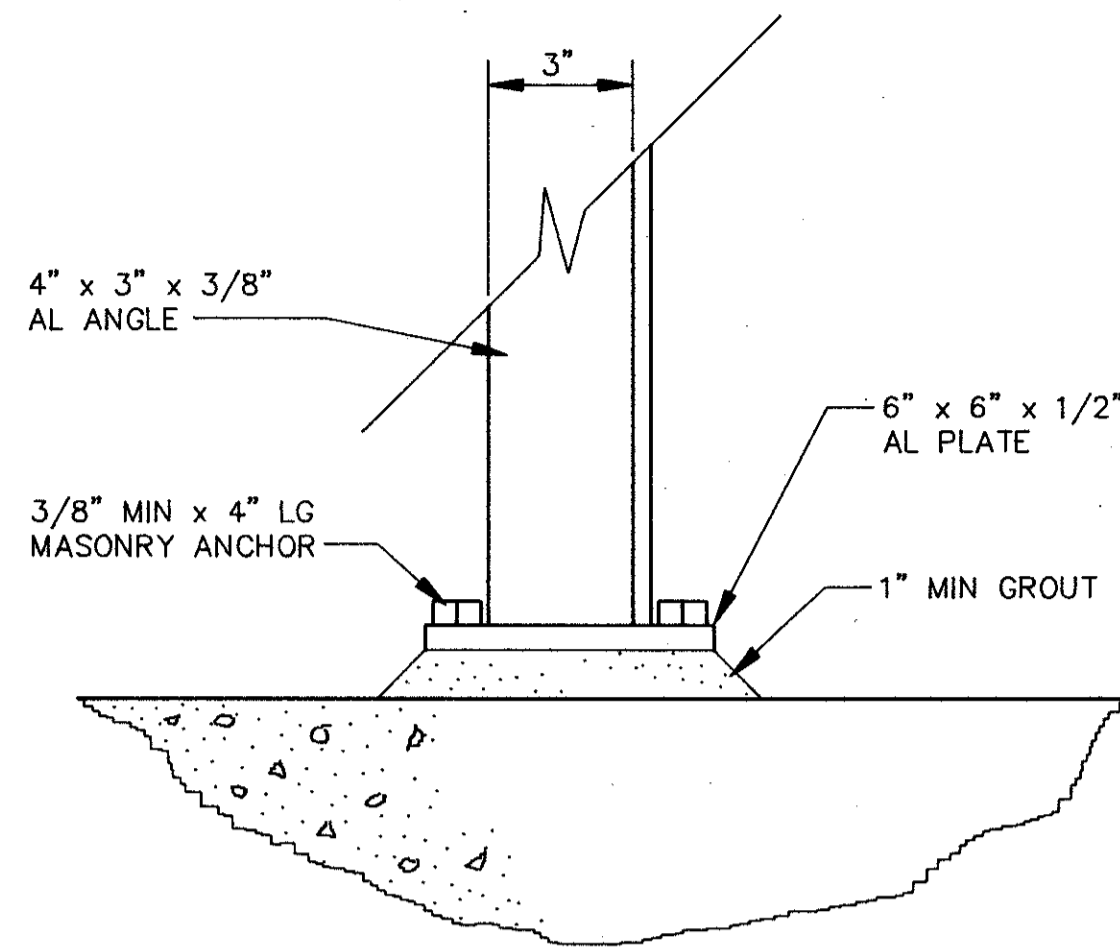
CAMP DRESSER & MCKEE INC.
environmental engineers, scientists
planners & architects/consultants
CDM



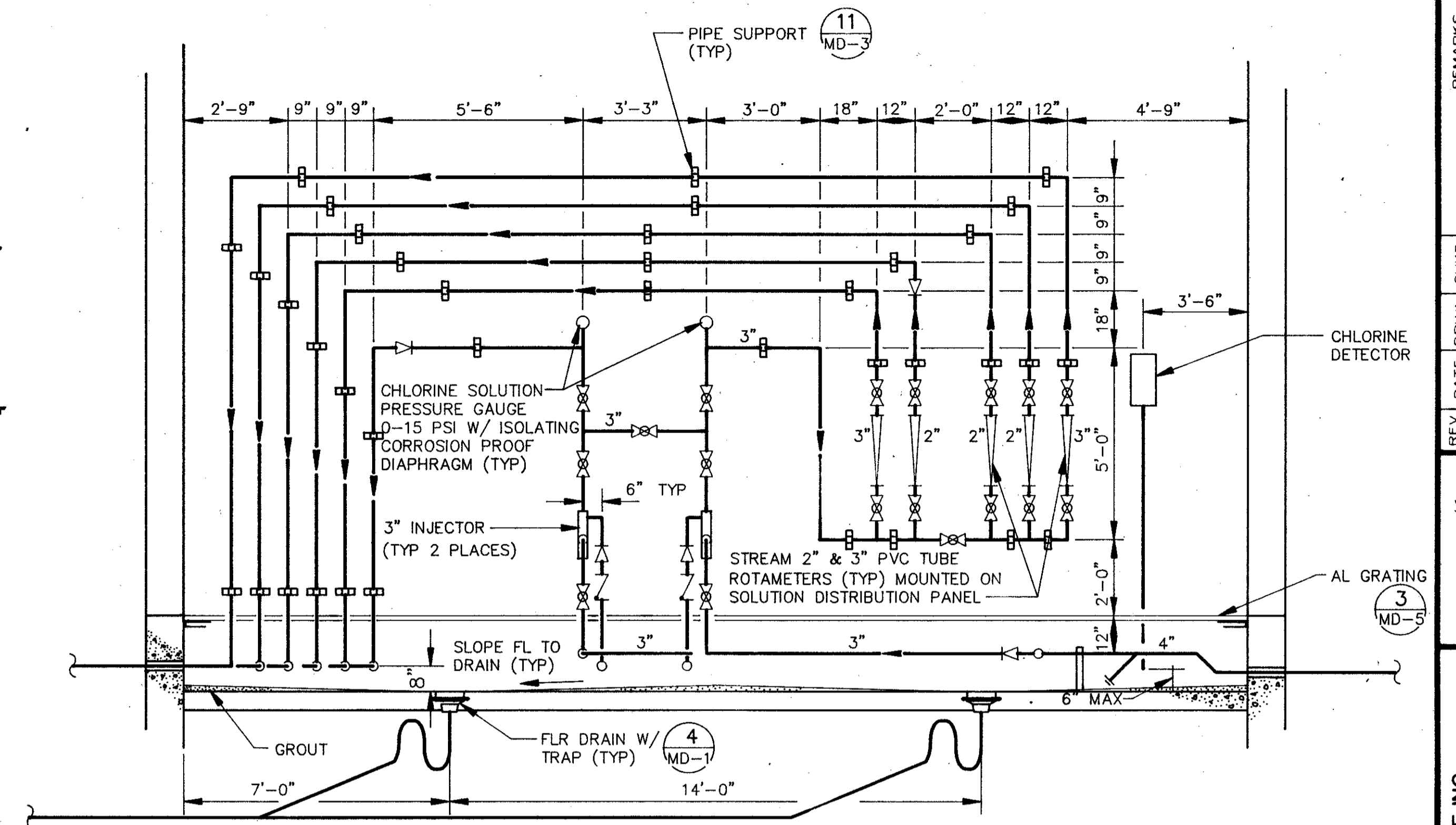


CHLORINE MANIFOLD PIPING

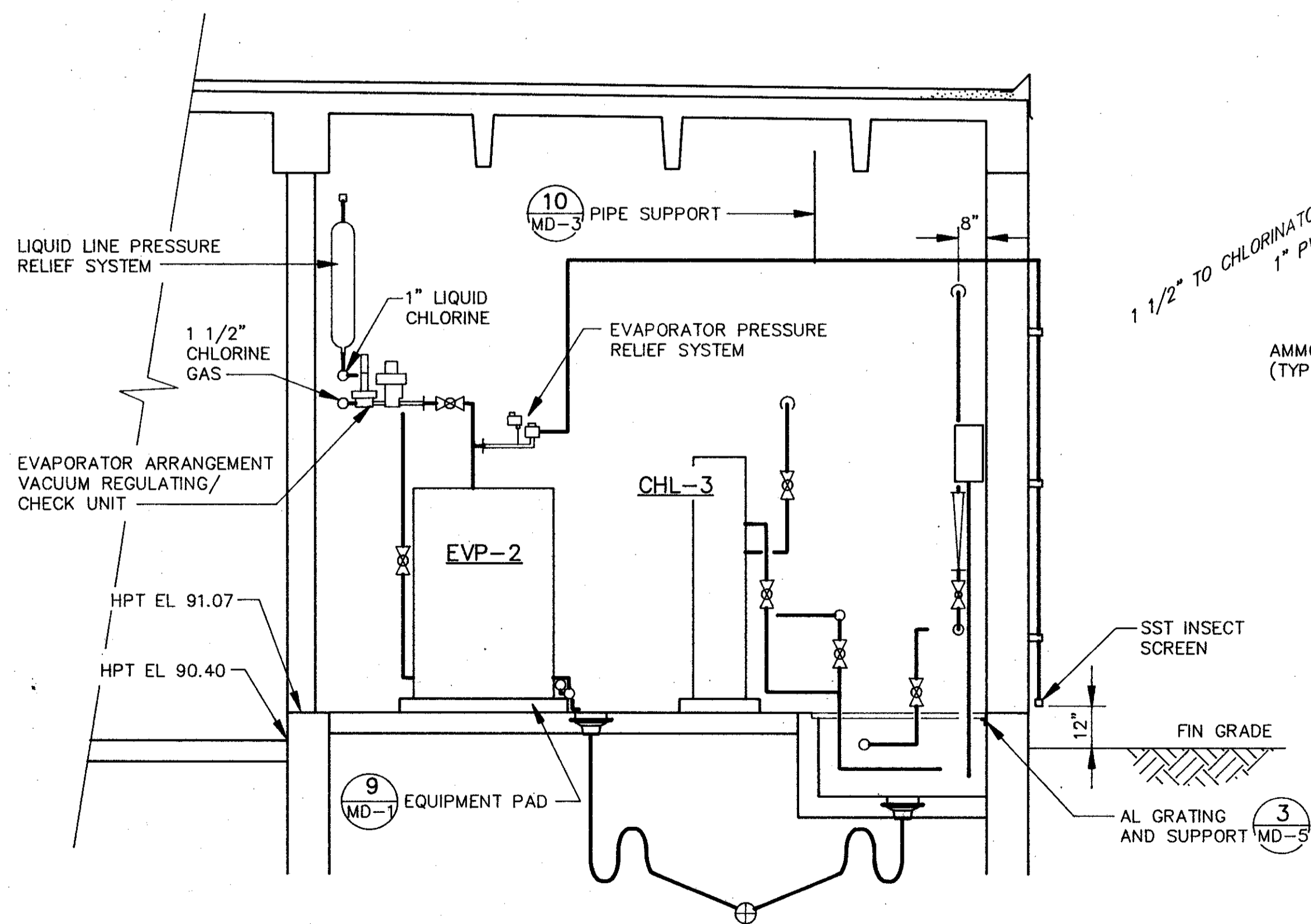
DETAIL 1
3/8"=1'-0" M-63



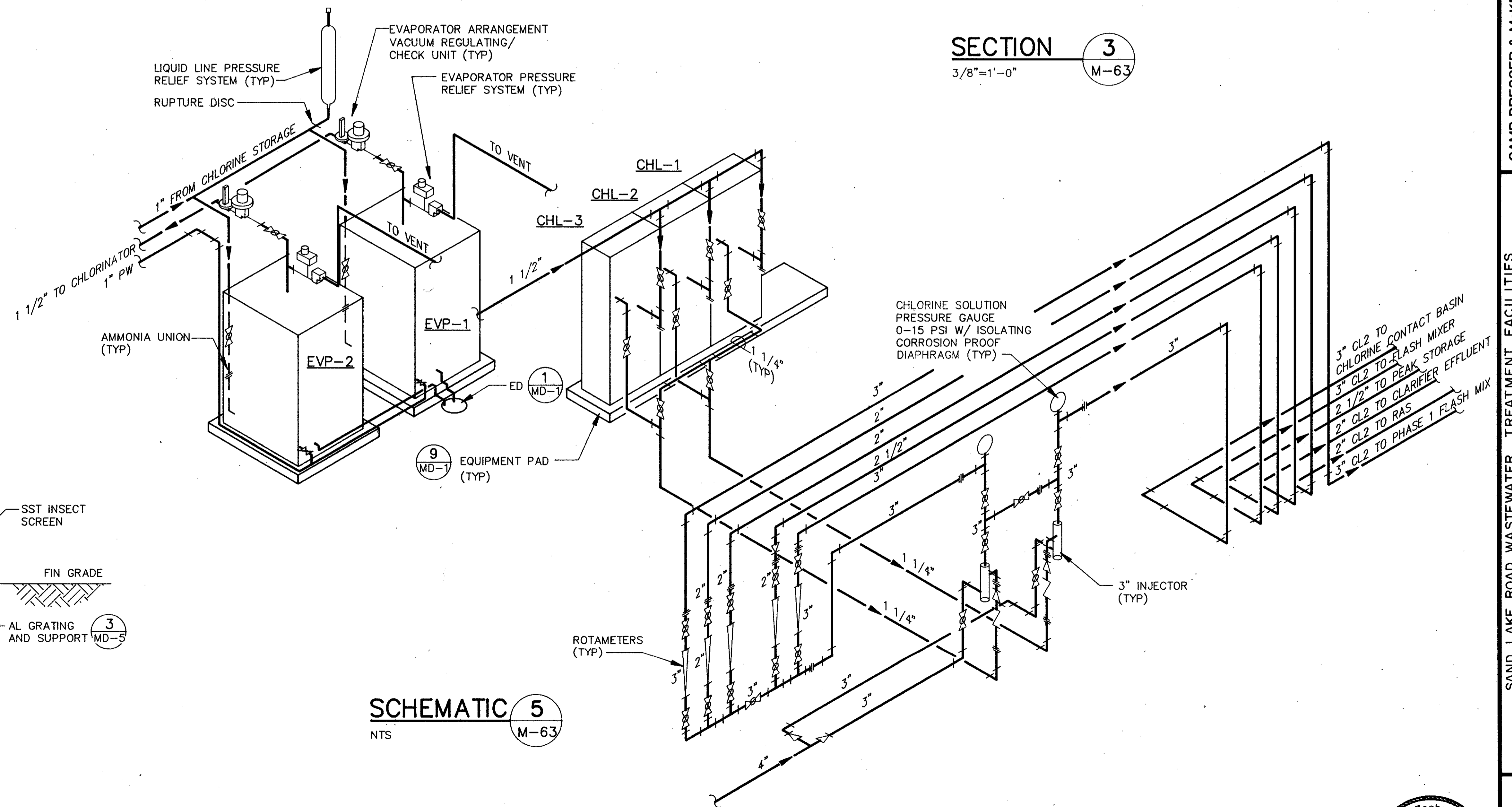
DETAIL 2
3"=1'-0" M-64



SECTION 3
3/8"=1'-0" M-63

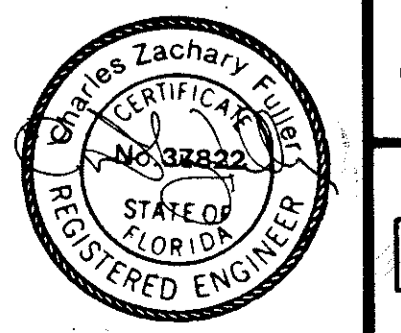


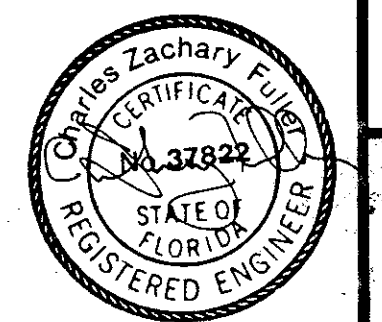
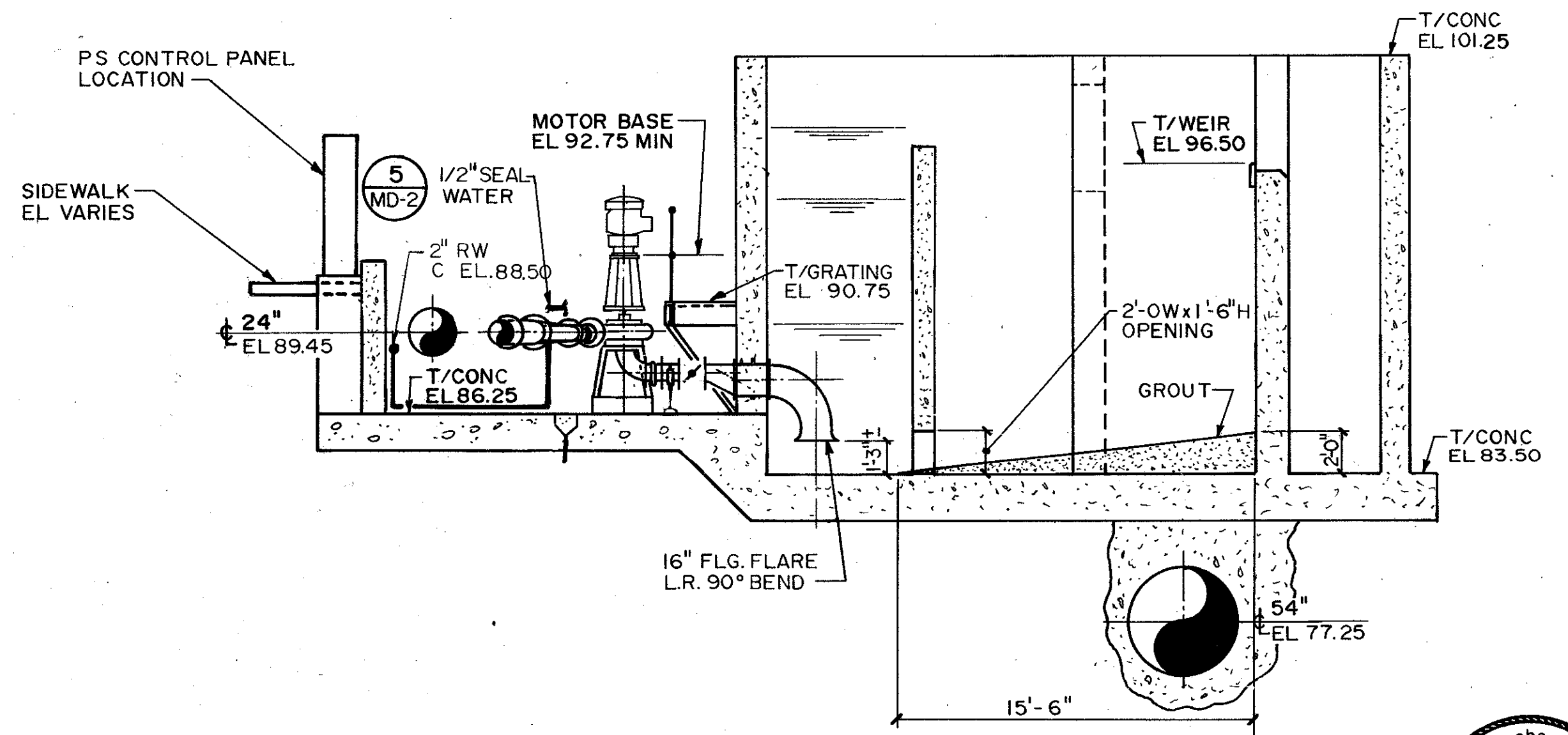
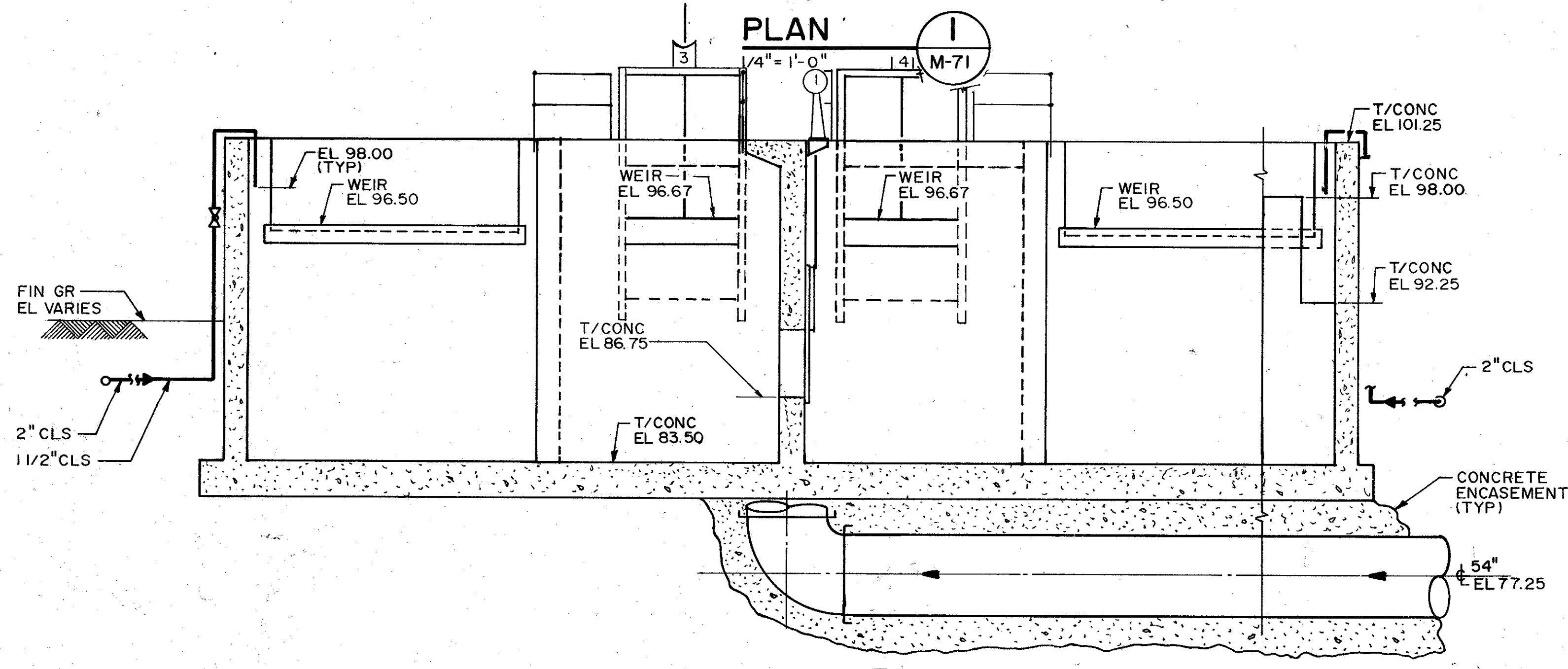
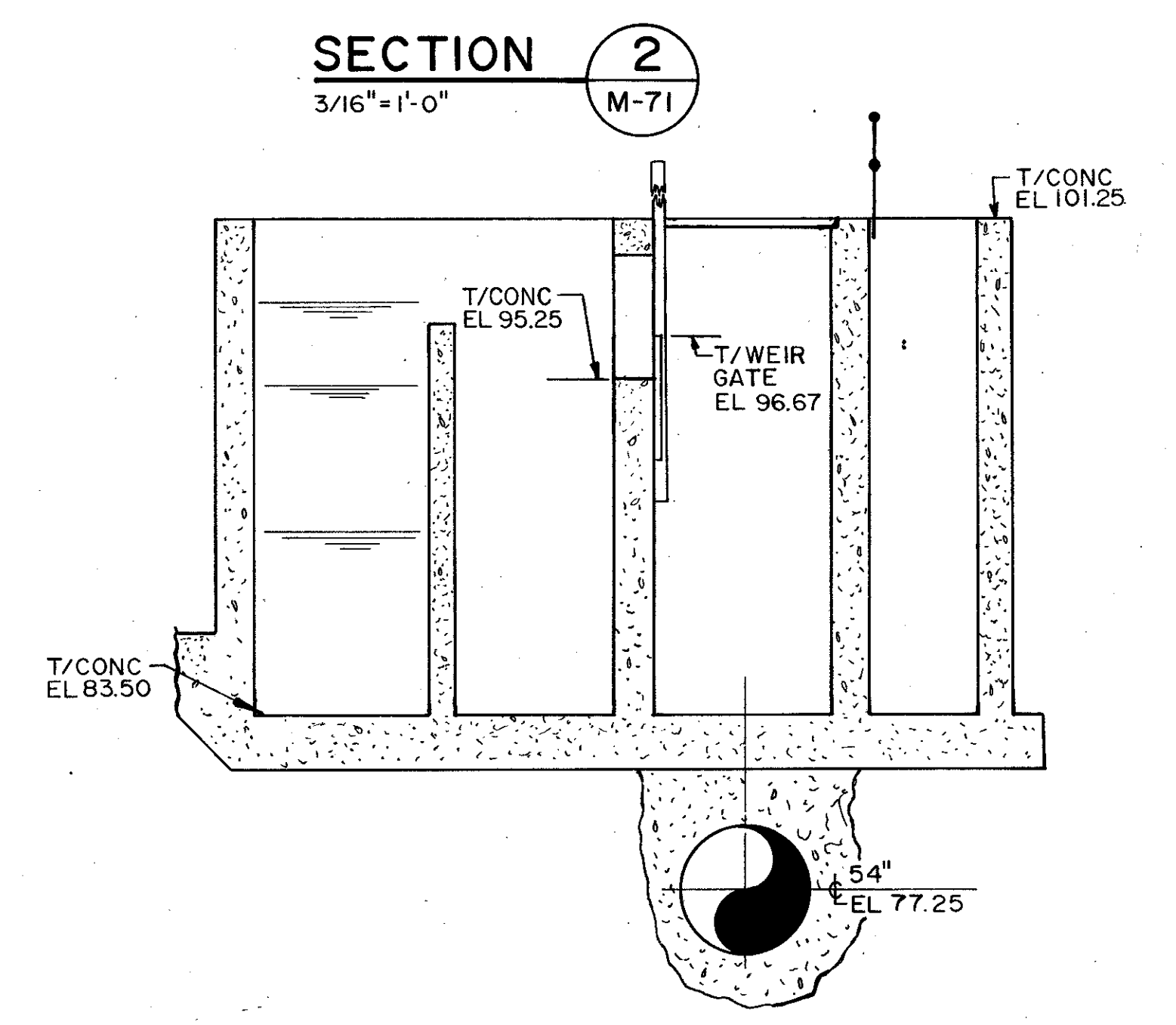
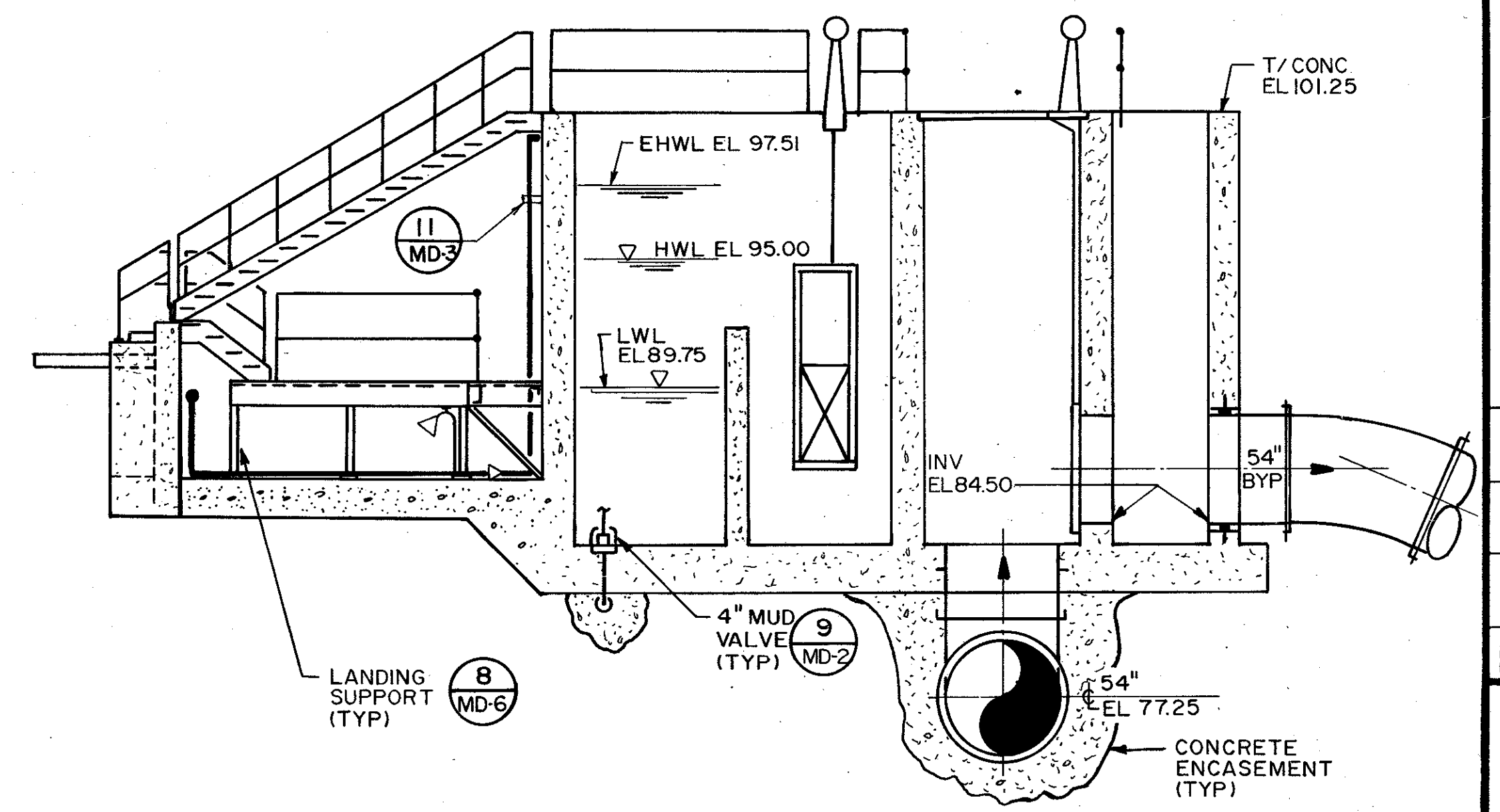
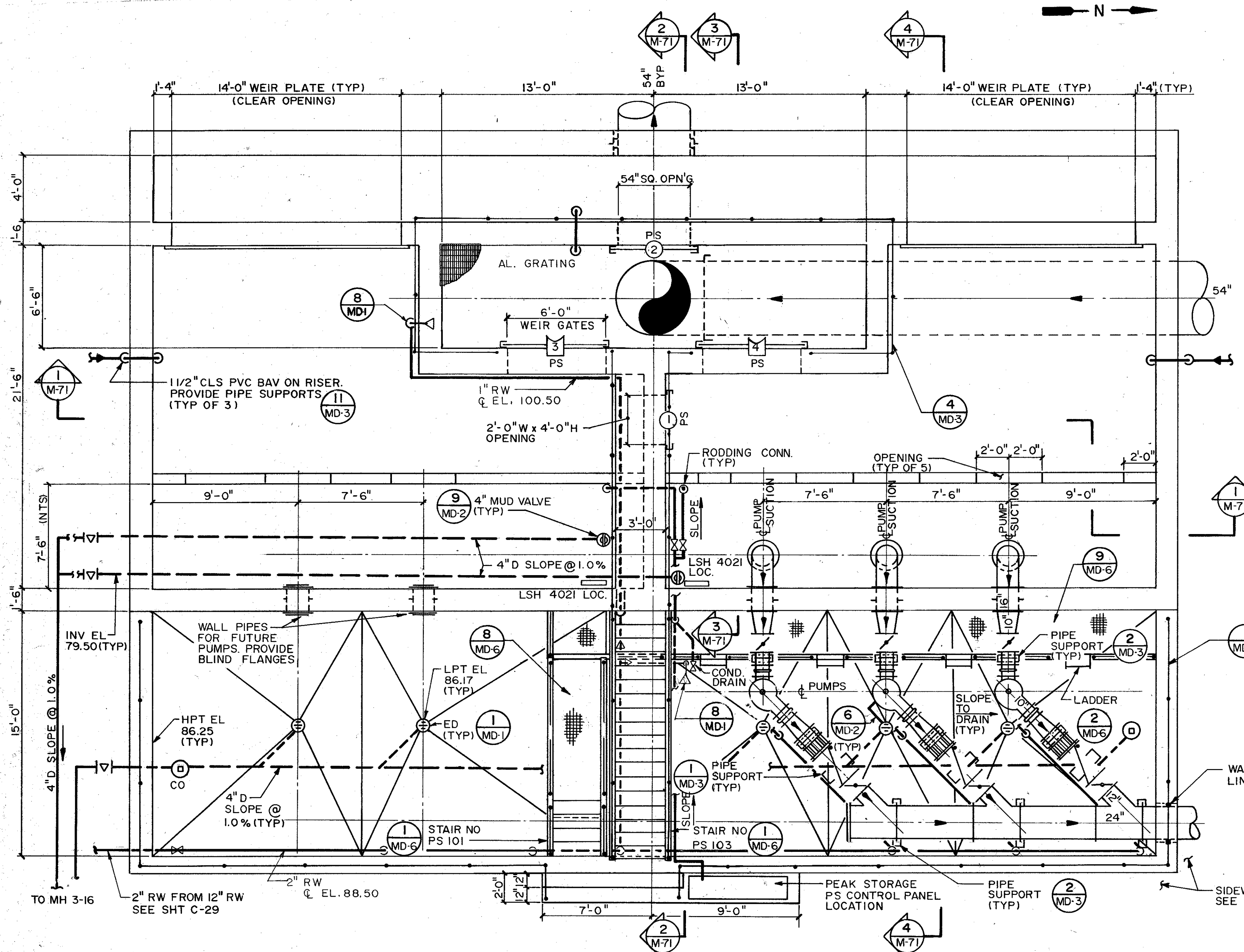
SECTION 4
3/8"=1'-0" M-63



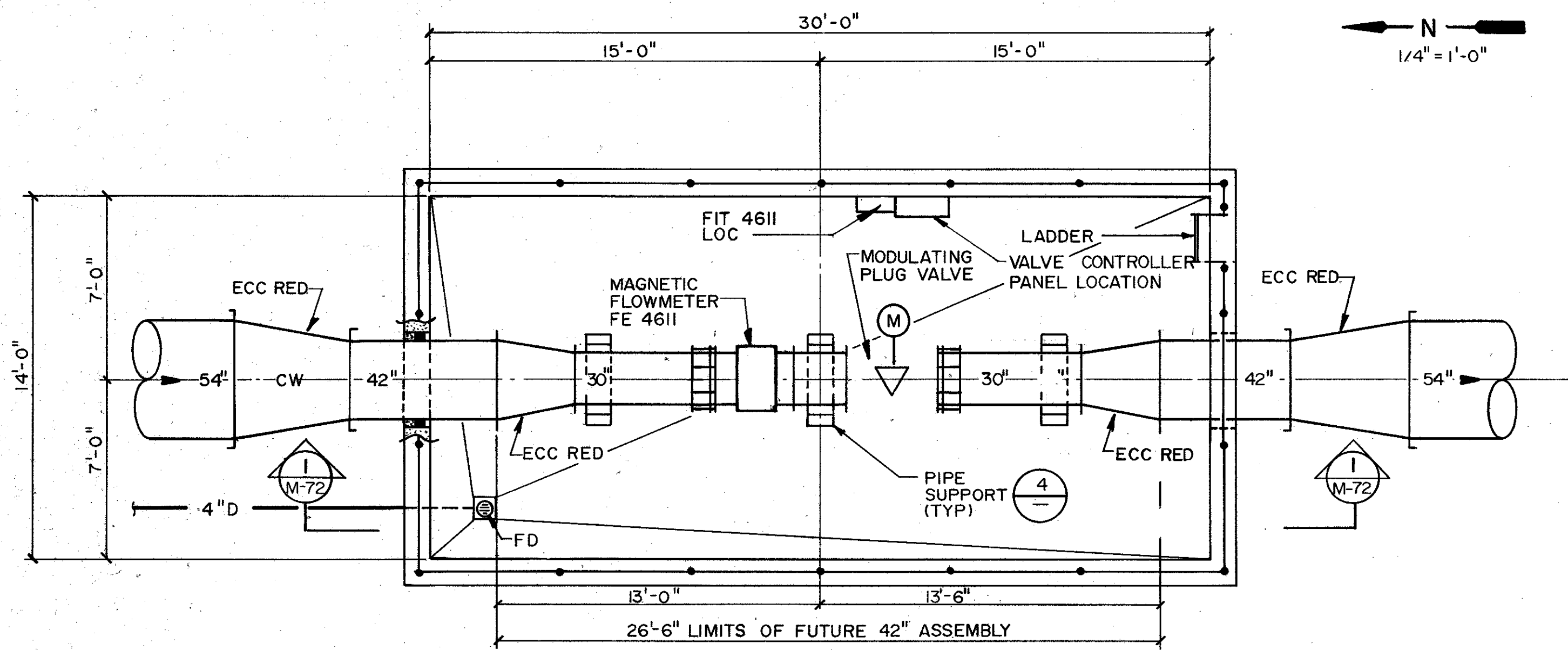
SCHEMATIC 5
NTS M-63

REMARKS	
DATE	4/88
CHKD	SAF
REV NO	
DESIGNED BY	JGL
DRAWN BY	KMB
CHECKED BY	JGL
APPROVED BY	CEP
DATE	MAR 28, 1988
CONFORMED DWG.	
CAMP DRESSER & MCKEE INC.	
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION	
CHLORINE BUILDING - SCHEMATIC	
ORANGE COUNTY, FLORIDA	
PROJECT NO.	6059-SL3R
SHEET NO.	M-64

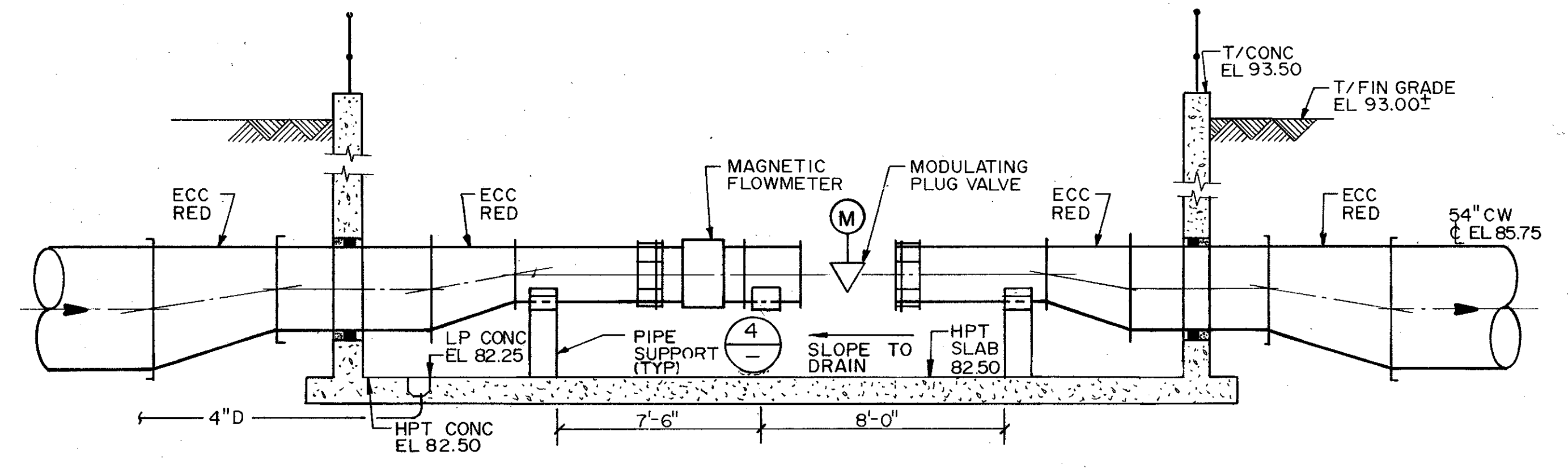




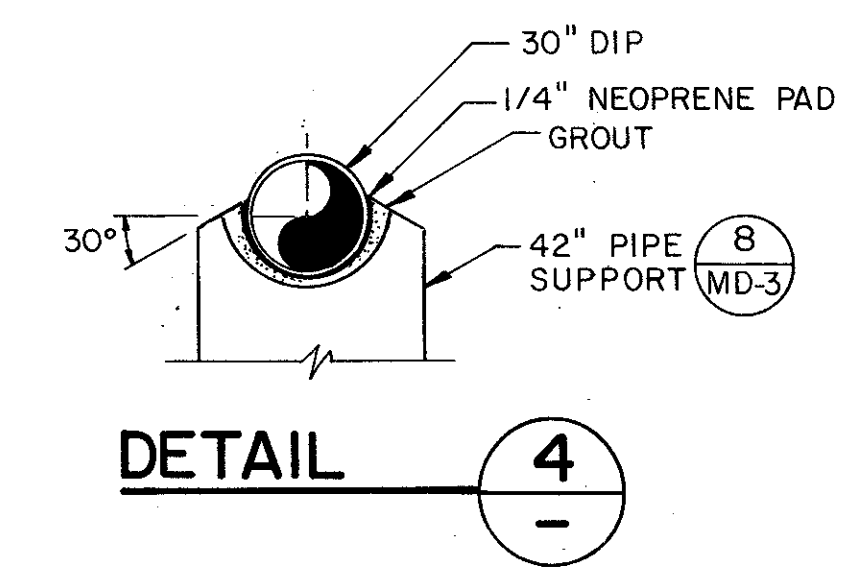
REMARKS	CONFORMED DWG.
	DATE: 4/88
DESIGNED BY: CLK	PROJECT NO: 6059-SL3R
DRAWN BY: REK	SHEET NO: M-71
CHECKED BY: CLK	
APPROVED BY: SZF	
DATE: March, 1988	
CDM environmental engineers, scientists planners & management consultants	
CAMP DRESSER & MCKEE INC.	
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION	
PEAK STORAGE TANKS - PUMP STATION ORANGE COUNTY, FLORIDA	



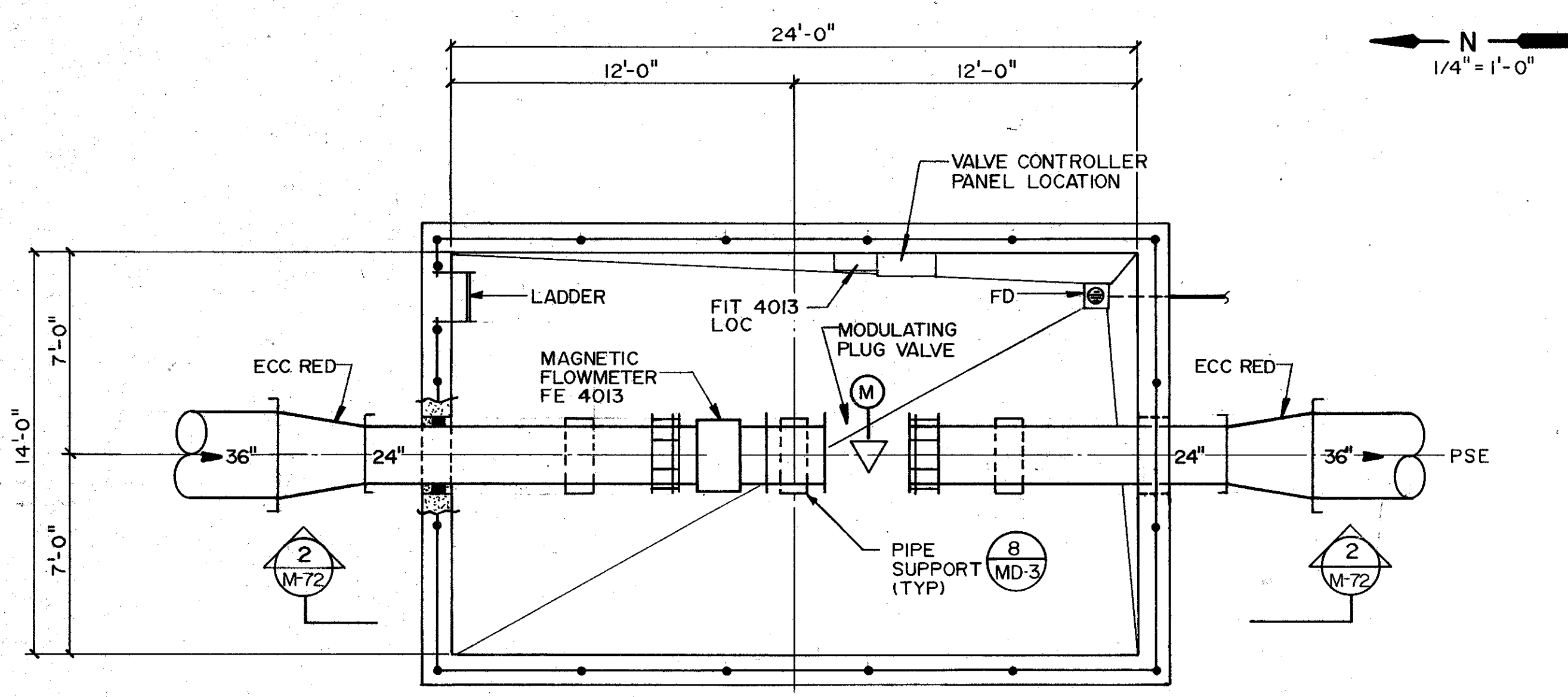
PLAN
CLARIFIED WATER RATE OF FLOW CONTROLLER



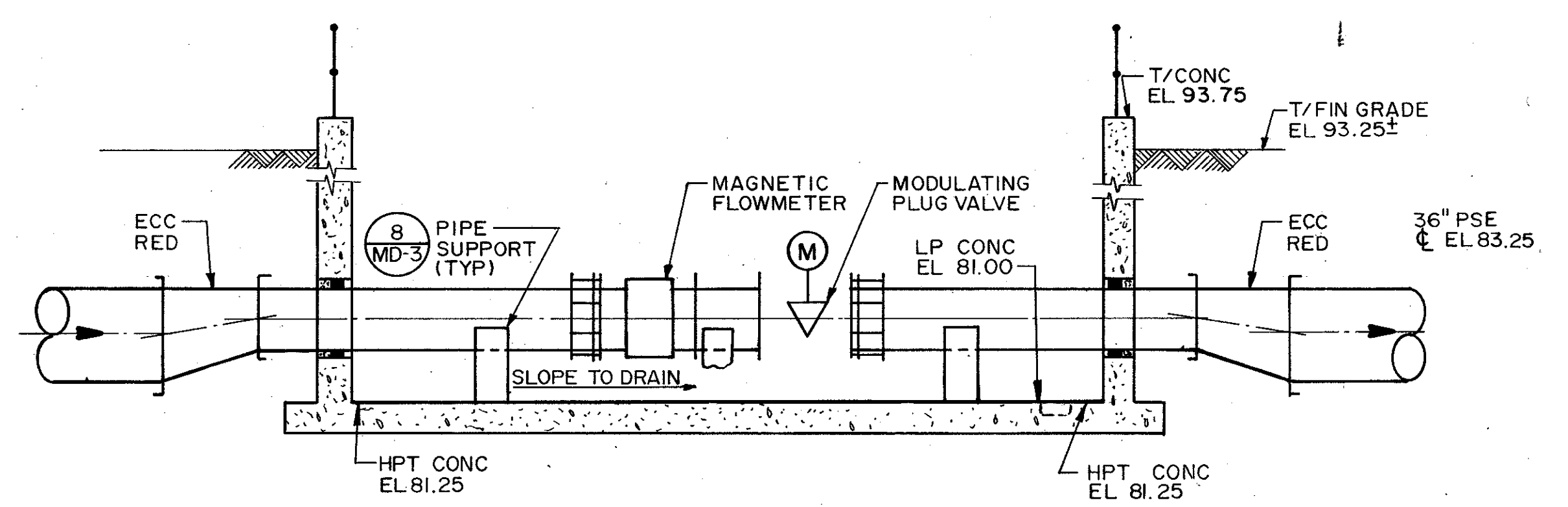
SECTION 1
1/4" = 1'-0"



DETAIL 4
1/4" = 1'-0"



PLAN
PK. S. DISCHARGE RATE OF FLOW CONTROLLER



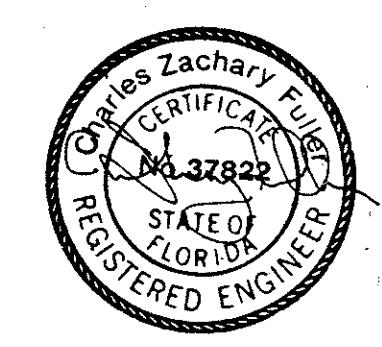
SECTION 2
1/4" = 1'-0"

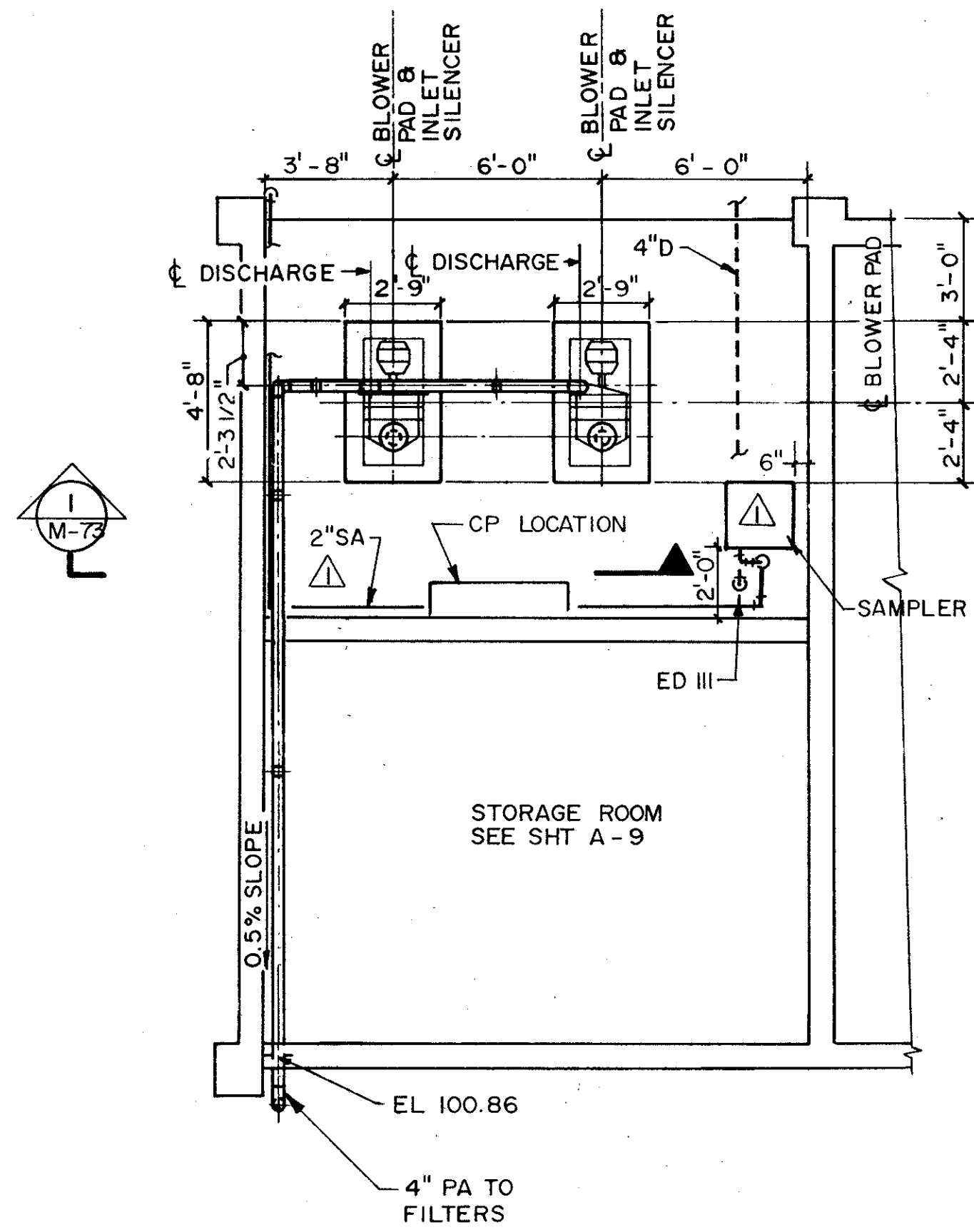
REVISIONS	REMARKS
NO.	DATE
4/88	SAF
CONFORMED DWG.	
DESIGNED BY	CHK
DRAWN BY	CHK
CHECKED BY	CHK
APPROVED BY	CZE
DATE	March, 1988

CAMP DRESSER & MCKEE INC.
environmental engineers, scientists, partners & management consultants

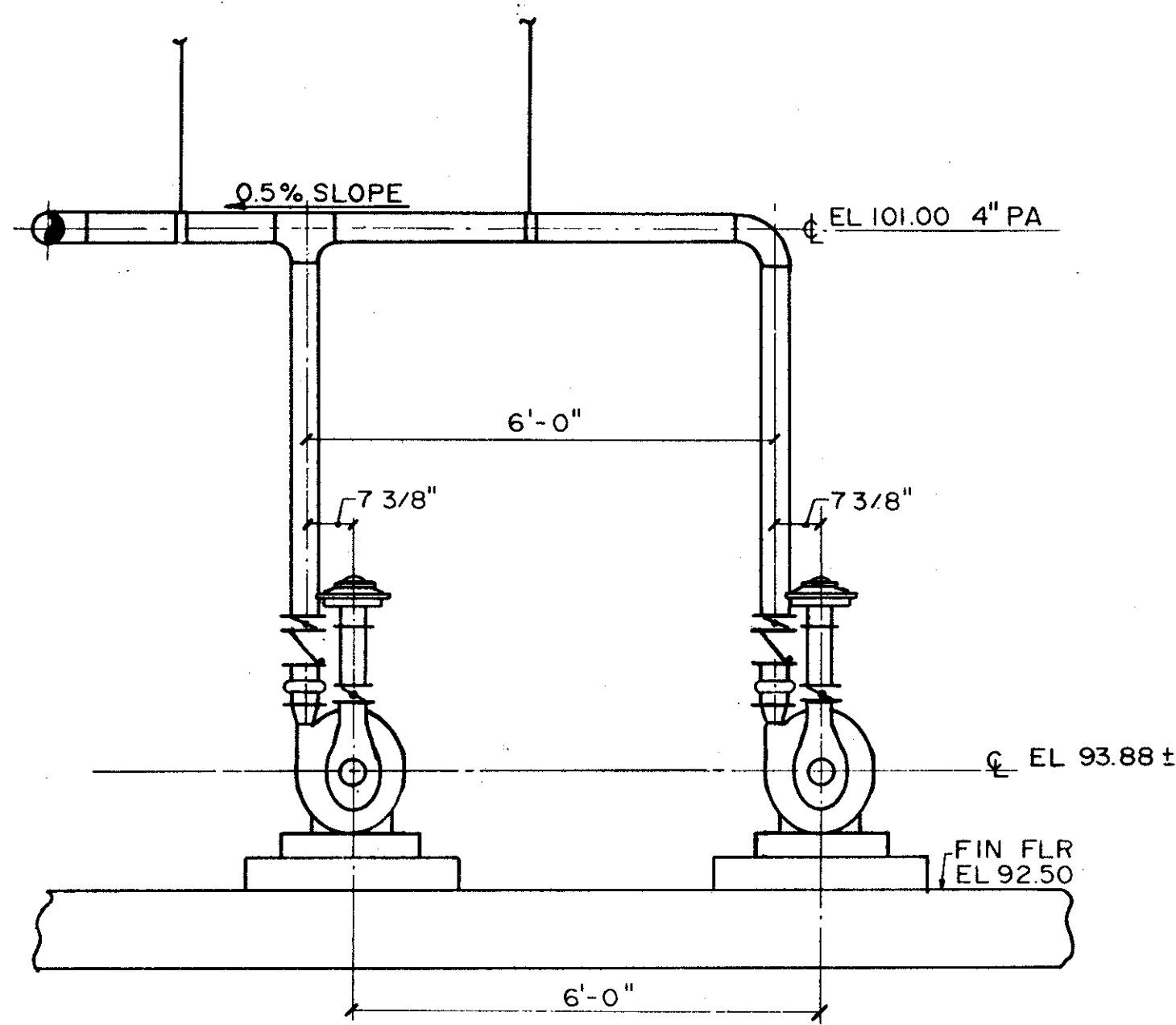
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
**PEAK STORAGE TANKS -
RATE OF FLOW CONTROLLERS AND VALVE PIT**
ORANGE COUNTY, FLORIDA

PROJECT NO.
6059-SL3R
SHEET NO.
M-72





PLAN
1/4" = 1'-0"



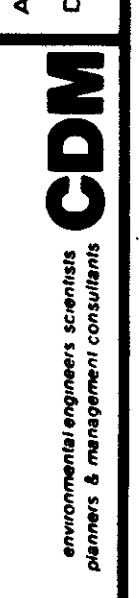
NOTE
FRP PIPE ABOVE GRADE.

SECTION I
1/2" = 1'-0"



DESIGNED BY B&S		REV NO	DATE	DRWN	CHKD	REMARKS
DRAWN BY S&E		1	4-88	JWH	C/K	ADDENDUM NO 1
CHECKED BY CLK		2	4/88	SAF		CONFORMED DWG.
APPROVED BY CZF						
DATE MARCH, 1988						

CAMP DRESSER & MCKEE INC.

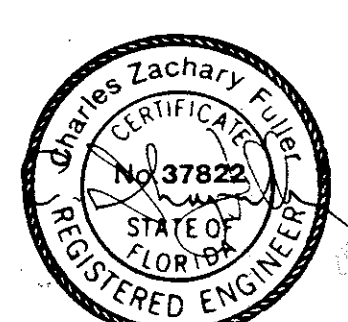


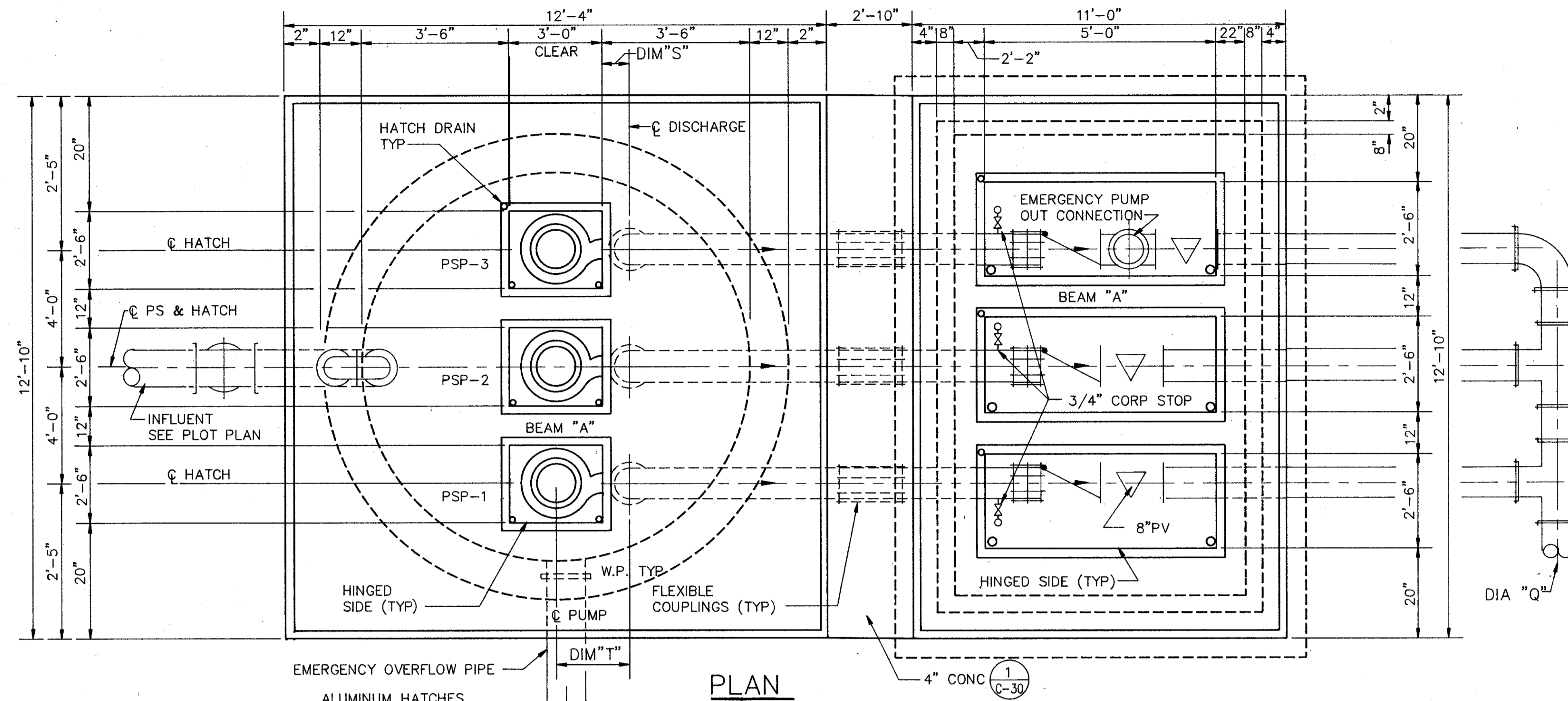
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
SOUTHWEST ELECTRICAL BUILDING
ORANGE COUNTY, FLORIDA

PROJECT NO
6059-SL3R

SHEET NO

M-73

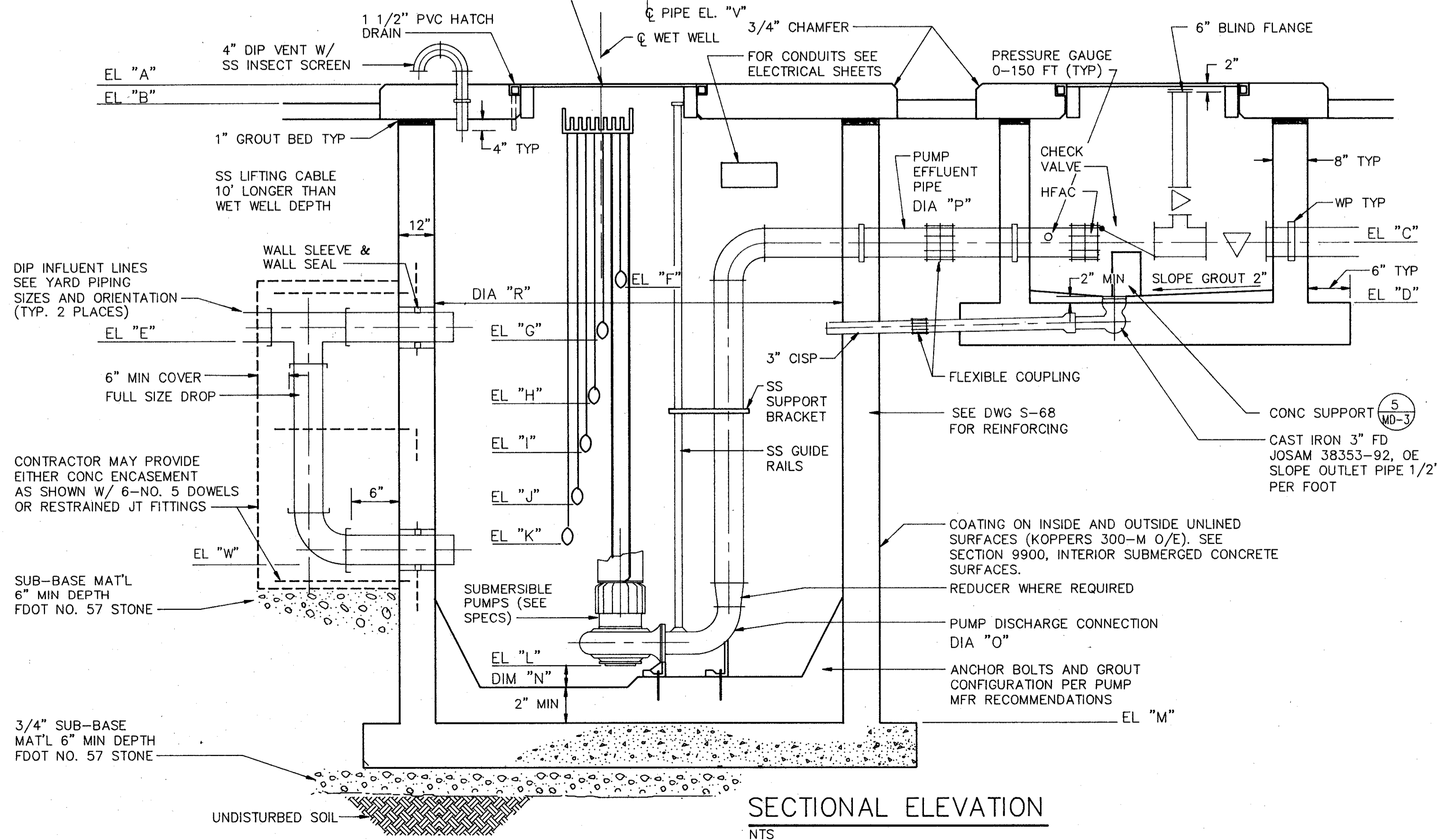




PLAN
NTS

PUMP STATION DATA

PUMP STATION		PLANT SITE
INITIAL NUMBER OF PUMPS	EA	3
ULTIMATE NUMBER OF PUMPS	EA	3
INITIAL DESIGN CONDITIONS	GPM/TDH	1500/24
FUTURE DESIGN CONDITIONS	GPM/TDH	N/A
TOP OF SLAB	EL "A"	92.25
FINISH GRADE	EL "B"	92.00
☉ DISCHARGE PIPE	EL "C"	85.50
VALVE BOX BASE SLAB	EL "D"	88.00
LOWEST INFLUENT LINE	EL "E"	74.60
HIGH LEVEL ALARM	EL "F"	74.10
LAG PUMP NO. 2 - ON	EL "G"	73.60
LAG PUMP NO. 1 - ON	EL "H"	73.10
LEAD PUMP - ON	EL "I"	72.60
ALL PUMPS - OFF	EL "J"	66.50
LOW LEVEL ALARM	EL "K"	66.00
PUMP SUCTION	EL "L"	65.15
WET WELL BASE SLAB	EL "M"	64.50
PUMP SUCTION CLEARANCE	DIM "N"	8"
PUMP DISCHARGE FLANGE	DIA "O"	8"
PUMP EFFLUENT PIPE	DIA "P"	8"
COMMON FORCE MAIN	DIA "Q"	12"
WET WELL DIAMETER	DIA "R"	10'-0"
WET WELL DEPTH EL "A" - "M"		27.75
☉ DISCH. TO BACK OF HATCH	DIM "S"	8.75"
☉ OF PUMP TO ☉ DISCHARGE	DIM "T"	29.75"
EMERGENCY OVERFLOW	DIA "U"	24"
☉ DISCH, EMER. OVERFLOW	EL "V"	85.68
DROP PIPE INV	EL "W"	71.18



SECTIONAL ELEVATION
NTS

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION
 PLANT SITE PUMP STATION - PLAN & SECTION
 ORANGE COUNTY, FLORIDA

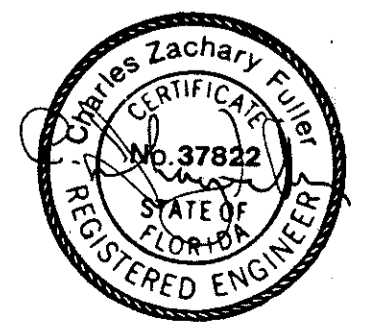
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1	4/88	SAF		CONFORMED DWG.

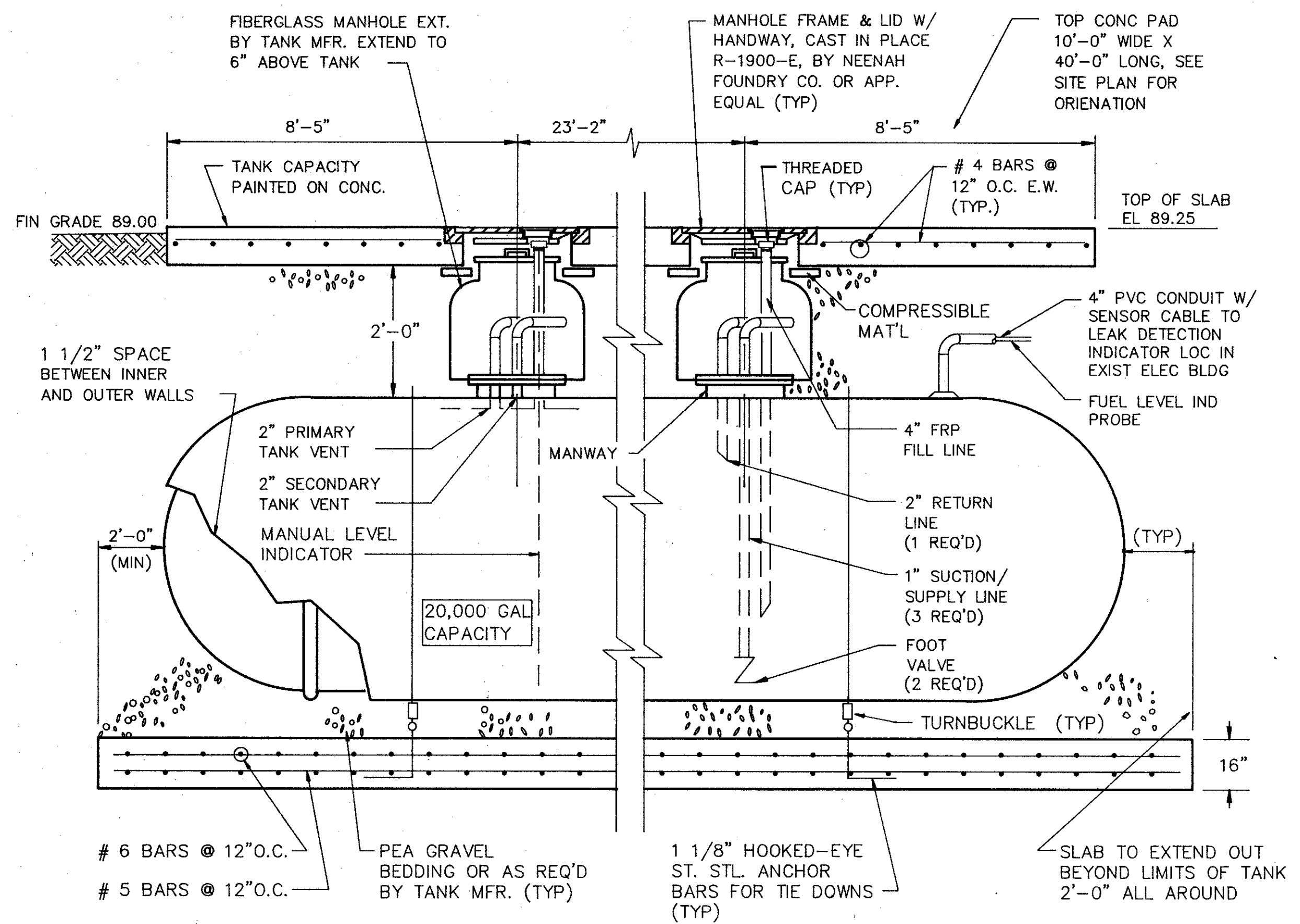
DESIGNED BY: CJK
 DRAWN BY: JGG
 CHECKED BY: CJK
 APPROVED BY: CEF
 DATE: MARCH, 1988

CDM
environmental engineers scientists
planners & management consultants

PROJECT NO:
6059-SL3R

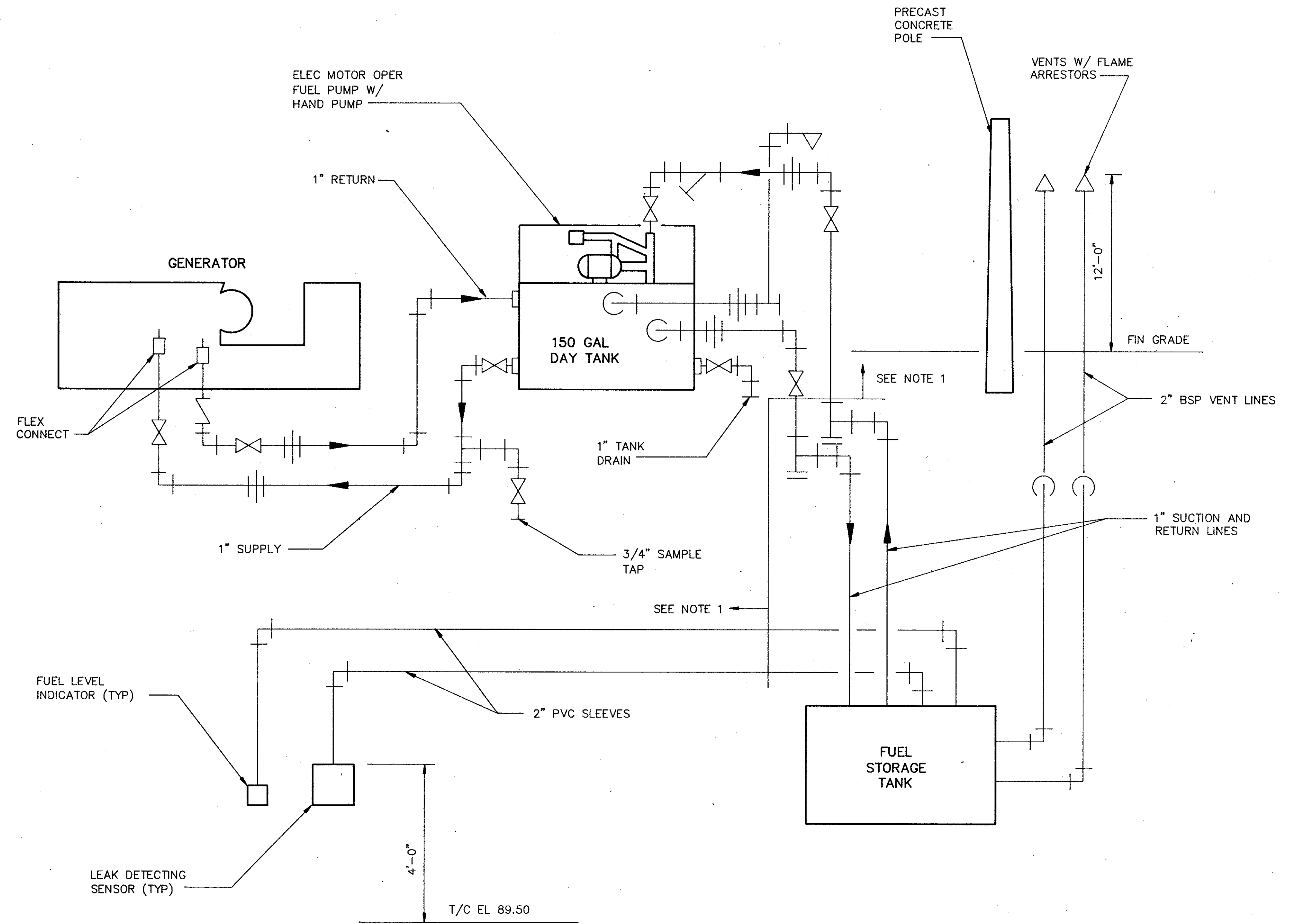
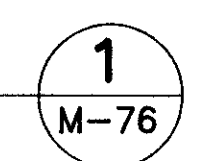
SHEET NO:
M-74





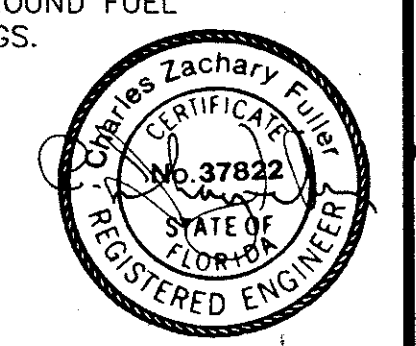
UNDERGROUND STORAGE TANK

DETAIL
NTS

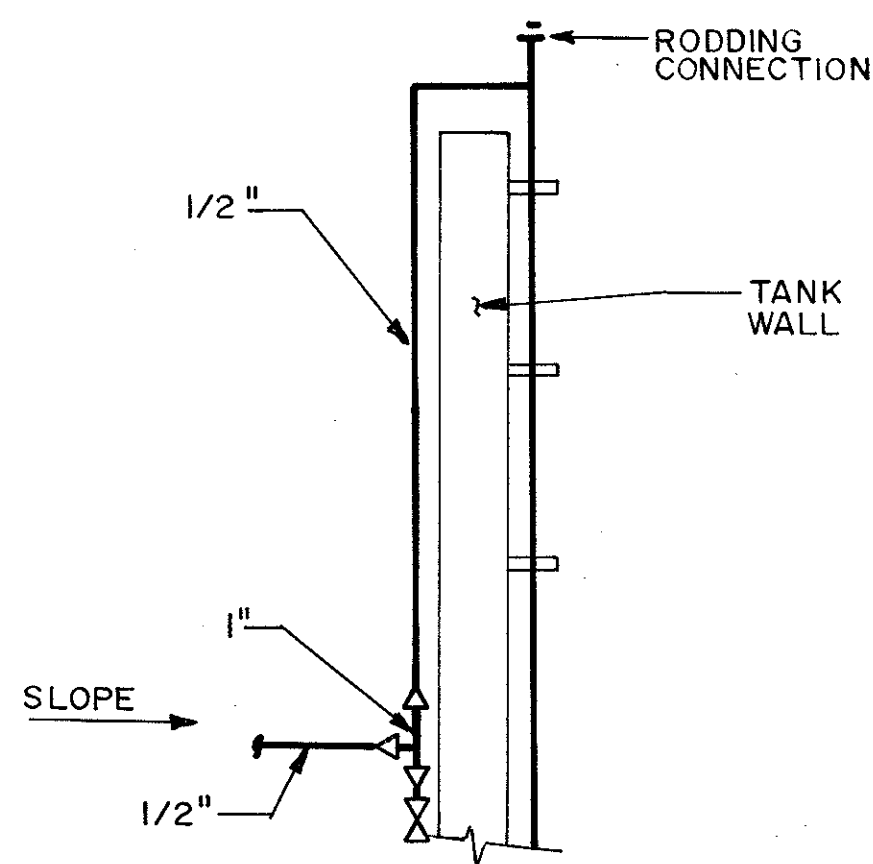
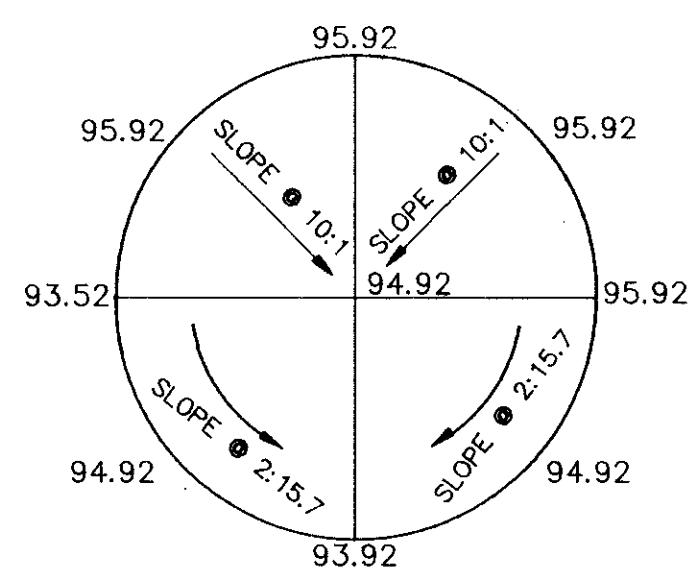
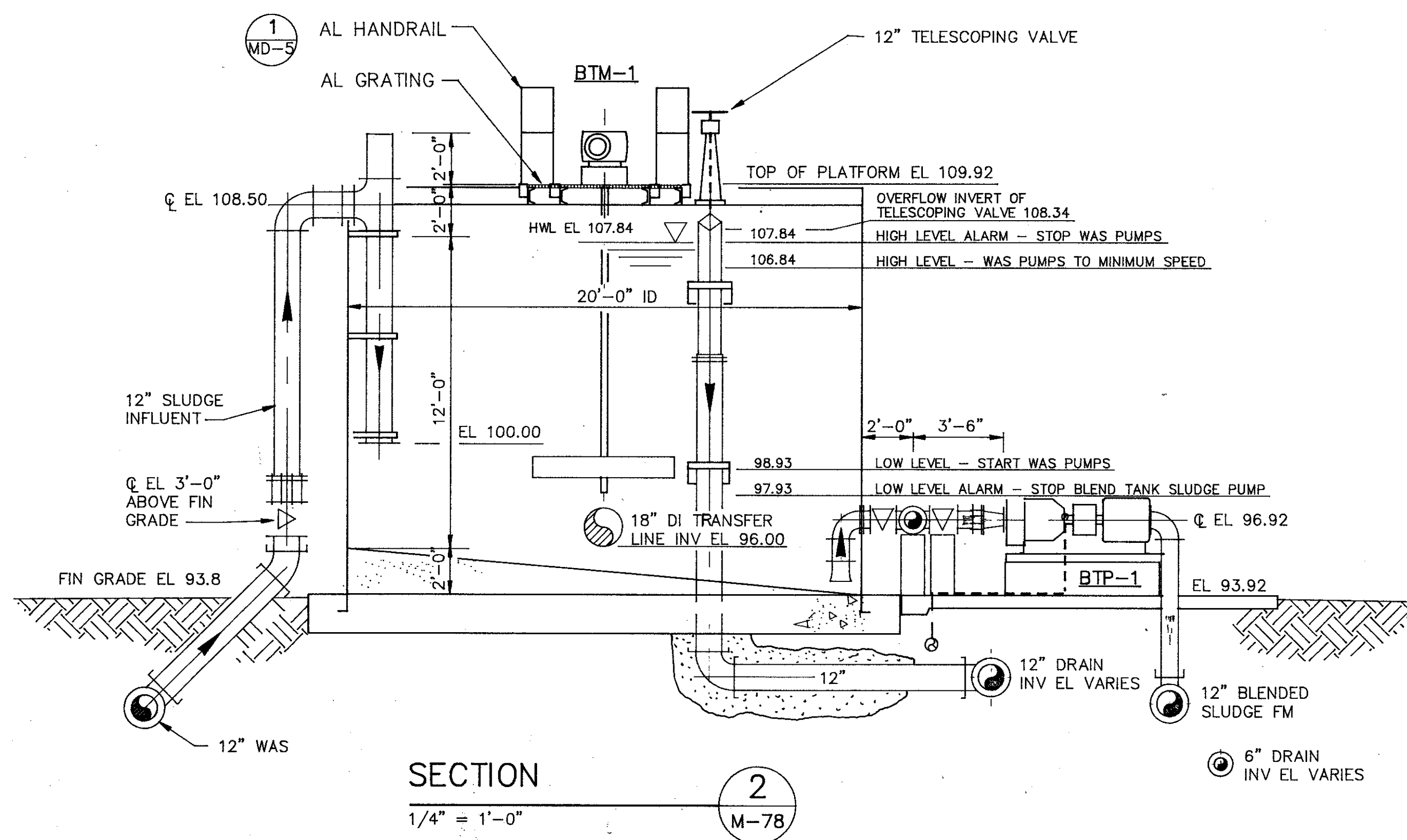
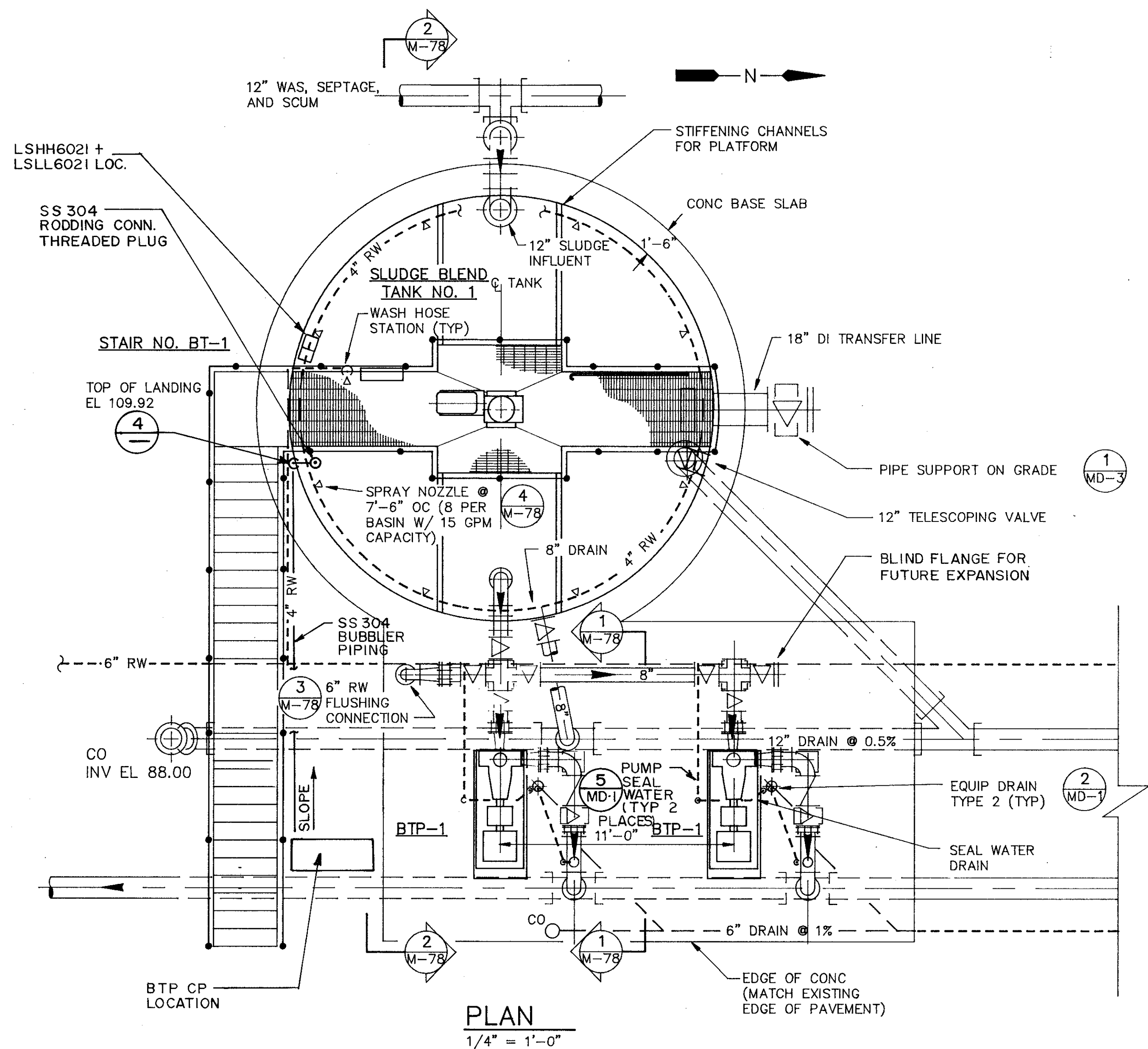


FUEL PIPING
SCHEMATIC

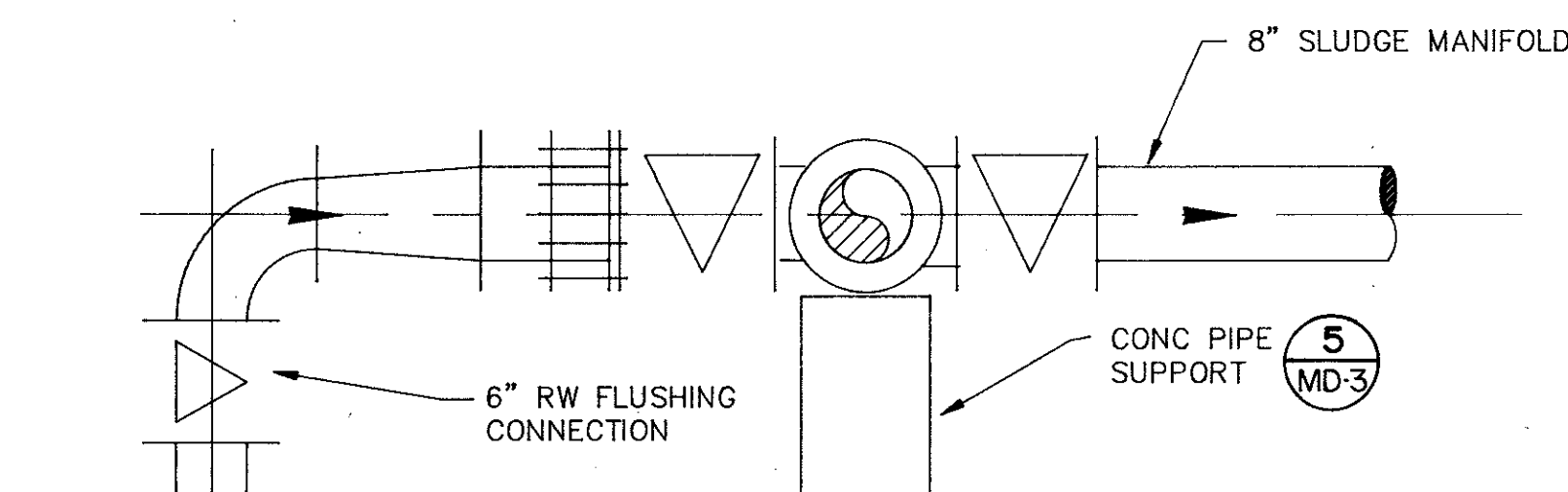
- NOTES**
1. GENERATOR DAY TANK, TRANSFER PUMP, ENCLOSURE, HAND PUMP AND ALL OTHER ACCESSORIES REQUIRED FOR A COMPLETE SYSTEM SHALL BE SUPPLIED BY GENERATOR MANUFACTURE.
 2. ALL FUEL PIPING SHALL BE SCHEDULE 40 BLACK STEEL PIPE. UNDERGROUND FUEL PIPING TO BE SLEEVED IN 2" PVC SLEEVES AS NOTED ON THE DRAWINGS.



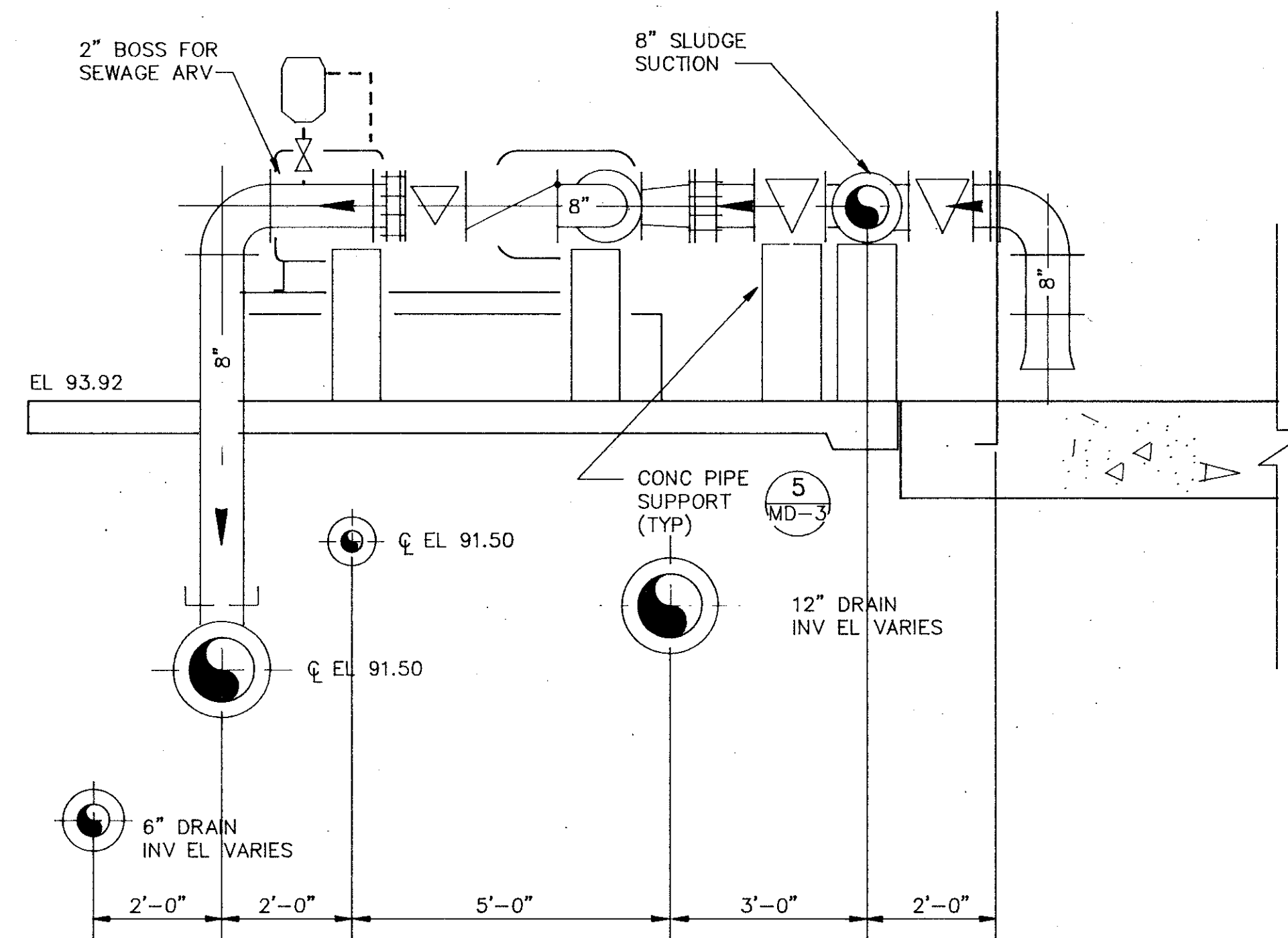
DESIGNED BY <i>DJP</i>	REMARKS		
DRAWN BY <i>KMB</i>	CONFORMED DWG.		
CHECKED BY <i>DJP</i>			
APPROVED BY <i>C&F</i>			
DATE <i>MARCH 1988</i>			
REV	DATE	DRWN	CHKD
1	4/88	SAF	
CAMP DRESSER & MCKEE INC. SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION UNDERGROUND FUEL STORAGE TANK ORANGE COUNTY, FLORIDA			
PROJECT NO.	6059-SL3R		
SHEET NO.	M-77		



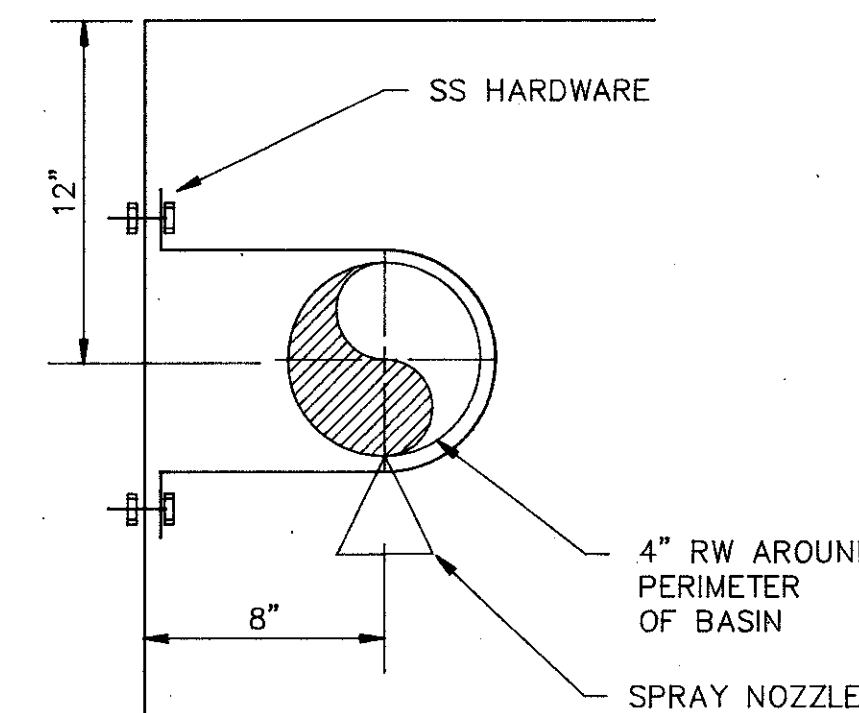
DETAIL 4
NTS



DETAIL 3
3/4" = 1'-0"



SECTION 1
1/2" = 1'-0"



DETAIL 10
NTS

REVISIONS	DATE	DRWN	CHKD	REMARKS
1	4/88	SAF		CONFORMED DWG.

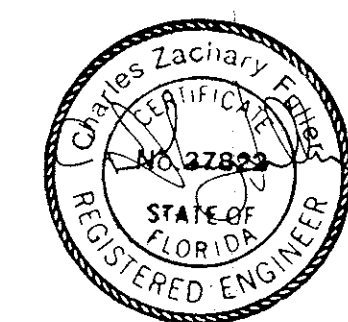
DESIGNED BY JGL
DRAWN BY KMB
CHECKED BY JGL
APPROVED BY CEF
DATE MAR 24, 1988

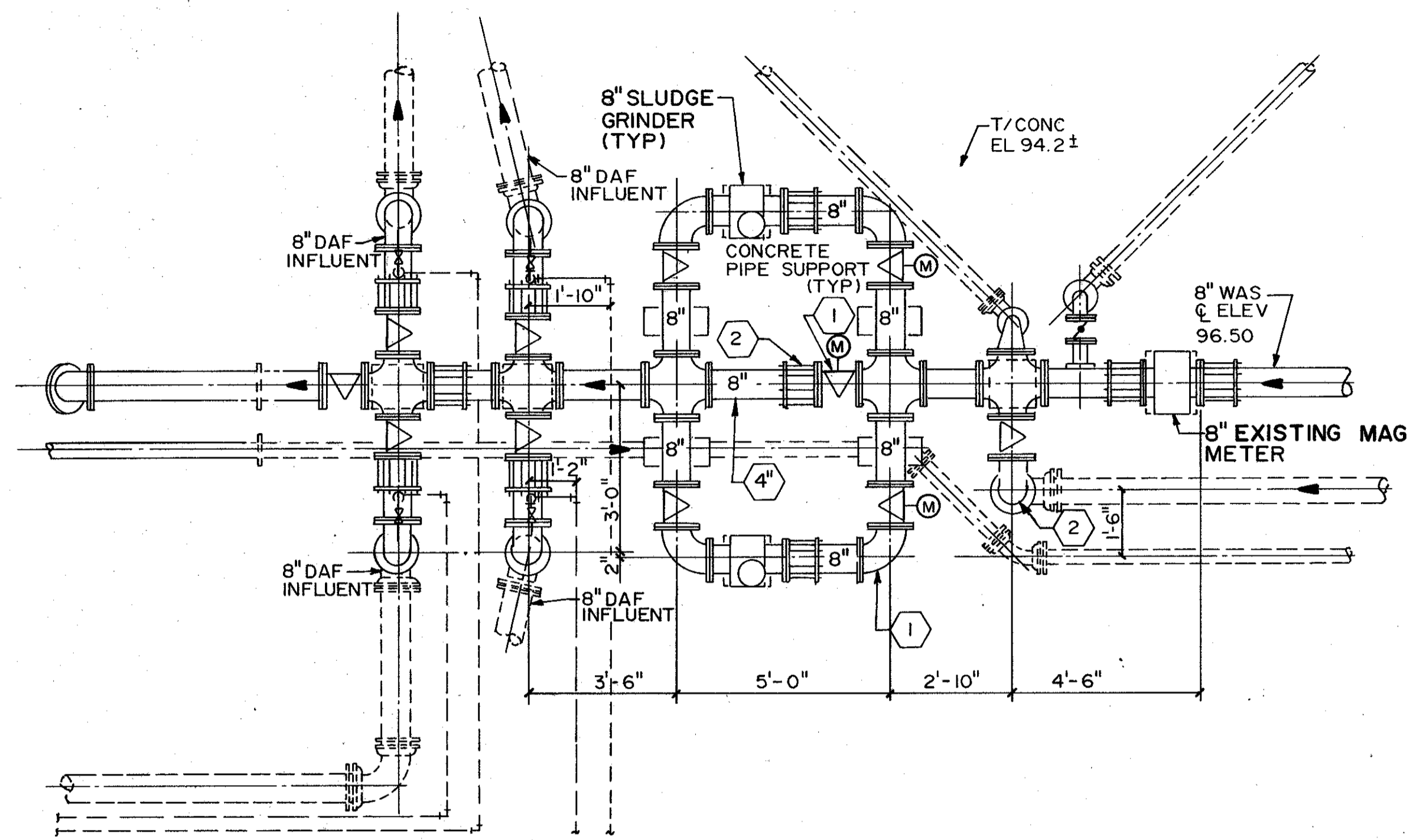
CDM
environmental engineers, scientists
planners & management consultants
CAMP DRESSER & MCKEE INC.

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
SLUDGE BLEND TANK - PLAN & SECTIONS
ORANGE COUNTY, FLORIDA

PROJECT NO
6059-SL3R

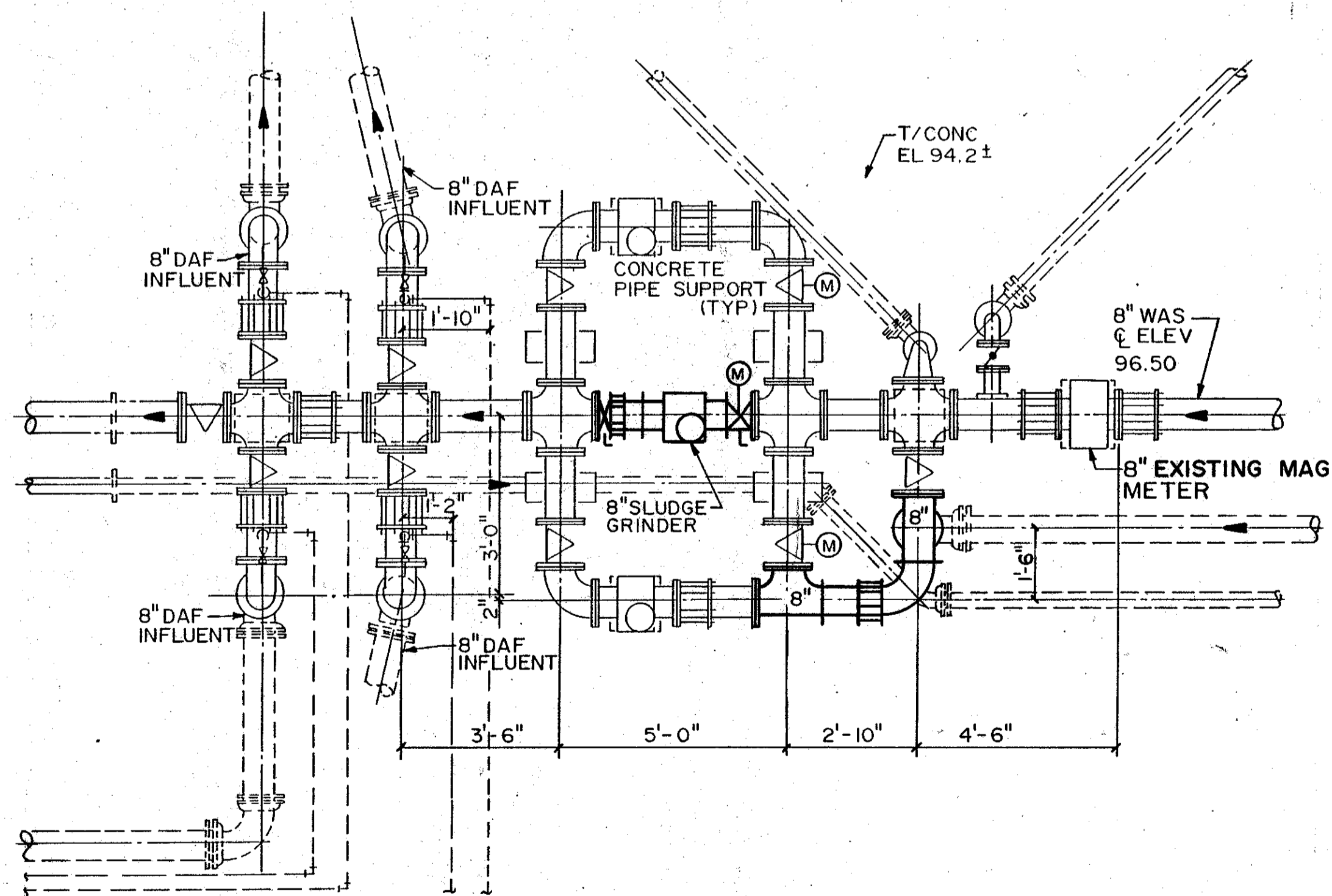
SHEET NO
M-78





DEMOLITION PLAN

PARTIAL PLAN 1
3/8" = 1'-0"



MODIFICATION PLAN

PARTIAL PLAN 2
3/8" = 1'-0"

LEGEND

- ① TO BE REMOVED, SALVAGED AND STORED AT PLANT SITE
- ② TO BE REMOVED, RENOVATED AND REUSED IN PROJECT
- ③ TO BE ABANDONED
- ④ TO BE REMOVED
- ⑤ TO REMAIN IN SERVICE
- ⑥ TO BE REHABILITATED / RETROFITTED

REV NO	DATE	DRWN	CHKD	REMARKS
4/88	SAF			CONFORMED DWG.

DESIGNED BY: JGL
 DRAWN BY: REK
 CHECKED BY: JGL
 APPROVED BY: CZE
 DATE: March, 1988

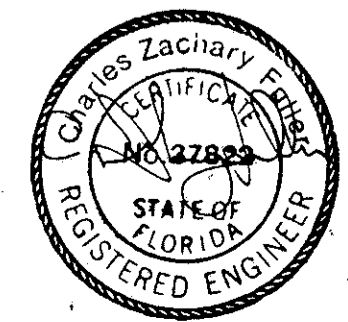
CAMP DRESSER & MCKEE INC.
Environmental Engineers, Scientists,
 Planners, & Management Consultants

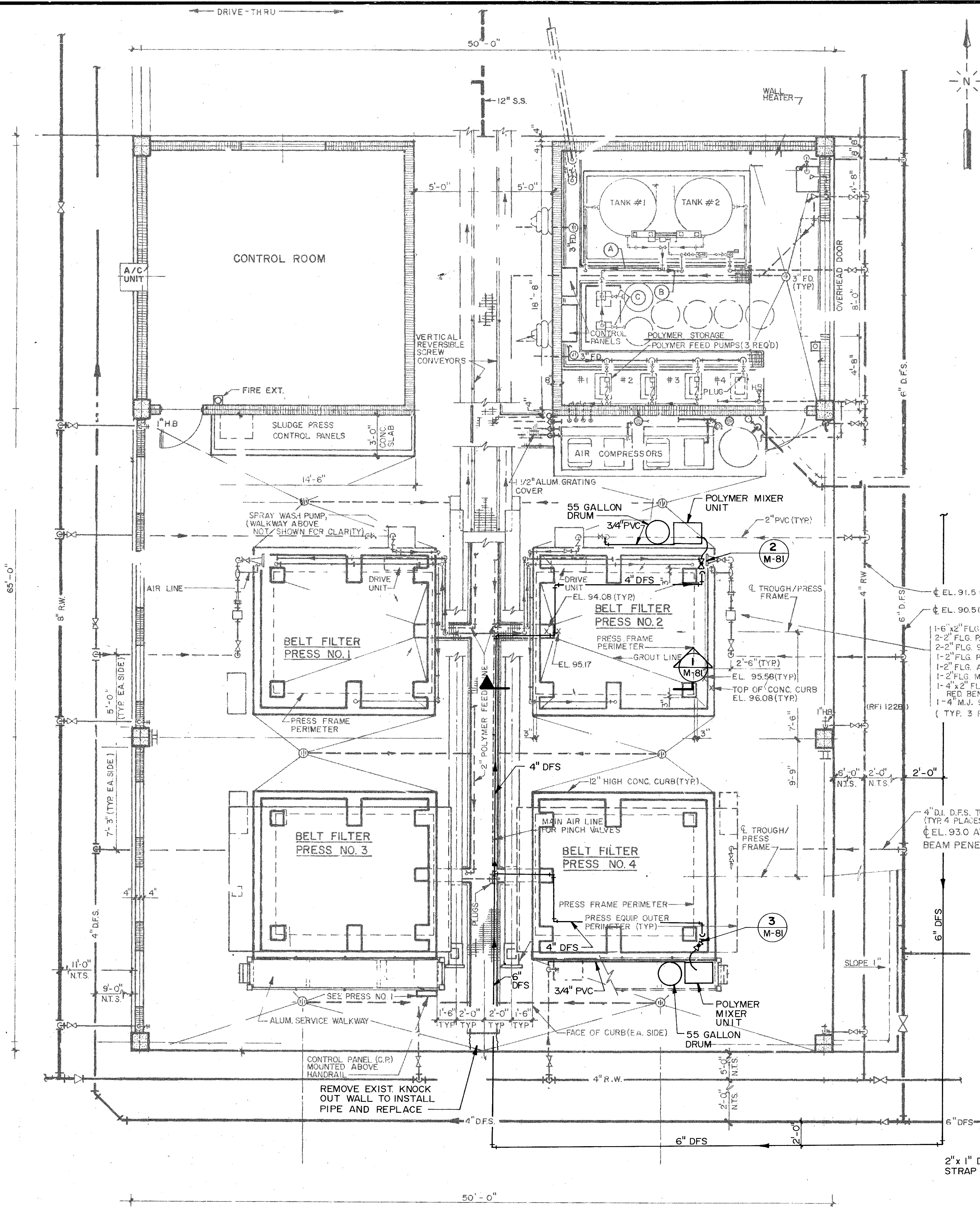
CDM

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION
**EXISTING DAF THICKENER PIPING
 DEMOLITION AND MODIFICATIONS**
 ORANGE COUNTY, FLORIDA

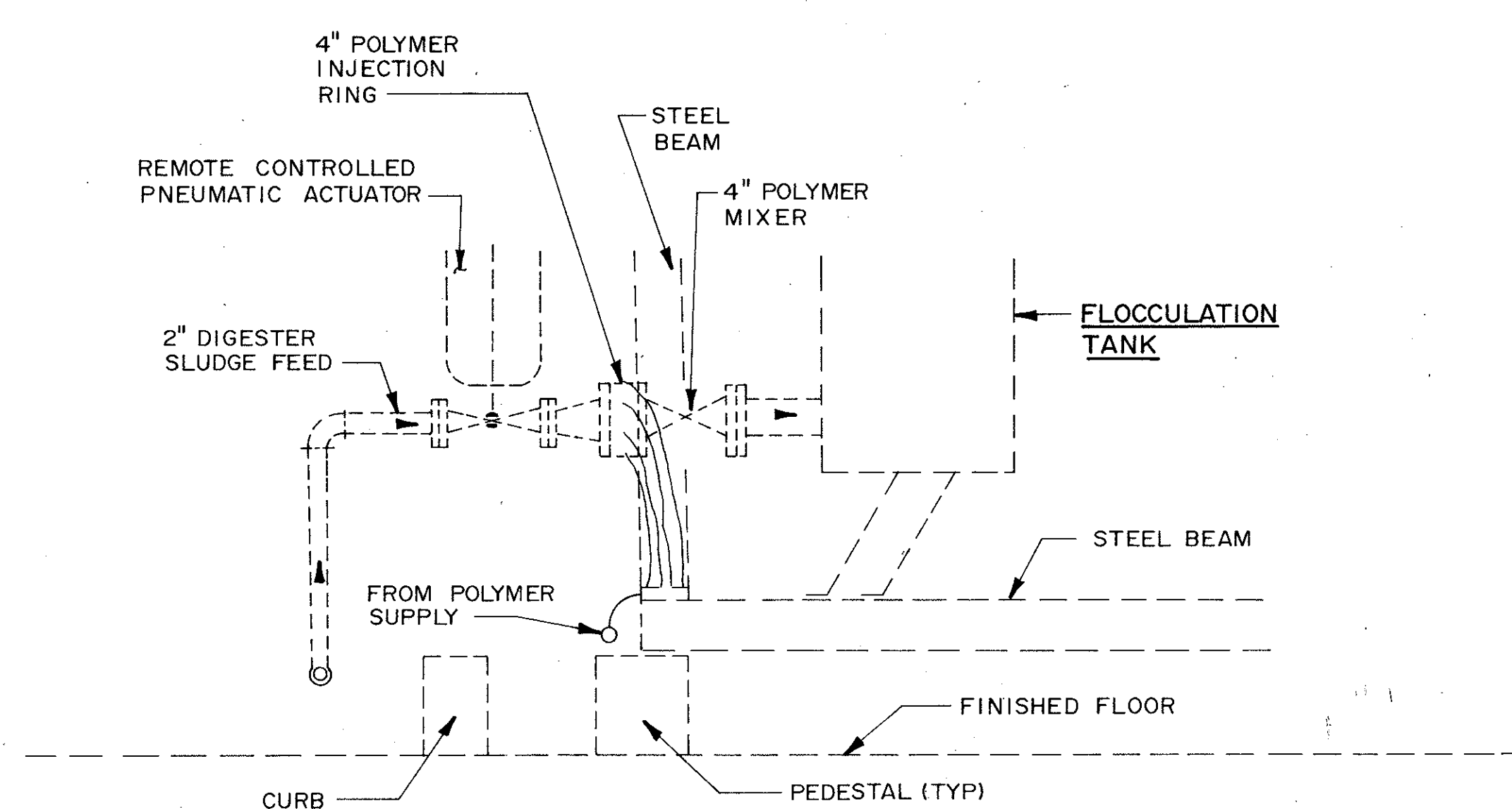
PROJECT NO.
6059-SL3R

SHEET NO.
M-80



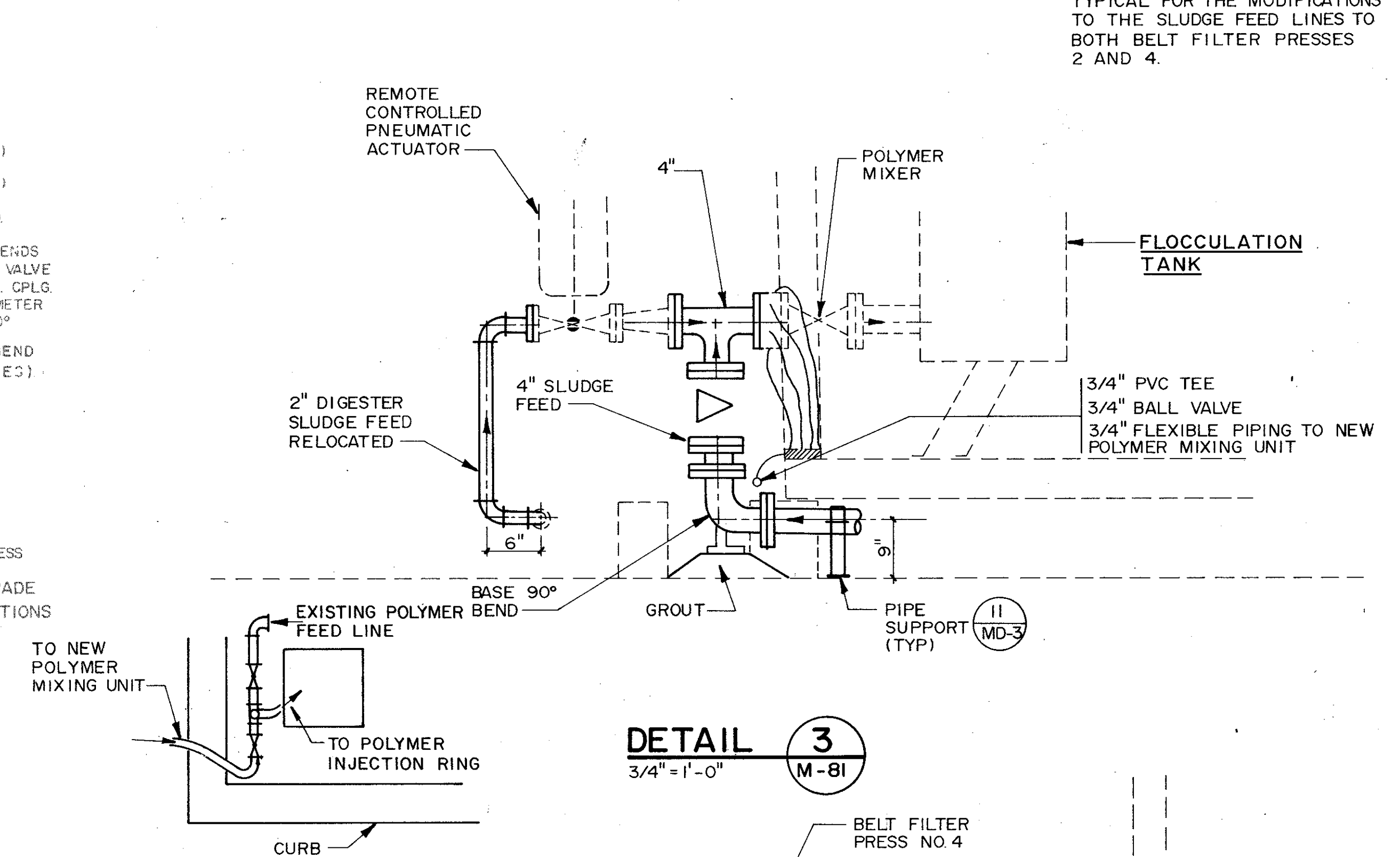


PLAN
1/4" = 1'-0"

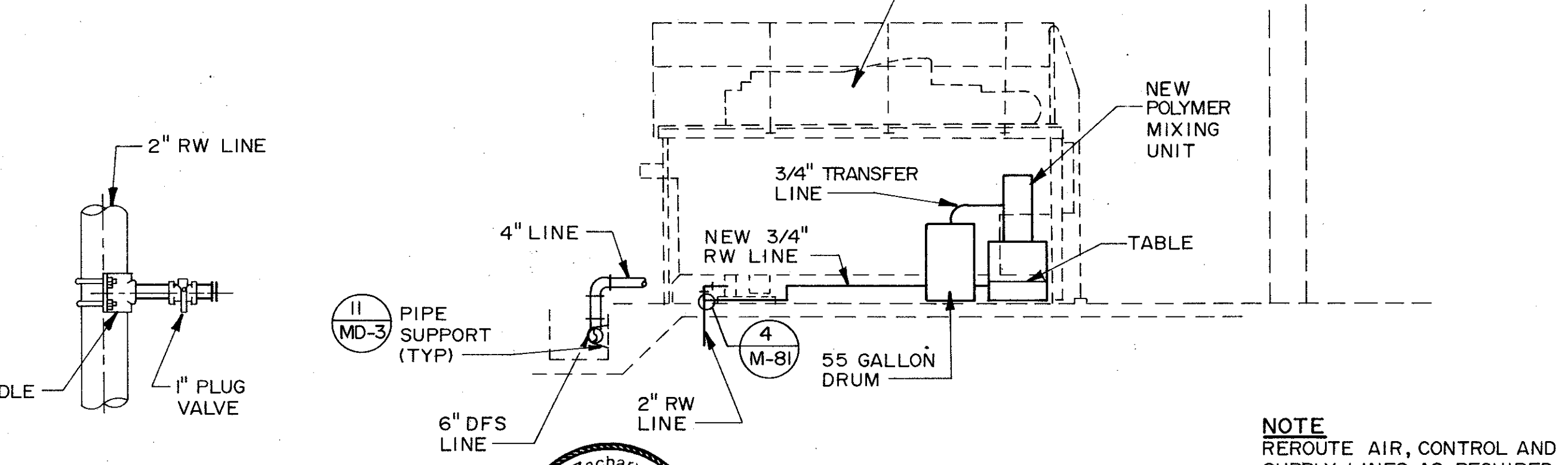


EXISTING DETAIL 2
3/4" = 1'-0" M-81

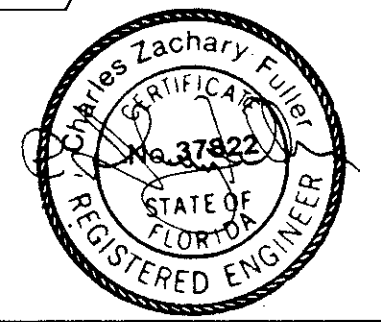
NOTE
DETAILS AND SECTIONS ARE TYPICAL FOR THE MODIFICATIONS TO THE SLUDGE FEED LINES TO BOTH BELT FILTER PRESSES 2 AND 4.



DETAIL 3
3/4" = 1'-0" M-81



DETAIL 4
NTS M-81



SECTION 1
1/4" = 1'-0" M-81

NOTE
REROUTE AIR, CONTROL AND SUPPLY LINES AS REQUIRED TO DIAPHRAM ACTUATED PINCH VALVE AND POLYMER INJECTION RING

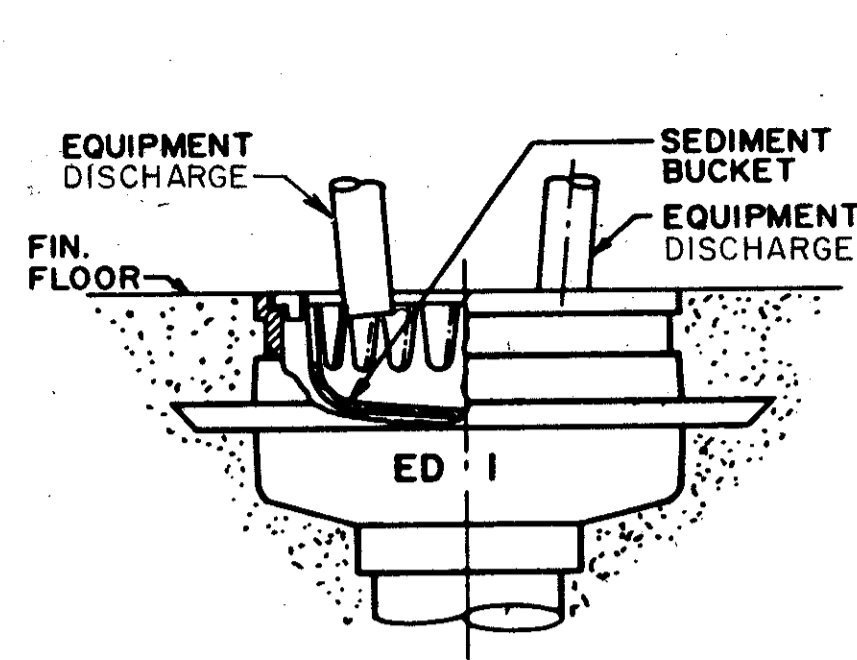
REMARKS	CONFORMED DWG.
CHKD	
DRWN	SAF
DATE	4/88
REV	
DESIGNED BY	JCL
DRAWN BY	KMP
CHECKED BY	JGL
APPROVED BY	CZE
DATE	March, 1988

CDM
CONSTRUCTION DOCUMENT MANAGEMENT

CAMP DRESSER & MCKEE INC.

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
**EXISTING DEWATERING BUILDING -
PIPING MODIFICATIONS**
ORANGE COUNTY, FLORIDA

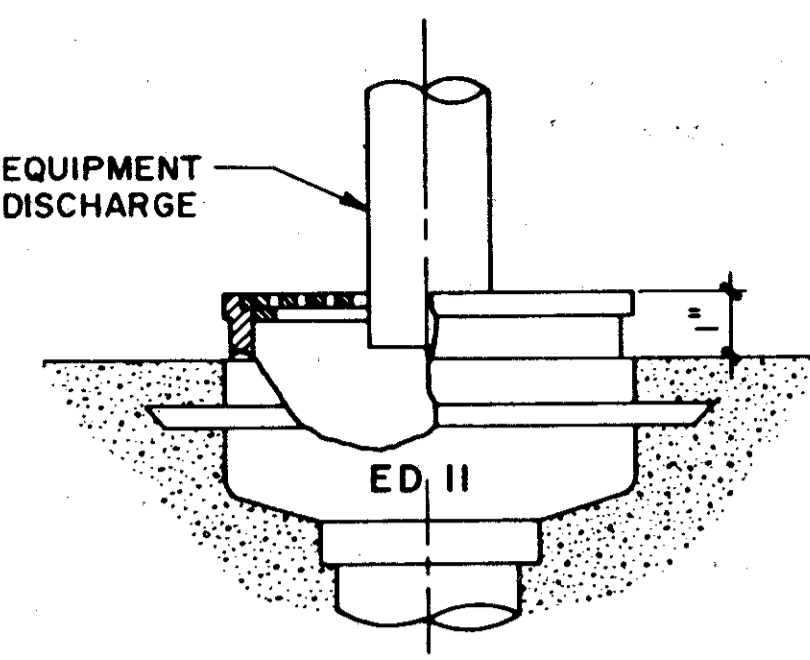
PROJECT NO	6059 - SL3R
SHEET NO	M-81



EQUIPMENT DRAIN

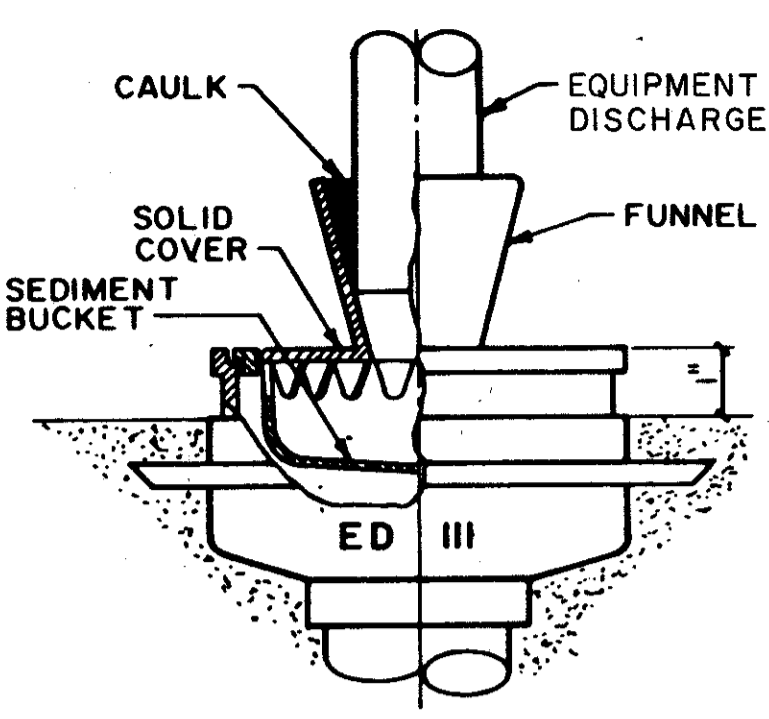
DETAIL 1
N.T.S.

NOTE:
PROVIDE DEEP SEAL TRAPS ON ALL FLOOR DRAINS



EQUIPMENT DRAIN

DETAIL 2
N.T.S.



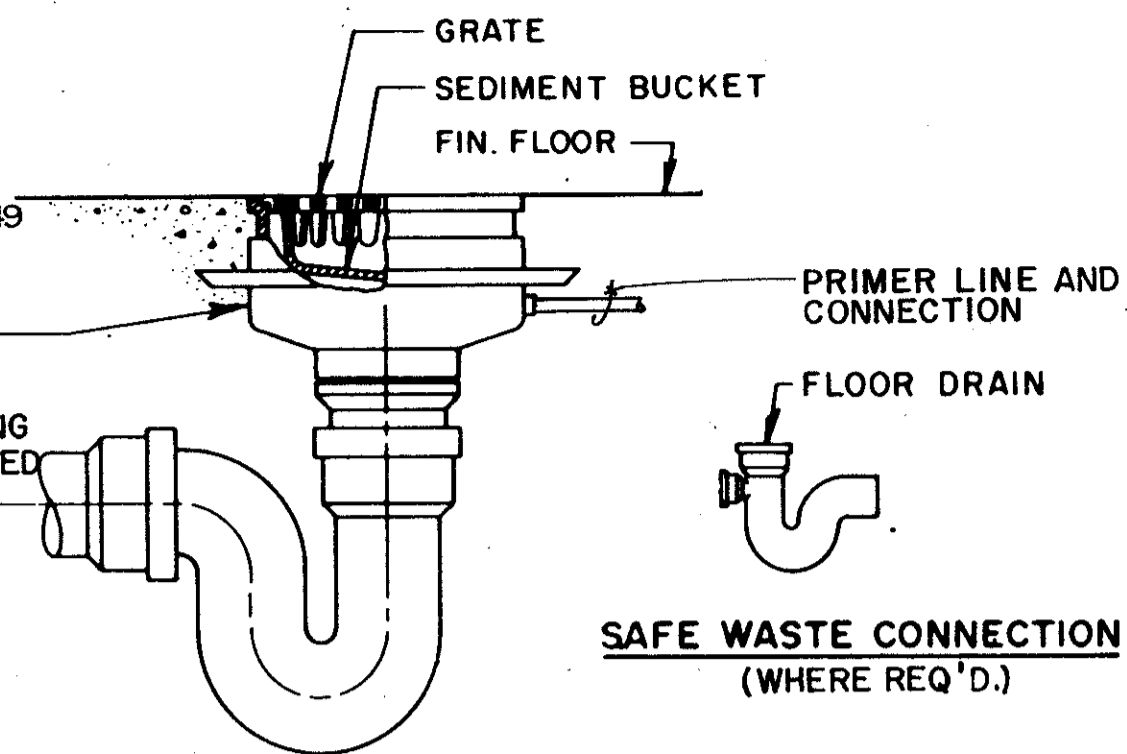
SEALED EQUIPMENT DRAIN

DETAIL 3
N.T.S.

NOTE:
FLOOR AND EQUIPMENT DRAINS ARE 3" UNLESS NOTED OTHERWISE

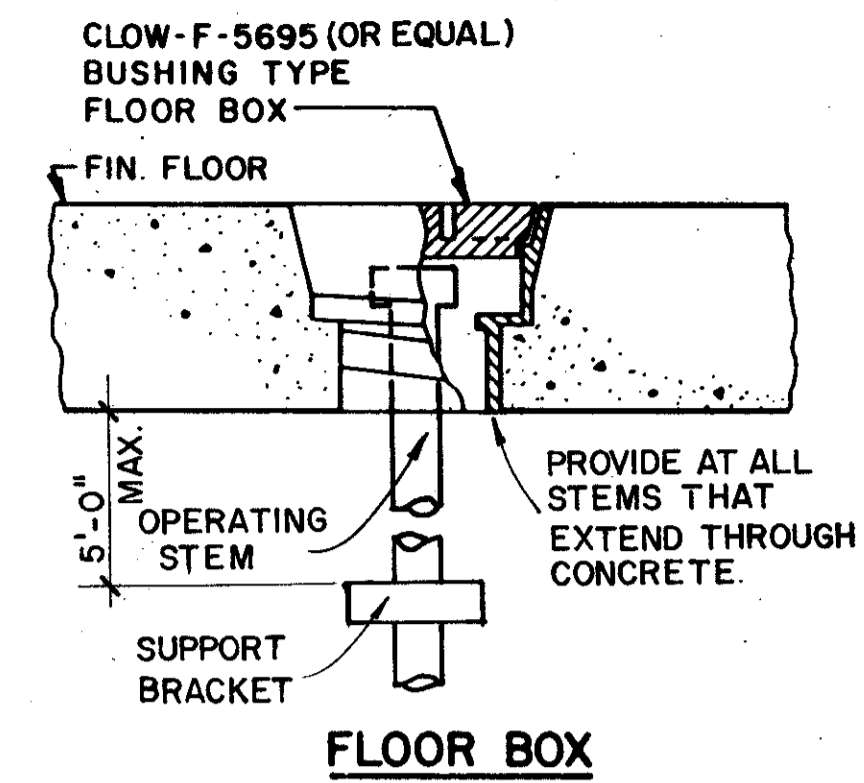
NON-CLOG FLOOR DRAIN JOSAM SERIES 30000A149 OR APPROVED EQUAL SEE PLAN SHEETS FOR SIZE AND LOCATIONS

TRAP PRIMERS AND PIPING SHALL BE FIELD LOCATED BY THE CONTRACTOR.



FLOOR DRAIN

DETAIL 4
N.T.S.



FLOOR BOX

DETAIL 5
N.T.S.

BRADLEY MODEL S1931-AL-SR, O/E COMBINATION SHOWER & EYE WASH SAFETY STATION

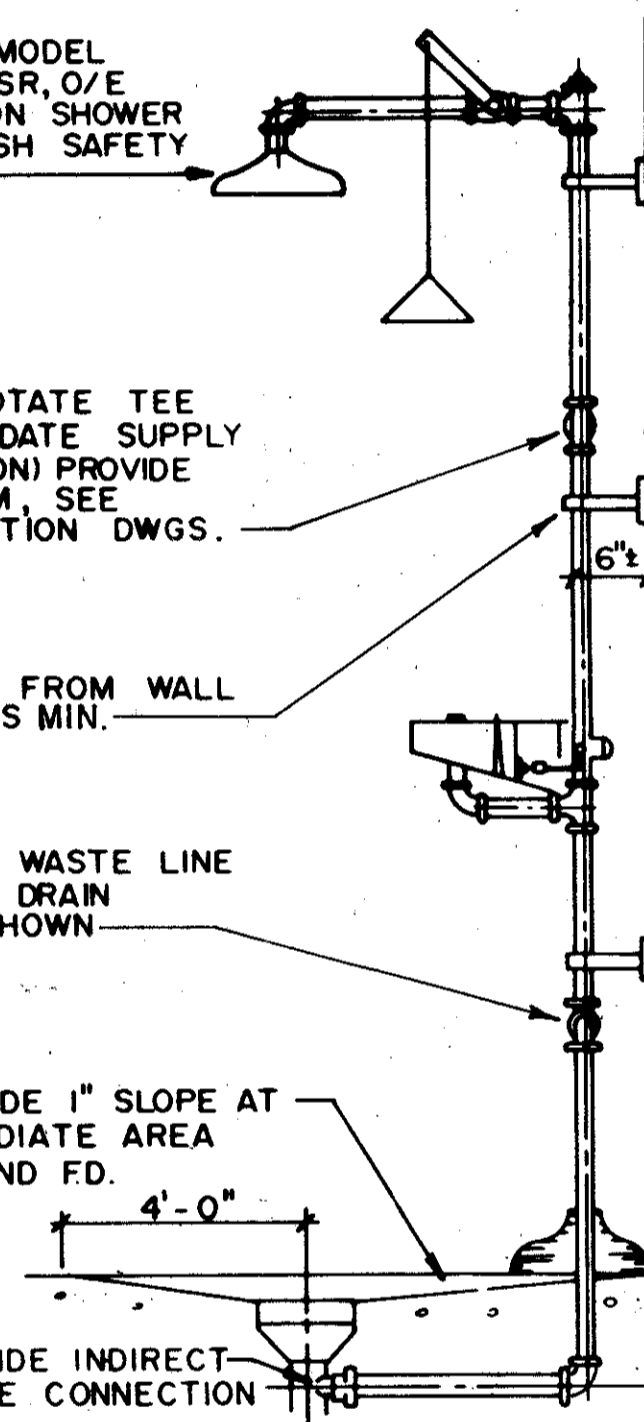
1/2" SUPPLY (ROTATE TEE TO ACCOMMODATE SUPPLY LINE LOCATION) PROVIDE FLOW ALARM. SEE INSTRUMENTATION DWGS.

SUPPORT FROM WALL 3 PLACES MIN.

1 1/4" INDIRECT WASTE LINE TIE TO FLOOR DRAIN SYSTEM AS SHOWN

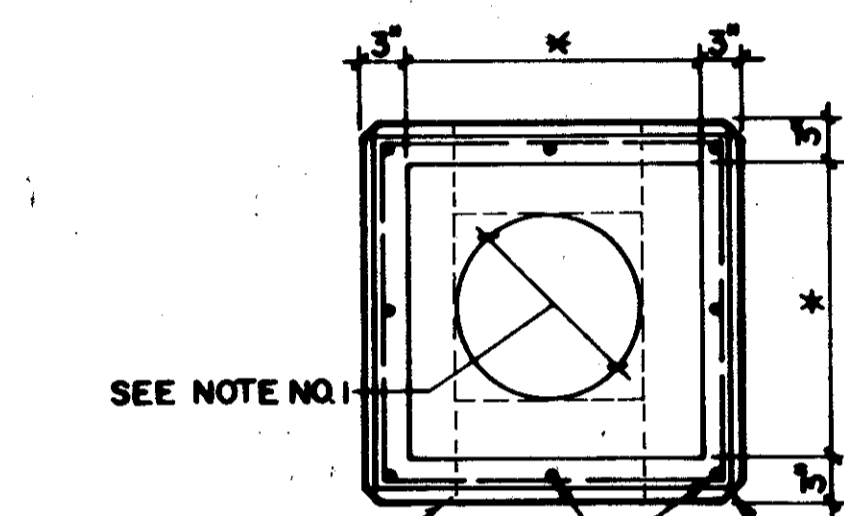
PROVIDE 1" SLOPE AT IMMEDIATE AREA AROUND FD.

PROVIDE INDIRECT WASTE CONNECTION



SHOWER & EYE WASH STATION

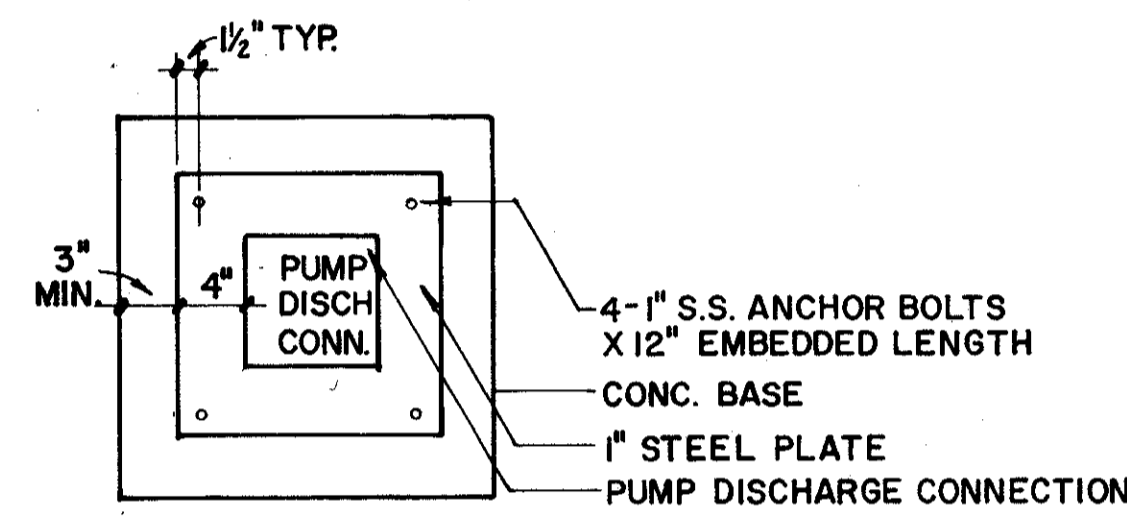
DETAIL 6
N.T.S.



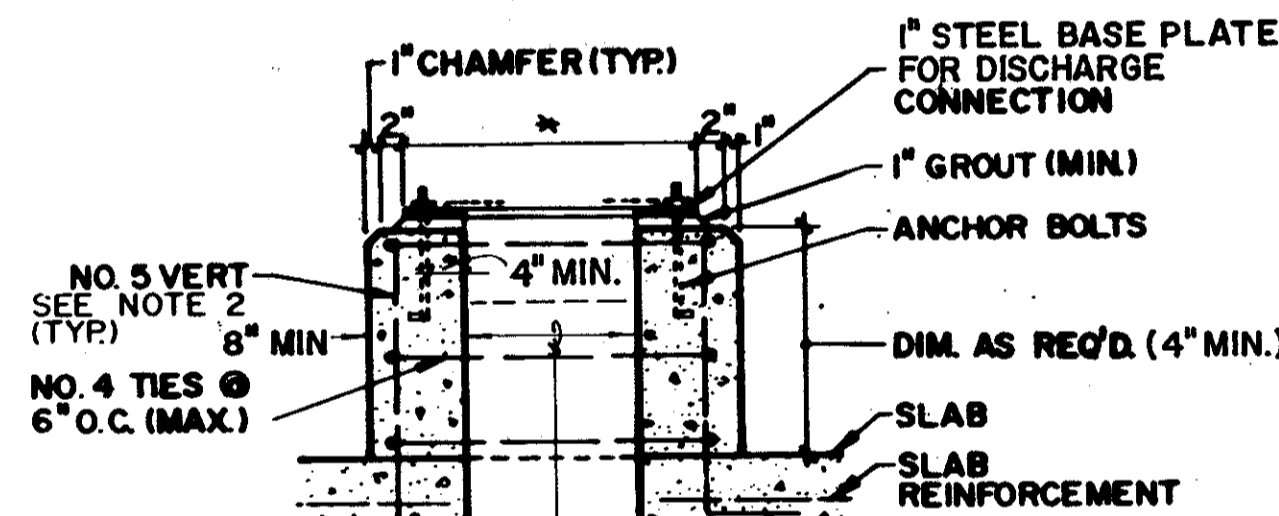
SEE NOTE NO. 1

OPEN SIDE WHERE SHOWN ON PLANS

PLAN



BASE PLATE



ROUND OR SQUARE OPENING TO BE 6" LARGER THAN PUMP

ELEVATION

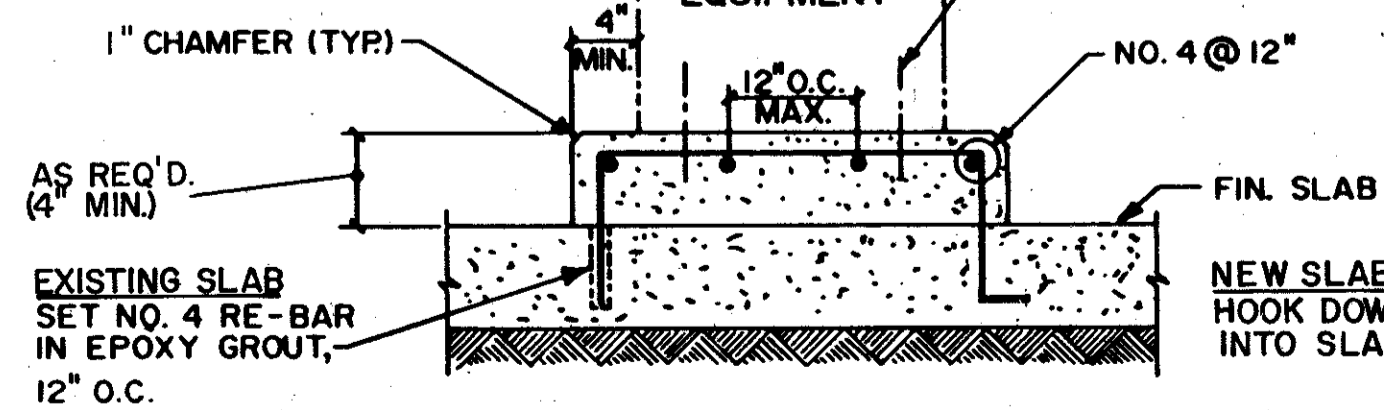
EQUIPMENT BASE

DETAIL 7
N.T.S.

NOTE:
1. * TO SUIT MANUFACTURER'S EQUIPMENT
2. REBAR SHALL HAVE A MIN CONC. COVER OF 2 1/2"
3. CONTRACTOR SHALL PROVIDE DOWELS FOR CONC. BASE TIE TO CONC. SLAB.

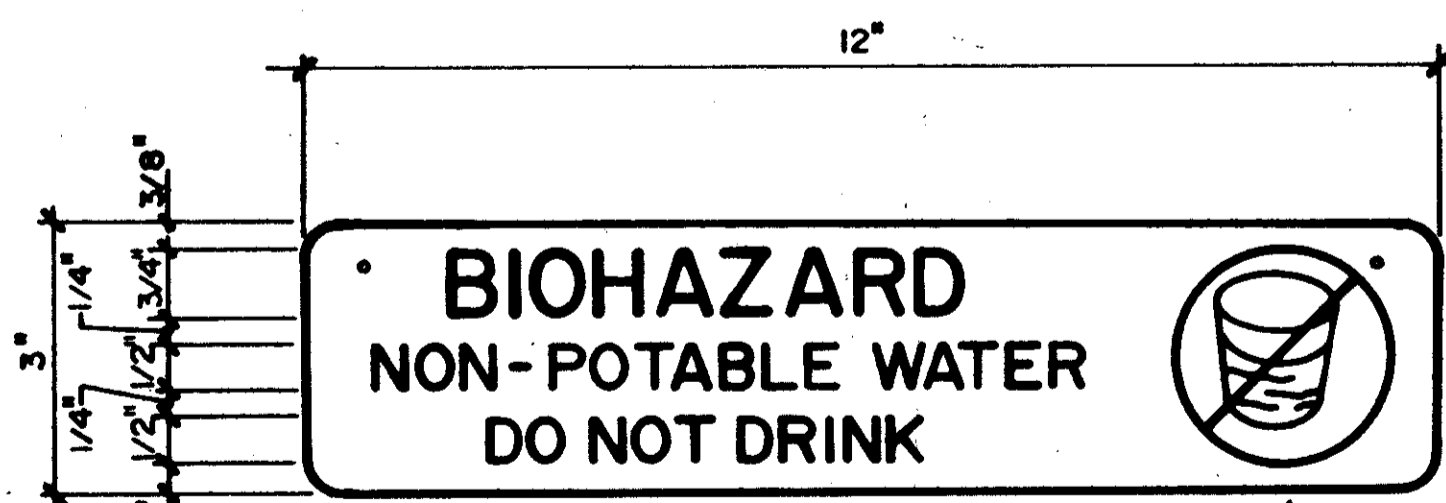
TYPICAL FOUNDATION FOR ALL EQUIPMENT EXCEPT AS OTHERWISE DETAILED ON THE PLANS.

LOCATION AND SIZE OF ANCHOR BOLTS AND SLEEVES SHALL CONFORM TO EQUIPMENT MANUFACTURER'S REQUIREMENTS



EQUIPMENT PAD

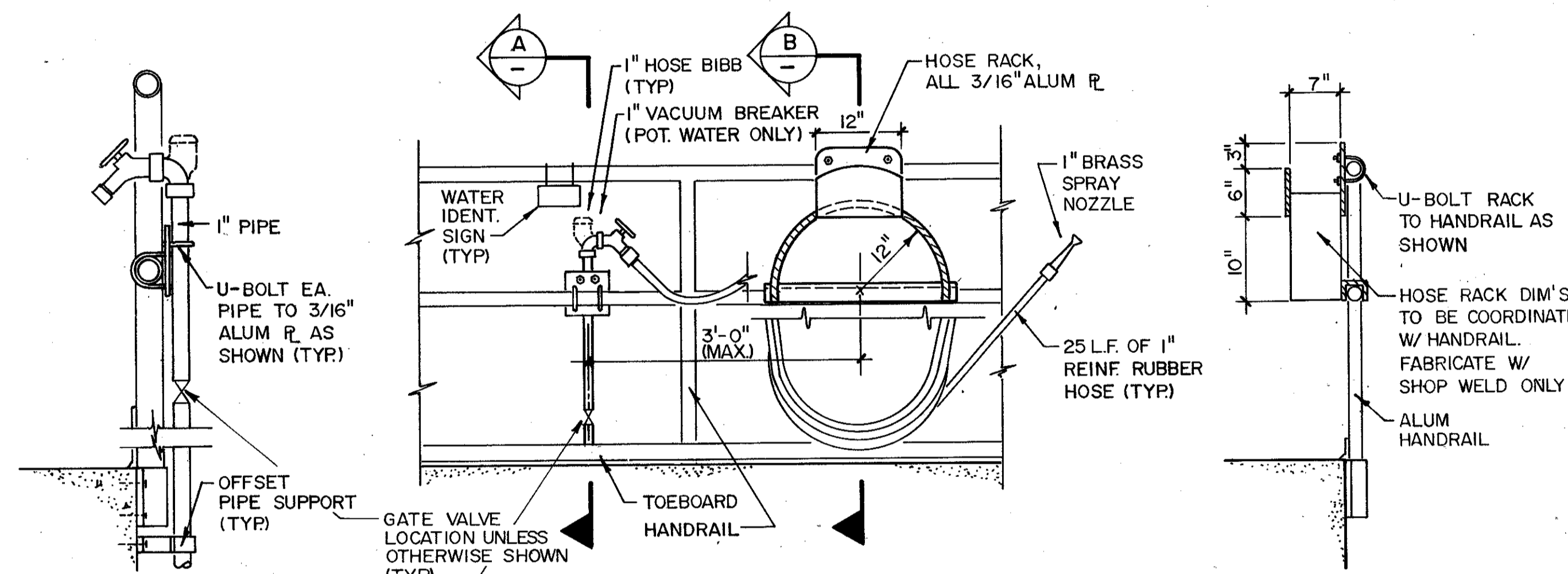
DETAIL 9
N.T.S.



NON-POTABLE WATER SIGN

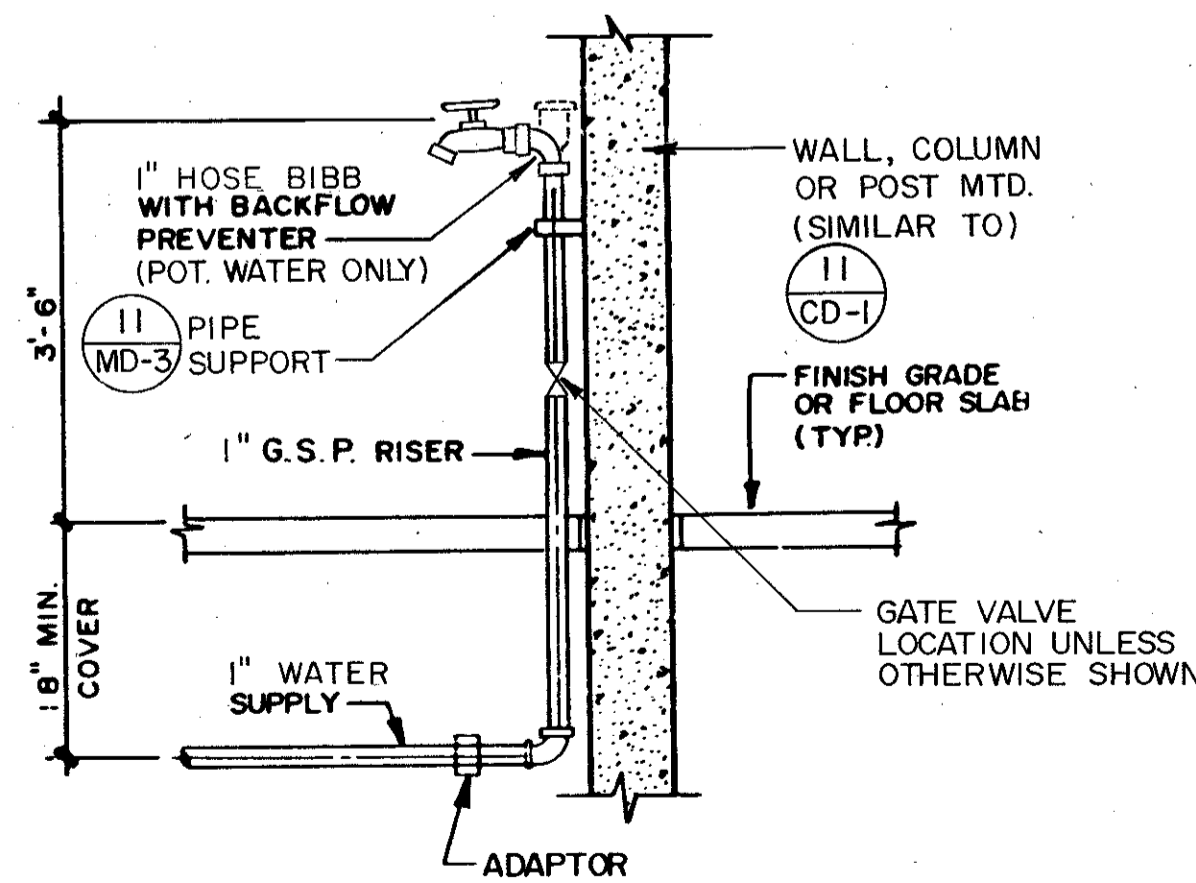
DETAIL 10
N.T.S.

NOTE:
THE CONTRACTOR SHALL PROVIDE A SIGN ABOVE ALL HOSE BIBBS WHICH SHALL STATE EITHER "POTABLE" OR "BIOHAZARD NON-POTABLE," DO NOT DRINK. THE SIGN SHALL BE MADE OF LAMINATED PLASTIC WITH A BLACK FACE AND WHITE LETTERS APPROX. 3/4" HIGH. ATTACH THE SIGN TO THE STRUCTURE OR HANDRAIL WITH STAINLESS STEEL HARDWARE.

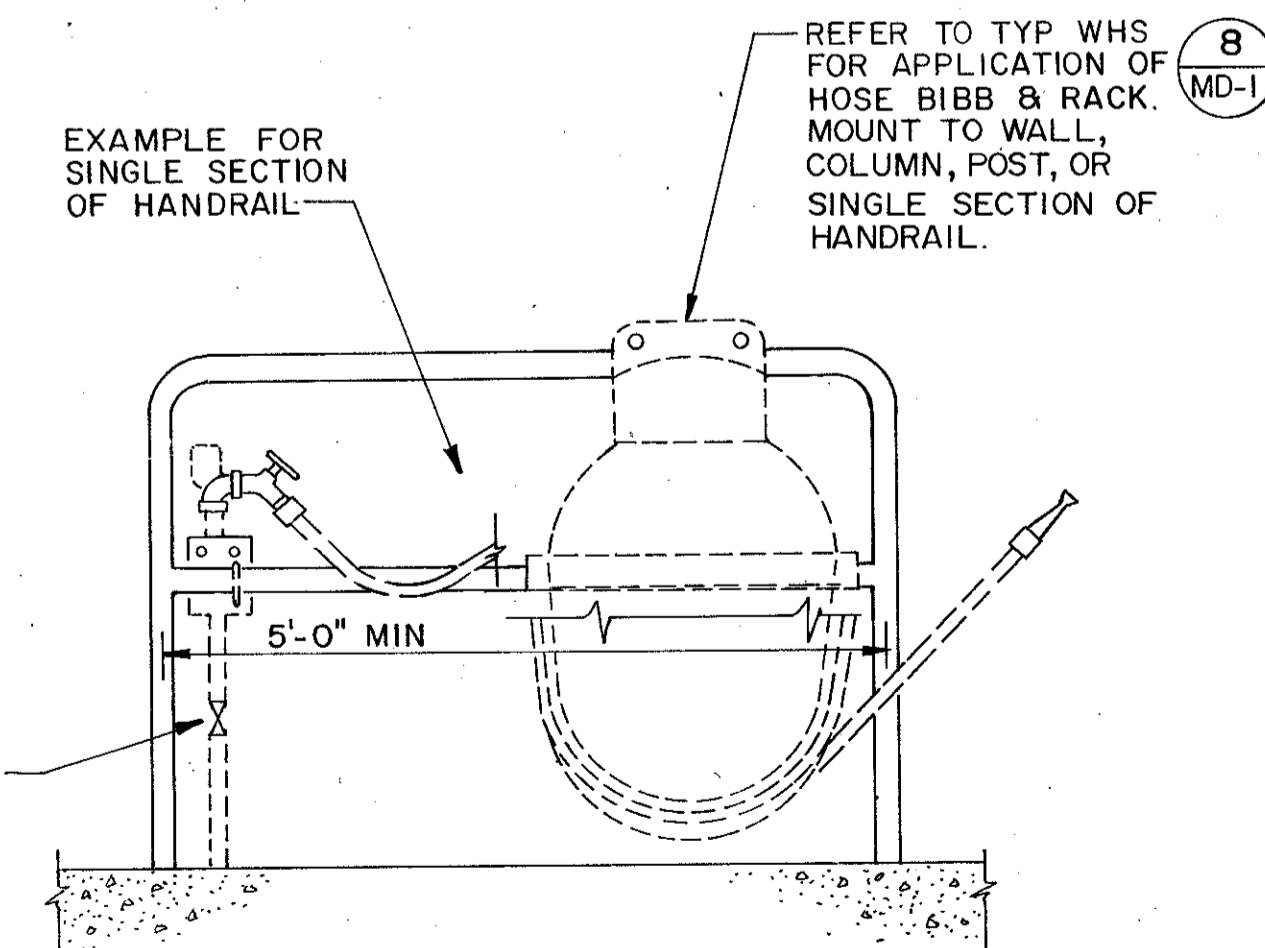


WASH HOSE STATION

DETAIL 8
N.T.S.



DETAIL 11
N.T.S.



DETAIL 12
N.T.S.

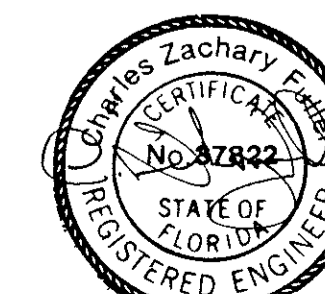
DESIGNED BY	JGL	CHKD		REMARKS	
DRAWN BY	RGB	DATE			
CHECKED BY	JGL	4/88	SAF		CONFORMED DWG.
APPROVED BY	CZE				
DATE	March, 1988				

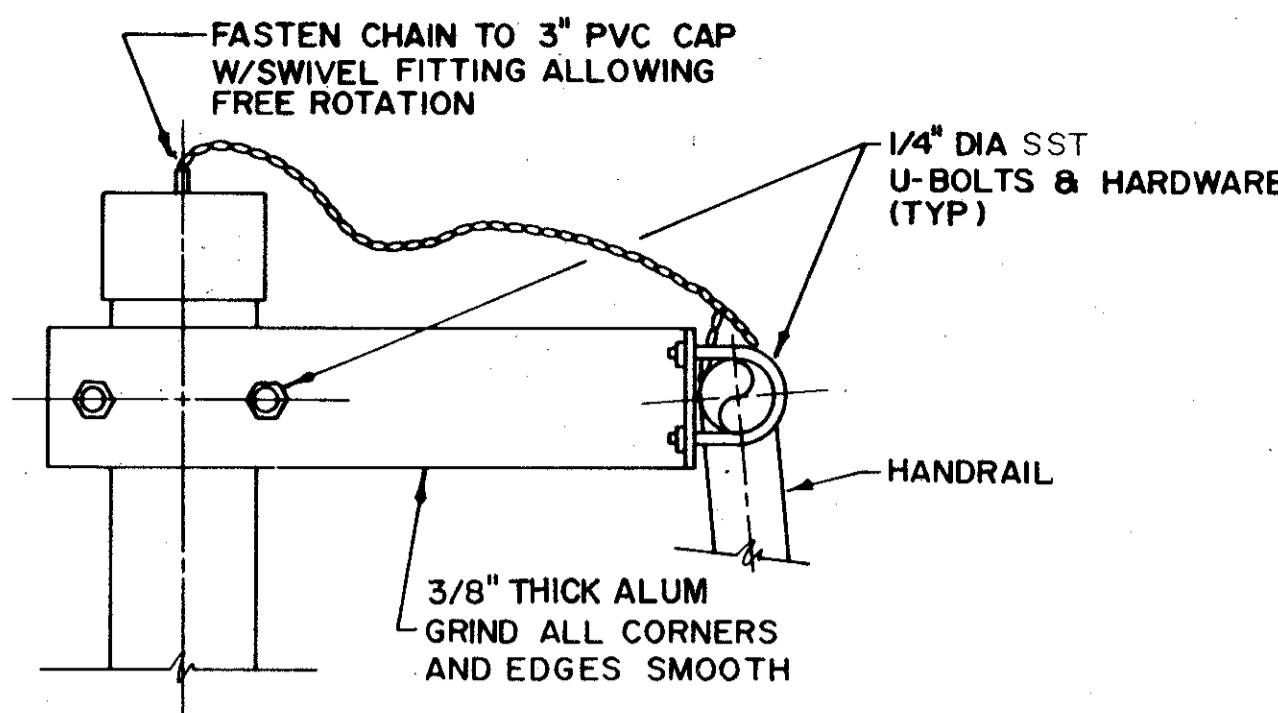
CAMP DRESSER & MCKEE INC.
environmental engineers, scientists, planners, & management consultants

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
MISCELLANEOUS DETAILS
ORANGE COUNTY, FLORIDA

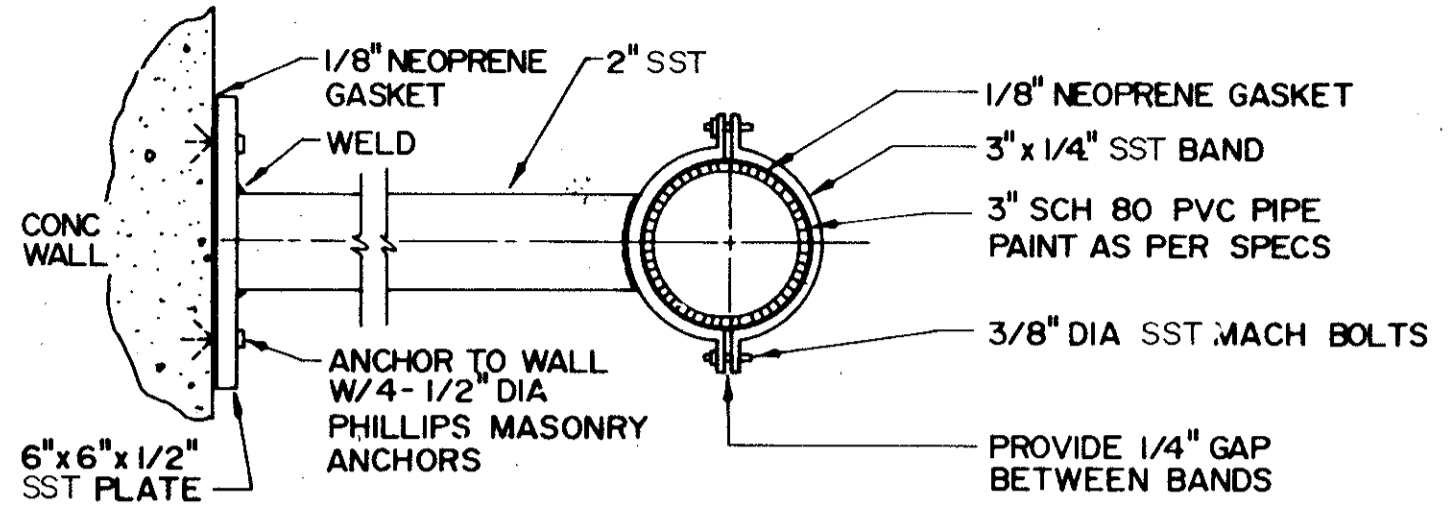
PROJECT NO
6059-SL3R

SHEET NO
MD-1

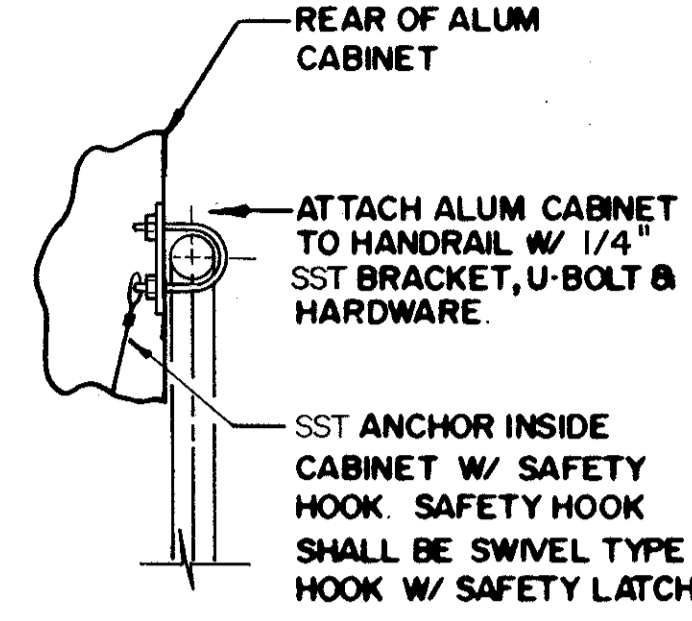




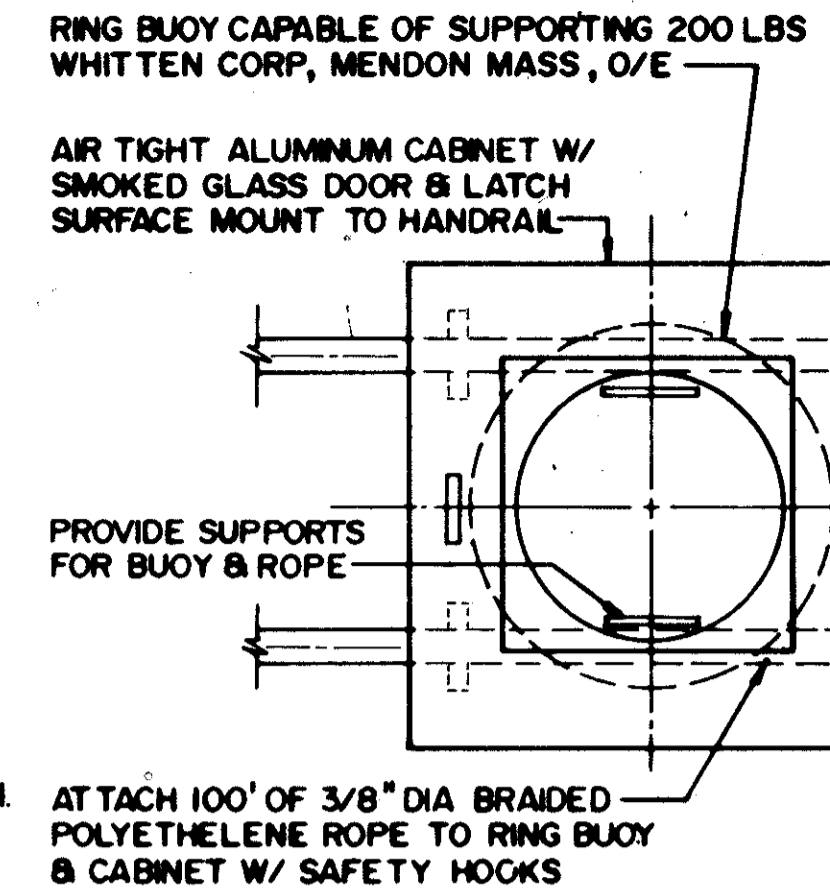
DETAIL 1
NTS



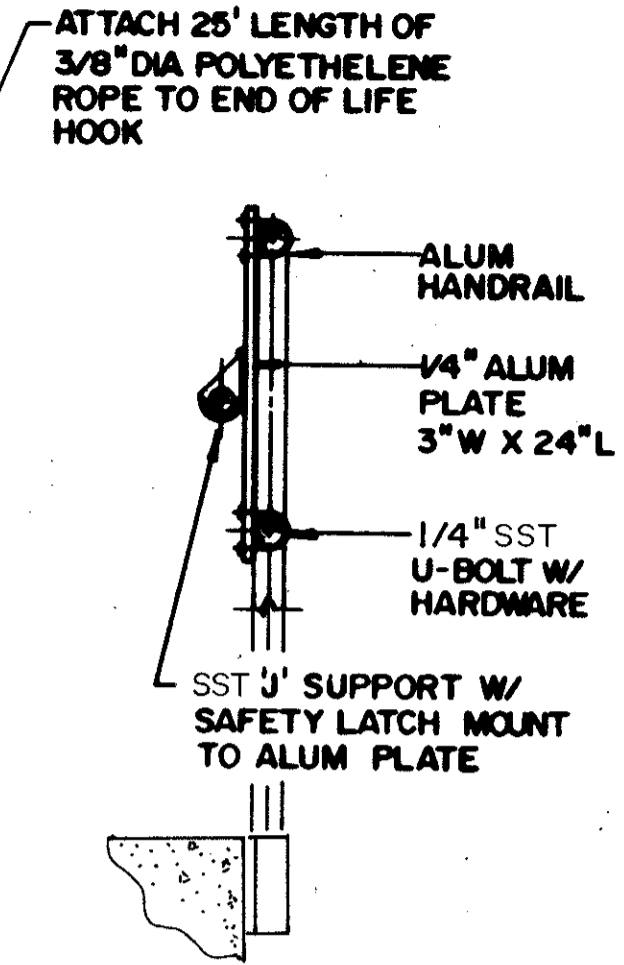
DETAIL 2
NTS



RING BUOY

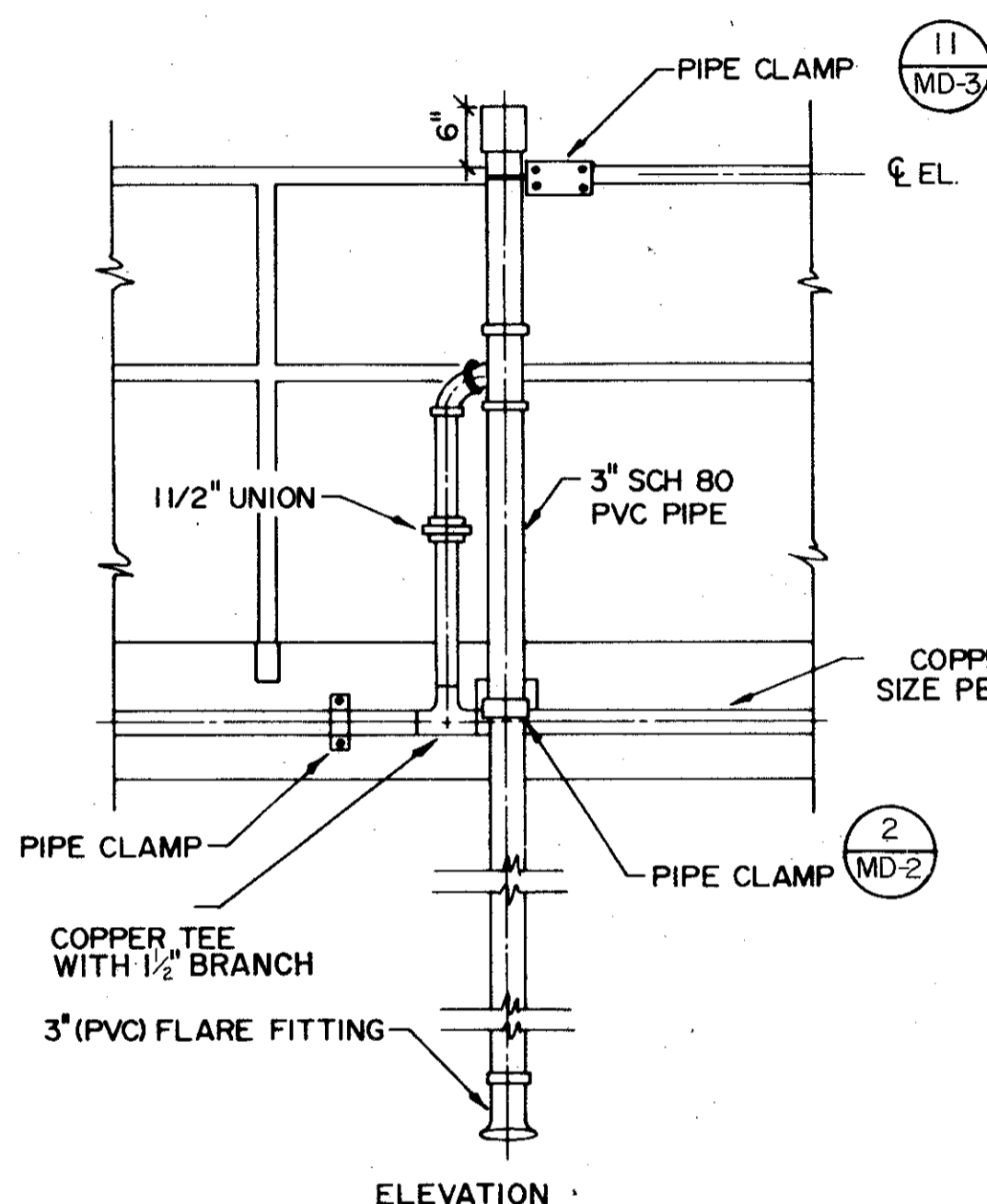


LIFE HOOK



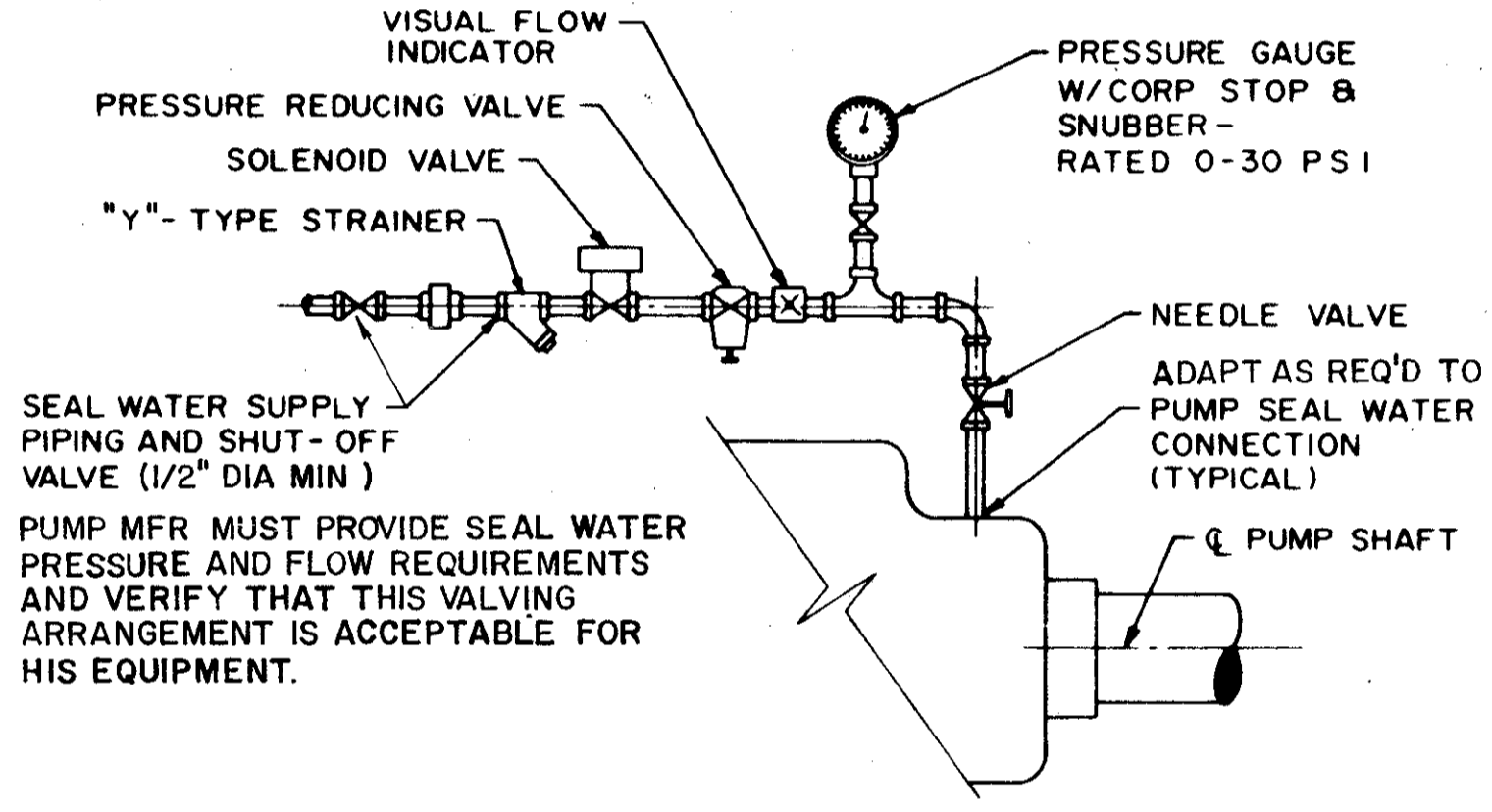
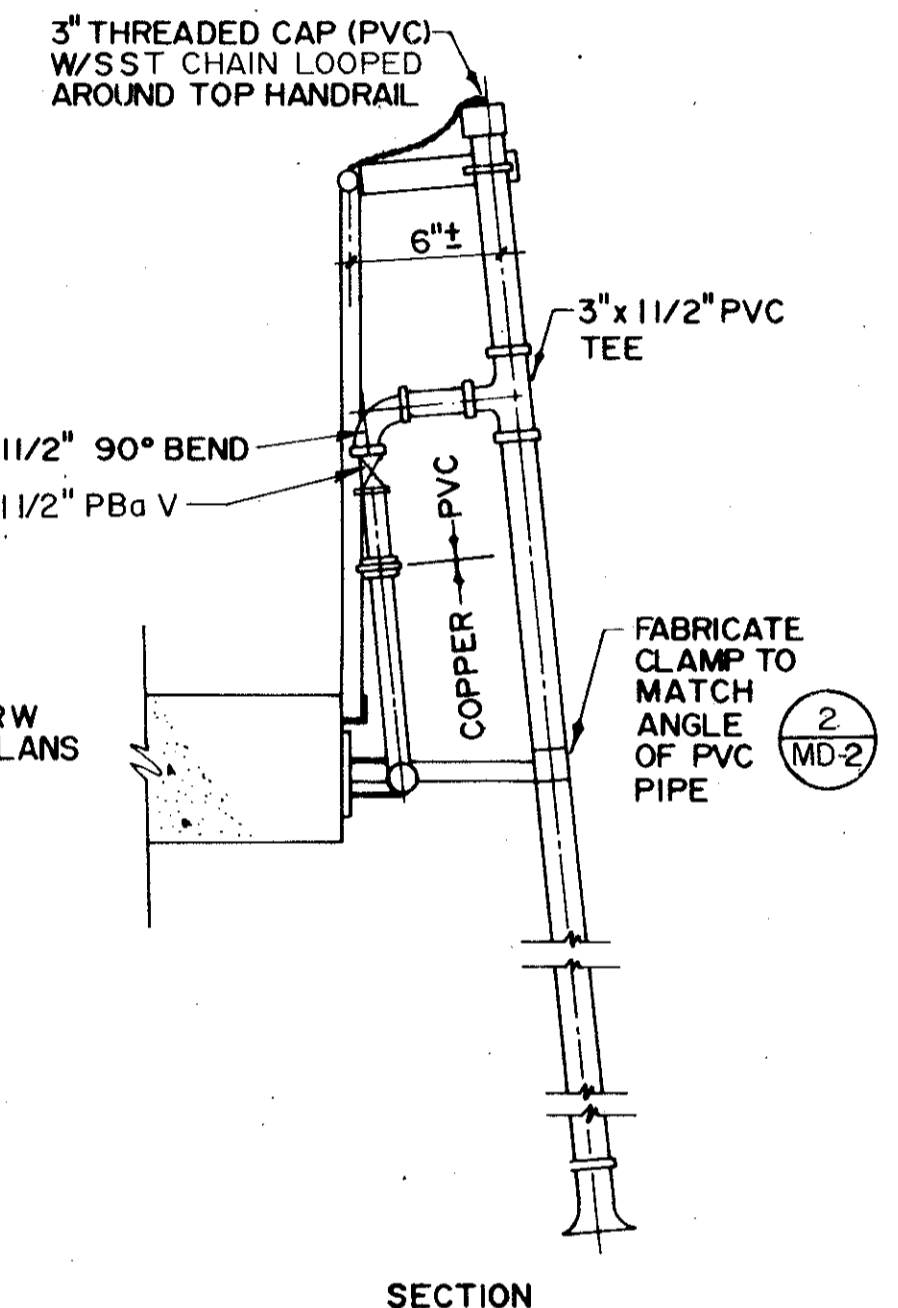
SAFETY EQUIPMENT STATION

DETAIL 3
NTS



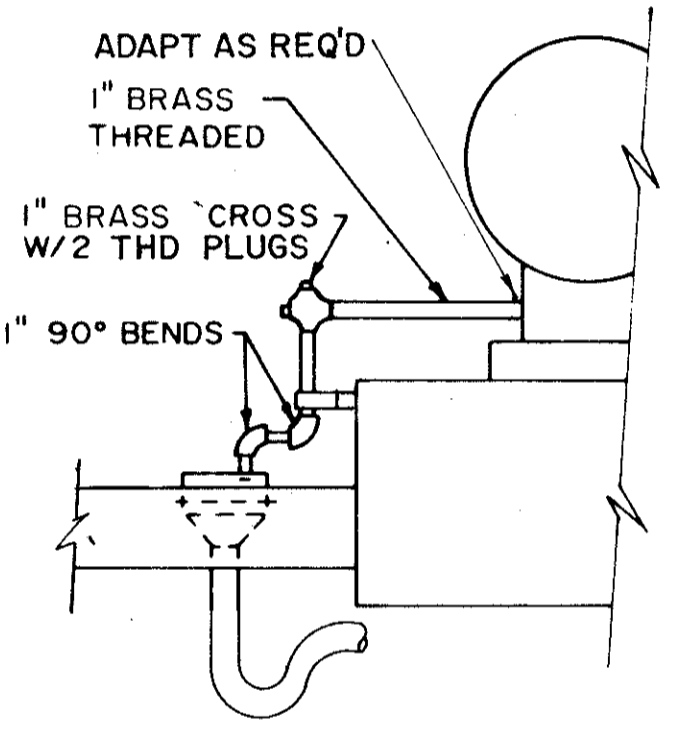
DISSOLVED OXYGEN STILLING WELL

DETAIL 4
NTS



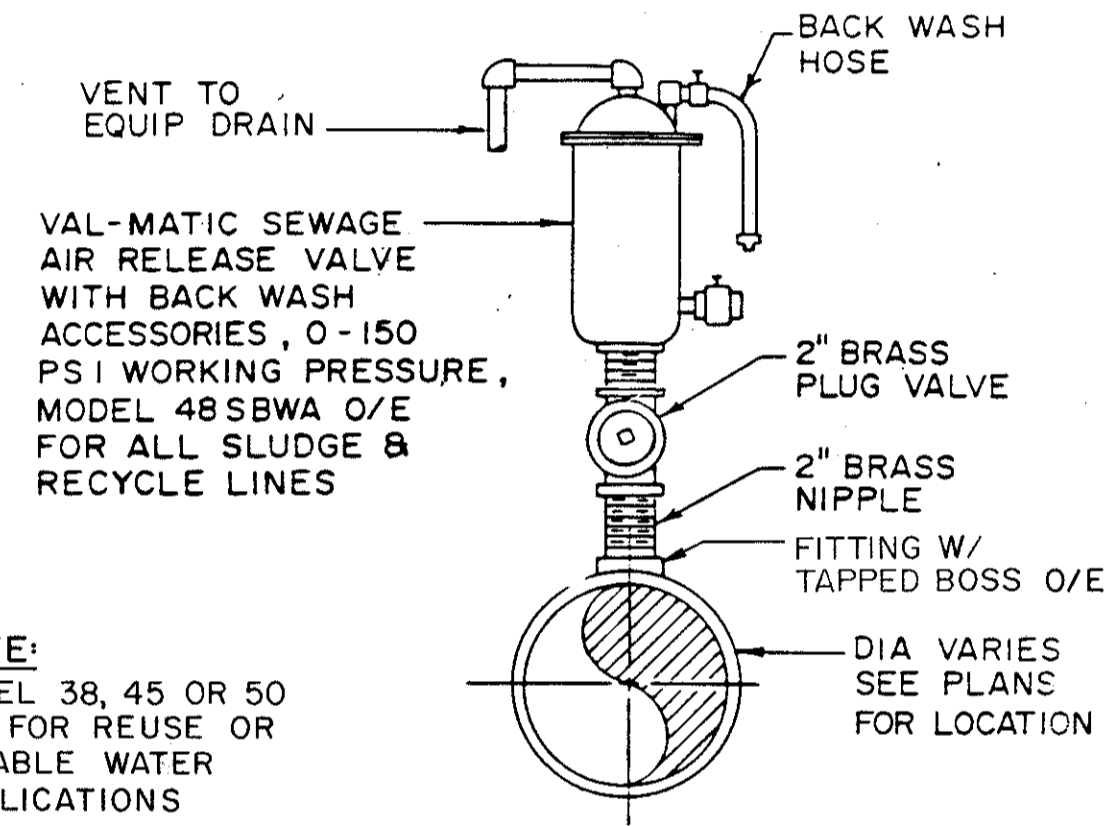
SEAL WATER SYSTEM

DETAIL 5
NTS



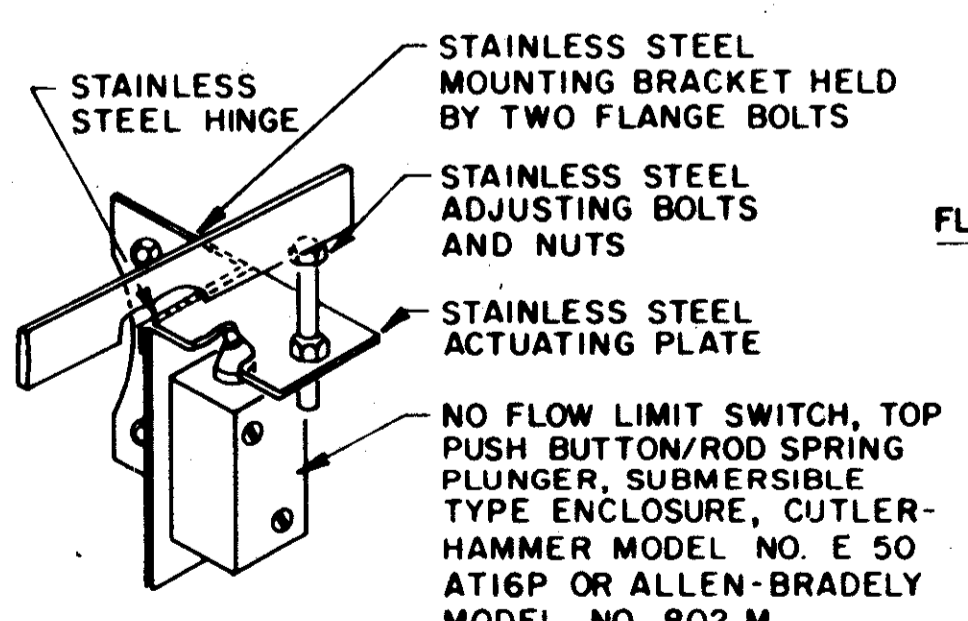
MECHANICAL SEAL DRAIN

DETAIL 6
NTS



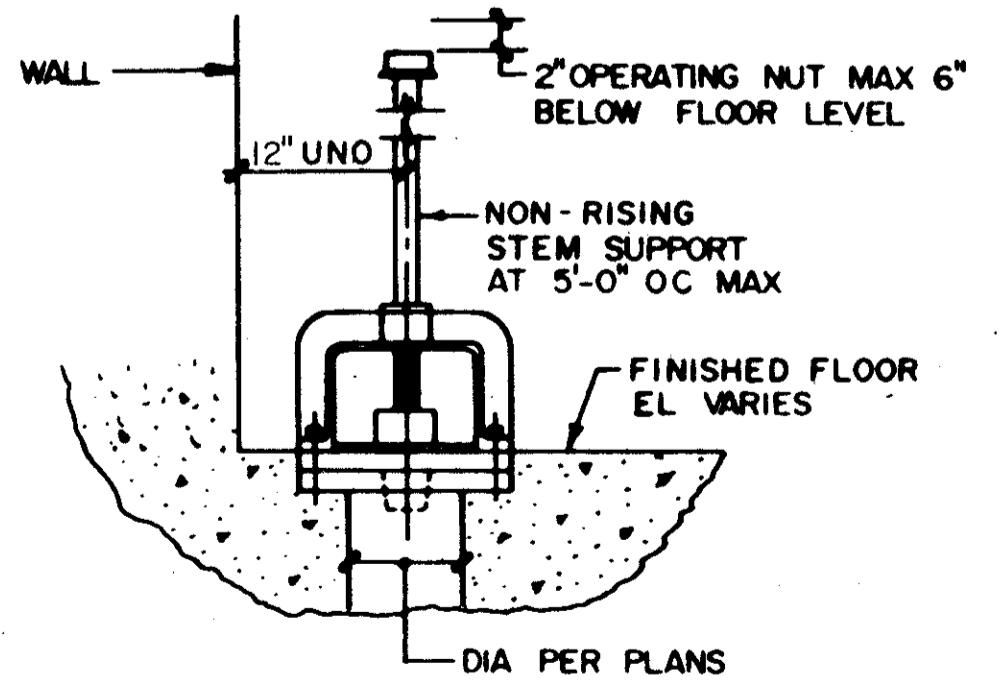
SEWAGE AIR RELEASE VALVE

DETAIL 7
NTS



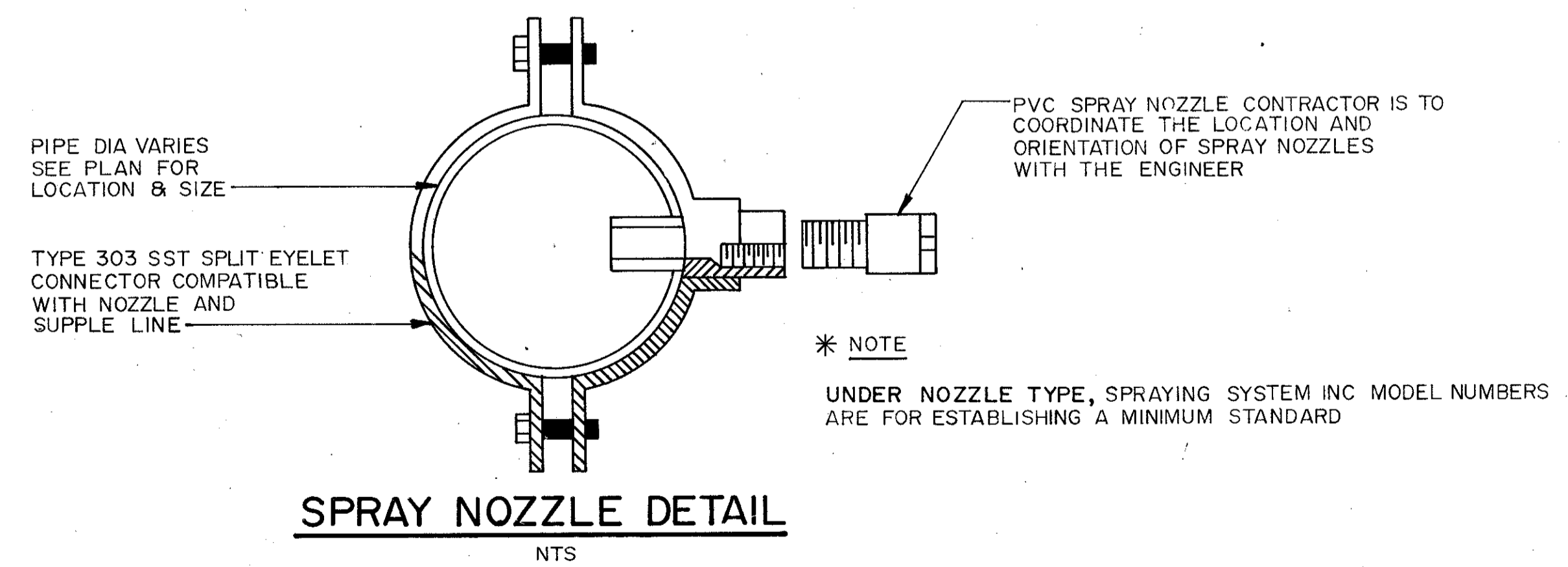
NO FLOW LIMIT SWITCH ASSEMBLY

DETAIL 8
NTS



MUD VALVE

DETAIL 9
NTS



SPRAY NOZZLE DETAIL

SPRAY NOZZLE SCHEDULE

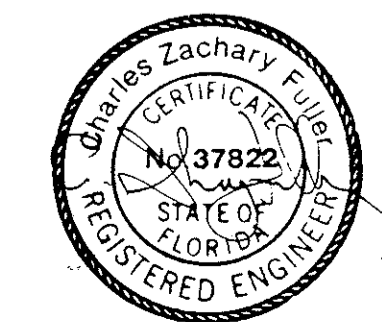
NOZZLE LOCATION	NOZZLE TYPE *	SPRAY PATTERN	CAPACITY	NOZZLE ELEV	WATER ELEV
PRETREATMENT	3/4 HH7	FULL CONE	19 GPM		
CLARIFIER SPLITTER BOX	3/4 HH7	FULL CONE	19 GPM		
CLARIFIER SCUM BOX	3/8 P50100	FLAT	12 GPM		
CLARIFIER CENTER WELL	3/4 HH7	FULL CONE	19 GPM		
SLUDGE BLEND TANK	3/4 HH2.5	FULL CONE	19 GPM		

DESIGNED BY	JGL	REMARKS	
DRAWN BY	RGB	DATE	4/88
CHECKED BY	JGL	REV NO	SAF
APPROVED BY	CXE		CONFORMED DWG.
DATE	12/26/87		

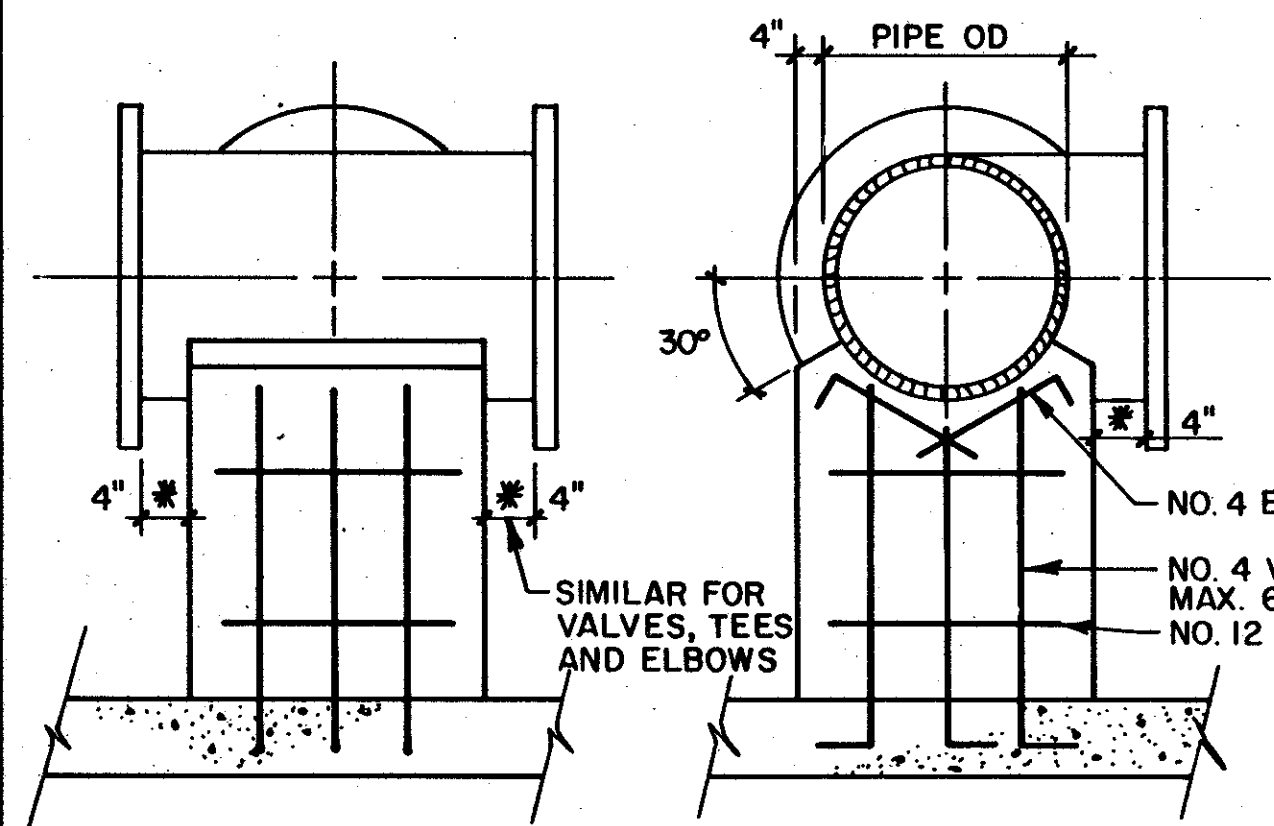
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SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
MISCELLANEOUS DETAILS
ORANGE COUNTY, FLORIDA

PROJECT NO
6059-SL3R
SHEET NO
MD-2

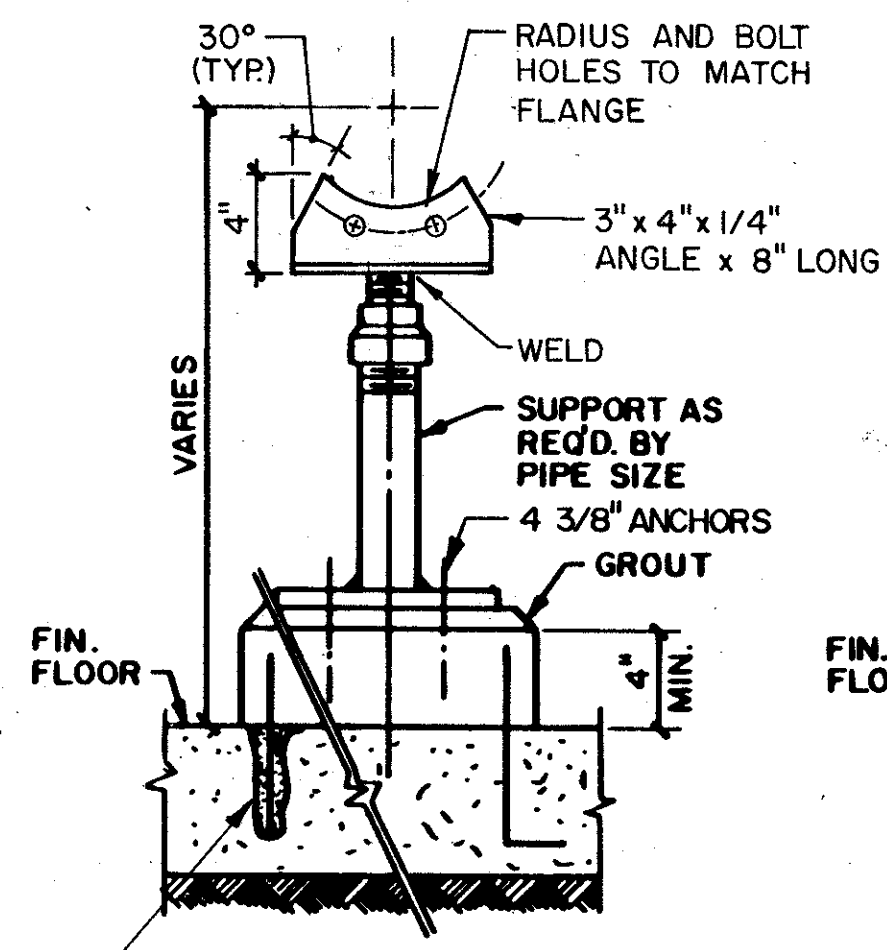


* INCREASE 4" CLEARANCE AS REQ'D IF BOLT HAS TO BE INSERTED FROM THE SUPPORT SIDE OF THE CONNECTION



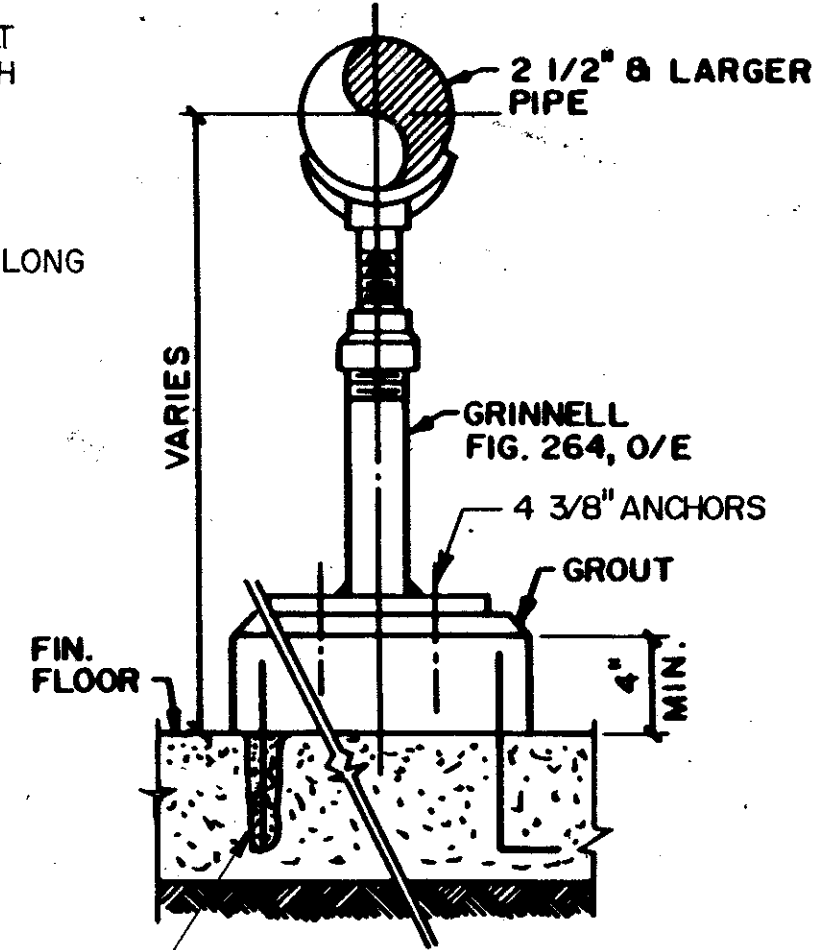
PIPE SUPPORT

DETAIL 1

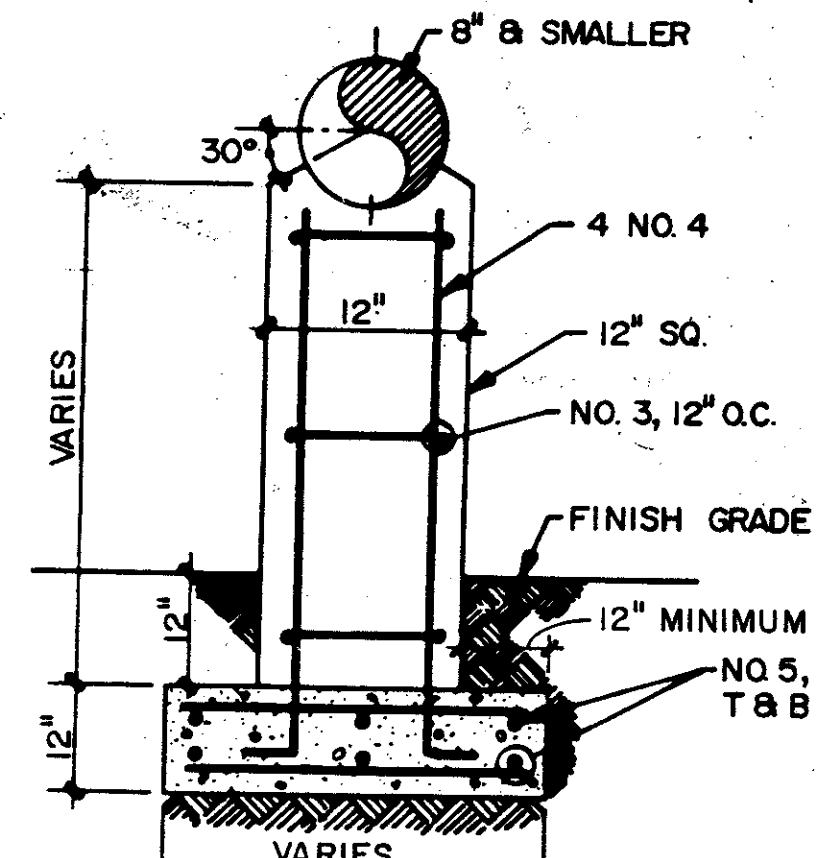


THIS SUPPORT SIMILAR TO GRINNELL FIG 264 O/E

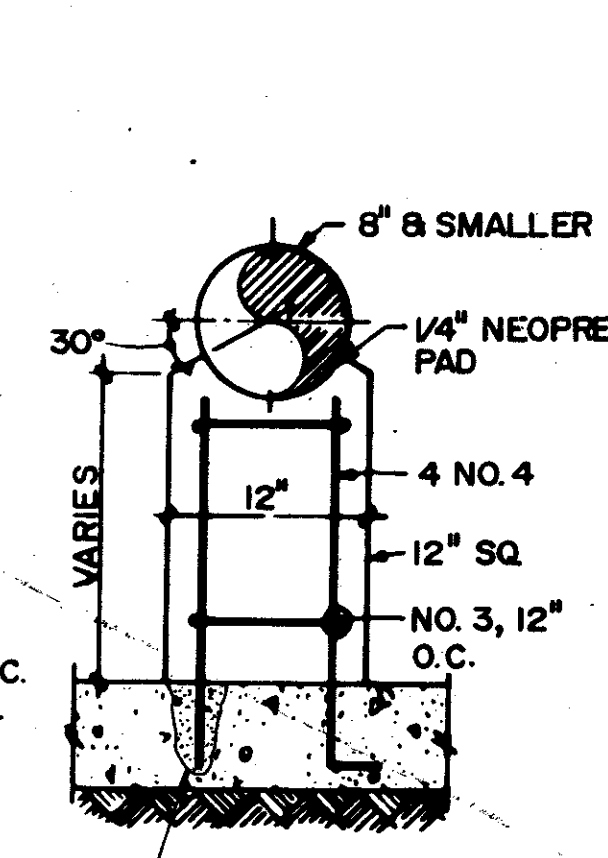
DETAIL 2



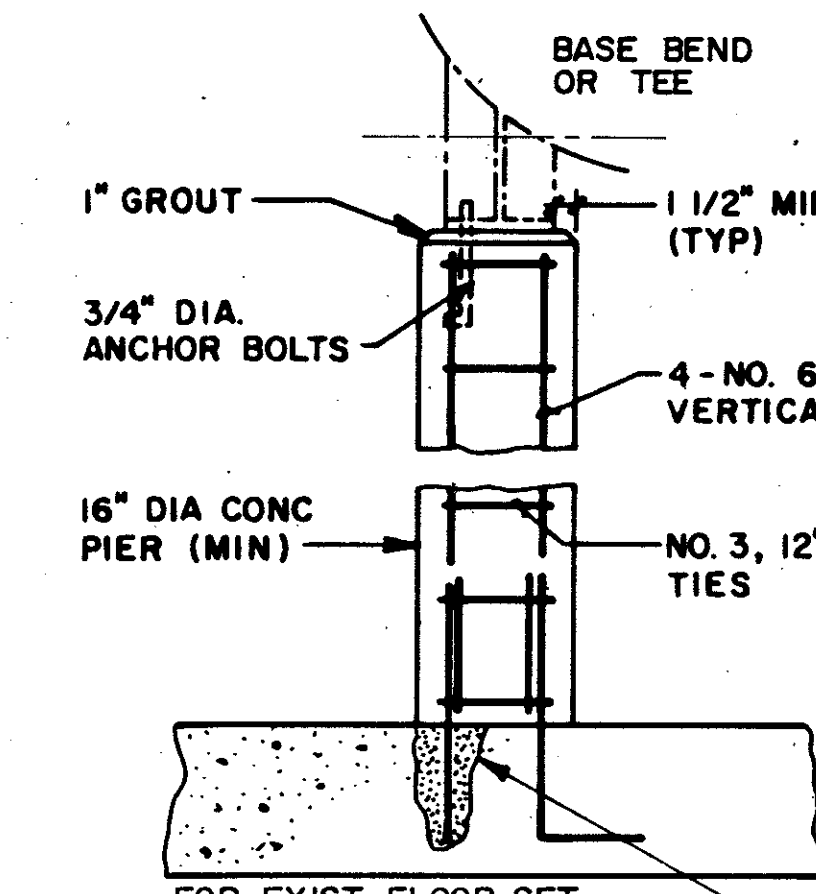
DETAIL 3



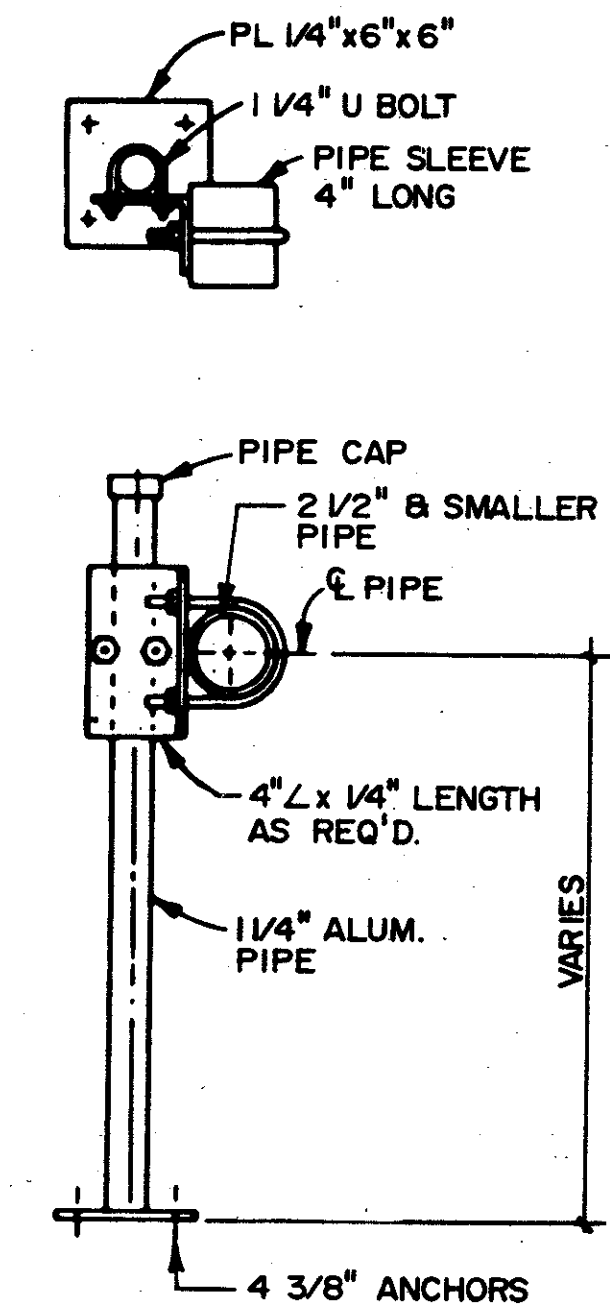
DETAIL 4



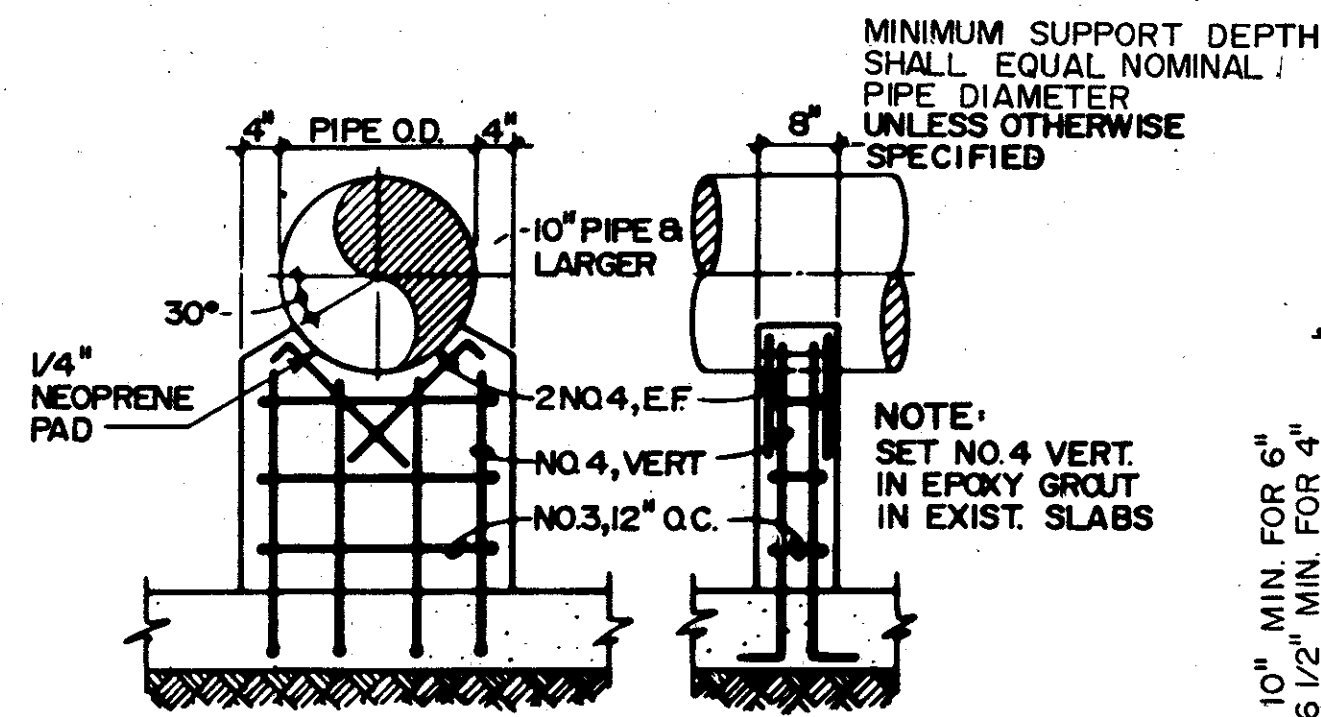
DETAIL 5



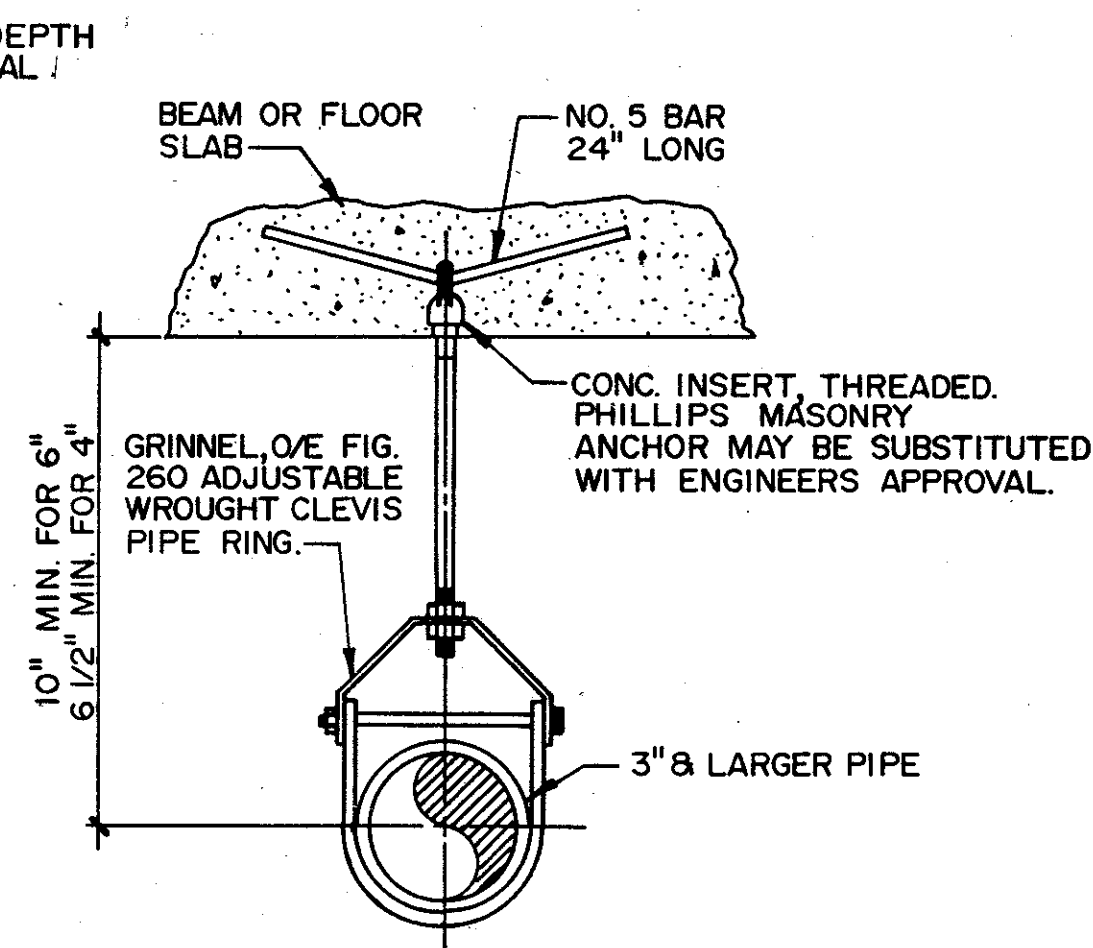
DETAIL 6



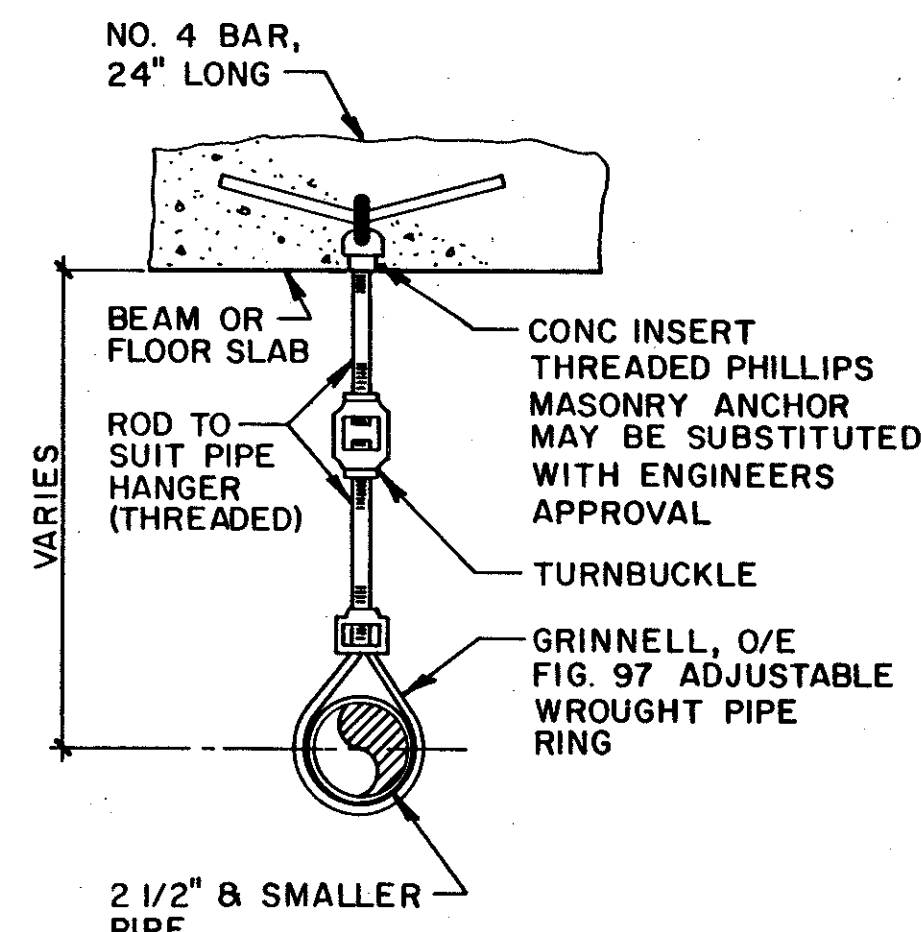
DETAIL 7



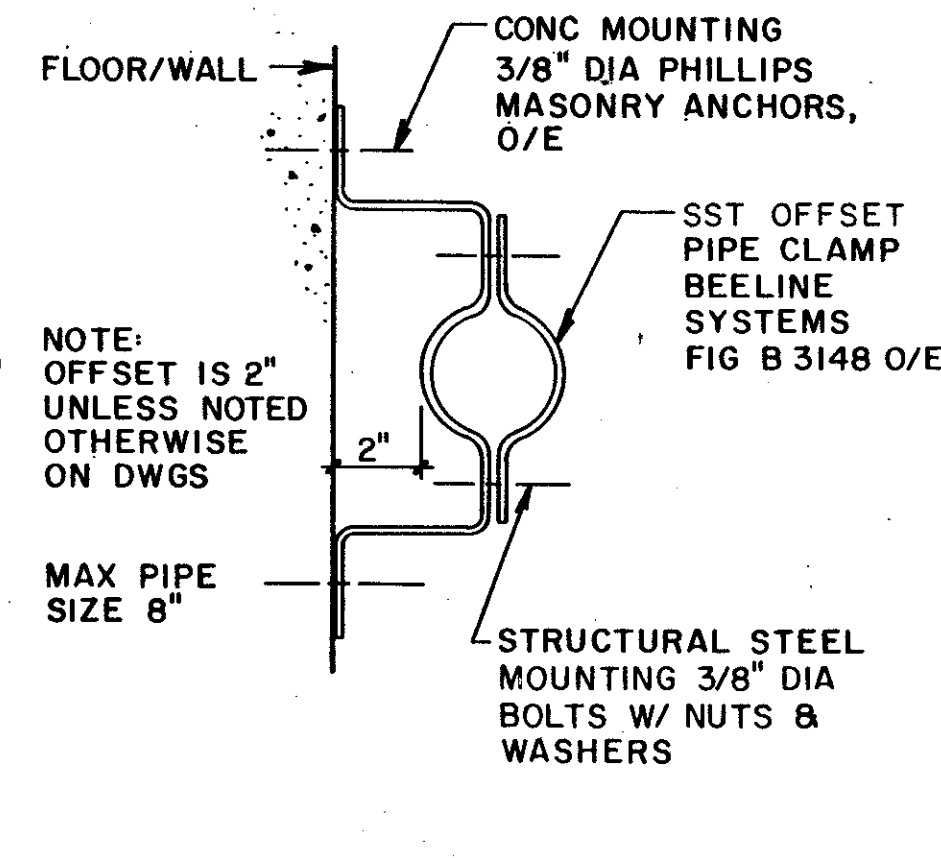
DETAIL 8



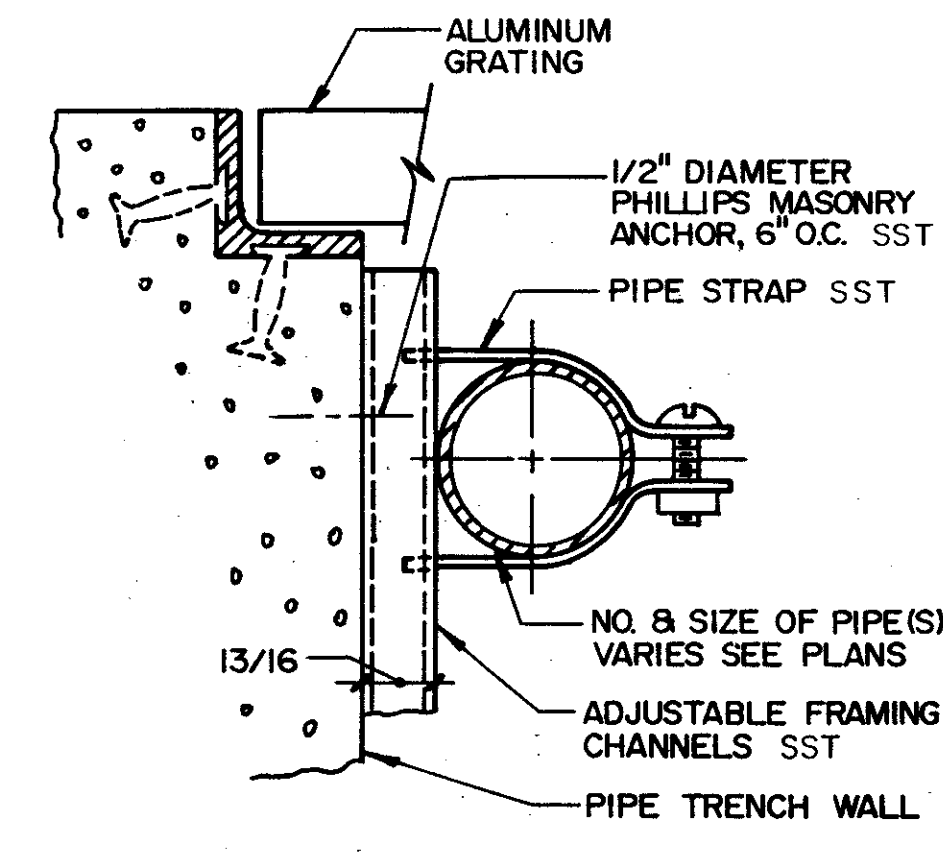
DETAIL 9



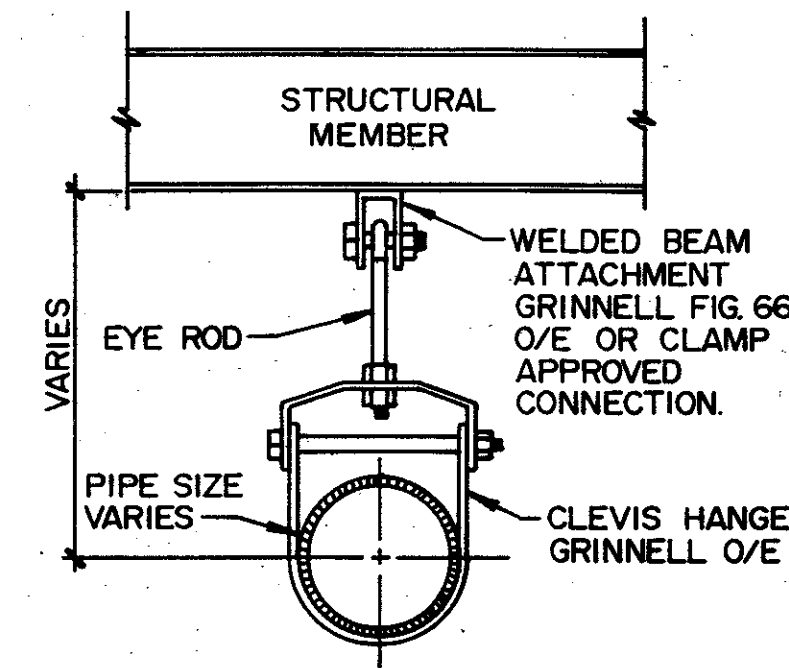
DETAIL 10



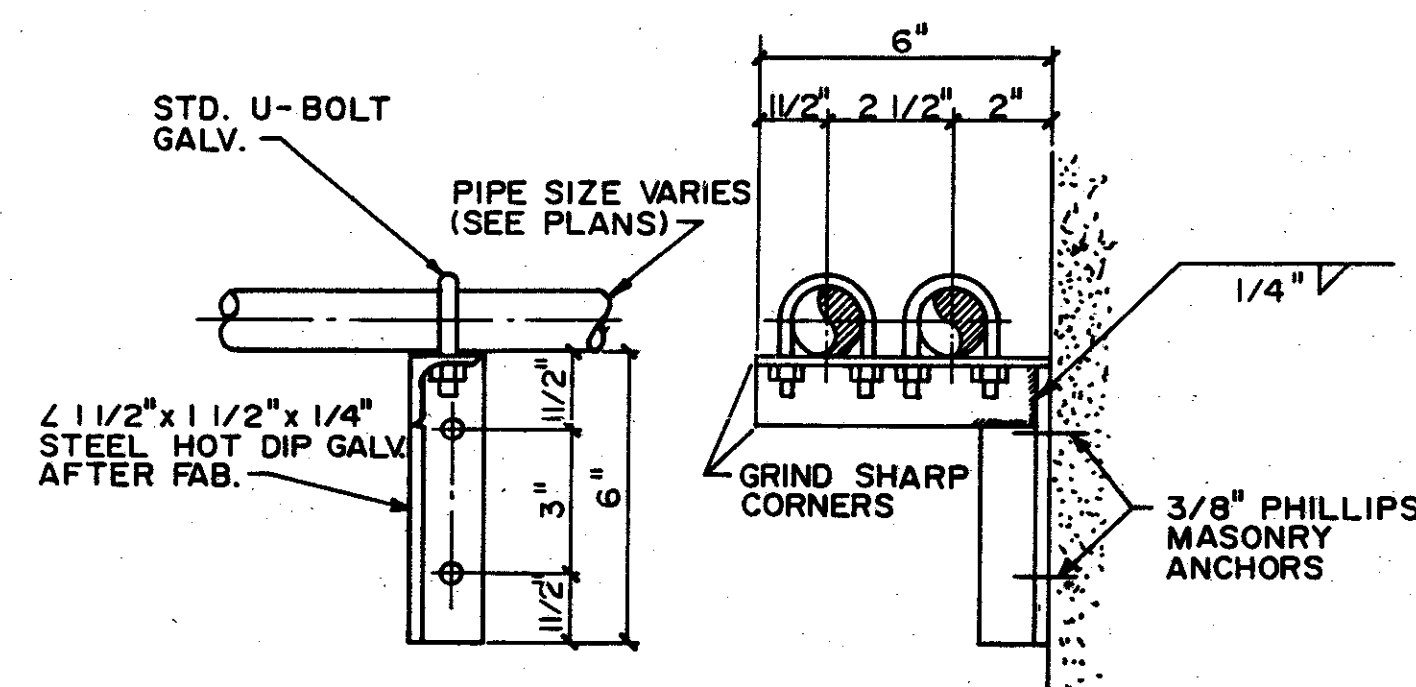
DETAIL 11



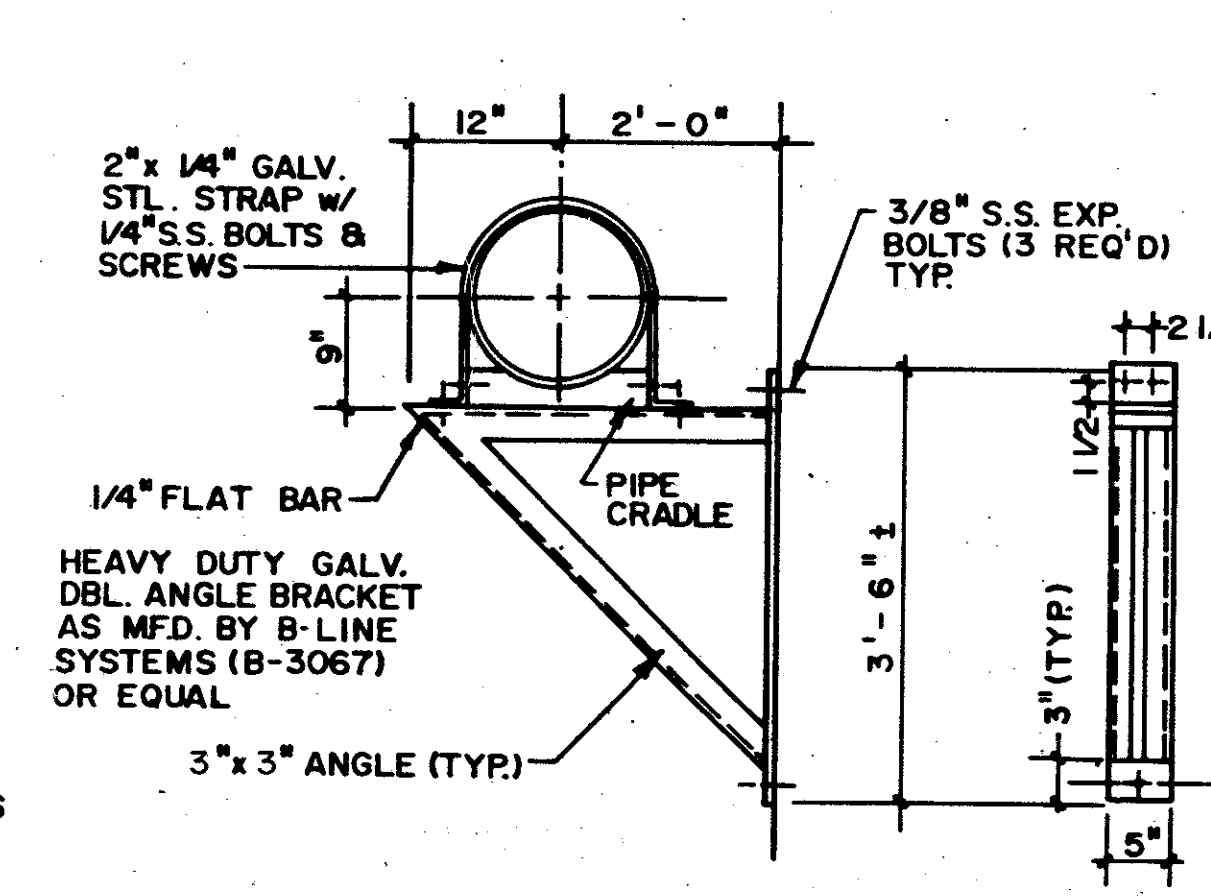
DETAIL 12



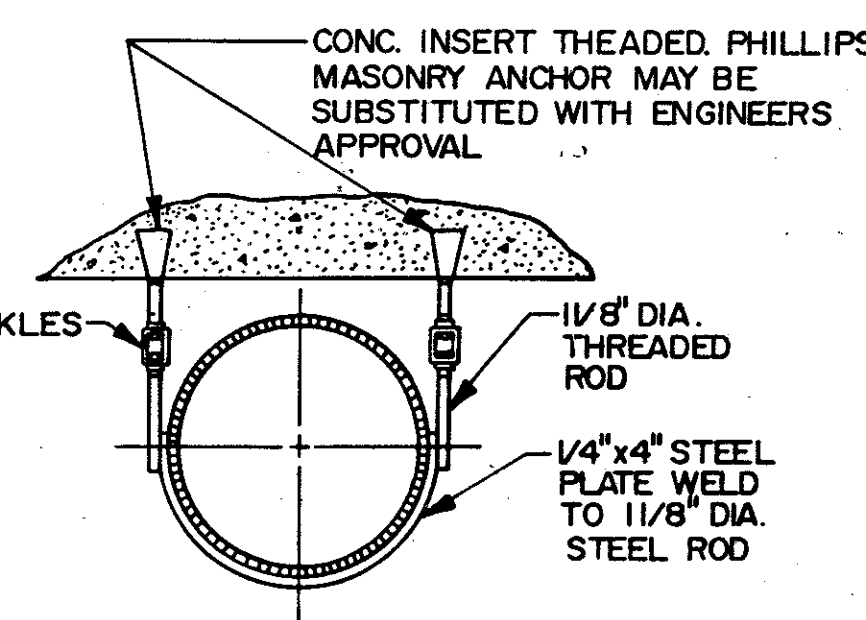
DETAIL 13



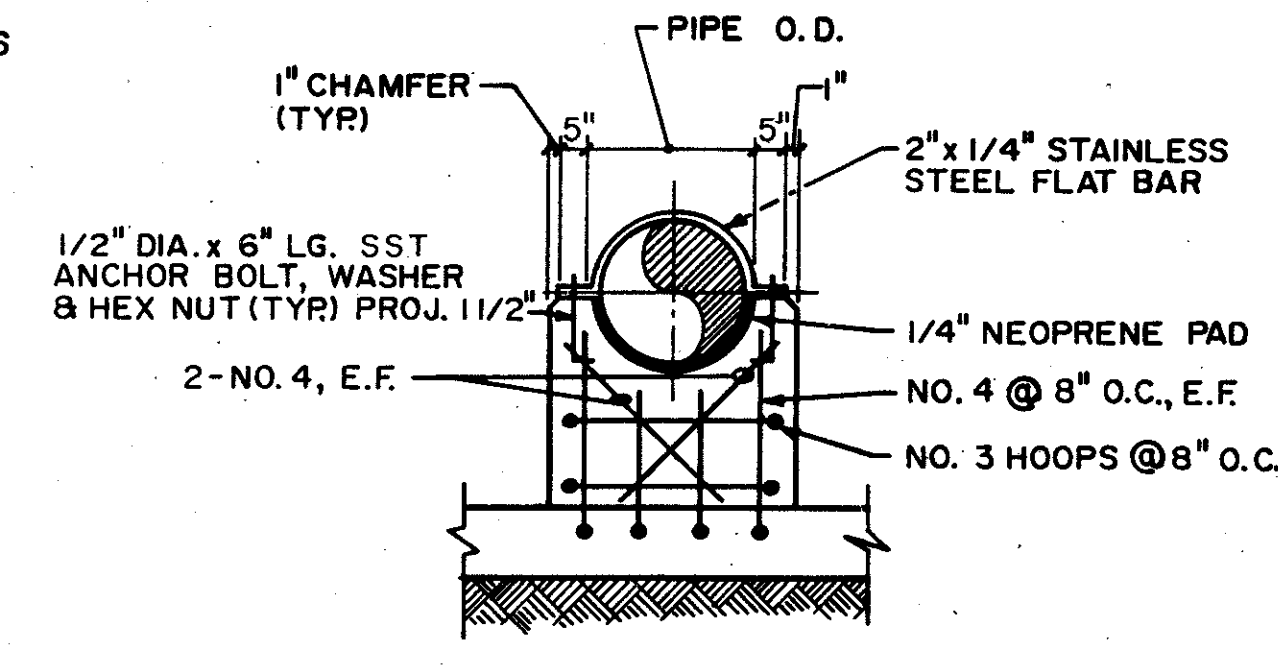
DETAIL 14



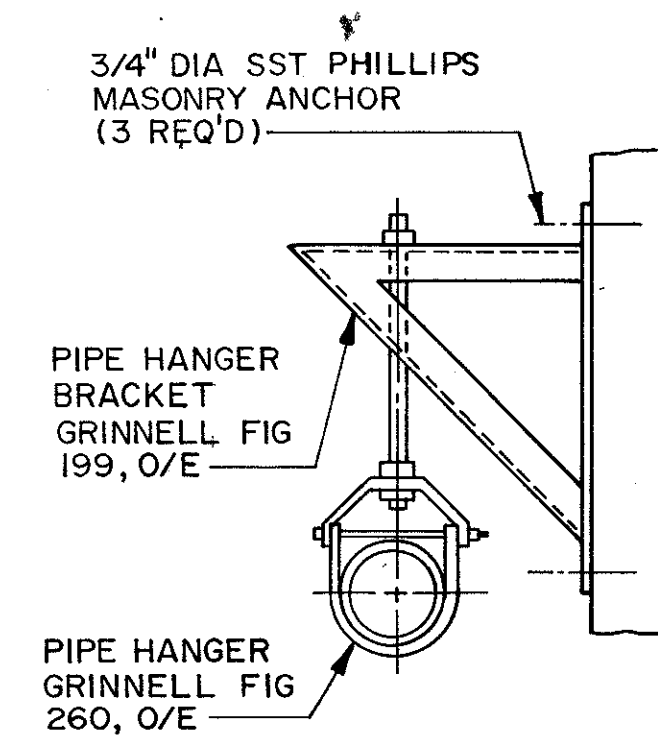
DETAIL 15



DETAIL 16



REACTION TYPE P.S.
DETAIL 17



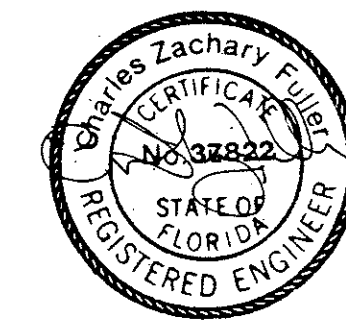
DETAIL 18

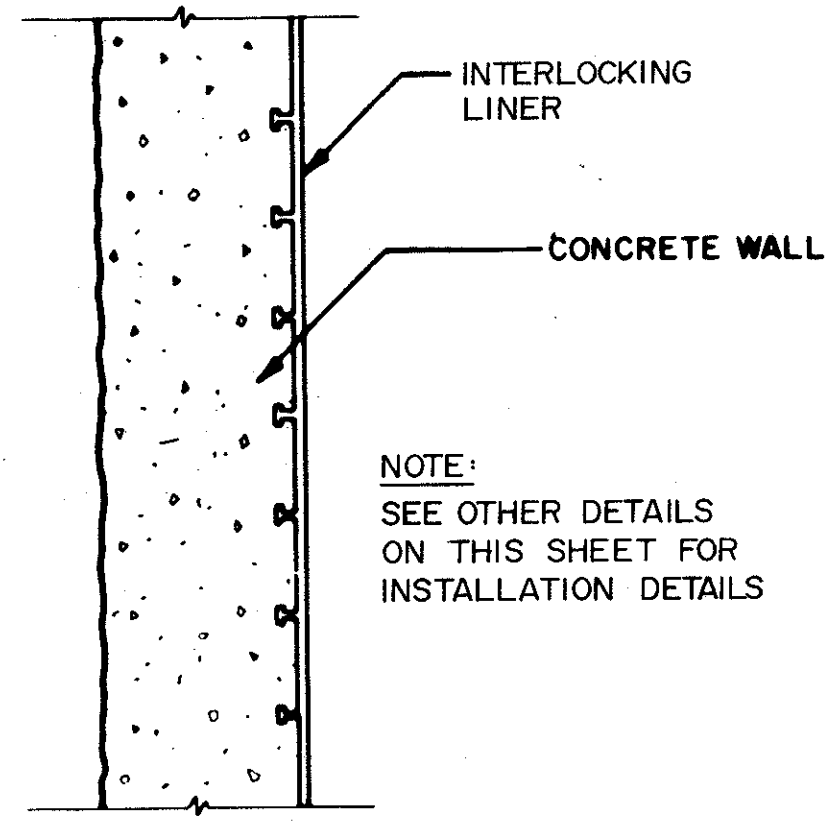
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DRAWN BY	RGB			SAF		CONFORMED DWG.	
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APPROVED BY	CZE						
DATE	12/22/87						

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ORANGE COUNTY, FLORIDA
PIPING SUPPORT DETAILS

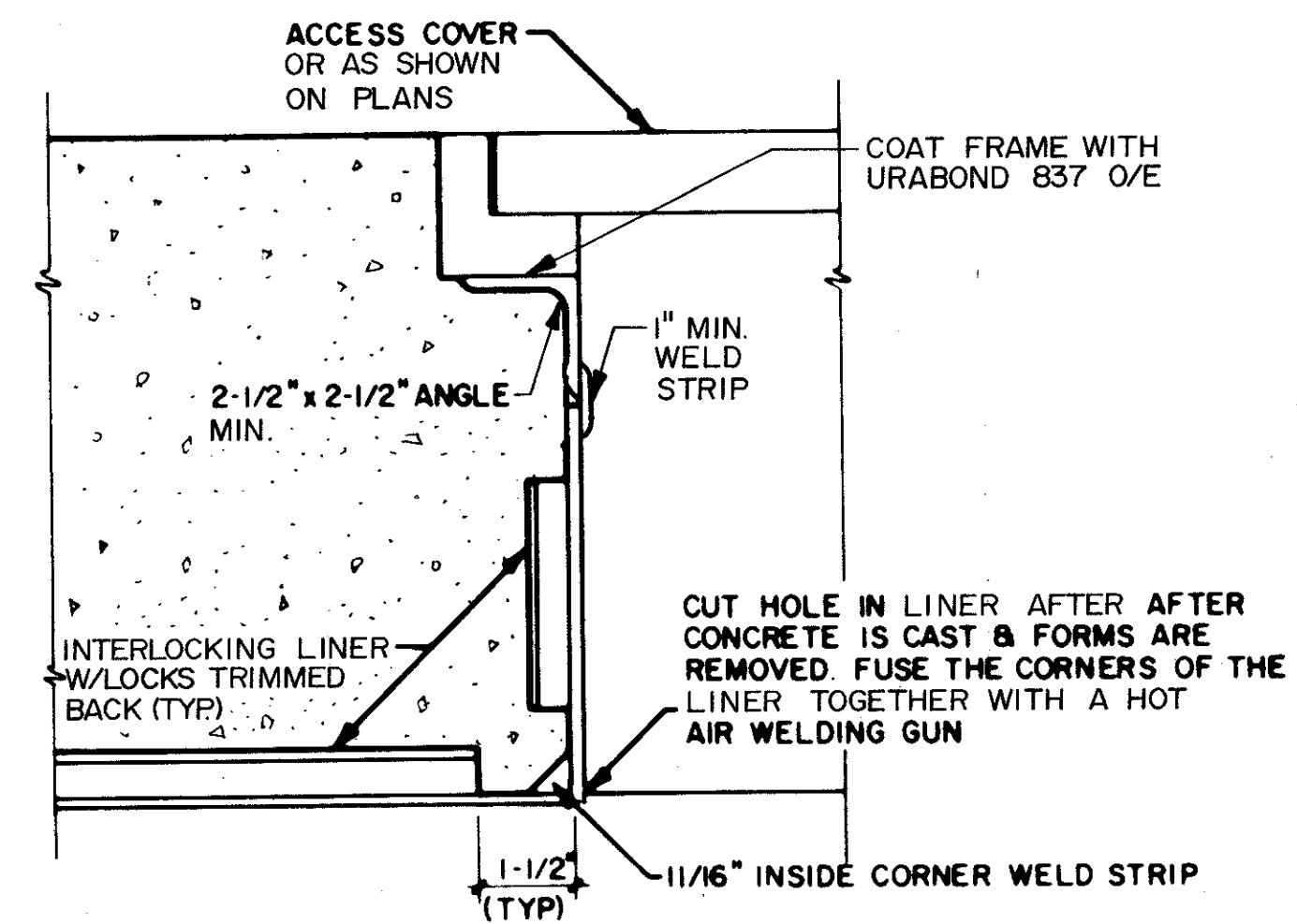
PROJECT NO.
6059-SL3R
SHEET NO.
MD-3





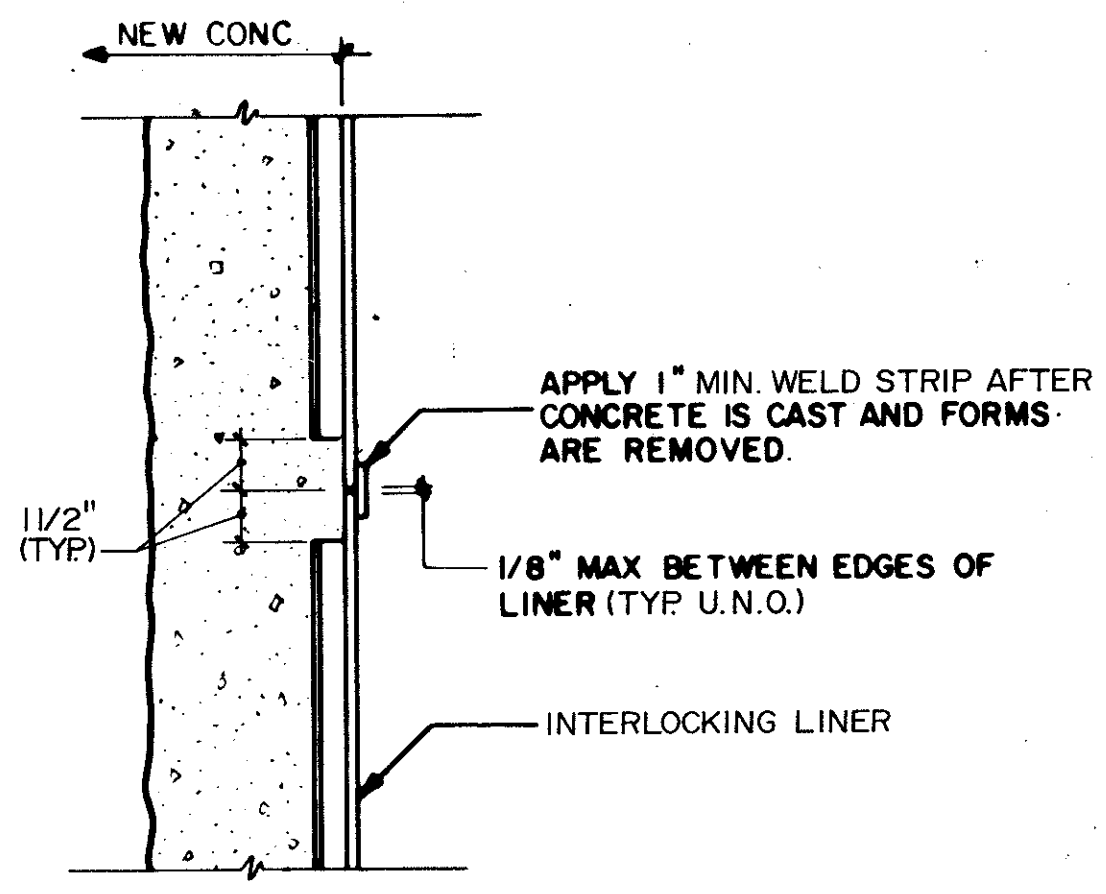
TYPICAL WALL SECTION

DETAIL 1
NTS



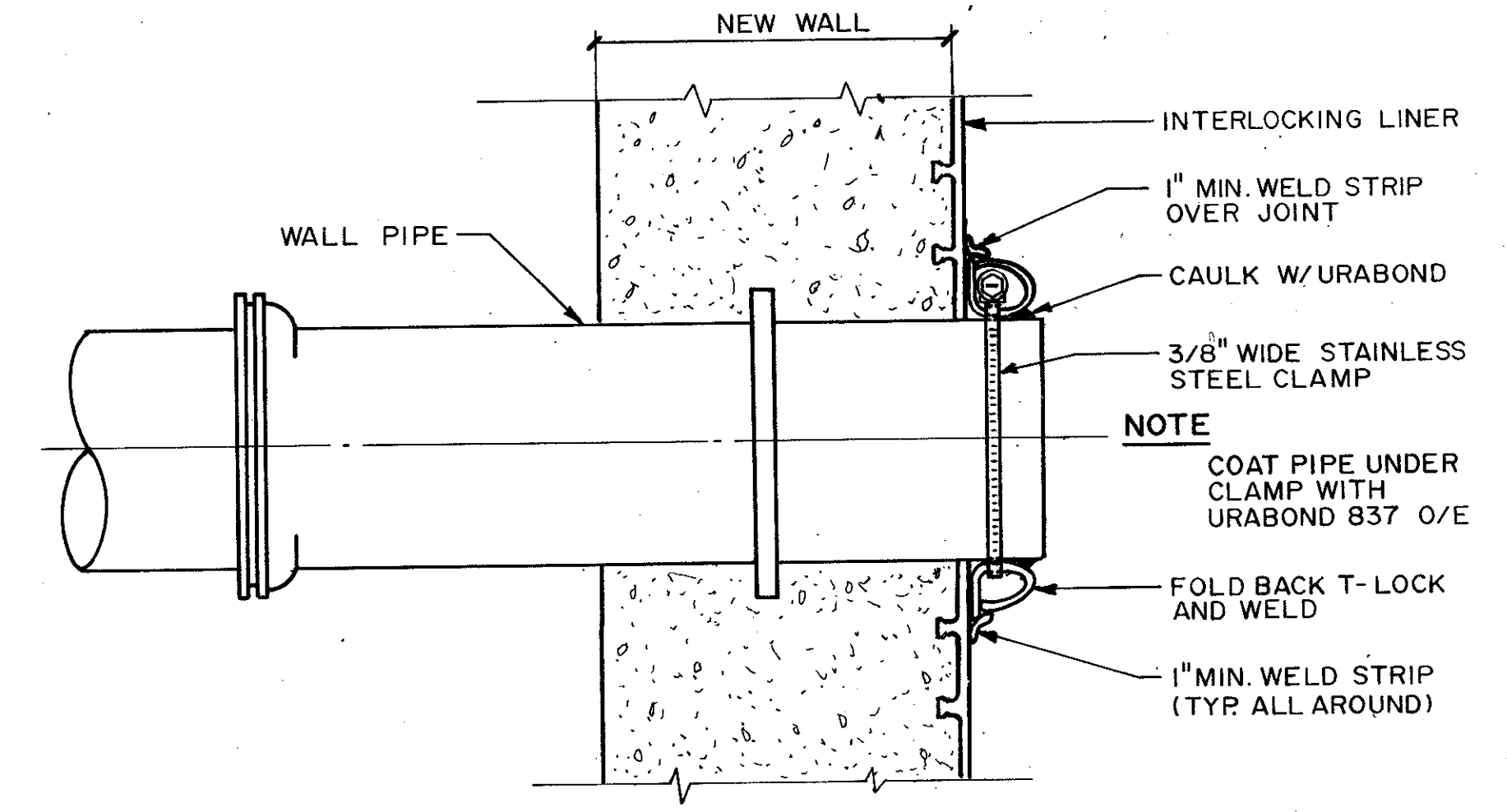
LINER AT HATCHES, ETC.

DETAIL 2
NTS



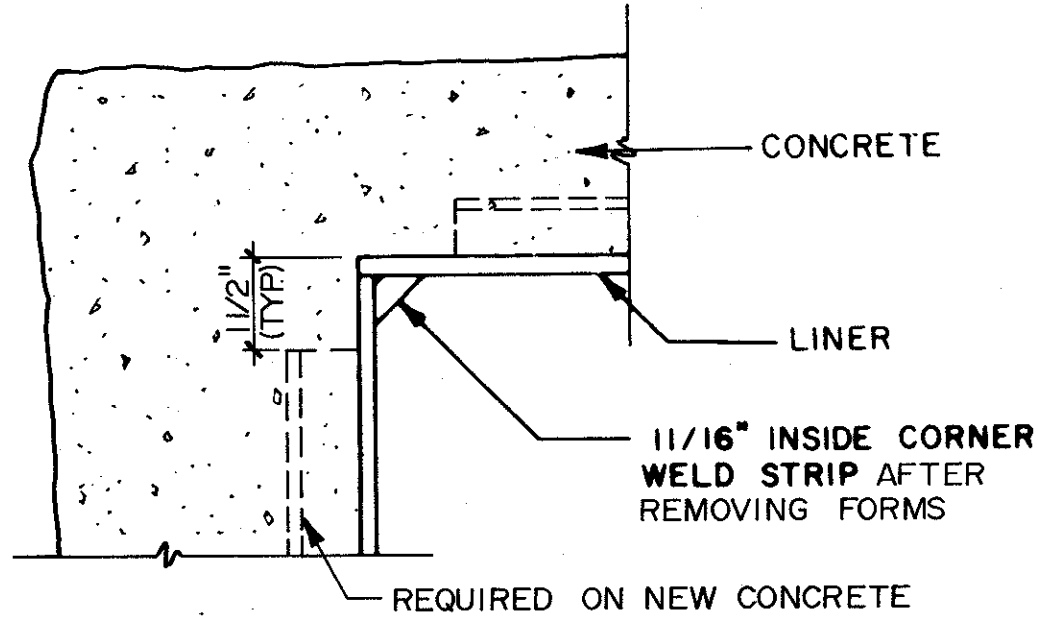
TYPICAL JOINT ON
INTERLOCKING LINER

DETAIL 3
NTS



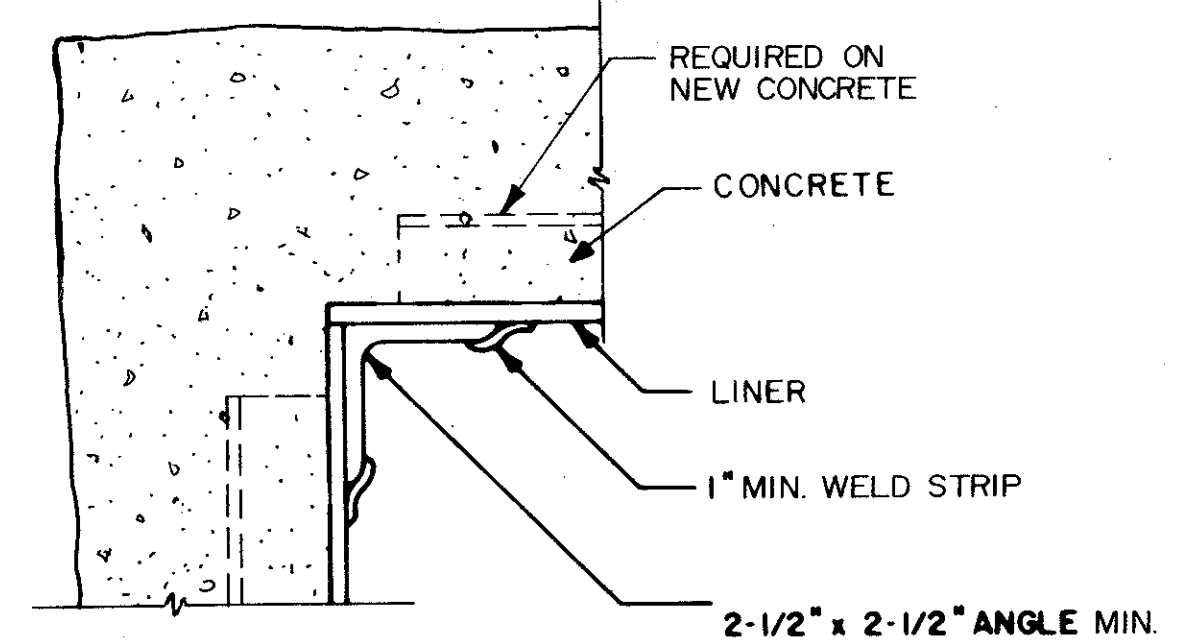
TYPICAL INFLUENT PIPE

DETAIL 4
NTS



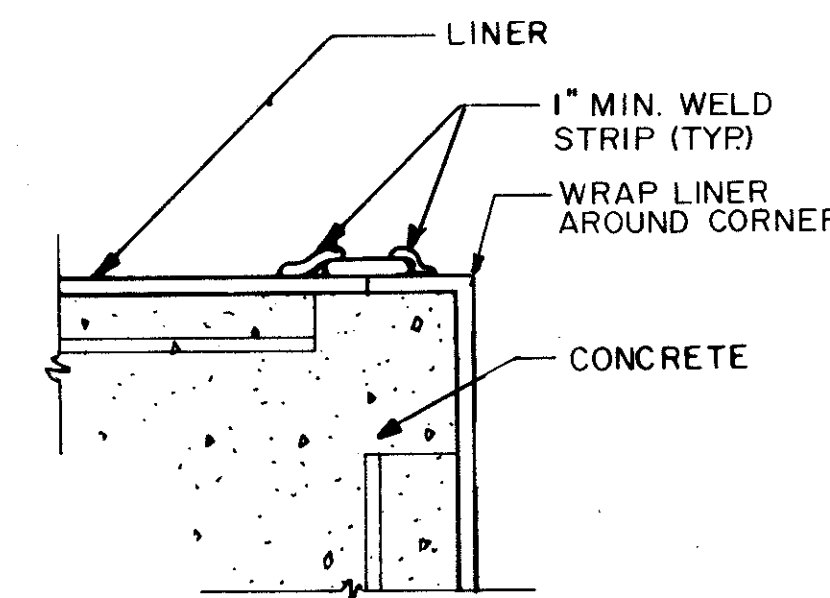
INSIDE CORNER DETAIL 'A'

DETAIL 5
NTS



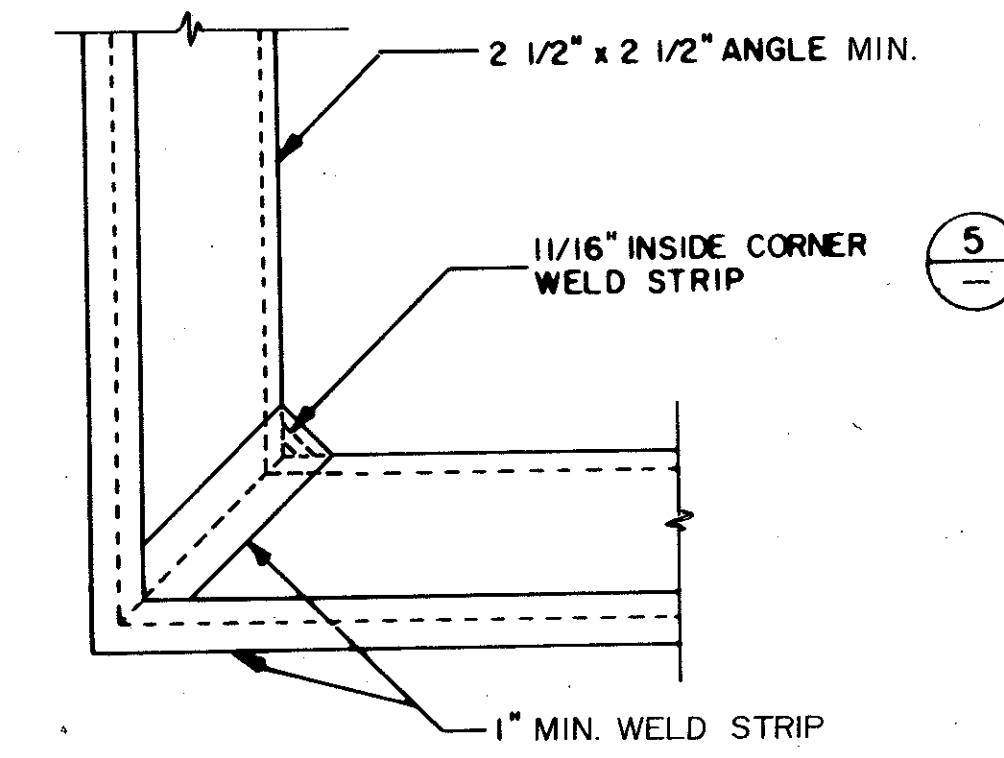
INSIDE CORNER DETAIL 'B'

DETAIL 6
NTS



OUTSIDE CORNER DETAIL

DETAIL 7
NTS

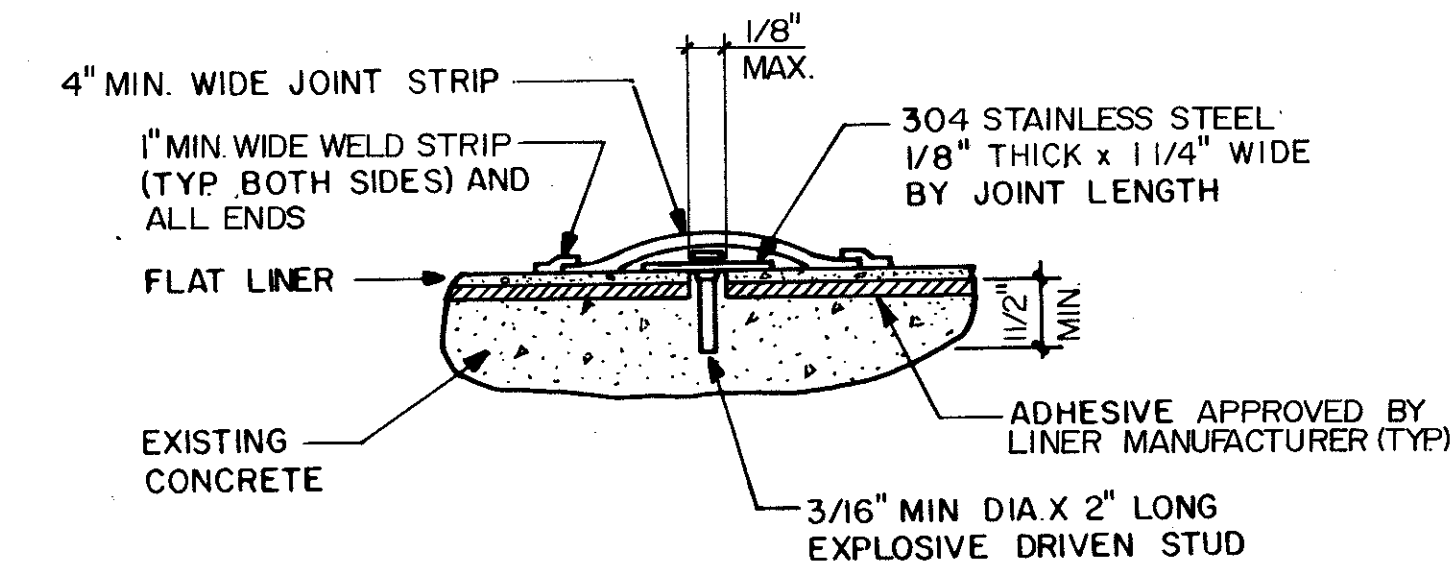


CORNER JOINT DETAIL

DETAIL 8
NTS

NOTES

1. ALL DUCT TAPE SHALL BE PLACED AFTER ADHESIVE HAS DRIED AND PRIOR TO POURING CONCRETE.
2. IF LINER IS PENETRATED TO MORE THAN 50% OF ITS THICKNESS, IT SHALL BE REPAIRED PER MANUFACTURER RECOMMENDATIONS AS APPROVED BY THE ENGINEER.
3. RECOMMENDATIONS OF THE LINER MANUFACTURER MAY BE CONSIDERED.
4. UNLESS SHOWN OTHERWISE THE LINER JOINTS WILL BE CUT TO 1/8" MAXIMUM.
5. ANY VARIATIONS FROM DETAILS ON THIS SHEET NEED SHOP DRAWING APPROVAL.
6. LOCKS ON INTERLOCKING LINER SHALL RUN VERTICALLY.

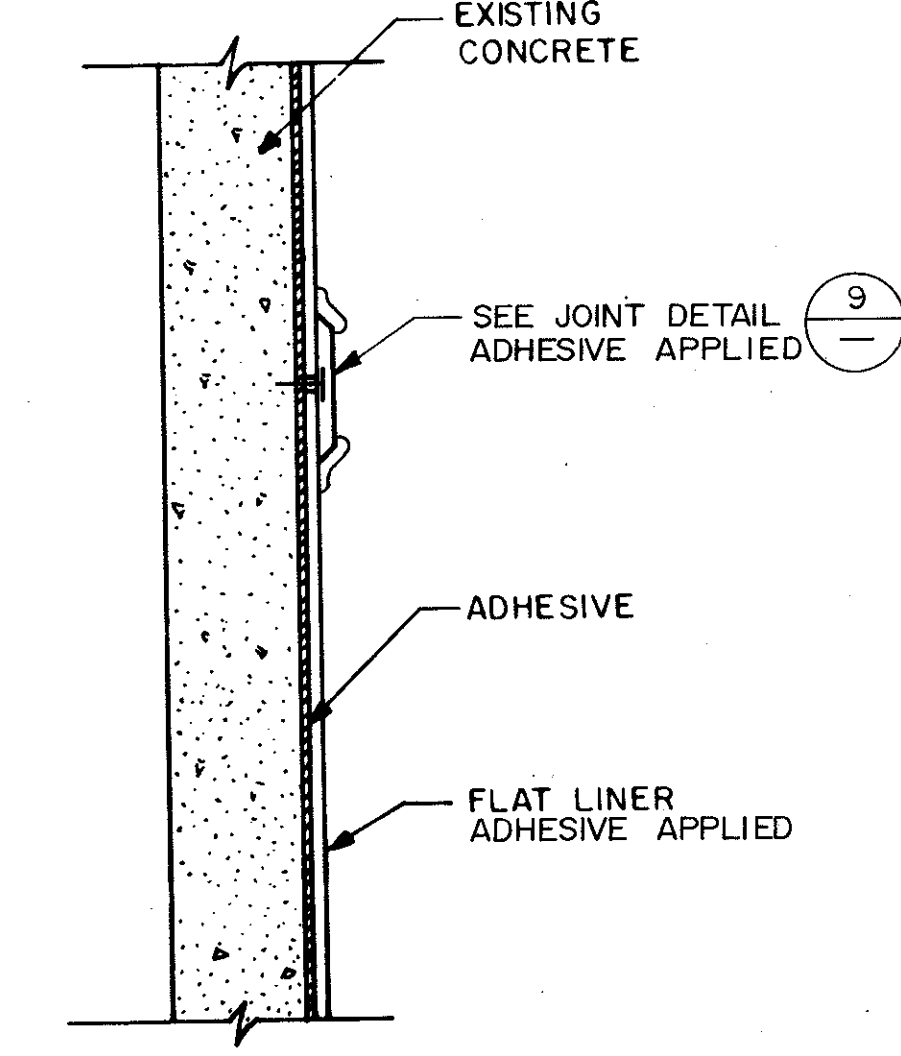


NOTES

1. ATTACH PLAIN SHEET LINER TO EXISTING CONCRETE W/ADHESIVE. CLOSELY FOLLOW INSTRUCTIONS PROVIDED FOR APPLYING ADHESIVE.
2. ATTACH STAINLESS STEEL STRIP OVER LINER WITH EXPLOSIVE DRIVEN STUDS. STUDS TO BE 8" ON CENTER FOR UNDERSIDE OF ROOF SLABS AND 18" ON CENTER FOR WALLS.
3. HEAT WELD 4" MIN. JOINT STRIP OVER SST STRIP AND STUDS USING 1" MIN. FLAT WELD STRIP

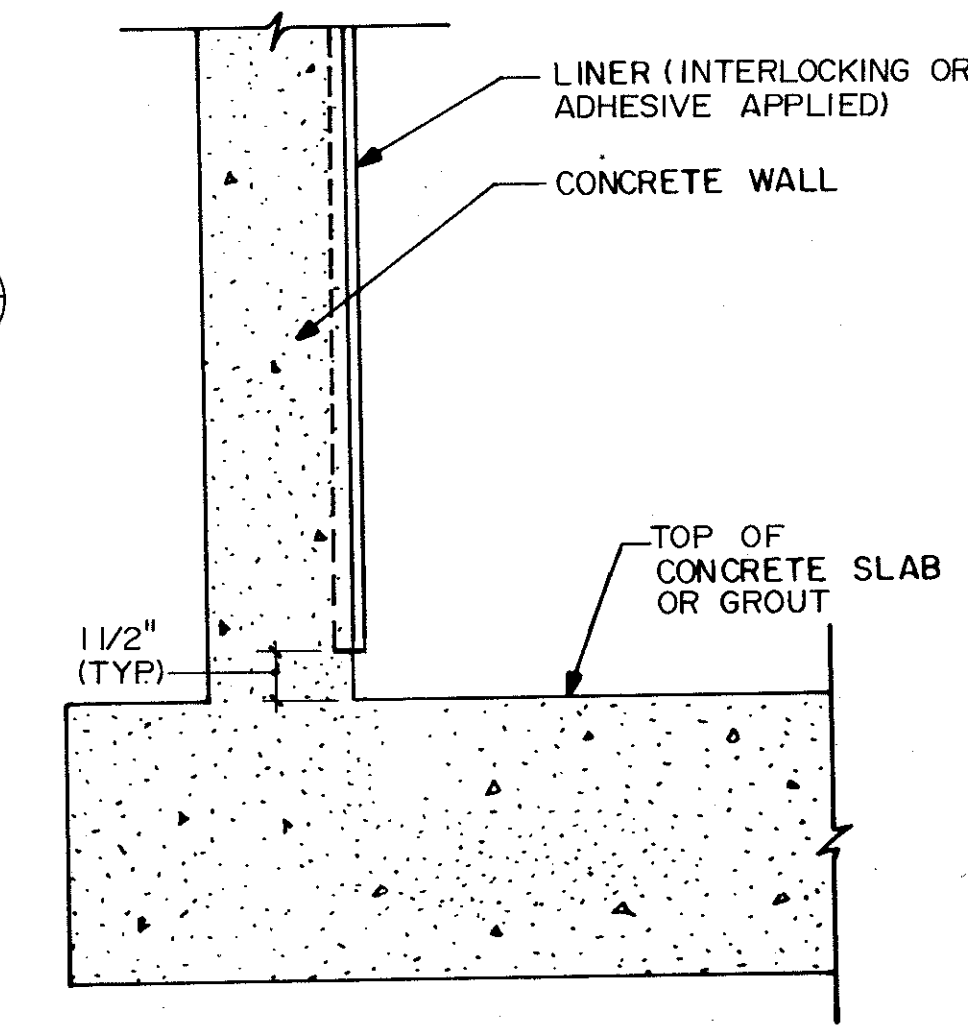
ADHESIVE APPLIED LINER JOINT DETAIL

DETAIL 9
NTS



TYPICAL ADHESIVE APPLIED JOINT

DETAIL 10
NTS



BOTTOM

DETAIL 11
NTS

DESIGNED BY: JGL	DATE: 4/88	REV NO:	REMARKS:
DRAWN BY: R.G.B.	DATE: 4/88	SAF	CONFORMED DWG.
CHECKED BY: JGL			
APPROVED BY: [Signature]			
DATE: 02/22/08			

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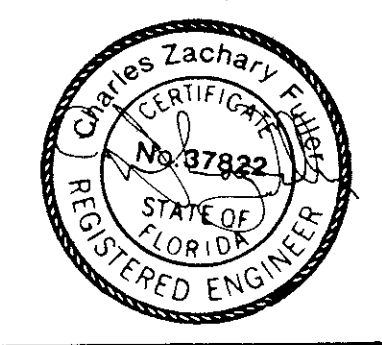
CONCRETE-LINER DETAILS

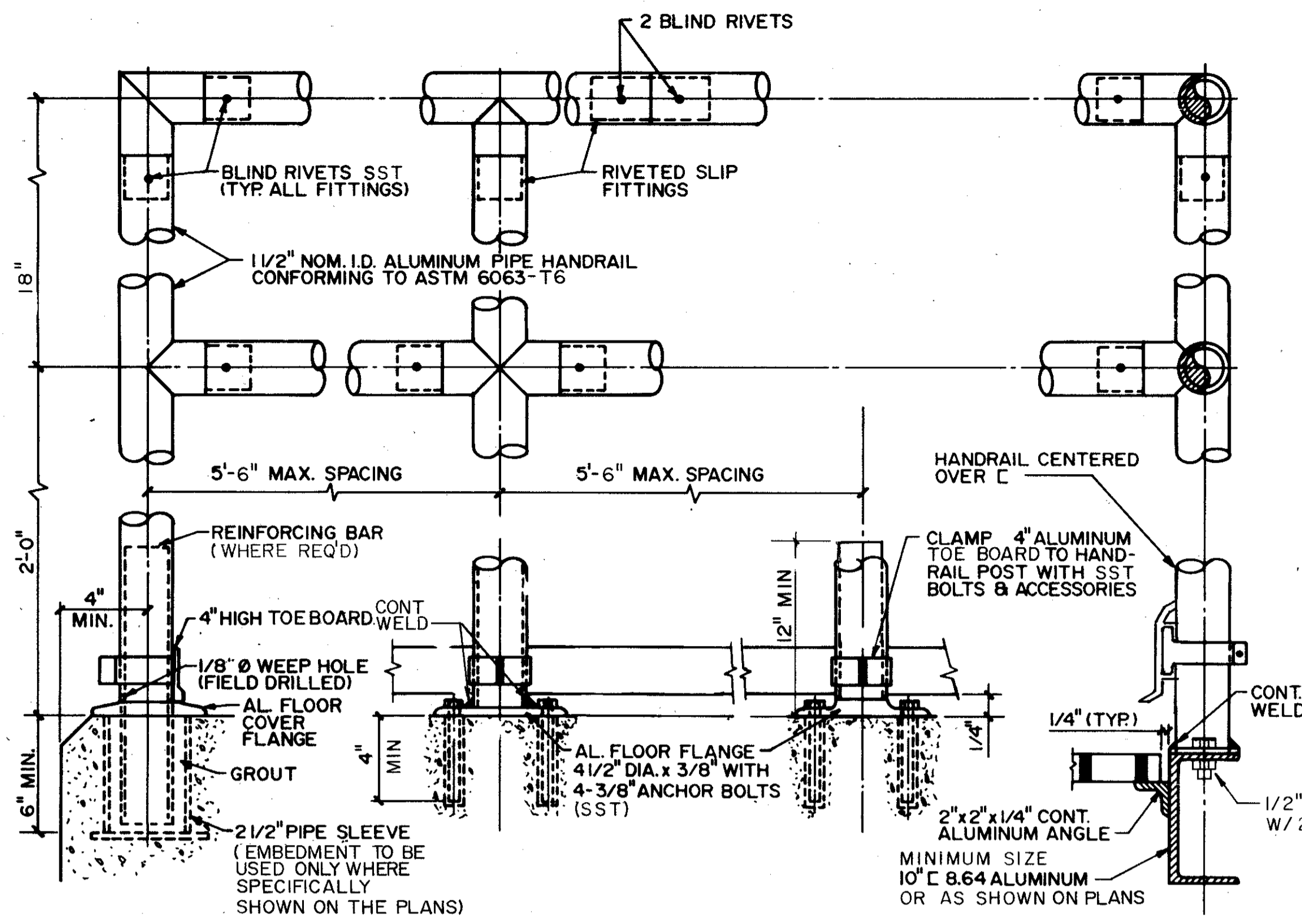
ORANGE COUNTY, FLORIDA

PROJECT NO
6059-SL3R

SHEET NO
MD-4

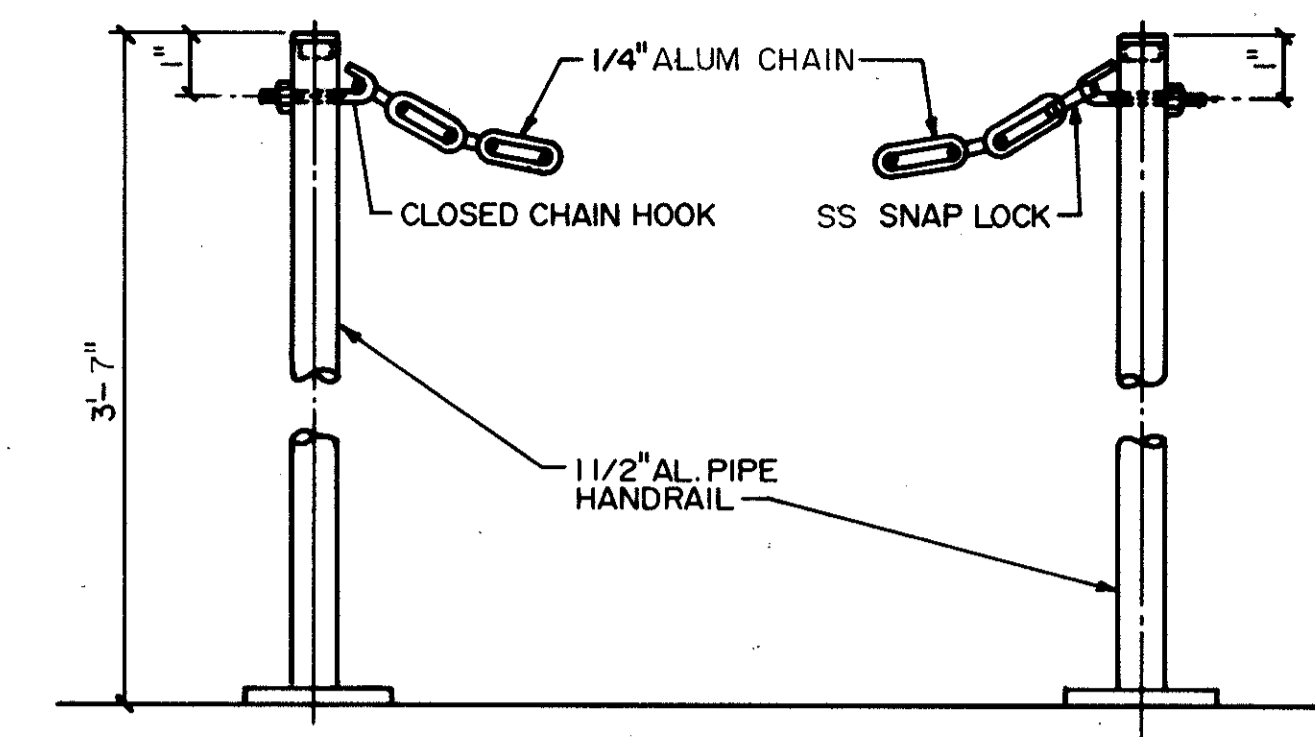
CDM





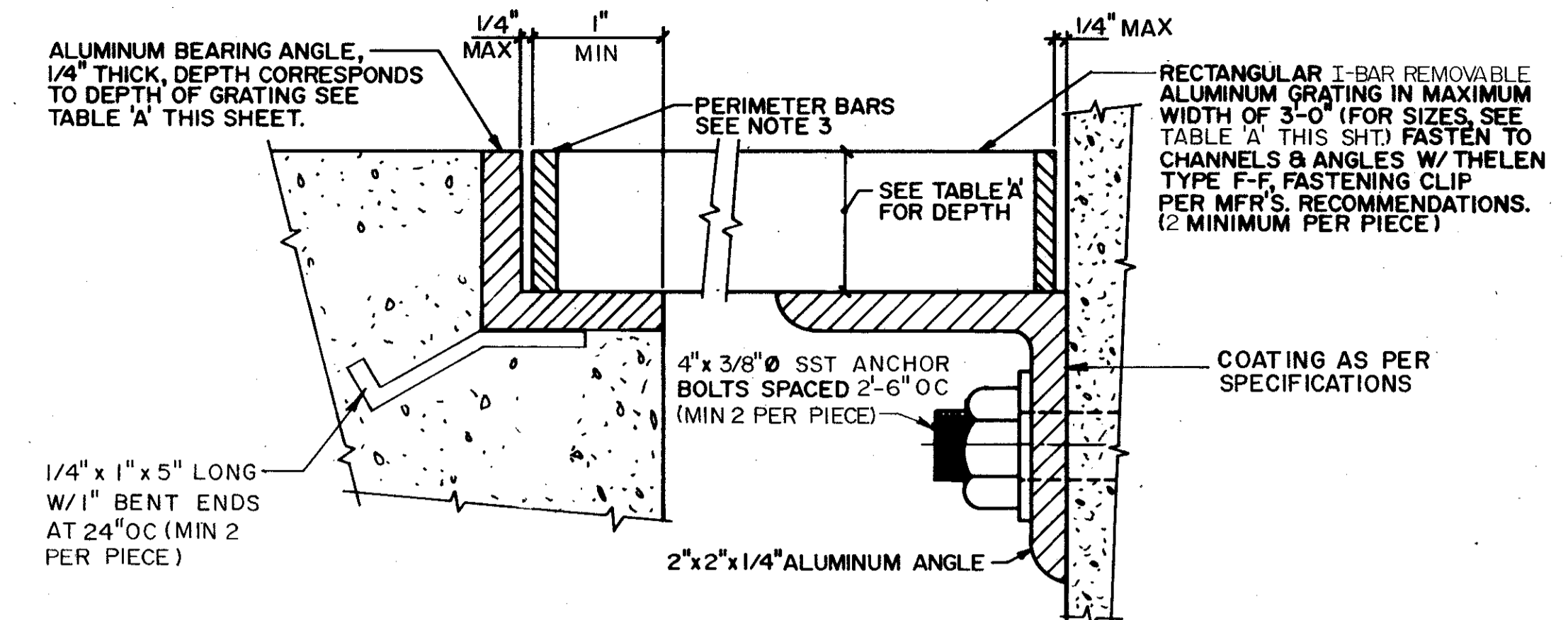
TYPICAL ALUMINUM HANDRAIL

DETAIL 1
NTS



CHAIN GUARD

DETAIL 2
NTS



ALUMINUM GRATING AND GRATING SUPPORT
(SEE NOTES 1-10)

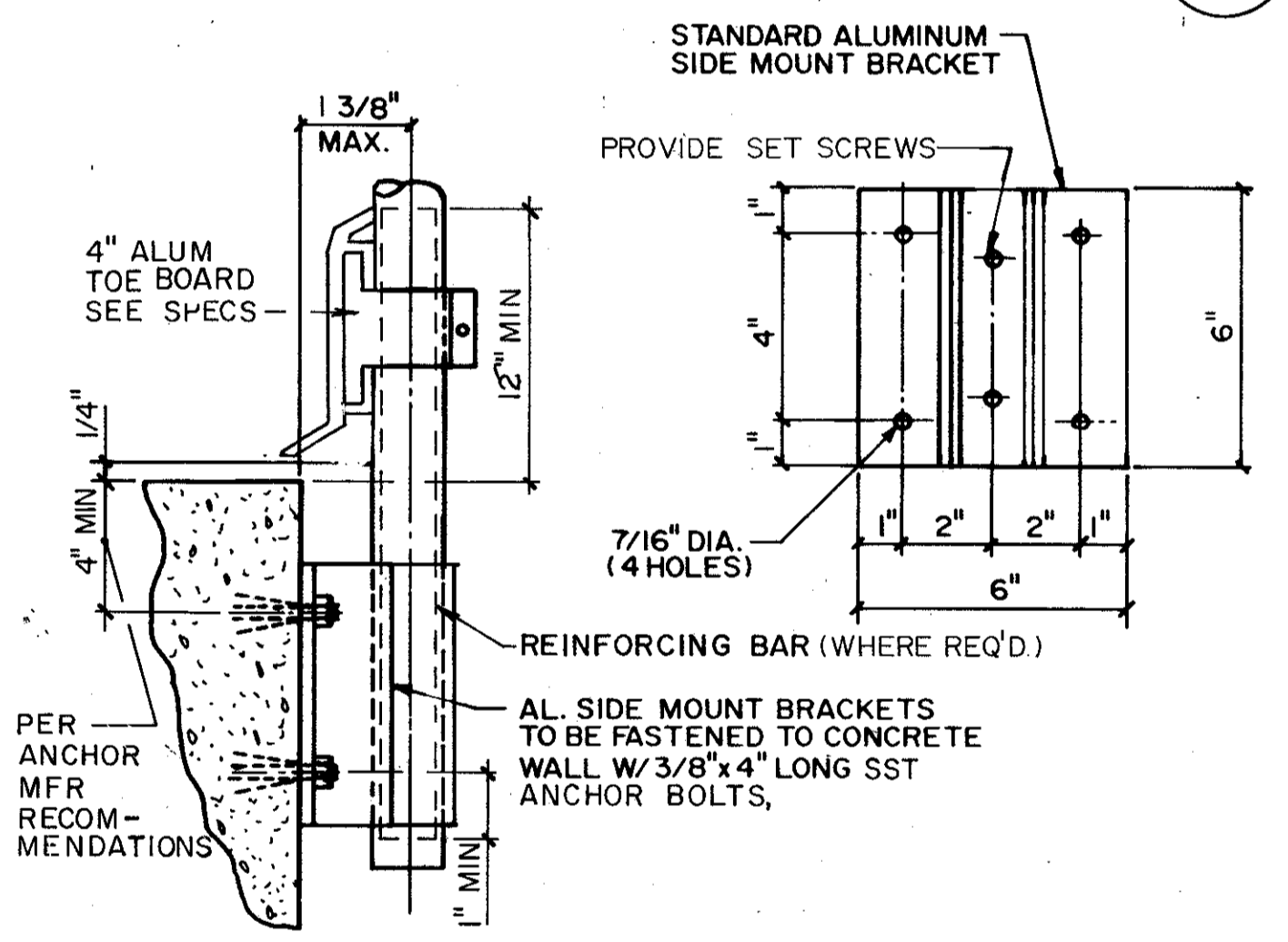
DETAIL 3
NTS

GRATING SUPPORT	BOLT NO. - SIZE
UNDER 4'-0"	USE DETAIL 5 THIS SHT. 2-1/2" Ø
UNDER 6'-0"	5" CHANNEL, 2.32 lbs./FT. 2-5/8" Ø
UNDER 8'-0"	6" CHANNEL, 2.83 lbs./FT. 4-1/2" Ø
UNDER 10'-0"	8" CHANNEL, 4.25 lbs./FT. 4-1/2" Ø
UNDER 12'-0"	8" CHANNEL, 6.48 lbs./FT. 4-5/8" Ø

SPAN EQUAL TO OR LESS THAN	DEPTH	BEARING BARS	
		THICKNESS	SPACING
3'-6"	1"	.25/.065"	1 - 3/16"
4'-6"	1 1/4"	.25/.065"	1 - 3/16"
5'-6"	1 1/2"	.25/.065"	1 - 3/16"
6'-6"	2"	.25/.065"	1 - 3/16"

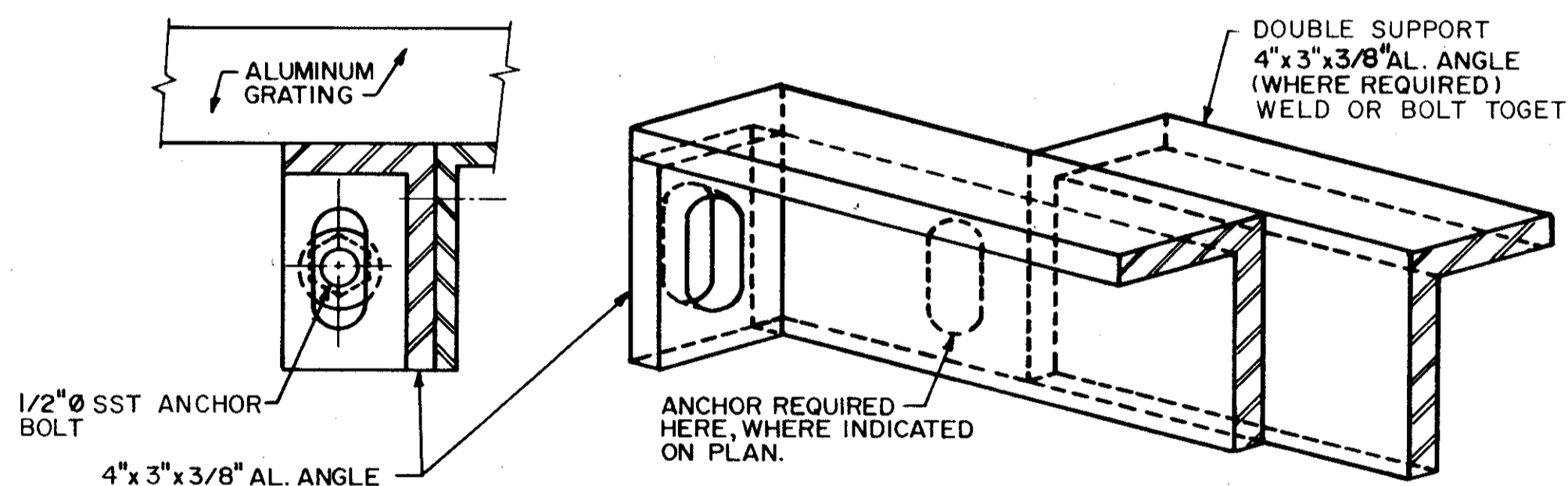
(SEE NOTES 6 & 7)

○ WHEN TWO NUMBERS ARE LISTED, PROVIDE I-BAR AS SHOWN
FIRST NUMBER
SECOND NUMBER



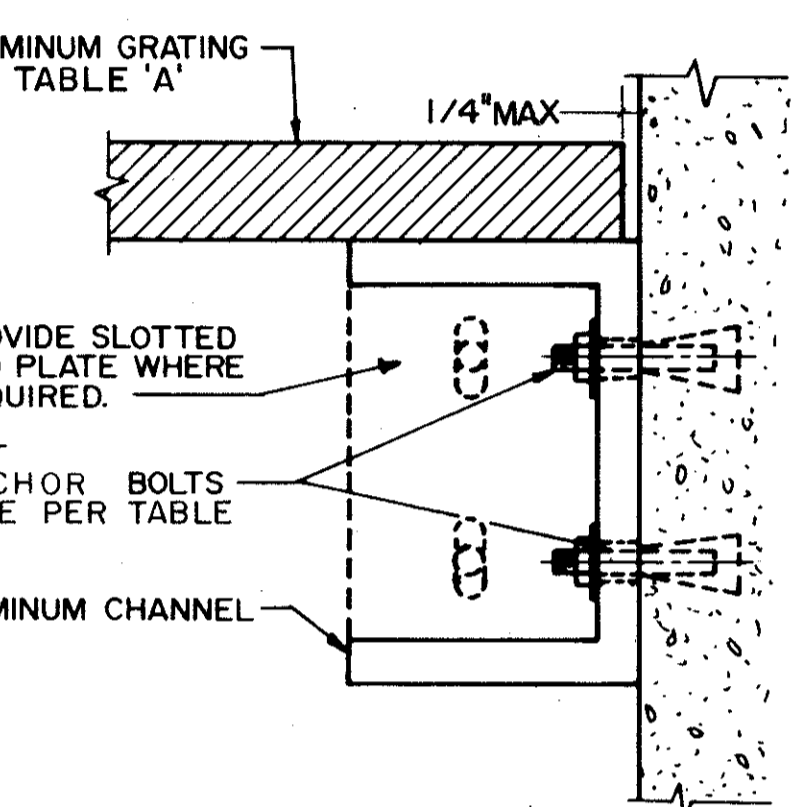
SIDE MOUNTED BRACKET
TYPICAL MOUNTING TO CONCRETE

DETAIL 4
NTS



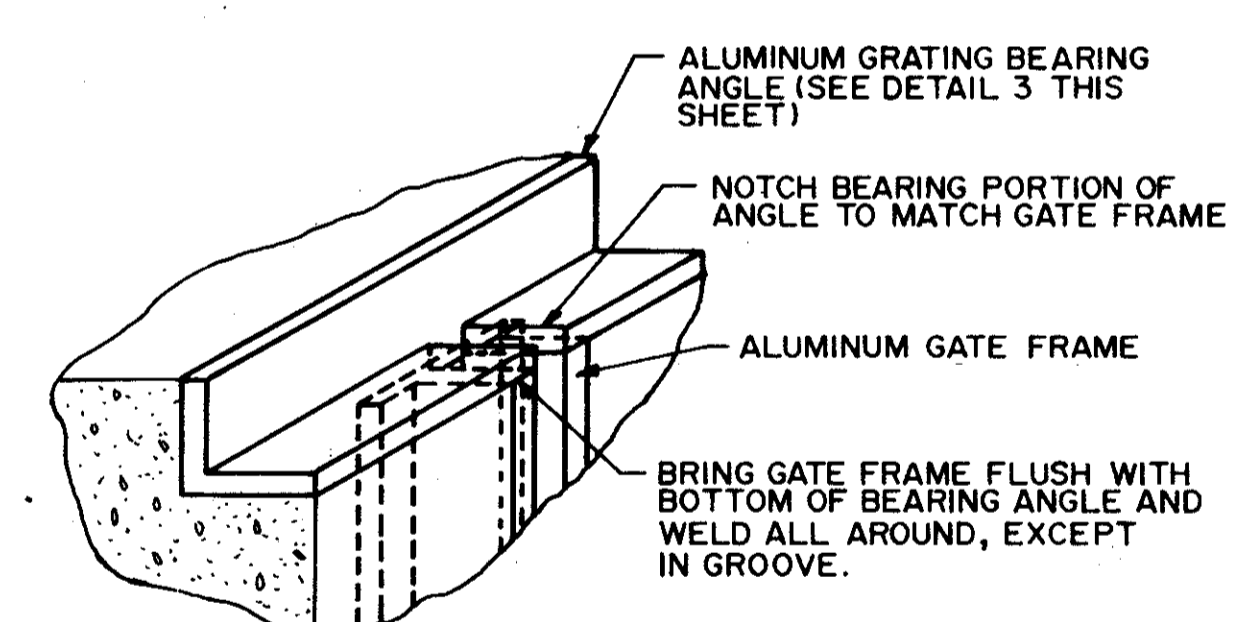
GRATING SUPPORT
(SEE NOTES 8 & 9)

DETAIL 5
NTS



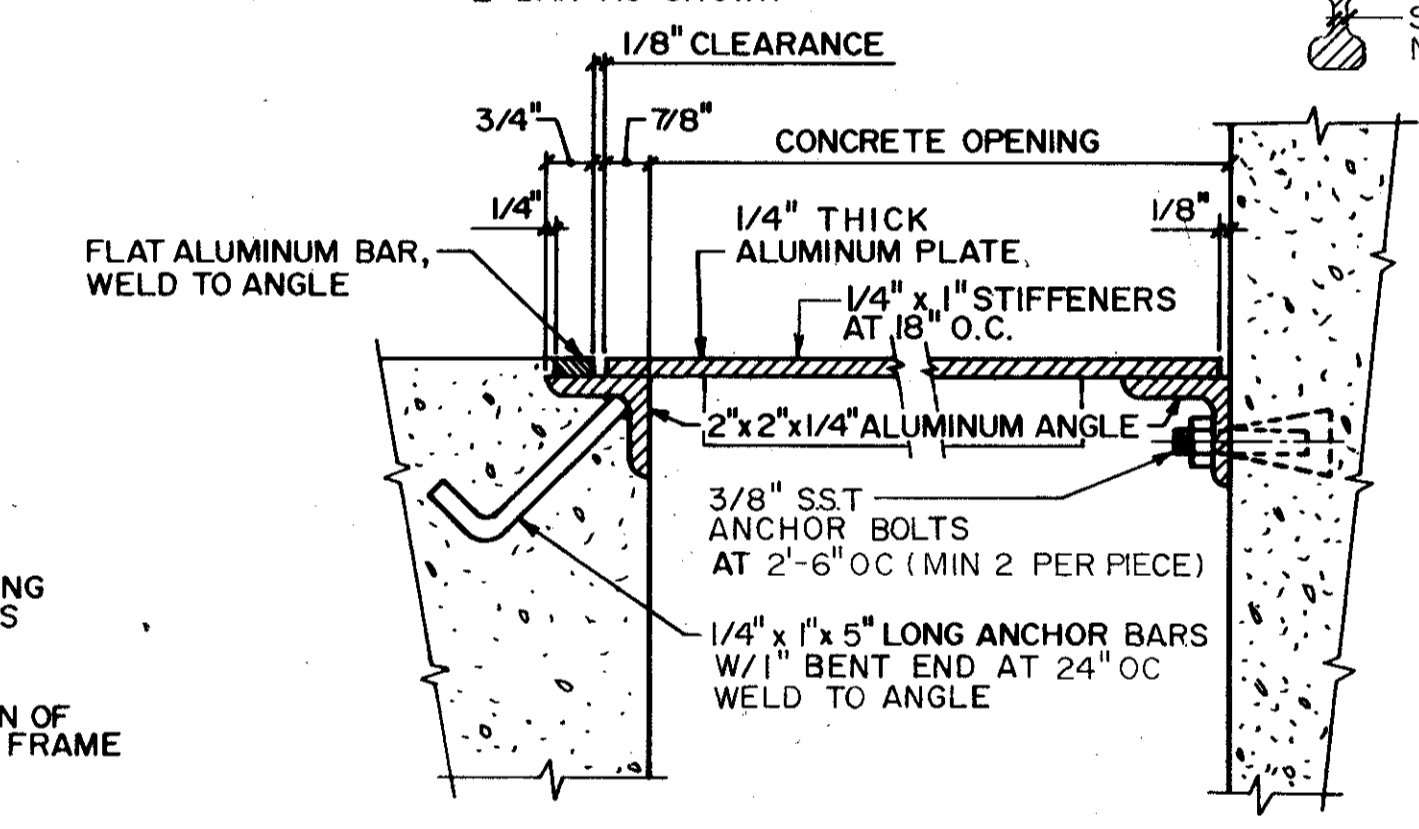
CHANNEL SUPPORT

DETAIL 6
NTS



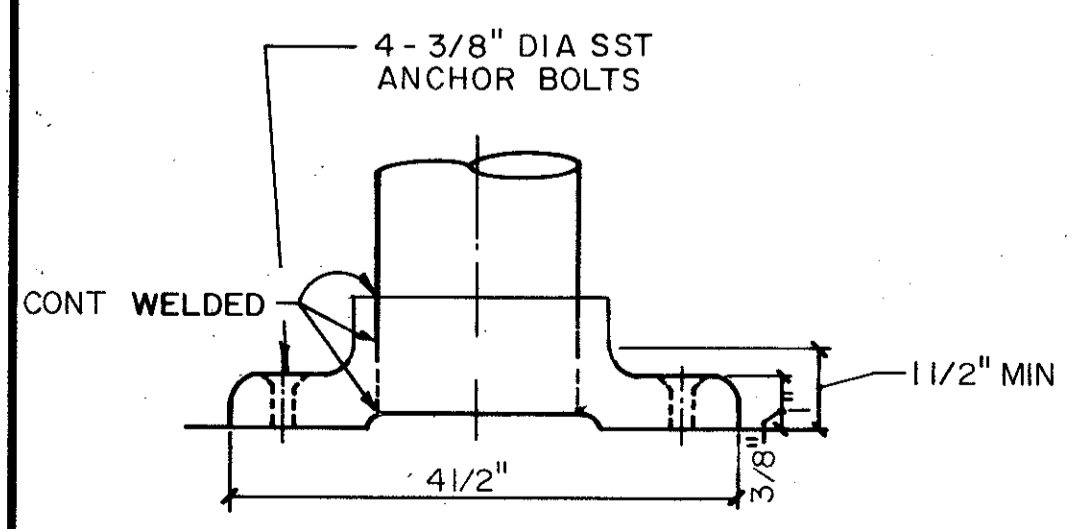
GRATING SEAT GATE FRAME

DETAIL 7
NTS



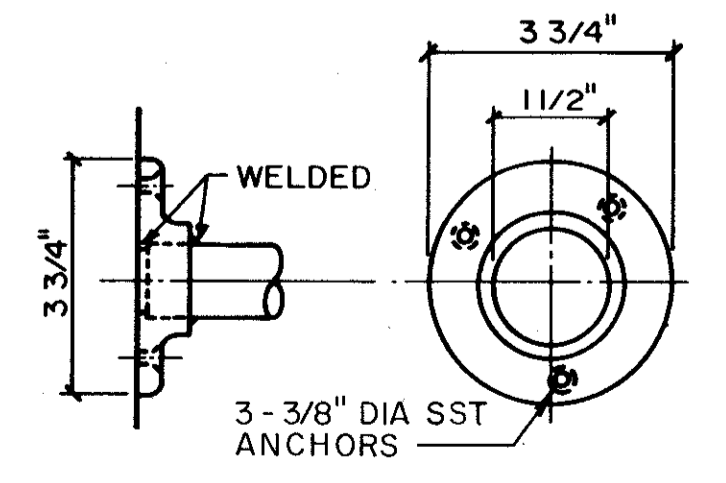
ACCESS HATCH

DETAIL 8
NTS



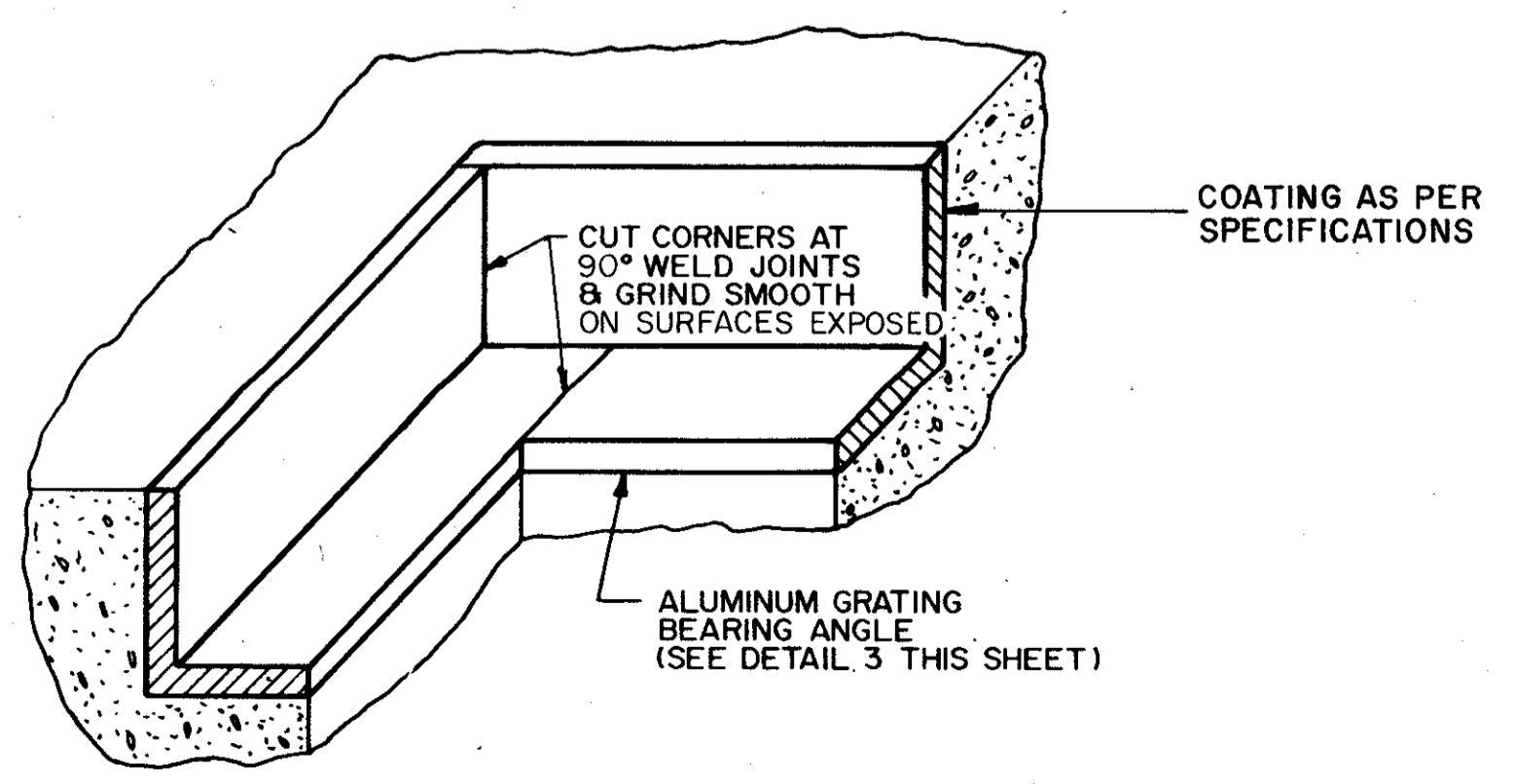
BASE FLANGE

DETAIL 9
NTS



WALL TERMINAL FLANGE

DETAIL 10
NTS

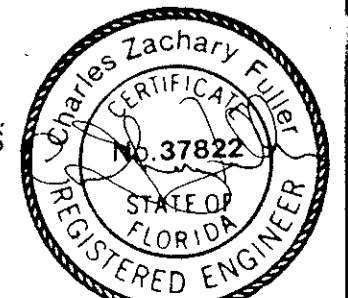


GRATING SEAT CORNER

DETAIL 11
NTS

NOTES

- 1.) BEARING TO BE PROVIDED ON ALL SIDES OF GRATING EXCEPT WHERE SHOWN.
- 2.) ALL ALUMINUM SURFACES IN CONTACT WITH CONCRETE OR OTHER METALS TO HAVE A COATING OF HEAVY PAINT TO PREVENT CORROSION AS PER SPECIFICATIONS.
- 3.) SIDES OF ALL GRATINGS SHALL BE PROVIDED WITH BANDING STRIPS OF SAME DEPTH AND THICKNESS AS THE MAIN BARS WELDED THERE TO.
- 4.) GRATING SHALL BE MANUFACTURED IN SECTIONS SO THAT NO SINGLE PIECE WILL EXCEED 60 LBS.
- 5.) ALL GRATING SHALL BE ADEQUATELY CLIPPED W/S&S CLIPS BY MFR TO PREVENT MOVEMENT, MIN 4 PER PIECE
- 6.) ALL GRATING SHALL CONFORM TO THIS TABLE UNLESS NOTED OTHERWISE ON THE PLANS.
- 7.) ANY SPANS OVER 6'-6" REQUIRE INTERMEDIATE SUPPORT.
- 8.) GRATING SUPPORTS SHALL BE USED WHEREVER THE GRATING EDGE DOES NOT REST ON A GRATING SEAT (EXCEPT WHERE OTHERWISE SHOWN).
- 9.) GRATING SUPPORTS SHALL BE LOCATED AS CLOSE TO MECHANICAL EQUIPMENT AS POSSIBLE WITHOUT INTERFERING WITH EQUIPMENT'S OPERATION.
- 10.) ALL ANCHOR BOLTS USED FOR GRATING & HANDRAILS TO BE 304 S&S (EXCEPT WHERE OTHERWISE SHOWN)



DESIGNED BY: JGL
DRAWN BY: RGB
CHECKED BY: JGL
APPROVED BY: JGL
DATE: March, 1992

REMARKS
CONFORMED DWG.

REV NO. DATE 4/88 SAF

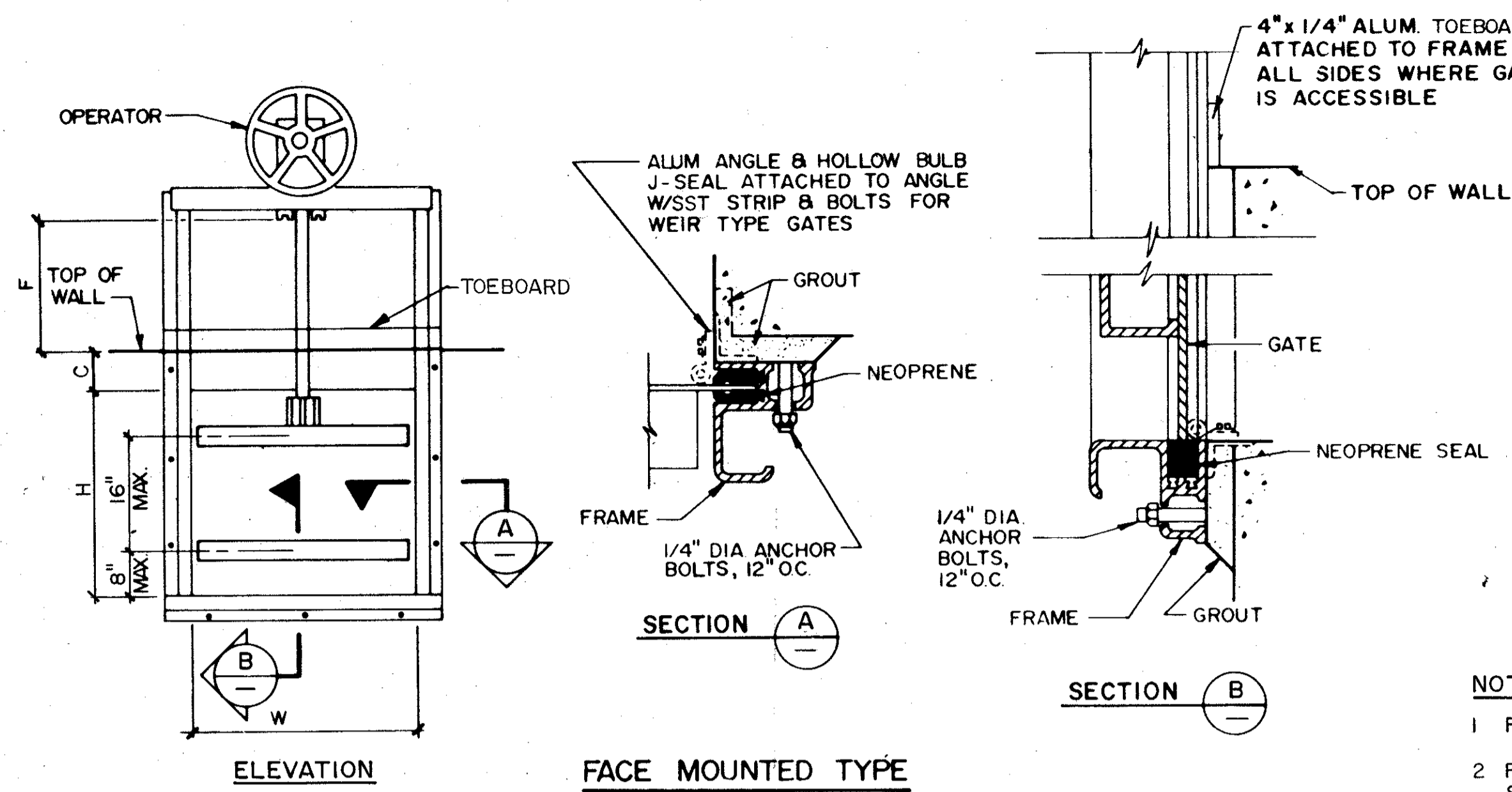
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environmental engineering, architecture, planning, & management consultants

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PHASE 3A EXPANSION

GRATING AND HANDRAIL DETAILS
ORANGE COUNTY, FLORIDA

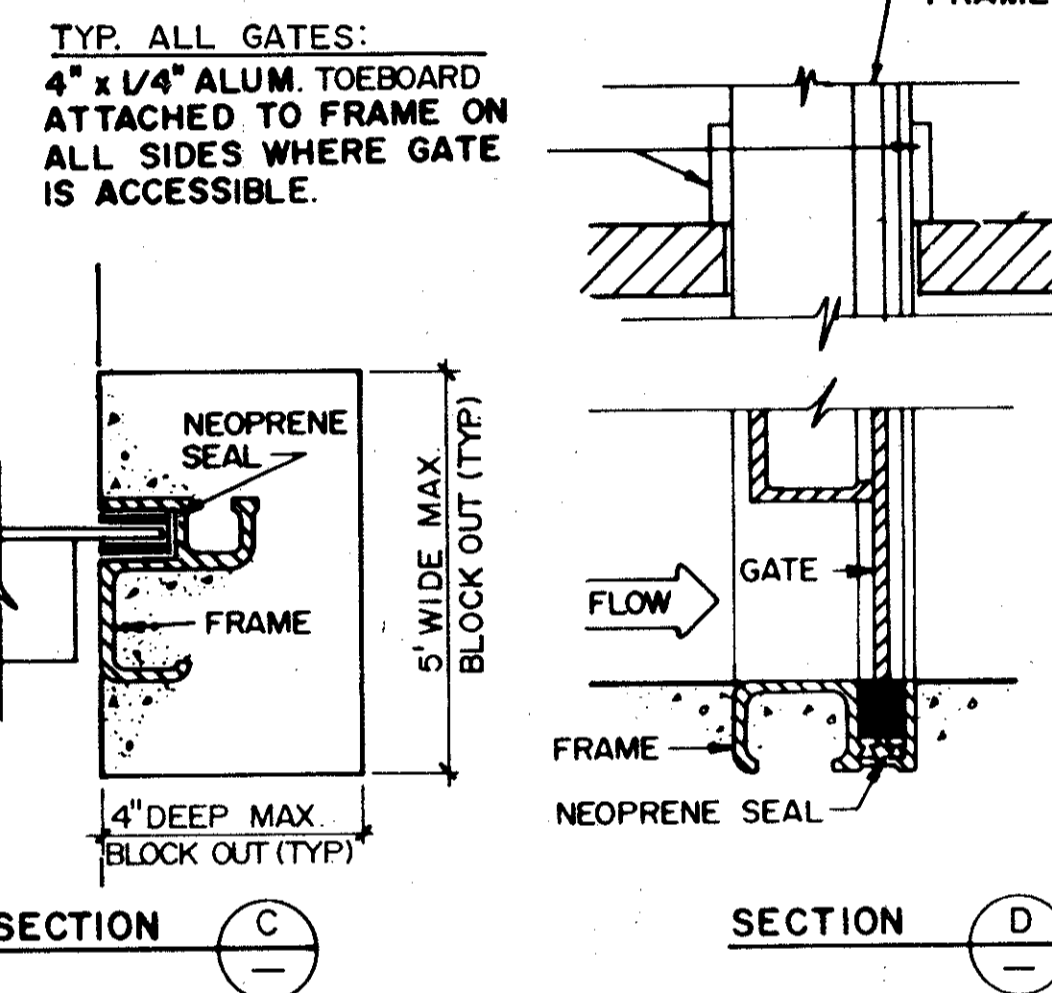
PROJECT NO. 6059-SL3R
SHEET NO. MD-5



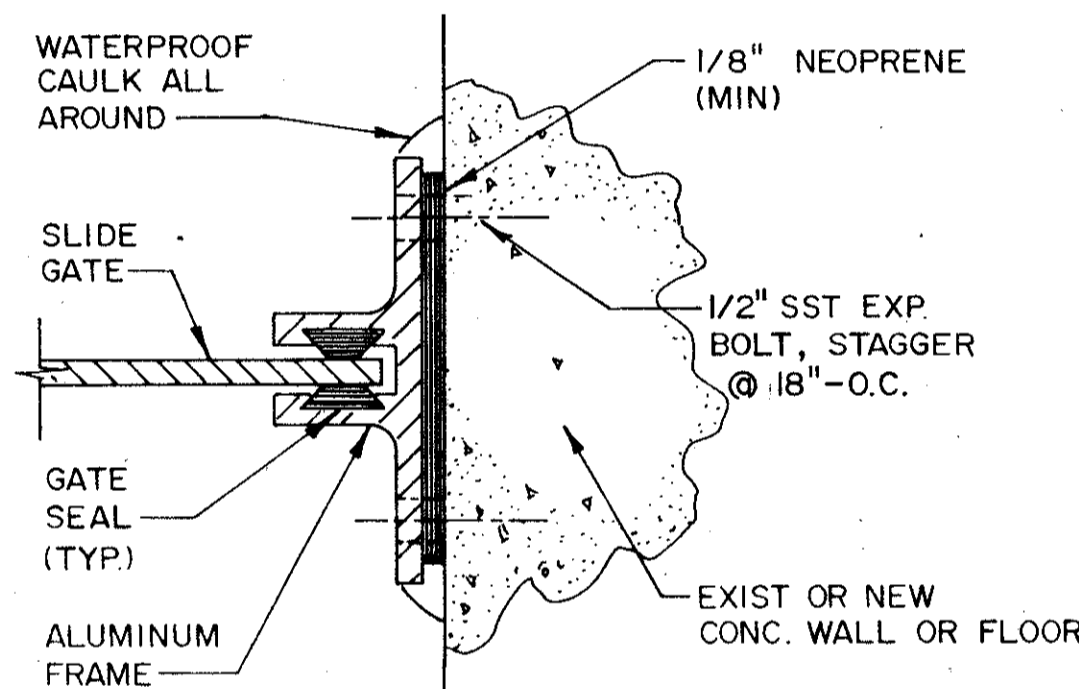
FACE MOUNTED TYPE

NOTES

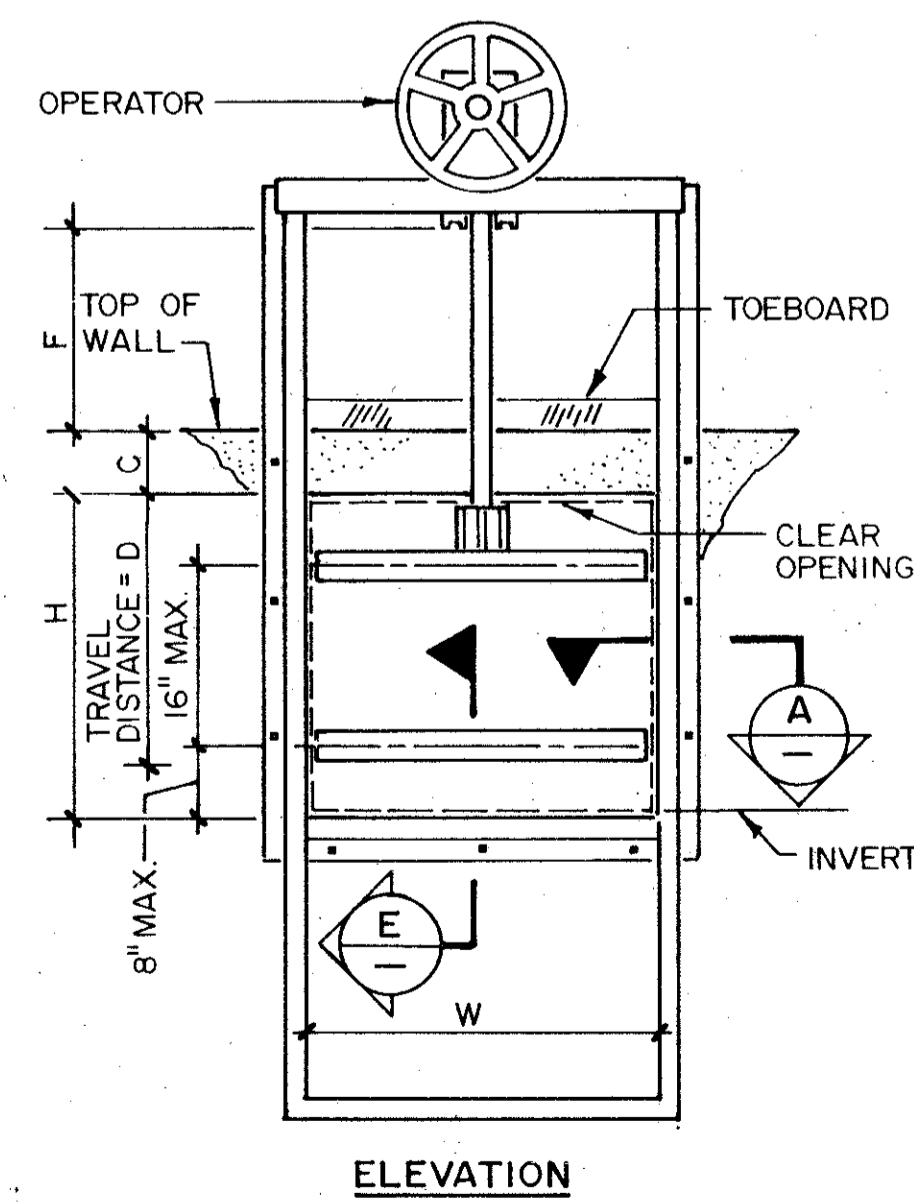
- 1 FOR HANDWHEEL POSITION SEE PLANS
- 2 FOR FRAME DETAIL AT GRATING SEAT, SEE SHEET M-34
- 3 J-SEAL TO BE ON ALL SIDES OF OPNG'S FOR WEIR GATES
- 4 ALL RISING STEM GATES SHALL BE PROVIDED W/AL STEM COVERS & GRADUATED POSITION INDICATORS UNLESS OTHERWISE INDICATED ON DRAWINGS
- 5 SHOP COAT OF HEAVY BITUMASTIC PAINT ON ALL AL SURFACES IN CONTACT W/CONC



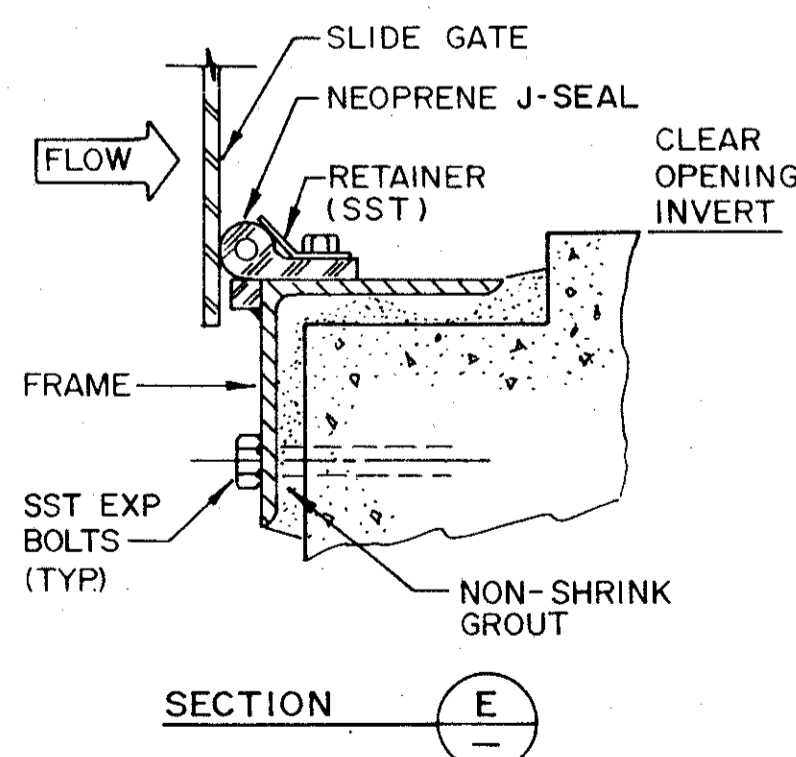
EMBEDDED TYPE



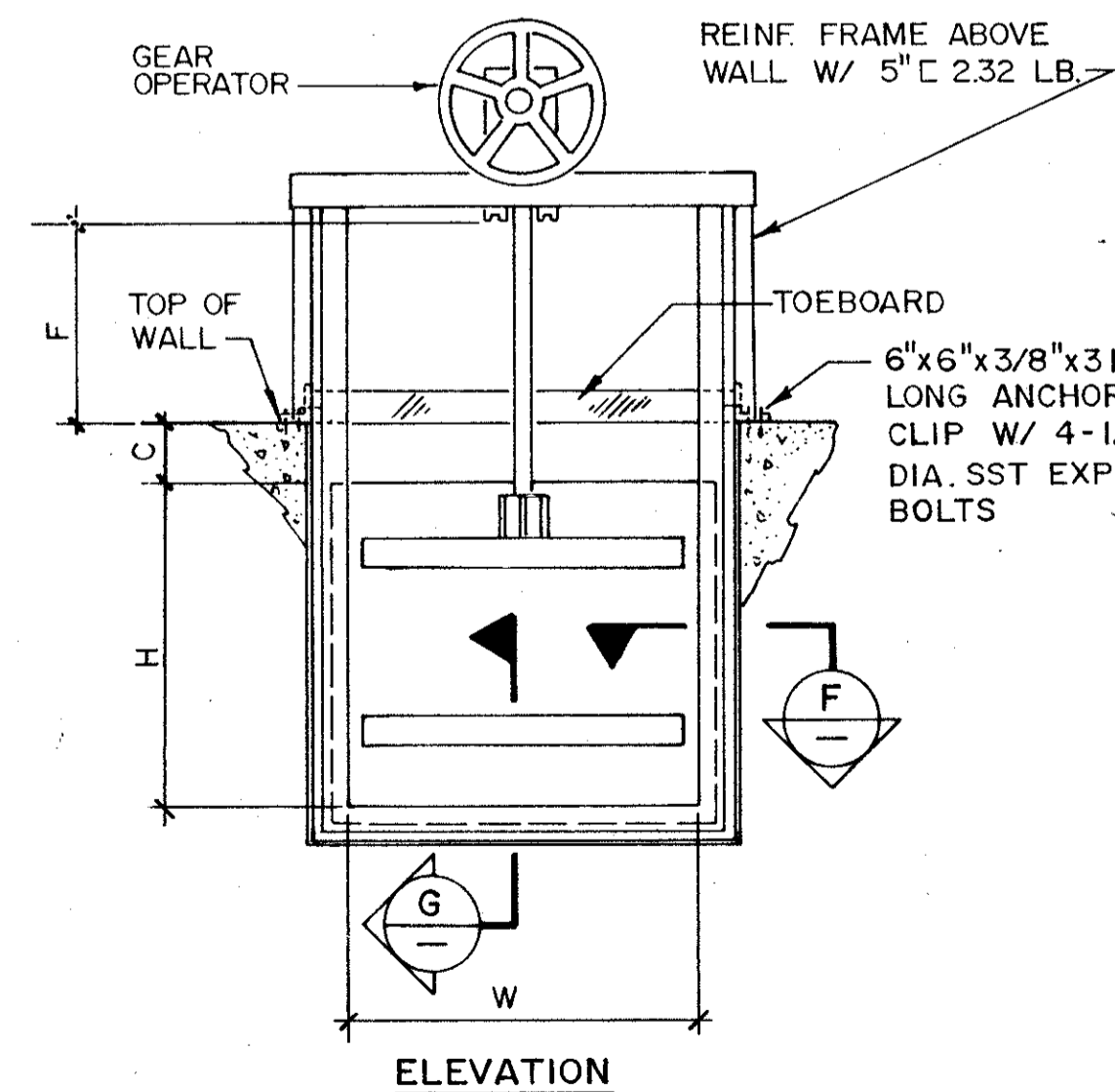
SECTION F G



WEIR TYPE



SECTION E



FLUSH MOUNTED TYPE

DETAIL I

SLIDE GATE SCHEDULE

Gate	Location	Type	Drive	Stem	W	H	F ₁	C	D	Remarks
△ IP-1,3,5	Influent Box to MIS	Face	Note 1, Rising Sht. MD-8		4' - 0"	8' - 0"	Pedestal	13' - 4"	N/A	Offset or overhung on plate
△ IP-2,4	Influent Box to MBS	Face	Note 1, Rising Sht. MD-8		6' - 0"	8' - 0"	Pedestal	13' - 4"	N/A	Offset or overhung on plate
△ IP-6,10	MIS-1,3 to Screen Common Eff Box	Face	Note 1, Rising Sht. MD-8		3' - 0"	5' - 0"	Pedestal	16' - 10"	N/A	Offset or overhung on plate
△ IP-7,9	MBS to Screen Common Eff Box	Face	Note 1, Rising Sht. MD-8		5' - 2"	5' - 0"	Pedestal	16' - 10"	N/A	Offset or overhung on plate
△ IP-8	MIS-2 to Screen Common Eff Box	Face	Note 1, Rising Sht. MD-8		4' - 0"	5' - 0"	Pedestal	16' - 10"	N/A	Offset or overhung on plate
AE-1,2	Aeration Basin RAS Channel	Face	Hand	Rising	4' - 0"	4' - 2"	4' - 2"	1' - 0"	N/A	
AE-3,6,7,11	Aeration Basin RAS Channel	Flush Mounted	Hand	Rising	5' - 0"	6' - 2"	6' - 2"	1' - 0"	N/A	
AE-8,9,10	Basin No. 1 Effluent	Face	Hand	Rising	4' - 0"	4' - 2"	4' - 2"	1' - 0"	N/A	
PT-1 - PT-12	Preliminary Treatment	Embedded	Hand	Rising	4' - 6"	5' - 0"	5' - 0"	1' - 0"	N/A	
PT-13,14,15,16	Preliminary Treatment	Embedded	Hand	Rising	9' - 0"	3' - 0"	3' - 6"	1' - 0"	N/A	Dual Operators
PT-17	Preliminary Treatment	Weir	Hand	Rising	12' - 0"	4' - 4"	3' - 6"	3' - 0"	4' - 1"	Dual Operators
PT-18,19	Preliminary Treatment	Weir	Hand	Rising	7' - 6"	4' - 4"	3' - 6"	3' - 0"	4' - 1"	Dual Operators
CB-4,5,9,10	Carrousel™ Basin Effluent	Weir	Motor	Rising	15' - 0"	2' - 6"	3' - 6"	1' - 6"	2' - 3"	Dual Operators
△ CL-1,2,3,4	Clarifier Flow Splitter Box	Weir	Hand	Rising	6' - 0"	3' - 3"	3' - 6"	1' - 0"	3' - 0"	
FF-2,3	Flash Mix Influent	Face	Hand	Rising	6' - 0"	2' - 6"	Pedestal	10' - 6"	N/A	Offset
FF-4,5	Flash Mix Effluent	Embedded	Hand	Rising	4' - 0"	5' - 5"	5' - 5"	0' - 0"	N/A	
FL-1,2,3,4	Filter Bypass Channels	Face	Motor	Rising	2' - 0"	2' - 6"	Pedestal	5' - 10"	N/A	Overhung on Bracket
FL-9 - FL-12	Filter Influent Channel	Embedded	Hand	Rising	3' - 0"	3' - 3"	4' - 0"	0' - 6"	N/A	
CC-1,2	Chlorine Contact Chamber	Face	Hand	Rising	5' - 0"	5' - 0"	Pedestal	8' - 6"	N/A	Offset
CC-7,8	Chlorine Contact Chamber	Weir	Hand	Rising	6' - 0"	4' - 6"	3' - 6"	1' - 6"	4' - 6"	
CC-3,4	Chlorine Contact Chamber	Face	Hand	Rising	4' - 6"	6' - 0"	Pedestal	7' - 6"	N/A	Offset
CC-5,6	Chlorine Contact Chamber	Face	Hand	Rising	5' - 0"	5' - 0"	Pedestal	9' - 6"	N/A	Offset
PS-3,-4	Influent Box East Wall	Face	Hand	Rising	6' - 0"	4' - 6"	3' - 6"	1' - 6"	4' - 6"	

Notes: 1. Materials: SS 316 - IP, PT; A1. - AE, CB, CL, FF, FL, CC, PS
2. Where "Pedestal" is listed under F, refer to Remarks on this sheet, Detail 1, and Note 6 on Sheet MD-8.

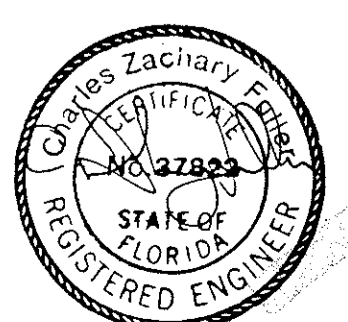
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
SLIDE GATE SCHEDULE & DETAILS
ORANGE COUNTY, FLORIDA

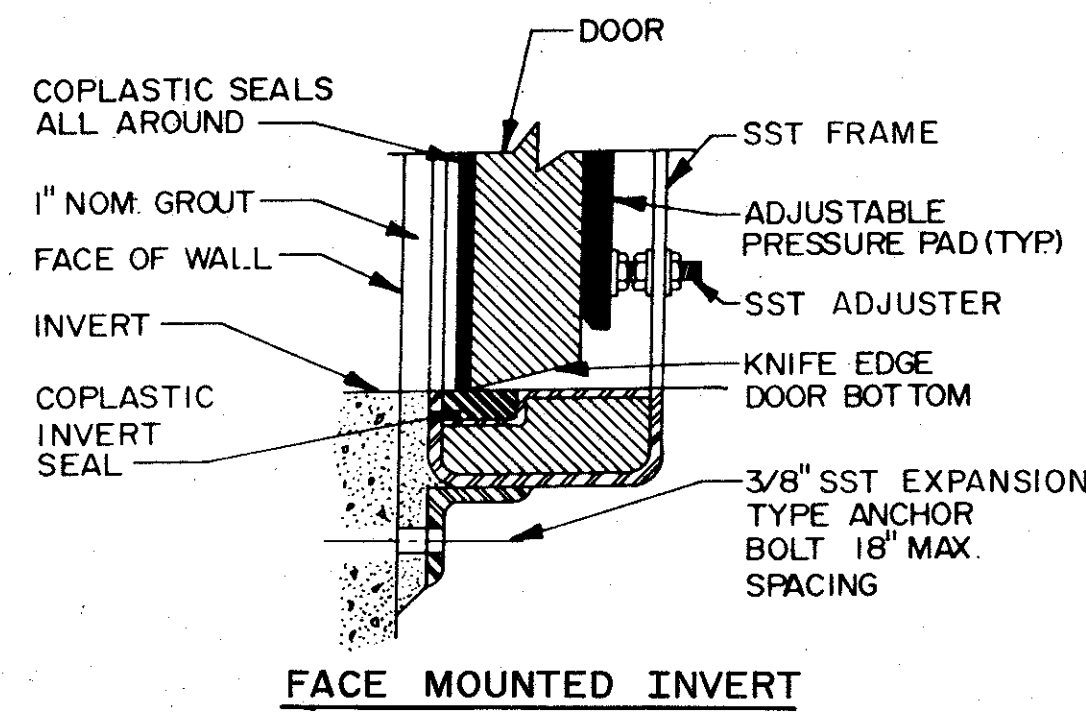
DESIGNED BY: CLK
DRAWN BY: RGB
CHECKED BY: CLK
APPROVED BY: CZE
DATE: 10/26/88

REV NO. DATE DRAWN CHKD
1 4-88 JWH CLK
4/88 SAF

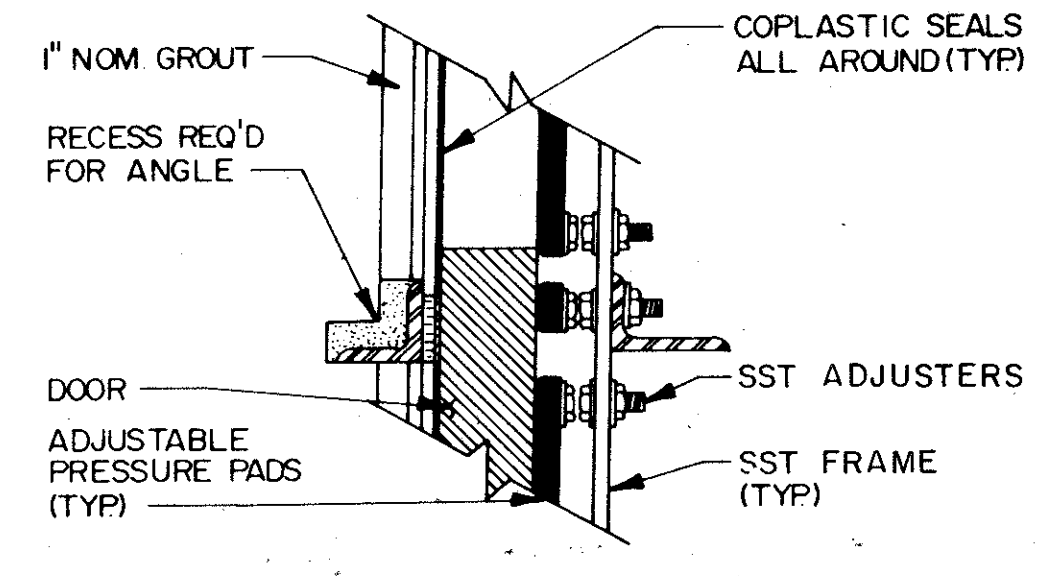
REMARKS
ADDENDUM NO. 1
CONFORMED DWG.

PROJECT NO
6059-SL3R
SHEET NO
MD-7

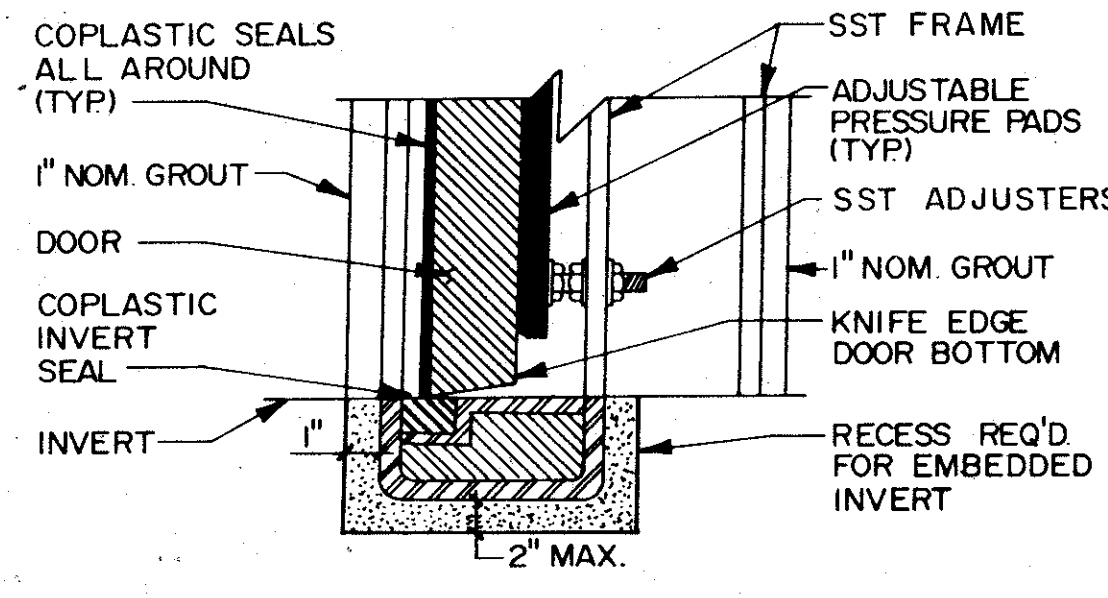




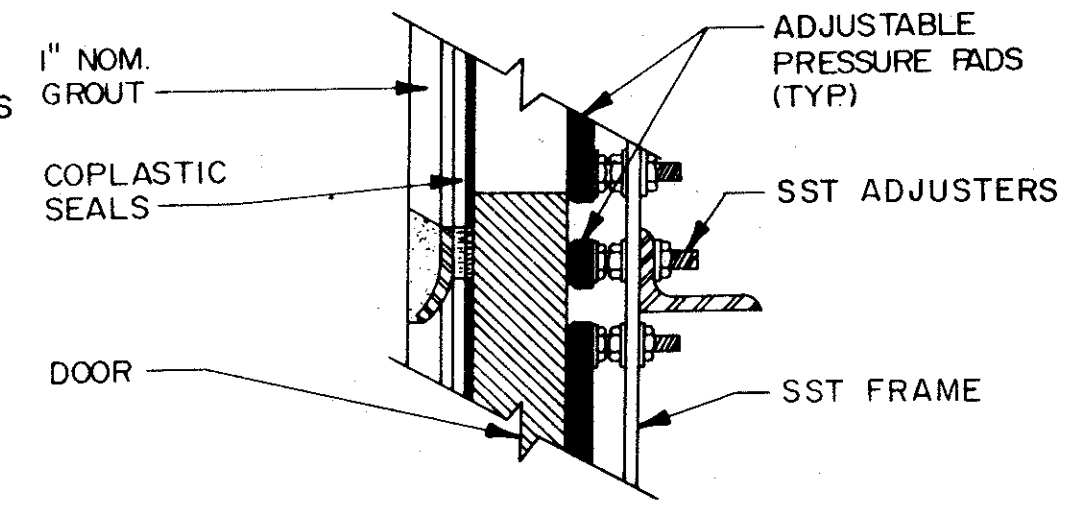
FACE MOUNTED INVERT
SECTION J



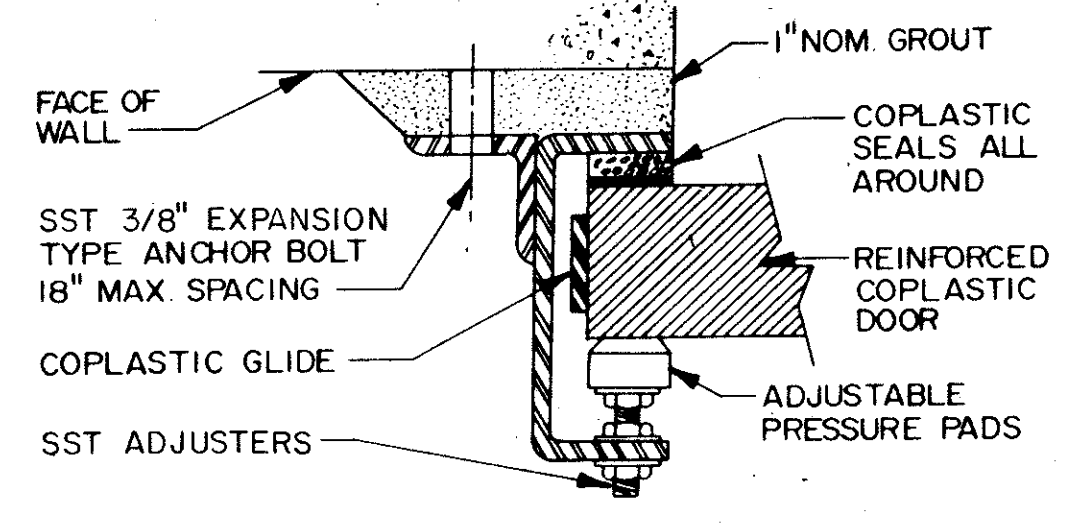
SQUARE OR RECT. OPENING
SECTION H



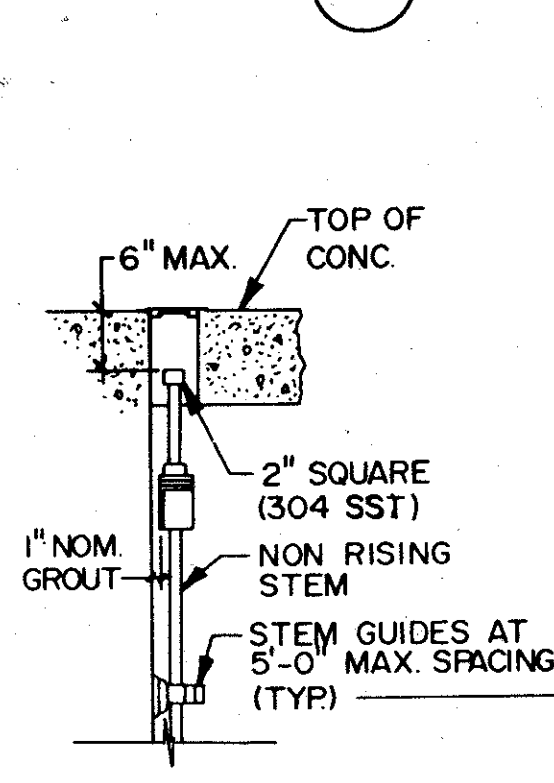
EMBEDDED INVERT
SECTION J



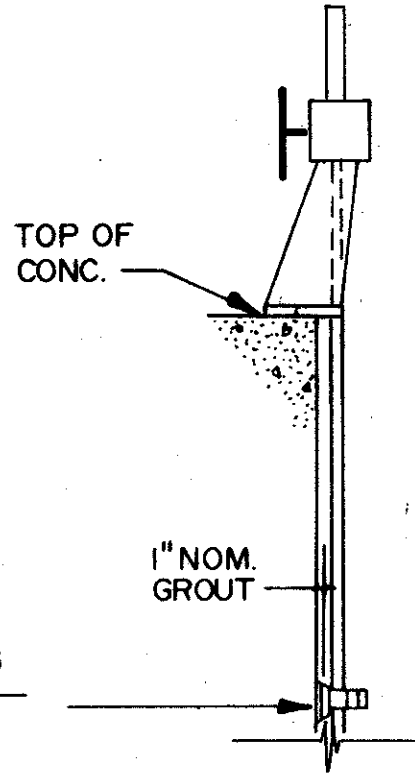
CIRCULAR OPENING
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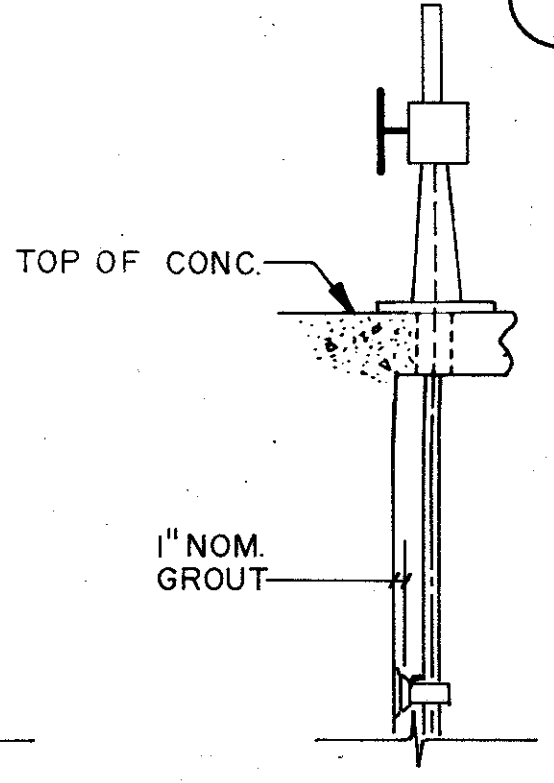
SECTION K



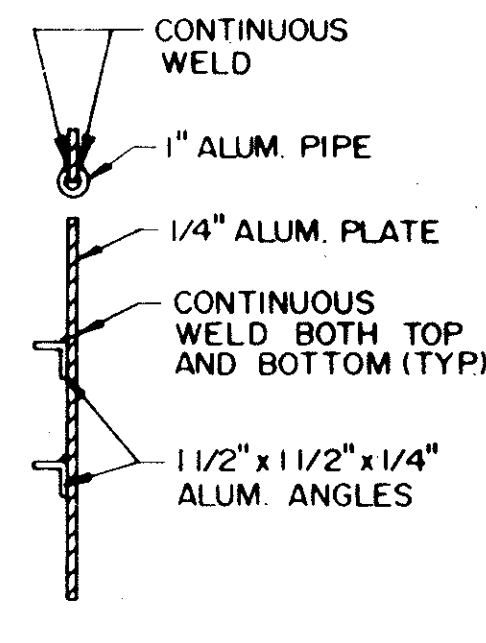
RECESSED OPERATOR



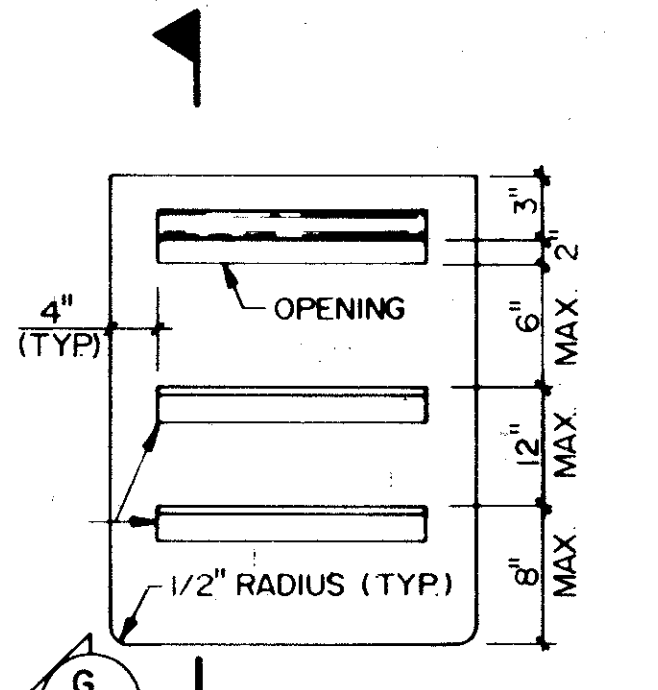
OFFSET OPERATOR



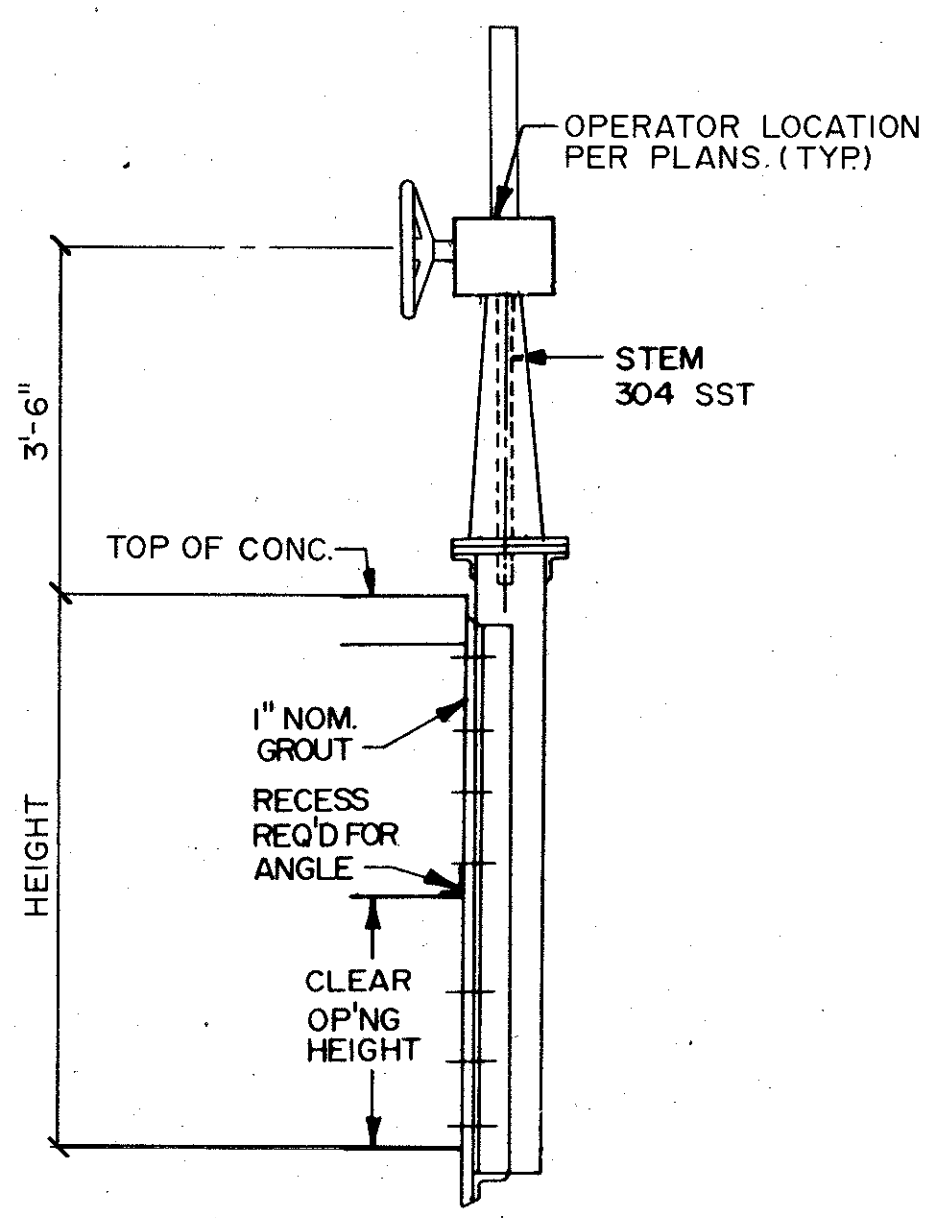
OVERHUNG OPERATOR



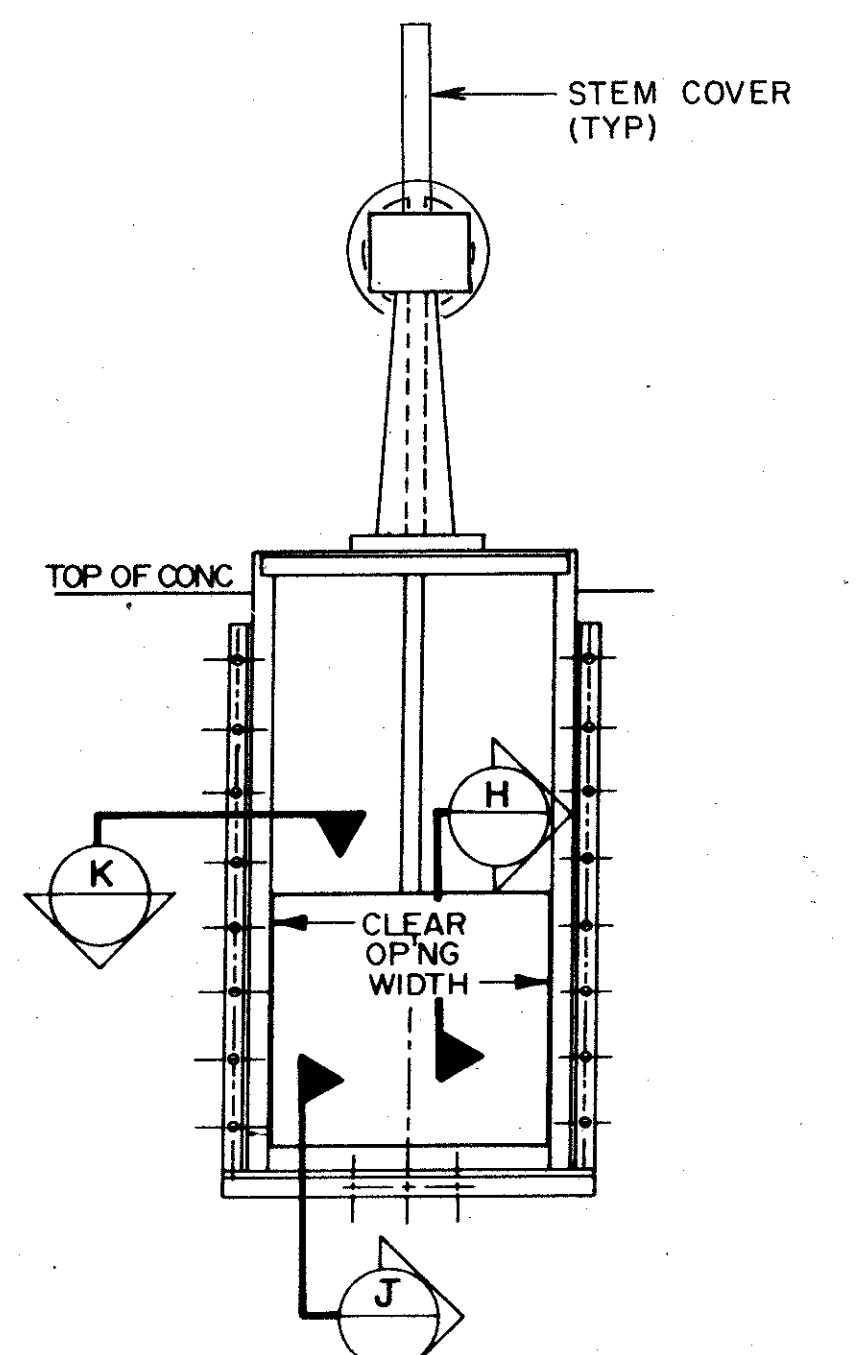
SECTION G



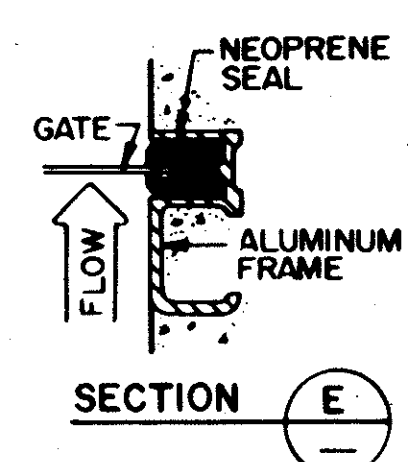
ALUMINUM PLATE DETAIL



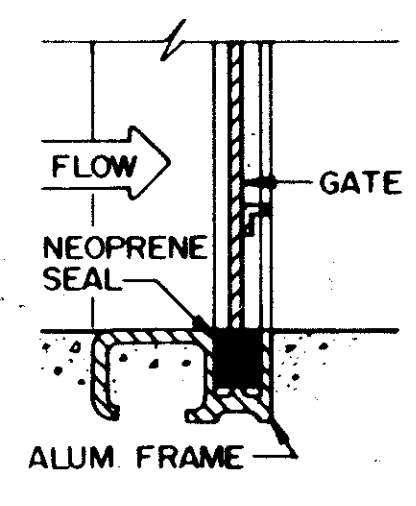
DIRECT MOUNTED OPERATOR



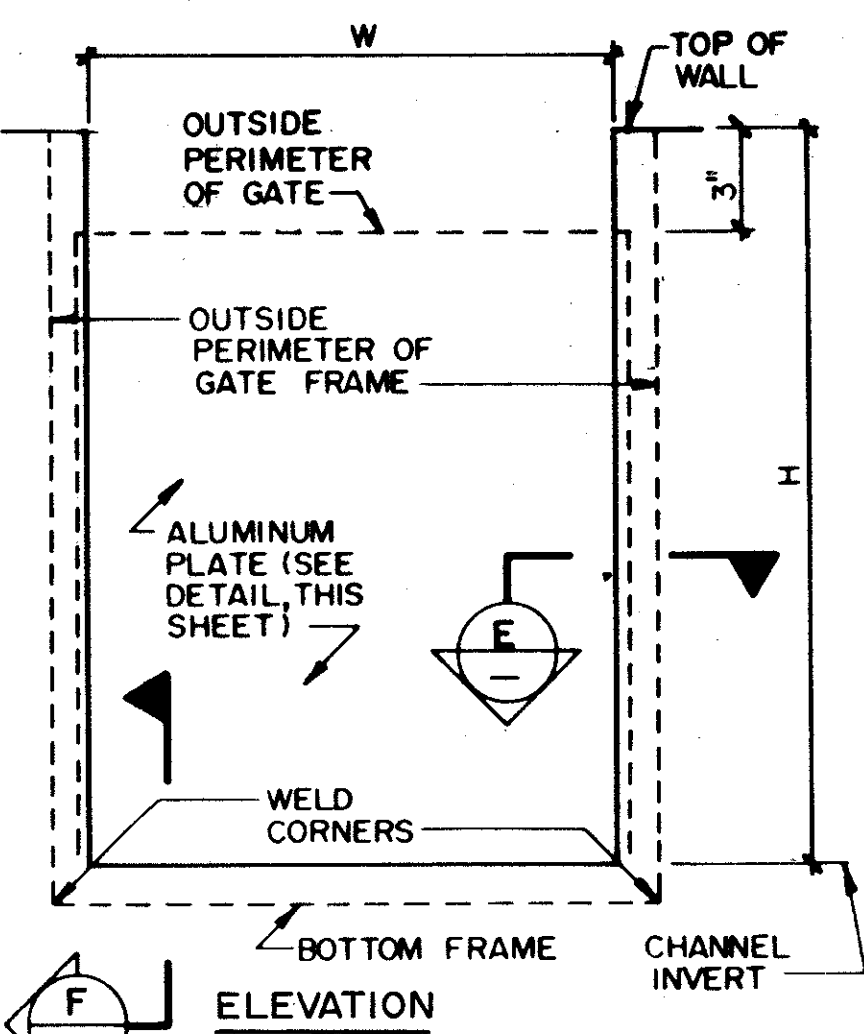
ELEVATION
NOTE: FOR WEIR TYPE INVERT SEE SECTION H.



SECTION E



SECTION F



ELEVATION

STOP GATE

DETAIL 2
NTS

SLUICE GATE
DETAIL 1
NTS

SLUICE GATE SCHEDULE

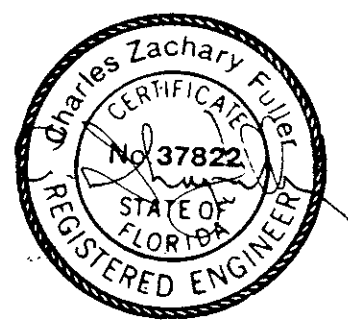
Gate	Location	Type	Operator/Drive	Head	Opening Size	Height	Stem
IP-11,12	Screen Channel to IP Wet Well	Face	Offset/Motor	9' UNS	6'-0" W x 5'-0" H	21'-10"	Rising
IP-13	Dividing Wall - N & S Wet Wells	Face	Overhung/Motor	11' UNS	2'-0" W x 4'-0" H	21'-10"	Rising
IP-14,15	IP Wet Wells - West Wall	Face	Offset/Hand	18' UNS	36" Diameter	27'-7"	Rising
AE-4	Basin No. 1 Influent Pipe	Flange	Direct/Hand	26' UNS	48" Diameter	15'-6"	Rising
AE-5	Basin No. 1 Bypass	Face	Direct/Hand	16' UNS	48" Diameter	6'-2"	Rising
PT-20	24" Bypass	Face	Offset/Hand	30' UNS	24" Diameter	27'-3"	Rising
PT-21	36" Bypass	Face	Offset/Hand	30' UNS	36" Diameter	27'-3"	Rising
PT-22	Effluent Box Wall	Face	Offset/Hand	30' UNS	36" Square	27'-3"	Rising
PT-23	Effluent Box Wall	Face	Offset/Hand	30' UNS	48" Square	27'-3"	Rising
PT-24	Influent Box	Face	Direct/Hand	30' UNS	42" Diameter	10'-3"	Rising
PT-25	Influent Box	Face	Direct/Hand	30' UNS	54" Diameter	10'-3"	Rising
CB-11,12	Influent	Face	Offset/Hand	15' UNS	48" Diameter	19'-0"	Rising
CB-2,3,7,8	Effluent Box	Face	Offset/Hand	13' S	3'-6" Diameter	15'-3"	Rising
FF-1	Flash Mix Influent	Face	Offset/Hand	7' UNS	42" Diameter	8'-9"	Rising
PS-1	Dividing Wall - N & S Wet Wells	Face	Offset/Motor (2)	9' UNS	2'-0" W x 4'-0" H	14'-6"	Rising
PS-2	54" Bypass at Influent Box	Face	Offset/Motor (2)	12' UNS	54" Square	16'-9"	Rising

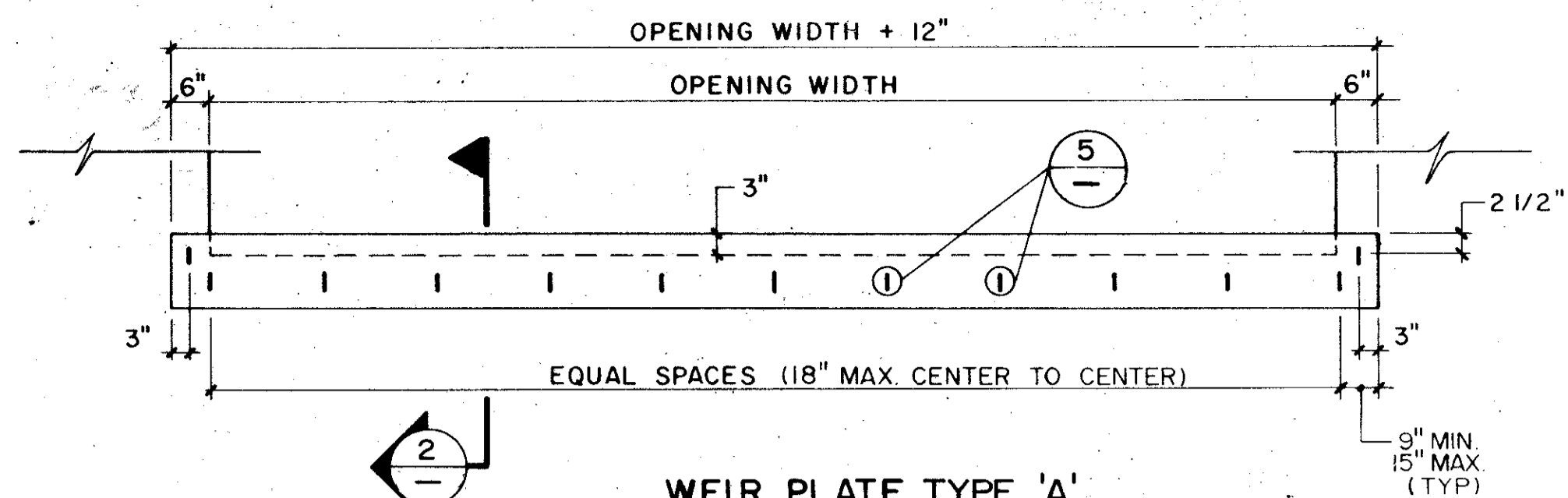
- Notes:
- All IP sluice gates shall have bevel gear drive suitable for handwheel or portable wrench operation. Tripod-mounted electric power wrench and removable handwheels shall be provided.
 - PS sluice gates shall have bevel gear drive suitable for handwheel or portable wrench operation. Tripod-mounted electric power wrench and removable handwheels shall be provided.
 - Head is measured from HWL to centerline of gate - S = Seated Head, UNS = Unseated Head.
 - All rising stem gates shall be provided with alum. stem covers, and graduated position indicators unless otherwise indicated on the drawings.
 - Materials for exposed metal on gates: SS 316 - IP, PT; SS 304 - AE, CB, FF, PS. See specifications.
 - Where offset operator is listed, overhung operator on wall bracket (or overhung operator on mounting plate to span slots) is an acceptable equal.

STOP GATE SCHEDULE

Gate	Location	Opening Size
		W H
FL-14,15,16,17	Filter Influent Channels	3'-0" 3'-9"

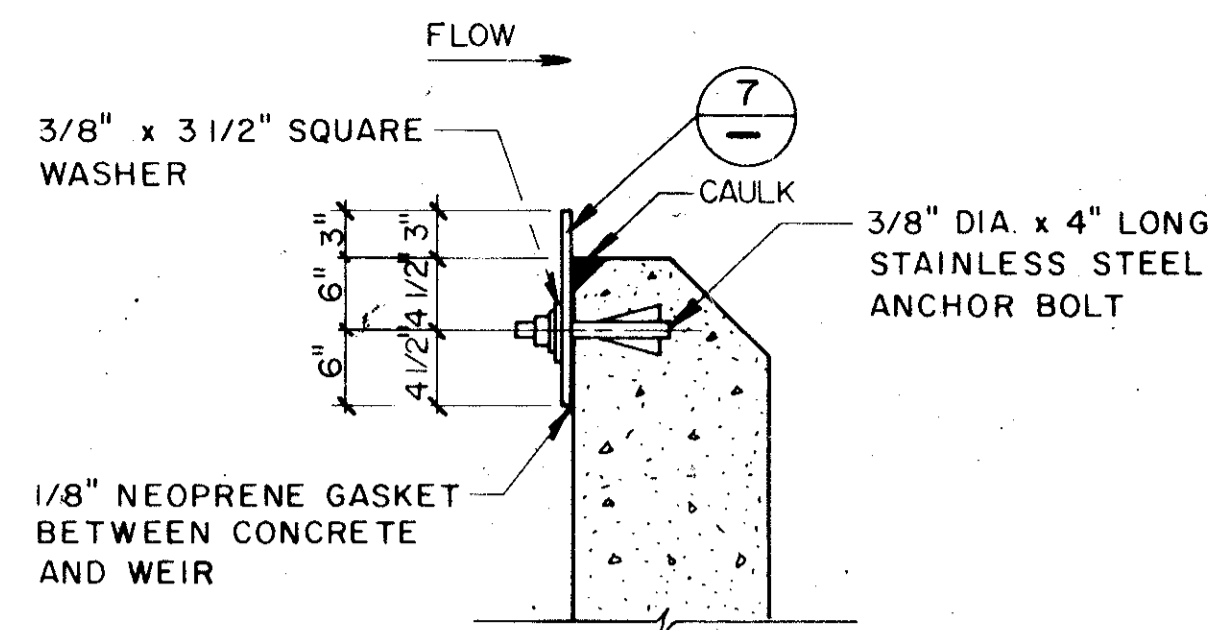
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION
 SLUICE & STOP GATE SCHEDULE & DETAILS
 ORANGE COUNTY, FLORIDA
 PROJECT NO. 6059-SL3R
 SHEET NO. 8
 DESIGNED BY: C.I.K.
 DRAWN BY: R.G.B.
 CHECKED BY: C.I.K.
 APPROVED BY: C.Z.F.
 DATE: March 1992
 CDM
 CAMP DRESSER & MCKEE INC.





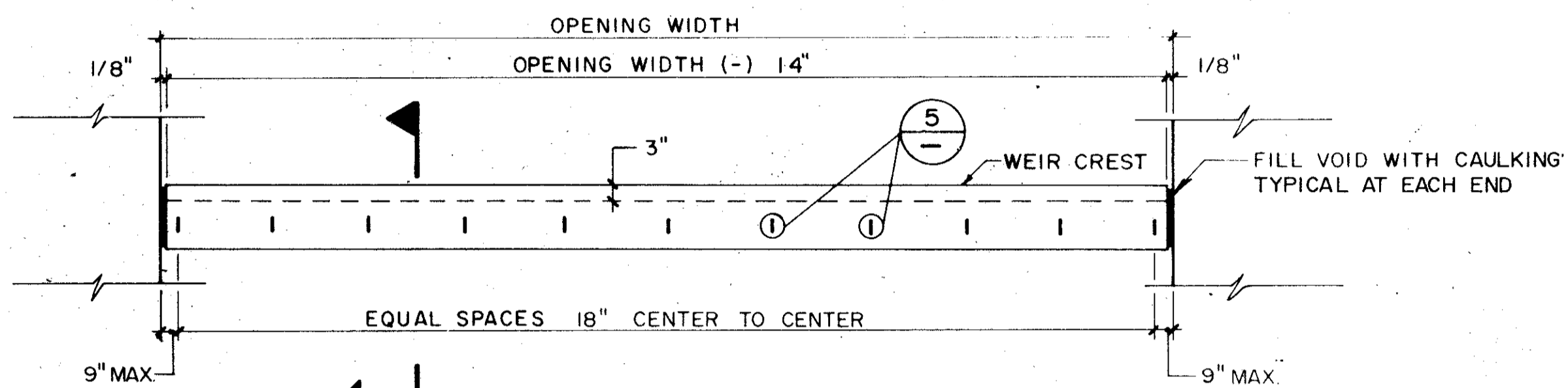
WEIR PLATE TYPE 'A'

DETAIL 1



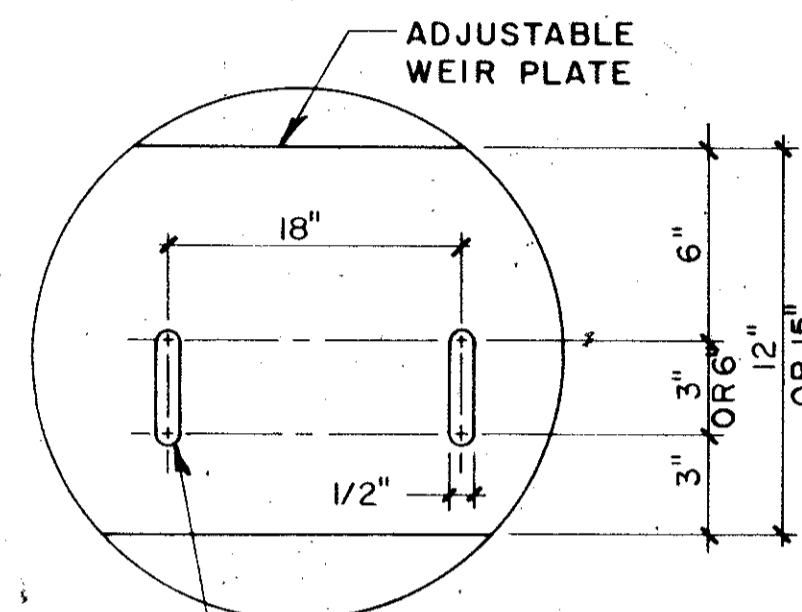
WEIR PLATE

DETAIL 2



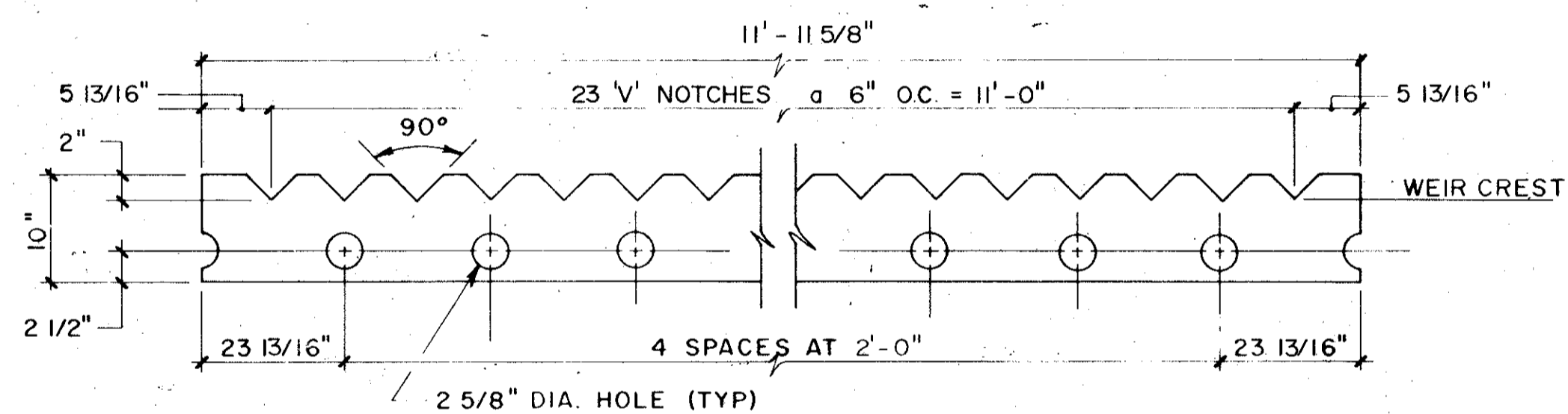
WEIR PLATE TYPE 'B'

DETAIL 4



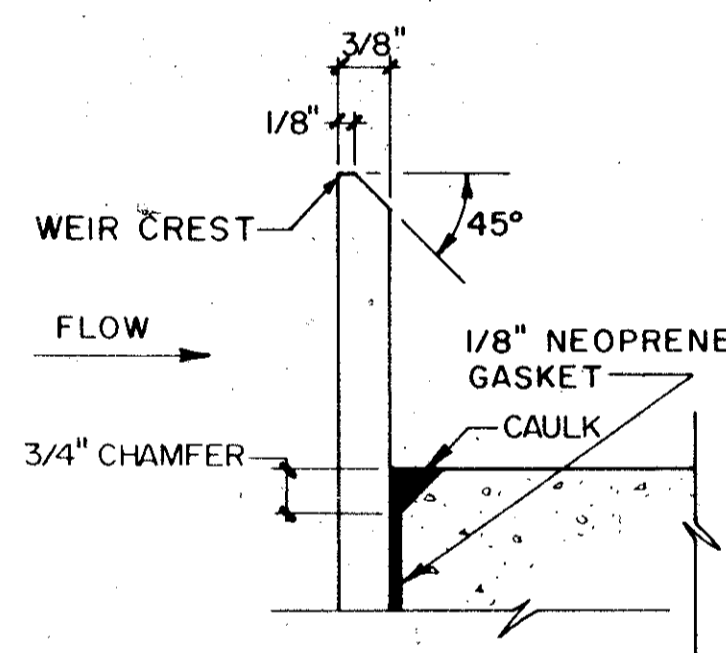
1/2" VERTICAL SLOTS FOR 3/8" DIA. ANCHORS

DETAIL 5

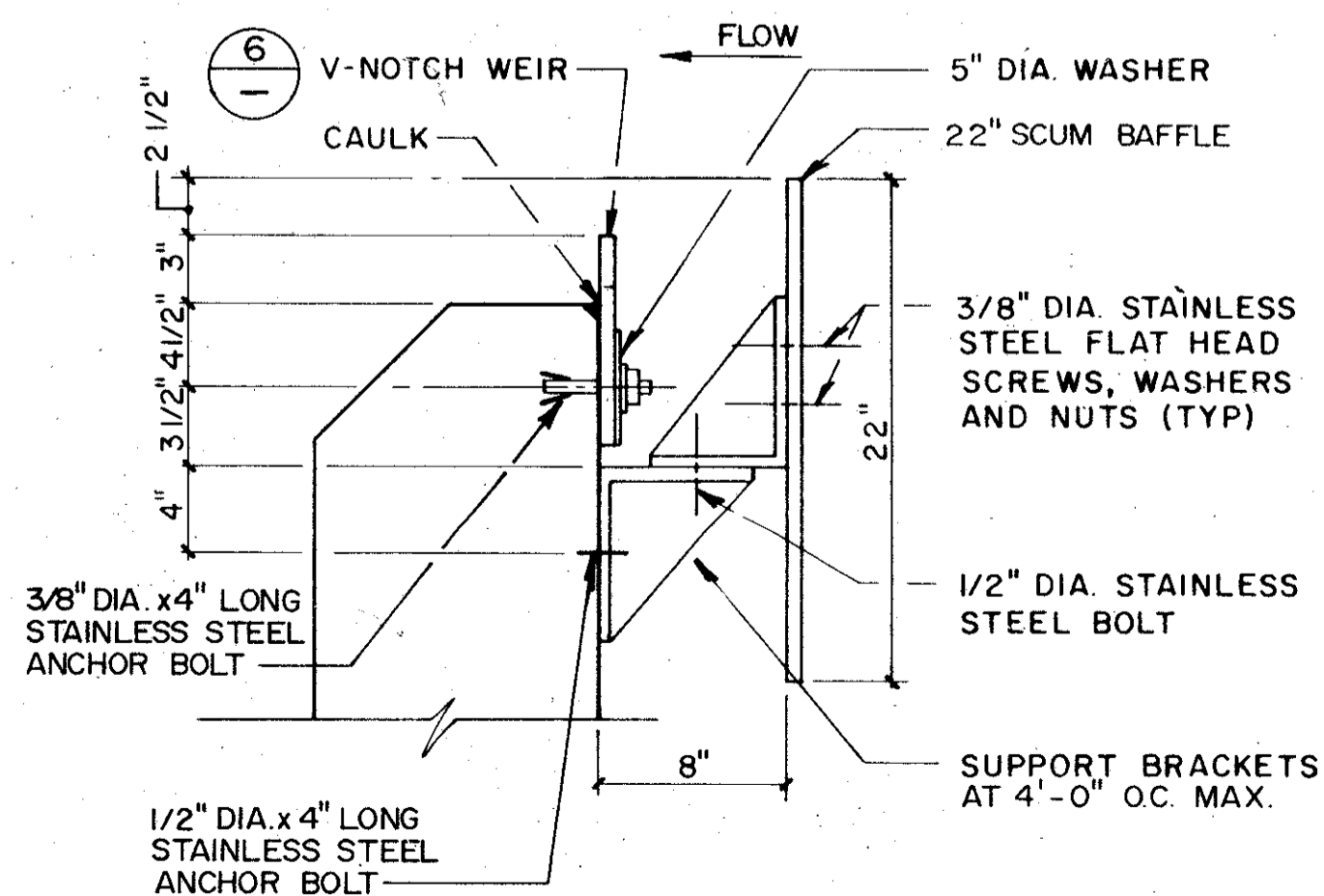


STANDARD V-NOTCH WEIR FOR ROUND TANK TYPE 'C'

DETAIL 6



DETAIL 7



V-NOTCH WEIR WITH BAFFLE

DETAIL 8

WEIR SCHEDULE

Location	Type	Height	Crest Elevation	Total Adjustment	Detail No.	Remarks
Clarifiers (3)	C	10"	103.30	3"	6	3 Required
Automatic Backwash Filters	A	15"	90.28	3"	1	4 Required
Automatic Backwash Filters	A	15"	91.78	3"	1	4 Required
Automatic Backwash Filters (Overflow)	A	15"	91.95	3"	1	4 Required
Peak Storage Pump Station	A	15"	96.50	6"	1	2 Required

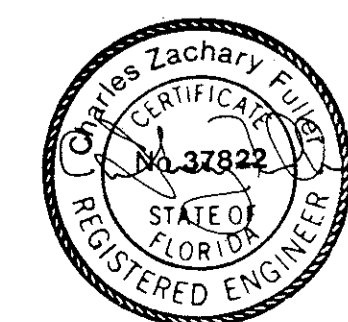
- Notes: 1. Weir crest elevation given is with the weir set in the center of the mounting holes or slots.
 2. All weir plates, scum baffle, butt plates shall be fiberglass reinforced polyester plastic material unless otherwise noted, see specs.

DESIGNED BY	JGL
DRAWN BY	RGB
CHECKED BY	JGL
APPROVED BY	CZE
DATE	11/26/04
REV. NO.	4/88
DATE	SAF
REMARKS	CONFORMED DWG.

CAMP DRESSER & MCKEE INC.
 environmental engineers, scientists, planners & management consultants

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION
WEIR SCHEDULE & DETAILS
 ORANGE COUNTY, FLORIDA

PROJECT NO
 6059-SL3R
 SHEET NO
 MD-9



SYMBOLS

- HOME RUN TO PANELBOARD. NO. OF ARROWS INDICATE NO. OF CIRCUITS, HASH MARKS INDICATE NO. OF #12 AWG. CONDUCTORS. NO HASH MARKS INDICATE 2 #12 CONDUCTORS
- CONDUIT CONCEALED IN WALL OR ABOVE CEILING
- CONDUIT CONCEALED IN OR BELOW FLOOR OR UNDERGROUND
- CONDUIT RUN EXPOSED. RUN PARALLEL OR PERPENDICULAR TO STRUCTURE OR WALL.
- FLEXIBLE CONDUIT WITH EQUIPMENT CONNECTION
- CONCRETE ENCASED DUCTBANK
- SERVICE OR EQUIPMENT GROUND
- CEILING MOUNTED LIGHTING FIXTURE, LETTER INDICATES TYPE (TYPICAL)
- WALL MOUNTED LIGHTING FIXTURE
- FLUORESCENT LIGHTING FIXTURE, CEILING MOUNTED
- FLUORESCENT STRIP FIXTURE
- EXTERIOR LUMINAIRE AND MOUNTING STANDARD
- EMERGENCY BATTERY PACK LIGHTING FIXTURE
- EMERGENCY EGRESS LIGHTING FIXTURE WITH BATTERY PACK
- EMERGENCY EGRESS LIGHTING FIXTURE WITHOUT BATTERY PACK
- CEILING OR WALL MOUNTED EXIT LIGHT FIXTURE WITH BATTERY PACK. PROVIDE ARROWS WHERE SHOWN.
- EXIT LIGHT FIXTURES WITHOUT BATTERY PACK
- FLUORESCENT LIGHTING FIXTURE, WALL MOUNTED
- JUNCTION BOX PER N.E.C., FLUSH MOUNTED UNLESS INDICATED OTHERWISE
- LIGHTING PANELBOARD, FLUSH AND SURFACE MOUNTED RESPECTIVELY
- POWER PANELBOARD, FLUSH AND SURFACE MOUNTED RESPECTIVELY
- DRY TYPE TRANSFORMER. NO. INDICATES KVA RATING
- 25A, 208V, 30 SINGLE RECEPTACLE
- 20A, 125V, 3W DUPLEX RECEPTACLE IN FLUSH OUTLET BOX, 18" ABOVE FINISHED FLOOR
- 20A, 125V, 3W DUPLEX RECEPTACLE IN FLUSH OUTLET BOX, 48" ABOVE FINISHED FLOOR OR 2" ABOVE COUNTER AS REQUIRED BY CONDITION.
- 20A, 125V, 3W "HOSPITAL GRADE" DUPLEX RECEPTACLE WITH ISOLATED GROUND CONNECTION.
- WIREMOLD SURFACE METAL RACEWAY SYSTEM WITH 20A, 125V, 3W RECEPTACLES.
- 20A, 125V, 3W DUPLEX RECEPTACLE IN FLUSH, FLOOR MOUNTED OUTLET BOX.
- 50A, 250V, 10, 3W SINGLE RECEPTACLE IN FLUSH OUTLET BOX, 18" ABOVE FINISHED FLOOR.
- 20A, 125V, 3W DUPLEX RECEPTACLE, SURFACE MOUNTED
- 20A, 250V, 10, 3W SINGLE RECEPTACLE IN FLUSH OUTLET BOX, 18" ABOVE FINISHED FLOOR.
- 30A, 250V, 10, 3W SINGLE RECEPTACLE IN FLUSH OUTLET BOX, 18" ABOVE FINISHED FLOOR.
- SINGLE POLE SWITCH IN FLUSH OUTLET BOX, 48" ABOVE FINISHED FLOOR, UNLESS OTHERWISE NOTED (TYPICAL)
- SINGLE POLE SWITCH, SURFACE MOUNTED
- THREE-WAY SWITCH IN FLUSH OUTLET BOX
- FOUR-WAY SWITCH IN FLUSH OUTLET BOX
- 2000W INCANDESCENT DIMMING SWITCH IN FLUSH OUTLET BOX, 48" ABOVE FINISHED FLOOR SUGGESTED MFR. LUTRON NF-30-120
- NON FUSIBLE DISCONNECT SWITCH, 30A, 3P, UNLESS OTHERWISE INDICATED
- SIMILAR TO ABOVE EXCEPT W/ SELECTOR SWITCH SEE ELEMENTARY DIAGRAMS
- NON FUSIBLE DISCONNECT SWITCH, 30A, 3P UNLESS OTHERWISE NOTED. WEATHERPROOF DENOTED BY 'WP'

- ELECTRIC A.C. MOTOR, NO. INDICATES HORSEPOWER
- ELECTRIC D.C. MOTOR, NO. INDICATES HORSEPOWER
- THERMOSTAT
- FLUSH OUTLET BOX AND TELEPHONE COVER PLATE 18" ABOVE FINISHED FLOOR
- FLUSH, FLOOR MOUNTED OUTLET BOX AND TELEPHONE COVER PLATE.
- FLUSH OUTLET BOX AND COVER PLATE SUITABLE FOR COMPUTER DEVICE CONNECTION
- FLUSH MOUNTED BACKBOX FOR INTERCOM STATION
- FLUSH, FLOOR MOUNTED OUTLET BOX FOR REMOTE INTERCOM UNIT.
- FLUSH OUTLET BOX AND COVER PLATE FOR MICROPHONE CONNECTION
- WALL MOUNTED OUTLET BOX FOR INTERCOM HANDSET AND HOOK SWITCH
- FLUSH CEILING MOUNTED PAGING SYSTEM SPEAKER
- WALL MOUNTED PAGING SYSTEM SPEAKER
- VOLUME CONTROL SWITCH IN FLUSH OUTLET BOX 60" ABOVE FINISHED FLOOR.
- CEILING MOUNTED SMOKE DETECTOR
- DUCT MOUNTED SMOKE DETECTOR
- FIRE ALARM MANUAL PULL STATION IN FLUSH OUTLET BOX, 48" ABOVE FINISHED FLOOR
- FIRE ALARM CHIME IN FLUSH OUTLET BOX, 12" BELOW CEILING
- FIRE ALARM HORN IN FLUSH OUTLET BOX, 12" BELOW CEILING
- FLOW SWITCH
- TAMPER SWITCH
- MAGNETIC MOTOR STARTER
- FLUSH MOUNTED CLOCK OUTLET, 12" BELOW CEILING
- VARIABLE AIR VOLUME BOX (VAV)
- ELECTRIC CORD REEL
- DOOR SWITCH
- ALARM BELL
- VOLT METER
- AMMETER
- THREE PHASE VOLT SWITCH
- THREE PHASE AMP SWITCH
- GROUND FAULT RELAY
- WATT HOUR METER
- VARIABLE FREQUENCY CONTROLLER
- VARIABLE SPEED CONTROLLER
- VARIABLE SPEED DRIVE
- FUSE
- CAPACITOR
- AIR CIRCUIT BREAKER
- MOLDED CASE CIRCUIT BREAKER
- ALARM RELAY
- ALARM TIMER
- CONTROL RELAY
- MOTOR STARTER
- TIMING RELAY
- ALARM INDICATING LIGHT

- RUN INDICATING LIGHT
- LIMIT SWITCH
- TORQUE SWITCH
- PRESSURE SWITCH
- SOLENOID VALVE
- LIQUID LEVEL SWITCH
- FLOW INDICATING TRANSMITTER
- LEVEL INDICATING TRANSMITTER
- NORMALLY OPEN CONTACT
- NORMALLY CLOSED CONTACT
- T.C. INDICATES TIME-TO-CLOSE CONTACT
- T.O. INDICATES TIME TO OPEN CONTACT
- RESET BUTTON, MOMENTARY BREAK
- KEYED SWITCH
- START/STOP (S/S) CONTROL SWITCH, MAINTAINED CONTACT
- TYPICAL SELECTOR SWITCH CONTROL. SEE ELEMENTARY DIAGRAMS FOR EXACT TYPE.
- FLOW SWITCH (N.C.)
- FLOW SWITCH (N.O.)
- PRESSURE SWITCH
- TEMPERATURE SWITCH
- VIBRATION SENSOR
- ZERO SPEED SWITCH

ABBREVIATIONS

- A AMPERES
- AHU AIR HANDLING UNIT
- ACCU AIR CONDITIONING CONDENSING UNIT
- BKR BREAKER
- BLDG BUILDING
- CAB CABINET
- CIR CIRCUIT
- CONT CONTROL
- CU COPPER
- CWP COLD WATER PIPE
- CP CONTROL PANEL
- DCU DISTRIBUTED CONTROL UNIT
- DIA DIAMETER
- DPDT DOUBLE POLE DOUBLE THROW
- DPST DOUBLE, POLE, SINGLE THROW
- ELEC ELECTRICAL
- ELR ELECTRIC LOCKOUT RELAY
- EM EMERGENCY
- ENCL ENCLOSURE
- EP EXPLOSION PROOF
- ESB ENERGY SAVING BALLAST
- EUH ELECTRIC UNIT HEATER
- EWC ELECTRIC WATER COOLER
- EWB ELECTRIC WATER HEATER
- EXH EXHAUST
- EXIST EXISTING
- FAAP FIRE ALARM ANNUNCIATOR PANEL
- FACP FIRE ALARM CONTROL PANEL
- GEN GENERATOR
- GND GROUND
- HOA HAND-OFF-AUTOMATIC
- HOR HAND-OFF-REMOTE
- HORC HAND-OFF-REMOTE-COMPUTER
- HP HORSEPOWER
- HPS HIGH PRESSURE SODIUM
- INSTR INSTRUMENTATION
- ISO ISOLATION
- KVA KILOVOLT-AMPERES
- LDR LOAD DUMP RELAY
- LTG LIGHTING
- MAX MAXIMUM
- MCC MOTOR CONTROL CENTER
- MFR MANUFACTURER
- MH METAL HALIDE
- MIN MINIMUM
- MTD MOUNTED
- MV MERCURY VAPOR
- NEC NATIONAL ELECTRIC CODE
- NEUT NEUTRAL
- OC ON CENTER
- OH OVERHEAD
- P POLE
- PC PHOTOELECTRIC CONTROL
- PNL PANEL
- P/I PAGING/INTERCOM
- RECPRT RECEPTACLE
- RS RAPID START
- SP SPARE
- STR STARTER
- SW SWITCH
- SWGR SWITCHGEAR
- TC TIMECLOCK
- TR TRANSFORMER
- TYP TYPICAL
- UG UNDERGROUND
- UPS UNINTERRUPTIBLE POWER SUPPLY
- V VOLT
- W WATT
- WP WEATHER PROOF
- MTS MANUAL TRANSFER SWITCH
- VSC VARIABLE SPEED CONTROLLER
- VSD VARIABLE SPEED DRIVE
- VFC VARIABLE FREQUENCY CONTROLLER
- ATS AUTOMATIC TRANSFER SWITCH
- LA LIGHTNING ARRESTER

REMARKS		CHD		CONFORMED DWG.
DESIGNED BY: C.E. BAILEY	DRAWN BY: J. L. HILL	DATE: 4/88	REV. NO. 1	SAF
CHECKED BY: J. L. HILL	APPROVED BY: C.E. BAILEY	DATE: MARCH 1988		

CDM
environmental engineering & science
planning & management consultants

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION

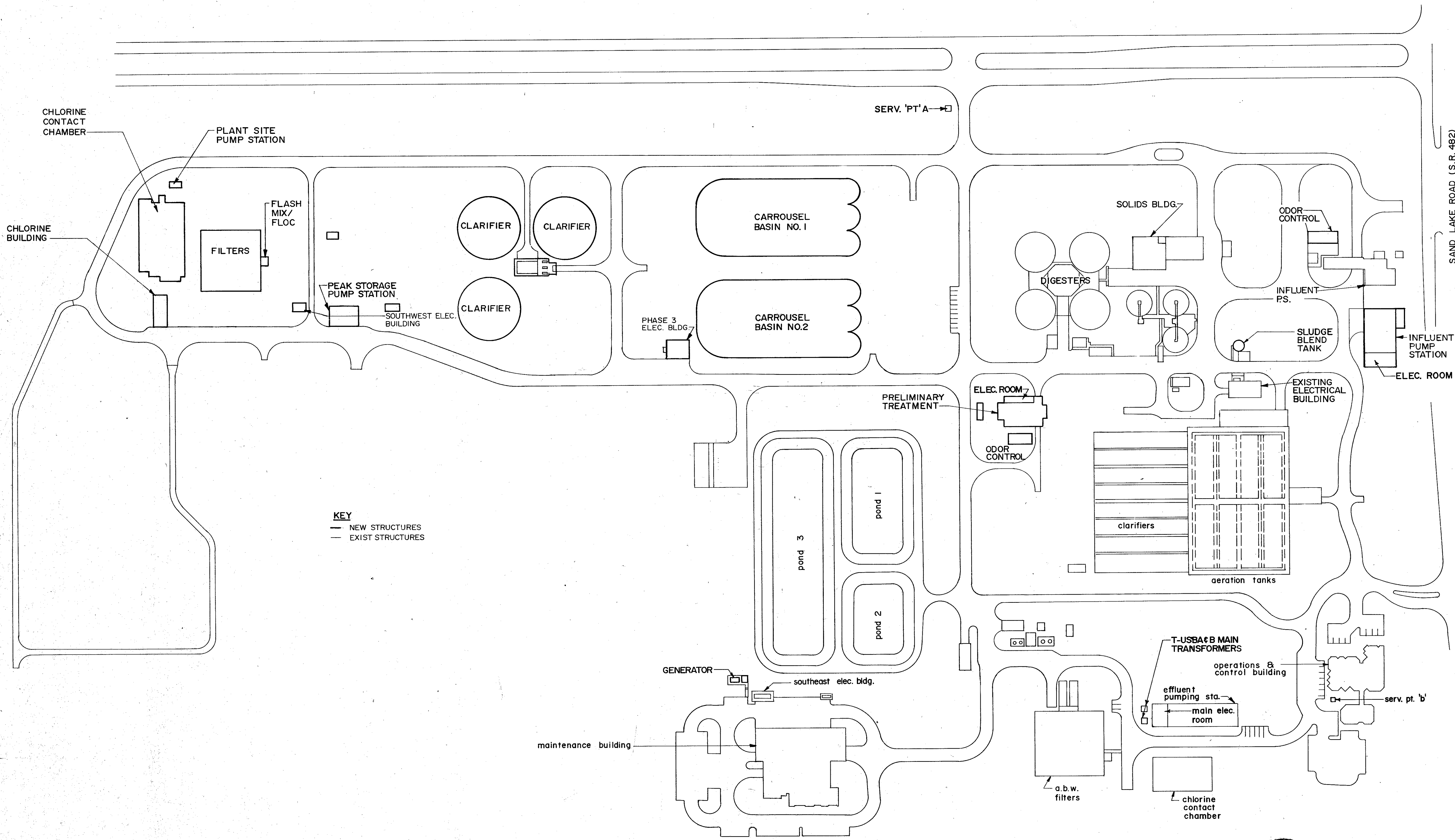
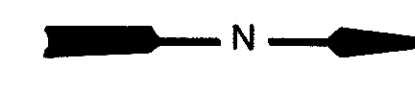
SYMBOLS & ABBREVIATIONS

ORANGE COUNTY, FLORIDA

PROJECT NO. 6059-SL3R	SHEET NO. E-1
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C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



KEY
 — NEW STRUCTURES
 - - - EXIST STRUCTURES

SITE PLAN
 SCALE: 1" = 100'

SAND LAKE ROAD (S.R. 482)

DESIGNED BY	TRH	CHKD		REMARKS
DRAWN BY	TRH	SAF		CONFORMED DWG.
CHECKED BY	TRH			
APPROVED BY	TRH			
DATE	MARCH 1998			

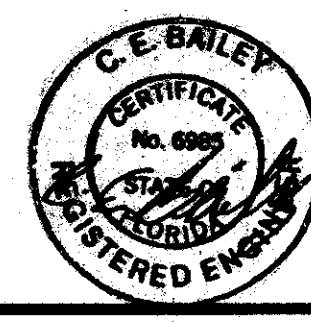
CAMP DRESSER & MCKEE INC.

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION

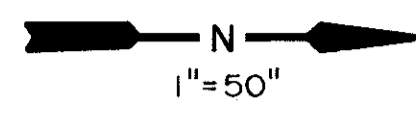
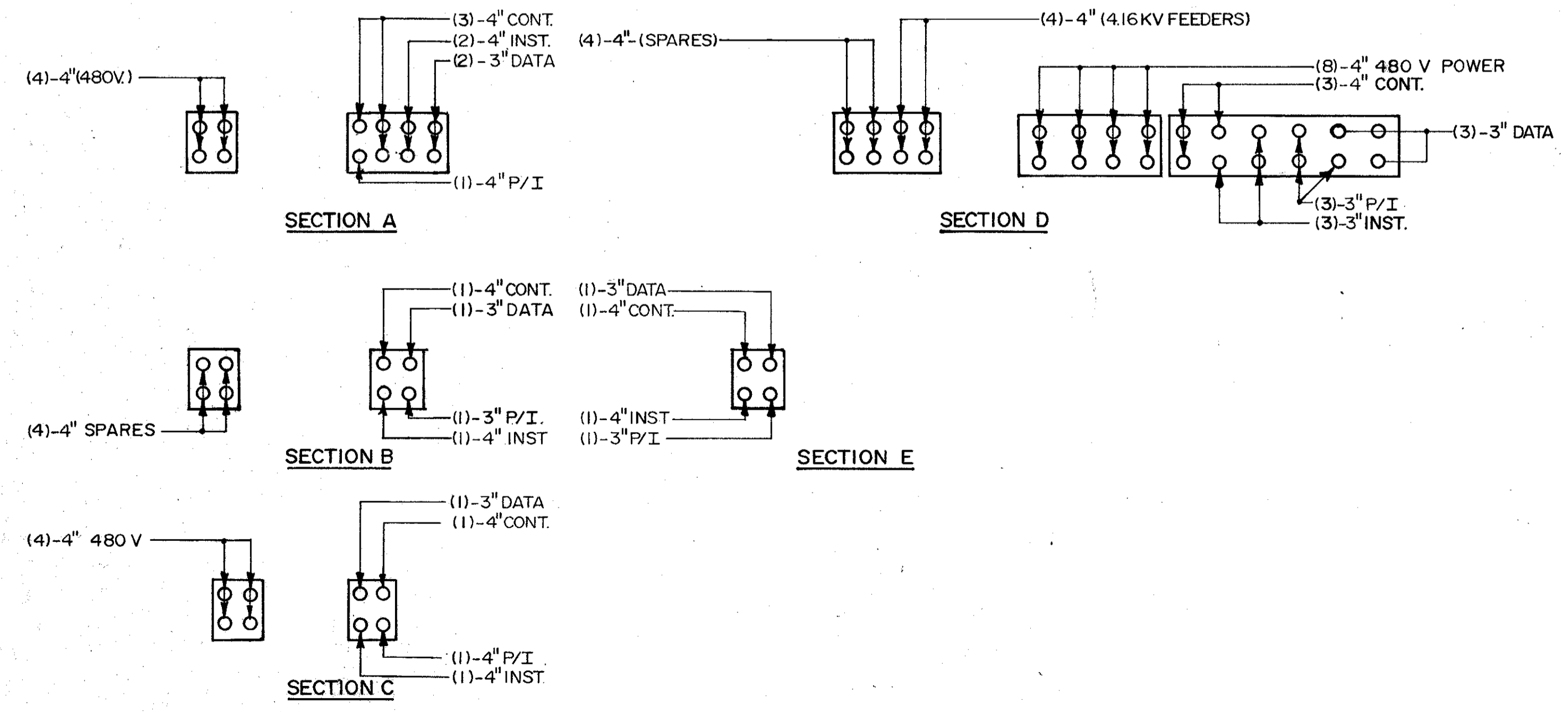
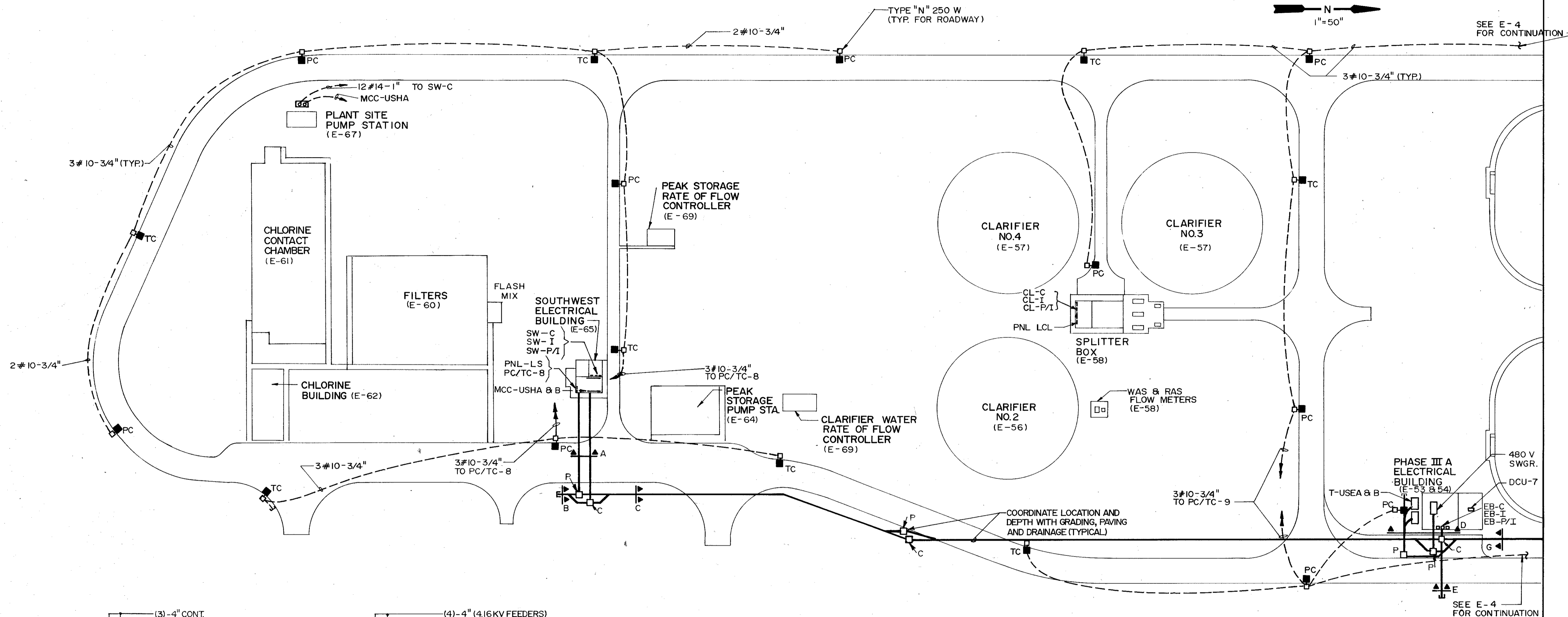
PROJECT NO
 6059 - SL3R

SHEET NO
 E-2

OVERALL SITE PLAN
 ORANGE COUNTY, FLORIDA



C. E. BAILEY & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 ORLANDO, FLORIDA



SEE E-4 FOR CONTINUATION

SEE E-4 FOR CONTINUATION

EXISTING STRUCTURE

REVISIONS	DATE	DRWN	CHKD	REMARKS
1	4/88	SAF		CONFORMED DWG.

DESIGNED BY: C.E.B./J.C.
 DRAWN BY: J.A.L.
 CHECKED BY: J.C.H.
 APPROVED BY: C.E.B.
 DATE: MARCH 1988

CDM
 environmental engineers, scientists,
 architects & management consultants

CAMP DRESSER & MCKEE INC.

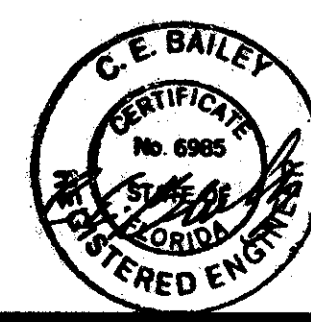
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION

PARTIAL SITE PLAN

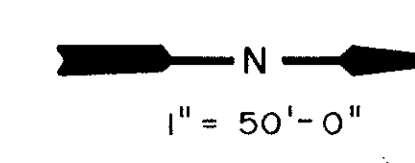
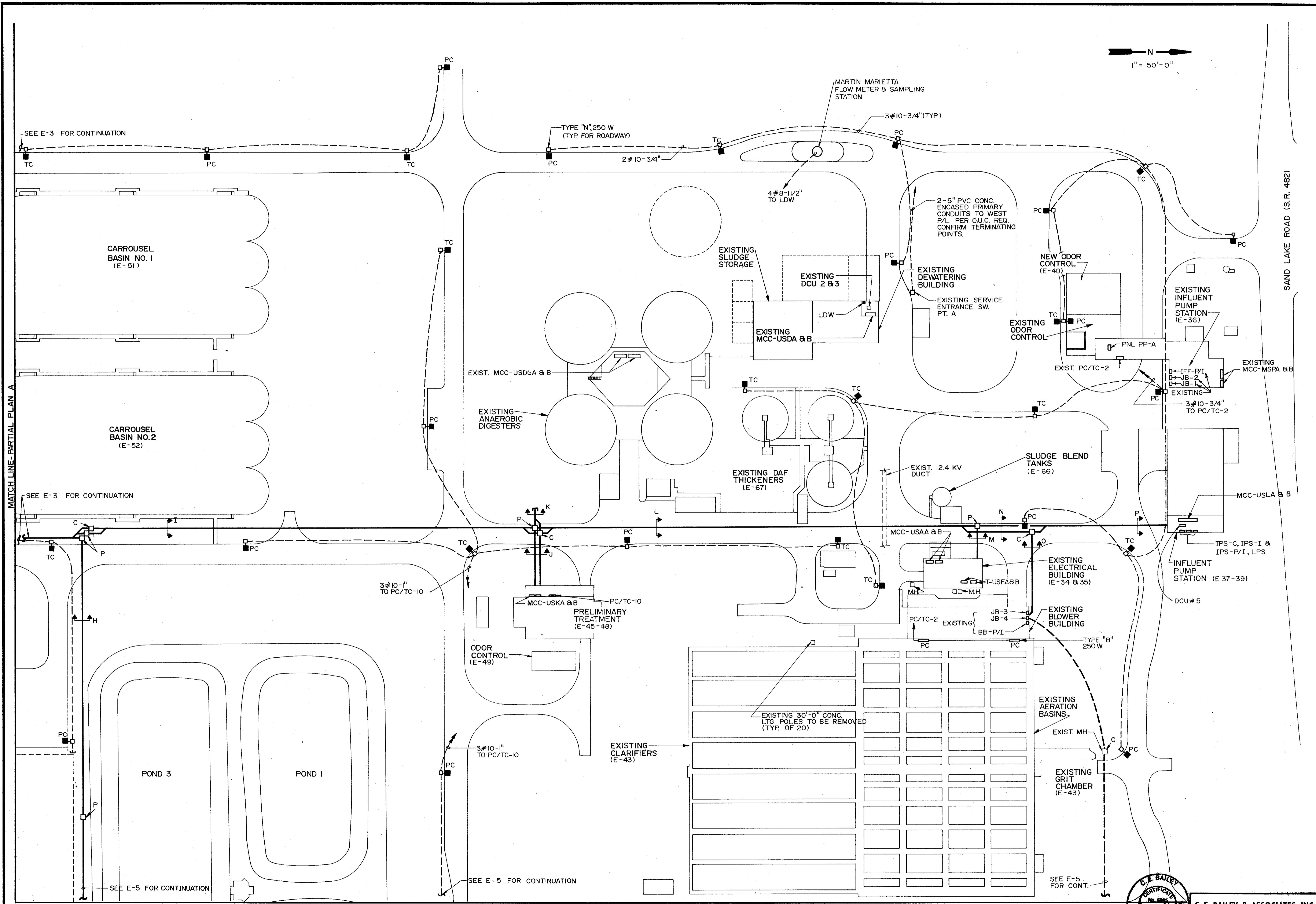
ORANGE COUNTY, FLORIDA

PROJECT NO.
6059-SL3R

SHEET NO.
E-3



C. E. BAILEY & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 ORLANDO, FLORIDA



SEE E-3 FOR CONTINUATION

SEE E-3 FOR CONTINUATION

SEE E-5 FOR CONTINUATION

SEE E-5 FOR CONTINUATION

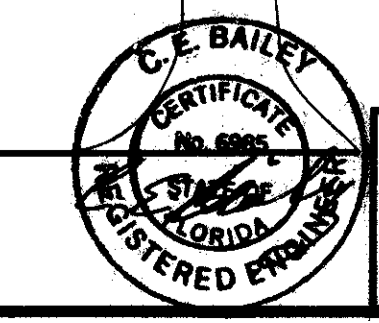
MATCH LINE - PARTIAL PLAN C

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION		REMARKS	
PARTIAL SITE PLAN		DATE	CHKD
ORANGE COUNTY, FLORIDA		4/88	SAF
PROJECT NO. 6059-SL3R		REV. NO.	CONFORMED DWG.
SHEET NO. E-4		DESIGNED BY JAC	
		DRAWN BY JAC	
		CHECKED BY JAC	
		APPROVED BY C.E. BAILEY	
		DATE MARCH 1988	

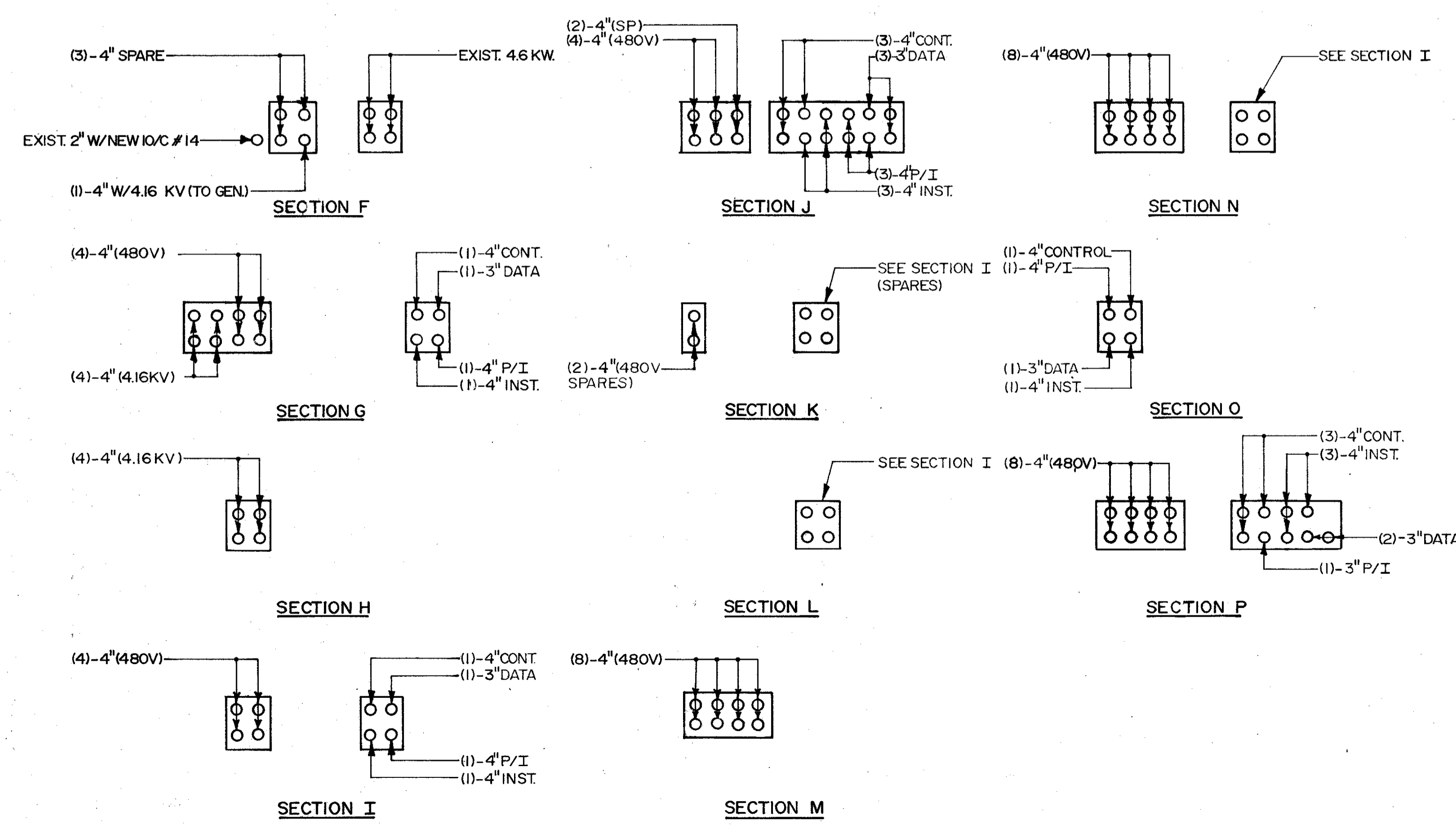
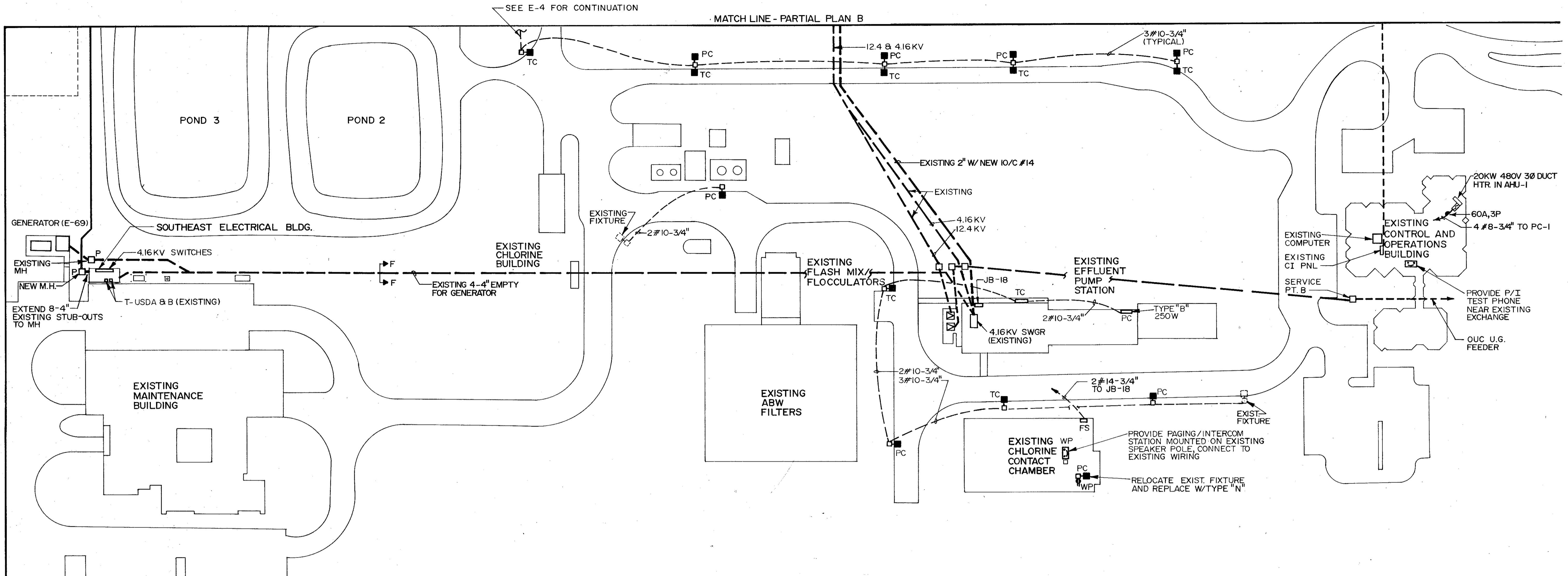
CAMP DRESSER & MCKEE INC.
environmental engineers, scientists
planning & management consultants

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
PARTIAL SITE PLAN
ORANGE COUNTY, FLORIDA

PROJECT NO.
6059-SL3R
SHEET NO.
E-4



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



SEE E-4 FOR CONTINUATION

MATCH LINE - PARTIAL PLAN B

REV NO	DATE	DRWN	CHKD	REMARKS
4/88	SAF			CONFORMED DWG.

DESIGNED BY: CEB/MSH
 DRAWN BY: TAC
 CHECKED BY: JAC
 APPROVED BY: [Signature]
 DATE: MARCH 1988

CAMP DRESSER & MCKEE INC.
 environmental engineers, scientists,
 planners, & management consultants
CDM

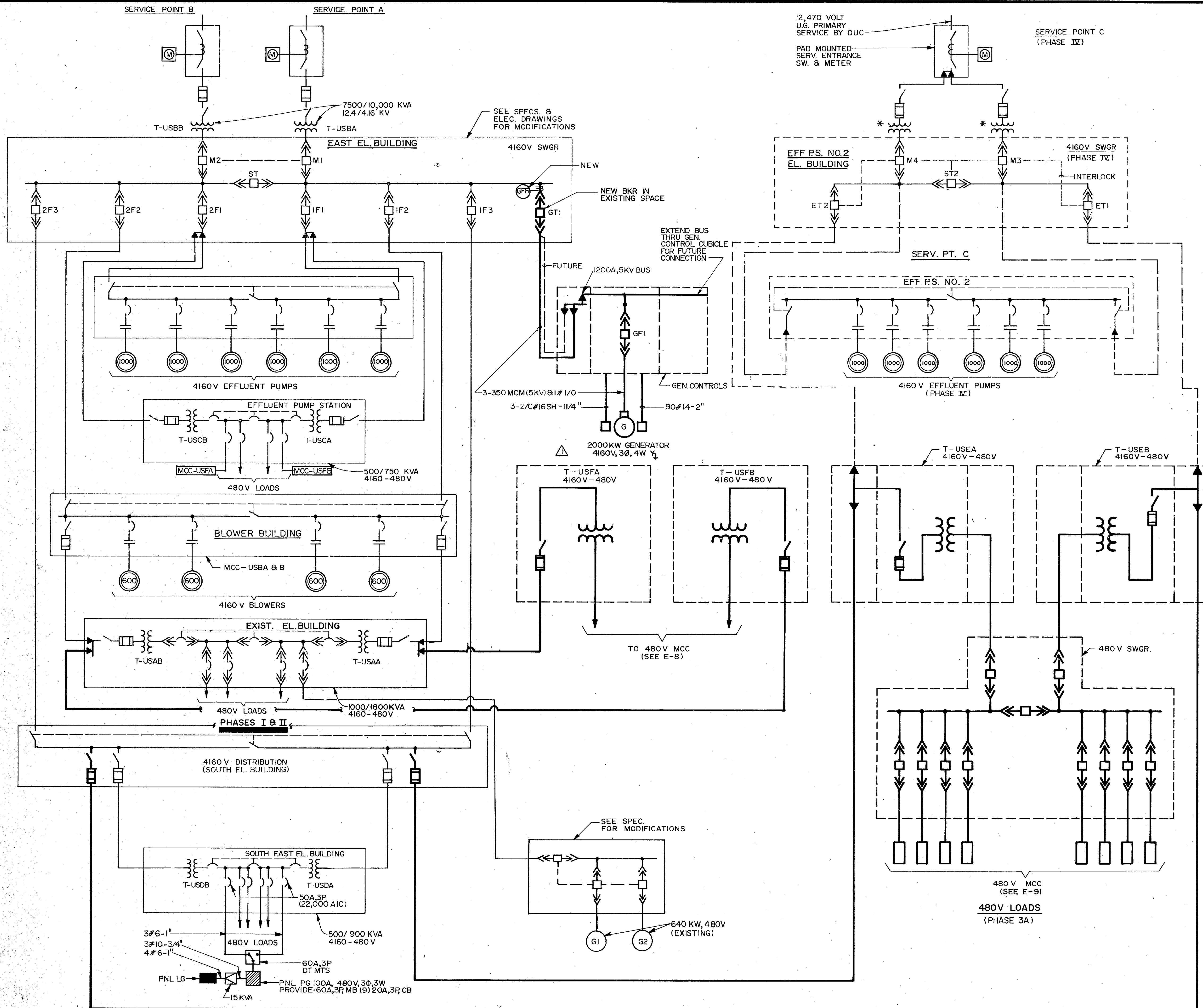
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION
PARTIAL SITE PLAN
 ORANGE COUNTY, FLORIDA

PROJECT NO
 6059-SL3R

SHEET NO
E-5



C. E. BAILEY & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 ORLANDO, FLORIDA



LEGEND

- METER
- TRANSFORMER
- DRAW-OUT CIRCUIT BREAKER
- A.C. MOTOR
- GENERATOR
- MOLDED CASE CIRCUIT BREAKER WITH KEY INTERLOCK
- FUSED SWITCH
- MOTOR STARTER
- WIRE LUGS
- MI MAIN BREAKER
- IFI FEEDER BREAKER
- ST STATION TIE BREAKER
- V VOLTS
- KVA KILO-VOLT-AMPERE
- * KVA RATING TO BE DETERMINED DURING PHASE IIX DESIGN
- FUTURE
- EXISTING
- NEW

DESIGNED BY: CEB	DATE: 4-1-88	DRWN: CHD	REMARKS:
DRAWN BY: TRK	DATE: 4-1-88	WCH: WCH	ADD.#1
CHECKED BY: CEB	DATE: 4/88	SAF: SAF	CONFORMED DWG
APPROVED BY: CEB	DATE: MARCH 1988		

CDMI
CONSULTING ENGINEERS & ARCHITECTS
PLANNING & MANAGEMENT CONSULTANTS

CAMP DRESSER & MCKEE INC.

**SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
12.4KV/4.16KV
OVERALL SINGLE LINE POWER DIAGRAM**

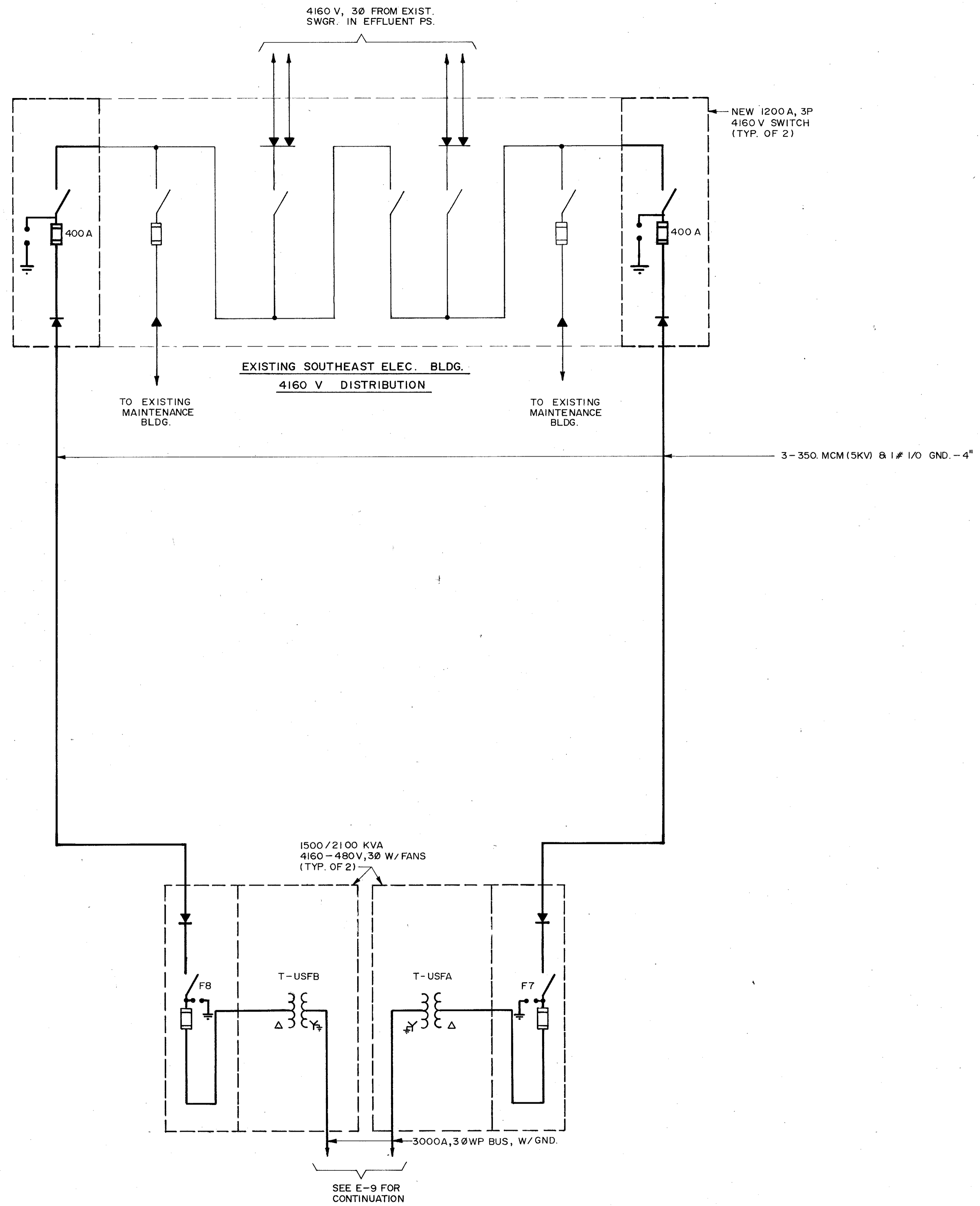
ORANGE COUNTY, FLORIDA

PROJECT NO.	6059-SL3R
SHEET NO.	F-6



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

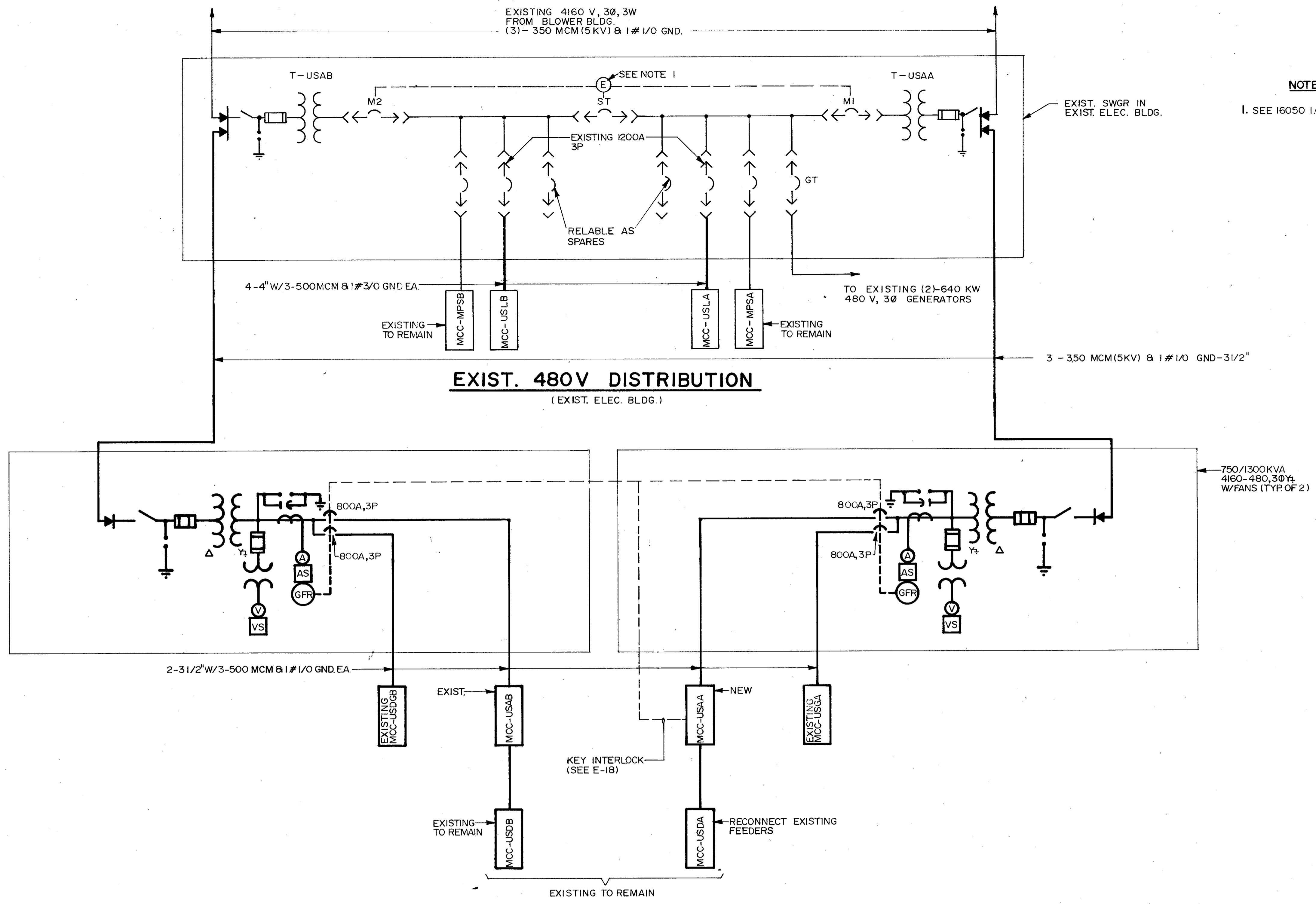
COPY BLUE PRINT CO.



**4160 V SINGLE LINE POWER DIAGRAM
PHASE 3 A**

DESIGNED BY C.E.B./MCH	DRAWN BY KTL	CHECKED BY J.H.C.	APPROVED BY [Signature]	REMARKS
				CONFORMED DWG.
REV. NO.	DATE	DRWN	CHKD	
	4/88	SAF		
PROJECT NO. 6059-SL3R				SHEET NO. E-7
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION				ORANGE COUNTY, FLORIDA
4160V SINGLE LINE POWER DIAGRAM - PHASE 3				CAMP DRESSER & MCKEE INC. environmental engineers, scientists, planners, & management consultants
C. E. BAILEY & ASSOCIATES, INC. CONSULTING ENGINEERS ORLANDO, FLORIDA				CDM





REMARKS	
CONFORMED DWG.	
DATE	4/88
DRWN	SAF
CHKD	
DESIGNED BY	CPE/MLH
DRAWN BY	TAC
CHECKED BY	MLH
APPROVED BY	[Signature]
DATE	MARCH 1988

CAMP DRESSER & MCKEE INC.
environmental engineers, scientists, planners, & management consultants

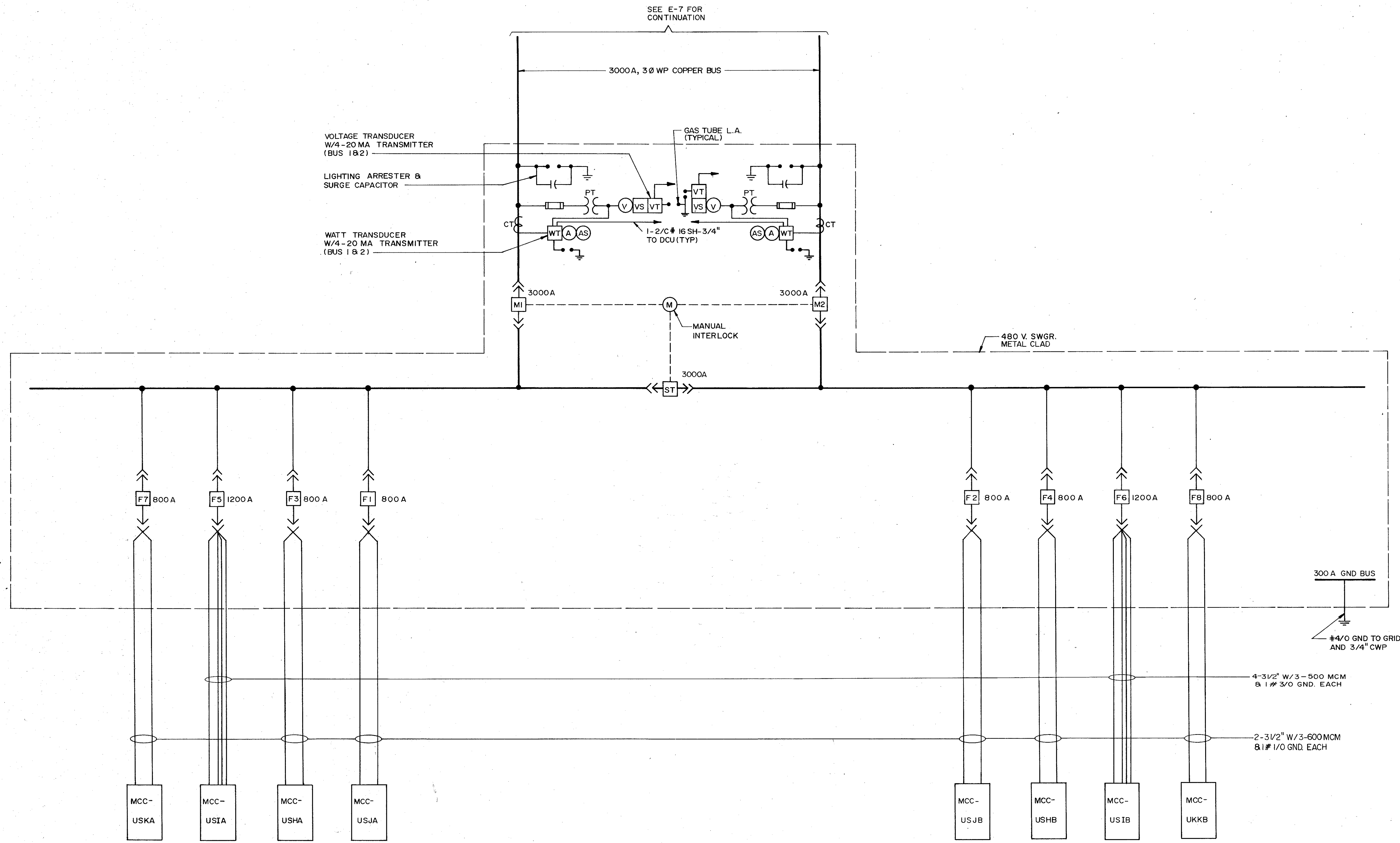
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PHASE 3A EXPANSION
4160 VOLT SINGLE LINE DIAGRAM
ORANGE COUNTY, FLORIDA

PROJECT NO
6059-SL3R

SHEET NO
F-8



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



480 V SINGLE LINE POWER DIAGRAM
(PHASE 3A ELECTRICAL BLDG.)

REMARKS	
CONFORMED DWG.	
DATE	4/88
DRWN	SAF
CHKD	
REV NO.	
DESIGNED BY	CEB/SLH
DRAWN BY	RL
CHECKED BY	SLH
APPROVED BY	CEB
DATE	MARCH 1988

CAMP DRESSER & MCKEE INC.
environmental engineers, scientists
planning & management consultants

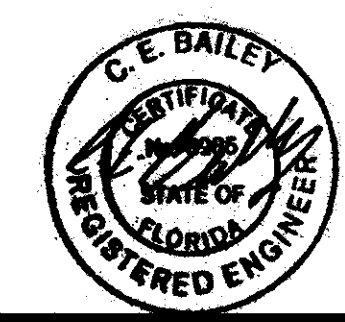
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION

480 V SINGLE LINE DIAGRAM

ORANGE COUNTY, FLORIDA

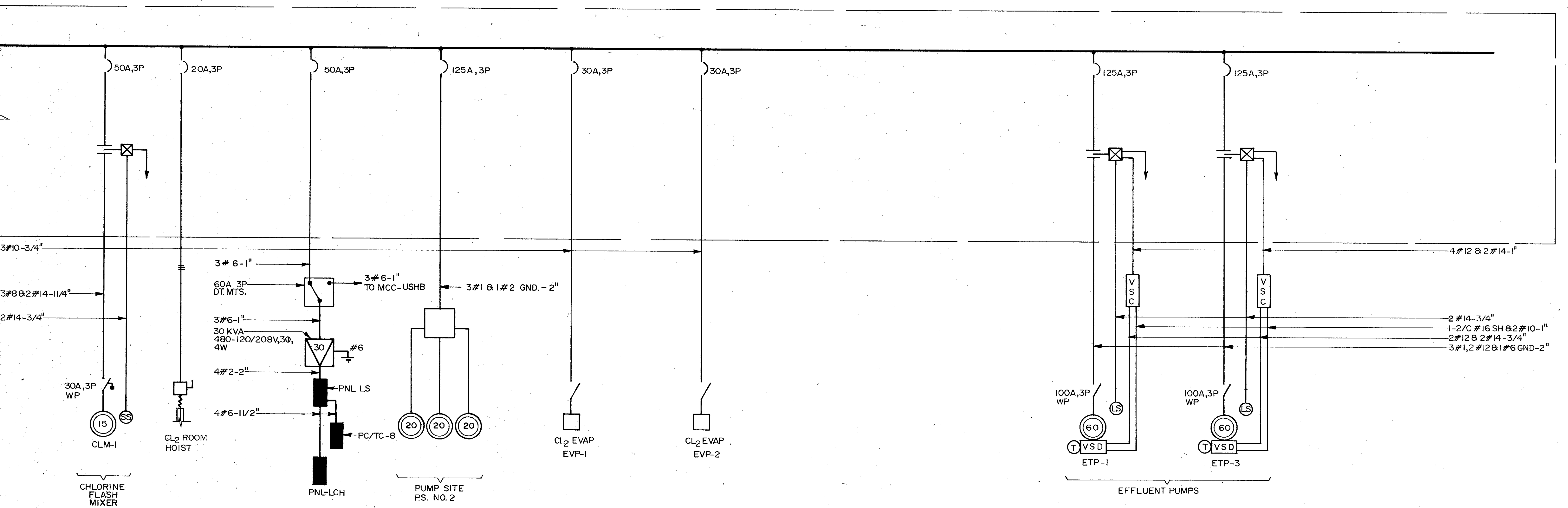
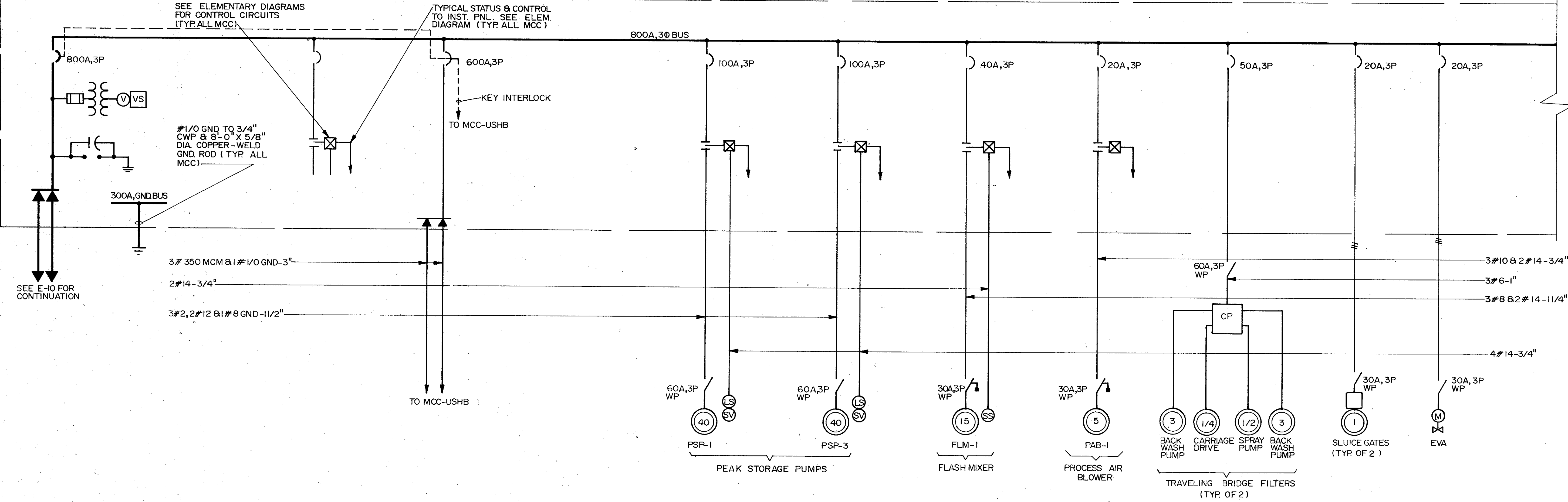
PROJECT NO
6059 - SL3R

SHEET NO
F-9



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

SEE FRONT VIEWS FOR SPARE STARTERS & C.B. (TYP ALL MCC)

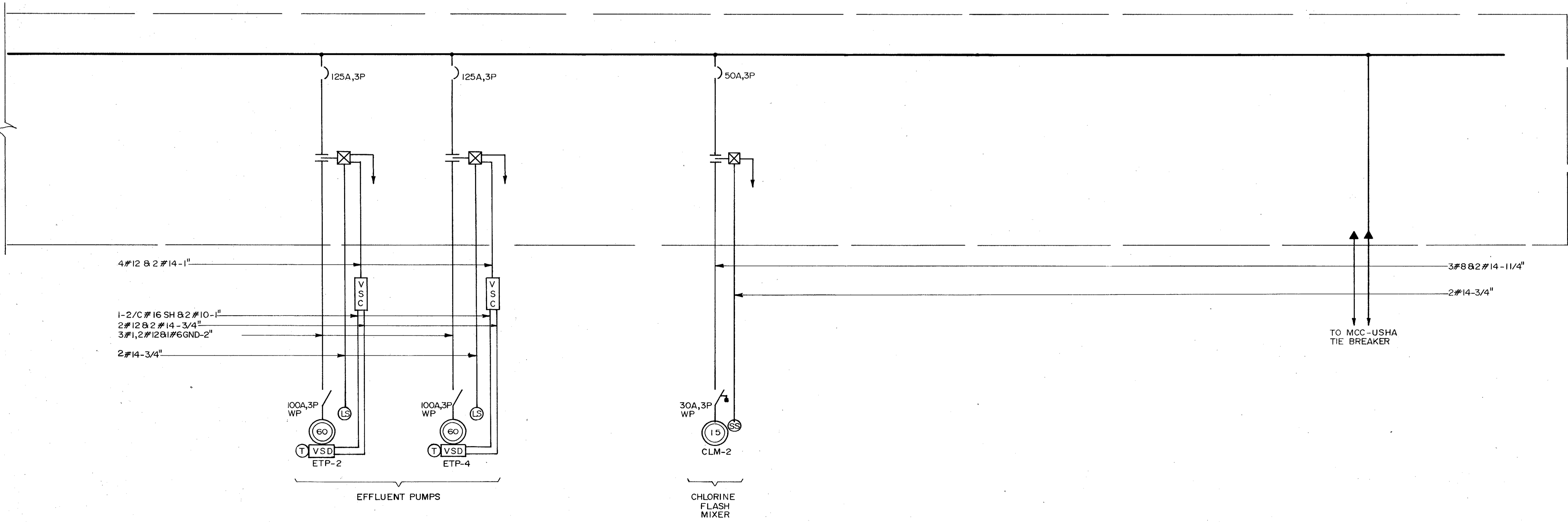
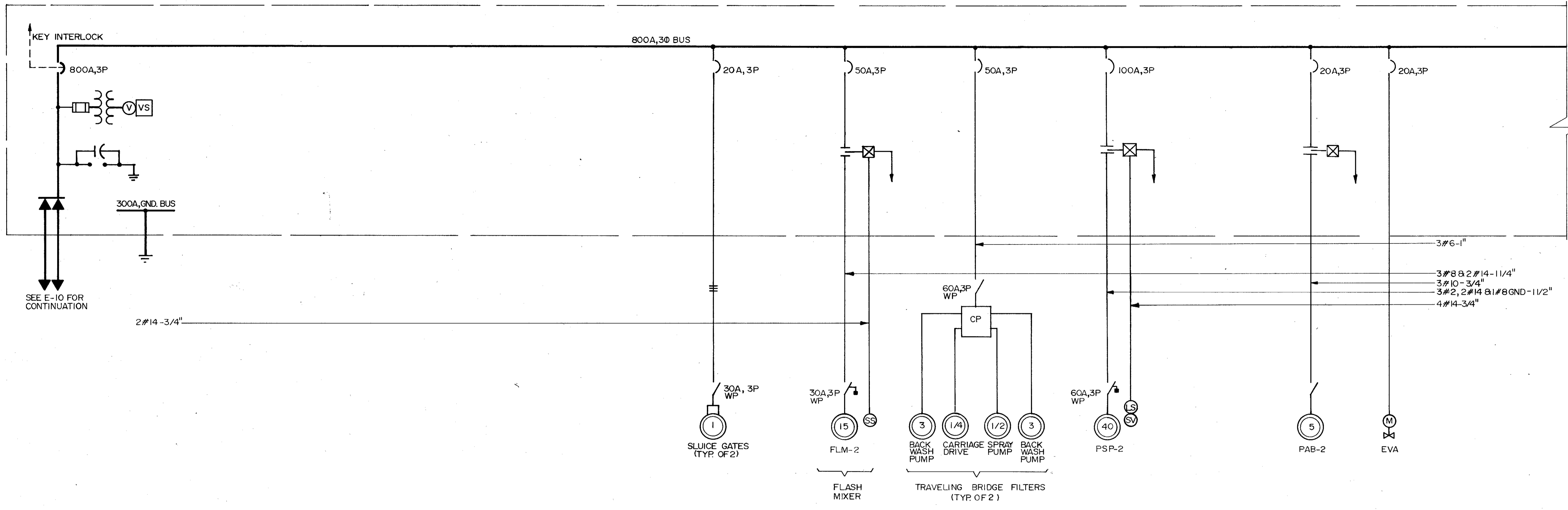


MCC-USHA
(SOUTHWEST ELEC. BLDG.)



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

REMARKS		CONFORMED DWG.	
REV	NO	DATE	BY
	4788	4/88	SAF
DESIGNED BY	KZL/KZL	DRAWN BY	JAC
CHECKED BY	JAC	APPROVED BY	CEB
		DATE	MARCH 1988
CAMP DRESSER & MCKEE INC.			
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION			
MCC SINGLE LINE			
ORANGE COUNTY, FLORIDA			
PROJECT NO.		6059-SL3R	
SHEET NO.		E-11	

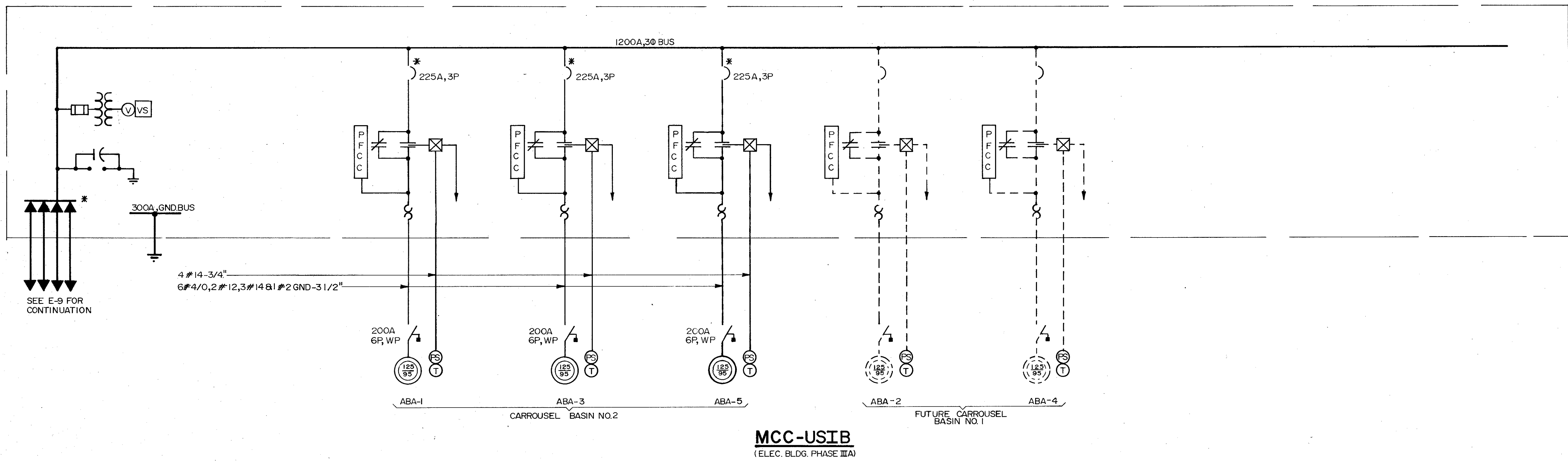
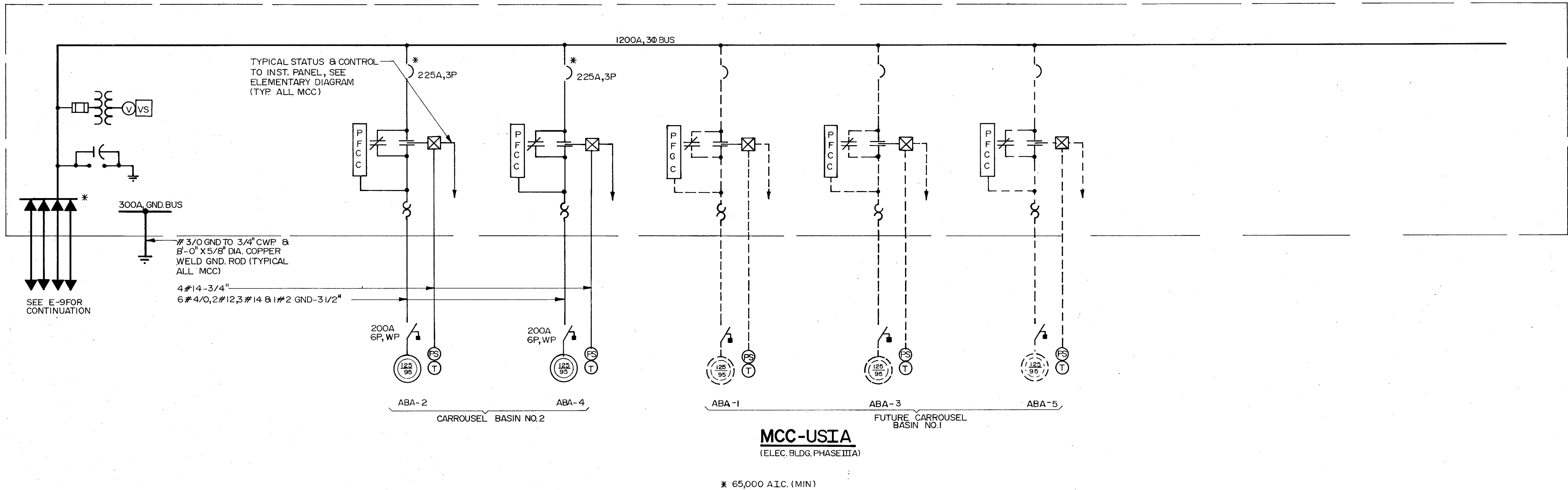


MCC-USHB
(SOUTHWEST ELEC. BLDG.)



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

DESIGNED BY	LET/AVH	REMARKS	
DRAWN BY	ZAC	CHKD	
CHECKED BY	MCH	DRWN	SAF
APPROVED BY	CEB	DATE	4/88
DATE	MARCH 1988		CONFORMED DWG.
CDM			
CAMP DRESSER & MCKEE INC.			
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION			
MCC SINGLE LINE			
ORANGE COUNTY, FLORIDA			
PROJECT NO	6059-SL3R		
SHEET NO	E-12		



REMARKS	
CONFORMED DWG.	
DATE	4/88
DRWN	SAF
CHKD	
DESIGNED BY	SAZ/JLCH
DRAWN BY	TAC
CHECKED BY	JLCH
APPROVED BY	SAZ
DATE	MARCH 1988

CAMP DRESSER & MCKEE INC.
environmental engineers, scientists, planners & management consultants

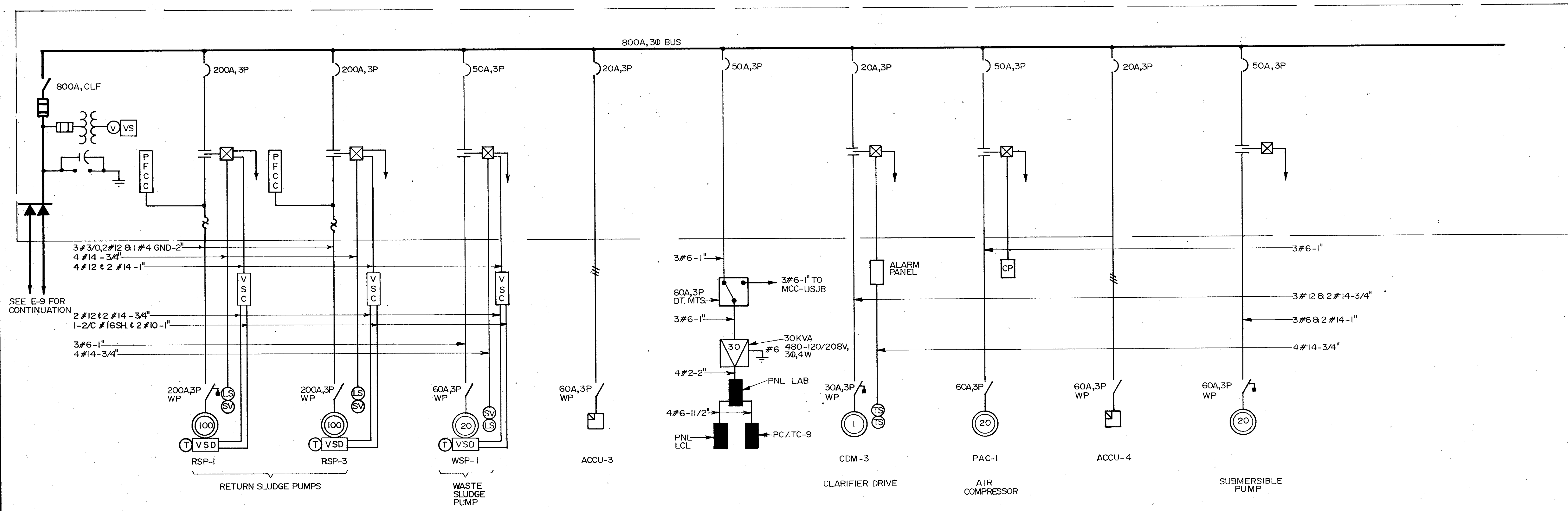
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
MCC SINGLE LINE
ORANGE COUNTY, FLORIDA

PROJECT NO
6059-SL3R

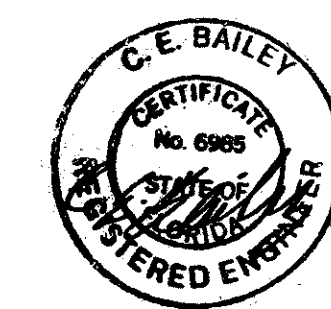
SHEET NO
E-13



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



MCC-USJA
(ELEC. BLDG. PHASE IIIA)



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

PROJECT NO.
6059-SL3R

SHEET NO.
E-14

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION

MCC SINGLE LINE
ORANGE COUNTY, FLORIDA

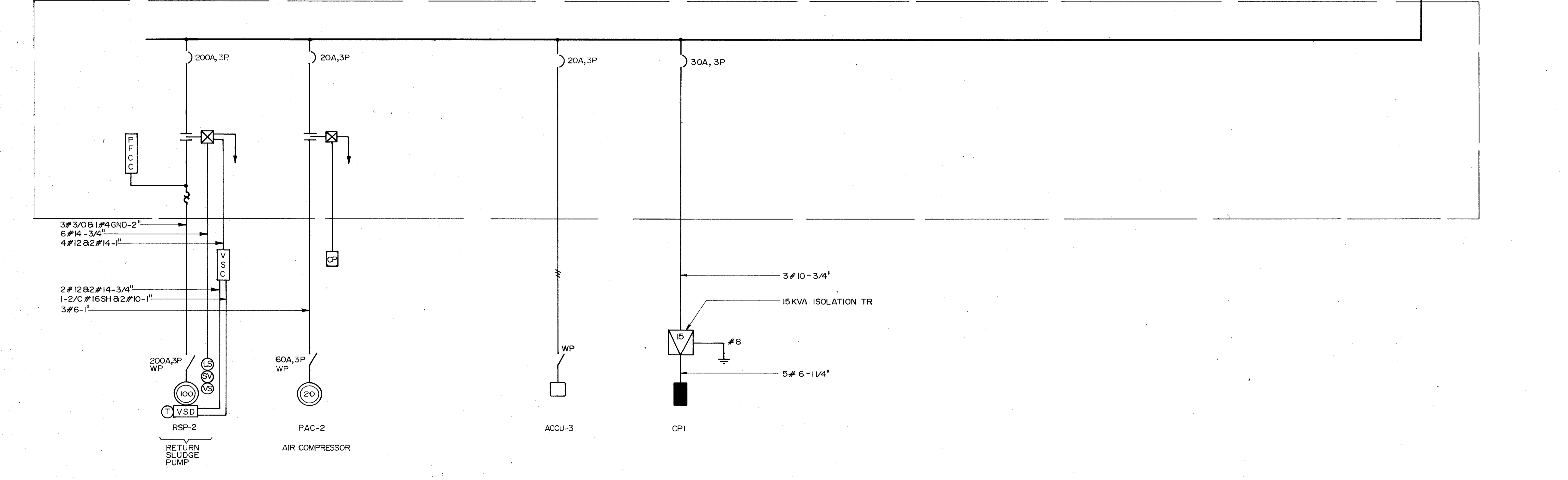
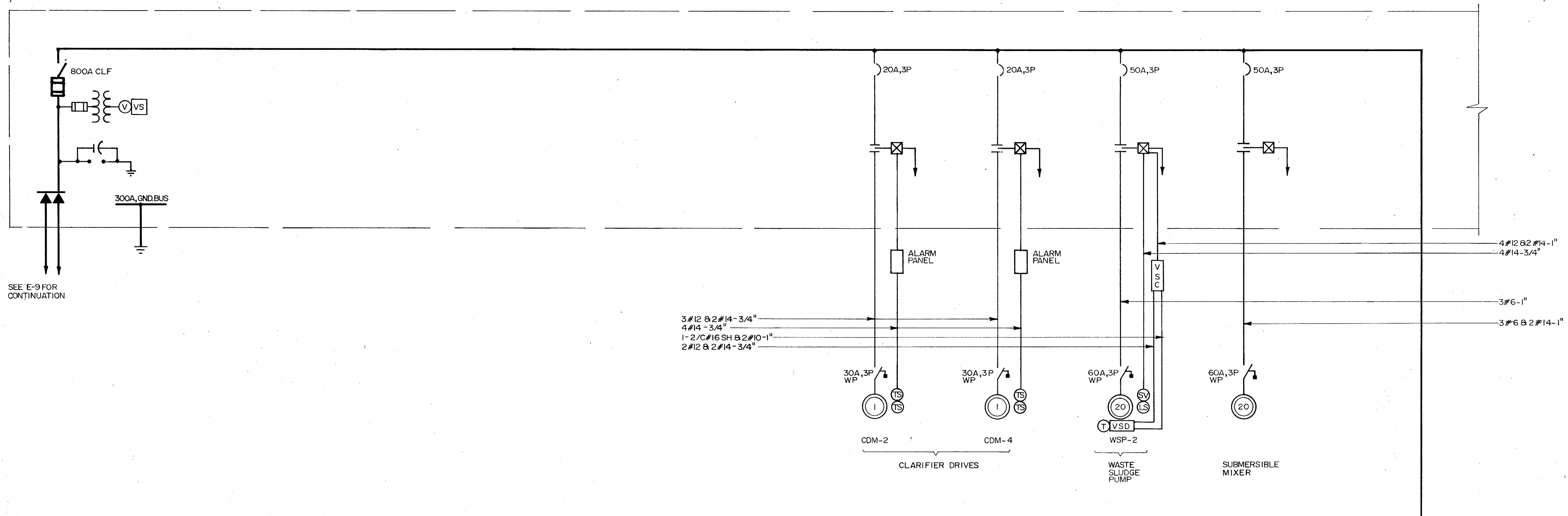
CAMP DRESSER & MCKEE INC.

CDM
CONSULTING ENGINEERS, ARCHITECTS,
PLANNERS & MANAGEMENT CONSULTANTS

DESIGNED BY: *[Signature]*
DRAWN BY: *[Signature]*
CHECKED BY: *[Signature]*
APPROVED BY: *[Signature]*
DATE: MARCH 1988

REMARKS
CONFORMED DWG.

REV	NO	DATE	DRWN	CHKD
	1	4/88	SAF	



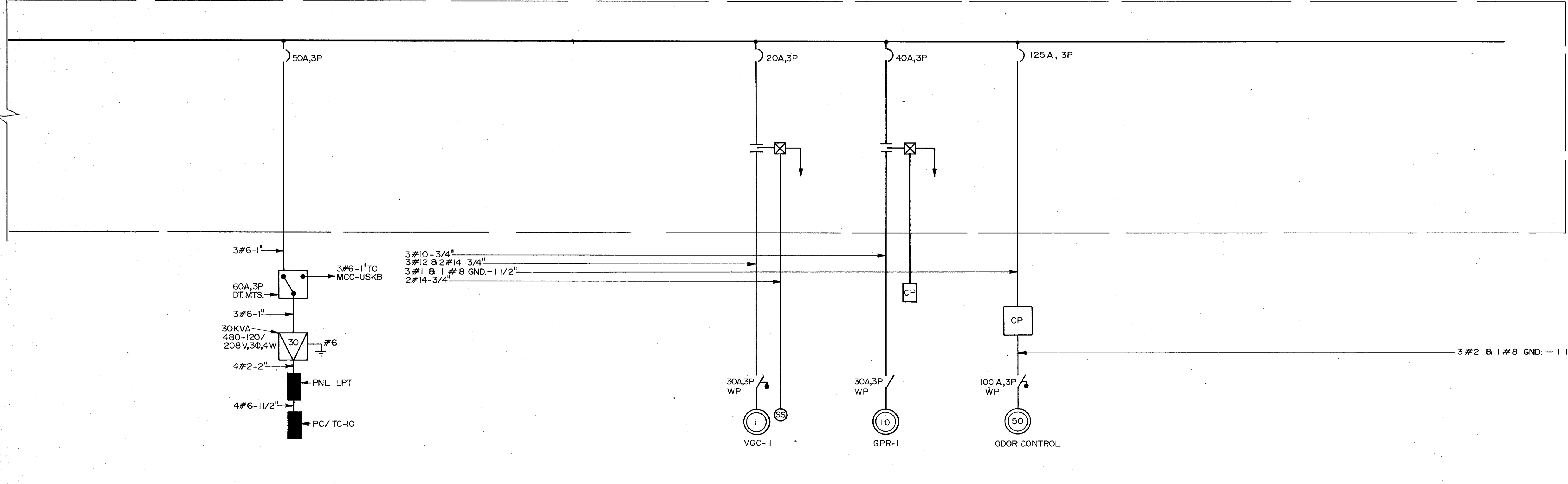
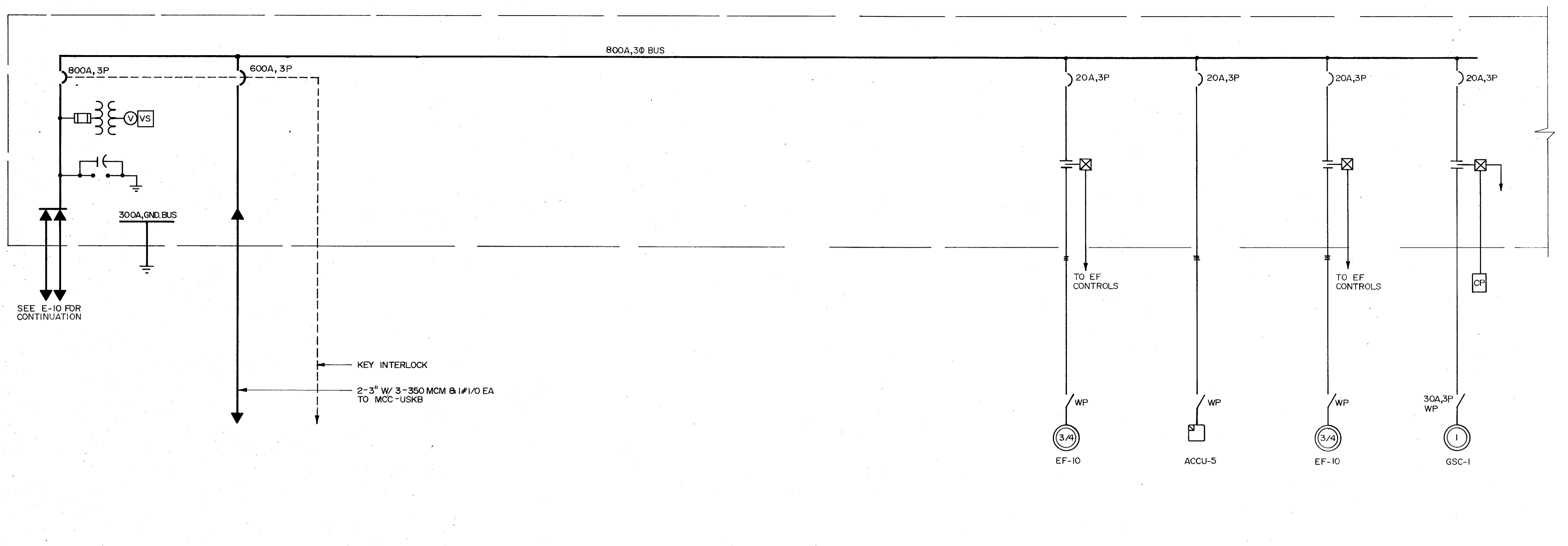
SEE E-9 FOR CONTINUATION

MCC-USJB
(ELEC. BLDG. PHASE IIIA)

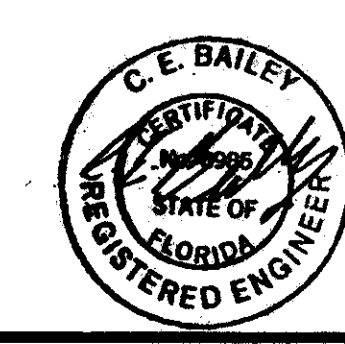


C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

PROJECT NO. 6059-SL3R	SHEET NO. E-15
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION MCC SINGLE LINE ORANGE COUNTY, FLORIDA	
CAMP DRESSER & MCKEE INC.	
DESIGNED BY: <i>[Signature]</i>	REMARKS
DRAWN BY: <i>[Signature]</i>	CONFORMED DWG.
CHECKED BY: <i>[Signature]</i>	DATE: 4/88
APPROVED BY: <i>[Signature]</i>	DATE: MARCH 1988

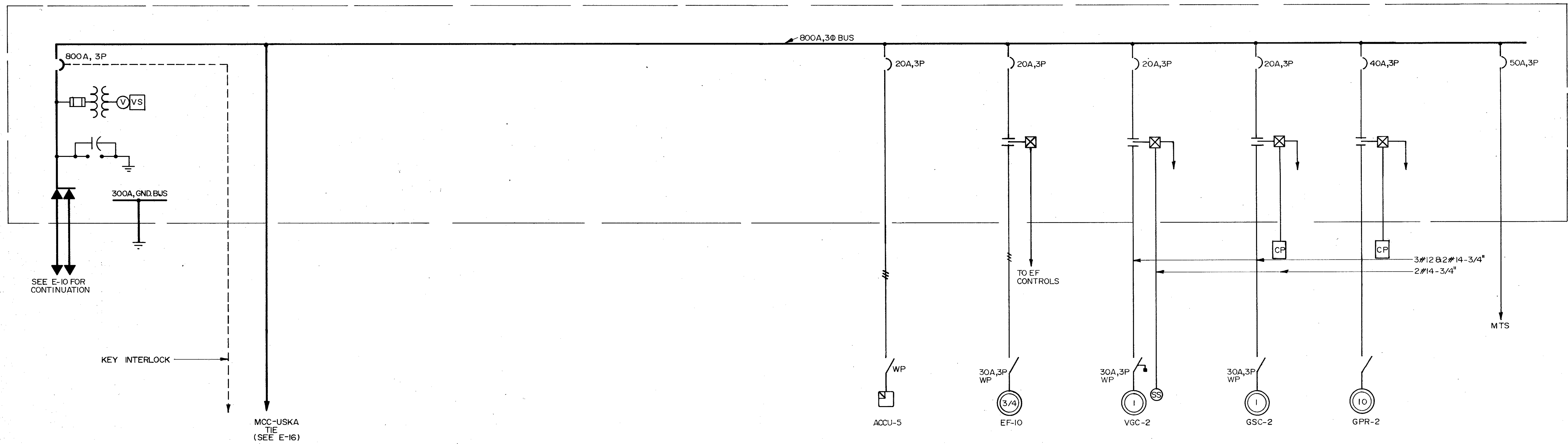


MCC-USKA
(PRE. TREATMENT)



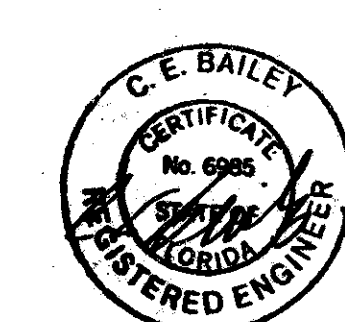
C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

REMARKS	CONFORMED DWG.
CHKD	
DATE	4/88
DRWN	SAF
REV NO	
DESIGNED BY	KL/AVCH
DRAWN BY	TAC
CHECKED BY	JLCH
APPROVED BY	[Signature]
DATE	MARCH 1988
CDM environmental engineers, scientists planners, & management consultants	
CAMP DRESSER & MCKEE INC.	
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION MCC SINGLE LINE ORANGE COUNTY, FLORIDA	
PROJECT NO	6059-SL3R
SHEET NO	E-16

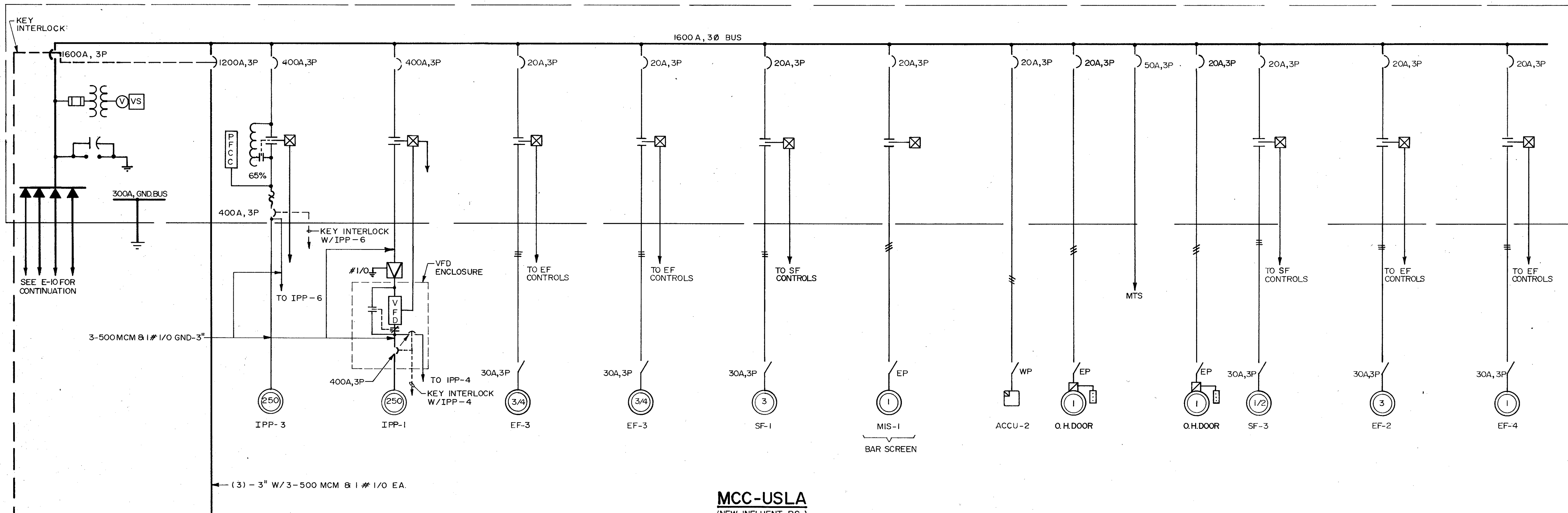


MCC-USKB
(PRE-TREATMENT)

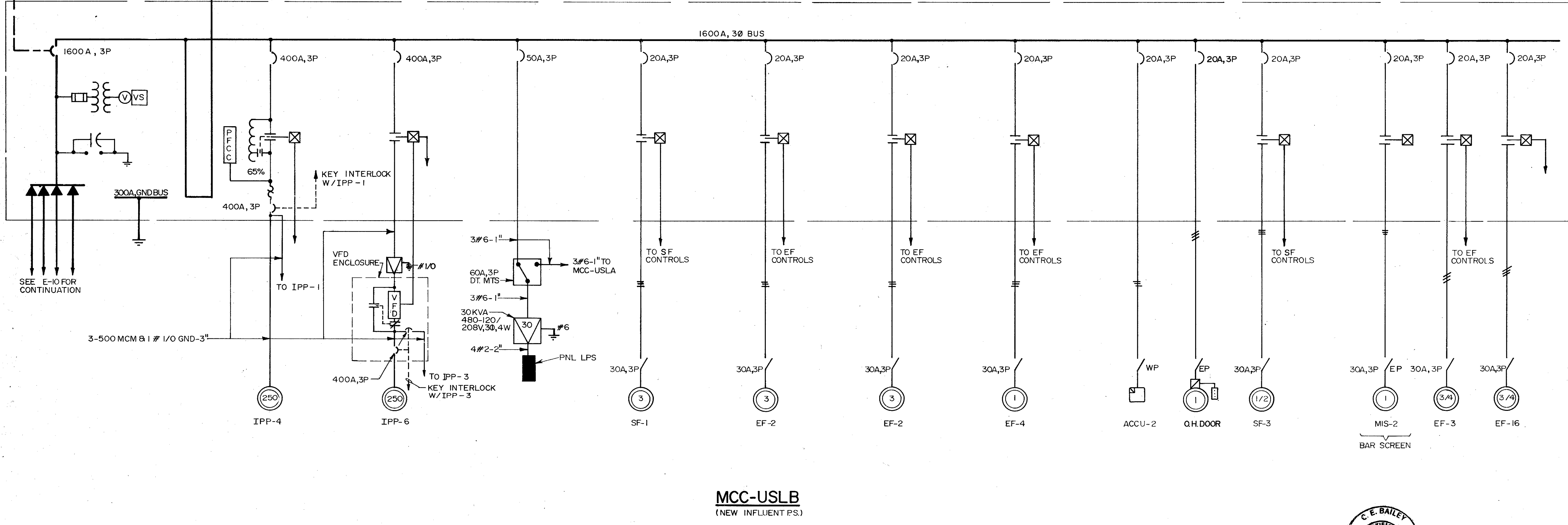
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DATE	4/18/88
DRWN	SAF
CHKD	
REV NO	
DESIGNED BY	KEL/NGC
DRAWN BY	TAC
CHECKED BY	WCL
APPROVED BY	CE
DATE	MARCH 1988
CDM <small>CONSULTANTS IN ELECTRICAL ENGINEERING, PLANNING, & MANAGEMENT CONSULTANTS</small>	
CAMP DRESSER & MCKEE INC.	
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION MCC SINGLE LINE ORANGE COUNTY, FLORIDA	
PROJECT NO	6059-SL3R
SHEET NO	E-17



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

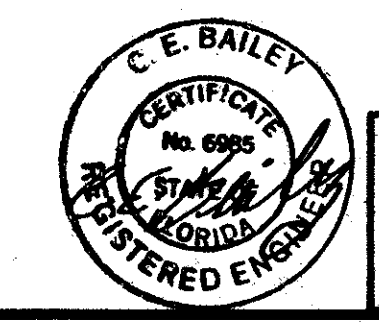


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(NEW INFLUENT P.S.)

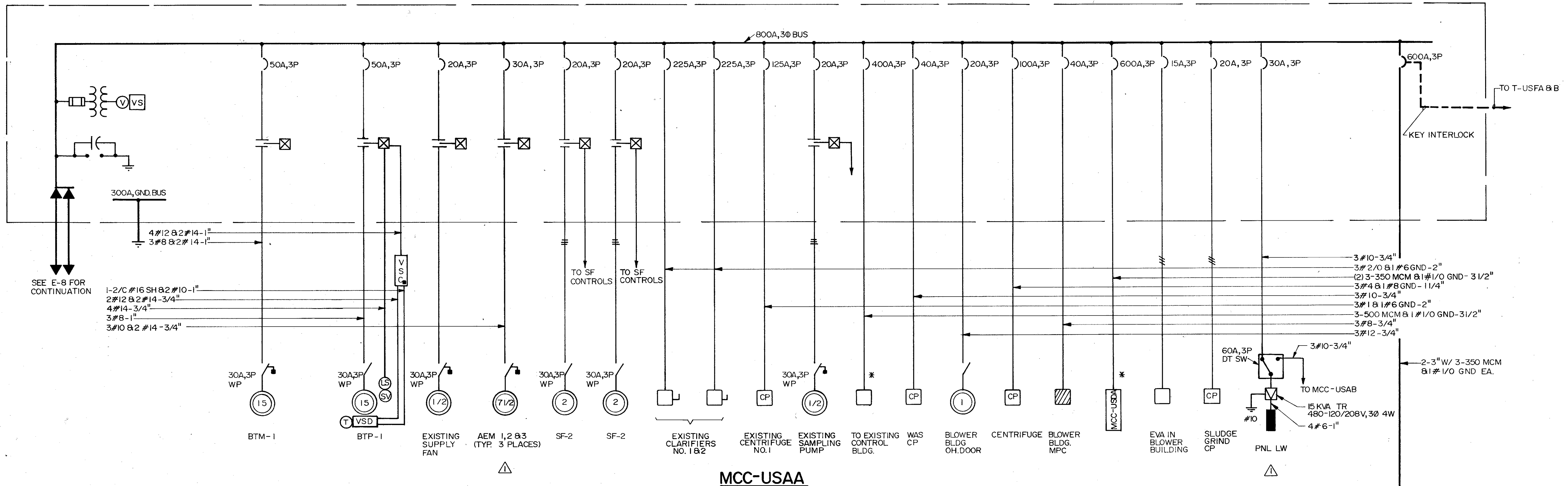


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(NEW INFLUENT P.S.)

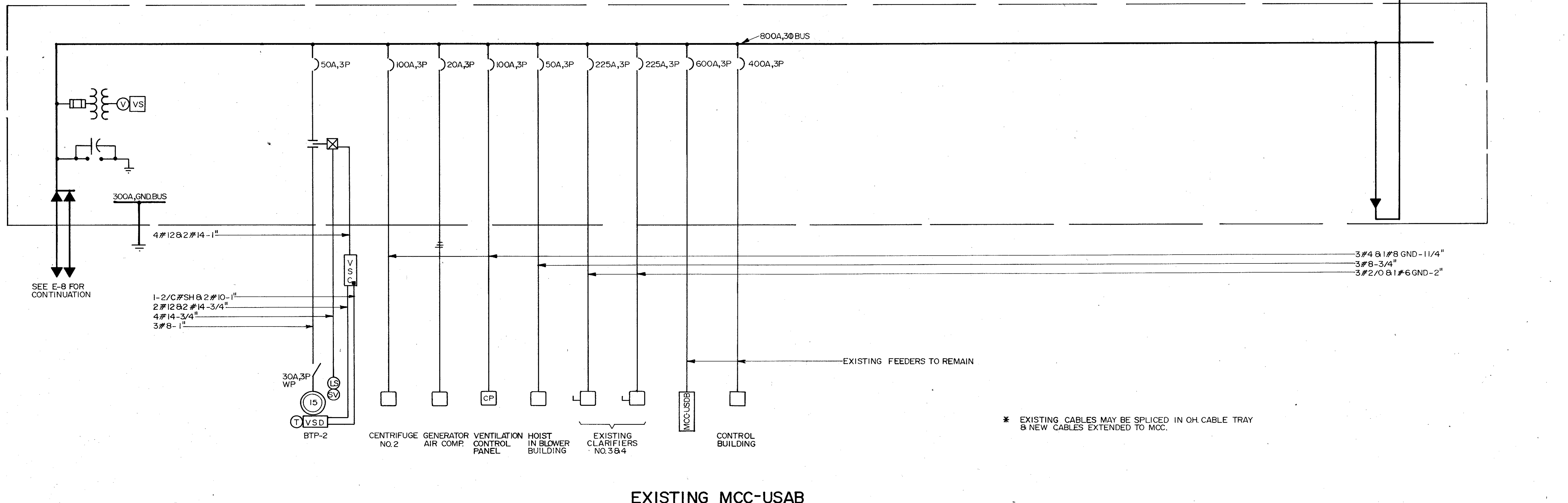
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1	4/88	SAF		CONFORMED DWG.
DESIGNED BY: <i>[Signature]</i>				
DRAWN BY: <i>[Signature]</i>				
CHECKED BY: <i>[Signature]</i>				
APPROVED BY: <i>[Signature]</i>				
DATE: MARCH 1988				
CDM environmental engineers, scientists, planners & management consultants				
CAMP DRESSER & MCKEE INC.				
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION				
MCC SINGLE LINE				
ORANGE COUNTY, FLORIDA				
PROJECT NO.				
6059-SL3R				
SHEET NO.				
E-18				



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



MCC-USAA



EXISTING MCC-USAB

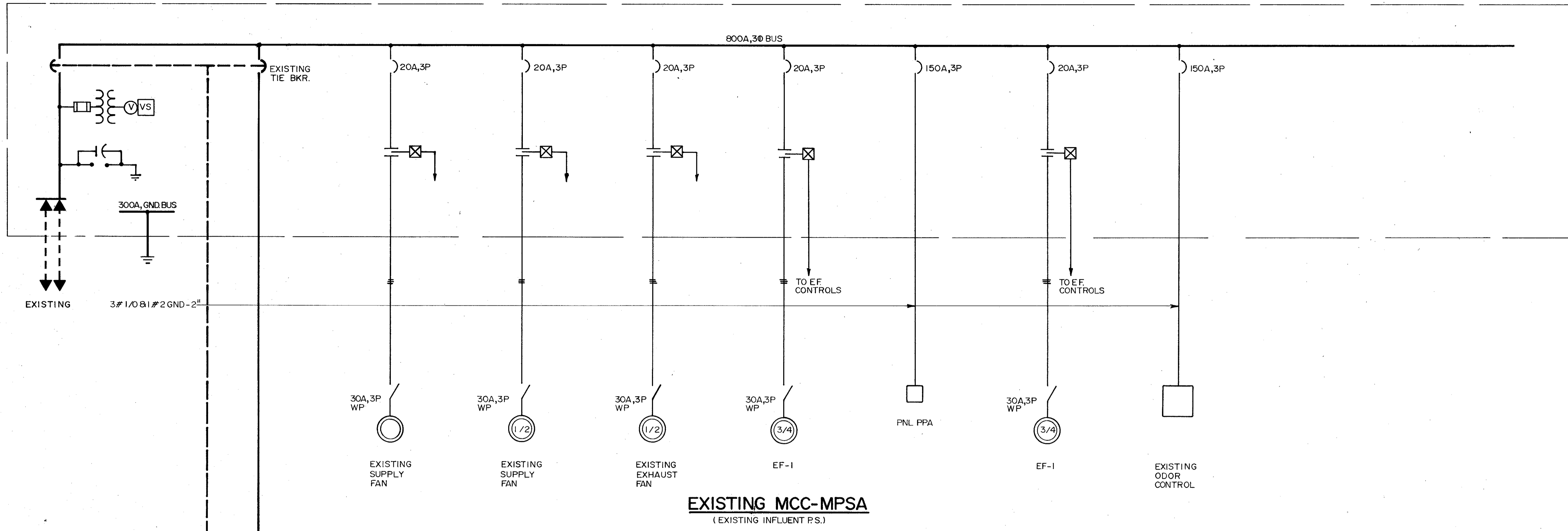
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	SAF	4/88	SAF			CE	
ADD.#1	CONFORMED DWG						
<p>SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION MCC SINGLE LINE ORANGE COUNTY, FLORIDA</p>							
<p>PROJECT NO. 6059-SL3R</p>							
<p>SHEET NO. E-19</p>							

CAMP DRESSER & MCKEE INC.
 ENGINEERING, ARCHITECTURE, INTERIORS, PLUMBING & MECHANICAL CONSULTANTS

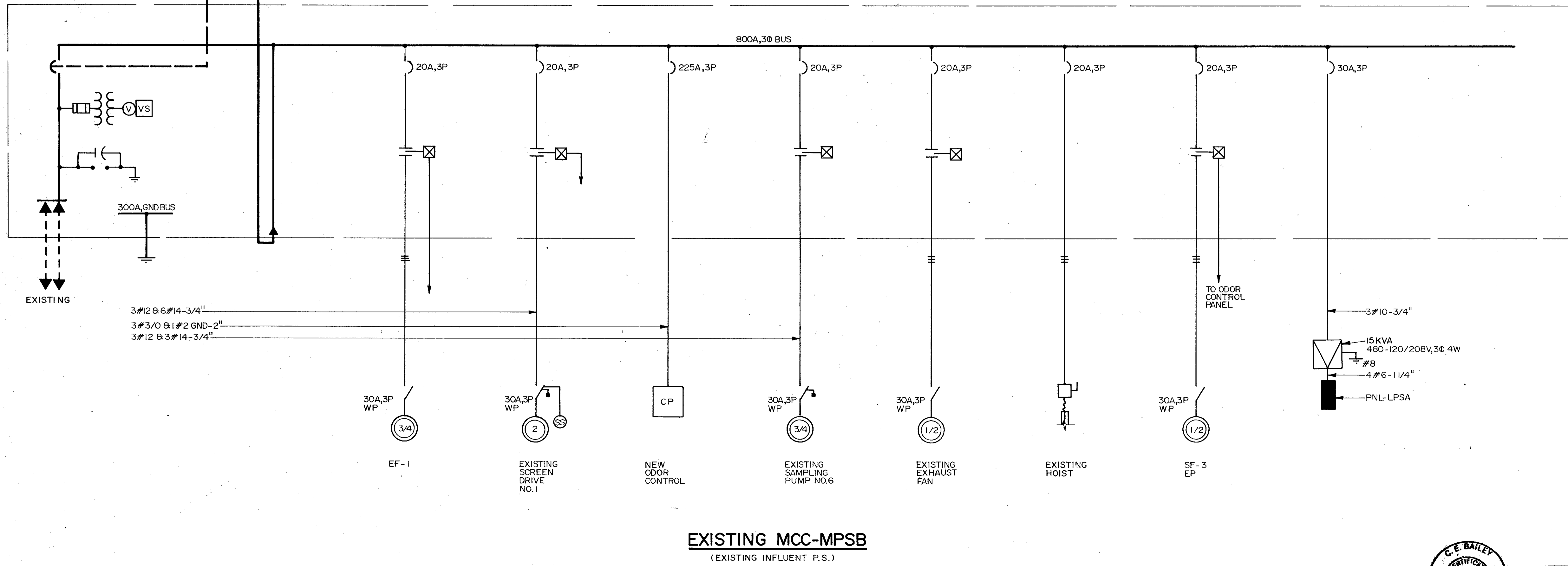
CAMP DRESSER & MCKEE INC.
 ENGINEERING, ARCHITECTURE, INTERIORS, PLUMBING & MECHANICAL CONSULTANTS



C. E. BAILEY & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 ORLANDO, FLORIDA



EXISTING MCC-MPSA
(EXISTING INFLUENT P.S.)



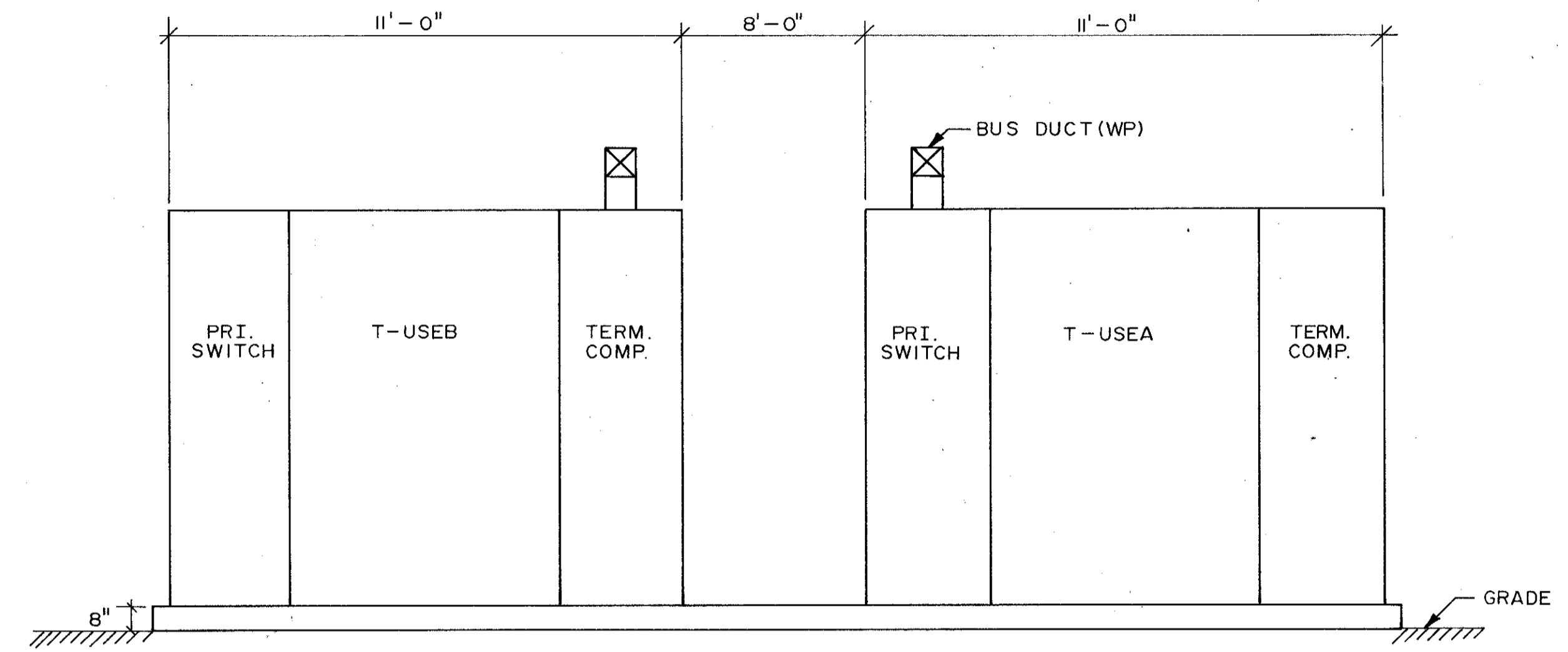
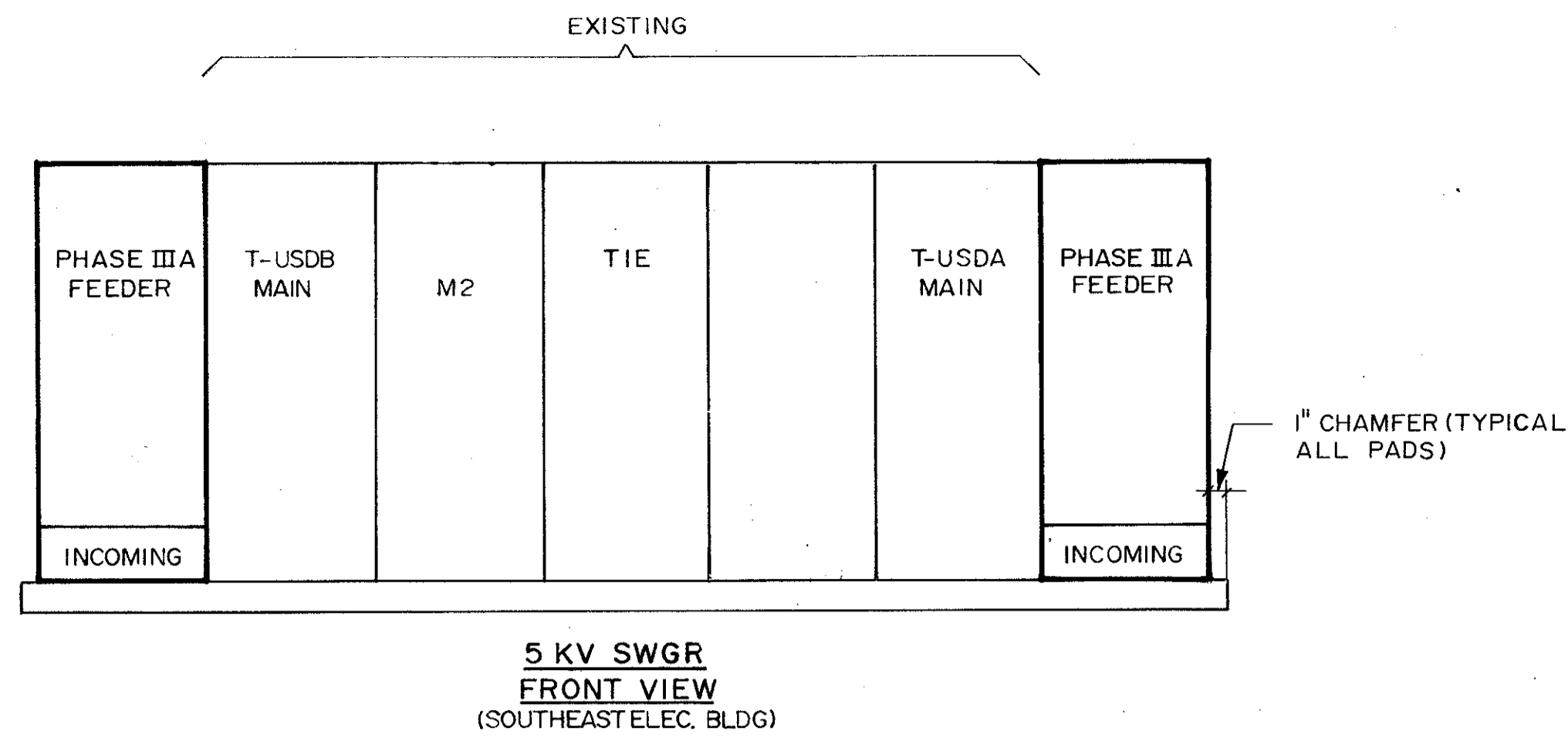
EXISTING MCC-MPSB
(EXISTING INFLUENT P.S.)

DESIGNED BY DRAWN BY CHECKED BY APPROVED BY	DATE	DRWN	CHKD	REMARKS
	4/88	SAF		CONFORMED DWG.
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION MCC SINGLE LINE ORANGE COUNTY, FLORIDA				
PROJECT NO. 6059-SL3R				SHEET NO. E-20

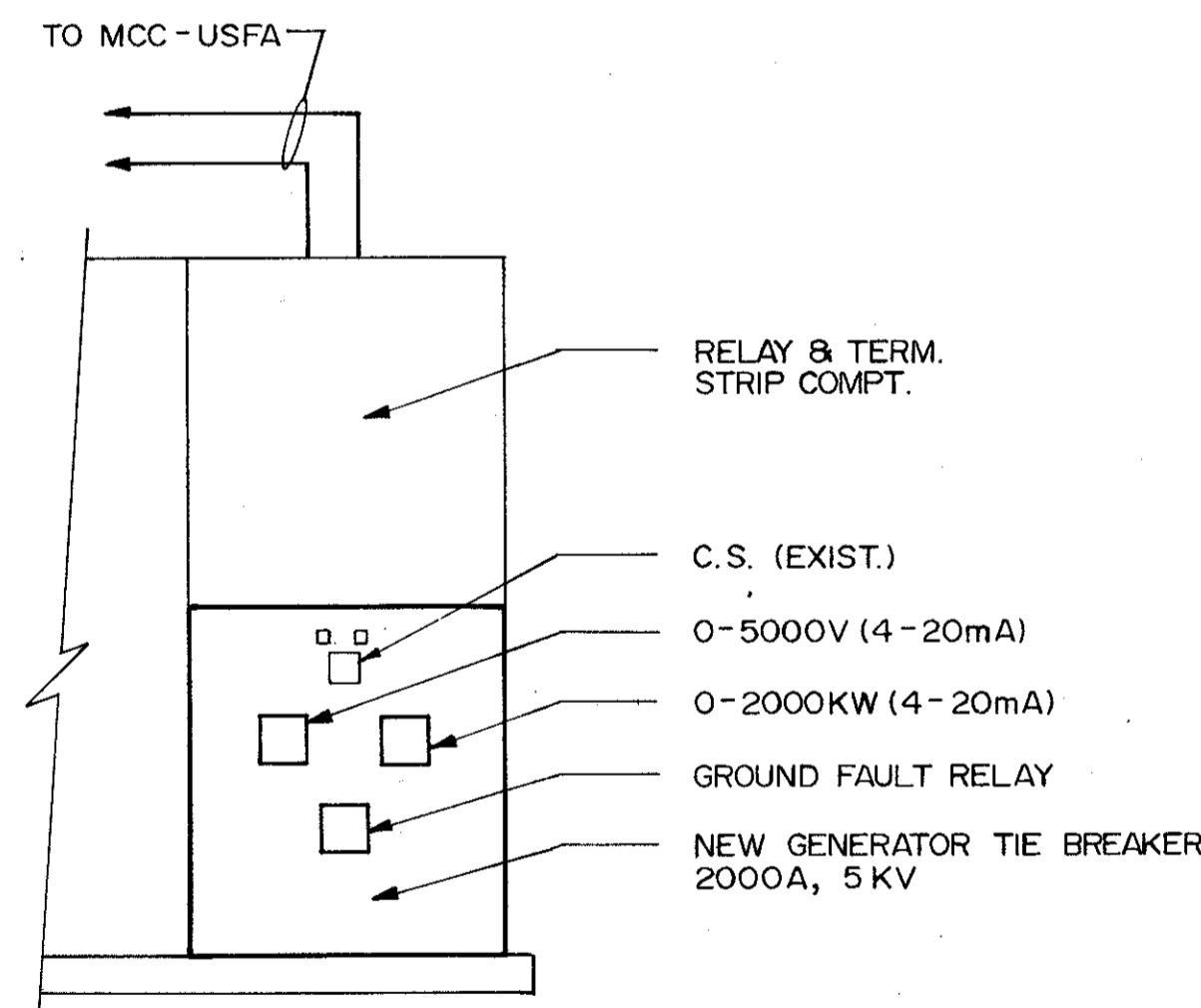
CAMP DRESSER & MCKEE INC.
environmental engineers, scientists,
planning & development consultants
CDM



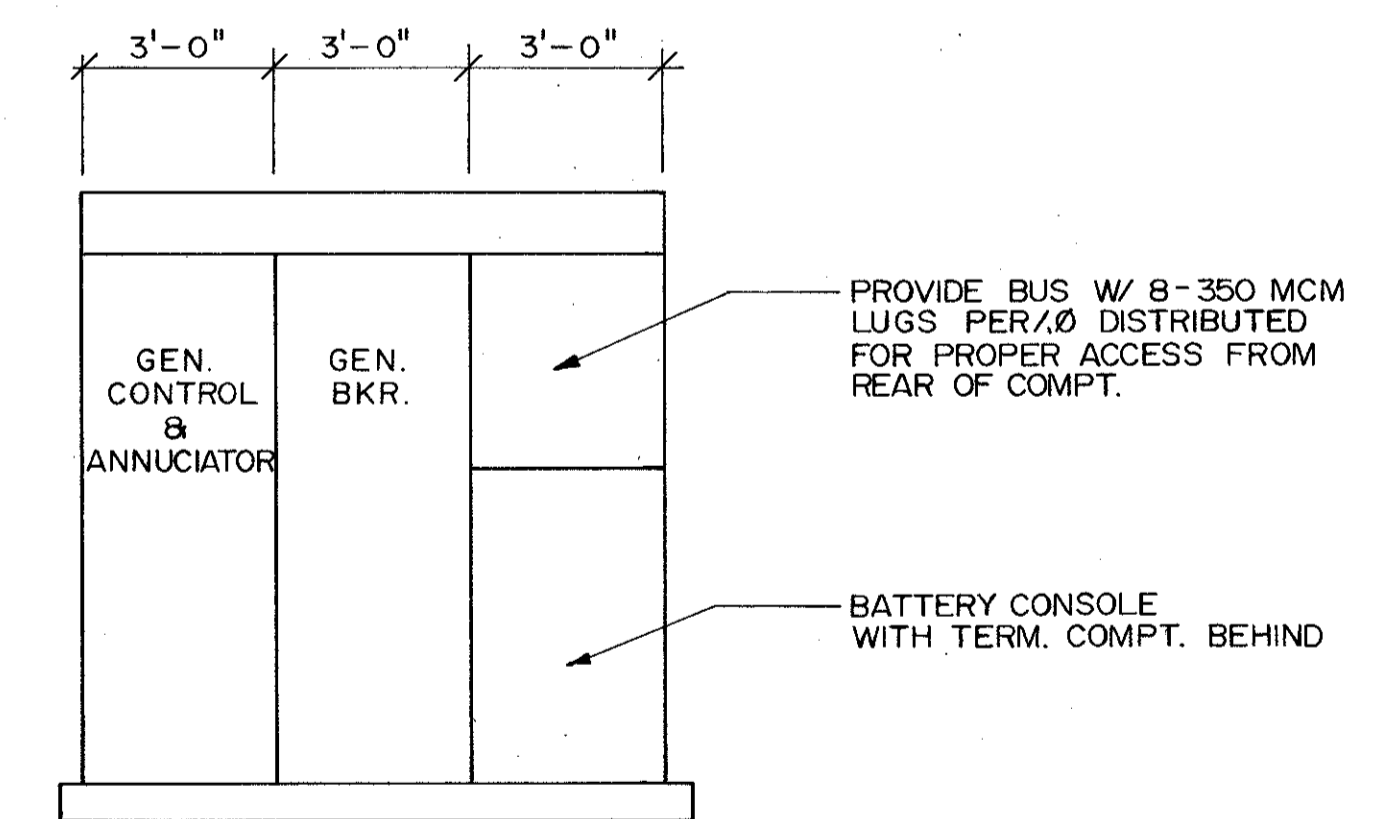
C. E. BAILEY & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 ORLANDO, FLORIDA



FRONT VIEW
(PH. III A ELEC. BLDG.)



PARTIAL FRONT VIEW
(EXISTING 4160 SWGR)



FRONT VIEW 2000 KW GEN. CONTROLS

REV	DATE	DRWN	CHKD	REMARKS
1	4/88	SAF		CONFORMED DWG.

DESIGNED BY: JEL/MLC
DRAWN BY: JEL
CHECKED BY: JEL
APPROVED BY: C.E.B.
DATE: MARCH 1988

CAMP DRESSER & MCKEE INC.
CDM
Construction Management, Planning, & Management Consultants

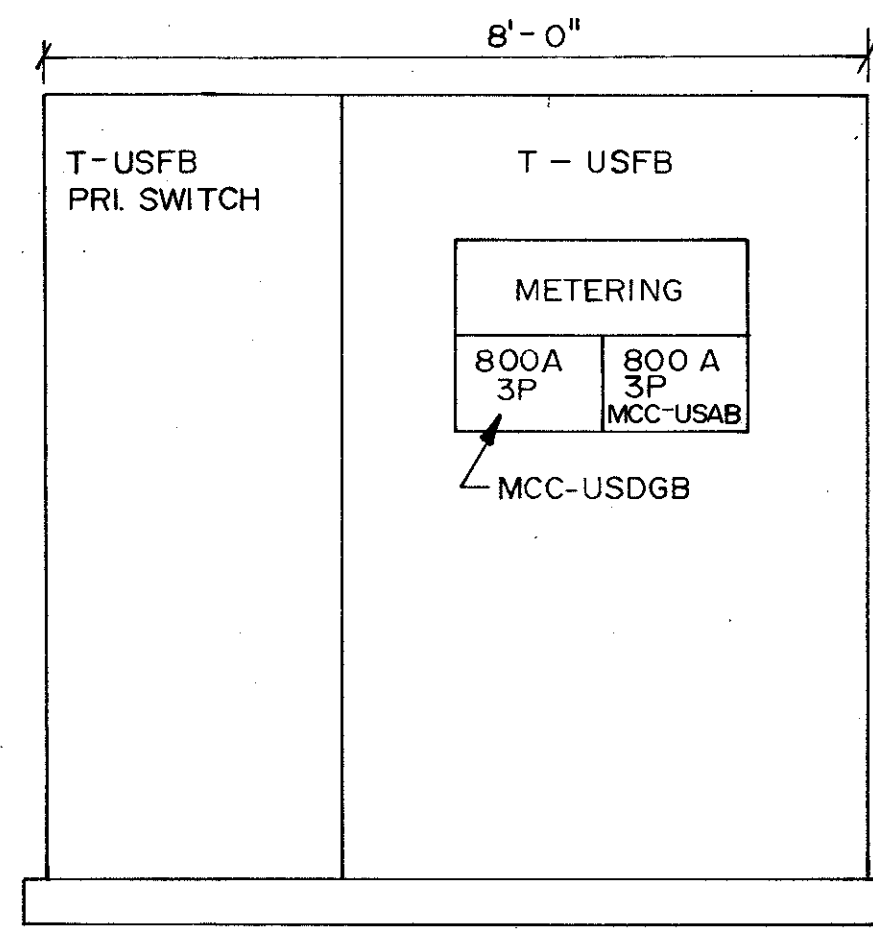
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
4160 VOLT FRONT VIEWS
ORANGE COUNTY, FLORIDA

PROJECT NO
6059-SL3R

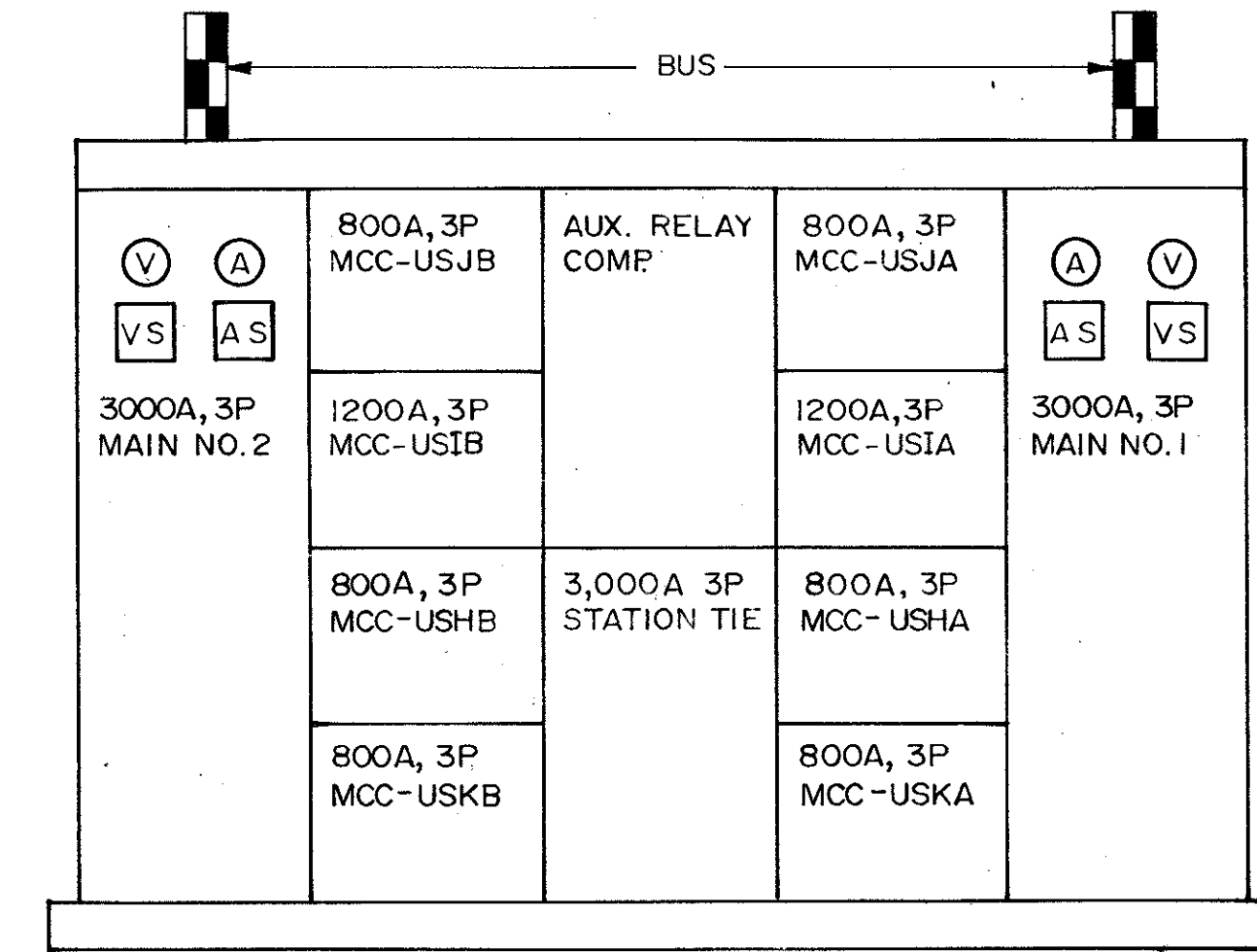
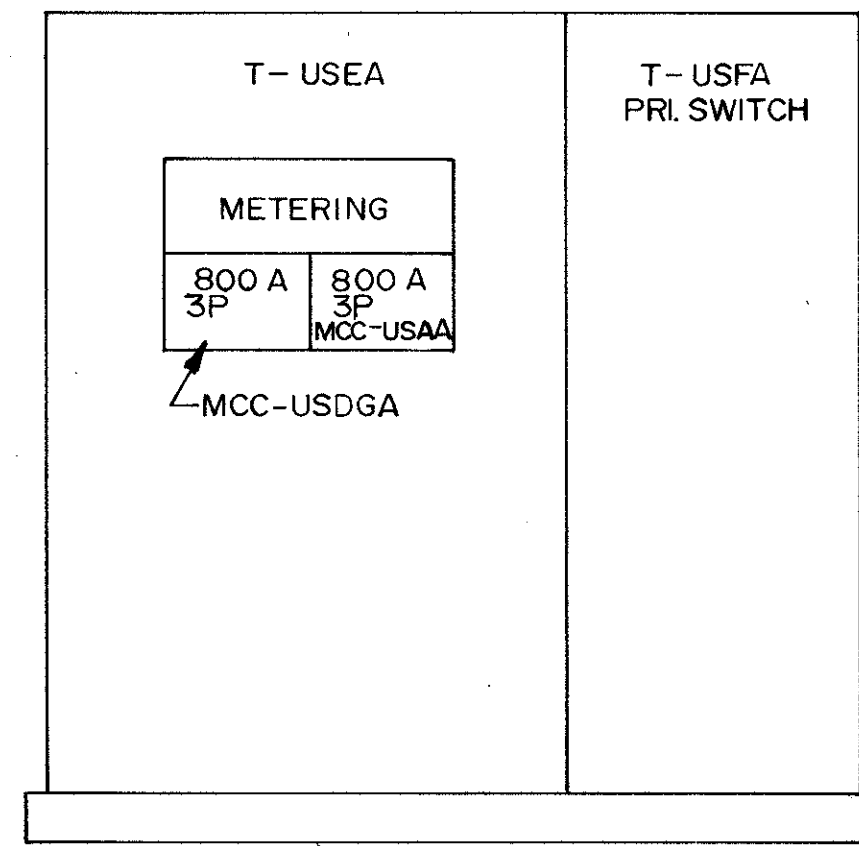
SHEET NO
E-21



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



FRONT VIEWS
(WEST ELEC. BLDG)



FRONT VIEWS
(480V SWGR)

DESIGNED BY <i>AT/LLK/LLK</i>	REMARKS
DRAWN BY <i>JAC</i>	CONFORMED DWG.
CHECKED BY <i>WCH</i>	
APPROVED BY <i>CE</i>	
DATE <u>MARCH 1988</u>	
REV NO	DATE
4/88	SAF

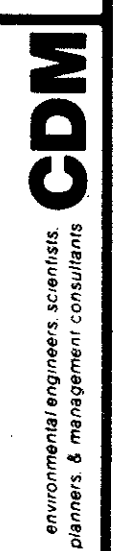
CAMP DRESSER & MCKEE INC.
DESIGNED BY *AT/LLK/LLK*
DRAWN BY *JAC*
CHECKED BY *WCH*
APPROVED BY *CE*
DATE MARCH 1988

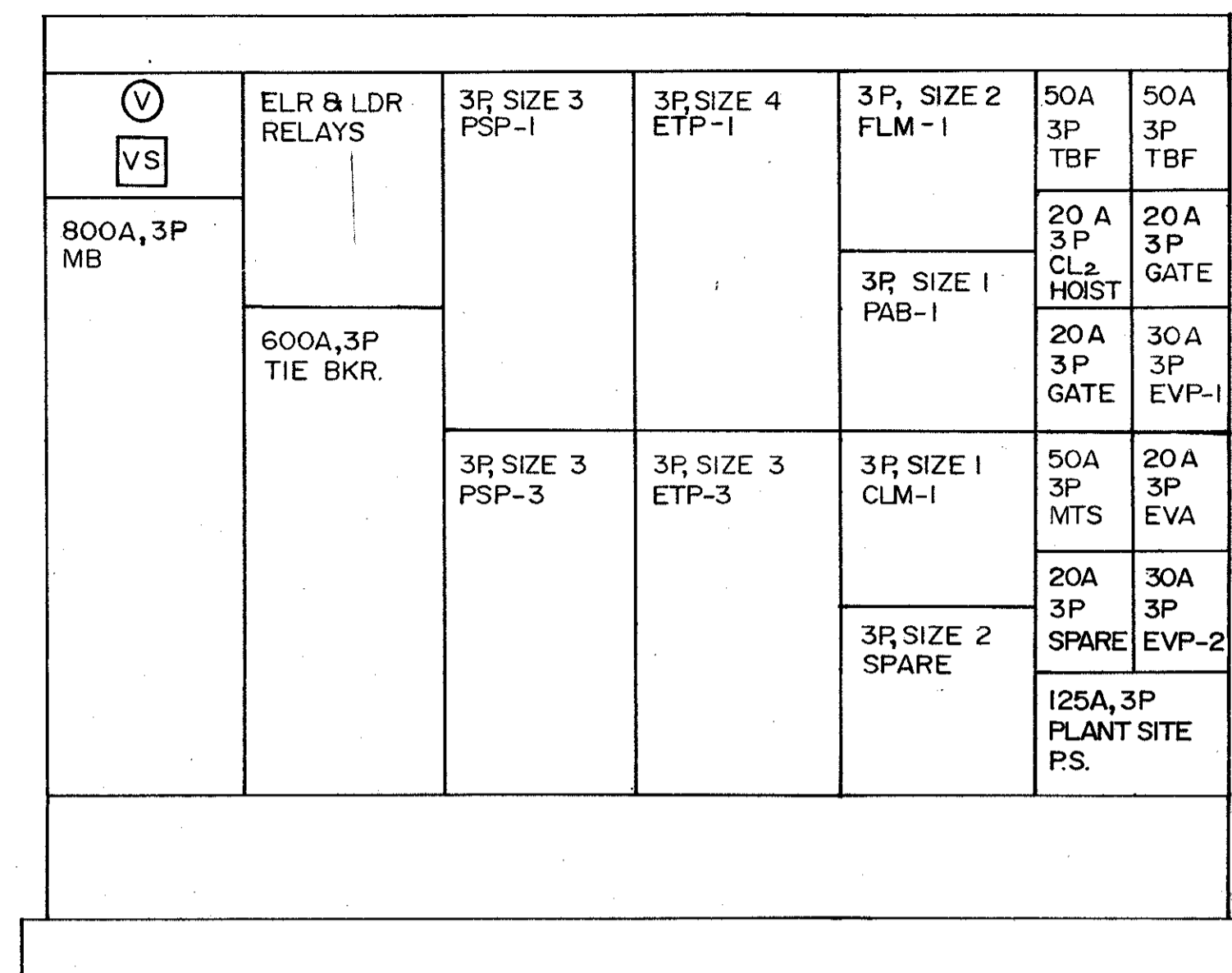
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
480 VOLT FRONT VIEWS
ORANGE COUNTY, FLORIDA

PROJECT NO
6059-SL3R
SHEET NO
E-22

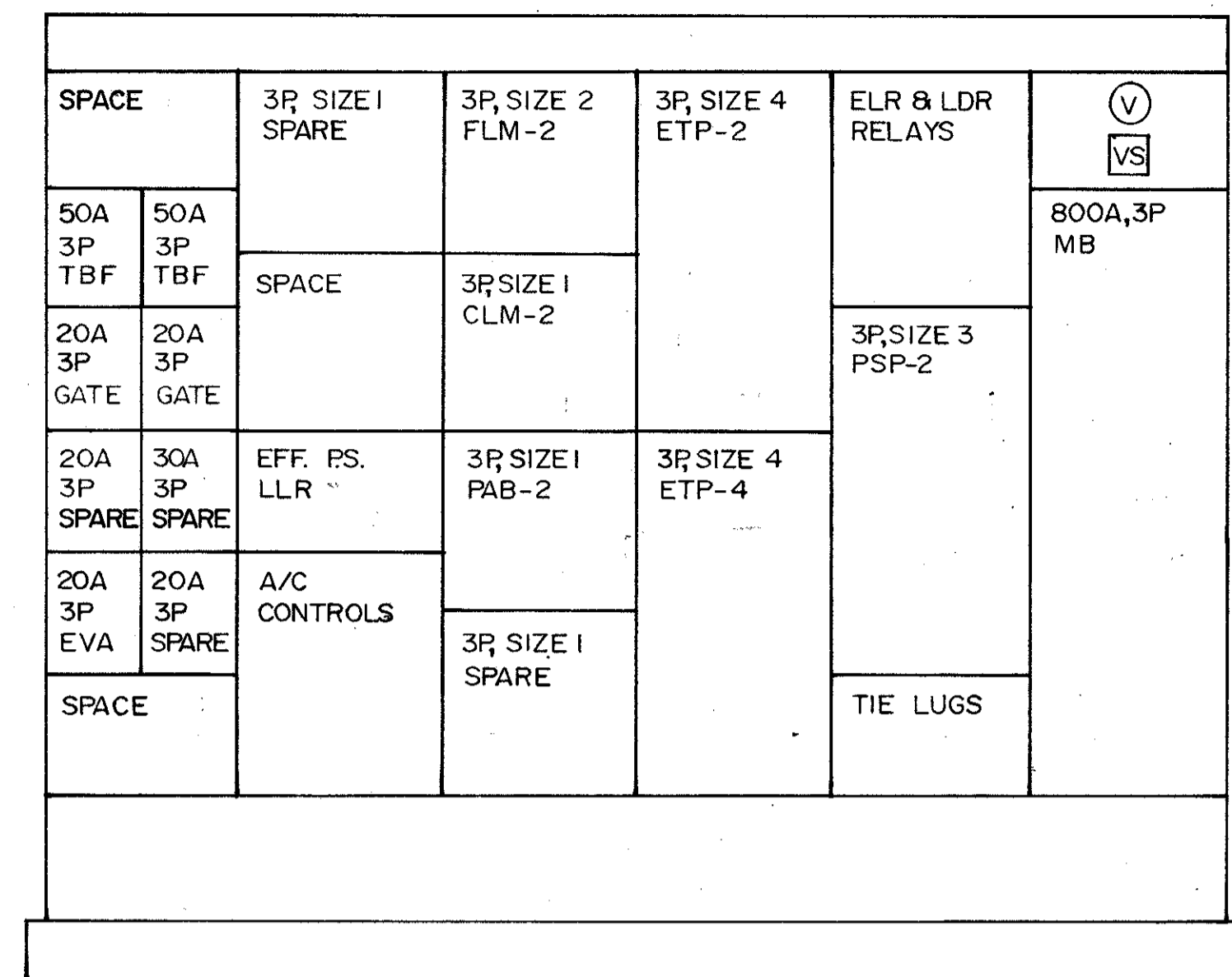


C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

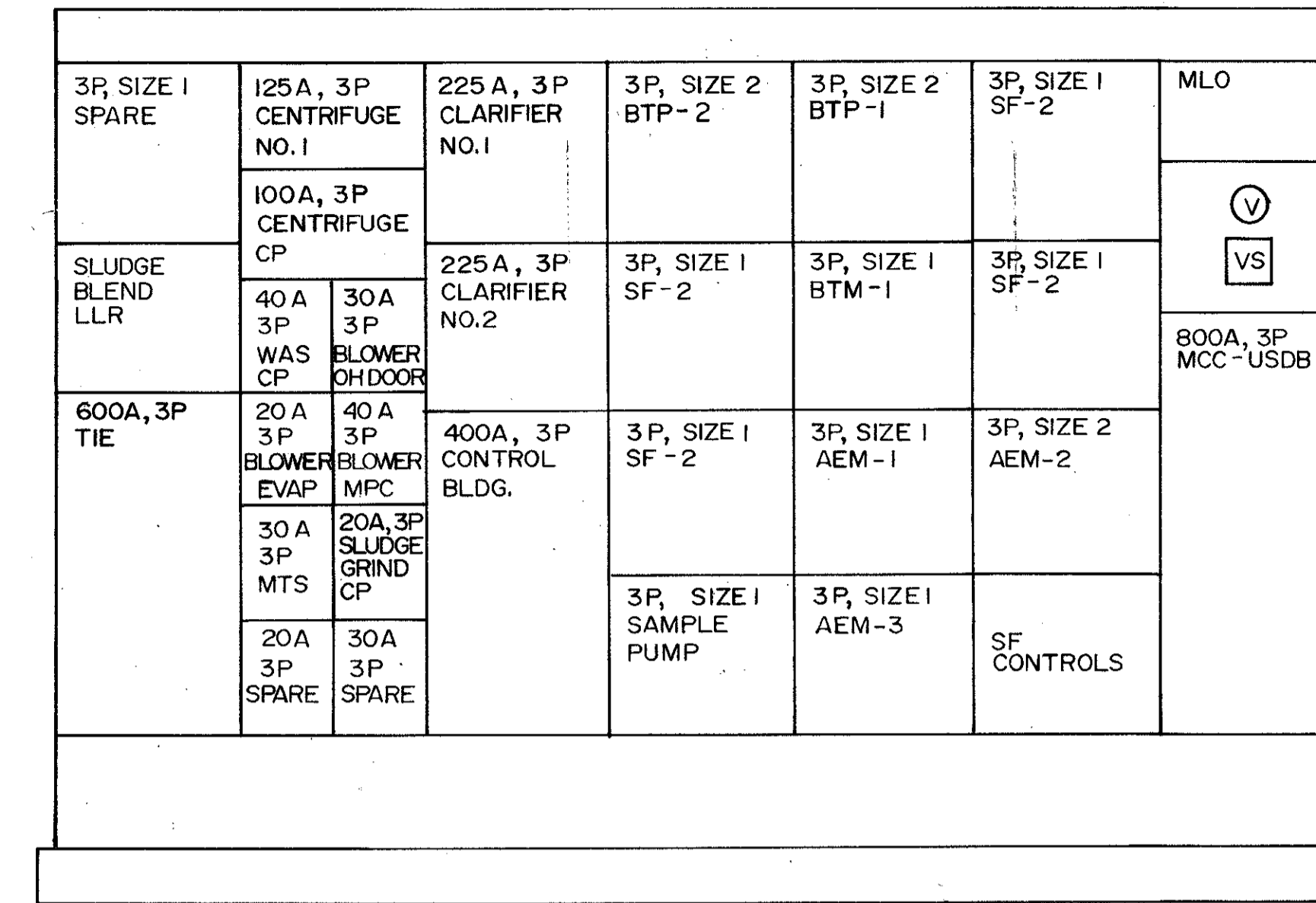




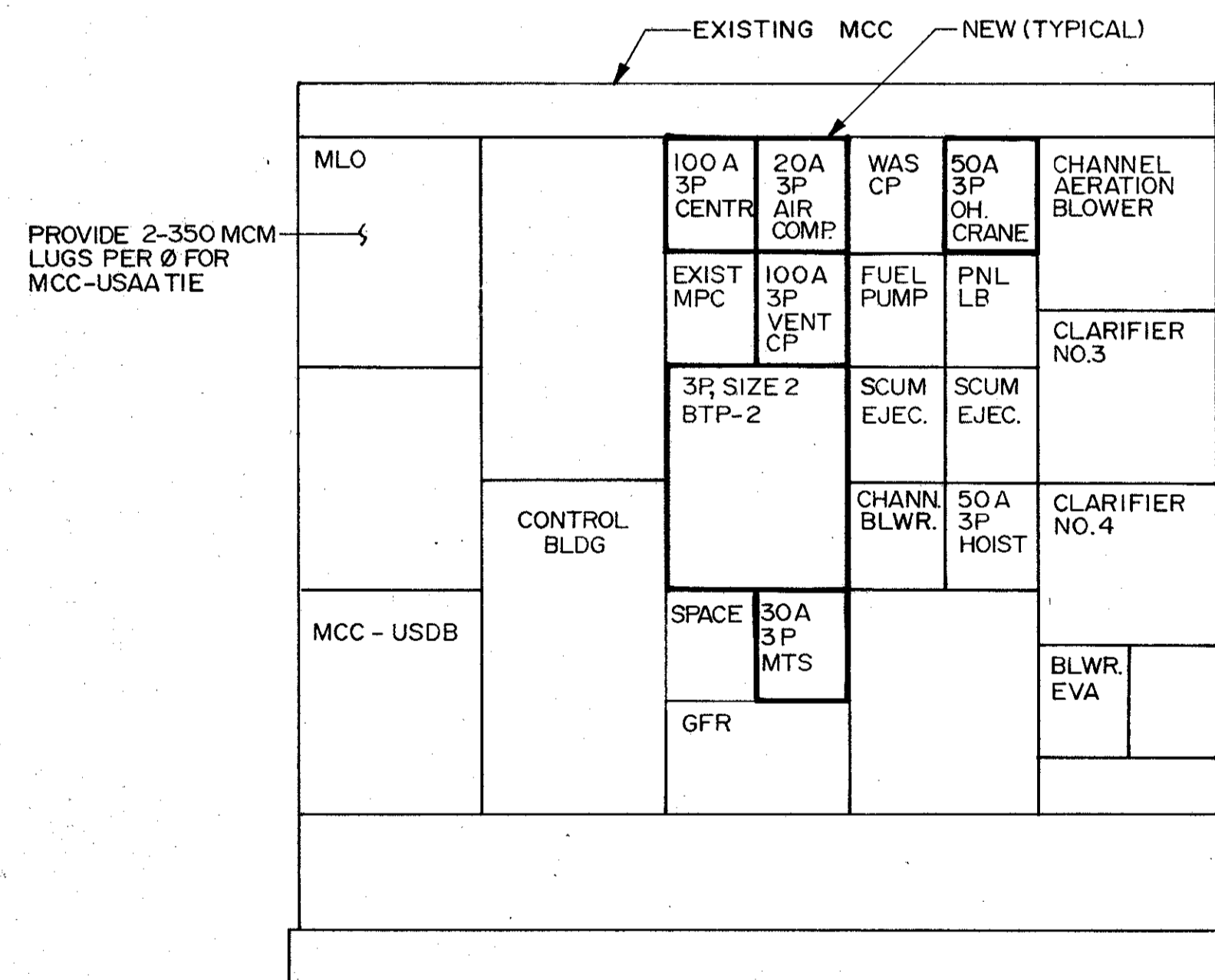
MCC-USHA



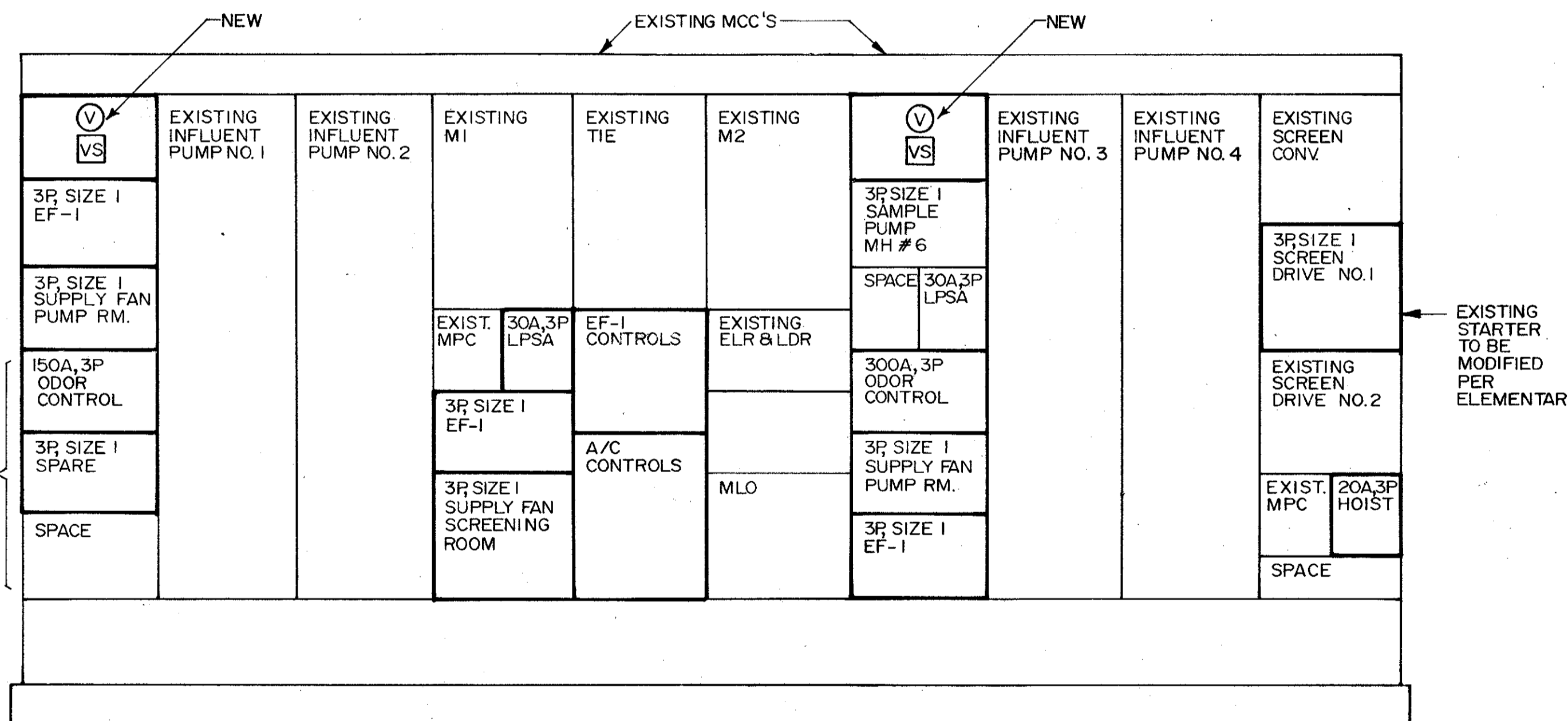
MCC-USHB



MCC-USAA
(EXIST. ELEC. BLDG.)



MCC-USAB
(EXIST. ELEC. BLDG)



MCC-MPSA & MPSB
(EXISTING INF. P.S.)

DESIGNED BY: *[Signature]* DATE: 4/18/88
 CHECKED BY: *[Signature]* DATE: 4/18/88
 APPROVED BY: *[Signature]* DATE: MARCH 1988

REMARKS: CONFORMED DWG

ADD.#1

WCH

4/18/88 SAF

DATE: MARCH 1988

CAMP DRESSER & MCKEE INC.

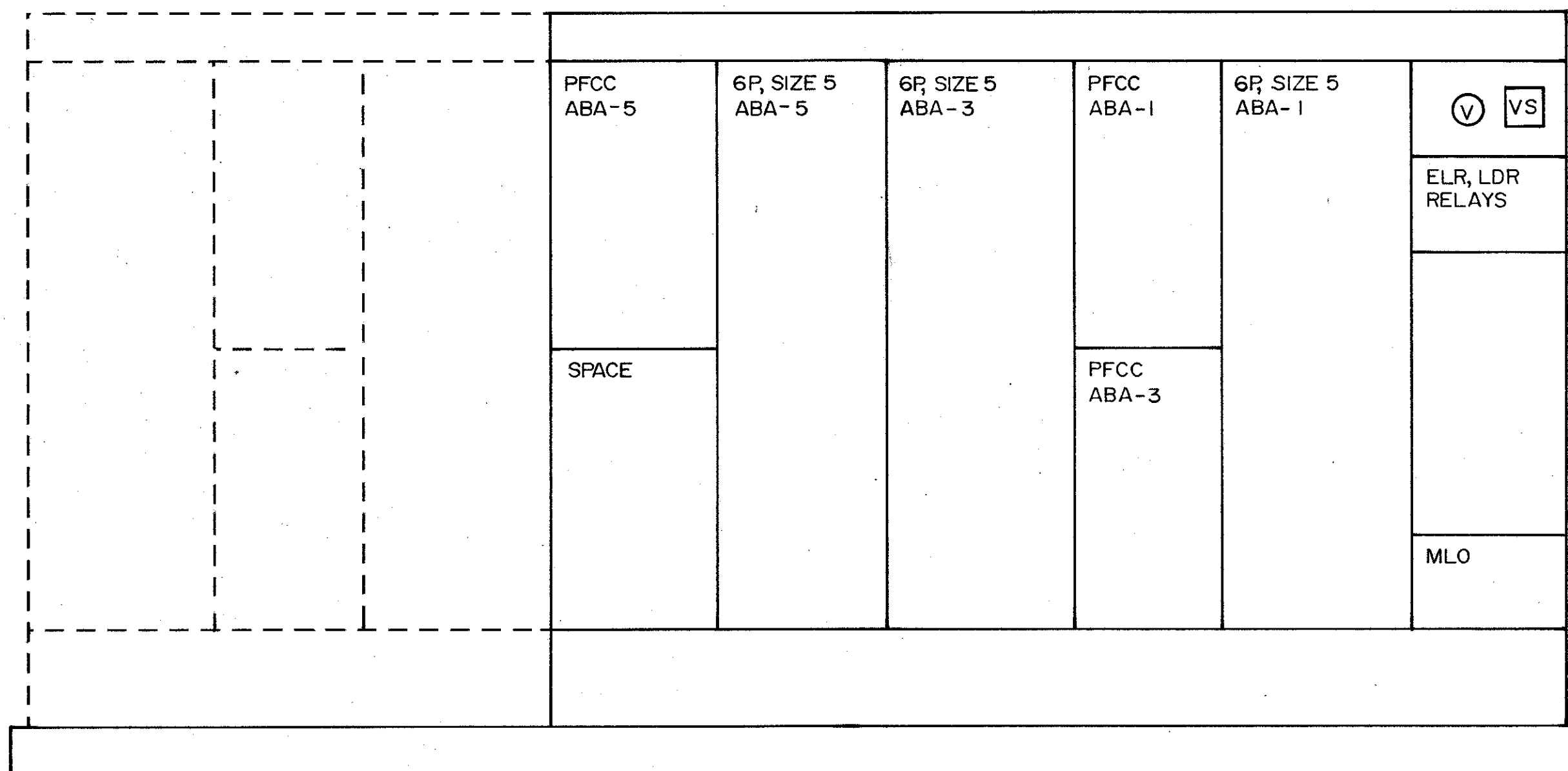
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION

MCC FRONT VIEWS
 ORANGE COUNTY, FLORIDA

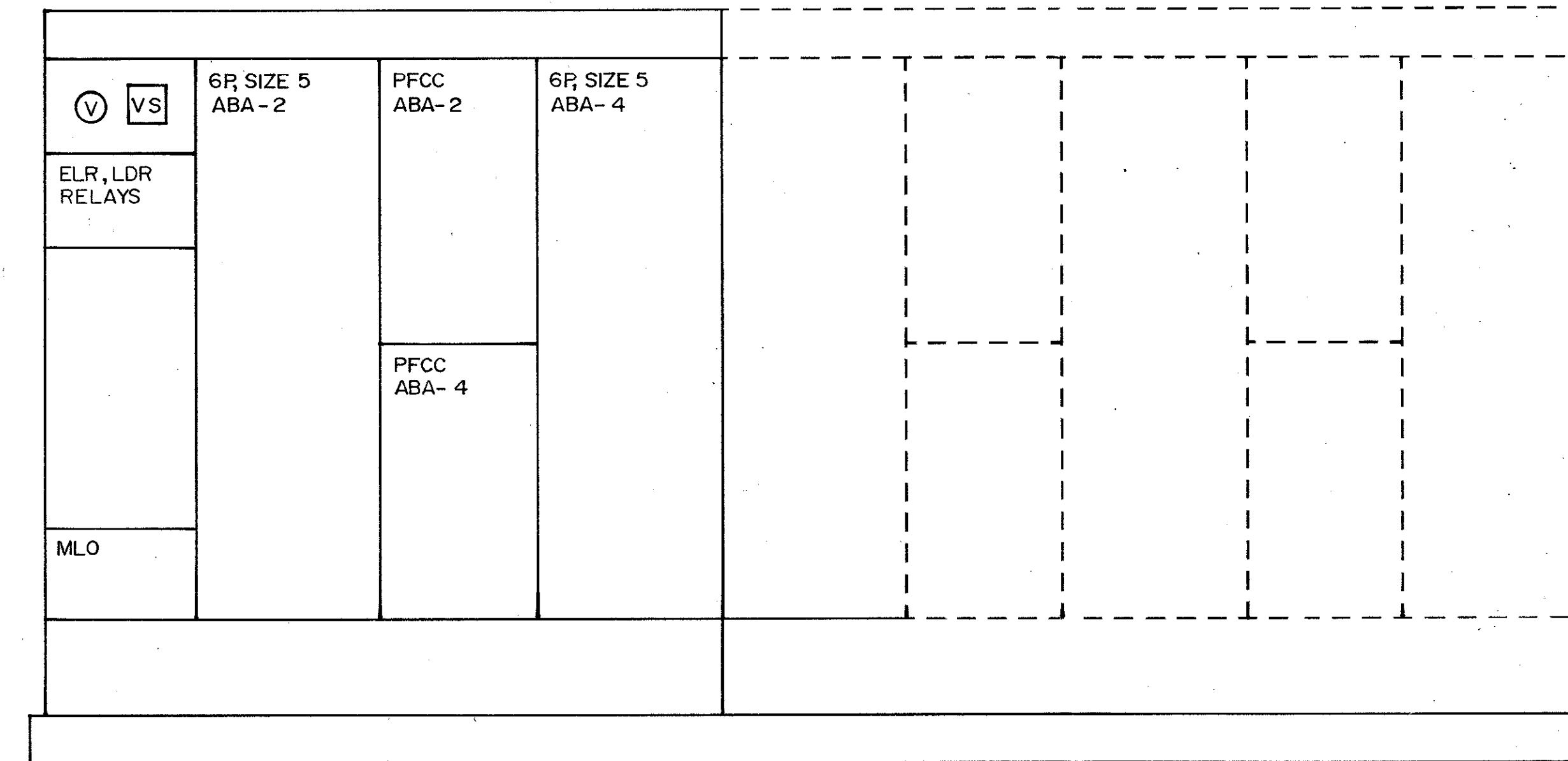
PROJECT NO: 6059-SL3R
 SHEET NO: E-23

C.E. BAILEY
 No. 3985
 REGISTERED ENGINEER

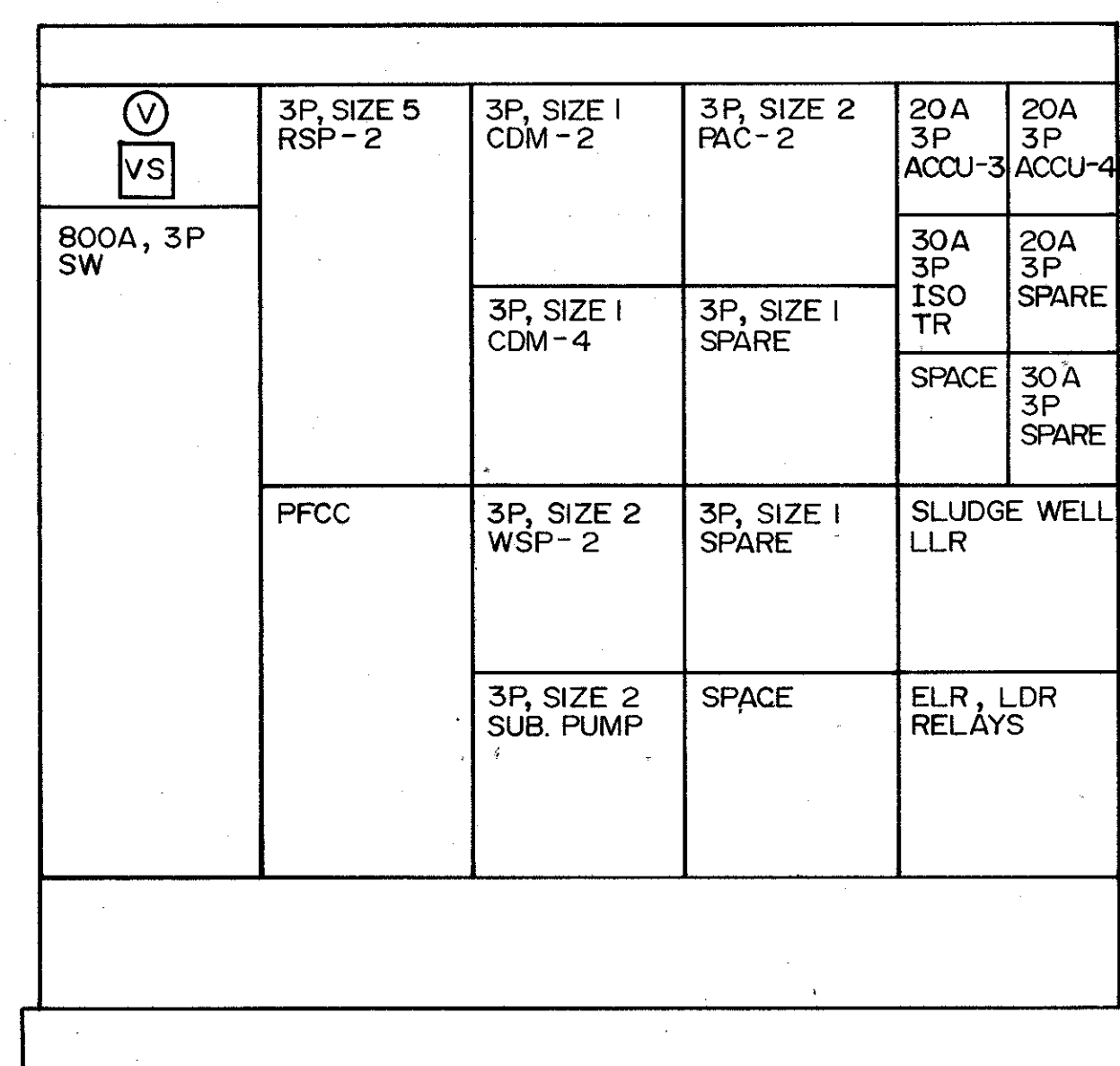
C. E. BAILEY & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 ORLANDO, FLORIDA



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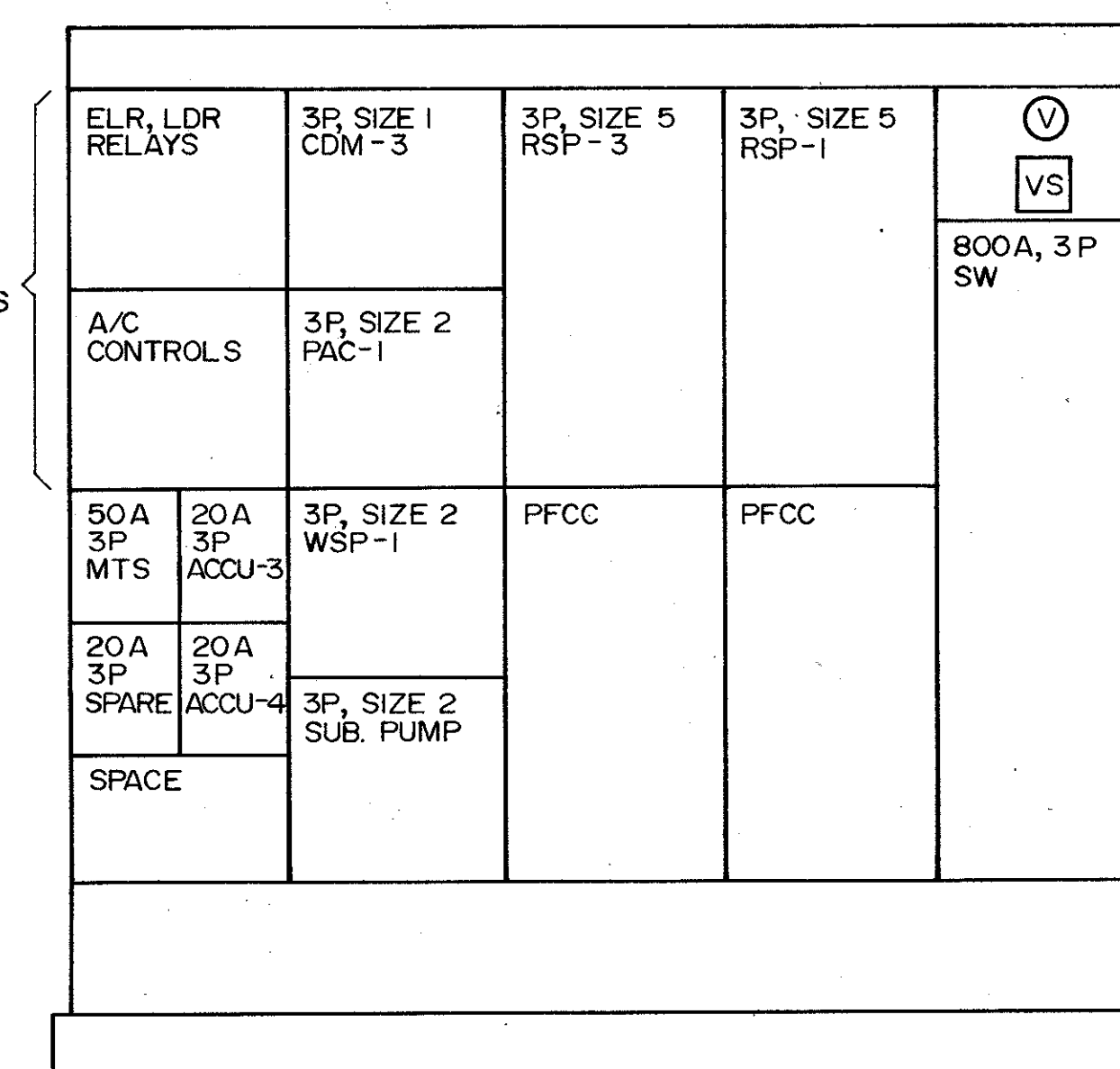


MCC-USIA



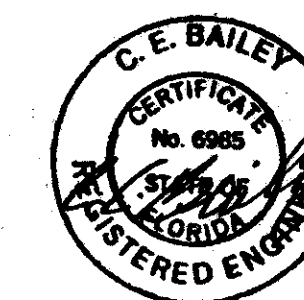
MCC-USJB

BY MCC MFR.
(TYP. OF ALL MCC'S)



MCC-USJA

DESIGNED BY DRAWN BY CHECKED BY APPROVED BY DATE	REV NO	DATE	DRWN	CHKD	REMARKS
BY <i>[Signature]</i> TAC		4/88	SAF		CONFORMED DWG.
CAMP DRESSER & MCKEE INC.					
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION					
MCC FRONT VIEWS ORANGE COUNTY, FLORIDA					
PROJECT NO. 6059 - SL3R					
SHEET NO. E-24					



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

SPACE	3P, SIZE 1 VGC-2	3P, SIZE 1 GPR-2	Ⓢ VS
	800A, MB.		
ELR & LDR RELAYS	3P, SIZE 1 SPARE	3P, SIZE 1 GSC-2	
SPACE	100A, 3P	3P, SIZE 1 EF-10	
	50A 3P MTS-3	30A 3P SPARE	
TIE LUGS	20A 3P ACCU-5	20A 3P O.H. DOOR	3P, SIZE 1 EF-10
	ELR & LDR RELAYS		

MCC - USKB
(PRE - TREATMENT)

Ⓢ VS	EXH. FAN CONTROLS	3P, SIZE 1 GSC-1	SPACE
800A, MB			
	A/C CONTROLS	3P, SIZE 2 GPR-1	600A, 3P TIE
	3P, SIZE 1 EF-10	20A 3P ACCU-5	20A 3P SPARE
		20A 3P O.H. DOOR	50A 3P MTS
ELR & LDR RELAYS	3P, SIZE 1 VGC-1	SPACE	

MCC - USKA
(PRE - TREATMENT)

20A, 3P SPARE	20A, 3P ACCU-2	3P, SIZE 1 SF-1	3P, SIZE 1 EF-3	3P, SIZE 6 FVNR IPP-6	SPACE FOR FUTURE IPP-5	3P, SIZE 6 RVNR (SPACE FOR FUTURE IPP-5)	IPP-4 PFCC	3P, SIZE 6 RVNR IPP-4	SPACE	Ⓢ VS
50A, 3P MTS	20A, 3P O.H. DOOR	3P, SIZE 1 SF-3	3P, SIZE 1 EF-2							1600A, 3P M2
3P, SIZE 1 SPARE										
SPACE		3P, SIZE 1 MIS-2	3P, SIZE 1 EF-2		EXH. FAN CONTROLS (TRANS. ROOM)		400A, 3P NON-AUTO			
		3P, SIZE 1 EF-16	3P, SIZE 1 EF-4		ELR & LDR RELAYS				TIE LUGS	

MCC-USLB
(INF. PS.)

Ⓢ VS	1600A, 3P M1	1200A, 3P TIE BKR	3P, SIZE 6 RVNR IPP-3	IPP-3 PFCC	3P, SIZE 6 RVNR (SPACE FOR FUTURE IPP-2)	EXH. FAN CONTROLS (MOTOR RM.)	3P, SIZE 6 FVNR IPP-1	3P, SIZE 1 EF-2	3P, SIZE 1 MIS-1	20A, 3P ACCU-2	50A, 3P MTS
						A/C CONTROLS		3P, SIZE 1 EF-3	3P, SIZE 1 EF-3	20A, 3P O.H. DOOR	20A, 3P O.H. DOOR
				400A, 3P NON-AUTO		SPACE FOR FUTURE IPP-2 PFCC		3P, SIZE 1 SF-1	3P, SIZE 1 SF-3	20A, 3P SPARE	20A, 3P SPARE
								3P, SIZE 1 SPARE	3P, SIZE 2 EF-4	SPACE	ELR & LDR RELAYS

MCC-USLA
(INF. PS.)

DESIGNED BY <u>E.L.L.</u>	DATE <u>4/88</u>	DRWN. CHKD <u>SAF</u>	REMARKS
DRAWN BY <u>E.L.L.</u>			CONFORMED DWG.
CHECKED BY <u>WCH</u>			
APPROVED BY <u>C.E.B.</u>			
	DATE <u>MARCH 1988</u>		

CDM
environmental engineers, scientists,
planners & management consultants

CAMP DRESSER & MCKEE INC.

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION

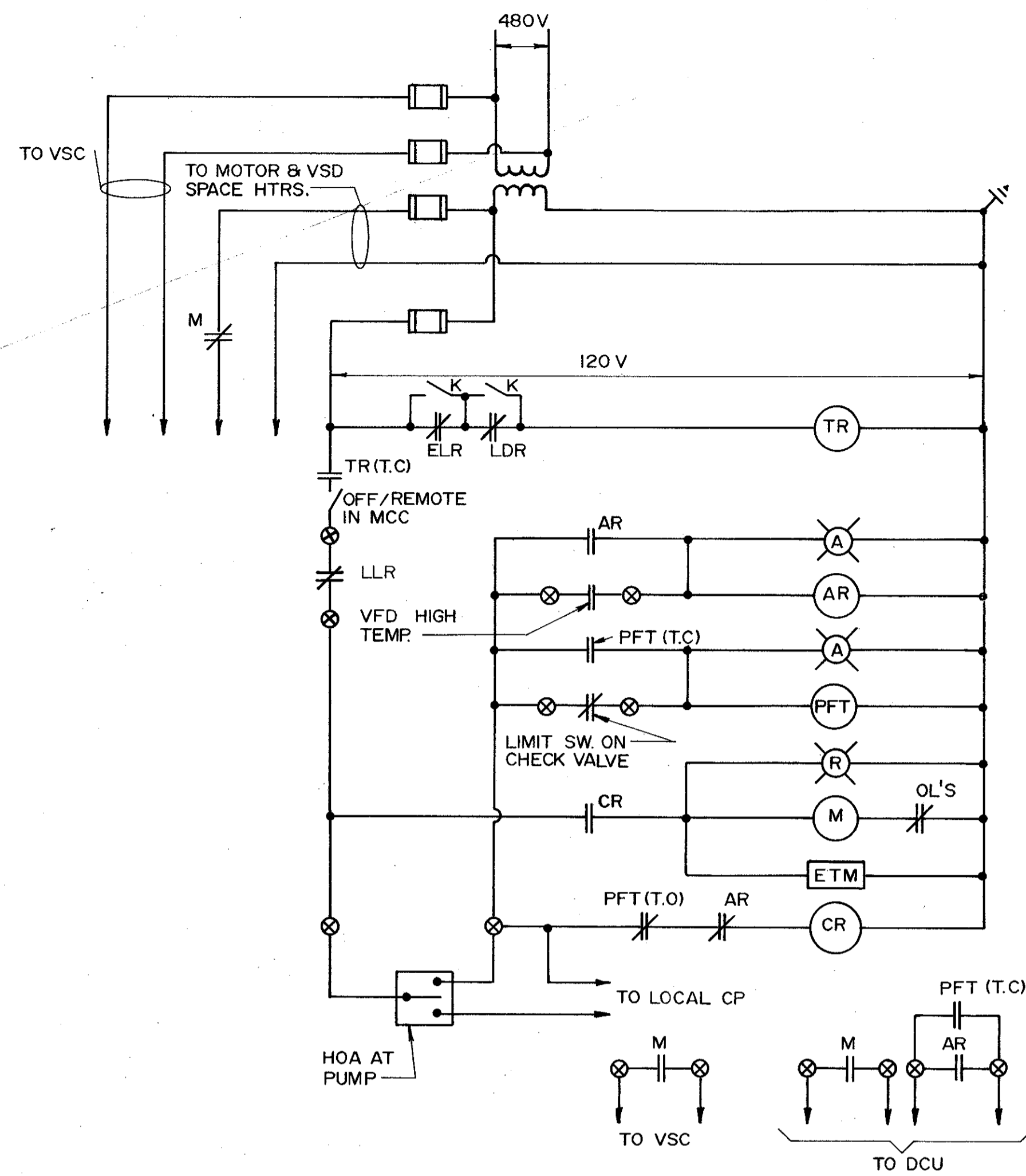
MCC FRONT VIEWS
ORANGE COUNTY, FLORIDA

PROJECT NO
6059 - SL3R

SHEET NO
E-25

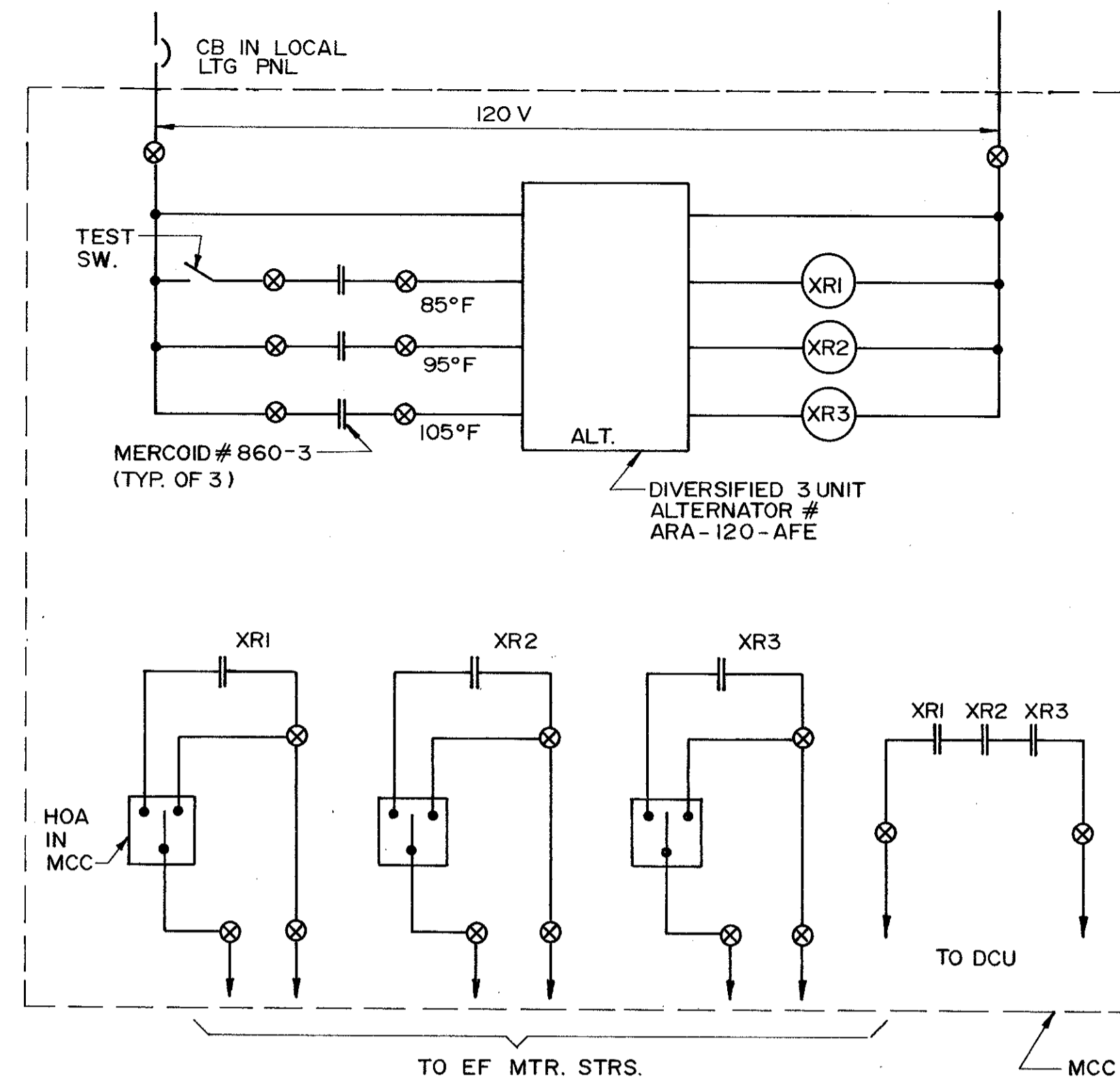
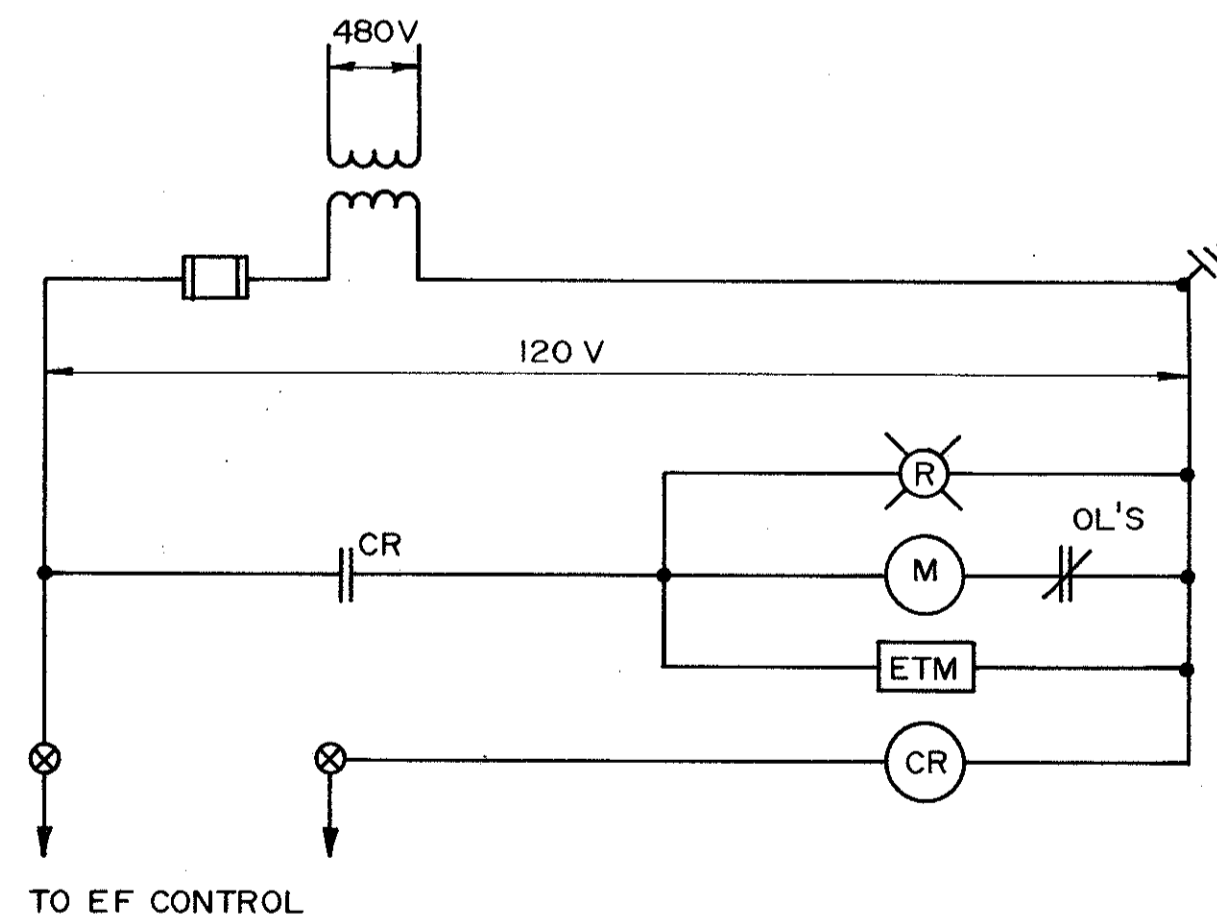


C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

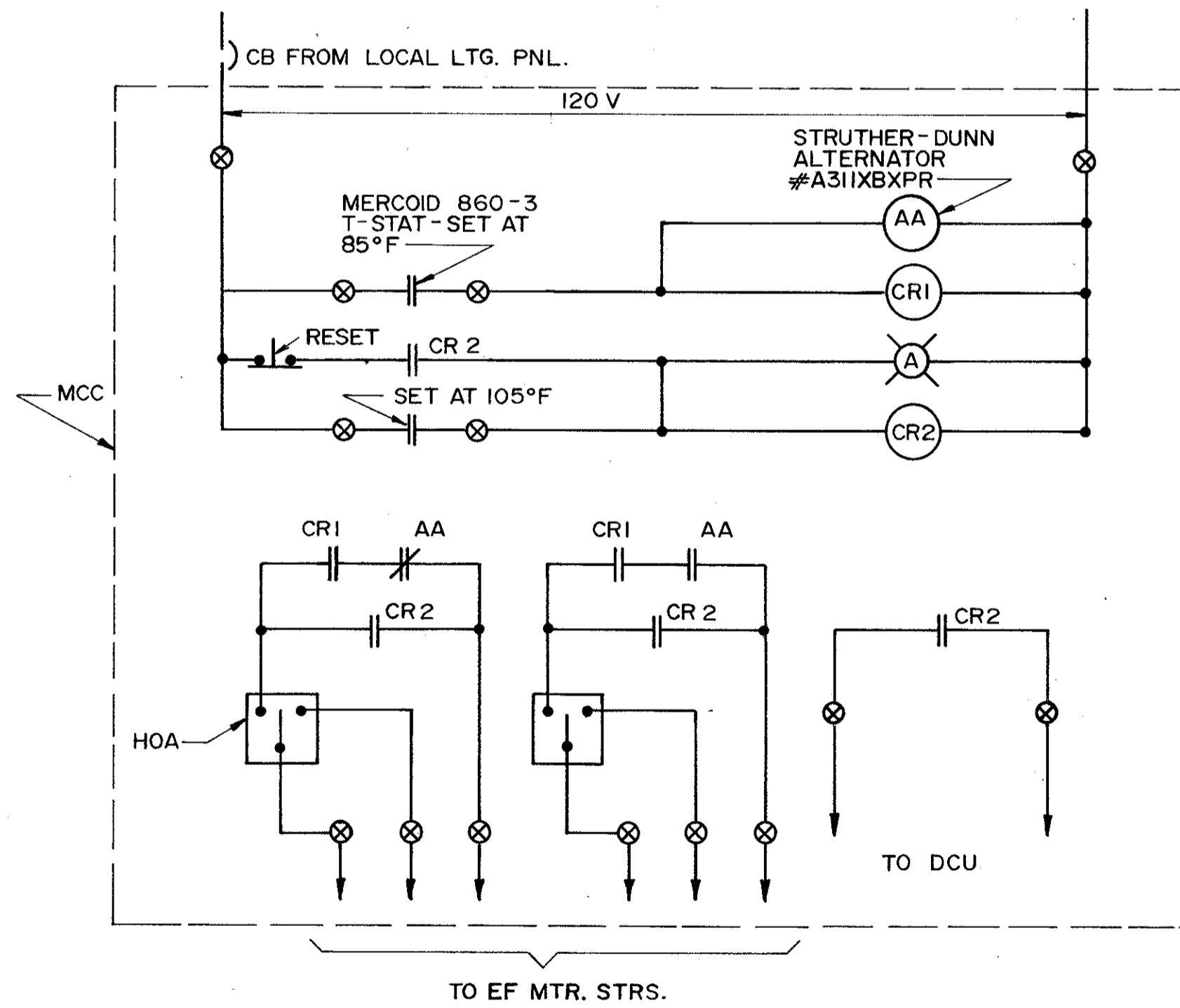


MOTOR / TRANSFORMER ROOM EF

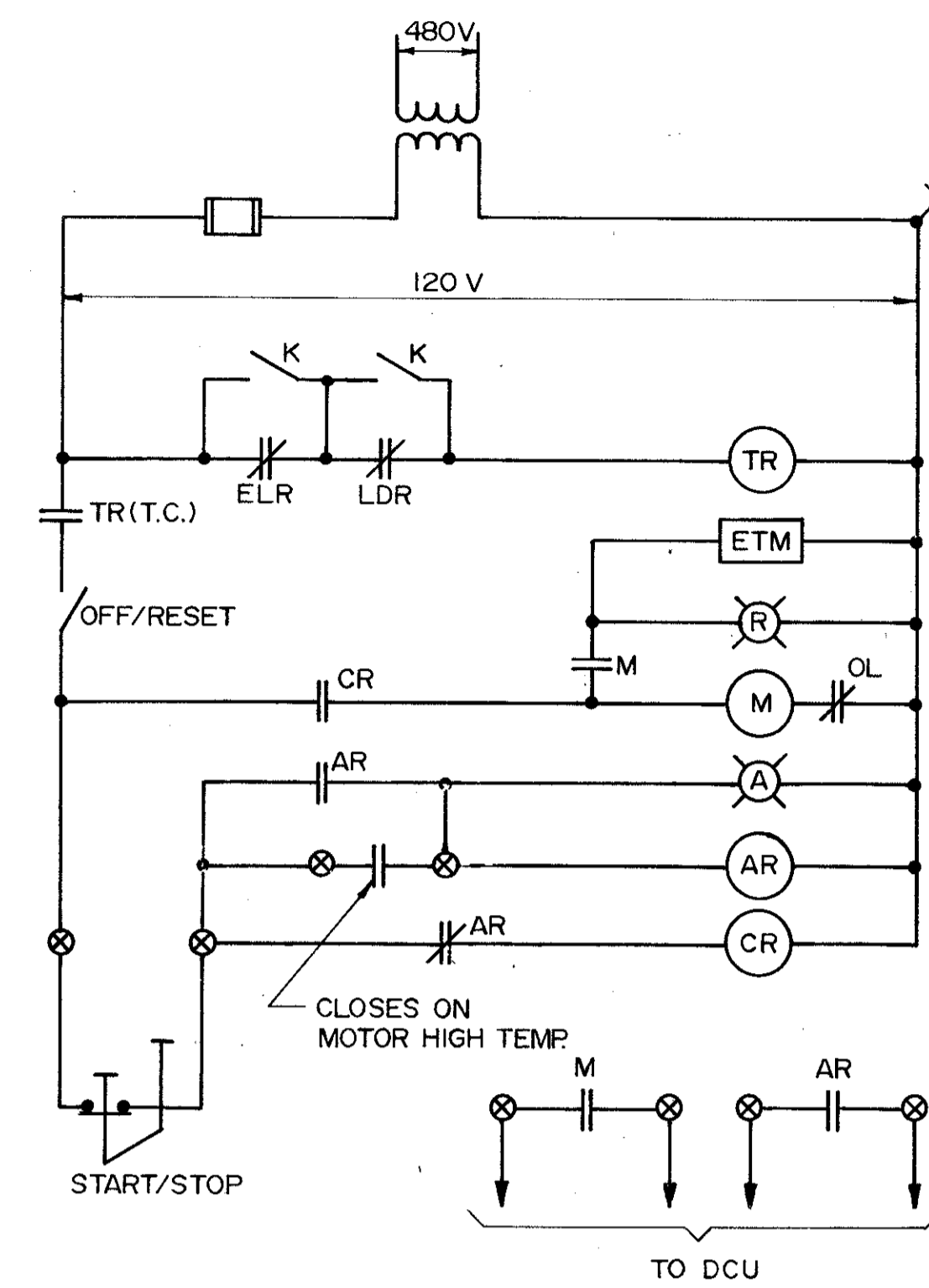
RETURN SLUDGE, EFFLUENT PUMPS



INFLUENT PUMP STATION
EF CONTROLS
(EF-2)



SUPPLY FANS IN EXISTING ELEC. BLDG.



FLOATING MIXERS
SUB. PUMPS

REMARKS	
CONFORMED DWG.	
REV. NO.	4/88 SAF
DATE	4/88
DRWN	SAF
CHKD	
DESIGNED BY	SAF
DRAWN BY	SAF
CHECKED BY	SAF
APPROVED BY	SAF
DATE	MARCH 1988

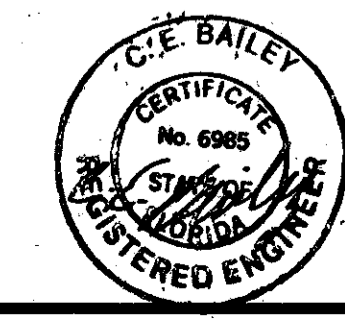
CAMP DRESSER & MCKEE INC.

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION

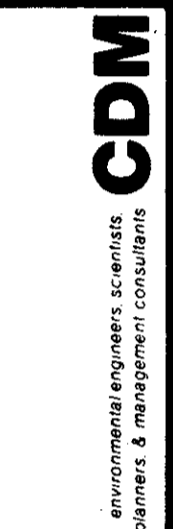
PROJECT NO.
6059-SL 3R

SHEET NO.

E-26

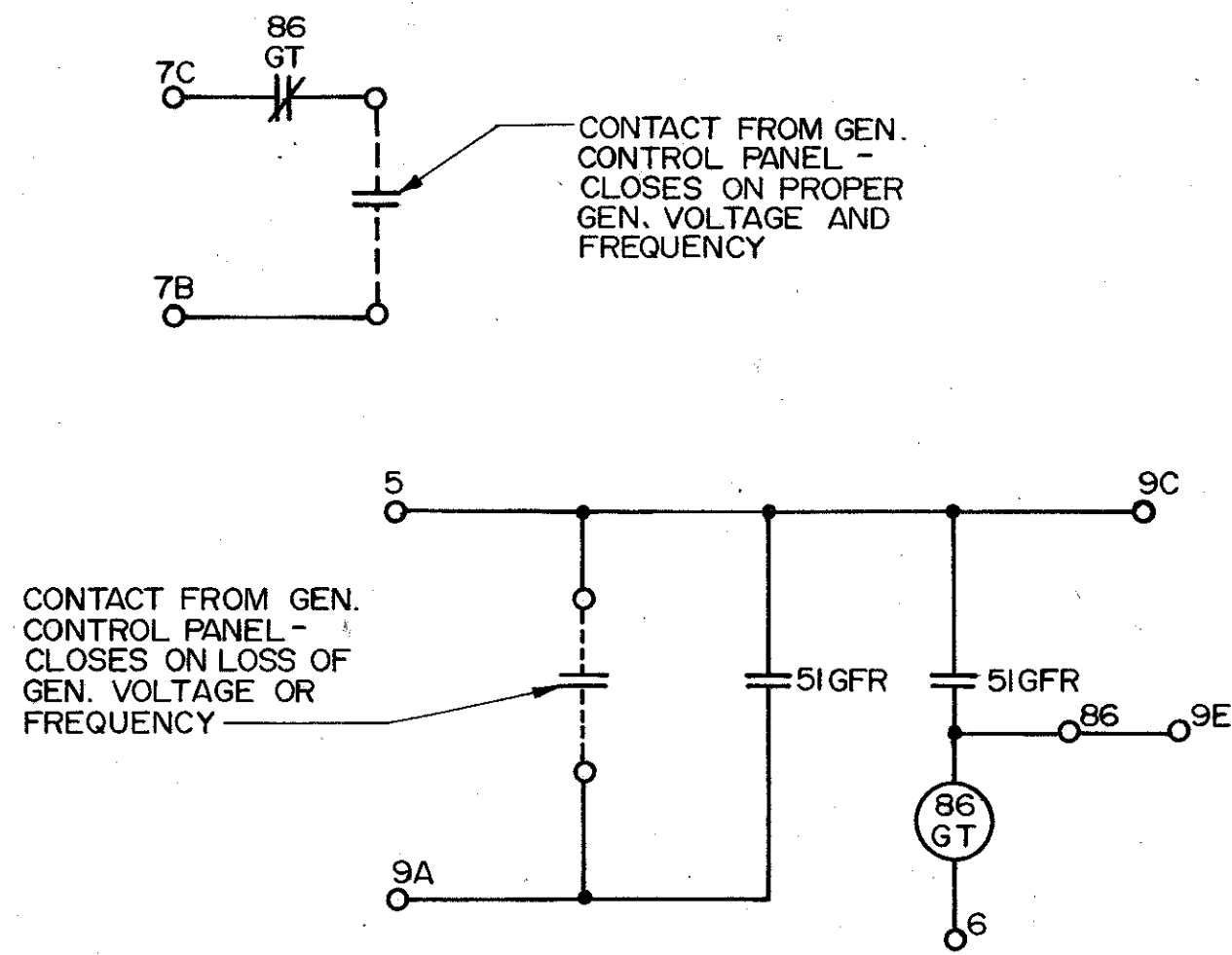


C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



ELEMENTARY DIAGRAMS
ORANGE COUNTY, FLORIDA

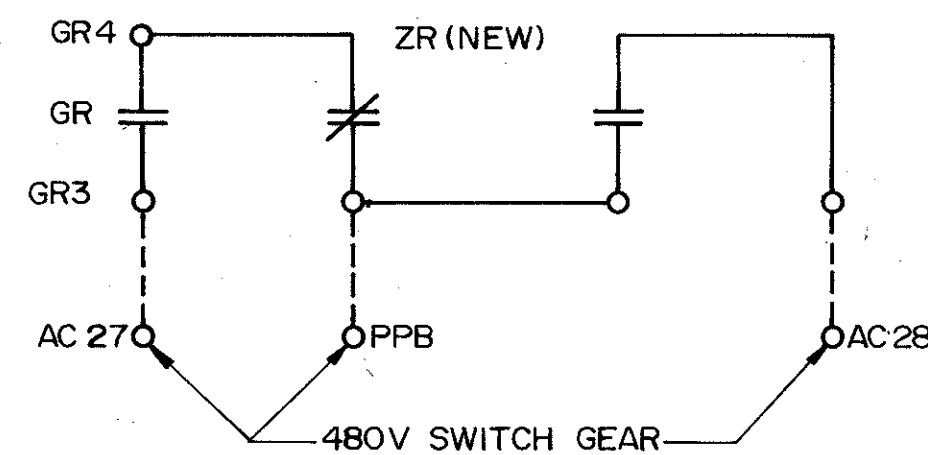
- MAIN BREAKER NO. 1 (M1)** REMOVE JUMPER: 7F TO 7G
- MAIN BREAKER NO. 2 (M2)** REMOVE JUMPER: 7F TO 7G
- TIE BREAKER (ST)** REMOVE JUMPER: 7E TO 7G
7D TO 7J
- CONNECT: 7J TO 7K



GENERATOR TIE BREAKER (GT)

○ WITH NUMBER - EXISTING TERMINAL
○ WITHOUT NUMBER - NEW TERMINAL

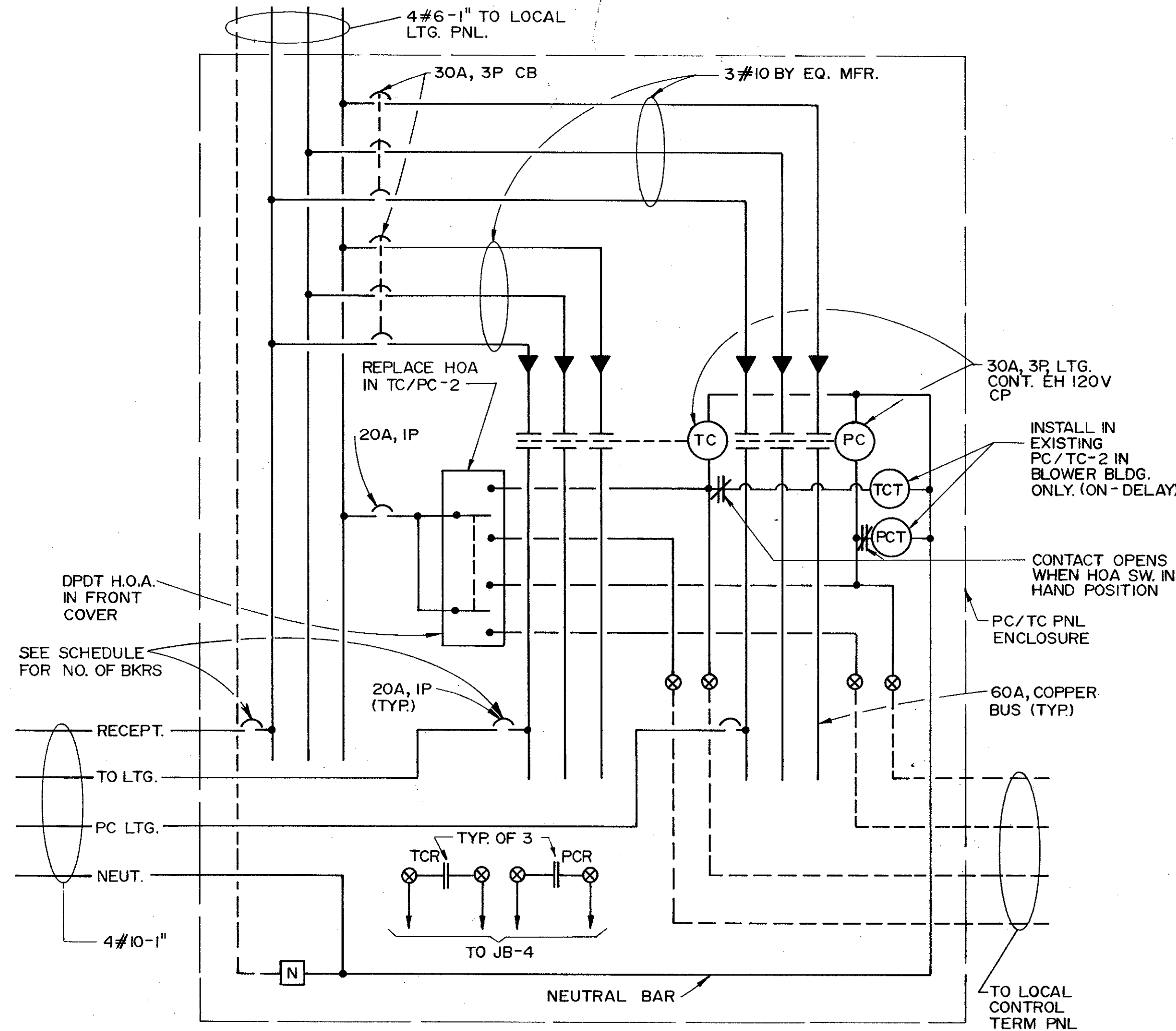
- REMOVE JUMPERS:** TR 22 TO 21A, 21B TO 21A, TR 15 TO TR 23, TR 38 TO TR 4A, 21A TO 21A1, 21A2 TO 21D, 21D TO 21D1, 21D2 TO TR 4
- CONNECT:** 21A1 TO 21A2, 21D1 TO 21D2, ZR 1 TO 21D, ZR 2 TO 21D2



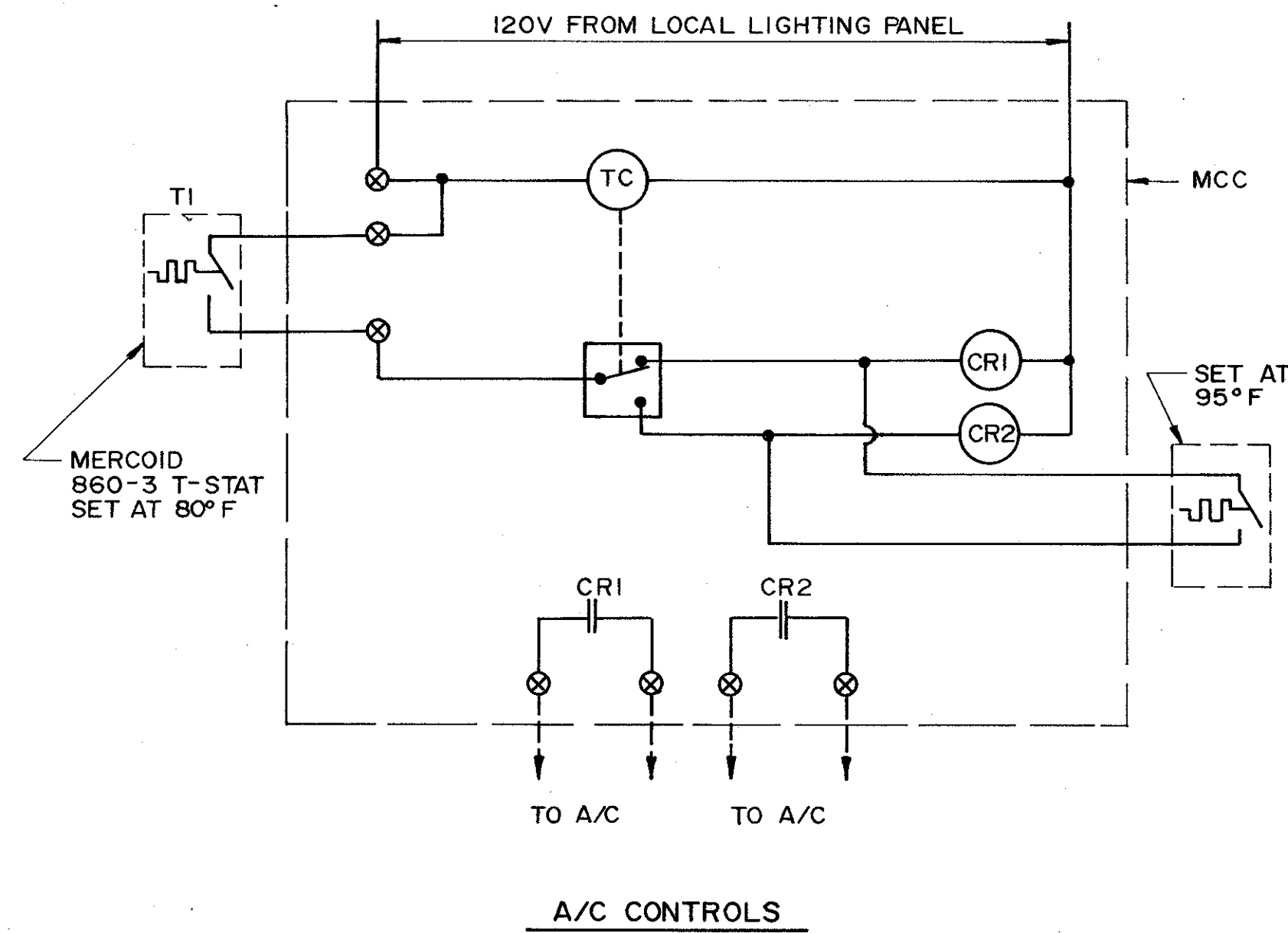
AUTOMATIC TRANSFER CONTROL

4160 V SWGR MODIFICATION

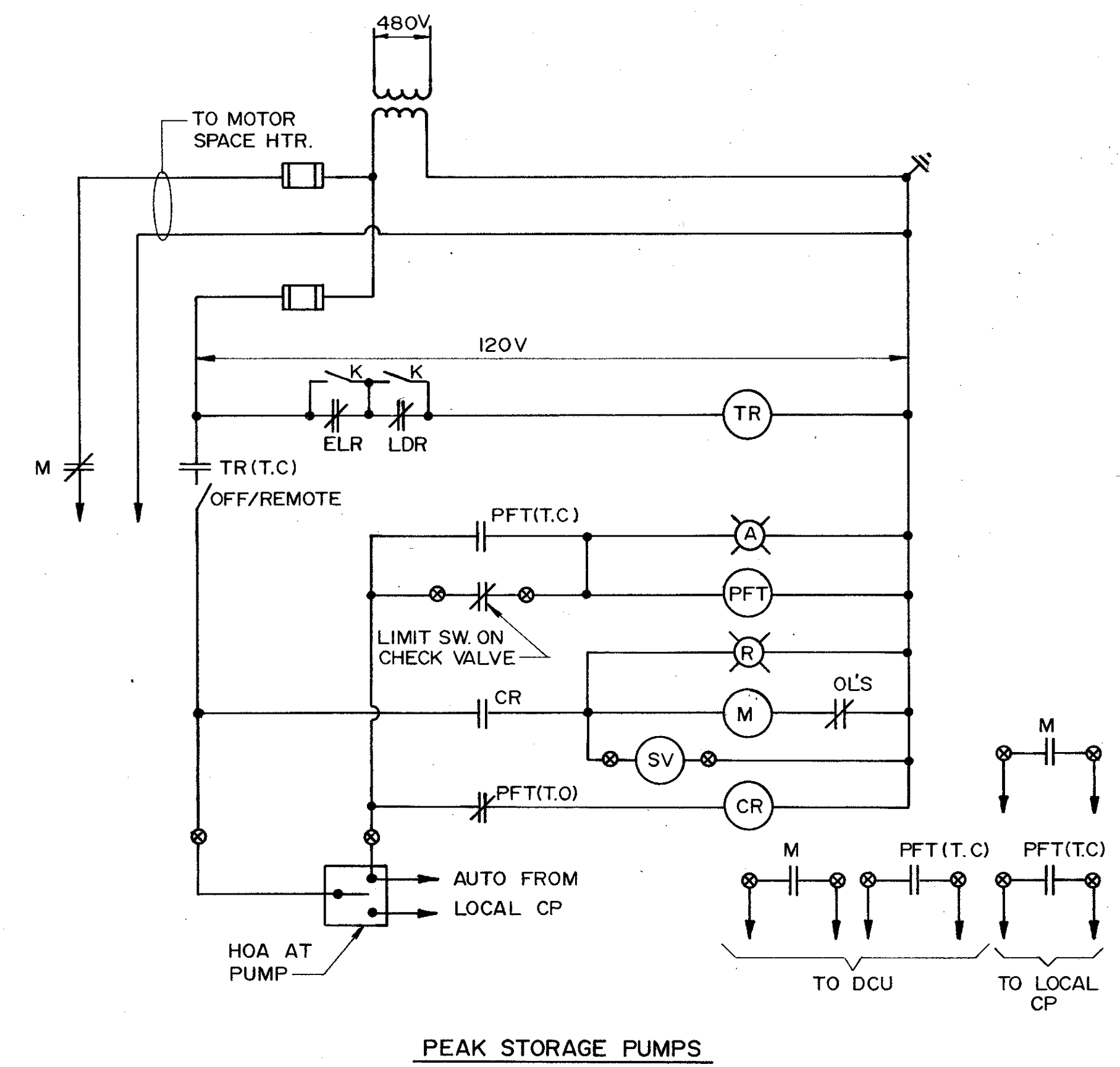
NOTE:
THE ABOVE REVISIONS SHALL BE MARKED ON THE EXISTING RECORD SHOP DRAWINGS AND SUBMITTED FOR REVIEW BY THE ENGINEER.



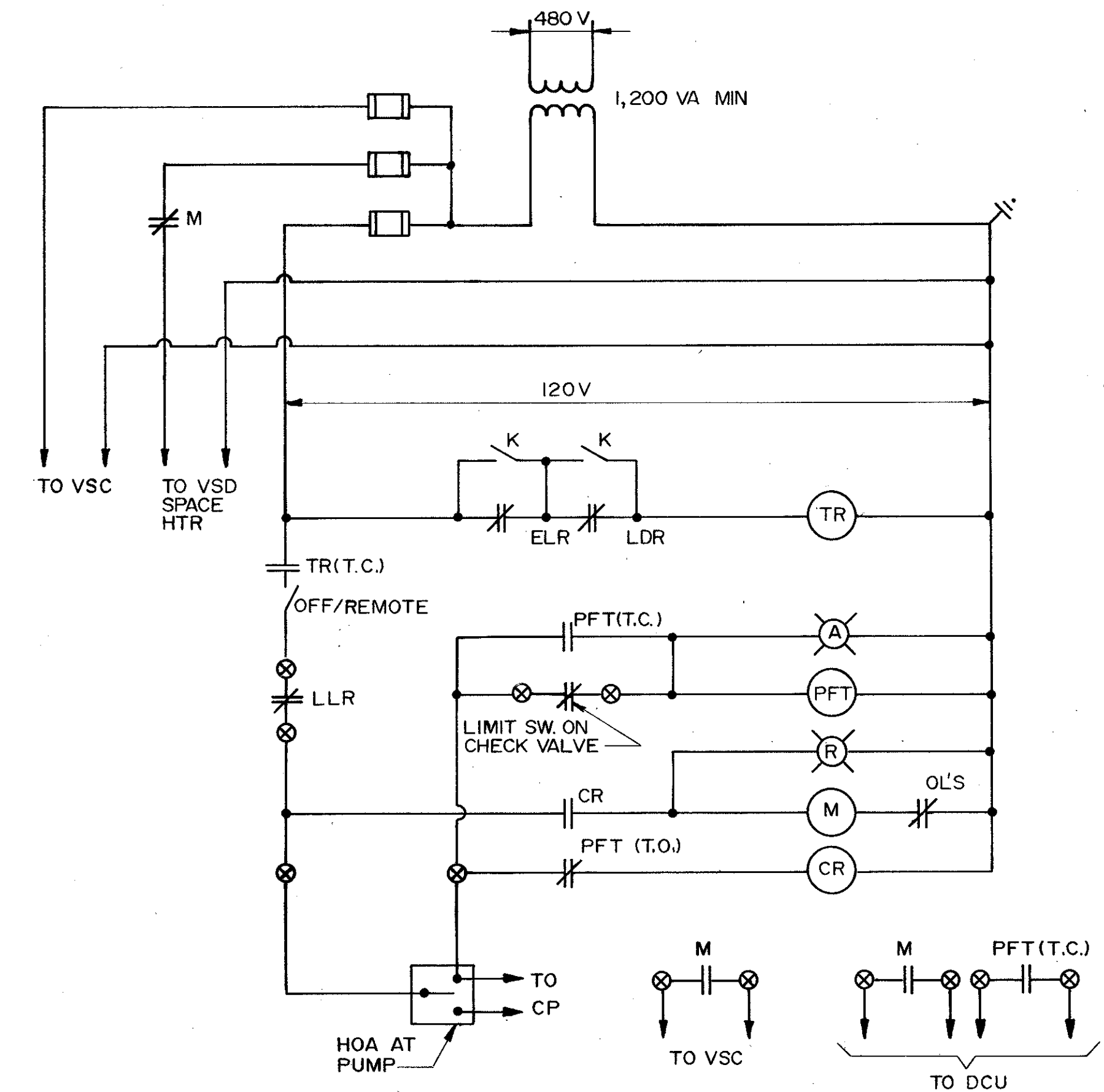
TYPICAL PC/TC PANEL DETAIL



A/C CONTROLS



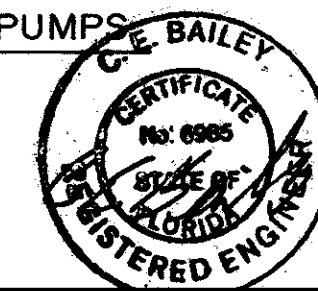
PEAK STORAGE PUMPS

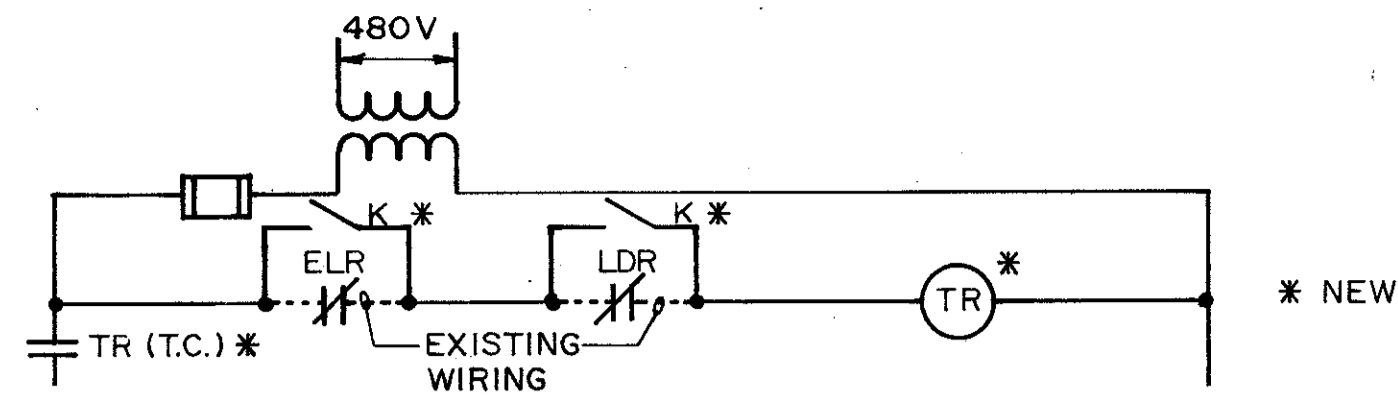


BLEND TANK SLUDGE PUMPS

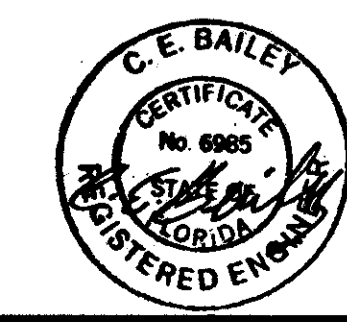
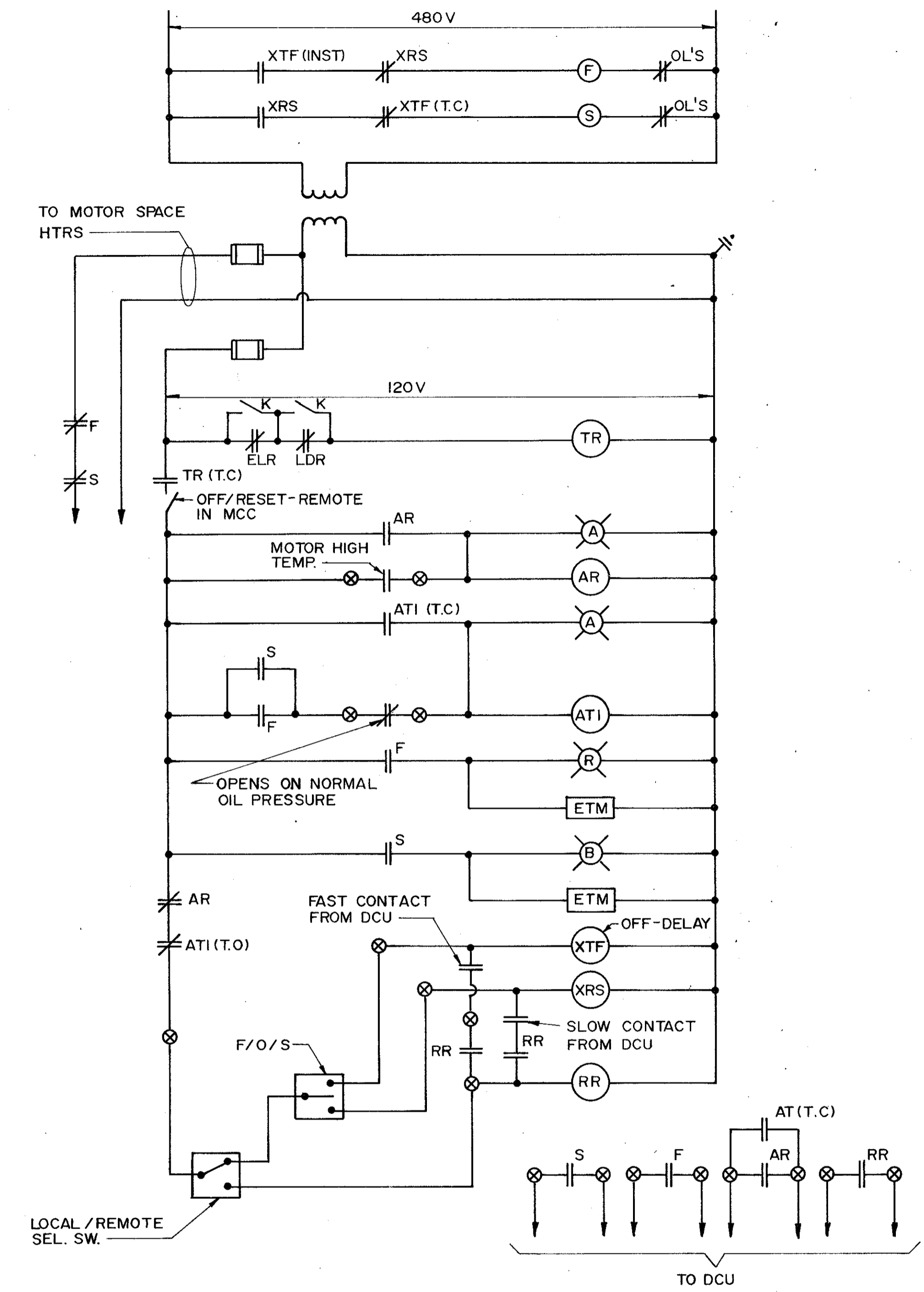
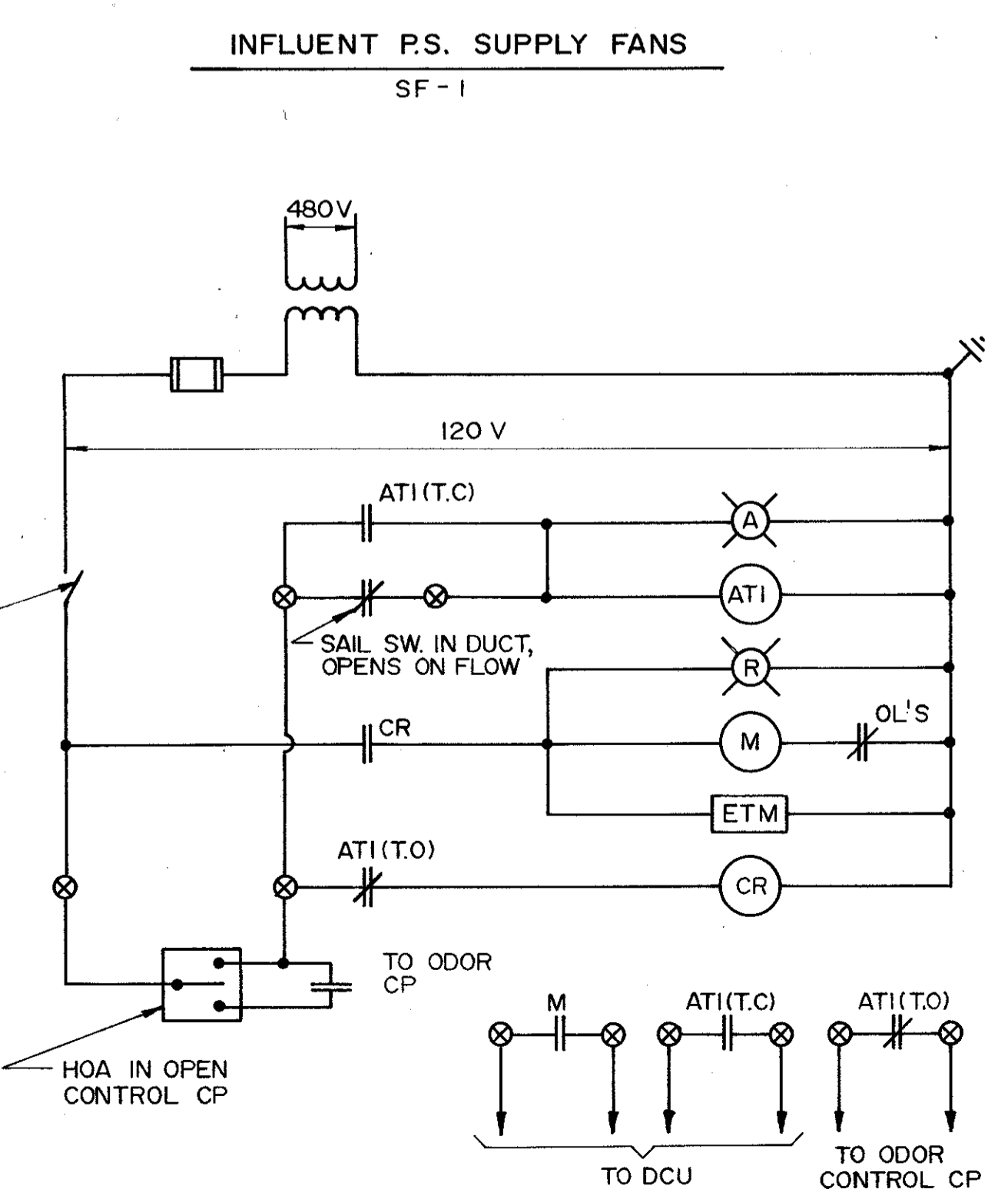
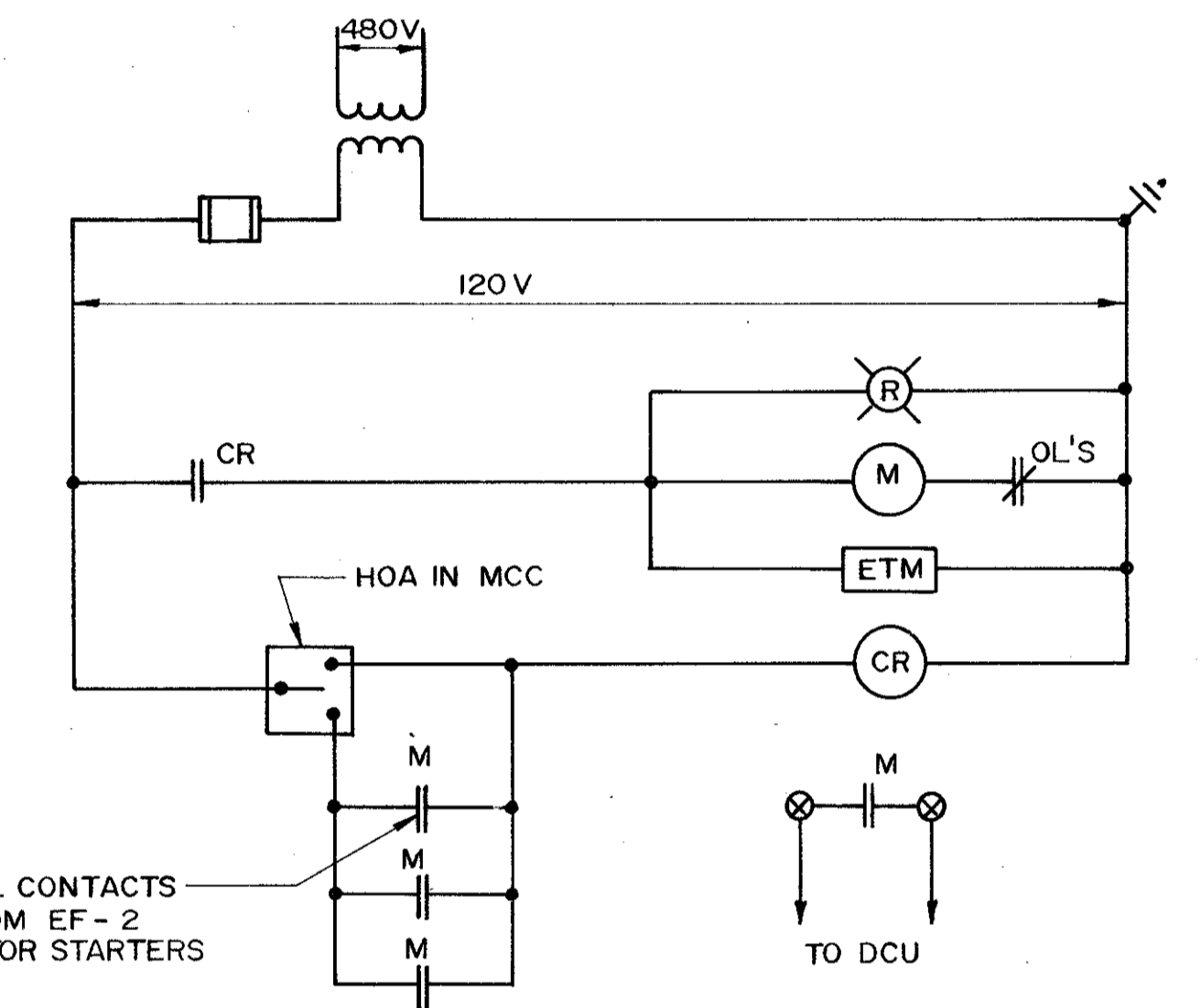
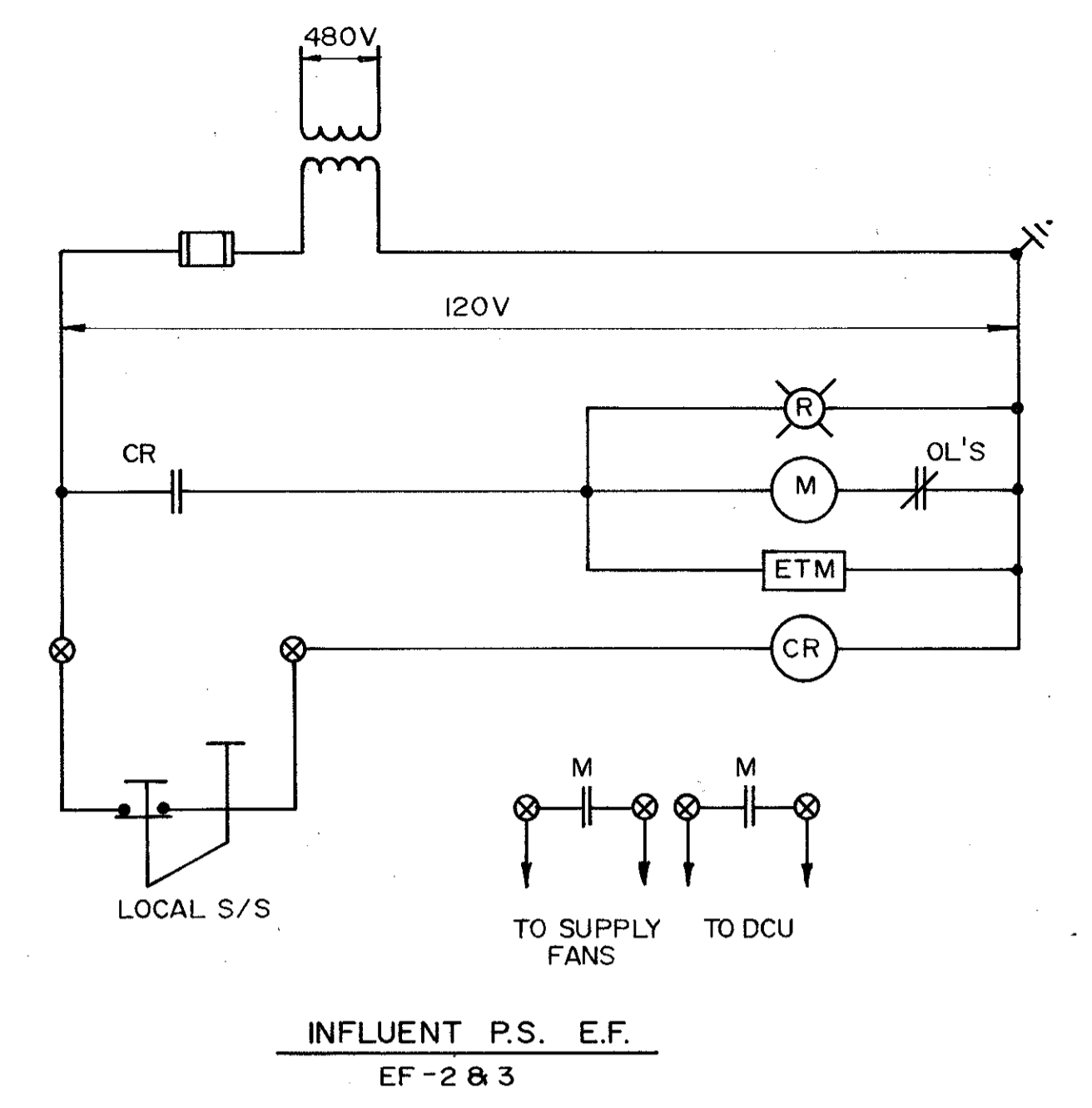
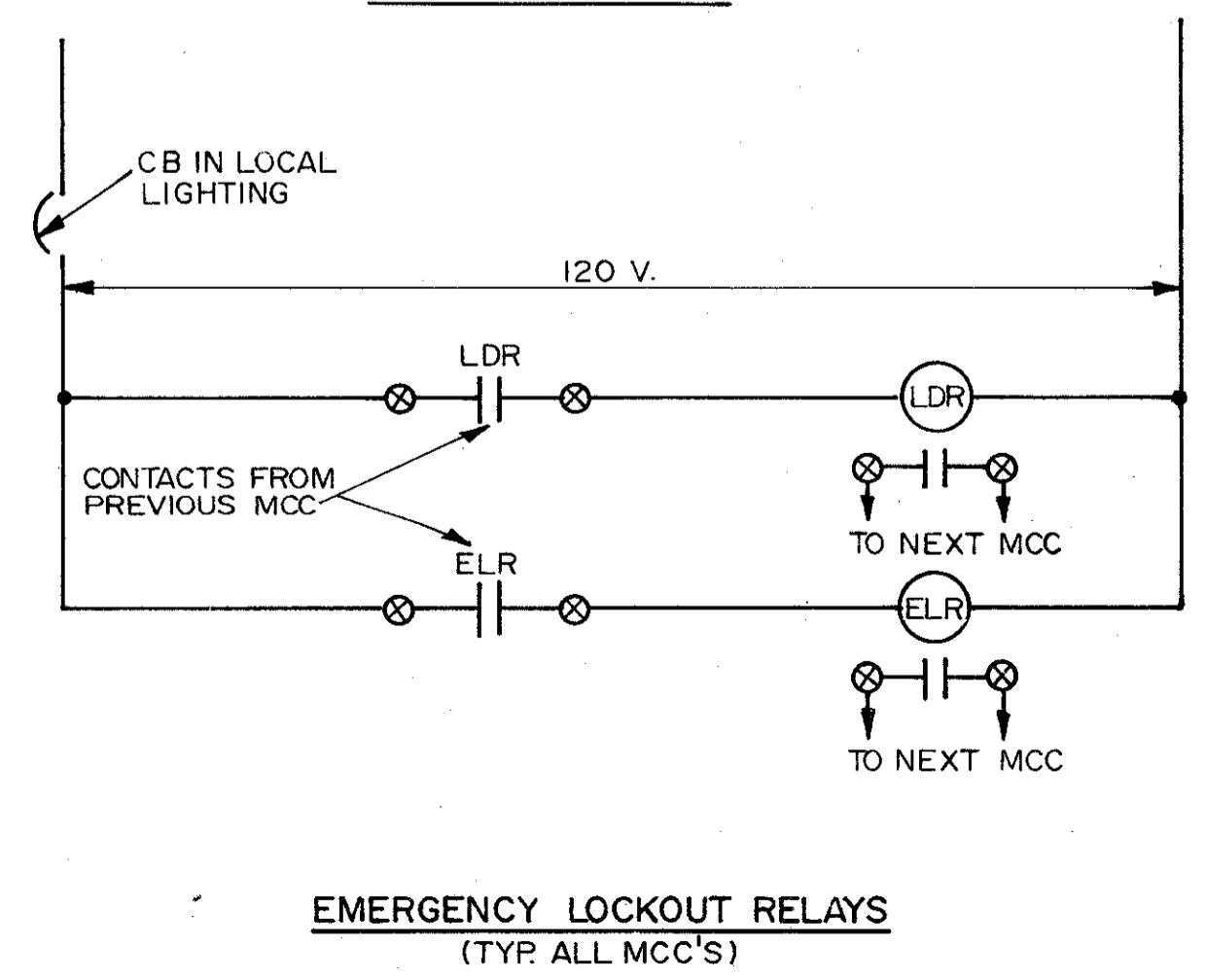
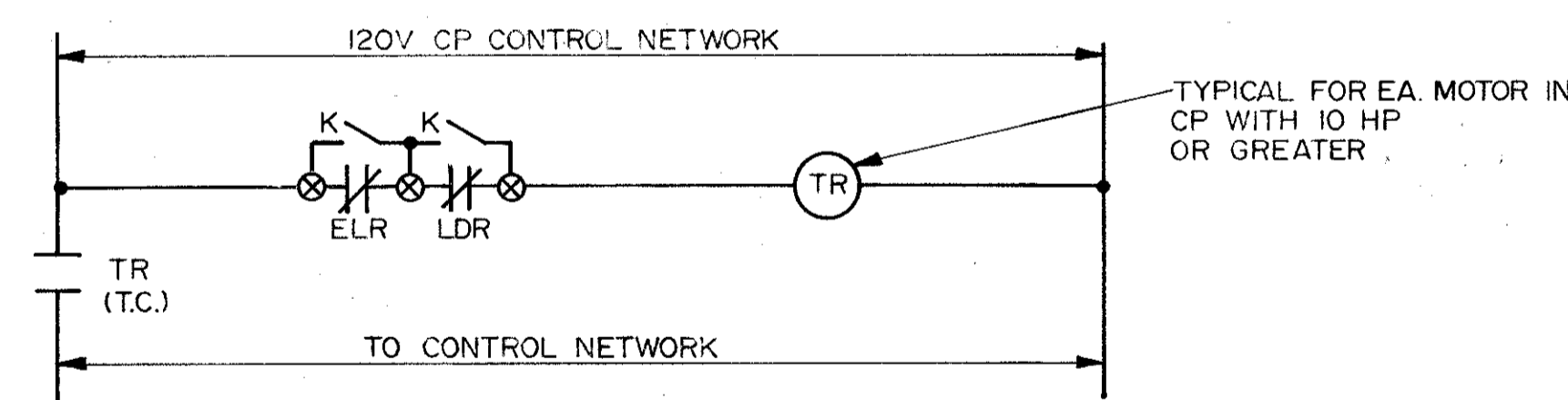
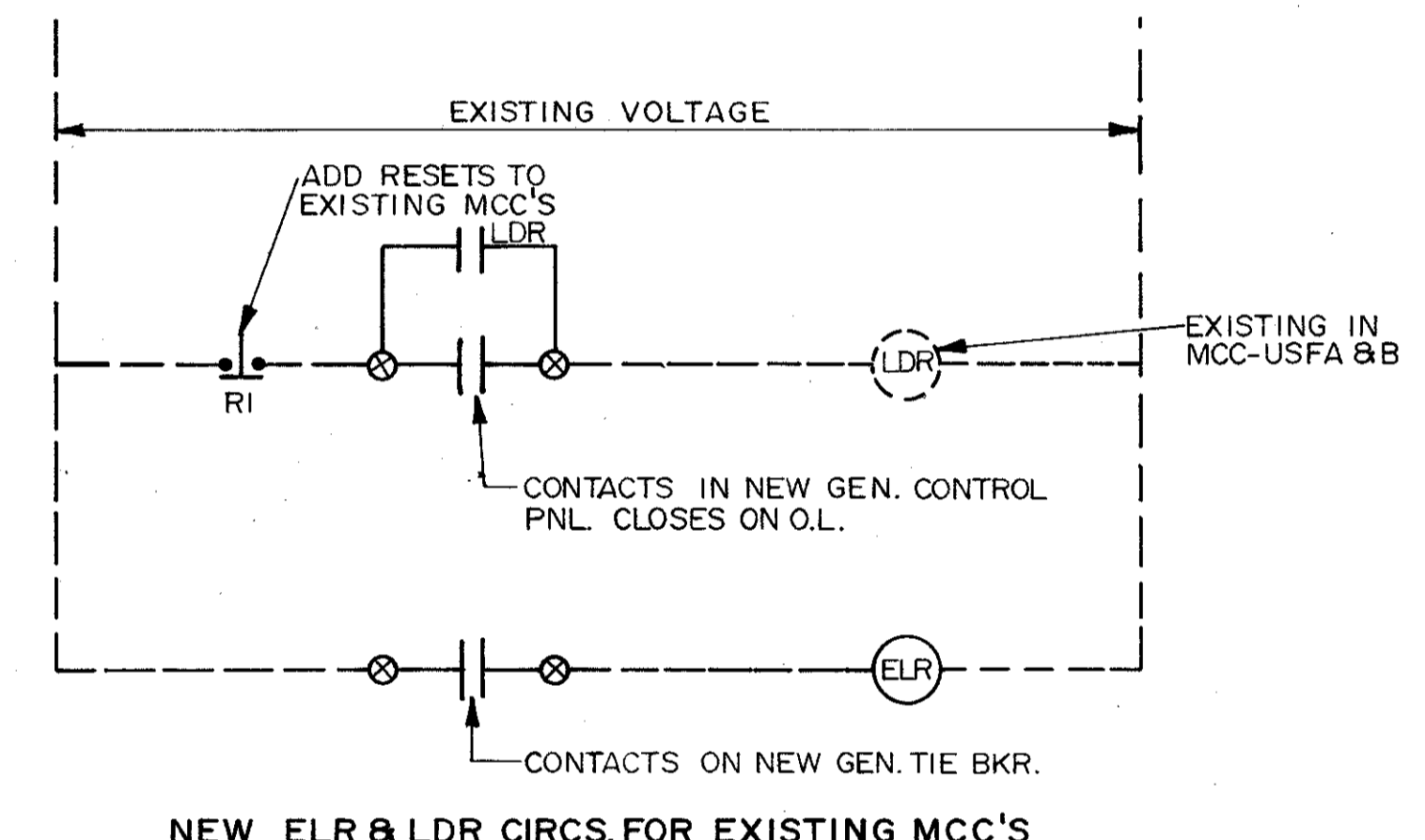
DESIGNED BY	CHKD	REMARKS
DRAWN BY	DC	ADDENDUM NO. 1
DATE	4/88	WCH
REV	4/88	SAF
APPROVED BY		CONFORMED DWG
DATE	MARCH 1988	
CDM		
CAMP DRESSER & MCKEE INC.		
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION		
ELEMENTARY DIAGRAMS		
ORANGE COUNTY, FLORIDA		
PROJECT NO.	6059-SL3R	
SHEET NO.	E-27	

C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



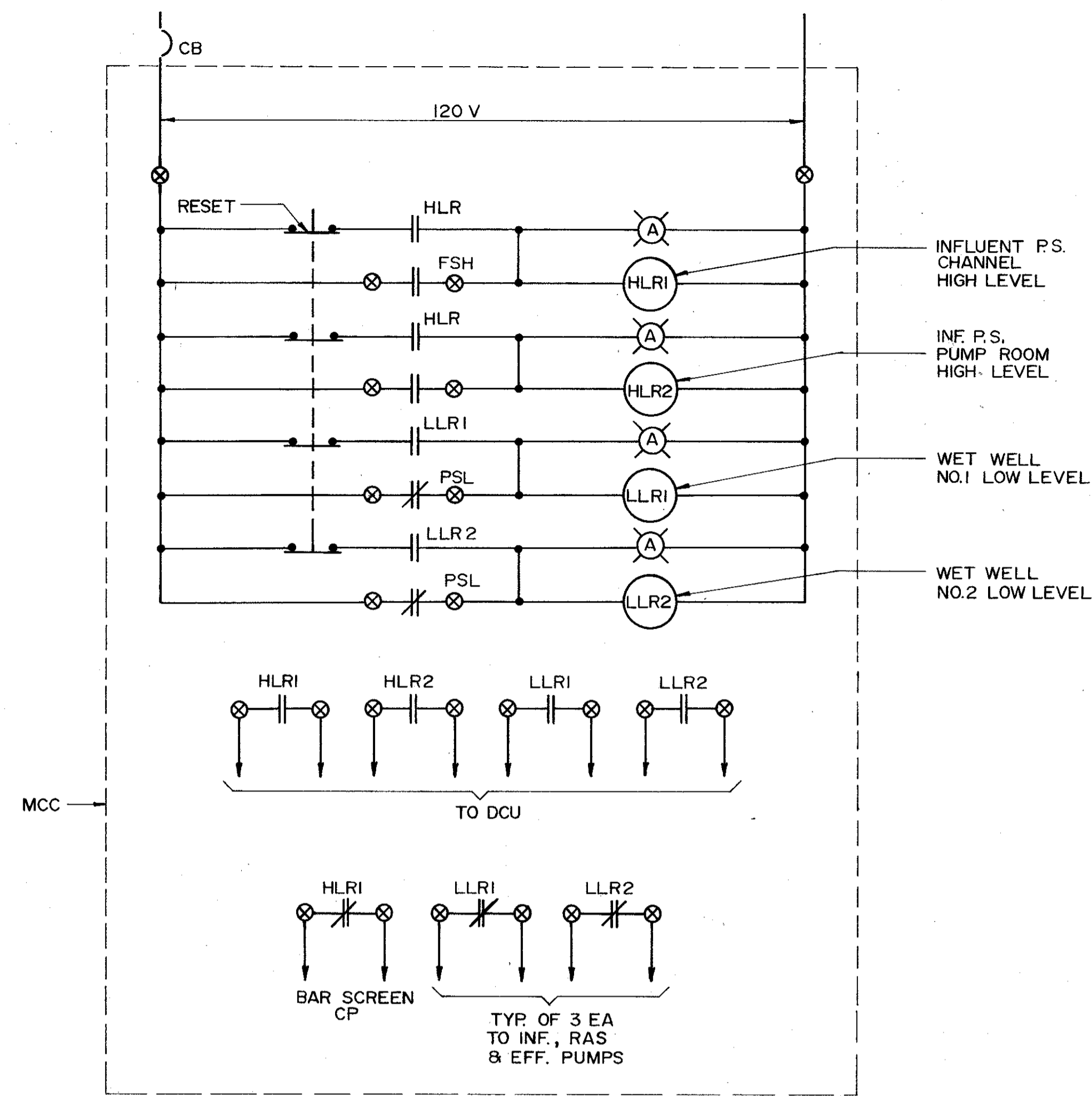


- A. EXISTING POST AERATION BLOWER NO.1
- B. EXISTING POST AERATION BLOWER NO.2
- C. EXISTING CHANNEL AERATION BLOWER NO.1
- D. EXISTING CHANNEL AERATION BLOWER NO.2
- E. EXISTING DIGESTER GAS MIXING BLOWER NO.1
- F. EXISTING DIGESTER GAS MIXING BLOWER NO.2
- G. EXISTING DIGESTER GAS MIXING BLOWER NO.3
- H. EXISTING DIGESTER GAS MIXING BLOWER NO.4
- I. EXISTING ODOR CONTROL BLOWER
- J. EXISTING SCUM EJECTOR AIR COMPRESSOR NO.1
- K. EXISTING SCUM EJECTOR AIR COMPRESSOR NO.2
- L. EXISTING AIR COMPRESSOR NO.1 } DEWATERING BLDG.
- M. EXISTING AIR COMPRESSOR NO.2 }

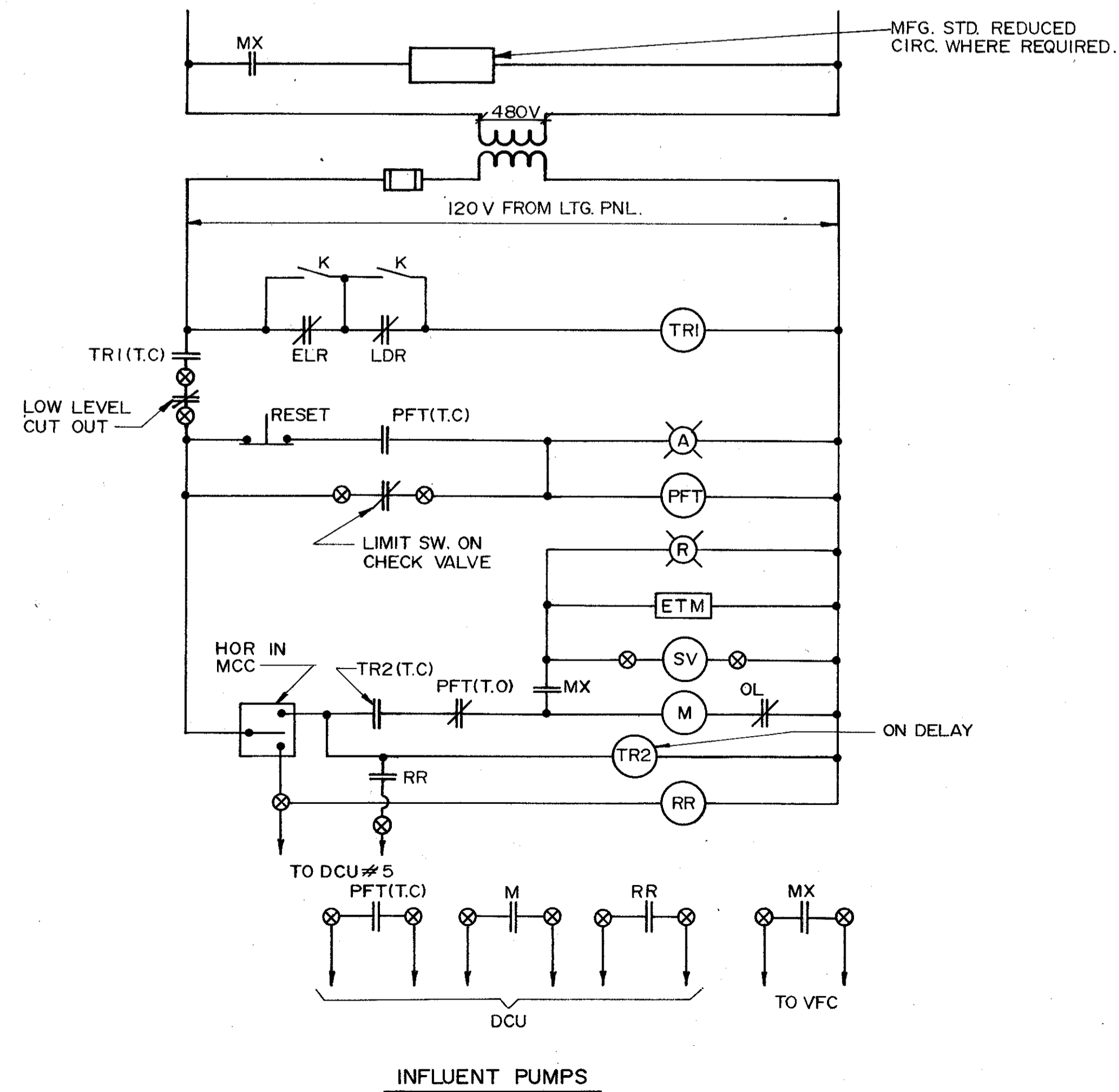
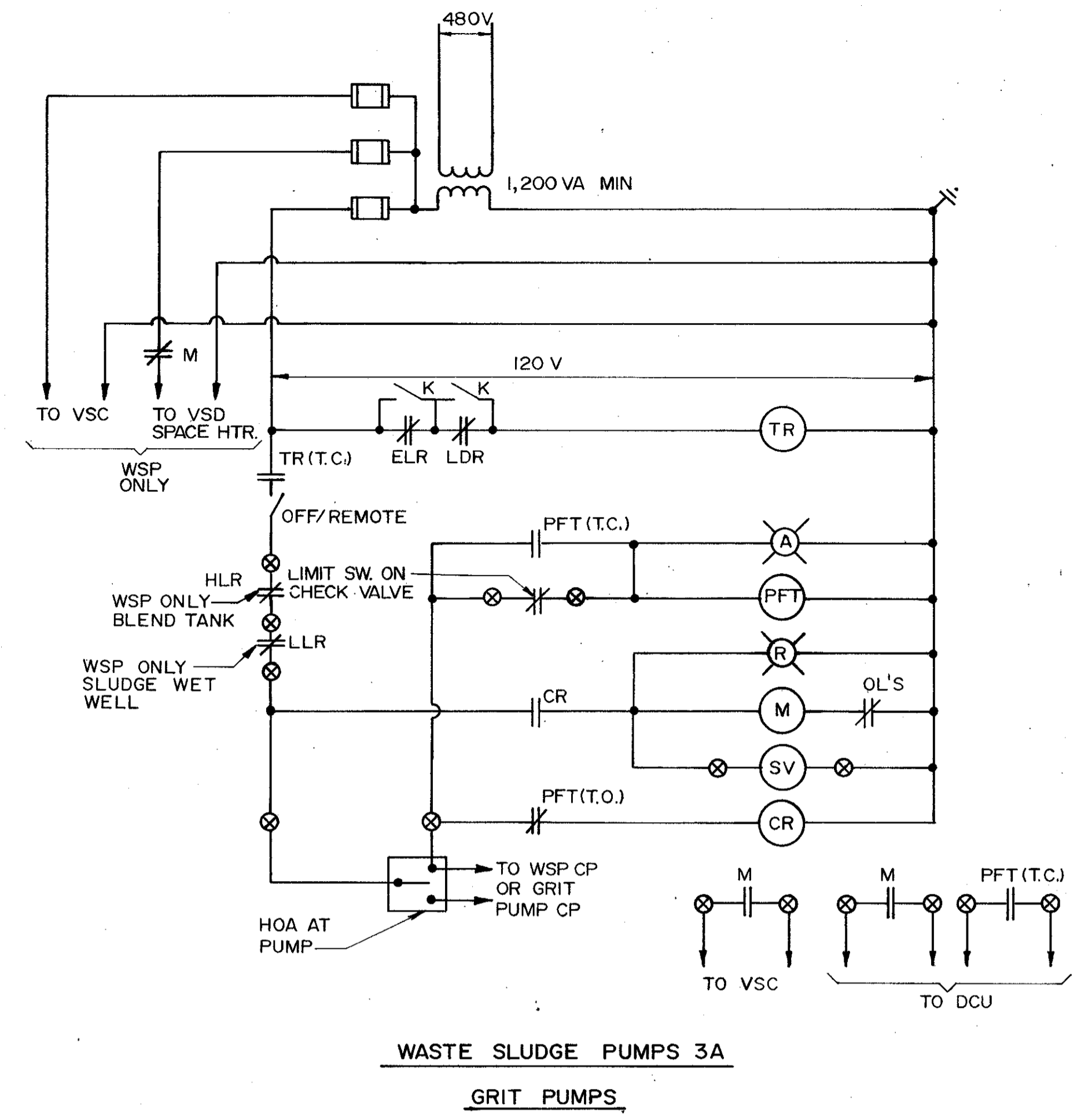


C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

DESIGNED BY	DATE	CHKD	REMARKS
DRAWN BY	DATE	DRWN	
CHECKED BY	DATE	SAF	CONFORMED DWG.
APPROVED BY	DATE		
CDM environmental engineers, scientists, architects, & management consultants			
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION ELEMENTARY DIAGRAMS ORANGE COUNTY, FLORIDA			
PROJECT NO	6059-SL3R		
SHEET NO	E-28		



INFLUENT P.S. LEVEL ALARMS
 SLUDGE WET WELL
 EFFLUENT TRANSFER PUMPS



DESIGNED BY	DATE	DRWN	CHKD	REMARKS
4/88	SAF			CONFORMED DWG.

CAMP DRESSER & MCKEE INC.

DESIGNED BY: KZL/MLC
 DRAWN BY: RL
 CHECKED BY: MCL
 APPROVED BY: CEF
 DATE: MARCH 1988

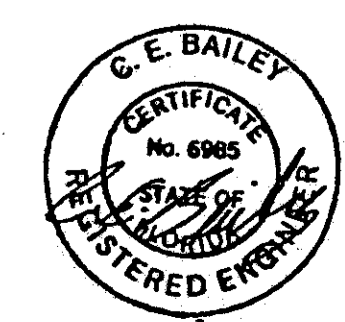
CDM

environmental engineers, scientists, planners & management consultants

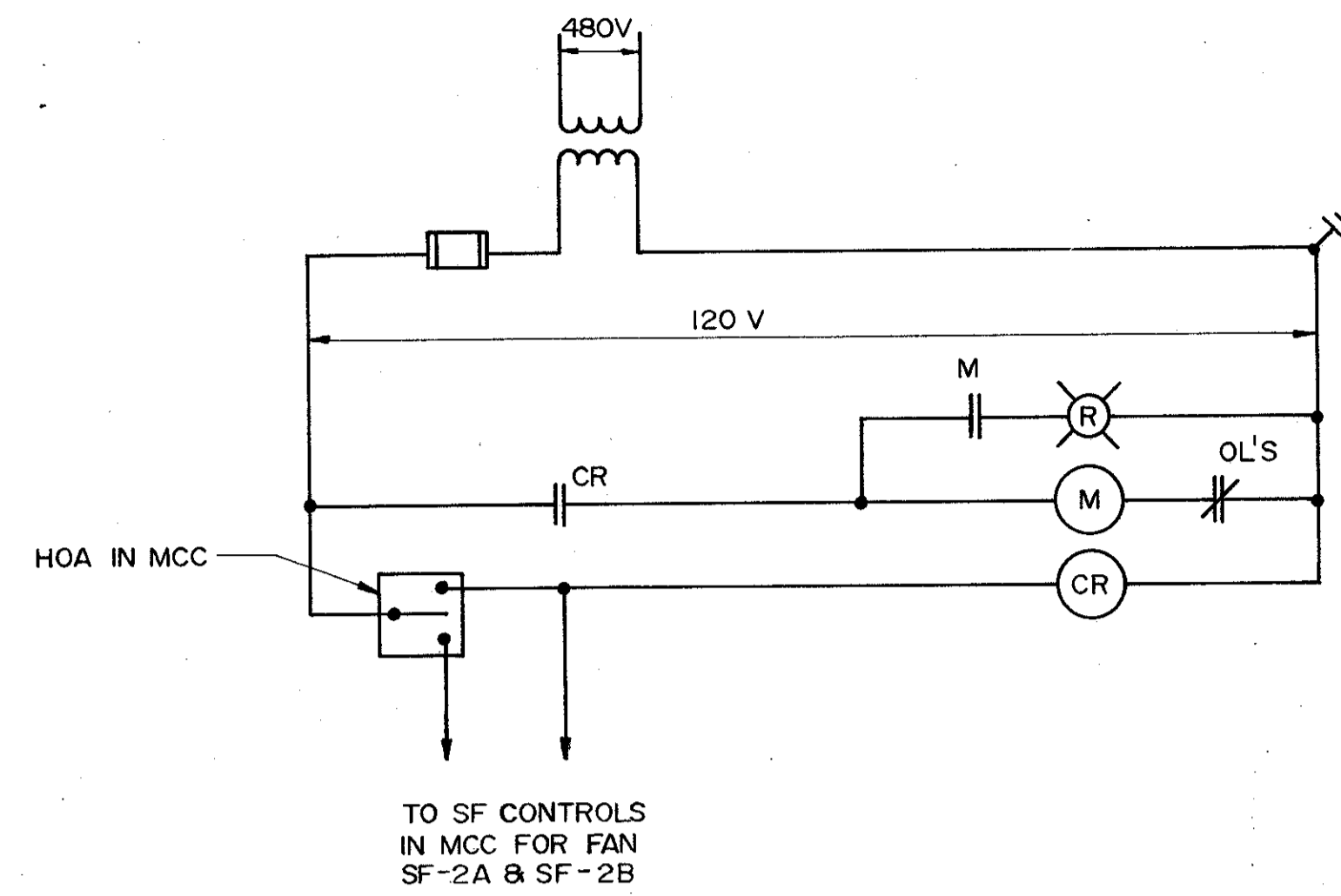
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION

ELEMENTARY DIAGRAMS
 ORANGE COUNTY, FLORIDA

PROJECT NO.	SHEET NO.
6059-SL3R	E-29

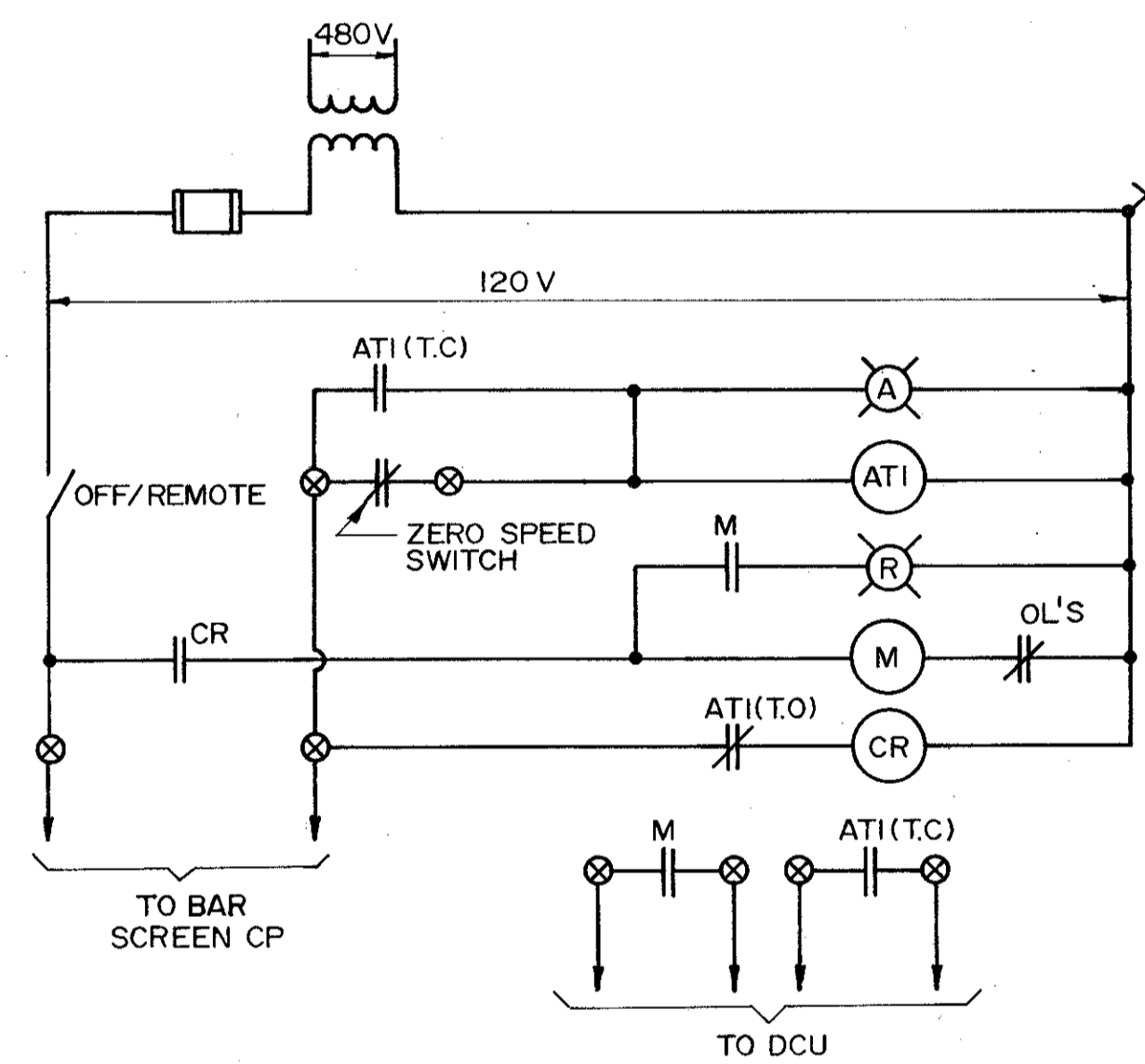


C. E. BAILEY & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 ORLANDO, FLORIDA

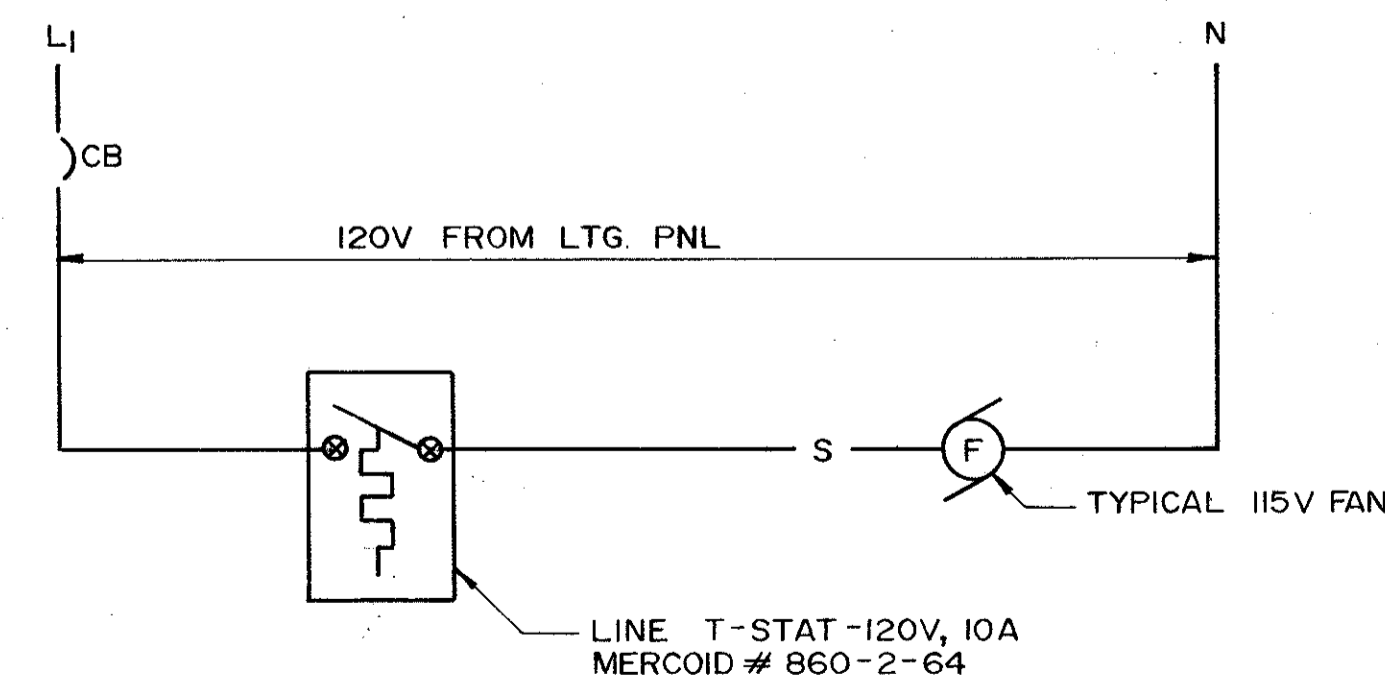


SUPPLY FANS

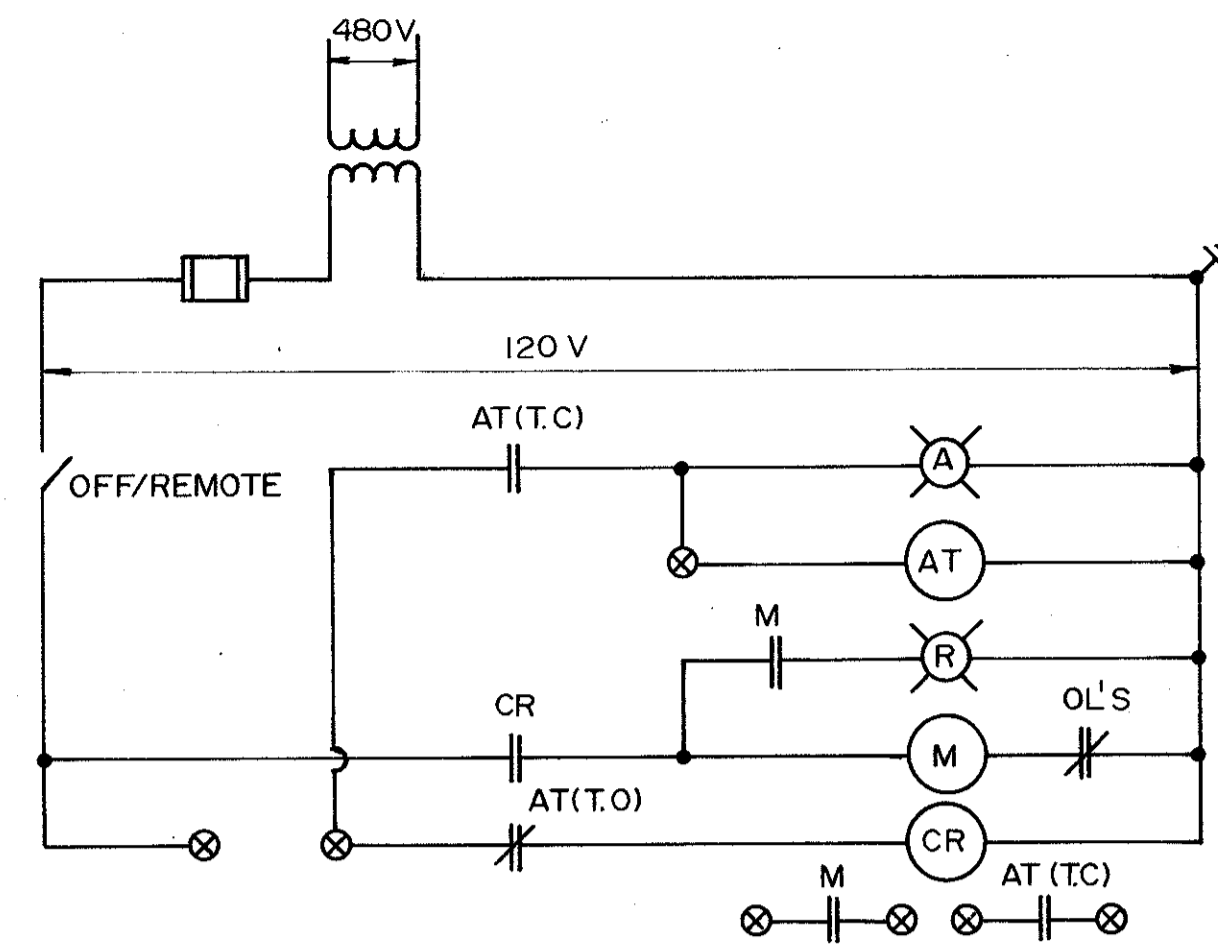
SF-2



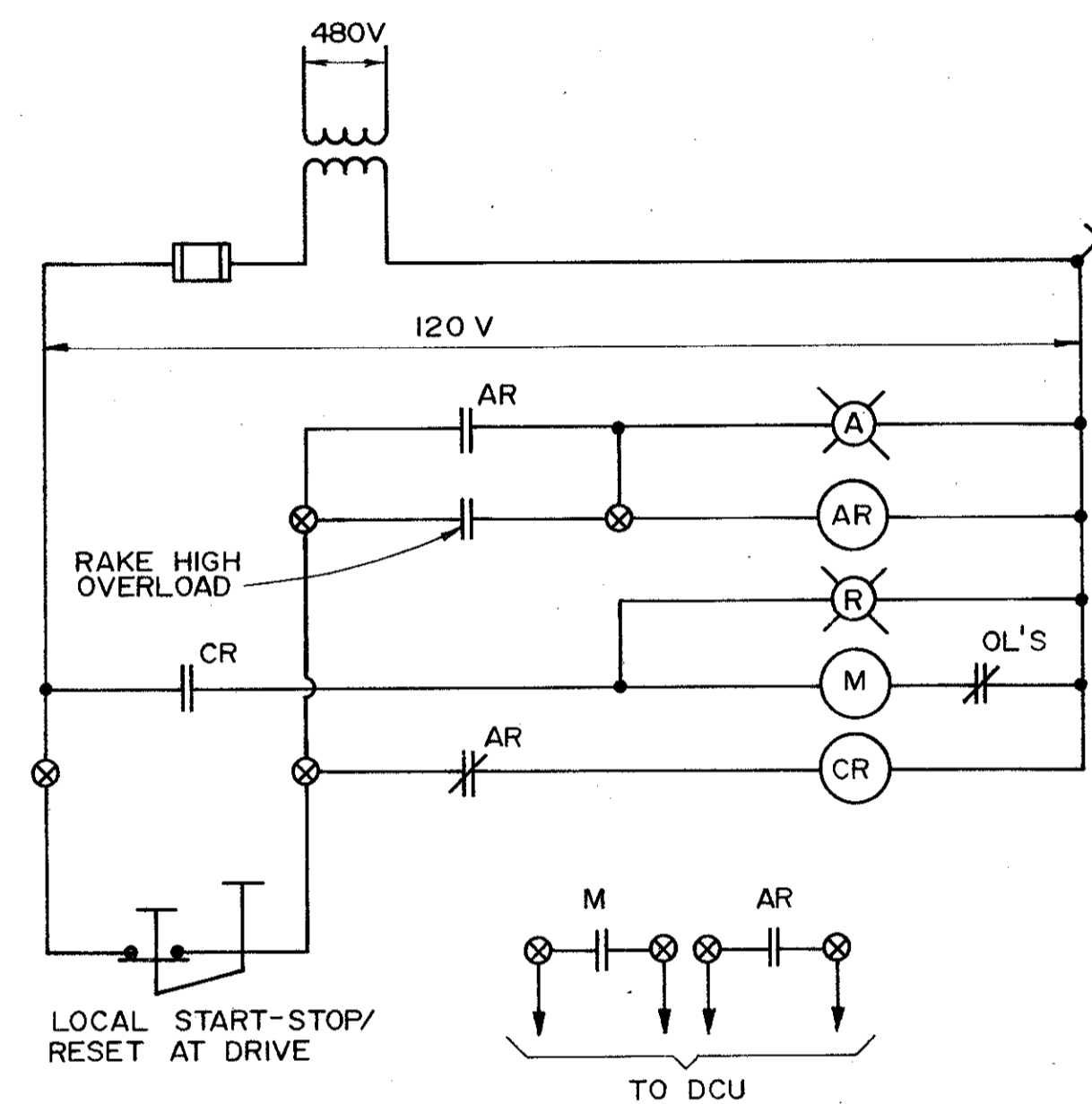
MECHANICAL BAR SCREEN



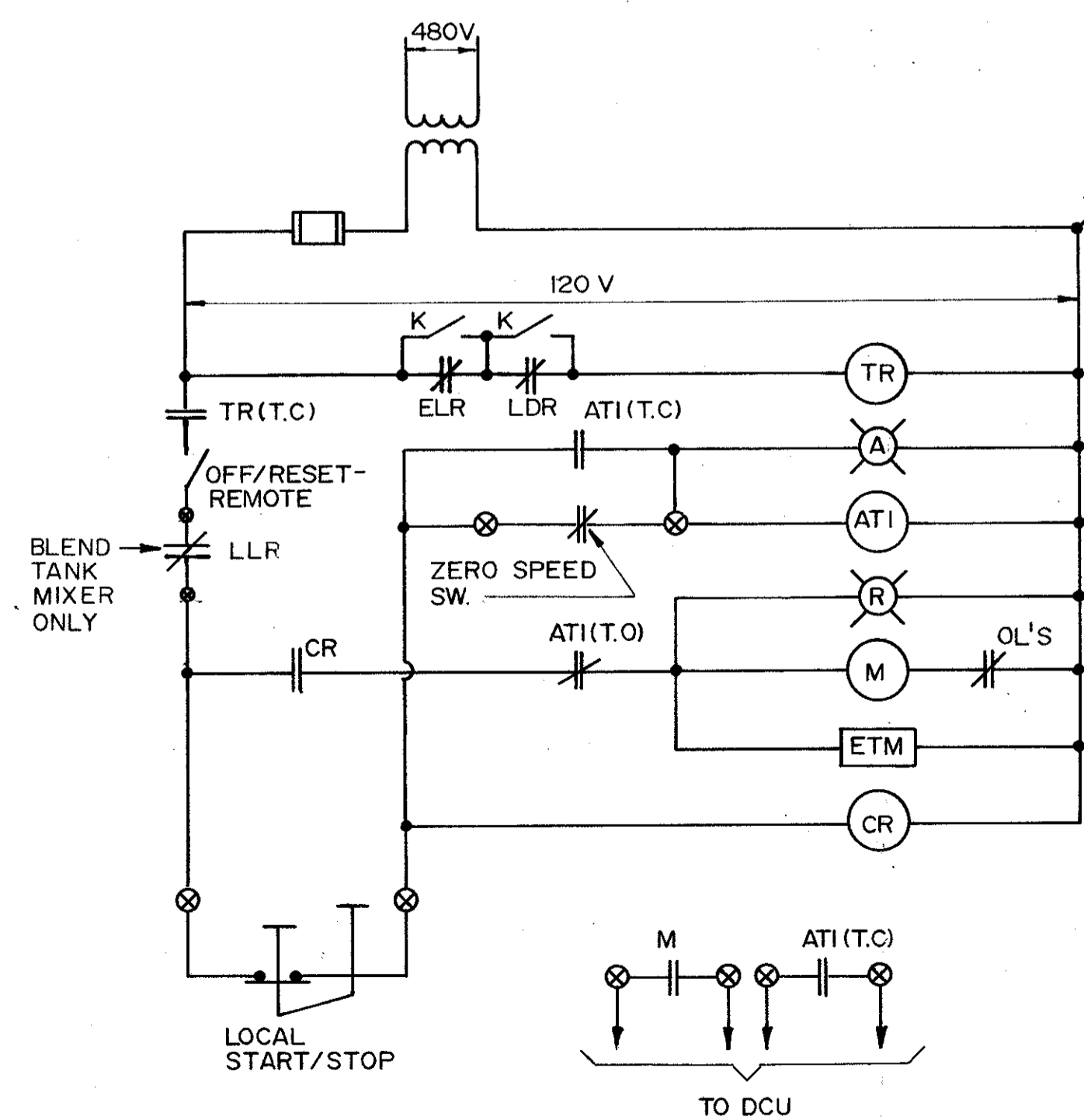
115V FAN CONTROL
(TYP. UNLESS NOTED OTHERWISE)



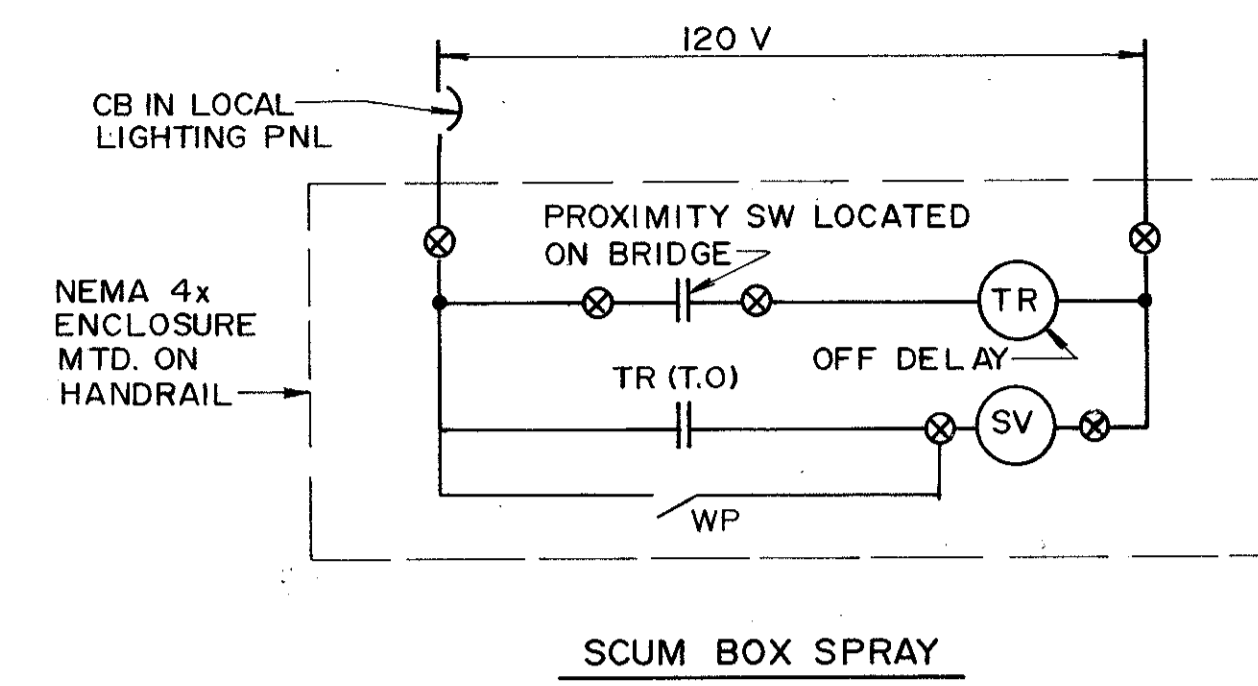
TYPICAL MCC SPARES



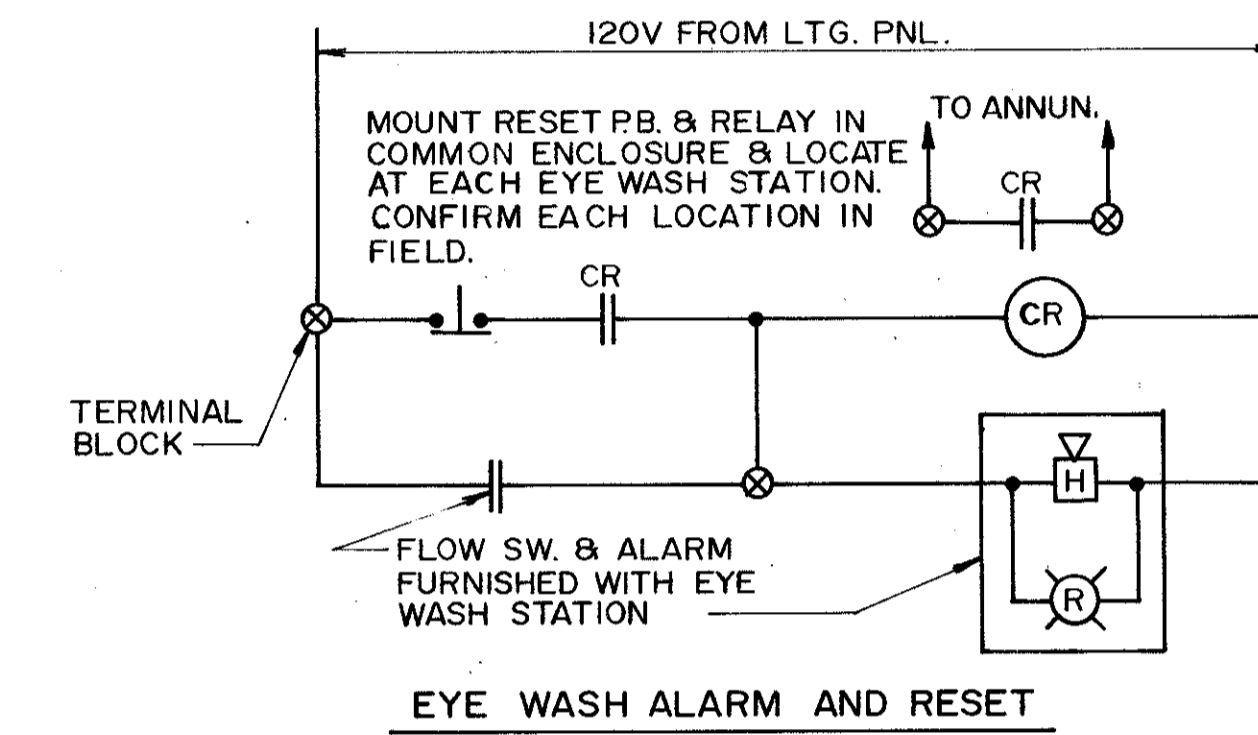
CLARIFIERS



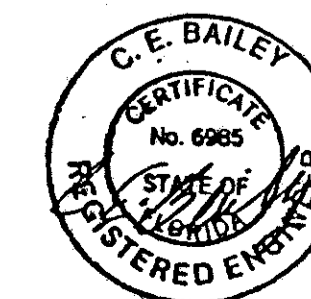
**FLASH MIXERS (FLM & CLM)
VORTEX GRIT CHAMBER MIXER
BLEND TANK MIXER**



SCUM BOX SPRAY

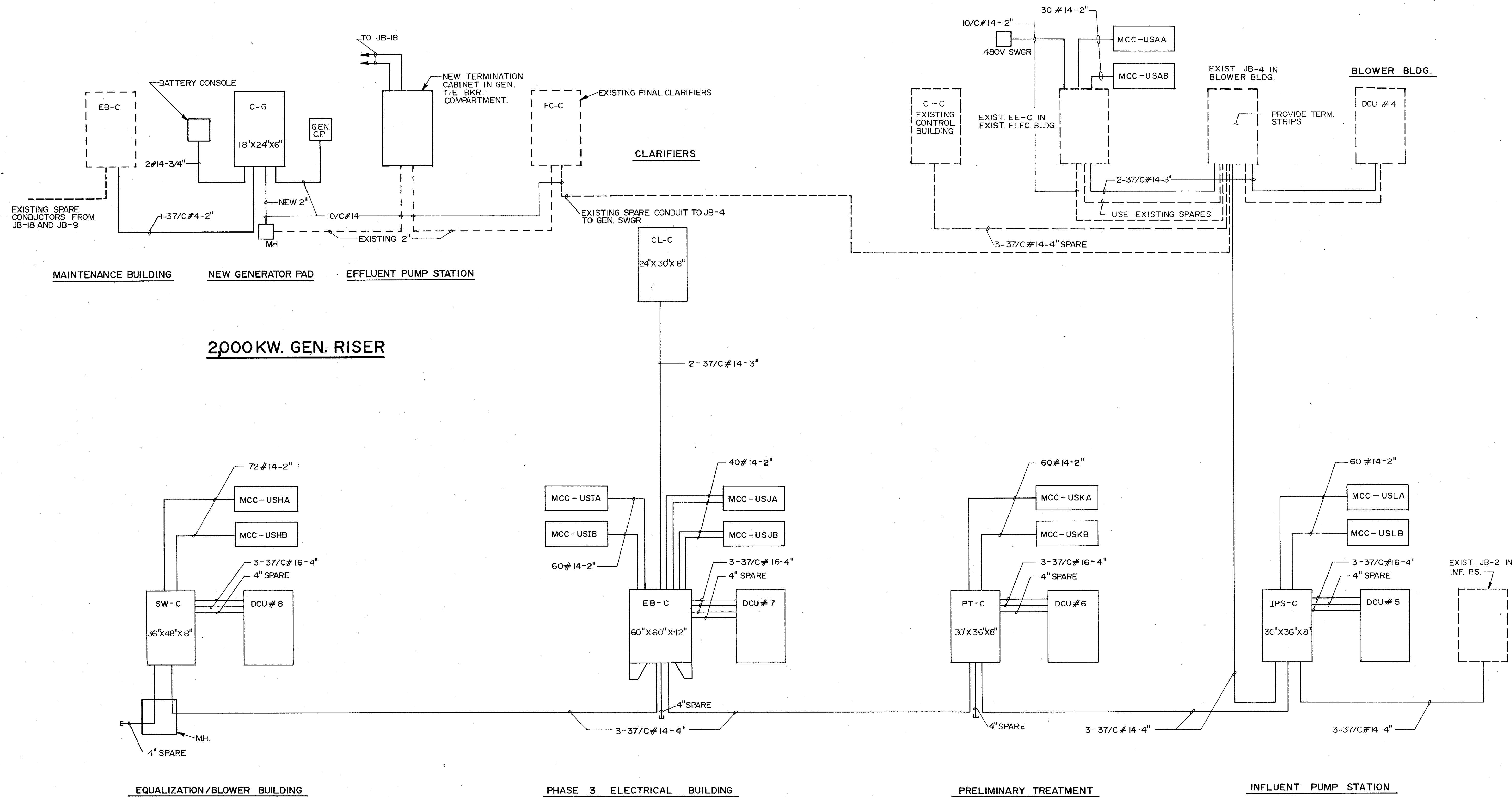


EYE WASH ALARM AND RESET



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION		PROJECT NO. 6059-SL3R	
ELEMENTARY DIAGRAMS		SHEET NO. E-30	
ORANGE COUNTY, FLORIDA		DATE MARCH 1988	
CAMP DRESSER & MCKEE INC.		DESIGNED BY KCH	
environmental engineers, scientists, planners & management consultants		DRAWN BY SAF	
CDM		CHECKED BY SAF	
REMARKS		DATE 4/88	
CONFORMED DWG.		REV. NO.	



CONTROL WIRE & CONDUIT RISER DIAGRAM

REVISIONS	REMARKS
4/88 SAF	CONFORMED DWG.
DESIGNED BY <i>[Signature]</i>	DATE 4/88
DRAWN BY <i>[Signature]</i>	DATE 4/88
CHECKED BY <i>[Signature]</i>	DATE 4/88
APPROVED BY <i>[Signature]</i>	DATE 4/88

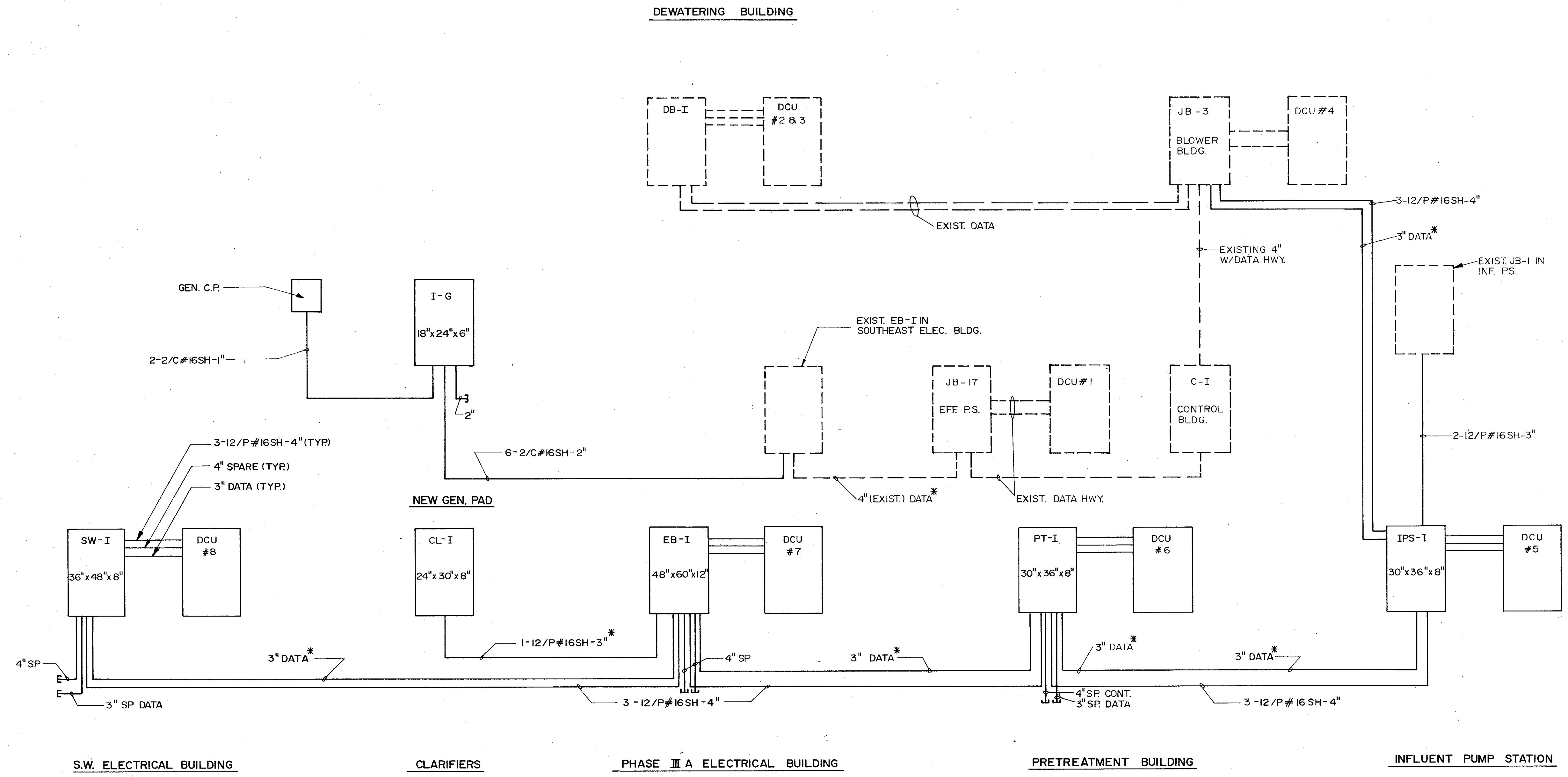
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION
CONTROL WIRE & CONDUIT RISER DIAGRAM
 ORANGE COUNTY, FLORIDA

PROJECT NO
 6059 - SL3R
 SHEET NO
E - 31



C. E. BAILEY & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 ORLANDO, FLORIDA

CAMP DRESSER & MCKEE INC.
 environmental engineers, scientists
 planning & management consultants
CDM



DATA & INSTRUMENTATION CONDUIT RISER

* DATA HWY CABLE FURNISHED W/INST. EQ.

REV	DATE	DRWN	CHKD	REMARKS
4/88	SAF			CONFORMED DWG.

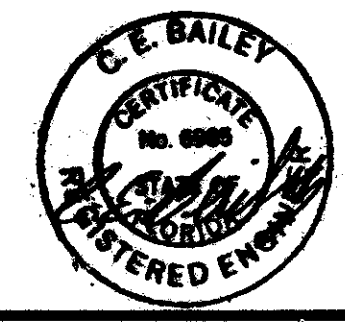
DESIGNED BY *KLW/ACH*
 DRAWN BY *SAF*
 CHECKED BY *SAF*
 APPROVED BY *SAF*
 DATE MARCH 1988

CAMP DRESSER & MCKEE INC.
 environmental engineers, scientists
 planners & management consultants
CDM

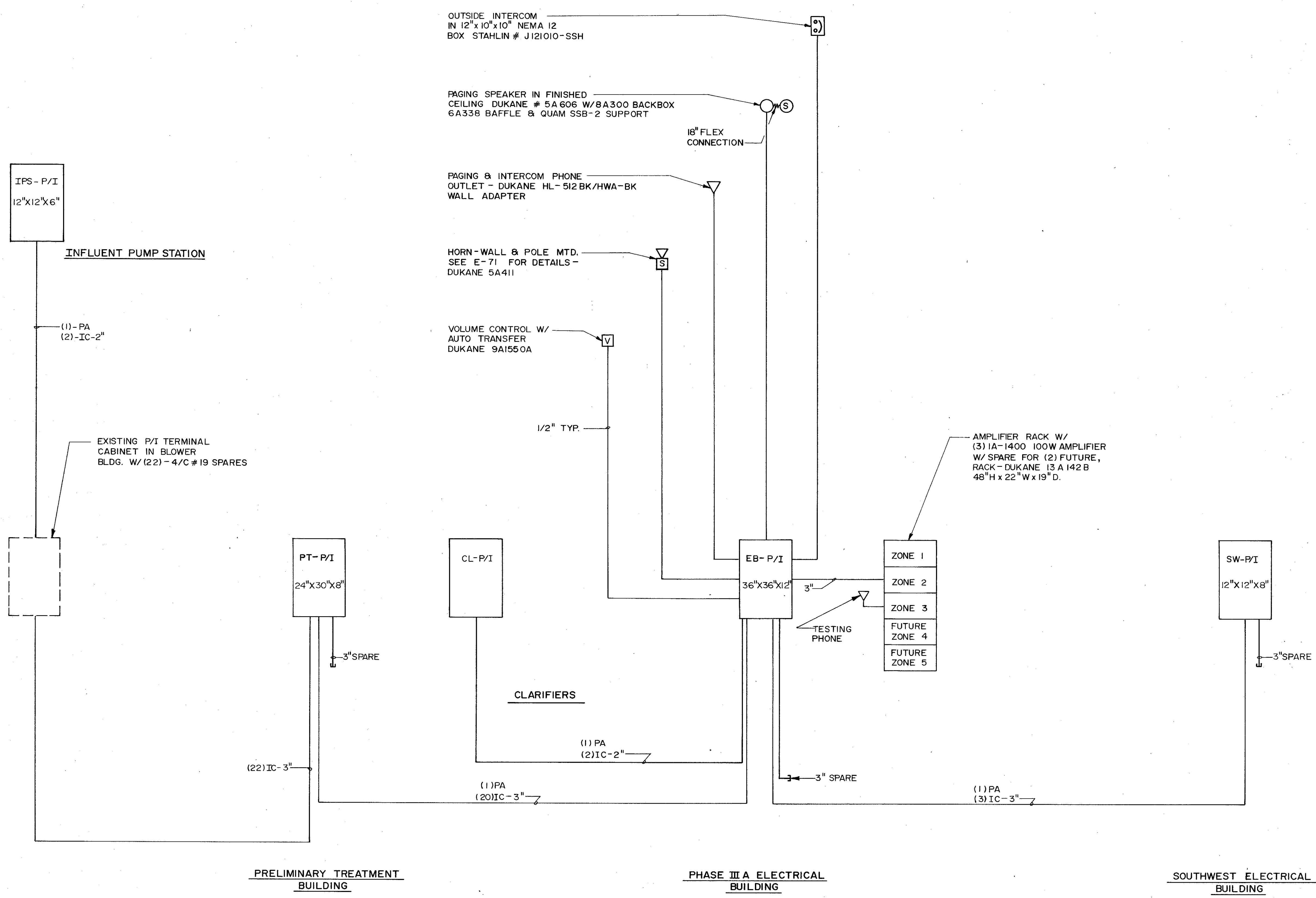
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION
INSTRUMENTATION CONDUIT & WIRE RISER
 ORANGE COUNTY, FLORIDA

PROJECT NO.
6059-SL3R

SHEET NO.
E-32



C. E. BAILEY & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 ORLANDO, FLORIDA



OUTSIDE INTERCOM
IN 12"x10"x10" NEMA 12
BOX STAHLIN # J121010-SSH

PAGING SPEAKER IN FINISHED
CEILING DUKANE # 5A 606 W/BA300 BACKBOX
6A338 BAFFLE & QUAM SSB-2 SUPPORT

16" FLEX
CONNECTION

PAGING & INTERCOM PHONE
OUTLET - DUKANE HL-512 BK/HWA-BK
WALL ADAPTER

HORN-WALL & POLE MTD.
SEE E-71 FOR DETAILS -
DUKANE 5A411

VOLUME CONTROL W/
AUTO TRANSFER
DUKANE 9A1550A

1/2" TYP.

AMPLIFIER RACK W/
(3) 1A-1400 100W AMPLIFIER
W/ SPARE FOR (2) FUTURE,
RACK - DUKANE 13 A 142 B
48"H x 22"W x 19"D.

IPS - P/I
12"x12'x6"

INFLUENT PUMP STATION

(1) - PA
(2) - IC - 2"

EXISTING P/I TERMINAL
CABINET IN BLOWER
BLDG. W/ (22) - 4/C # 19 SPARES

PT - P/I
24"x30'x8"

3" SPARE

CL - P/I

CLARIFIERS

(1) PA
(2) IC - 2"

(1) PA
(20) IC - 3"

EB - P/I
36"x36'x12"

3"

TESTING
PHONE

3" SPARE

ZONE 1
ZONE 2
ZONE 3
FUTURE
ZONE 4
FUTURE
ZONE 5

(1) PA
(3) IC - 3"

SW - P/I
12"x12'x8"

3" SPARE

PRELIMINARY TREATMENT
BUILDING

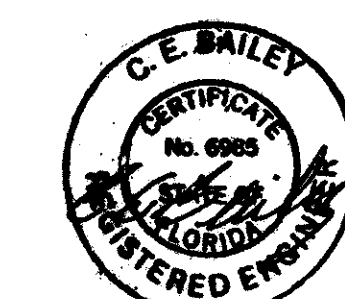
PHASE III A ELECTRICAL
BUILDING

SOUTHWEST ELECTRICAL
BUILDING

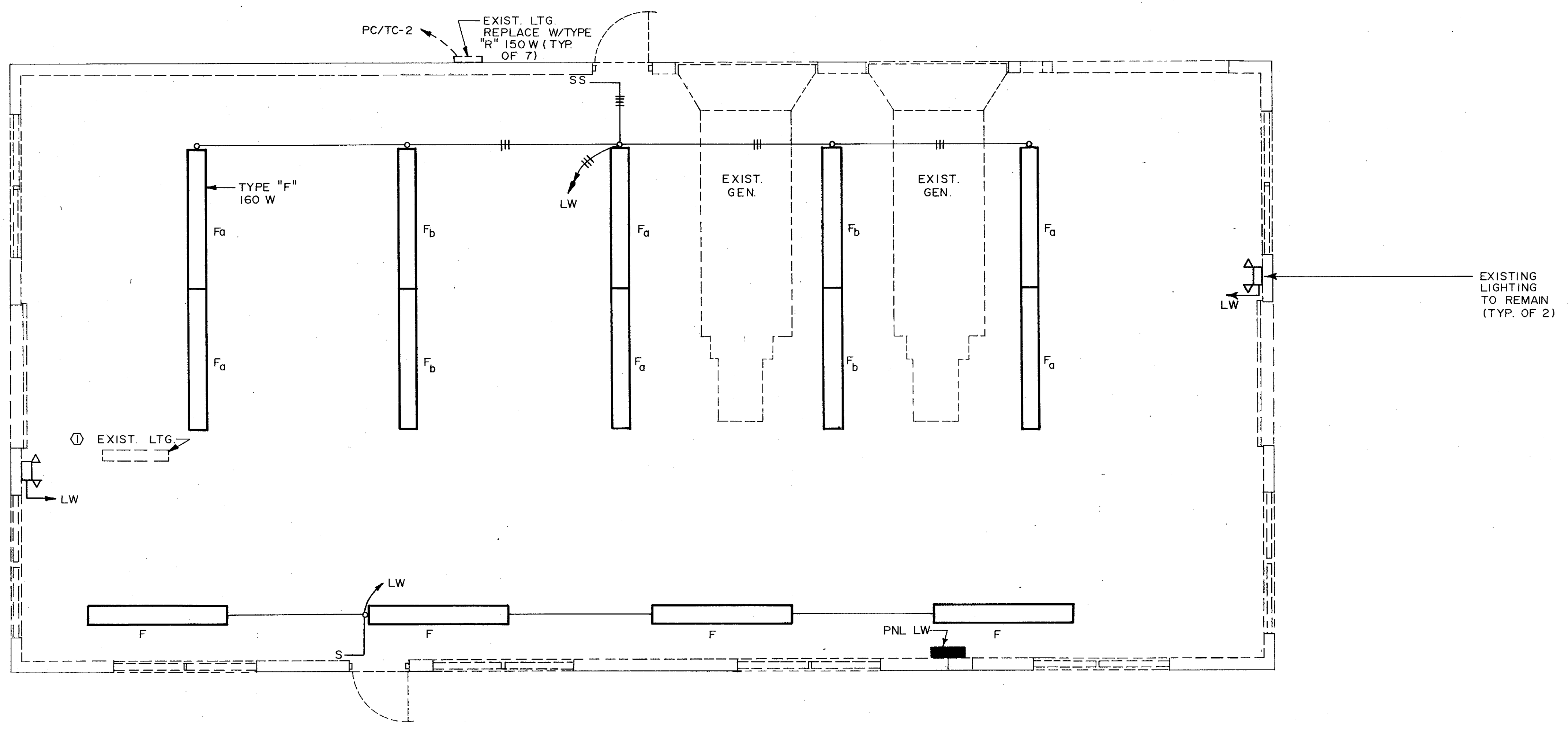
PAGING AND INTERCOM CONDUIT RISER

(SEE PLANS FOR REMOTE DEVICES)

DESIGNED BY DRAWN BY CHECKED BY APPROVED BY DATE	REV NO	DATE	DRWN	CHKD	REMARKS
4/88	SAF				CONFORMED DWG.
<p>CAMP DRESSER & MCKEE INC.</p> <p>SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION</p> <p>PAGING AND INTERCOM CONDUIT RISER</p> <p>ORANGE COUNTY, FLORIDA</p>					
PROJECT NO 6059-SL3R					SHEET NO E-33



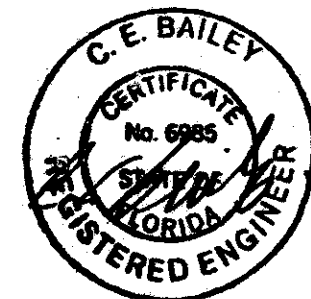
C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



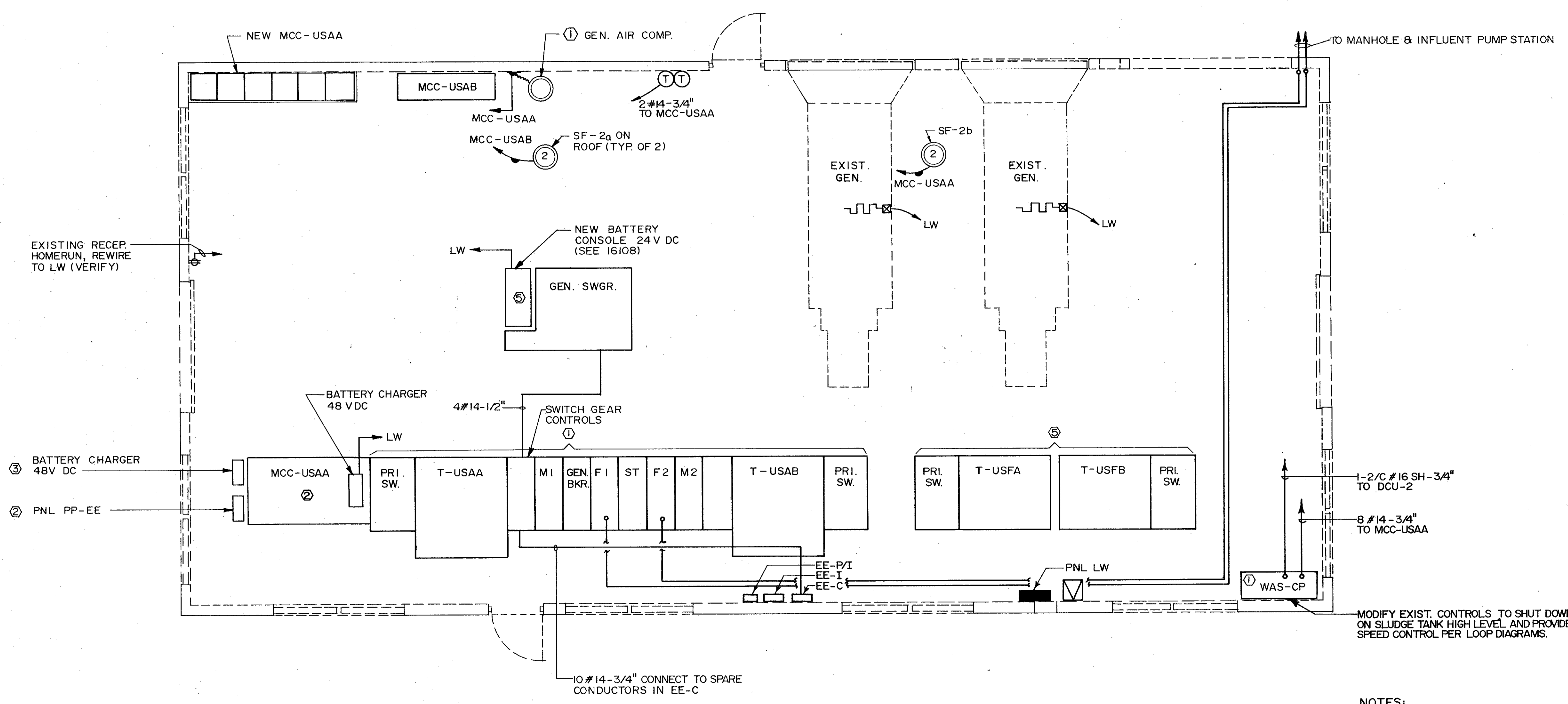
PLAN
1/4" = 1'-0"

NOTES:
① TO BE REMOVED (TYP OF 20)

DESIGNED BY <i>KTL/KAC</i>	REV	NO	DATE	DRWN	CHKD	REMARKS
	4/88	SAF				CONFORMED DWG.
DRAWN BY <i>JAC</i>	APPROVED BY <i>[Signature]</i>					
CHECKED BY <i>[Signature]</i>	DATE MARCH 1988					
CAMP DRESSER & MCKEE INC.						
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION						
EXISTING ELECTRICAL BUILDING-LIGHTING PLAN						
ORANGE COUNTY, FLORIDA						
PROJECT NO: 6059-SL3R						
SHEET NO: E-34						



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



PLAN
1/4" = 1'-0"

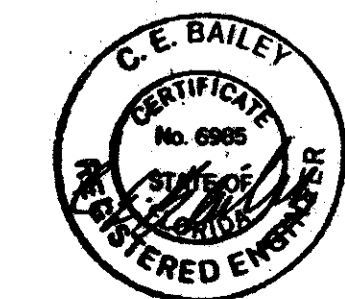
NOTES:

- ① EXISTING TO REMAIN
- ② TO BE REMOVED AND STORED ON SITE
- ③ TO BE RELOCATED
- ④ EXISTING TO REMAIN W/MODIFICATIONS
- ⑤ NEW

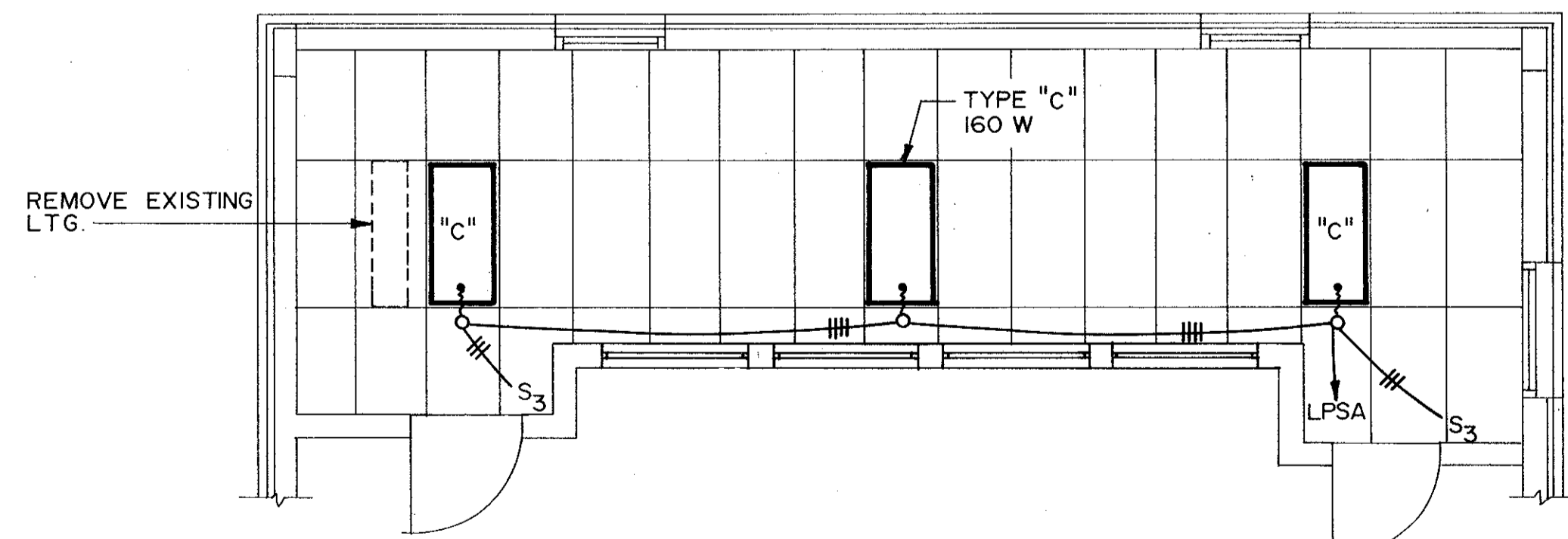
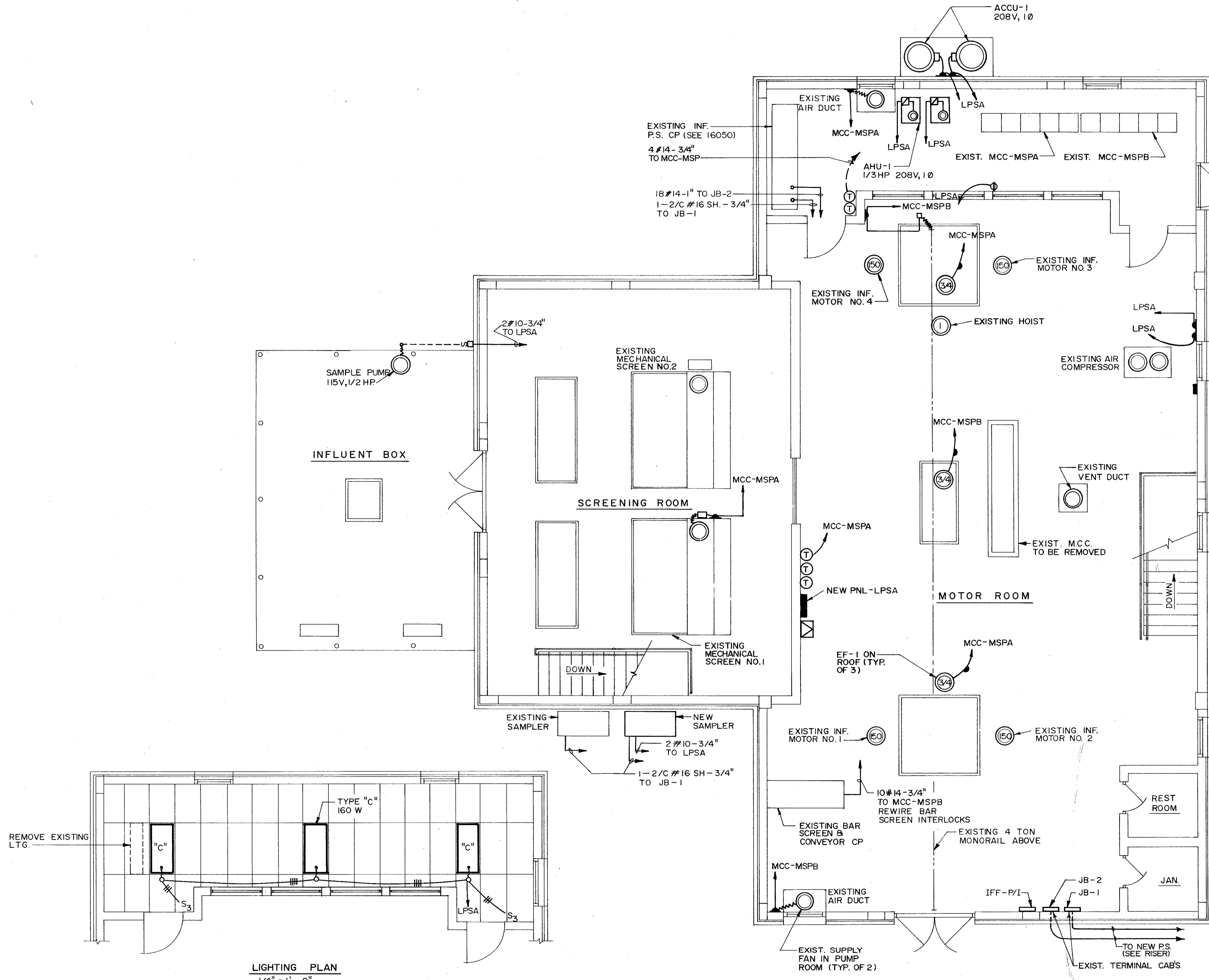
MODIFY EXIST. CONTROLS TO SHUT DOWN ON SLUDGE TANK HIGH LEVEL AND PROVIDE SPEED CONTROL PER LOOP DIAGRAMS.

DESIGNED BY DRAWN BY CHECKED BY APPROVED BY DATE	REV NO	DATE	DRWN	CHKD	REMARKS
		4/88	SAF		CONFORMED DWG.
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION EXISTING ELECTRICAL BUILDING - POWER PLAN ORANGE COUNTY, FLORIDA					
PROJECT NO 6059-SL3R					
SHEET NO F-35					

CAMP DRESSER & MCKEE INC.
 environmental engineers, scientists,
 planners, & management consultants
CDM



C. E. BAILEY & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 ORLANDO, FLORIDA



LIGHTING PLAN
1/4" = 1'-0"

PLAN
1/4" = 1'-0"



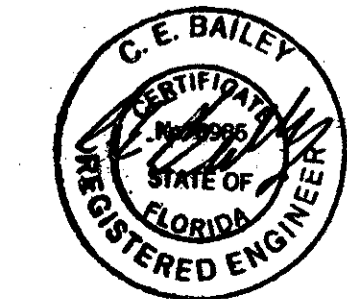
REMARKS	
CONFORMED-DWG.	
REV. NO.	4/88 SAF
DATE	4/88
DRWN	SAF
CHKD	
DESIGNED BY	SAF
DRAWN BY	SAF
CHECKED BY	SAF
APPROVED BY	SAF
DATE	MARCH 1988

CAMP DRESSER & MCKEE INC.
environmental engineers, scientists,
planners, & management consultants

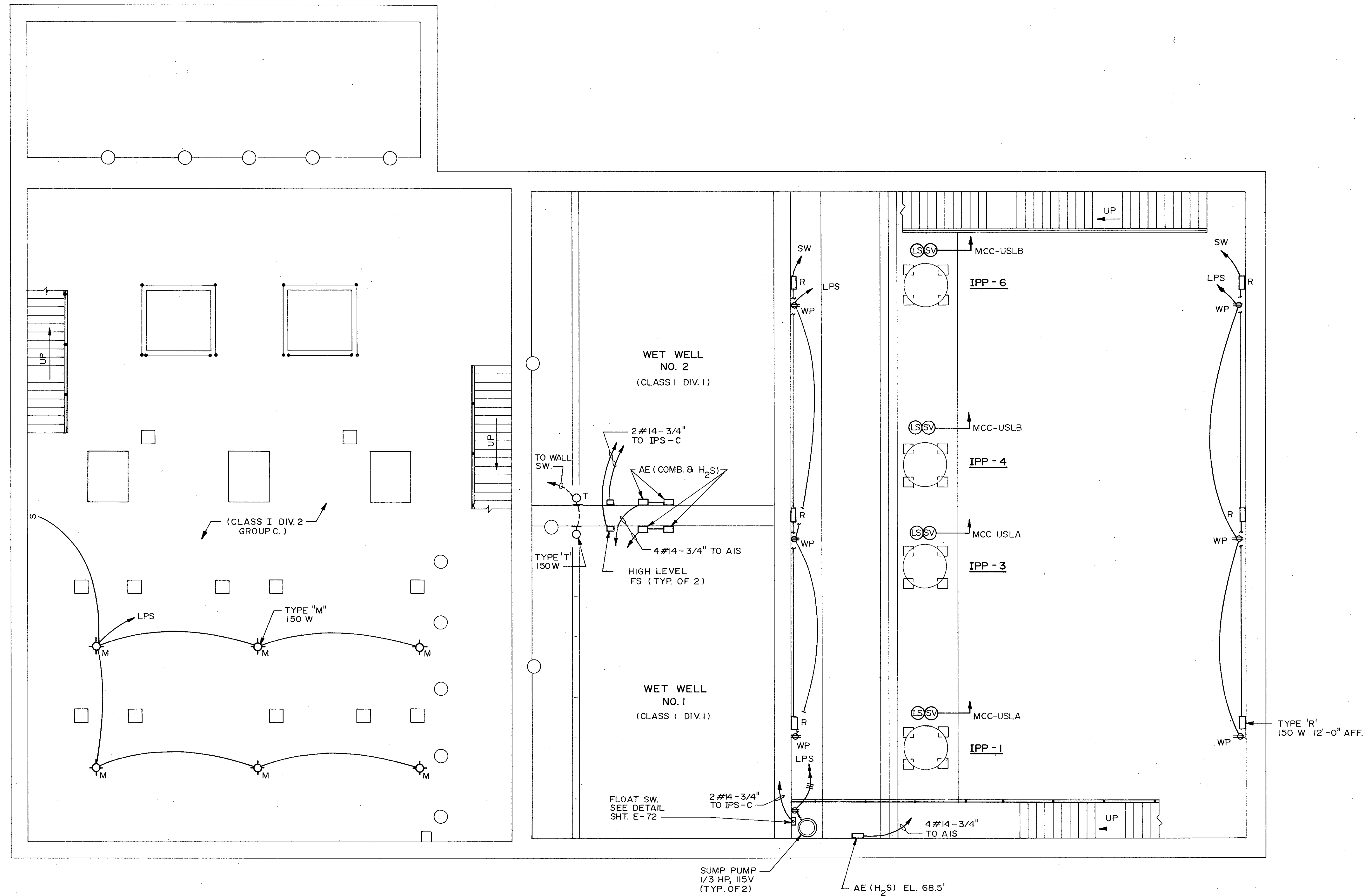
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
EXISTING INFLUENT PUMP STATION - POWER PLAN
ORANGE COUNTY, FLORIDA

PROJECT NO.
6059-SL3R

SHEET NO.
E-36

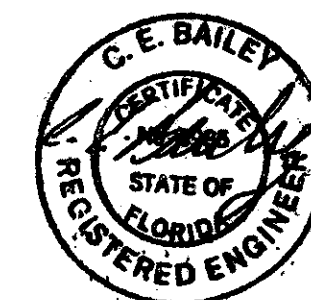


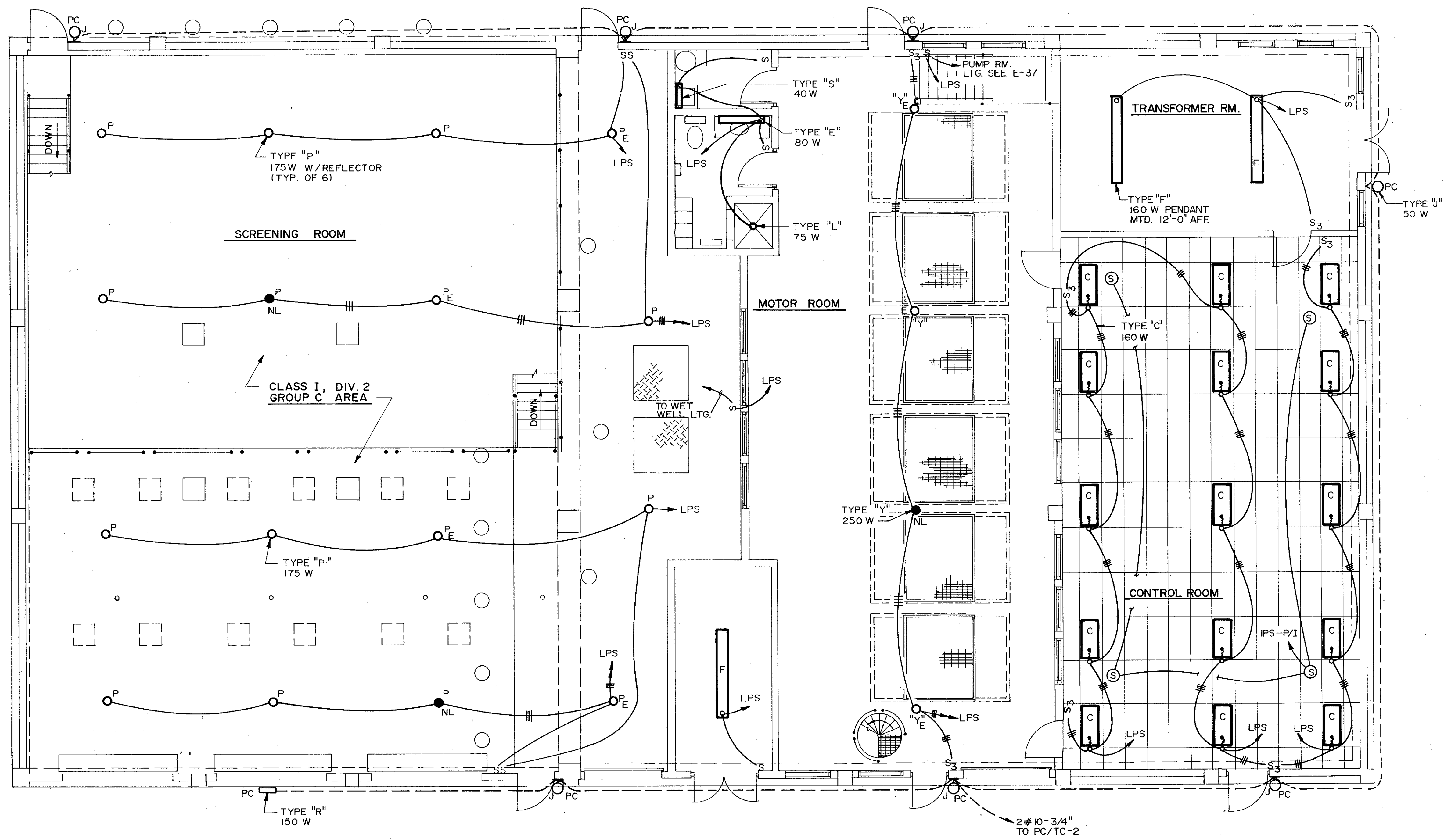
C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA




PLAN
3/16" = 1'-0"

DESIGNED BY <i>ETL/ACI</i>	DRAWN BY <i>ZAC</i>	DATE 4/88	REV. NO. SAF	CHKD	REMARKS
					CONFORMED DWG.
DESIGNED BY DRAWN BY CHECKED BY APPROVED BY DATE				DATE MARCH 1988	
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION INFLUENT PUMP STATION - LOWER PLAN				CDM <small>environmental engineers scientists planners & management consultants</small>	
PROJECT NO. 6059-SL3R				SHEET NO. E-37	
C. E. BAILEY & ASSOCIATES, INC. CONSULTING ENGINEERS ORLANDO, FLORIDA				ORANGE COUNTY, FLORIDA	



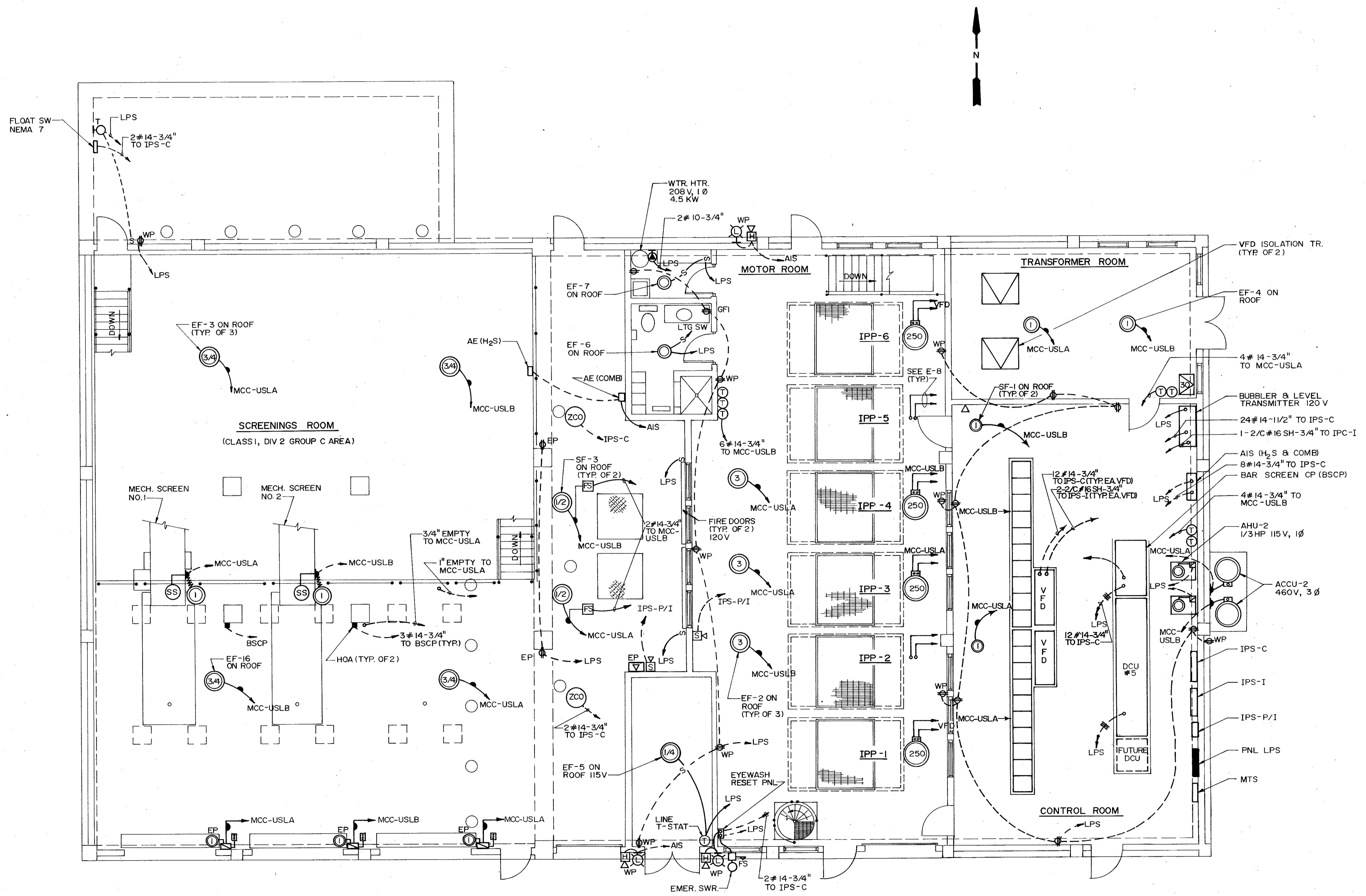


PLAN
3/16" = 1'-0"

REMARKS	
CONFORMED DWG.	
CHKD	
DRWN	SAF
DATE	4/88
REV NO	
DESIGNED BY	LLH/PCJ
DRAWN BY	RL
CHECKED BY	WCH
APPROVED BY	CS
DATE	MARCH 1988
 <small>environmental engineers scientists planners & management consultants</small>	
CAMP DRESSER & MCKEE INC.	
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION	
INFLUENT PUMP STATION - UPPER LEVEL LIGHTING	
ORANGE COUNTY, FLORIDA	
PROJECT NO	6059-SL3R
SHEET NO	E-38

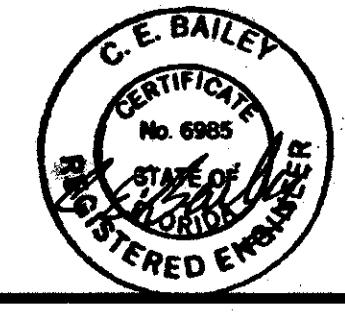


C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

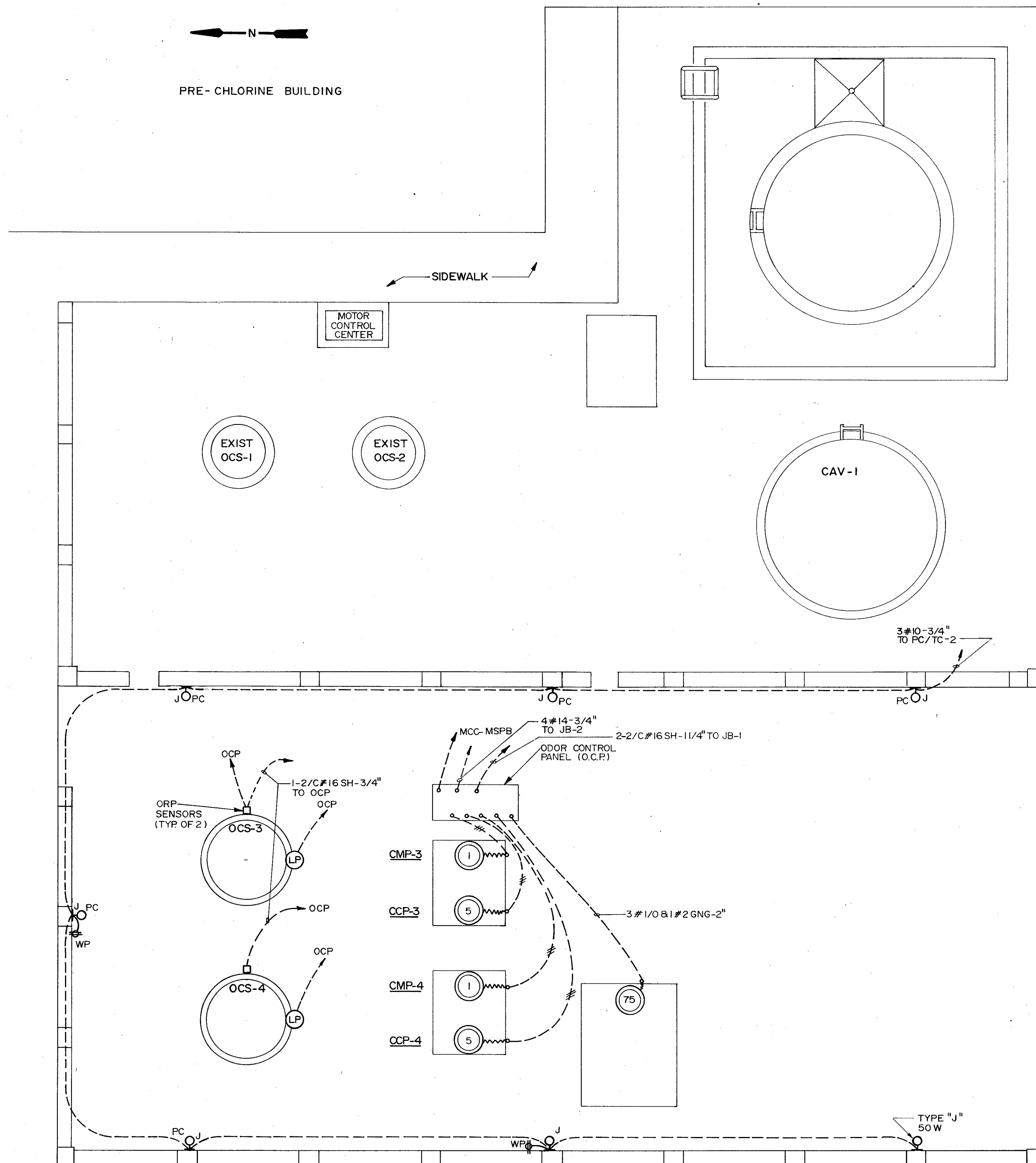


PLAN
3/16" = 1' - 0"

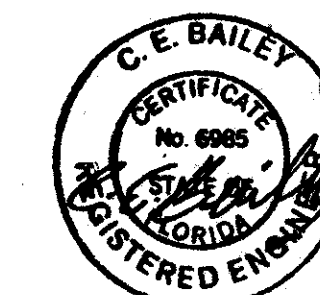
REVISIONS	DATE	BY	CHKD	REMARKS
1	4/88	SAF		CONFORMED DWG.
DESIGNED BY	EST/MLC			
DRAWN BY	RL			
CHECKED BY	MLC			
APPROVED BY	C.E.B.			
DATE	MARCH 1988			
CDM Environmental Engineers, Scientists, Planners & Management Consultants				
CAMP DRESSER & MCKEE INC.				
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION				
INFLUENT PUMP STATION - UPPER LEVEL POWER				
ORANGE COUNTY, FLORIDA				
PROJECT NO.	6059-SL3R			
SHEET NO.	E-39			



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



PLAN
1/4" = 1'-0"



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

PROJECT NO.
6059-SL3R

SHEET NO.
E-40

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
EXISTING ODOR CONTROL
ORANGE COUNTY, FLORIDA

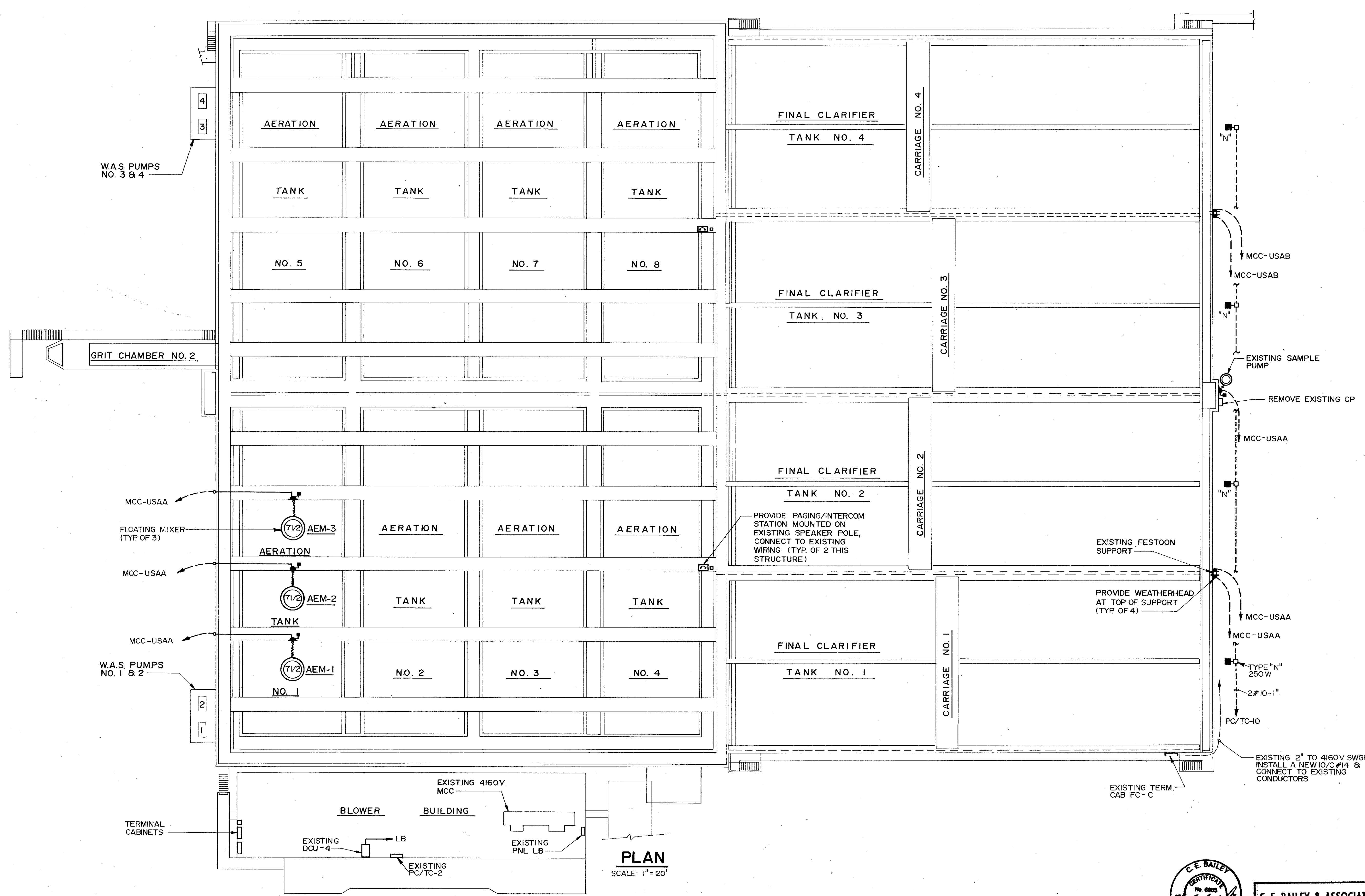
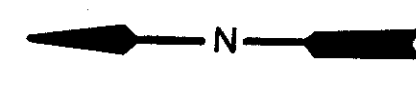
CAMP DRESSER & MCKEE INC.

environmental engineers, scientists,
planners & management consultants

CDM

DESIGNED BY *EKL/ACH*
DRAWN BY *JAC*
CHECKED BY *WCH*
APPROVED BY *C.E.B.*
DATE MARCH 1988

REV NO	DATE	DRWN	CHKD	REMARKS
4/88	SAF			CONFORMED DWG.



PLAN
SCALE: 1" = 20'

REMARKS	CONFORMED DWG.
CHKD	SAF
DATE	4/88
REV	IND
DESIGNED BY	KTL/HCH
DRAWN BY	KTL
CHECKED BY	HCH
APPROVED BY	[Signature]
DATE	MARCH 1988

CAMP DRESSER & MCKEE INC.

EXISTING AERATION BASINS & CLARIFIERS

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION

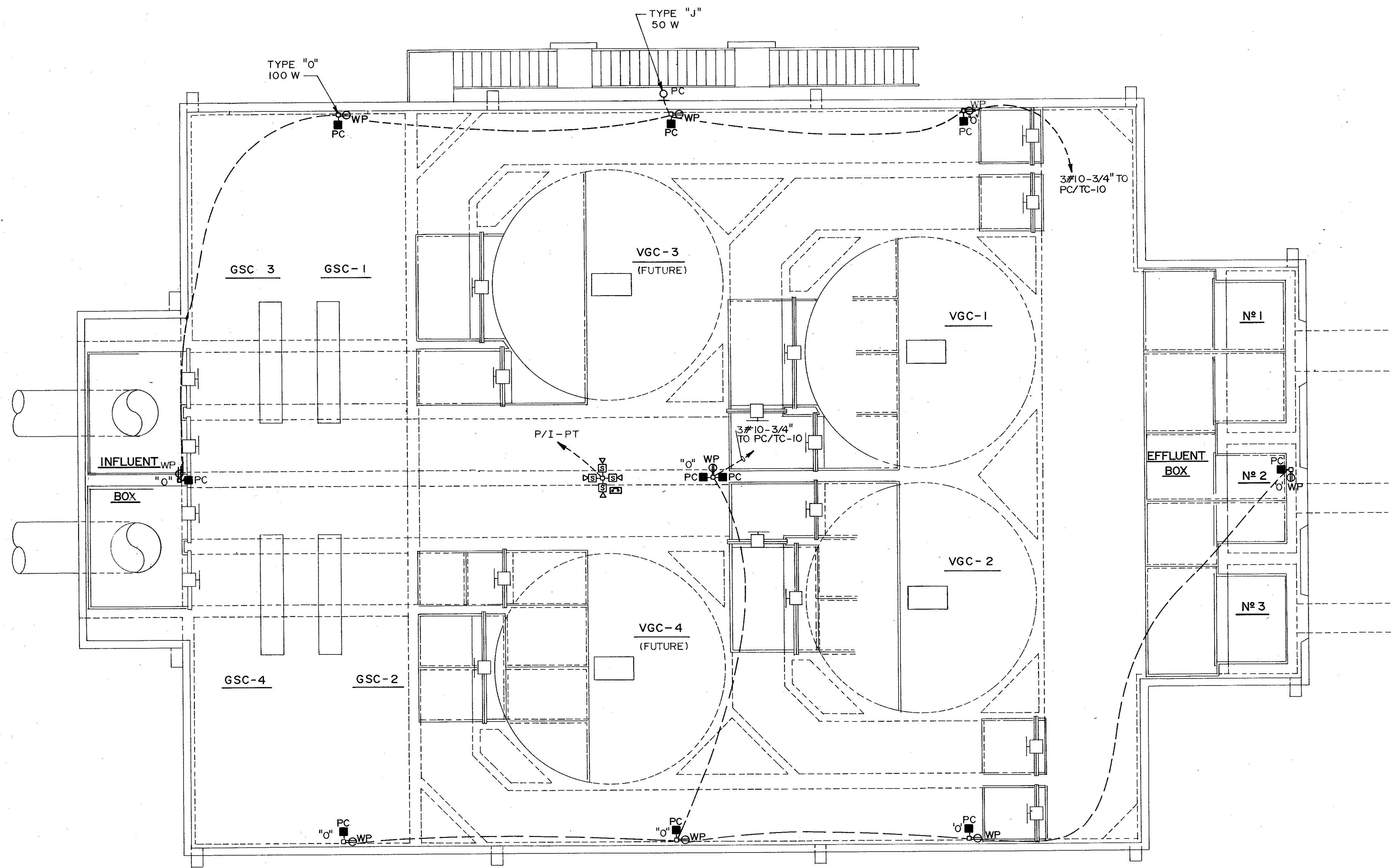
ORANGE COUNTY, FLORIDA

PROJECT NO.	6059-SL3R
SHEET NO.	F-43

CDM
environmental engineers, scientists,
planners, & management consultants



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



PLAN
SCALE: 3/16" = 1'-0"



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

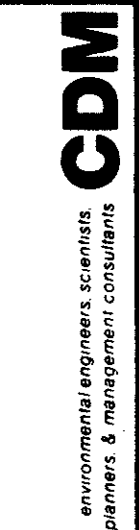
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
PRELIMINARY TREATMENT-UPPER LIGHTING PLAN
ORANGE COUNTY, FLORIDA

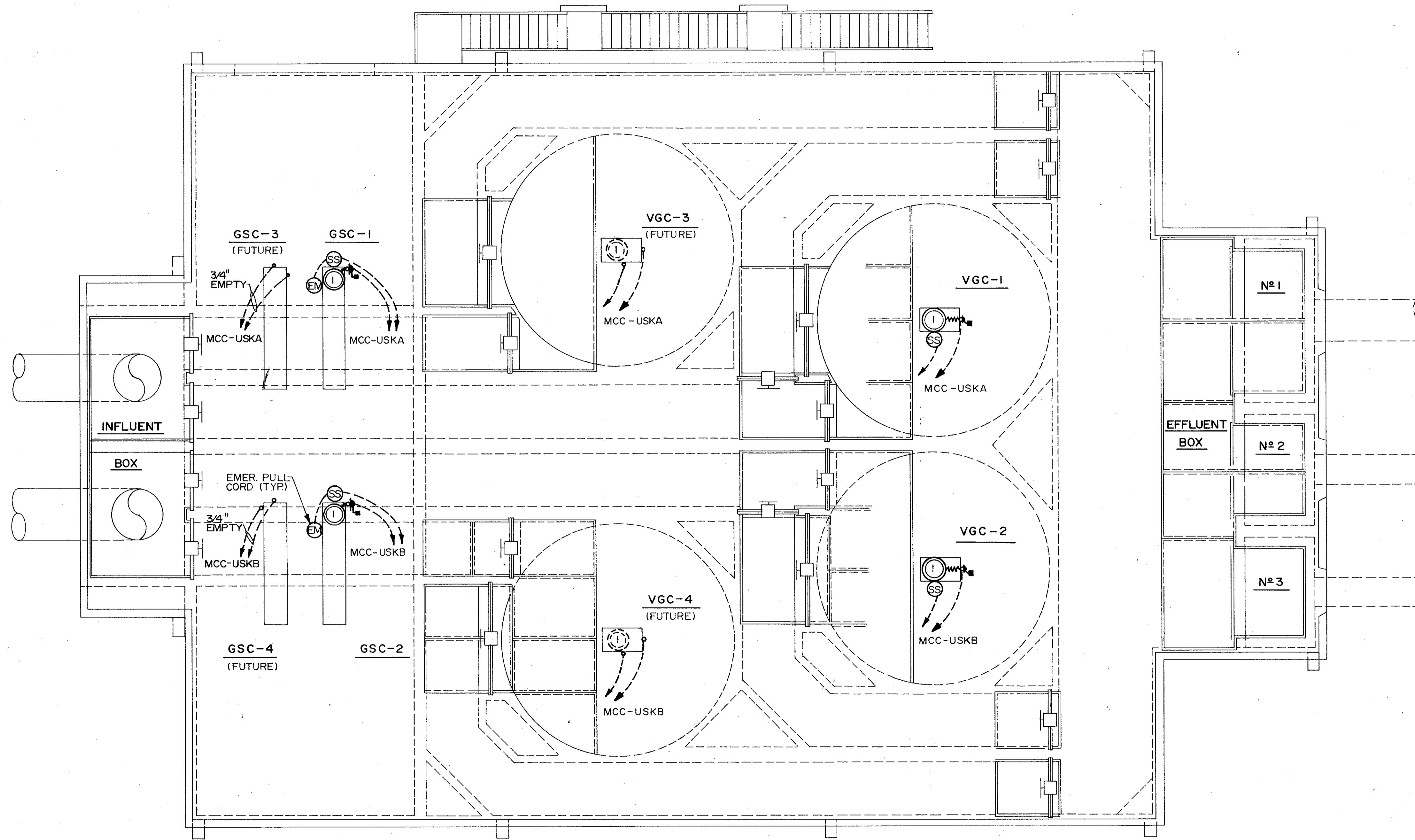
CAMP DRESSER & MCKEE INC.

DESIGNED BY: [Signature]
DRAWN BY: RY
CHECKED BY: RCH
APPROVED BY: [Signature]
DATE: MARCH 1988

REV NO	DATE	DRWN	CHKD	REMARKS
4/88	SAF			CONFORMED DWG.

PROJECT NO	SHEET NO
6059-SL3R	F-45





PLAN

SCALE: 3/16" = 1'-0"



SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION
PRELIMINARY TREATMENT - UPPER POWER PLAN

CAMP DRESSER & MCKEE INC.
 environmental engineers, scientists,
 planners, & management consultants

PROJECT NO
 6059-SL3R

SHEET NO:
E-46

DESIGNED BY: KTL/MLH
 DRAWN BY: RL
 CHECKED BY: MLH
 APPROVED BY: *[Signature]*
 DATE: MARCH 1988

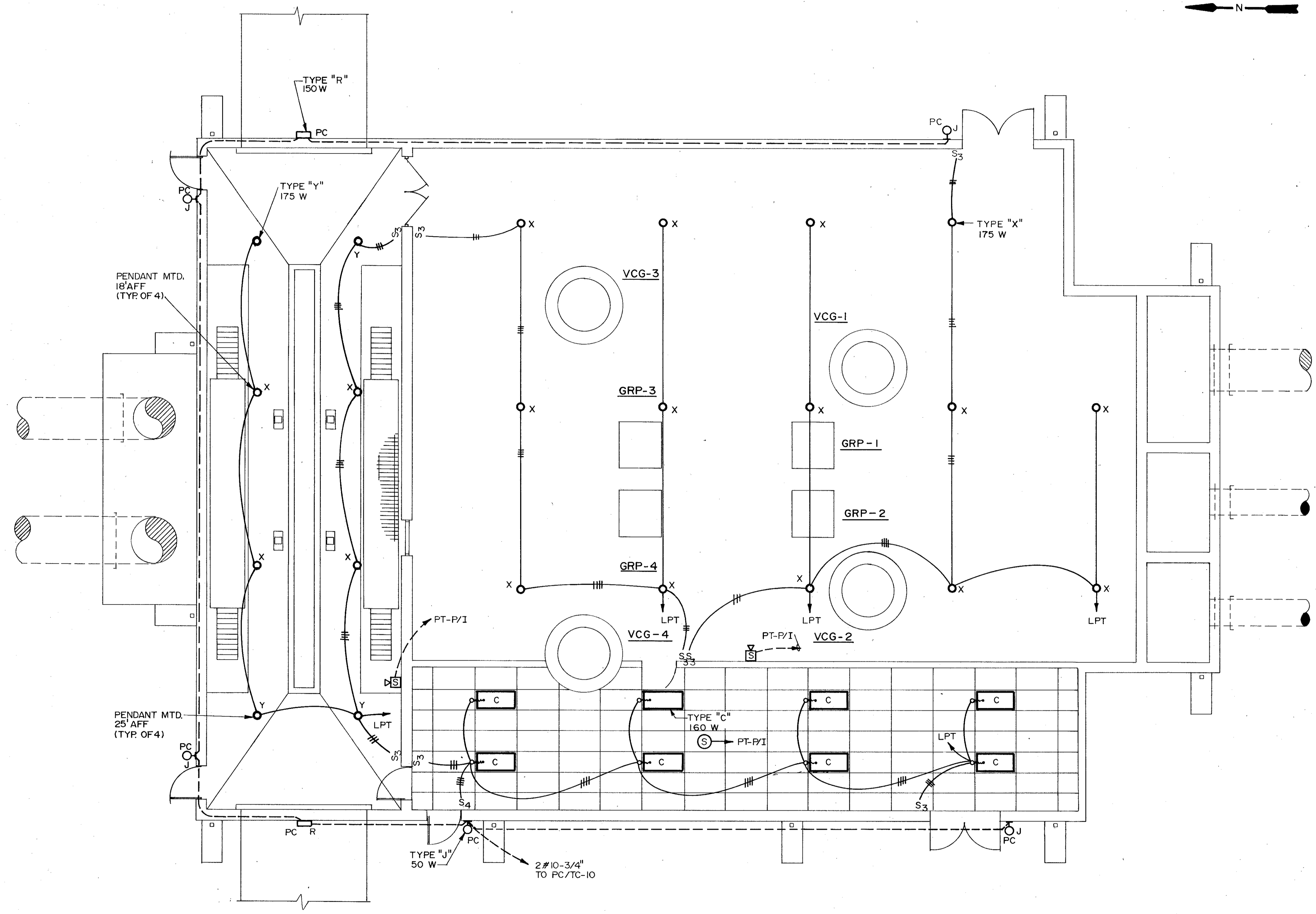
REV NO
 4/88 SAF

DATE DRWN
 4/88 SAF

REMARKS
 CONFORMED DWG.



C. E. BAILEY & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 ORLANDO, FLORIDA



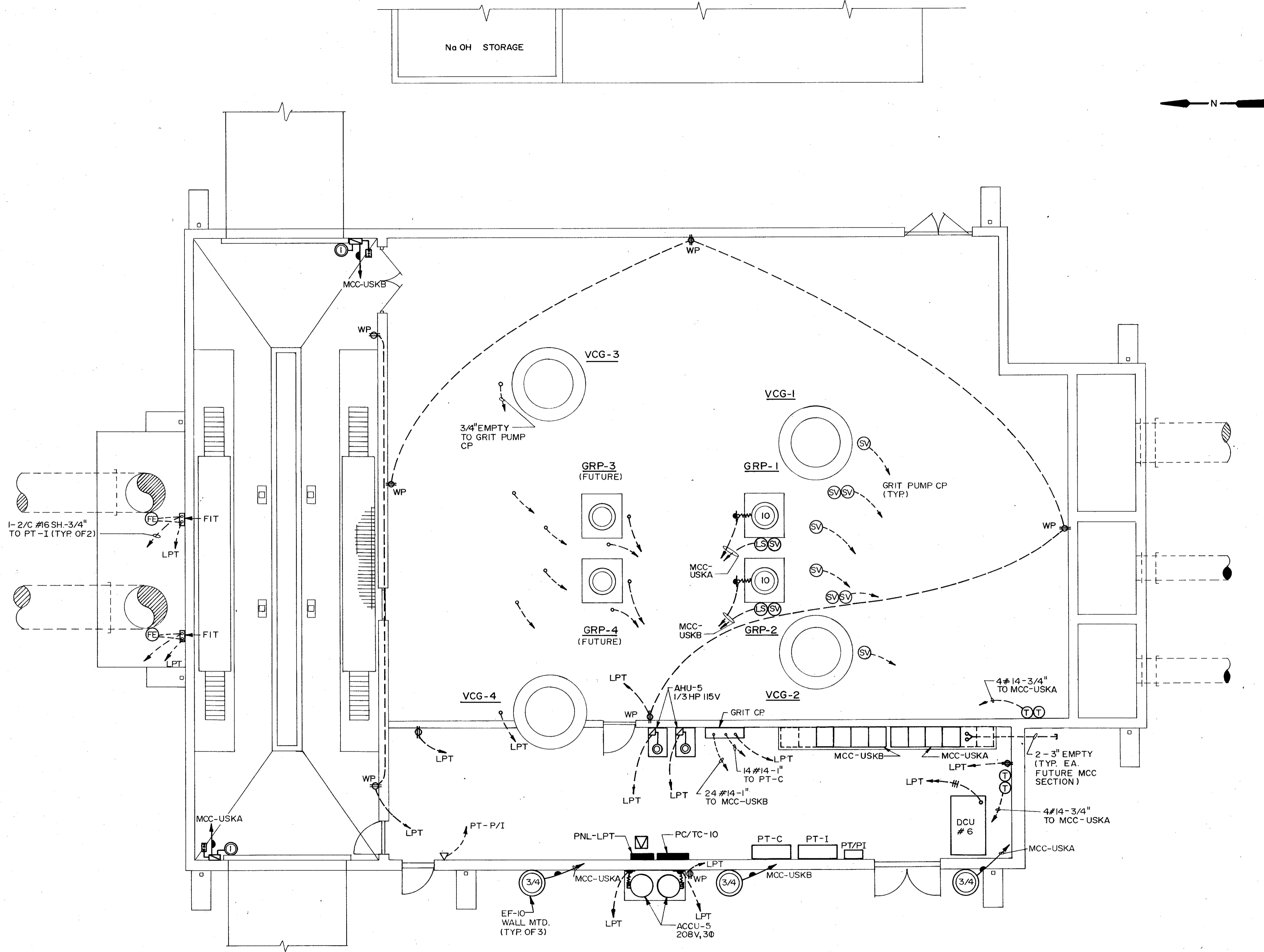
PLAN
3/16"=1'-0"

REMARKS	CHKD	DRWN	DATE	REV
	SAF	SAF	4/88	4
DESIGNED BY	CHKD	DATE	APPROVED BY	
	RL	DATE	DATE	
DRAWN BY				
CHECKED BY				
APPROVED BY				
DATE				
MARCH 1988				
CAMP DRESSER & MCKEE INC.				
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION				
PRELIMINARY TREATMENT-LOWER LIGHTING PLAN				
ORANGE COUNTY, FLORIDA				
PROJECT NO				
6059-SL3R				
SHEET NO				
E-47				




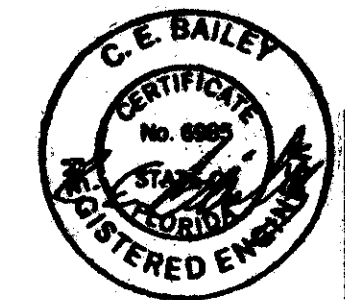
C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

CDM
environmental engineers, scientists
planners & management consultants

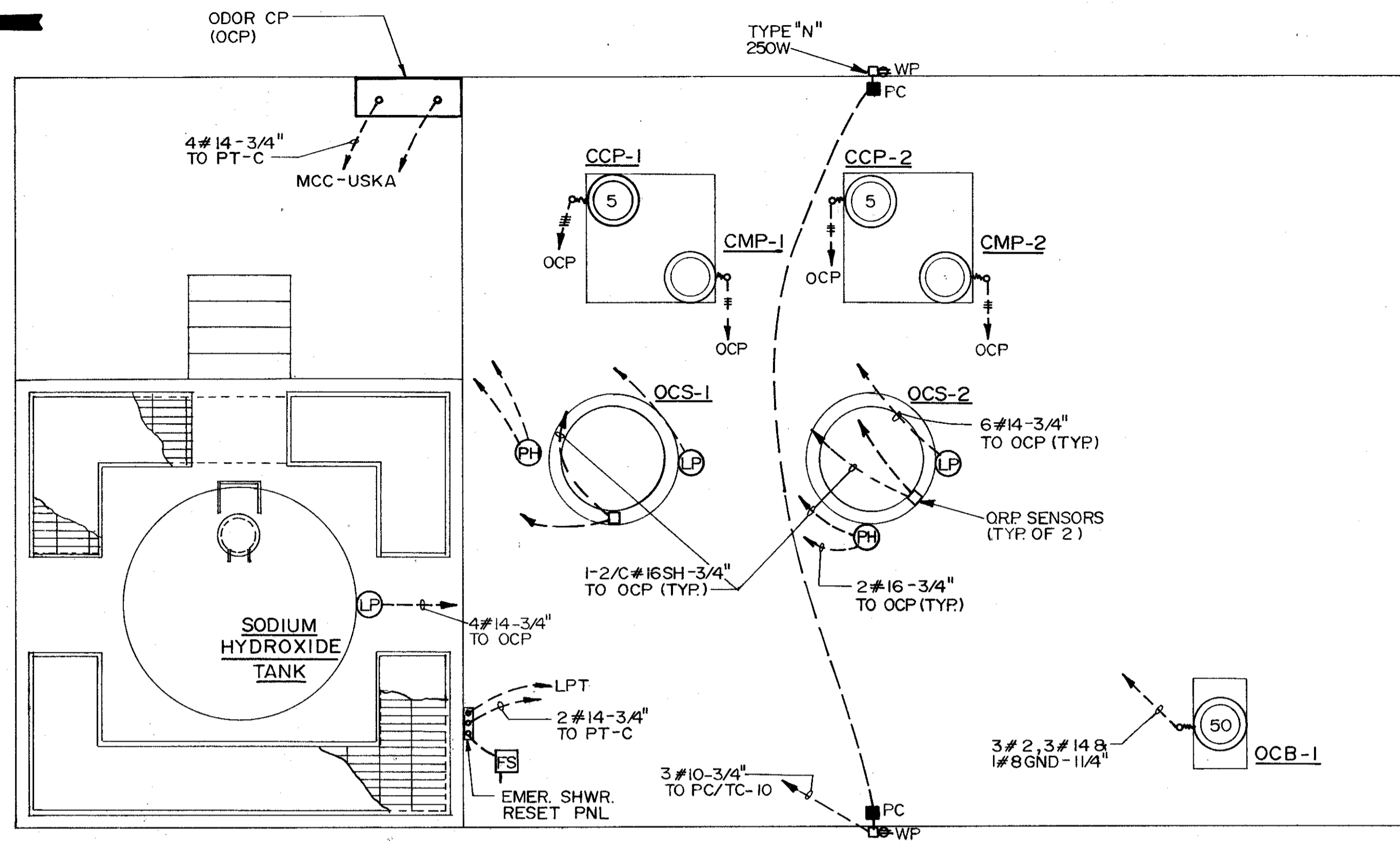
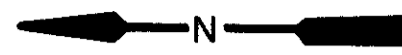


PLAN
3/16"=1'-0"

DESIGNED BY KVL/MCH	DRAWN BY SAF	DATE 4/88	CHKD	REMARKS
CHECKED BY KVL	APPROVED BY KVL	DATE MARCH 1988		
 <small>environmental engineers, scientists, planners, & management consultants</small>				
CAMP DRESSER & MCKEE INC.				
PRELIMINARY TREATMENT-LOWER POWER PLAN				
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 5A EXPANSION ORANGE COUNTY, FLORIDA				
PROJECT NO	6059-SL3R			
SHEET NO	E-48			



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

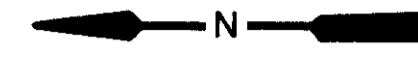
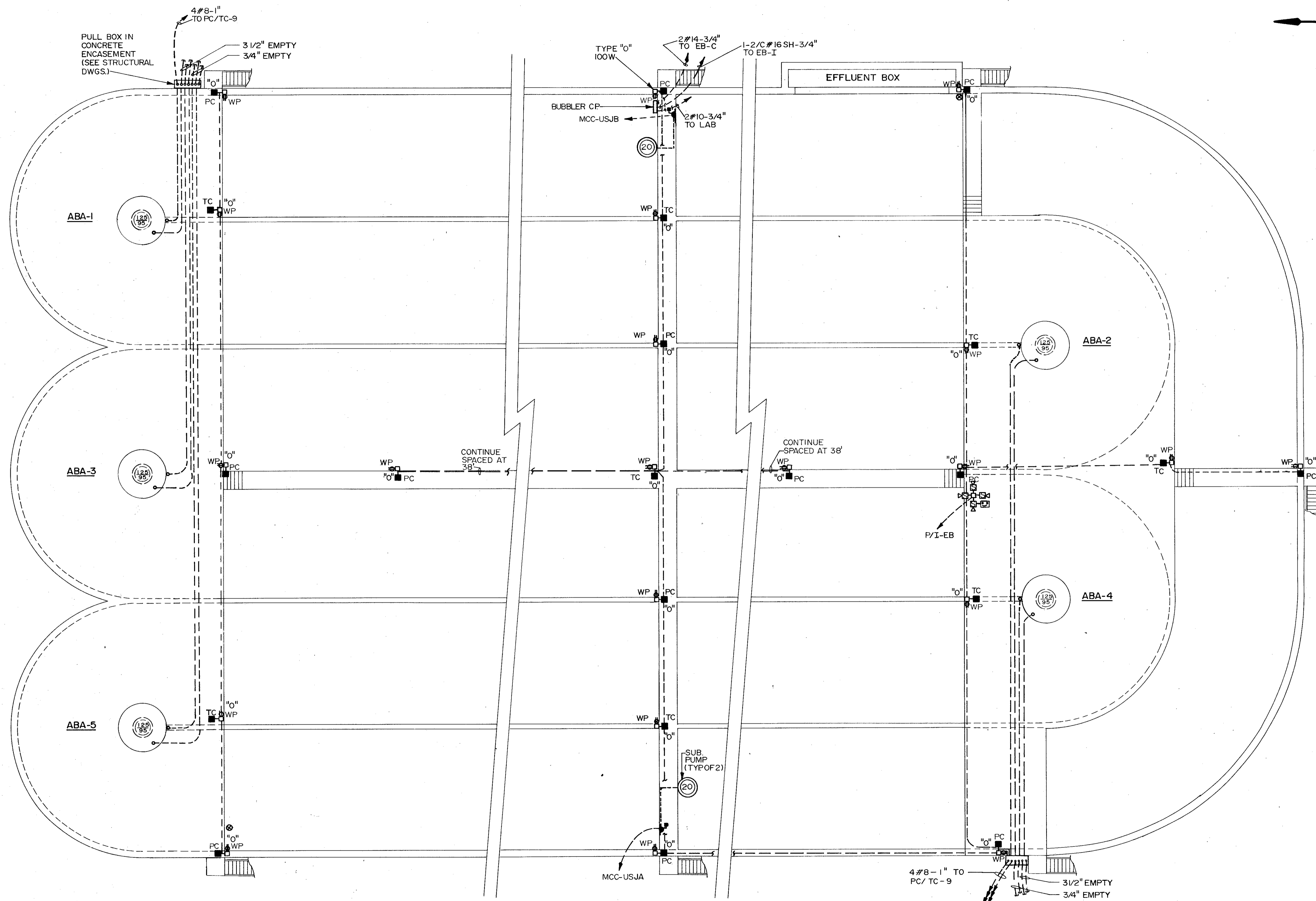


ODOR CONTROL
1/4" = 1'-0"

REMARKS	
CONFORMED DWG.	
DATE	4/88
DRWN	SAF
CHKD	
DESIGNED BY	KT/LAC
DRAWN BY	JAC
CHECKED BY	LKH
APPROVED BY	[Signature]
DATE	MARCH 1988
CAMP DRESSER & MCKEE INC.	
ENVIRONMENTAL ENGINEERING, PLANNING, & MANAGEMENT CONSULTANTS	
CDM	
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION	
PRELIMINARY TREATMENT - ODOR CONTROL	
ORANGE COUNTY, FLORIDA	
PROJECT NO.	6059-SL3R
SHEET NO.	E-49



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

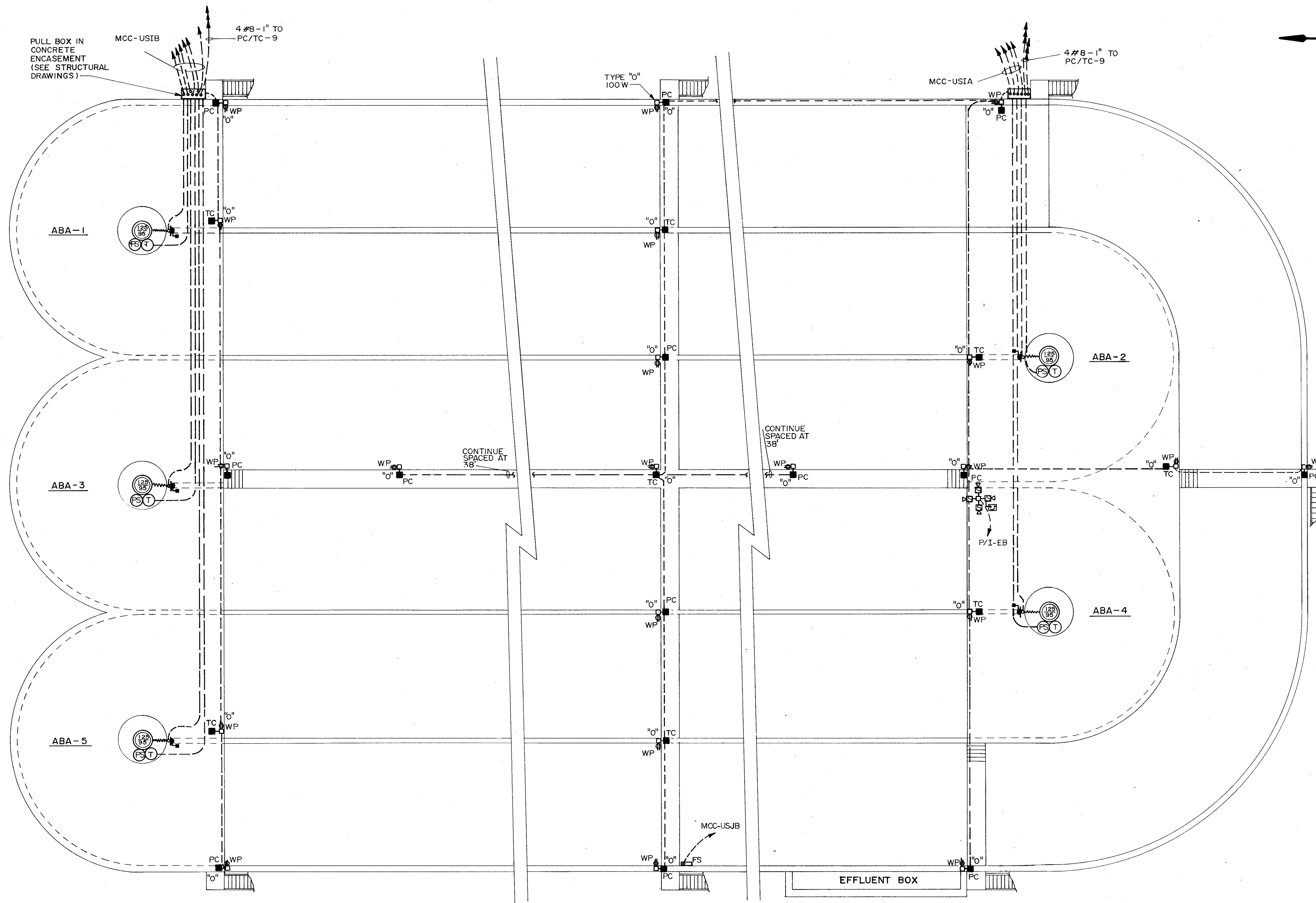


PLAN
3/32" = 1'-0"

REMARKS	CONFORMED DWG.
	4/88 SAF
DESIGNED BY KIV/MLH	CHKD
DRAWN BY TAC	DATE
CHECKED BY MLH	4/88
APPROVED BY [Signature]	SAF
DATE MARCH 1988	
CDM environmental engineers, scientists, planners, & management consultants	
CAMP DRESSER & MCKEE INC.	
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION CARROUSEL BASIN NO. 1 ORANGE COUNTY, FLORIDA	
PROJECT NO	6059-SL3R
SHEET NO	E-51



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



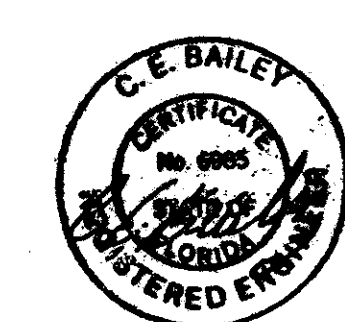
PLAN
3/32"=1'-0"

REVISIONS	DATE	DRWN	CHKD	REMARKS
4/88	SAF			CONFORMED DWG.
DESIGNED BY	KTL/MLC	TAC		
DRAWN BY	MLC			
CHECKED BY	MLC			
APPROVED BY	MLC			
DATE	MARCH 1988			

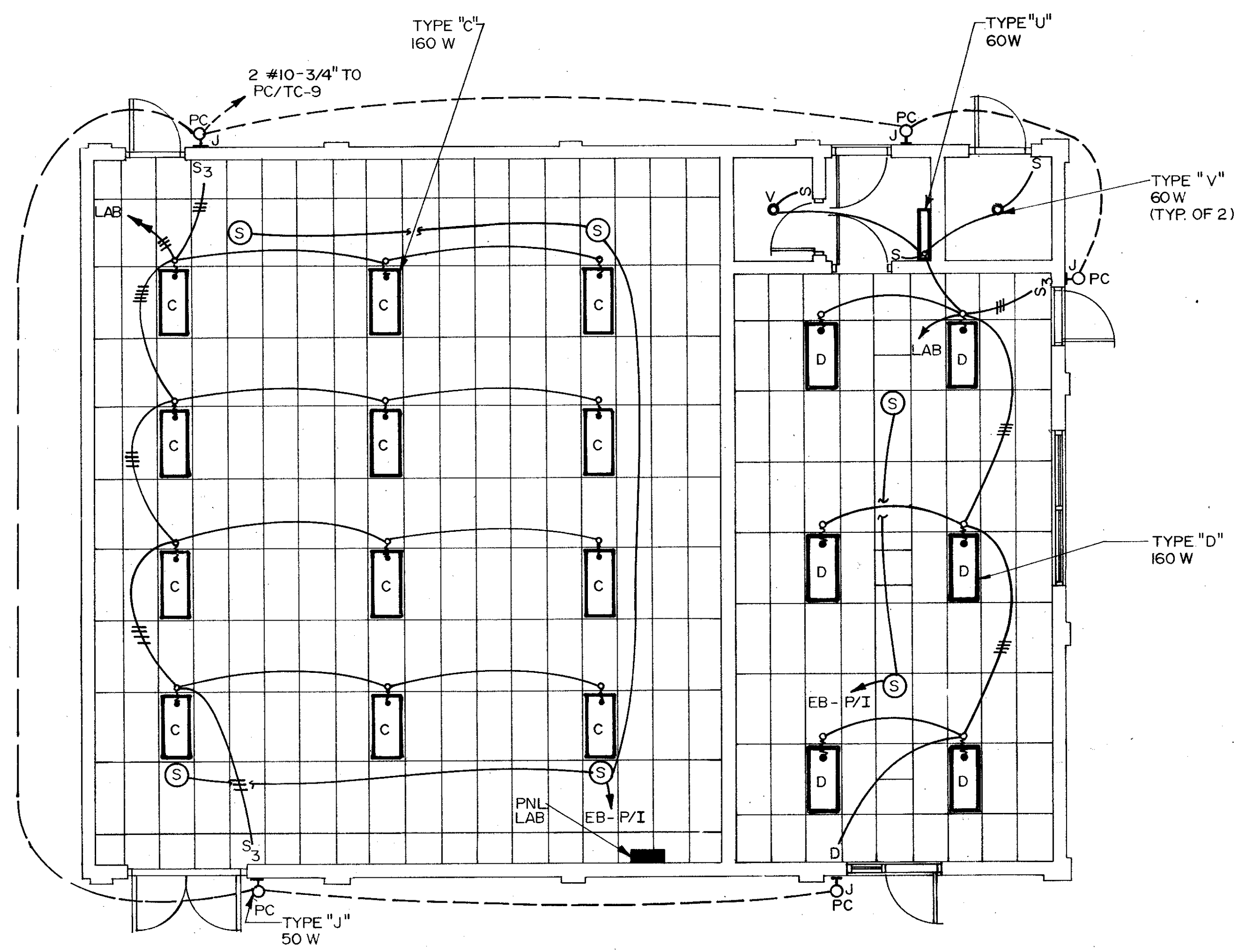
CAMP DRESSER & MCKEE INC.
 environmental engineers, scientists
 planning & management consultants
CDM

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION
CARROUSEL BASIN NO. 2
 ORANGE COUNTY, FLORIDA



PROJECT NO
 6059 - SL3R
 SHEET NO
E-52

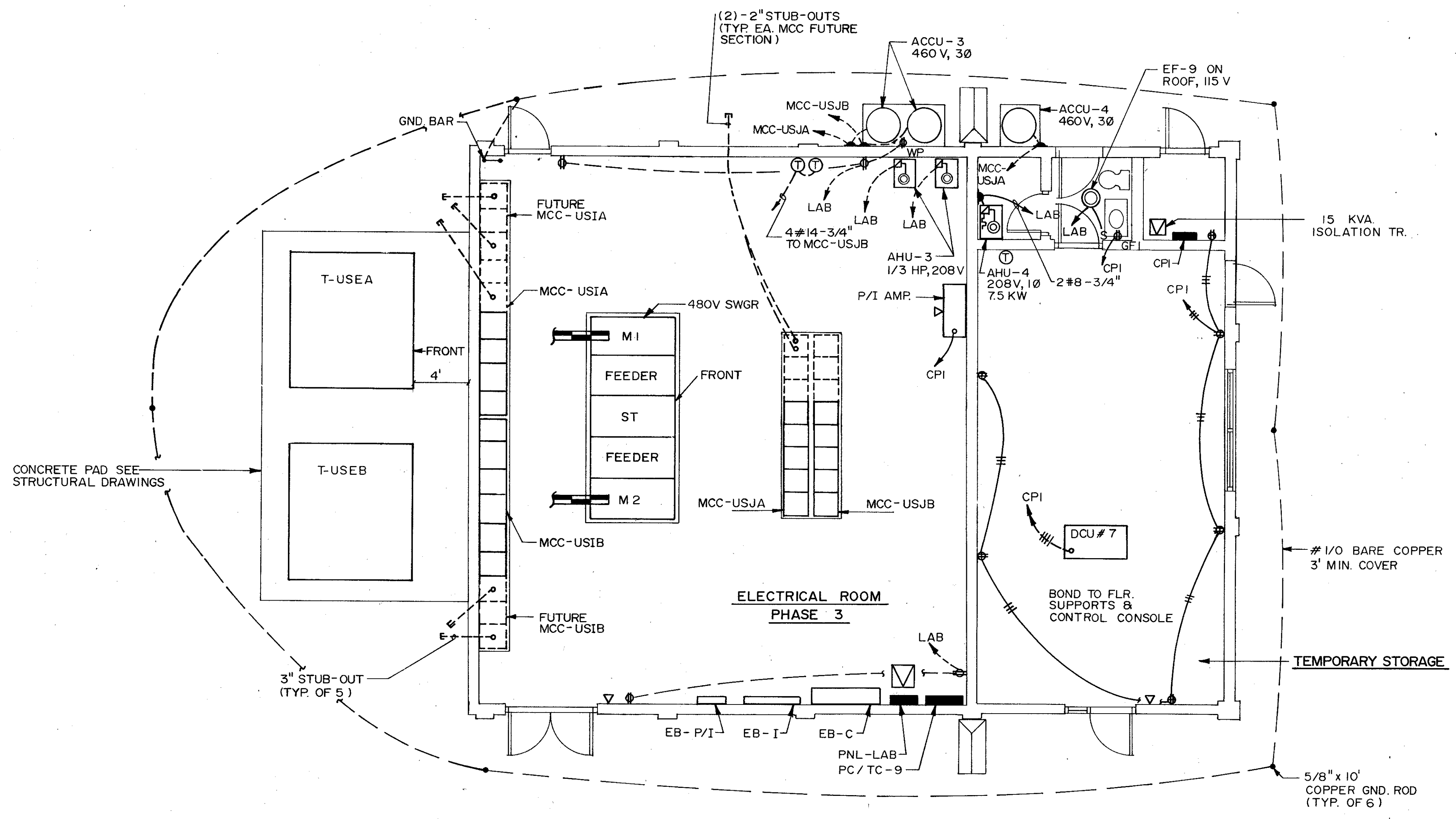
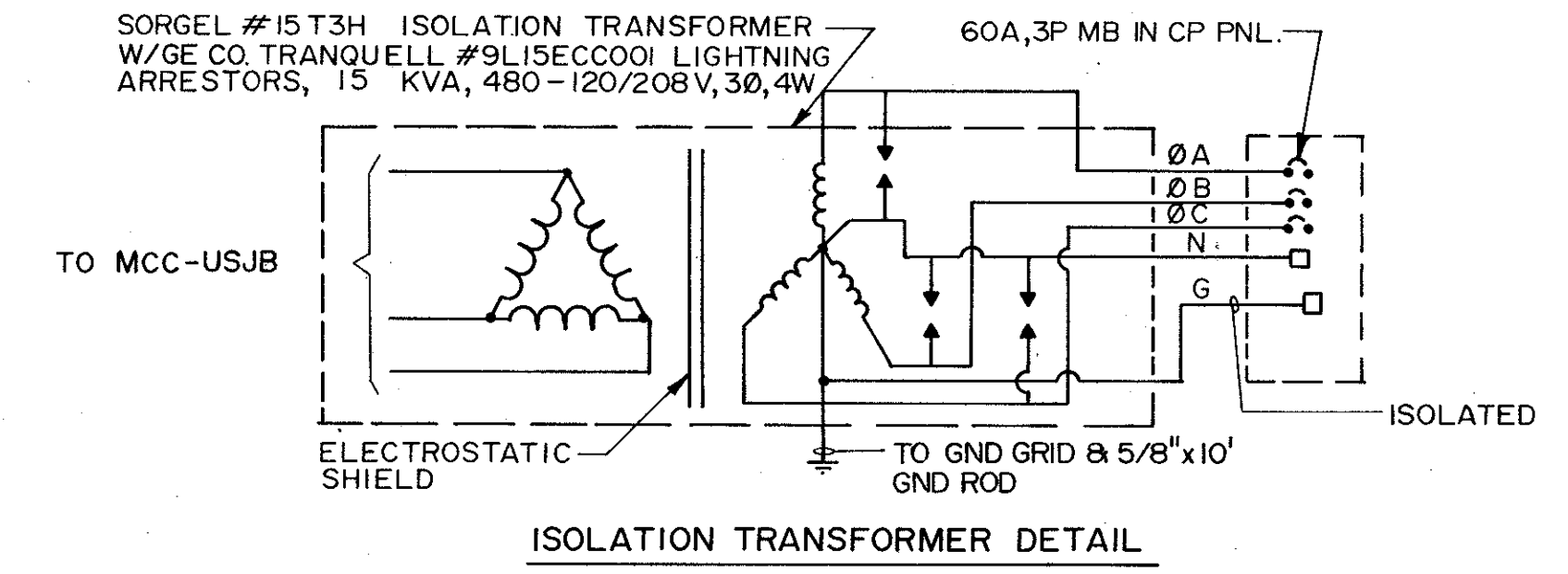


C. E. BAILEY & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 ORLANDO, FLORIDA



PLAN
3/16"=1'-0"

DESIGNED BY KTL/MKH TAC	DRAWN BY SAF	DATE 4/88	REV NO	CHKD	REMARKS
					CONFORMED DWG.
CHECKED BY KCH	APPROVED BY C.E.B.	DATE MARCH 1988			
CAMP DRESSER & MCKEE INC.					 <small>environmental engineers, scientists, planners, & management consultants</small>
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION					
PHASE 3 ELEC. BUILDING - LIGHTING PLAN					ORANGE COUNTY, FLORIDA
PROJECT NO. 6059-SL3R					SHEET NO. E-53
					C. E. BAILEY & ASSOCIATES, INC. CONSULTING ENGINEERS ORLANDO, FLORIDA

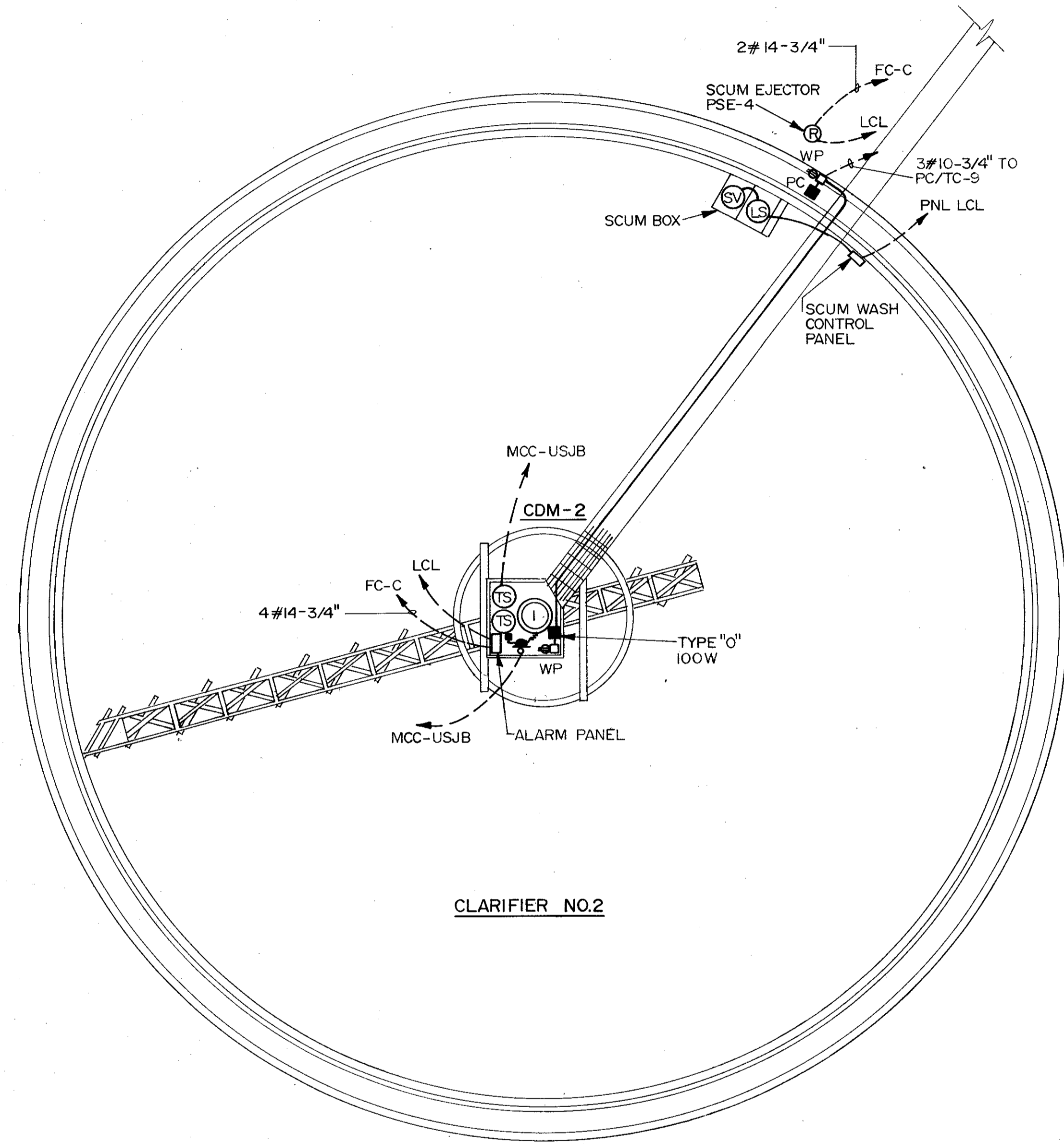


PLAN
3/16"=1'-0"

REMARKS	
CONFORMED DWG.	
DATE	4/88
DRWN	SAF
CHKD	
DESIGNED BY	KTL/MLCH
DRAWN BY	KTL
CHECKED BY	JCH
APPROVED BY	[Signature]
DATE	MARCH 1988
CDM	
CAMP DRESSER & MCKEE INC.	
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION	
PHASE 3 ELEC. BUILDING - POWER PLAN	
ORANGE COUNTY, FLORIDA	
PROJECT NO	6059 - SL3R
SHEET NO	E-54



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

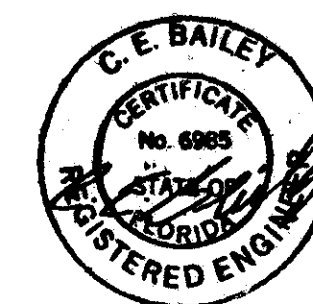


CLARIFIER NO.2

PLAN
NTS.



FUTURE
CLARIFIER NO. 1



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

PROJECT NO.
6059-SL3R

SHEET NO.
E-56

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION

CLARIFIERS NO.2

ORANGE COUNTY, FLORIDA

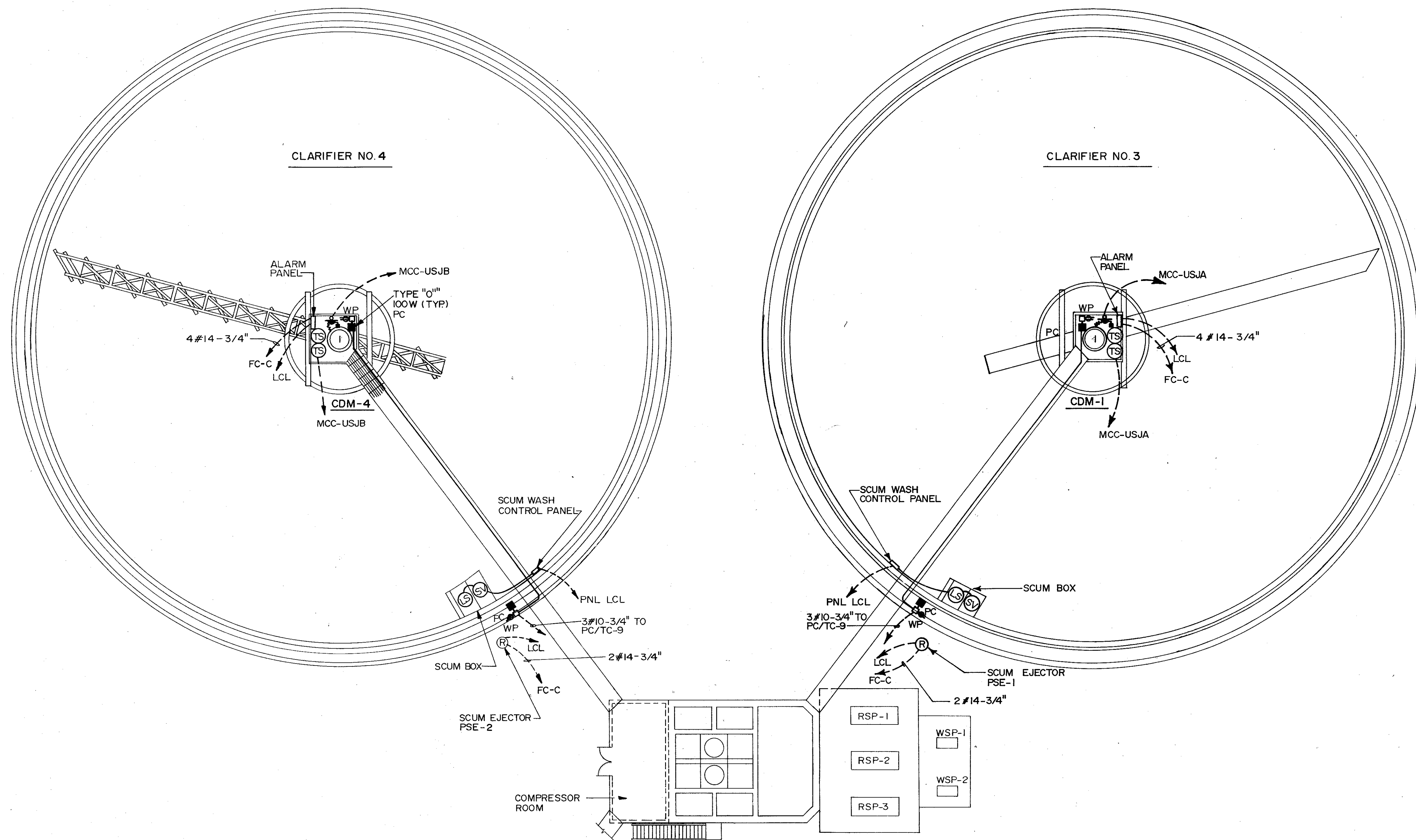
CAMP DRESSER & MCKEE INC.

CDM

environmental engineers, scientists,
planners, & management consultants

DESIGNED BY KTJ/MLH
DRAWN BY TAC
CHECKED BY KCH
APPROVED BY CEB
DATE MARCH 1996

REV NO	DATE	DRWN	CHKD	REMARKS
4788	SAF			CONFORMED DWG.



PLAN
N. T. S.



REV NO	DATE	DRWN	CHKD	REMARKS
4/88	SAF			CONFORMED DWG.

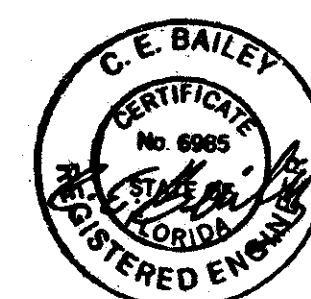
DESIGNED BY: KTW/MLL
 DRAWN BY: TAC
 CHECKED BY: HCH
 APPROVED BY: [Signature]
 DATE: MARCH 1988

CAMP DRESSER & MCKEE INC.
 environmental engineers, scientists
 planners, & management consultants
CDM

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION
CLARIFIERS NO384
 ORANGE COUNTY, FLORIDA

PROJECT NO
6059-SL3R

SHEET NO
E-57



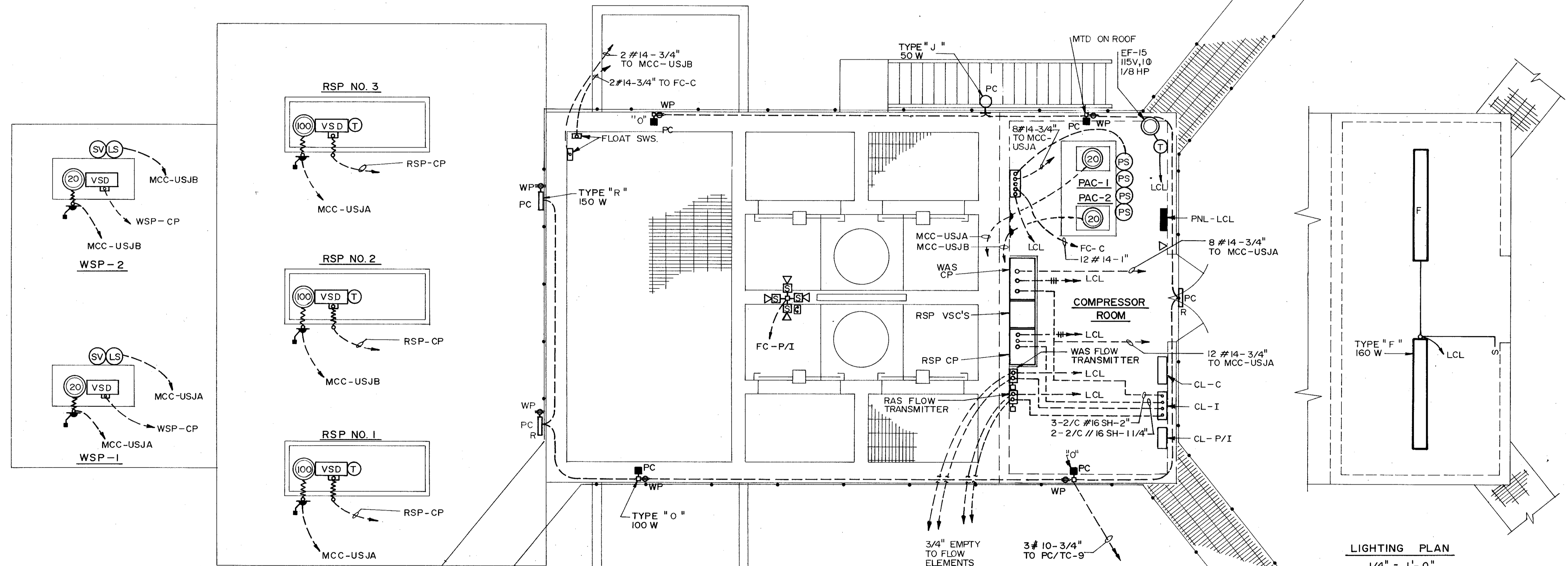
C. E. BAILEY & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 ORLANDO, FLORIDA

FUTURE
CLARIFIER NO. 1



CLARIFIER NO. 2

PSE-2



LIGHTING PLAN
1/4" = 1'-0"

PLAN
1/4" = 1'-0"

CLARIFIER NO. 3

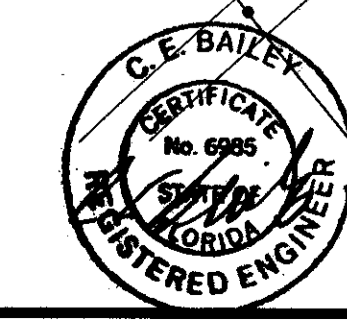
PSE-3

SCUM BOX (TYP.)

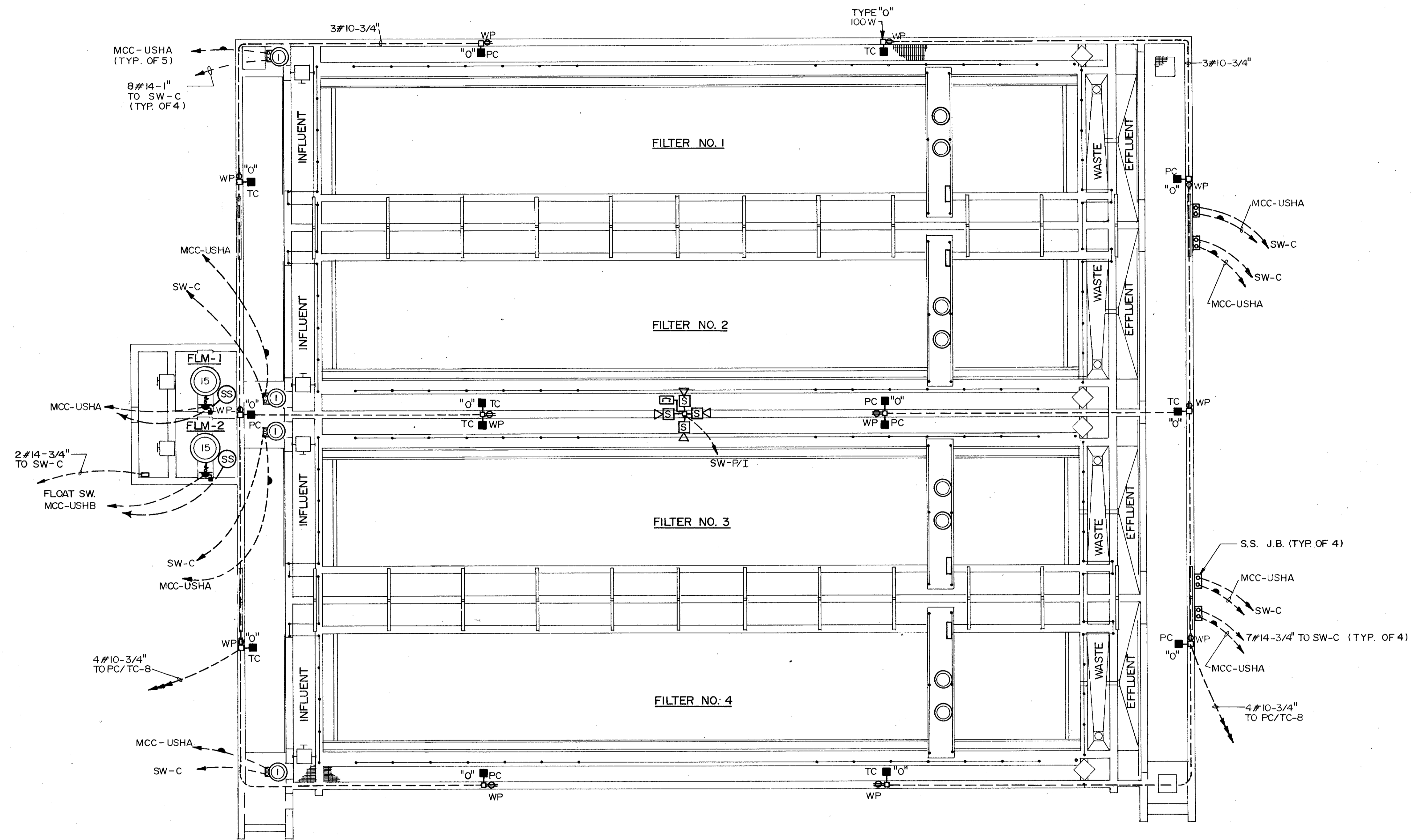
CLARIFIER NO. 4

PSE-4

REMARKS	
CONFORMED DWG.	
DESIGNED BY: <i>KJL/WCH</i>	CHKD:
DRAWN BY: <i>TAC</i>	DATE: <i>4/88</i>
CHECKED BY: <i>WCH</i>	SAF:
APPROVED BY: <i>C.E.B.</i>	
DATE: <i>MARCH 1988</i>	
CDM environmental engineers, scientists, planners, & management consultants	
CAMP DRESSER & MCKEE INC.	
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION	
CLARIFIER FLOW SPLITTER BOX	
ORANGE COUNTY, FLORIDA	
PROJECT NO.	6059-SL3R
SHEET NO.	E-58



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



OVERALL PLAN
1/8" = 1'-0"

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION

AUTOMATIC BACKWASH FILTERS

ORANGE COUNTY, FLORIDA

CAMP DRESSER & MCKEE INC.

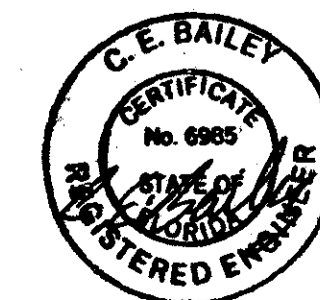
CDM
CONSULTING ENGINEERS, SCIENTISTS,
PLANNERS, & MANAGEMENT CONSULTANTS

DESIGNED BY *KIL/MCH*
DRAWN BY *JAC*
CHECKED BY *JAC*
APPROVED BY *[Signature]*
DATE MARCH 1988

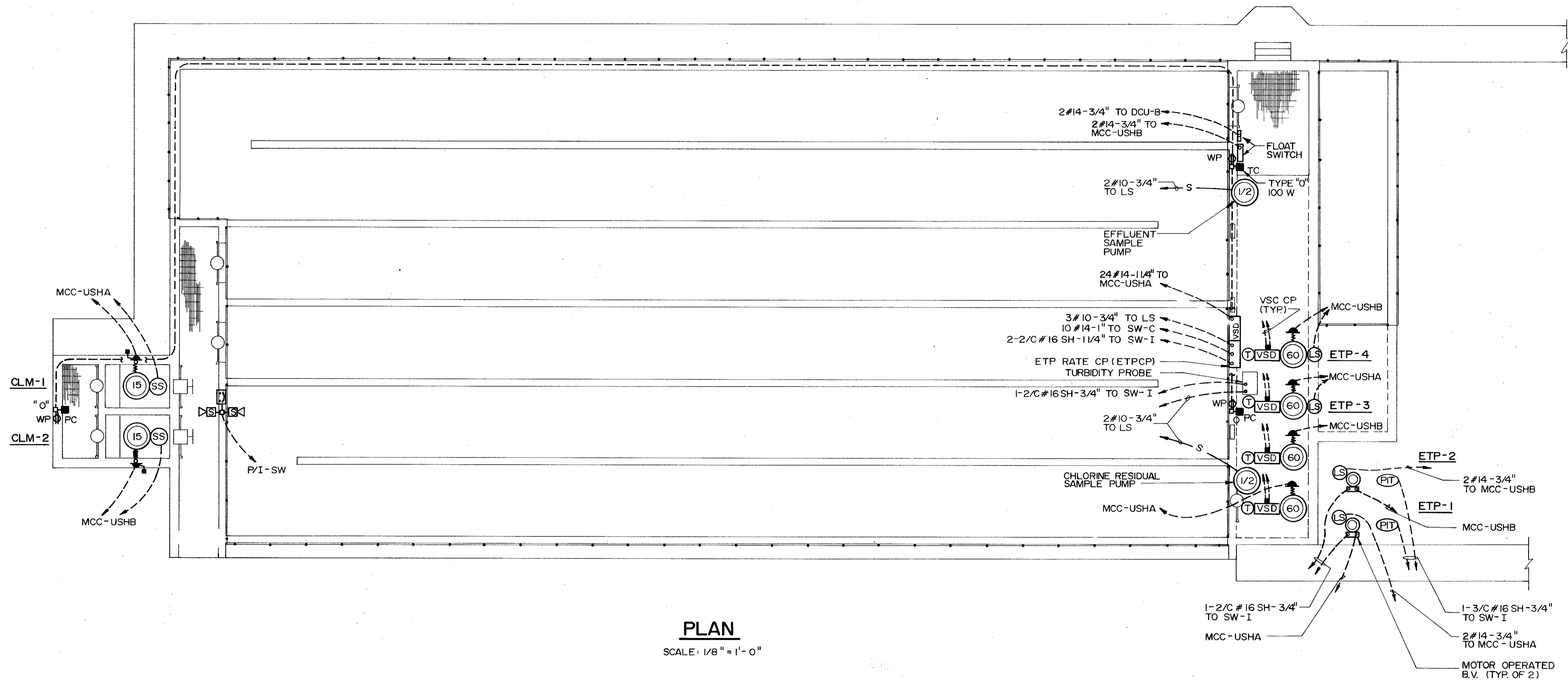
REV NO	DATE	DRWN	CHKD	REMARKS
4/88	SAF			CONFORMED DWG.

PROJECT NO
6059-SL3R

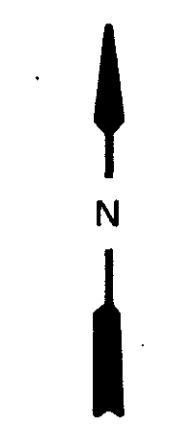
SHEET NO
E-60



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



PLAN
SCALE: 1/8" = 1'-0"

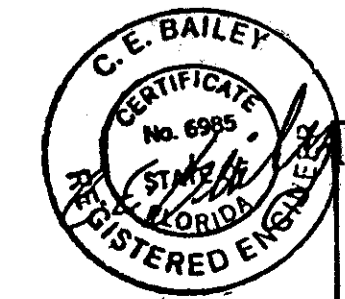


DESIGNED BY: KTL/WCH	REV. NO.	DATE	DRWN	CHKD	REMARKS
DRAWN BY: RL	4/88	SAF			CONFORMED DWG.
CHECKED BY: WCH					
APPROVED BY: C.E.B.					
DATE: MARCH 1988					

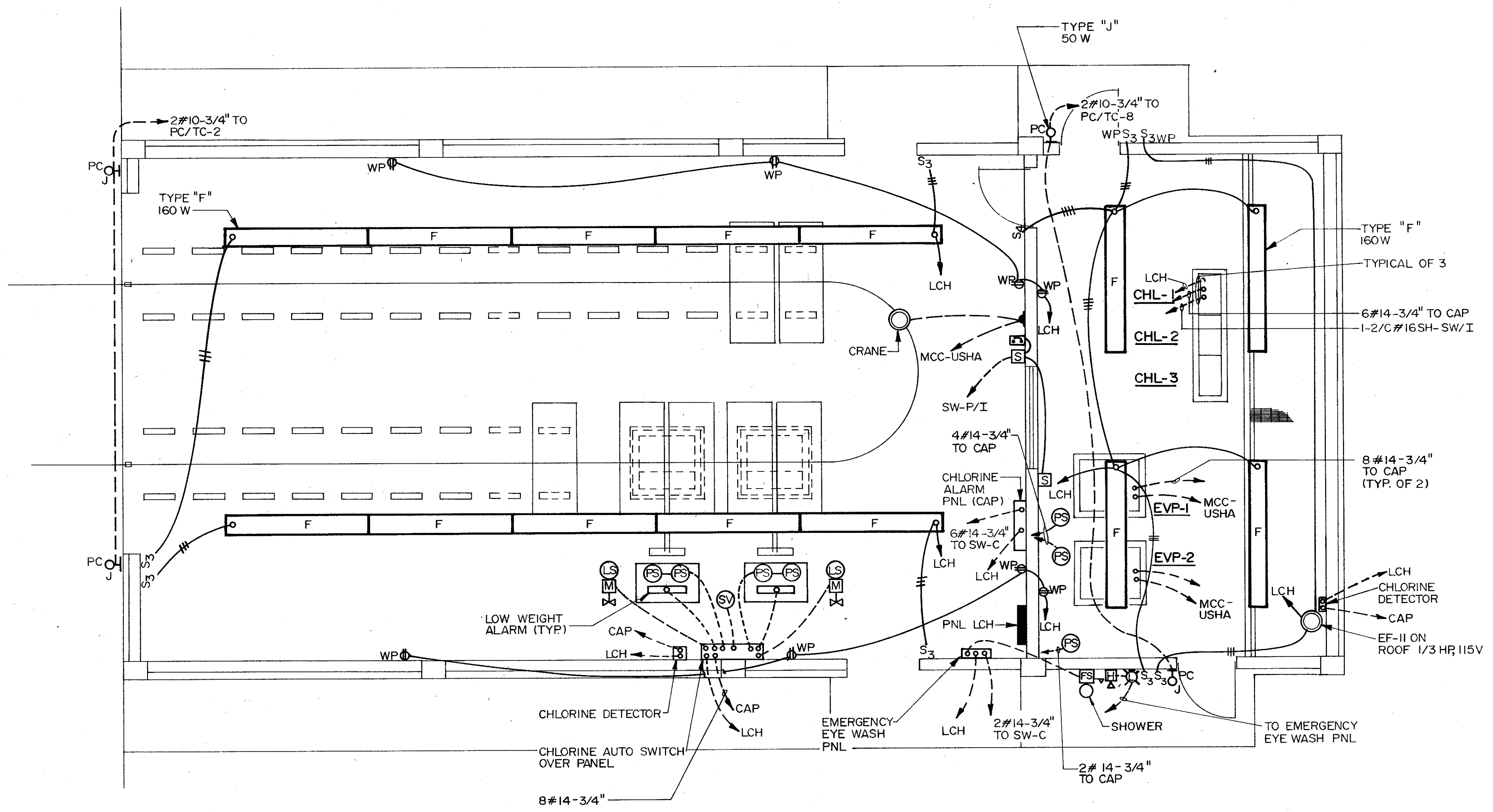
CAMP DRESSER & MCKEE INC.
environmental engineers, scientists
partners & management consultants

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
CHLORINE CONTACT CHAMBER
ORANGE COUNTY, FLORIDA

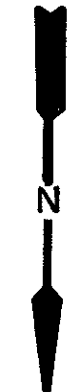
PROJECT NO.
6059-SL3R
SHEET NO.
E-61



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



PLAN
1/4" = 1' - 0"

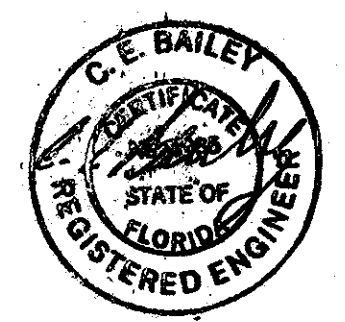


DESIGNED BY KZL/MCH	DATE 4/88	DRWN SAF	CHKD SAF	REMARKS CONFORMED DWG.
DRAWN BY JAC				
CHECKED BY MCH				
APPROVED BY [Signature]				
	DATE MARCH 1988			

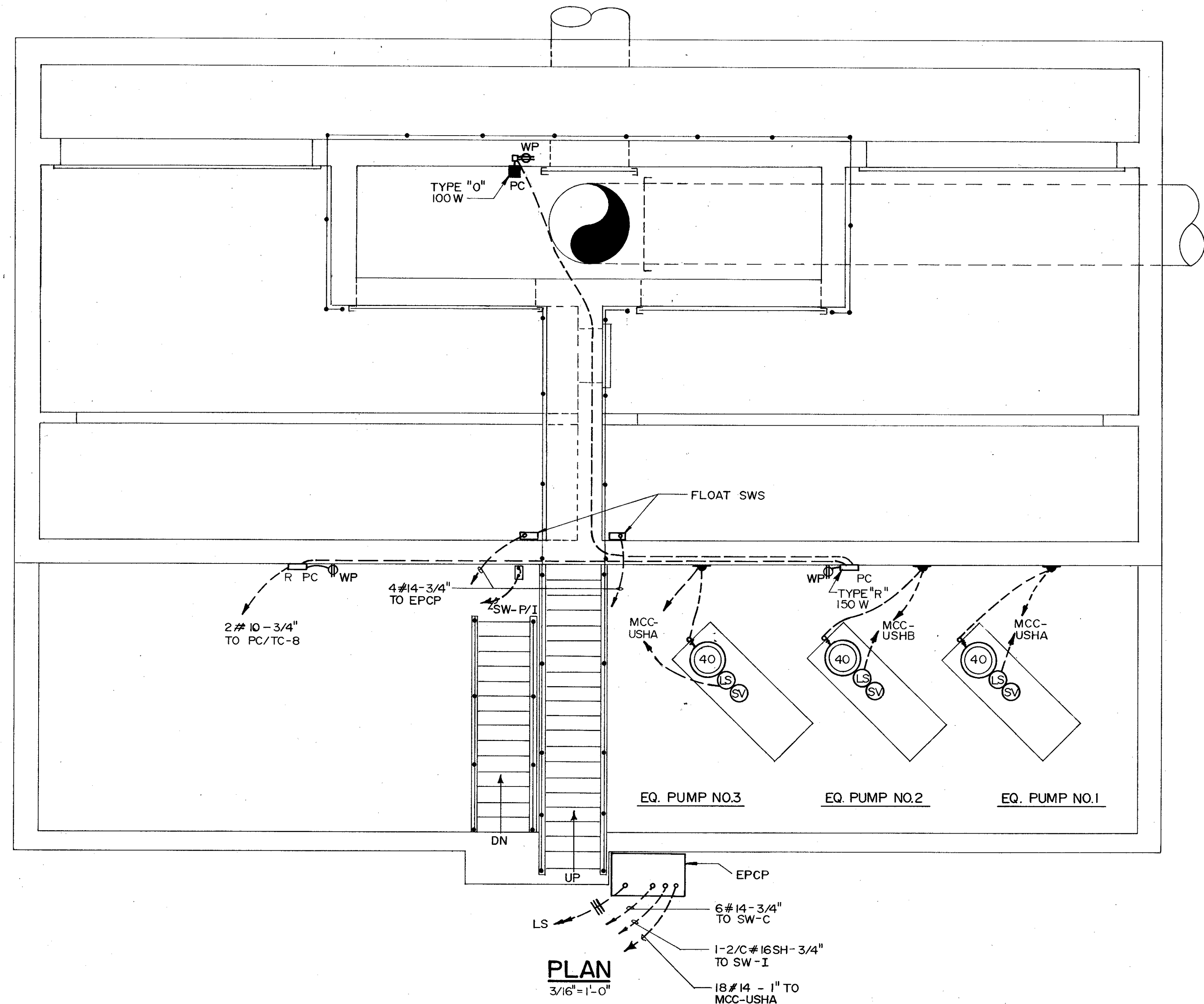
CAMP DRESSER & MCKEE INC.
Engineering, Procurement, Construction, Management & Maintenance Consultants
CDM

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION
CHLORINE BUILDING
 ORANGE COUNTY, FLORIDA

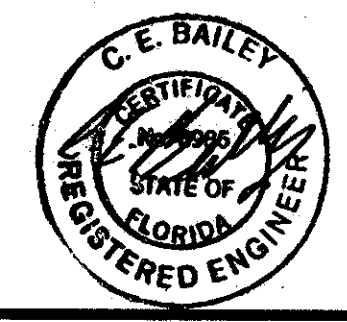
PROJECT NO
6059-SL3R
 SHEET NO
E-62



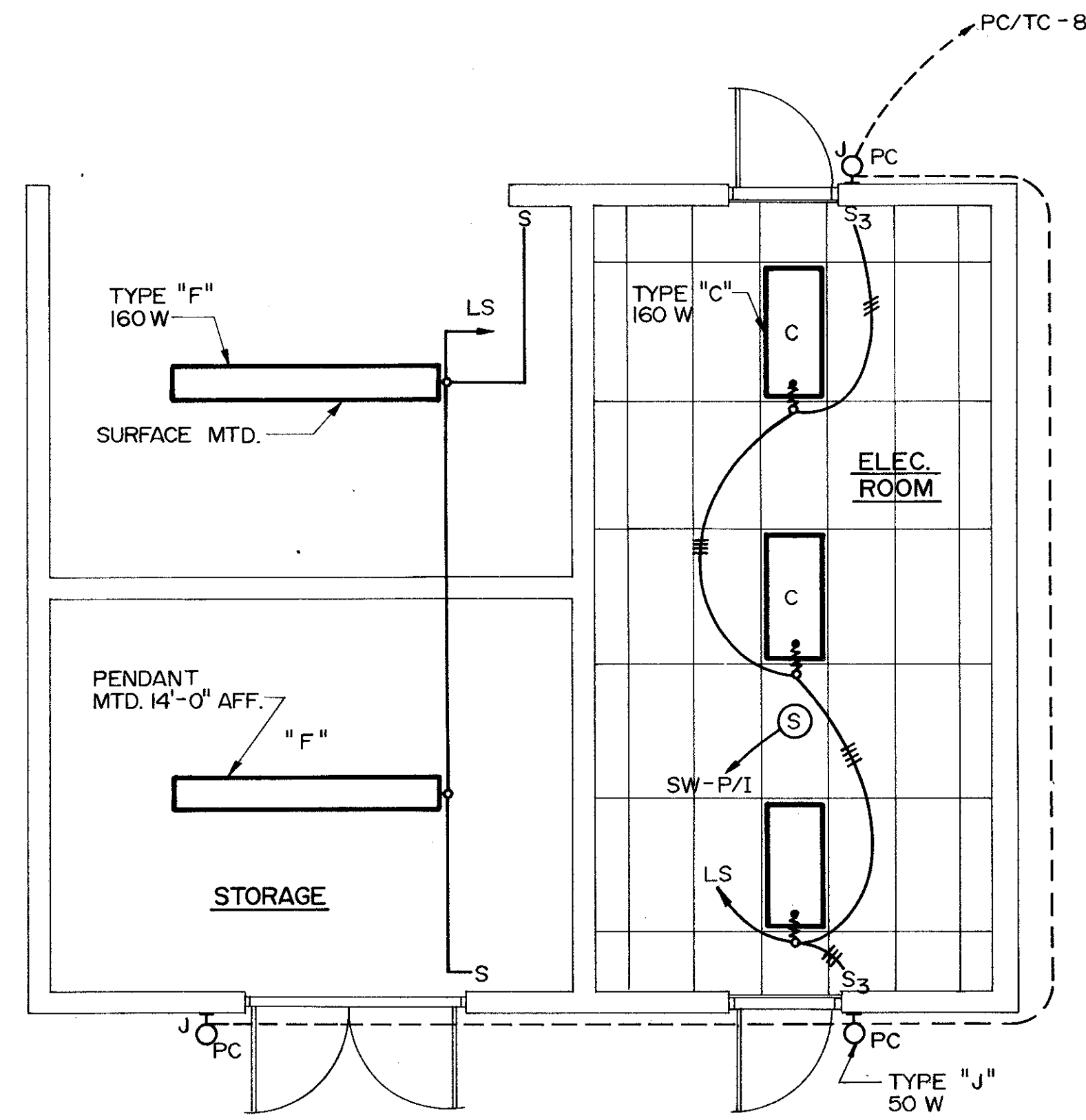
C. E. BAILEY & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 ORLANDO, FLORIDA



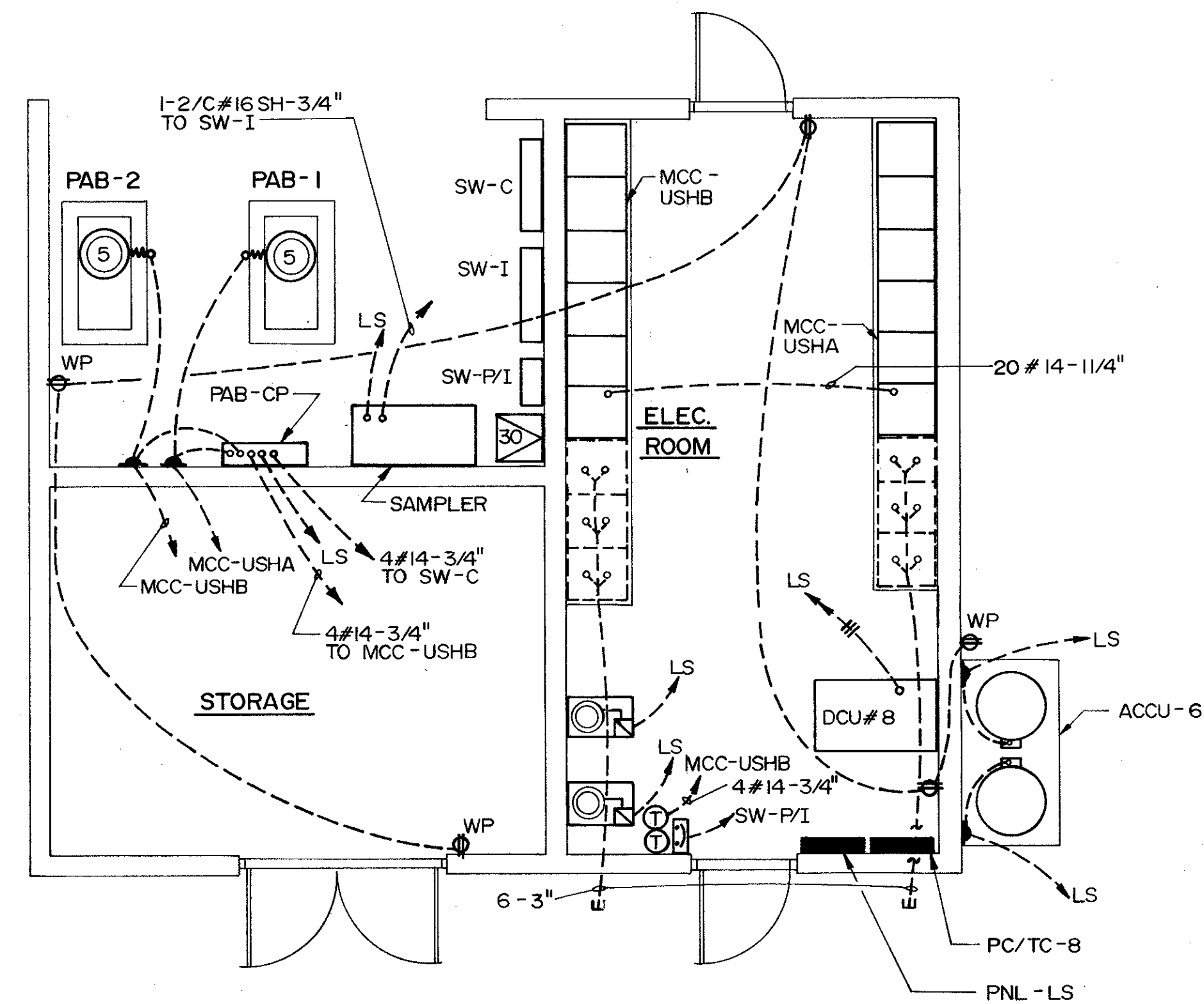
REMARKS	CHD	DRWN	DATE	REV NO
CONFORMED DWG.		SAF	4/88	
DESIGNED BY <i>ETL/INCH</i>				
DRAWN BY <i>TAC</i>				
CHECKED BY <i>ACH</i>				
APPROVED BY <i>[Signature]</i>				
DATE <i>MARCH 1988</i>				
CDM CONSULTING ENGINEERS, ARCHITECTS, PLANNERS & MANAGEMENT CONSULTANTS				
CAMP DRESSER & MCKEE INC.				
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION PEAK STORAGE-PUMP STATION ORANGE COUNTY, FLORIDA				
PROJECT NO	6059-SL3R			
SHEET NO	E-64			



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



LIGHTING PLAN
1/4" = 1'-0"



POWER PLAN
1/4" = 1'-0"

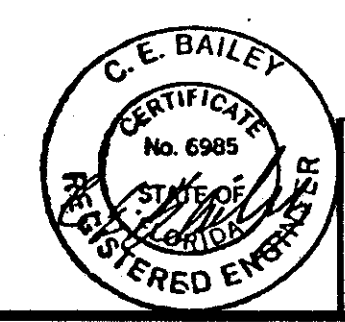
REMARKS	CONFORMED DWG.
CHKD	
DRWN	SAF
DATE	4/88
REV. NO.	
DESIGNED BY	KTL/JKH
DRAWN BY	TAC
CHECKED BY	JKH
APPROVED BY	[Signature]
DATE	MARCH 1988

CAMP DRESSER & MCKEE INC.
environmental, equipment, scientific
planning & management consultants
CDM

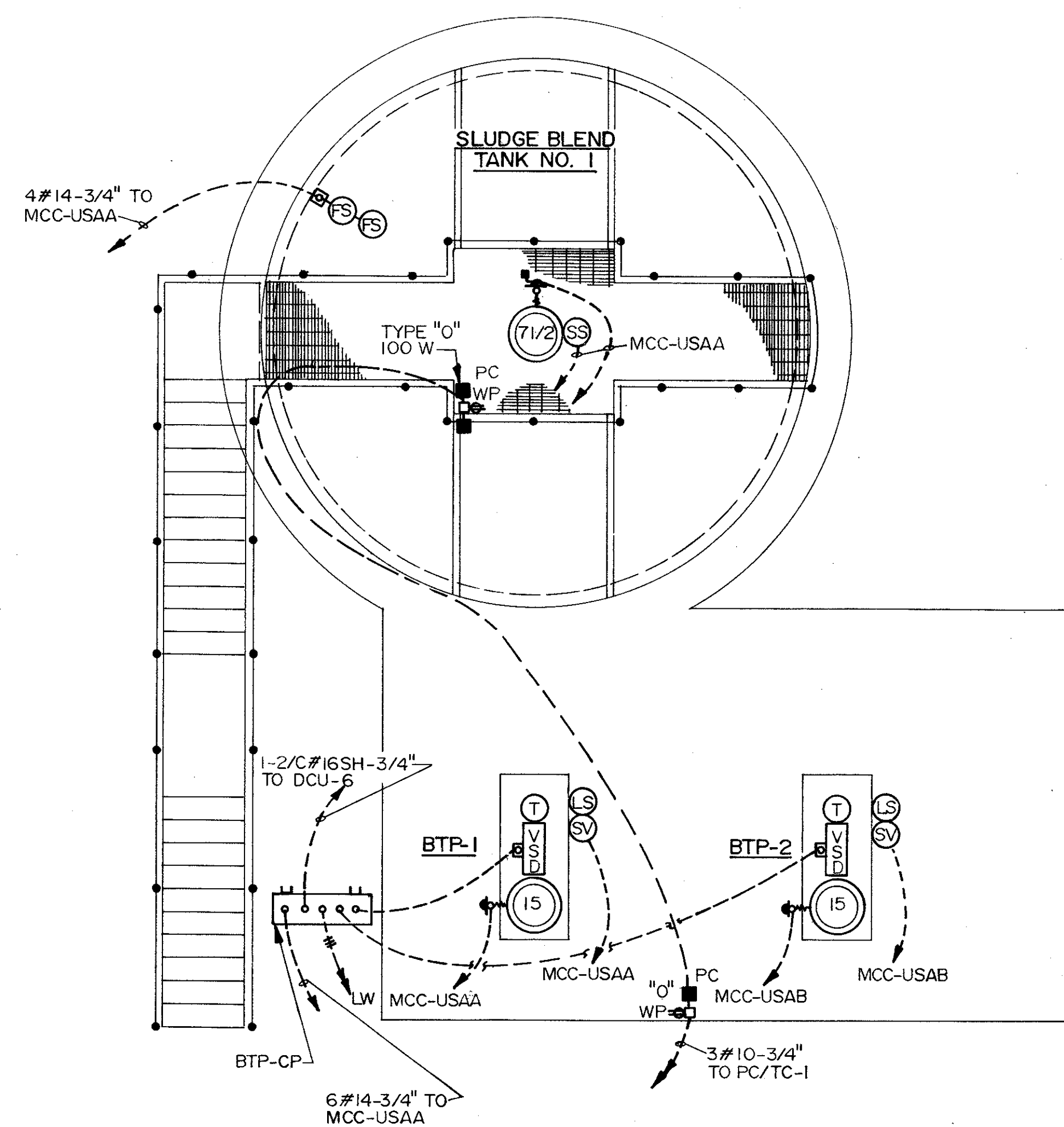
SAND LAKE ROAD WASTE WATER TREATMENT FACILITIES
PHASE 3A EXPANSION
SOUTHWEST ELECTRICAL BUILDING
ORANGE COUNTY, FLORIDA

PROJECT NO
6059-SL3R

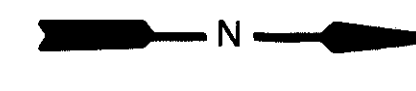
SHEET NO
F-65



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



PLAN
1/4" = 1' - 0"



REV NO	DATE	DRWN	CHKD	REMARKS
4788	SAF			CONFORMED DWG.

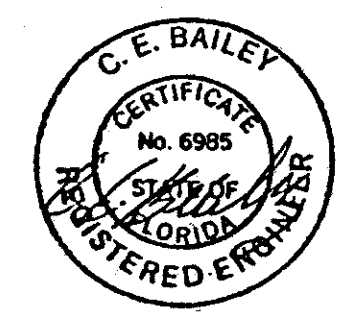
DESIGNED BY: KIL
 DRAWN BY: TAC
 CHECKED BY: MCH
 APPROVED BY: ZL
 DATE: MARCH 1988

CAMP DRESSER & MCKEE INC.
 environmental engineers, scientists,
 planners & management consultants
CDM

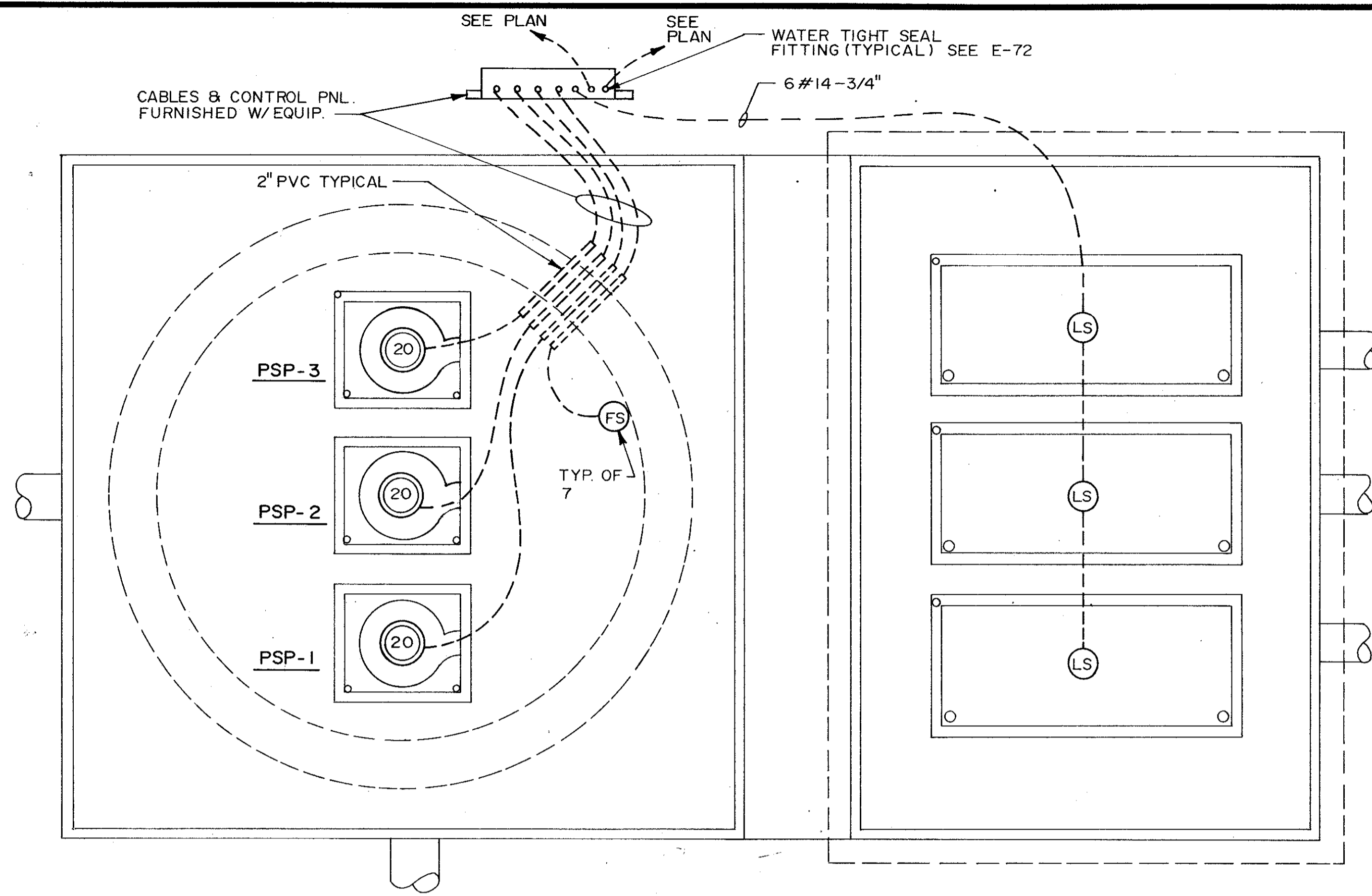
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION
SLUDGE BLEND TANK
 ORANGE COUNTY, FLORIDA

PROJECT NO
 6059-SL3R

SHEET NO
E-66

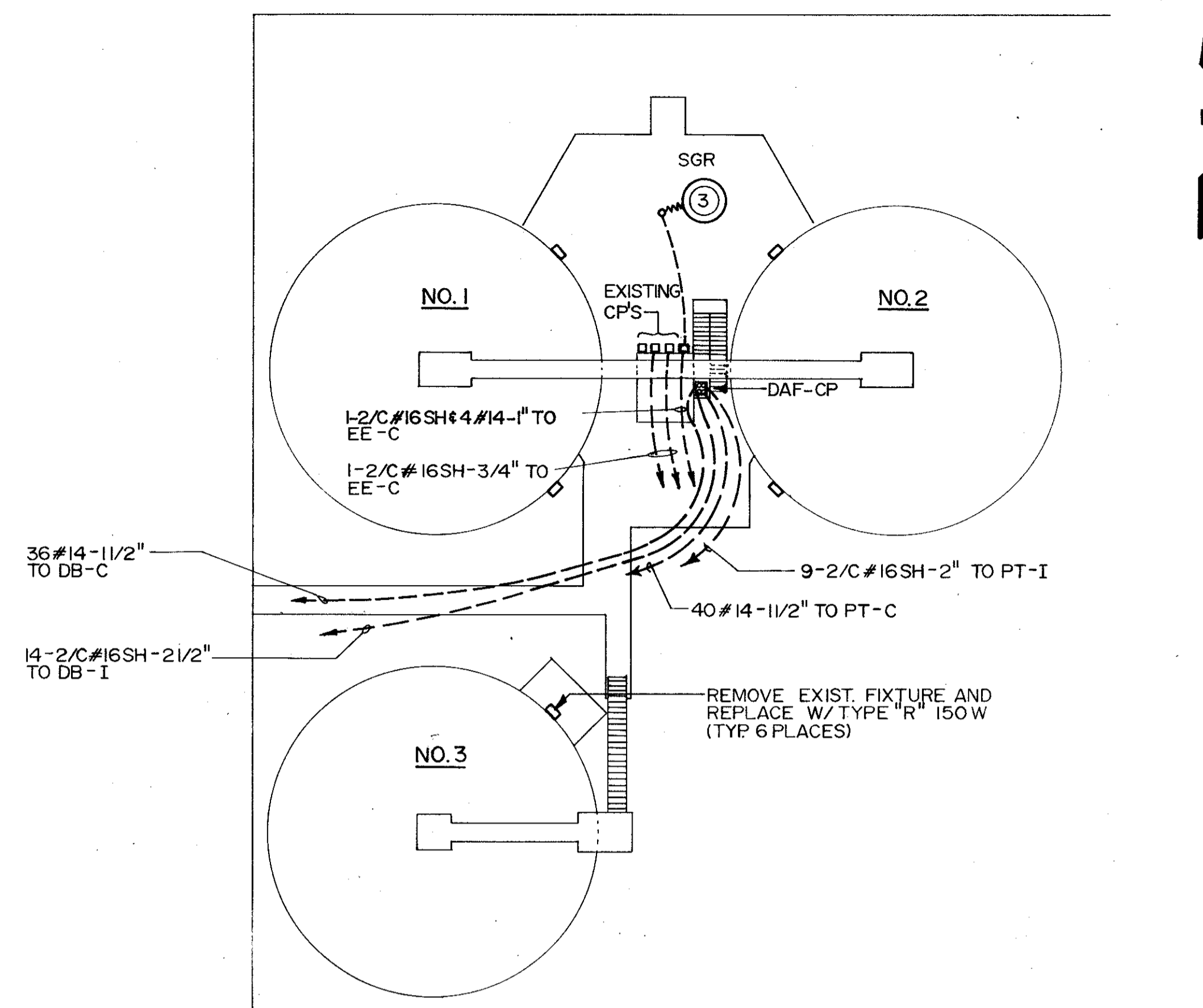


C. E. BAILEY & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 ORLANDO, FLORIDA



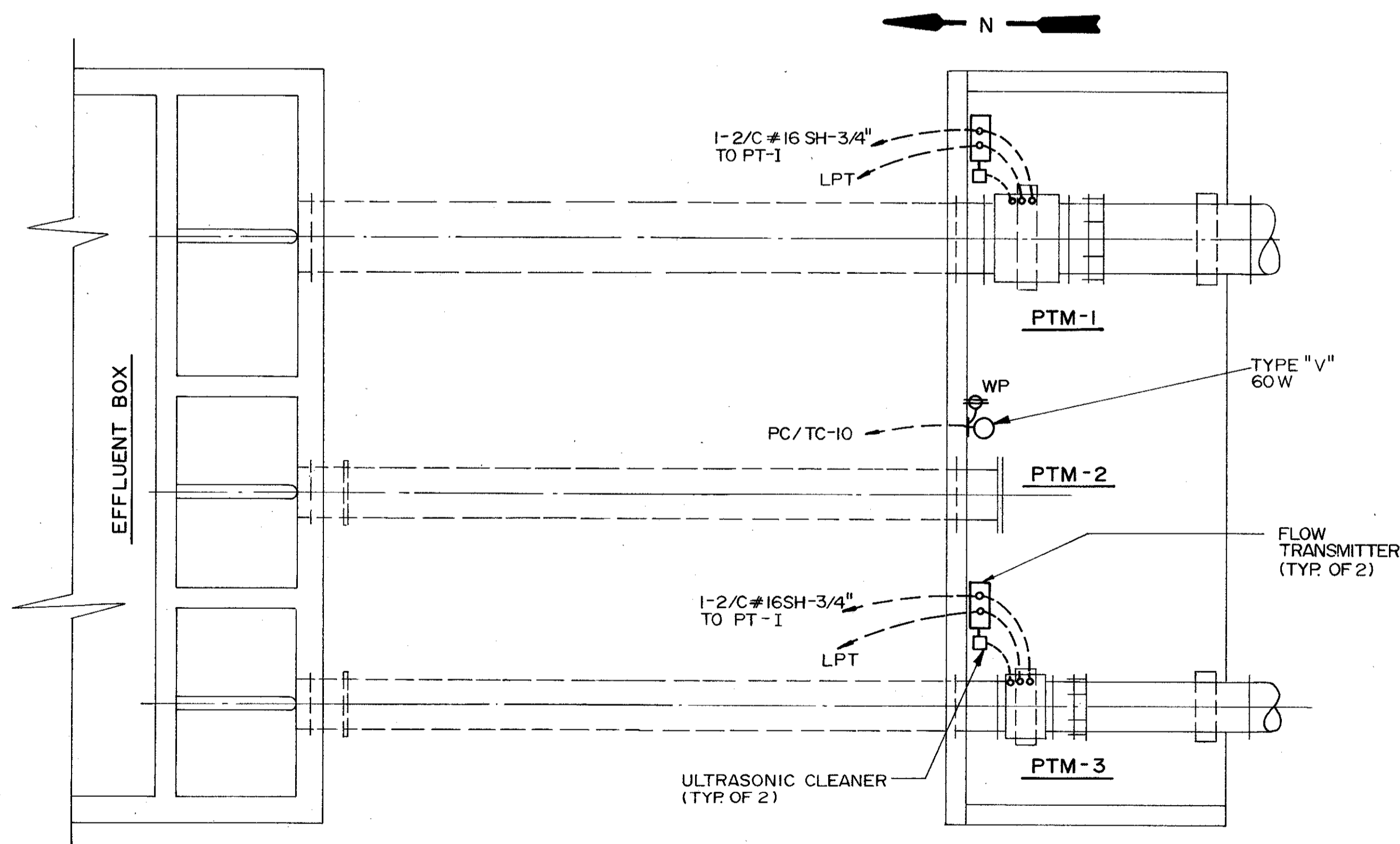
PLANT SITE PUMP STATION

N.T.S.



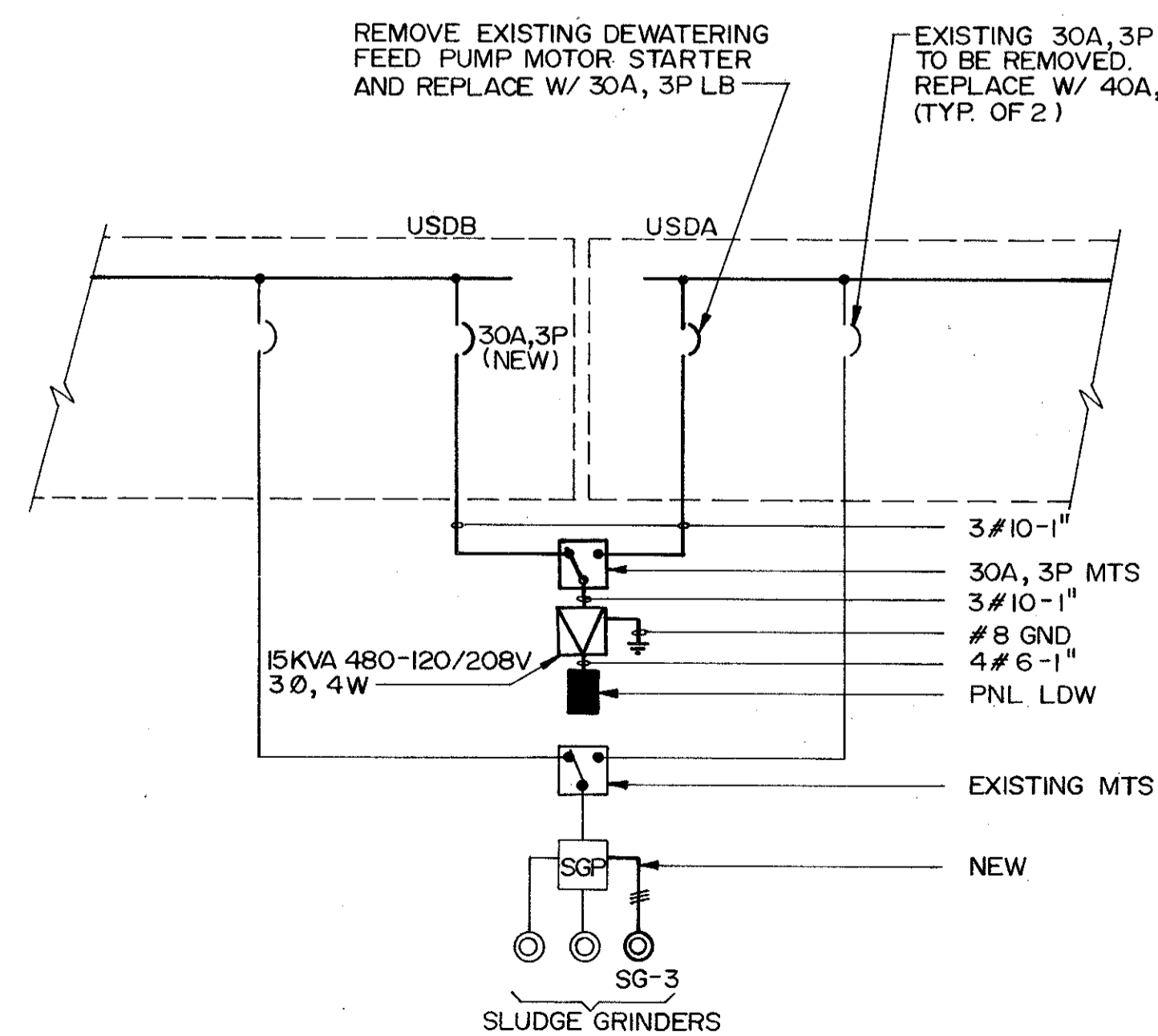
SLUDGE THICKENERS

N.T.S.

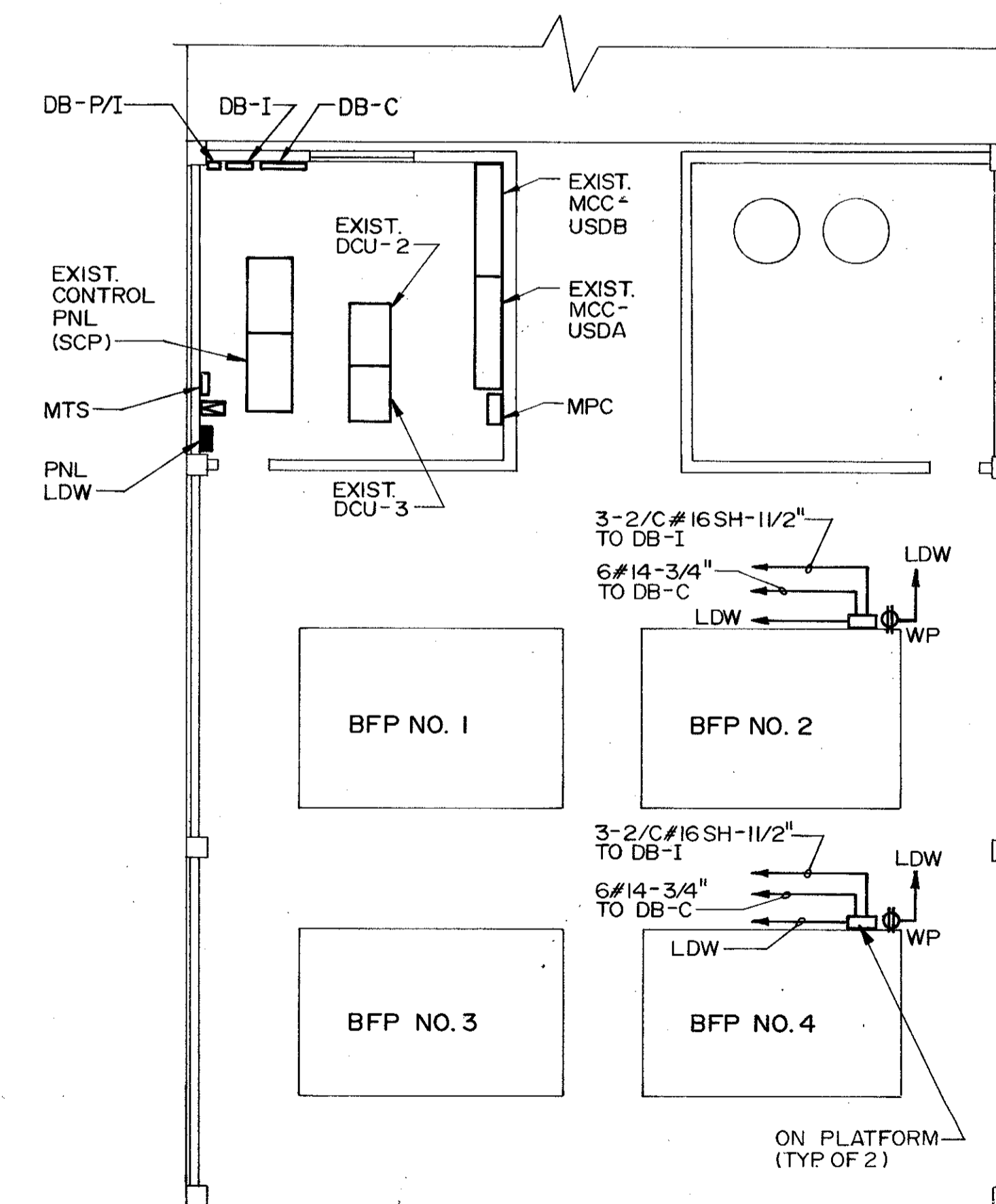


PRETREATMENT METERING

3/16" = 1'-0"



DEWATERING BLDG. POWER MODIFICATION



DEWATERING BLDG.

N.T.S.

REMARKS	
CONFORMED DWG.	
DESIGNED BY	KFL/MLC
DRAWN BY	RL
CHECKED BY	JWCH
APPROVED BY	[Signature]
DATE	MARCH 1988
REV NO.	
DATE	4/88
SAF	
CHKD	

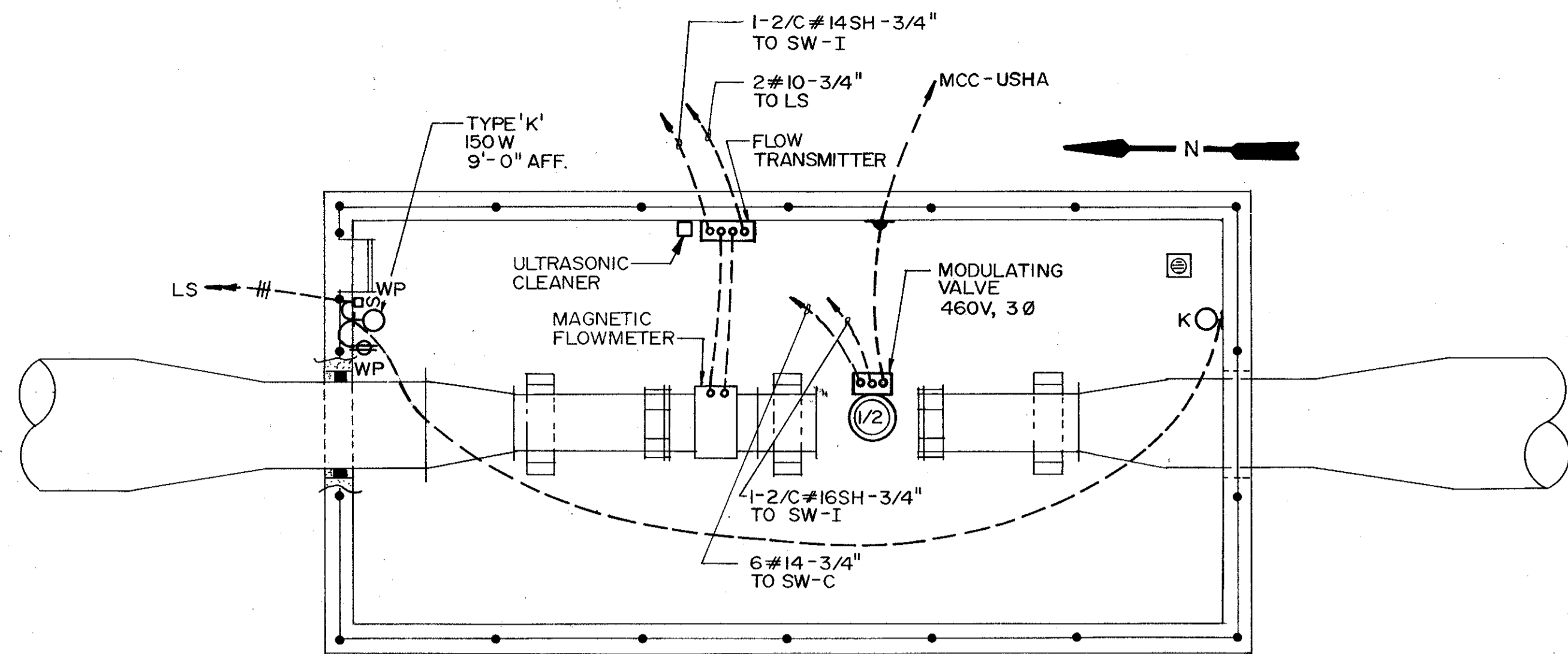
CAMP DRESSER & MCKEE INC.
DESIGNED BY KFL/MLC
DRAWN BY RL
CHECKED BY JWCH
APPROVED BY [Signature]
DATE MARCH 1988

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
MISCELLANEOUS STRUCTURES & RISERS
ORANGE COUNTY, FLORIDA

PROJECT NO
6059-SL3R
SHEET NO
E-67

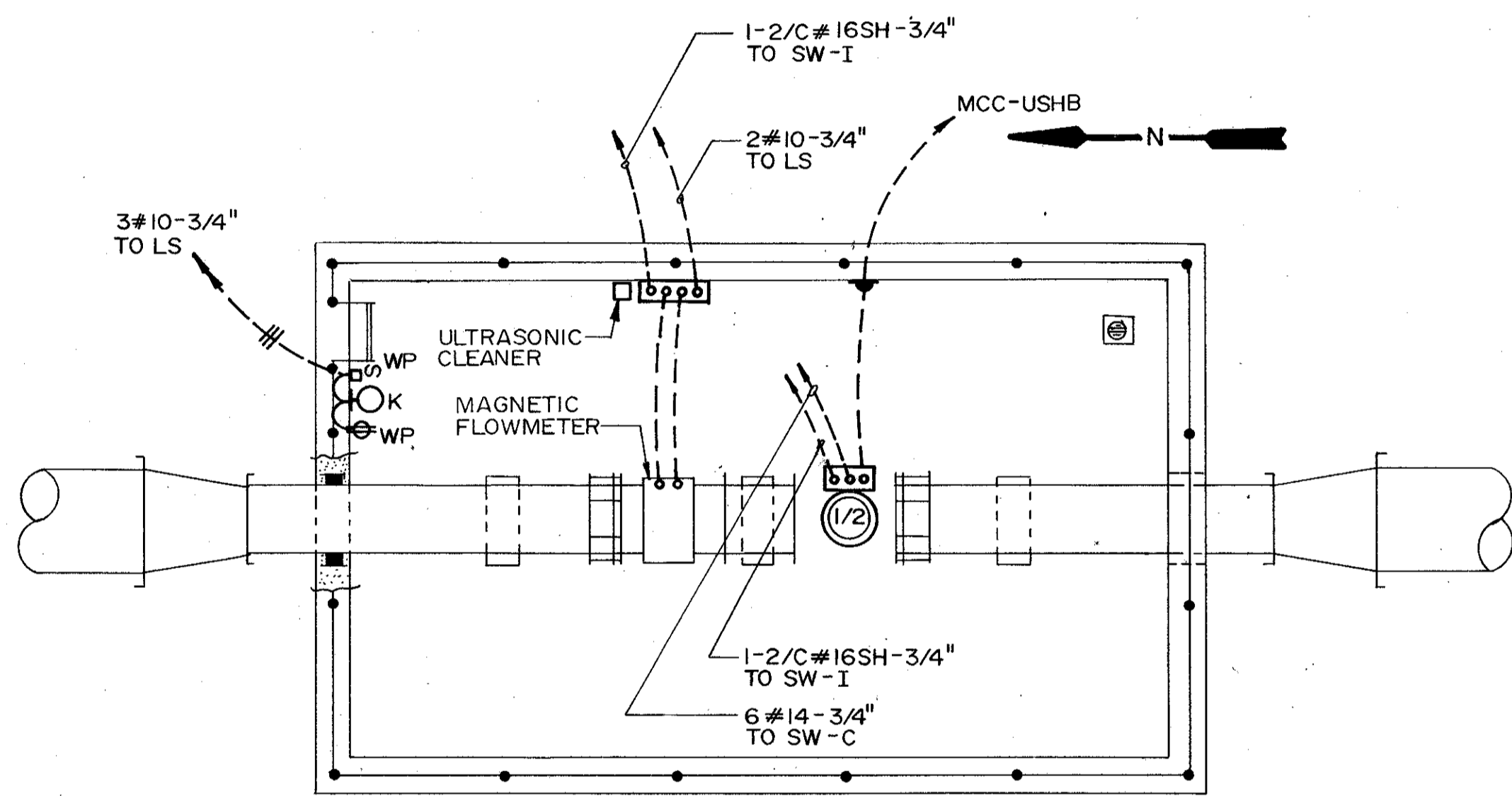


C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



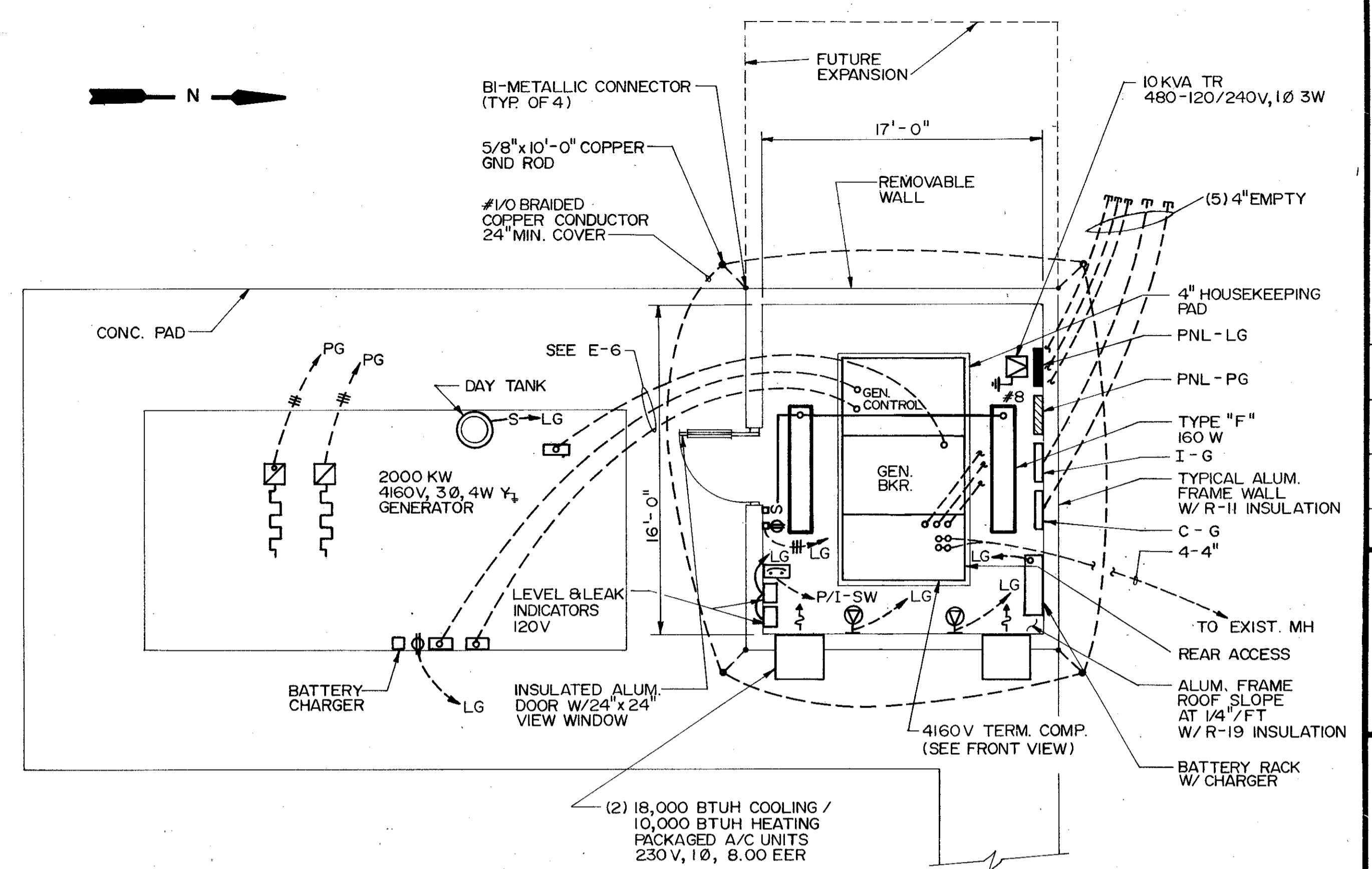
CLARIFIED WATER RATE OF FLOW CONTROLLER

1/4"=1'-0"



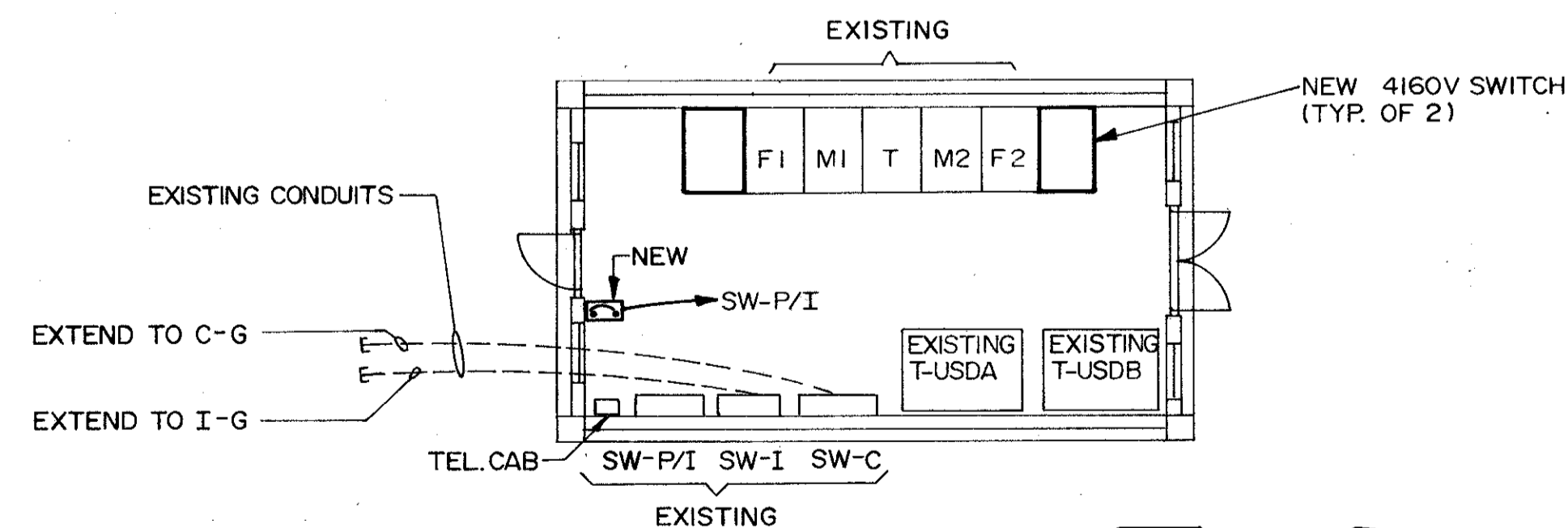
P.K.S. DISCHARGE RATE OF FLOW CONTROLLER

1/4"=1'-0"



GENERATOR PAD

1/4" = 1' - 0"



SOUTHEAST ELECT. BLDG

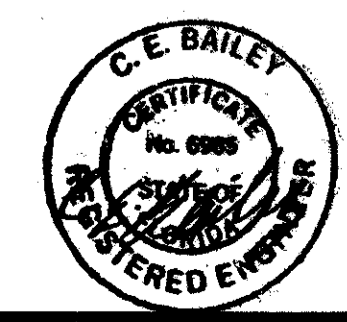
1/8"=1'-0"

REMARKS	
DESIGNED BY	KEL/WCH
DRAWN BY	RL
CHECKED BY	JCH
APPROVED BY	C.E.B.
DATE	MARCH 1988
REV. NO.	
DATE	
DRWN	CHKD
4-1-88	RL
4/88	SAF
CONFORMED DWG	
ADD. #1	

CAMP DRESSER & MCKEE INC.
environmental engineers, scientists, planners, & management consultants

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
MISCELLANEOUS STRUCTURES
ORANGE COUNTY, FLORIDA

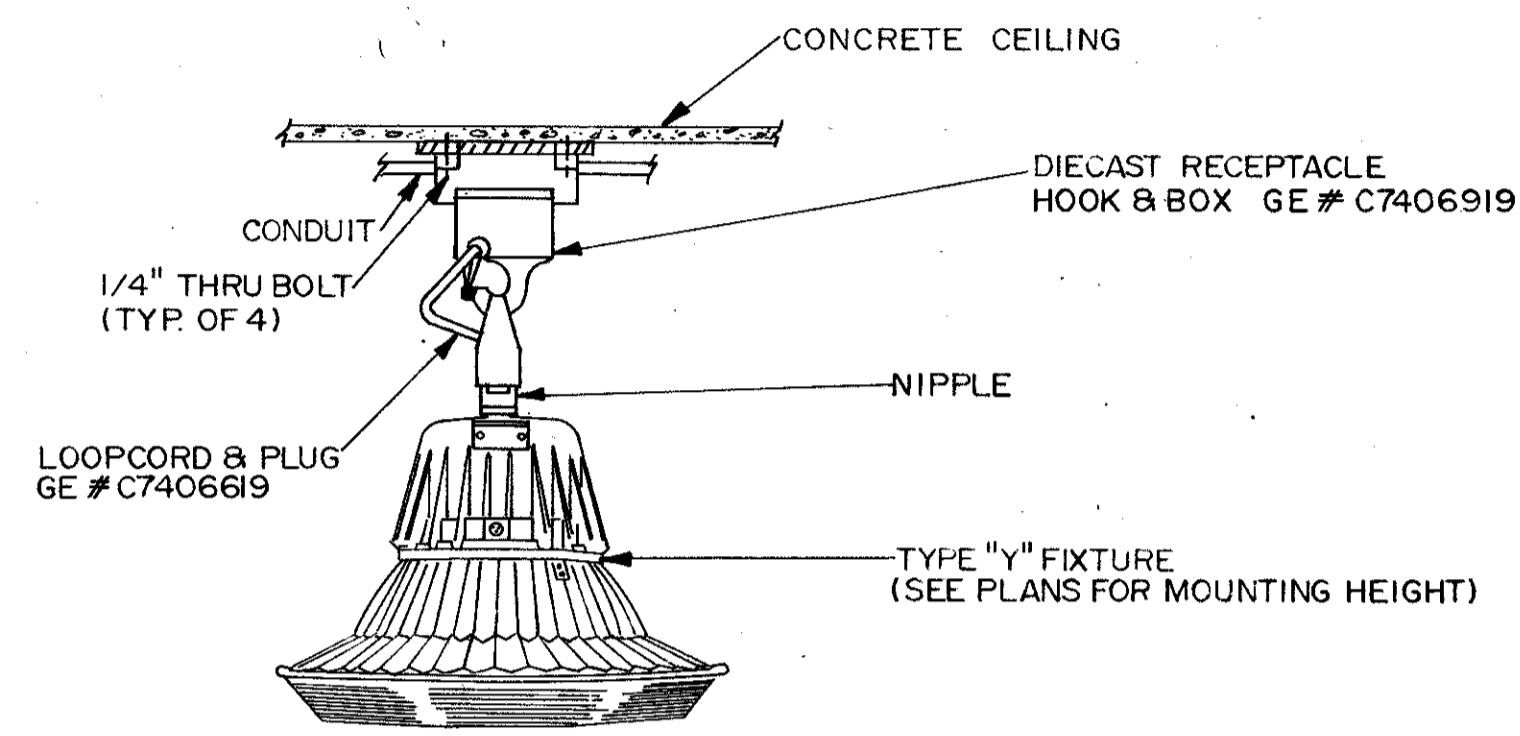
PROJECT NO.
6059-SL3R
SHEET NO.
E-69



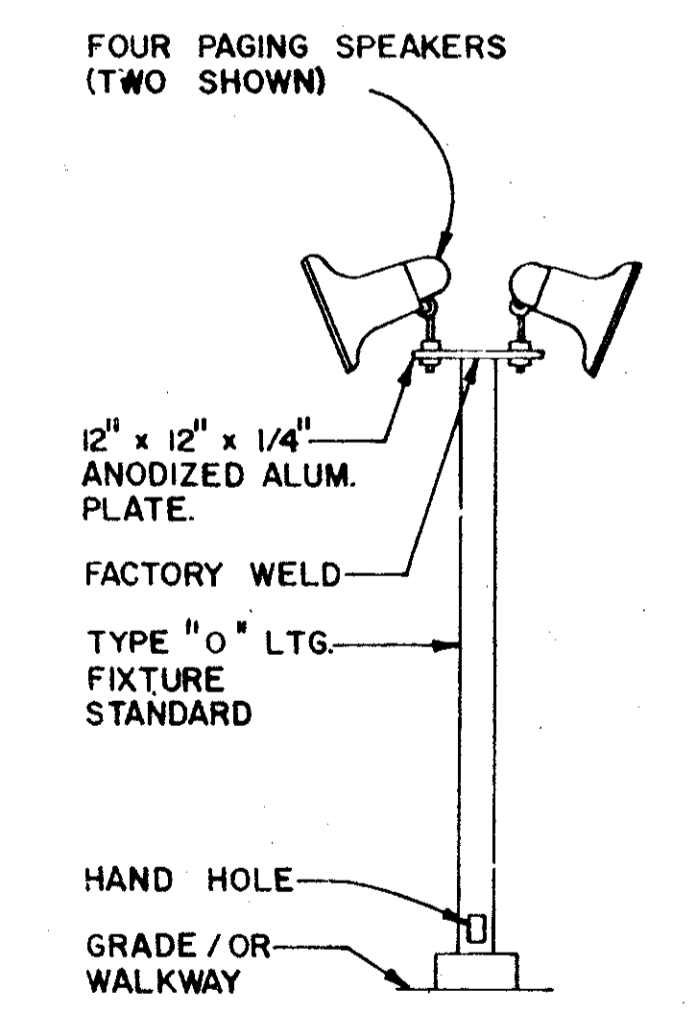
C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

LIGHTING FIXTURE SCHEDULE

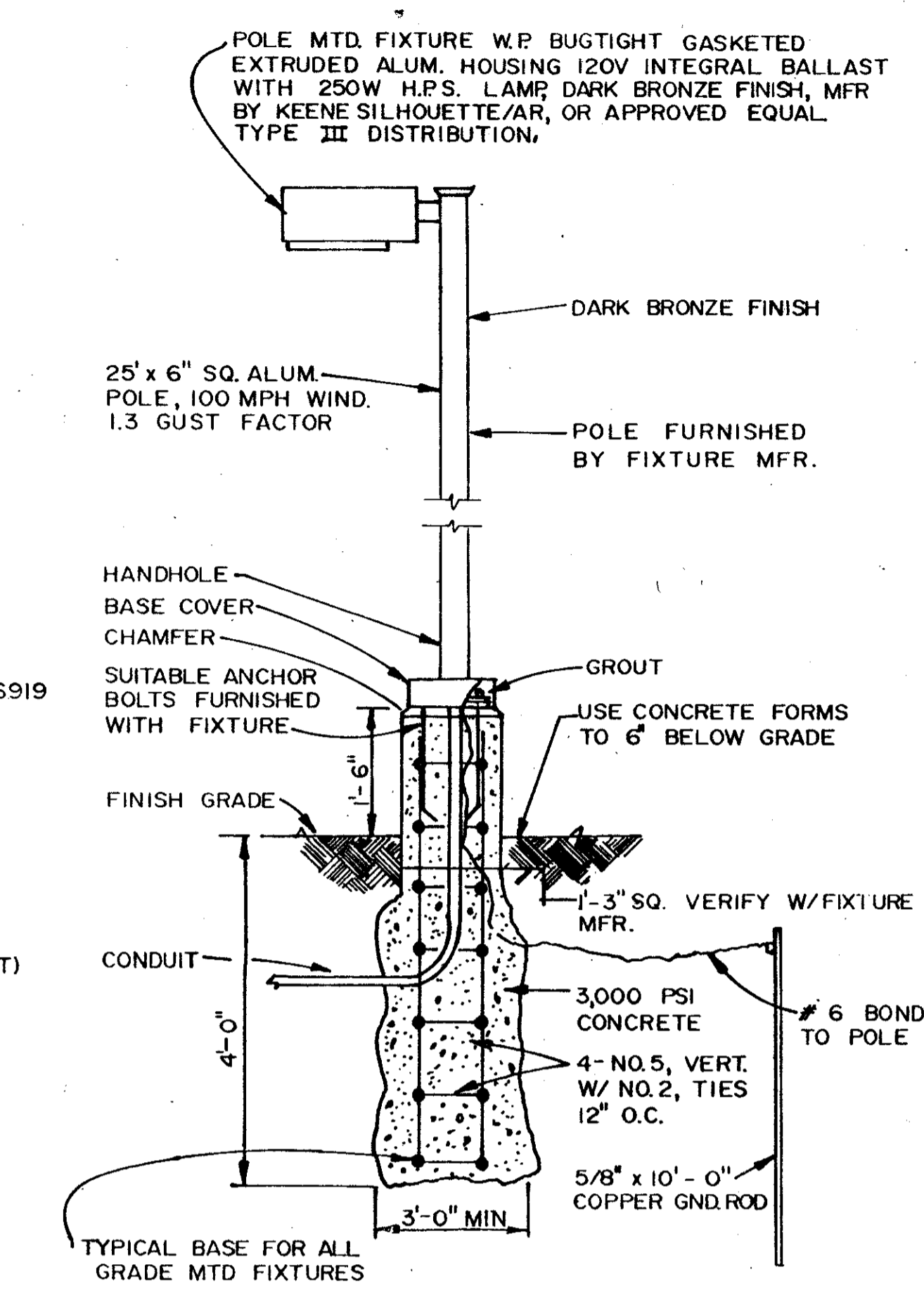
MARK	WATT	DESCRIPTION	MFR (OR APPROVED EQUAL)	
A	160	2'x4' FLUORESCENT TROFFER W/4-34W R.S. LAMPS. COMBINATION AIR HANDLING & HEAT REMOVAL (WITH DAMPERS) FRAME: FLOATING DOOR, REGRESSED ALUM. BAKED WHITE ENAMEL FINISH, ACRYLIC PRISMATIC LENS, 120V ESB.	"KEENE" MODULINE AH/HR SERIES.	(NOT USED)
B	80	SAME AS TYPE "A" EXCEPT 2'x2'	"KEENE" MODULINE AH/HR SERIES.	(NOT USED)
C	160	SAME AS TYPE "A" EXCEPT STATIC TROFFER	"KEENE" MODULA ST SERIES	
D	160	2'x4' STATIC FLUORESCENT TROFFER W/4-34W R.S. LAMPS. 11/2" ANODIZED ALUM. REFLECTOR CELLS VCP NOT LESS THAN 97. FRAME: FLOATING DOOR, REGRESSED ALUM. BAKED WHITE ENAMEL FINISH 120V, DIMMING BALLAST.	"KEENE" PARABAFFLE /ST	
E	80	4'-0" WALL MTD. FLUORESCENT RESTROOM FIXTURE. ACRYLIC INJECTION MOLDED PRISMATIC DIFFUSER, DIE-FORMED STEEL, FLAT BLACK ENAMEL HOUSING, 2 LAMP, DOWN LIGHT ONLY. 120V ESB.	"KEENE" CELEBRITY / WA	
F	160	8'-0" VAPOR TIGHT GASKETED FLUORESCENT FIXTURE W/4-34 WATT R.S. LAMPS, NON-CORROSIVE THERMOPLASTIC HOUSING. HIGH IMPACT ACRYLIC LENS SUITABLE FOR WASHDOWN, 120V ESB.	"KEENE" KEENEGUARD/DL	
G	80	SAME AS TYPE "F" EXCEPT 4'-0" W/2-34W R.S. LAMPS	"KEENE" KEENEGUARD/DL	
H	80	4'-0" FLUORESCENT STRIP FIXTURE W/2-34W R.S. LAMPS, BAKED WHITE ENAMEL FINISH, SOLID TOP REFLECTOR, SURFACE MTD. 120V ESB.	"KEENE" KN/INDUSTRIAL	(NOT USED)
J	50	HIGH PRESSURE SODIUM WALL MTD. FIXTURE W/CYLINDER, WEATHERPROOF DIE CAST ALUM. HOUSING W/ DARK BRONZE FINISH, 120V	"HUBBELL" NRG-121	
K	150	INCANDESCENT WALL BRACKET FIXTURE W/150W LAMP ENCLOSED AND GASKETED (VAPORTIGHT) BODY W/GLOBE & GUARD, 120V	"CROUSE-HINDS" VXHB SERIES	
L	75	RECESSED INCANDESCENT DOWN LIGHT DROPPED OPALEX SHOWER LIGHT, GASKETED DIFFUSER, A19, FRAME KIT, 120V	"LIGHTOLIER"	
M	150	CLASS I, DIV. 2, GROUP C INCANDESCENT LIGHT FIXTURE, CEILING MTD. W/150 W LAMP BODY: COPPER-FREE ALUM.	"CROUSE-HINDS" EVCX SERIES	
N	250	SEE POLE MTD. FIXTURE DETAIL "A" THIS SHEET.		
O	100	SEE POLE MTD. FIXTURE DETAIL "B" THIS SHEET		
P	175	CLASS I, DIV. 2, GROUP C HID FIXTURE W/175 W METAL HALIDE LAMP, PENDANT MTD. DOME REFLECTOR AS REQUIRED (SEE PLANS) 120V	CROUSE - HINDS DMV - CHAMP	
R	150	SURFACE MTD. WALL OUTDOOR FIXTURE W/150 WATT H.P.S LAMP & INTEGRAL BALLAST, GASKETED, DIE-CAST ALUM. HOUSING, PRISMATIC REFRACTOR, ADJUSTABLE LAMP SOCKET, ALUM. BACKPLATE, 120V	"KEENE" WALLCUBE / WO 300 SERIES	
S	40	SAME AS TYPE "E" EXCEPT 2'	"KEENE" CELEBRITY / WA	
T	150	SIMILAR TO TYPE "M" EXCEPT WALL BRACKET MTD. (CLASS I, DIV. 1)	"CROUSE-HINDS" EVBX SERIES	
U	60	3'-0" WALL MTD. FLUORESCENT RESTROOM FIXTURE. ACRYLIC INJECTION MOLDED PRISMATIC DIFFUSER, DIE-FORMED STEEL, FLAT BLACK ENAMEL HOUSING, 2 LAMP, DOWN LIGHT ONLY. 120V ESB.	"KEENE" CELEBRITY / WA	
V	60	PORCELAIN KEYLESS SOCKET W/WIRE GUARD.		
W	100	INCANDESCENT WALL BRACKET FIXTURE, CAST ALUM. HOUSING, BUGTIGHT, CLEAR GLASS DIFFUSER WITH GUARD, 120V	"MC PHILBEN" 43-44 UTC	(NOT USED)
X	175	LOWBAY HID FIXTURE W/175 W METAL HALIDE LAMP. ALUM. BALLAST HOUSING, ENCLOSED GLASS REFRACTOR, PENDANT MTD. (SEE PLANS) 120V	"GE." MINIMITE V2 SERIES	
Y	250	LOW BAY HID FIXTURE W/250 W METAL HALIDE LAMP ACRYLIC REFLECTOR DIE-CAST BALLAST HOUSING, SUBSCRIPT "E" DENOTES QUARTZ AUXILIARY LAMP 120V ESB, FOR MOUNTING SEE DETAIL "C"	"GE." LOWMOUNT 400 SERIES	
Z	26	SIMILAR TO TYPE "J" EXCEPT W/26 WATT FLUORESCENT LAMP & CAST ALUM. SURFACE CONDUIT MOUNTING BOX.	"HUBBELL" NRG-126-4	(NOT USED)
⊗		EXIT SIGN CAST ALUM. STENCIL FACE, BLACK BAKED ENAMEL FINISH, FLAT OR CEILING MTD. AS SHOWN ON PLANS, AC/DC SOCKET, 12V	"EMERGI-LITE" X22 & X23 SERIES	
⊠		EMERGENCY LIGHTING UNIT SELF CONTAINED AUTO-CHARGING BATTERY BACK-UP W/TEST SW SEMI RECESSED NICKEL CADMIUM BATTERY, 7W HALOGEN LAMP, EXPIRATION ALARM CAPABLE OF 3 REMOTES 12V, 120V	"EMERGI-LITE" PS SERIES	
⊡		REMOTE UNIT TO ABOVE FIXTURE	"EMERGI-LITE" PS SERIES	



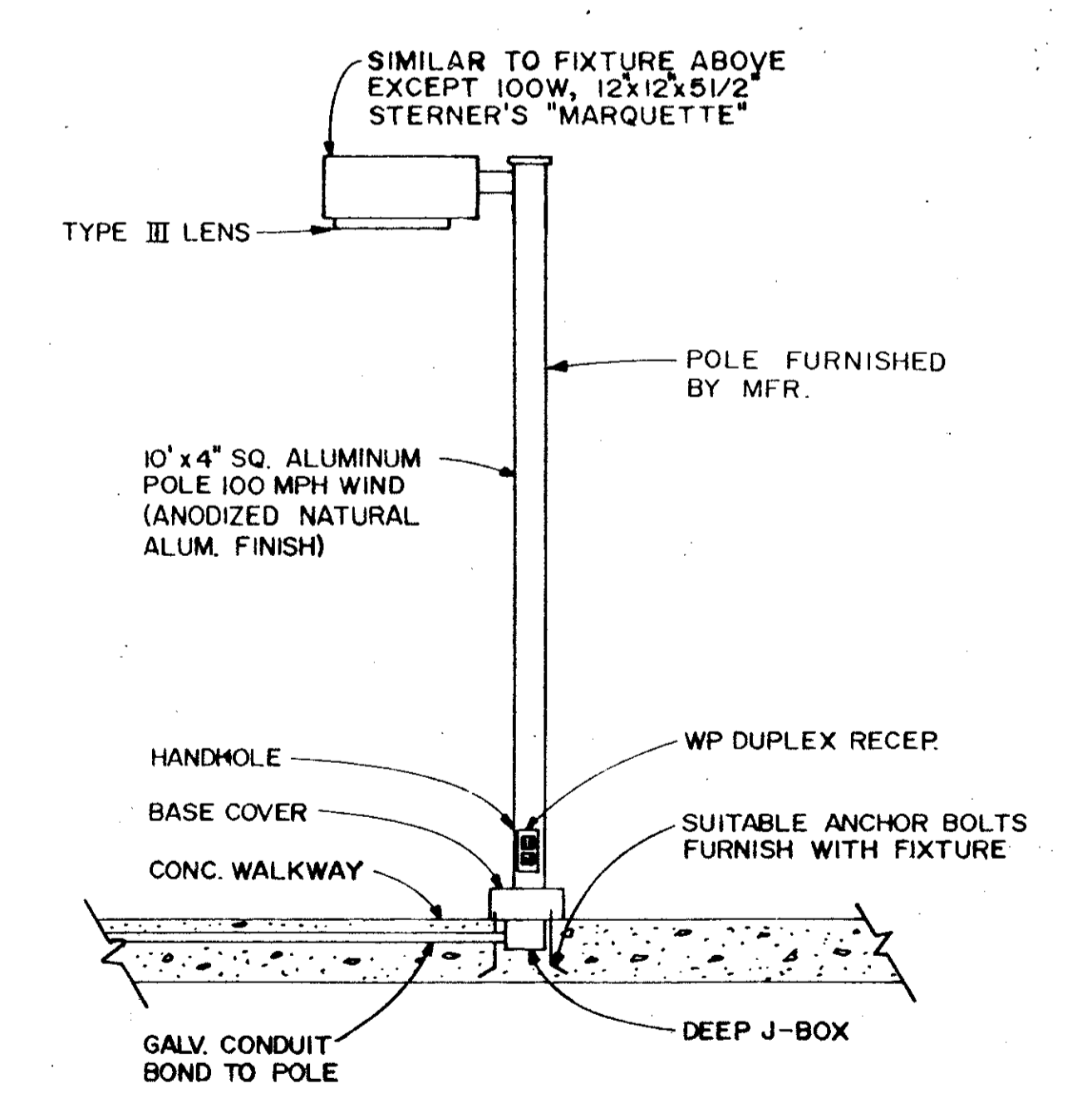
MOUNTING DETAIL 'C'



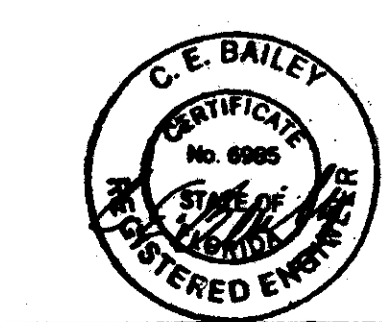
POST MTD. SPEAKER DETAIL



POLE MOUNTED FIXTURE DETAIL 'A'



POLE MOUNTED FIXTURE DETAIL 'B'



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

LIGHTING FIXTURE SCHEDULE & DETAILS

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION

ORANGE COUNTY, FLORIDA

REMARKS: CONFORMED DWG.

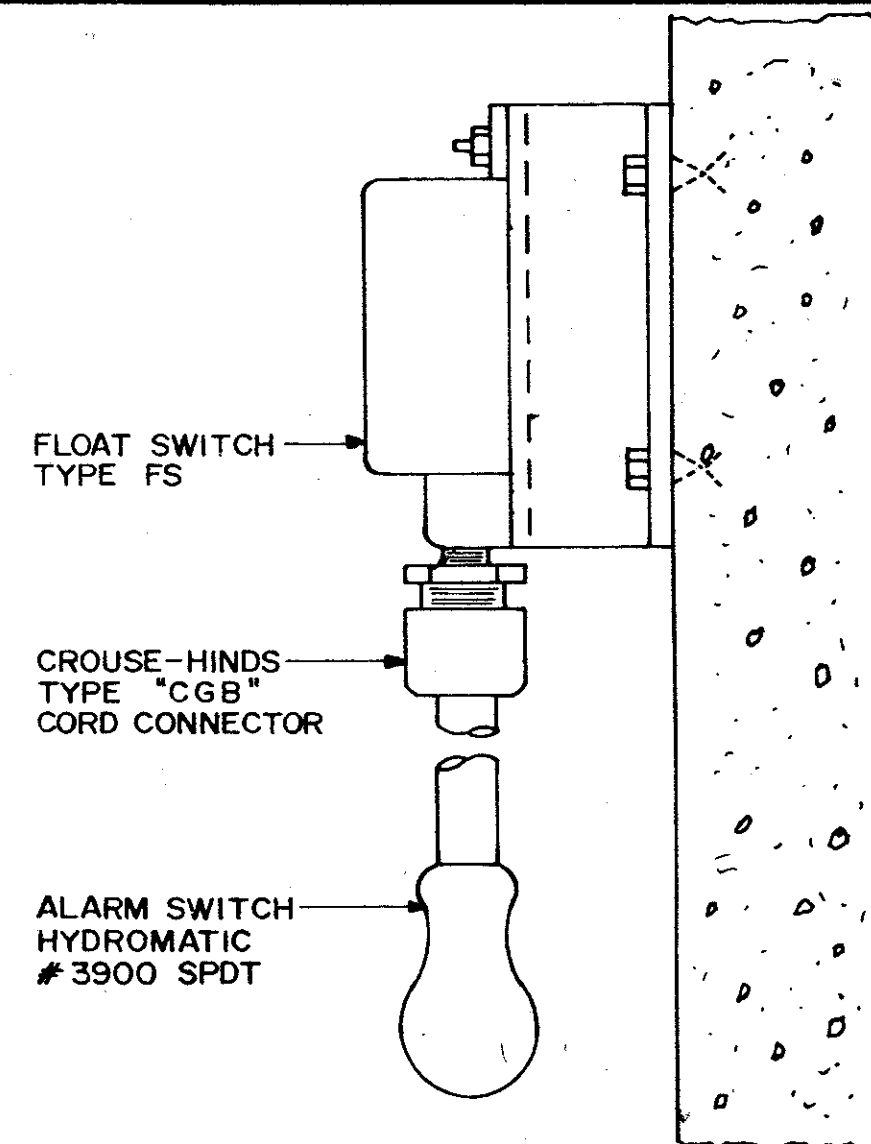
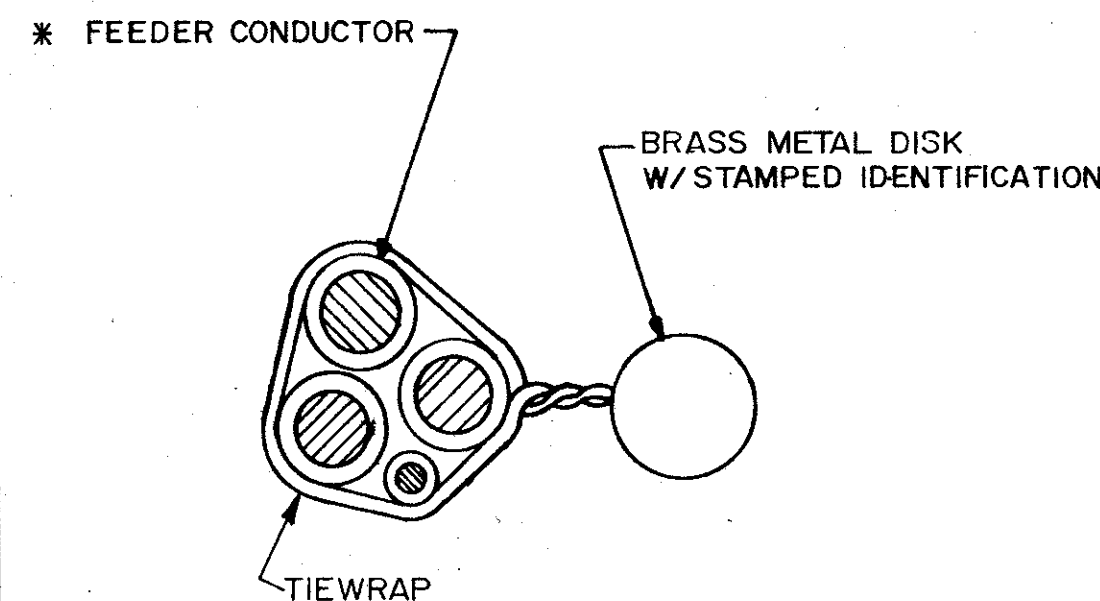
DESIGNED BY: KTL/MLZ
DRAWN BY: JAC
CHECKED BY: WCH
APPROVED BY: CEB
DATE: MARCH 1988

REV. DATE DRWN. CHKD.

4/88 SAF

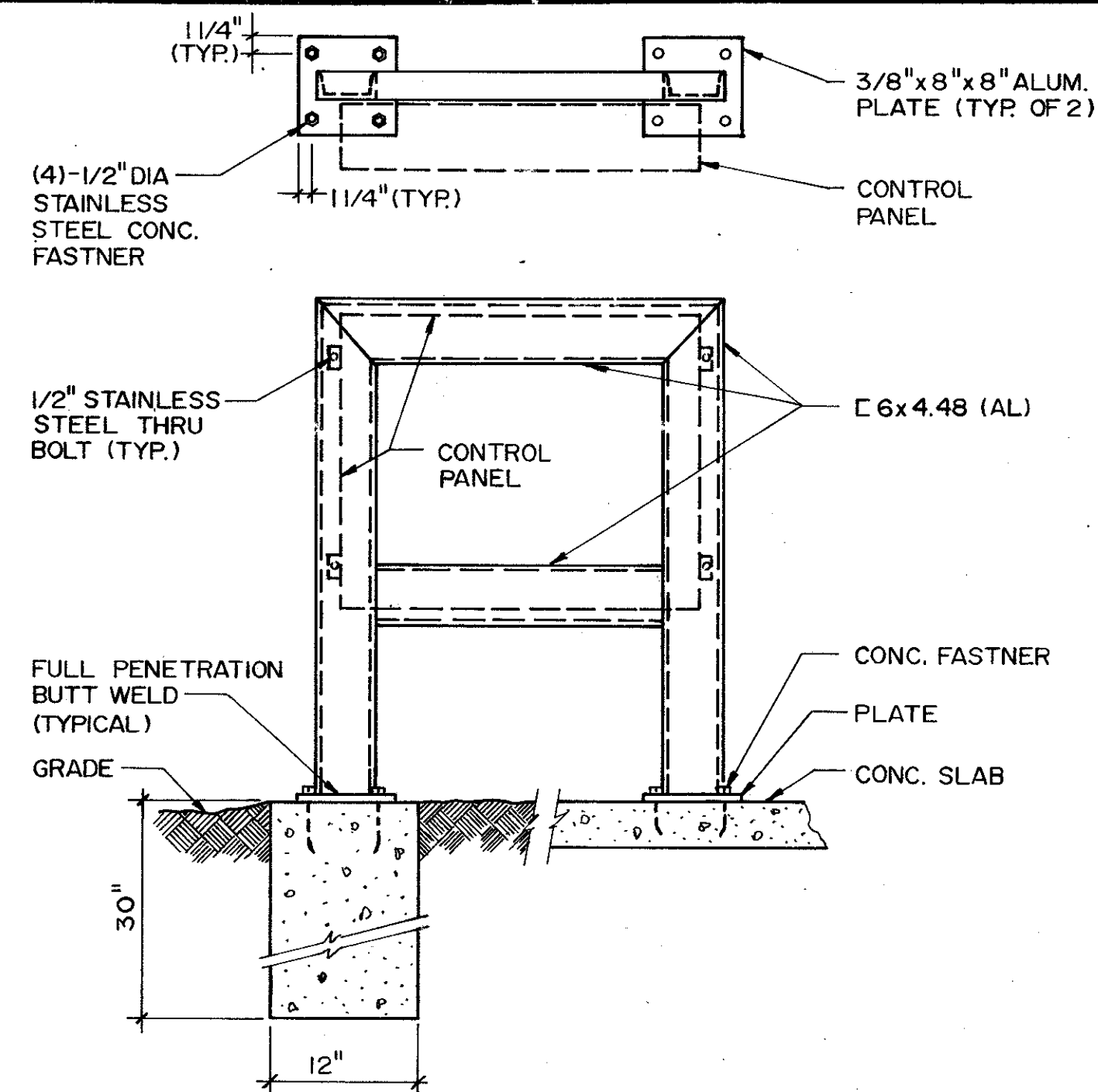
PROJECT NO. 6059-SL3R

SHEET NO. E-71



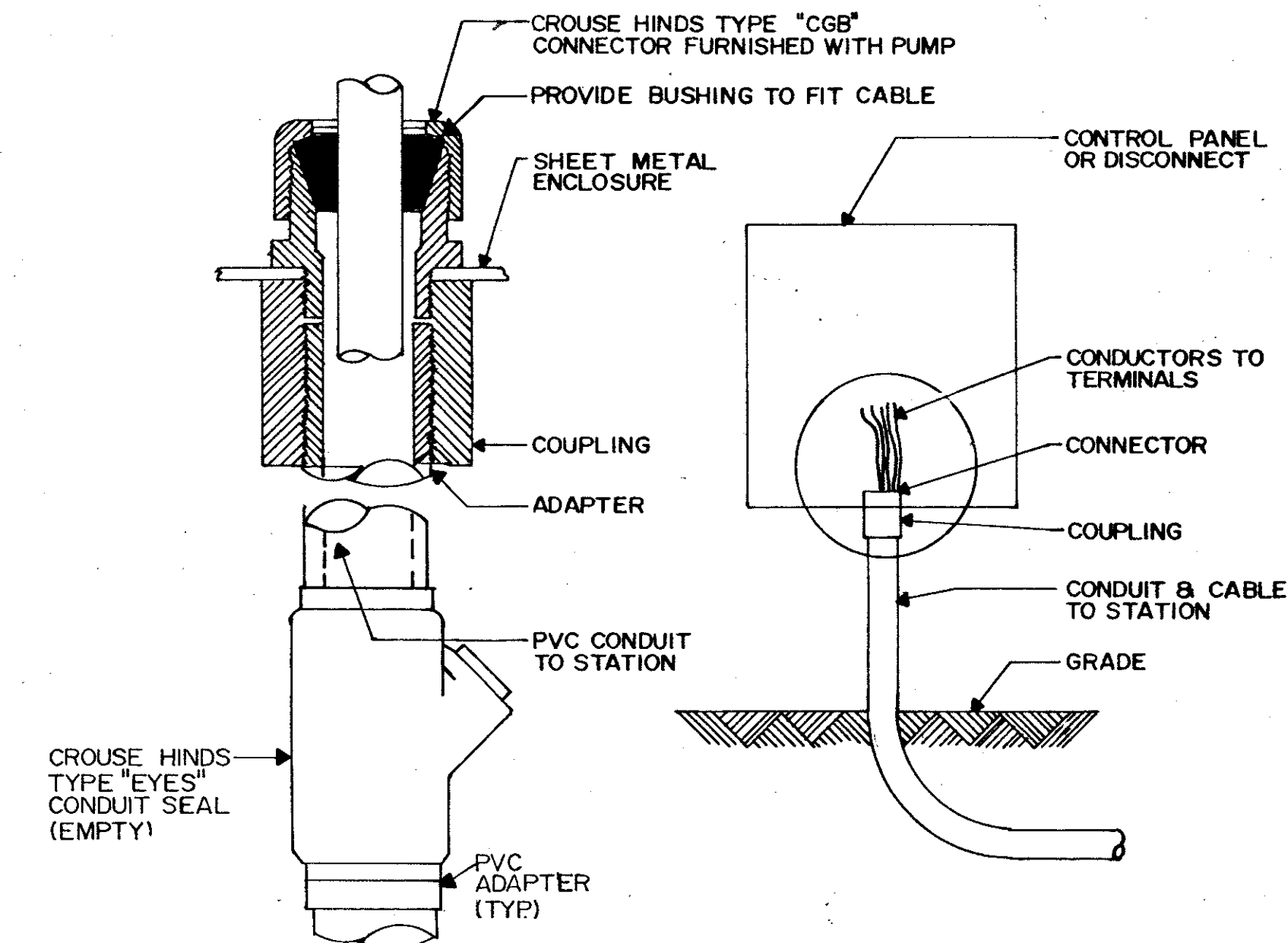
CABLE TAG DETAIL

FLOAT SWITCH SUPPORT DETAIL



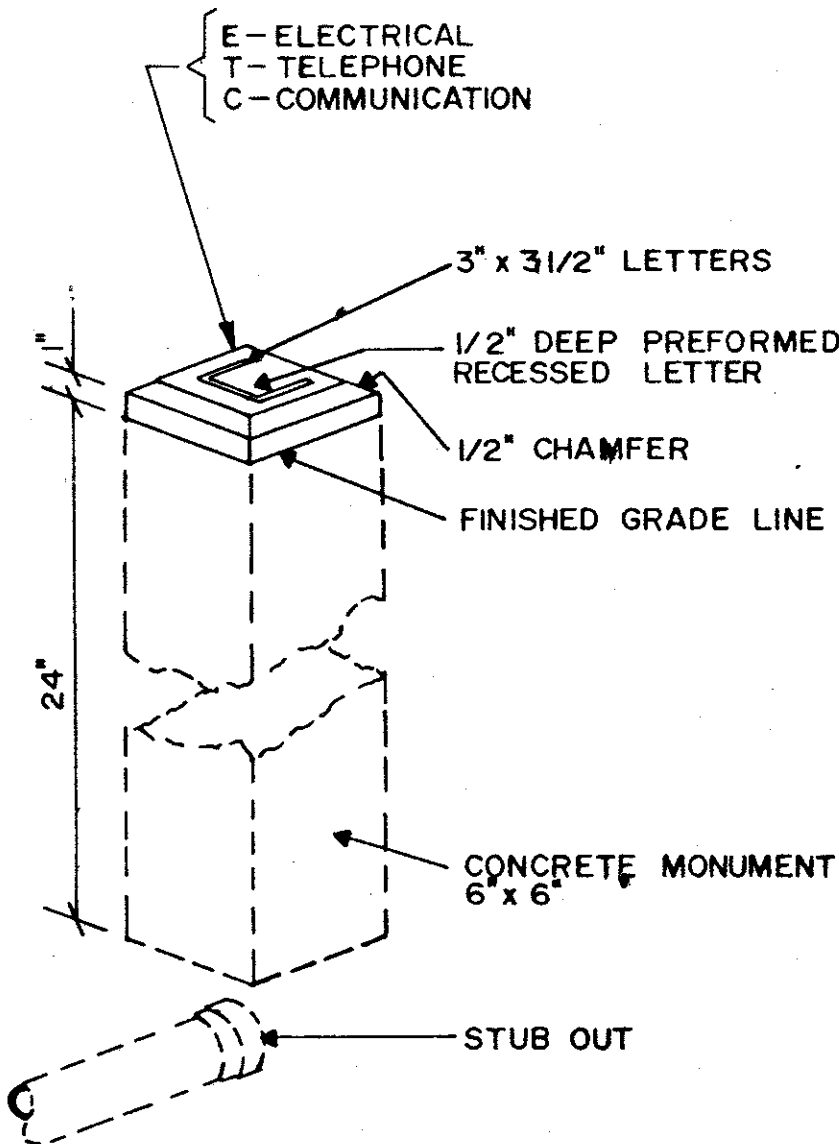
CONTROL PANEL MOUNTING DETAIL

(SHOP FAB.)

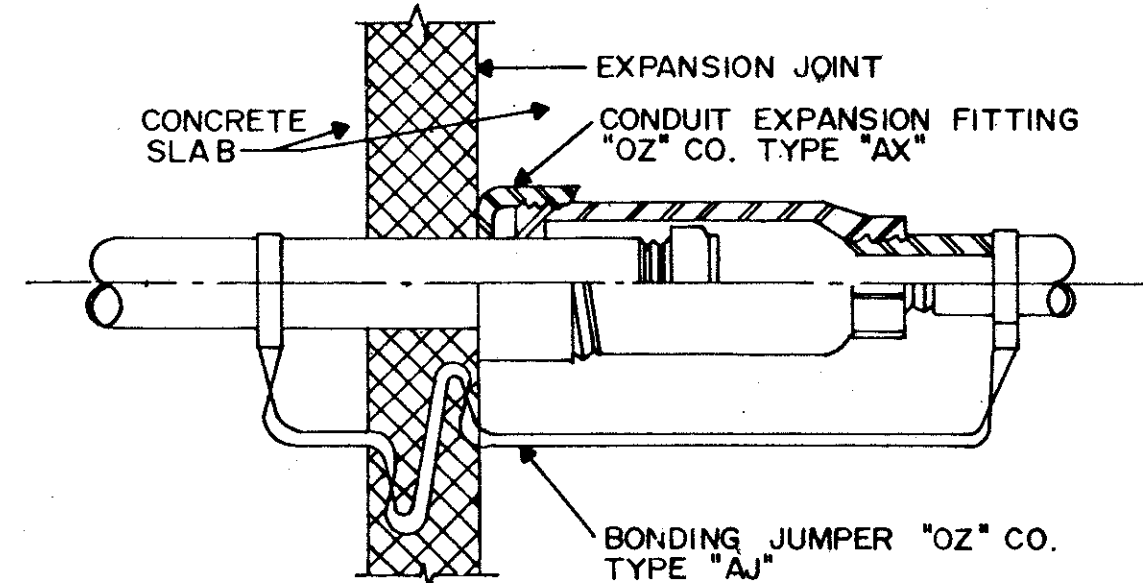


WATER TIGHT CONNECTION DETAIL

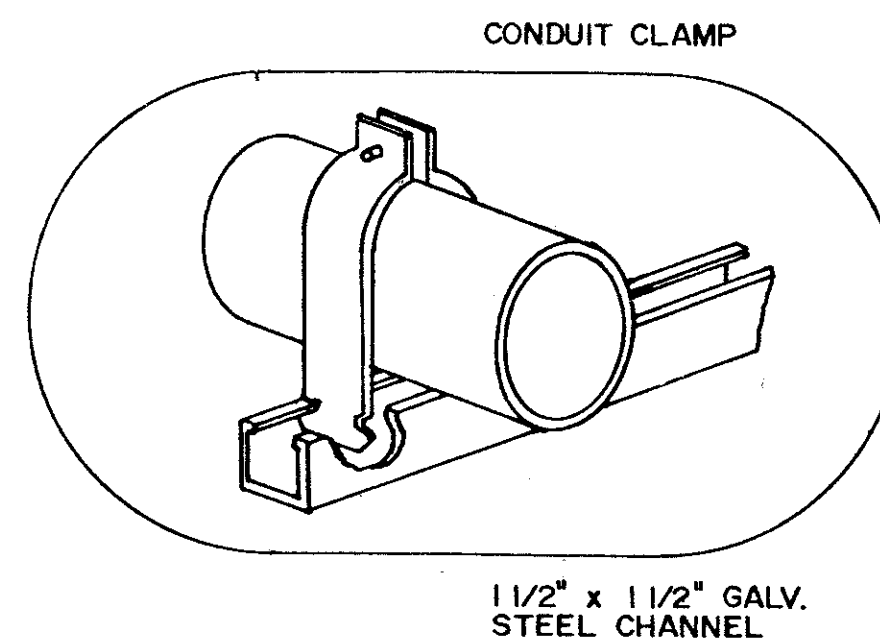
* SIMILAR FOR CONTROL & INST. CABLES.



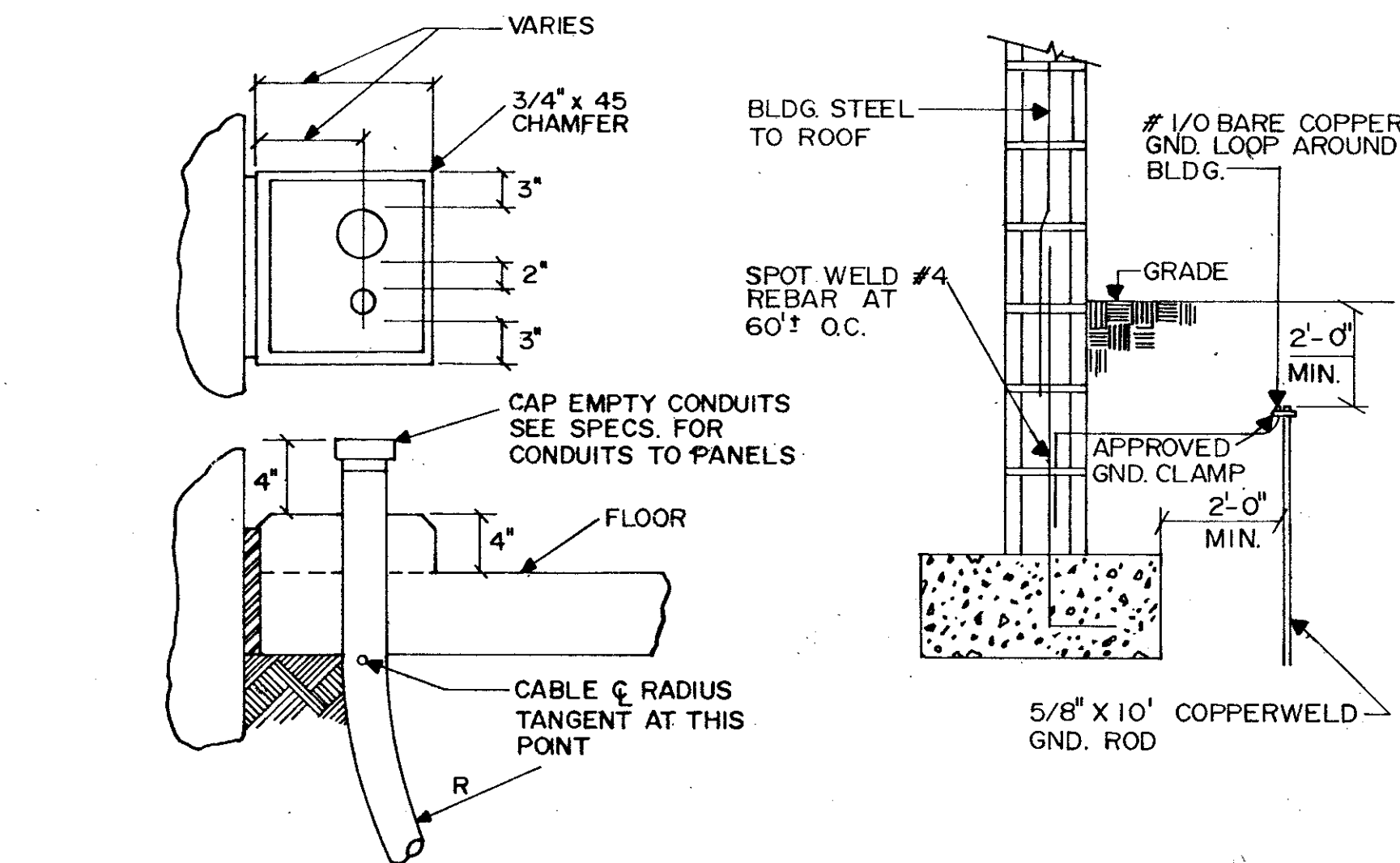
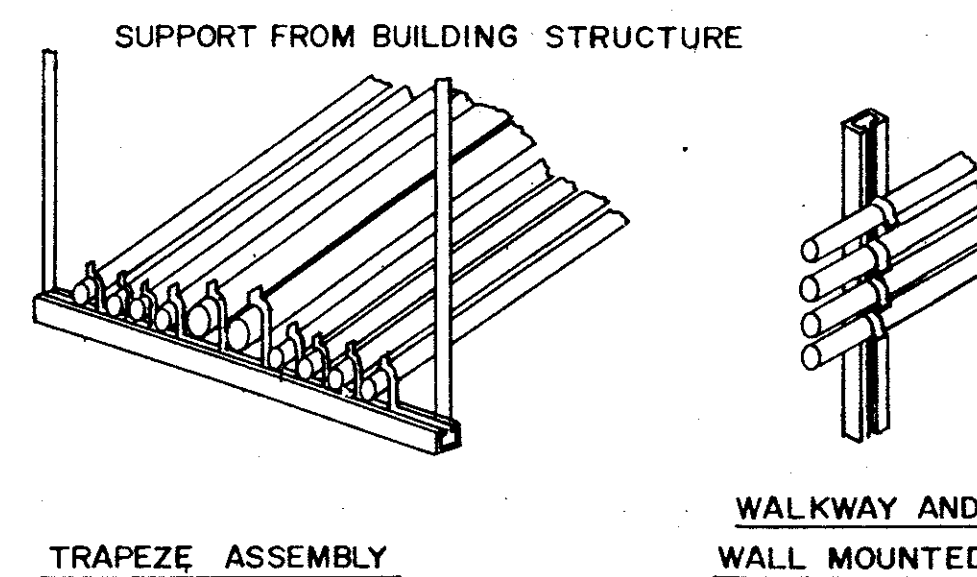
CONDUIT STUB MONUMENT DETAILS



EXPANSION FITTING DETAIL

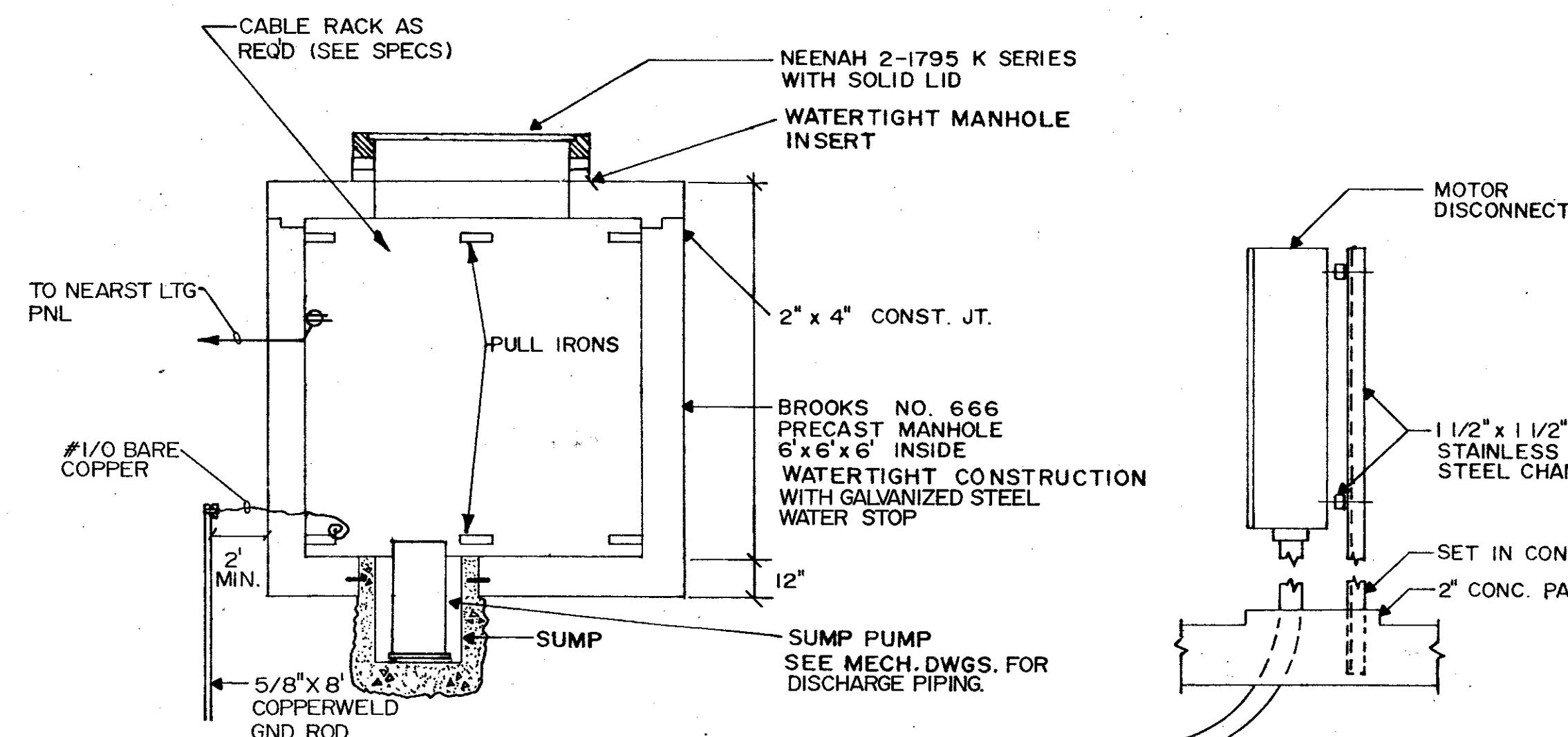


CONDUIT PIPE STRAP MOUNTING DETAILS

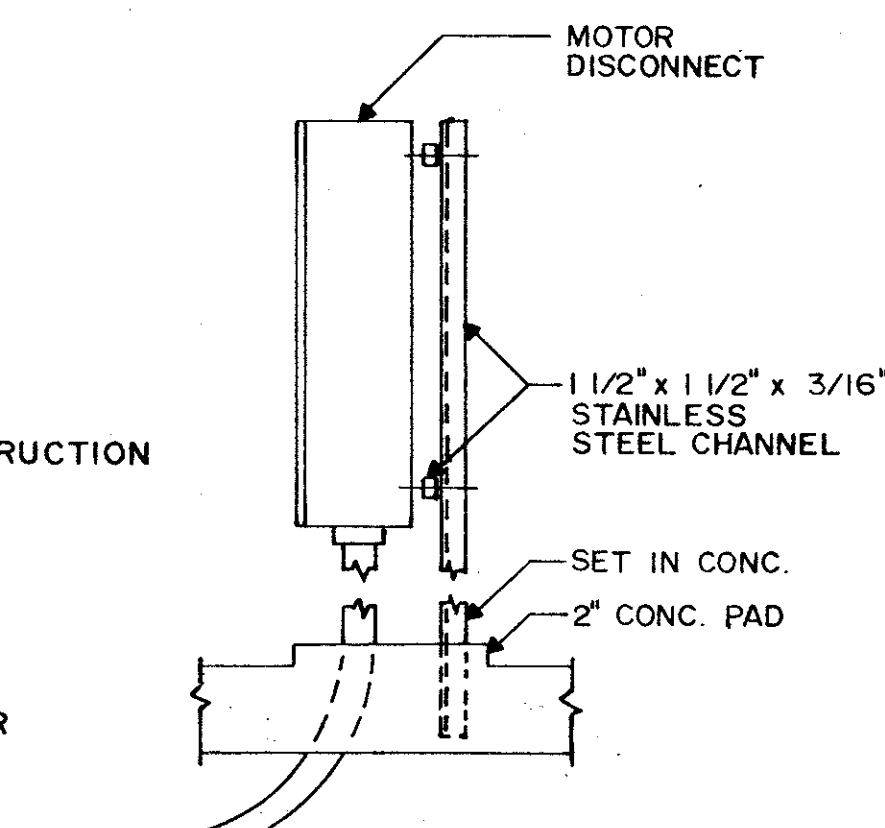


TYPICAL CONDUIT THRU SLAB

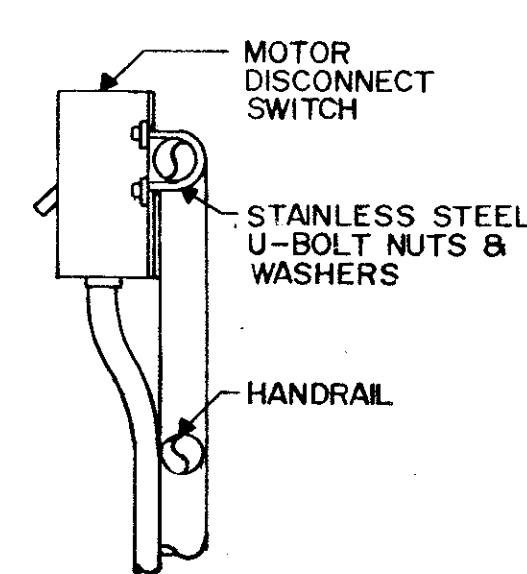
BLDG. STRUCT. BONDING



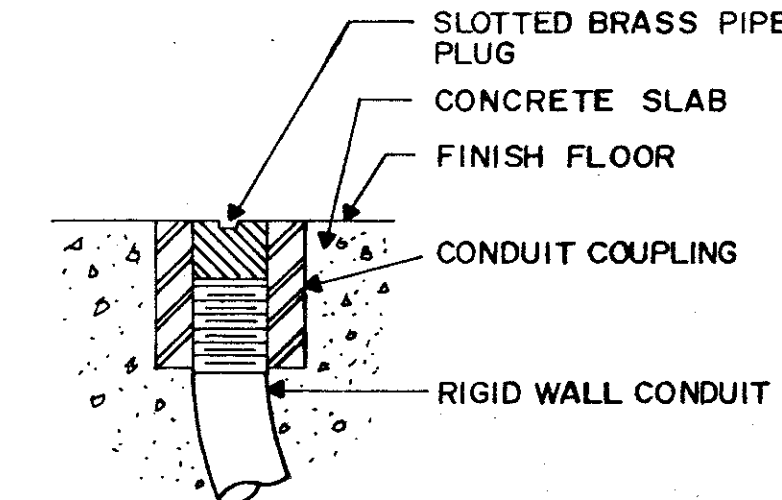
MANHOLE DETAIL



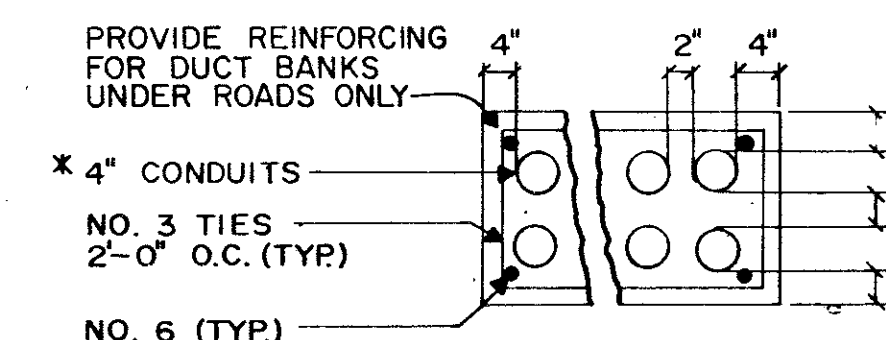
TYPICAL DISCONNECT



HANDRAIL MTD. DISCONNECT



DETAIL OF CONDUIT TERMINATION STUB OUT



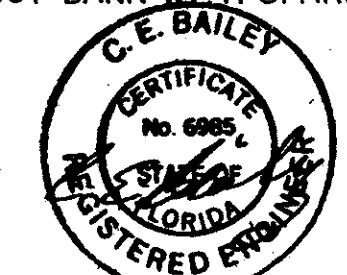
TYPICAL DUCT BANK

* ALL SHIELDED INST. CABLES SHALL BE INSTALLED IN GALV. RIGID STEEL CONDUIT. PROVIDE ONE GALV. CONDUIT IN EACH INST. DUCT BANK WITH SPARES FOR FUTURE.

REMARKS	
DESIGNED BY	KZ-1/1/88
DRAWN BY	SAF
CHECKED BY	SAF
APPROVED BY	
DATE	MARCH 1988

DATE	1/1/88
REV. NO.	1
DATE	1/1/88
REV. NO.	1

CDM
environmental engineers, scientists, planners, & management consultants
CAMP DRESSER & MCKEE INC.
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
DETAILS
ORANGE COUNTY, FLORIDA
PROJECT NO. 6059-SL3R
SHEET NO. E-72



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

PANEL: LPS		BUS: 225A,100A M.B.		VOLTAGE: 120/208V,3Ø,4W	
LOAD:		POLES: 42			
MOUNTING: SURFACE		LOCATION: INFLUENT PUMP STATION			
CIR. NO.	DESCRIPTION	TRIP	POLE	KVA	REMARKS
1,3	AHU-2 (TYP. OF 2)	20	2		
2,4,6,8	SPARE	20	2		
9-15	LIGHTING & SPARES	20	1		
16-20	GENERAL RECEPT. & SPARES	20	1		
21-30	EQUIPT. & SPARES	20	1		

PANEL: LW		BUS: 225A,100A MB		VOLTAGE: 120/208V,3Ø,4W	
LOAD:		POLES: 42			
MOUNTING: SURFACE		LOCATION: EXIST ELEC. BLDG.			
CIR. NO.	DESCRIPTION	TRIP	POLE	KVA	REMARKS
1,3,5	PNL PC/TC-II	60	3	5.0	
2,4,6	SPARE	40	3		
7-12	LIGHTING & SPARES	20	1		
13-20	GENERAL RECEPT. & SPARES	20	1		
21-26	EQUIPT. & SPARES	20	1		
27, 29	SPACE HEATER		2		
28, 30	SPACE HEATER		2		
31-42	SPARES	20	1		

PANEL: LPT		BUS: 225A,100A MB		VOLTAGE: 120/208V,3Ø,4W	
LOAD:		POLES: 42			
MOUNTING: SURFACE		LOCATION: PRE. TREATMENT			
CIR. NO.	DESCRIPTION	TRIP	POLE	KVA	REMARKS
1,3,5	PC/TC-10	60	3	5.0	
2,4	AHU-5	20	1		
6,8	AHU-5	20	1		
10-20	LIGHTING & SPARES	20	1		
21-30	GENERAL RECEPT. & SPARES	20	1		
31-42	EQUIPT. & SPARES	20	1		

PANEL: LAB		BUS: 225A,100A MB		VOLTAGE: 120/208V,3Ø,4W	
LOAD:		POLES: 42			
MOUNTING: SURFACE		LOCATION: PHASE 3 ELEC. BLDG.			
CIR. NO.	DESCRIPTION	TRIP	POLE	KVA	REMARKS
1, 3, 5	PNL PC/TC-9	60	3	5.0	
2,4,6	PNL LCL	60	3		
7	AHU-4	20	1		
8,10,12,14	AHU-3 (TYP. OF 2)	20	1		
15,17	SPARE	20	2		
16,18	SPARE	20	2		
19-25	LIGHTING & SPARES	20	1		
26-32	GENERAL RECEPT. & SPARES	20	1		
33-42	EQUIPT. & SPARES	20	1		

PANEL: LCL		BUS: 100A, MLO		VOLTAGE: 120/208V,3Ø,4W	
LOAD:		POLES: 30			
MOUNTING: SURFACE		LOCATION: SPLITTER BLDG.			
CIR. NO.	DESCRIPTION	TRIP	POLE	KVA	REMARKS
1,3,5,7	SCUM WASH CP'S (4)	20	1		
2,4,6,8	SCUM EJECTOR (4)	20	1		
9,11,13,15	ALARM PANEL (4)	20	1		
10	RAS TRANS.	20	1		
12	WAS TRANS.	20	1		
14	RSP CP	20	1		
16	WAS CP	20	1		
17	EF-	20	1		
18-28	EQUIPT. & SPARES	20	1		
29	LIGHTING	20	1	0.4	
30	GENERAL RECEPT.	20	1	0.4	

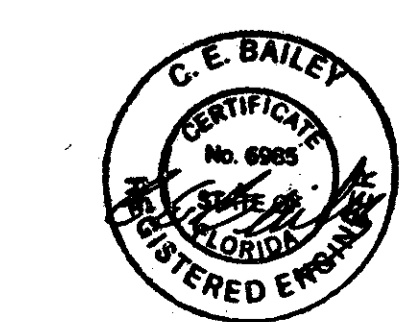
PANEL: LS		BUS: 225A,100A MB		VOLTAGE: 120/208V,3Ø,4W	
LOAD:		POLES: 42			
MOUNTING: SURFACE		LOCATION: SOUTH EAST ELEC. BLDG.			
CIR. NO.	DESCRIPTION	TRIP	POLE	KVA	REMARKS
1,3,5	PNL PC/TC-8	60	3	5.0	
2,4,6	PNL LC	60	3		
7,9,11	PNL LCM	60	3		
8,10	SPARE	20	2		
13,15	SPARE	20	2		
16-21	LIGHTING & SPARES	20	1		
22-30	GENERAL RECEPT. & SPARES	20	1		
31,33	AHU-6	20	2		
34,35	AHU-6	20	2		
36,37	ACCU-6	30	2		
38,39	ACCU-6	30	2		
40-42	EQUIPT. & SPARES	20	1		

REMARKS
CONFORMED DWG.
SAFE
4/88

DESIGNED BY: ELL/MLCH
DRAWN BY: RL
CHECKED BY: MLCH
APPROVED BY: [Signature]
DATE: MARCH 1988

CAMP DRESSER & MCKEE INC.
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
PANEL SCHEDULES
ORANGE COUNTY, FLORIDA

PROJECT NO.
6059-SL3R
SHEET NO.
E-74



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

SYMBOLS

ABBREVIATIONS

HVAC LEGEND

	THERMOSTAT
	HUMIDISTAT
	VOLUME DAMPER
	FIRE DAMPER
	FLEXIBLE CONNECTION
	TURNING VANES
	EXHAUST GRILLE
	SUPPLY REGISTER
	RETURN REGISTER
	SUPPLY DUCT
	RETURN DUCT
	EXHAUST DUCT
	GRAVITY DAMPERS
	WALL LOUVER
	TRANSFER GRILLE
	SPLITTER DAMPER
	CEILING DIFFUSER, 2 WAY
	ROOF MOUNTED EXHAUST FAN
	WALL MOUNTED EXHAUST FAN
	AIR FLOW CONTROLLER
	INSULATED FLEXIBLE SHEET METAL DUCT
	LINED SHEET METAL DUCT, 1" THICK, 1 1/2 PCF
	BARE SHEET METAL
	LINED SHEET METAL DUCT, 2" THICK, 3 PCF
	UNIT HEATER
	VENT SET FAN
	ENERGY RECOVERY

PLUMBING LEGEND

	LAV	LAVATORY
	WC	WATER CLOSET
	UR	URINAL
	SS	SERVICE SINK
	FD	FLOOR DRAIN
	FCO	FLOOR CLEANOUT
	WCO	WALL CLEANOUT
	YCO	YARD CLEANOUT
	HB	HOSE BIBB
	KS	KITCHEN SINK
		COLD WATER
		HOT WATER
		HOT WATER RECIRC
	RWL	RAIN WATER LEADER
		SANITARY
	SD	STORM DRAIN
	AW	ACID WASTE
	RD	ROOF DRAIN
	EW	EYEWASH UNIT
	ES	EMERGENCY SHOWER
	DT	DILUTION TANK
		GATE VALVE
		CHECK VALVE
		P & T RELIEF
	G	GAS
	LP	LIQUID PROPANE
	VTR	VENT THRU ROOF
	POC	POINT OF CONNECTION
	EWC	ELECTRIC WATER COOLER
		AIR CHAMBER
		GATE VALVE IN YARD BOX
		SAFE WASTE
	C	CONDENSATE
		BUTTERFLY VALVE
		BALL VALVE
		END CAP
		DRYWELL
	DE	DEIONIZED WATER
		OS & Y GATE VALVE
		WATER MOTOR GONG
		POST INDICATOR VALVE
		SIAMESE CONNECTION
	F	FIRE LINE

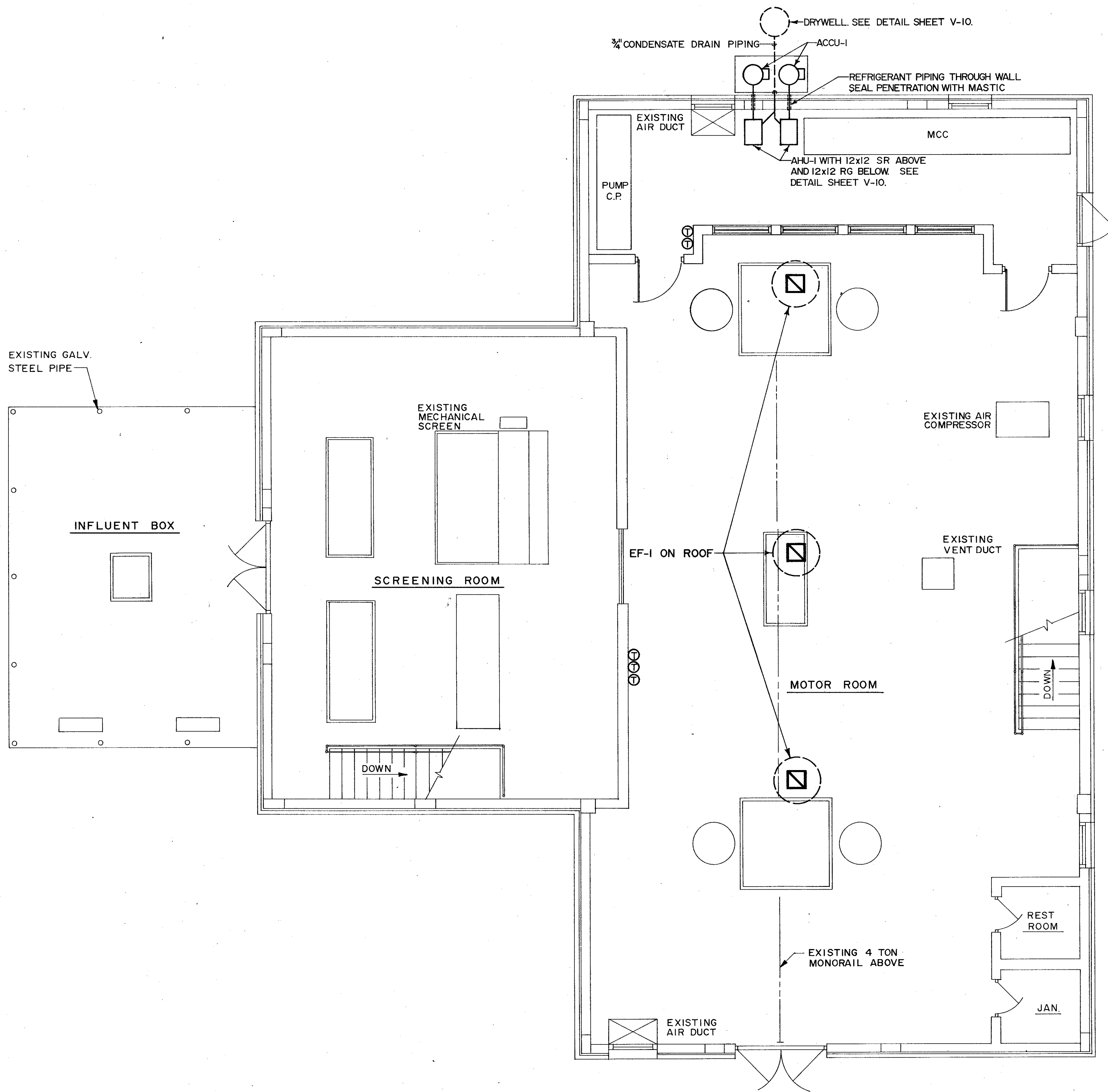
A	AIR
ACCU	AIR COOLED CONDENSING UNIT
AD	ACCESS DOOR
AHU	AIR HANDLING UNIT
ALUM	ALUMINUM
AR	ACID RESISTANT
ASME	AMERICAN SOCIETY OF MECHANICAL ENGINEERS
BDD	BACKDRAFT DAMPERS
BEL	BELOW
BLDG	BUILDING
BS	BIRDSCREEN
BTU	BRITISH THERMAL UNIT
CI	CAST IRON
CFM	CUBIC FEET PER MINUTE
CLG	CEILING
CO	CLEANOUT
CONC	CONCRETE
COND	CONDENSATE
CONN	CONNECTION
CP	CHROME PLATED
CU YD	CUBIC YARD
CW	COLD WATER
DB	DRYBULB
DISCH	DISCHARGE
DL	DOOR LOUVER
DN	DOWN
DPR	DAMPER
DR	DRAIN
DS	DISCONNECT SWITCH
EA	EACH
EDH	ELECTRIC DUCT HEATER
EER	ENERGY EFFICIENT RATIO
EF	EXHAUST FAN
EL	ELEVATION
EVAP	EVAPORATION
EW	ELECTRIC WATER HEATER
FC	FLEXIBLE CONNECTION
FD	FIRE DAMPER
FIN	FINISH
FLA	FULL LOAD AMPS
FLOOR	FLOOR
FLP	FIBERGLASS REINFORCED
FT	FEET
FT²	SQUARE FEET
FU	FIXTURE UNIT
GA	GAUGE
GALV	GALVANIZED
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HD	HEAD
HP	HORSEPOWER
HR	HOUR
HW	HOT WATER
HWR	HOT WATER RECIRCULATION
IE	INVERT ELEVATION
KW	KILOWATTS
LD	LINEAR DIFFUSER
LIQ	LIQUID
LVR	LOUVER

MCC	MOTOR CONTROL CENTER
MFGR	MANUFACTURER
MH	MANHOLE
MTD	MOUNTED
MTG	MOUNTING
NOM	NOMINAL
NTS	NOT TO SCALE
Ø	ROUND
OSA	OUTSIDE AIR
PCF	POUNDS PER CUBIC FEET
PIV	POST INDICATOR VALVE
PPM	PARTS PER MILLION
PSI	POUNDS PER SQUARE INCH
PVC	POLY VINYL CHLORIDE
PW	POTABLE WATER
RA	RETURN AIR
RAC	RETURN AIR CONDITIONER
RD	ROOF DRAIN
REF	REFERENCE
RM	ROOM
RPM	REVOLUTIONS PER MINUTE
SEER	SEASONAL ENERGY EFFICIENT RATIO
SHT	SHEET
SM	SHEET METAL
SP	STATIC PRESSURE
SPC	SOUTHERN PLUMBING CODE
SPKLR	SPRINKLER
SS	STAINLESS STEEL
STD	STANDARD
SUCT	SUCTION
SW	SWITCH
SWGR	SWITCHGEAR
TDH	TOTAL DISCHARGE HEAD
TEMP	TEMPERATURE
TG	TRANSFER GRILLE
TP	TRAP PRIMER
TSP	TOTAL STATIC
TV	TURNING VANES
TYP	TYPICAL
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORY
VB	VALVE BOX
VC	VITREOUS CHINA
VTR	VENT THRU ROOF
W/	WITH
WB	WET BULB
WT	WEIGHT
WTR	WATER

REMARKS
 CONFORMED DWG.
 REV NO. 1 DATE 4/88 SAF
 DESIGNED BY WCH
 DRAWN BY WCH
 CHECKED BY WCH
 APPROVED BY WCH
 DATE MARCH 1998
 CAMP DRESSER & MCKEE INC.
 SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION
SYMBOLS & ABBREVIATIONS
 ORANGE COUNTY, FLORIDA
 PROJECT NO. 6059-SL3R
 SHEET NO. V-1

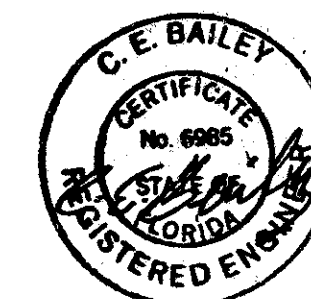


C. E. BAILEY & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 ORLANDO, FLORIDA

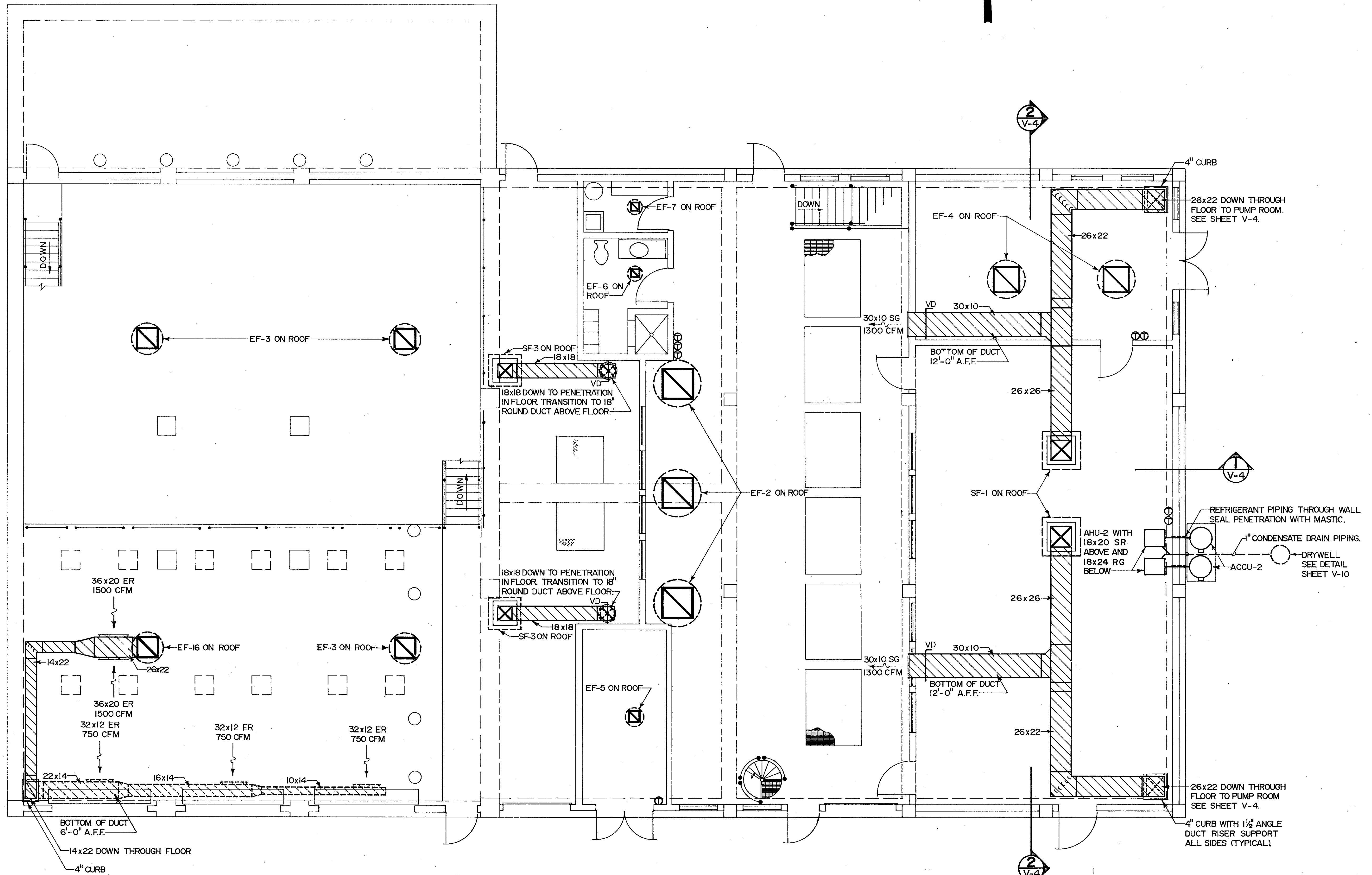


PLAN
1/4" = 1'-0"

DESIGNED BY WCH DPC	CHECKED BY WCH	APPROVED BY [Signature]	DATE	MARCH 1988
			DATE	MARCH 1988
REV NO	DATE	DRWN	CHKD	REMARKS
4/88	SAF			CONFORMED DWG.
CAMP DRESSER & MCKEE INC. <small>environmental engineers, scientists, planners, & management consultants</small> CDM				
EXISTING INFLUENT PUMP STATION SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION ORANGE COUNTY, FLORIDA				
PROJECT NO			6059-SL3R	
SHEET NO			V-2	



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



PLAN

3/16" = 1'-0"

DESIGNED BY DPC	DATE 4/88	DRWN SAF	CHKD	REMARKS
DRAWN BY WCH				CONFORMED DWG.
CHECKED BY CJB				
APPROVED BY DATE MARCH 1988				

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION
INFLUENT PUMP STATION-UPPER LEVEL
 ORANGE COUNTY, FLORIDA

PROJECT NO.
6059-SL3R

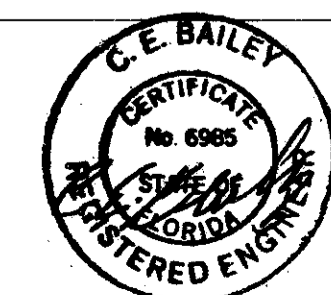
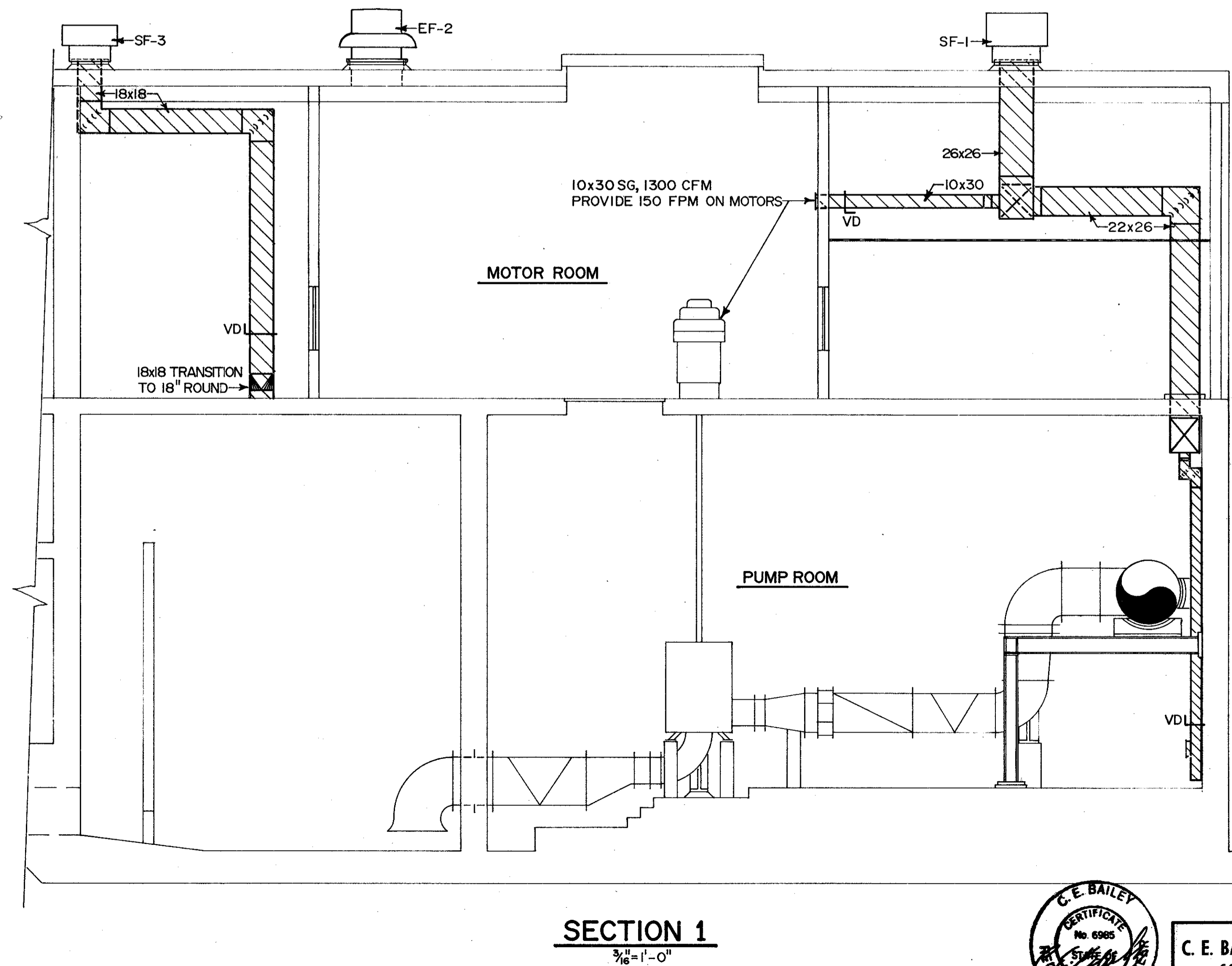
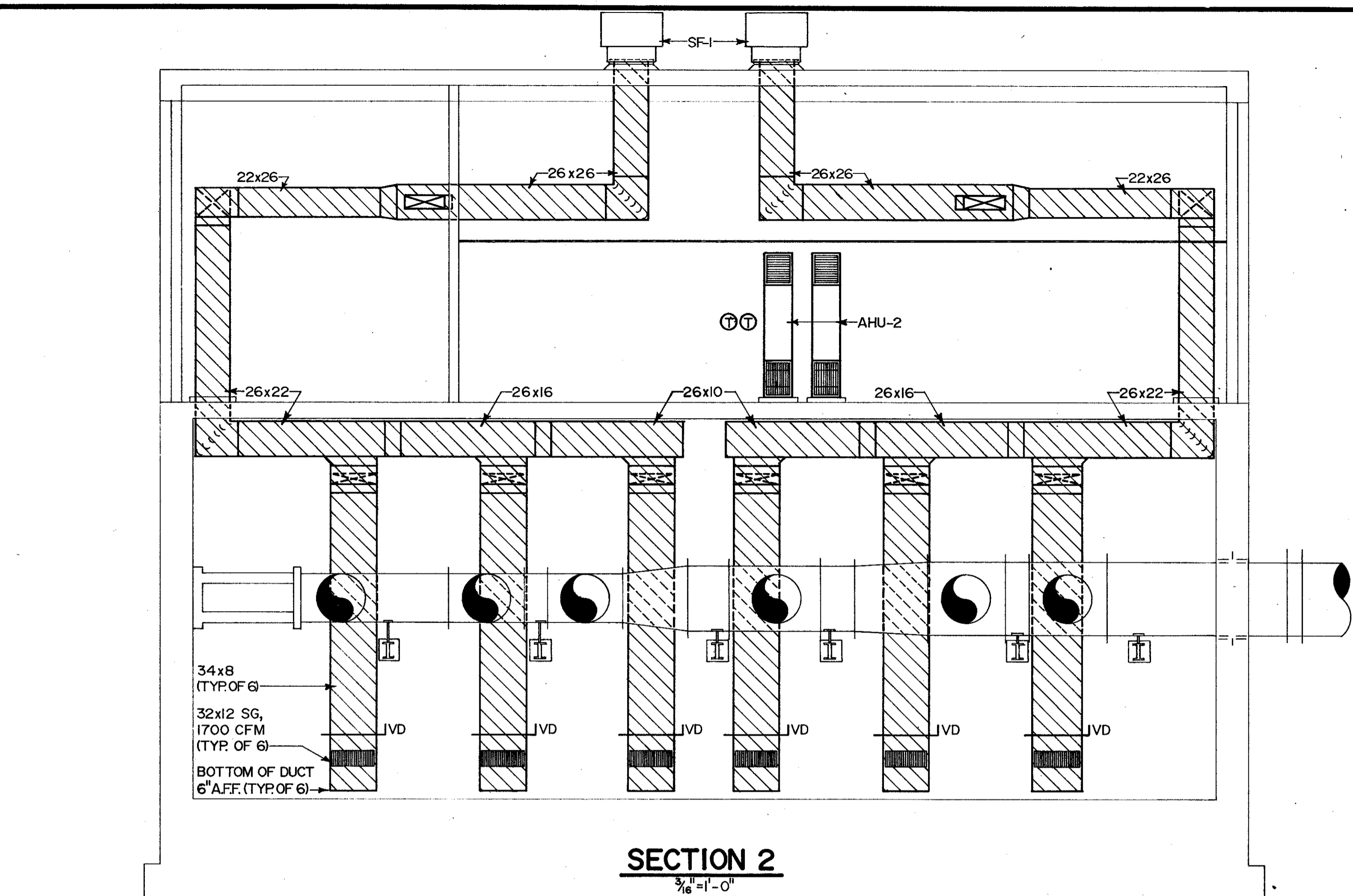
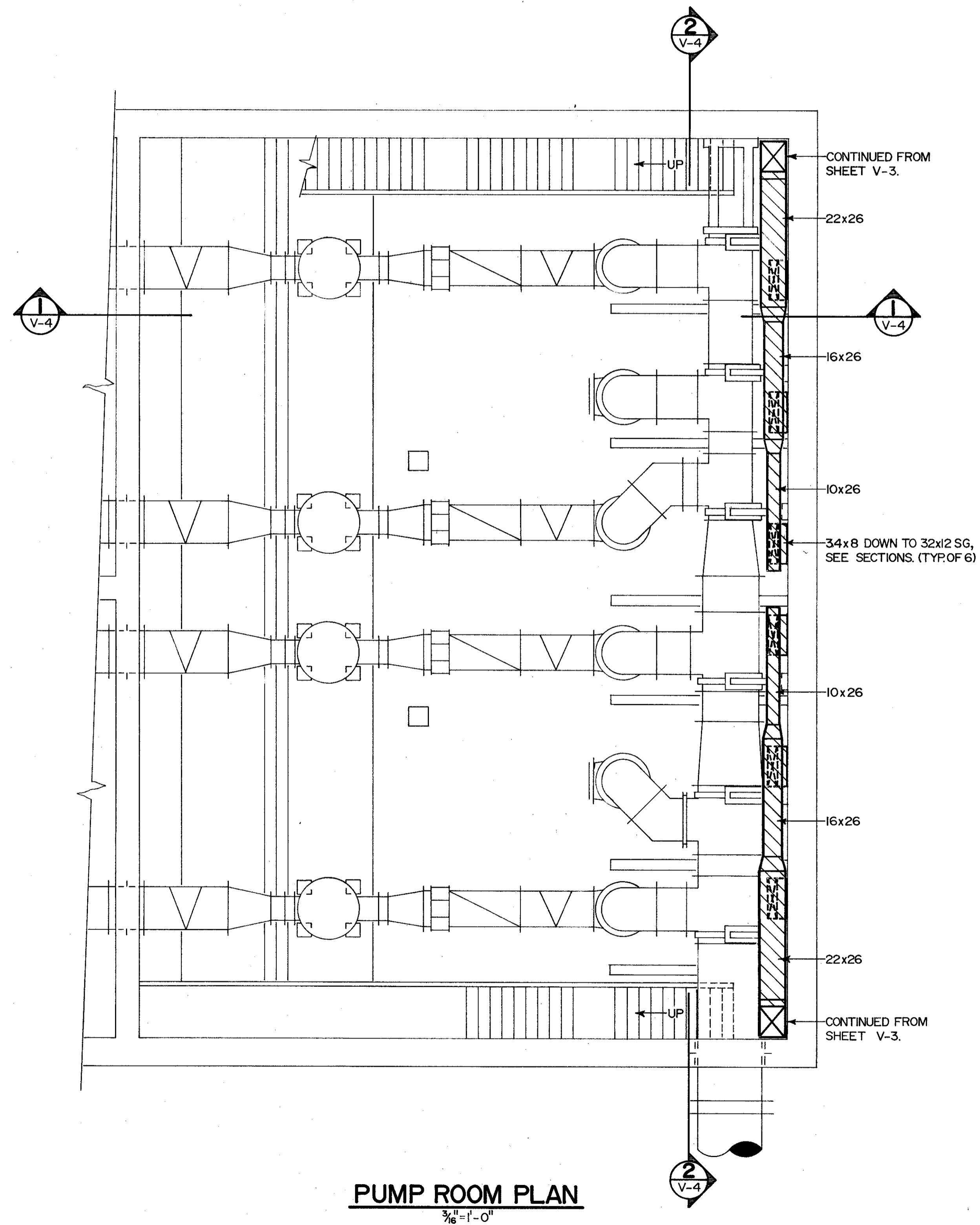
SHEET NO.
V-3



C. E. BAILEY & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 ORLANDO, FLORIDA

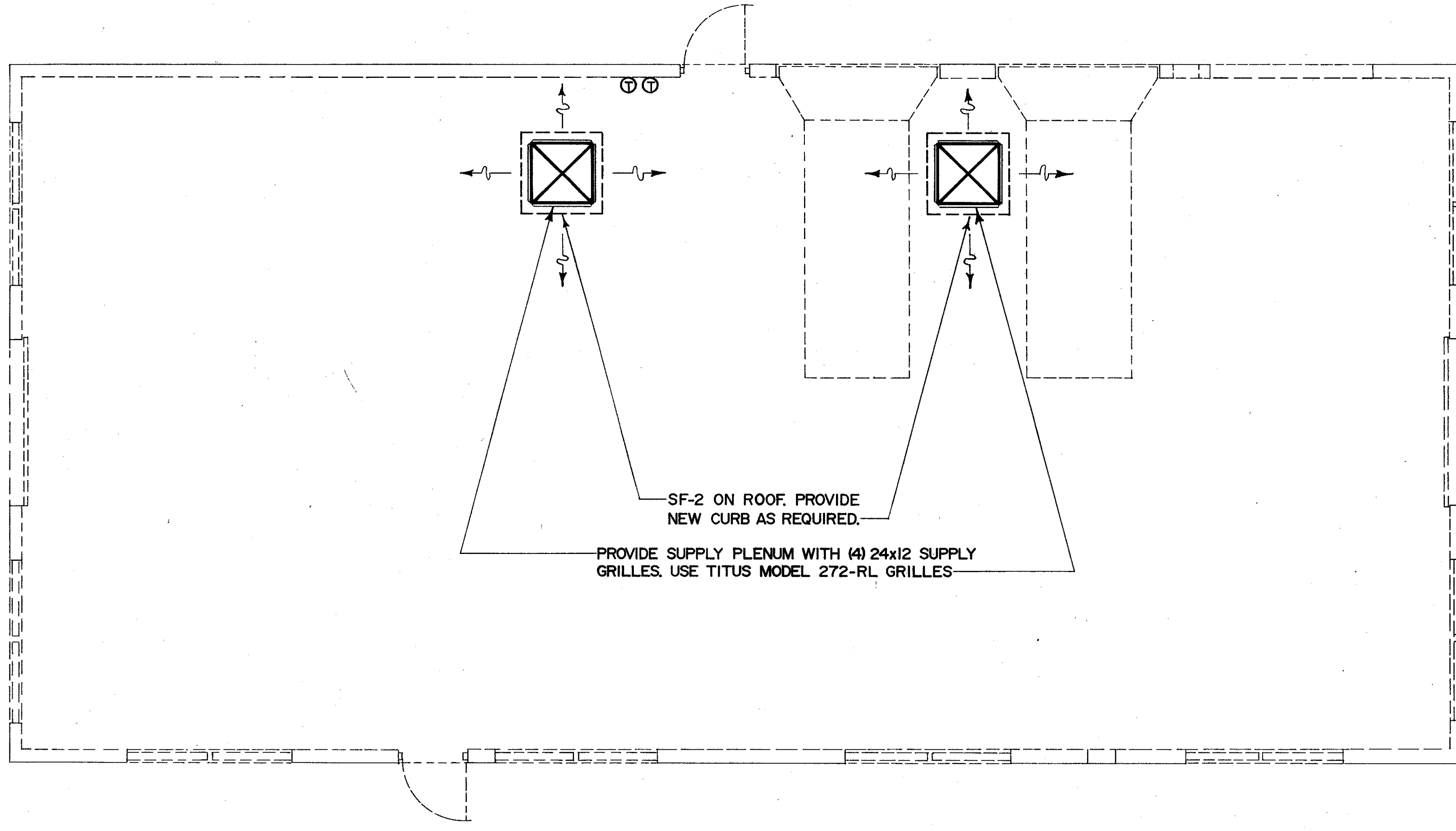
CDM
 CONSULTING DESIGNERS
 PARTNERS & MANAGEMENT CONSULTANTS

CAMP DRESSER & MCKEE INC.



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

DESIGNED BY	DPC	DATE	4/88	REV NO		REMARKS
DRAWN BY	DPC	DRWN	SAF	CHKD		
CHECKED BY	WCH	DATE	MARCH 1988			
APPROVED BY	CEZ					
CONFORMED DWG.						
CDM environmental engineers, scientists, planners & management consultants						
CAMP DRESSER & MCKEE INC.						
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION						
INFLUENT PUMP STATION-SECTIONS AND PUMP ROOM						
ORANGE COUNTY, FLORIDA						
PROJECT NO	6059-SL3R					
SHEET NO	V-4					



SF-2 ON ROOF. PROVIDE
NEW CURB AS REQUIRED.

PROVIDE SUPPLY PLENUM WITH (4) 24x12 SUPPLY
GRILLES. USE TITUS MODEL 272-RL GRILLES.

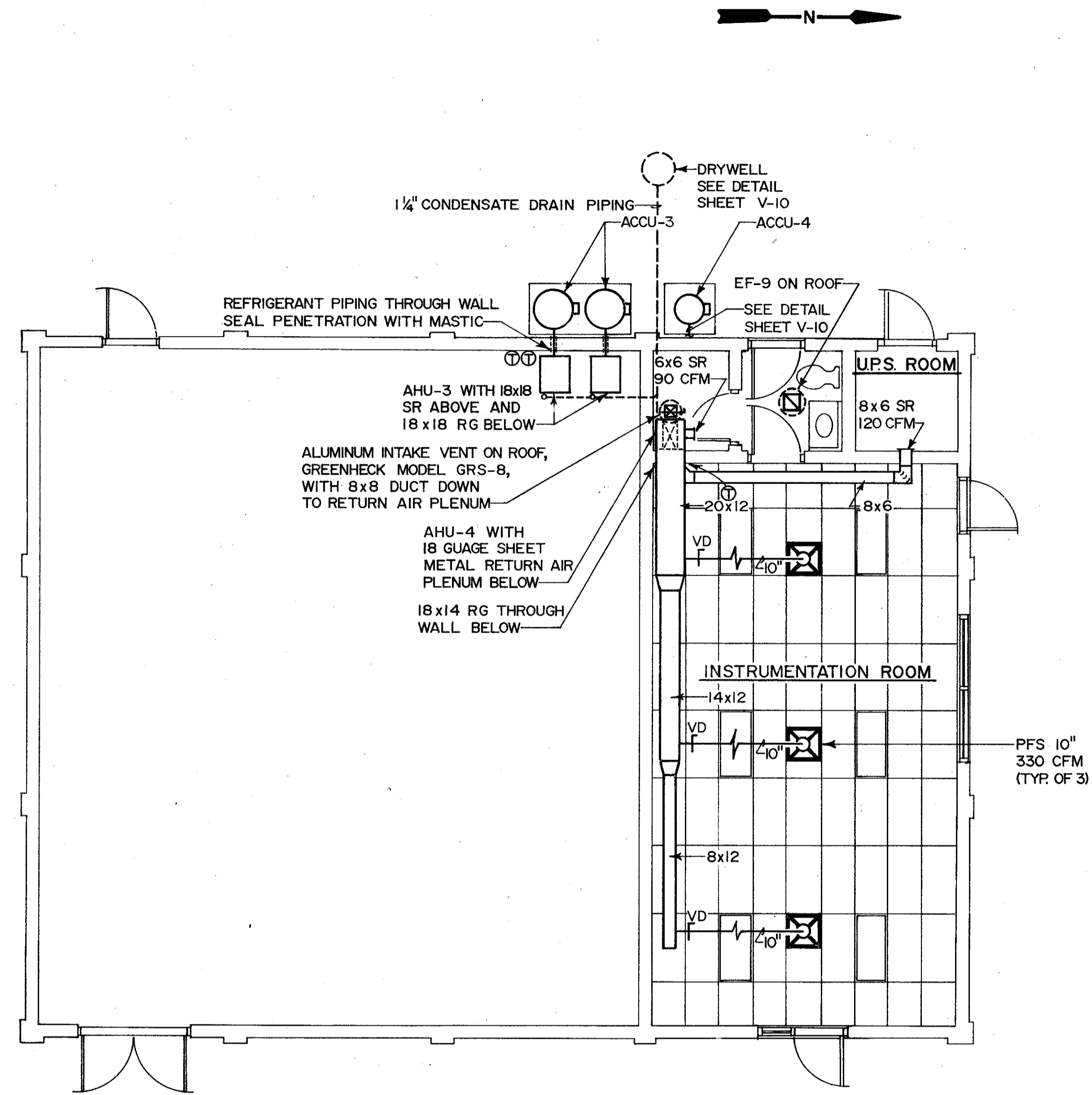
PLAN
1/4" = 1'-0"



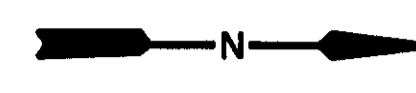
DESIGNED BY WCH DRAWN BY DPC CHECKED BY WCH APPROVED BY [Signature] DATE MARCH 1988	DATE	DRWN	CHKD	REMARKS
	4/88	SAF		CONFORMED DWG.
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION		PROJECT NO. 6059-SL3R		
EXISTING ELECTRICAL BUILDING		SHEET NO. V-5		
CAMP DRESSER & MCKEE INC.		ORANGE COUNTY, FLORIDA		
environmental engineers, scientists, planners & management consultants		CDM		



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



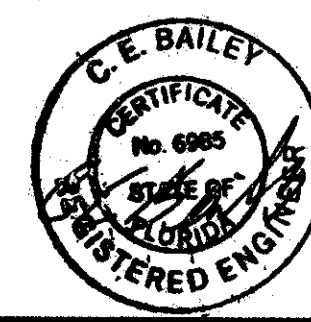
PLAN
3/16"=1'-0"



DESIGNED BY: DPC	DRWN: CHKD	REMARKS
DRAWN BY: WCH	DATE: 4/88	CONFORMED DWG.
CHECKED BY: WCH	DATE: 4/88	
APPROVED BY: [Signature]	DATE: MARCH 1988	

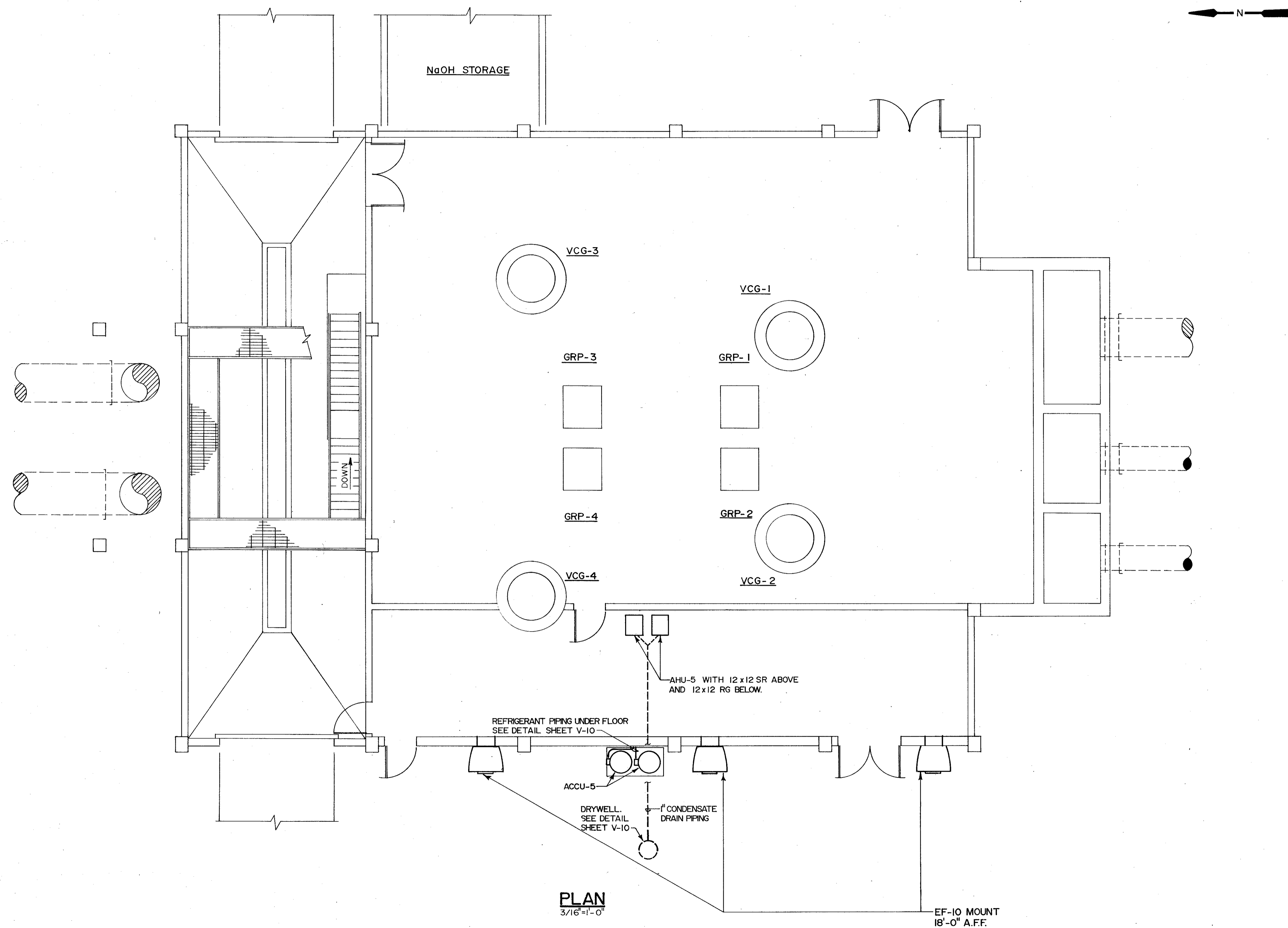
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
PHASE 3 ELECTRICAL BUILDING
ORANGE COUNTY, FLORIDA

PROJECT NO.
6059-SL3R
SHEET NO.
V-6



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA

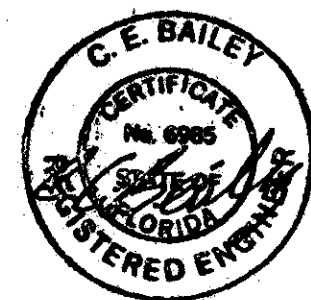
CAMP DRESSER & MCKEE INC.
environmental engineers, scientists,
planners & management consultants
CDM



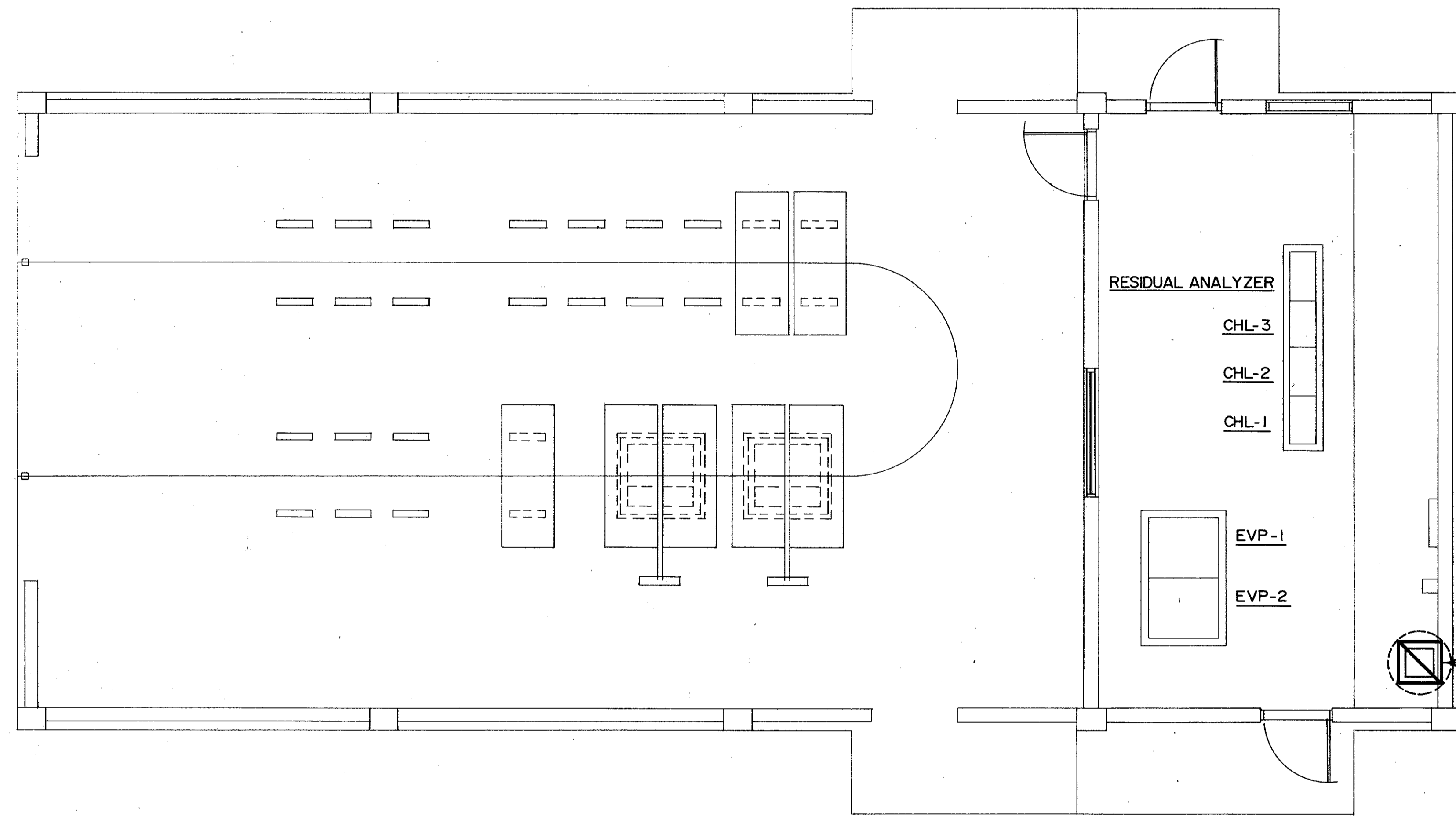
PLAN
3/16"=1'-0"

EF-10 MOUNT
18'-0" A.F.F.

DESIGNED BY: WCH DRAWN BY: DPC CHECKED BY: WCH APPROVED BY: [Signature]DATE: MARCH 1988	REMARKS CONFORMED DWG.
PROJECT NO. 6059-SL3R	
SHEET NO. V-7	
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION PRELIMINARY TREATMENT ORANGE COUNTY, FLORIDA	
CAMP DRESSER & MCKEE INC. environmental engineers, scientists planners & management consultants CDM	



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



PLAN
1/4" = 1'-0"

EF-11 ON ROOF WITH 16x16
FRP DUCT DOWN TO
6" ABOVE BOTTOM OF TRENCH.

REV. NO.	DATE	DRWN	CHKD	REMARKS
4/88	4/88	SAF		CONFORMED DWG.

DESIGNED BY: WCH
DRAWN BY: DPC
CHECKED BY: WCH
APPROVED BY: [Signature]
DATE: MARCH 1988

CAMP DRESSER & MCKEE INC.
Environmental Engineers, Scientists,
Planners & Management Consultants
CDM

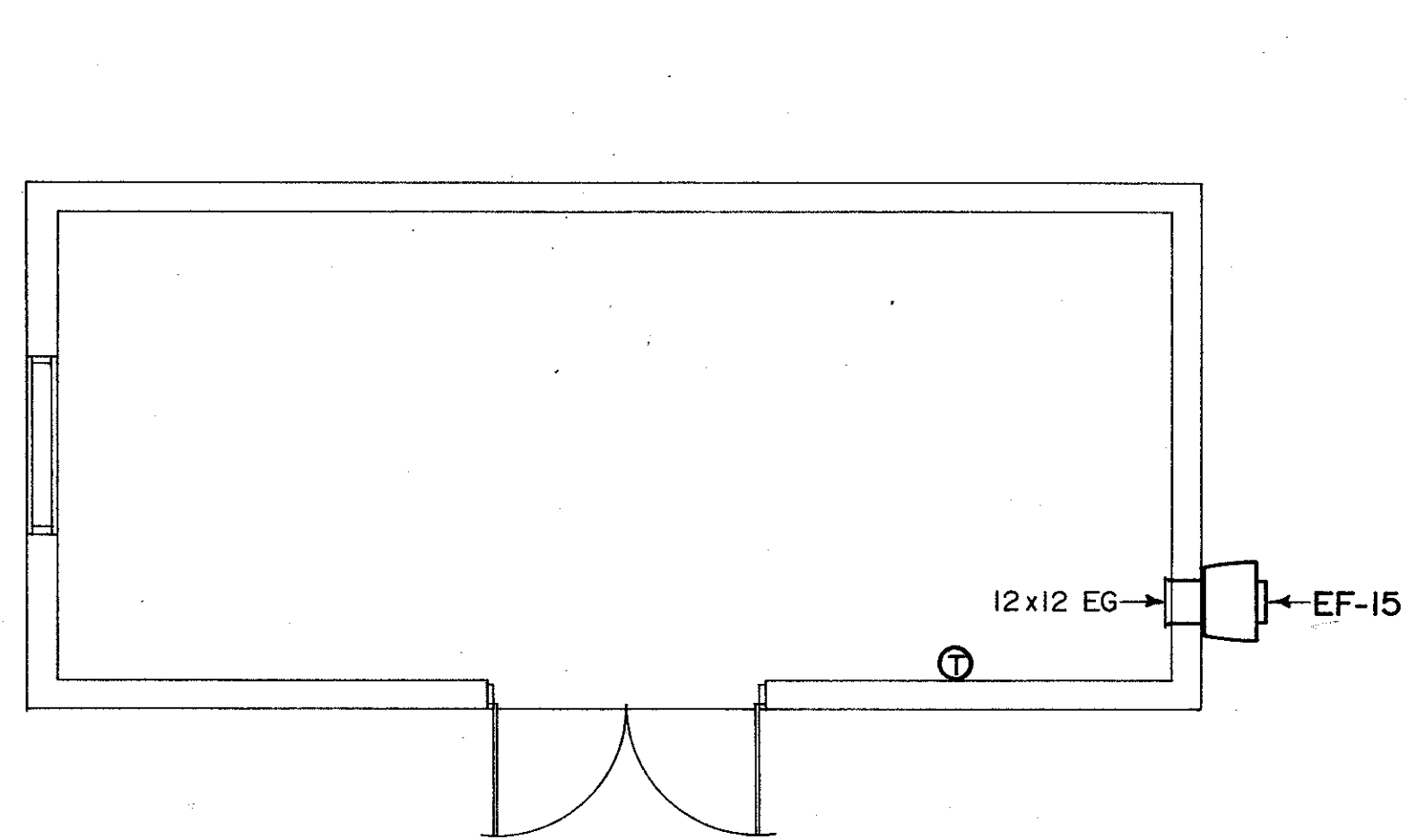
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
CHLORINE BUILDING
ORANGE COUNTY, FLORIDA

PROJECT NO.
6059-SL3R

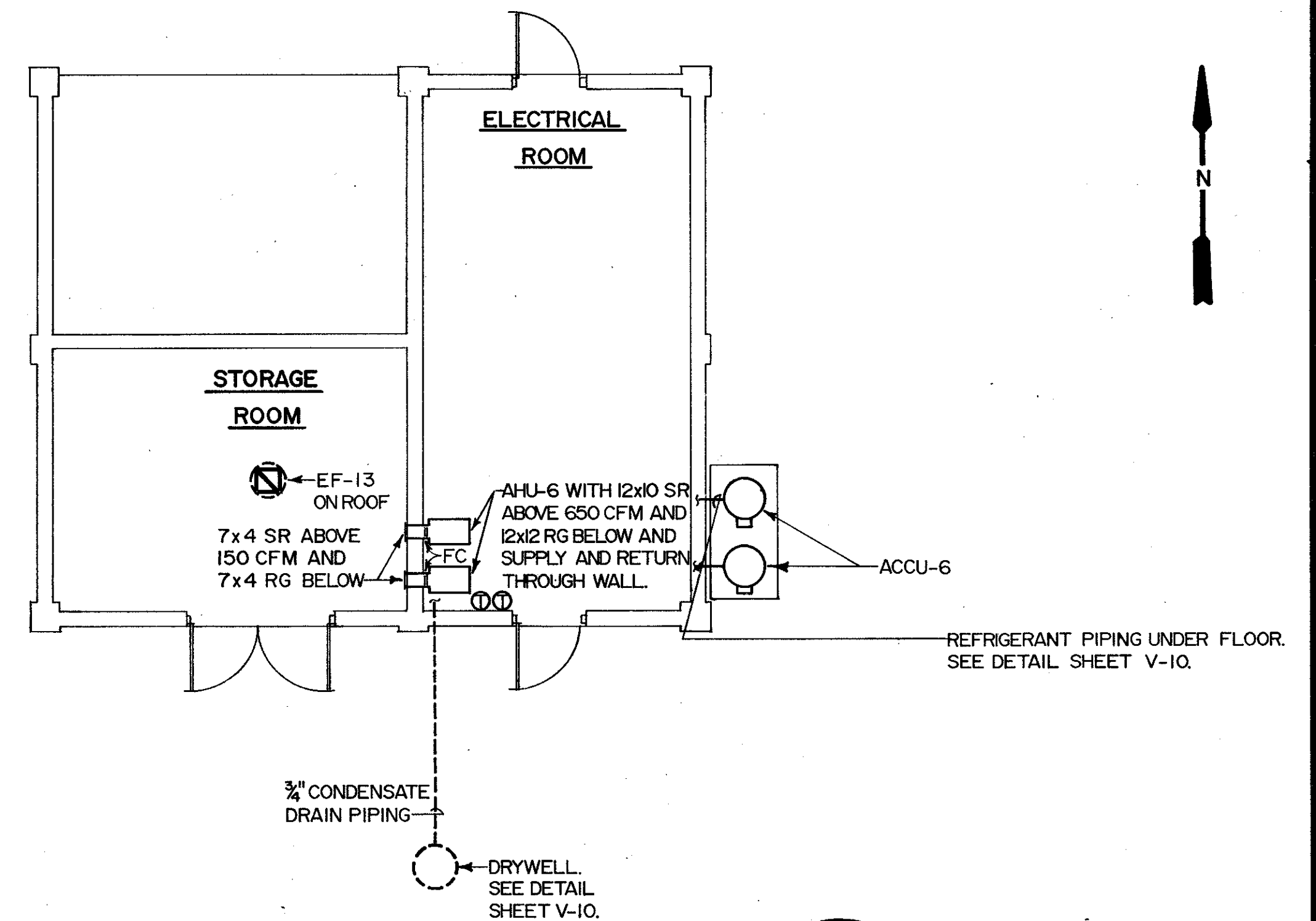
SHEET NO.
V-8



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



CLARIFIER ELECTRICAL ROOM
1/4"=1'-0"



SOUTHWEST ELECTRICAL BUILDING
3/16"=1'-0"

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION

MISCELLANEOUS STRUCTURES

ORANGE COUNTY, FLORIDA

CAMP DRESSER & MCKEE INC.

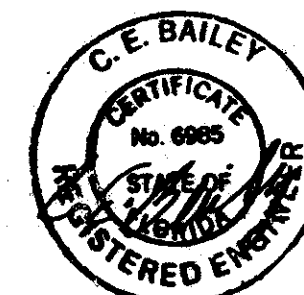
CDM
Environmental Engineers, Scientists,
Planners & Management Consultants

DESIGNED BY DPC
DRAWN BY WCH
CHECKED BY WCH
APPROVED BY C.E.
DATE MARCH 1988

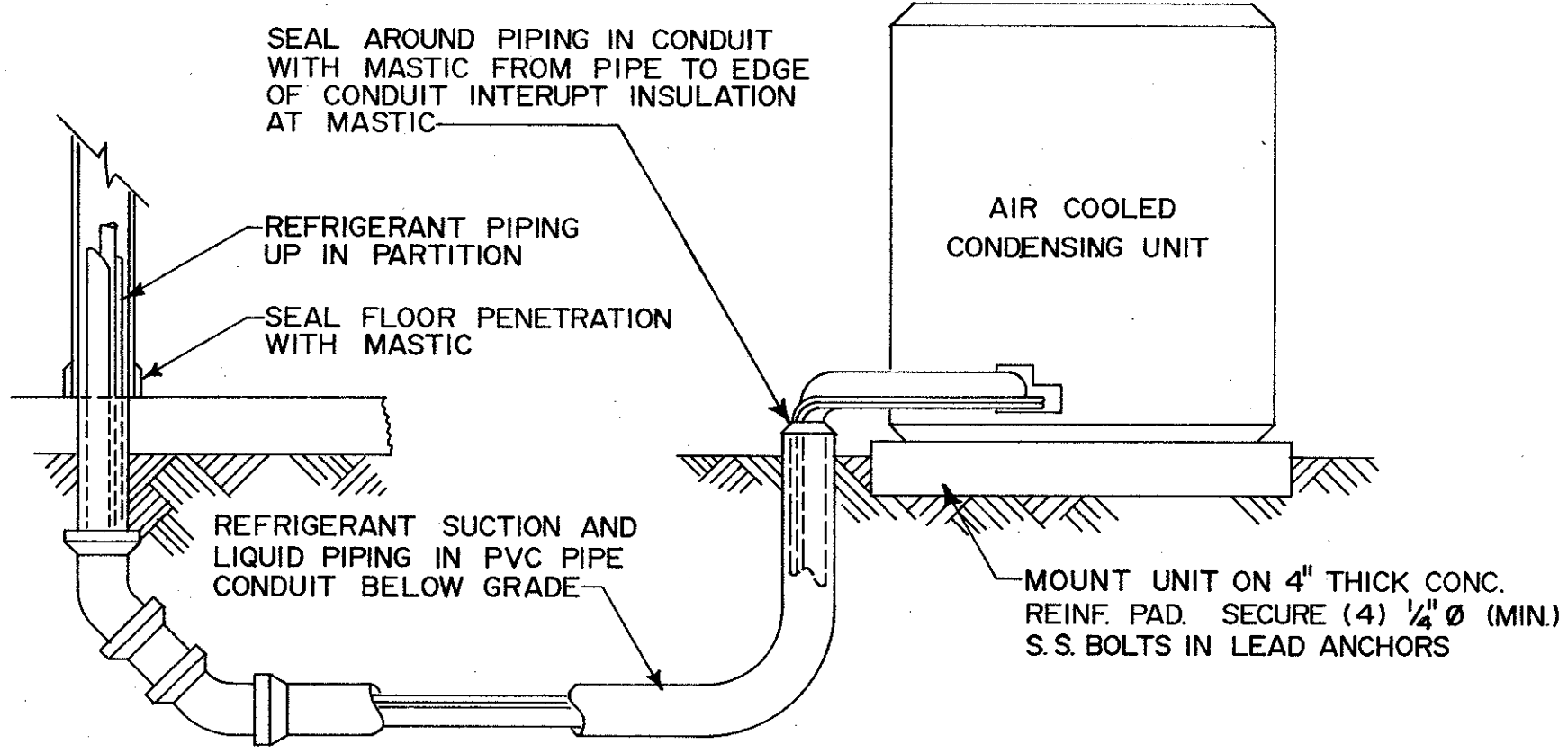
REV	DATE	DRWN	CHKD	REMARKS
4/88	4/88	SAF		CONFORMED DWG.

PROJECT NO.
6059-SL3R

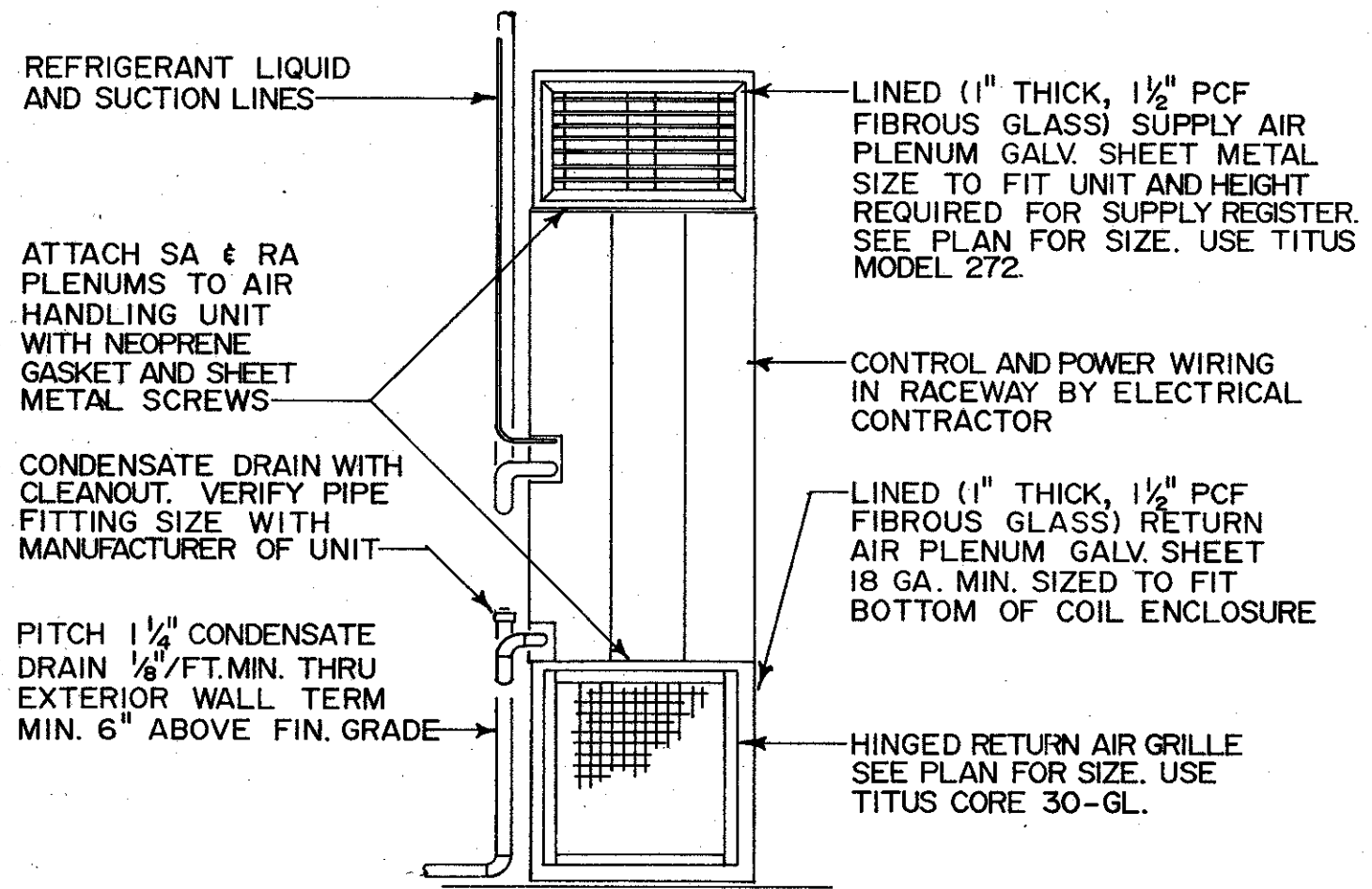
SHEET NO.
V-9



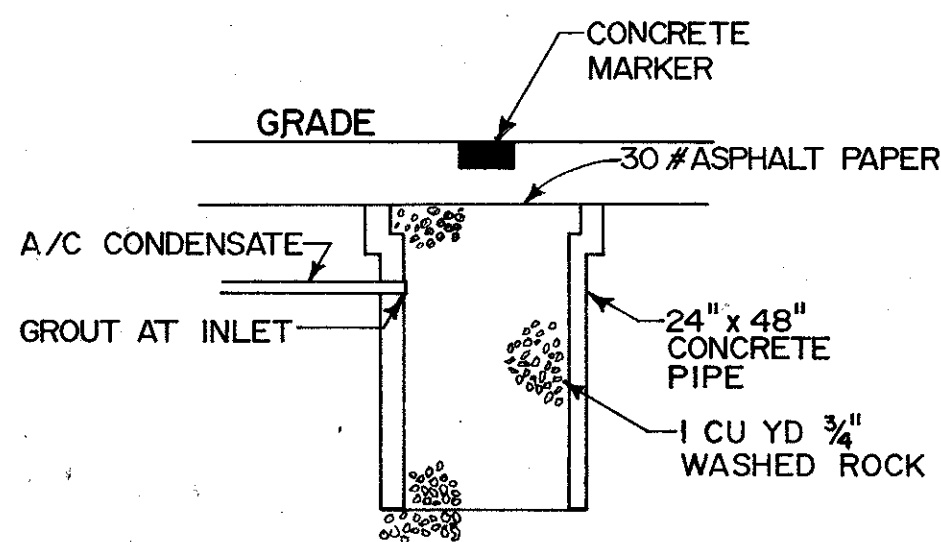
C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



BELOW GRADE REFRIGERANT PIPING DETAIL



EXPOSED FAN COIL UNIT



DRYWELL DETAIL

FIXTURE SCHEDULE	
SYMBOL	DESCRIPTION
	ALUMINUM DUCTWORK, PER SMACNA
	FIBERGLASS DUCTWORK, 475 EI PER SMACNA
	FLEXIBLE, INSULATED DUCT
	24x24 PERFORATED CEILING DIFFUSER WITH 10" NECK, TITUS MODEL PFS
SR	SUPPLY REGISTER, TITUS MODEL 272-RS5
SG	ALUMINUM SUPPLY GRILLE, TITUS MODEL 272-FS
ER	ALUMINUM EXHAUST REGISTER, TITUS CORE 4-FL5
RG	RETURN GRILLE, TITUS CORE 30-GL
EG	EXHAUST GRILLE, TITUS CORE 50-F
VJD	VOLUME DAMPER

AIR COOLED SPLIT SYSTEM SCHEDULE

ITEM N ^o	N ^o REQ'D	AREA SERVED	MATCH WITH	SYSTEM CAPACITY		CONDENSER						COMPRESSOR				CARRIER MODEL N ^o			
				MBH	SAT SUCTION	TYPE	SQ. FT. FACE	CFM	ROWS	FLA	VOLT	PHASE	TYPE	N ^o	REFRIG.		RLA	VOLT	PHASE
ACCU-1	2	EXIST. INF. PMPG. STA.	AHU-1	22.7	40°	E COIL	7.32	1950	1	1.4	208	1	HERMETIC	1	22	13.0	208	1	38EN024
ACCU-2	2	INF. PMPG. STA.	AHU-2	58.0	40°	E COIL	19.75	4800	1	1.3	460	1	HERMETIC	1	22	10.4	460	3	38EN060
ACCU-3	2	PHASE 3 ELECT. BLDG.	AHU-3	49.7	40°	E COIL	15.58	4800	1	1.3	460	1	HERMETIC	1	22	8.8	460	3	38EN048
ACCU-4	1	ELECT. BLDG. CONT. RM.	AHU-4	34.9	40°	E COIL	11.29	2800	1	1.1	460	1	HERMETIC	1	22	6.1	460	3	38EN036
ACCU-5	2	PRELIM. TREAT. BLDG.	AHU-5	22.7	40°	E COIL	7.32	1950	1	1.4	208	1	HERMETIC	1	22	13.0	208	1	38EN024
ACCU-6	2	S.W. ELECTRICAL ROOM	AHU-6	22.7	40°	E COIL	7.32	1950	1	1.4	208	1	HERMETIC	1	22	13.0	208	1	38EN024

AIR HANDLING UNIT SCHEDULE

ITEM N ^o	N ^o REQ'D	AREA SERVED	SHEET N ^o	COIL DATA					FAN DATA					FILTERS		ELECTRIC HEAT			CARRIER MODEL N ^o			
				ENTERING AIR DB °F	LEAVING AIR DB °F	WB °F	TOTAL MBH	SENSIBLE MBH	CIRCUIT	CFM	QSA CFM	ESP	H.P.	DRIVE	VOLT PHASE	TYPE	SIZE N ^o	STAGES		KW	VOLT PHASE	
AHU-1	2	EXIST. INF. PMPG. STA.	V-2	80	67	-	24	-	DX	800	-	.100'	1/4	DIRECT	208 10	PERM.	1" THICK	-	-	-	-	40AQ024
AHU-2	2	INF. PMPG. STA.	V-3	80	67	-	60	-	DX	2000	-	.100'	3/4	DIRECT	208 10	PERM.	1" THICK	-	-	-	-	40QB060
AHU-3	2	PHASE 3 ELECT. BLDG.	V-6	80	67	-	48	-	DX	1600	-	.100'	1/2	DIRECT	208 10	PERM.	1" THICK	-	-	-	-	40QB048
AHU-4	1	ELECT. BLDG. CONT. RM.	V-6	77	66.5	-	36	-	DX	1200	120	.250'	1/2	DIRECT	208 10	PERM.	1" THICK	1	7.5	208 10	-	40AQ036
AHU-5	2	PRELIM. TREAT. BLDG.	V-7	80	67	-	24	-	DX	800	-	.100'	1/4	DIRECT	208 10	PERM.	1" THICK	-	-	-	-	40AQ024
AHU-6	2	S.W. ELECTRICAL ROOM	V-9	80	67	-	24	-	DX	800	-	.125"	1/4	DIRECT	208 10	PERM.	1" THICK	-	-	-	-	40AQ024

EXHAUST FAN SCHEDULE

ITEM N ^o	N ^o REQ'D	AREA SERVED	SHEET N ^o	CFM	S.P.	TYPE			H.P.	VOLT PHASE	FAN RPM	MAX. SOUND VALUE	GREENHECK MODEL N ^o	REMARKS
						SET	WHEEL	DRIVE						
EF-1	3	EXIST. INF. PMPG. STA.	V-2	5700	.125"	ROOF	CENT.	BELT	3/4	460 30	654	12.2	GB-24-7	BDD, BS, DS, FC
EF-2	3	INF. PMPG. STA. MTR. RM.	V-3	13,500	.125"	ROOF	CENT.	BELT	3	460 30	520	19.0	GB-36-30	BDD, BS, DS, FC
EF-3	3	INF. PMP. ST. SCREEN RM.	V-3	5250	.125"	ROOF	CENT.	BELT	3/4	460 30	600	10.9	GB-24-7	BDD, BS, DS, FC
EF-4	2	INF. PMPG. STA. XFMR. RM.	V-3	8000	.125"	ROOF	CENT.	BELT	1	460 30	520	12.7	GB-30-10	BDD, BS, DS, FC
EF-5	1	INF. PMPG. STA. STO. RM.	V-3	800	.125"	ROOF	CENT.	BELT	1/4	115 10	1400	9.3	GB-9-4	BDD, BS, DS, FC
EF-6	1	INF. PMPG. STA. LAVATORY	V-3	260	.100"	ROOF	CENT.	DIRECT	1/30	115 10	1300	3.4	G-70-G	BDD, BS, DS, FC
EF-7	1	INF. PMPG. STA. JAN. CL.	V-3	190	.100"	ROOF	CENT.	DIRECT	1/30	115 10	1300	3.0	G-65-G	BDD, BS, DS, FC
EF-8														
EF-9	1	ELEC. BLDG. TOILET RM.	V-6	90	.100"	ROOF	CENT.	DIRECT	1/60	115 10	1050	1.7	G-60-E	BDD, BS, DS, FC
EF-10	3	PRELIM. TREAT. BLDG.	V-7	5000	.125"	WALL	CENT.	BELT	3/4	460 30	600	11.5	GWB-24-7	BDD, BS, DS
EF-11	1	CHLORINE BUILDING	V-8	1960	.125"	ROOF	CENT.	DIRECT	1/4	115 10	1140	11.4	CUE-14-B	BDD, BS, DS, EC, FC
EF-12														
EF-13	1	S. W. ELECT. STO. RM.	V-9	360	.100"	ROOF	CENT.	DIRECT	1/20	115 10	1300	5.4	G-80-G	BDD, BS, DS, FC
EF-14														
EF-15	1	CLARIFIER ELECT. RM.	V-9	790	.100"	WALL	CENT.	DIRECT	1/6	115 10	1300	6.9	GW-95-G	BS, DS
EF-16	1	INF. PMP. ST. SCREEN RM.	V-3	5250	.250"	ROOF	CENT.	BELT	3/4	460 30	635	11.2	GB-24-7	BDD, BS, DS, FC

- BDD = BACK DRAFT DAMPER
BS = BIRD SCREEN
DS = DISCONNECT SWITCH
FC = FACTORY ROOF CURB
AH = ALUMINUM HOUSING
EC = EPOXY COATED
- NOTES:**
1. REMOVE EXISTING 12KW DUCT HEATER IN AHU-1 AT THE CONTROL BUILDING. REPLACE WITH 20KW 480V, 3Ø 2-STAGE HEATER WITH THE FOLLOWING:
1. MAGNETIC CONTACTORS WITH FUSES
2. AIR FLOW SWITCH, FAN RELAY
3. OPEN COIL 80% NICKEL, 20% CHROMIUM
4. NEMA 1 TERMINAL BOX
PROVIDE ADDITIONAL RELAY PACK AND THERMOSTATS FOR CARRIER VVT CONTROLS TO ACCOMPLISH 2-STAGE HEATING.

SUPPLY FAN SCHEDULE

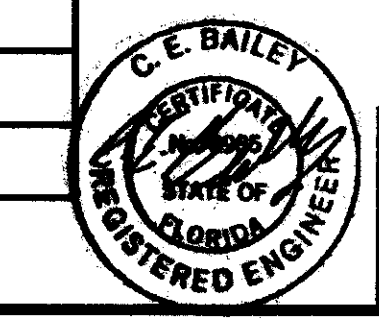
ITEM N ^o	N ^o REQ'D	AREA SERVED	SHEET N ^o	CFM	S.P.	TYPE			H.P.	VOLT PHASE	FAN RPM	FILTER N ^o SIZE	GREENHECK MODEL N ^o	REMARKS
						SET	WHEEL	DRIVE						
SF-1	2	INF. PMPG. STA. PMP. RM.	V-3	6400	.500"	ROOF	CENT.	BELT	3	460 30	700	4 20x25	RSF-18	AH, BS, DS, FC
SF-2	2	WEST ELECTRIC BLDG.	V-5	6000	.250"	ROOF	CENT.	BELT	2	460 30	600	4 20x25	RSF-18	AH, BS, DS, FC
SF-3	2	INF. PMP. ST. WET WELL	V-3	2200	.500"	ROOF	CENT.	BELT	1/2	460 30	665	4 16x25	RSF-12	AH, BS, DS, FC

REMARKS
CONFORMED DWG.
REV NO. DATE
4/88 SAF
DESIGNED BY: DPC
DRAWN BY: WCH
CHECKED BY: WCH
APPROVED BY: [Signature]
DATE: MARCH 1988

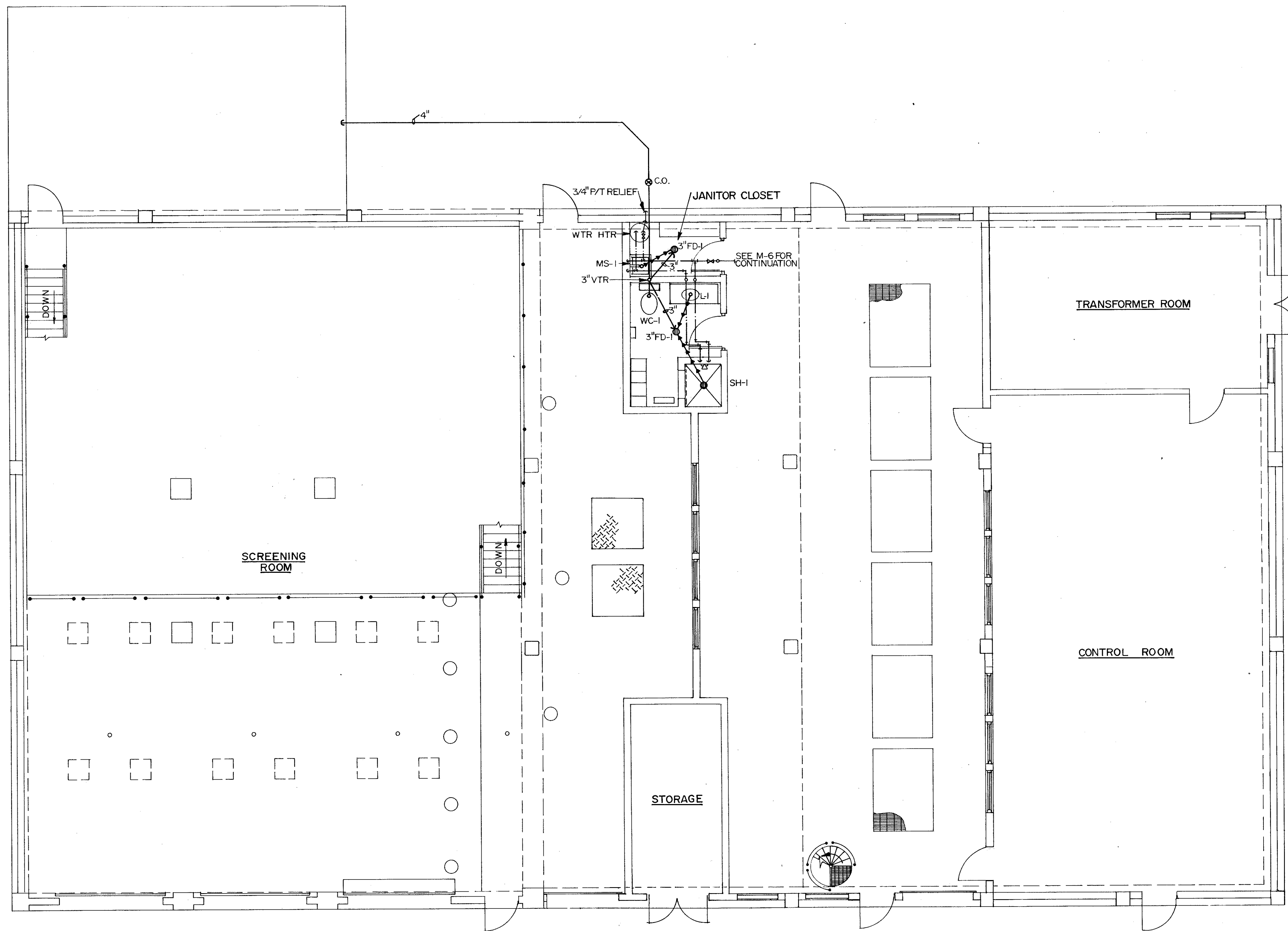
CDM

CAMP DRESSER & MCKEE INC.
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
SCHEDULES AND DETAILS
ORANGE COUNTY, FLORIDA

PROJECT NO. 6059-SL3R
SHEET NO. V-10




C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



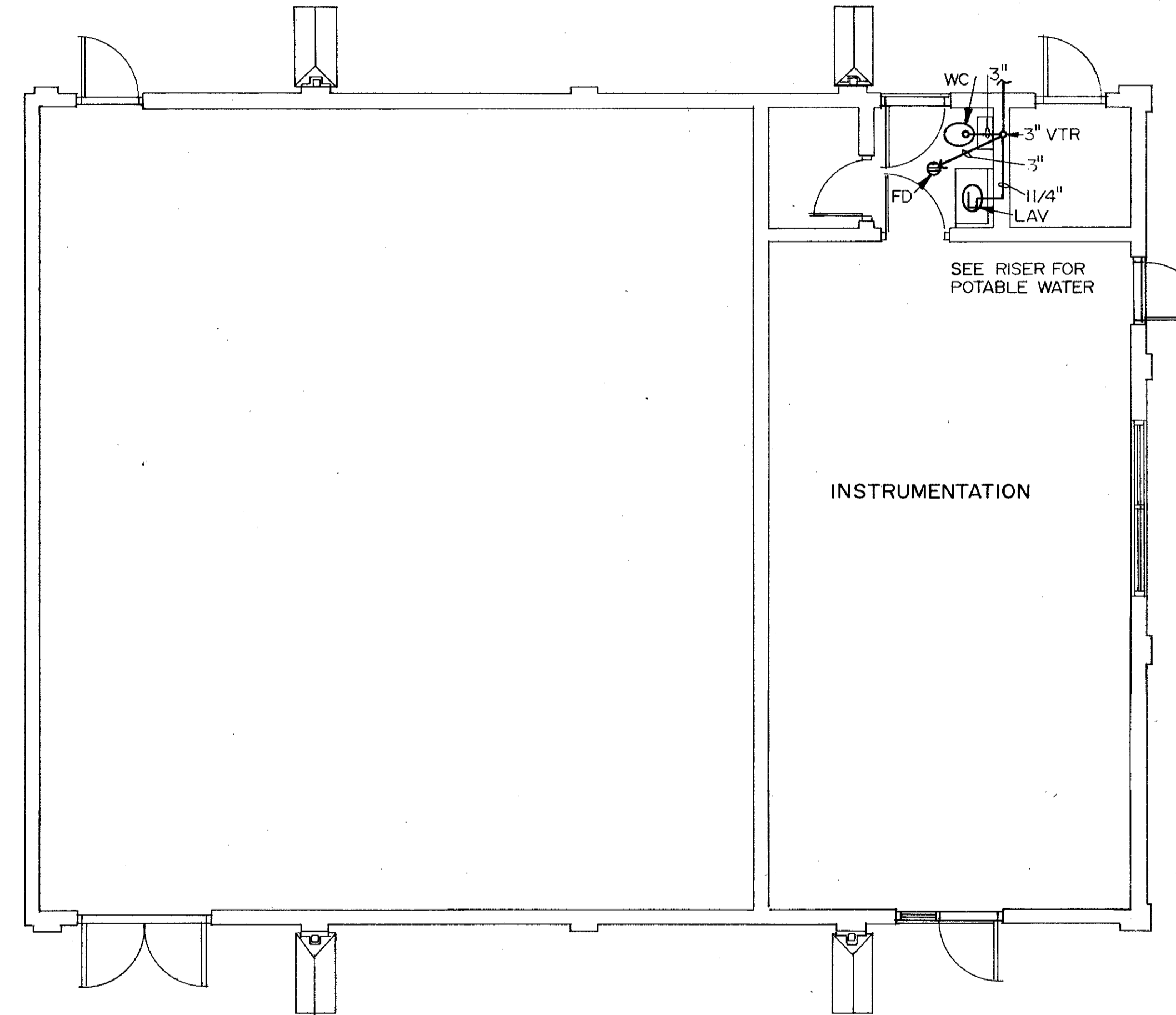
PLAN

3/16" = 1'-0"

DESIGNED BY J.C.H. T.A.C.	DRAWN BY SAF	DATE 4/88	CHKD SAF	REMARKS
				CONFORMED D'WG.
CHECKED BY J.C.H.	APPROVED BY <i>[Signature]</i>	DATE MARCH 1988		
CAMP DRESSER & MCKEE INC.				 <small>consulting engineers, scientists, partners & management consultants</small>
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION INFLUENT PUMP STATION-UPPER LEVEL ORANGE COUNTY, FLORIDA				
PROJECT NO 6059-SL3R				SHEET NO P-1



C. E. BAILEY & ASSOCIATES, INC.
CONSULTING ENGINEERS
ORLANDO, FLORIDA



PLAN
3/16" = 1'-0"

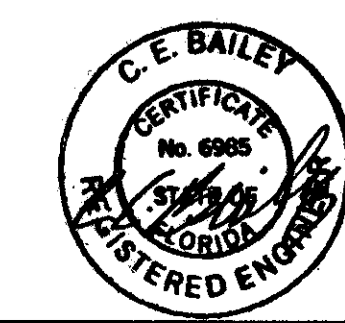
DESIGNED BY JCH	DATE	DRWN/CHKD	REMARKS
DRAWN BY ZAC	4/88	SAF	CONFORMED DWG.
CHECKED BY JCH			
APPROVED BY [Signature]			
DATE MARCH 1988			

CAMP DRESSER & MCKEE INC.
environmental engineers, scientists, planners & management consultants
CDM

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION
PHASE 3 ELECTRICAL BUILDING
 ORANGE COUNTY, FLORIDA

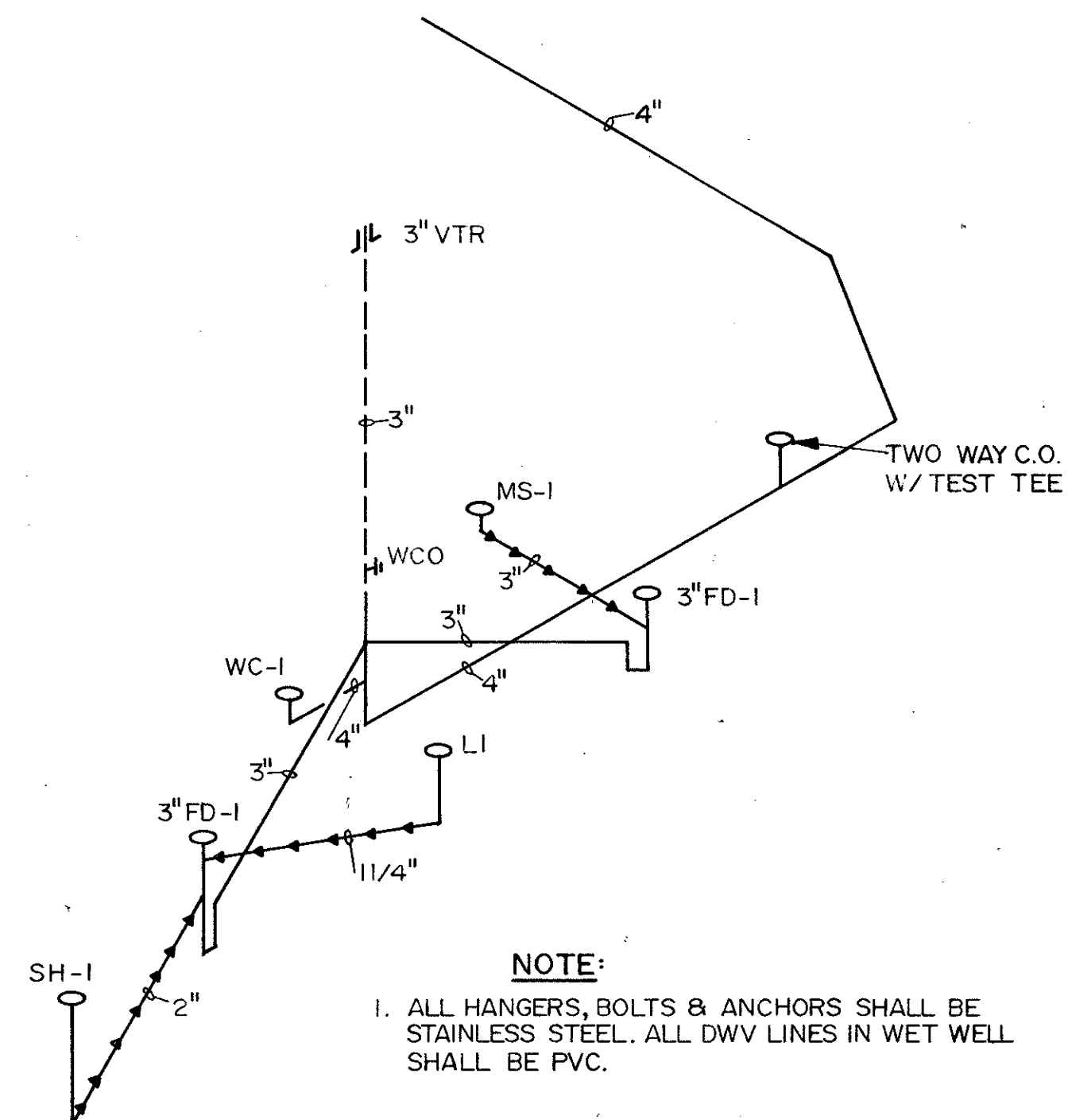
PROJECT NO
6059-SL3R

SHEET NO
P-2

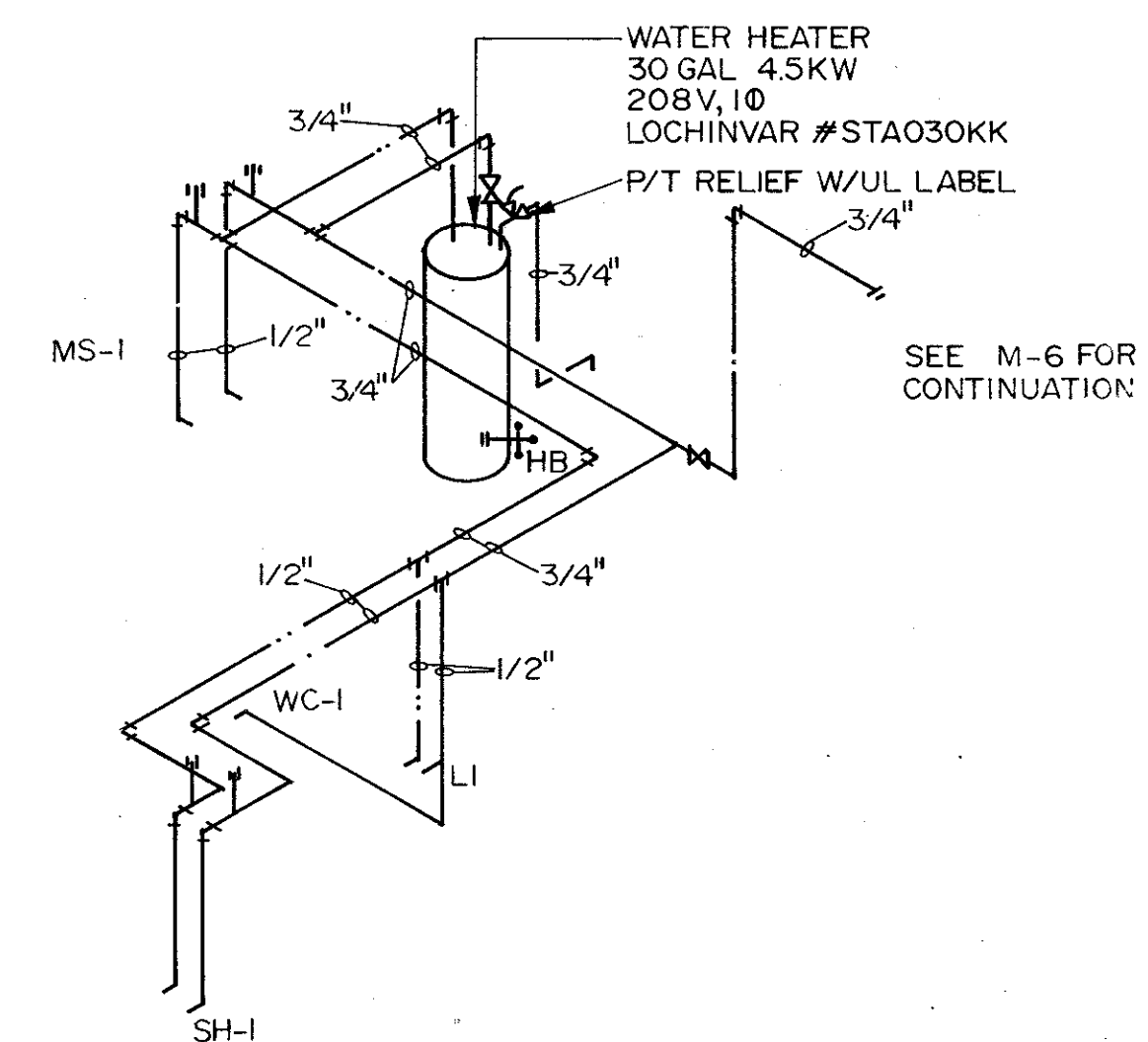


C. E. BAILEY & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 ORLANDO, FLORIDA

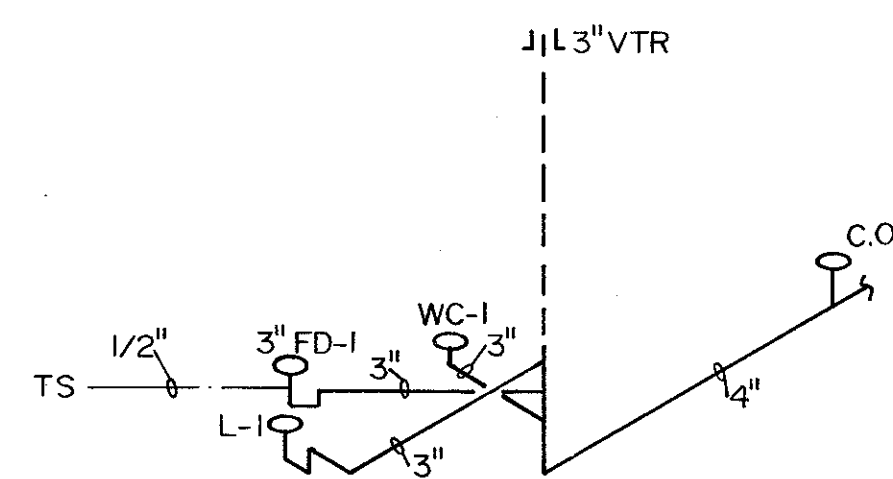
PLUMBING FIXTURE SCHEDULE		
ITEM#	ITEM	DESCRIPTION (AMERICAN STANDARD OR AS NOTED)
WC-1	WATER CLOSET	2109.405 ELOGATED WATER SAVER "CADET" V.C., SIPHON JET OLSONITE WHITE SEAT, 3/8" CP SUPPLY W/STOP, 2 BOLT CAPS
L-1	LAVATORIES	0476.028 "AQUALYN" V.C. 20"X17" SELF-RIMMING 2248.714 FAUCET 3/8" CP SUPPLIES W/STOPS 1 1/4" CP 17 GA "P" TRAP
SS-1	SERVICE SINK	7692.049 "LAKEWELL" 22"X18" W/RIM GUARD 8341.075 FAUCET 3" TRAP STANDARD
FD-1	FLOOR DRAIN	"JOSAM" SERIES 30000-A-50 W/DEEP SEAL TRAP AND PRIMER
HB	HOSE BIBB	"NIBCO" PUR-TECTOR MODEL 763VB HOSE BIBB W/BUILT-IN BACKFLOW PREVENTOR
EWC-1	ELEC. WATER COOLER	ELKAY-EWA 8 WALL MOUNTED, ALL STAINLESS STEEL, 3/8" CP SUPPLY W/STOP, 1 1/4" 17 GA. CP P-TRAP
SH-1	SHOWER	"SYMMONS" I-BOIS SAFETY MIX UNIT, INTEGRAL 2-1/2 GPM FLOW AND VOLUME CONTROL, 4-131 SHOWER & SOAP DISH, JOSAM 3000A DRAIN (2")



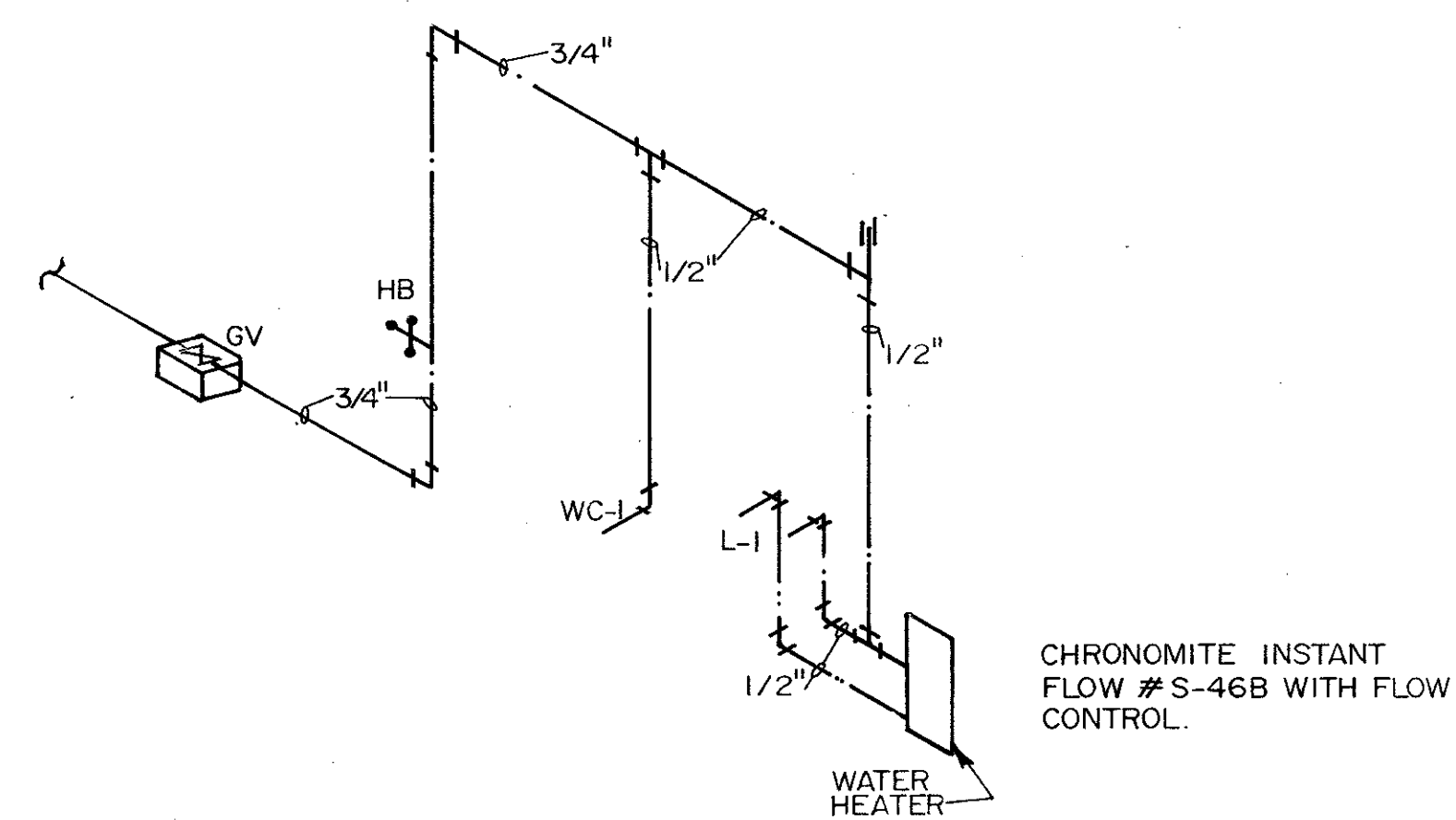
INFLUENT P.S. SANITARY RISER



INFLUENT P.S. POTABLE WATER RISER

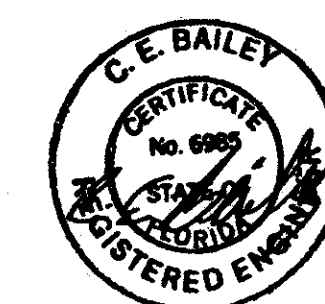


PH.3 ELEC. BLDG. SANITARY RISER



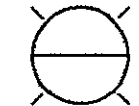







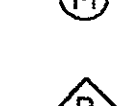







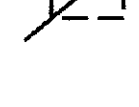






PH.3 ELEC. BLDG. POTABLE WATER RISER


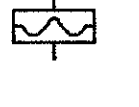



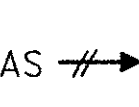
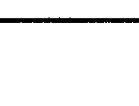
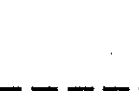
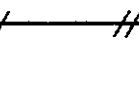
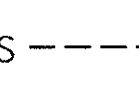


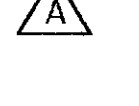

REMARKS	CONFORMED DWG.
REV NO	DATE
4/88	SAF
DESIGNED BY LKH	DATE
DRAWN BY JAC	MARCH 1988
CHECKED BY JAC	
APPROVED BY C.E.B.	
CDM Environmental Engineers, Scientists, Planners, & Management Consultants	
CAMP DRESSER & MCKEE INC.	
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION RISERS AND DETAILS ORANGE COUNTY, FLORIDA	
PROJECT NO.	6059-SL3R
SHEET NO.	P-3



C. E. BAILEY & ASSOCIATES, INC.
 CONSULTING ENGINEERS
 ORLANDO, FLORIDA

SYMBOLS

-  STATUS LIGHT
-  PROVIDED UNDER ANOTHER DIVISION OR EXISTING
-  LOCALLY MOUNTED
-  PANEL MOUNTED
-  REAR OF PANEL MOUNTED
-  ONE DEVICE WITH TWO OR MORE FUNCTIONS
-  MAGNETIC FLOWMETER
-  INTERLOCK (HARDWIRED)
-  MOTOR OR MCC
-  BUBBLER SYSTEM
-  CHECK VALVE
-  PINCH VALVE
-  CENTRIFUGAL PUMP
-  DIAPHRAGM METERING PUMP
-  PROGRESSIVE CAVITY PUMP
-  VARIABLE SPEED DRIVE
-  WEIR
-  ITEM IS VARIABLE OR ADJUSTABLE
-  DOPPLER FLOWMETER SYSTEM
-  ORIFICE PLATE
-  VENTURI FLOW TUBE
-  CHEMICAL INJECTION POINT
-  BUTTERFLY VALVE

-  BLOWER
-  CHEMICAL SEAL
-  PLUG VALVE
-  BALL VALVE
-  TIME DELAY RELAY
-  AIR SUPPLY
-  MAJOR PROCESS LINE
-  MINOR PROCESS FLOW
-  ELECTRICAL SIGNAL
-  PNEUMATIC LINE
-  VENDOR SUPPLIED CABLE
-  ELECTRICAL SUPPLY
-  THIS IS A DISCRETE SIGNAL CONVERSION EITHER FROM DIGITAL SYSTEM LEVELS TO DRY CONTACT CLOSURE OR FROM DRY CONTACT CLOSURE TO THE DIGITAL SYSTEM'S LOGIC LEVELS AND FORMAT.
-  THIS DENOTES AN ANALOG SIGNAL CONVERSION EITHER FROM THE DIGITAL SYSTEM LEVELS AND FORMAT TO A 4-20 mA SIGNAL OR FROM A 4-20 mA SIGNAL TO THE DIGITAL SYSTEMS' LEVEL AND FORMAT.

ABBREVIATIONS

- CCC CENTRAL CONTROL CONSOLE (EXISTING)
- DCU DISTRIBUTED CONTROL UNIT
- O/R OFF OR REMOTE
- HOR HAND OR OFF OR REMOTE
- S/S STOP OR START
- BFP BELT FILTER PRESS (EXISTING)

LOOP NUMBER ASSIGNMENT

- 1. PRELIMINARY TREATMENT
 - 0. MISCELLANEOUS
 - 1. SCREENING
 - 2. GRIT REMOVAL
 - 3. COMMINUTORS
 - 4.
 - 5. CHLORINATION
 - 6. ODOR CONTROL
 - 7.
 - 8.
 - 9. CHEMICAL TREATMENT
- 2. PRIMARY TREATMENT
 - 0. MISCELLANEOUS
 - 1. FLOW EQUALIZATION
 - 2.
 - 3.
 - 4.
 - 5. CHLORINATION
 - 6. CLARIFICATION
 - 7. FLOCCULATION
 - 8. THICKENING
 - 9. CHEMICAL TREATMENT
- 3. ADVANCED TREATMENT
 - 0. MISCELLANEOUS
 - 1. PHOSPHOROUS REMOVAL
 - 2. FILTRATION
 - 3. NITROGEN REMOVAL
 - 4. ABSORPTION
 - 5. CHLORINATION
 - 6.
 - 7.
 - 8.
 - 9. CHEMICAL TREATMENT
- 4. SECONDARY TREATMENT
 - 0. MISCELLANEOUS
 - 1. ACTIVATED SLUDGE
 - 2. FILTERS
 - 3. STABILIZATION
 - 4. AERATION
 - 5. CHLORINATION
 - 6. CLARIFICATION
 - 7. FLOCCULATION
 - 8. THICKENING
 - 9. CHEMICAL TREATMENT
- 5. EFFLUENT DISPOSAL
 - 0. MISCELLANEOUS
 - 1. PUMPING
 - 2. STORAGE
 - 3. REUSE
 - 4.
 - 5. CHLORINATION
 - 6.
 - 7.
 - 8.
 - 9. CHEMICAL TREATMENT
- 6. SLUDGE TREATMENT
 - 0. MISCELLANEOUS
 - 1. PUMPING
 - 2. STORAGE
 - 3.
 - 4. DIGESTION
 - 5. CHLORINATION
 - 6. PELLETIZING
 - 7. COMPOSTING
 - 8.
 - 9. CHEMICAL TREATMENT
- 7. SLUDGE DEWATERING
 - 0. MISCELLANEOUS
 - 1. HEAT CONDITIONING
 - 2. PRESSES
 - 3. DECANTING
 - 4.
 - 5.
 - 6.
 - 7.
 - 8. THICKENING
 - 9. CHEMICAL TREATMENT
- 8. AIR SUPPLIES
 - 0. MISCELLANEOUS
 - 1. PLANT AIR
 - 2. INSTRUMENT AIR
 - 3. COMBUSTION AIR
 - 4. AERATION
 - 5. OZONATION
 - 6.
 - 7.
 - 8.
 - 9.
- 9. MISCELLANEOUS
 - 0.
 - 1. ELECTRICAL
 - 2. HVAC
 - 3.
 - 4.
 - 5.
 - 6.
 - 7. FUEL STORAGE
 - 8. EMERGENCY/SAFETY
 - 9. MISCELLANEOUS

- THIRD DIGIT
- 0. UNASSIGNED
 - 1. FLOW
 - 2. LEVEL
 - 3. PRESSURE
 - 4. TEMPERATURE
 - 5. ANALYZER
 - 6. STATUS MONITORING
 - 7. FAILURE MONITORING
 - 8. MISCELLANEOUS
 - 9. ELECTRICAL
- FOURTH DIGIT & SUFFIX } SEQUENTIAL NUMBERING FOR CONVENIENCE
- FUNCTIONAL IDENTIFICATION PER ISA STANDARD 55.1
- XX - ANALYZER
 - D.O. - DISSOLVED OXYGEN
 - TURB. - TURBIDITY
 - C.R. - CHLORINE RESIDUAL

MEANINGS OF IDENTIFICATION LETTERS

FIRST LETTER	SUCCEEDING LETTERS				
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	Analysis		Alarm		
B	Analysis		User's Choice	User's Choice	User's Choice
C	Conductivity (Electrical)			Control	
D	Density (Mass) or Specific Gravity	Differential			
E	Voltage (EMF)		Primary Element		
F	Flow Rate	Ratio (Fraction)			
G	Gaging (Dimensional)		Glass		
H	Hand (Manually Initiated)				High
I	Current (Electrical)		Indicate		
J	Power	Soon			
K	Time or Time Schedule			Control Station	
L	Level		Light (Pilot)		Low
M	Moisture or Humidity				Middle or Intermediate
N	User's Choice		User's Choice	User's Choice	User's Choice
O	User's Choice		Orifice (Restriction)		
P	Pressure or Vacuum		Point (Test Connection)		
Q	Quantity or Event	Integrate or Totalize			
R	Relay				
S	Speed or Frequency	Safety		Switch	
T	Temperature			Transmit	
U	Multivariable		Multifunction	Multifunction	Multifunction
V	Viscosity			Valve, Damper or Louver	
W	Weight or Force		Well		
X	Failure		Failure	Failure	Failure
Y	Ultrasonic Cleaner			Relay or Compute	
Z	Position			Drive, Actuate or Unclassified Final Control Element	

This table applies to the functional identification of instruments.

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION

LEGEND & ABBREVIATIONS
ORANGE COUNTY, FLORIDA

PROJECT NO.
6059-SL3R

SHEET NO.
1 of 1

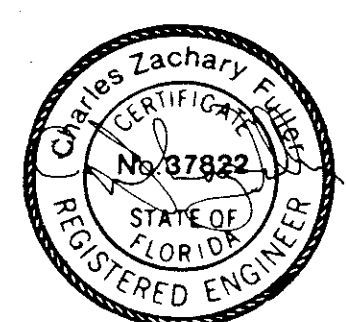
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DRAWN BY: JD
CHECKED BY:
APPROVED BY: 4/88
DATE: 3/3/88

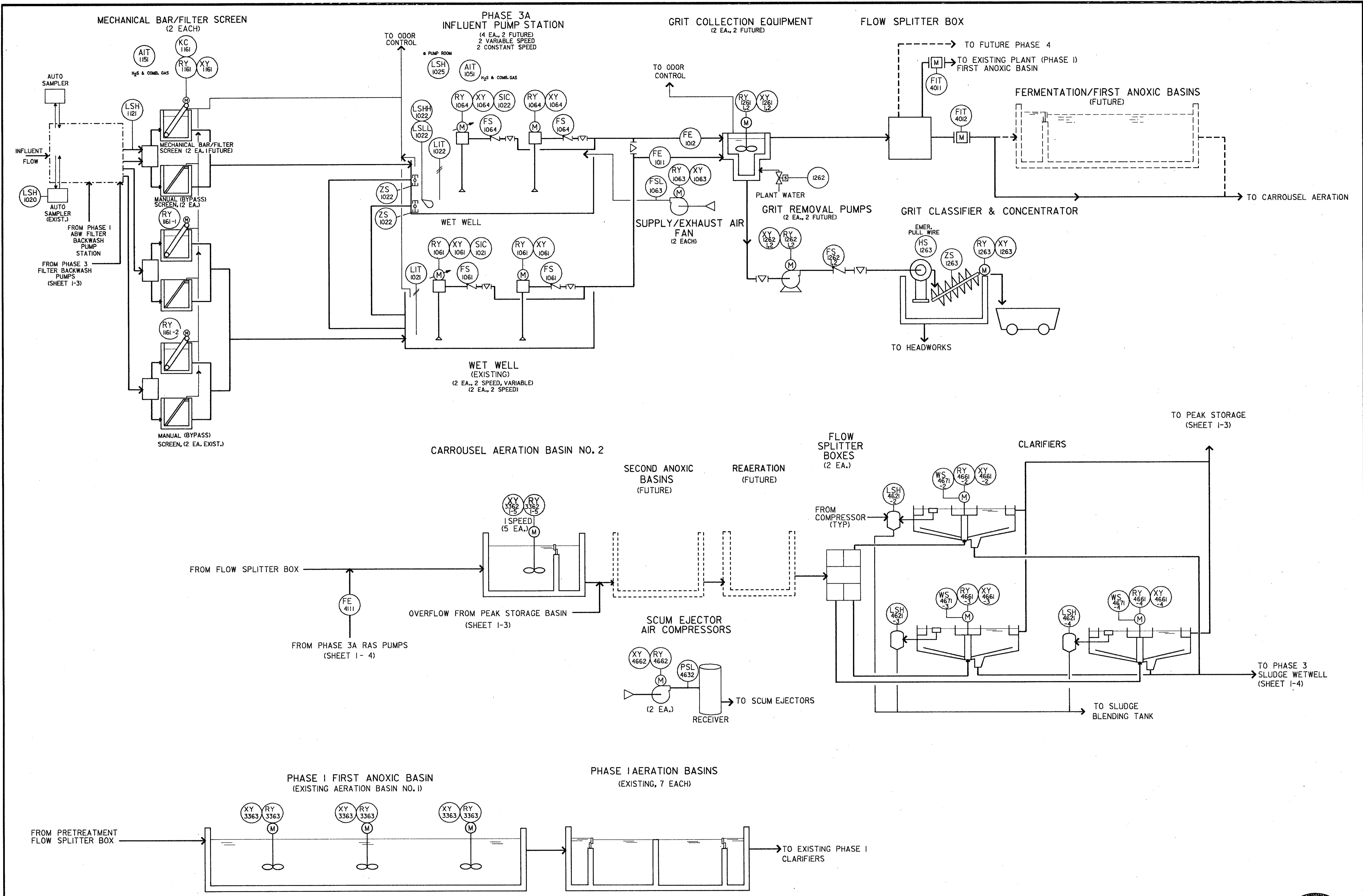
REVISIONS

REV. NO.	DATE	DRWN	CHKD	REMARKS
1	4/88	SAF		CONFORMED DIVG.

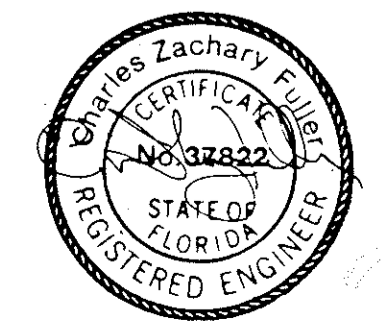
CAMP DRESSER & MCKEE INC.

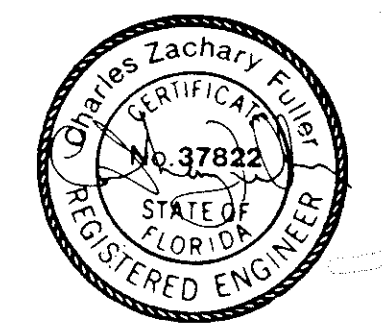
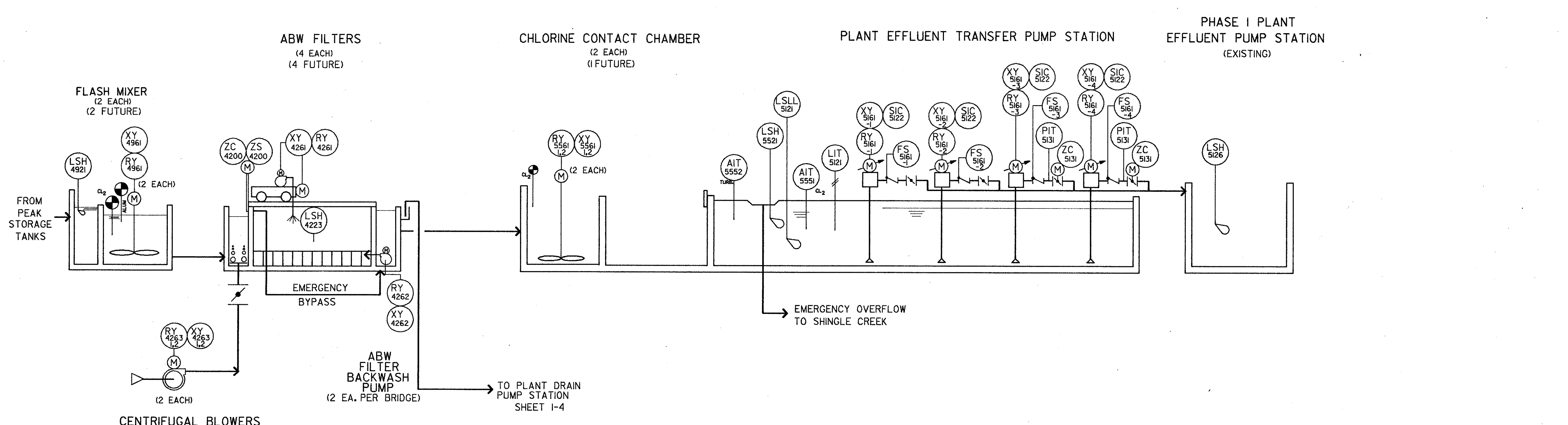
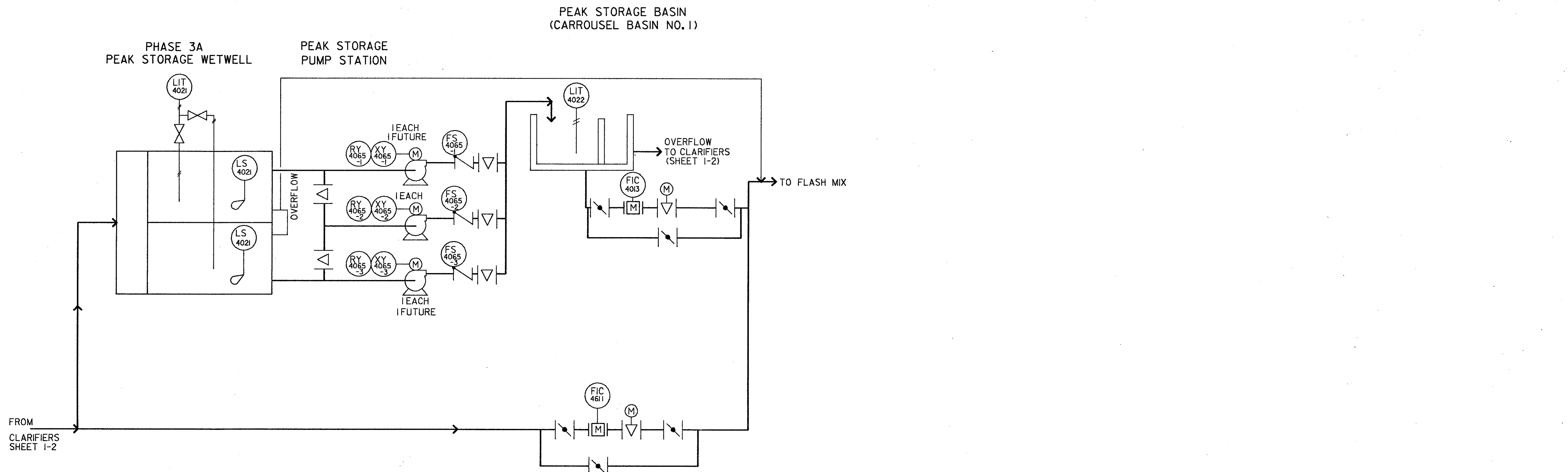
CDM
environmental engineering, architecture, planning & management consultants



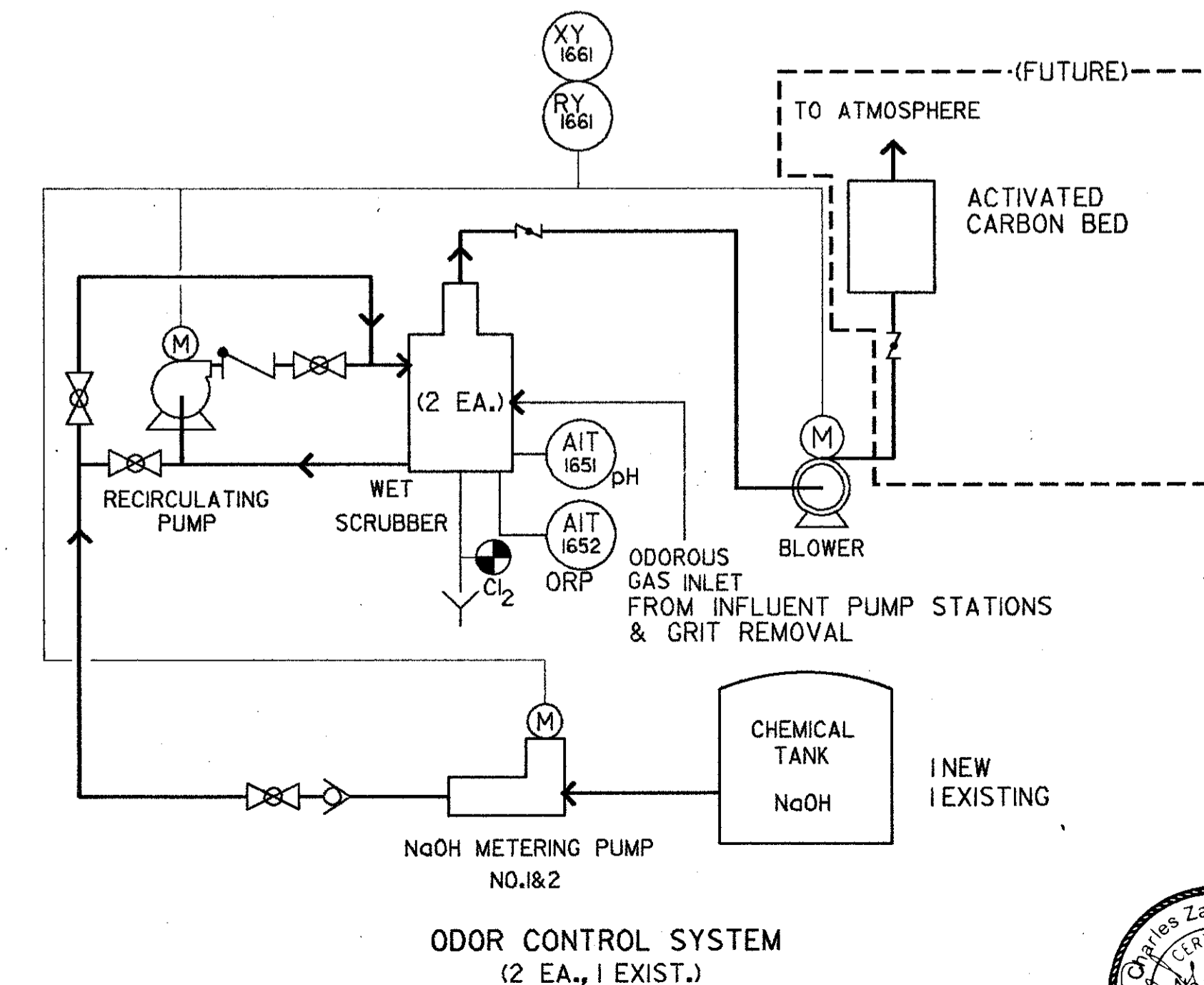
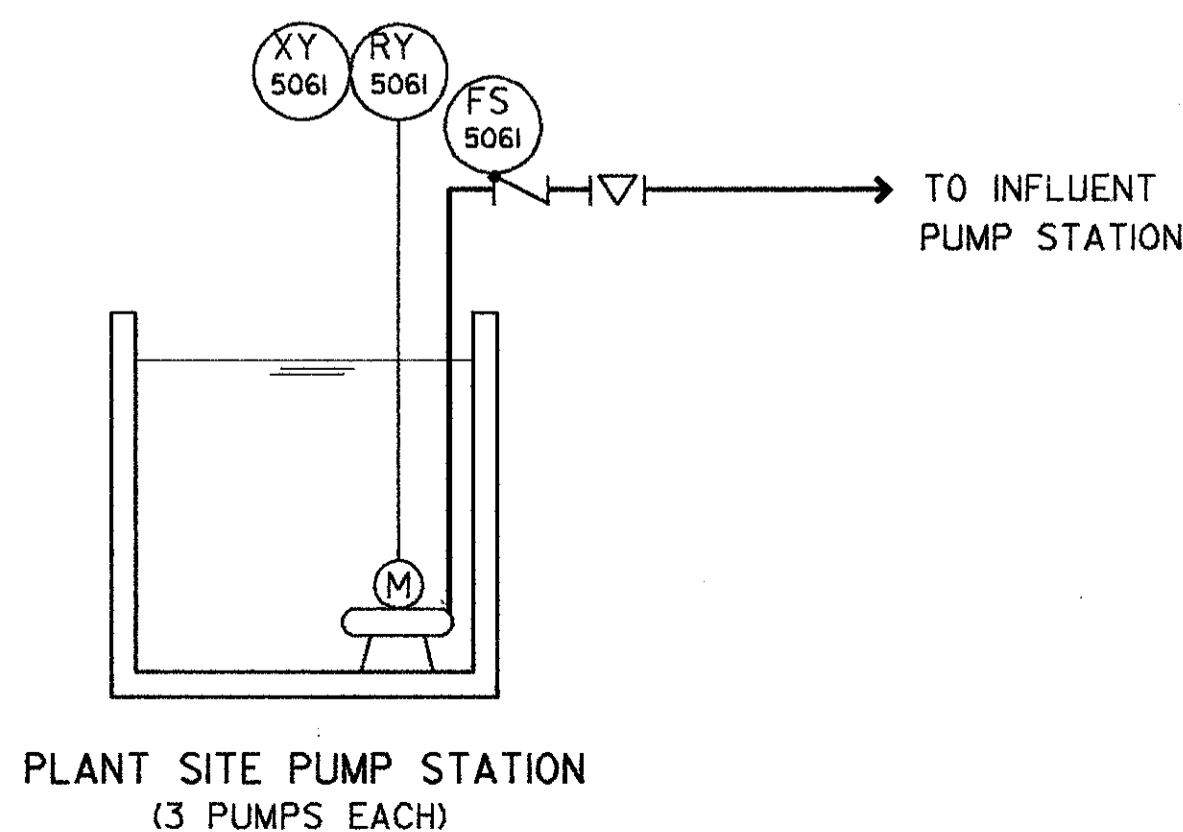
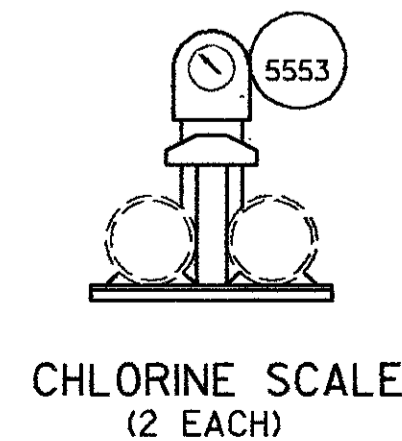
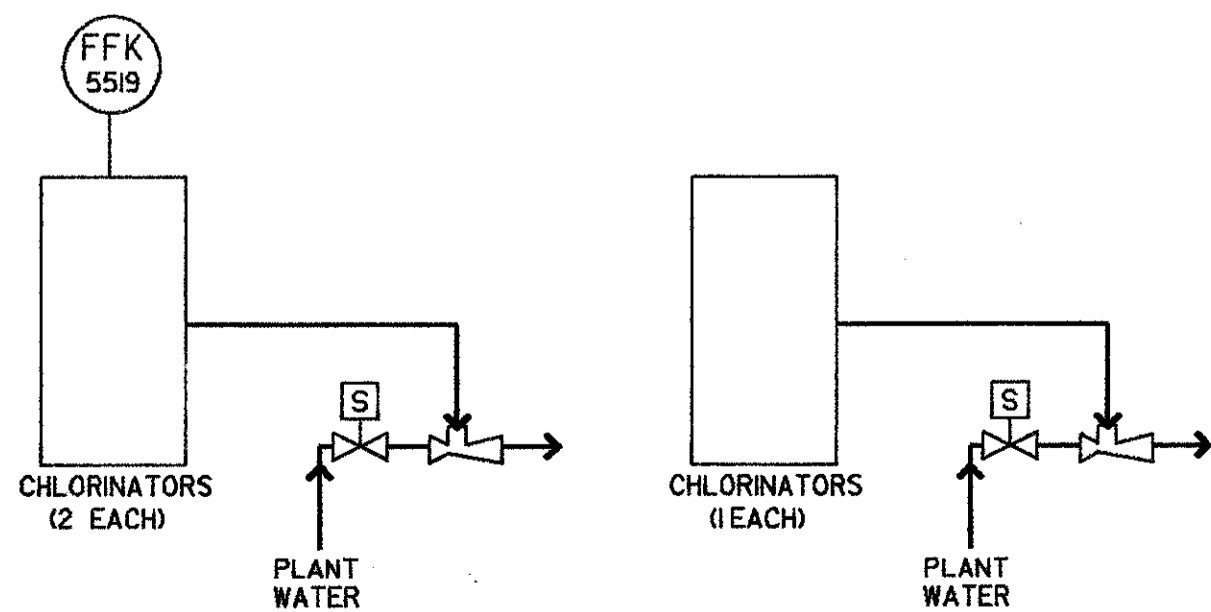
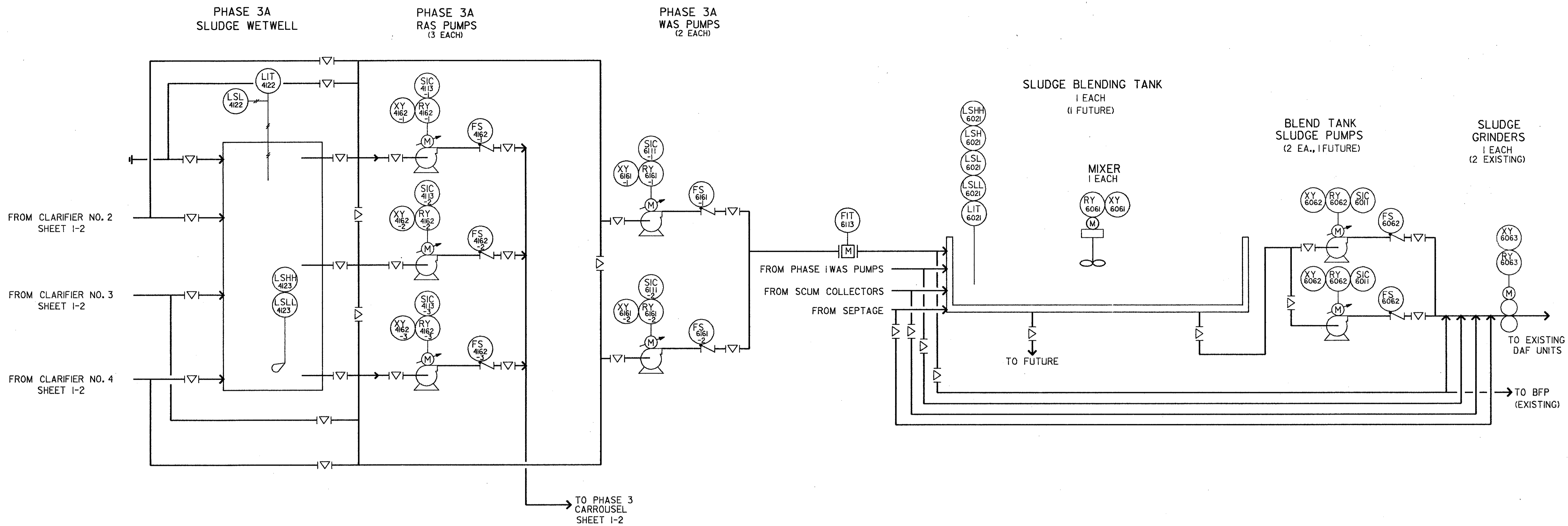


DESIGNED BY: HRH	CONFORMED DWG.
DRAWN BY: JD	SAF
CHECKED BY: [Signature]	DATE: 4/88
APPROVED BY: [Signature]	REV. NO. 1
DATE: 3/2/88	CHKD
CDM <small>environmental engineers, scientists, planners & management consultants</small>	
CAMP DRESSER & MCKEE INC.	
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION	
PROCESS & INSTRUMENTATION DIAGRAM ORANGE COUNTY, FLORIDA	
PROJECT NO. 6059-SL3R	SHEET NO. 1-2

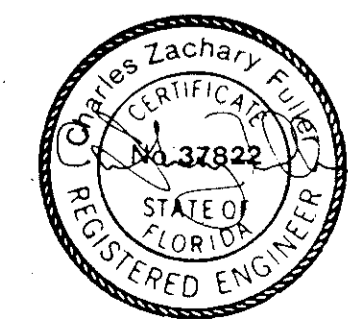


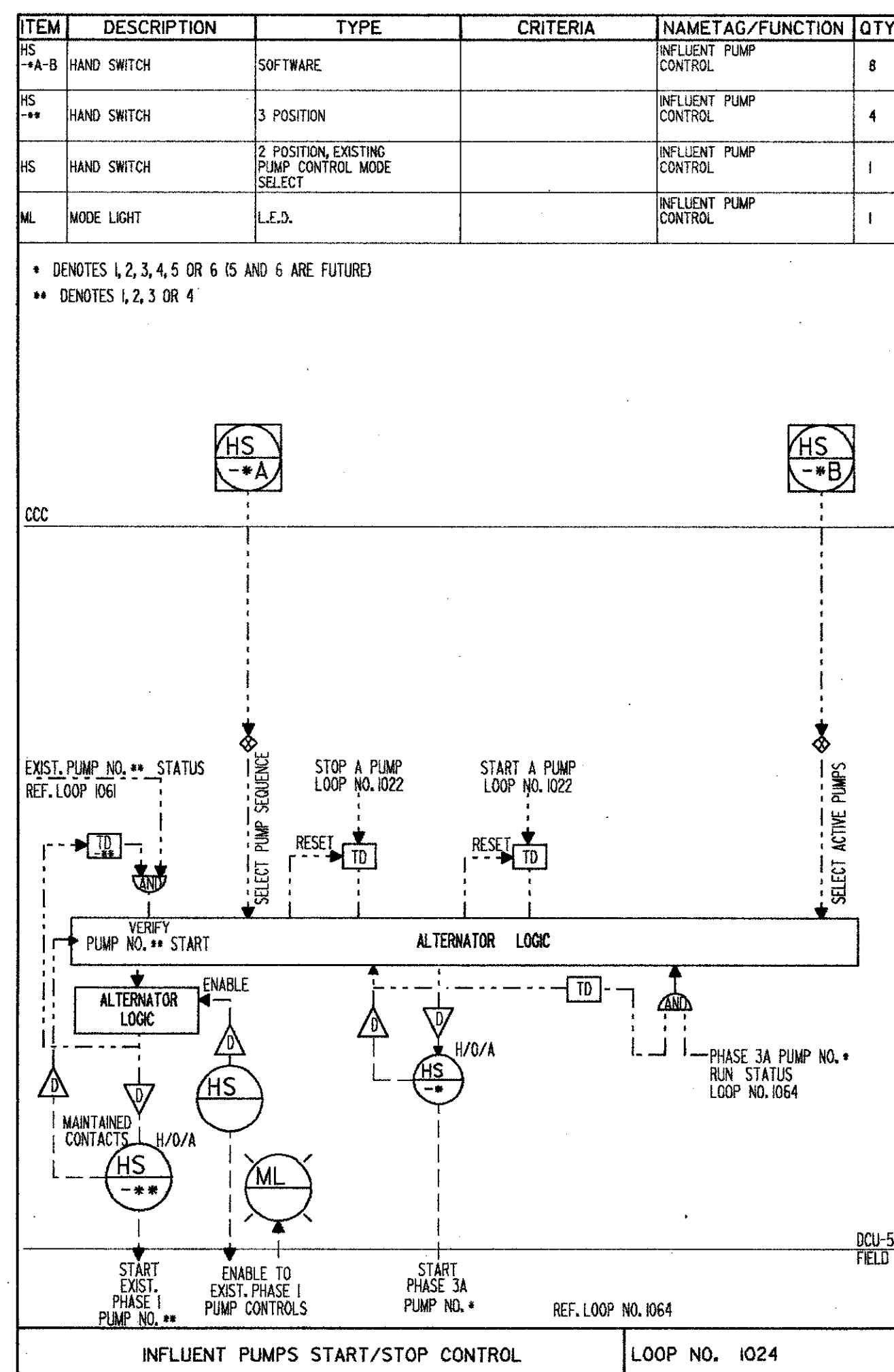
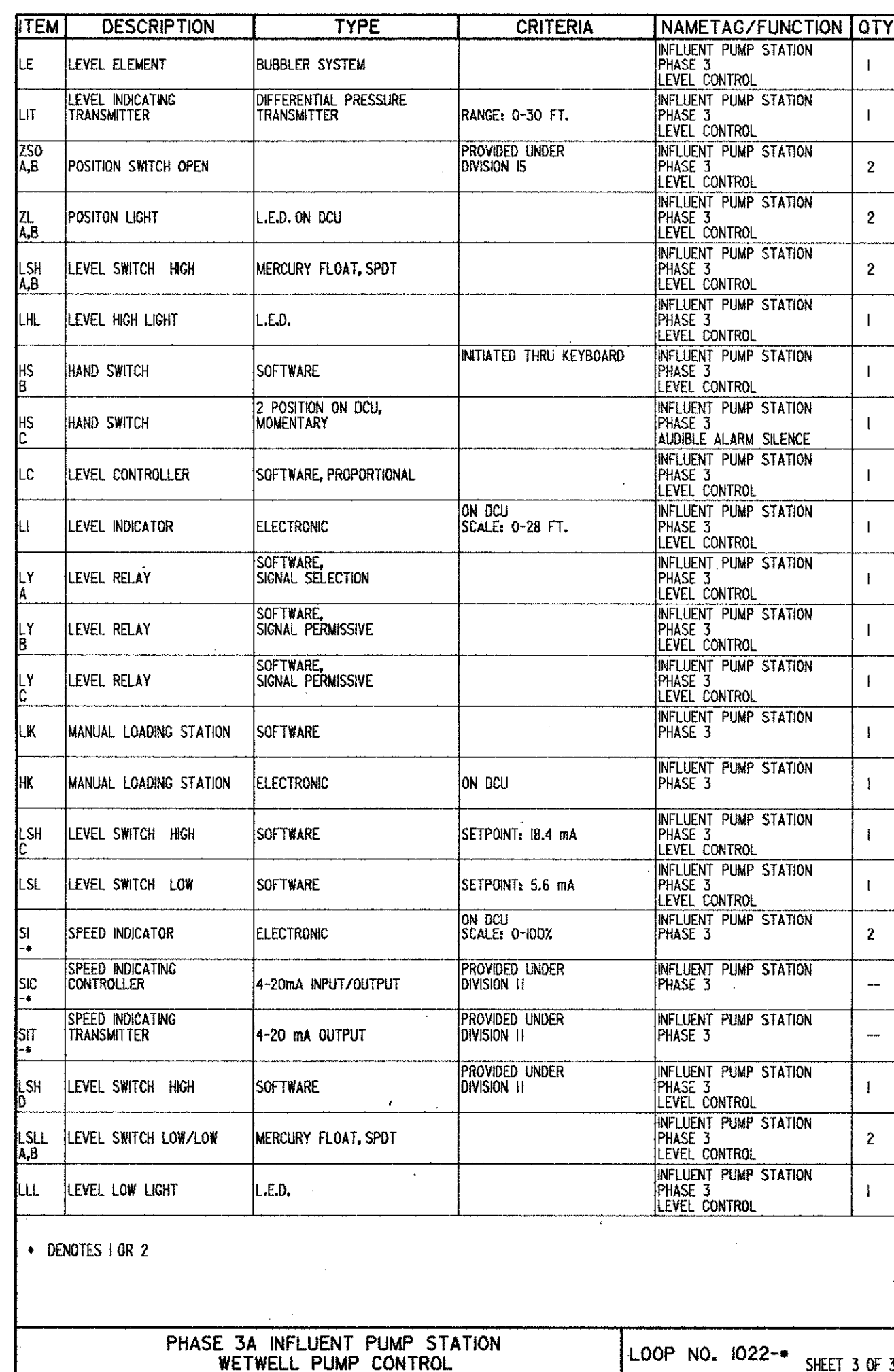
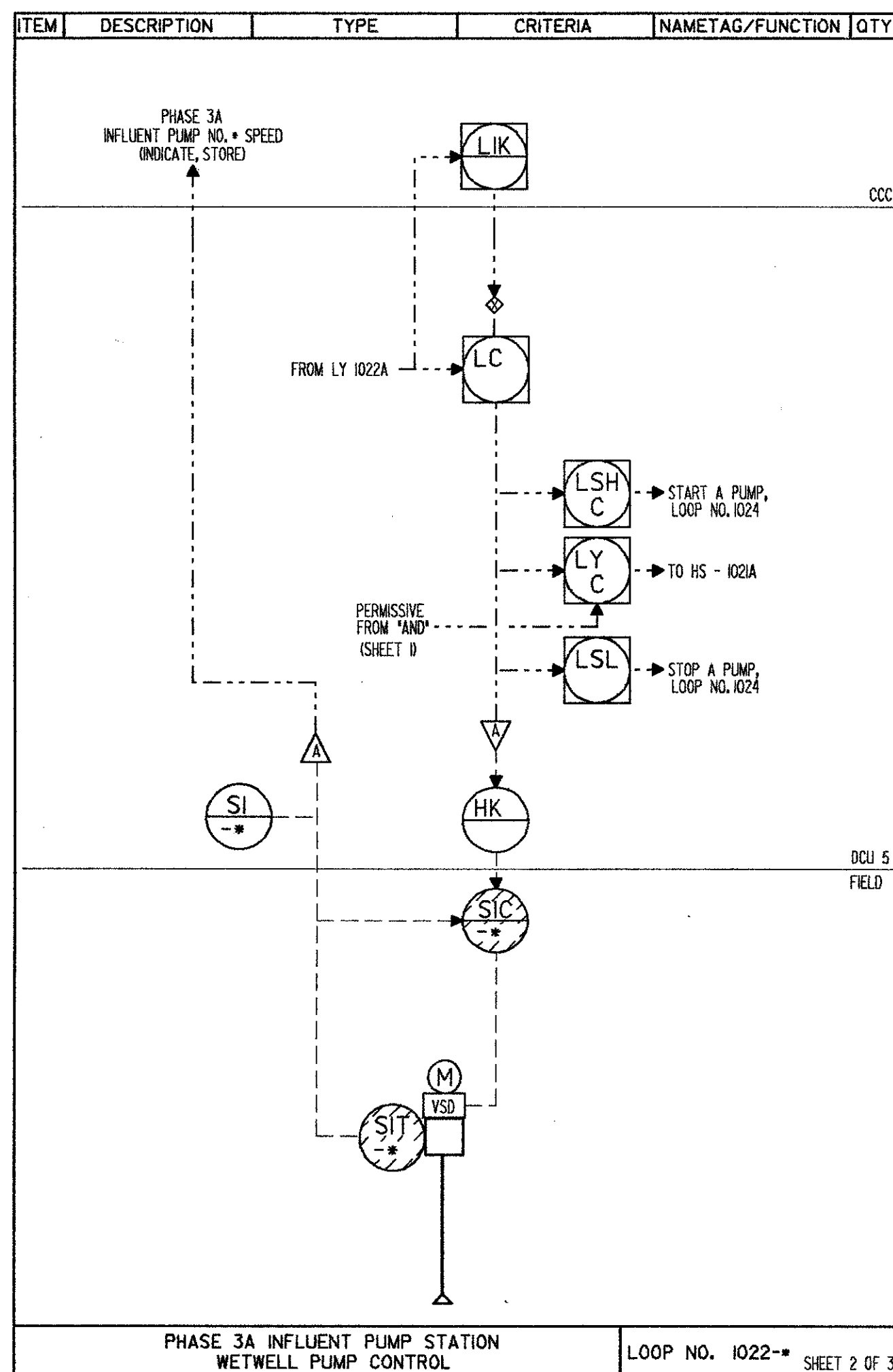
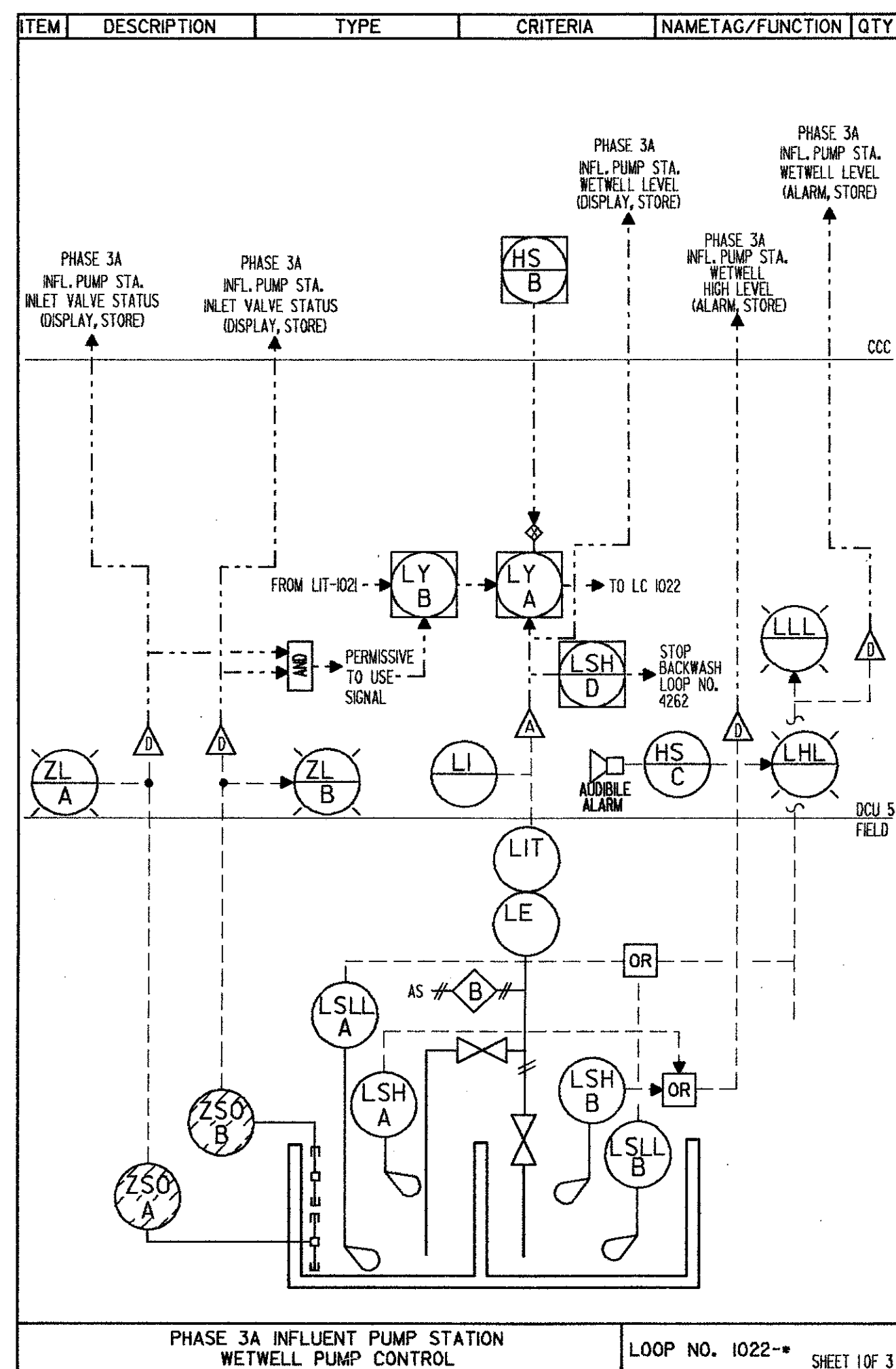
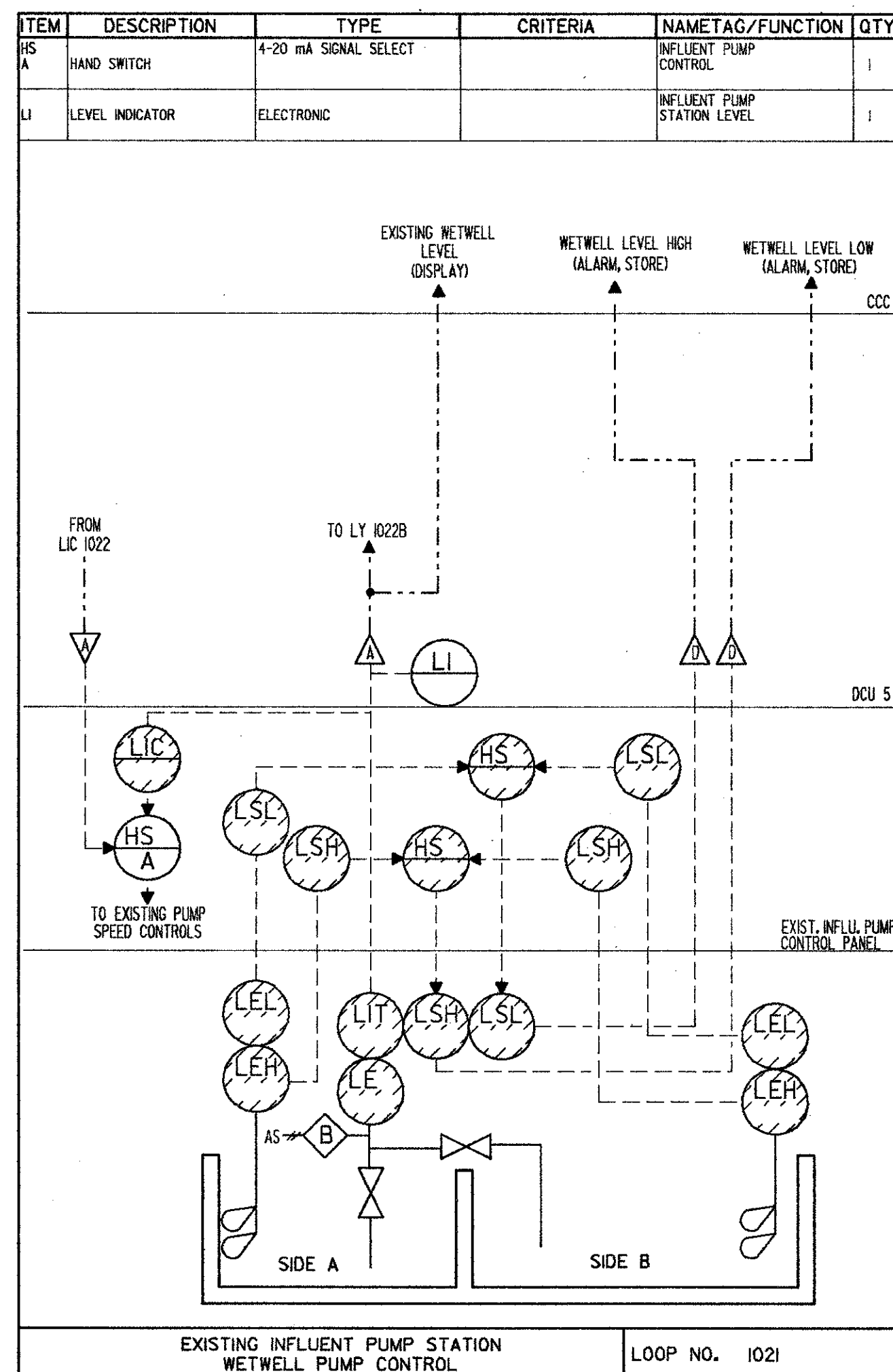
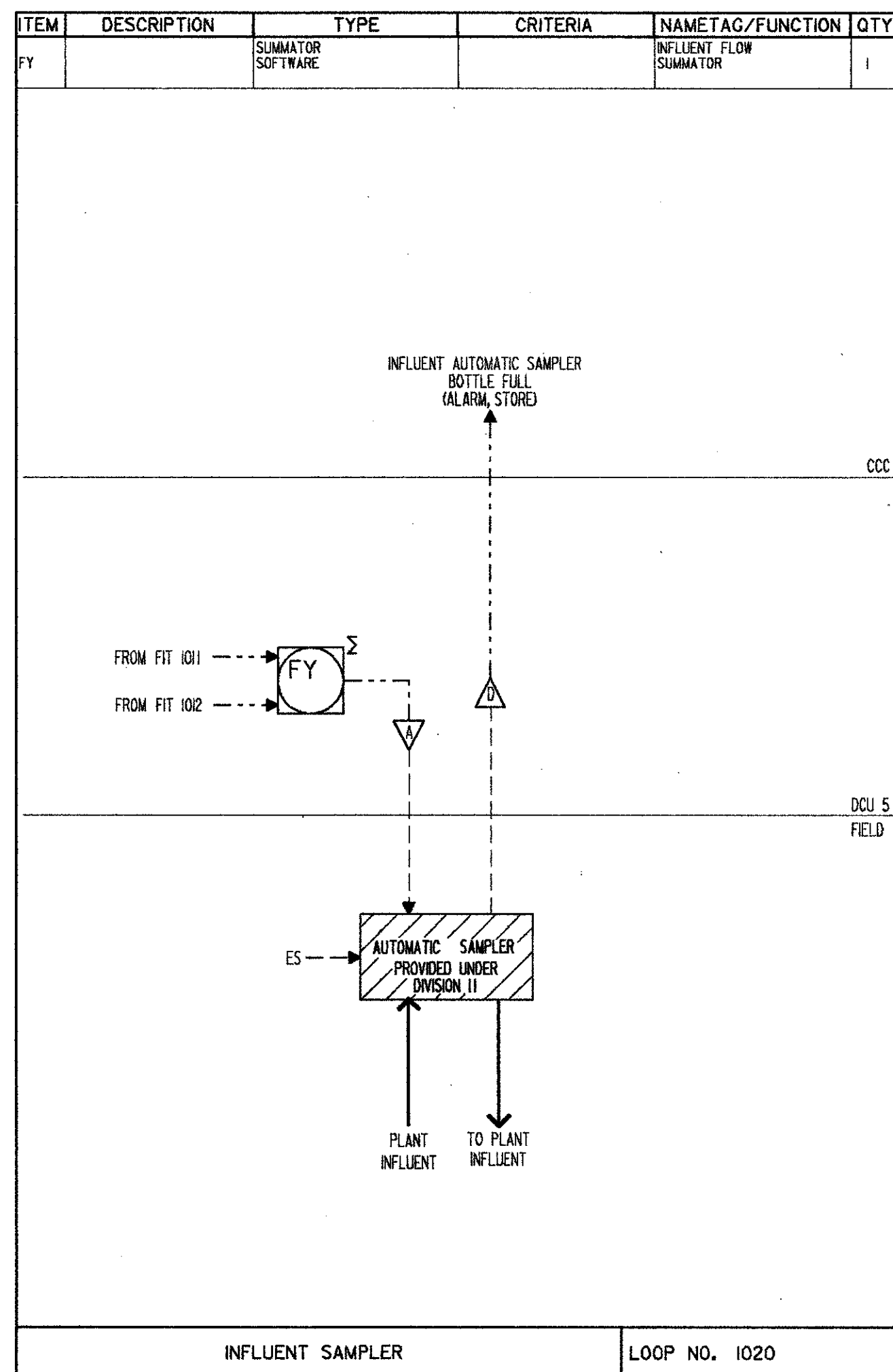
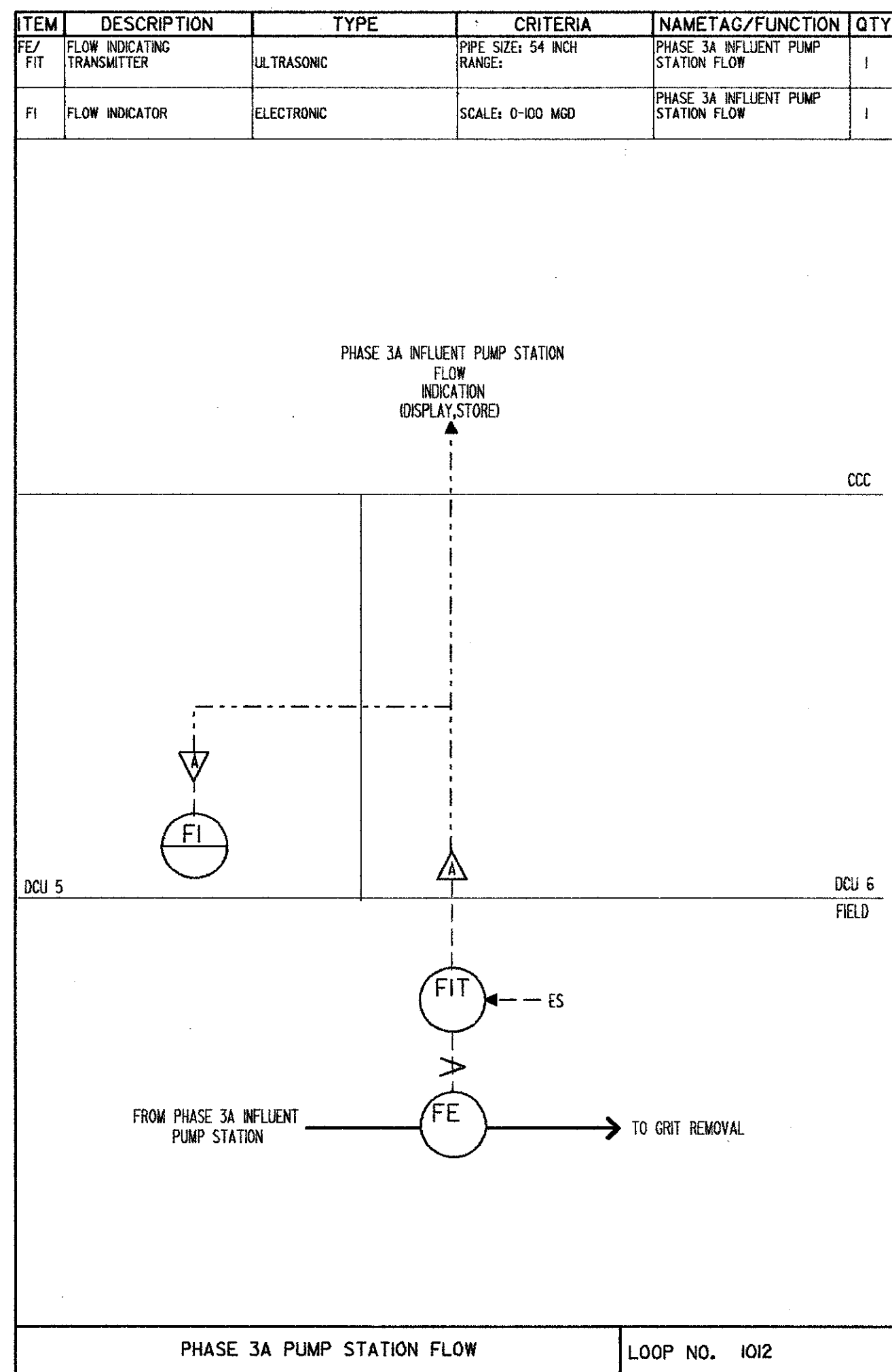
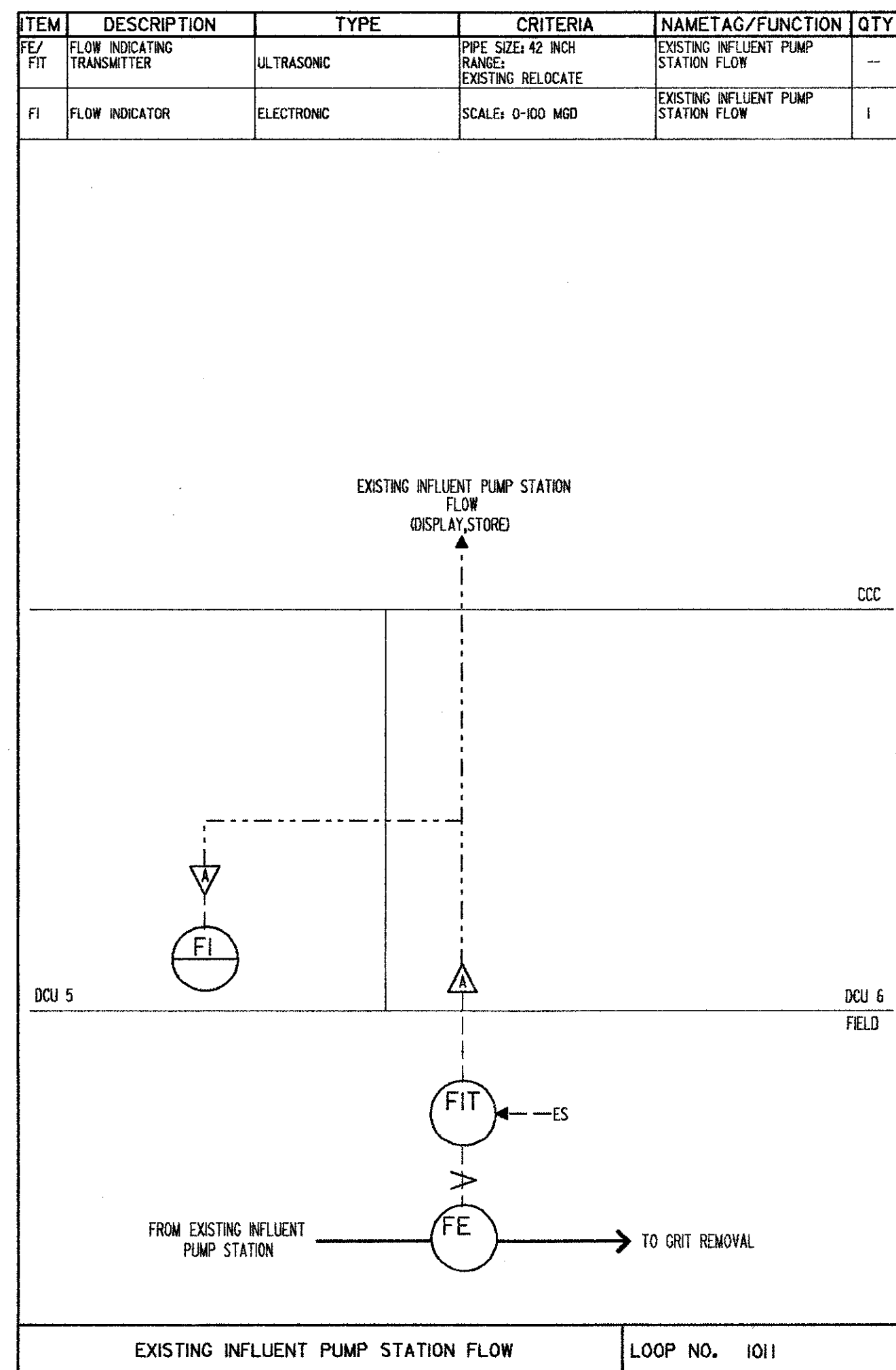


DESIGNED BY: HIRI		CDM <small>commercial engineers, architects, planners & management consultants</small>
DRAWN BY: JD		
CHECKED BY:		
DATE: 3/2/88		
CAMP DRESSER & MCKEE INC.		PROJECT NO. 6059-SL3R
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION		SHEET NO. 13
PROCESS & INSTRUMENTATION DIAGRAM ORANGE COUNTY, FLORIDA		REV. NO. DATE DRWN CHKD 4/88 SAF
FROM CLARIFIERS SHEET I-2		CONFORMED D.Y.G.
TO FLASH MIX		REMARKS



DESIGNED BY: HRH		DRAWN BY: JD		CHECKED BY: SAJ		APPROVED BY: SAJ		DATE: 4/88		CONFORMED D.W.G.		REMARKS	
CAMP DRESSER & MCKEE INC.		SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES - PHASE 3A EXPANSION										ORANGE COUNTY, FLORIDA	
PROCESS & INSTRUMENTATION DIAGRAM												PROJECT NO. 6059-SL3R	
SHEET NO. 4												REGISTERED ENGINEER	





SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
LOOP DIAGRAMS
ORANGE COUNTY, FLORIDA

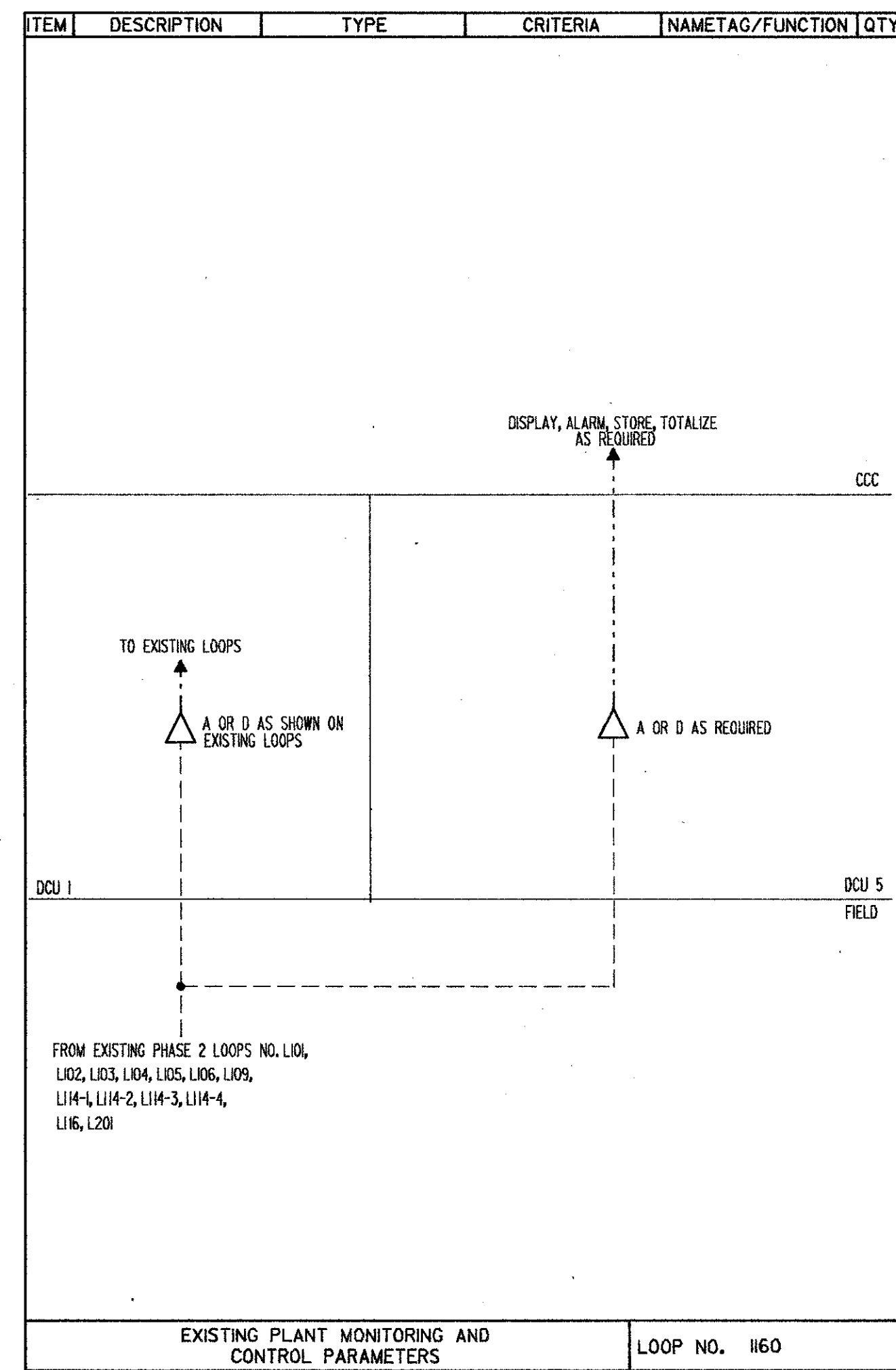
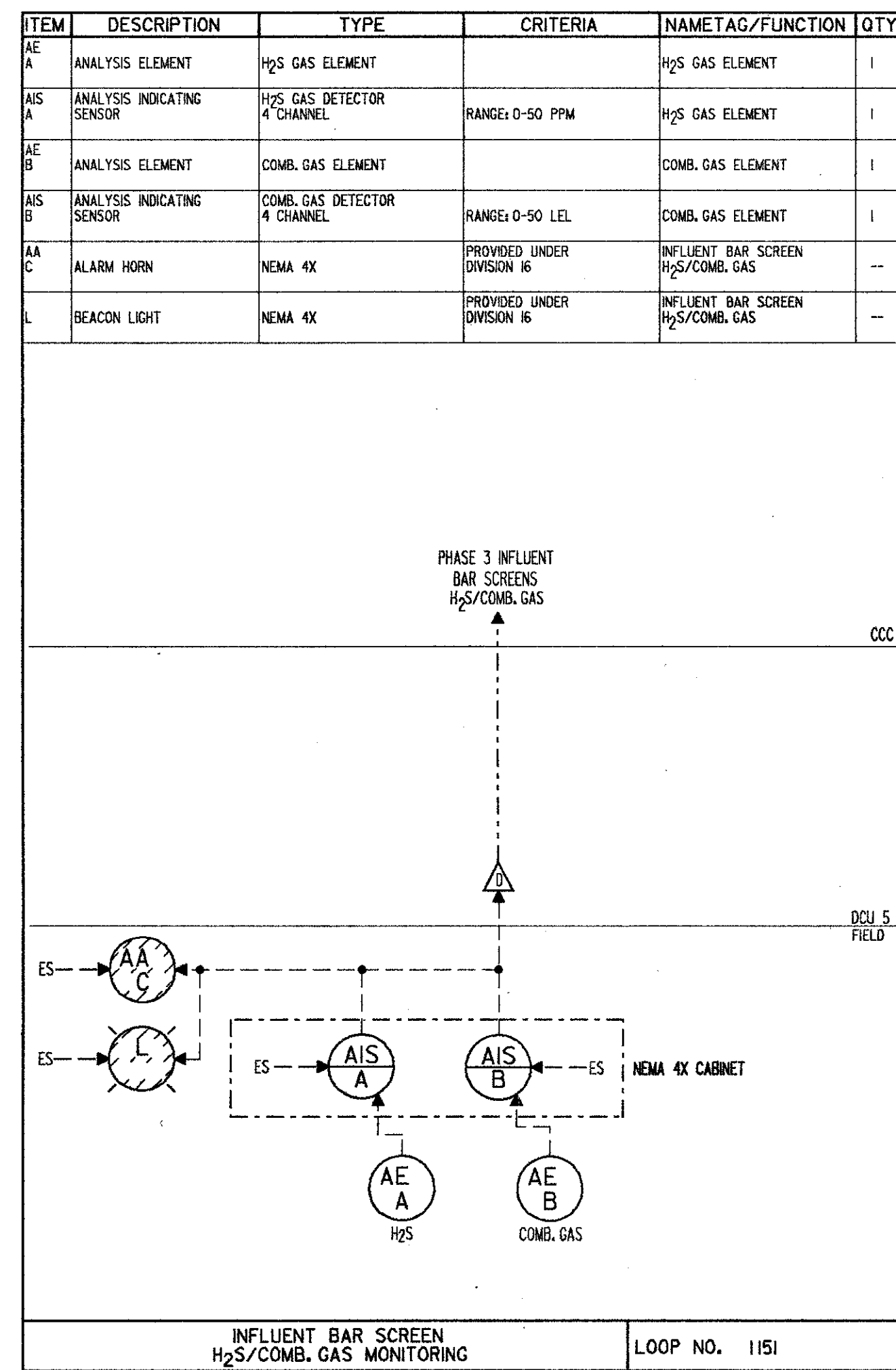
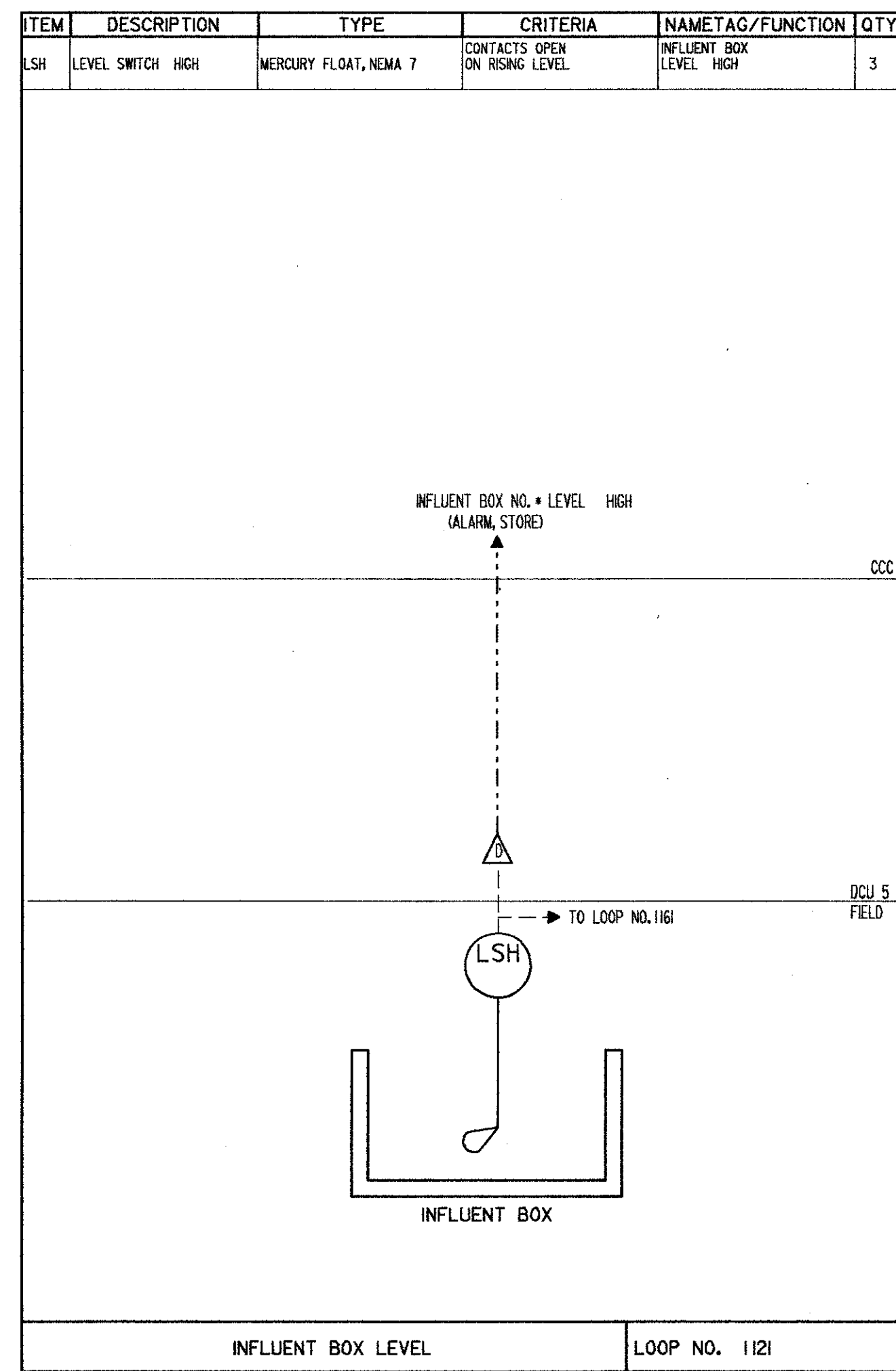
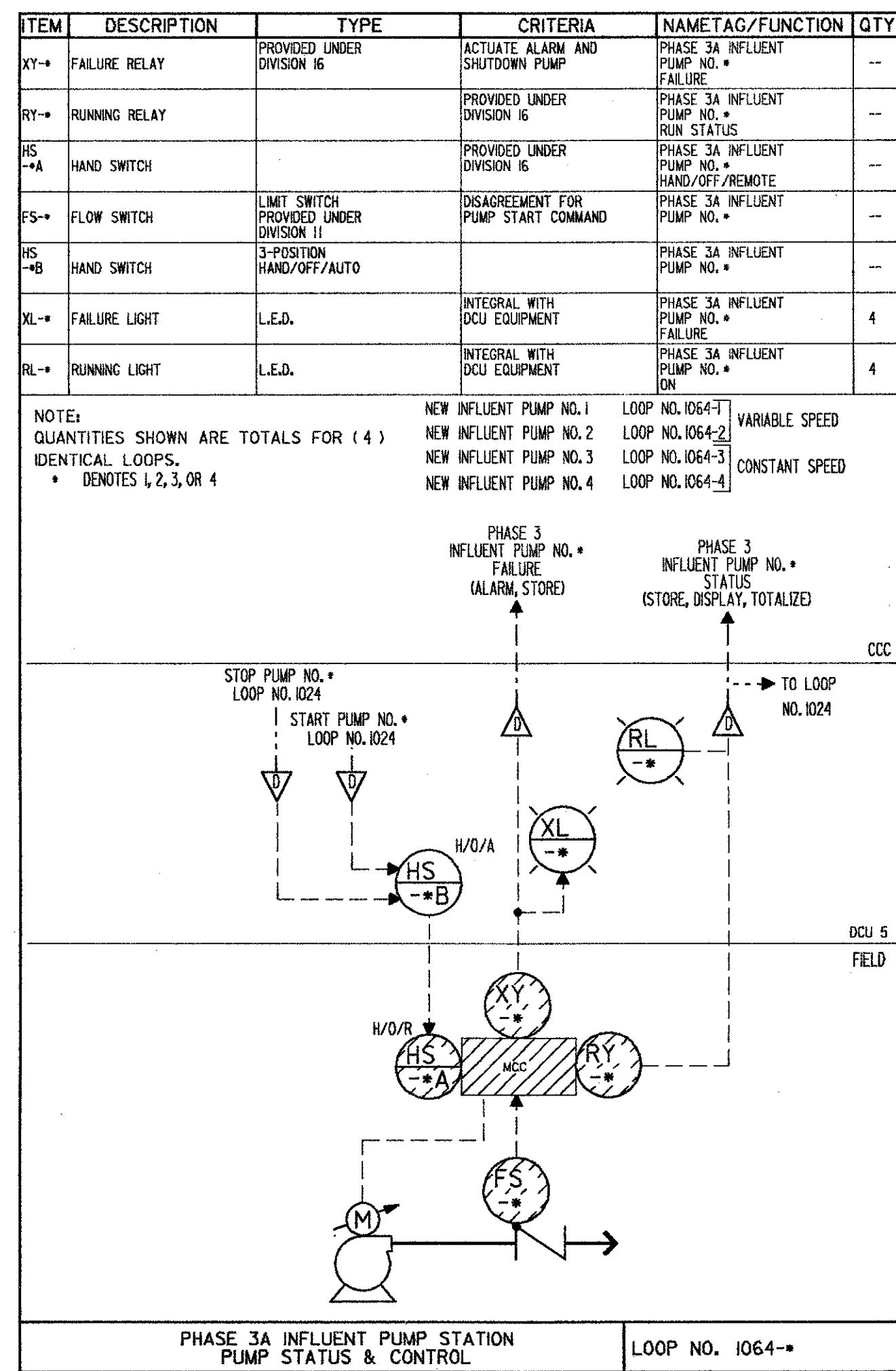
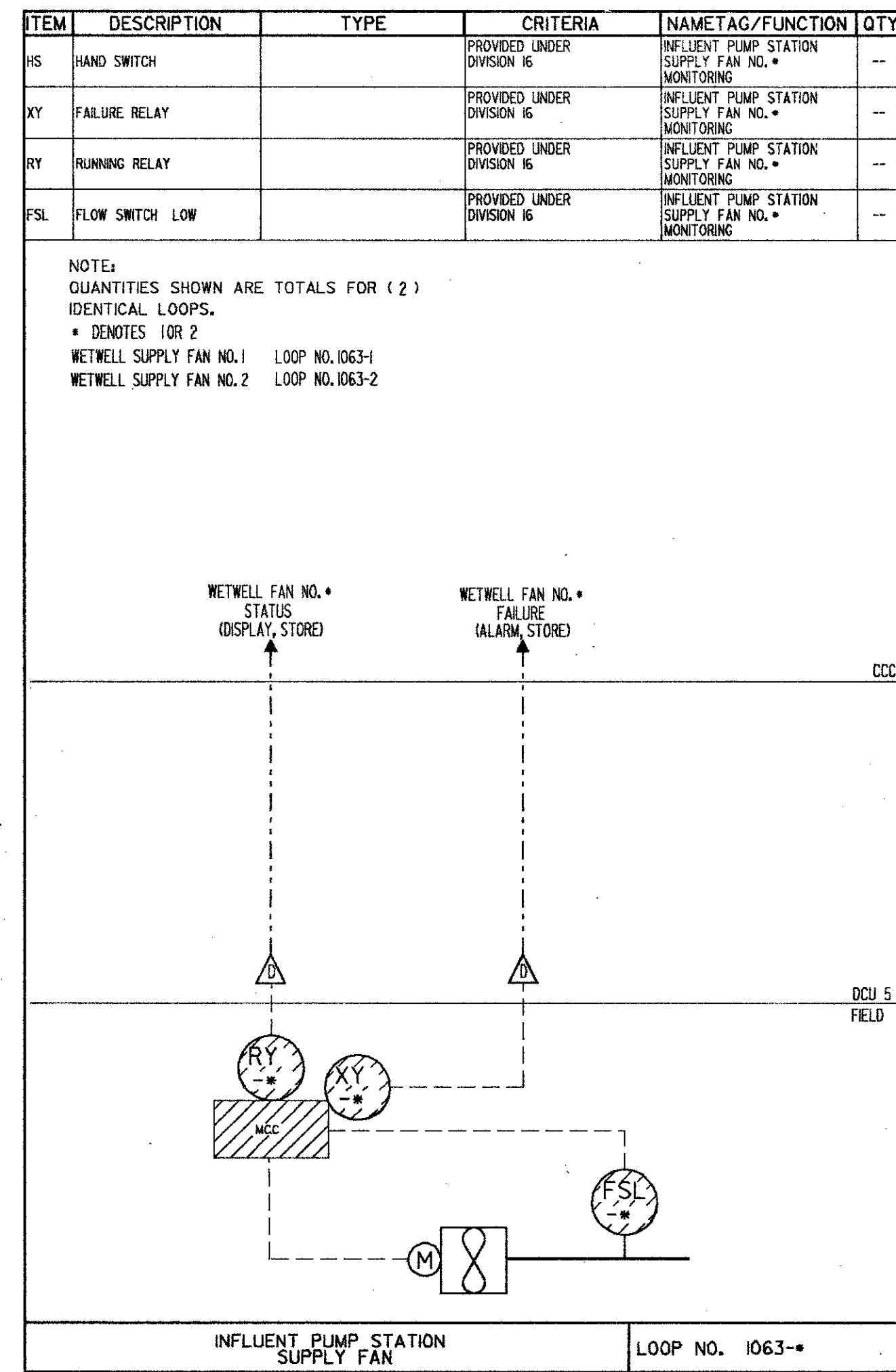
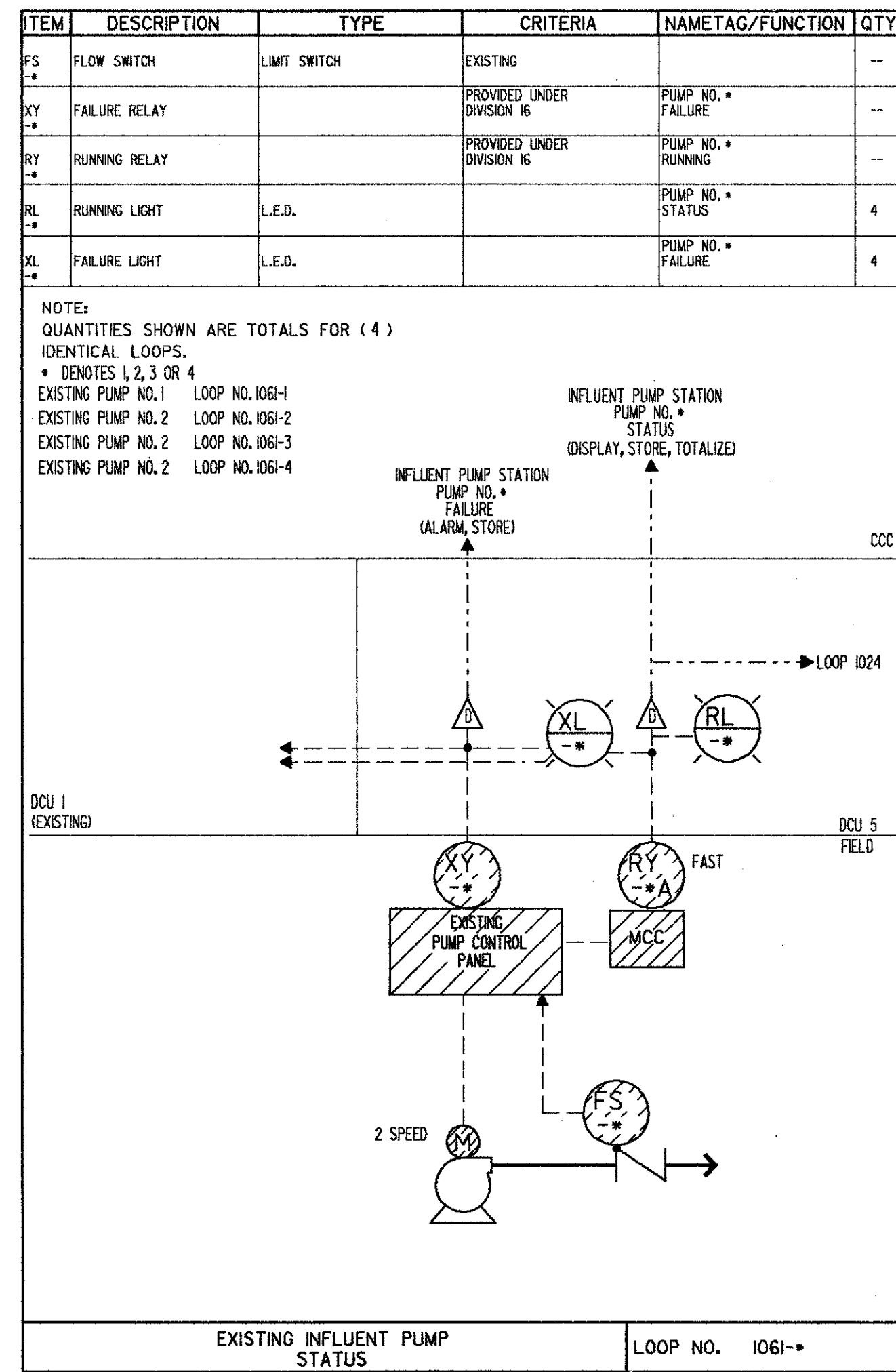
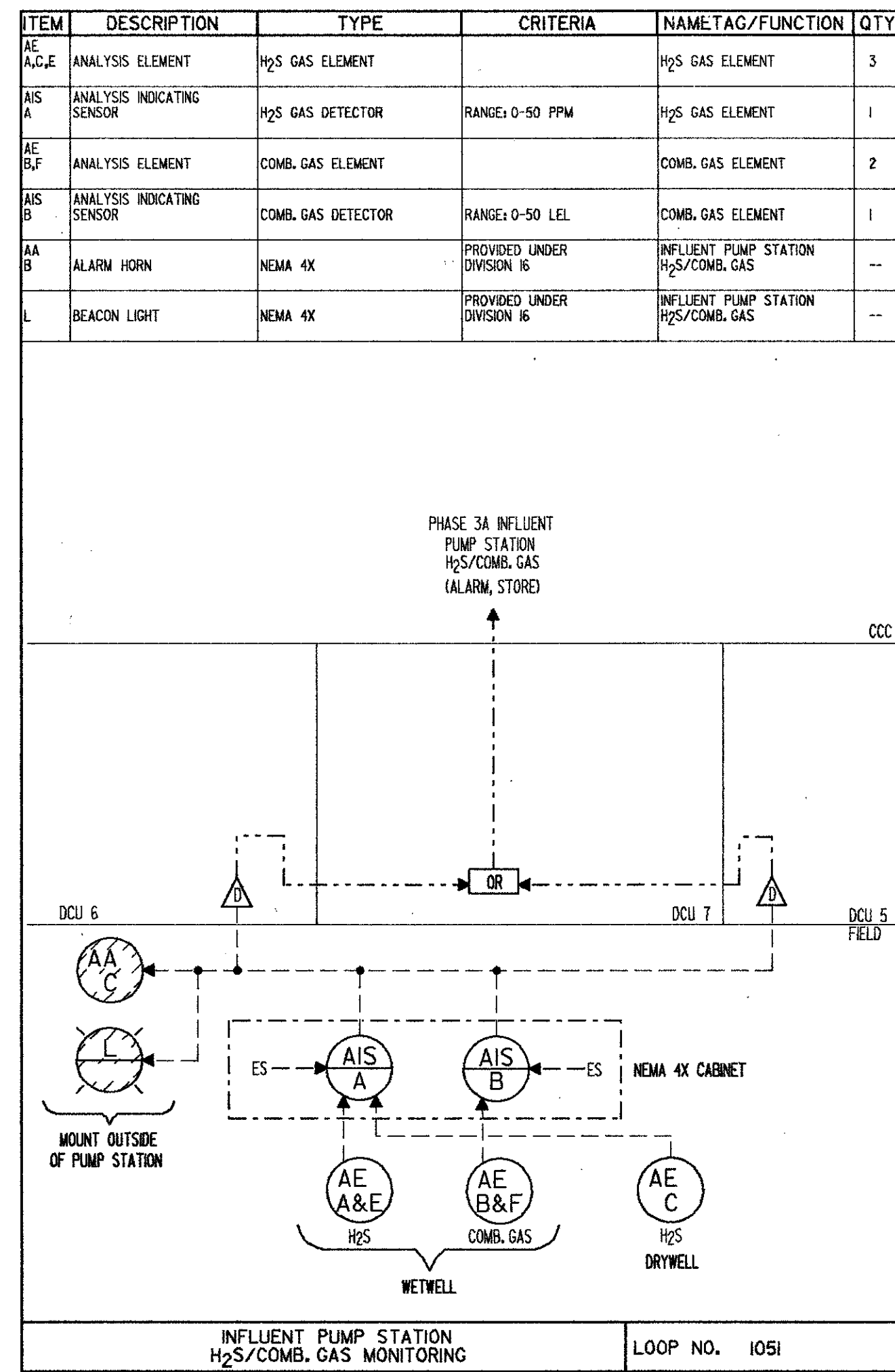
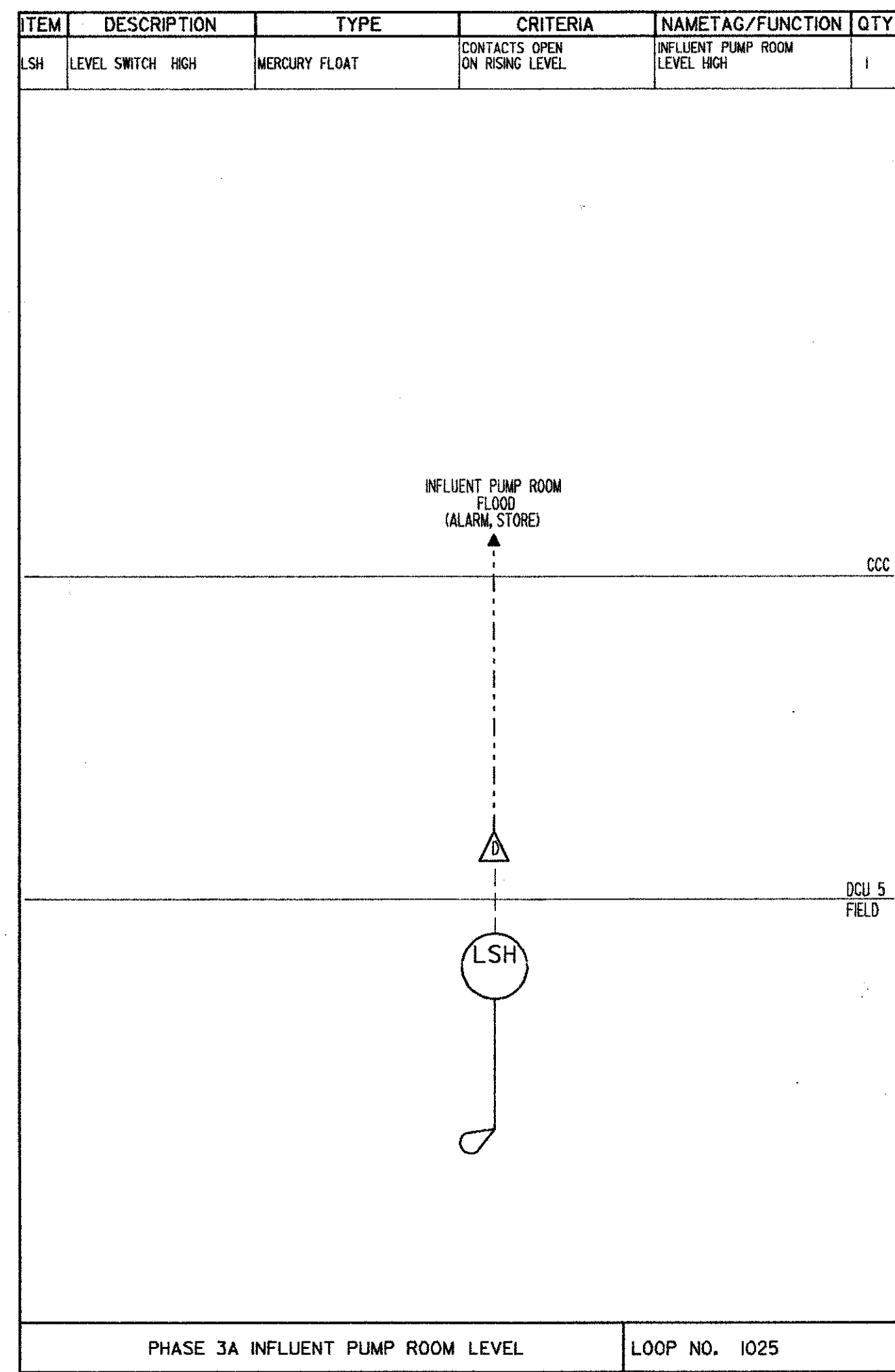
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DRAWN BY: JD
CHECKED BY:
APPROVED BY:
DATE: 3/3/08

CONFORMED D.Y.G.
4/88 SAF
DATE: 4/88
REV. NO. 1

CAMP DRESSER & MCKEE INC.
environmental engineers, scientists, planners & management consultants
CDM

PROJECT NO. 6059-SL3R
SHEET NO. 5

REGISTERED ENGINEER
No. 37822
STATE OF FLORIDA



SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES PHASE 3A EXPANSION
LOOP DIAGRAMS
 ORANGE COUNTY, FLORIDA

CAMP DRESSER & MCKEE INC.

DESIGNED BY: HRL
 DRAWN BY: JD
 CHECKED BY:
 APPROVED BY:
 DATE: 3/3/88

CONFORMED DWG.

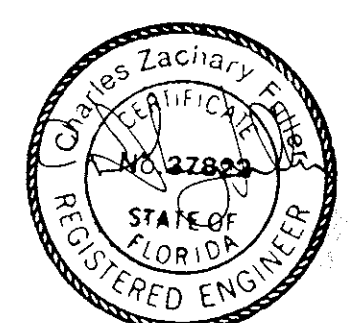
REV. NO. DATE DRAWN CHKD

4/88 SAF

REMARKS

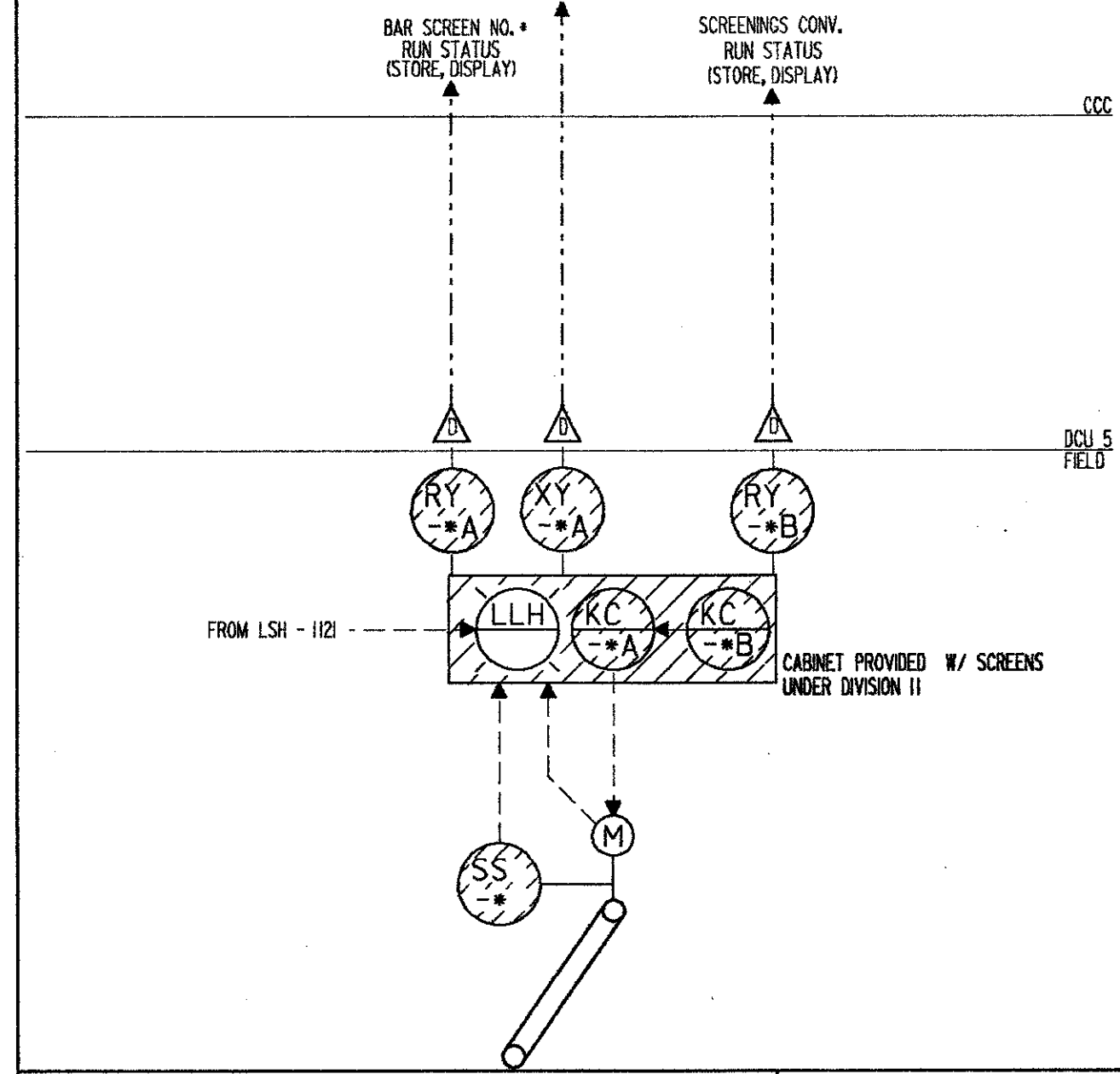
CDM
 Environmental engineers, scientists, planners & management consultants

PROJECT NO. 6059-SL3R
 SHEET NO.



ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
RS	REPEAT CYCLE TIMERS		PROVIDED UNDER DIVISION II	BAR SCREEN NO. * WASH	--
SS	SPEED SWITCH	NEMA 7	PROVIDED UNDER DIVISION II	BAR SCREEN NO. * WASH	--
XY	FAILURE RELAY		PROVIDED UNDER DIVISION II	BAR SCREEN NO. * FAILURE	--
RY	RUNNING RELAY		PROVIDED UNDER DIVISION II	BAR SCREEN NO. * WASH	--
LLH	LEVEL LIGHT HIGH		PROVIDED UNDER DIVISION II		--

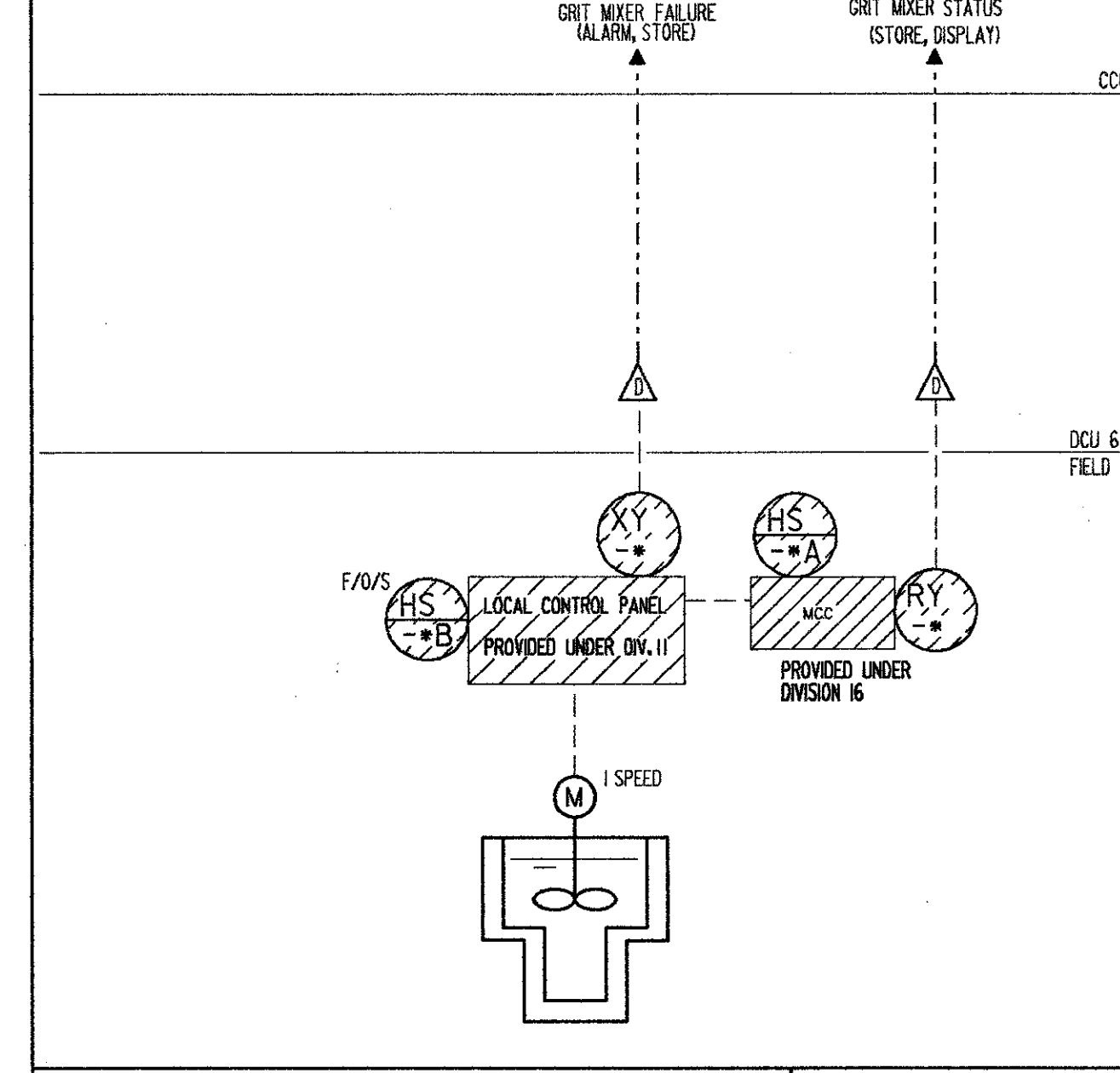
NOTE:
 QUANTITIES SHOWN ARE TOTALS FOR (3) IDENTICAL LOOPS.
 * DENOTES 3, 4 OR 5
 BAR SCREEN NO. 3 LOOP NO. 1163-3
 BAR SCREEN NO. 4 LOOP NO. 1164-4
 BAR SCREEN NO. 5 LOOP NO. 1165-5



BAR SCREENS NO. 3,4,5 STATUS & CONTROL LOOP NO. 1161-

ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
HS	HAND SWITCH		PROVIDED UNDER DIVISION IS	GRIT REMOVER MIXER NO. * RUN/STOP	--
XY	FAILURE RELAY		PROVIDED UNDER DIVISION II	GRIT REMOVER MIXER NO. * FAILURE	--
RY	RUNNING RELAY	CONTACT ON MOTOR STARTER	PROVIDED UNDER DIVISION IS	GRIT REMOVER MIXER NO. * STATUS	--
HS	HAND SWITCH	3 POSITION SPEED SELECT	PROVIDED UNDER DIVISION II	GRIT REMOVER MIXER NO. * SPEED CONTROL FAST/OFF/SLOW	--

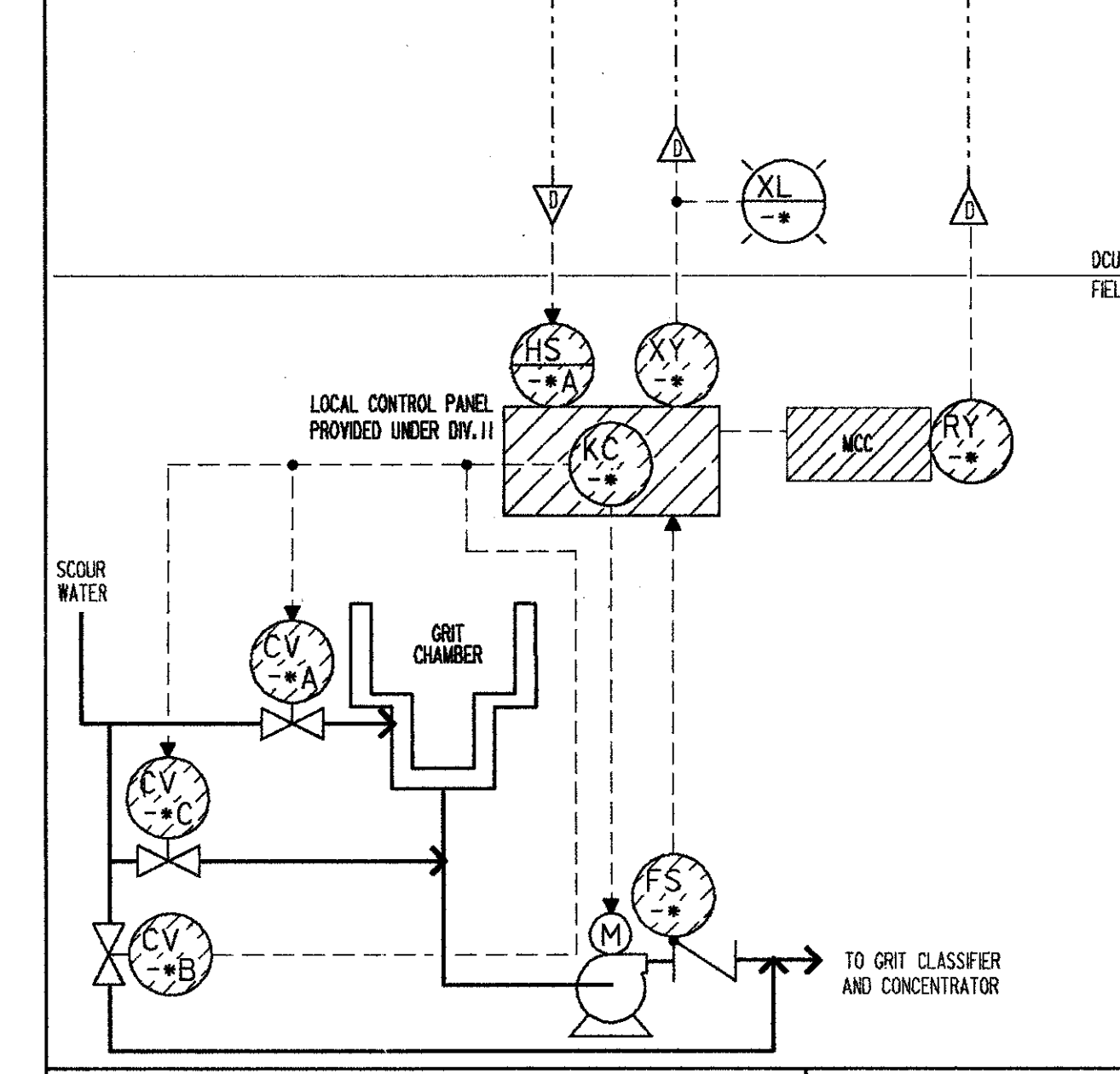
NOTE:
 QUANTITIES SHOWN ARE TOTALS FOR (2) IDENTICAL LOOPS.
 * DENOTES 1 OR 2
 GRIT REMOVER MIXER NO. 1 LOOP NO. 1261-1
 GRIT REMOVER MIXER NO. 2 LOOP NO. 1261-2



PHASE 3 GRIT REMOVER MIXER STATUS LOOP NO. 1261-

ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
RY	RUNNING RELAY		PROVIDED UNDER DIVISION IS	GRIT PUMPING SYSTEM NO. * CONTROL	--
XY	FAILURE RELAY		PROVIDED UNDER DIVISION II	GRIT PUMPING SYSTEM NO. * CONTROL	--
KC	TIME CONTROL	TIME RELAY	PROVIDED UNDER DIVISION II	GRIT PUMPING SYSTEM NO. * CONTROL	--
HS	HAND SWITCH		PROVIDED UNDER DIVISION II	GRIT PUMPING SYSTEM NO. * CONTROL	--
FS	FLOW SWITCH	LIMIT SWITCH	PROVIDED UNDER DIVISION IS	GRIT PUMPING SYSTEM NO. * CONTROL	--
CV	A-O CONTROL VALVE		PROVIDED UNDER DIVISION IS	GRIT PUMPING SYSTEM NO. * CONTROL	--
HS	HAND SWITCH	SOFTWARE	INITIATED THRU CRT KEYBOARD	GRIT PUMPING SYSTEM NO. * CONTROL	2
XL	FAILURE LIGHT	L.E.D.		GRIT PUMPING SYSTEM NO. * CONTROL	2

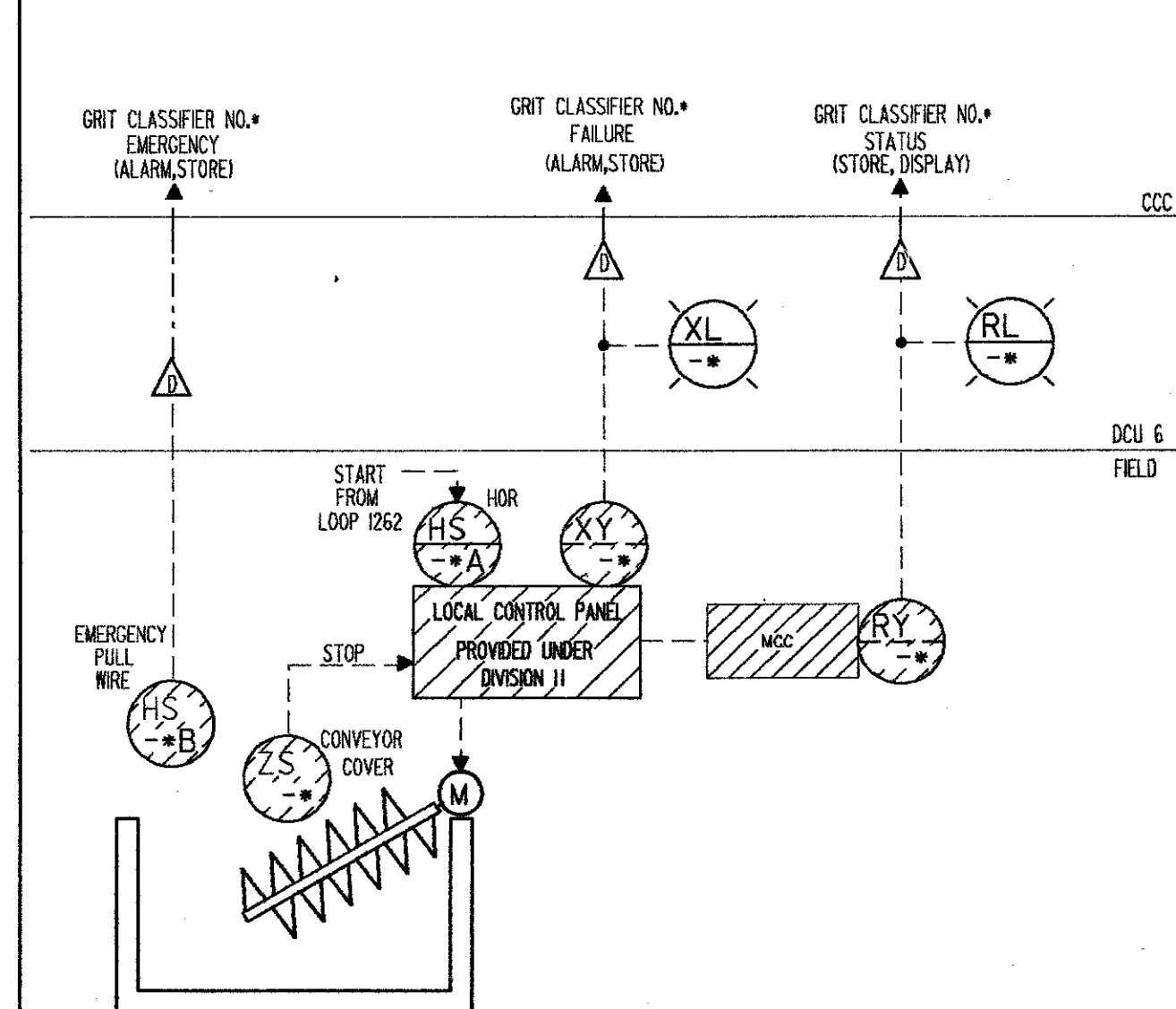
NOTE:
 QUANTITIES SHOWN ARE TOTALS FOR (2) IDENTICAL LOOPS.
 * DENOTES 1 OR 2
 PHASE 3A GRIT PUMPING SYSTEM NO. 1 LOOP NO. 1262-1
 PHASE 3A GRIT PUMPING SYSTEM NO. 2 LOOP NO. 1262-2
 (2 EACH, 2 FUTURE)



GRIT PUMPING WITH FLUSHING LOOP NO. 1262-

ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
HS	HAND SWITCH	3 POSITION, NEMA 4X	PROVIDED UNDER DIVISION II	GRIT CLASSIFIER NO. * STATUS	--
XY	FAILURE RELAY		PROVIDED UNDER DIVISION II	GRIT CLASSIFIER NO. * STATUS	--
ZS	POSITION SWITCH	NEMA 4X	PROVIDED UNDER DIVISION II	GRIT CLASSIFIER NO. * STATUS	--
RY	RUNNING RELAY	CONTACT ON MOTOR STARTER	PROVIDED UNDER DIVISION IS	GRIT CLASSIFIER NO. * STATUS	--
HS	EMERGENCY PULL WIRE	NEMA 4X	PROVIDED UNDER DIVISION II	GRIT CLASSIFIER NO. * STATUS	--
XL	FAILURE LIGHT	L.E.D.		GRIT CLASSIFIER NO. * EMERGENCY	2

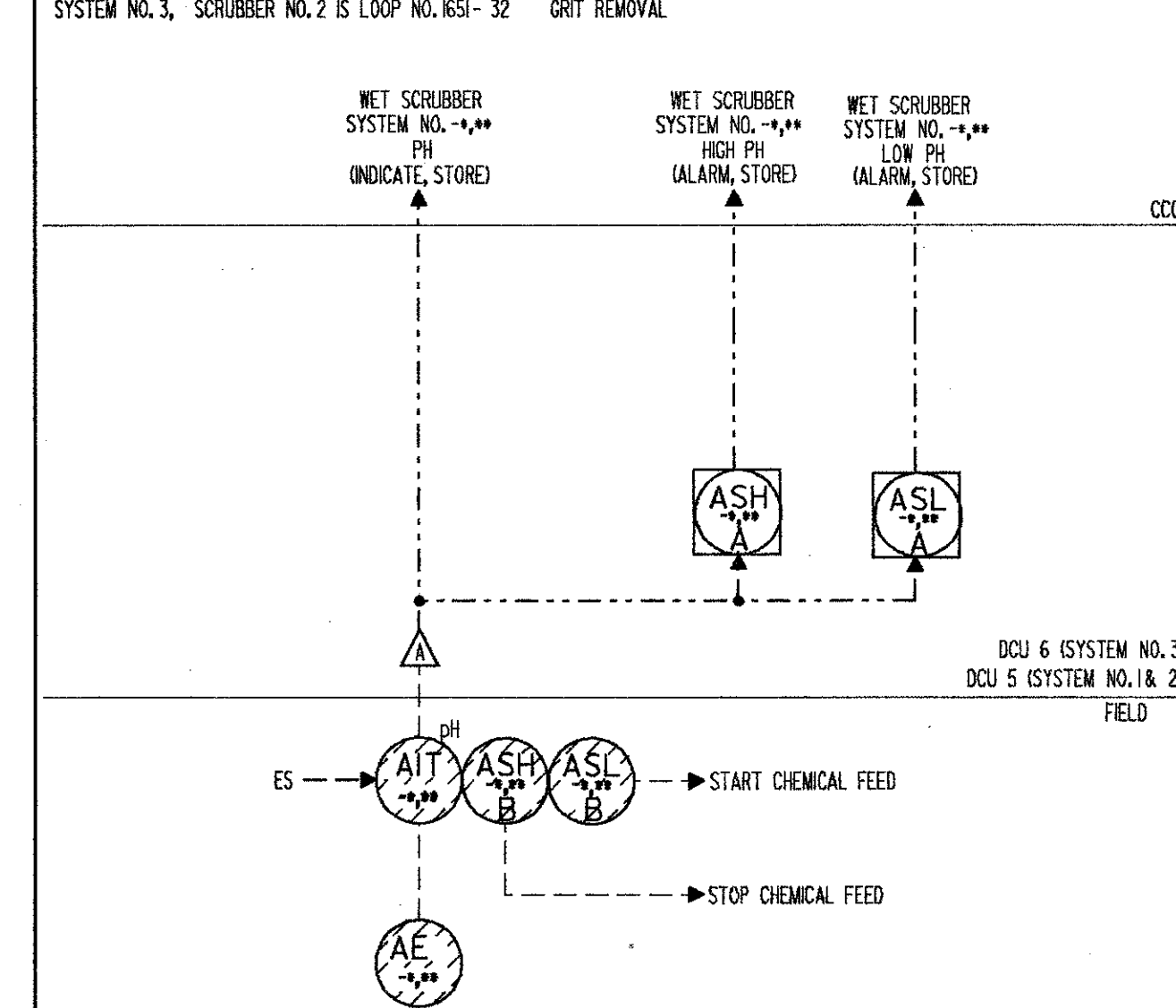
NOTE:
 QUANTITIES SHOWN ARE TOTALS FOR (2) IDENTICAL LOOPS.
 * DENOTES 1 OR 2
 GRIT CLASSIFIER NO. 1 LOOP NO. 1263-1
 GRIT CLASSIFIER NO. 2 LOOP NO. 1263-2
 (2 EACH, FUTURE)



GRIT CLASSIFIER STATUS LOOP NO. 1263-

ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
AE/AT	ANALYSIS INDICATING TRANSMITTER	PH, 4-20 mA OUTPUT	RANGE: 2 - 12 PROVIDED UNDER DIVISION IS	SYSTEM NO. *, SCRUBBER NO. **	--
ASH	ANALYZER SWITCH HIGH	SOFTWARE	ASH SETPOINT: 8.5	SYSTEM NO. *, SCRUBBER NO. **	6
ASL	ANALYZER SWITCH LOW	SOFTWARE		SYSTEM NO. *, SCRUBBER NO. **	6
ASL	ANALYZER SWITCH LOW	4-20 mA INPUT, NEMA 4X	PROVIDED UNDER DIVISION IS	SYSTEM NO. *, SCRUBBER NO. **	--
ASL	ANALYZER SWITCH LOW	4-20 mA INPUT, NEMA 4X	PROVIDED UNDER DIVISION IS	SYSTEM NO. *, SCRUBBER NO. **	--
ASH	ANALYZER SWITCH HIGH	4-20 mA INPUT, NEMA 4X	PROVIDED UNDER DIVISION IS	SYSTEM NO. *, SCRUBBER NO. **	--
ASH	ANALYZER SWITCH HIGH	4-20 mA INPUT, NEMA 4X	PROVIDED UNDER DIVISION IS	SYSTEM NO. *, SCRUBBER NO. **	--

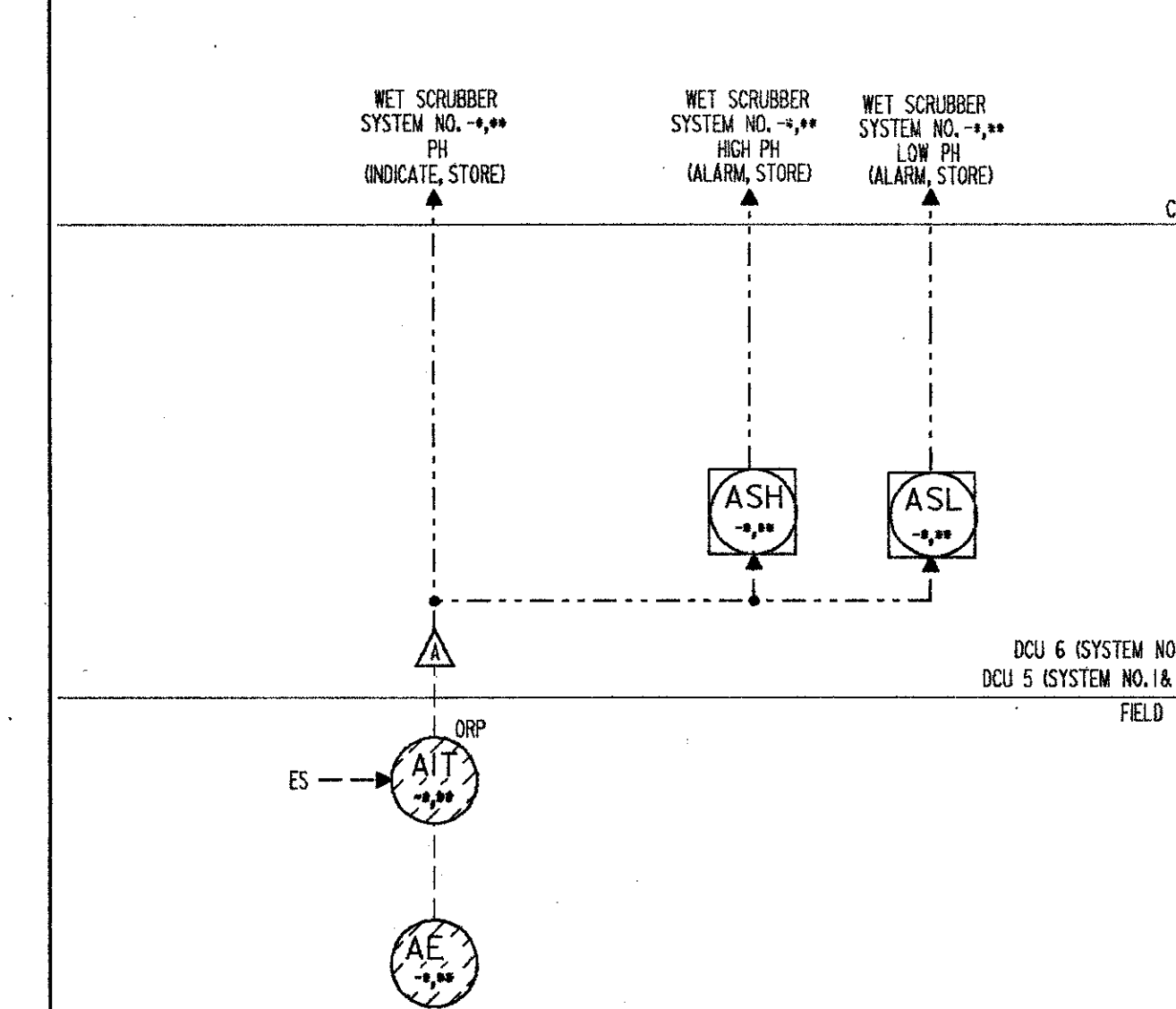
NOTE:
 QUANTITIES SHOWN ARE FOR IDENTICAL LOOPS
 * DENOTES 1
 ** DENOTES 1 OR 2
 SYSTEM NO. 1 IS EXISTING
 SYSTEM NO. 1, SCRUBBER NO. 1 IS LOOP NO. 1651-11 EXISTING INFLUENT PUMP STATION
 SYSTEM NO. 1, SCRUBBER NO. 2 IS LOOP NO. 1651-12 EXISTING INFLUENT PUMP STATION
 SYSTEM NO. 2, SCRUBBER NO. 1 IS LOOP NO. 1651-21 PHASE 3A INFLUENT PUMP STATION
 SYSTEM NO. 2, SCRUBBER NO. 2 IS LOOP NO. 1651-22 PHASE 3A INFLUENT PUMP STATION
 SYSTEM NO. 3, SCRUBBER NO. 1 IS LOOP NO. 1651-31 GRIT REMOVAL
 SYSTEM NO. 3, SCRUBBER NO. 2 IS LOOP NO. 1651-32 GRIT REMOVAL



ODOR CONTROL SCRUBBER SYSTEM pH MONITORING LOOP NO. 1651-

ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
AE/AT	ANALYSIS INDICATING TRANSMITTER	PH, 4-20 mA OUTPUT	RANGE: 2 - 12 PROVIDED UNDER DIVISION IS	SYSTEM NO. *, SCRUBBER NO. **	--
ASH	ANALYZER SWITCH HIGH	SOFTWARE	ASH SETPOINT: 8.5	SYSTEM NO. *, SCRUBBER NO. **	4
ASL	ANALYZER SWITCH LOW	SOFTWARE		SYSTEM NO. *, SCRUBBER NO. **	4

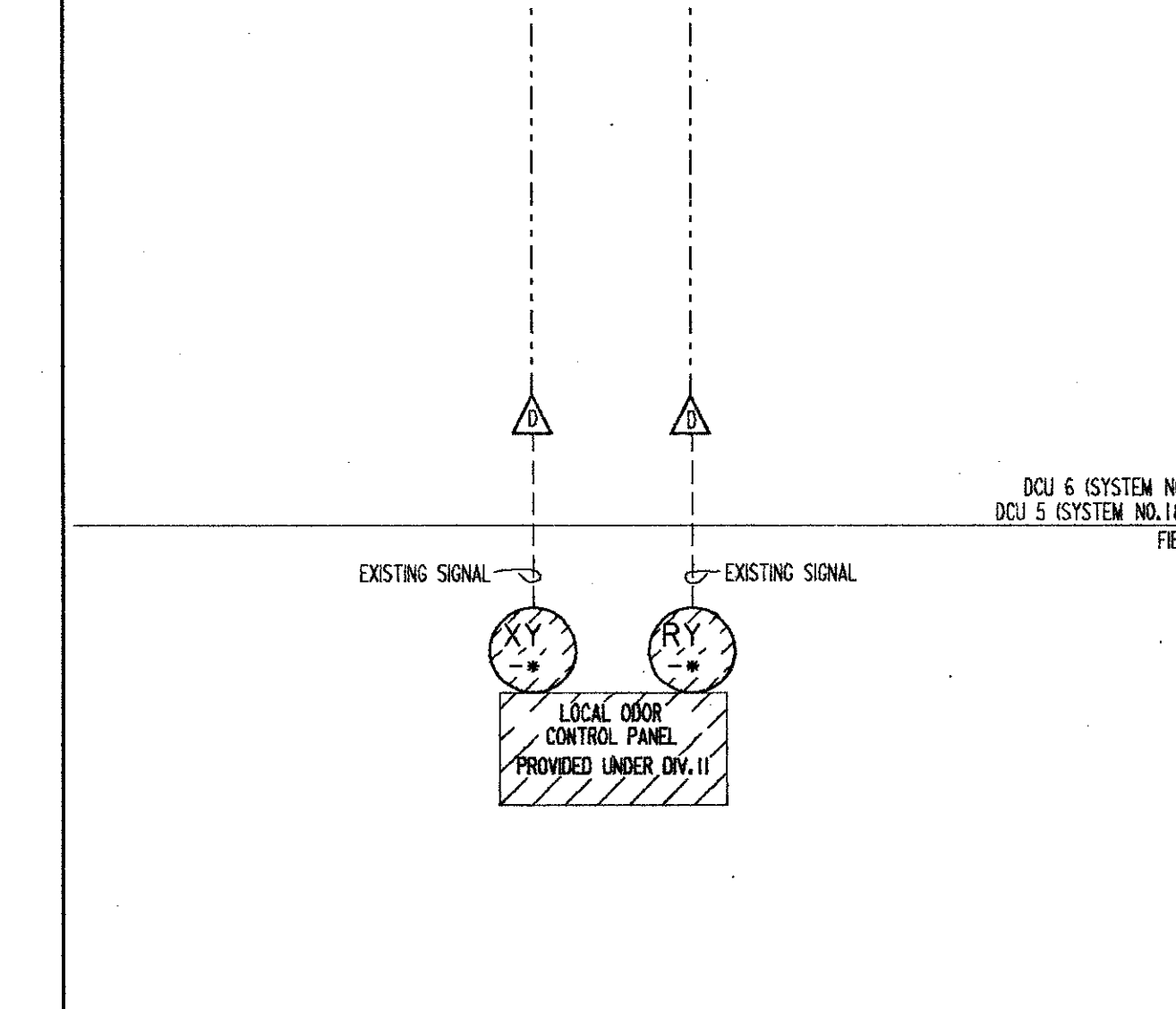
NOTE:
 QUANTITIES SHOWN ARE FOR 2 IDENTICAL LOOPS
 * DENOTES 2 OR 3
 SYSTEM NO. 2, SCRUBBER NO. 1 IS LOOP NO. 1652-21 PHASE 3A INFLUENT PUMP STATION
 SYSTEM NO. 2, SCRUBBER NO. 2 IS LOOP NO. 1652-22 PHASE 3A INFLUENT PUMP STATION
 SYSTEM NO. 3, SCRUBBER NO. 1 IS LOOP NO. 1652-31 GRIT REMOVAL
 SYSTEM NO. 3, SCRUBBER NO. 2 IS LOOP NO. 1652-32 GRIT REMOVAL



ODOR CONTROL SCRUBBER SYSTEM ORP MONITORING LOOP NO. 1652-

ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
XY	FAILURE RELAY	DRY CONTACT	PROVIDED UNDER DIVISION IS	ODOR CONTROL SYSTEM NO. * FAILURE	--
RY	RUNNING RELAY	DRY CONTACT	PROVIDED UNDER DIVISION IS	ODOR CONTROL SYSTEM NO. * RUNNING	--

NOTE:
 QUANTITIES SHOWN ARE FOR 3 IDENTICAL LOOPS
 * DENOTES 1, 2 OR 3
 SYSTEM NO. 1 IS EXISTING



ODOR CONTROL SYSTEM STATUS LOOP NO. 1661-

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION
LOOP DIAGRAMS
 ORANGE COUNTY, FLORIDA

DESIGNED BY: HRH
 DRAWN BY: JD
 CHECKED BY:
 APPROVED BY:
 DATE: 3/12/88

ADDENDUM NO. 1
 CONFORMED DWG.

4-88 JWH CLK
 4/88 SAF

REV. DATE DRWN CHKD

REV. DATE DRWN CHKD

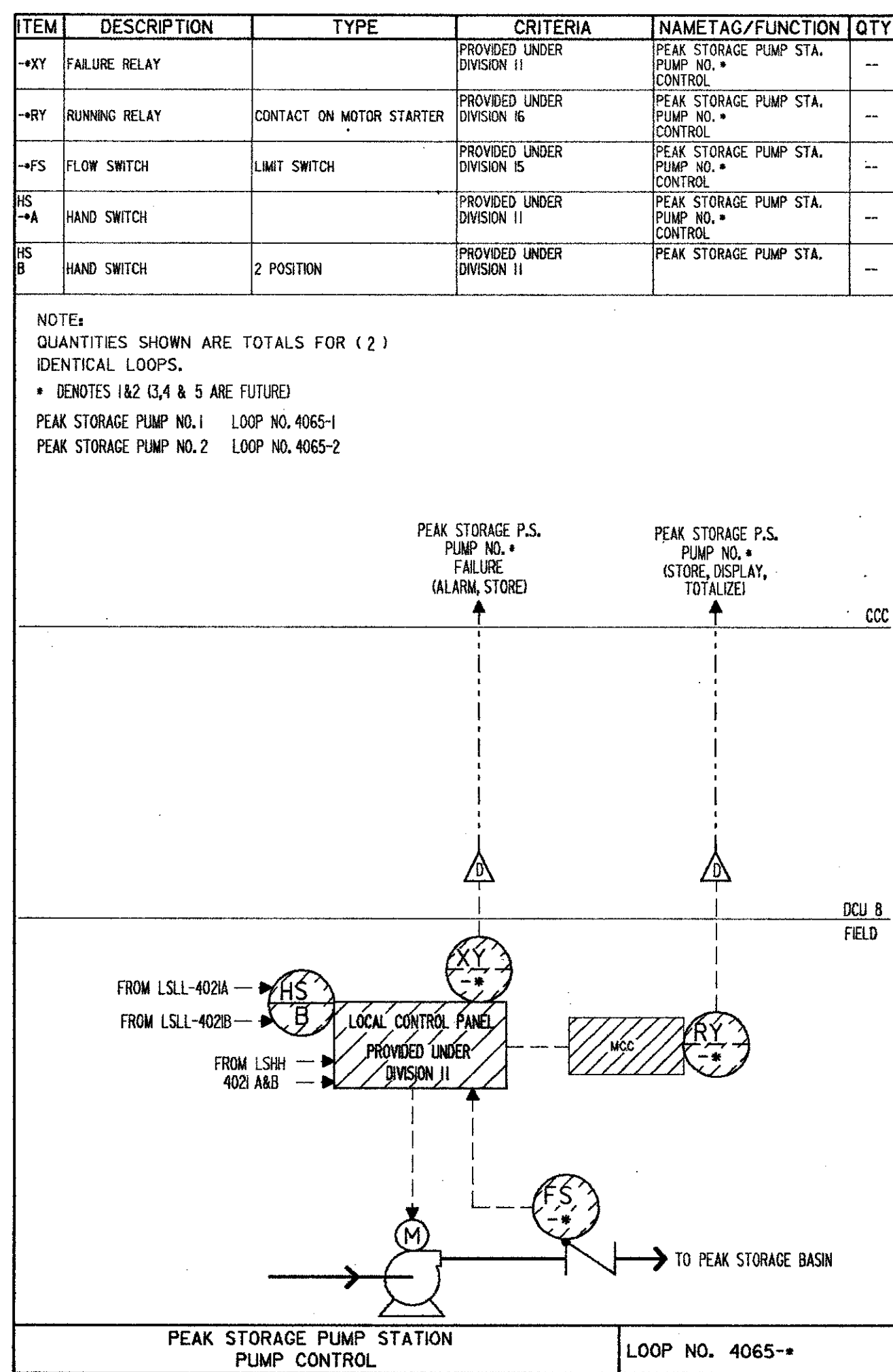
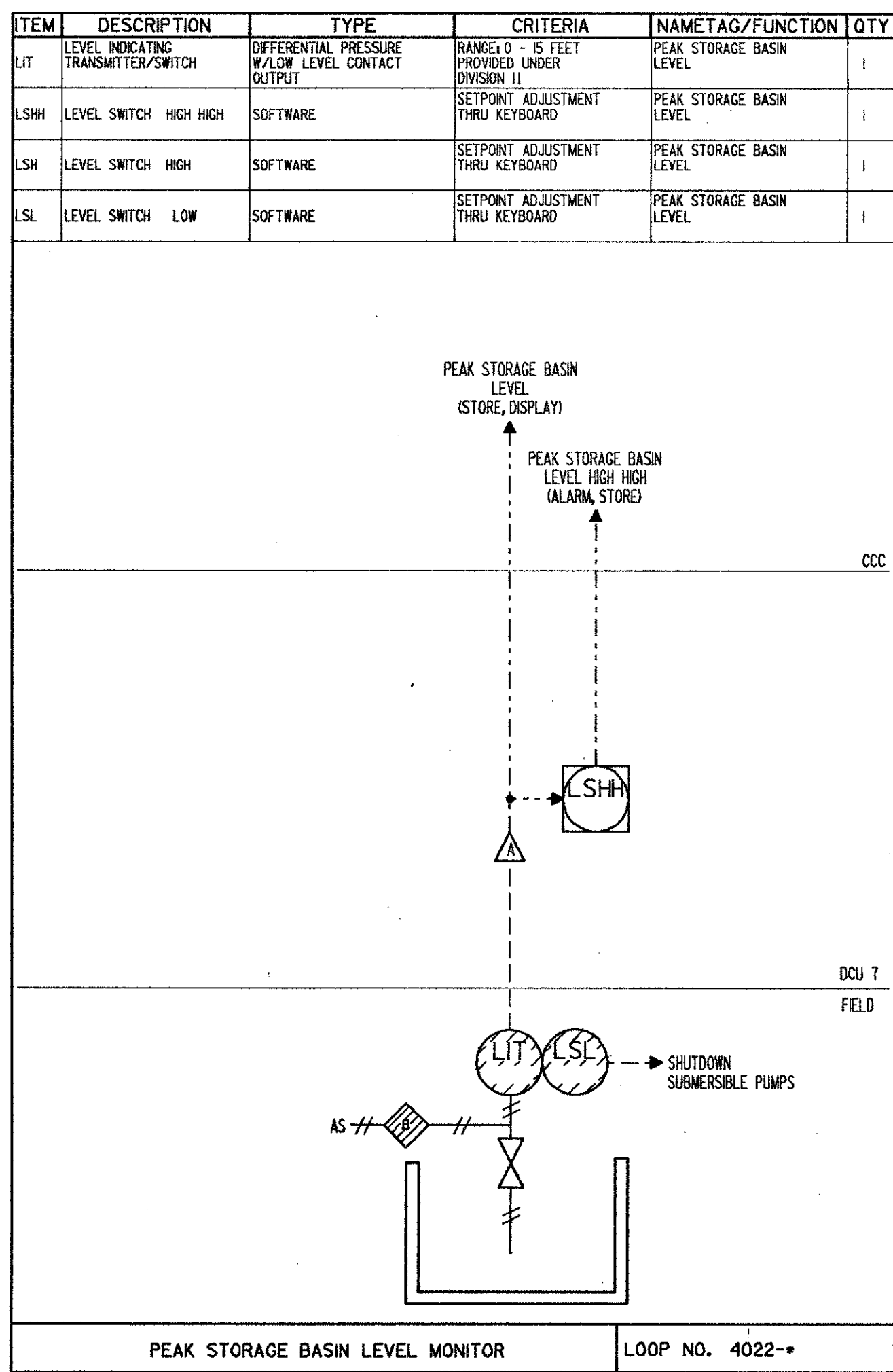
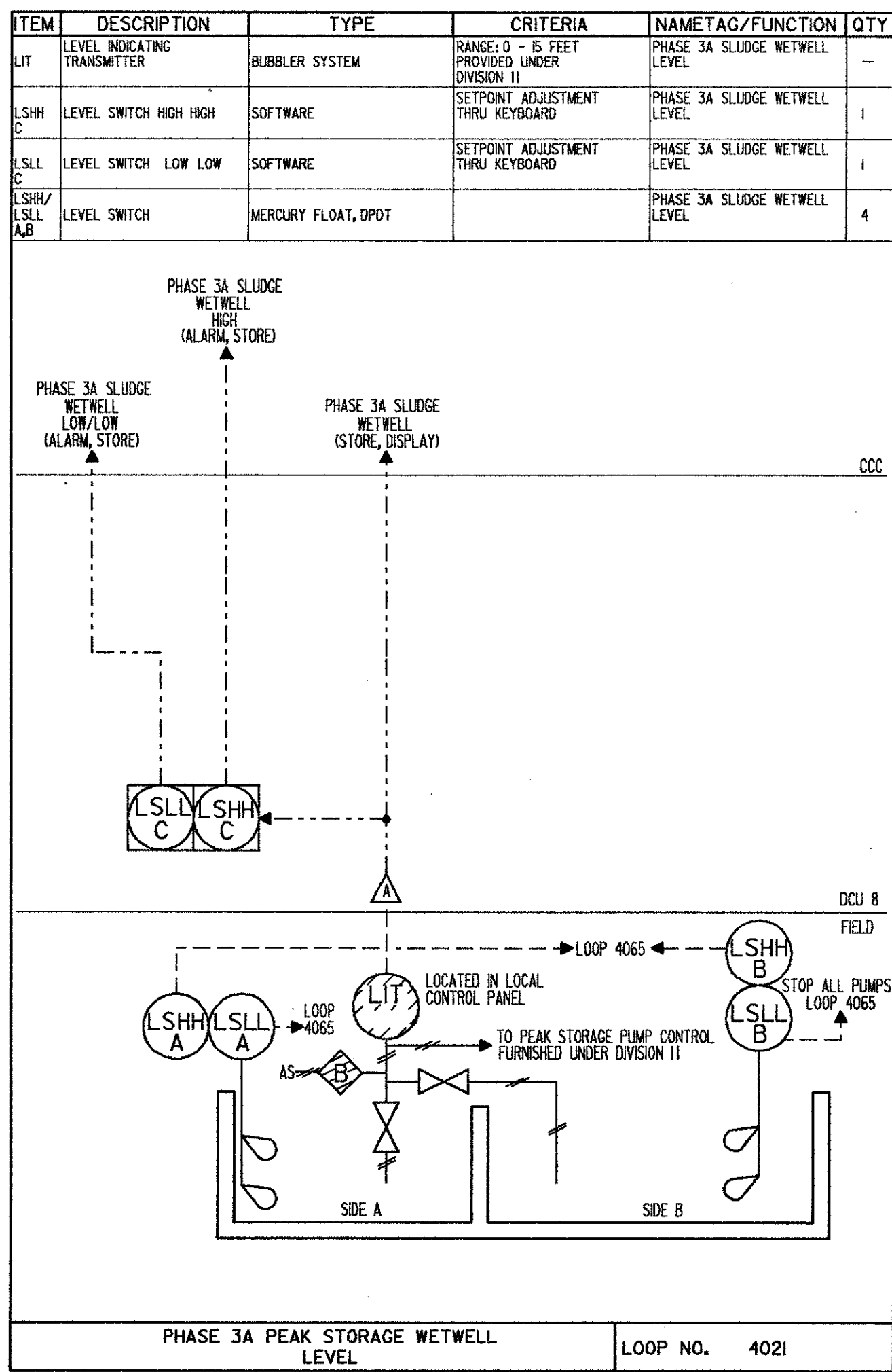
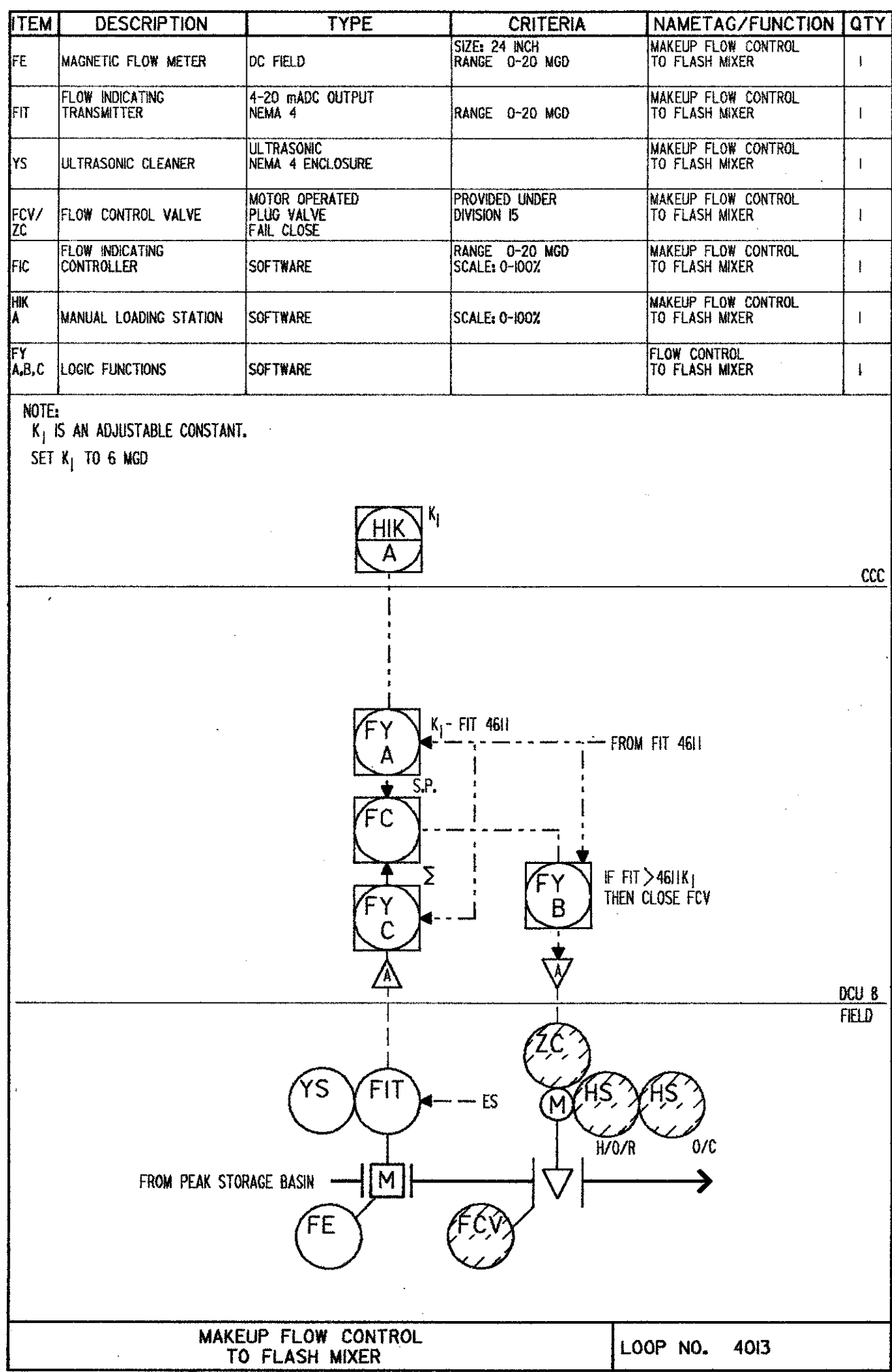
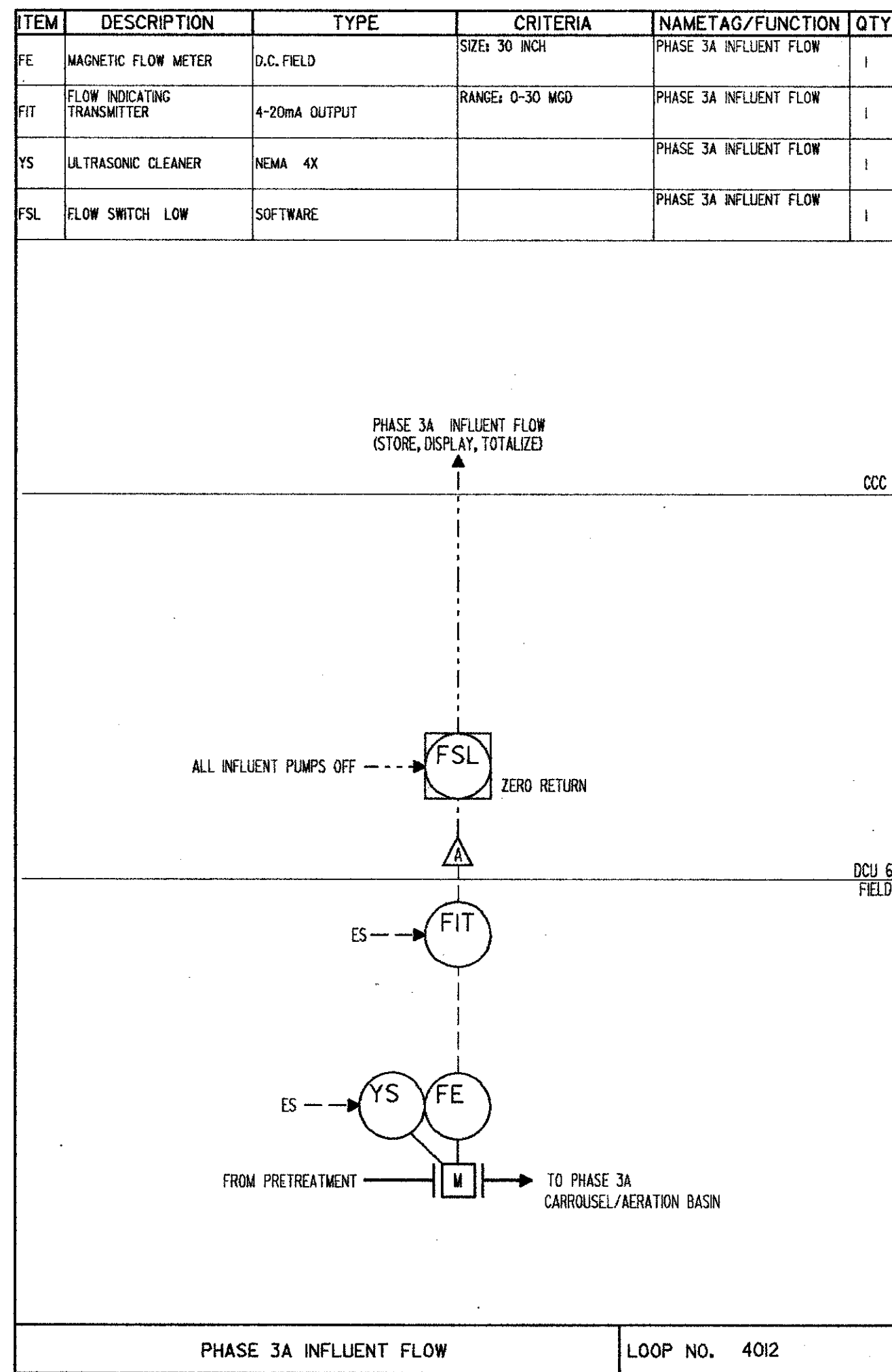
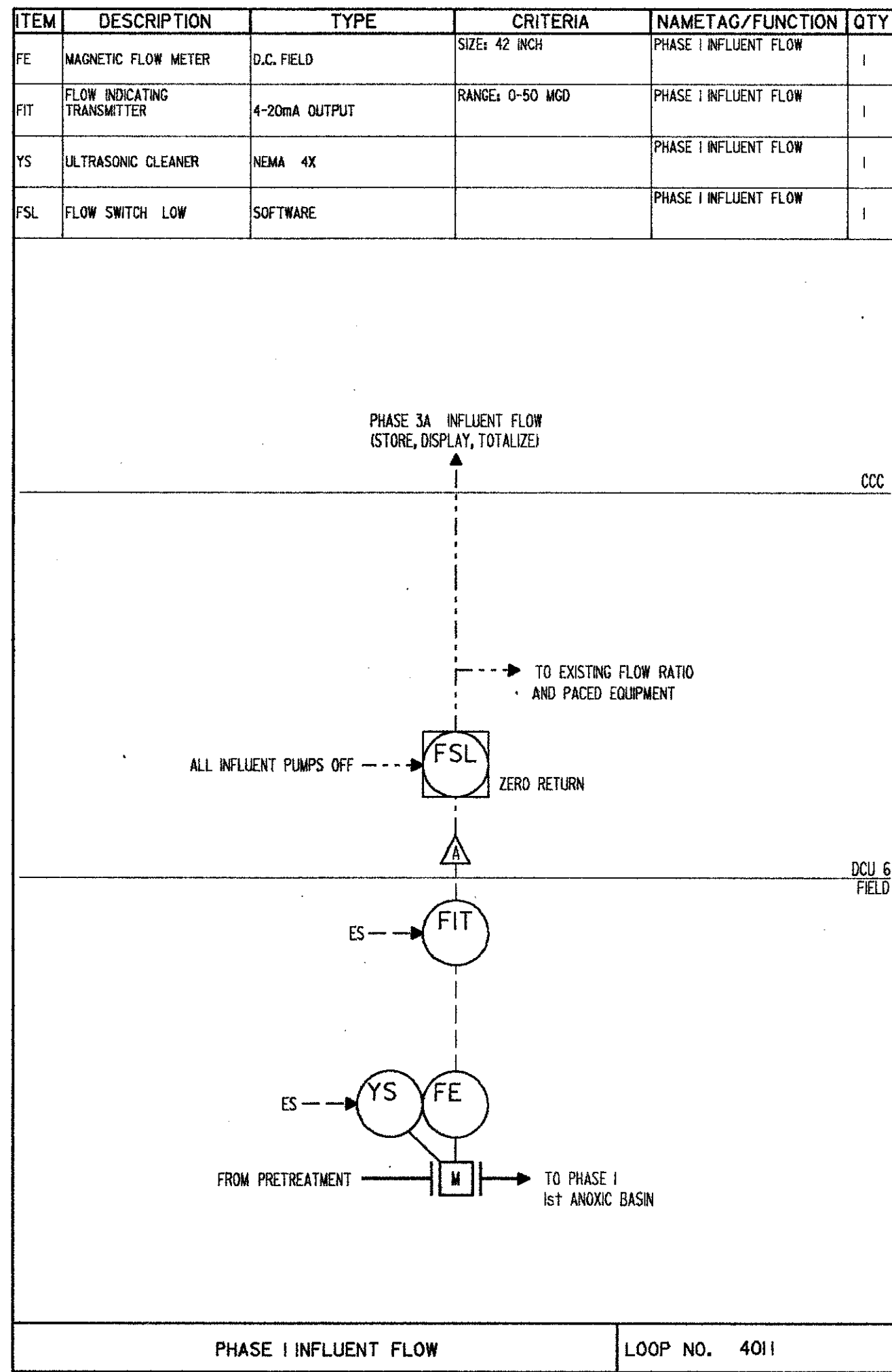
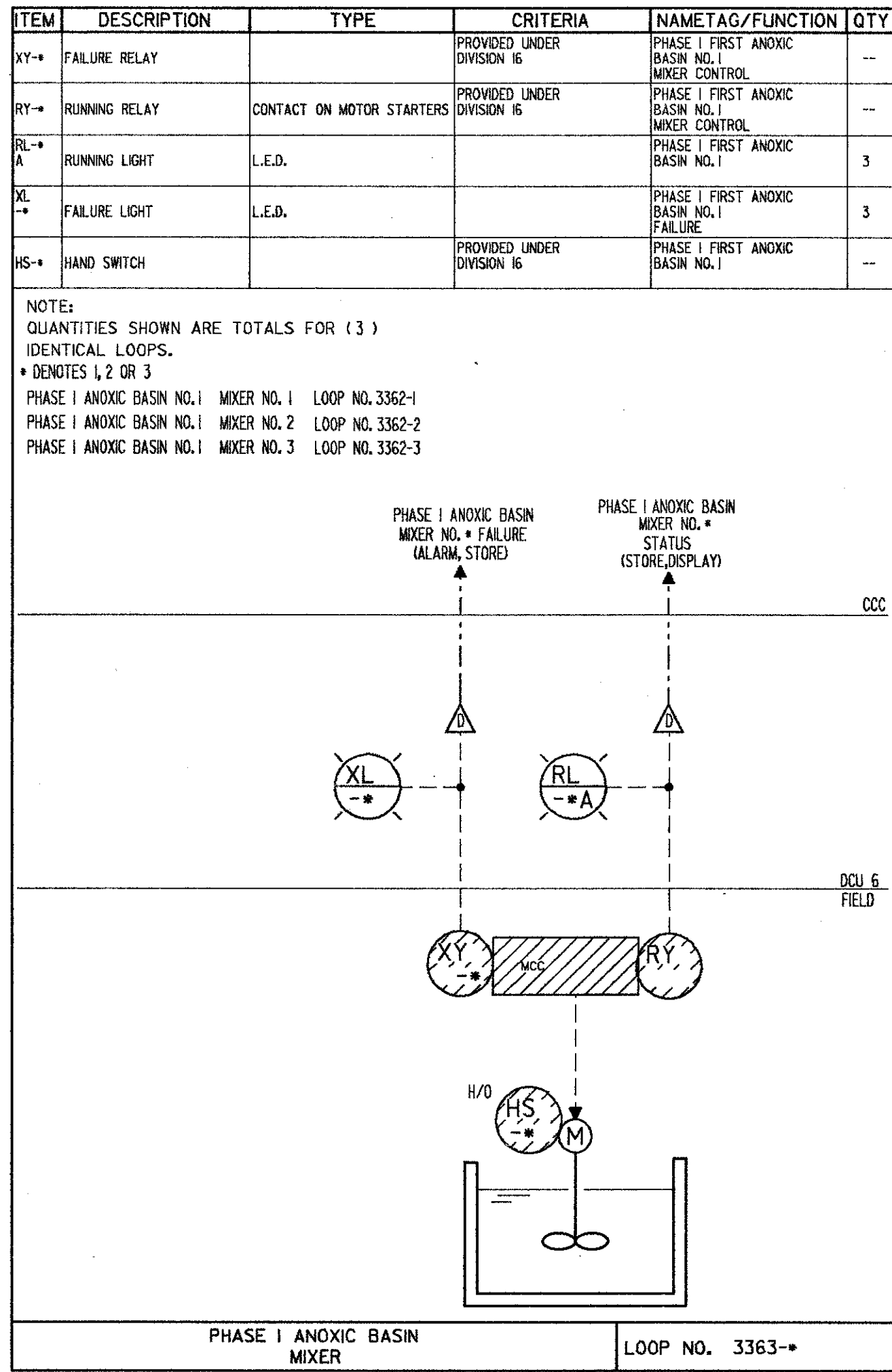
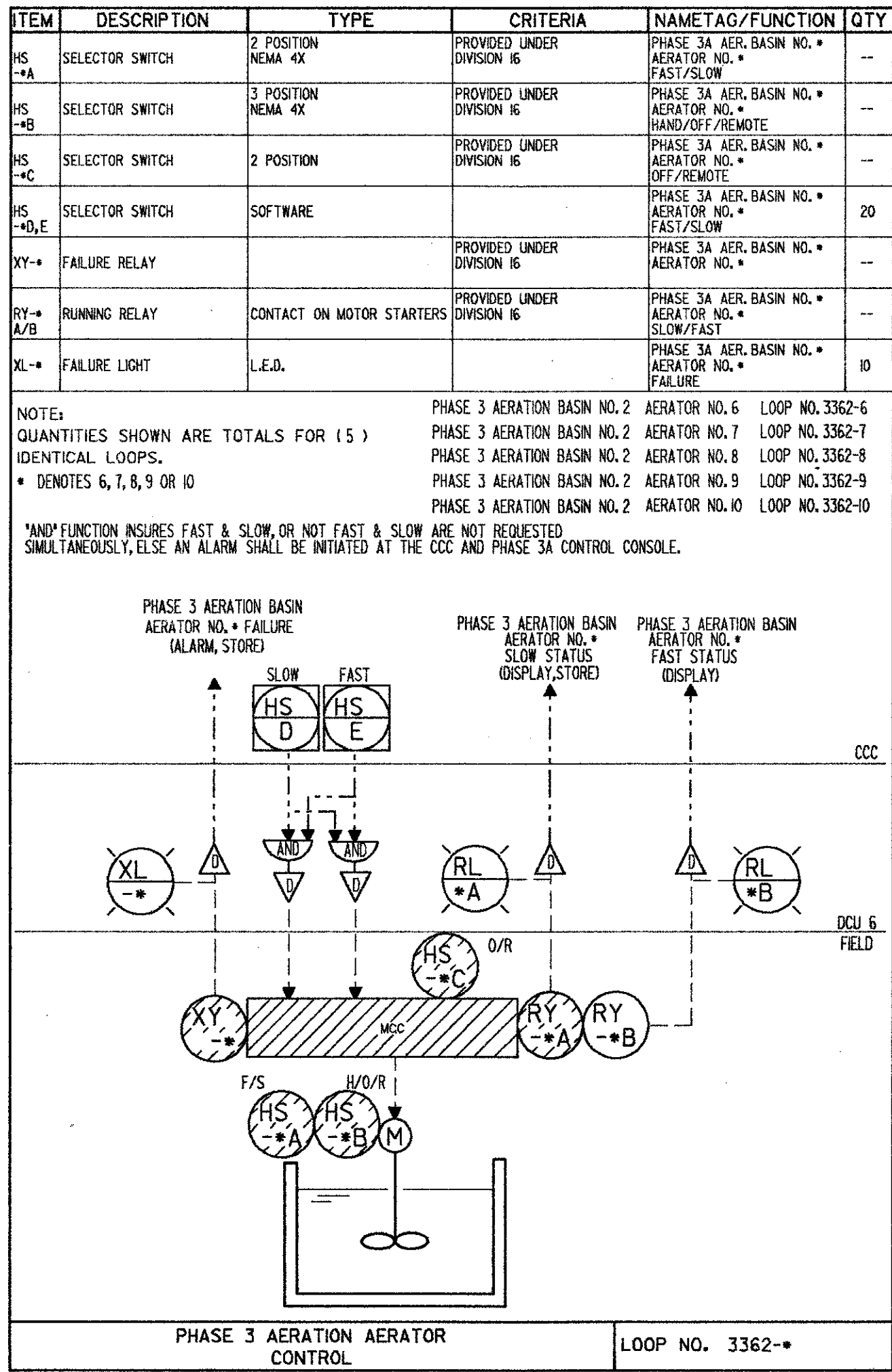
REMARKS

CAMP DRESSER & MCKEE INC.

PROJECT NO.
 6059-SL3R

SHEET NO.
 1 of 7

Professional Engineer
 State of Florida
 No. 37822
 Registered Engineer



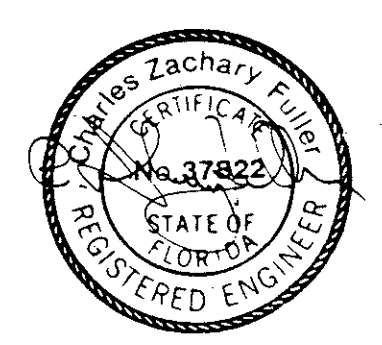
**SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
LOOP DIAGRAMS
ORANGE COUNTY, FLORIDA**

DESIGNED BY: HRH
DRAWN BY: JD
CHECKED BY: JF
DATE: 3/2/88

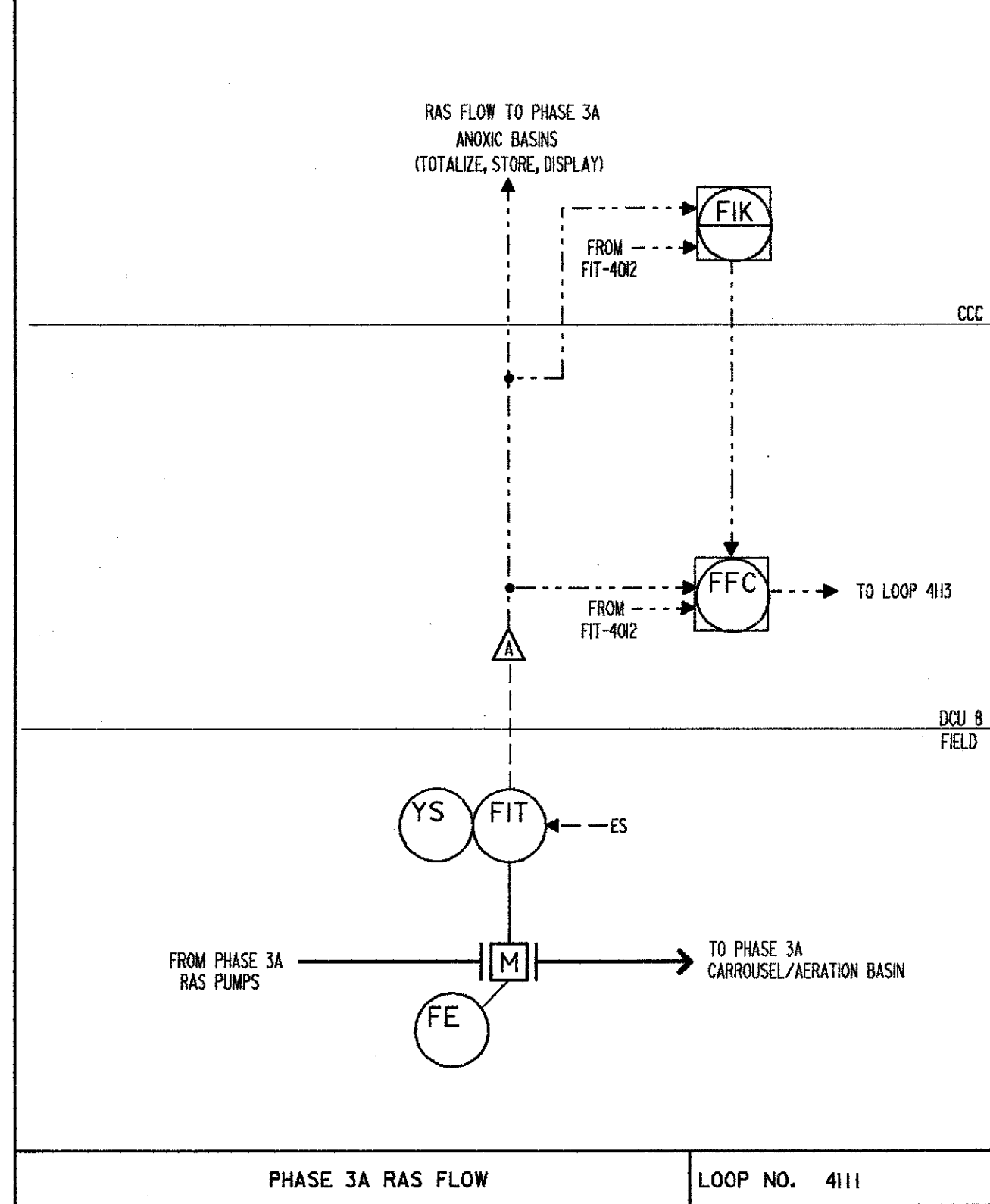
CONFORMED D.V.G.
REV. NO. DATE DRWN CHKD

CAMP DRESSER & MCKEE, INC.
CDM
environmental engineers, scientists, planners & management consultants

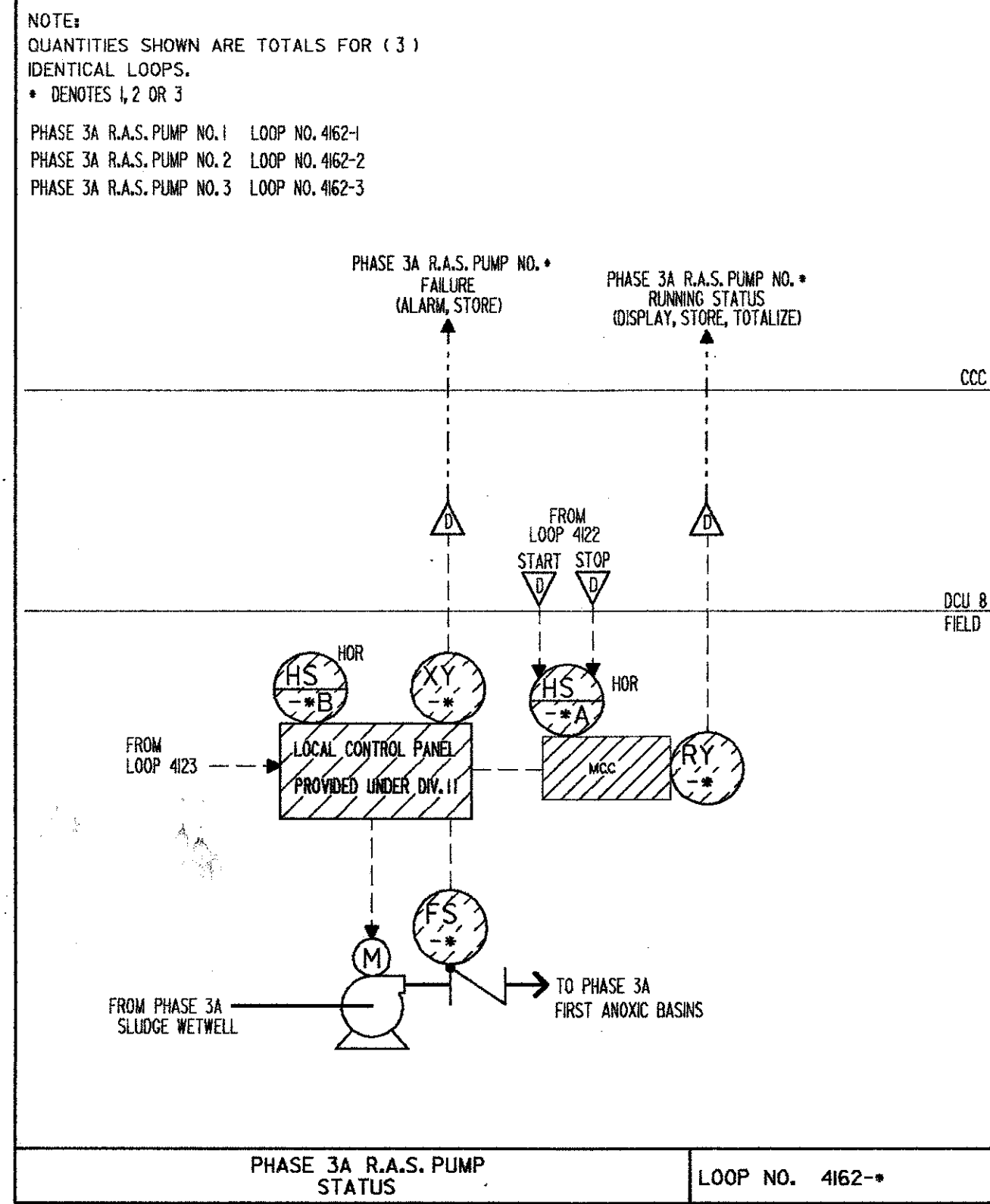
PROJECT NO. 6059-SL3R
SHEET NO. 10



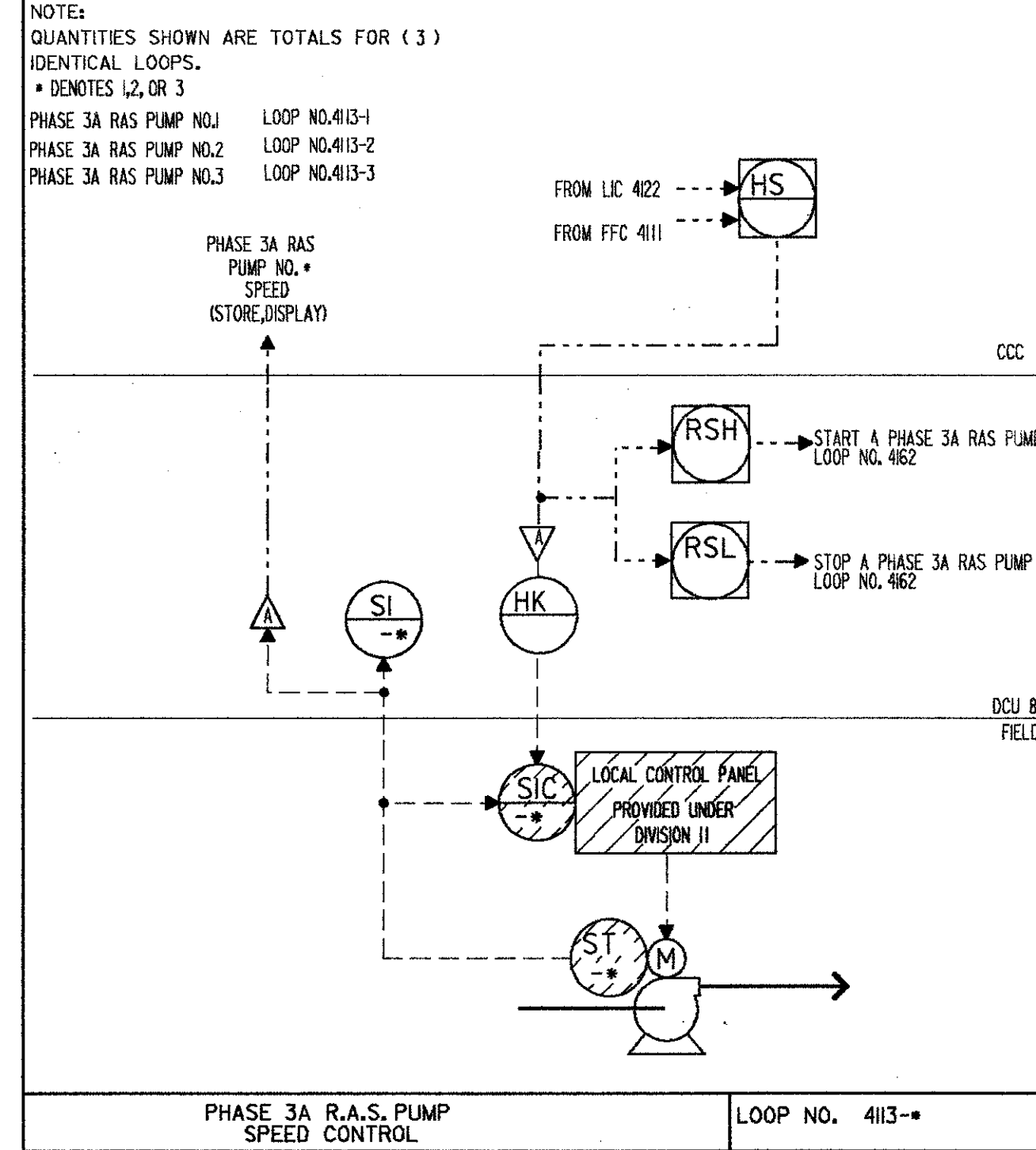
ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
FE	MAGNETIC FLOW METER	DC FIELD	RANGE: 0-20 MGD	RAS FLOW TO PHASE 3A ANOXIC BASINS	1
FT	FLOW INDICATING TRANSMITTER	4-20 mA DC OUTPUT NEMA 4	RANGE: 0-20 MGD	RAS FLOW TO PHASE 3A ANOXIC BASINS	1
YS	ULTRASONIC CLEANER	ULTRASONIC NEMA 4 ENCLOSURE		RAS FLOW TO PHASE 3A ANOXIC BASINS	1
FK	FLOW INDICATING CONTROL STATION	SOFTWARE		RAS FLOW TO PHASE 3A ANOXIC BASINS	1
FFC	FLOW RATIO CONTROLLER	SOFTWARE - ANTI-RESET WINDUP		RAS FLOW TO PHASE 3A ANOXIC BASINS	1



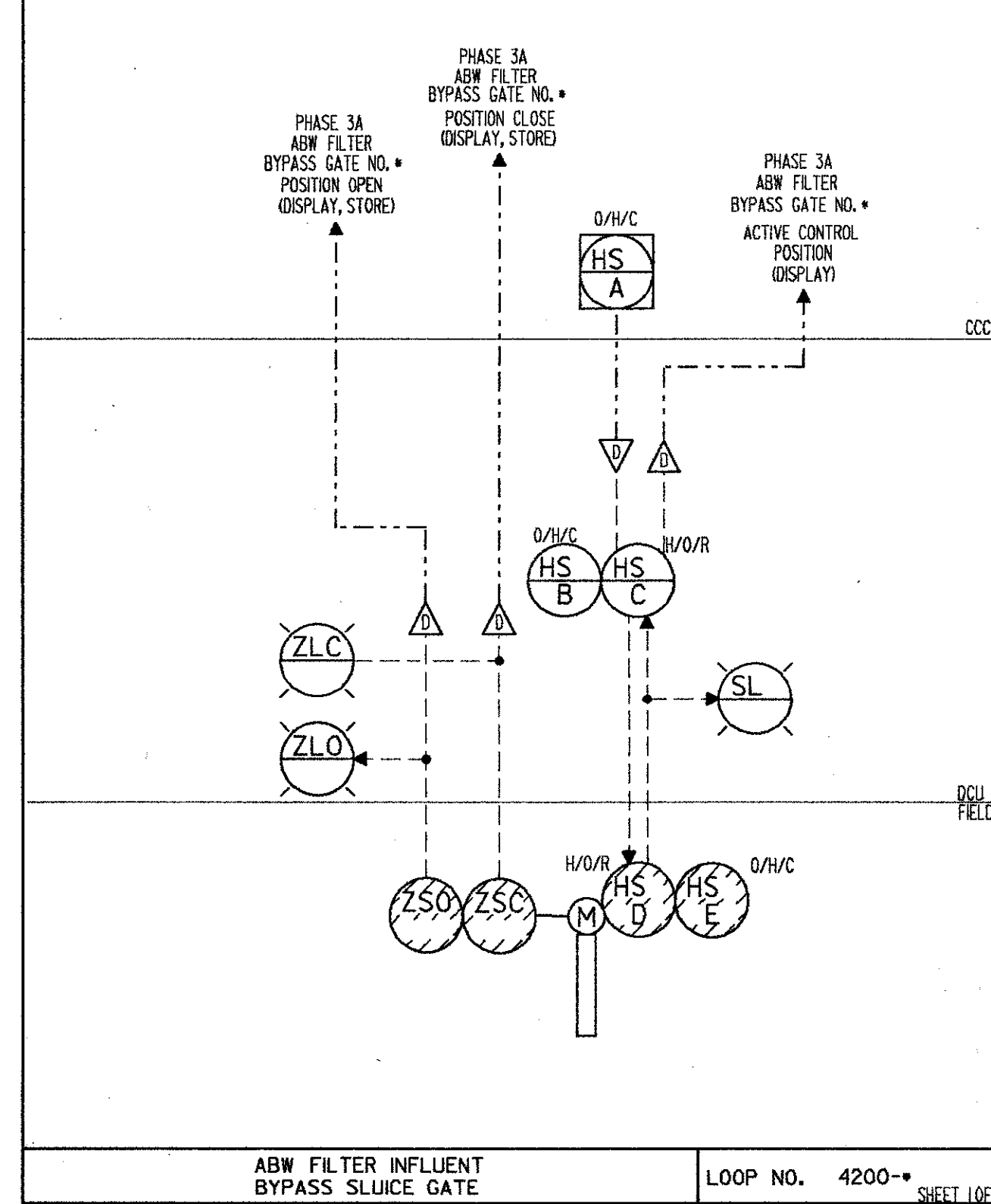
ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
RT	FAILURE RELAY	DRY CONTACTS	PROVIDED UNDER DIVISION II	PHASE 3A R.A.S. PUMP MONITORING	--
RY	RUNNING RELAY	CONTACT ON MOTOR STARTER	PROVIDED UNDER DIVISION II	PHASE 3A R.A.S. PUMP MONITORING	--
FS	FLOW SWITCH	LIMIT SWITCH	PROVIDED UNDER DIVISION II	PHASE 3A R.A.S. PUMP MONITORING	--
HS A	HAND SWITCH	3 POSITION	PROVIDED UNDER DIVISION II	PHASE 3A R.A.S. PUMP MONITORING	--
HS B	HAND SWITCH	3 POSITION	PROVIDED UNDER DIVISION II	PHASE 3A R.A.S. PUMP MONITORING	--



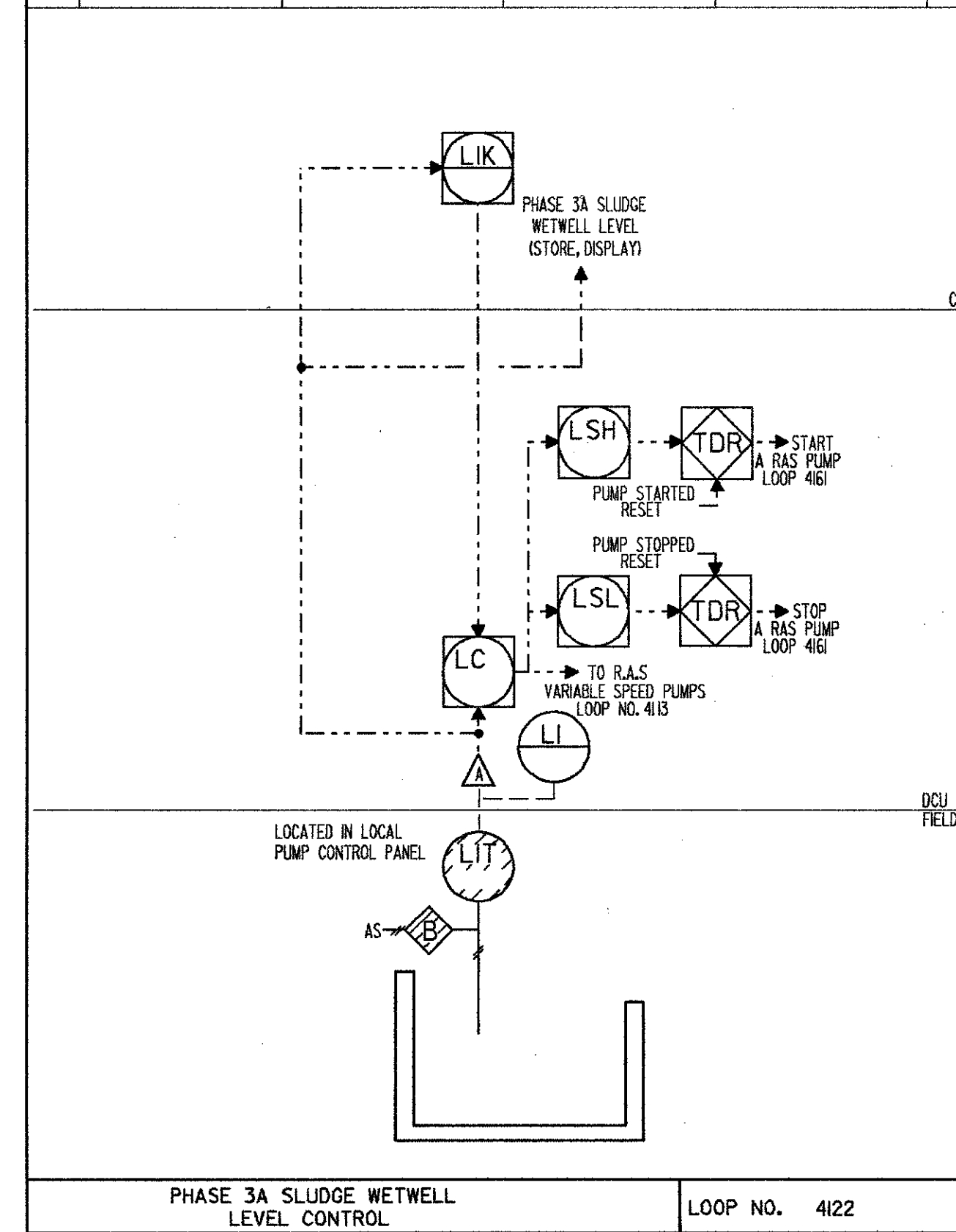
ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
ST	SPEED TRANSMITTER	PROVIDED UNDER DIVISION II		PHASE 3A RAS PUMP NO. * SPEED CONTROL	--
SI	SPEED INDICATING CONTROLLER	LOCAL/REMOTE AUTO/MANUAL	PROVIDED UNDER DIVISION II	PHASE 3A RAS PUMP NO. * SPEED CONTROL	--
HK	MANUAL LOADING STATION	ELECTRONIC		PHASE 3A RAS PUMP NO. * SPEED CONTROL	1
HS	HAND SWITCH	SOFTWARE, SIGNAL SELECT		PHASE 3A RAS PUMP NO. * SPEED CONTROL	1
SI	SPEED INDICATOR	ELECTRONIC		PHASE 3A RAS PUMP NO. * SPEED CONTROL	3
RSH	RUN SWITCH HIGH	SOFTWARE		PHASE 3A RAS PUMP NO. * SPEED CONTROL	1
RSL	RUN SWITCH LOW	SOFTWARE		PHASE 3A RAS PUMP NO. * SPEED CONTROL	1



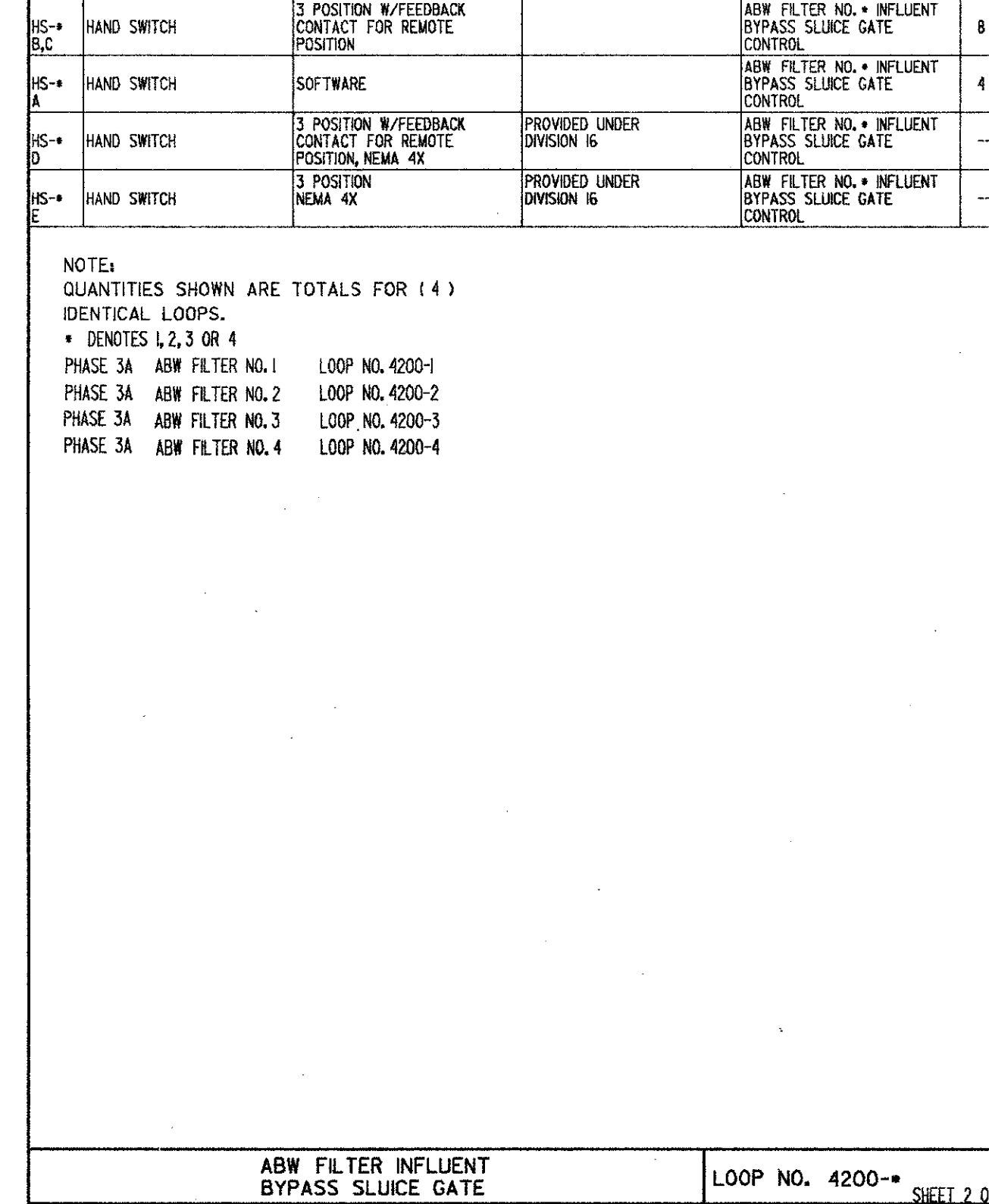
ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
ZSO	POSITION SWITCH OPEN		PROVIDED UNDER DIVISION II	ABW FILTER NO. * INFLUENT BYPASS SLUICE GATE CONTROL	--
ZSC	POSITION SWITCH CLOSE		PROVIDED UNDER DIVISION II	ABW FILTER NO. * INFLUENT BYPASS SLUICE GATE CONTROL	--
ZLC	POSITION LIGHT CLOSE	L.E.D.		ABW FILTER NO. * INFLUENT BYPASS SLUICE GATE CONTROL	4
ZLO	POSITION LIGHT OPEN	L.E.D.		ABW FILTER NO. * INFLUENT BYPASS SLUICE GATE CONTROL	4
SL	STATUS LIGHT	L.E.D.	ACTIVE CONTROL POSITION	ABW FILTER NO. * INFLUENT BYPASS SLUICE GATE CONTROL	4
HS B/C	HAND SWITCH	3 POSITION W/FEEDBACK CONTACT FOR REMOTE POSITION, NEMA 4X	PROVIDED UNDER DIVISION II	ABW FILTER NO. * INFLUENT BYPASS SLUICE GATE CONTROL	8
HS A	HAND SWITCH	SOFTWARE		ABW FILTER NO. * INFLUENT BYPASS SLUICE GATE CONTROL	4
HS D	HAND SWITCH	3 POSITION W/FEEDBACK CONTACT FOR REMOTE POSITION, NEMA 4X	PROVIDED UNDER DIVISION II	ABW FILTER NO. * INFLUENT BYPASS SLUICE GATE CONTROL	--
HS E	HAND SWITCH	3 POSITION NEMA 4X	PROVIDED UNDER DIVISION II	ABW FILTER NO. * INFLUENT BYPASS SLUICE GATE CONTROL	--



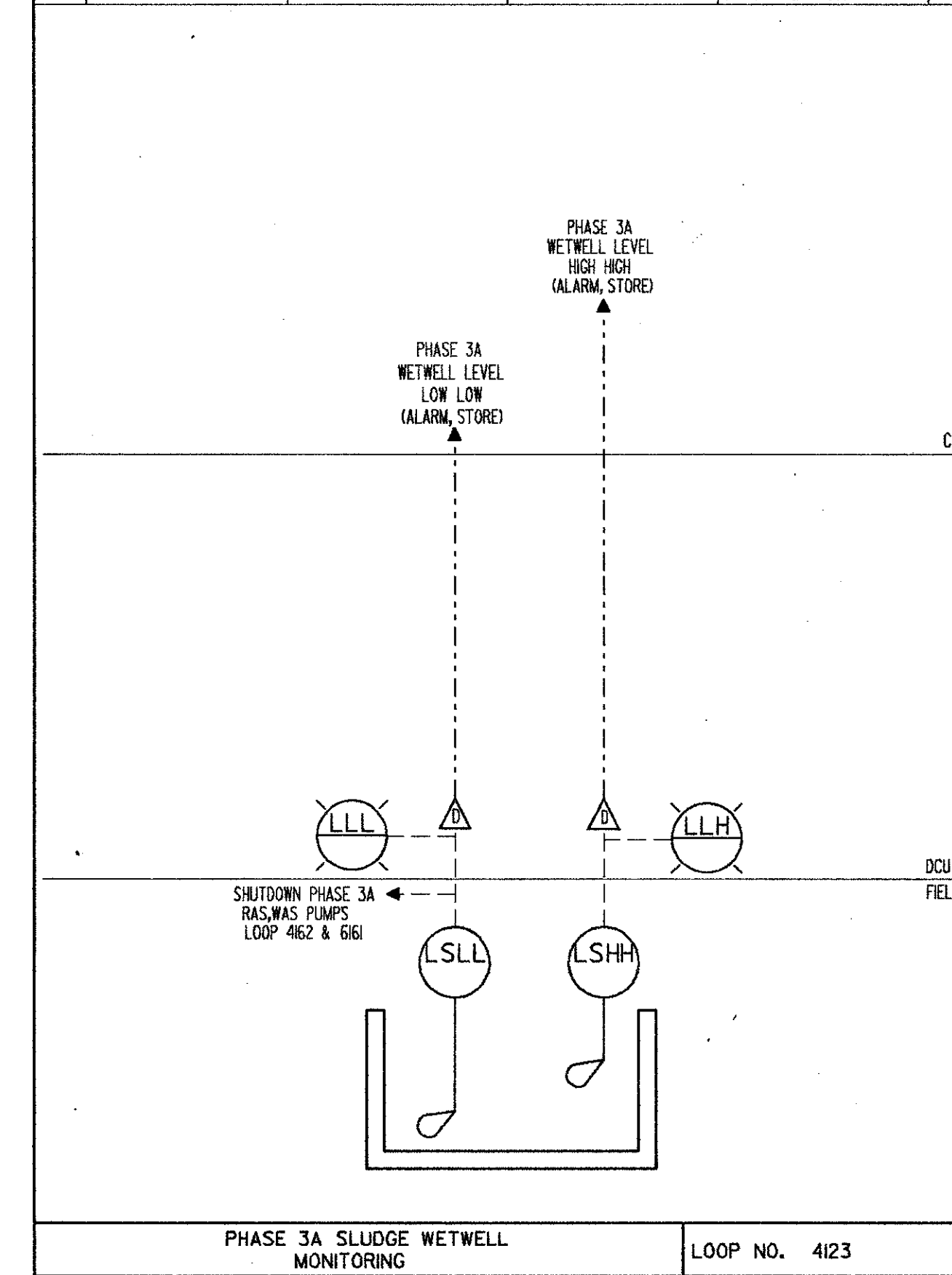
ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
LIT	LEVEL INDICATING TRANSMITTER	CAPACITANCE	PROVIDED UNDER DIVISION II	PHASE 3A SLUDGE WETWELL LEVEL CONTROL	1
LC	LEVEL CONTROLLER	SOFTWARE		PHASE 3A SLUDGE WETWELL LEVEL CONTROL	1
LK	MANUAL LOADING STATION	SOFTWARE		PHASE 3A SLUDGE WETWELL LEVEL CONTROL	1
LI	LEVEL INDICATOR	ELECTRONIC	RANGE: 0-20 FEET	PHASE 3A SLUDGE WETWELL LEVEL	1



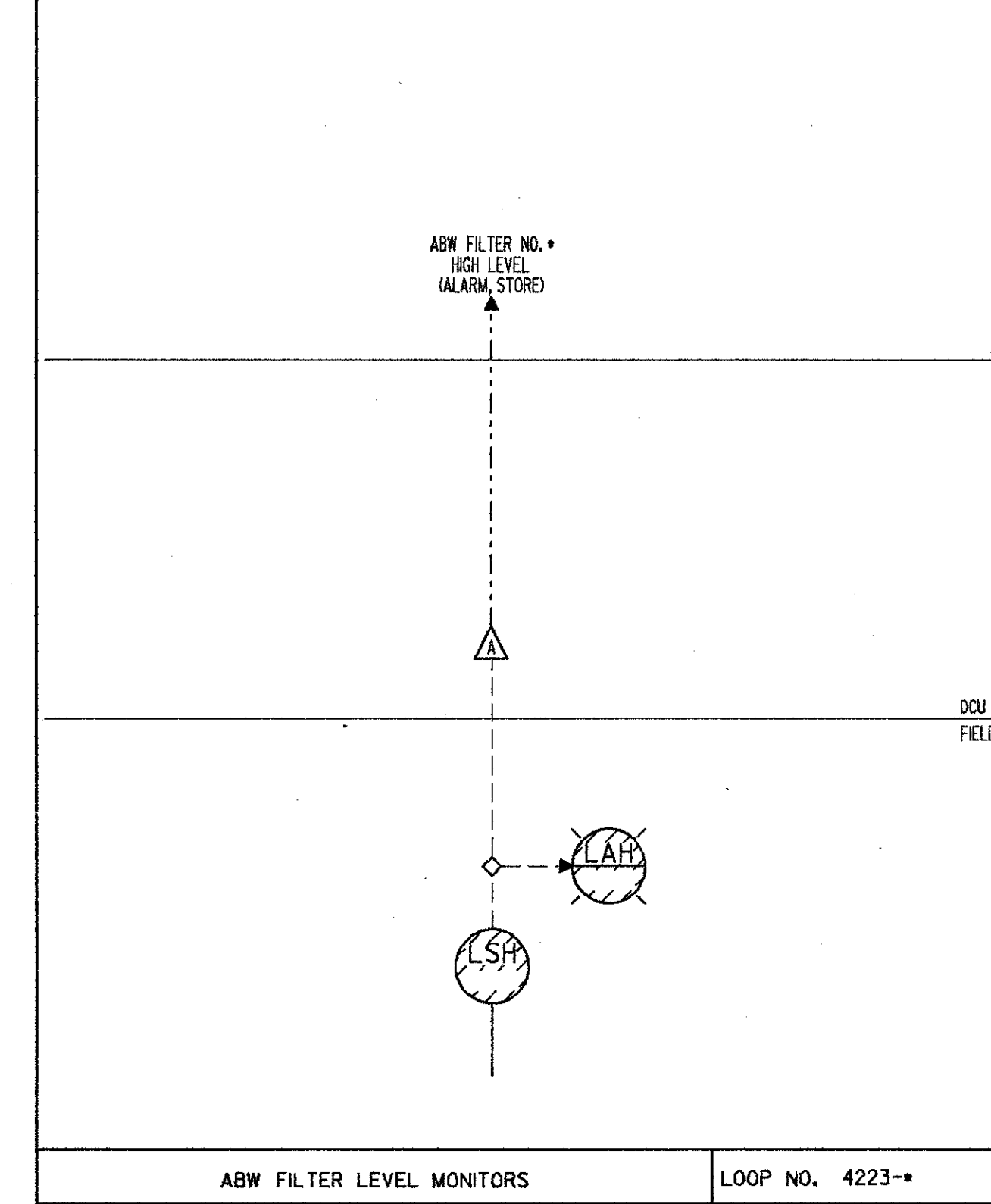
ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
LSH	LEVEL SWITCH HIGH	NEMA 4X	PROVIDED UNDER DIVISION II	ABW FILTER NO. * LEVEL HIGH	--
LAH	LEVEL ALARM HIGH	NEMA 4X	PROVIDED UNDER DIVISION II	ABW FILTER NO. * LEVEL HIGH	--



ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
LSH	LEVEL SWITCH HIGH/HIGH	MERCURY FLOAT, DPDT		PHASE 3A SLUDGE WETWELL LEVEL HIGH/HIGH	1
LSL	LEVEL SWITCH LOW/LOW	MERCURY FLOAT		PHASE 3A SLUDGE WETWELL LEVEL LOW/LOW	1
LLH/LLL	LEVEL LIGHT	L.E.D.		PHASE 3A SLUDGE WETWELL LEVEL HIGH/LOW LOW	2



ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
LSH	LEVEL SWITCH HIGH	NEMA 4X	PROVIDED UNDER DIVISION II	ABW FILTER NO. * LEVEL HIGH	--
LAH	LEVEL ALARM HIGH	NEMA 4X	PROVIDED UNDER DIVISION II	ABW FILTER NO. * LEVEL HIGH	--



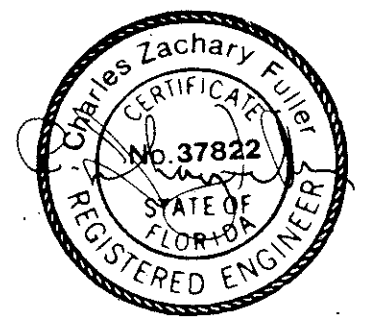
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
LOOP DIAGRAMS
ORANGE COUNTY, FLORIDA

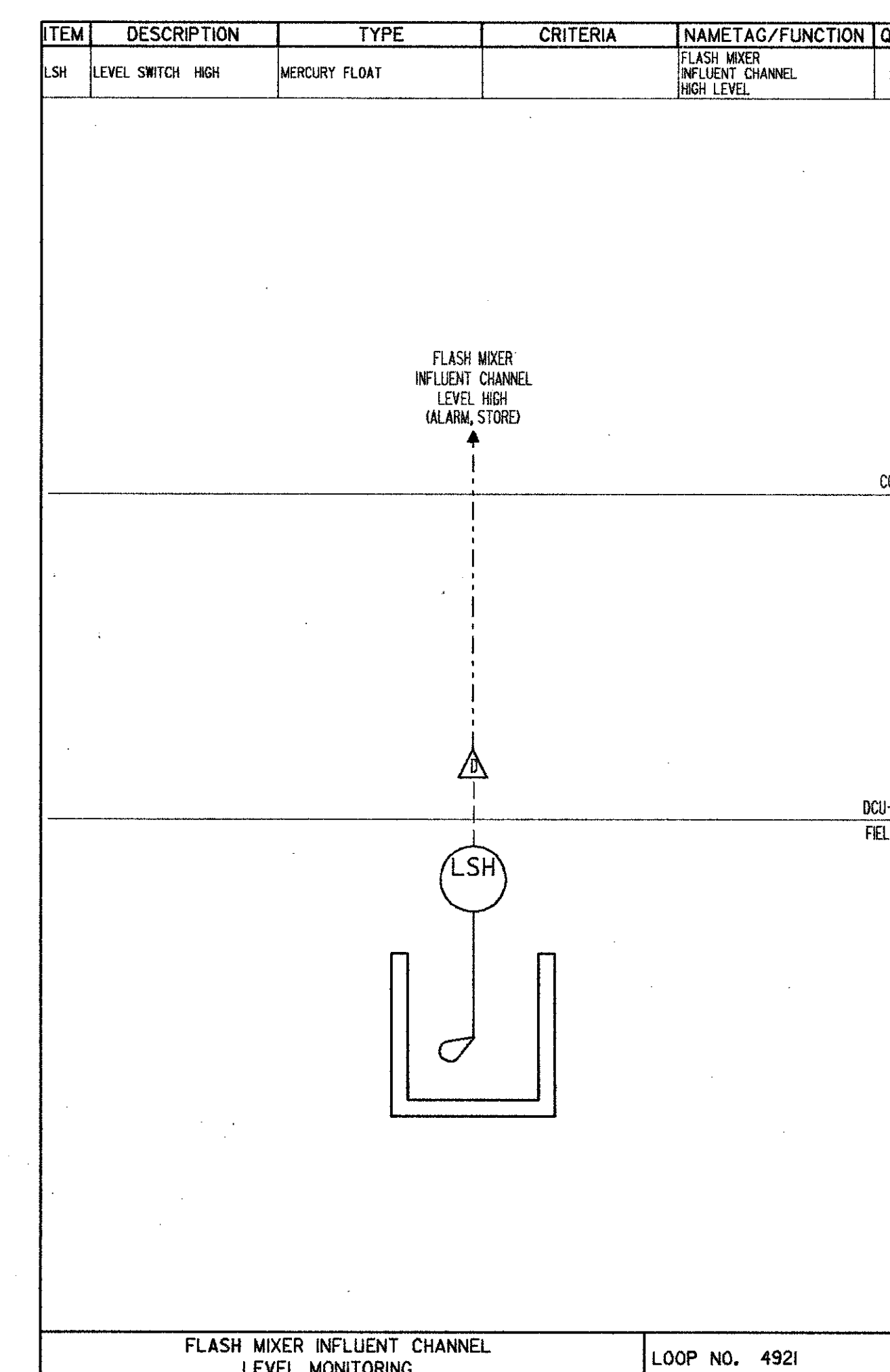
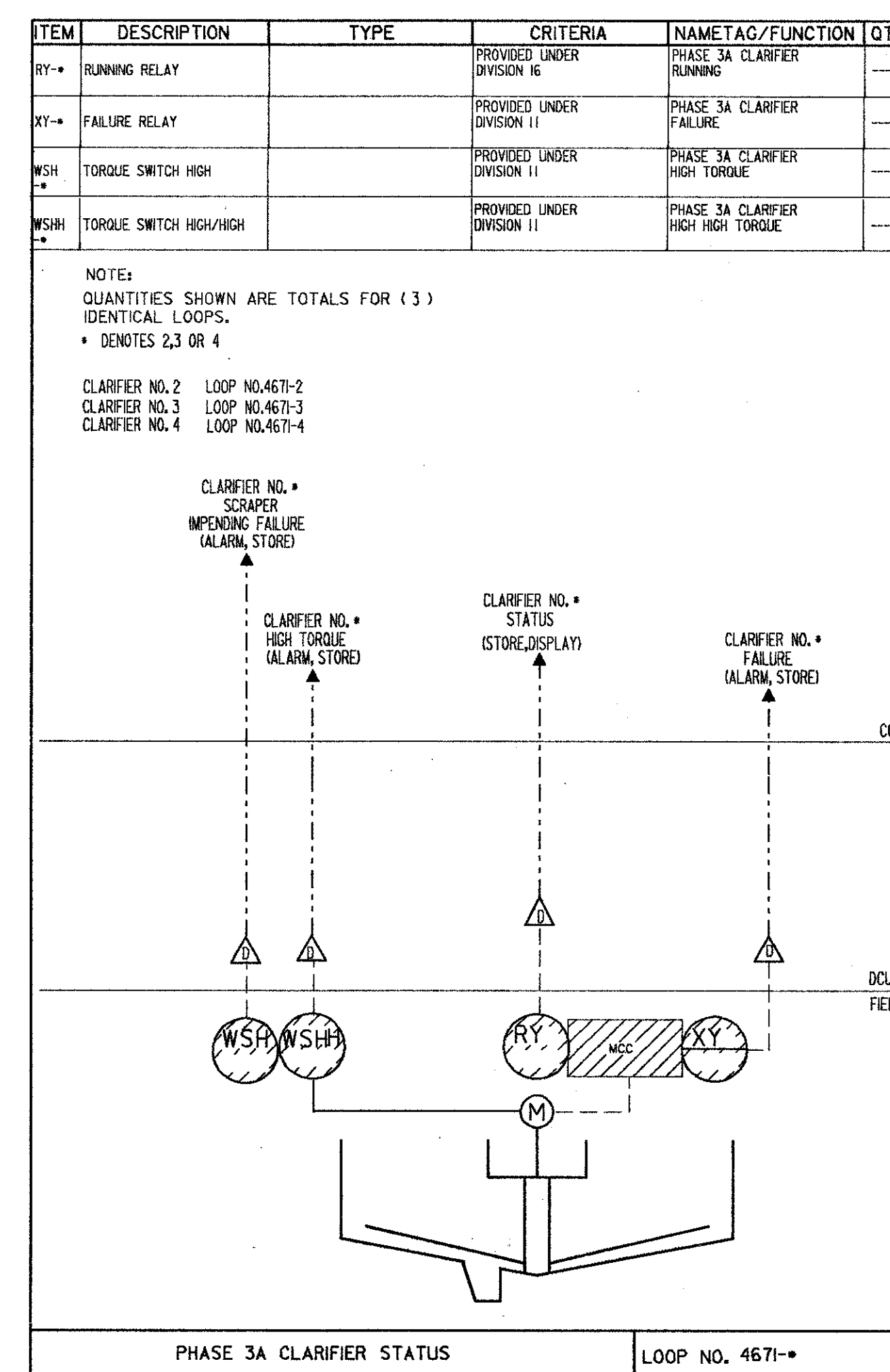
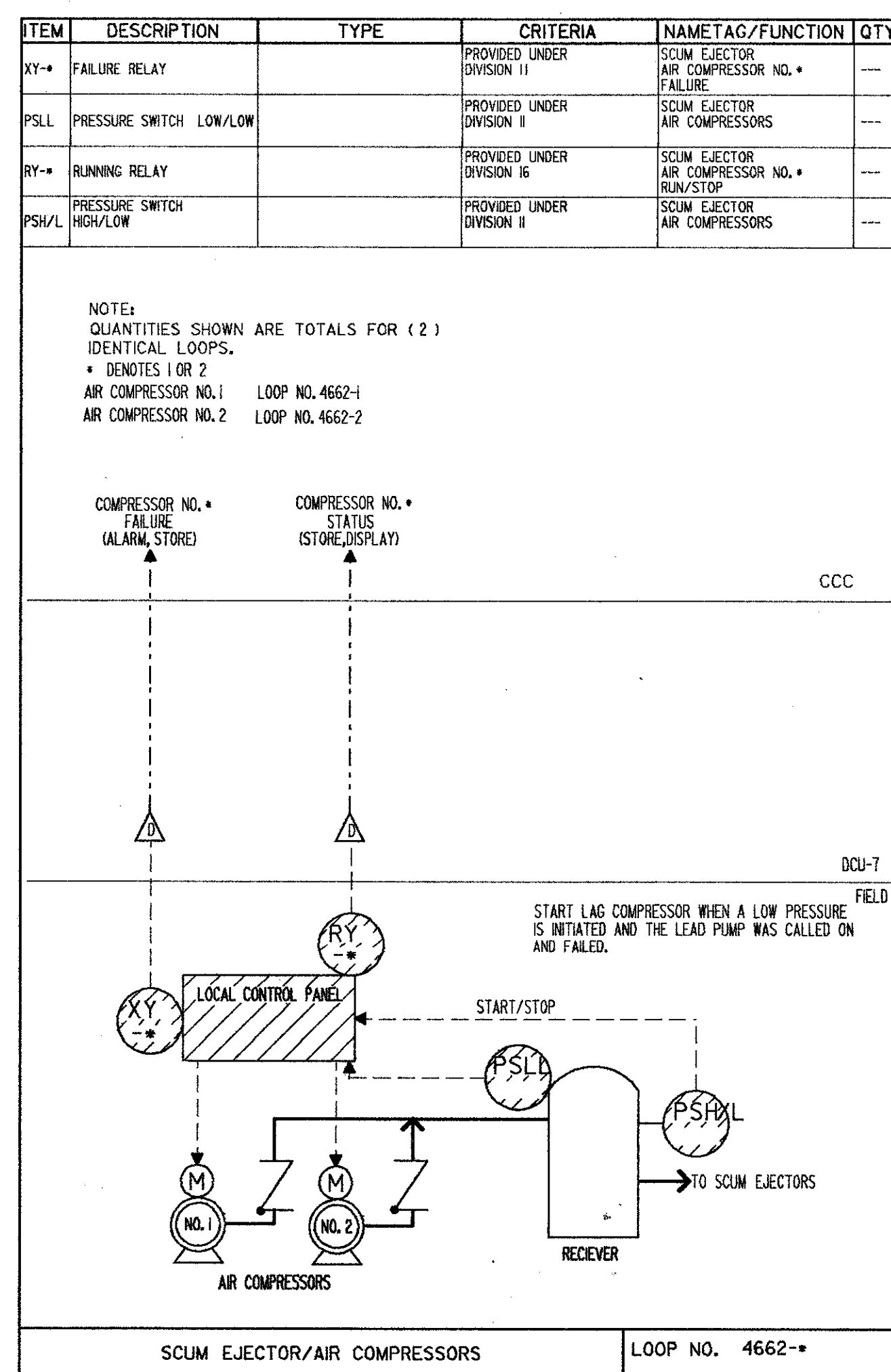
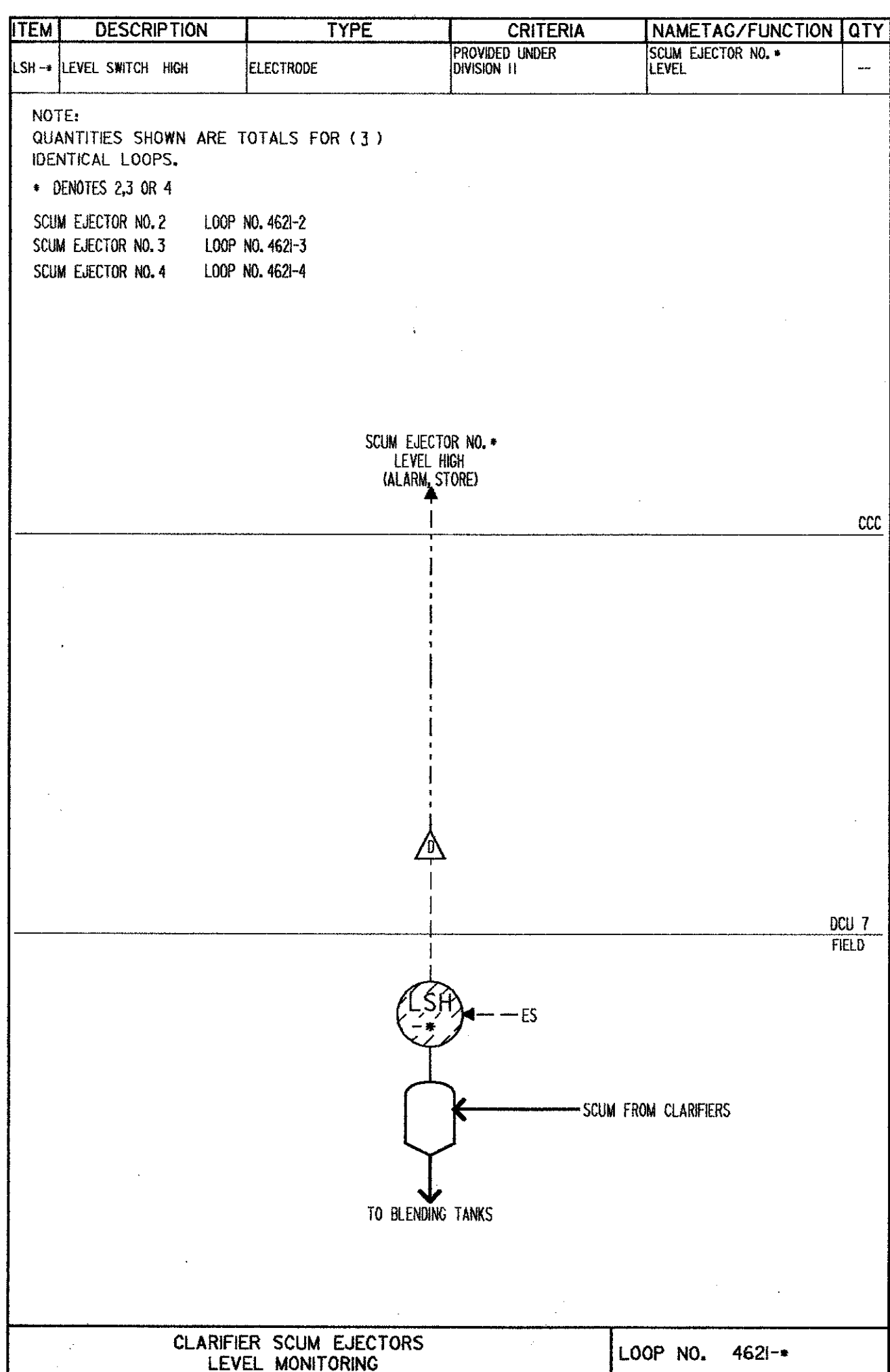
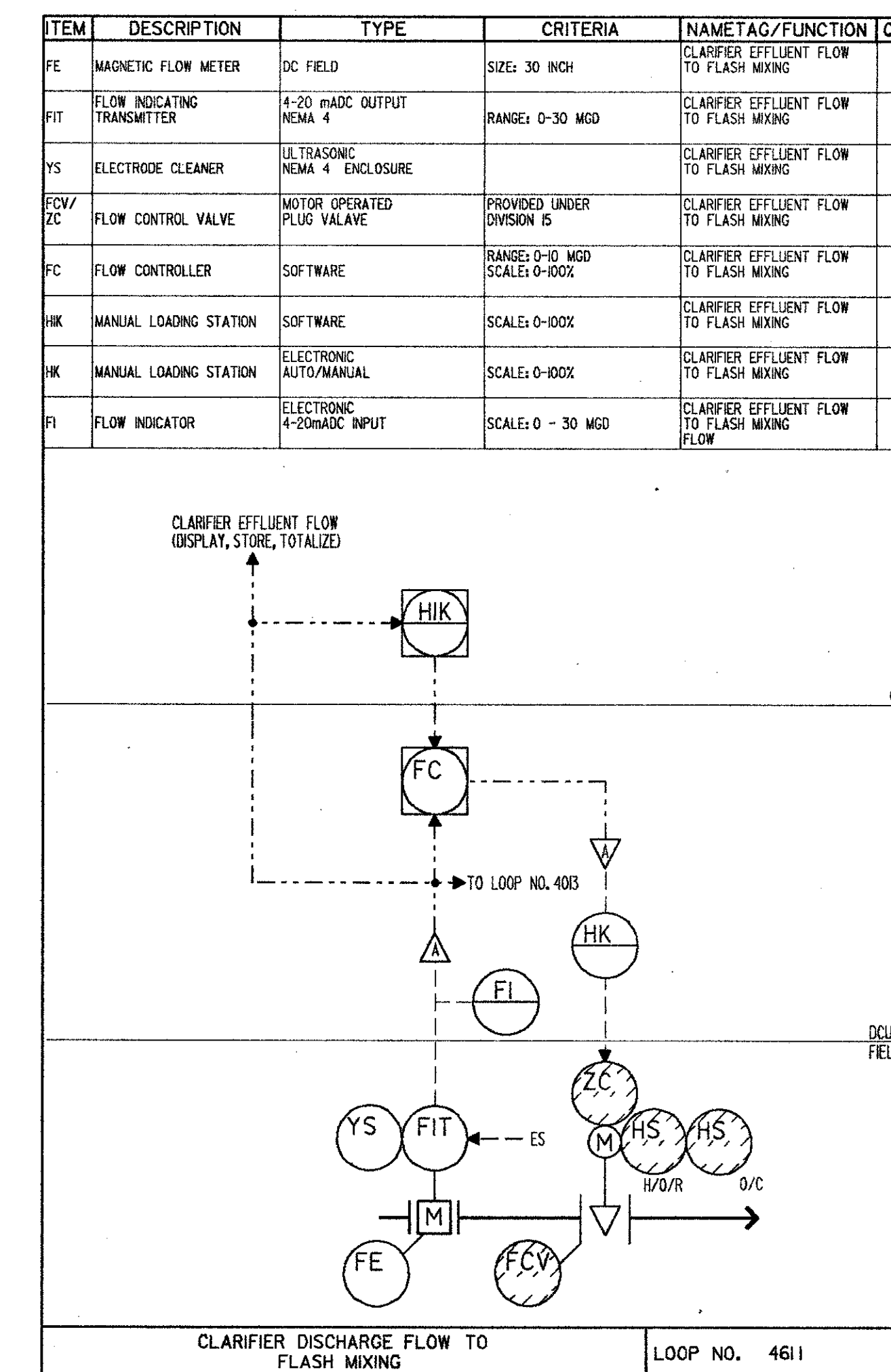
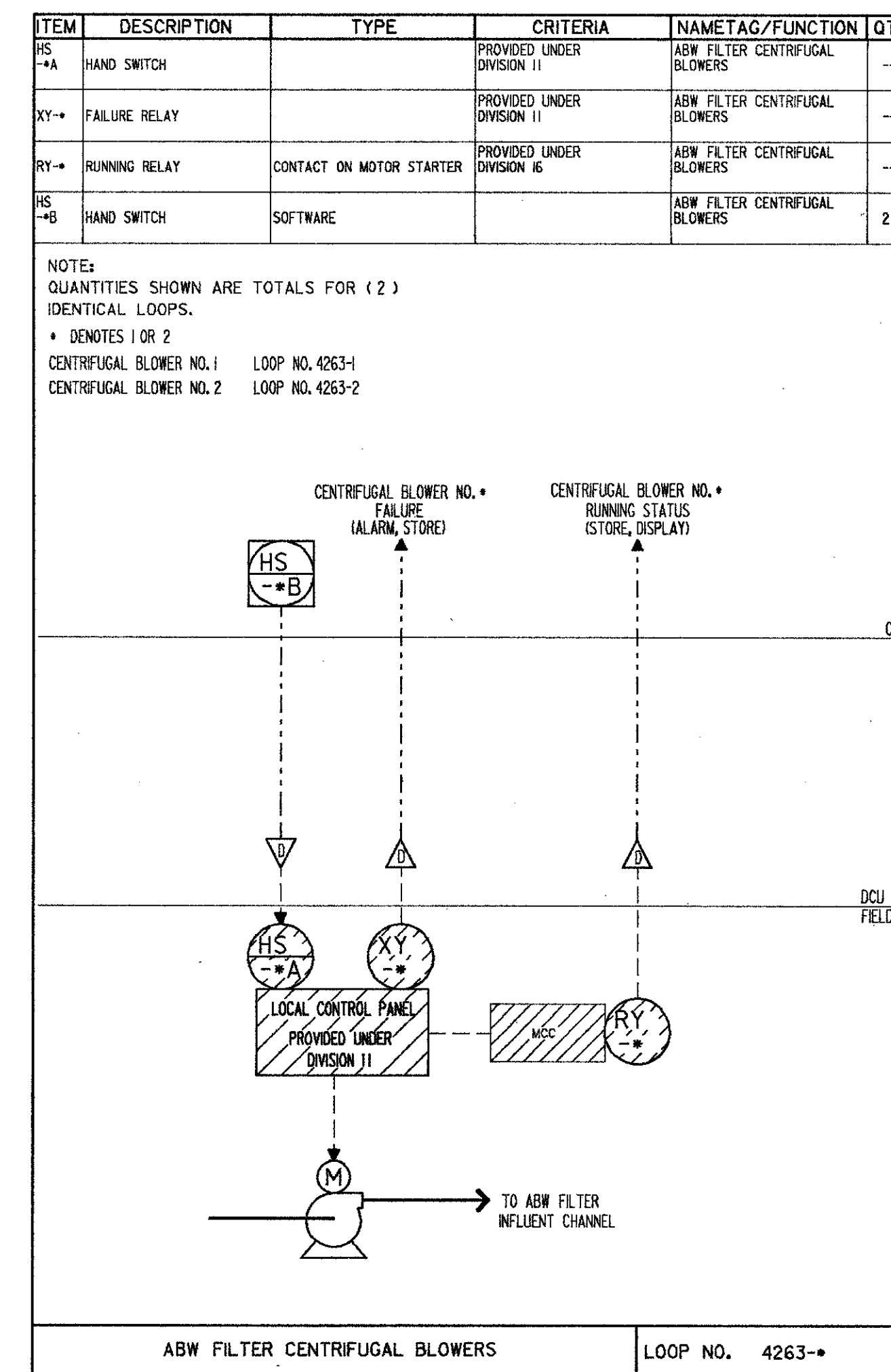
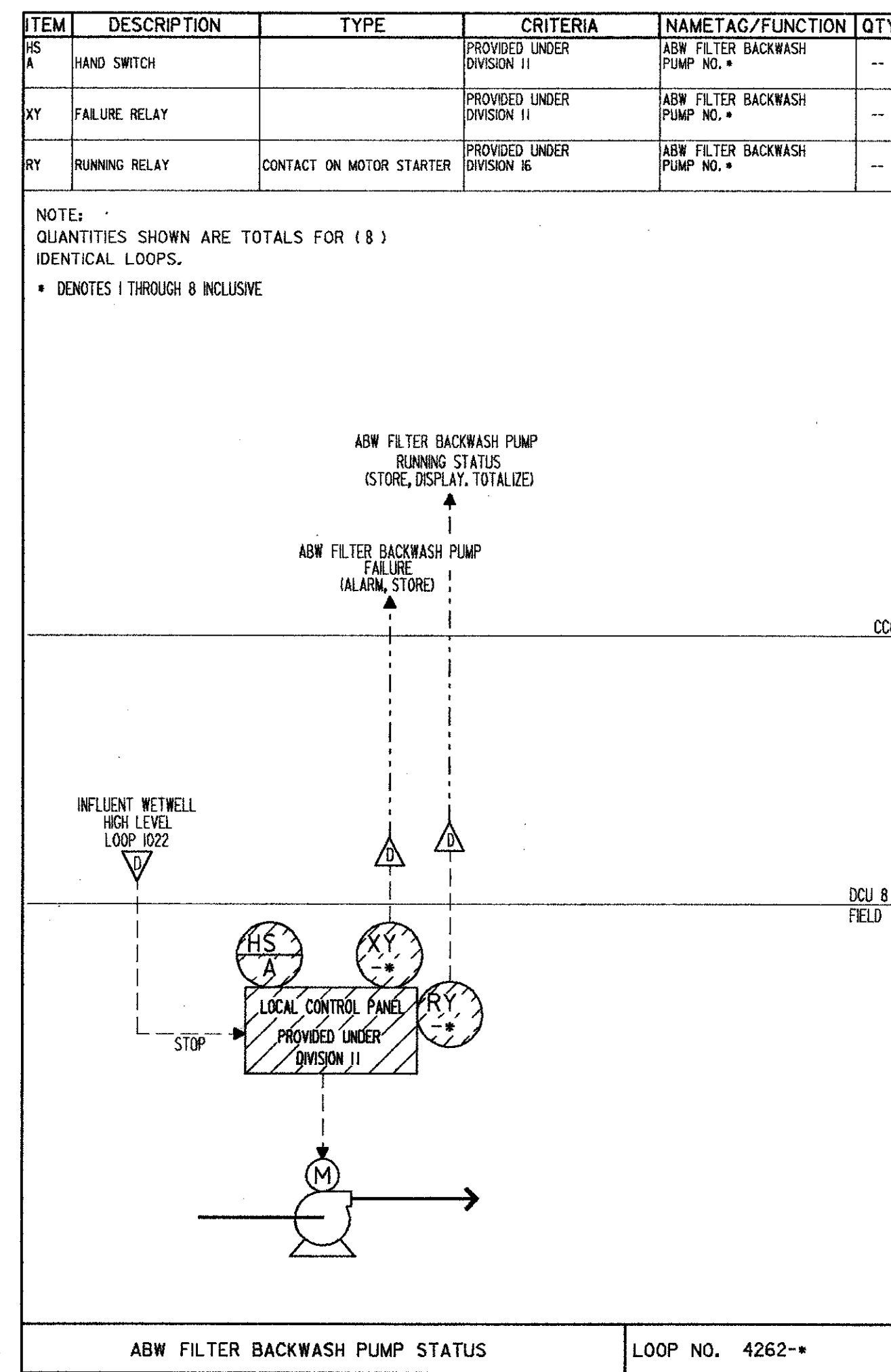
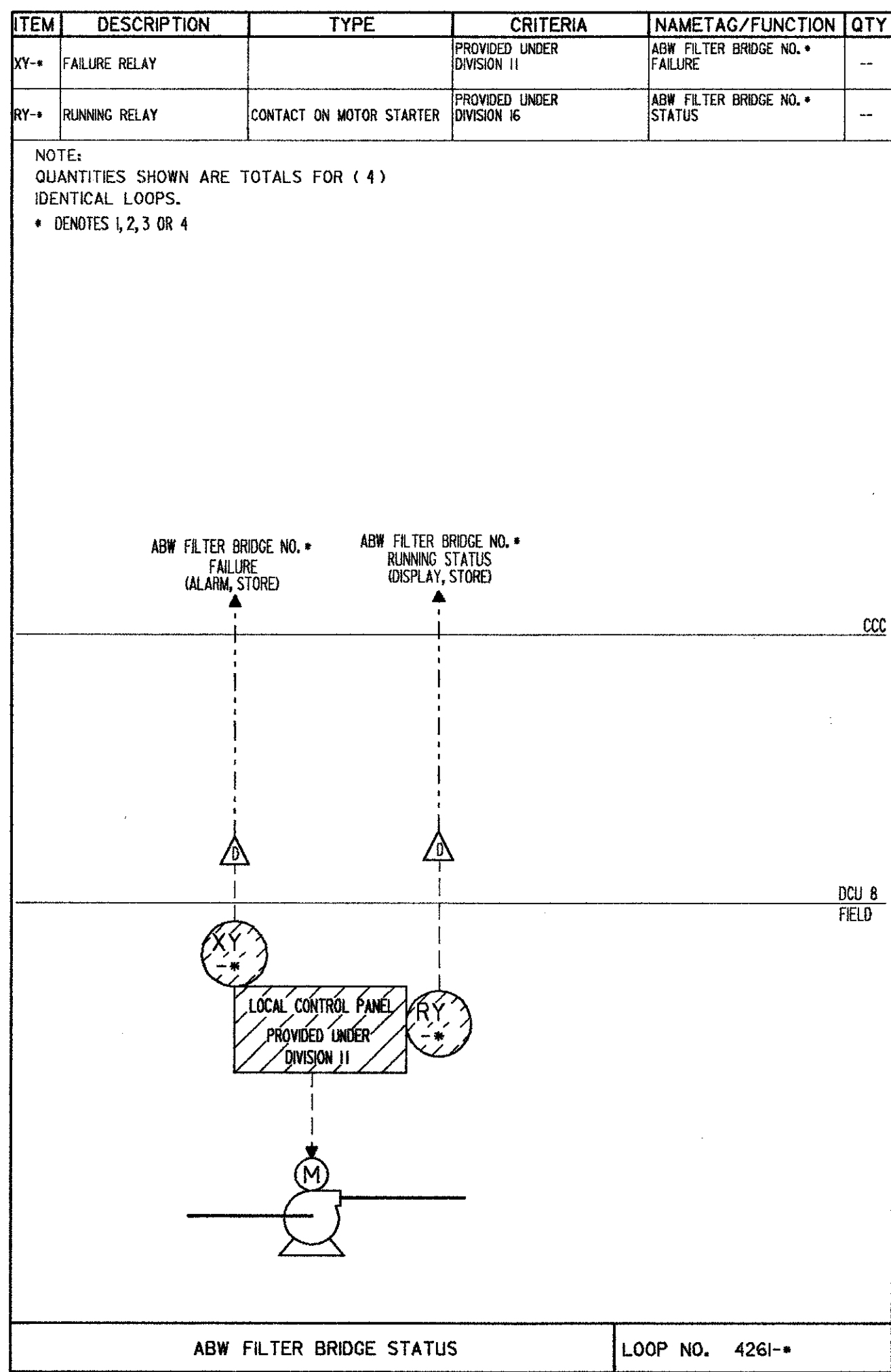
CAMP DRESSER & MCKEE INC.
environmental engineers, scientists, planners & management consultants
CDM

DESIGNED BY: HRH
DRAWN BY: JD
CHECKED BY: JF
APPROVED BY: JF
DATE: 3/27/88

CONFORMED D.W.G.
REV. DATE
NO. 4/88 SAF
DRWN
CHKD

PROJECT NO. 6059-SL3R
SHEET NO. 1





SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
LOOP DIAGRAMS
ORANGE COUNTY, FLORIDA

PROJECT NO.
6059-SL3R

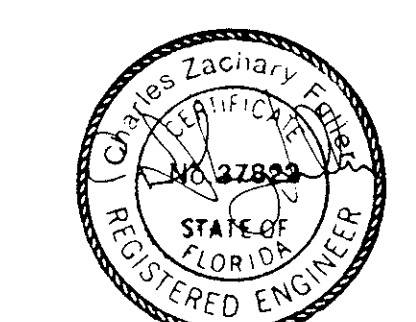
SHEET NO.
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DESIGNED BY: HRH
DRAWN BY: JD
CHECKED BY: C
APPROVED BY: C
DATE: 3/7/88

CONFORMED D.W.G.
4/88
SAF
DATE
DRWN
CHKD
REMARKS

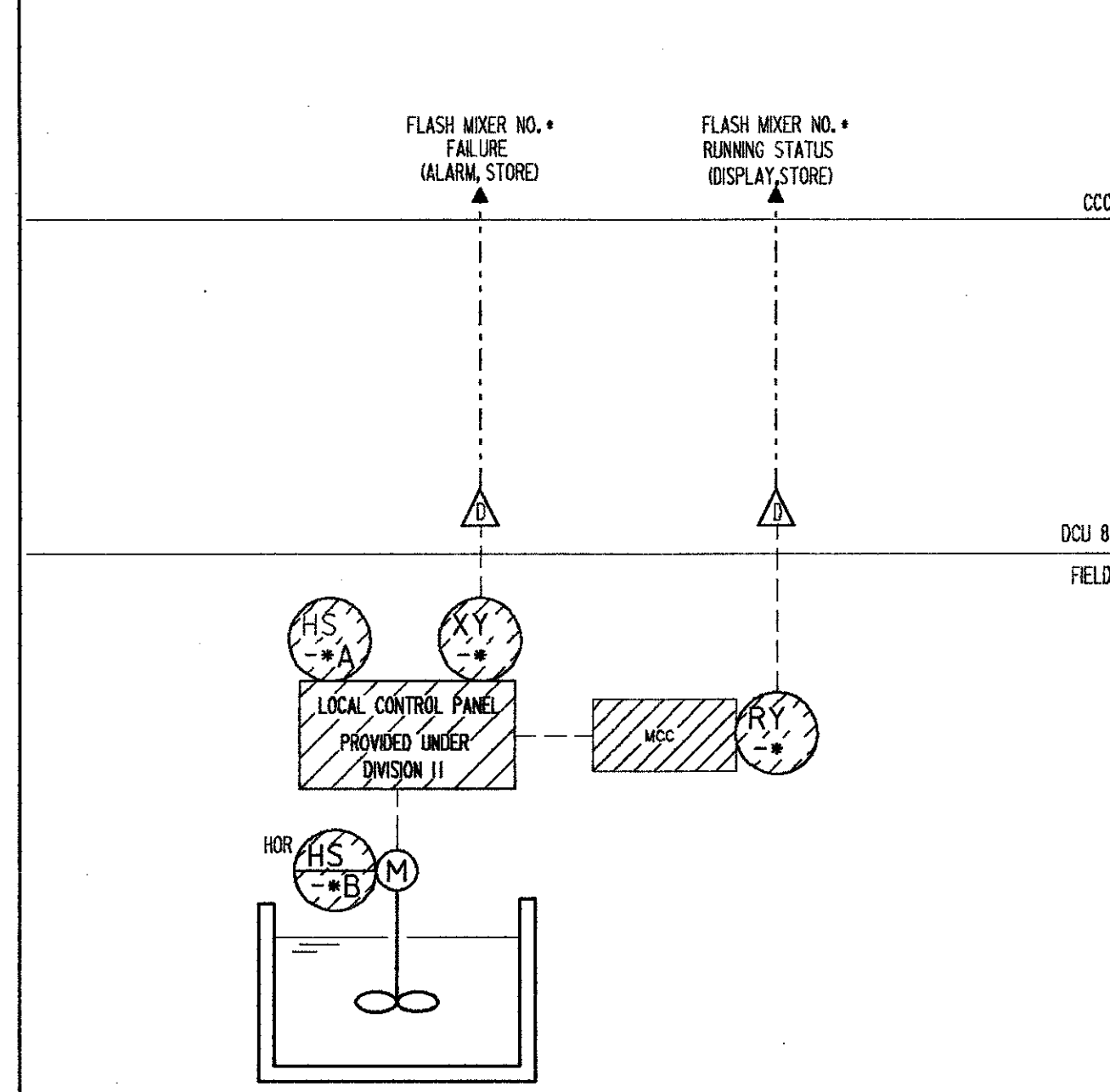
CDM
CORPORATION
CONSULTANTS
PLANNERS & MANAGEMENT CONSULTANTS

CAMP DRESSER & MCKEE INC.



ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
HS-A	HAND SWITCH	START/STOP	PROVIDED UNDER DIVISION II	PHASE 3 FLASH MIXER CONTROL START/STOP	--
HS-B	HAND SWITCH		PROVIDED UNDER DIVISION II	PHASE 3 FLASH MIXER CONTROL	--
RY--	RUNNING RELAY	CONTACT ON MOTOR STARTER	PROVIDED UNDER DIVISION II	PHASE 3 FLASH MIXER CONTROL	--
XY--	FAILURE RELAY		PROVIDED UNDER DIVISION II	PHASE 3 FLASH MIXER CONTROL	--

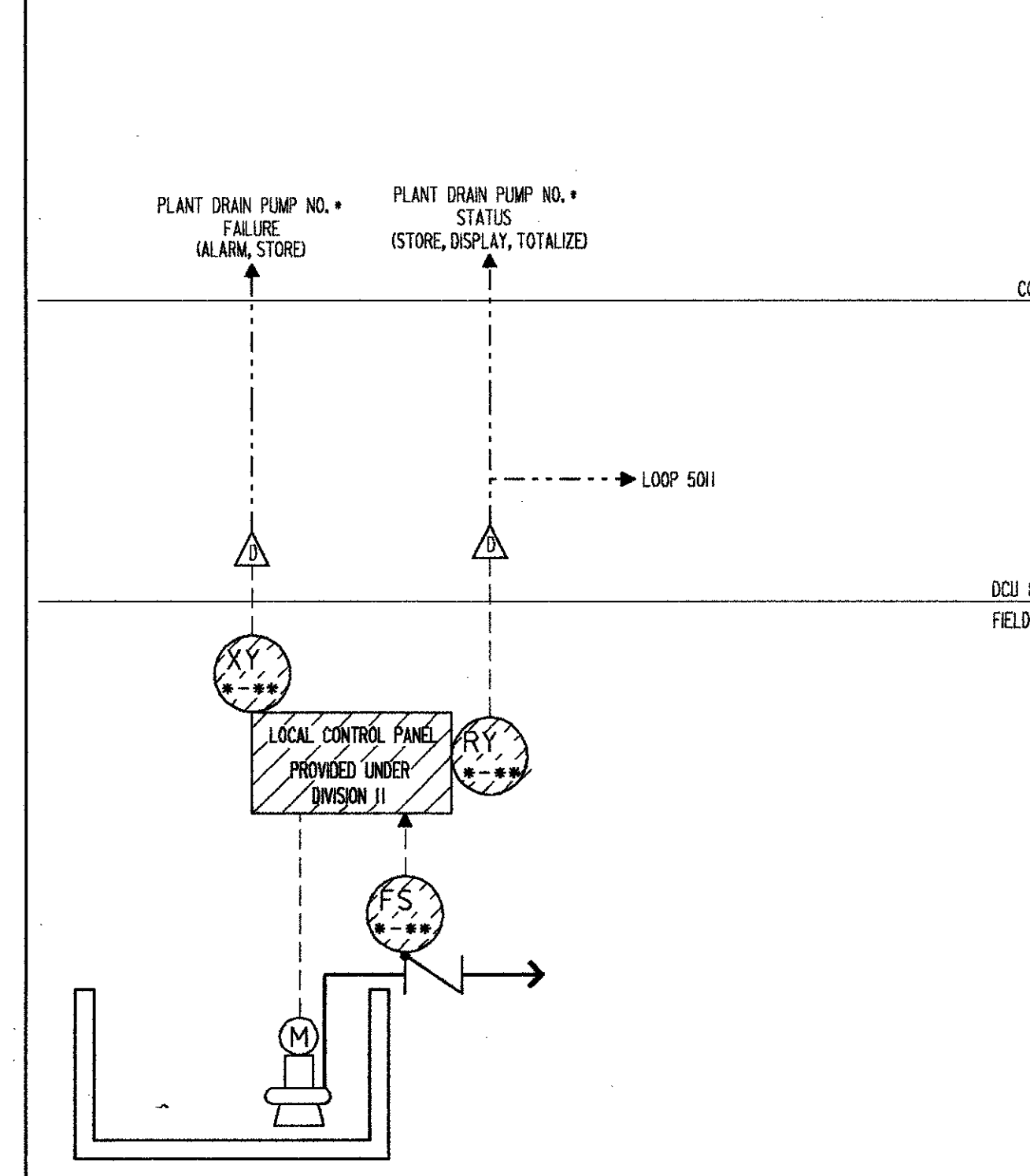
NOTES:
 QUANTITIES SHOWN ARE TOTALS FOR (2) IDENTICAL LOOPS.
 * DENOTES I OR 2
 FLASH MIXER NO. 1 LOOP NO. 496-1
 FLASH MIXER NO. 2 LOOP NO. 496-2



PHASE 3 FLASH MIXER STATUS LOOP NO. 496--

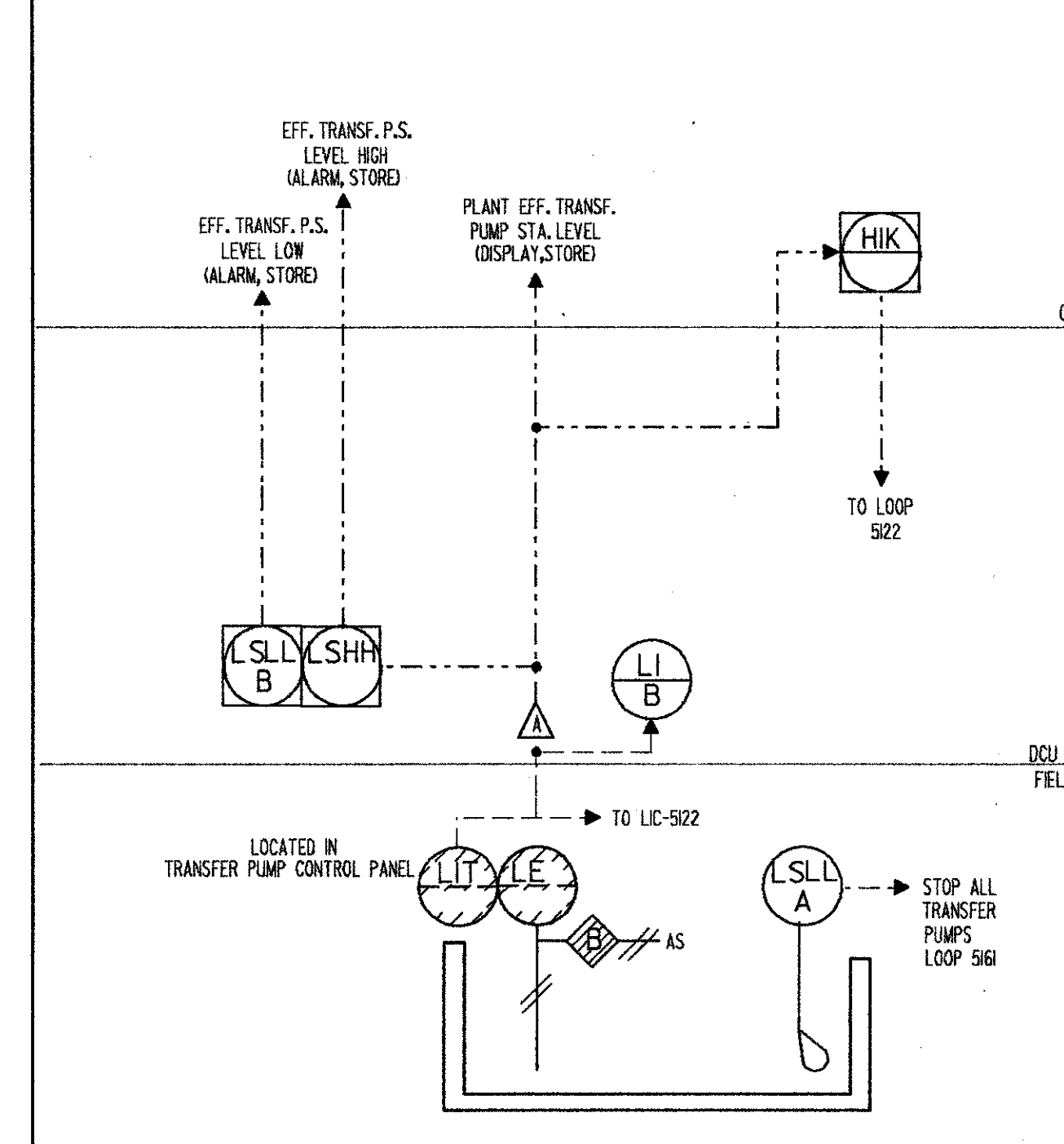
ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
XY--	FAILURE RELAY		PROVIDED UNDER DIVISION II	PLANT DRAIN PUMP NO. #	--
FS--	FLOW SWITCH	PROXIMITY SWITCH	PROVIDED UNDER DIVISION II	PLANT DRAIN PUMP NO. #	--
RY--	RUNNING RELAY		PROVIDED UNDER DIVISION II	PLANT DRAIN PUMP NO. #	--

NOTES:
 QUANTITIES SHOWN ARE TOTALS FOR (3) IDENTICAL LOOPS.
 * DENOTES 1, 2 OR 3



PLANT DRAIN PUMP STATION PUMP STATUS LOOP NO. 506--

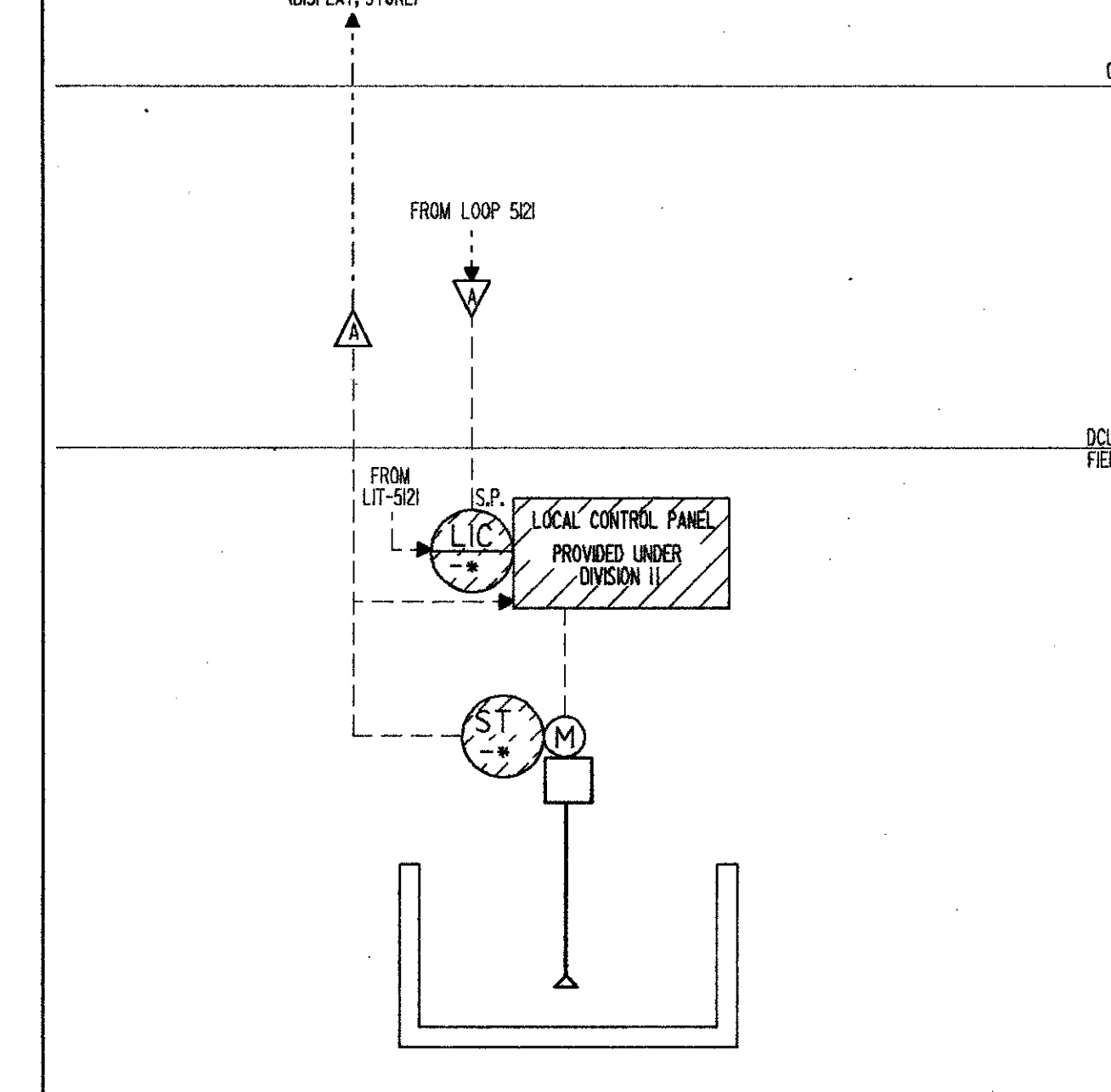
ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
LE/LIT	LEVEL ELEMENT/LEVEL INDICATING TRANSMITTER	BUBBLER SYSTEM	FURNISHED UNDER DIVISION II RANGE: 0 - 12 FEET	PLANT EFFLUENT TRANSFER PUMP STATION LEVEL	1
LSL	LEVEL SWITCH LOW	SOFTWARE		PLANT EFFLUENT TRANSFER PUMP STATION LEVEL ALARM	4
LSH	LEVEL SWITCH HIGH	SOFTWARE		PLANT EFFLUENT TRANSFER PUMP STATION LEVEL ALARM	4
LSL-A	LEVEL SWITCH LOW	MERCURY FLOAT SWITCH		PLANT EFFLUENT TRANSFER PUMP STATION LEVEL CONTROL	1
LH-A	LEVEL INDICATOR		FURNISHED UNDER DIVISION II	PLANT EFFLUENT TRANSFER PUMP STATION LEVEL	--
LH-B	LEVEL INDICATOR	ELECTRONIC		PLANT EFFLUENT TRANSFER PUMP STATION LEVEL	1
HIK	HAND INDICATING CONTROL STATION	SOFTWARE		PLANT EFFLUENT TRANSFER PUMP STATION LEVEL CONTROL	1



PLANT EFFLUENT TRANSFER PUMP STATION LEVEL CONTROL LOOP NO. 512-

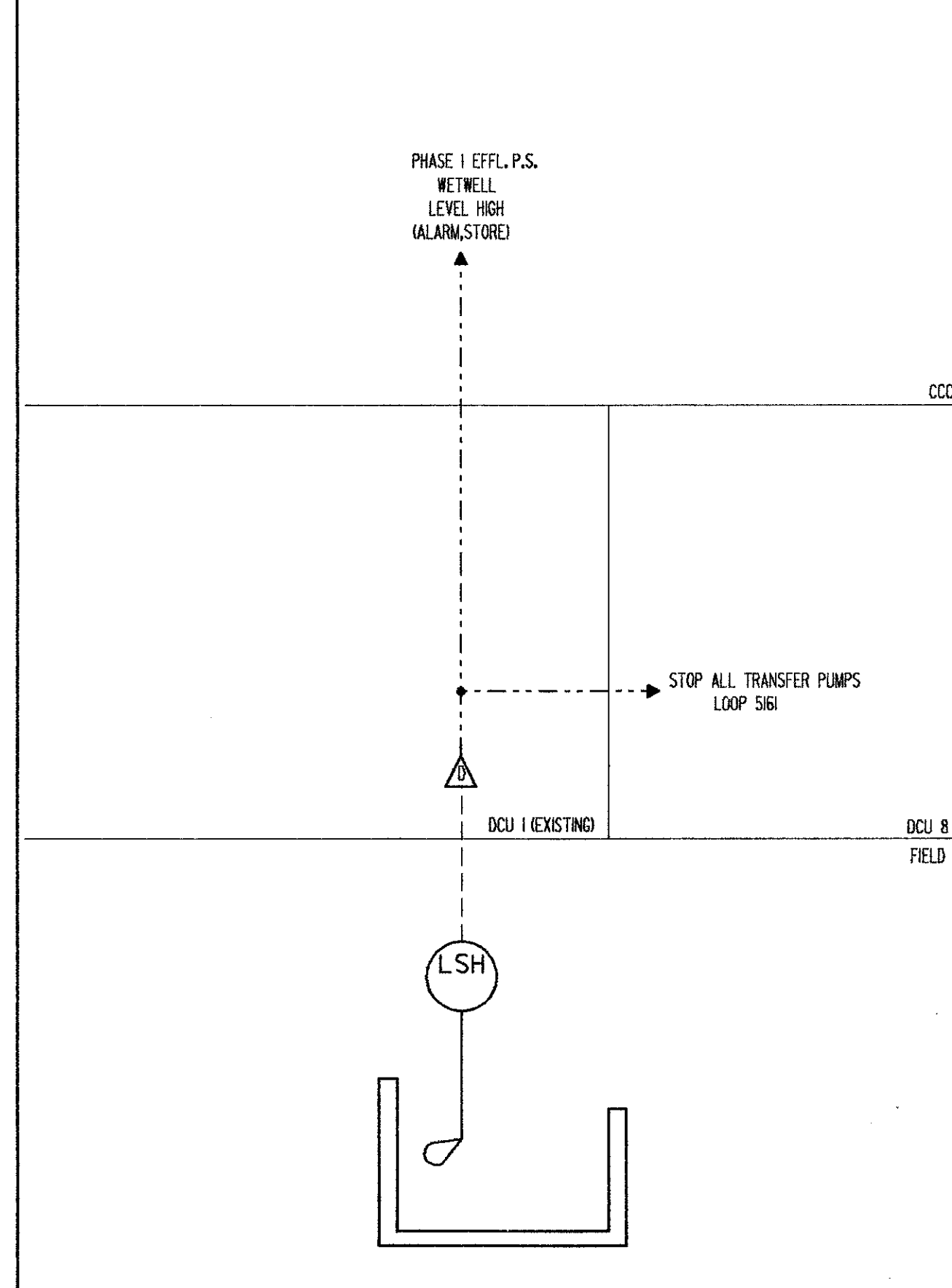
ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
LIC--	LEVEL INDICATING CONTROLLER		PROVIDED UNDER DIVISION II SCALE: 0-100% PROVIDED UNDER DIVISION II	PLANT EFFLUENT TRANSFER PUMP NO. #	--
ST--	SPEED TRANSMITTER	4-20 mA OUTPUT		PLANT EFFLUENT TRANSFER PUMP NO. #	--

NOTES:
 QUANTITIES SHOWN ARE TOTALS FOR (4) IDENTICAL LOOPS.
 * DENOTES 1, 2, 3 OR 4
 TRANSFER PUMP NO. 1 LOOP NO. 512-1
 TRANSFER PUMP NO. 2 LOOP NO. 512-2
 TRANSFER PUMP NO. 3 LOOP NO. 512-3
 TRANSFER PUMP NO. 4 LOOP NO. 512-4



PLANT EFFLUENT TRANSFER PUMP SPEED CONTROL LOOP NO. 5122--

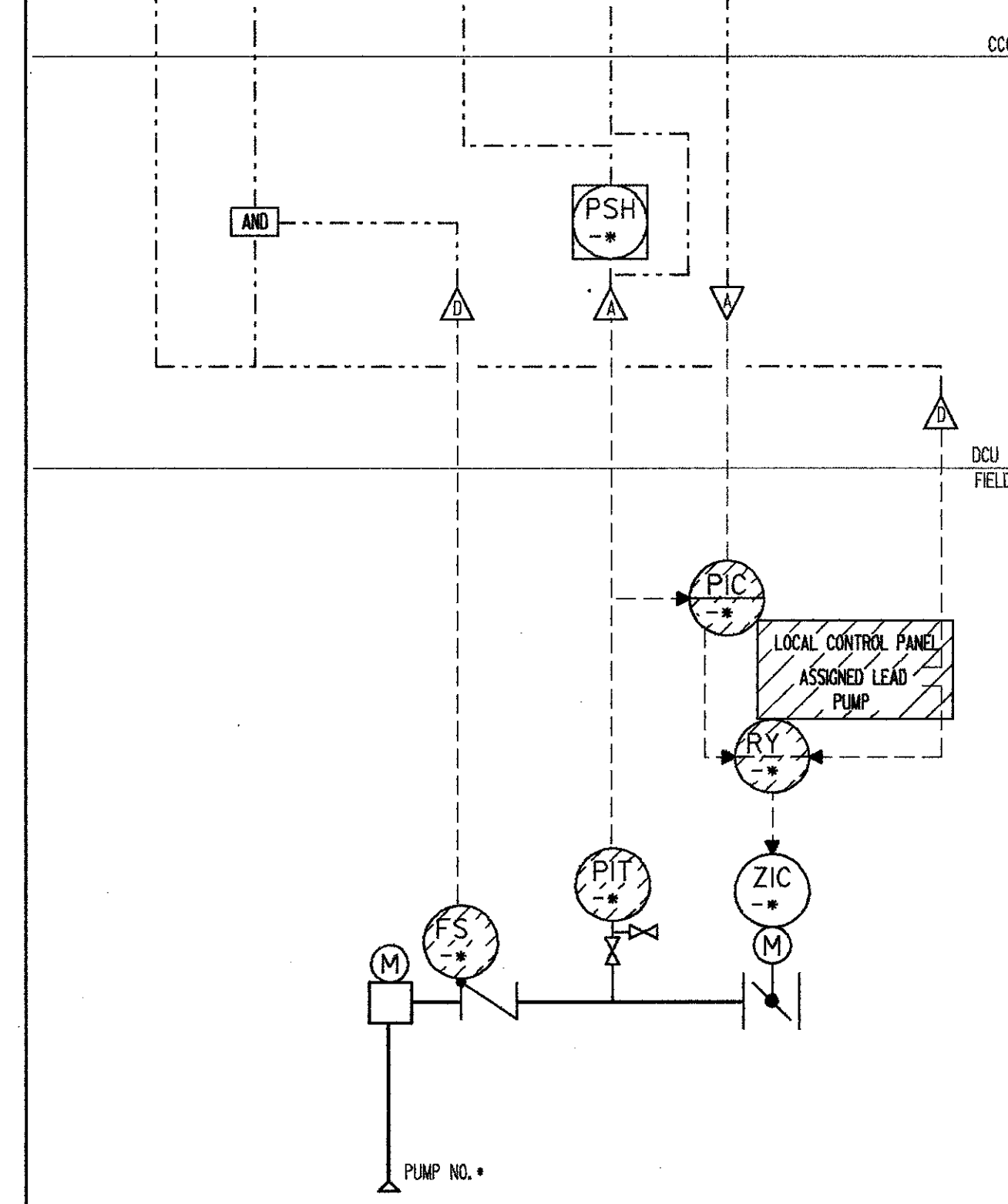
ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
LSH	LEVEL SWITCH HIGH	MERCURY FLOAT		PHASE 1 EFFLUENT P.S. WETWELL HIGH LEVEL	1



PHASE 1 PLANT EFFLUENT PUMP STATION (EXISTING) LOOP NO. 5126

ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
ZIC	POSITION INDICATING CONTROLLER		PROVIDED UNDER DIVISION II	PLANT EFFLUENT TRANSFER PUMP NO. # DISCHARGE PRESSURE	--
FS--	FLOW SWITCH	PROXIMITY SWITCH NEMA 4X	PROVIDED UNDER DIVISION II	PLANT EFFLUENT TRANSFER PUMP NO. # DISCHARGE PRESSURE	--
PIC--	PRESSURE INDICATING CONTROLLER	LOCAL/REMOTE SETPOINT SETPOINT = 5 FEET	PROVIDED UNDER DIVISION II SCALE: 0-40 FEET	PLANT EFFLUENT TRANSFER PUMP NO. # DISCHARGE PRESSURE	--
PIT--	PRESSURE INDICATING TRANSMITTER		PROVIDED UNDER DIVISION II RANGE: 0-40 FEET	PLANT EFFLUENT TRANSFER PUMP NO. # DISCHARGE PRESSURE	--
RY	RUN RELAY		PROVIDED UNDER DIVISION II	PLANT EFFLUENT TRANSFER PUMP NO. # DISCHARGE PRESSURE	--
PSH	PRESSURE SWITCH	SOFTWARE	SETPOINT AT 30 FEET	PLANT EFFLUENT TRANSFER PUMP NO. # DISCHARGE PRESSURE	2
PK	MANUAL LOCKING STATION	SOFTWARE		PLANT EFFLUENT TRANSFER PUMP NO. # DISCHARGE PRESSURE	2

NOTES:
 QUANTITIES SHOWN ARE TOTALS FOR (2) IDENTICAL LOOPS.
 * DENOTES 1 OR 2



PLANT EFFLUENT TRANSFER PUMP BACK PRESSURE CONTROL LOOP NO. 5131-- SHEET 1 OF 2

ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
ZIC	POSITION INDICATING CONTROLLER		PROVIDED UNDER DIVISION II	PLANT EFFLUENT TRANSFER PUMP NO. # DISCHARGE PRESSURE	--
FS--	FLOW SWITCH	PROXIMITY SWITCH NEMA 4X	PROVIDED UNDER DIVISION II	PLANT EFFLUENT TRANSFER PUMP NO. # DISCHARGE PRESSURE	--
PIC--	PRESSURE INDICATING CONTROLLER	LOCAL/REMOTE SETPOINT SETPOINT = 5 FEET	PROVIDED UNDER DIVISION II SCALE: 0-40 FEET	PLANT EFFLUENT TRANSFER PUMP NO. # DISCHARGE PRESSURE	--
PIT--	PRESSURE INDICATING TRANSMITTER		PROVIDED UNDER DIVISION II RANGE: 0-40 FEET	PLANT EFFLUENT TRANSFER PUMP NO. # DISCHARGE PRESSURE	--
RY	RUN RELAY		PROVIDED UNDER DIVISION II	PLANT EFFLUENT TRANSFER PUMP NO. # DISCHARGE PRESSURE	--
PSH	PRESSURE SWITCH	SOFTWARE	SETPOINT AT 30 FEET	PLANT EFFLUENT TRANSFER PUMP NO. # DISCHARGE PRESSURE	2
PK	MANUAL LOCKING STATION	SOFTWARE		PLANT EFFLUENT TRANSFER PUMP NO. # DISCHARGE PRESSURE	2

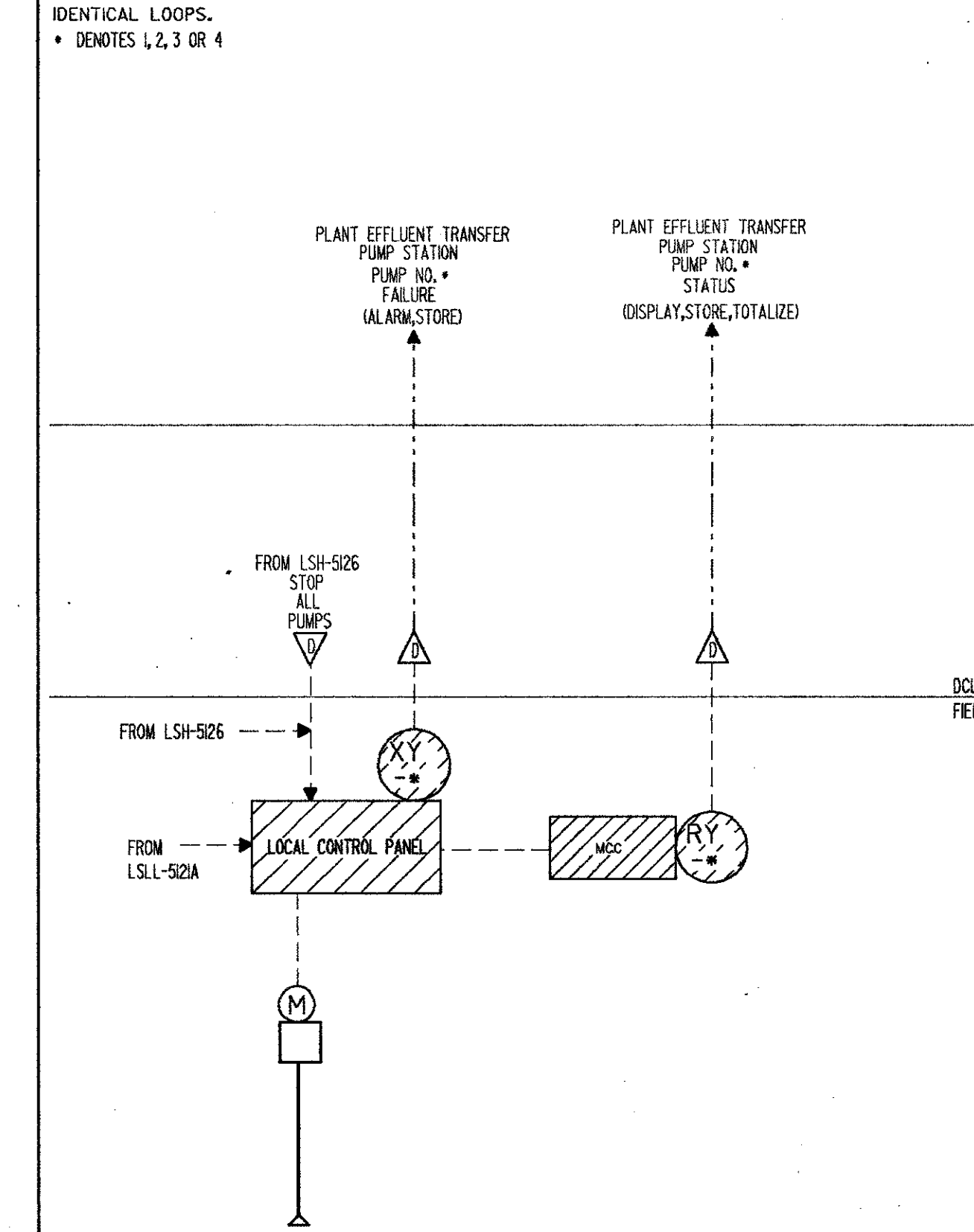
NOTES:
 QUANTITIES SHOWN ARE TOTALS FOR (2) IDENTICAL LOOPS.
 * DENOTES 1 OR 2



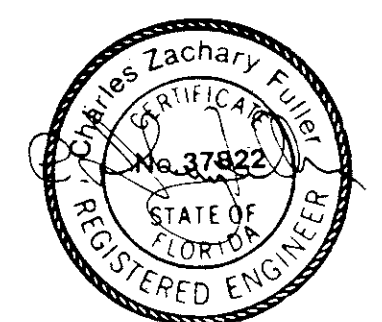
PLANT EFFLUENT TRANSFER PUMP BACK PRESSURE CONTROL LOOP NO. 5131-- SHEET 2 OF 2

ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
XY--	FAILURE RELAY	DRY CONTACTS	PROVIDED UNDER DIVISION II	PLANT EFFLUENT TRANSFER PUMP STATION PUMP NO. #	--
RY--	RUNNING RELAY	DRY CONTACTS	PROVIDED UNDER DIVISION II	PLANT EFFLUENT TRANSFER PUMP STATION PUMP NO. #	--

NOTES:
 QUANTITIES SHOWN ARE TOTALS FOR (4) IDENTICAL LOOPS.
 * DENOTES 1, 2, 3 OR 4



PLANT EFFLUENT TRANSFER PUMP STATION STATUS LOOP NO. 5161--



SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION
LOOP DIAGRAMS
 ORANGE COUNTY, FLORIDA

DESIGNED BY: HRH
 DRAWN BY: JD
 CHECKED BY: JF
 APPROVED BY: JF
 DATE: 3/31/88

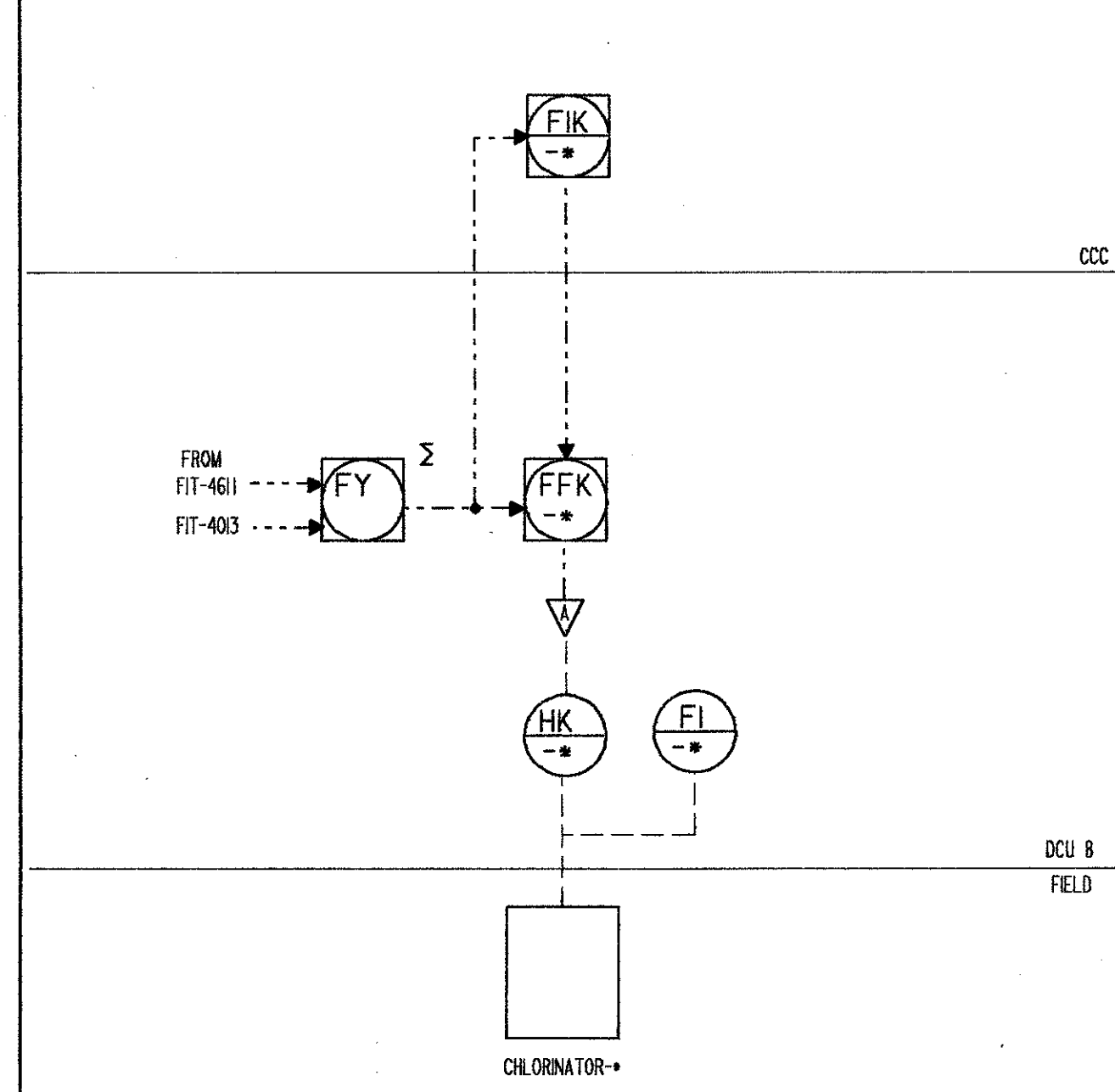
CONFORMED D.V.G.
 4/88 SAF
 REV. NO. DATE DRWN CHKD

CAMP DRESSER & MCKEE INC.
 environmental engineers, scientists, planners & management consultants
CDM

PROJECT NO. 6059-SL3R
 SHEET NO. 11

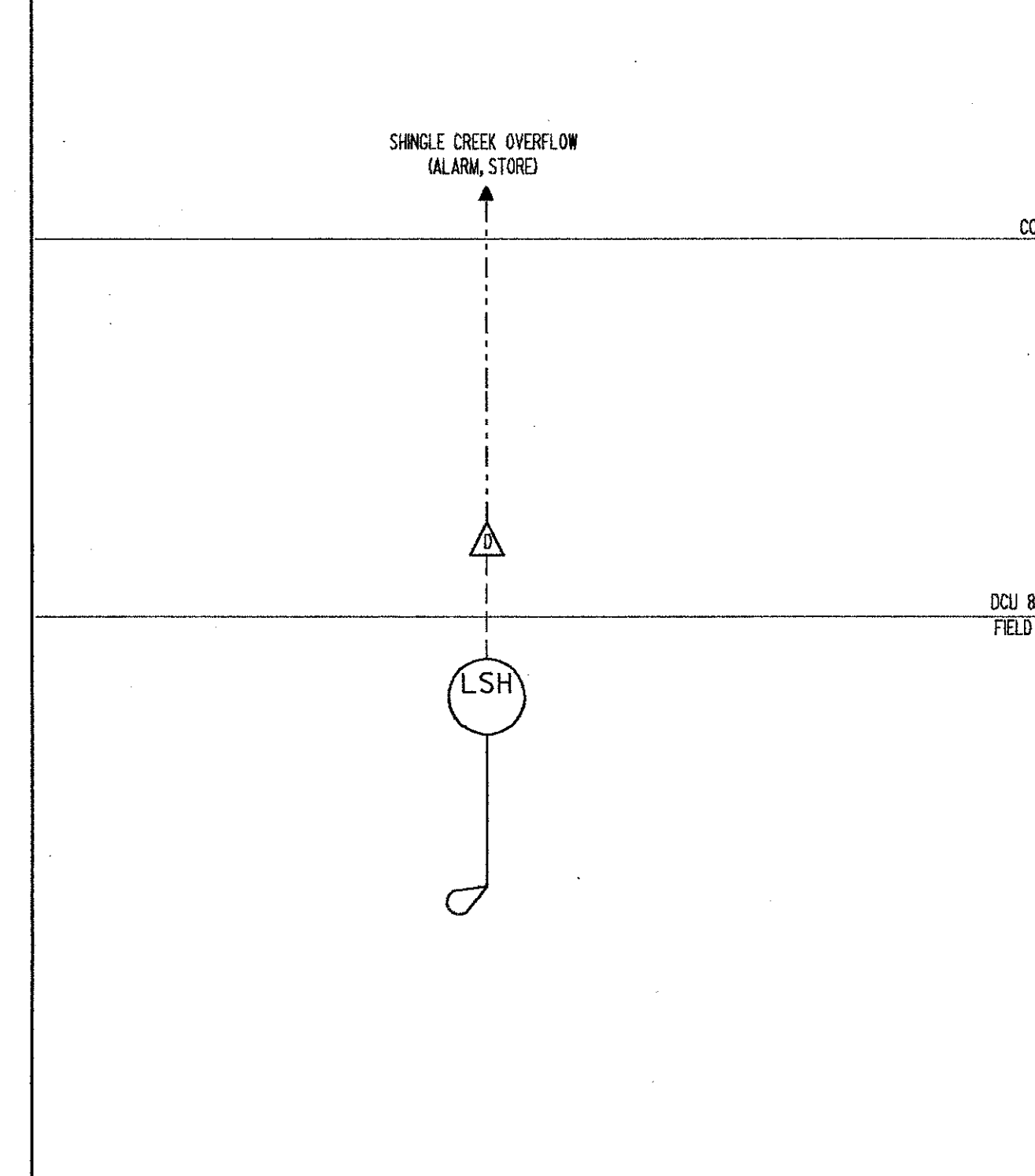
ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
FI	FLOW INDICATOR	ELECTRONIC		CHLORINATOR NO. FLOW	2
FFK	FLOW RATIO CONTROL STATION	SOFTWARE		CHLORINATOR NO. FLOW	2
FK	MANUAL LOADING STATION	SOFTWARE		CHLORINATOR NO. FLOW	2
HK	MANUAL LOADING STATION	ELECTRONIC, 4-20ma OUTPUT	SCALE: 0-100%	CHLORINATOR NO. FLOW	2
FY	FLOW RELAY	SUMMATOR SOFTWARE		CHLORINATOR NO. FLOW	1

NOTES:
 QUANTITIES SHOWN ARE TOTALS FOR (2) IDENTICAL LOOPS.
 * DENOTES I OR 2
 CHLORINATOR NO. 1 LOOP NO. 5519-1, (CCC)
 CHLORINATOR NO. 2 LOOP NO. 5519-2, (STANDBY)



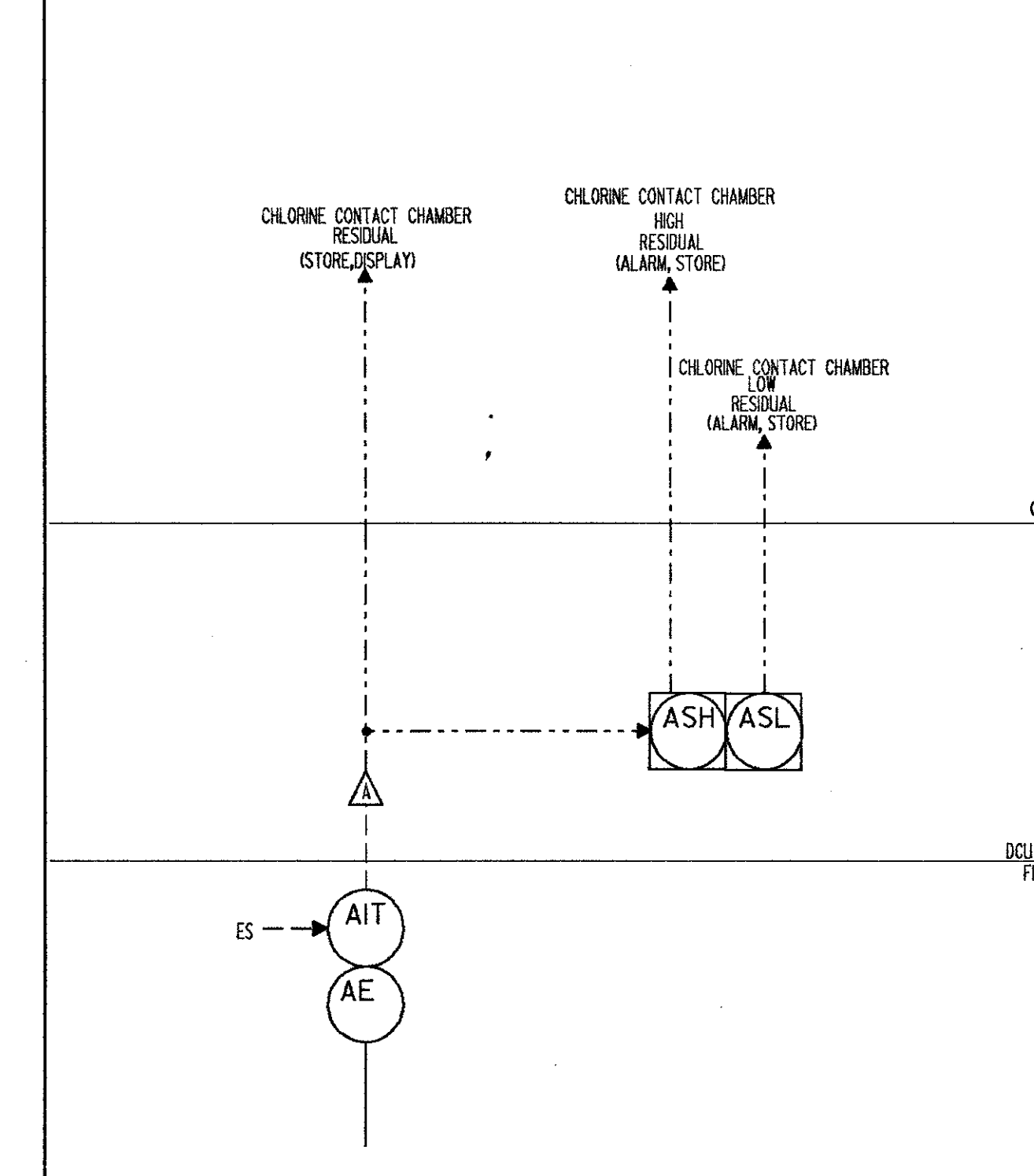
CHLORINATOR FLOW CONTROL LOOP NO. 5519-*

ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
LSH	LEVEL SWITCH HIGH	MERCURY FLOAT		SINGLE CREEK OVERFLOW	1



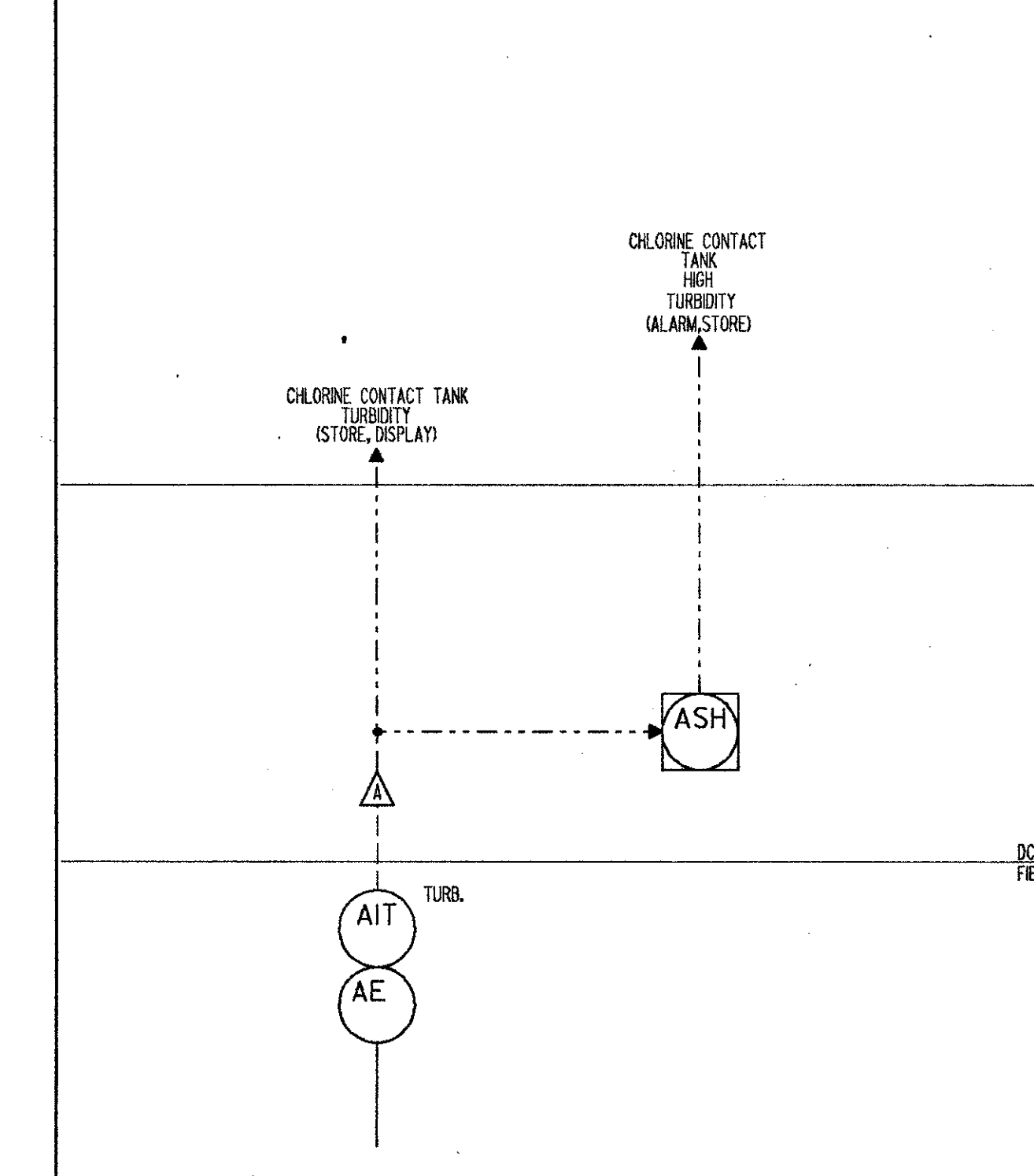
SINGLE CREEK OVERFLOW MONITORING LOOP NO. 5521

ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
AE/AIT	ANALYSIS INDICATING TRANSMITTER	RESIDUAL CHLORINE	RANGE: 0-5mg/L	CHLOR. CONTACT CHAMBER RESIDUAL CHLORINE MONITOR	1
ASH	ANALYSIS SWITCH HIGH	SOFTWARE		CHLOR. CONTACT CHAMBER RESIDUAL CHLORINE MONITOR	1
ASL	ANALYSIS SWITCH LOW	SOFTWARE		CHLOR. CONTACT CHAMBER RESIDUAL CHLORINE MONITOR	1



CHLORINE CONTACT CHAMBER RESIDUAL CHLORINE MONITORING LOOP NO. 5551

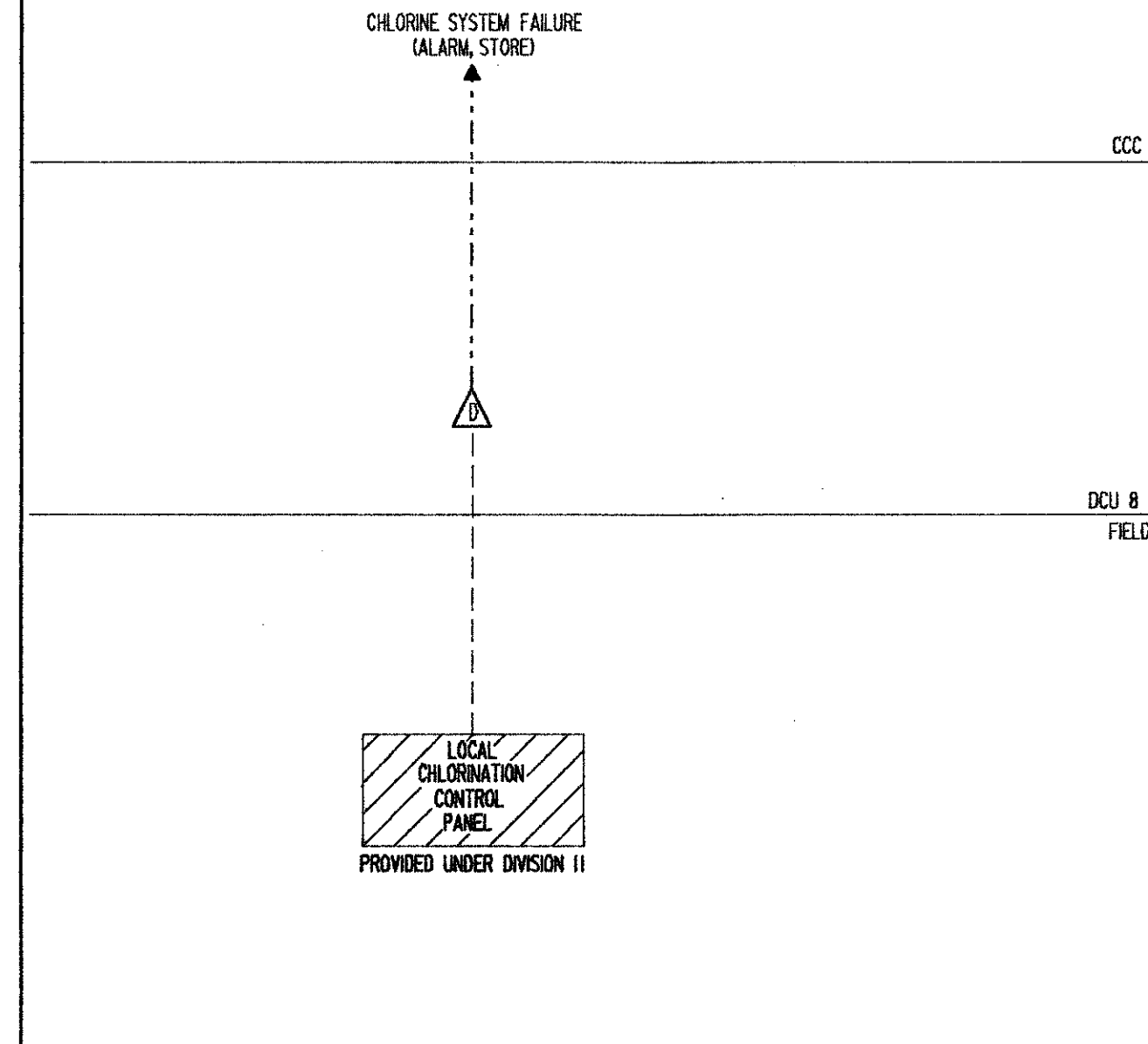
ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
AE/AIT	ANALYSIS INDICATING TRANSMITTER	TURBIDITY	RANGE: 0-1/10/100 NTU	CHLORINE CONTACT CHAMBER TURBIDITY MONITORING	1
ASH	ANALYSIS SWITCH HIGH	SOFTWARE		CHLORINE CONTACT CHAMBER TURBIDITY MONITORING	1



CHLORINE CONTACT CHAMBER TURBIDITY MONITORING LOOP NO. 5552

ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
HS A,B	HAND SWITCH		PROVIDED UNDER DIVISION 16	CHLORINE CONTACT CHAMBER MIXERS	--
RY	RUNNING RELAY	CONTACT ON MOTOR STARTER		CHLORINE CONTACT CHAMBER MIXERS	2
XY	FAILURE RELAY		PROVIDED UNDER DIVISION 11	CHLORINE CONTACT CHAMBER MIXERS	2

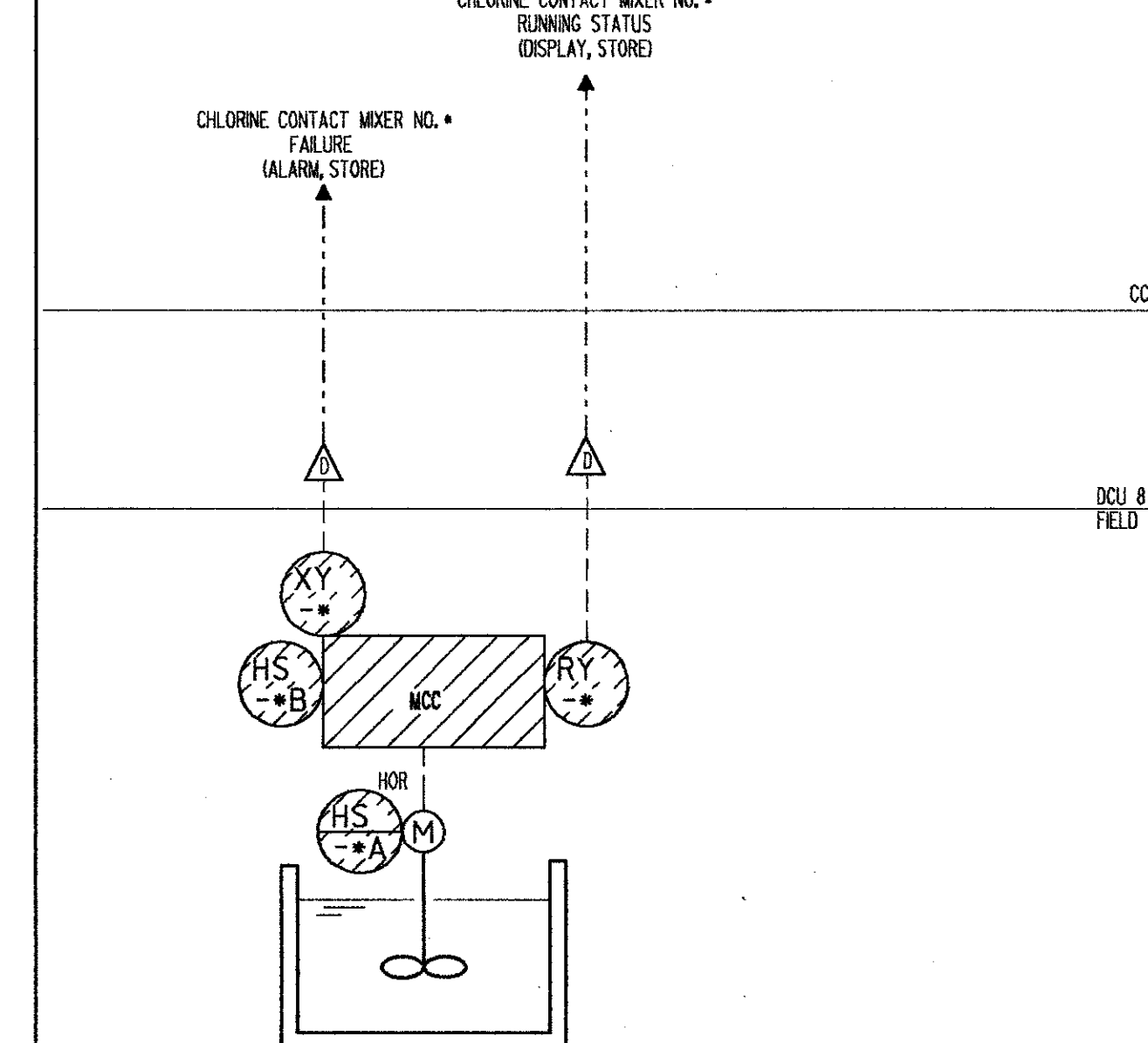
NOTES:
 QUANTITIES SHOWN ARE TOTALS FOR (2) IDENTICAL LOOPS.
 * DENOTES I OR 2
 CHLORINE MIXER NO. 1 LOOP NO. 5561-1
 CHLORINE MIXER NO. 2 LOOP NO. 5561-2



CHLORINE CONTACT CHAMBER MIXERS LOOP NO. 5561-*

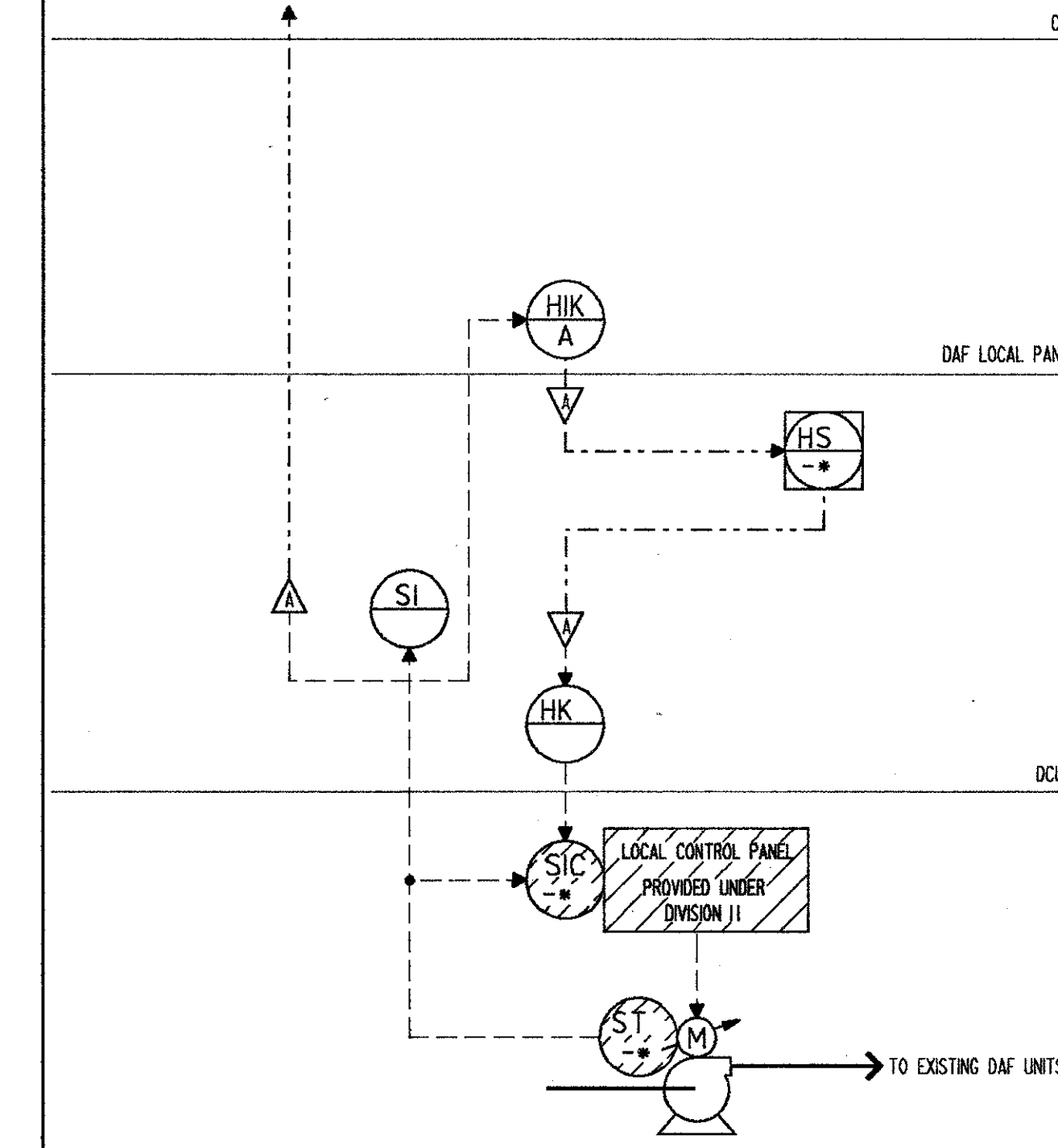
ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
ST	SPEED TRANSMITTER		PROVIDED UNDER DIVISION 11	BLEND SLUDGE PUMP NO. CONTROL	--
SIC	SPEED INDICATING TRANSMITTER		PROVIDED UNDER DIVISION 11	BLEND SLUDGE PUMP NO. CONTROL	--
HS*	HAND SWITCH	3 POSITION		BLEND SLUDGE PUMP NO. CONTROL DAF/OFF/BFP	2
HK	MANUAL LOADING INDICATING STATION	ELECTRONIC		BLEND SLUDGE PUMP NO. CONTROL LOCAL/REMOTE	2
HK	MANUAL LOADING STATION	ELECTRONIC	RANGE: 0-100%	BLEND SLUDGE PUMP NO. CONTROL	2
SI	SPEED INDICATOR	ELECTRONIC		BLEND SLUDGE PUMP NO. CONTROL	2

NOTES:
 QUANTITIES SHOWN ARE TOTALS FOR (2) IDENTICAL LOOPS.
 * DENOTES I OR 2
 BLEND SLUDGE PUMP NO. 1 LOOP NO. 6011-1
 BLEND SLUDGE PUMP NO. 2 LOOP NO. 6011-2



BLEND TANK SLUDGE PUMP SPEED CONTROL LOOP NO. 6011-*

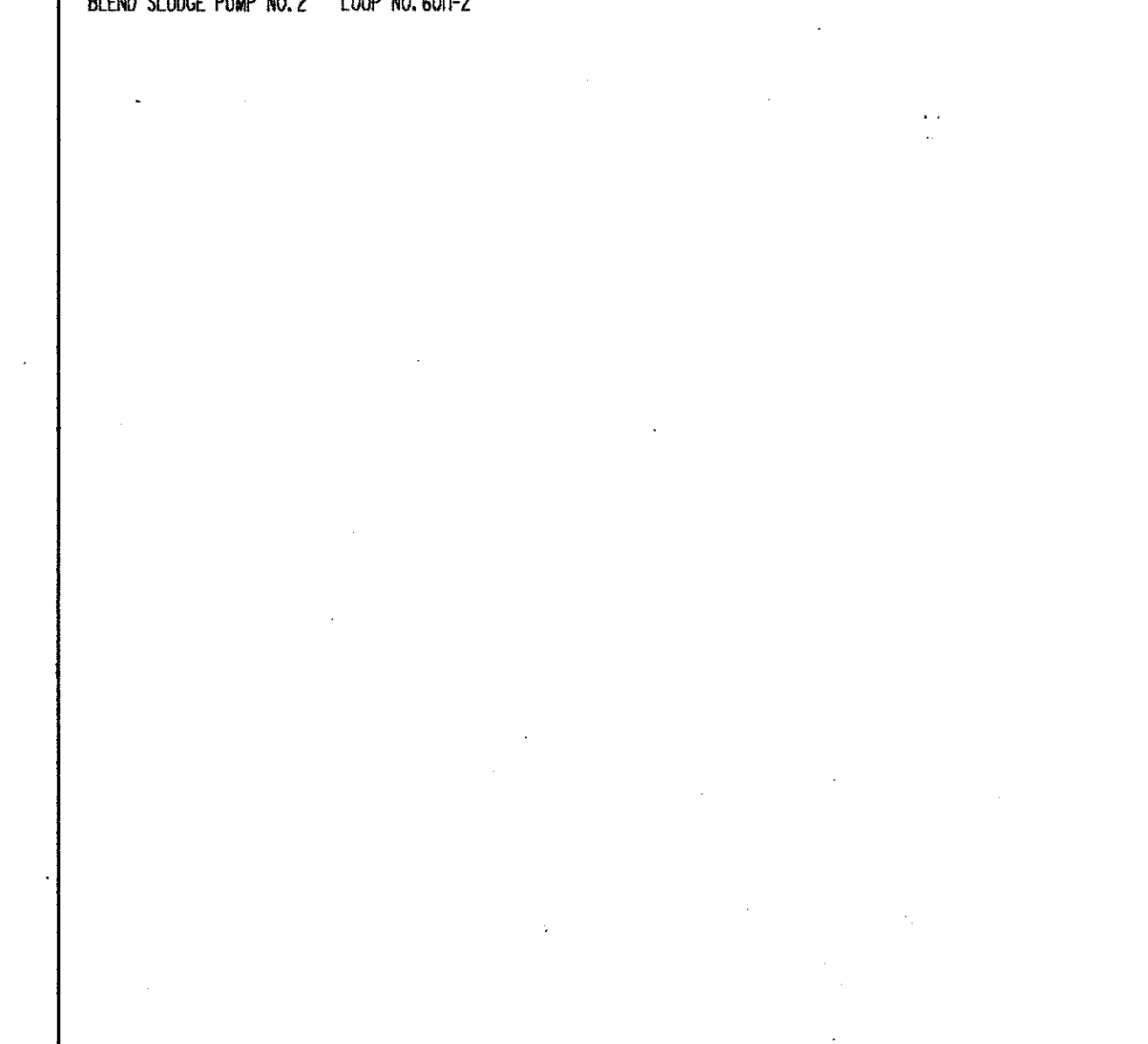
ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
SI	SPEED INDICATOR	ELECTRONIC		BLEND SLUDGE PUMP NO. SPEED (DISPLAY, STORE, TOTALIZED)	2



BLEND TANK SLUDGE PUMP SPEED CONTROL LOOP NO. 6011-*

ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
ST	SPEED TRANSMITTER		PROVIDED UNDER DIVISION 11	BLEND SLUDGE PUMP NO. CONTROL	--
SIC	SPEED INDICATING TRANSMITTER		PROVIDED UNDER DIVISION 11	BLEND SLUDGE PUMP NO. CONTROL	--
HS*	HAND SWITCH	3 POSITION		BLEND SLUDGE PUMP NO. CONTROL DAF/OFF/BFP	2
HK	MANUAL LOADING INDICATING STATION	ELECTRONIC		BLEND SLUDGE PUMP NO. CONTROL LOCAL/REMOTE	2
HK	MANUAL LOADING STATION	ELECTRONIC	RANGE: 0-100%	BLEND SLUDGE PUMP NO. CONTROL	2
SI	SPEED INDICATOR	ELECTRONIC		BLEND SLUDGE PUMP NO. CONTROL	2

NOTES:
 QUANTITIES SHOWN ARE TOTALS FOR (2) IDENTICAL LOOPS.
 * DENOTES I OR 2
 BLEND SLUDGE PUMP NO. 1 LOOP NO. 6011-1
 BLEND SLUDGE PUMP NO. 2 LOOP NO. 6011-2



BLEND TANK SLUDGE PUMP SPEED CONTROL LOOP NO. 6011-*

CAMP DRESSER & MCKEE INC.

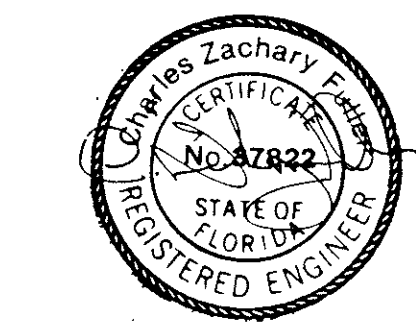
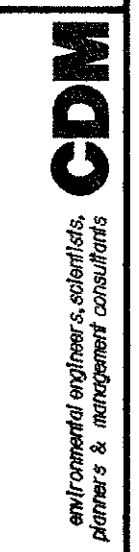
SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION
 LOOP DIAGRAMS
 ORANGE COUNTY, FLORIDA

PROJECT NO. 6059-SL3R

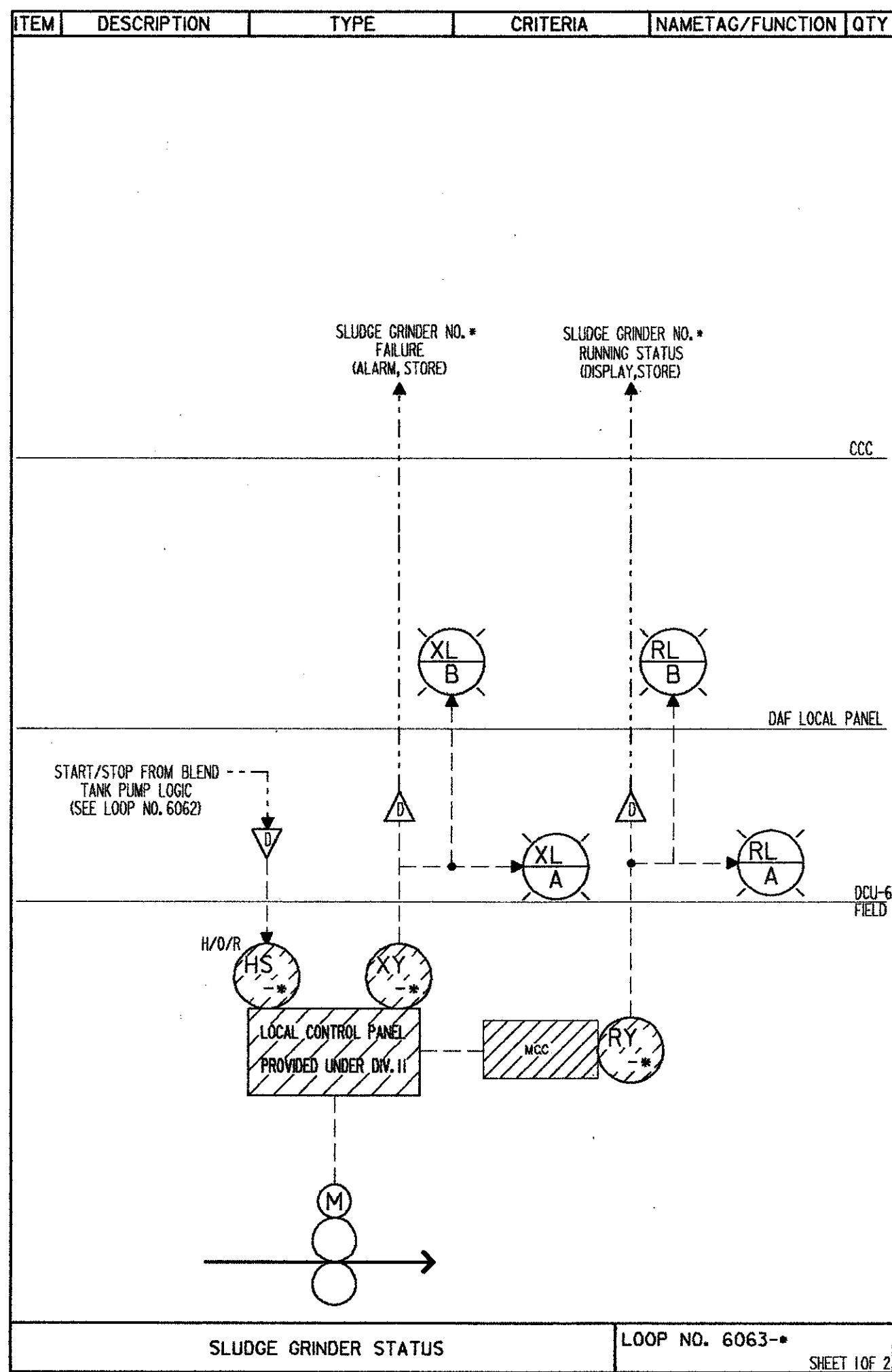
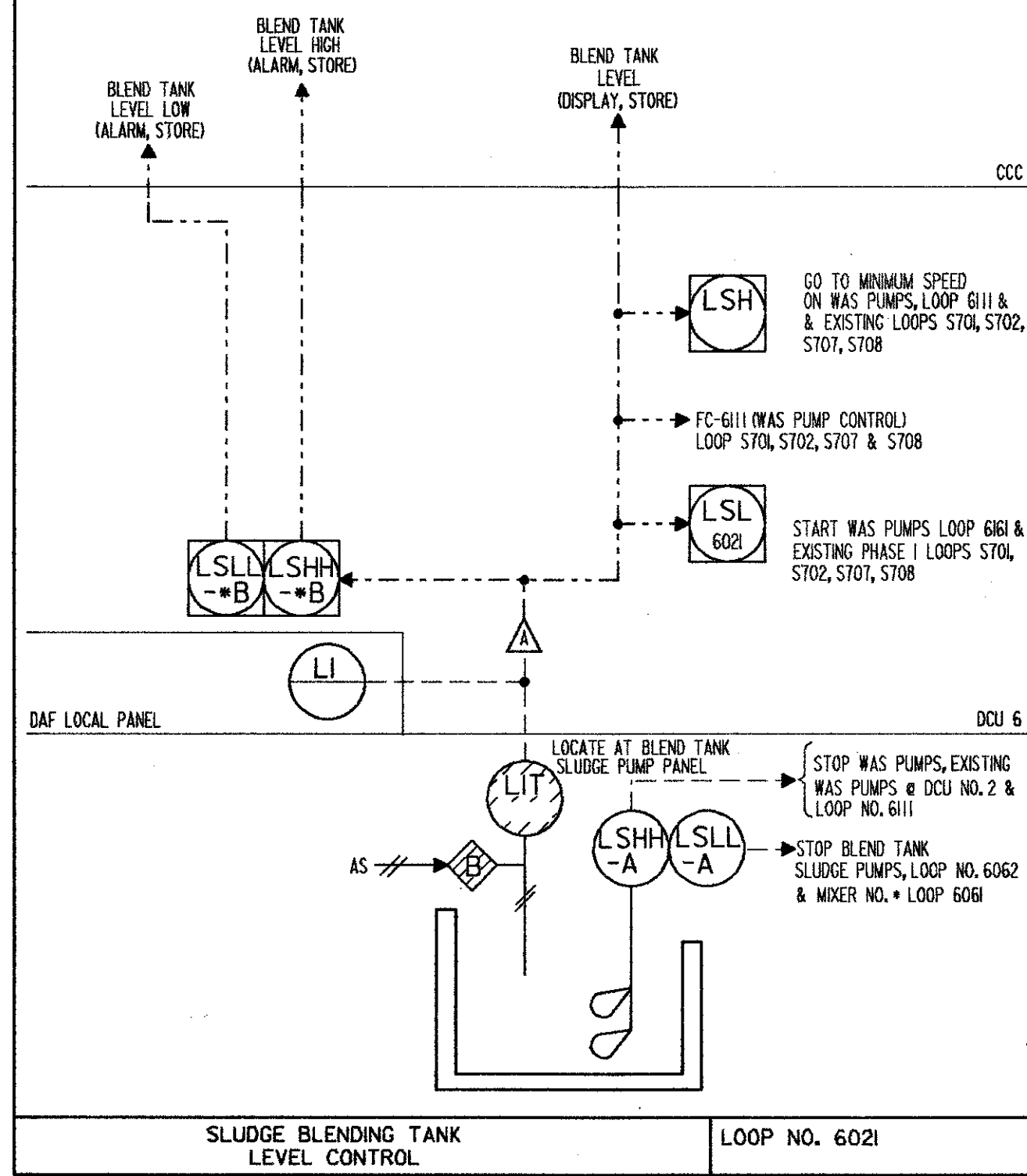
SHEET NO. 12

REV. NO.	DATE	DRWN	CHKD	REMARKS
4/88		SAF		CONFORMED D'VG.

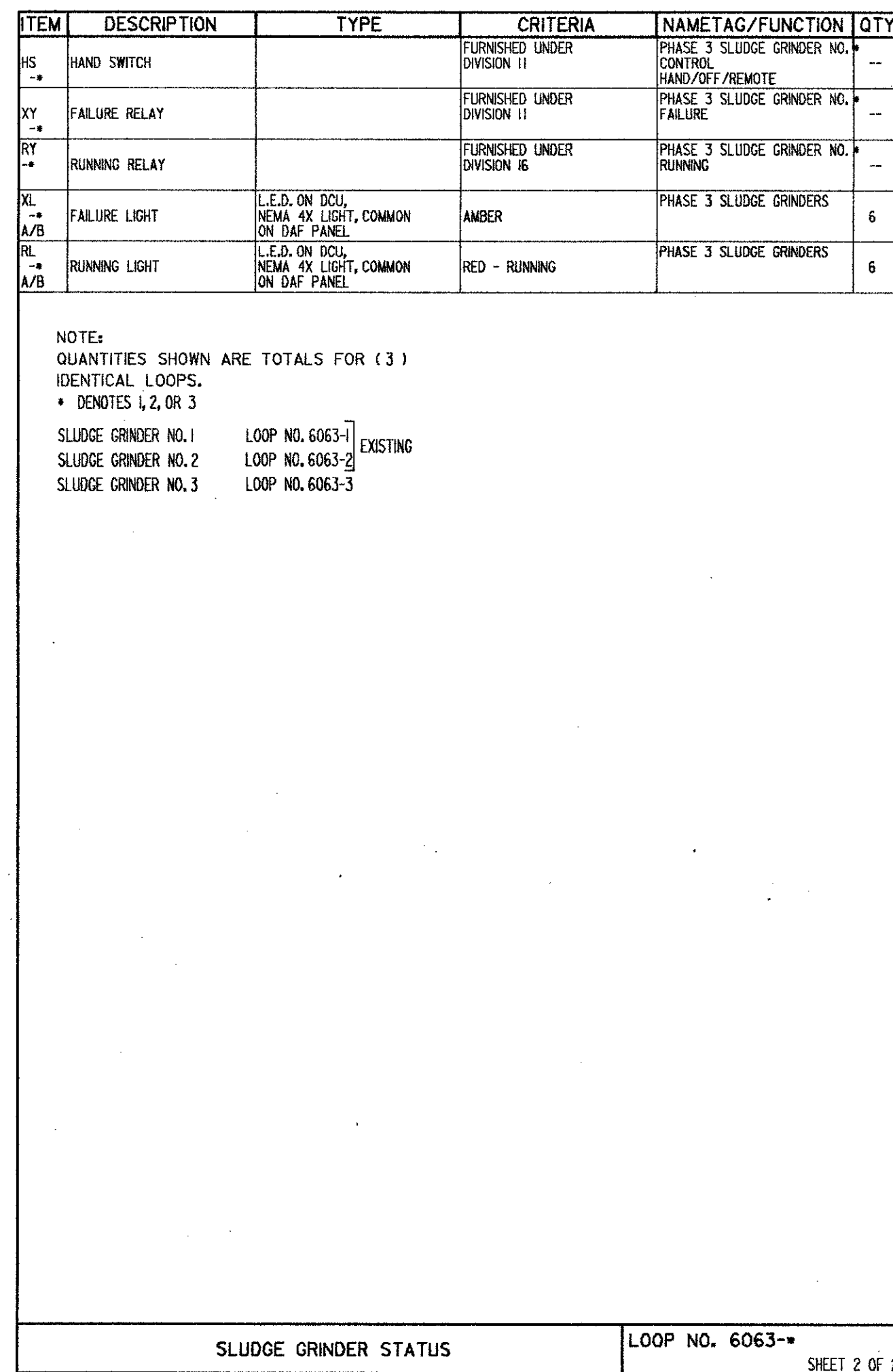
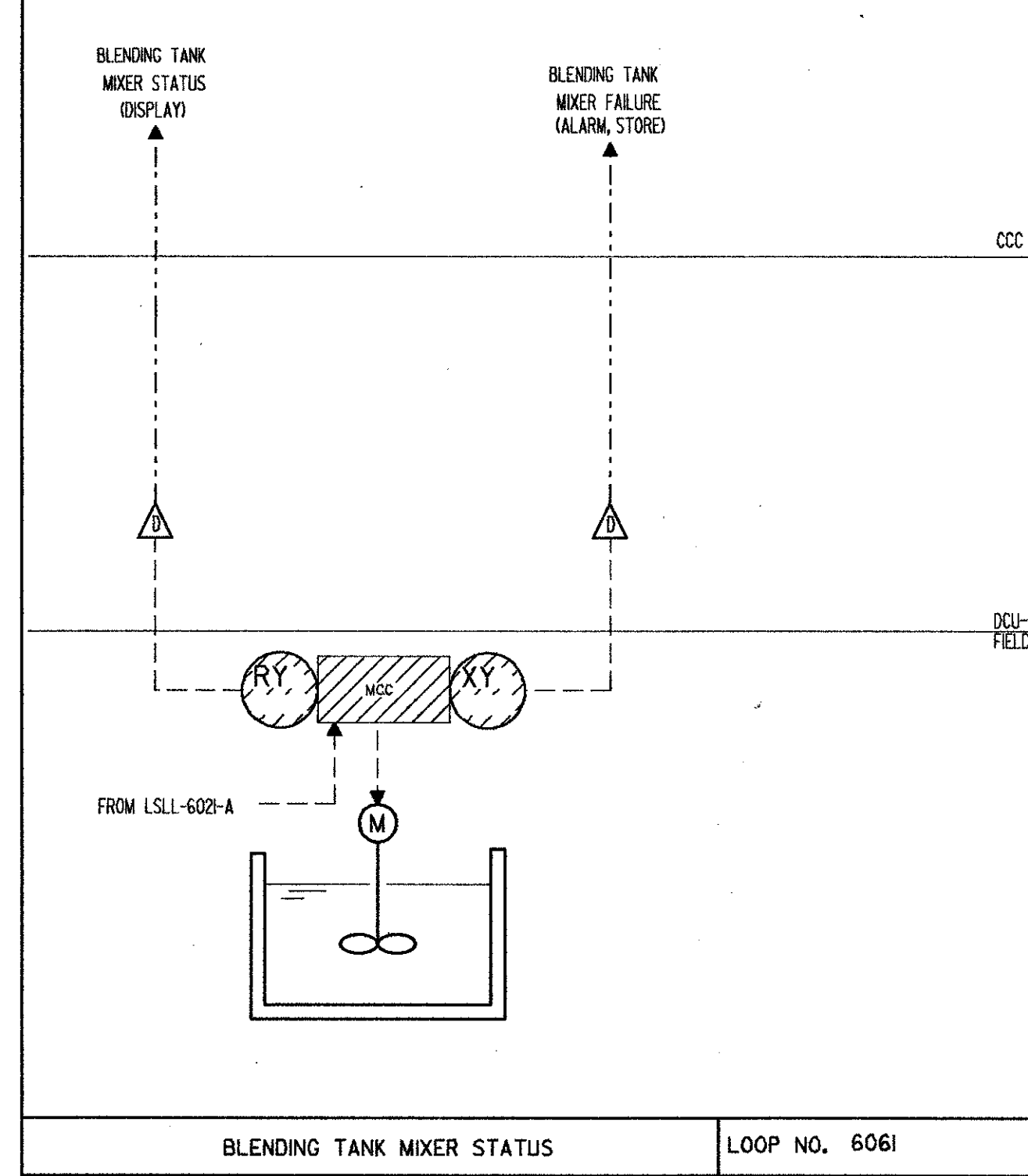
DESIGNED BY: HRH
 DRAWN BY: JD
 CHECKED BY:
 APPROVED BY:
 DATE: 3/3/88



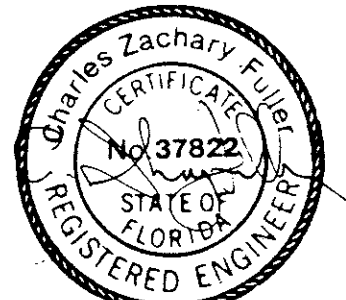
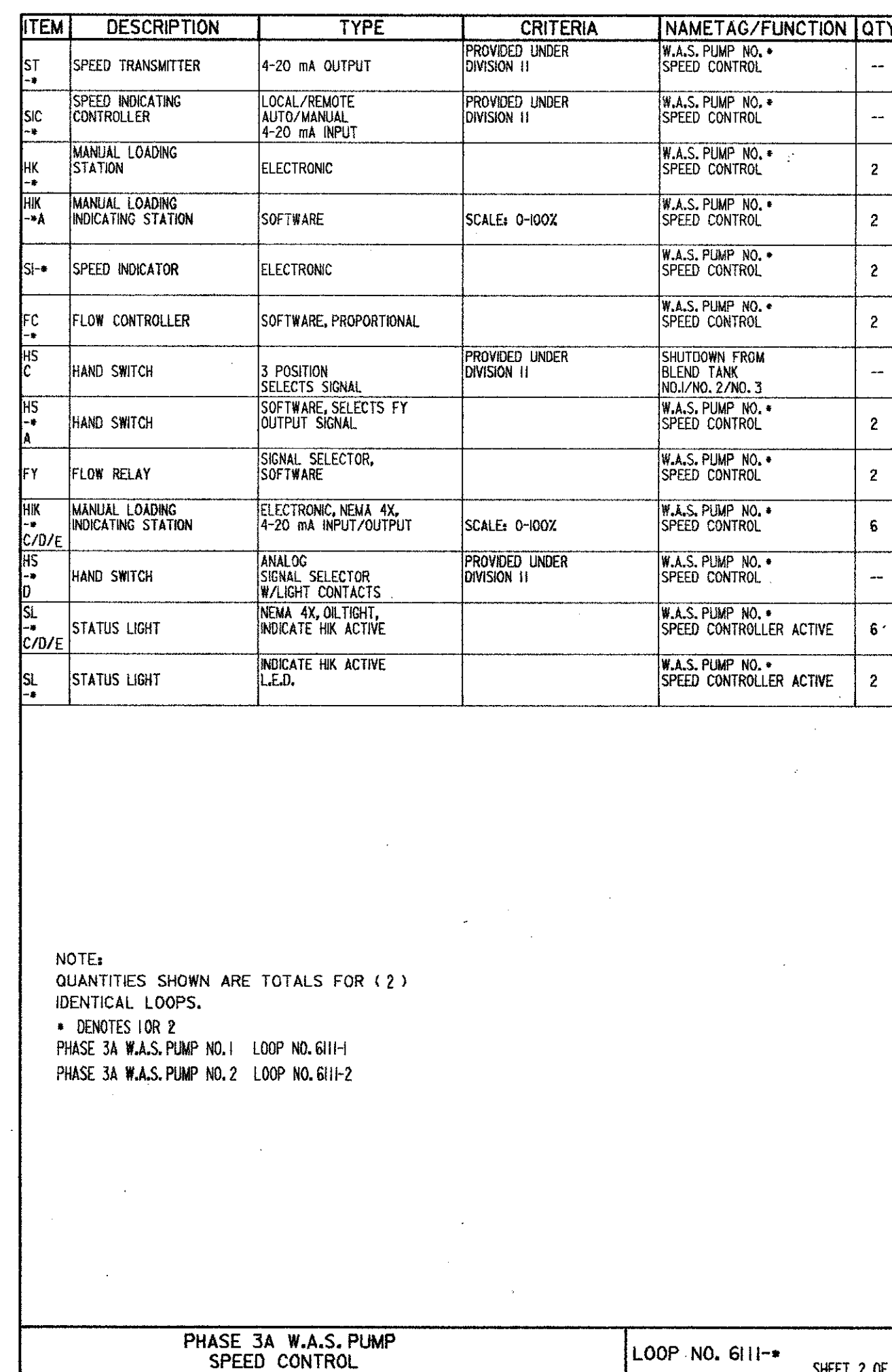
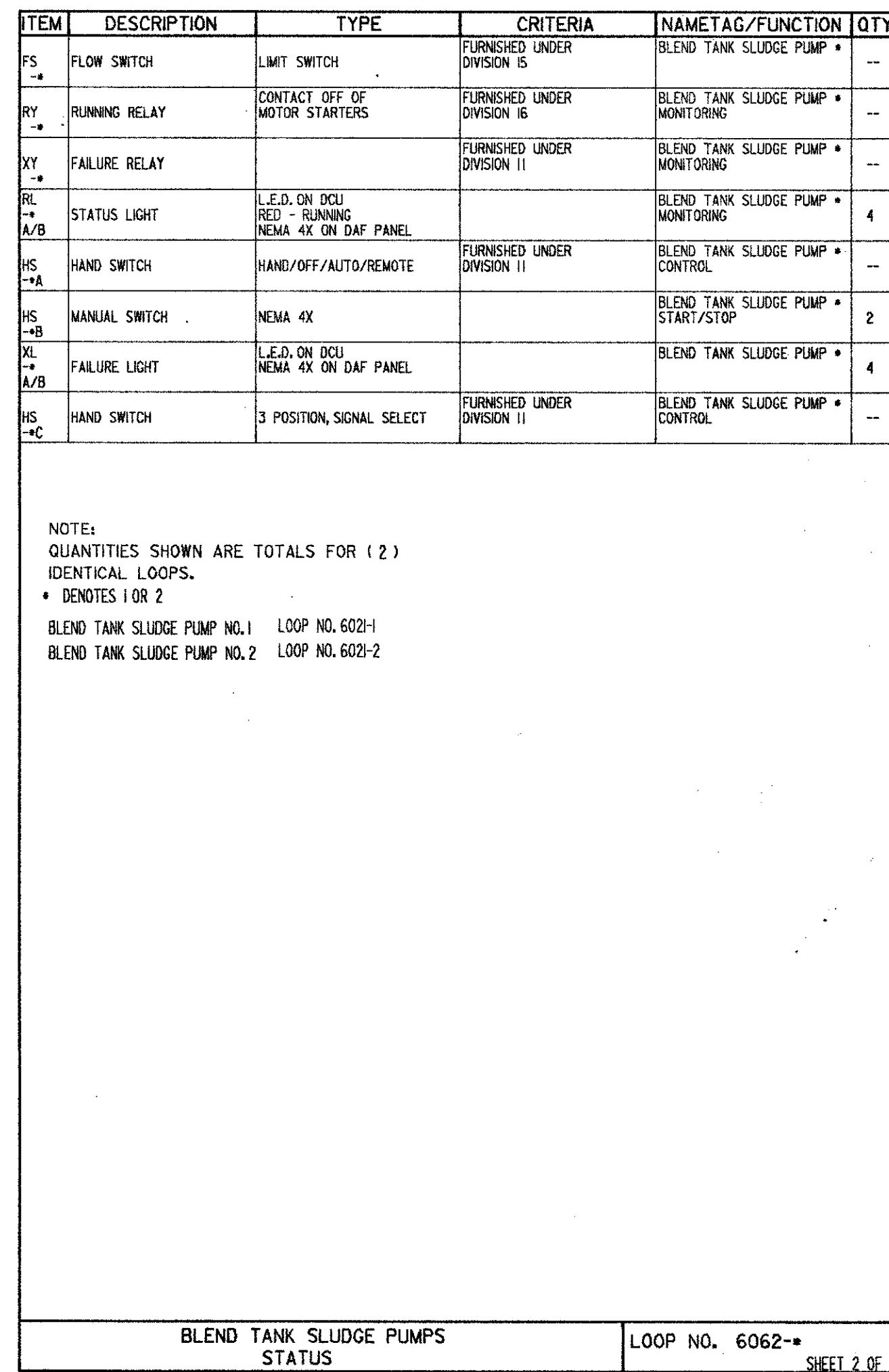
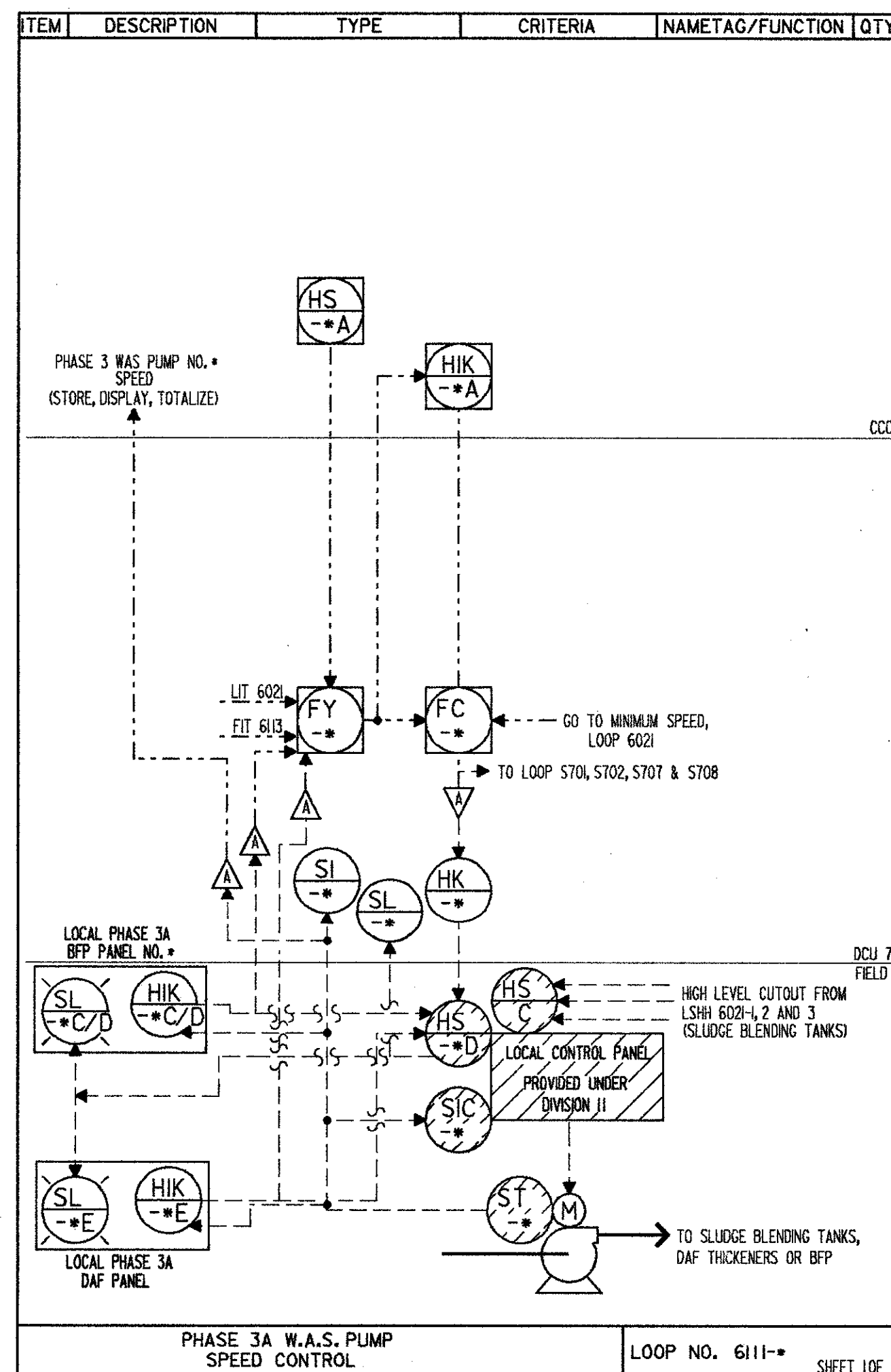
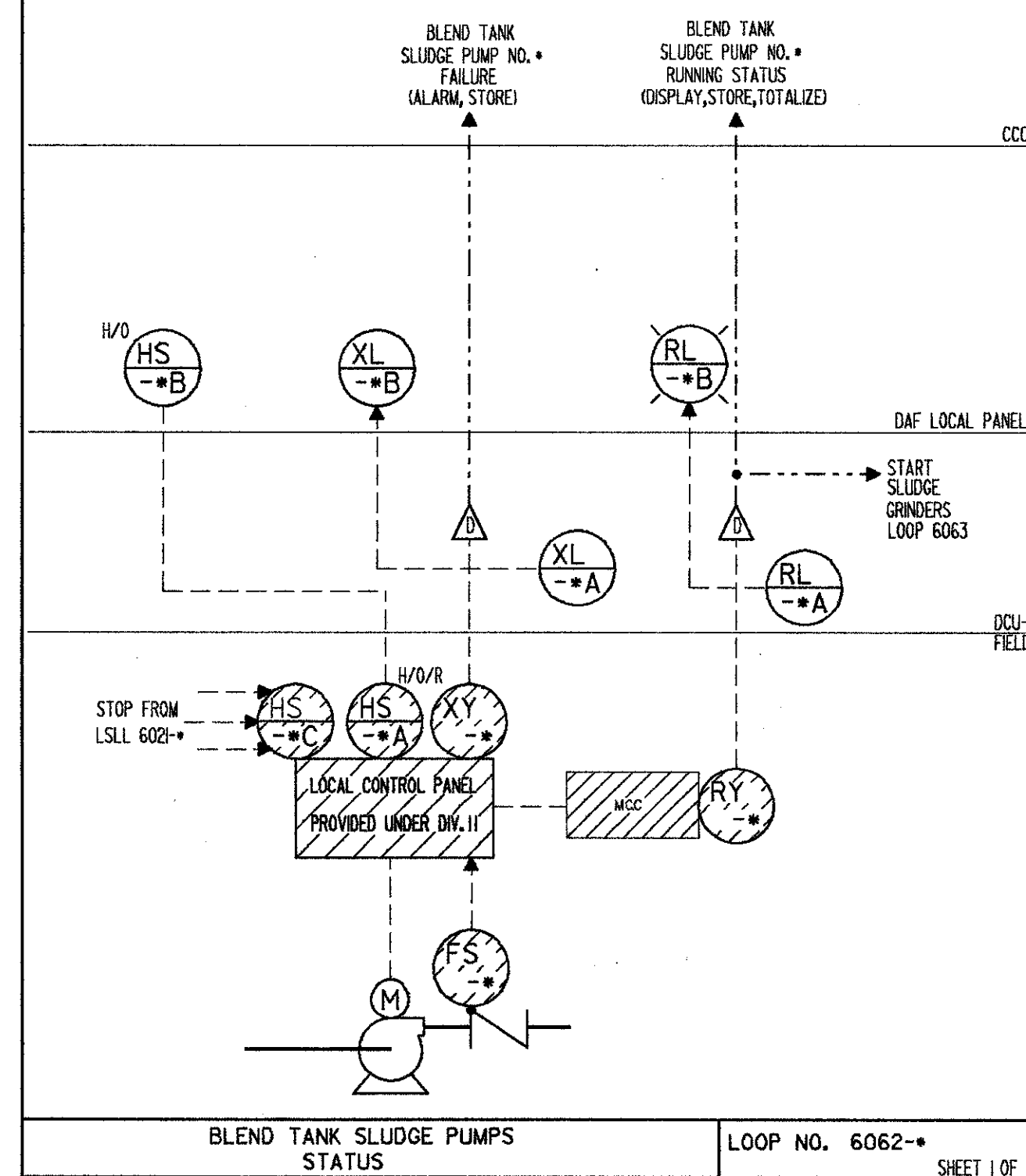
ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
LIT	LEVEL INDICATING TRANSMITTER	DIFFERENTIAL PRESSURE	PROVIDED UNDER DIVISION II RANGE 0-20 FT.	BLEND TANK NO. * LEVEL	1
LSH	LEVEL SWITCH HIGH/HIGH	MERCURY FLOAT SWITCH	SPOT WAS PUMP SHUTDOWN	BLEND TANK NO. * HIGH	1
LSL	LEVEL SWITCH LOW/LOW	MERCURY FLOAT SWITCH	SPOT	BLEND TANK NO. * LOW	1
LSH	LEVEL SWITCH HIGH/HIGH	SOFTWARE		BLEND TANK NO. * LEVEL HIGH/HIGH	1
LSL	LEVEL SWITCH LOW/LOW	SOFTWARE		BLEND TANK NO. * LEVEL LOW/LOW	1



ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
RY	RUNNING RELAY		PROVIDED UNDER DIVISION II	PHASE 3A BLENDING TANK MIXER	1
XY	FAILURE RELAY		PROVIDED UNDER DIVISION II	PHASE 3A BLENDING TANK MIXER	1



ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
PS	FLOW SWITCH	LIMIT SWITCH	FURNISHED UNDER DIVISION II	BLEND TANK SLUDGE PUMP * MONITORING	1
RY	RUNNING RELAY	CONTACT OFF OF MOTOR STARTERS	FURNISHED UNDER DIVISION II	BLEND TANK SLUDGE PUMP * MONITORING	1
XY	FAILURE RELAY		FURNISHED UNDER DIVISION II	BLEND TANK SLUDGE PUMP * MONITORING	1
RL	STATUS LIGHT	L.E.D. ON DCU, RED - RUNNING, NEMA 4X ON DAF PANEL		BLEND TANK SLUDGE PUMP * MONITORING	4
HS	HAND SWITCH	HAND/OFF/AUTO/REMOTE	FURNISHED UNDER DIVISION II	BLEND TANK SLUDGE PUMP * CONTROL	1
HS	MANUAL SWITCH	NEMA 4X		BLEND TANK SLUDGE PUMP * START/STOP	2
XL	FAILURE LIGHT	L.E.D. ON DCU, NEMA 4X ON DAF PANEL		BLEND TANK SLUDGE PUMP * MONITORING	4
HS	HAND SWITCH	3 POSITION, SIGNAL SELECT	FURNISHED UNDER DIVISION II	BLEND TANK SLUDGE PUMP * CONTROL	1



CAMP DRESSER & MCKEE INC.

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION
LOOP DIAGRAMS
 ORANGE COUNTY, FLORIDA

DESIGNED BY: HRH
 DRAWN BY: JD
 CHECKED BY: JLB
 APPROVED BY: JLB
 DATE: 3/13/88

REMARKS: CONFORMED D.W.G.

REV. NO. DATE DRWN

PROJECT NO. 6059-SL3R

SHEET NO. 13

ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
FE	FLOW ELEMENT	MAGNETIC FLOW METER	SIZE: 6 INCH RANGE: 0-500 GPM	PHASE 3 WAS FLOW TO SLUDGE BLENDING TANKS	1
FIT	FLOW INDICATING TRANSMITTER	4-20mA DC OUTPUT NEMA 4	RANGE: 0-500 GPM	PHASE 3 WAS FLOW TO SLUDGE BLENDING TANKS	1
YS	ELECTRONIC CLEANER	ULTRASONIC NEMA 4 ENCLOSURE		PHASE 3 WAS FLOW TO SLUDGE BLENDING TANKS	1
FI A/B/C	FLOW INDICATOR	ELECTRONIC	SCALE: 0 - 500	PHASE 3 WAS FLOW TO SLUDGE BLENDING TANKS	3
FY	ZERO RETURN UNIT	SOFTWARE		PHASE 3 WAS FLOW TO SLUDGE BLENDING TANKS	1

* DENOTES 1 OR 2

PHASE 3A WAS FLOW TO SLUDGE BLENDING TANKS
LOOP NO. 613

ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
SIK +A	MANUAL LOADING STATION	SOFTWARE		PHASE 1 W.A.S. PUMP CONTROL	4
SIK +C	MANUAL LOADING STATION	ELECTRONIC 4-20 mA	PROVIDED UNDER DIVISION 11	PHASE 1 W.A.S. PUMP CONTROL	4
SIK +D	MANUAL LOADING STATION	EXISTING		PHASE 1 W.A.S. PUMP CONTROL	--
HS +	HAND SWITCH		PROVIDED UNDER DIVISION 11	PHASE 1 W.A.S. PUMP CONTROL	--
SC +	SPEED CONTROLLER		PROVIDED UNDER DIVISION 11	PHASE 1 W.A.S. PUMP CONTROL	--
ST +	SPEED TRANSMITTER		PROVIDED UNDER DIVISION 11	PHASE 1 W.A.S. PUMP CONTROL	--

NOTE: REF EXISTING LOOPS 570L, 570Z, 570T, 570R
QUANTITIES SHOWN ARE FOR 4 IDENTICAL LOOPS
* DENOTES 1, 2, 3 OR 4

SHOWN ON EXISTING LOOPS AS REVISION 1

PHASE 1 W.A.S. PUMP CONTROL
LOOP NO. 6115--

ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/FUNCTION	QTY
XY +	FAILURE RELAY	DRY CONTACTS	PROVIDED UNDER DIVISION 16	PHASE 3A W.A.S. PUMP MONITORING	--
RY +	RUNNING RELAY	CONTACT ON MOTOR STARTER	PROVIDED UNDER DIVISION 16	PHASE 3A W.A.S. PUMP MONITORING	--
FS +	FLOW SWITCH	LIMIT SWITCH	PROVIDED UNDER DIVISION 11	PHASE 3A W.A.S. PUMP MONITORING	--
HS +	HAND SWITCH	2 POSITION, NEMA 4X	PROVIDED UNDER DIVISION 11	PHASE 3A W.A.S. PUMP MONITORING SIDE "A"/SIDE "B"	--
RL +	RUNNING LIGHT	L.E.D. ON DCU NEMA 4X OUTLIGHT ON LOCAL PANELS		PHASE 3A W.A.S. PUMP MONITORING	6
XL +	FAILURE LIGHT	L.E.D. ON DCU NEMA 4X OUTLIGHT ON LOCAL PANELS		PHASE 3A W.A.S. PUMP MONITORING	6

NOTE:
QUANTITIES SHOWN ARE TOTALS FOR (2) IDENTICAL LOOPS.
* DENOTES 1 OR 2
PHASE 3A W.A.S. PUMP NO. 1 LOOP NO. 616-1
PHASE 3A W.A.S. PUMP NO. 2 LOOP NO. 616-2

PHASE 3A W.A.S. PUMP STATUS
LOOP NO. 6161--

ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/SERVICE	QTY
XY	FAILURE RELAY	DRY CONTACTS	PROVIDED UNDER DIVISION 16	PHASE 3A GENERATOR STATUS	--
RY	RUNNING RELAY	CONTACT ON GENERATOR STARTER	PROVIDED UNDER DIVISION 16	PHASE 3A GENERATOR STATUS	--

PHASE 3A GENERATOR STATUS
LOOP NO. 9270-2

ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/SERVICE	QTY
TSH +	TEMPERATURE SWITCH HIGH		PROVIDED UNDER DIVISION 16	INFLUENT PUMP STATION TEMPERATURE MONITORING	--

NOTE:
QUANTITIES SHOWN ARE FOR 5 IDENTICAL LOOPS
* DENOTES 1, 2, 3, 4 OR 5
EXISTING INFLUENT PUMP STATION ELECTRICAL ROOM LOOP NO. 9271-1
EXISTING INFLUENT PUMP STATION MOTOR ROOM LOOP NO. 9271-2
NEW INFLUENT PUMP STATION TRANSFORMER ROOM LOOP NO. 9271-3
NEW INFLUENT PUMP STATION CONTROL ROOM LOOP NO. 9271-4
NEW INFLUENT PUMP STATION MOTOR ROOM LOOP NO. 9271-5

PHASE 3A VOLTAGE AND KWH MONITORING
LOOP NO. 9270-1

ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/SERVICE	QTY
TSH +	TEMPERATURE SWITCH HIGH		PROVIDED UNDER DIVISION 16	PRE-TREATMENT ELECTRICAL ROOM TEMPERATURE MONITORING	--

INFLUENT PUMP STATION TEMPERATURE MONITORING
LOOP NO. 9271--

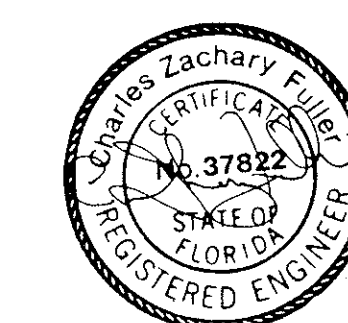
ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/SERVICE	QTY
TSH +	TEMPERATURE SWITCH HIGH		PROVIDED UNDER DIVISION 16	PRE-TREATMENT ELECTRICAL ROOM TEMPERATURE MONITORING	--

PRE-TREATMENT ELECTRICAL ROOM TEMPERATURE MONITORING
LOOP NO. 9272

ITEM	DESCRIPTION	TYPE	CRITERIA	NAMETAG/SERVICE	QTY
TSH +	TEMPERATURE SWITCH HIGH		PROVIDED UNDER DIVISION 16	PHASE 3A ELECTRICAL ROOM TEMPERATURE MONITORING	--

NOTE:
QUANTITIES SHOWN ARE FOR 2 IDENTICAL LOOPS
* DENOTES NO. 1 OR 2

PHASE 3A ELECTRICAL ROOM TEMPERATURE MONITORING
LOOP NO. 9273-2



**SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
LOOP DIAGRAMS
ORANGE COUNTY, FLORIDA**

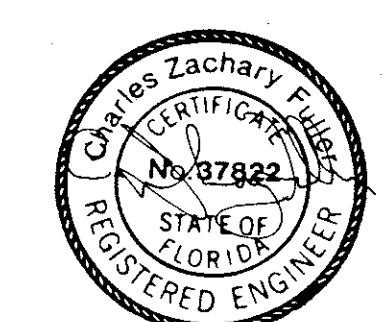
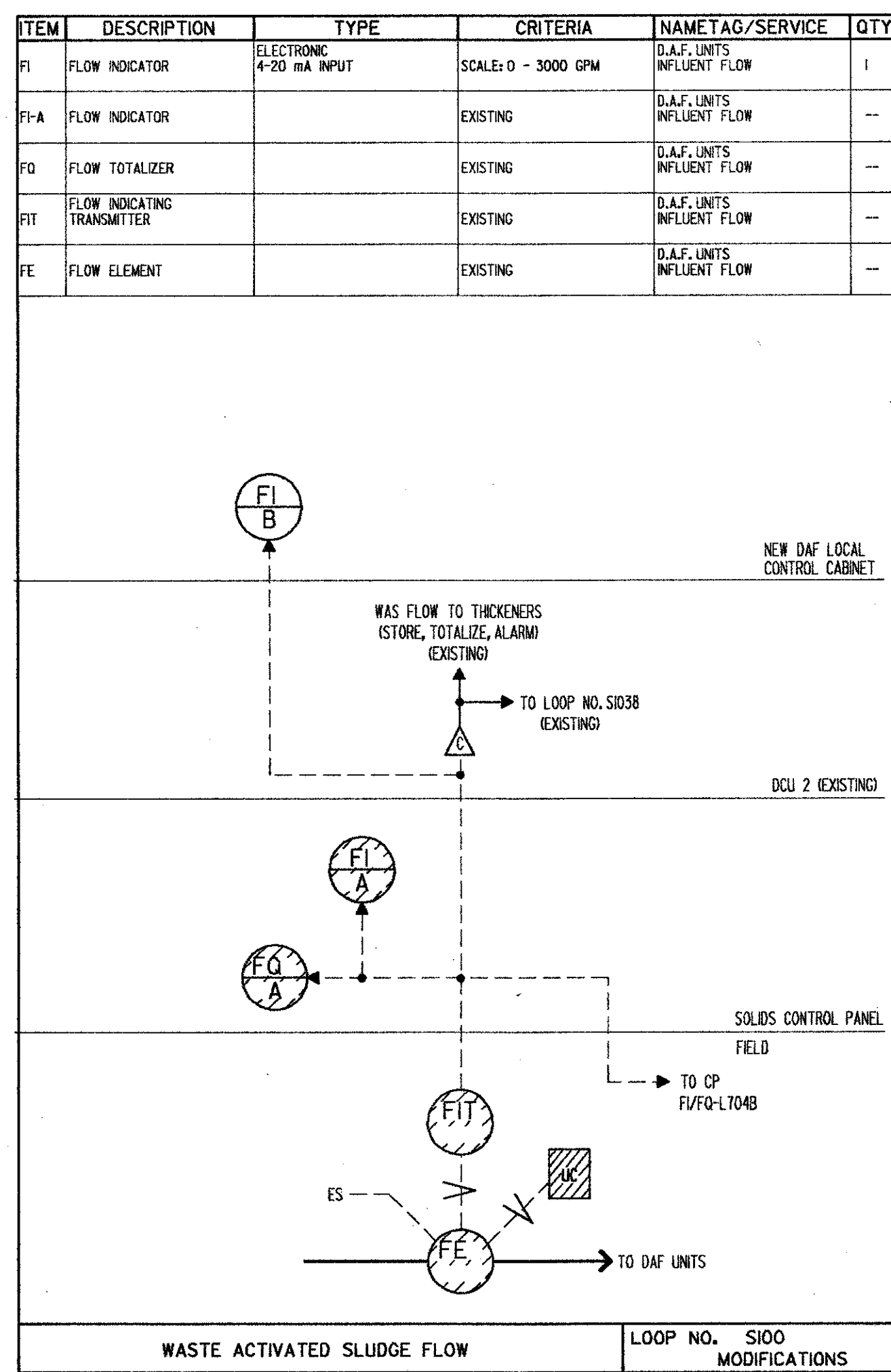
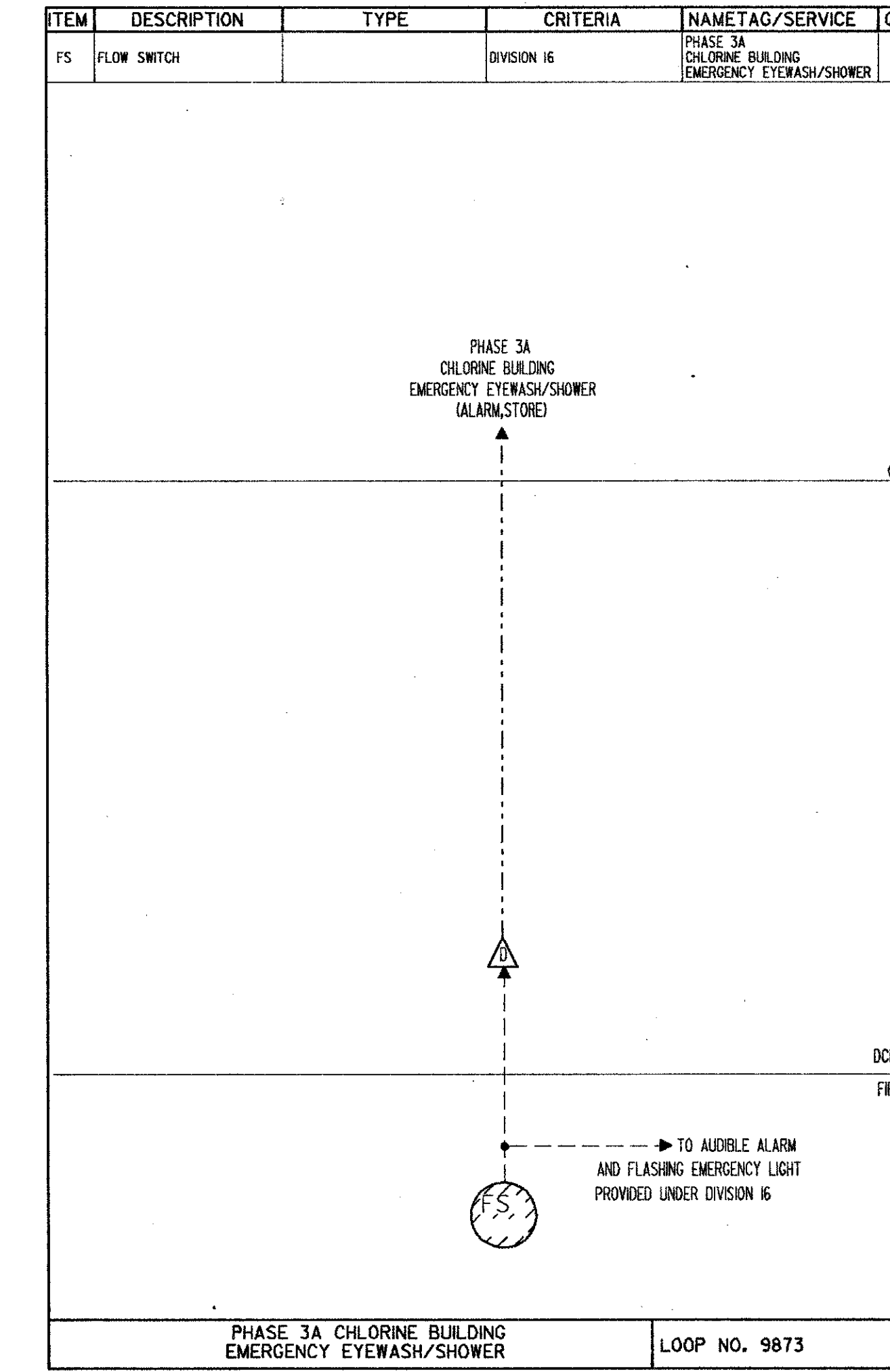
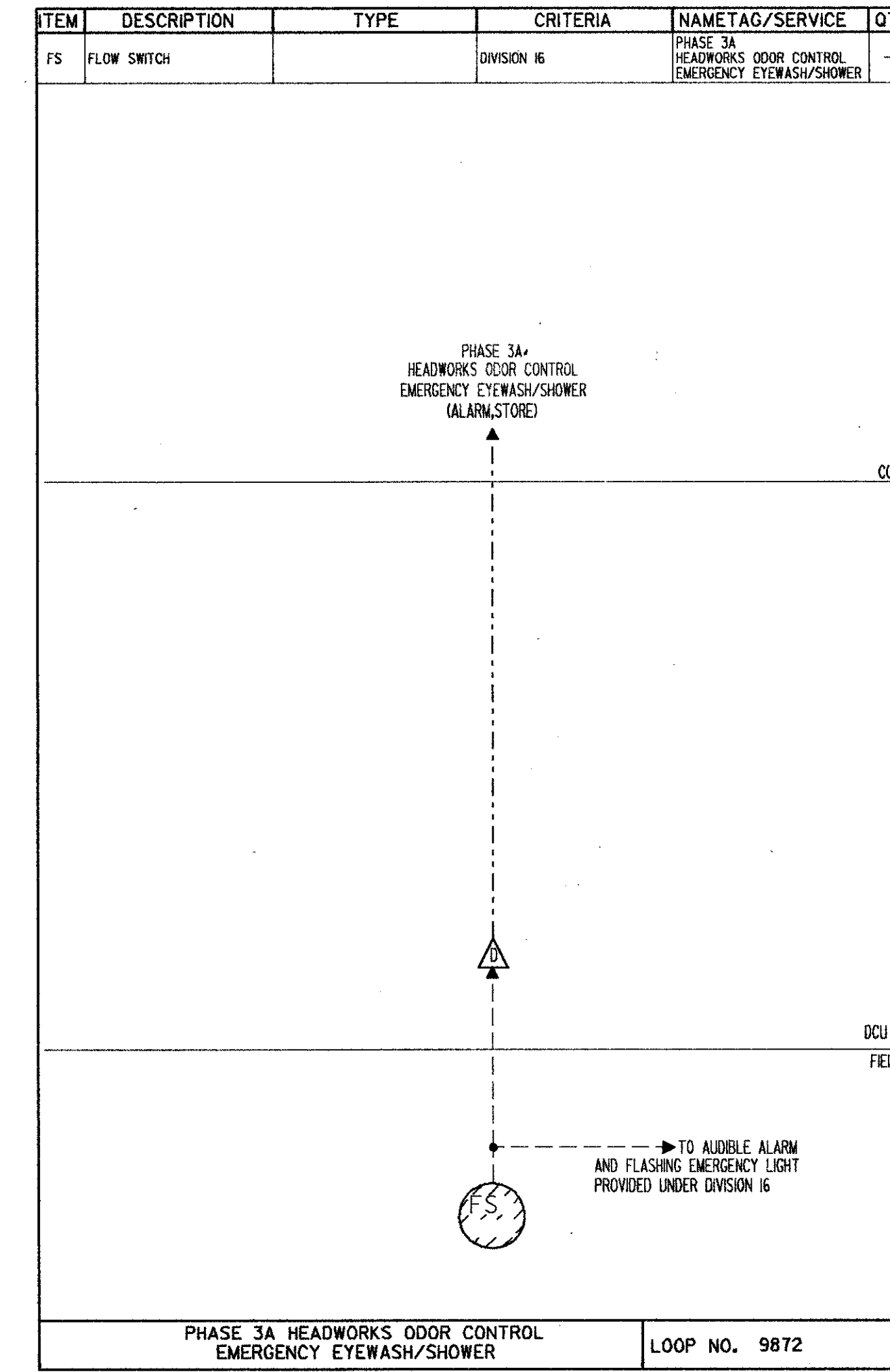
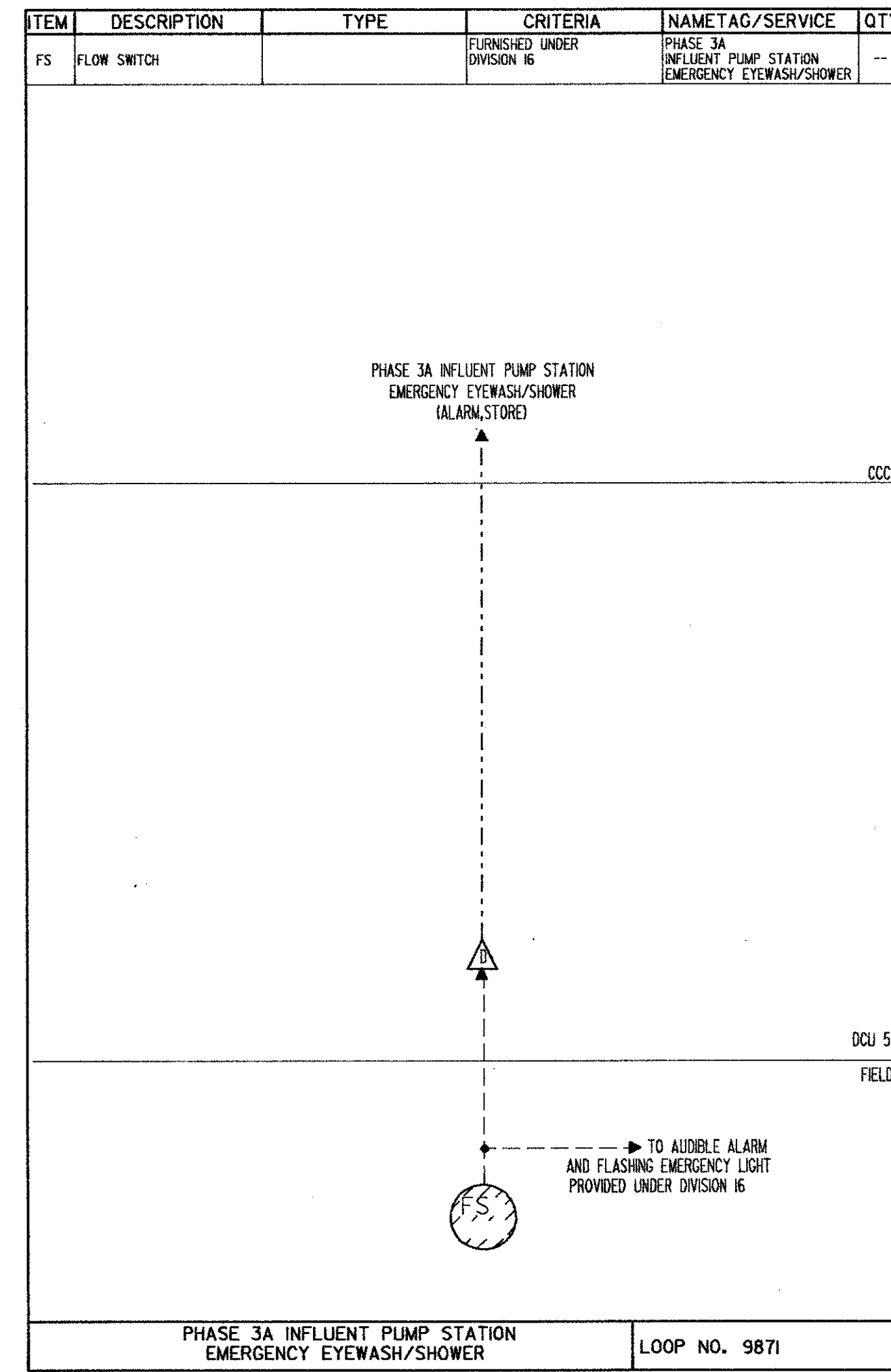
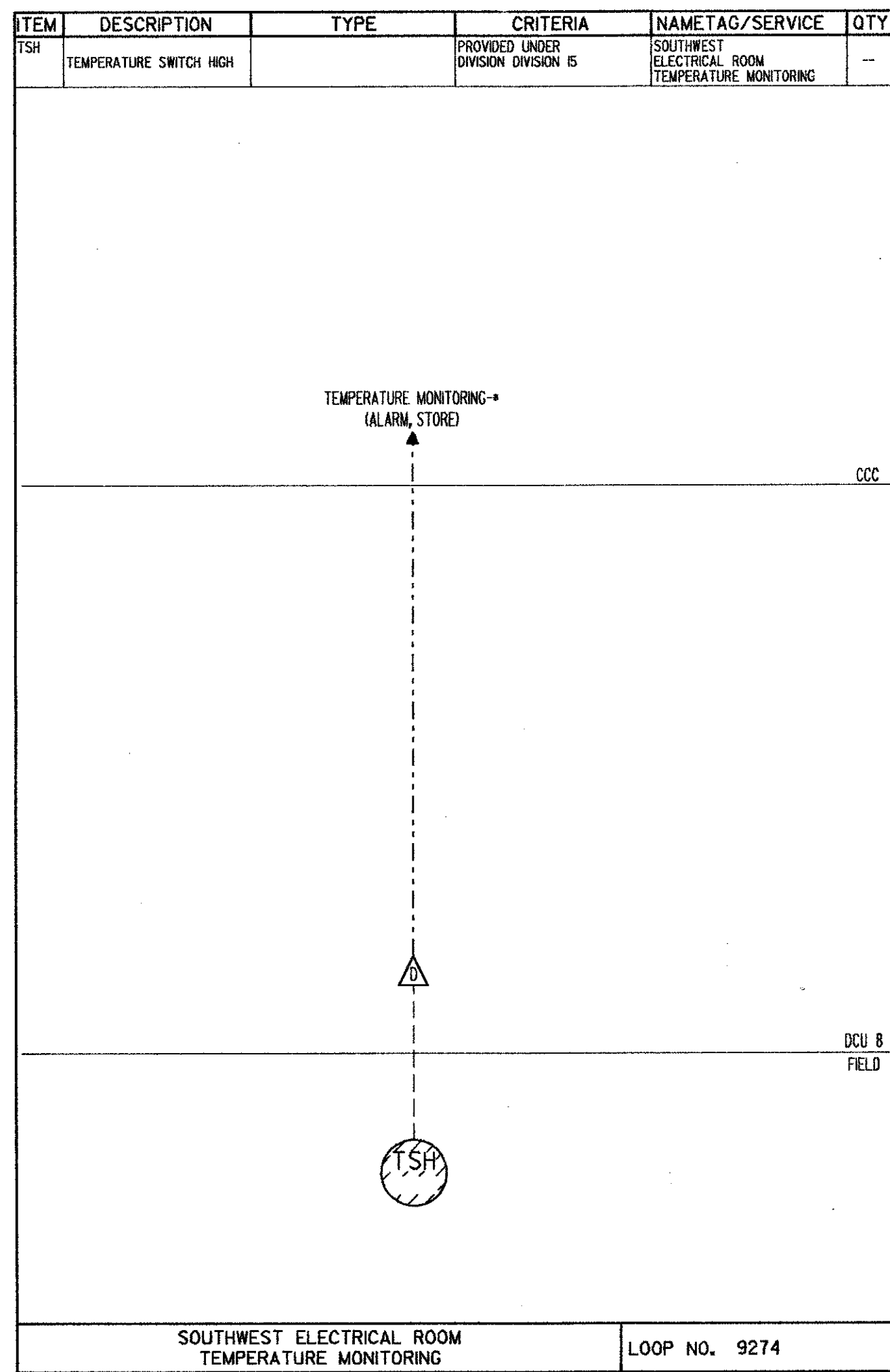
DESIGNED BY: HRH
DRAWN BY: JD
CHECKED BY: [Signature]
APPROVED BY: [Signature]
DATE: 3/23/88

CAMP DRESSER & MCKEE INC.
environmental engineers, scientists,
planners & management consultants
CDM

CONFORMED D.W.G.

REV. NO. 4/88 SAF
DATE: DRWN CHKD

PROJECT NO. 6059-SL3R
SHEET NO. 14



SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
LOOP DIAGRAMS
ORANGE COUNTY, FLORIDA

PROJECT NO.
6059-SL3R

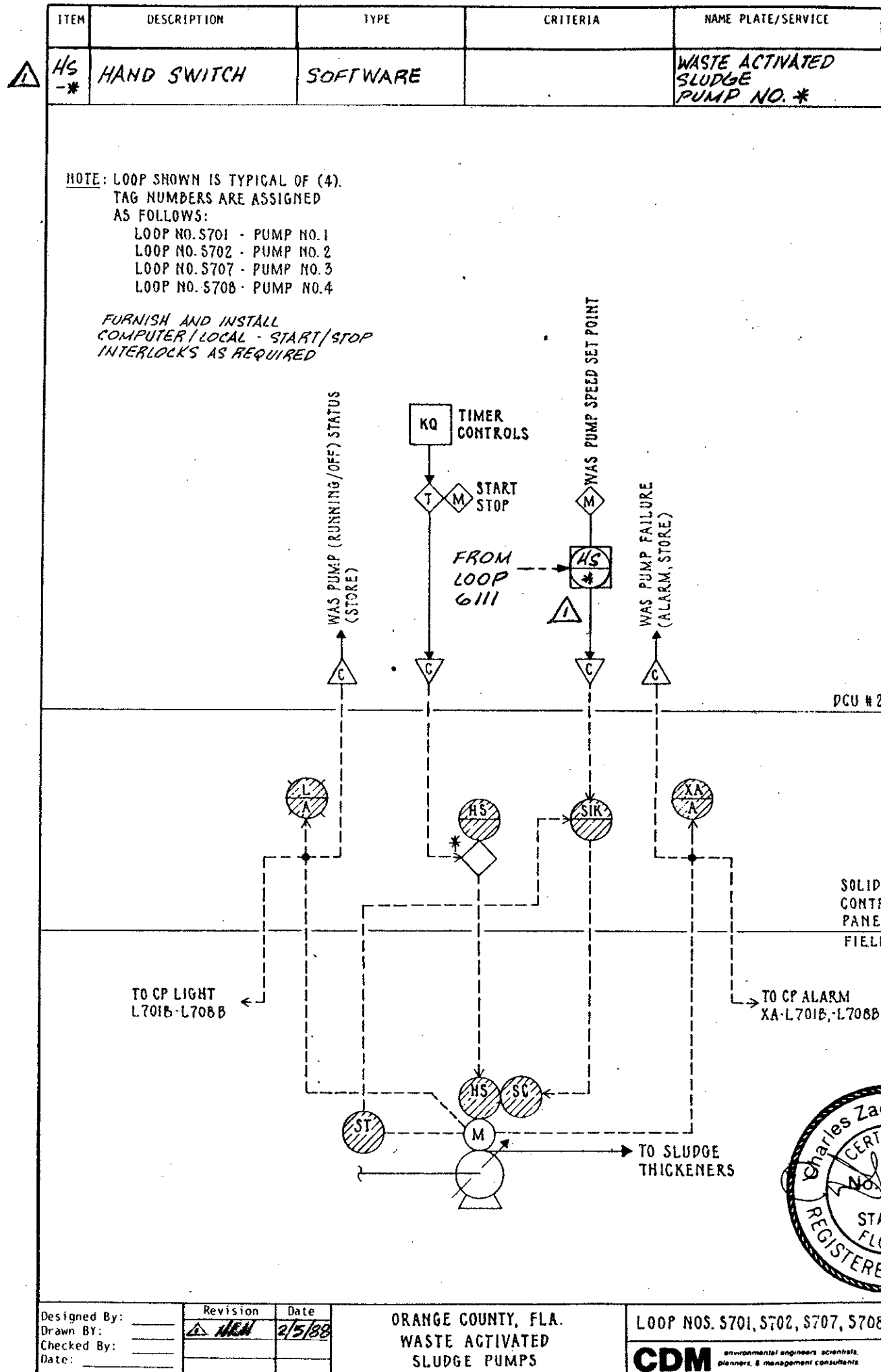
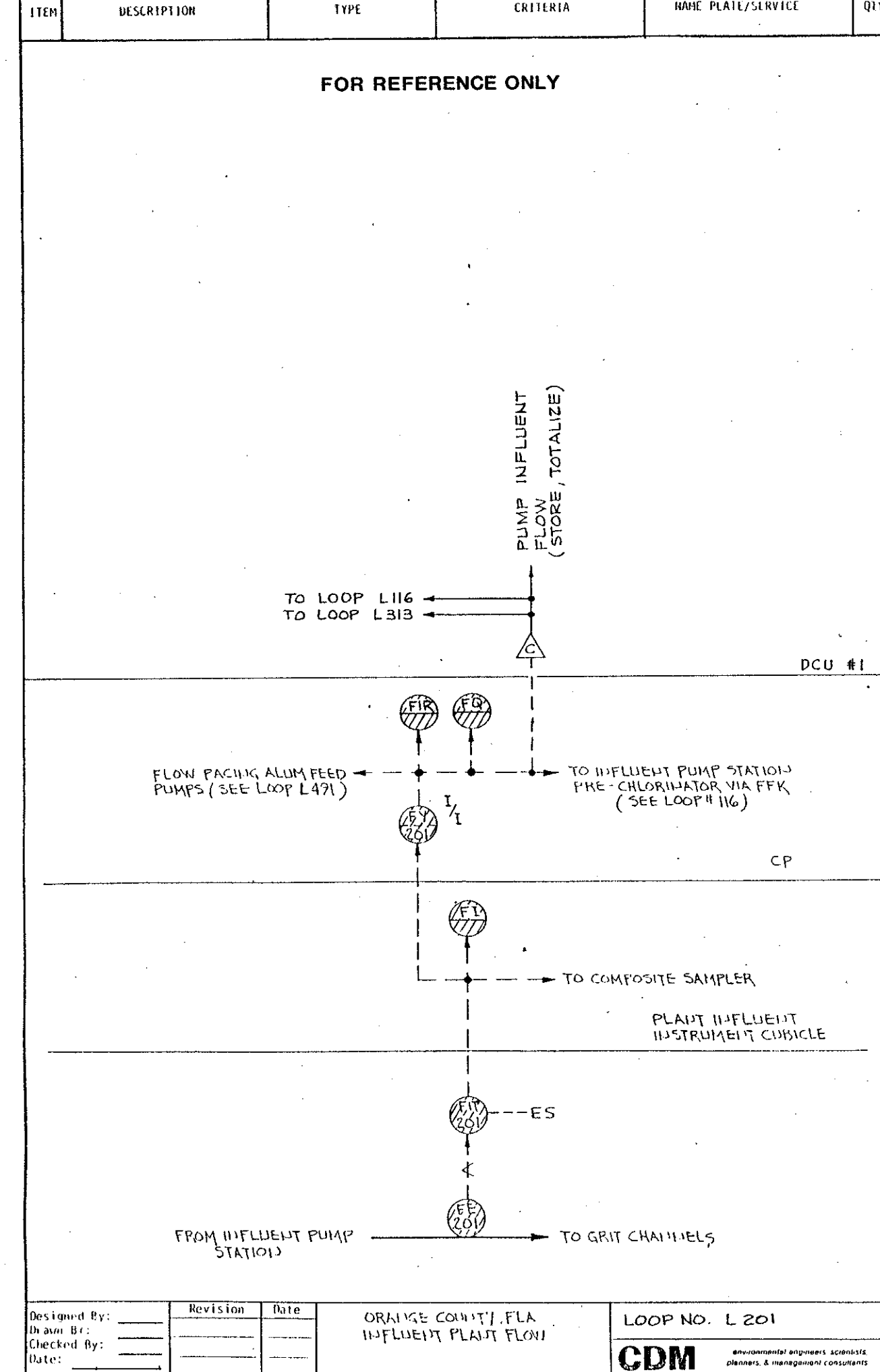
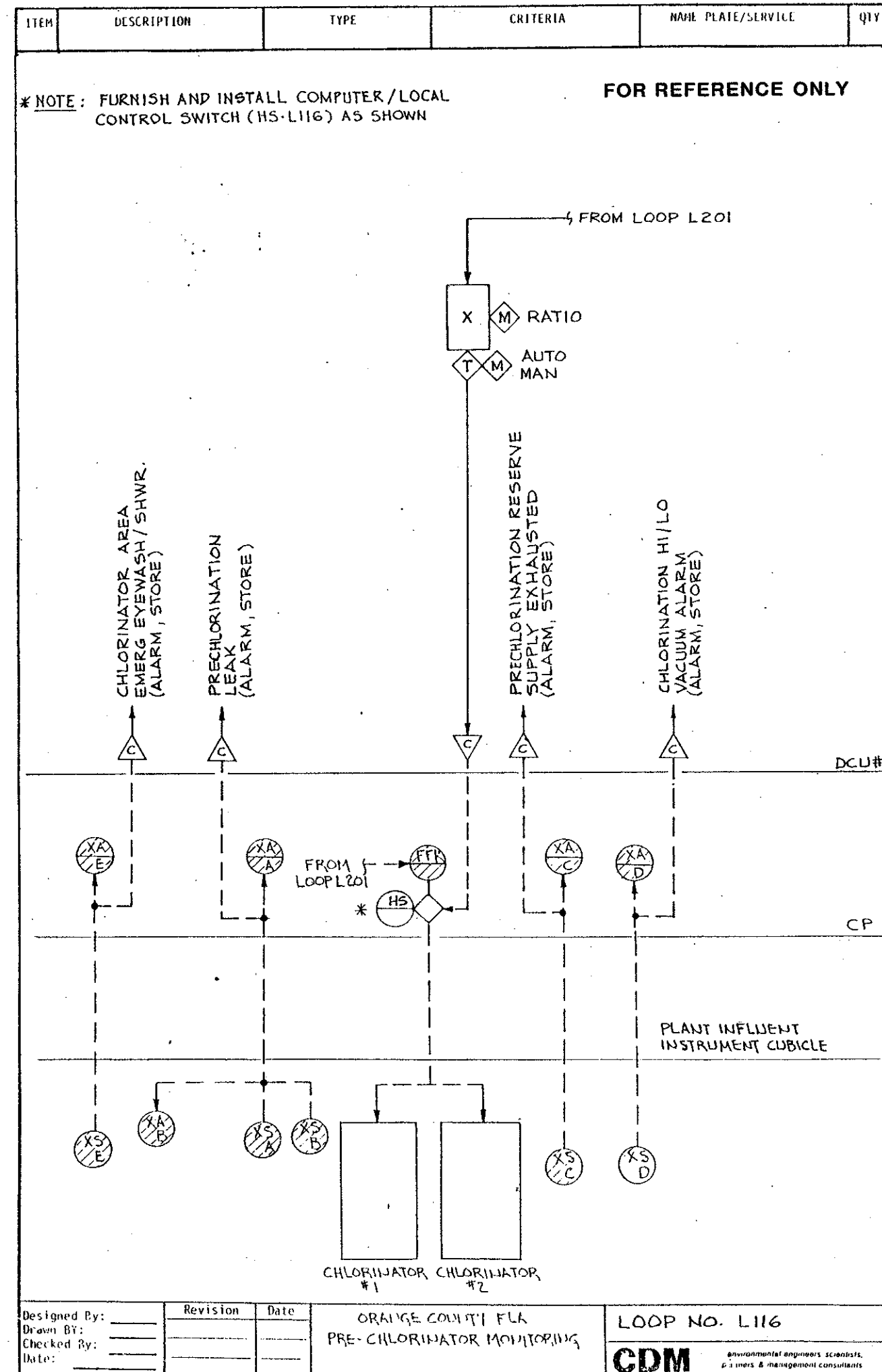
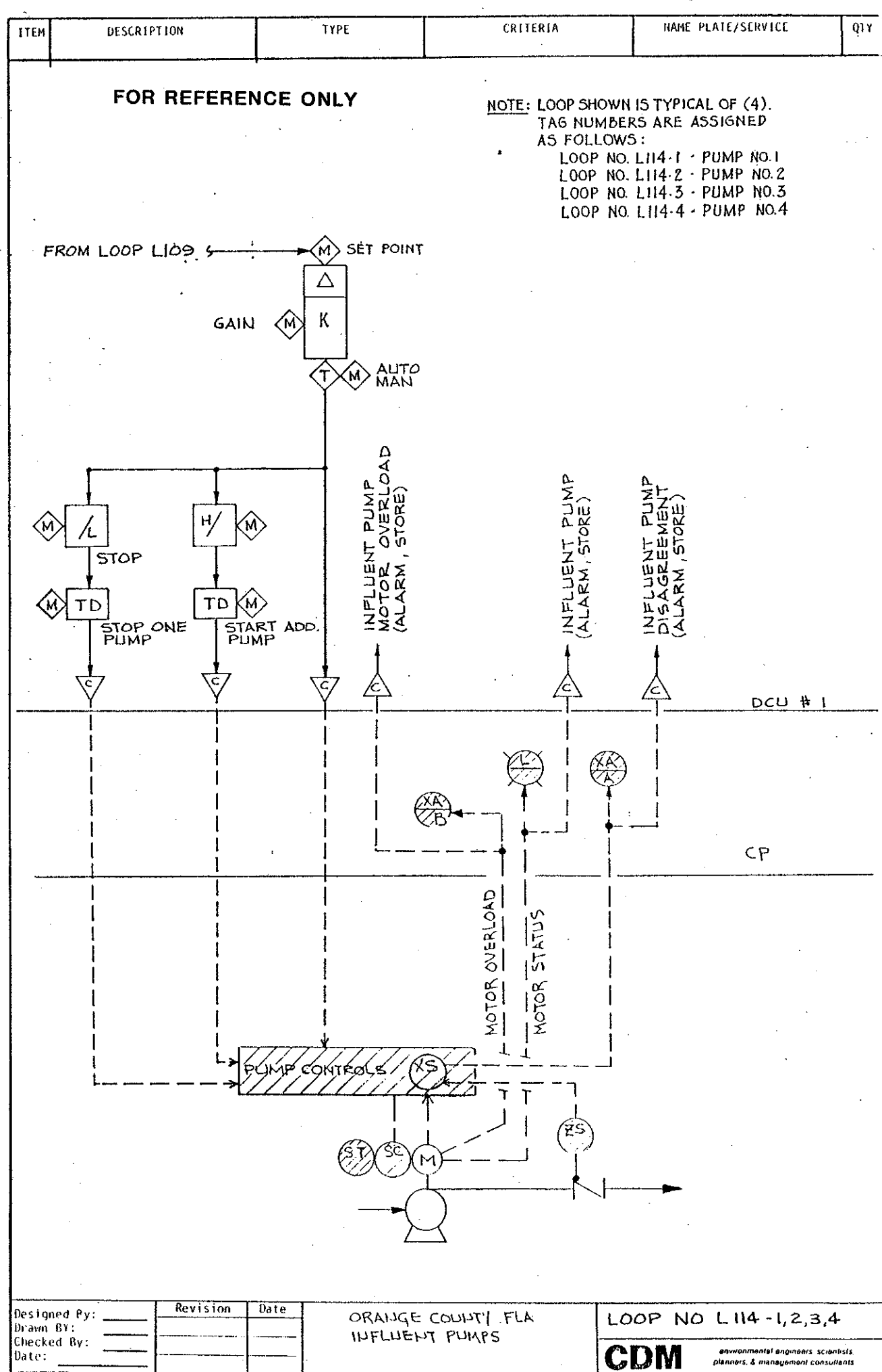
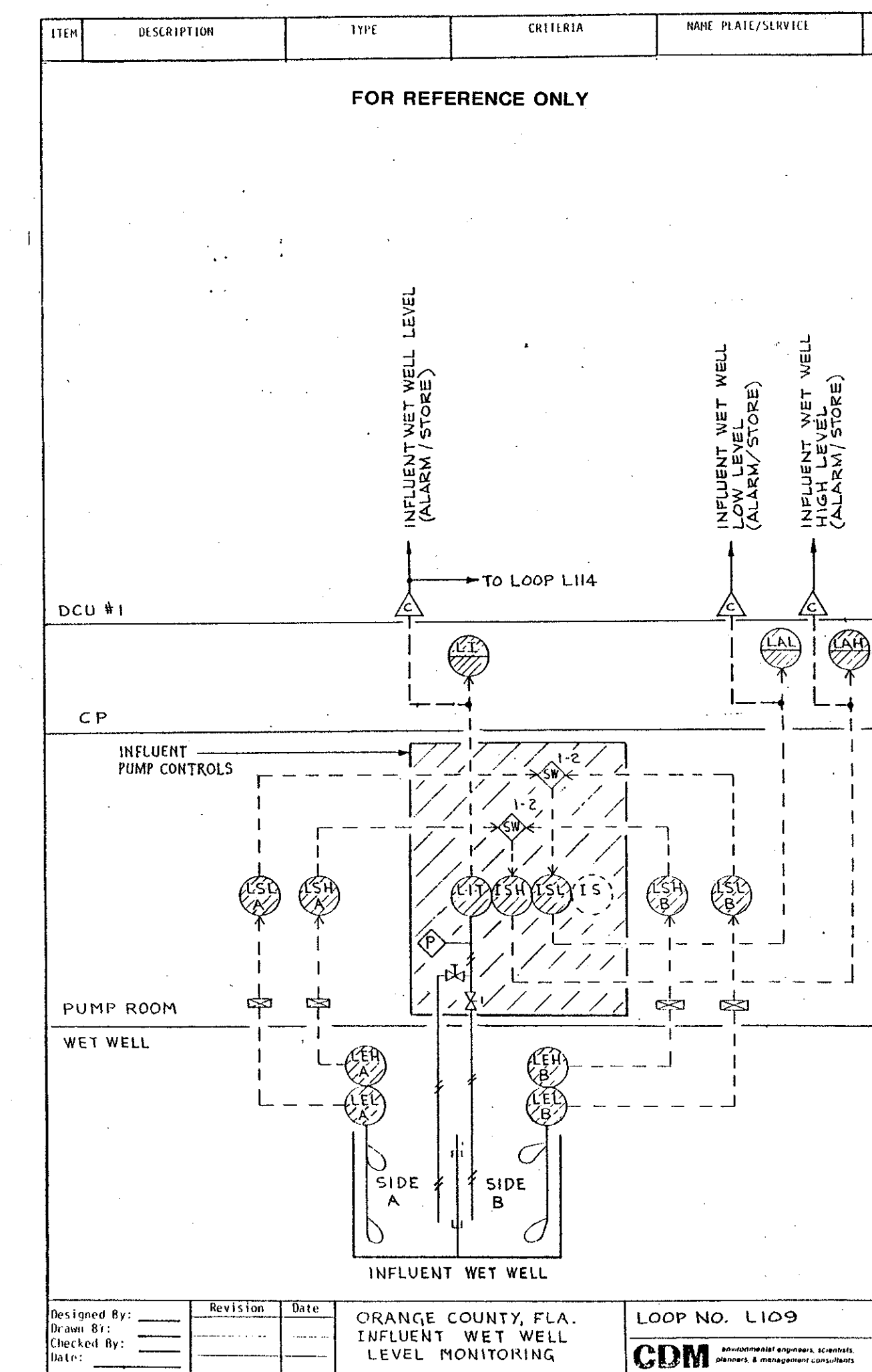
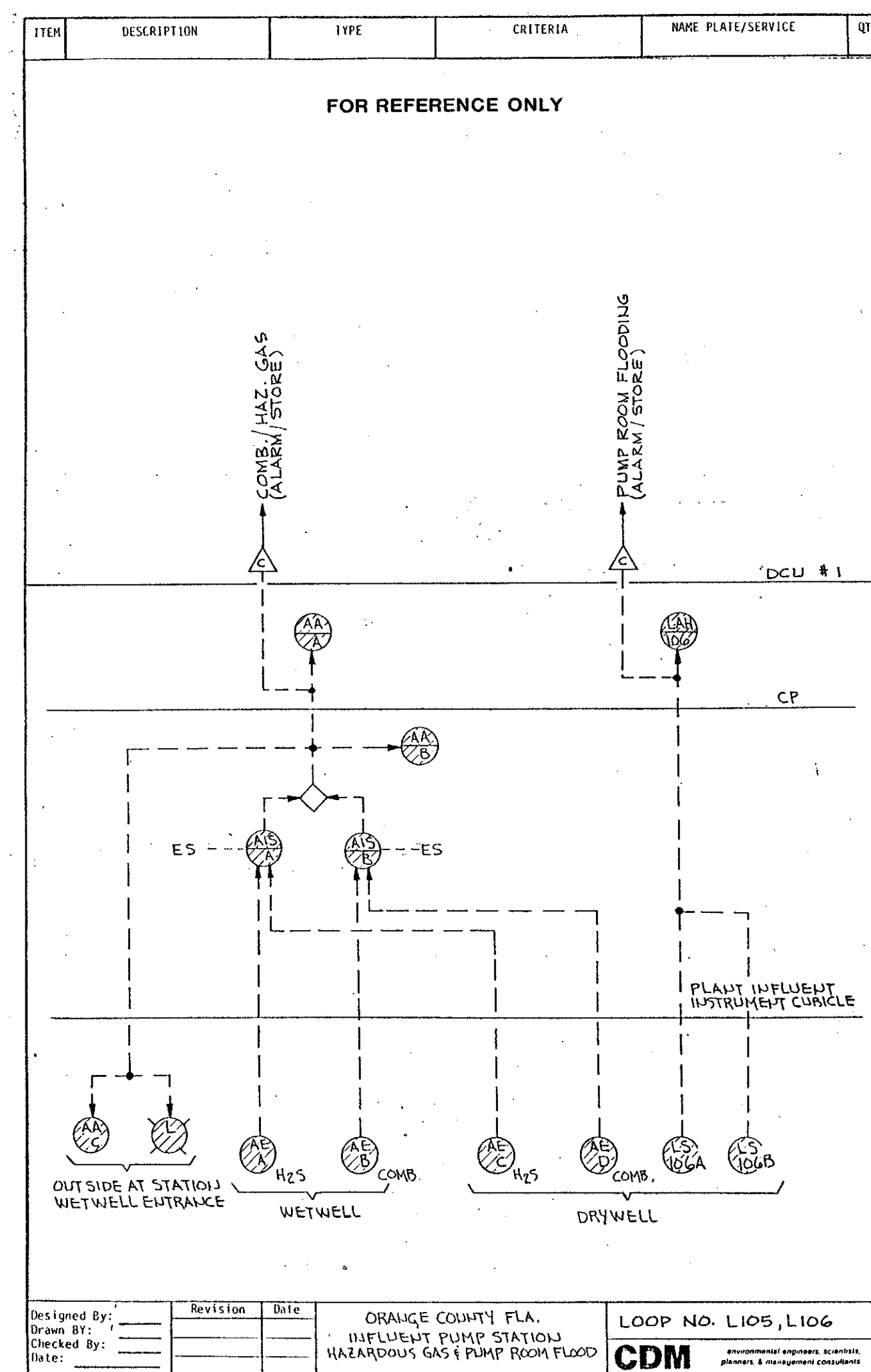
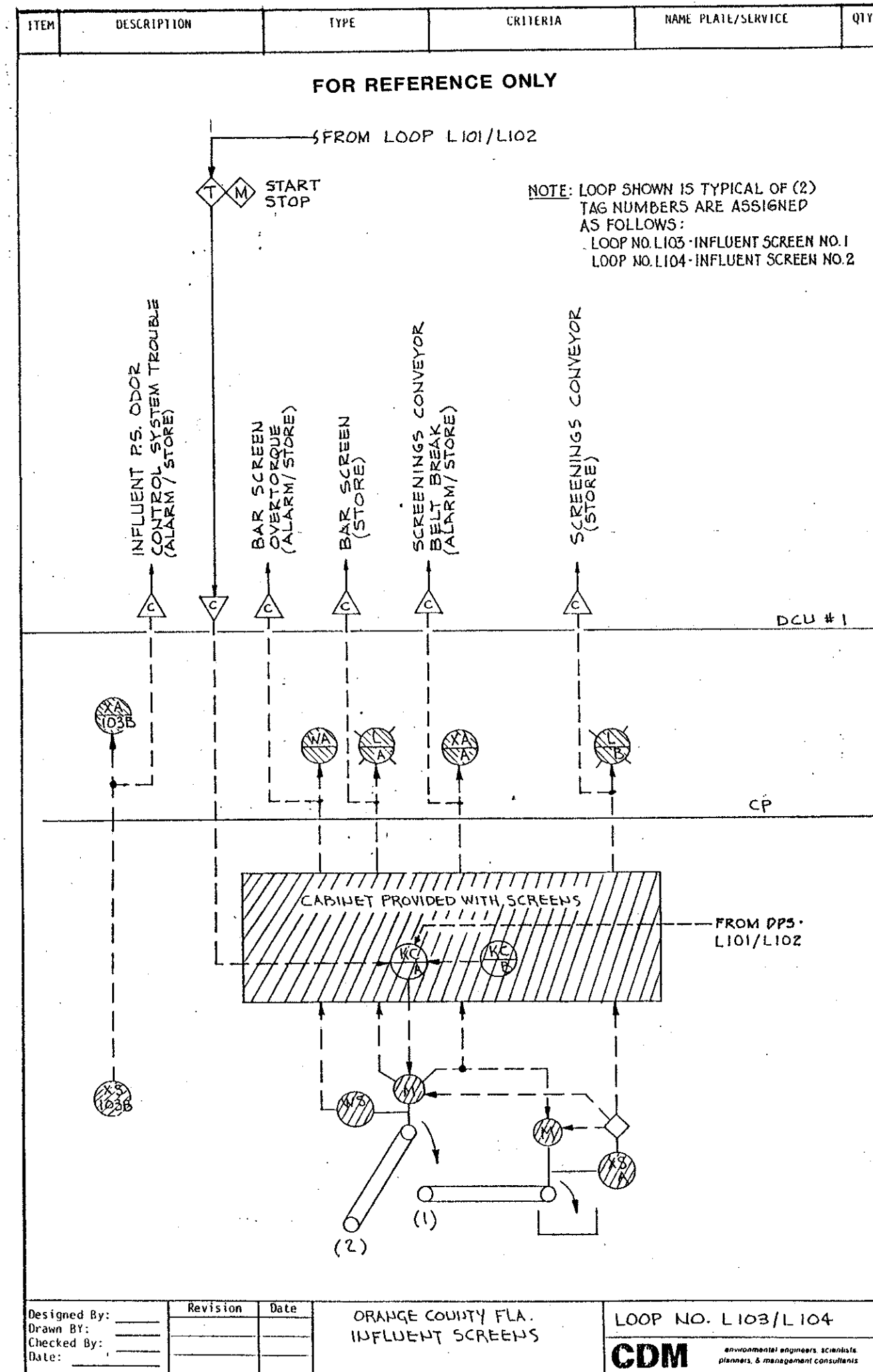
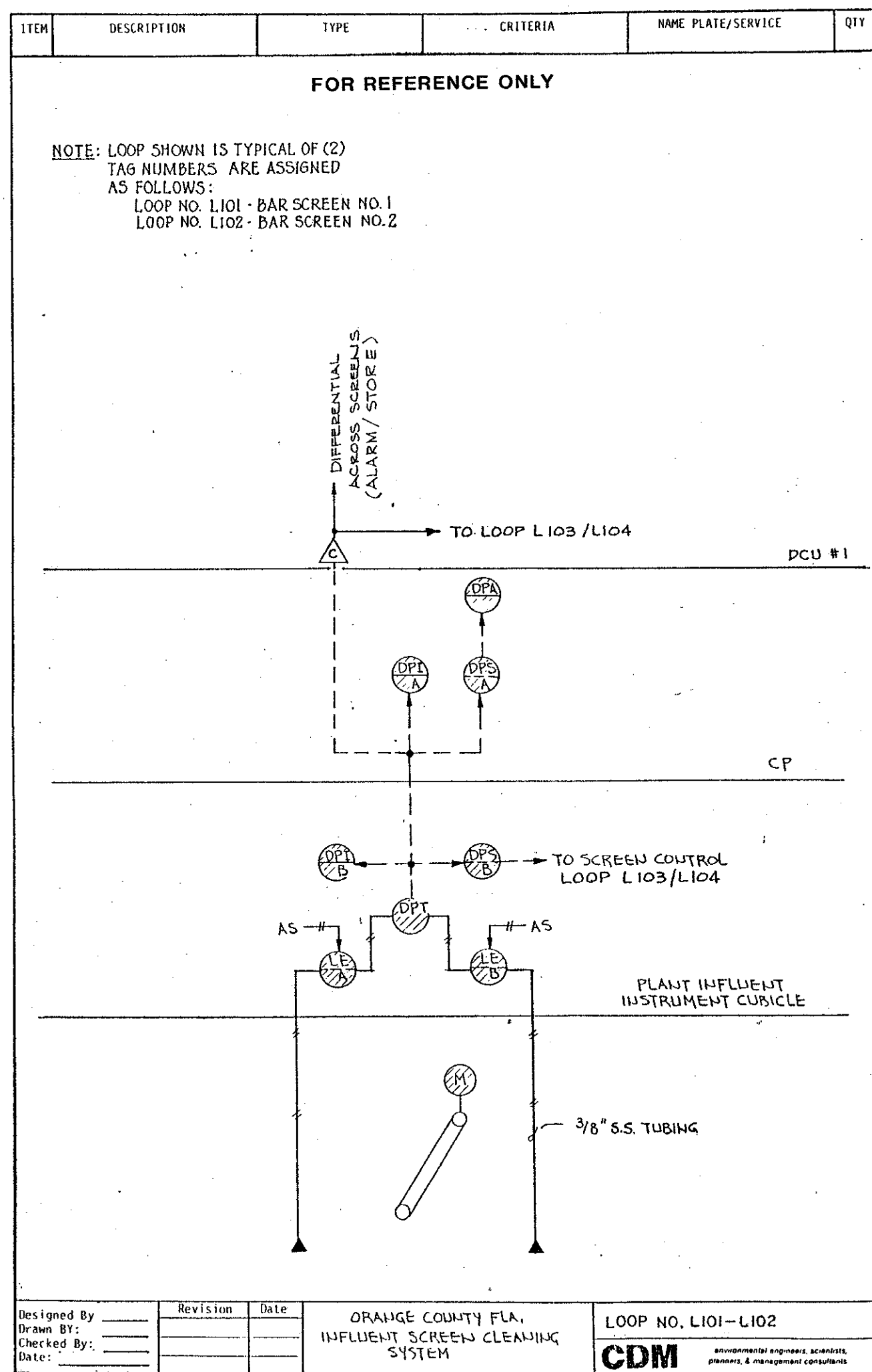
SHEET NO.
1 - 15

DESIGNED BY: HRH
DRAWN BY: JD
CHECKED BY:
APPROVED BY:
DATE: 3/2/88

CAMP DRESSER & MCKEE INC.

CDM
www.cdm.com commercial engineers, scientists, planners & management consultants

REV. NO.	DATE	DRWN	CHKD	REMARKS
4/88	SAF	CONFORMED D.Y.G.		



SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
EXISTING EQUIPMENT
ORANGE COUNTY, FLORIDA

CAMP DRESSER & MCKEE INC.

DESIGNED BY: HRR
DRAWN BY: JD
CHECKED BY: JH
APPROVED BY: JH
DATE: OCT. 20, 1987

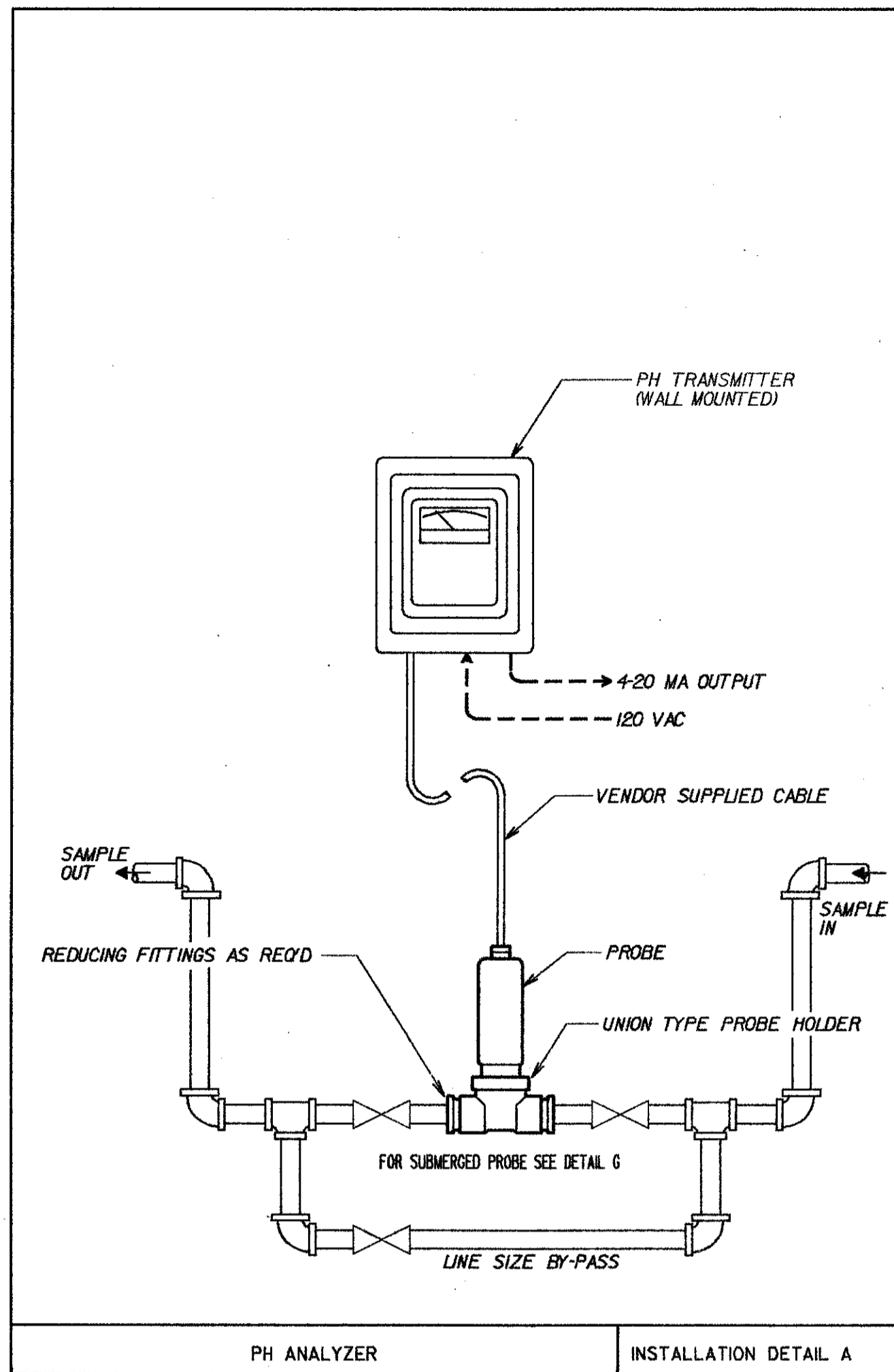
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4/88 SAF CONFORMED DWG.

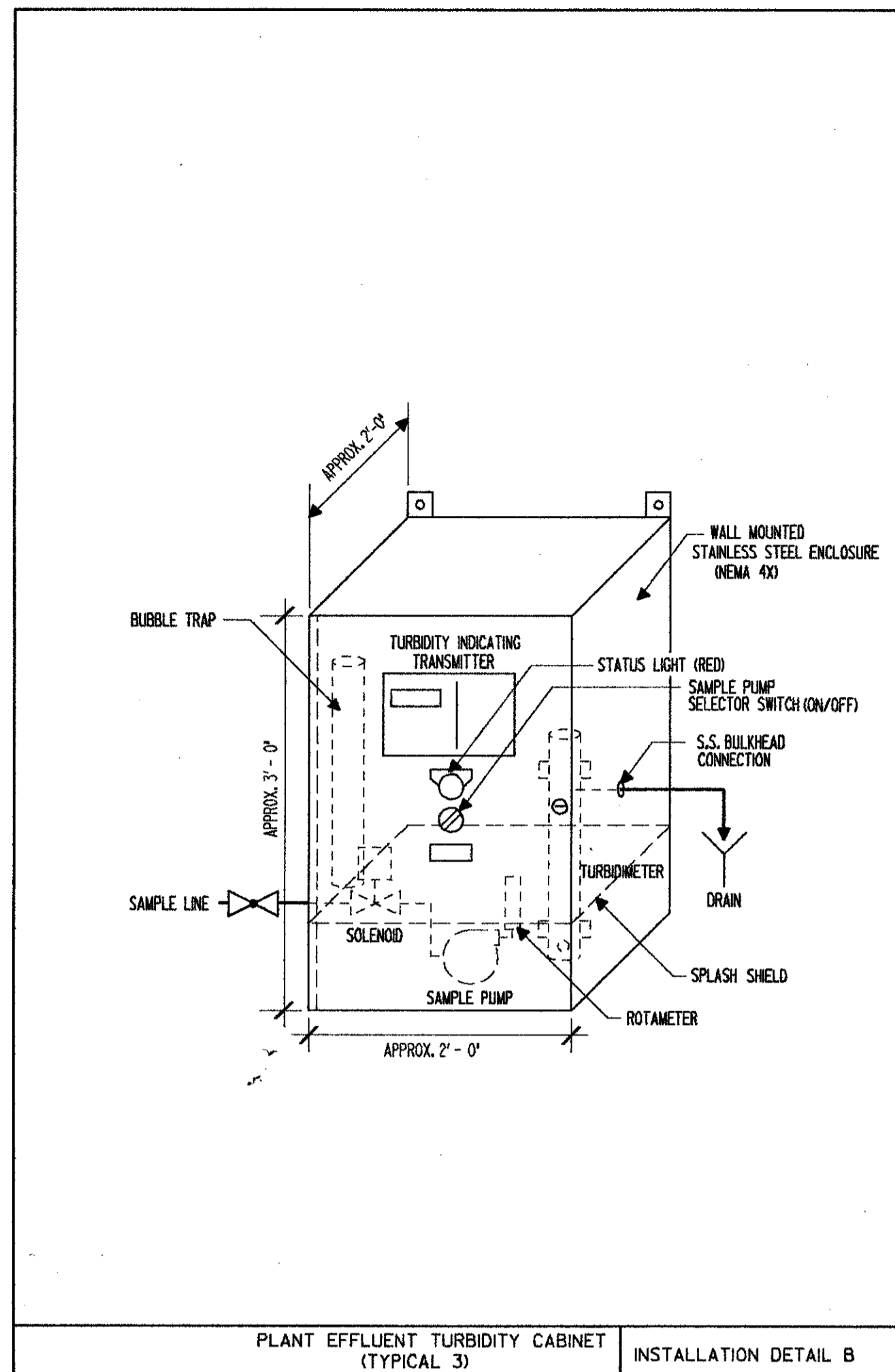
PROJECT NO. 6059-SL3R

SHEET NO. 16

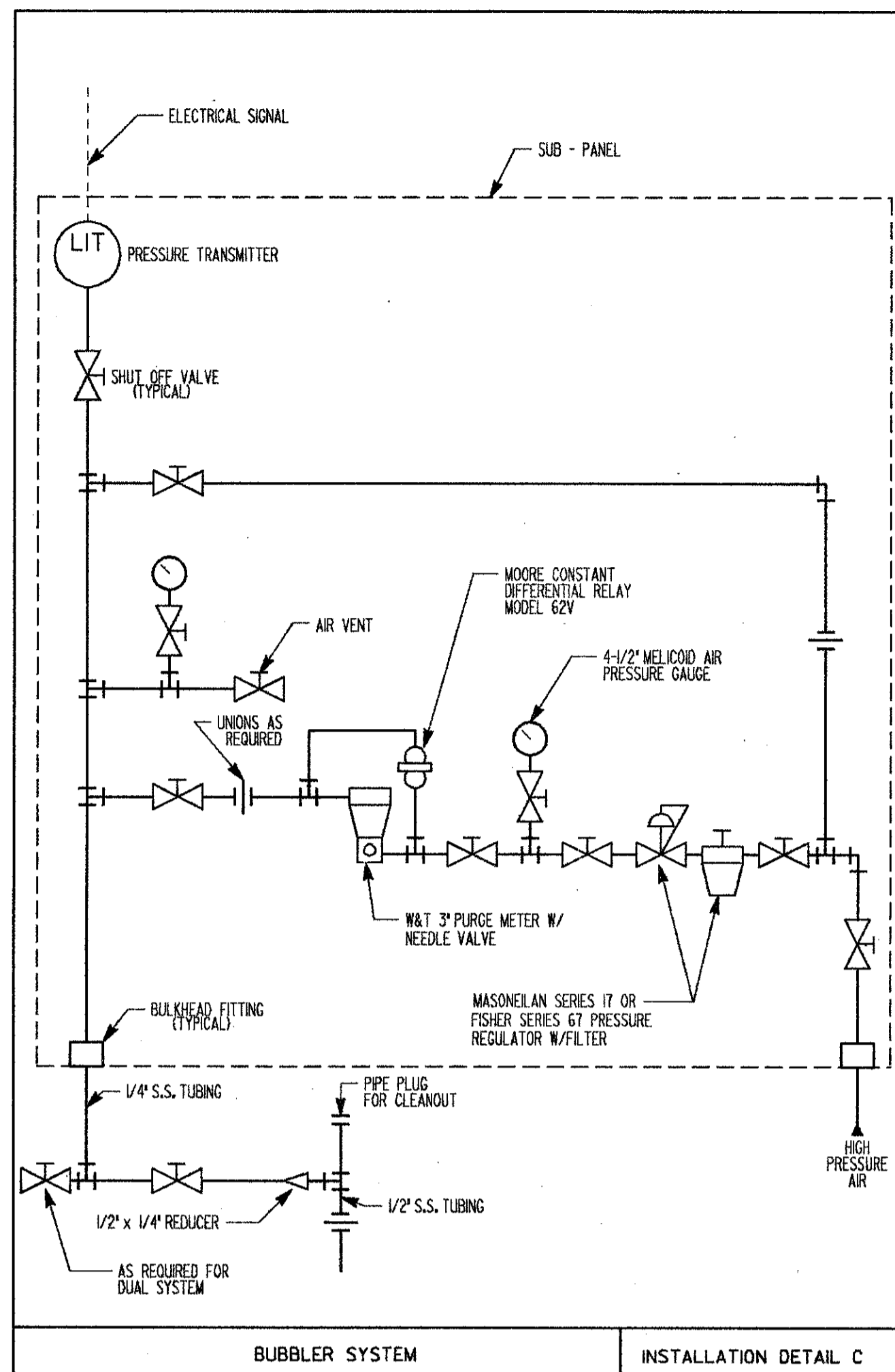
CDM
Civil, mechanical, electrical, plumbing & management consultants



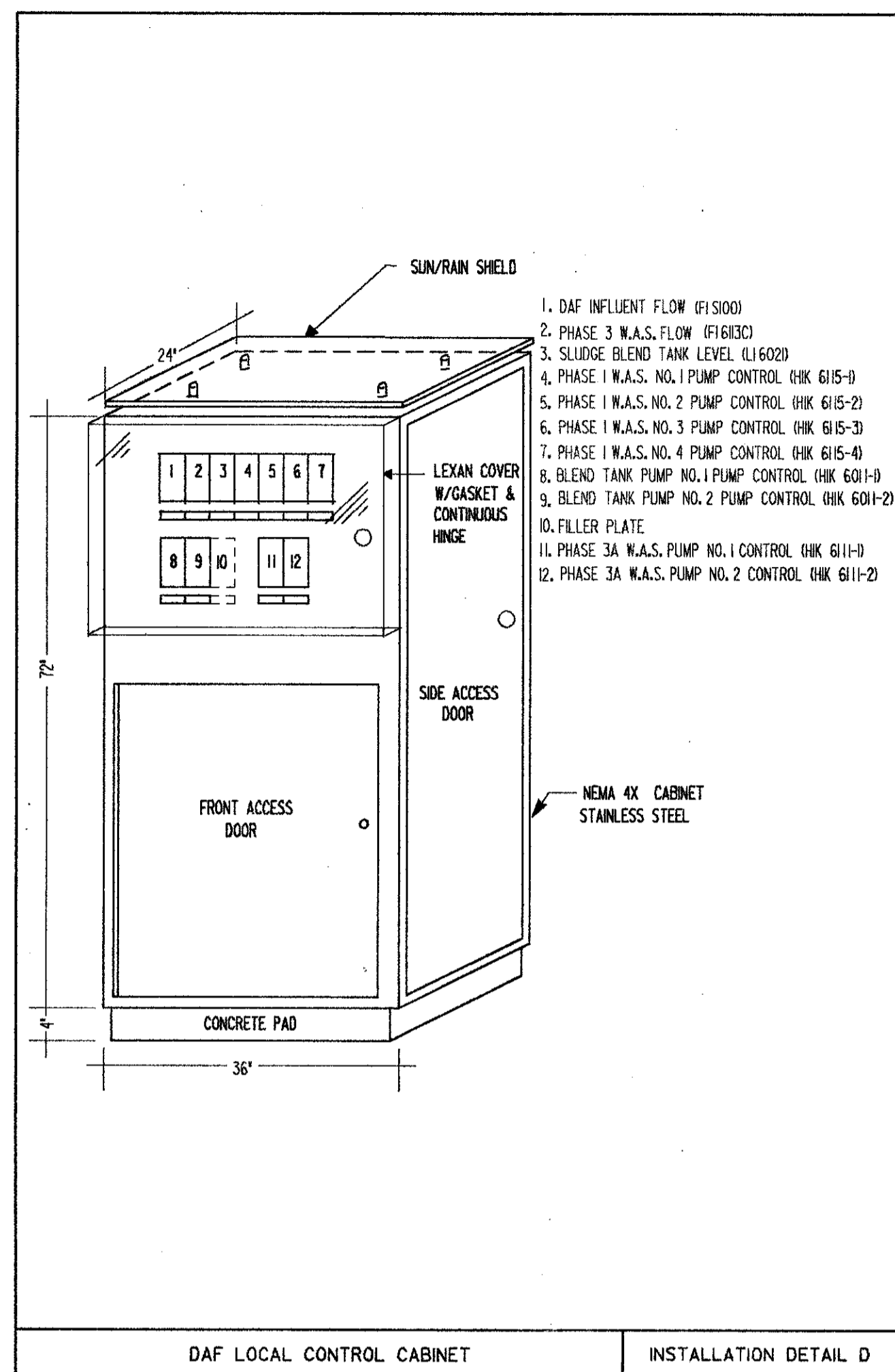
PH ANALYZER INSTALLATION DETAIL A



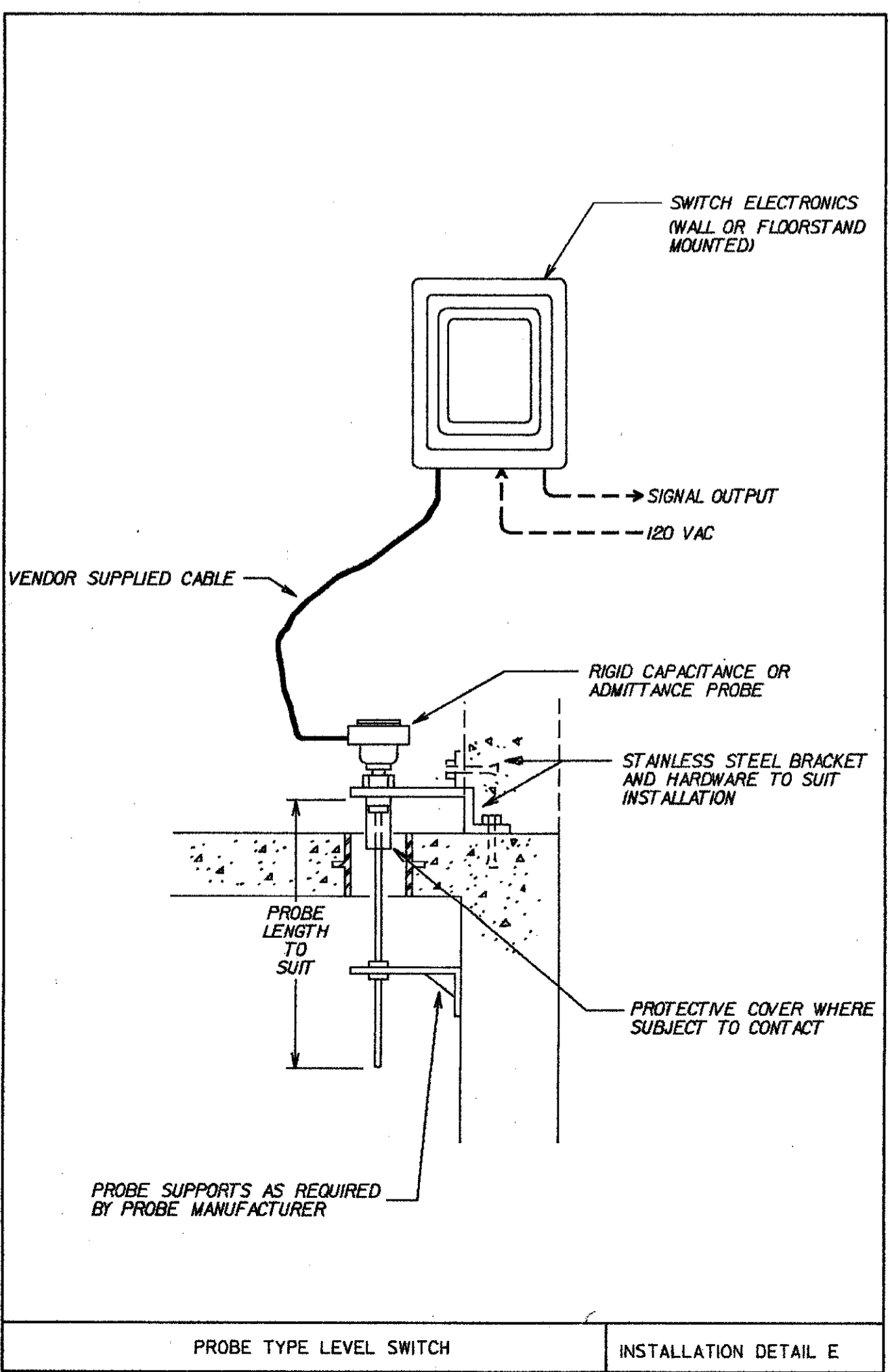
PLANT EFFLUENT TURBIDITY CABINET (TYPICAL 3) INSTALLATION DETAIL B



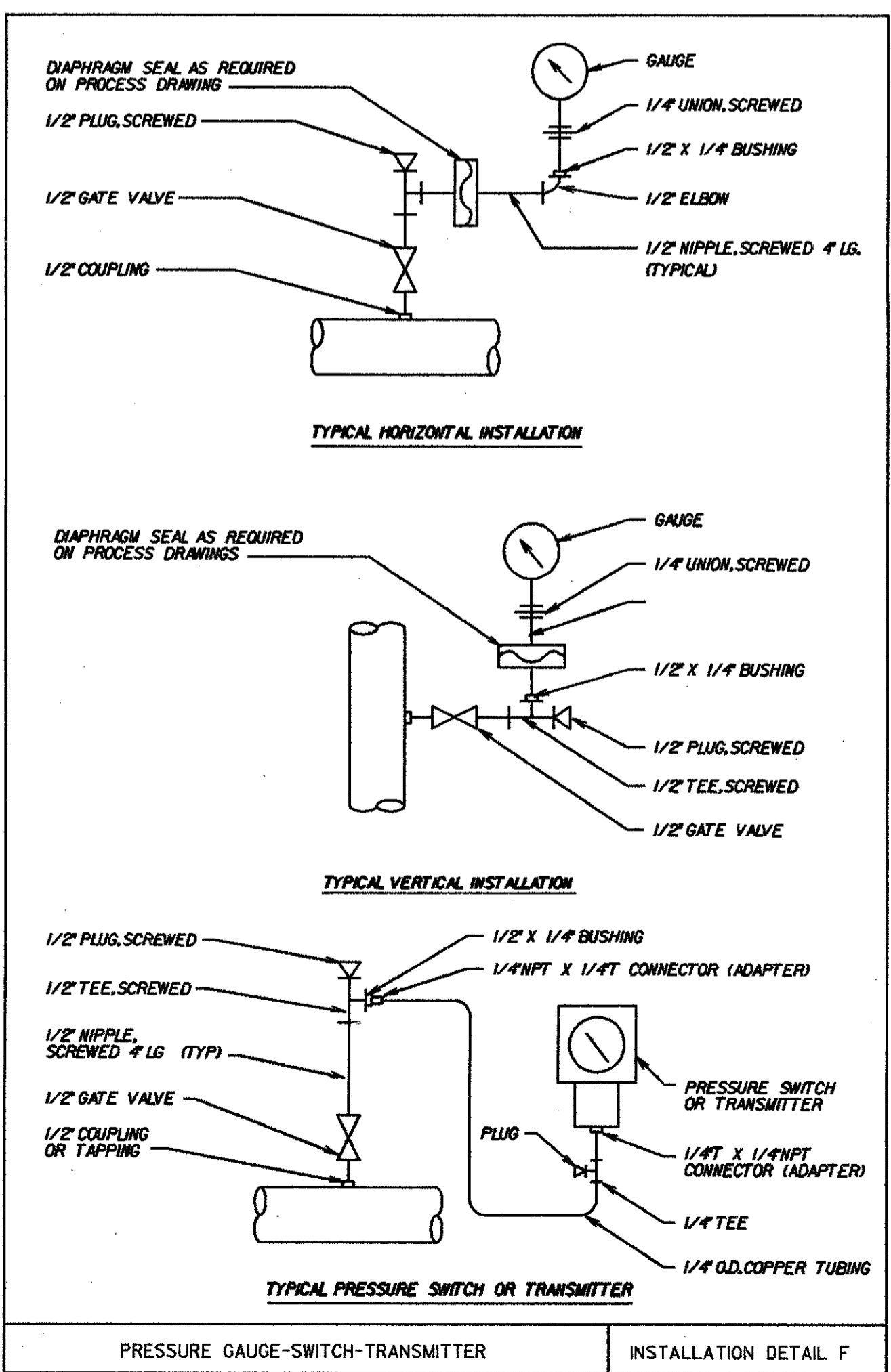
BUBBLER SYSTEM INSTALLATION DETAIL C



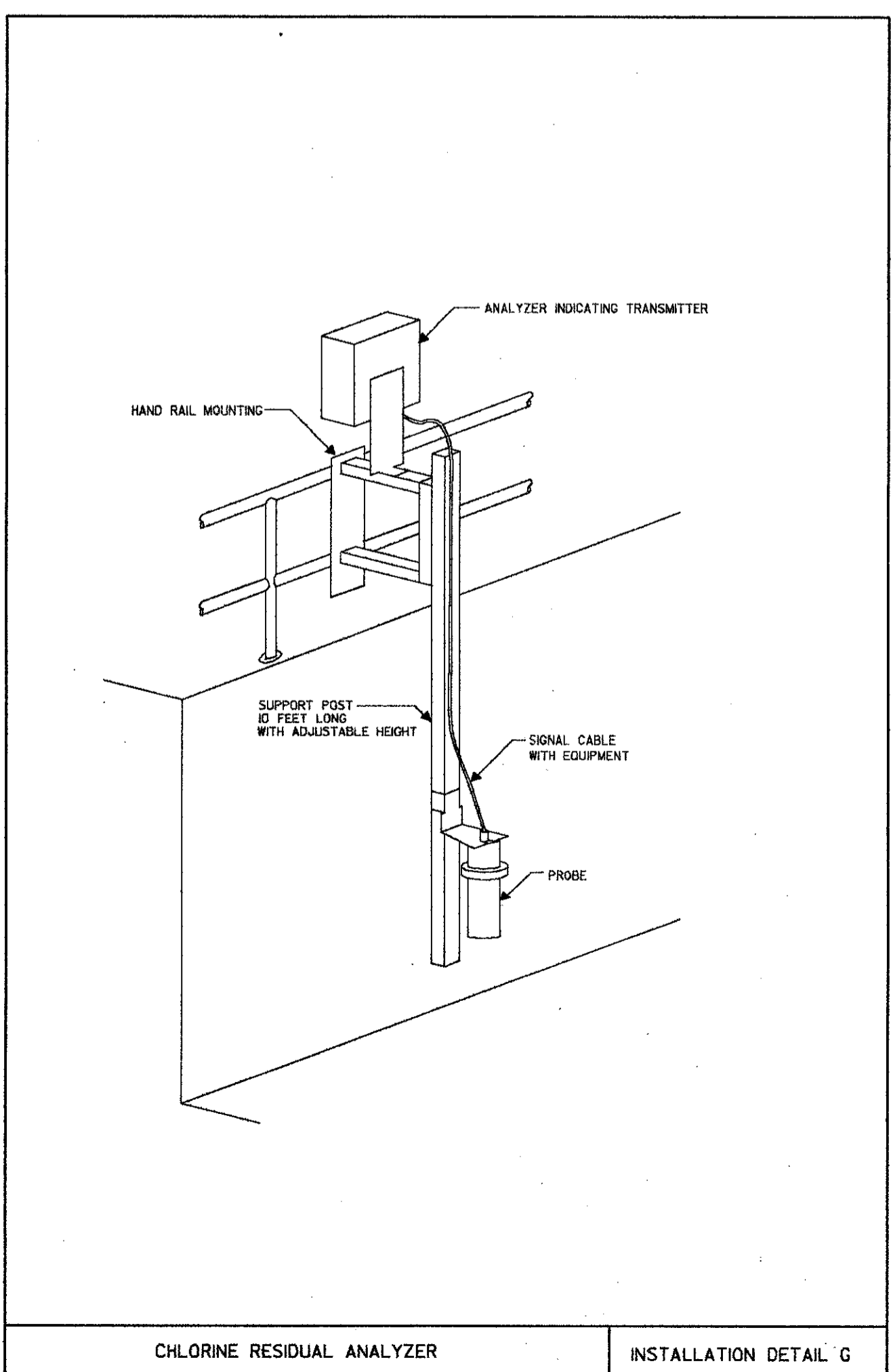
DAF LOCAL CONTROL CABINET INSTALLATION DETAIL D



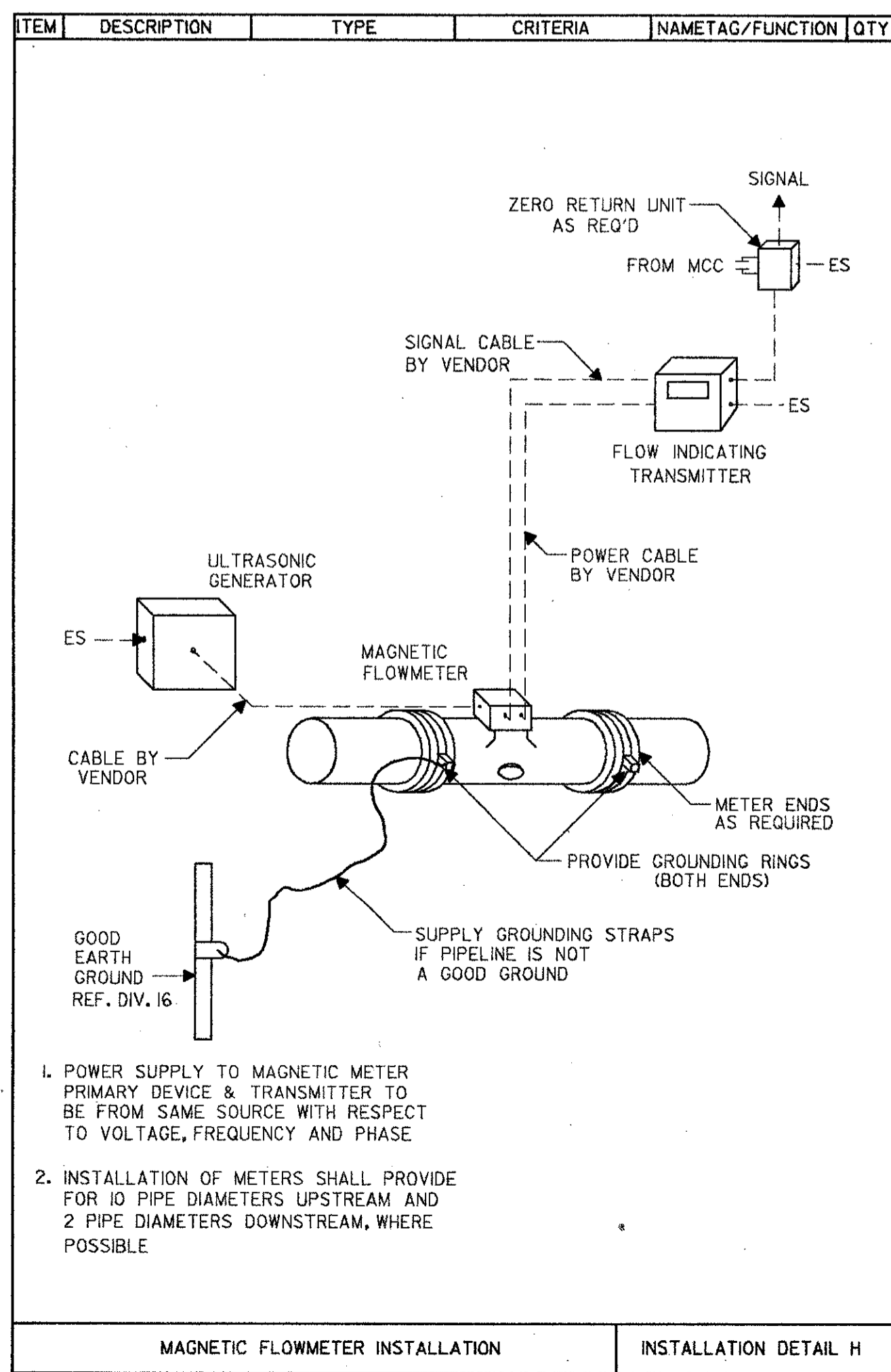
PROBE TYPE LEVEL SWITCH INSTALLATION DETAIL E



PRESSURE GAUGE-SWITCH-TRANSMITTER INSTALLATION DETAIL F



CHLORINE RESIDUAL ANALYZER INSTALLATION DETAIL G



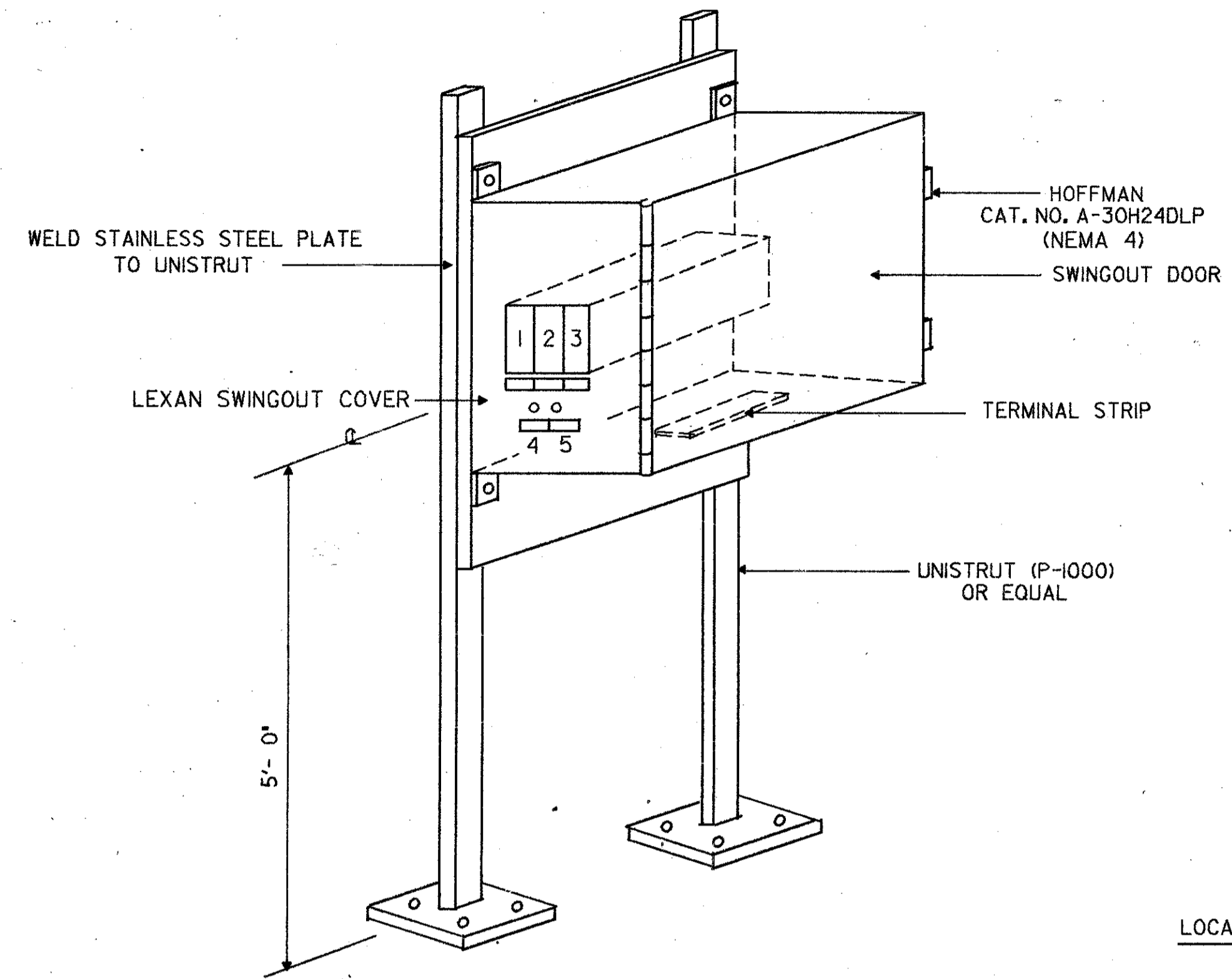
MAGNETIC FLOWMETER INSTALLATION INSTALLATION DETAIL H

**SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
PHASE 3A EXPANSION
INSTALLATION DETAILS
ORANGE COUNTY, FLORIDA**

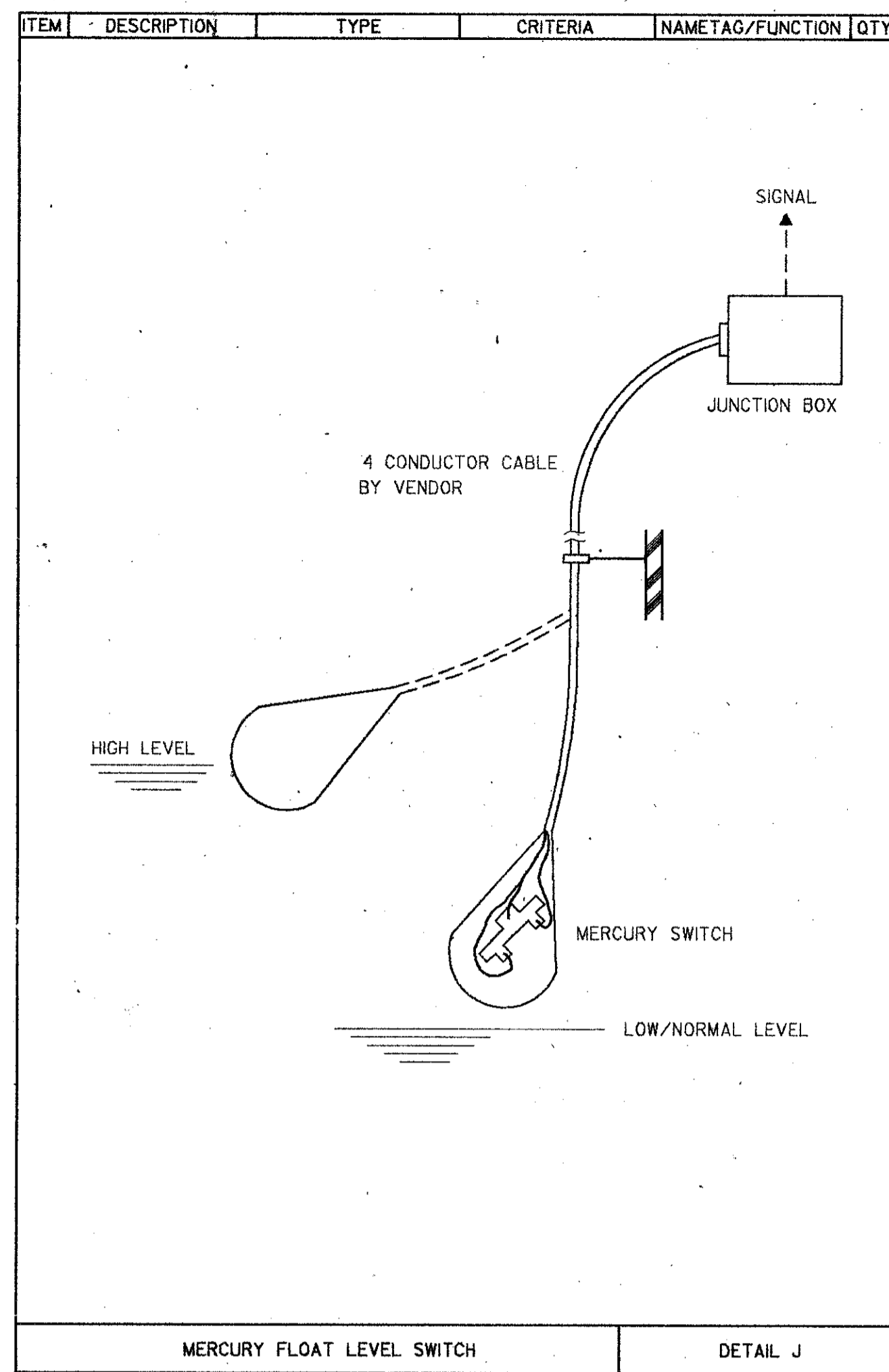
DESIGNED BY: HRH	CHECKED BY: JID	APPROVED BY: 4/88 SAF	DATE: 3/3/88	
				CONFORMED D'V.G.
				REMARKS

PROJECT NO. 6059-SL3R
SHEET NO. 1-17

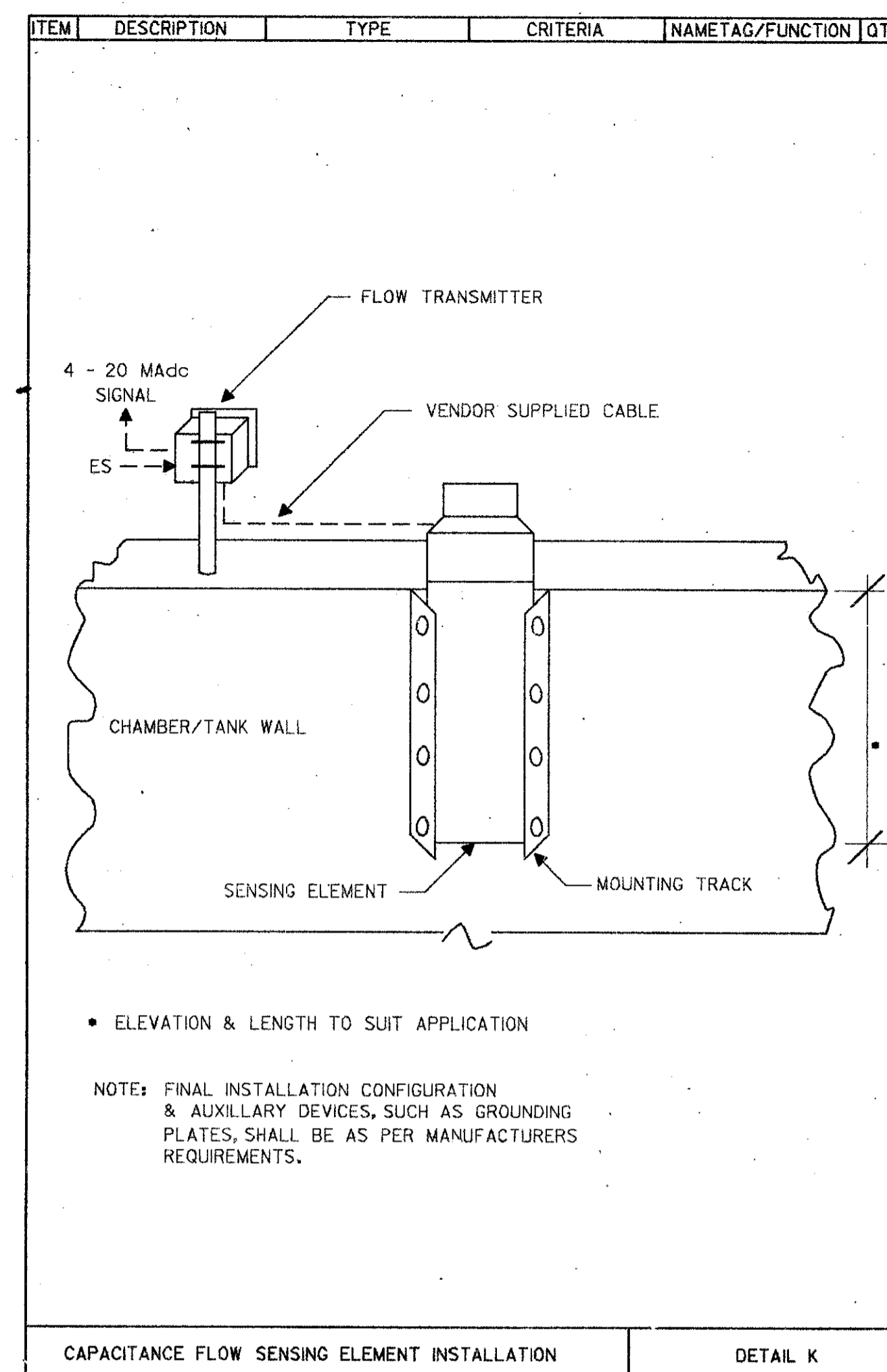
1. PHASE 3A W.A.S. DISCHARGE FLOW (F16113)
2. PHASE 3A W.A.S. PUMP NO.1 SPEED CONTROL (HIK 6111-1C)
3. PHASE 3A W.A.S. PUMP NO.2 SPEED CONTROL (HIK 6111-2D)
4. PHASE 3A W.A.S. PUMP NO.1 SPEED CONTROLLER ACTIVE (SL6111-1C)
5. PHASE 3A W.A.S. PUMP NO.2 SPEED CONTROLLER ACTIVE (SL6111-2D)



LOCAL CONTROL CABINET
TYP. 2
LOCATION:
BELT FILTER PRESS NO. 2
BELT FILTER PRESS NO. 3
DETAIL I



MERCURY FLOAT LEVEL SWITCH
DETAIL J



CAPACITANCE FLOW SENSING ELEMENT INSTALLATION
DETAIL K

SAND LAKE ROAD WASTEWATER TREATMENT FACILITIES
 PHASE 3A EXPANSION
INSTALLATION DETAILS
 ORANGE COUNTY, FLORIDA

PROJECT NO.
6059-SL3R

SHEET NO.
1 of 3

CAMP DRESSER & MCKEE INC.

DESIGNED BY: HRH
 DRAWN BY: JD
 CHECKED BY:
 APPROVED BY:
 DATE: 3/3/88

REV. DATE
 4/88 SAF
 REV. DATE
 4/88 SAF

CONFORMED DWG.
 CHKD
 DRWN
 REMARKS

