

**DX SPLIT SYSTEM EQUIPMENT SCHEDULE**

AIR HANDLING UNIT			
DESIGNATION		AHU370-1	AHU370-2
DESIGNATION		AHU372-1	AHU372-2
DESIGN BASIS	MANUFACTURER	TRANE	TRANE
	MODEL	TWE031E130A	TWE031E130A
DESIGN AIRFLOW, CFM		650	825
O. A. CFM		130	100
R. A. CFM		550	725
SYSTEM NOMINAL TONS		1.5	2.0
SYSTEM TOTAL CAPACITY, MBH		18.8	25.2
SYSTEM SENSIBLE CAPACITY, MBH		13.5	17.5
EVAPORATOR EDB/EWB, °F		80.4/68.0	78.7/65.2
EVAPORATOR LDB/LWB, °F		57.3/56.2	57.0/55.8
EXTERNAL STATIC PRESSURE, IN-WG		0.7	0.7
FAN MOTOR HP		1/2	1/2
ELECTRIC HEATER, NOMINAL KW		4.8	4.8
V/P/H		208/1/60	208/1/60
UNIT MINIMUM CIRCUIT AMPS		27	27
CONDENSING UNIT			
DESIGNATION		CU370-1	CU370-2
DESIGNATION		CU372-1	CU372-2
DESIGN BASIS	MANUFACTURER	TRANE	TRANE
	MODEL	TTP018C100A	TTP024C100A
REFRIGERANT		R-22	R-22
SYSTEM ERR		13.0	13.0
CONDENSER ENTERING AIR TEMP., °F		95	95
V/P/H		208/1/60	208/1/60
UNIT MCA		11	14
MOCP		15	20
REMARKS			
NOTES:			

**AIR DEVICE SCHEDULE**

MARK	DESIGN BASIS		TYPE	CFM RANGE	FACE SIZE	NECK SIZE	MATERIAL	FINISH	REMARKS
	MAKE	MODEL							
S-1	TITUS	TMS-AA	SUPPLY	125-225	24X24	8"ø	ALUMINUM	OFF-WHITE	B.
S-2	TITUS	TMS-AA	SUPPLY	0-125	12X12	6"ø	ALUMINUM	OFF-WHITE	B.
S-3	-	-	-	-	-	-	-	-	-
R-1	TITUS	350FL	RETURN	0-550	24X12	22X10	ALUMINUM	OFF-WHITE	A. B.
R-2	TITUS	350FL	RETURN	550-950	24X24	22X22	ALUMINUM	OFF-WHITE	A. B.
E-1	TITUS	350FL	EXHAUST	0-200	12X12	10X10	ALUMINUM	OFF-WHITE	B.
NOTES: A. PROVIDE ROUND TO SQUARE TRANSITION AS REQUIRED TO CONNECT TO BRANCH DUCT. B. PROVIDE OPPOSED BLADE DAMPER AT DEVICE NECK WHERE CEILING CAVITY IS NOT ACCESSIBLE. C. PROVIDE OPPOSED BLADE DAMPER OPERABLE FROM FACE OF REGISTER. ALSO PROVIDE POLE OPERATOR HANDLE FOR REAR BLADE ADJUSTMENT.									

**AUTOMATIC AIR FILTRATION EQUIPMENT - ROLL FILTER:**

EQUIPMENT SHALL BE BLC AUTO-LINE MODEL ARH-10-H-160, HORIZONTAL AUTOROLL FILTER. UNIT SHALL BE CONSTRUCTED WITH TYPE 304 STAINLESS STEEL WITH ENCLOSURE PANELS AND MOUNTING FLANGES FOR DUCT CONNECTIONS. UNIT SHALL EQUIPPED WITH FACTORY INSTALLED CONTROL SYSTEMS WITH DIFFERENTIAL PRESSURE SWITCH, 1/8 HP 120V/1ø/60 MOTOR AND TYPE SRM SYNTHETIC FILTER MEDIA. UNIT SHALL BE SUITABLE FOR OUTDOOR USE. DIFFERENTIAL PRESSURE SWITCH SHALL BE ADJUSTABLE IN FIELD. UNIT SHALL BE COMPLETELY FACTORY PREWIRED, REQUIRING ONLY A SINGLE POINT POWER CONNECTION IN FIELD.



**PUMP STATION G-370  
VENTILATION SEQUENCE OF OPERATION**

- SF370-1 THRU SF370-2 AND EF370-1 THRU EF370-4 SHALL OPERATE VIA A DEDICATED HAND-OFF-AUTO CONTROLLER. THE FANS SHALL OPERATE IN THE AUTO POSITION NORMALLY. THE HAND POSITION SHALL BE FOR LOCAL MANUAL OPERATION. THE OFF POSITION SHALL BE FOR OPERATION OVERRIDE.
- IF PUMP-1, PUMP-2 OR PUMP-3 STARTS, IN ANY COMBINATION THEN SF370-3 AND EF370-3 SHALL START.
- IF GEN. #1 STARTS, SF370-2 SHALL START.
- IF GEN. #1 AND GEN. #2 STARTS, THEN SF370-1 AND SF370-2 SHALL START.
- IF GEN. #1, GEN. #2 AND PUMP-1 THRU PUMP-3 START THEN SF370-1, SF370-2, SF370-4 AND EF370-3 SHALL START.



**PUMP STATION G-372  
VENTILATION SEQUENCE OF OPERATION**

- SF372-1 THRU SF372-5 AND EF372-1 THRU EF372-5 SHALL OPERATE VIA A DEDICATED HAND-OFF-AUTO CONTROLLER. THE FANS SHALL OPERATE IN THE AUTO POSITION NORMALLY. THE HAND POSITION SHALL BE FOR LOCAL MANUAL OPERATION. THE OFF POSITION SHALL BE FOR OPERATION OVERRIDE.
- IF PUMP-1, THRU PUMP-4 START, IN ANY COMBINATION THEN SF372-4 AND EF372-4 SHALL START.
- IF GEN. #1 STARTS, SF372-3 SHALL START.
- IF GEN. #1 AND GEN. #2 START, THEN SF372-3 AND SF372-5 SHALL START.

**FAN SCHEDULE**

MARK	DESIGN BASIS		FAN TYPE	SERVICE	VOLUME (CFM)	TSP (IN-WG)	FRPM	DRIVE	ELECTRICAL DATA			SONES	REMARKS
	MANUFACTURER	MODEL							HP	V/P/H	RPM		
EF370-1 THRU 4	GREENHECK	SBCE-3H72-50	SIDEWALL CAST ALUMINUM FAN	PUMP STATION G-370	39,600	0.375	517	BELT	5	460/3/60	1725	47	E, F, H
EF372-1 THRU 5	GREENHECK	SBCE-3H72-75	SIDEWALL CAST ALUMINUM FAN	PUMP STATION G-372	45,600	0.375	555	BELT	7 1/2	460/3/60	1725	54	E, F, H
EF370-5	GREENHECK	SBCE-3L24	SIDEWALL CAST ALUMINUM FAN	PIPE GALLERY PUMP STATION G-370	4,835	0.375	1026	BELT	3/4	460/3/60	1725	23	E, G
EF372-6	GREENHECK	SBCE-3L24	SIDEWALL CAST ALUMINUM FAN	PIPE GALLERY PUMP STATION G-372	4,950	0.375	1037	BELT	3/4	460/3/60	1725	24	E, G
EF370-6	GREENHECK	SQ-85-D	INLINE FAN	SHOWER/TOILET ROOM/JAN CLOSET	230	0.5	1519	DIRECT	1/12	115/1/60	1519	15	A, B, C.
EF372-7	GREENHECK	SQ-85-D	INLINE FAN	SHOWER/TOILET ROOM/JAN CLOSET	230	0.5	1519	DIRECT	1/12	115/1/60	1519	15	A, B, C.
EF370-7	GREENHECK	SP-7	CEILING EXHAUST FAN	JANITOR'S ROOM	65	0.375	950	DIRECT	137 WATTS	115/1/60	950	3	A, B, C.
EF372-8	GREENHECK	SP-7	CEILING EXHAUST FAN	JANITOR'S ROOM	65	0.375	950	DIRECT	137 WATTS	115/1/60	950	3	A, B, C.
SF370-1 THRU 4	GREENHECK	SBCS-3H72-100	SIDEWALL CAST ALUMINUM FAN	PUMP STATION G-370	42,000	0.75	658	BELT	10	460/3/60	1725	68	D, F, H
SF372-1 THRU 5	GREENHECK	SBCS-3H72-100	SIDEWALL CAST ALUMINUM FAN	PUMP STATION G-372	48,000	0.75	687	BELT	10	460/3/60	1725	75	D, F, H
NOTES: A. PROVIDE SPRING HANGING ISOLATORS AND BRACKETS. B. PROVIDE WALL CAP. C. PROVIDE SPEED CONTROLLER MOUNTED ON SIDE OF FAN CASE OR IN THE CEILING NEXT TO CEILING EXHAUST FAN. D. PROVIDE ASSEMBLED WALL COLLAR AND OSHA APPROVED MOTOR SIDE GUARD. E. PROVIDE GREENHECK VCD-34-PB-74X74 MOTORIZED DAMPER. 460/1/60. F. PROVIDE SHORT WALL HOUSING, FLUSH EXTERIOR WITH OSHA APPROVED MOTOR SIDE GUARD AND ALUMINUM DAMPER GUARD. G. PROVIDE SHORT WALL HOUSING, FLUSH INTERIOR WITH OSHA APPROVED MOTOR SIDE GUARD AND ALUMINUM DAMPER GUARD. H. PROVIDE MANUFACTURER'S SUPPLIED CLOSURE ANGLE.													

**NOTE: THE EQUIPMENT MANUFACTURERS NAMED HERE ARE USED AS A BASIS OF DESIGN TO SHOW GENERAL SIZE, CONFIGURATION, LOCATION, CONNECTIONS AND SUPPORT. SEE SPECIFICATIONS FOR TECHNICAL REQUIREMENTS.**

DRAWN J. PARROTT	CHKD J. HOLTZ	DESIGN J. PARROTT	CHKD J. HOLTZ	DATE 5/10/01	NO. DWN 1	CHKD DATE	REVISIONS
 GEE & JENSON Engineers-Architects-Planners, Inc. One Howard Circle West Palm Beach, Florida 33409 LB 0002934 AA 0000656							
 Burns & McDonnell SINCE 1888 9400 WARD PARKWAY KANSAS CITY, MO. 64114 License No. EB0000253							
EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA NO. 3/4 PUMP STATIONS G-370 & G-372 VENTILATION SCHEDULES							
SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406							
CONTRACT NO. C-E304 DWG. NO. HC-6							

"RECORD DRAWINGS"

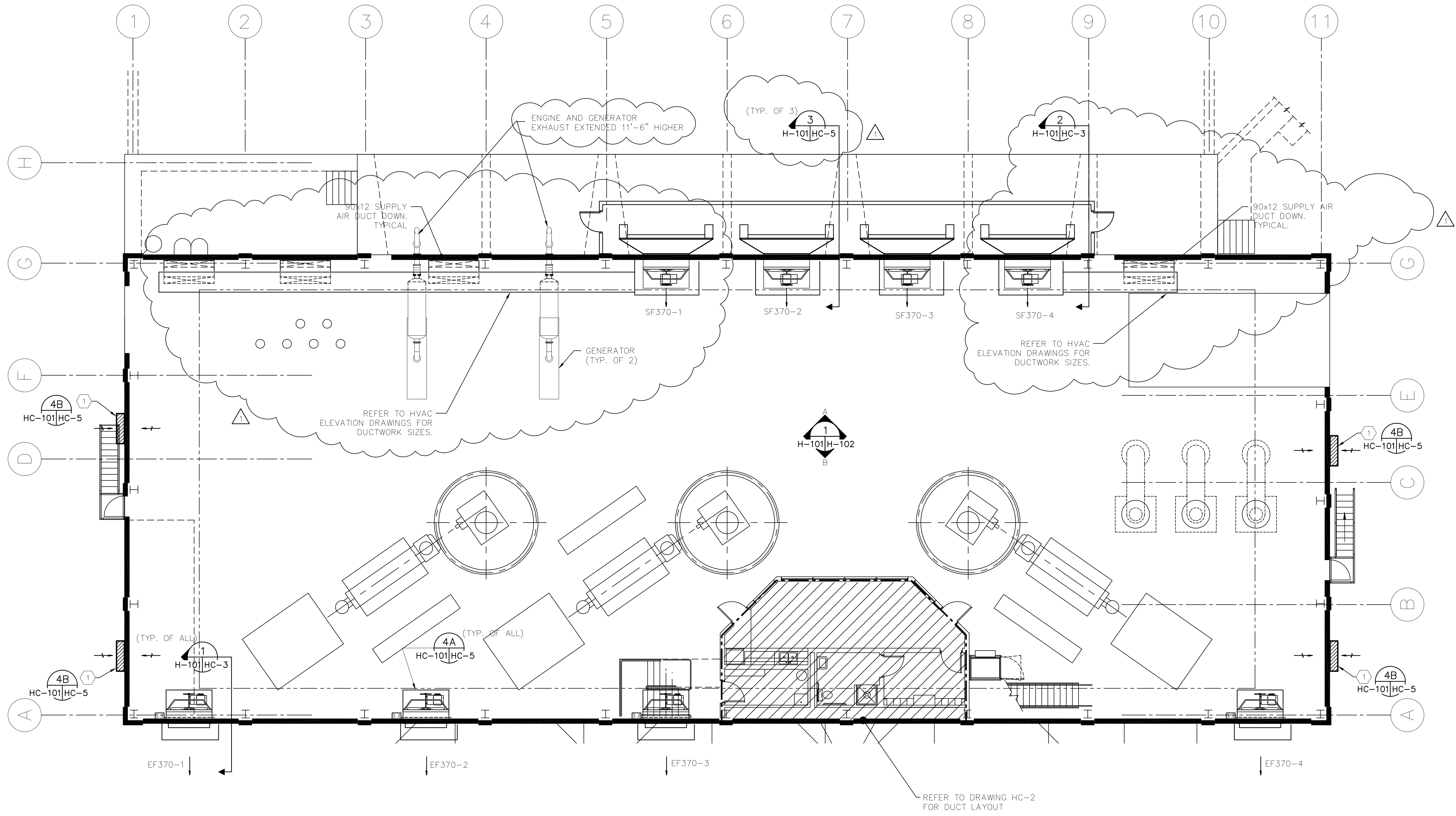
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FL 40779

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**KEYED NOTES:**  
 ① 46x24 MAKE-UP AIR OPENING. INSTALL EXHAUST HOOD. HOOD DIMENSIONS TO MATCH OPENING SIZE. SEE STRUCTURAL DRAWING FOR DETAIL.



**STATION G-370 VENTILATION PLAN**  
 1/8" = 1'-0"

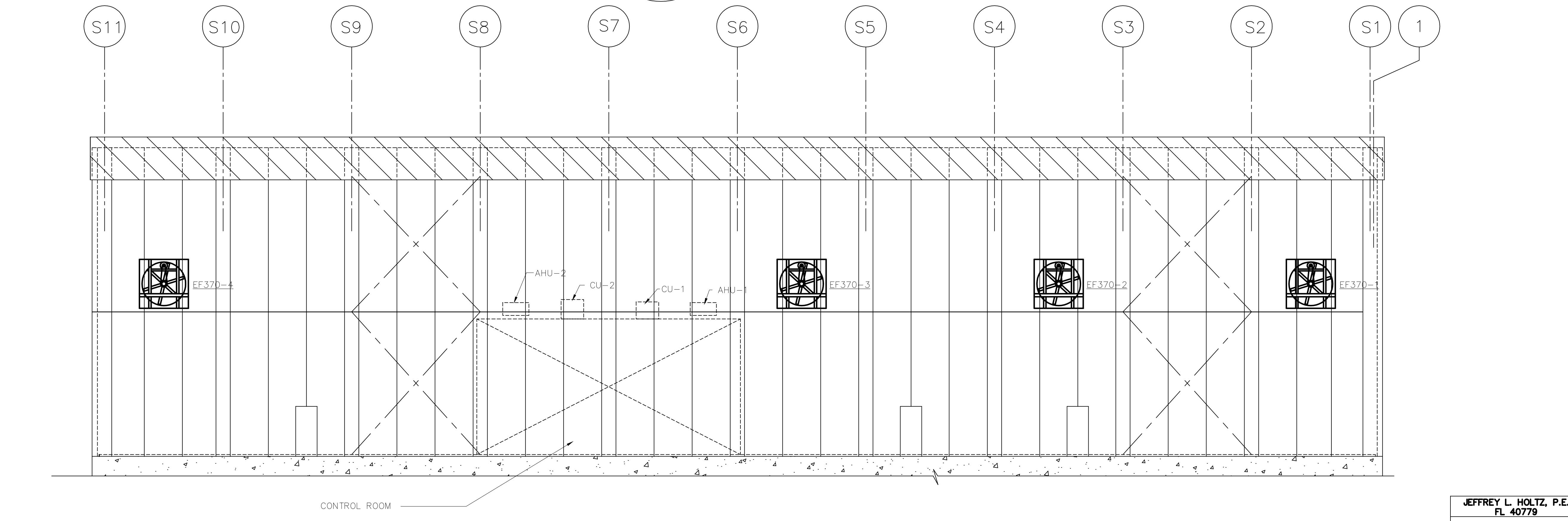
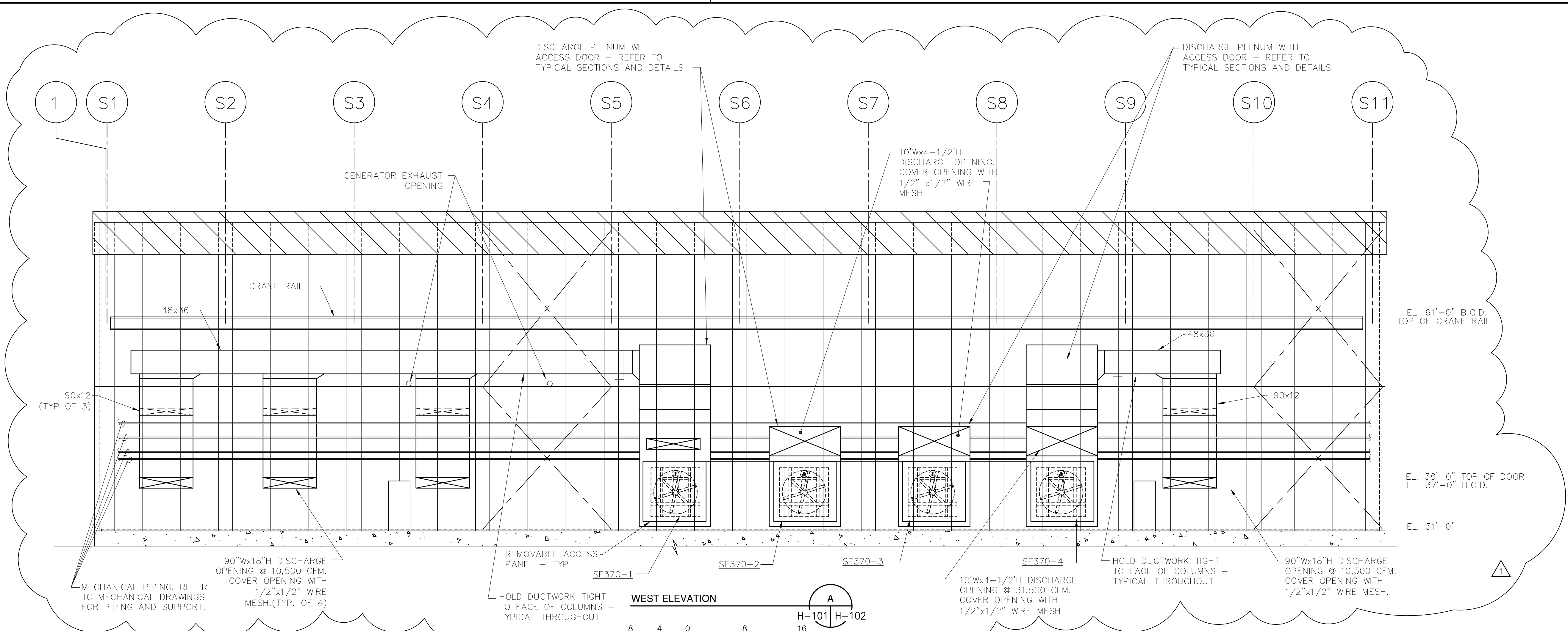
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 Burns & McDonnell SINCE 1888 9400 WARD PARKWAY KANSAS CITY, MO. 64114 License No. EB0000253	<b>GEE &amp; JENSON</b> Engineers, Architects Planners, Inc. One Forward Circle LB 0009834 AA 0006656 Florida 33409	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">DRAWN J. PARROTT</td> <td style="width: 50%;">NO. DWG. CHKD</td> </tr> <tr> <td>CHKD J. HOLTZ</td> <td>DATE</td> </tr> <tr> <td>DESIGN J. PARROTT</td> <td>5/10/01</td> </tr> <tr> <td>CHKD J. HOLTZ</td> <td>REVISED PER ADDENDUM N01</td> </tr> <tr> <td>DATE</td> <td>DATE</td> </tr> </table>	DRAWN J. PARROTT	NO. DWG. CHKD	CHKD J. HOLTZ	DATE	DESIGN J. PARROTT	5/10/01	CHKD J. HOLTZ	REVISED PER ADDENDUM N01	DATE	DATE
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<b>SOUTH FLORIDA WATER MANAGEMENT DISTRICT</b> EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406		<b>EVERGLADES CONSTRUCTION PROJECT</b> STORMWATER TREATMENT AREA NO. 3/4 PUMP STATIONS G-370 & G-372 PUMP STATION G-370 VENTILATION FLOOR PLAN										
CONTRACT NO. C-E304 DWG. NO. H-101		REVISIONS										

"RECORD DRAWINGS"

GENERAL NOTES:

- COORDINATE DUCTWORK INSTALLATION WITH WORK OF OTHER TRADES. MAINTAIN INSTALLATION CLEARANCES FOR ALL WORK OF OTHER TRADES AND TRAVEL CLEARANCE FOR OVERHEAD CRANE.
- REFER TO STRUCTURAL DRAWINGS FOR ACTUAL WALL CONSTRUCTION AND EXACT LOCATION OF OPENINGS. DO NOT SCALE DRAWINGS FOR DIMENSIONS.

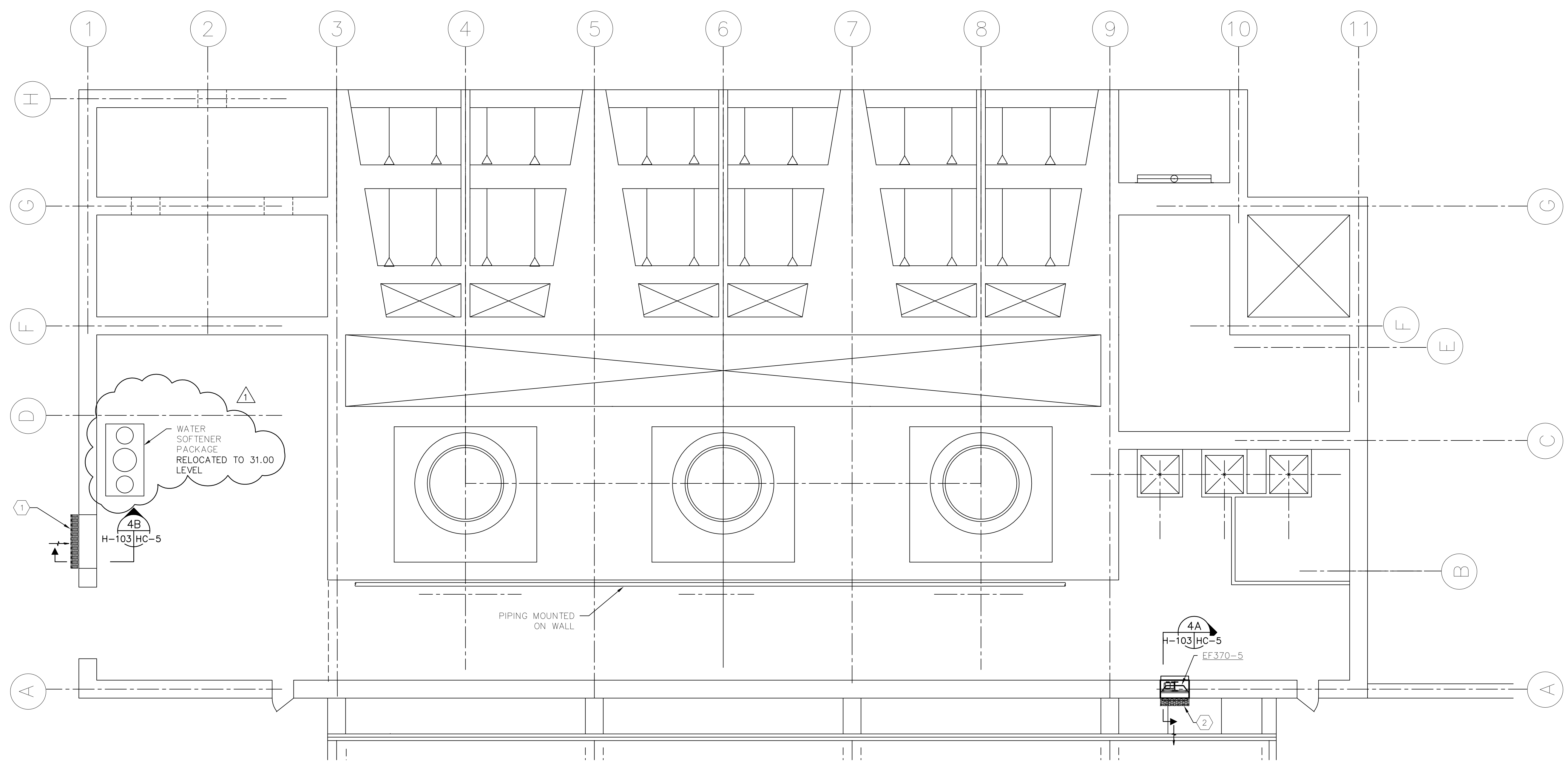


<p>JEFFREY L. HOLTZ, P.E. FL 40779</p>	<p>CONTRACT NO. C-E304 DWG. NO. H-102</p>
<p>SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406</p>	<p>EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA NO. 3/4 PUMP STATIONS G-370 &amp; G-372 PUMP STATION G-370 MECHANICAL ELEVATIONS</p>
<p>Butts &amp; McDermott SINCE 1838 9400 WARD PARKWAY KANSAS CITY, MO. 64114 License No. EB0000253</p>	<p>GEE &amp; JENSON Engineers - Architects - Planners, Inc. One Howard Circle West Palm Beach, Florida 33409 LB 0002934 AA C000656</p>
<p>DESIGNER: J. HOLTZ CHECKER: J. PARROTT DATE: 5/10/01</p>	<p>NO. DWG: [ ] DATE: [ ] REVISIONS: [ ]</p>

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"RECORD DRAWINGS"

- KEYED NOTES:**
- ① 46x32 MAKE-UP AIR OPENING. COVER OPENING WITH EXHAUST HOOD. HOOD DIMENSIONS TO MATCH OPENING SIZE. SEE STRUCTURAL DRAWING FOR DETAIL.
  - ② INSTALL EXHAUST HOOD. HOOD DIMENSIONS TO MATCH OPENING SIZE. SEE STRUCTURAL DRAWING FOR DETAIL.



**STATION G-370 PIPE GALLERY VENTILATION PLAN**  
 1/8" = 1'-0"

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 By: Parrott  
 MicroPlotting  
 Millimeters  
 Inches

<b>GEE &amp; JENSON</b> Engineers-Architects-Planners, Inc.	9400 WARD PARKWAY KANSAS CITY, MO. 64114 License No. EB0000253	<b>Burns &amp; McDonnell</b> SINCE 1938	EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA NO. 3/4 PUMP STATIONS G-370 & G-372	PUMPSTATION G-370 PIPE GALLERY VENTILATION PLAN
Drawn: J. PARROTT Checked: J. HOLTZ	Design: J. PARROTT Checked: J. HOLTZ	Date: 5/10/01	Contract No.: C-E304 Dwg. No.: H-103	Contract No.: C-E304 Dwg. No.: H-103
Revised Per Record Drawings	Revised Per Record Drawings	Revised Per Record Drawings	Revised Per Record Drawings	Revised Per Record Drawings

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FL 40779

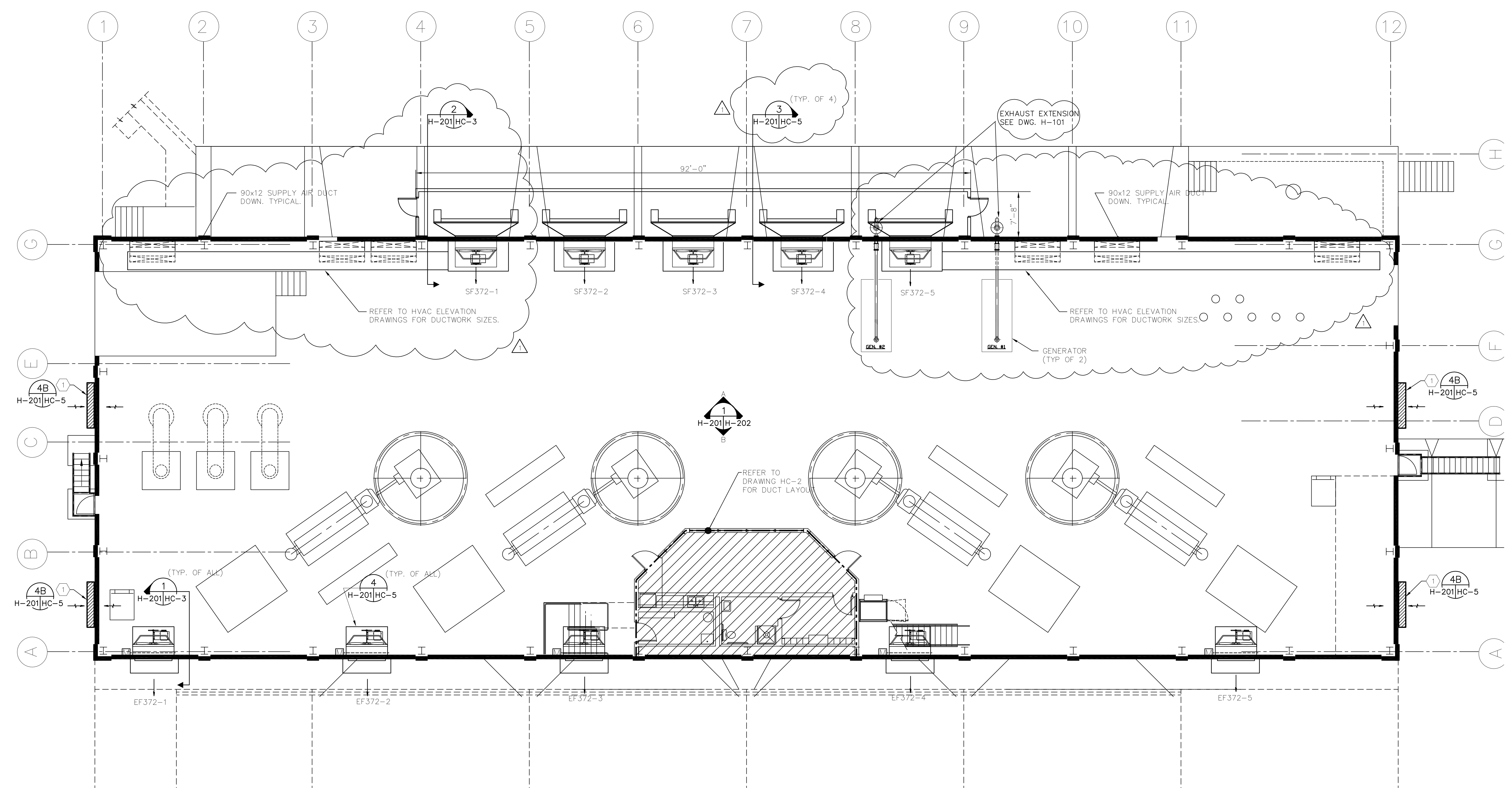
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**KEYED NOTES:**  
 ① 46x24 MAKE-UP AIR OPENING. INSTALL EXHAUST HOOD. HOOD DIMENSIONS TO MATCH OPENING SIZE. SEE STRUCTURAL DRAWING FOR DETAIL.



**STATION G-372 VENTILATION PLAN**  
 1/8" = 1'-0"

**JEFFREY L. HOLTZ, P.E.**  
 FL 40779

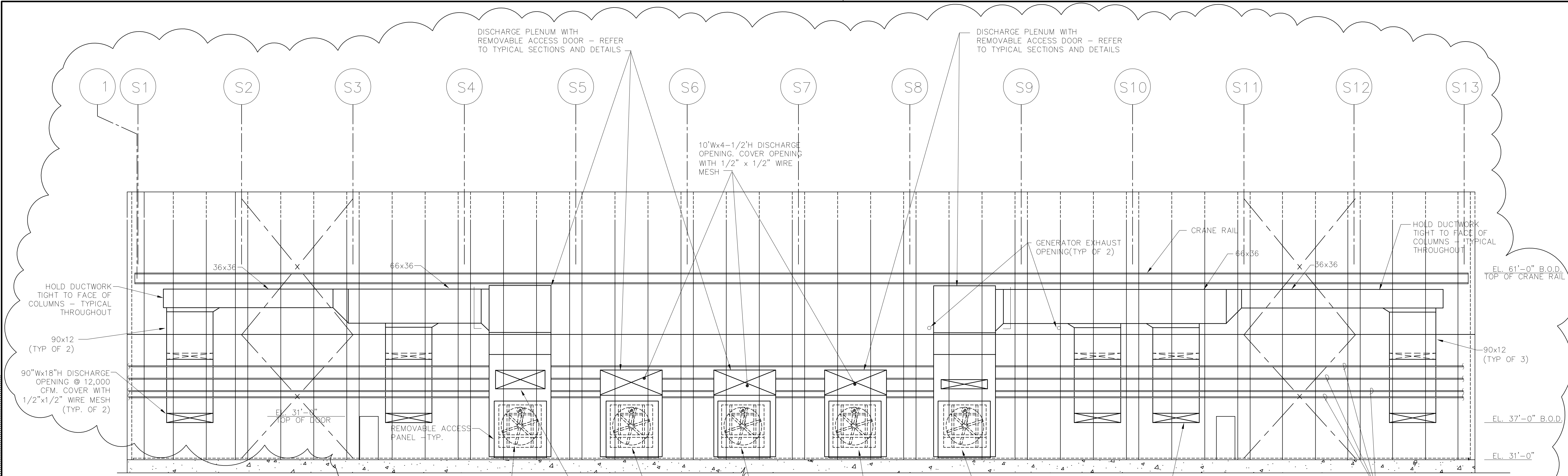
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<b>EVERGLADES CONSTRUCTION PROJECT</b> STORMWATER TREATMENT AREA NO. 3/4 PUMP STATIONS G-370 & G-372		<b>PUMP STATION G-372</b> VENTILATION FLOOR PLAN	
DRAWN: J. PARROTT	CHKD: J. HOLTZ	DESIGN: J. PARROTT	REVISED PER ADDENDUM NO.1
NO. DWN	CHKD	DATE	REVISIONS
		6-01-01	

CONTRACT NO. C-E304  
 DWG. NO. H-201

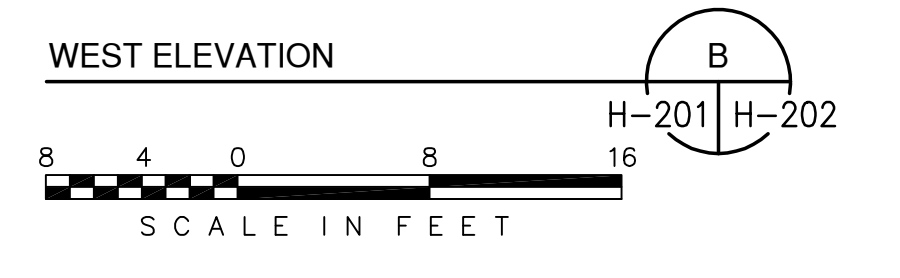
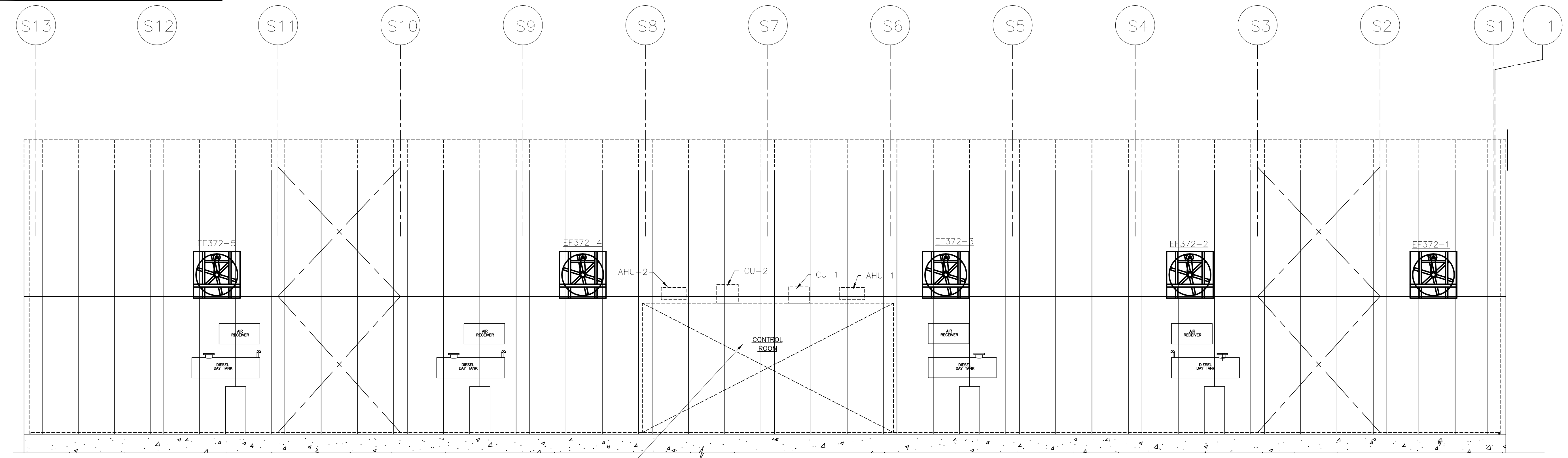
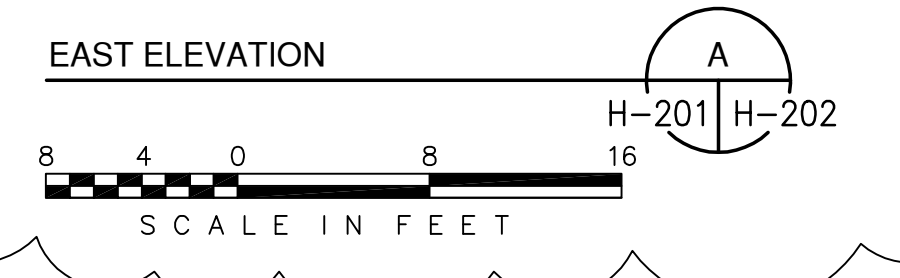
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**GENERAL NOTES:**

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- REFER TO STRUCTURAL DRAWINGS FOR ACTUAL WALL CONSTRUCTION AND EXACT LOCATION OF OPENINGS. DO NOT SCALE DRAWINGS FOR DIMENSIONS.



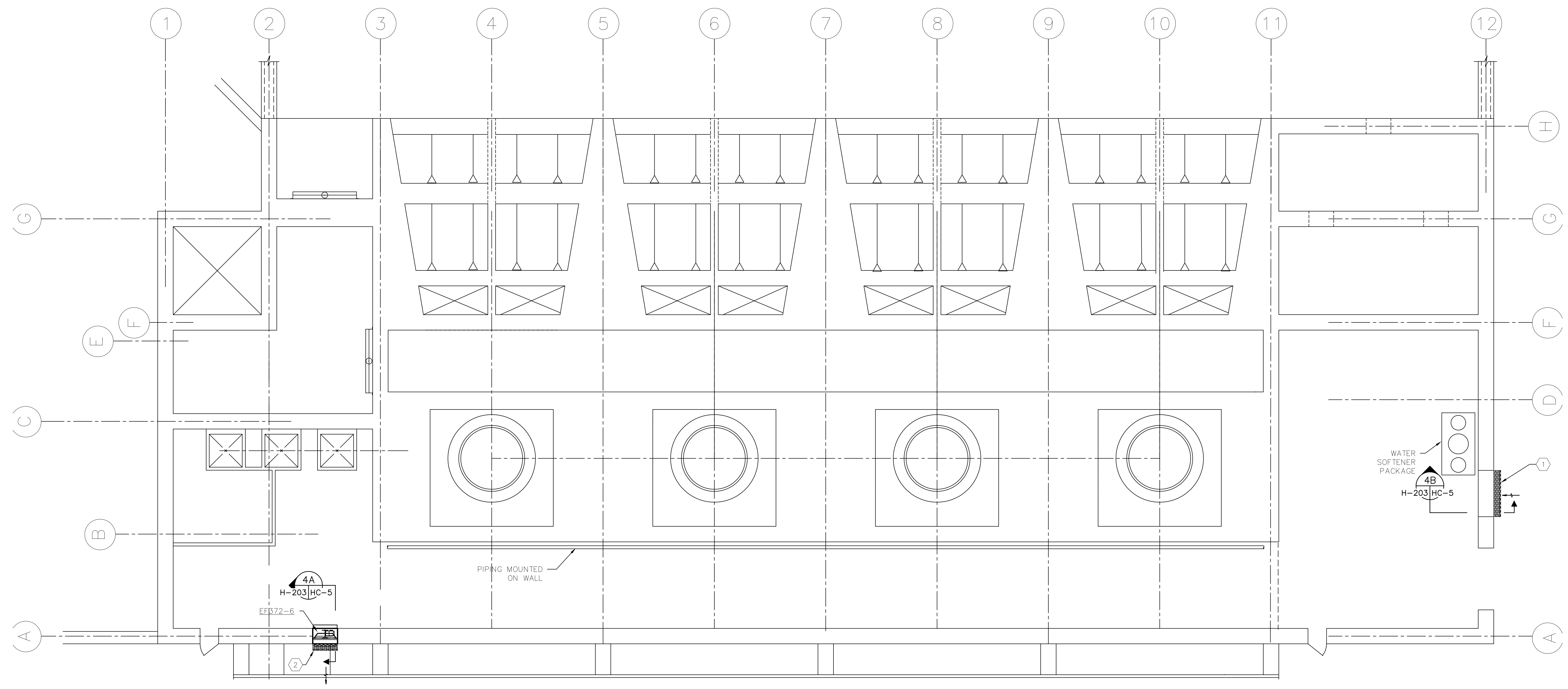
JEFFREY L. HOLTZ, P.E.  
 FL 40779

<b>GEE &amp; JENSON</b> Engineers-Architects-Planners, Inc. One Harvard Circle West Palm Beach, Florida 33409 LB 0002934 AA C000656		DRAWN BY: J. PARROTT CHKD BY: J. HOLTZ DESIGN BY: J. PARROTT CHKD BY: J. HOLTZ DATE: 5/10/01 NO. / DATE / CHKD / DATE
<b>Burns &amp; McDonnell</b> SINCE 1938 9400 WARD PARKWAY KANSAS CITY, MO 64114 License No. EB0000253		EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA NO. 3/4 PUMP STATIONS G-370 & G-372 PUMP STATION G-372 MECHANICAL ELEVATIONS
<b>SOUTH FLORIDA WATER MANAGEMENT DISTRICT</b> EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406		CONTRACT NO. C-E304 DWG. NO. H-202

"RECORD DRAWINGS"

KEYED NOTES:

- ① 46x32 MAKE-UP AIR OPENING. COVER OPENING WITH EXHAUST HOOD. HOOD DIMENSIONS TO MATCH OPENING SIZE. SEE STRUCTURAL DRAWING FOR DETAIL.
- ② INSTALL EXHAUST HOOD. HOOD DIMENSIONS TO MATCH OPENING SIZE. SEE STRUCTURAL DRAWING FOR DETAIL.



STATION G-372 PIPE GALLERY VENTILATION PLAN  
 1/8" = 1'-0"

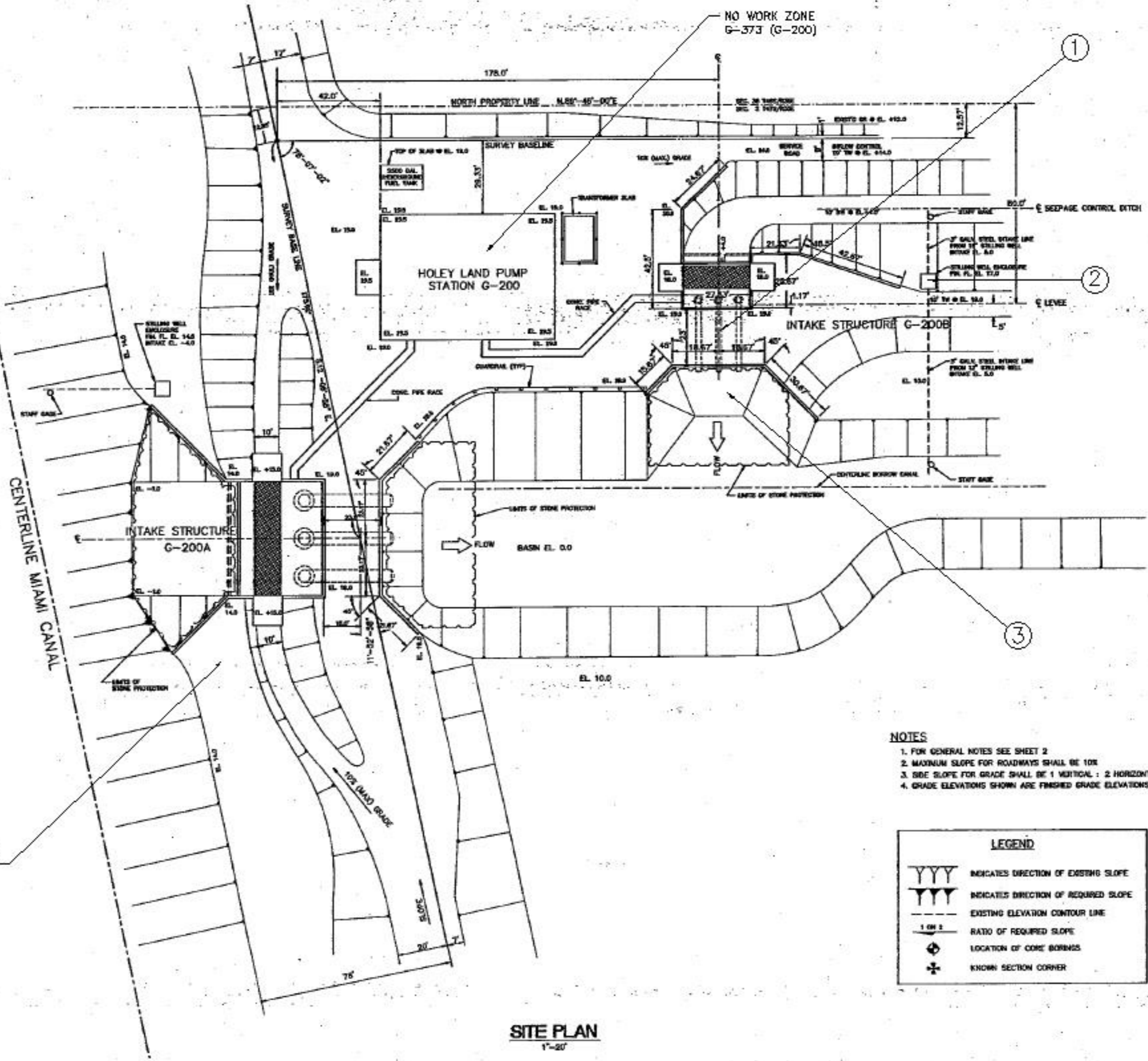
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<p><b>GEE &amp; JENSON</b>          Engineers-Architects-Planners, Inc.          One Howard Circle          West Palm Beach, Florida 33409          LB 0002934          AA C000656</p>	<p><b>Burns &amp; McDonnell</b>          SINCE 1938          9400 WARD PARKWAY          KANSAS CITY, MO. 64114          License No. EB0000253</p>	<p>EVERGLADES CONSTRUCTION PROJECT          STORMWATER TREATMENT AREA NO. 3/4          PUMP STATIONS G-370 &amp; G-372          PUMP STATION G-372          PIPE GALLERY VENTILATION PLAN</p>	<p>SOUTH FLORIDA          WATER MANAGEMENT DISTRICT          EVERGLADES CONSTRUCTION PROJECT          3301 GUN CLUB ROAD          WEST PALM BEACH, FLORIDA 33406</p>	<p>JEFFREY L. HOLTZ, P.E.          FL. 40779</p>	<p>CONTRACT NO.          C-E304          DWG. NO.          H-203</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>NO.</th> <th>DATE</th> <th>CHKD</th> <th>REVISIONS</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	NO.	DATE	CHKD	REVISIONS												
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"RECORD DRAWINGS"

**DEMOLITION:**

- ① ABANDONED PUMP STATION G-200B IS TO BE DEMOLISHED TO REMOVE ALL PUMPS AND DISCHARGE PIPE CULVERTS, TIEBACK SHEET PILE WALLS, SERVICE BRIDGE AND BRIDGE SUPPORT BENTS, BAR SCREEN, HANDRAILS, HYDRAULIC SUPPLY LINES, PIPE TRENCH AND SEEPAGE CANAL STAFF GAUGE AND PILE.
- ② REMOVE EXISTING ELECTRIC SUPPLY LINE TO STILLING WELLS #2 AND #3 FROM EXISTING TRENCH AND REROUTE VIA NEW BURIED CONDUIT AND NEW ELECTRIC WIRES THAT MATCH EXISTING WIRES AS PER DRAWING D-206.
- ③ BACKFILL ALL EXISTING AND NEW VOIDS CREATED BY DEMOLITION WORK WITH EXCAVATED MATERIAL FROM NEW CANAL TO REDONSTRUCT A CLOSURE LEVEE ACROSS THE G-200B OPENINGS. THE CLOSURE LEVEE SHALL BE CONSTRUCTED TO ELEVATION 19.0 NGVD AND HAVE THE SAME CROWN AND SIDE SLOPES AS THE EXISTING HOLEY LAND LEVEE LOCATED ON THE EASTERN END OF THE EXISTING STATION. ON WESTERN END, THE CLOSURE LEVEE SHALL FLARE TO MATCH THE EXISTING GROUND NEXT TO PUMP STATION G-373. THE EXISTING SEEPAGE CANAL SHALL BE BACKFILLED TO ELEVATION +19.0 AT SUCTION BASIN OF ABANDONED PUMP STATION G-200B. THE BACKFILL ELEVATION SHALL TRANSITION DOWN TO NATURAL GROUND (ELEVATION 11.0±) IN 500 FEET FROM CENTERLINE OF ABANDONED SUCTION BASIN OF G-200B. EXISTING SEEPAGE CANAL LEVEE SHALL ALSO BE DEGRADED FROM EL. +19.0 TO NATURAL GROUND IN THE 500 FOOT TRANSITION, SIMILAR TO TOP OF BACKFILL SLOPE OF SEEPAGE CANAL. THE SEEPAGE CANAL SHALL BE BACKFILLED TO EXISTING NATURAL GROUND BETWEEN ABANDONED STATION G-200B AND G-372 NEW STATION. THE EXISTING SEEPAGE CANAL LEVEE SHALL ALSO BE DEGRADED TO NATURAL GROUND AND USED IN BACKFILLING THE ABANDONED SEEPAGE CANAL.



- NOTES**
1. FOR GENERAL NOTES SEE SHEET 2
  2. MAXIMUM SLOPE FOR ROADWAYS SHALL BE 10%
  3. SIDE SLOPE FOR GRADE SHALL BE 1 VERTICAL : 2 HORIZONTAL TYPICAL U.S.M.
  4. GRADE ELEVATIONS SHOWN ARE FINISHED GRADE ELEVATIONS

**LEGEND**

- YYY INDICATES DIRECTION OF EXISTING SLOPE
- YYY INDICATES DIRECTION OF REQUIRED SLOPE
- EXISTING ELEVATION CONTOUR LINE
- RATIO OF REQUIRED SLOPE
- ⊙ LOCATION OF CORE BORINGS
- ✦ KNOWN SECTION CORNER

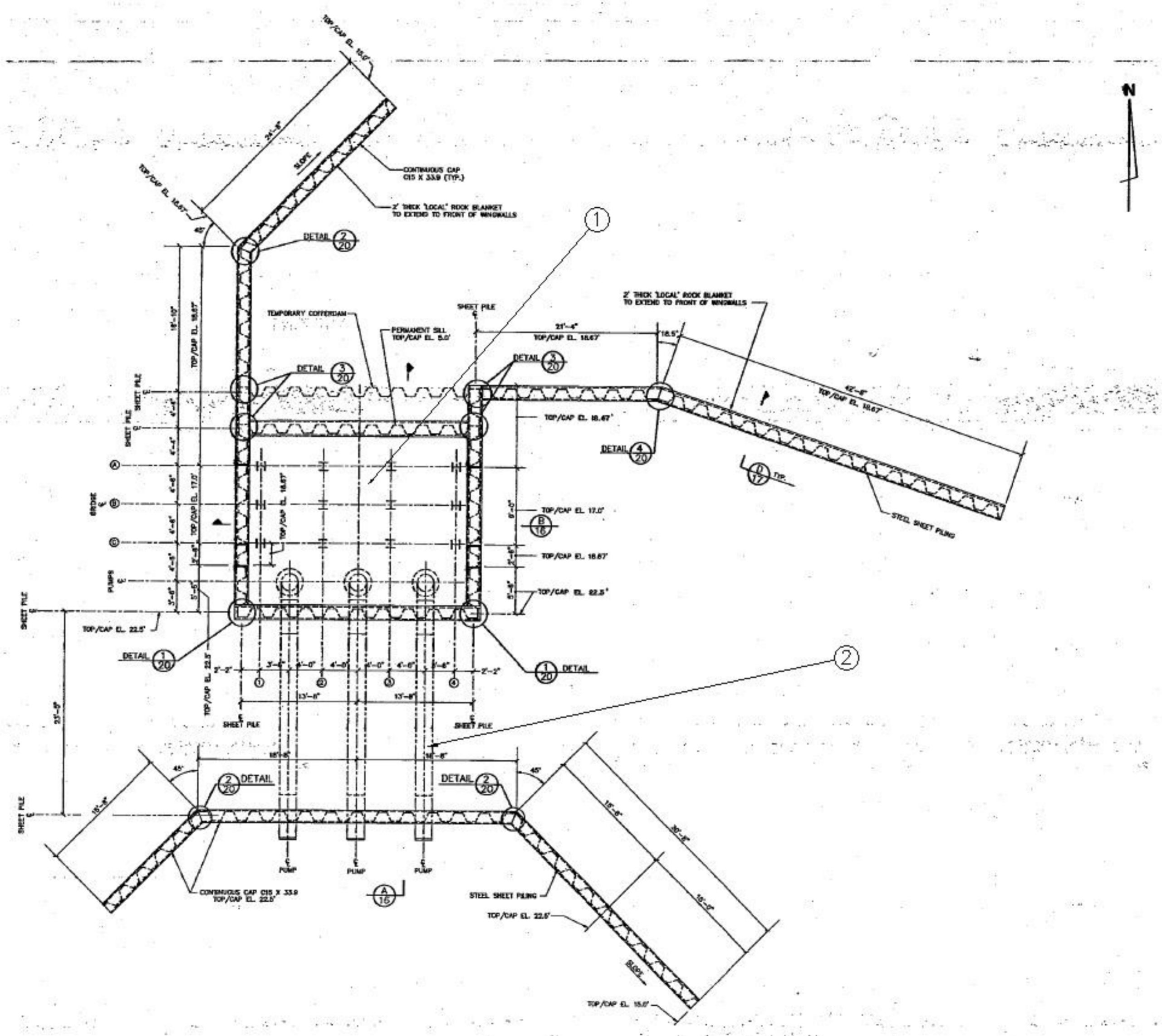
DRAWN	CHD	DESIGN	CHD	DATE	DATE	DATE	DATE
				BROWN CUMMINGS & GANNOCHE ENGINEERS - ARCHITECTS - SURVEILLANTS 9400 WARD PARKWAY KANSAS CITY, MO. 64114 License No. EB00000636			
EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA NO. 3/4 PUMP STATIONS G-370 & G-372				PUMP STATION G-372 EXISTING G-200B SITE PLAN			
SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406							
CONTRACT NO. DWG. NO. D-200							

"RECORD DRAWINGS"



**DEMOLITION:**

- ①
  - a. REMOVE ALL SCREENS AND APPURTENANCES FROM PUMP SUCTION BASIN.
  - b. REMOVE ALL SERVICE BRIDGE ELEMENTS FROM SUCTION BASIN CONCRETE SLAB. SEE D-203 FOR DESCRIPTION OF SERVICE BRIDGE.
  - c. REMOVE ALL EXISTING HYDRAULIC MOTOR SUPPLY LINES FROM SUCTION BASIN.
  - d. REMOVE THREE PUMPING UNITS FROM SUCTION BASIN, INCLUDING ALL ANCILLARY ATTACHMENTS AND DISCHARGE PIPING.
  
- ②
  - EXCAVATE TO EXPOSE THREE DISCHARGE PIPES AND REMOVE PIPES FROM IN BETWEEN TWO ROWS OF SHEET PILES. REMOVE THREE OVERHANG DISCHARGE PIPES AND FLAPS EXTENDING INTO PUMP DISCHARGE BASIN.



**G-200B INTAKE STRUCTURE - FILE PLAN**

NOTES:  
1. STEEL SHEET PILING SHALL BE TYPE P2-27 TYPICAL.



Robert J. Gannoch, P.E.  
FLA. C.E. REG. NO. 33843



CONTRACT NO.  
DWG. NO.  
D-201

SOUTH FLORIDA  
WATER MANAGEMENT DISTRICT  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33408

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA NO. 3/4  
PUMP STATIONS G-370 & G-372  
PUMP STATION G-372  
G-200B INTAKE STRUCTURE PILE PLAN

BAIRD AND PARTNERS, P.C.  
3401 WIND PARKWAY  
DUNEDIN, FLORIDA 33426  
License No. BR000253

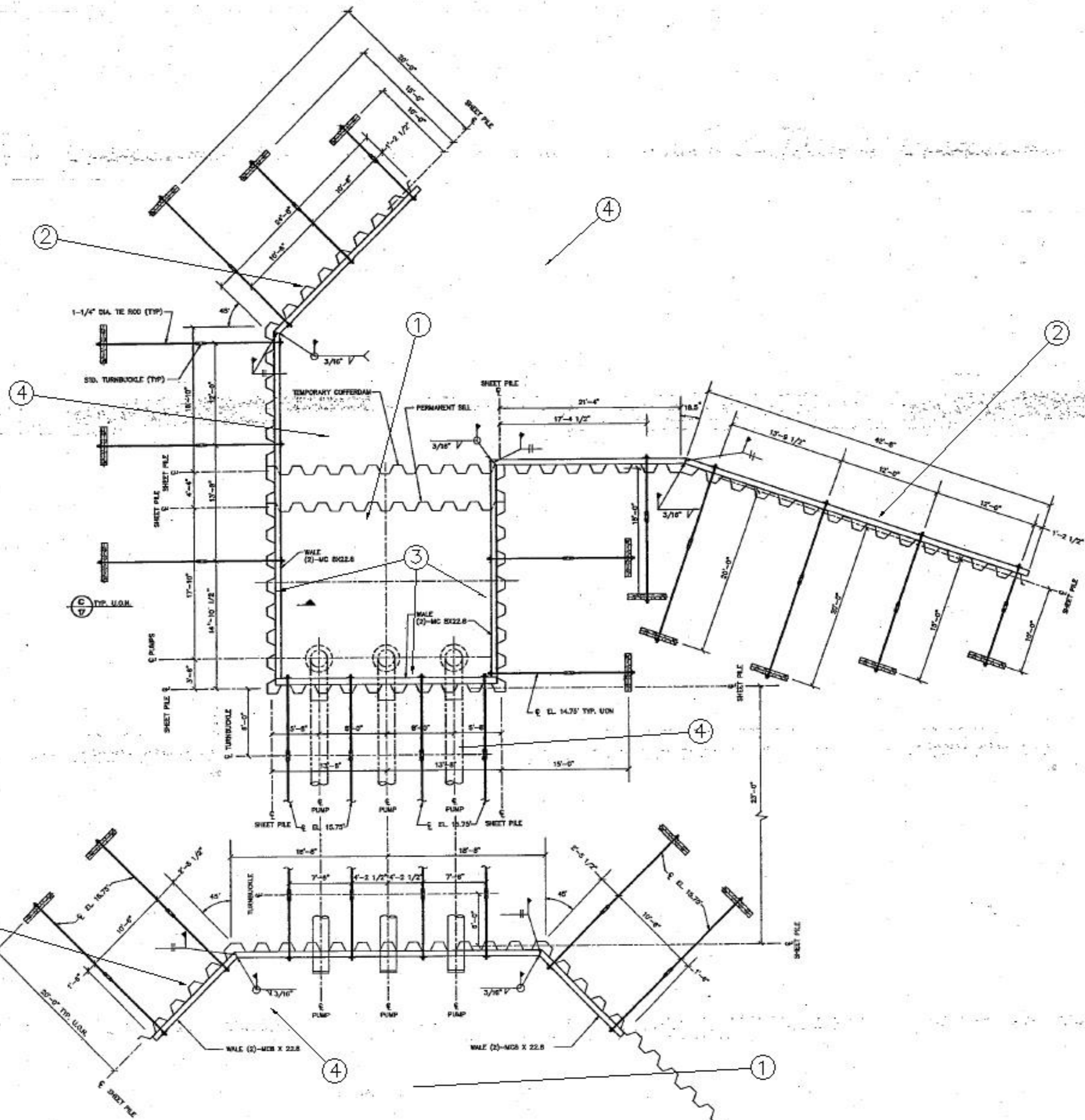
Brown Cummins Inc. Gannoch  
ENGINEERS - ARCHITECTS - SURVEILLORS  
201 MILWAUKEE ST.  
MIAMI, FLORIDA 33136  
(305) 451-3600  
License No. BR000096

REVISED	DATE	BY	CHKD	DATE	BY	CHKD

"RECORD DRAWINGS"

**DEMOLITION:**

- ① BACKFILL SUCTION BASIN, SEEPAGE CANAL PAST ENDS OF TIEBACK SHEET PILES, AND THE DISCHARGE BASIN TO WITHIN TWO FEET OF THE FINAL ELEVATIONS AND CONFIGURATIONS AS DESCRIBED IN NOTE 3 ON DRAWING D-200, TO RELIEVE SHEET PILE LOADINGS. BACKFILLING TO FOLLOW SPECIFICATION SECTION 02200 PARAGRAPH 3.05.
- ② a. EXCAVATE TO EXPOSE ALL TIEBACK RODS AND DEADMEN ON TIEBACK SHEET PILES, AND REMOVE ALL RODS AND DEADMEN.  
b. REMOVE SHEET PILE CAPS AND EXTRACT SHEET PILE WINGWALLS ONLY ON SUCTION BASIN, LEAVING SHEET PILES IN PLACE THAT PERIMETER THE SUCTION BASIN SLAB ON THREE SIDES.  
c. EXTRICATE ALL SHEET PILES ON DISCHARGE BASIN OF PUMP STATION G-200B.
- ③ ON THE THREE SHEET PILE WALLS SURROUNDING THE SUCTION BASIN, EXCAVATE DOWN A MINIMUM OF TWO FEET BELOW FINAL LEVEE CLOSURE GRADES AND CUT OFF IN-SITU PILING TO LEAVE A CUTOFF IN PLACE AT CLOSURE.
- ④ BACKFILL ALL REMAINING VOIDS, TRENCHES AND OPENINGS CREATED BY DEMOLITION OPERATIONS IN AND SURROUNDING THE SUCTION AND DISCHARGE BASINS. BACKFILLING AND FINAL GRADING TO ACHIEVE LEVEE CLOSURE. BACKFILLING TO FOLLOW REQUIREMENTS OF SPECIFICATIONS SECTION 02200, PARAGRAPH 3.05.



**G-200B INTAKE STRUCTURE - TIE BACK PLAN**

3/16"=1'-0"

Redmy J. Gannoch, P.E.  
R.A. C.E. REG. NO. 52843



CONTRACT NO.

DWG. NO.  
D-202

SOUTH FLORIDA  
WATER MANAGEMENT DISTRICT  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33408

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA NO. 3/4  
PUMP STATIONS G-370 & G-372  
PUMP STATION G-372  
G-200B SHEET PILE  
TIEBACK PLAN

BAIRD AND ASSOCIATES  
3400 WARD PARKWAY  
KANSAS CITY, MO. 64114  
License No. EB000053

Brown Cunningham Gannoch  
ENGINEERS - ARCHITECTS - SURVEILLORS  
201 N. MILWAUKEE ST.  
MOBILE, ALABAMA 36688  
(251) 451-3888  
License No. EB000096

DRAWN	CHKD	DESIGN	CHKD	DATE

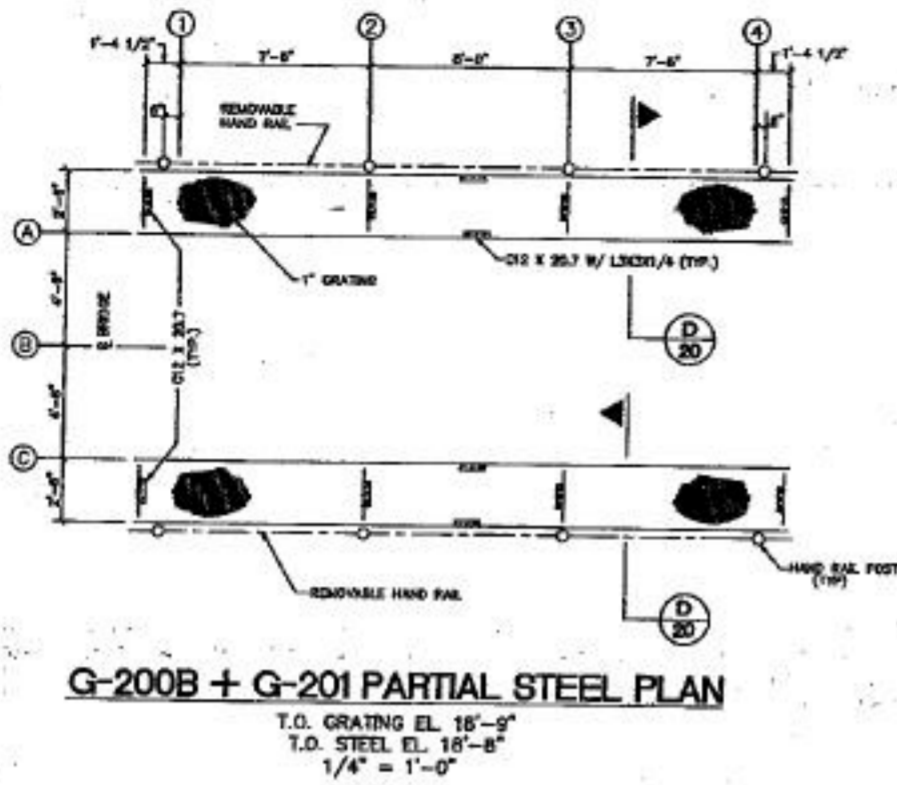
REVISIONS



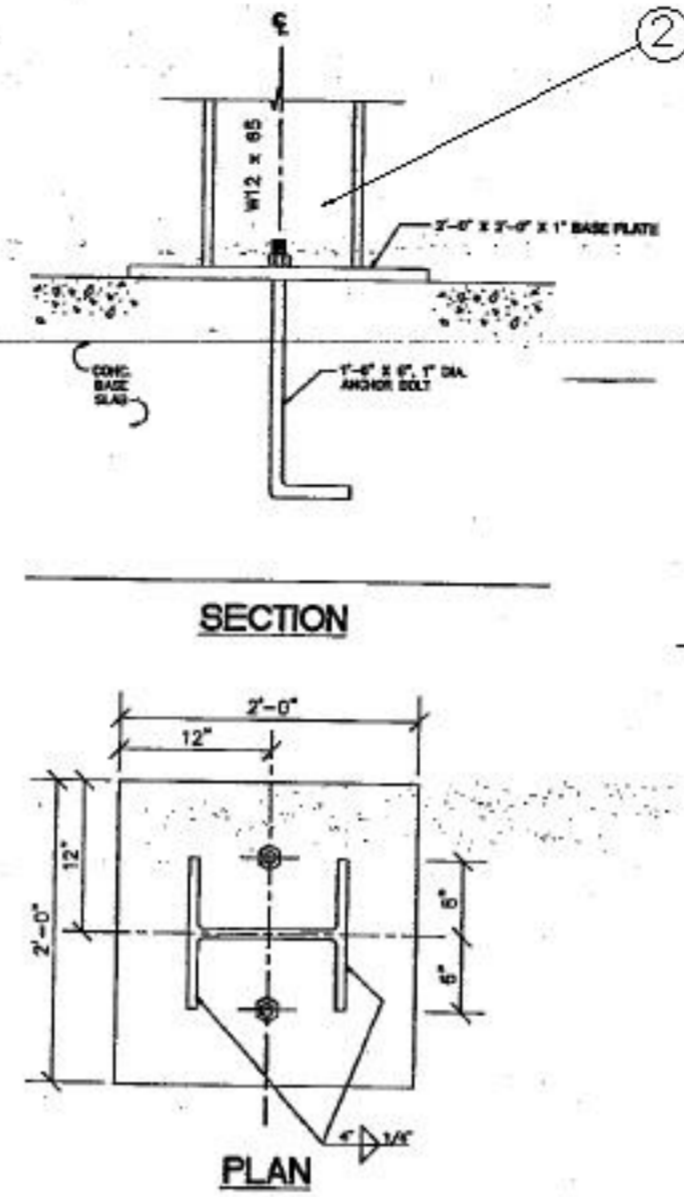
"RECORD DRAWINGS"

**DEMOLITION:**

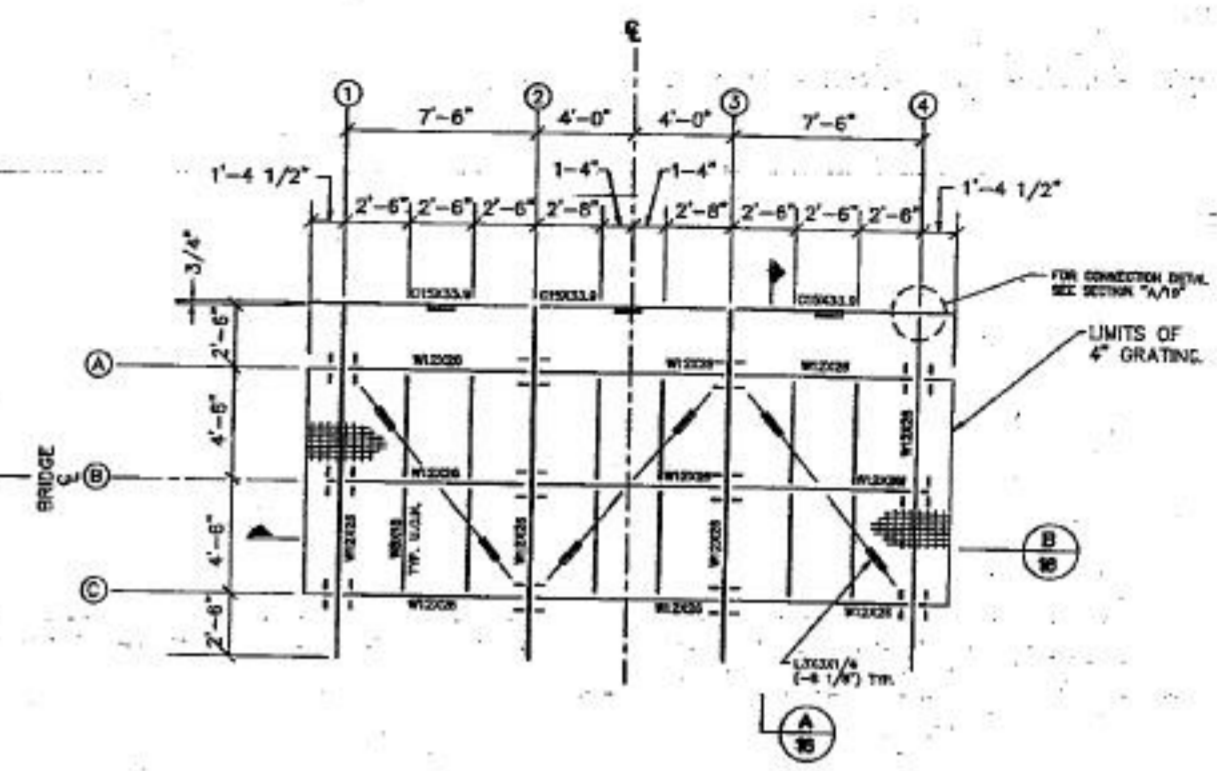
- ① COMPLETELY REMOVE SCREEN, SERVICE BRIDGE, PUMPS AND ANCILLARIES, AND HANDRAILING FROM PUMP STATION G-200B, AS DESCRIBED ON DRAWINGS D-200 THROUGH D-206.
- ② REMOVE BRIDGE COLUMNS AND BASE PLATES TO BOTTOM CONCRETE SLAB.
- ③ SUCTION CONCRETE BASE SLAB REMAINS AND IS ABANDONED IN PLACE. SUCTION BASIN CUTOFF SHEET PILE, ACROSS ENTRANCE TO SUCTION BASIN IS TO REMAIN AND ABANDONED IN PLACE. ONLY THE CAP CHANNEL SECTION IS TO BE REMOVED FROM CUTOFF SHEETPILE.



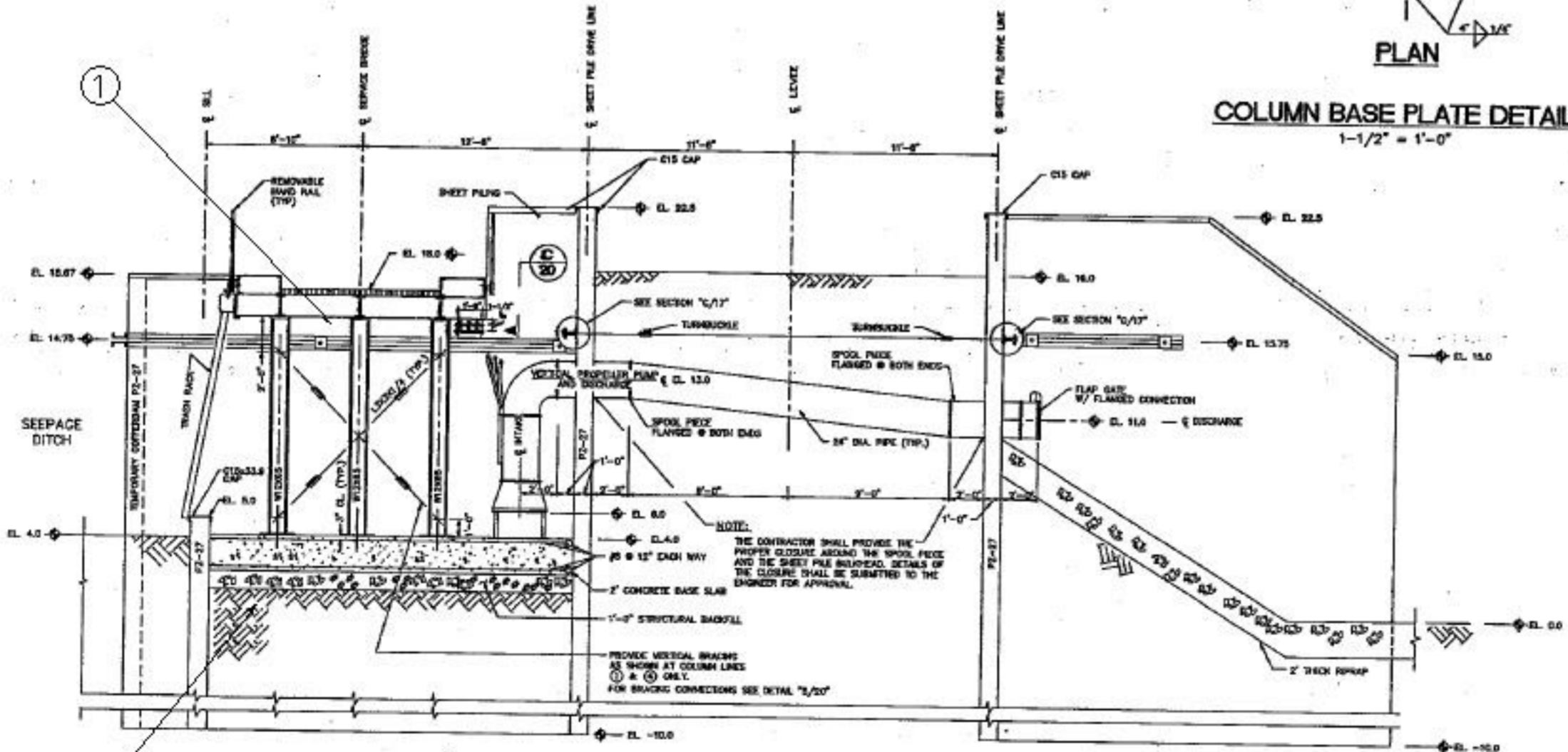
**G-200B + G-201 PARTIAL STEEL PLAN**  
 T.O. GRATING EL. 18'-0"  
 T.O. STEEL EL. 18'-8"  
 1/4" = 1'-0"



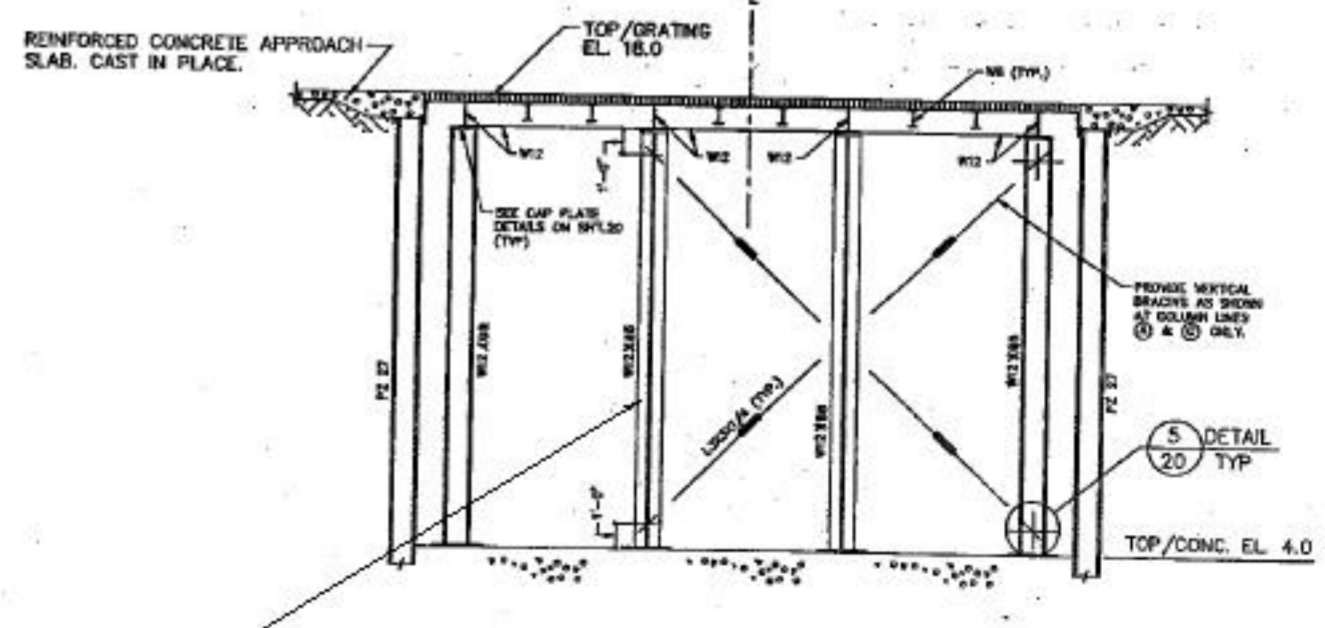
**COLUMN BASE PLATE DETAIL (TYP)**  
 1-1/2" = 1'-0"



**G-200B + G-201 STEEL PLAN**  
 T.O. GRATING EL. 18'-0"  
 T.O.S. EL. 17'-8"  
 1/4" = 1'-0"



**SECTION A**  
 1/4" = 1'-0" 14,16

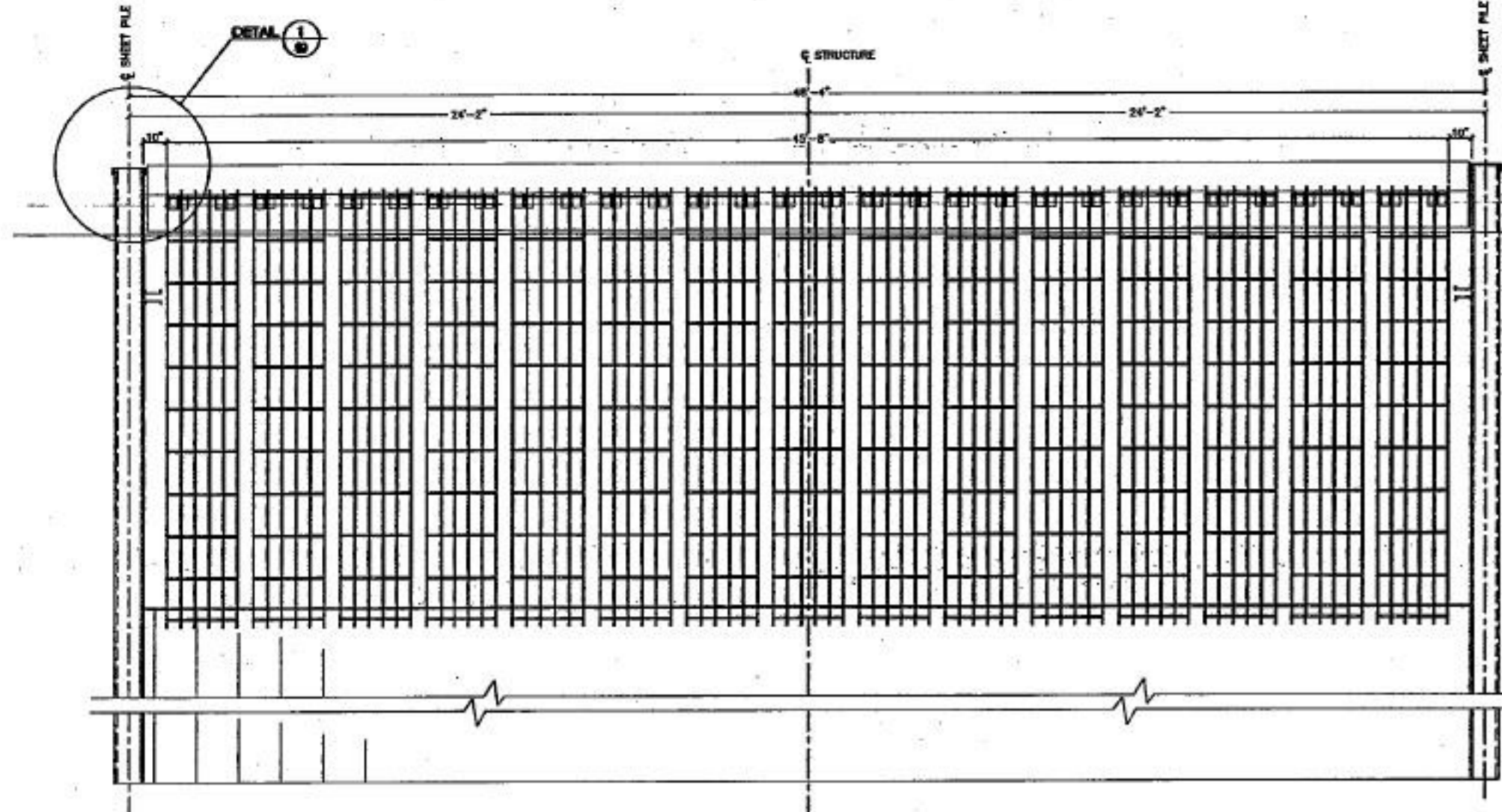


**SECTION B**  
 1/4" = 1'-0" 14,16,17

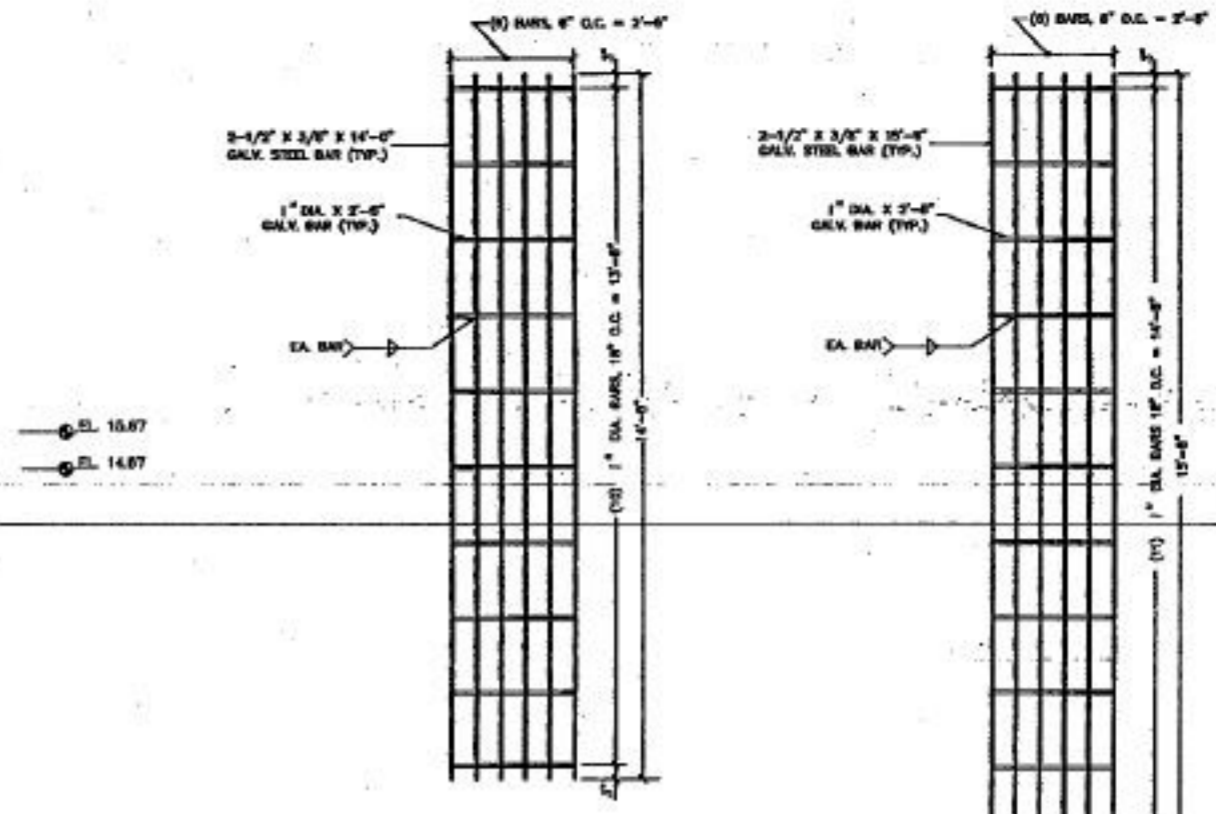


DESIGNER	CHD	DATE	REVISIONS
DESIGN	CHD	DATE	
CHKD	CHD	DATE	
DATE	DATE	DATE	
Brown Cunningham Gannoch ENGINEERS - ARCHITECTS - DRAINAGE 201 MILWAUKEE ST. SUITE 100 MILWAUKEE, WISCONSIN 53233 License No. BR0000096			
EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA NO. 3/4 PUMP STATIONS G-370 & G-372 PUMP STATION G-372 G-200B TYPICAL CROSS SECTION			
SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406			
CONTRACT NO.			
DWG. NO. D-203			

"RECORD DRAWINGS"



ELEVATION AT TRASH RACK  
Q-200A INTAKE STRUCTURE  
SCALE: 3/8" = 1'-0"



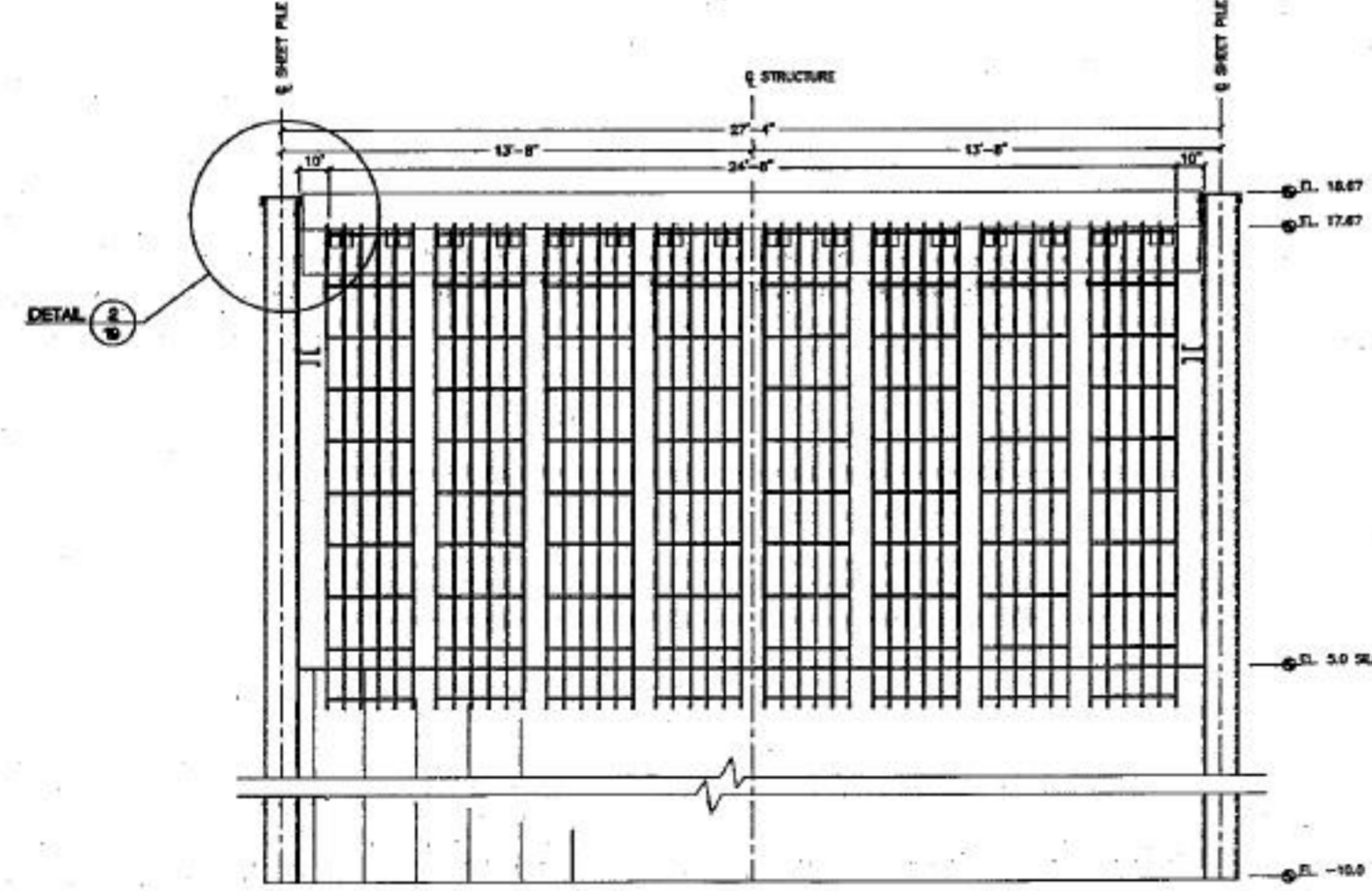
TRASH RACK DETAIL  
Q-200B INTAKE STRUCTURE  
Q-201 INTAKE STRUCTURE  
SCALE: 1/2" = 1'-0"

TRASH RACK DETAIL  
Q-200A INTAKE STRUCTURE  
SCALE: 1/2" = 1'-0"

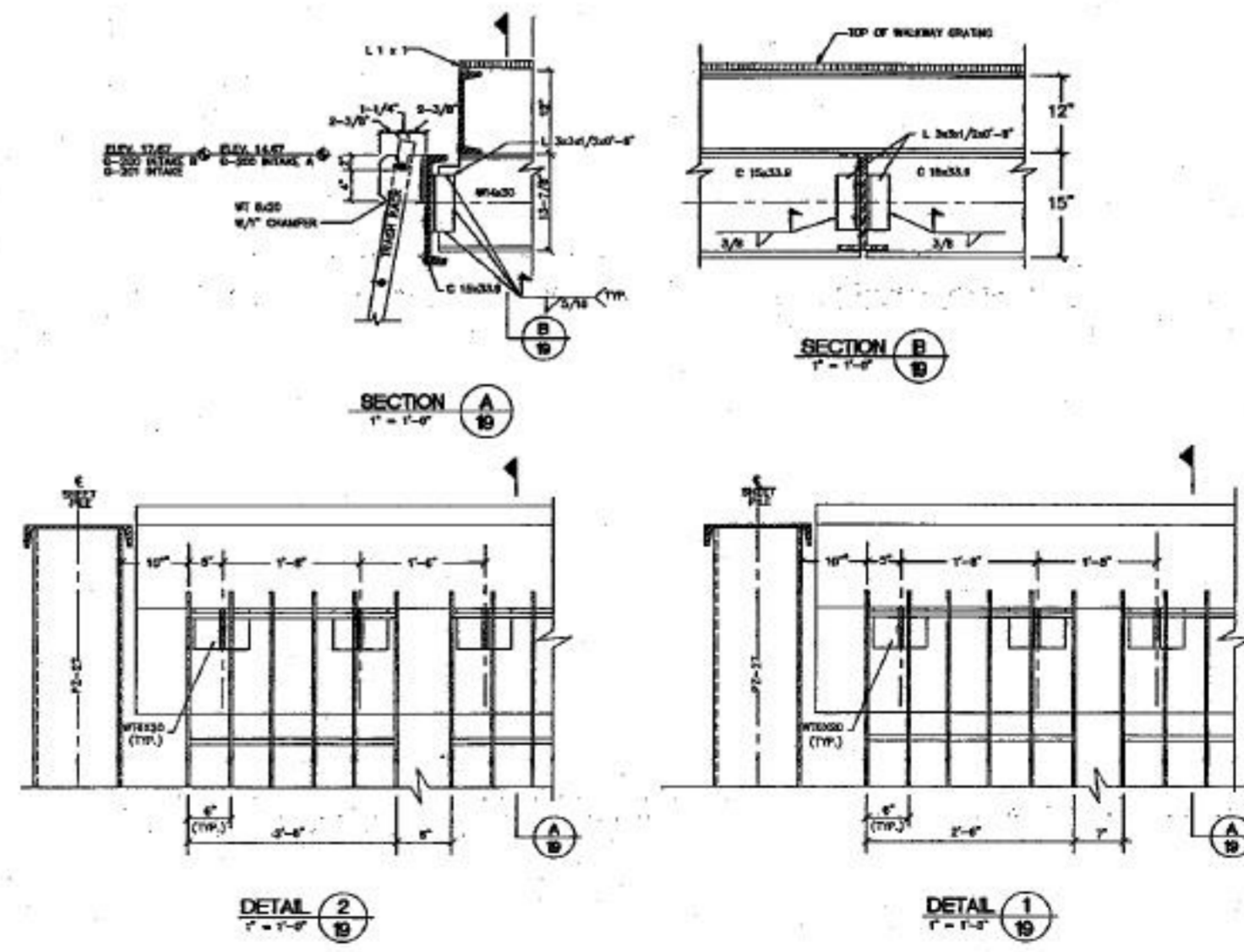
EL. 10.87  
EL. 14.87

EL. 0.0  
SILL

EL. -10.0



ELEVATION AT TRASH RACK  
Q-200B INTAKE STRUCTURE  
Q-201 INTAKE STRUCTURE  
SCALE: 3/8" = 1'-0"

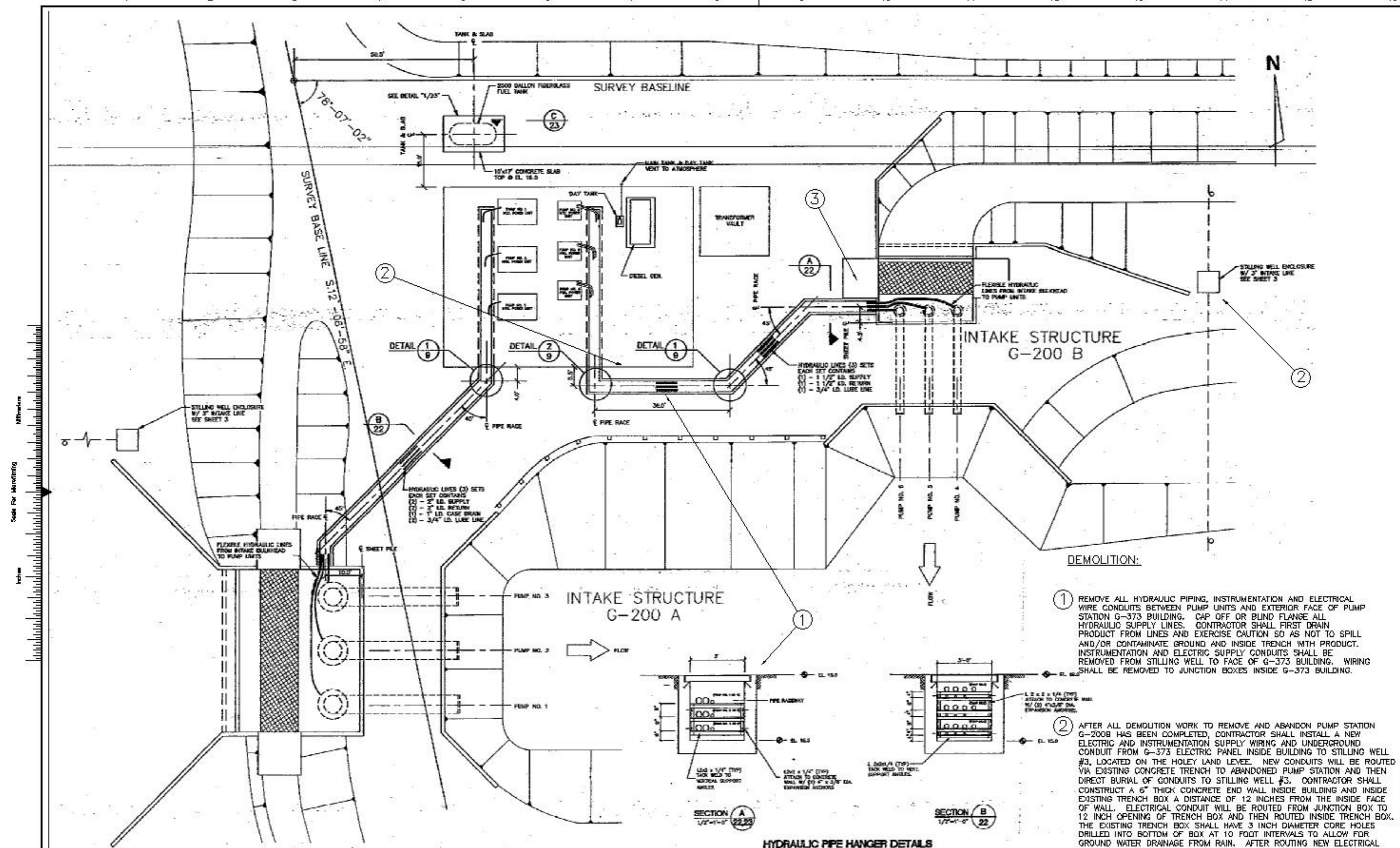


DETAIL 2  
1" = 1'-0"

DETAIL 1  
1" = 1'-0"

Reilly J. Gannock, P.E.  
FLA. C.E. REG. NO. 52849

 Brown Cumingham Gannock ENGINEERS - ARCHITECTS - SURVEILLANTS 2011 LUKANA ST. WEST PALM BEACH, FL 33408 (561) 455-5500 License No. EB0008936	DRAWN CHD DESIGN CHD DATE	DATE CHD DATE	REVISIONS
	EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA NO. 3/4 PUMP STATIONS G-370 & G-372 PUMP STATION G-372 G-200B INTAKE BAR SCREEN	SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406	CONTRACT NO. DWG. NO. D-204



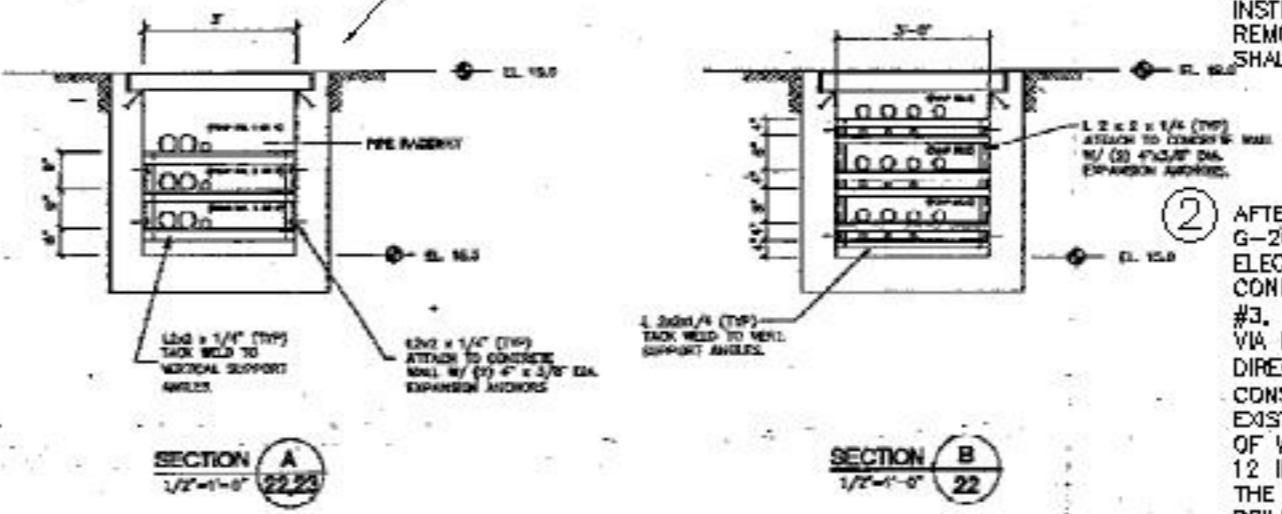
**NOTES:**

1. PIPING TO BE SEAMLESS BLACK STEEL (SEE SPECIFICATIONS).
2. PIPE HANGERS TO BE SPACED 10' O.C. AT ALL PIPE BENDS AND AT THE CONNECTION OF THE RIGID PIPE SECTIONS TO THE FLEXIBLE LINES.
3. ALL HYDRAULIC PIPE FITTINGS SHALL BE SOCKET WELD TYPE WITH SOCKET WELD TO THREAD FITTINGS AT CONVERSION POINT OF PIPE TO REINFORCED HOSE.
4. FOR RACEWAY REINFORCING SEE SHEET B.
5. ALL INTERCONNECTING LINE BETWEEN THE HYDRAULIC POWER UNITS AND THE STEEL HYDRAULIC LINE IN THE PIPE RACEWAY WILL BE FLEXIBLE REINFORCED HYDRAULIC HOSE.
6. THE STEEL LINE SHALL TERMINATE IN THE RACEWAY AT THE CENTERLINE LOCATION OF THE POWER UNITS SHOWN. THE LENGTH OF THE FLEXIBLE LINE SHALL BE DETERMINED IN THE FIELD.

**G-200 MECHANICAL PLAN**

1" = 10'

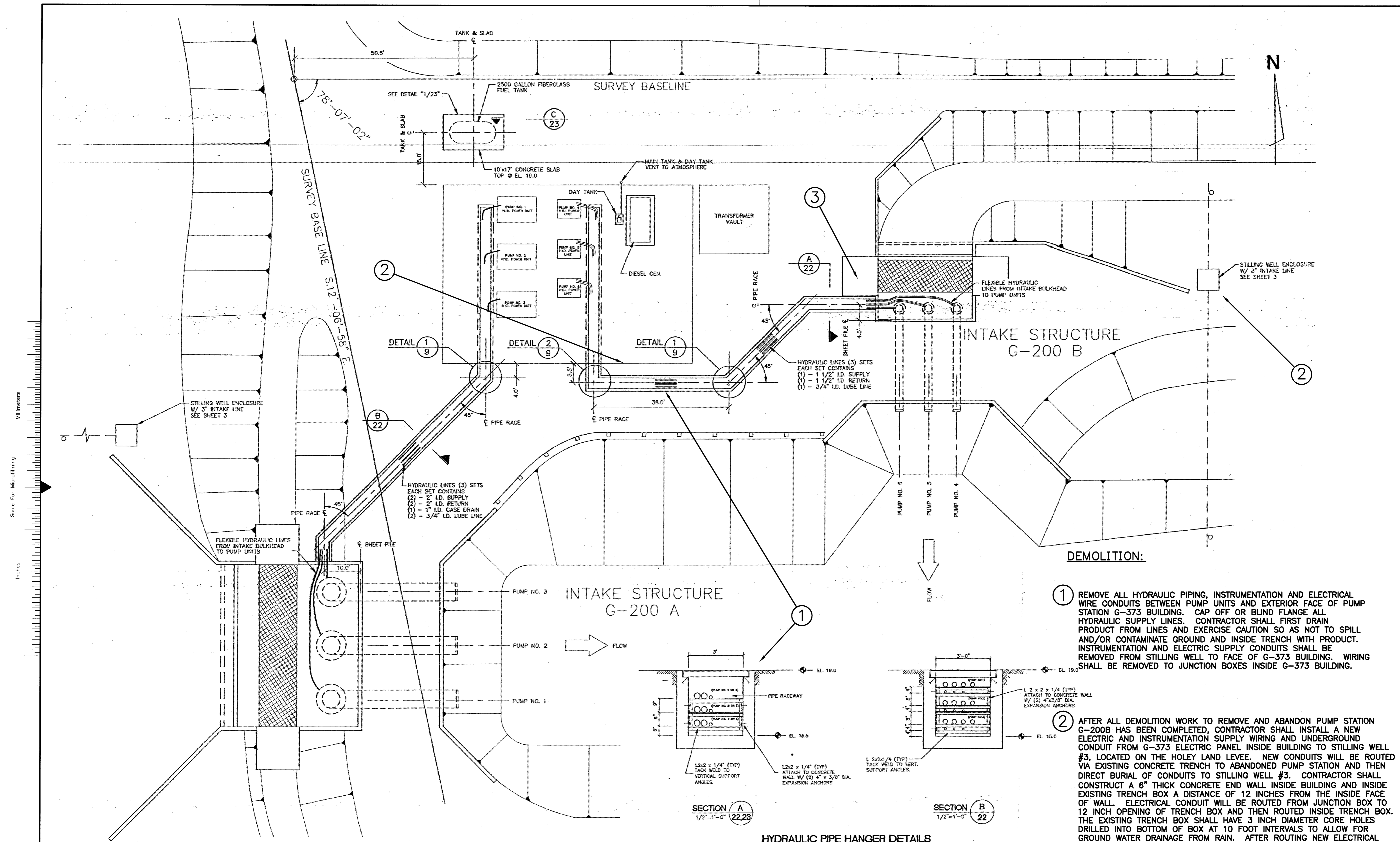
**HYDRAULIC PIPE HANGER DETAILS**



1. REMOVE ALL HYDRAULIC PIPING, INSTRUMENTATION AND ELECTRICAL WIRE CONDUITS BETWEEN PUMP UNITS AND EXTERIOR FACE OF PUMP STATION G-373 BUILDING. CAP OFF OR BLIND FLANGE ALL HYDRAULIC SUPPLY LINES. CONTRACTOR SHALL FIRST DRAIN PRODUCT FROM LINES AND EXERCISE CAUTION SO AS NOT TO SPILL AND/OR CONTAMINATE GROUND AND INSIDE TRENCH WITH PRODUCT. INSTRUMENTATION AND ELECTRIC SUPPLY CONDUITS SHALL BE REMOVED FROM STILLING WELL TO FACE OF G-373 BUILDING. WIRING SHALL BE REMOVED TO JUNCTION BOXES INSIDE G-373 BUILDING.
2. AFTER ALL DEMOLITION WORK TO REMOVE AND ABANDON PUMP STATION G-200B HAS BEEN COMPLETED, CONTRACTOR SHALL INSTALL A NEW ELECTRIC AND INSTRUMENTATION SUPPLY WIRING AND UNDERGROUND CONDUIT FROM G-373 ELECTRIC PANEL INSIDE BUILDING TO STILLING WELL #3, LOCATED ON THE HOLY LAND LEVEE. NEW CONDUITS WILL BE ROUTED VIA EXISTING CONCRETE TRENCH TO ABANDONED PUMP STATION AND THEN DIRECT BURIAL OF CONDUITS TO STILLING WELL #3. CONTRACTOR SHALL CONSTRUCT A 6" THICK CONCRETE END WALL INSIDE BUILDING AND INSIDE EXISTING TRENCH BOX A DISTANCE OF 12 INCHES FROM THE INSIDE FACE OF WALL. ELECTRICAL CONDUIT WILL BE ROUTED FROM JUNCTION BOX TO 12 INCH OPENING OF TRENCH BOX AND THEN ROUTED INSIDE TRENCH BOX. THE EXISTING TRENCH BOX SHALL HAVE 3 INCH DIAMETER CORE HOLES DRILLED INTO BOTTOM OF BOX AT 10 FOOT INTERVALS TO ALLOW FOR GROUND WATER DRAINAGE FROM RAIN. AFTER ROUTING NEW ELECTRICAL CONDUITS INSIDE TRENCH BOX, THE BOX SHALL BE FILLED WITH CRUSHED LIMESTONE EXCAVATED FROM NEW SUPPLY CANAL OF G-372. THE REPLACED ELECTRICAL AND INSTRUMENTATION WIRING, CONNECTIONS AND CONDUITS SHALL BE EQUIVALENT TO THE EXISTING MATERIALS THAT WERE REMOVED DURING THE DEMOLITION WORK.
3. CONTRACTOR SHALL COMPLY WITH SPWMD PERSONNEL INSTRUCTIONS WHILE WORKING NEAR AND INSIDE G-373 BUILDING TO DEMOLISH THE G-200B PUMPING STATION. CONTRACTOR SHALL NOT DISTURB OR DAMAGE ANY PART OF G-200A AND G-373, EXCEPT FOR THE REQUIREMENTS FOR DEMOLITION INSTRUCTIONS AS STATED IN THE DEMOLITION NOTES ON DRAWINGS D-200 THROUGH D-208.

"RECORD DRAWINGS"

<p><b>Brown Cunniff &amp; Associates</b>          ENGINEERS - ARCHITECTS - SURVEILLANTS          201 HUNTER ST.          MIAMI, FLORIDA 33130          (305) 442-5500          License No. EC000896</p>	<p>EVERGLADES CONSTRUCTION PROJECT          STORMWATER TREATMENT AREA NO. 3/4          PUMP STATIONS G-370 &amp; G-372</p>	<p>PUMP STATION G-372          G-200B MECHANICAL PLAN</p>	<p>SOUTH FLORIDA          WATER MANAGEMENT DISTRICT          EVERGLADES CONSTRUCTION PROJECT          3301 GUN CLUB ROAD          WEST PALM BEACH, FLORIDA 33406</p>
<p>CONTRACT NO.</p>	<p>DWG. NO.</p>	<p>D-205</p>	<p>CONTRACT NO.</p>



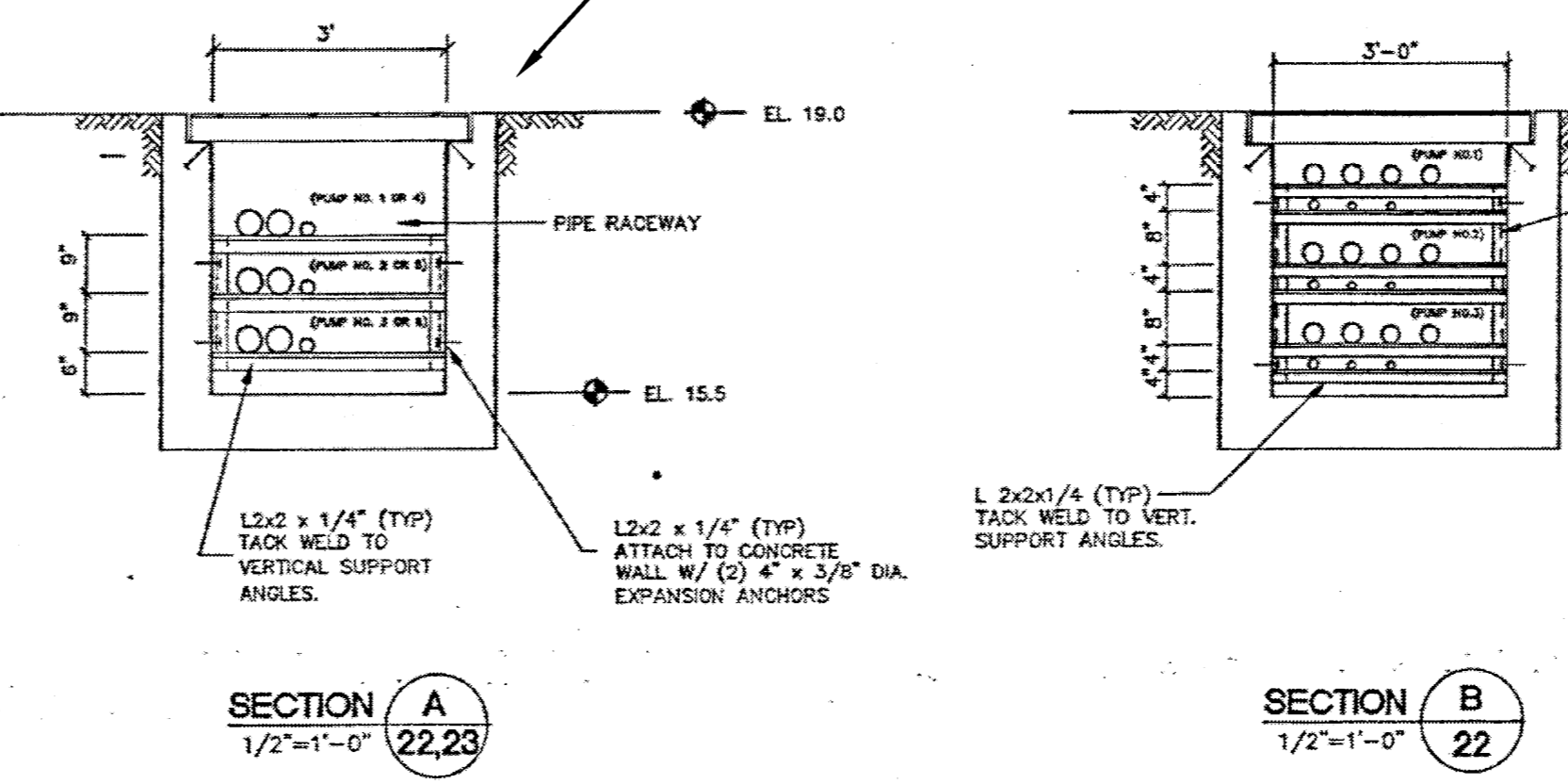
**NOTES:**

1. PIPING TO BE SEAMLESS BLACK STEEL (SEE SPECIFICATIONS).
2. PIPE HANGERS TO BE SPACED 10' O.C., AT ALL PIPE BENDS AND AT THE CONNECTION OF THE RIGID PIPE SECTIONS TO THE FLEXIBLE LINES.
3. ALL HYDRAULIC PIPE FITTINGS SHALL BE SOCKET WELD TYPE WITH SOCKET WELD TO THREAD FITTINGS AT CONVERSION POINT OF PIPE TO REINFORCED HOSE.
4. FOR RACEWAY REINFORCING SEE SHEET 9.
5. ALL INTERCONNECTING LINE BETWEEN THE HYDRAULIC POWER UNITS AND THE STEEL HYDRAULIC LINE IN THE PIPE RACEWAY WILL BE FLEXIBLE REINFORCED HYDRAULIC HOSE.
6. THE STEEL LINE SHALL TERMINATE IN THE RACEWAY AT THE CENTERLINE LOCATION OF THE POWER UNITS SHOWN. THE LENGTH OF THE FLEXIBLE LINE SHALL BE DETERMINED IN THE FIELD.

**G-200 MECHANICAL PLAN**

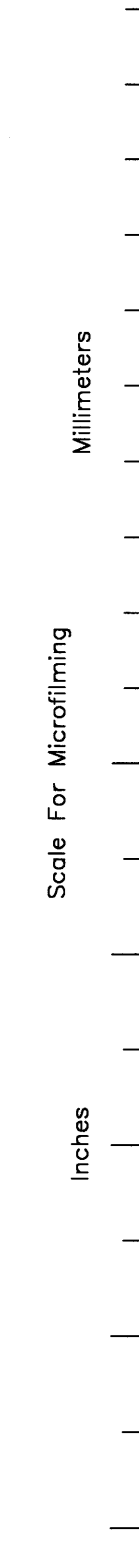
1"=10'

**HYDRAULIC PIPE HANGER DETAILS**



- DEMOLITION:**
- 1 REMOVE ALL HYDRAULIC PIPING, INSTRUMENTATION AND ELECTRICAL WIRE CONDUITS BETWEEN PUMP UNITS AND EXTERIOR FACE OF PUMP STATION G-373 BUILDING. CAP OFF OR BLIND FLANGE ALL HYDRAULIC SUPPLY LINES. CONTRACTOR SHALL FIRST DRAIN PRODUCT FROM LINES AND EXERCISE CAUTION SO AS NOT TO SPILL AND/OR CONTAMINATE GROUND AND INSIDE TRENCH WITH PRODUCT. INSTRUMENTATION AND ELECTRIC SUPPLY CONDUITS SHALL BE REMOVED FROM STILLING WELL TO FACE OF G-373 BUILDING. WIRING SHALL BE REMOVED TO JUNCTION BOXES INSIDE G-373 BUILDING.
  - 2 AFTER ALL DEMOLITION WORK TO REMOVE AND ABANDON PUMP STATION G-200B HAS BEEN COMPLETED, CONTRACTOR SHALL INSTALL A NEW ELECTRIC AND INSTRUMENTATION SUPPLY WIRING AND UNDERGROUND CONDUIT FROM G-373 ELECTRIC PANEL INSIDE BUILDING TO STILLING WELL #3, LOCATED ON THE HOLY LAND LEVEE. NEW CONDUITS WILL BE ROUTED VIA EXISTING CONCRETE TRENCH TO ABANDONED PUMP STATION AND THEN DIRECT BURIAL OF CONDUITS TO STILLING WELL #3. CONTRACTOR SHALL CONSTRUCT A 6" THICK CONCRETE END WALL INSIDE BUILDING AND INSIDE EXISTING TRENCH BOX A DISTANCE OF 12 INCHES FROM THE INSIDE FACE OF WALL. ELECTRICAL CONDUIT WILL BE ROUTED FROM JUNCTION BOX TO 12 INCH OPENING OF TRENCH BOX AND THEN ROUTED INSIDE TRENCH BOX. THE EXISTING TRENCH BOX SHALL HAVE 3 INCH DIAMETER CORE HOLES DRILLED INTO BOTTOM OF BOX AT 10 FOOT INTERVALS TO ALLOW FOR GROUND WATER DRAINAGE FROM RAIN. AFTER ROUTING NEW ELECTRICAL CONDUITS INSIDE TRENCH BOX, THE BOX SHALL BE FILLED WITH CRUSHED LIMESTONE EXCAVATED FROM NEW SUPPLY CANAL OF G-372. THE REPLACED ELECTRICAL AND INSTRUMENTATION WIRING, CONNECTIONS AND CONDUITS SHALL BE EQUIVALENT TO THE EXISTING MATERIALS THAT WERE REMOVED DURING THE DEMOLITION WORK.
  - 3 CONTRACTOR SHALL COMPLY WITH SFWMD PERSONNEL INSTRUCTIONS WHILE WORKING NEAR AND INSIDE G-373 BUILDING TO DEMOLISH THE G-200B PUMPING STATION. CONTRACTOR SHALL NOT DISTURB OR DAMAGE ANY PART OF G-200A AND G-373, EXCEPT FOR THE REQUIREMENTS FOR DEMOLITION INSTRUCTIONS AS STATED IN THE DEMOLITION NOTES ON DRAWINGS D-200 THROUGH D-206.

*Anthony J. Gammuch*  
05.09.01



<p><b>Brown Cunningham Gammuch</b> ENGINEERS - ARCHITECTS - CONSULTANTS METairie, LOUISIANA 70006 (504) 454-3866 License No. EB00008995</p>		DRAWN: KG CHKD: EJM DESIGN: EJM R/C: R/G DATE: 5/10/2001	REVISIONS DATE DWN CHKD
<p><b>Burns &amp; McDonnell</b> SINCE 1898 9400 WARD PARKWAY KANSAS CITY, MO. 64114 License No. EB0000253</p>		EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA NO. 3/4 PUMP STATIONS G-370 & G-372 PUMP STATION G-372 G-200B MECHANICAL PLAN	
SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406		CONTRACT NO.	DWG. NO. <b>D-205</b>



**LEGEND**

- HOME RUN TO PANELBOARD, NO. OF ARROWS INDICATE NO. OF CIRCUITS, HASH MARKS INDICATE NO. OF 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
- SERVICE OR EQUIPMENT GROUND
- FLUORESCENT LIGHTING FIXTURE, CEILING MOUNTED
- EMERGENCY BATTERY PACK LIGHTING FIXTURE
- TRANSFORMER, NO. INDICATES KVA RATING
- 20A, 125V, 3W DUPLEX RECEPTACLE IN FLUSH OUTLET BOX, 18" ABOVE FINISHED FLOOR
- WEATHER PROOF RECEPTACLE
- JUNCTION BOX
- LIGHTING PANEL
- ELECTRIC A.C. MOTOR, NO. INDICATE HORSEPOWER
- THERMOSTAT

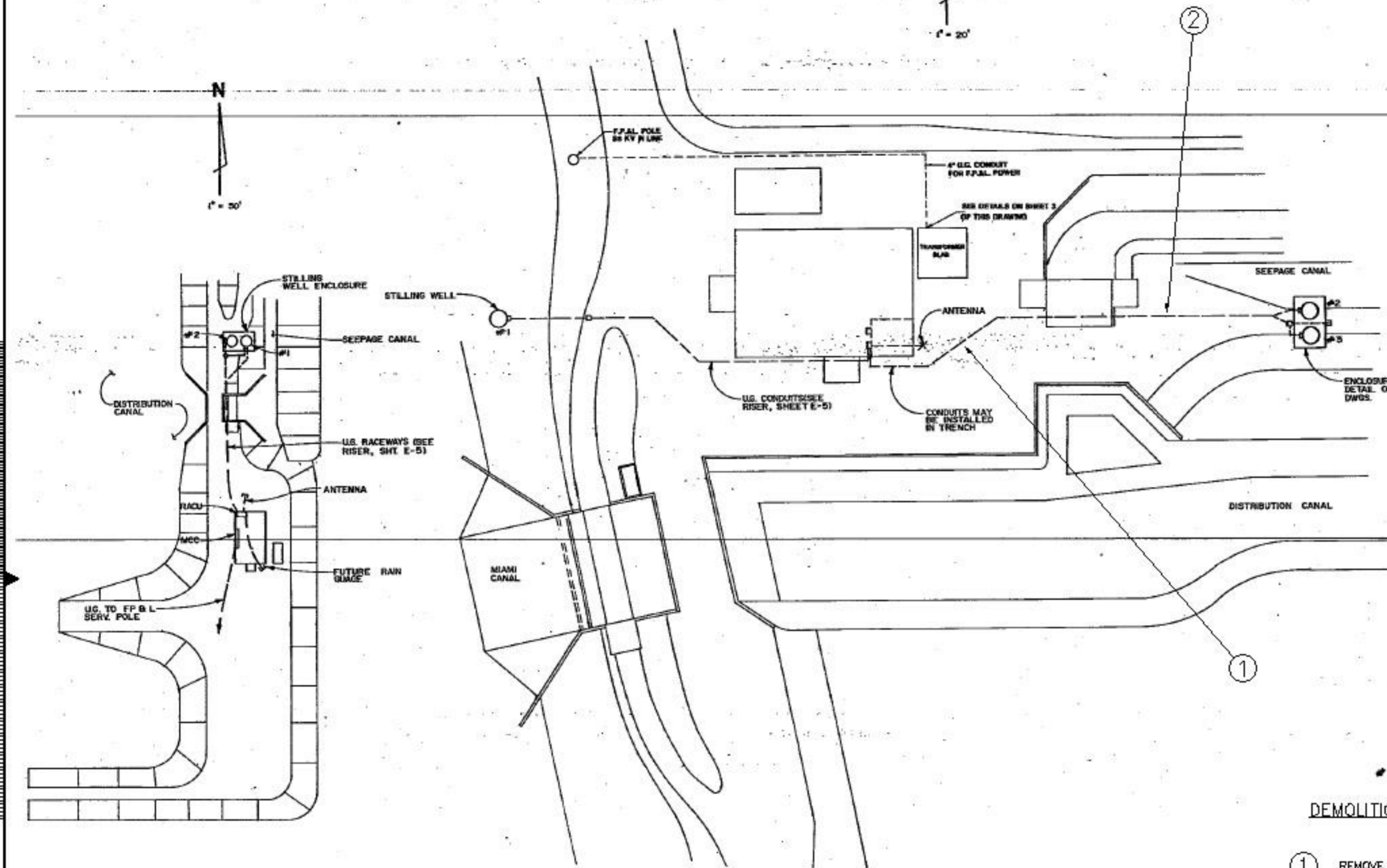
**NOTES**

- 1 - ALL CONDUITS SHALL BE GALV. RIGID STEEL.
- 2 - DO NOT SCALE THE ELECTRICAL DRAWINGS, REFER TO THE MECHANICAL STRUCTURAL DRAWINGS, AND APPROVED MANUFACTURER'S SHOP DRAWINGS FOR THE EXACT LOCATION OF ALL EQUIPMENT.
- 3 - ALL WORK SHALL COMPLY WITH THE N.E.C. AND ALL LOCAL CODES
- 4 - INSTALL A 1/4" TYPICAL PULL LINE IN ALL TELEMETRY CONDUITS
- 5 - CONTRACTOR TO INSTALL 4" CONDUIT FOR MAIN POWER AS PER WBS PLAN. F.P.M. WILL SUPPLY THE CONDUIT AND RUN THE POWER LINE FROM THE 25 KV IN POLE TO TRANSFORMER.

**DEMOLITION:**

- ① REMOVE EXISTING ELECTRICAL AND INSTRUMENTATION BURIED CONDUITS DURING DEMOLITION.
- ② INSTALL A NEW INSTRUMENTATION AND ELECTRICAL SUPPLY CONDUIT WITH WIRING. SEE NOTE 2 ON DRAWING D-205 FOR INSTRUCTIONS.

**ELECTRICAL SITE PLANS**



REVISIONS		
DATE		
DWG. CHGD		
DESIGN		
CHOD		
DATE		
Brown Cunningham, Gannett		
ENGINEERS - LICENSE NO. 13668 (ELECTRICAL)		
13100 W. PALM BLVD		
MIAMI, FL 33155		
Phone 305-552-1100		
Fax 305-552-1100		
License No. 1366800006		
EVERGLADES CONSTRUCTION PROJECT		
STORMWATER TREATMENT AREA NO. 3/4		
PUMP STATIONS G-370 & G-372		
PUMP STATION G-372		
G-200B ELECTRICAL SITE PLAN		
SOUTH FLORIDA		
WATER MANAGEMENT DISTRICT		
EVERGLADES CONSTRUCTION PROJECT		
3301 GUN CLUB ROAD		
WEST PALM BEACH, FLORIDA 33406		
Project: J. Gannett, P.E.		
FLA. C.E. REG. NO. 33343		
CONTRACT NO.		
DWG. NO.		
D-208		

S Y M B O L S

P L A N

S I N G L E L I N E D I A G R A M

S C H E M A T I C D I A G R A M

	GROUND BUS
	EXPOSED CONDUIT
	CONDUIT CONCEALED ABOVE FLOOR.
	CONDUIT RUN UNDERGROUND OR IN CONCRETE
	EXPOSED CONDUIT RUN BEHIND OBSTRUCTION
	BARE COPPER GROUND TO GROUND WIRE IN SLAB, OR UNDERGROUND GROUND GRID. SIZE AS NOTED.
	HOME RUN TO PANEL "LP1", CIRCUITS #1, 3, 7. CONDUCTORS SHALL BE NO. 12 UNLESS OTHERWISE NOTED. CONDUIT SIZES NOT IDENTIFIED SHALL BE 3/4" C MINIMUM WITH 2#12 & 1#12 GROUND.
	CONDUIT RUN - CHANGE IN ELEVATION
	CONDUIT BENDS TOWARD OBSERVER
	CONDUIT BENDS AWAY FROM OBSERVER
	CONDUIT CAPPED, OR SEALED
	FLEXIBLE LIQUID - TIGHT CONDUIT CONNECTION
	IM-1 INDICATES CONDUIT NUMBER FROM MCC "1M" CIRCUIT 1.
	EXIT LIGHT, SHOWN WITH TWO ILLUMINATED SIDES ARROWS INDICATE DIRECTION OF EXIT
	CEILING OR PENDANT INCANDESCENT, MERCURY VAPOR, OR SIMILAR LAMP FIXTURE. "2" INDICATES CIRCUIT NUMBER. "a" INDICATES FIXTURE CONTROLLED BY SWITCH "a".
	WALL BRACKET INCANDESCENT, MERCURY VAPOR, OR SIMILAR LAMP FIXTURE WITH EXPOSED BACK BOX AND CONDUIT.
	WALL BRACKET FLOOD OR SPOTLIGHT WITH CONCEALED BACK BOX AND CONDUIT.
	POLE MOUNTED FIXTURE DISTRIBUTION TYPE AS INDICATED ON PLAN
	FIXTURE TYPE F1, 2-40 WATT LAMPS 3 - NUMBER OF TYPE "F-1" FIXTURES
	FLUORESCENT LIGHTING FIXTURE, UNSWITCHED (SWITCHED AT LIGHTING PANEL ONLY)
	FLUORESCENT LIGHTING FIXTURE ON EMERGENCY CIRCUIT
	FLUORESCENT LIGHTING FIXTURE ON NORMAL POWER
	BATTERY EMERGENCY LIGHT FIXTURE
	S <sub>o</sub> SINGLE POLE SWITCH. "a" INDICATES CIRCUIT CONTROLLED
	S <sub>2</sub> DOUBLE POLE SWITCH
	S <sub>3</sub> THREE-WAY SWITCH
	S <sub>4</sub> FOUR-WAY SWITCH
	S <sub>K</sub> KEY-OPERATED SWITCH
	S <sub>P</sub> SWITCH AND PILOT LIGHT
	S <sub>M</sub> MANUAL MOTOR STARTER

	WALL FLOOR
	120V SINGLE RECEPTACLE, NEMA CONFIGURATION 5-20
	120V DUPLEX RECEPTACLE, NEMA CONFIGURATION 5-20
	SINGLE SPECIAL-PURPOSE RECEPTACLE, 208V, 1 PHASE, *ASTERISK INDICATES NUMBER SUCH AS AMPERAGE, UNLESS OTHERWISE NOTED.
	WELDING RECEPTACLE, 480V, 3 PHASE, 60A.
	SINGLE SPECIAL PURPOSE RECEPTACLE 480V.A.C. UNLESS OTHERWISE NOTED.
	CLOCK HANGER RECEPTACLE
	FLOOR TYPE TELEPHONE OUTLET
	SOUND OR PAGING SYSTEM DEVICE. * DENOTES NUMBER TO DIFFERENTIATE BETWEEN DIFFERENT DEVICES
	TELEPHONE SYSTEM OUTLET
	COMPUTER OUTLET WITH 3/4" C.O. STUB UP INTO SUSPENDED CEILING
	LIGHTING PANEL
	POWER PANEL
	GROUND CONNECTION BOLTED TYPE
	GROUND CONNECTION, EXOTHERMIC TYPE
	DISCONNECT SWITCH
	LOCAL COMBINATION STARTER
	CONTACTOR
	MOTOR
	RACEWAY BOX "MH" MANHOLE "HH" HANDHOLE "PB" PULLBOX
	JUNCTION BOX OR FITTING
	FIELD INSTRUMENT I.E.: "LSH" LEVEL SWITCH HIGH "SV" SOLENOID VALVE "HS" HAND SWITCH "PSL" PRESSURE SWITCH LOW
	LINE VOLTAGE THERMOSTAT
	HEATER
	HORN
	BELL
	DENOTES REFERENCE TO NOTE 1 I.E. - SEE NOTE 1
	GROUND ROD 3/4" X 10'-0" (UNLESS OTHERWISE NOTED)

	BUS
	ACROSS-THE-LINE, NON-REVERSING NEMA SIZE 2 MAGNETIC STARTER
	NEMA SIZE 3 MAGNETIC STARTER: SS - SOLID STATE STARTER RVAT - REDUCED VOLTAGE AUTOTRANSFORMER WITH NEMA RATED BY-PASS CONTACTOR AND OVERLOAD RELAYS
	CONTACTOR, SIZE 1 AS NOTED
	MOLDED CASE CIRCUIT BREAKER, 3 POLE UNLESS OTHERWISE NOTED. 50A TRIP RATING. NA - NON-AUTOMATIC MCP - MOTOR CIRCUIT PROTECTOR
	DRAWOUT BREAKER, SIZE AS NOTED EO - DENOTES ELECTRICALLY OPERATED
	MEDIUM OR HIGH VOLTAGE DRAWOUT BREAKER
	MEDIUM OR HIGH VOLTAGE STARTER
	LIGHTNING ARRESTOR AND SURGE CAPACITOR
	MOTOR 10 HP NOTED
	TRANSFORMER WITH GROUNDED SECONDARY, KVA SIZE & VOLTAGE RATIO AS NOTED.
	POTENTIAL TRANSFORMER, RATIO AND NUMBER OF PT'S AS NOTED. DRAWOUT INDICATED.
	CURRENT TRANSFORMER, RATIO AND NUMBER OF CT'S AS NOTED
	LOCAL CONTROL PANEL
	ELECTRICAL ENCLOSURE OUTLINE
	ELECTRICAL MOTOR OPERATED VALVE, WITH INTEGRAL REVERSING STARTER
	UNFUSED DISCONNECT SWITCH, SIZE AS NOTED
	FUSED DISCONNECT SWITCH
	CAPACITOR, KVAR AS NOTED
	KILOWATT-HOUR METER WITH DEMAND REGISTER
	WATT METER
	AMMETER
	VOLTMETER
	POWER FACTOR METER
	VARMETER
	AMMETER SWITCH
	VOLTMETER SWITCH

	CONTROL RELAY OR COIL TD2 TIME DELAY RELAY NO. 2 CR1 CONTROL RELAY 1M STARTER NO. 1 MAIN CONTACTOR COIL
	TIMED CONTACTS - CONTACT ACTION DELAYED AFTER COIL IS: <u>ENERGIZED</u> NORMALLY OPEN WITH TIME DELAY CLOSING NORMALLY CLOSED WITH TIME DELAY OPENING <u>DE-ENERGIZED</u> NORMALLY OPEN WITH INSTANT CLOSING AND TIME DELAY OPENING NORMALLY CLOSED WITH INSTANT OPENING AND TIME DELAY CLOSING
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
	TORQUE SWITCH (SPECIFY WHEN OPEN)
	NORMALLY OPEN LIMIT SWITCH
	NORMALLY CLOSED LIMIT SWITCH
	FLOAT TYPE LIQUID LEVEL SWITCH, CLOSING ON RISING LEVEL
	FLOAT TYPE LIQUID LEVEL SWITCH, OPENING ON RISING LEVEL
	VACUUM OR PRESSURE SWITCH, CLOSING ON RISING PRESSURE
	VACUUM OR PRESSURE SWITCH, OPENING ON RISING PRESSURE
	TEMPERATURE ACTUATED SWITCH; CLOSING ON RISING TEMPERATURE
	TEMPERATURE ACTUATED SWITCH; OPENING ON RISING TEMPERATURE
	FLOW SWITCH (AIR, WATER, ETC.); CLOSING ON FLOW INCREASE
	FLOW SWITCH (AIR, WATER, ETC.); OPENING ON FLOW INCREASE
	NORMALLY OPEN PUSHBUTTON, MOMENTARY CLOSE
	NORMALLY CLOSED PUSHBUTTON, MOMENTARY OPEN
	NO/NC MAINTAINED PUSHBUTTON
	TWO-POSITION SELECTOR SWITCH: H-HAND, M-MANUAL, R-REMOTE, L-LOCAL, A-AUTOMATIC, O-OFF
	THREE-POSITION SELECTOR SWITCH. (SAME AS ABOVE)
	THREE-POSITION SPRING RETURN-TO-CENTER MOMENTARY CONTACT SWITCH ("LATCH-UNLATCH," "ON-OFF," ETC.)
	SINGLE POLE TOGGLE SWITCH ("ON-OFF," ETC.)
	SOLENOID VALVE
	GROUND CONNECTION
	OVERLOAD RELAY CONTACTS (MAGNETIC)

	MANUAL MOTOR STARTER WITH OVERLOAD PROTECTION
	FUSE
	POTENTIOMETER TYPE RESISTOR (CONTINUOUSLY ADJUSTABLE)
	PUSH-TO-TEST INDICATING LIGHT
	SURGE SUPPRESSOR
	ELAPSED TIME METER
	HEATER
	CROSSING OF CONDUCTORS-NOT CONNECTED
	CONNECTION OF CONDUCTORS, FITTING AS REQUIRED
	DISCONNECT SWITCH
	HORN
	BELL
	FIELD TERMINAL
	MOTOR CONTROL CENTER TERMINAL

L I F E S A F E T Y D E V I C E S

	FIRE ALARM HORN WITH STROBE LIGHT
	FIRE ALARM BELL WITH STROBE LIGHT
	FIRE ALARM MANUAL PULL STATION
	SMOKE DETECTOR
	HEAT DETECTOR
	COMBINATION SMOKE AND HEAT DETECTOR
	ELECTRIC DOOR CLOSER
	END OF THE LINE RESISTOR

Scale For Microfilming  
Inches  
Millimeters

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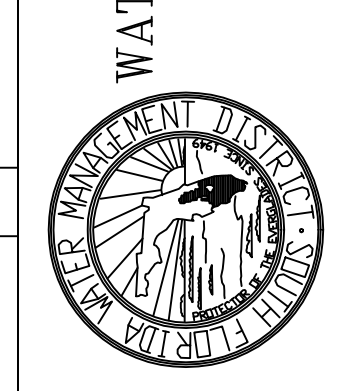
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ENGINEERS • ARCHITECTS • CONSULTANTS  
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METTLESVILLE, LOUISIANA 70088  
License No. EB0000985

**MONTGOMERY WATSON** P.E., P.F.W.  
480 S.W. 30th Avenue, Suite 300  
SURFSE, FL 33225

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372

**SOUTH FLORIDA WATER MANAGEMENT DISTRICT**

EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406



JOHN C. NETZEL P.E.  
FLA. P.E. NO. 43113

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CONTRACT NO.  
C-E304  
DRAWING NO.  
EC-1  
SHEET OF



A B B R E V I A T I O N S

A	AMPERE, AUTO, AMMETER	FVR	FULL VOLTAGE REVERSING	O	OPEN
AC	ALTERNATING CURRENT	FVNR	FULL VOLTAGE NON-REVERSING	OC	ON CENTER
A/C	AIR CONDITIONING	FWD	FORWARD CONTACTOR COIL	CC	CENTER TO CENTER
AF	AMPERE FRAME SIZE OF CKT. BRKRS.	GALV	GALVANIZED	OL	OVERLOAD RELAY
AFF	ABOVE FINISHED FLOOR	GEN	GENERATOR	P	POLE
AL	ALUMINUM	GRD	GROUND	PA	PUBLIC ADDRESS SYSTEM
AM	AMMETER	HH	HAND HOLE	PB	PUSHBUTTON
ANN	ANNUNCIATOR	HID	HIGH INTENSITY DISCHARGE	PCM	PROCESS CONTROL MODULE
AMP	AMPERES, AMPERAGE	HIGH	HIGH SPEED CONTACTOR	PF	POWER FACTOR
APPR	APPROVED	HOA	HAND - OFF - AUTOMATIC	PH, /O	PHASE
AS	AMMETER SWITCH, ADJUSTABLE SPEED	HP	HORSE POWER	PNL	PANEL
AT	AMPERE TRIP	HPS	HIGH PRESSURE SODIUM	PNLBD	PANELBOARD
ATS	AUTOMATIC TRANSFER SWITCH	HTR, H	HEATER	POS	POSITION
AUTO	AUTOMATIC	HVAC	HEATING VENTILATION AIR CONDITIONING	POT	POTENTIOMETER
AWG	AMERICAN WIRE GAUGE	HZ	HERTZ	PRI	PRIMARY
BATT	BATTERY	IMC	INTERMEDIATE METAL CONDUIT	PS	PRESSURE SWITCH
BKR	BREAKER	INCAND	INCANDESCENT	PT	POTENTIAL TRANSFORMER
BBL	BUBBLER	IND	INDICATION (SYSTEM)	PVC	POLYVINYL CHLORIDE
BLDG	BUILDING	IND	INDICATION (SYSTEM)	PW	PART WINDING
C	CONDUIT, CLOSED, COIL	I/O	INPUT/OUTPUT	PWR	POWER
CAB	CABINET	INST	INSTANTANEOUS (TD CONTACT)	REC	RECEPTACLE
CB	CIRCUIT BREAKER	INSTR	INSTRUMENT	RECPTS	RECEPTACLES
CKT	CIRCUIT	Isc	SHORT CIRCUIT CURRENT, AMPS	REQ'D	REQUIRED
CO	CONDUIT ONLY	INVT	INVERT	REV	REVERSE CONTACTOR COIL
COND	CONDUIT	JB	JUNCTION BOX	RGS	RIGID GALVANIZED STEEL
COMPT	COMPARTMENT	J BOX	JUNCTION BOX	RUN	RUN CONTACTOR COIL
COMPR	COMPRESSOR	KVA	KILO (1000) VOLT AMPS	RTU	REMOTE TERMINAL UNIT
CP	CONTROL PANEL	KW	KILOWATTS	RVAT	REDUCED VOLTAGE AUTOTRANSFORMER
CPT	CONTROL POWER TRANSFORMER (IN INDIVIDUAL STARTER CUBICLE)	KWH	KILOWATT HOUR	SCH	SCHEDULE
CR	CONTROL RELAY (MAGNETICALLY HELD)	LC	LIGHTING CONTACTOR	SEC	SECONDS, SECONDARY
CS	CONTROL STATION	LCB	LOCAL CONTROL BOARD	SECT	SECTION
CT	CURRENT TRANSFORMER	LCP	LOCAL CONTROL PANEL	SEL SW	SELECTOR SWITCH
CU	COPPER	LOC	LOCAL	SEQ	SEQUENCE
DC	DIRECT CURRENT	LOS	PUSHBUTTON W/"LOCK-OUT-STOP"	SHLD	SHIELDED
DISC	DISCONNECT	LS	LEVEL SWITCH	SHT	SHEET
DISTR	DISTRIBUTION	LT, LTS	LIGHT, LIGHTS	SIG	SIGNAL
DPDT	DOUBLE POLE DOUBLE THROW	LTG	LIGHTING	S1, S2	START CONTACTOR COILS
DWG	DRAWING	LOW	LOW SPEED CONTACTOR	SP	SPARE
E	EMPTY, EMERGENCY	M	MOTOR CONTACTOR COIL	SPDT	SINGLE POLE DOUBLE THROW
ELEV	ELEVATION	MA	MILLIAMPS	SPECS	SPECIFICATIONS
EMERG	EMERGENCY	MAN	MANUAL	SP HTR	SPACE HEATER
EMT	ELECTRICAL METALLIC TUBING	MAG	MAGNETIC	SPST	SINGLE POLE SINGLE THROW
ENCL	ENCLOSURE	MAX	MAXIMUM	SS	STAINLESS STEEL (304)
EP	EXPLOSION PROOF	MCC	MOTOR CONTROL CENTER	ST, SH	SHUNT TRIP
EQPT	EQUIPMENT	MCB	MAIN CONTROL BOARD	STA	STATION
ER	CONDUCTANCE LEVEL RELAY	MCM	THOUSAND CIRCULAR MILS	STD	STANDARD
ETM	ELAPSED TIME METER	MD	MOTORIZED DAMPER	STL	STEEL
EXH	EXHAUST	MH	MANHOLE	STR	STARTER
EWC	ELECTRIC WATER COOLER	MIN	MINUTES, MINIMUM	SV	SOLENOID VALVE
EXIST	EXISTING	MLO	MINUTES, MINIMUM	SW	SWITCH
F, ~	FREQUENCY	MOV	MOTOR OPERATED VALVE	SYS	SYSTEM
FA	FIRE ALARM SYSTEM	MS	MANUAL MOTOR STARTER	TB	TERMINAL BOX
FDR	FEEDER	MT, MTD	MOUNT, MOUNTED	TC	TIME CLOCK
FLEX	FLEXIBLE	MTP	MEMBRANE TRAIN PANEL	TACH	TACHOMETER
FLUOR	FLUORESCENT	MTR	MOTOR	TEMP	TEMPERATURE
FM	FREQUENCY METER	MUX	MULTIPLEXING PANEL	TERM	TERMINAL
FUT	FUTURE	N	NEUTRAL	TH	THERMOSTAT
				TM	REPEAT CYCLE TIMER
				TD	TIME DELAY RELAY
				TS	TEMPERATURE SWITCH
				TYP	TYPICAL

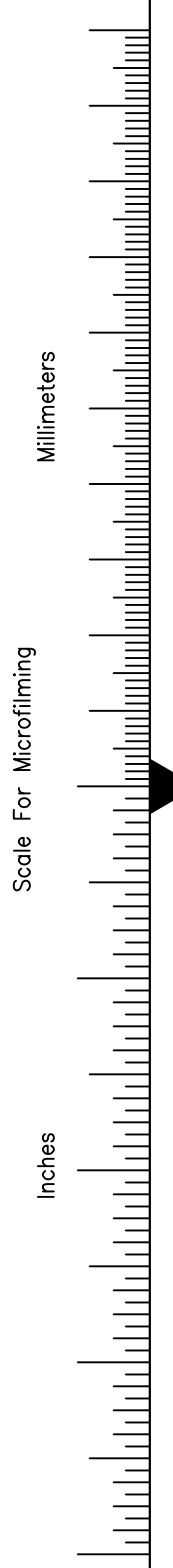
NA	NON-AUTOMATIC
NC	NORMALLY CLOSED
NO, NOS	NUMBER, NUMBERS, NORMALLY OPEN
NP	NAMEPLATE
NIC	NOT IN CONTRACT
NITS	NOT IN THIS SECTION
NTS	NOT TO SCALE
UG	UNDERGROUND
UH	UNIT HEATER
V	VOLTAGE, VOLTS
VAR	VAR METER
VFD	VARIABLE FREQUENCY DRIVE
VP	VAPORPROOF
VS	VARIABLE SPEED, VOLTMETER SWITCH
W	WATTS, WIRE
WHD	WATTHOUR DEMAND METER
WHM	WATTHOUR METER
WP	WEATHERPROOF
XD	TRANSDUCER
XFMR	TRANSFORMER
XMTR	TRANSMITTER

D E V I C E L I S T

FUNCTION	DESCRIPTION	FUNCTION	DESCRIPTION
23	TEMPERATURE CONTROL REV	60	VOLTAGE BALANCE REV
25	GENERATOR SYNCHRONIZER	63	SUDDEN PRESSURE RELAY FURNISHED WITH XFMR
27	UNDERVOLTAGE RELAY	63X	AUXILIARY RELAY
32	DIRECTIONAL POWER RELAY	65	GOVERNOR CONTROL
43	SELECTOR SWITCH	81P	OVERFREQUENCY RELAY
46	REVERSE-PHASE, OR PHASE-BALANCE CURRENT RELAY	81U	UNDERFREQUENCY RELAY
47	UNDERVOLTAGE PHASE SEQUENCE RELAY	83	AUTOMATIC SELECTIVE CONTROL RELAY
49	TEMPERATURE RELAY	86	LOCK-OUT RELAY
50G	INSTANTANEOUS OVERCURRENT GROUND RELAY	86X	AUXILIARY LOCK-OUT RELAY
51	TIME OVERCURRENT RELAY	87	DIFFERENTIAL RELAY
51N	TIME OVERCURRENT GROUND FAULT RELAY	90	REGULATING DEVICE
51V	TIME OVERCURRENT RELAY WITH VOLTAGE RESTRAINT		
50/51	INSTANTANEOUS/TIME OVERCURRENT RELAY		
52CS	CIRCUIT BREAKER CONTROL SWITCH, "TRIP"- "CLOSE" SPRING RETURN TO NORMAL		
52T	TIE CIRCUIT BREAKER		

GENERAL NOTES

- THE CONTRACTOR SHALL VERIFY EXACT LOCATION OF TERMINAL BOXES AND CONDUIT ENTRANCES OF ALL EQUIPMENT AGAINST SHOP DRAWINGS BEFORE STUBBING UP CONDUITS.
- CONDUIT FOR FUTURE EQUIPMENT OR EXTENSION SHALL BE TERMINATED AS SHOWN IN DETAIL OR AS SPECIFIED.
- CONNECTION BETWEEN RIGID CONDUIT AND MOTOR TERMINAL BOX SHALL BE FLEXIBLE LIQUID-TIGHT CONDUIT.
- EXPOSED FLEXIBLE CONNECTIONS SHALL BE FLEXIBLE LIQUID-TIGHT CONDUIT WITH APPROVED GROUNDING TYPE FITTINGS AND SHALL NOT EXCEED 30" IN LENGTH FOR 2" SIZE AND LARGER. MAXIMUM OF 18" FOR SIZES 1 1/2" AND SMALLER.
- CONDUITS TERMINATING AT SWITCHBOARD, MOTOR CONTROL CENTER, POWER PANELS, CONTROL CABINETS, ETC., SHALL BE EQUIPPED WITH A GROUNDING BUSHING "OZ" TYPE "GB" AND GROUNDED AS A BANK WITH NO. 6 GROUND WIRE.
- CONDUITS STUB-UPS SHALL NOT BE MORE THAN 6" FROM CENTER LINES OF TERMINAL BOXES.
- MOTOR CONTROL CENTERS, SWITCHBOARDS, SWITCHGEAR AND ALL FREE STANDING PANELS SHALL BE SET ON CONCRETE PAD AND LEVELING CHANNELS EMBEDDED IN PAD AS SHOWN IN MCC DETAIL, UNLESS OTHERWISE INDICATED.
- IN CASE OF INTERFERENCE BETWEEN ELECTRICAL EQUIPMENT SHOWN ON THE DRAWINGS AND OTHER EQUIPMENT, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING AND THE ENGINEER SHALL REVIEW THE PROPOSED CHANGES BEFORE THEY ARE MADE.
- ALL OUTDOOR DEVICES SHALL BE WEATHERPROOF.
- ALL RECEPTACLES IN OUTDOOR AND ANTICIPATED WET AREAS SHALL BE GROUND FAULT INTERRUPTER RECEPTACLES.
- ALL RECEPTACLES SHALL BE MOUNTED 12" ABOVE FLOOR SURFACE UNLESS OTHERWISE INDICATED.
- LOCATION OF PULLBOXES ARE APPROXIMATE. CONTRACTOR SHALL COORDINATE EXACT LOCATION OF PULLBOXES WITH MECHANICAL PIPING AND SHALL BE AWAY FROM FLOW LINES. ANY FIELD ADJUSTMENTS SHALL BE AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL PROVIDE ADDITIONAL PULLBOXES WHERE THEY ARE REQUIRED TO MAKE A WORKABLE INSTALLATION.
- ALL DEVICES SHOWN IN THE CONTROL DIAGRAMS SHALL BE MOUNTED IN THE MCC UNLESS NOTED OTHERWISE.
- ALL DEVICES SHOWN IN THE CONTROL DIAGRAMS FOR A PANEL SHALL BE MOUNTED IN THE PANEL UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL DETERMINE THE NUMBER OF WIRES IN EACH CIRCUIT TO MAKE THE SYSTEM COMPLETE AND OPERABLE. MINIMUM WIRE SIZE SHALL BE #12. MINIMUM CONDUIT SIZE SHALL BE 3/4".
- REFER TO INSTRUMENTATION DRAWINGS FOR INSTRUMENT DESIGNATIONS.



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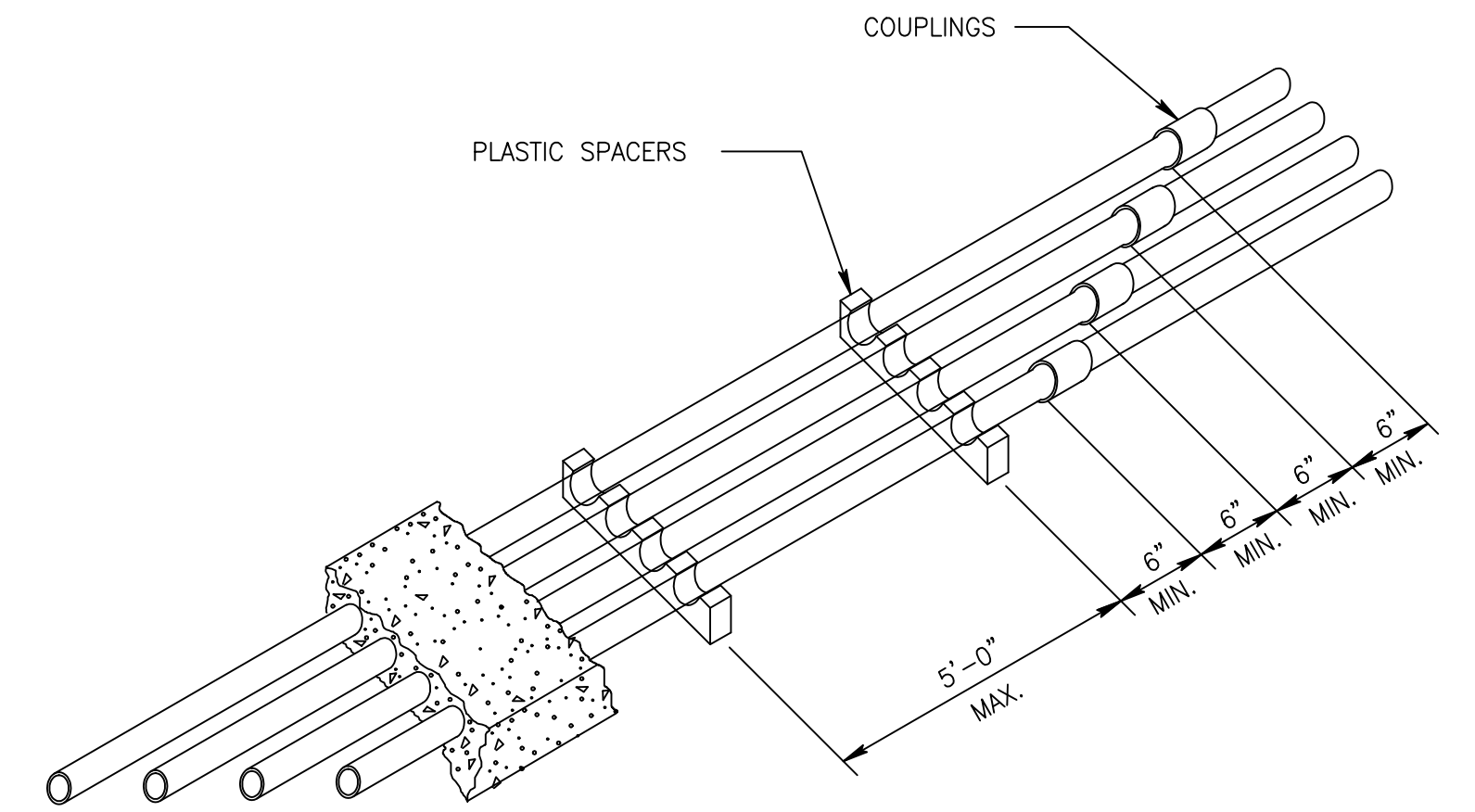
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ELECTRICAL ABBREVIATIONS		DATE	
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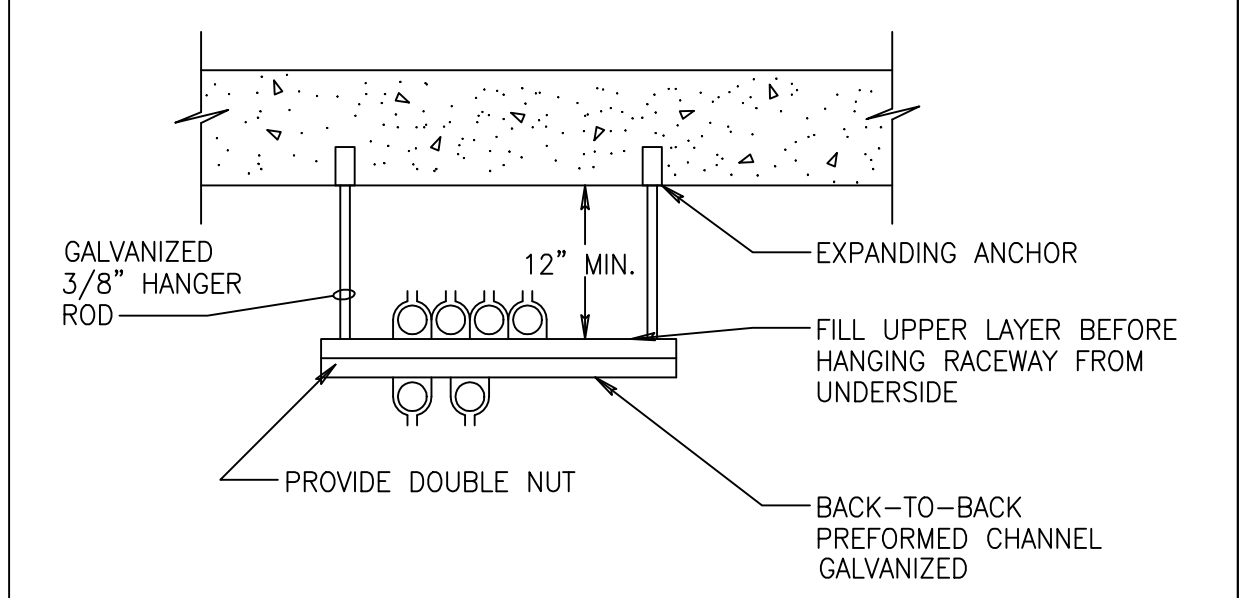
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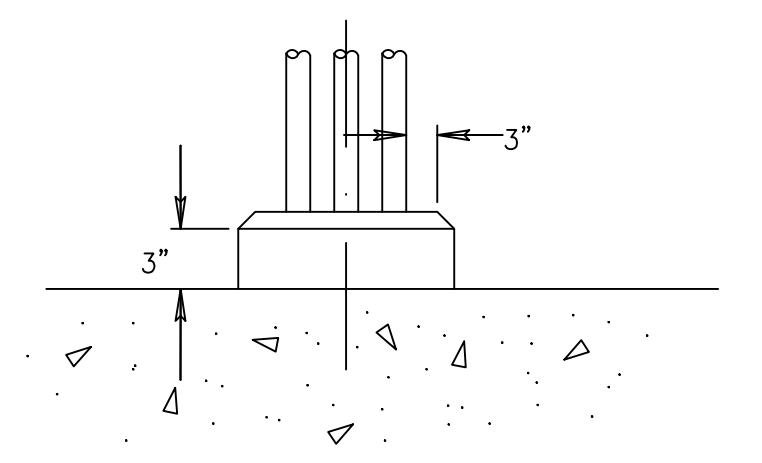
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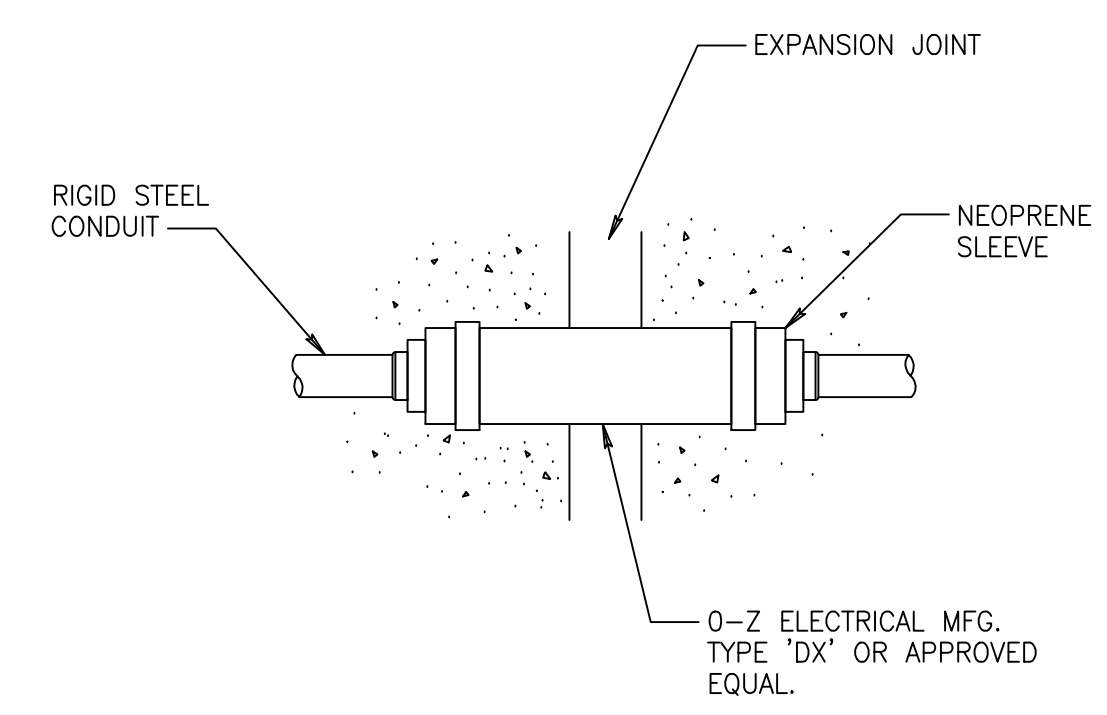
HORIZONTAL STAGGERING OF SPACERS AND JOINTS REV 101595 E-107



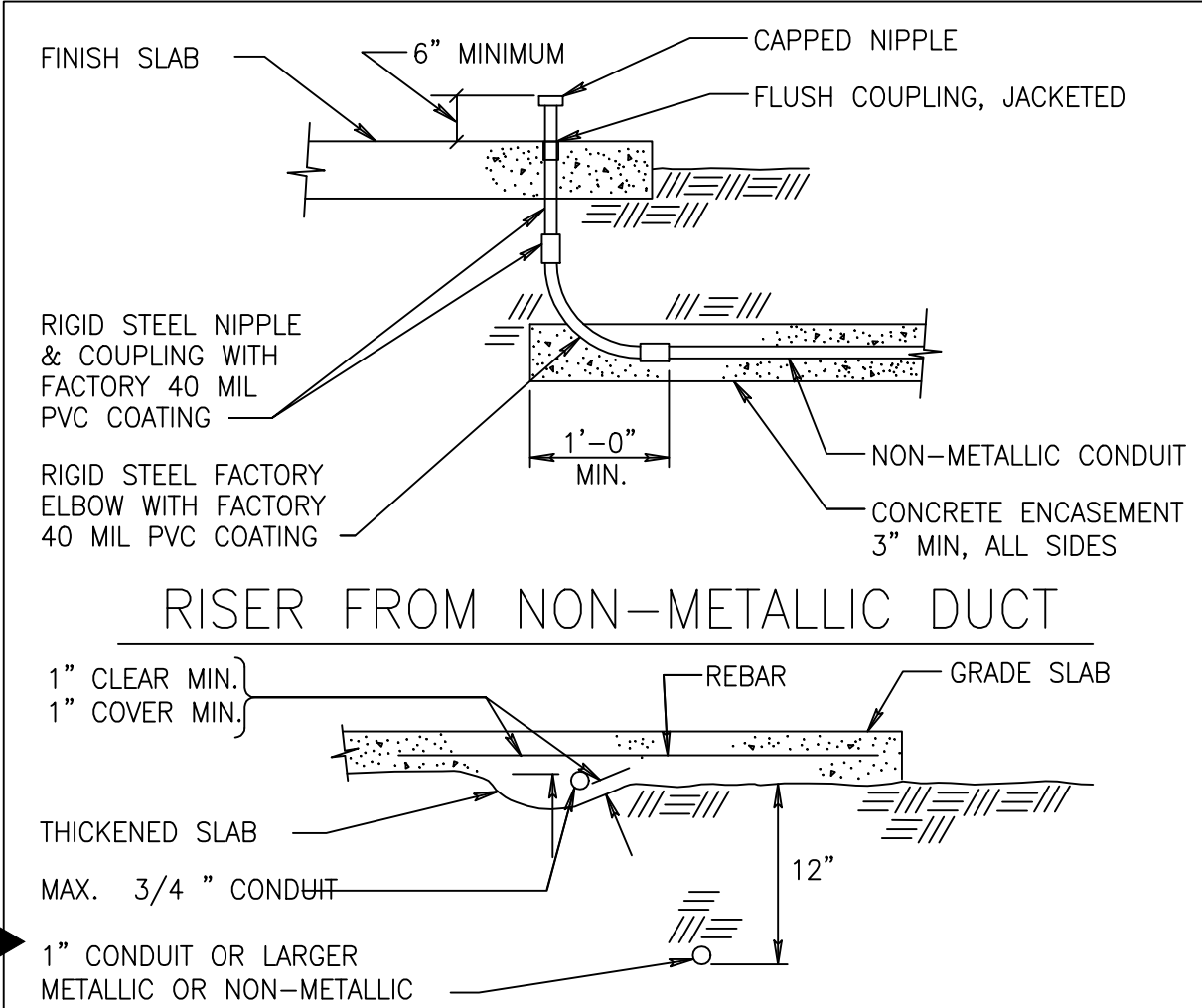
CONDUIT TRAPEZE REV 101595 E-200



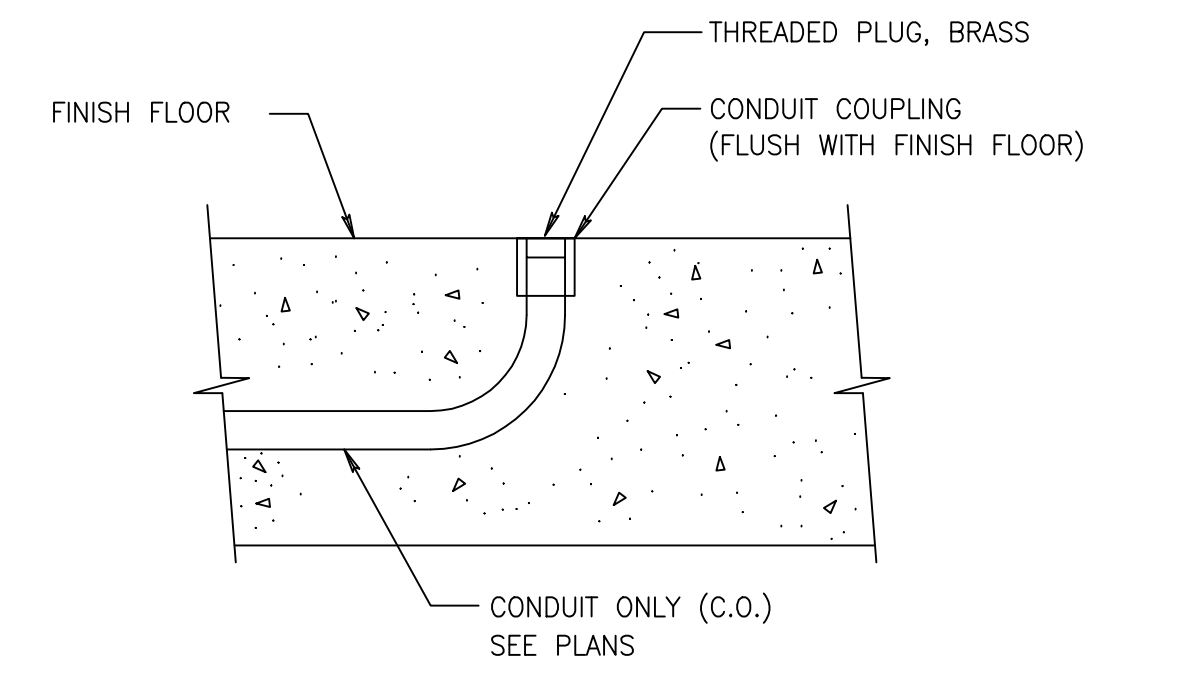
CONCRETE HOUSEKEEPING CURB REV 101595 E-203



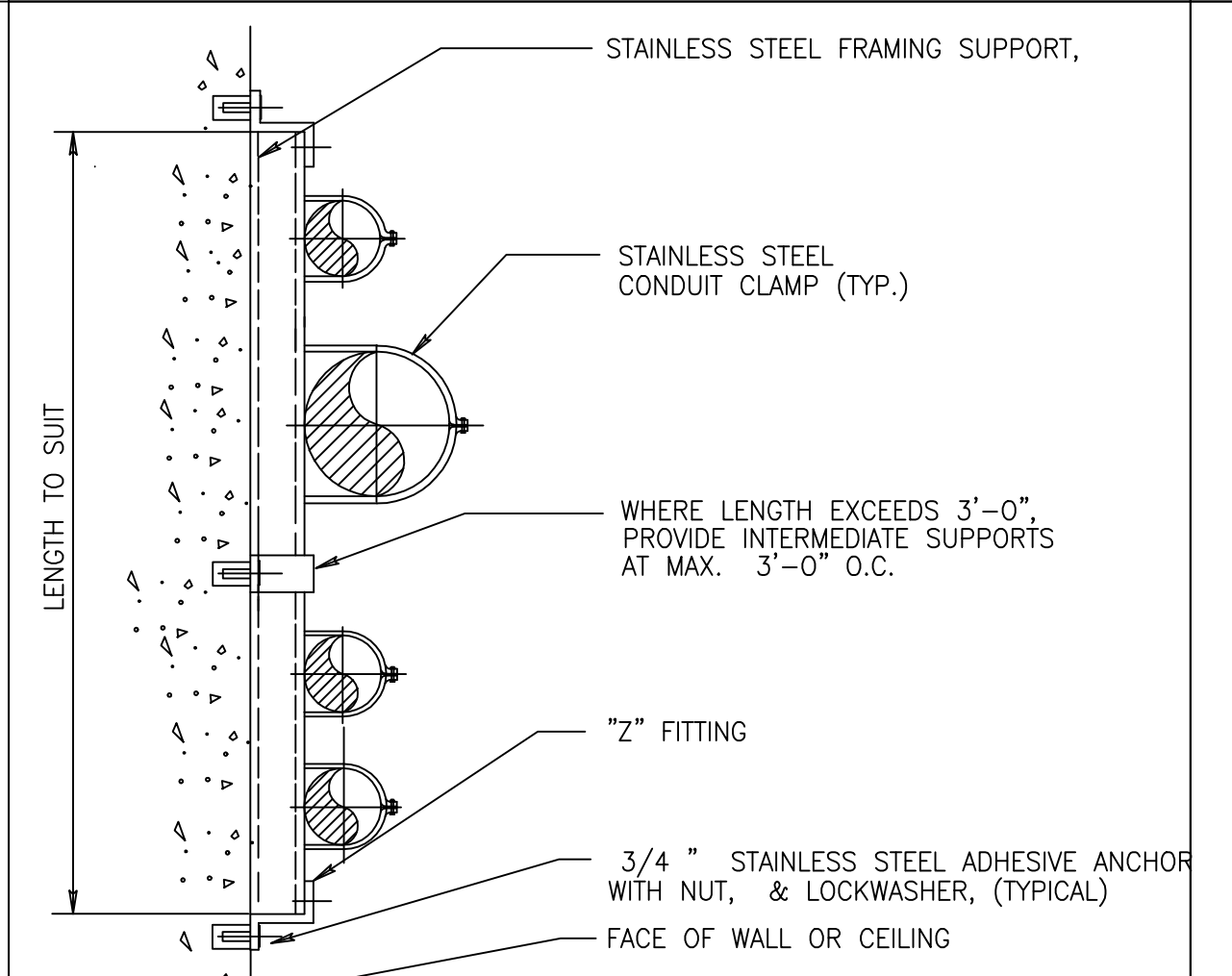
EXPANSION COUPLING REV 101595 E-204



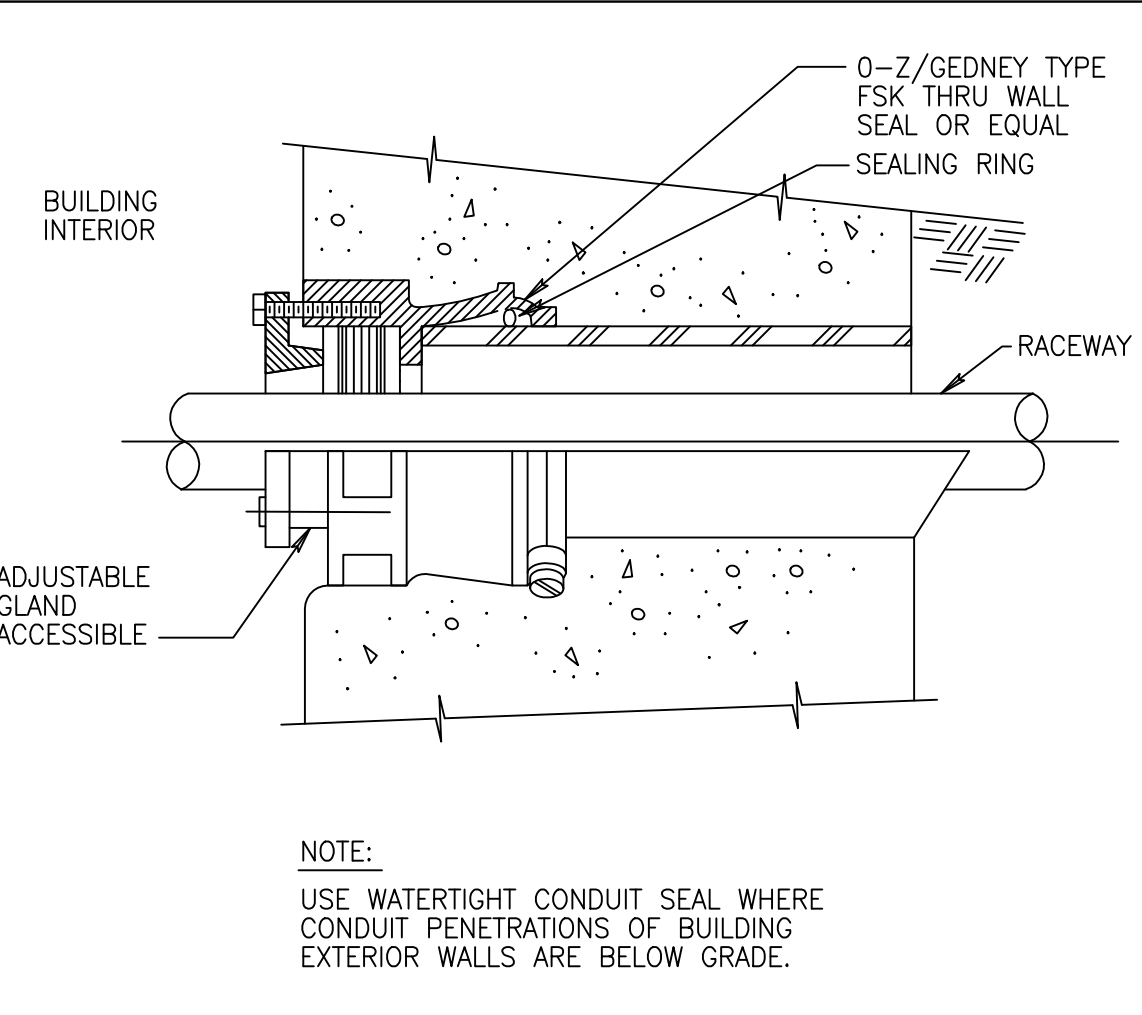
CONDUIT PLACEMENT REV 101595 E-205



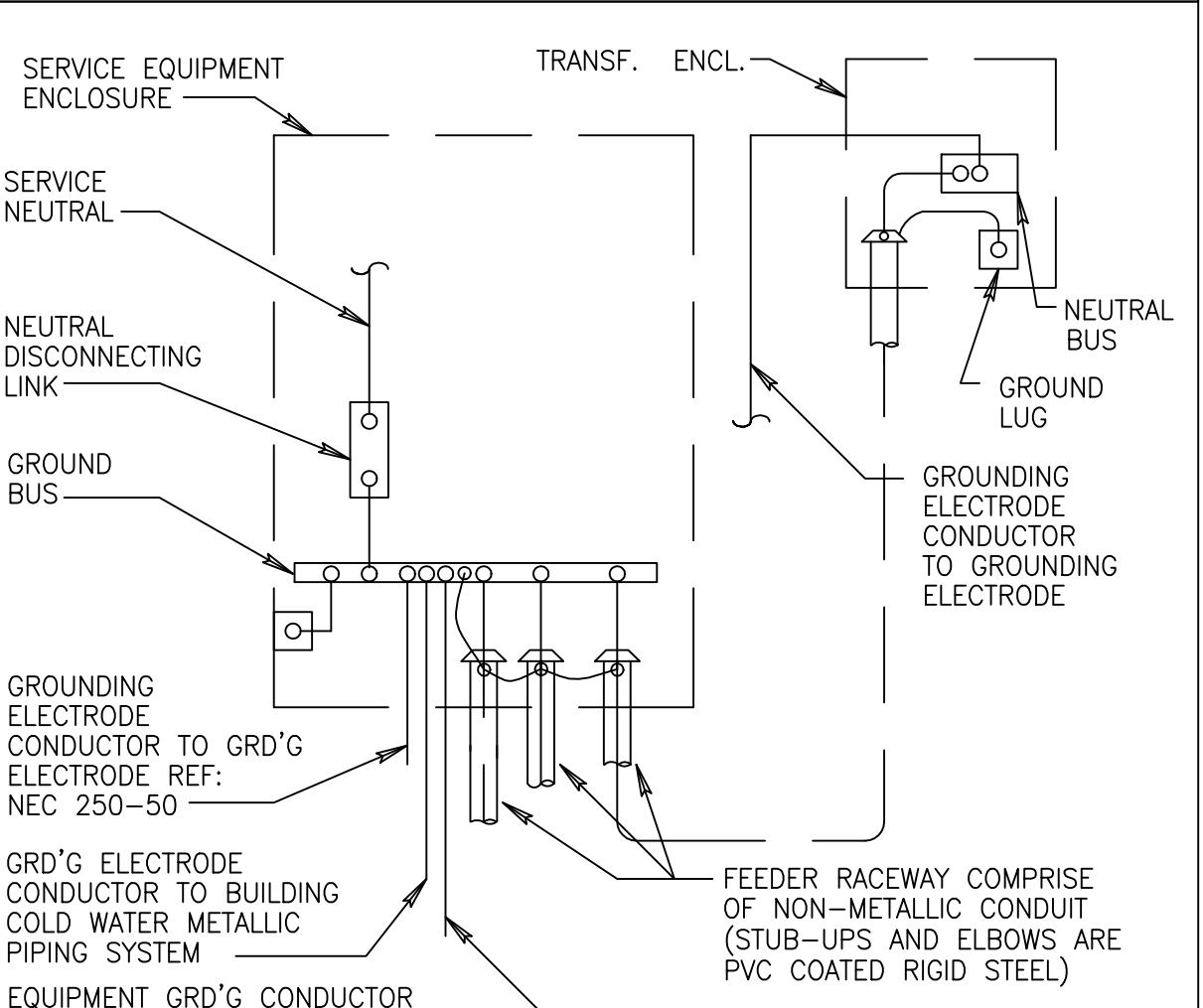
CONDUIT TERMINATION FOR FUTURE EQUIPMENT REV 101595 E-206



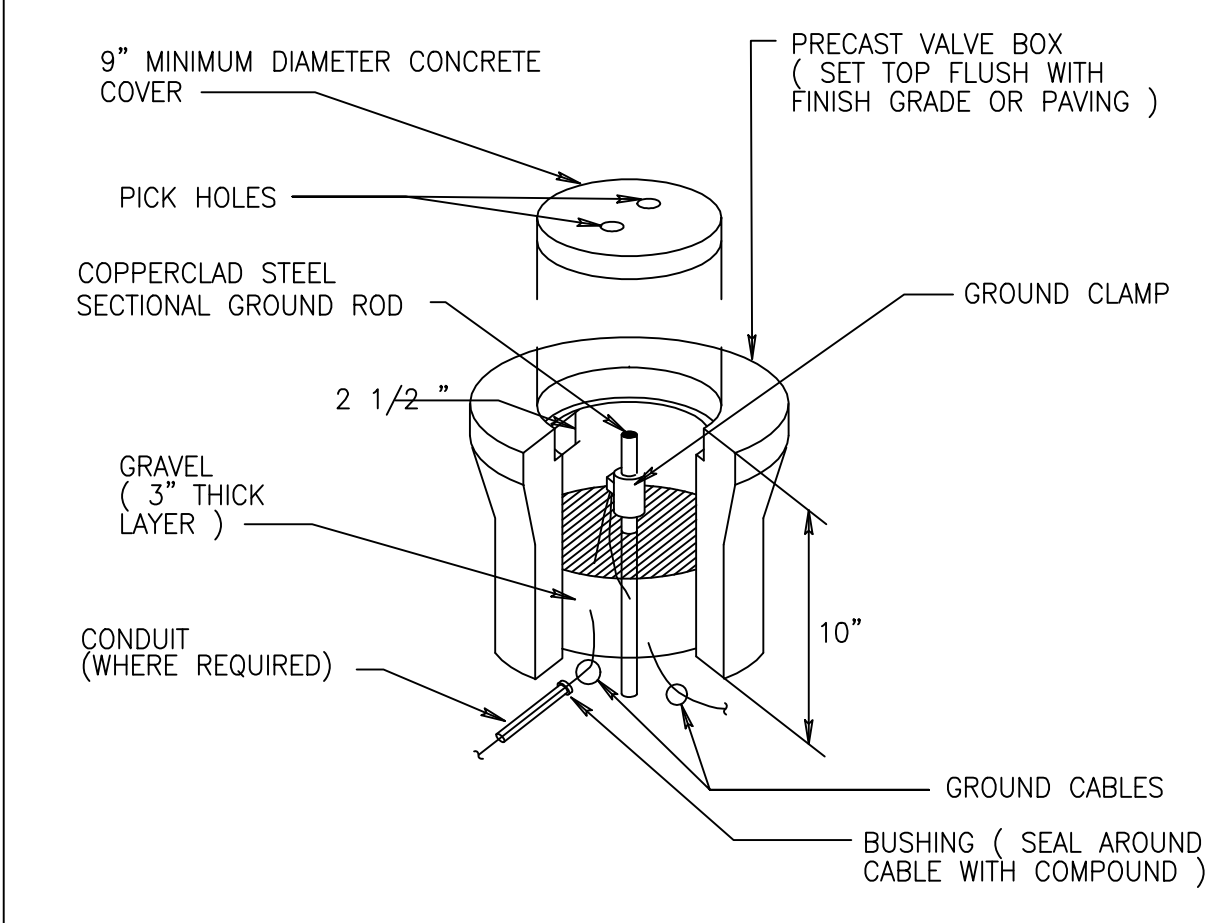
FLUSH MOUNTED CONDUIT SUPPORT REV 101595 E-212



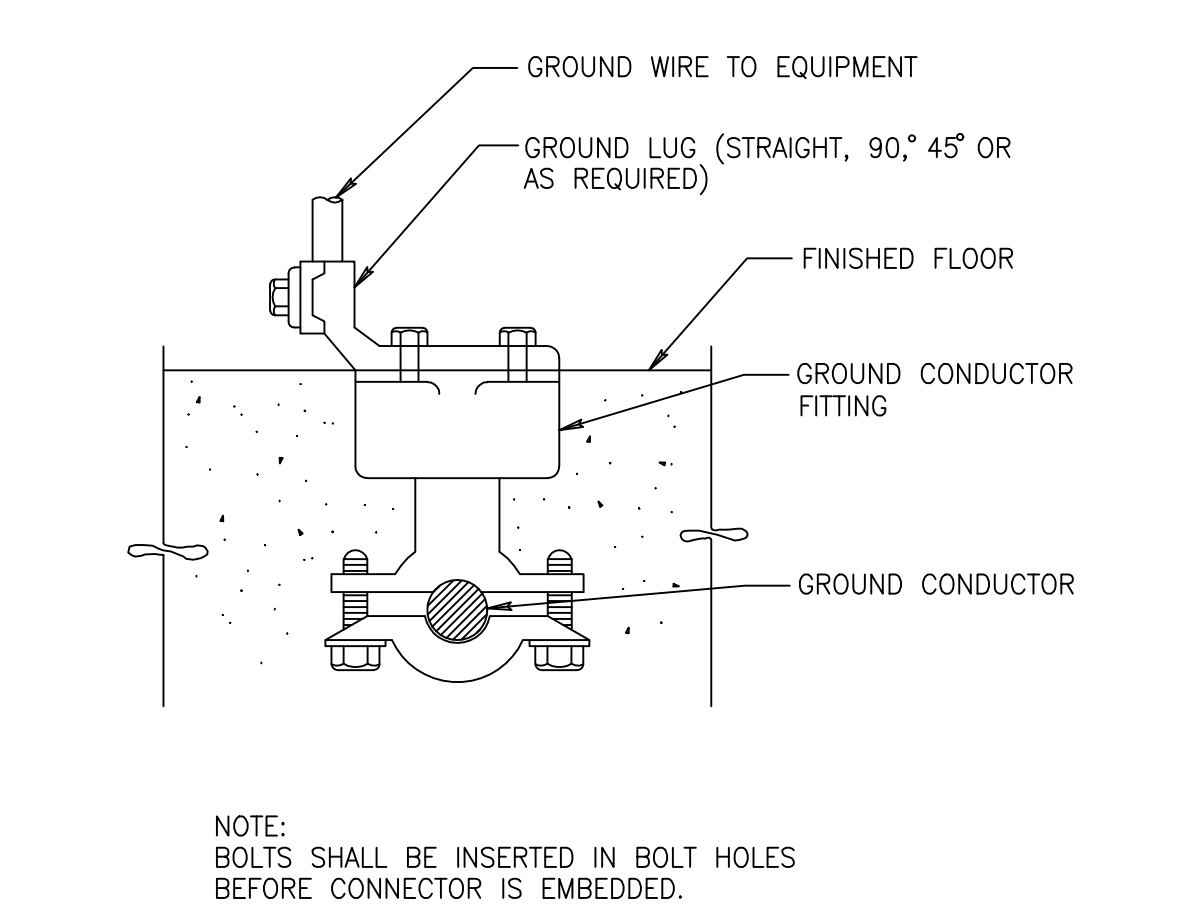
WATERTIGHT WALL CONDUIT SEAL REV 120195 E-213



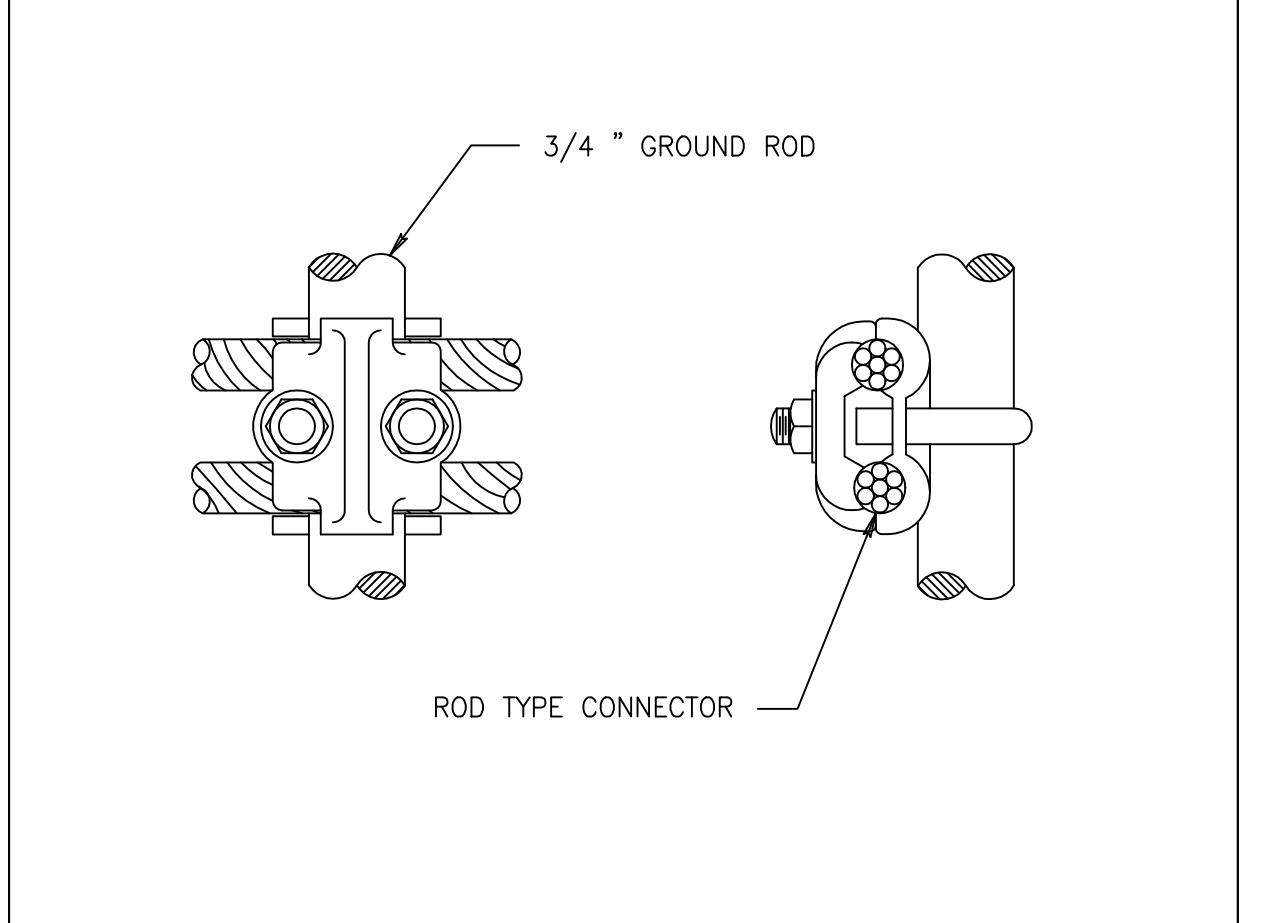
SERVICE AND EQUIPMENT GROUND REV 070199 E-300



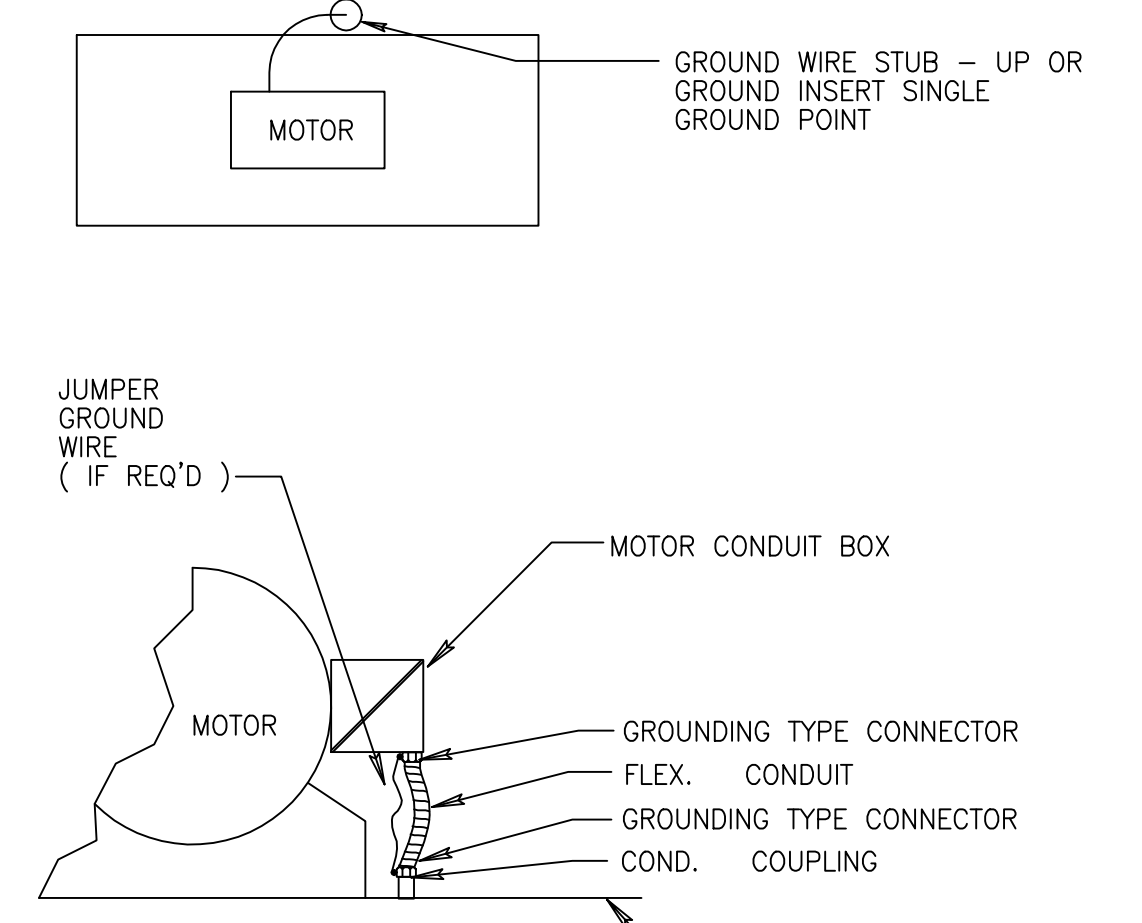
GROUND ROD INSTALLATION REV 101595 E-302



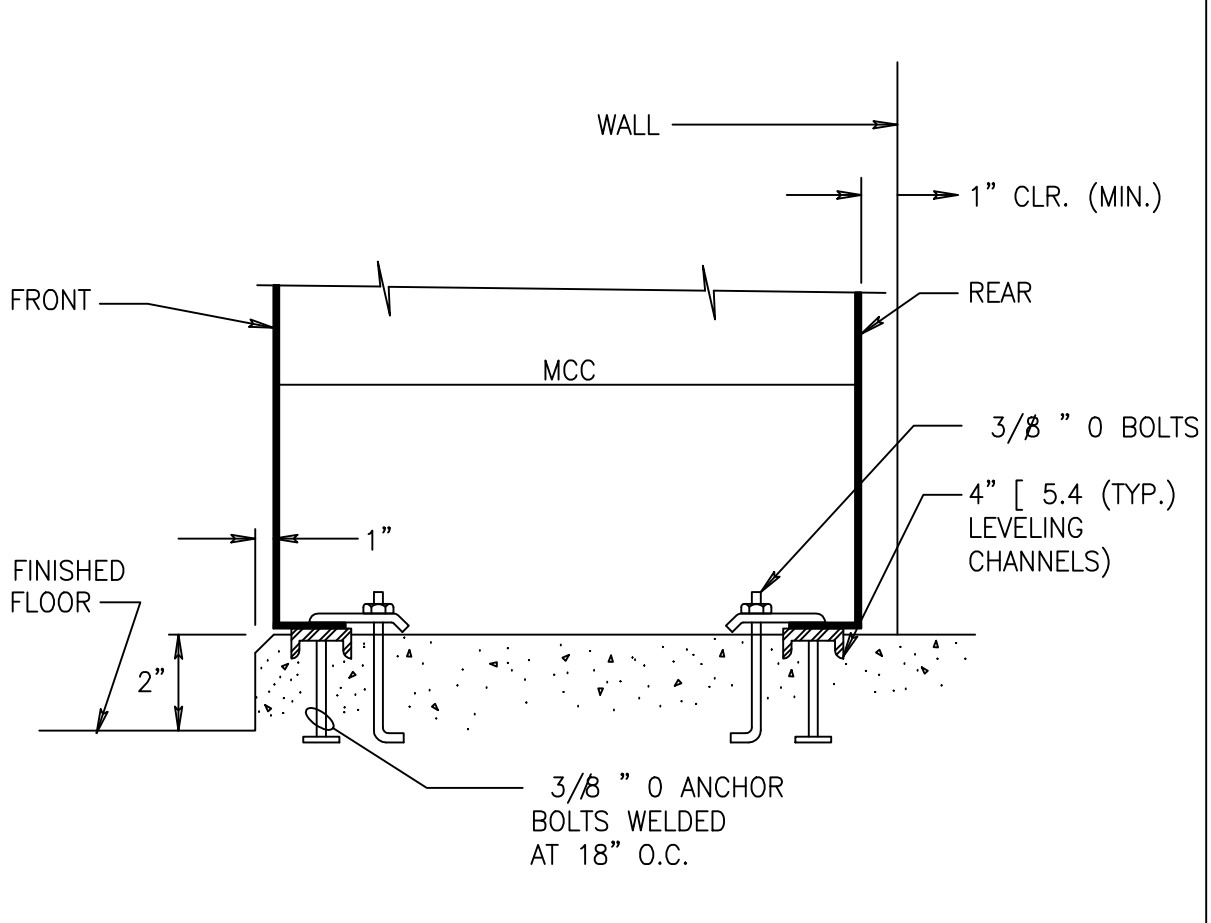
GROUNDING INSERT REV 101595 E-308



CABLE TO ROD CONNECTION REV 092696 E-309



MOTOR GROUND REV 101595 E-310



SWITCHBOARD MCC MOUNTING REV 101595 E-400

Scale For Microfilming  
Millimeters  
Inches

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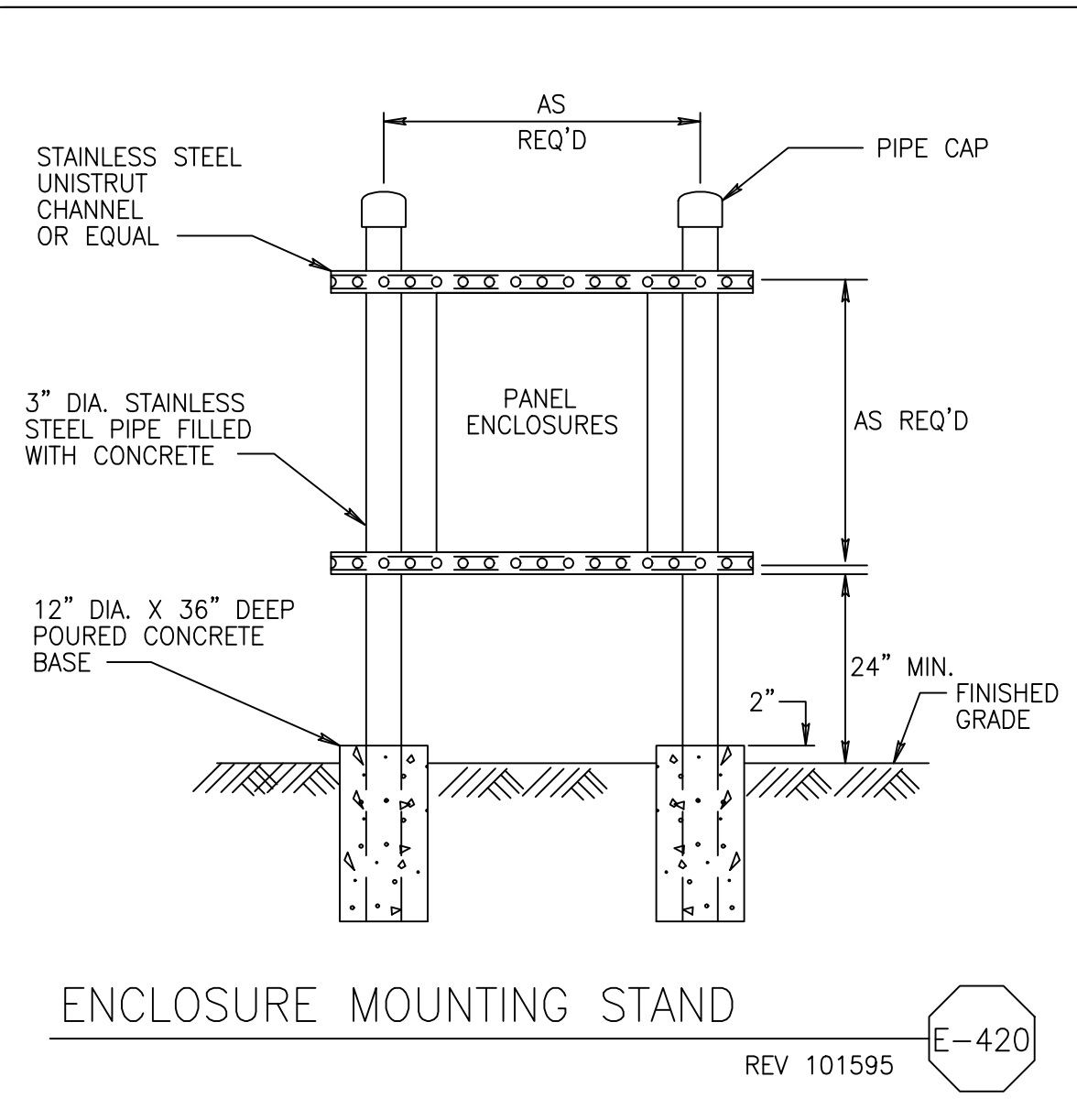
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WEST PALM BEACH, FLORIDA 33406

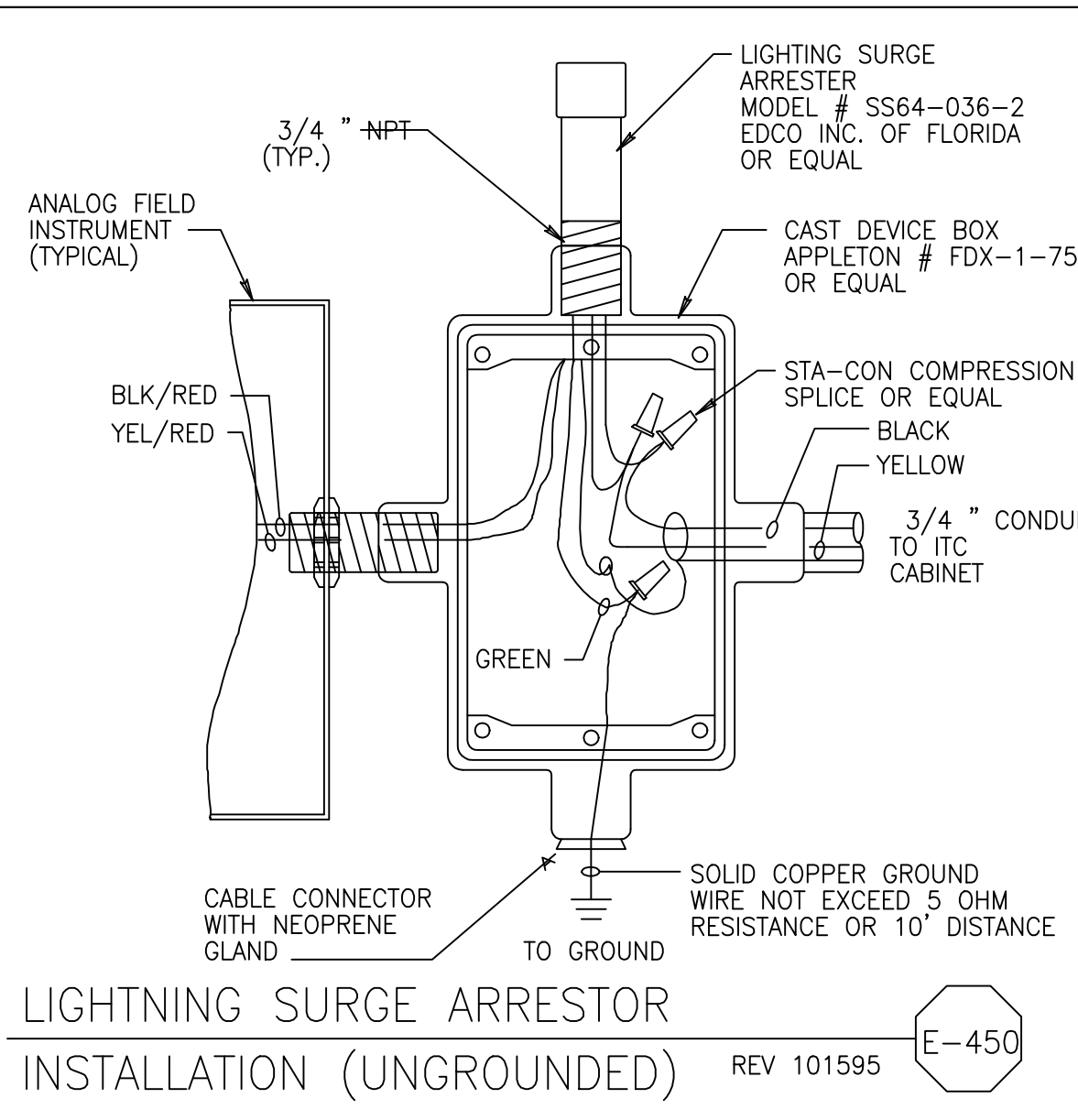
CONTRACT NO. C-E304  
DRAWING NO. EC-3  
SHEET OF

JOHN C. NETZEL P.E.  
FLA. P.E. NO. 43113

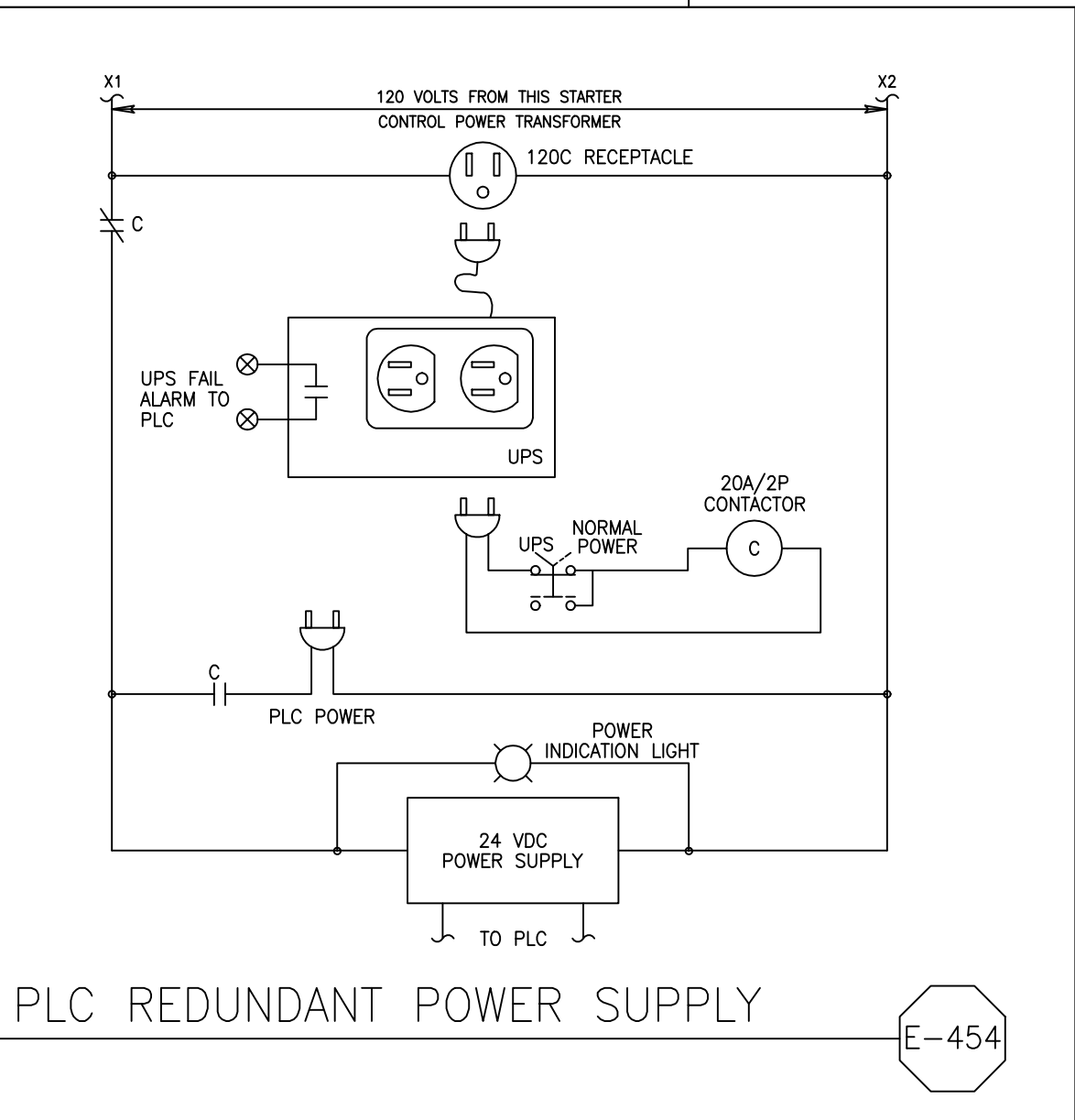
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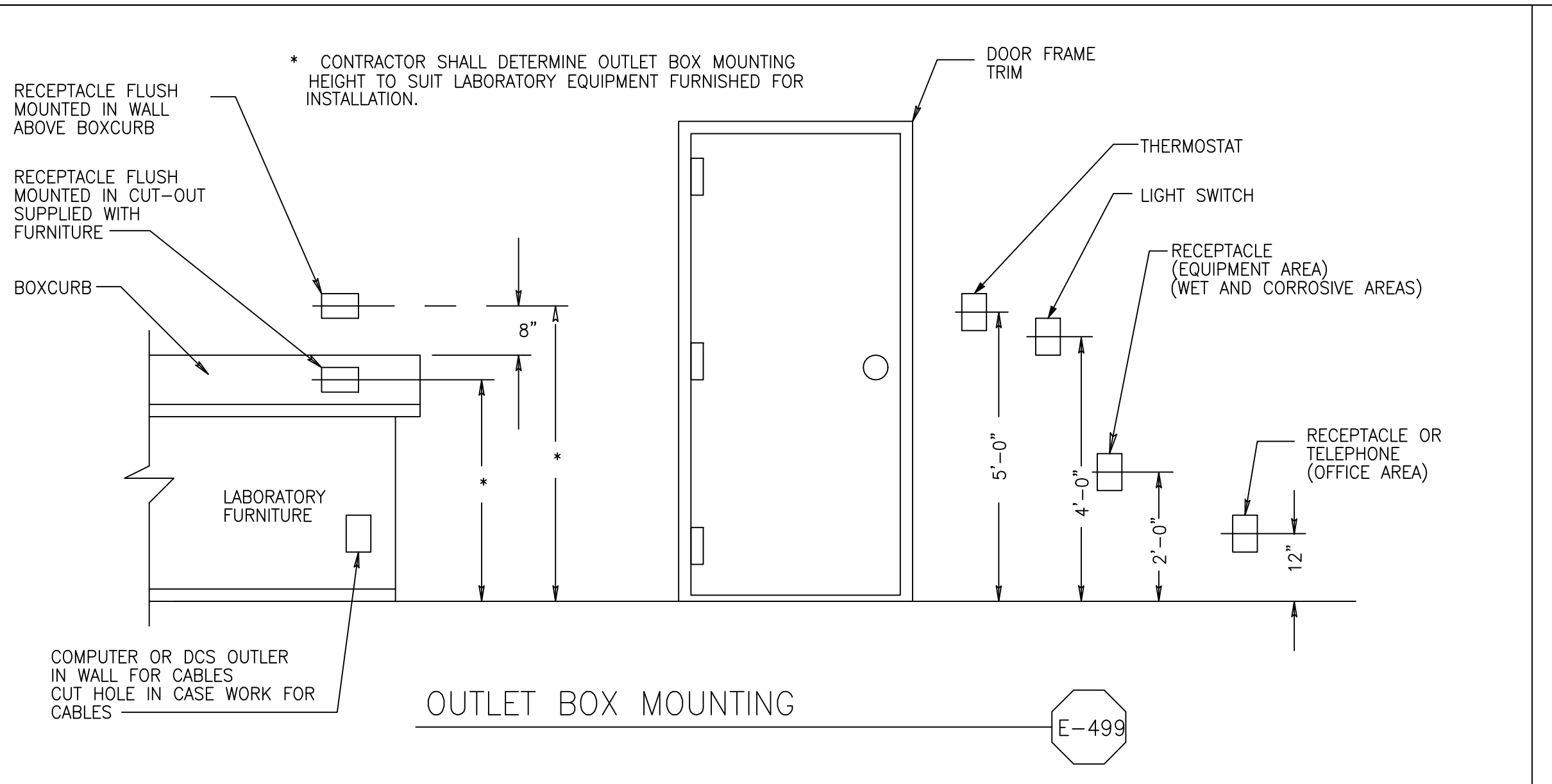
ENCLOSURE MOUNTING STAND  
REV 101595 E-420



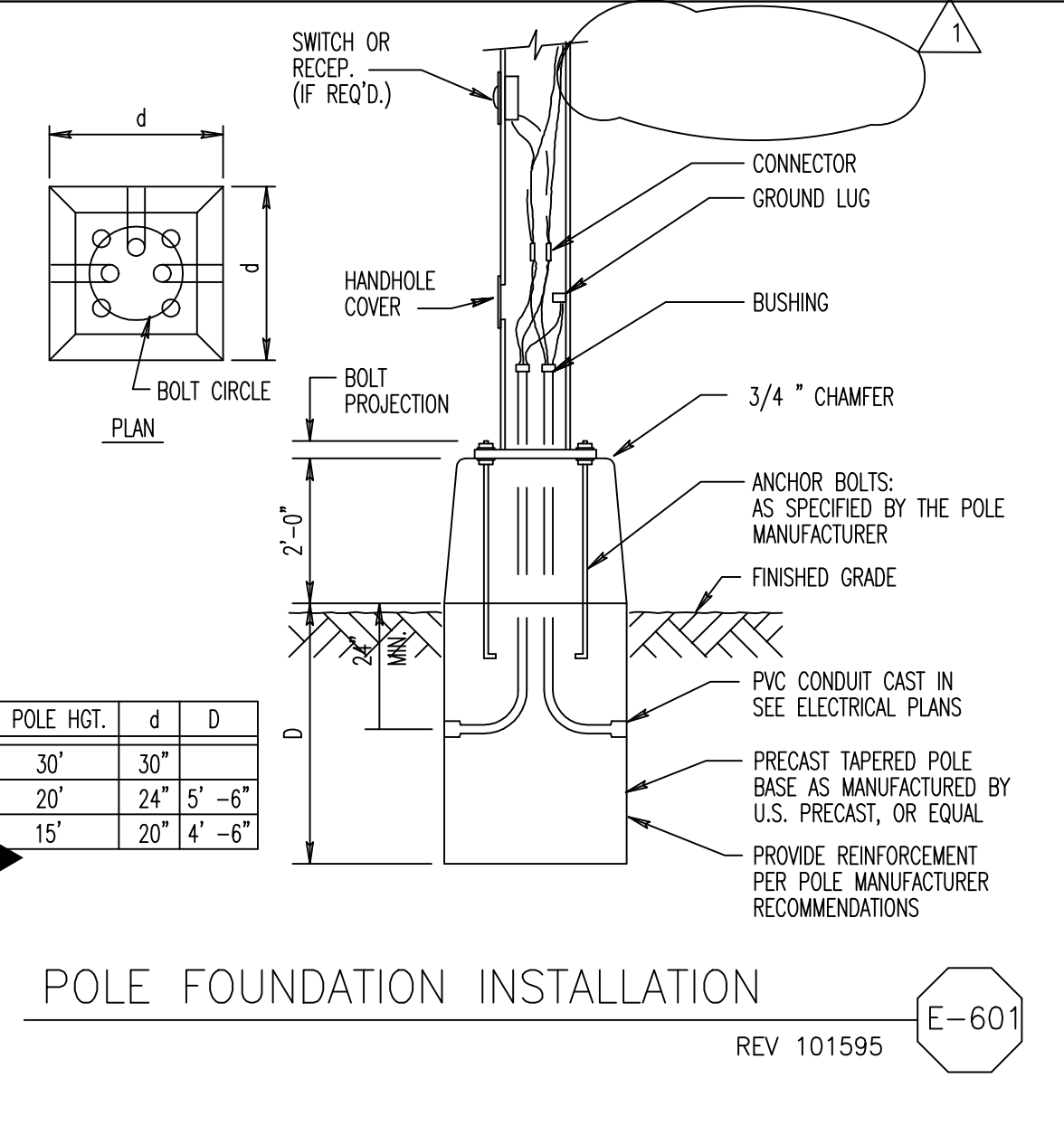
LIGHTNING SURGE ARRESTOR  
INSTALLATION (UNGROUND)  
REV 101595 E-450



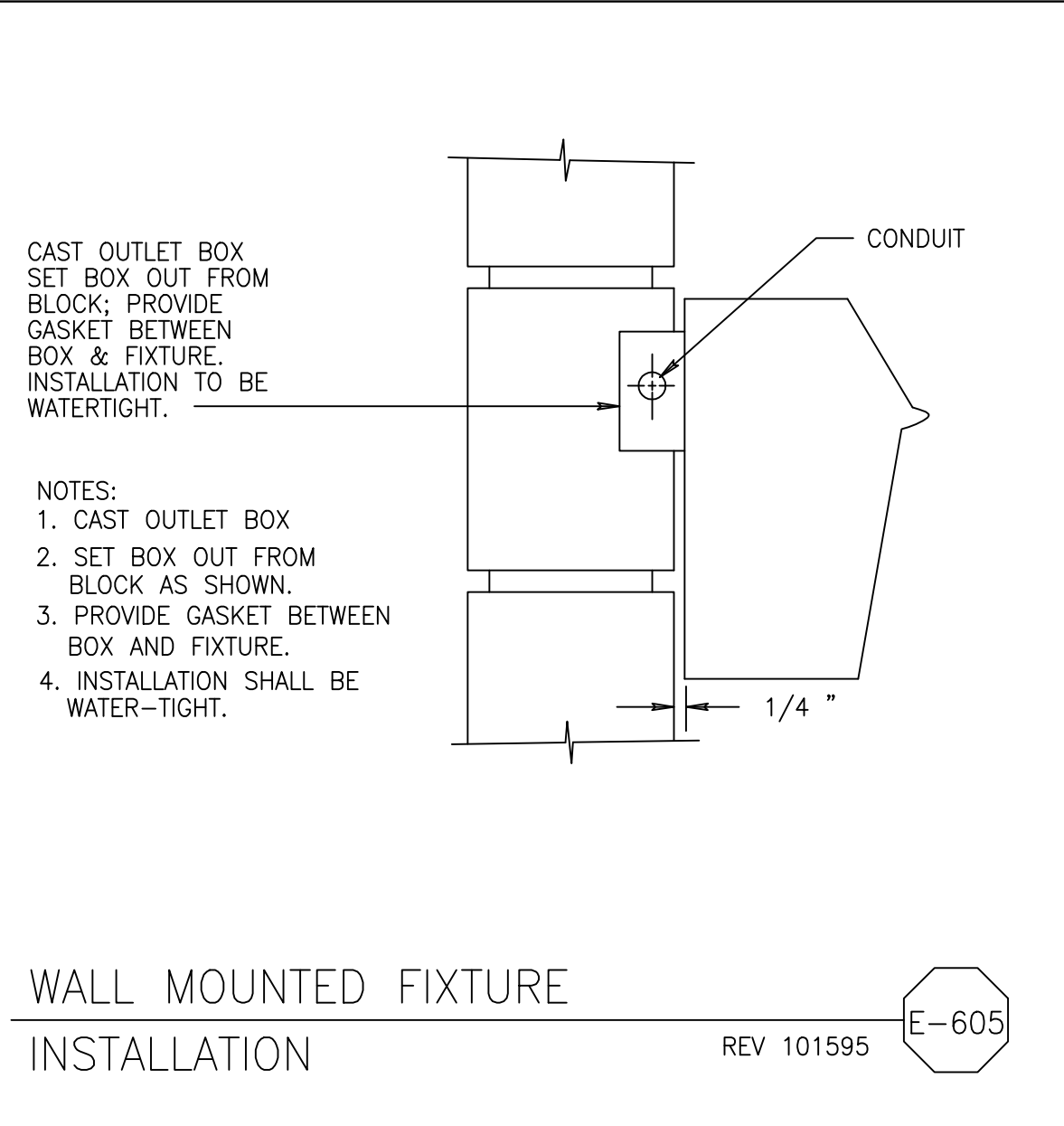
PLC REDUNDANT POWER SUPPLY  
E-454



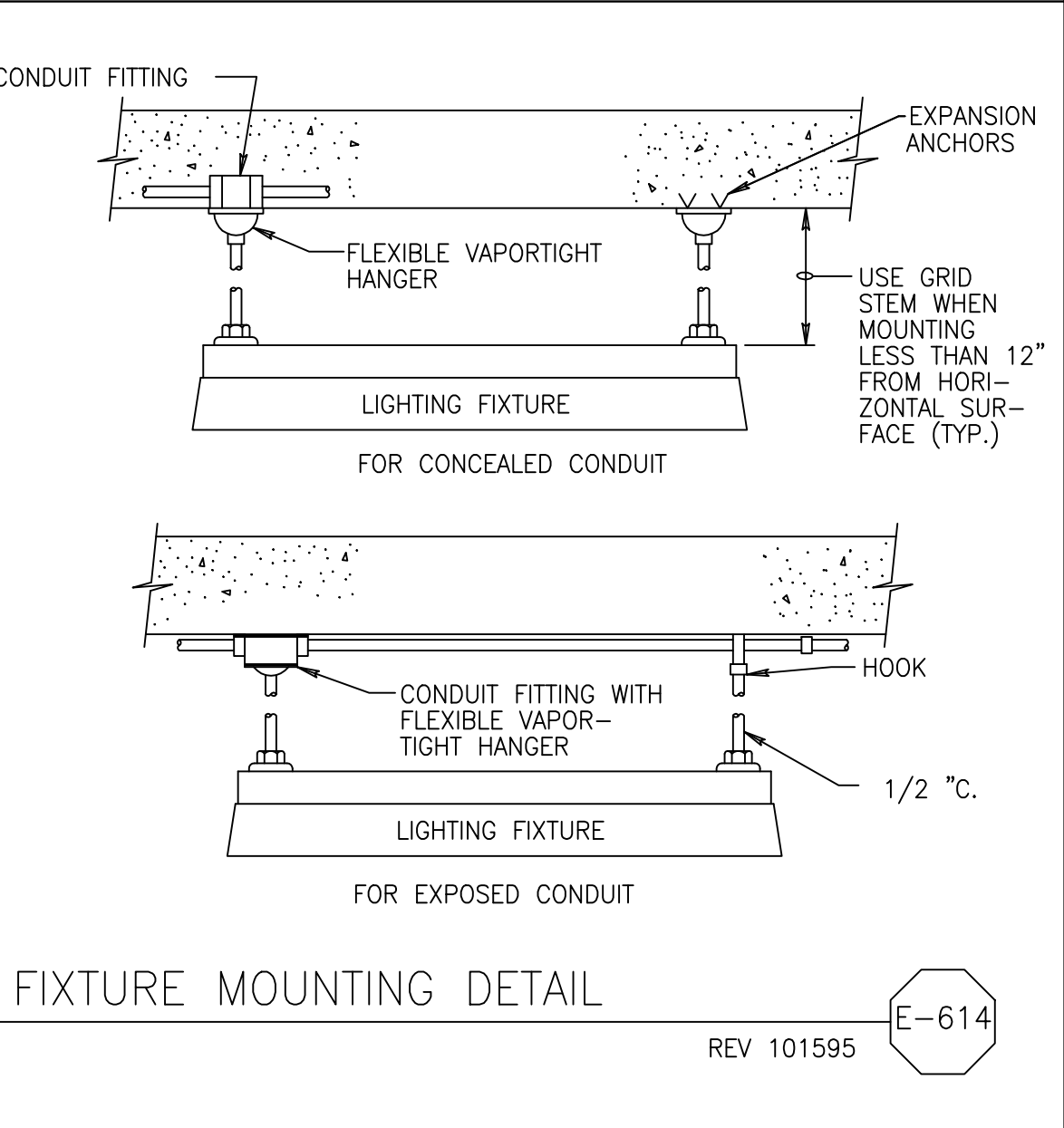
OUTLET BOX MOUNTING  
E-499



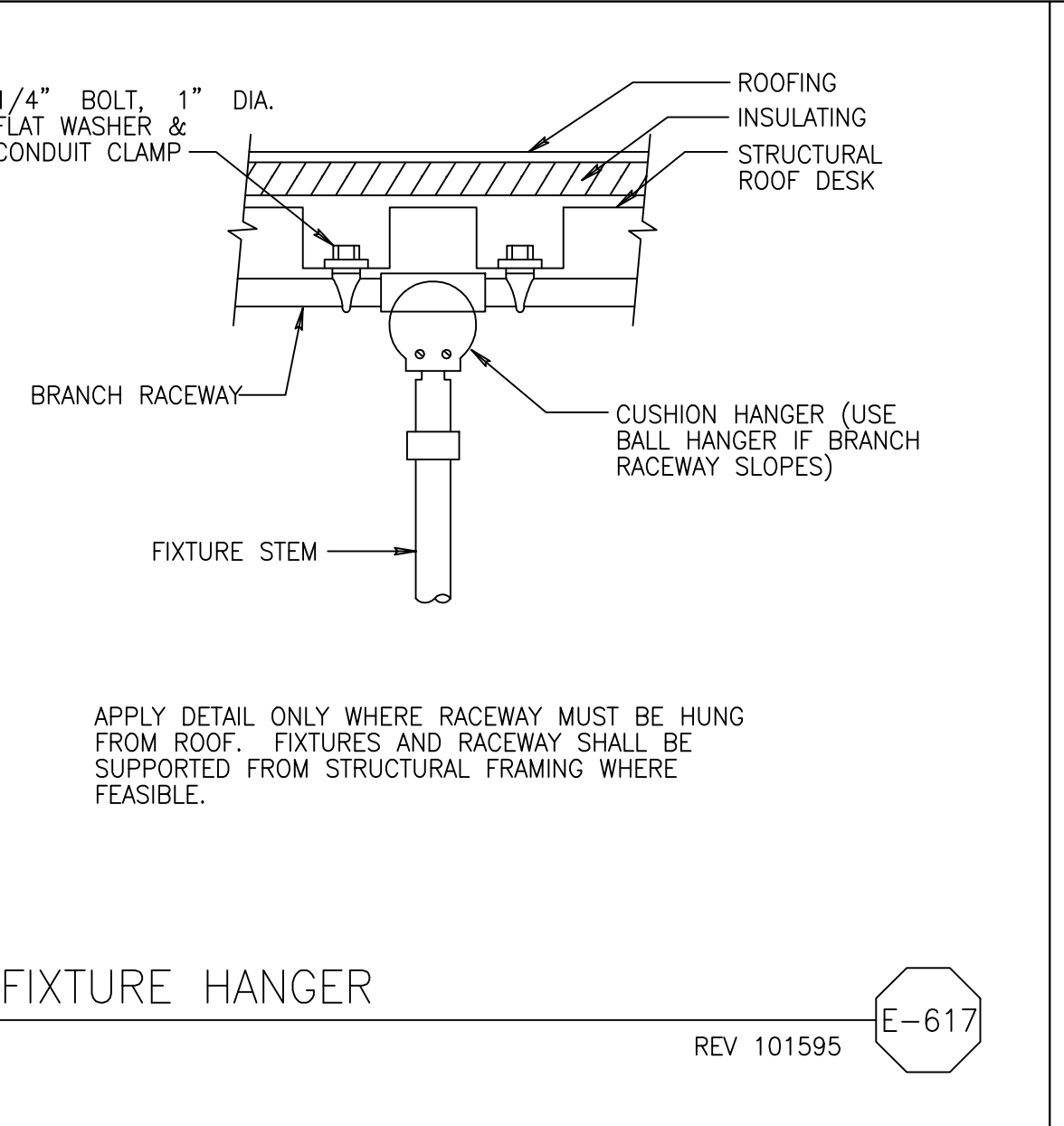
POLE FOUNDATION INSTALLATION  
REV 101595 E-601



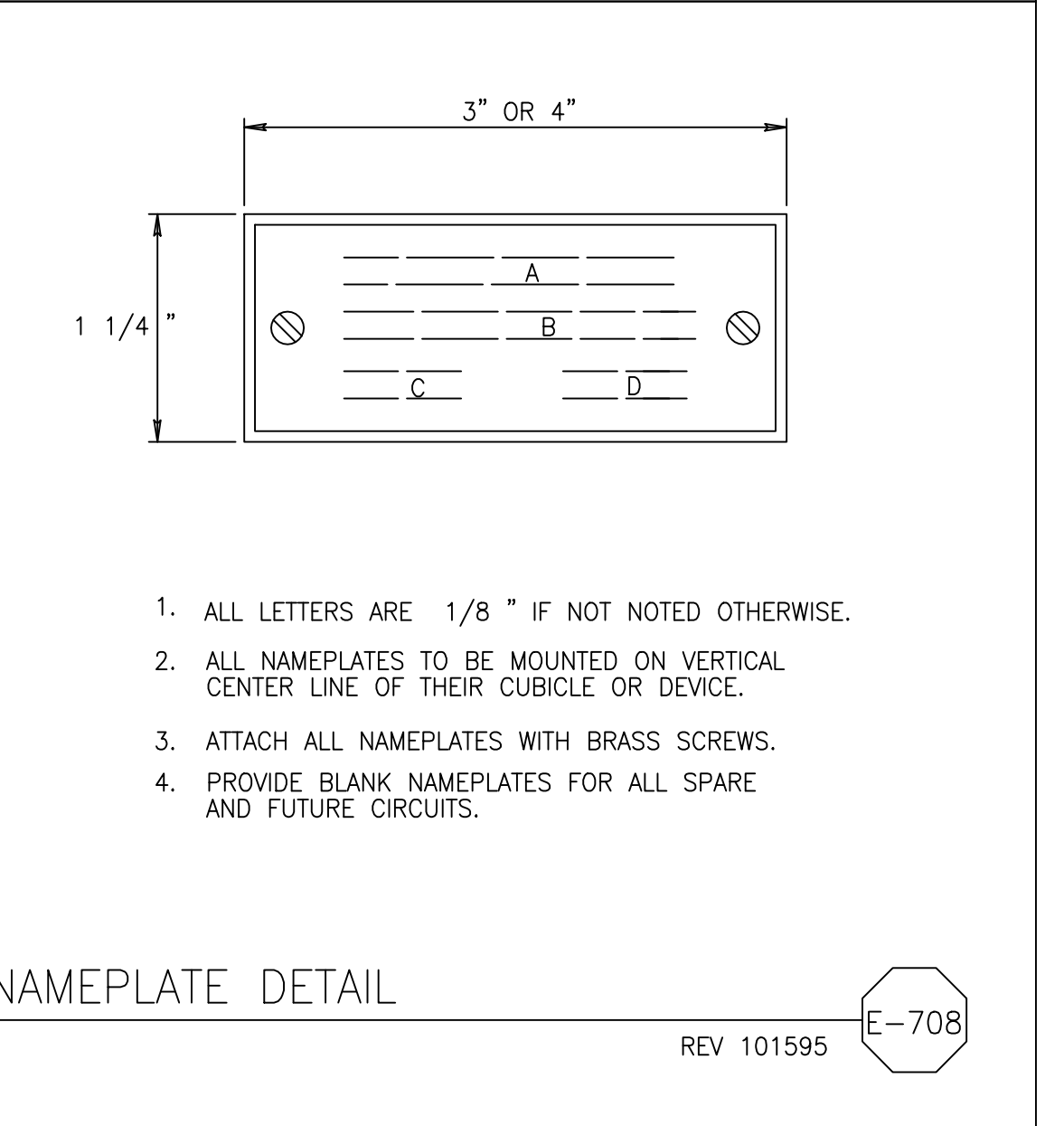
WALL MOUNTED FIXTURE  
INSTALLATION  
REV 101595 E-605



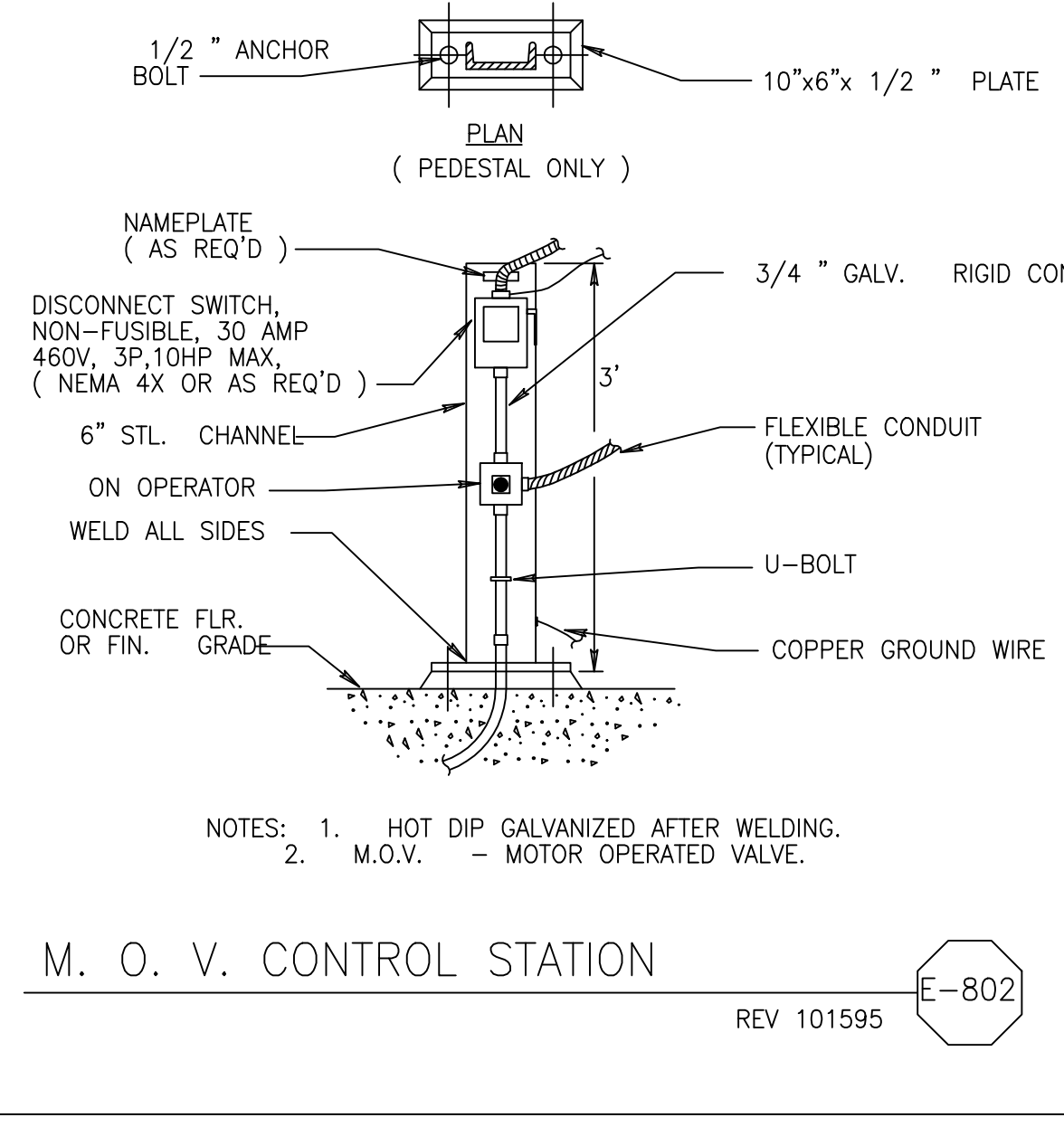
FIXTURE MOUNTING DETAIL  
REV 101595 E-614



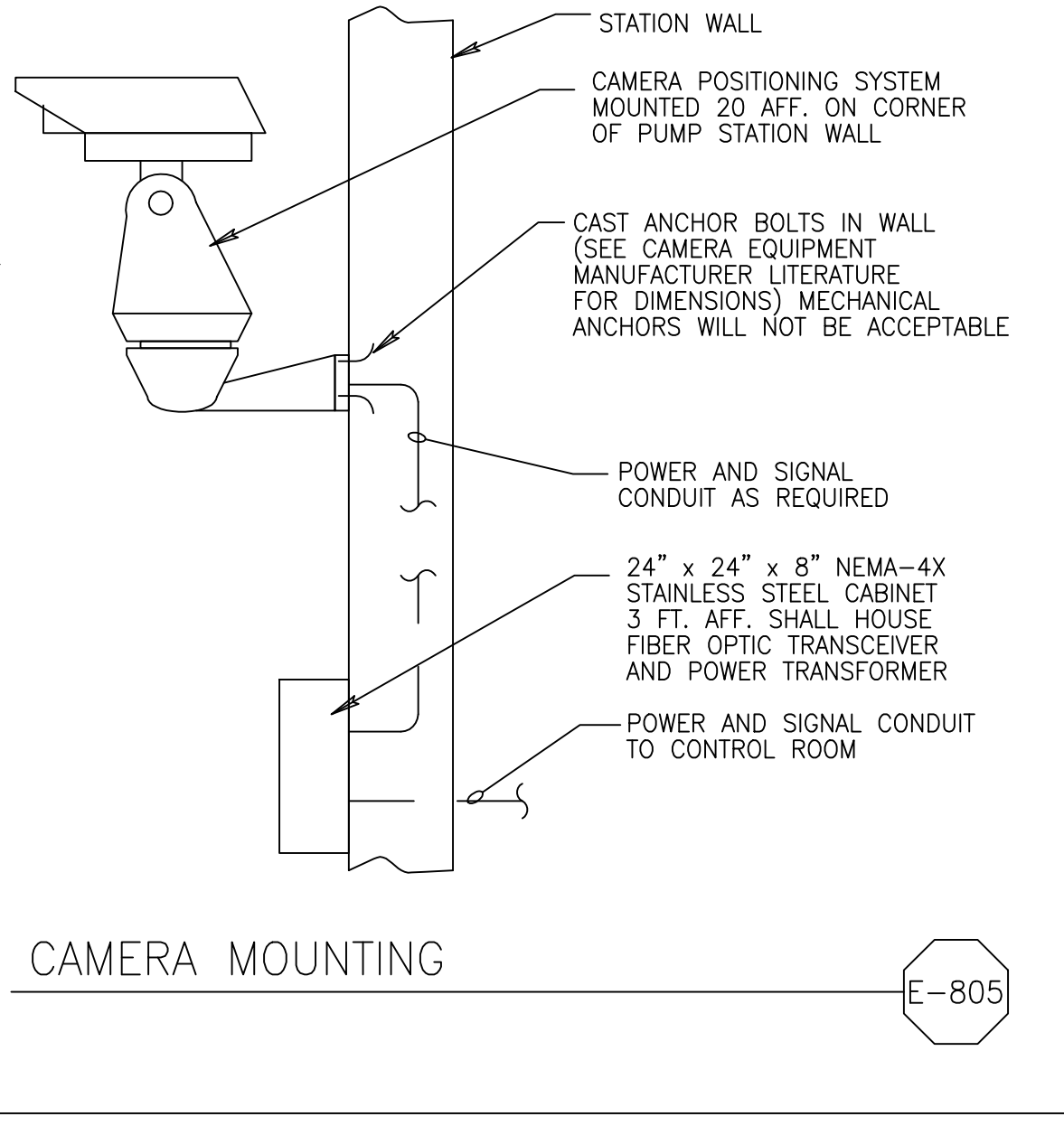
FIXTURE HANGER  
REV 101595 E-617



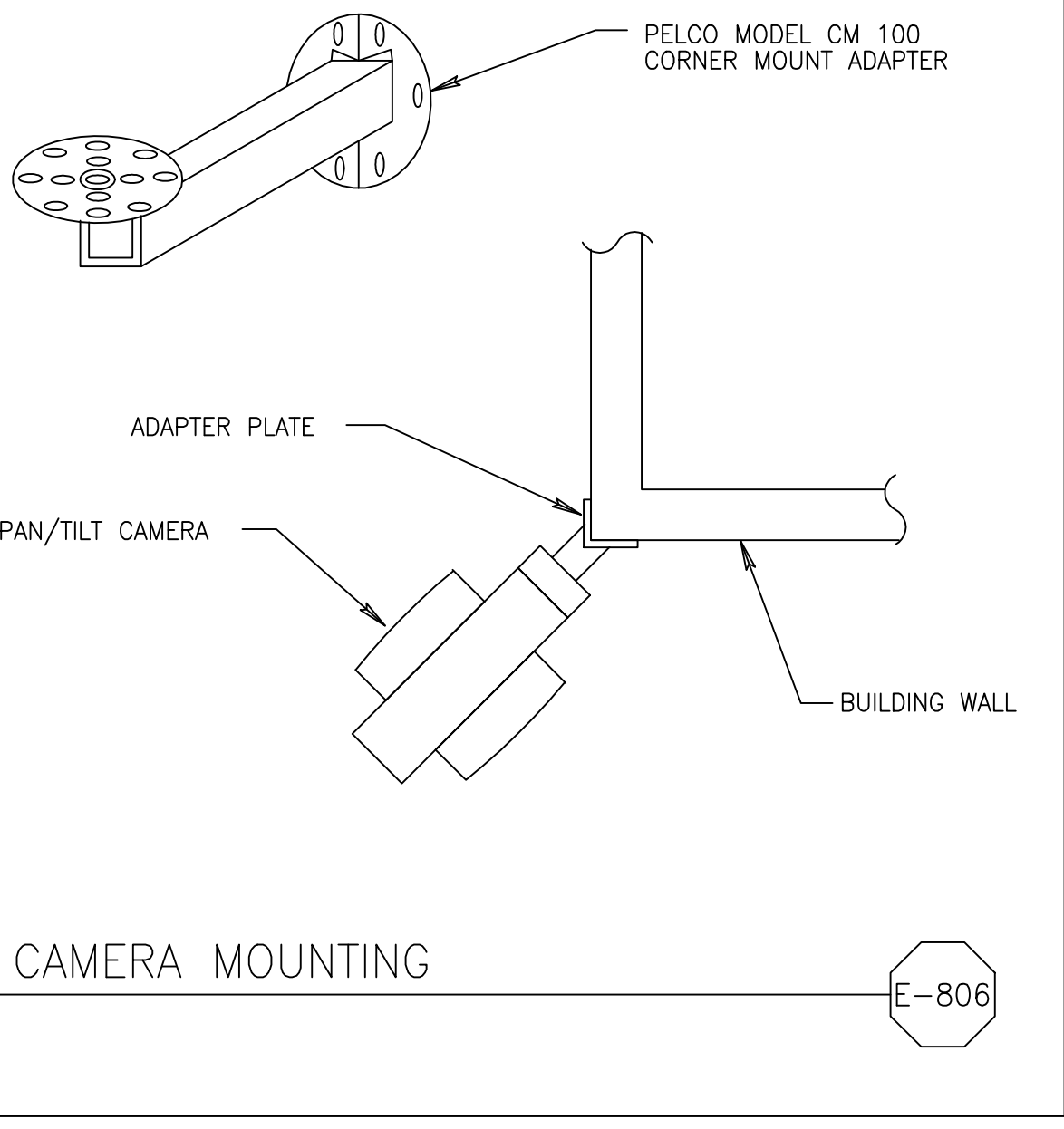
NAMEPLATE DETAIL  
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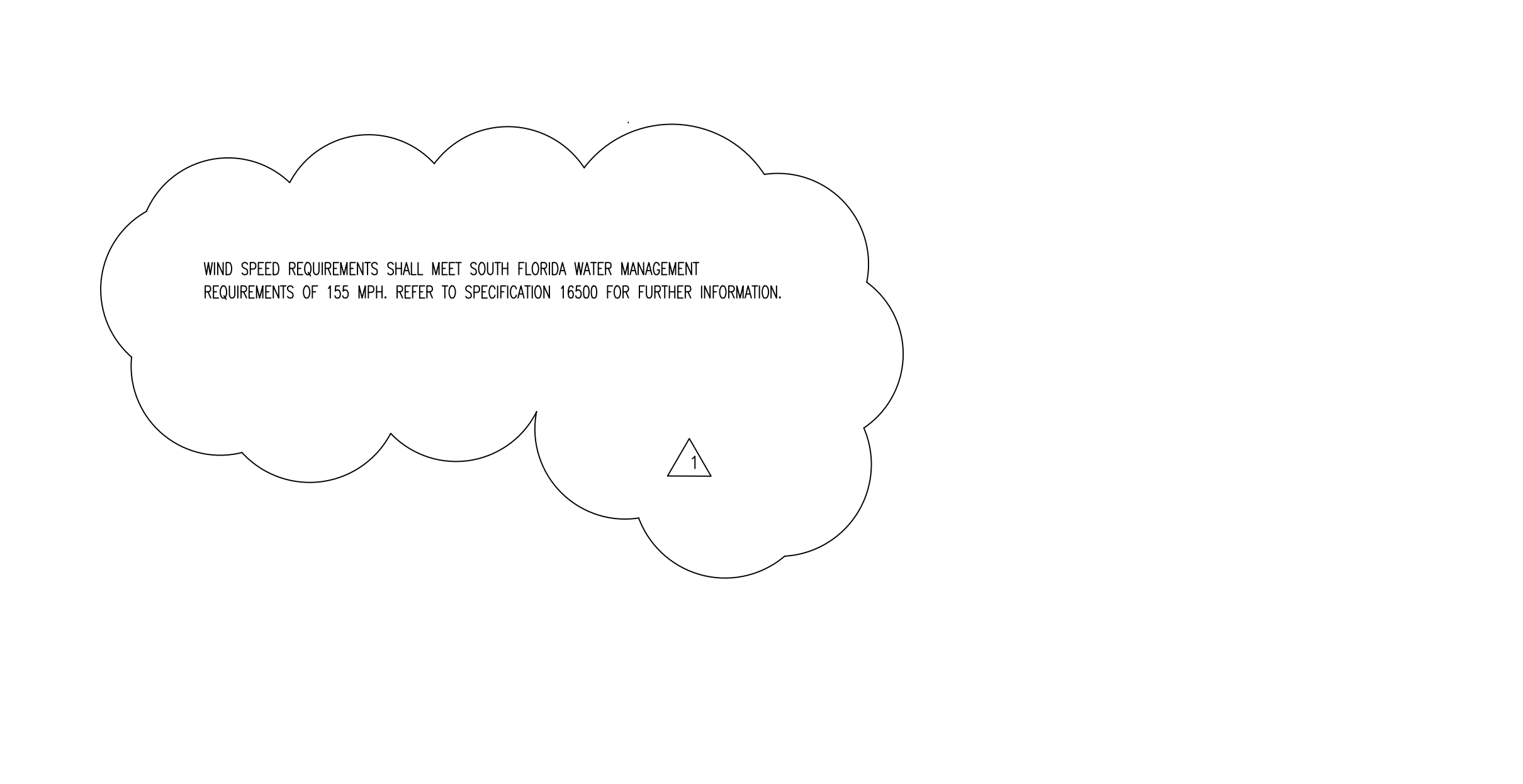
M. O. V. CONTROL STATION  
REV 101595 E-802



CAMERA MOUNTING  
E-805



CAMERA MOUNTING  
E-806



WIND SPEED REQUIREMENTS SHALL MEET SOUTH FLORIDA WATER MANAGEMENT REQUIREMENTS OF 155 MPH. REFER TO SPECIFICATION 16500 FOR FURTHER INFORMATION.

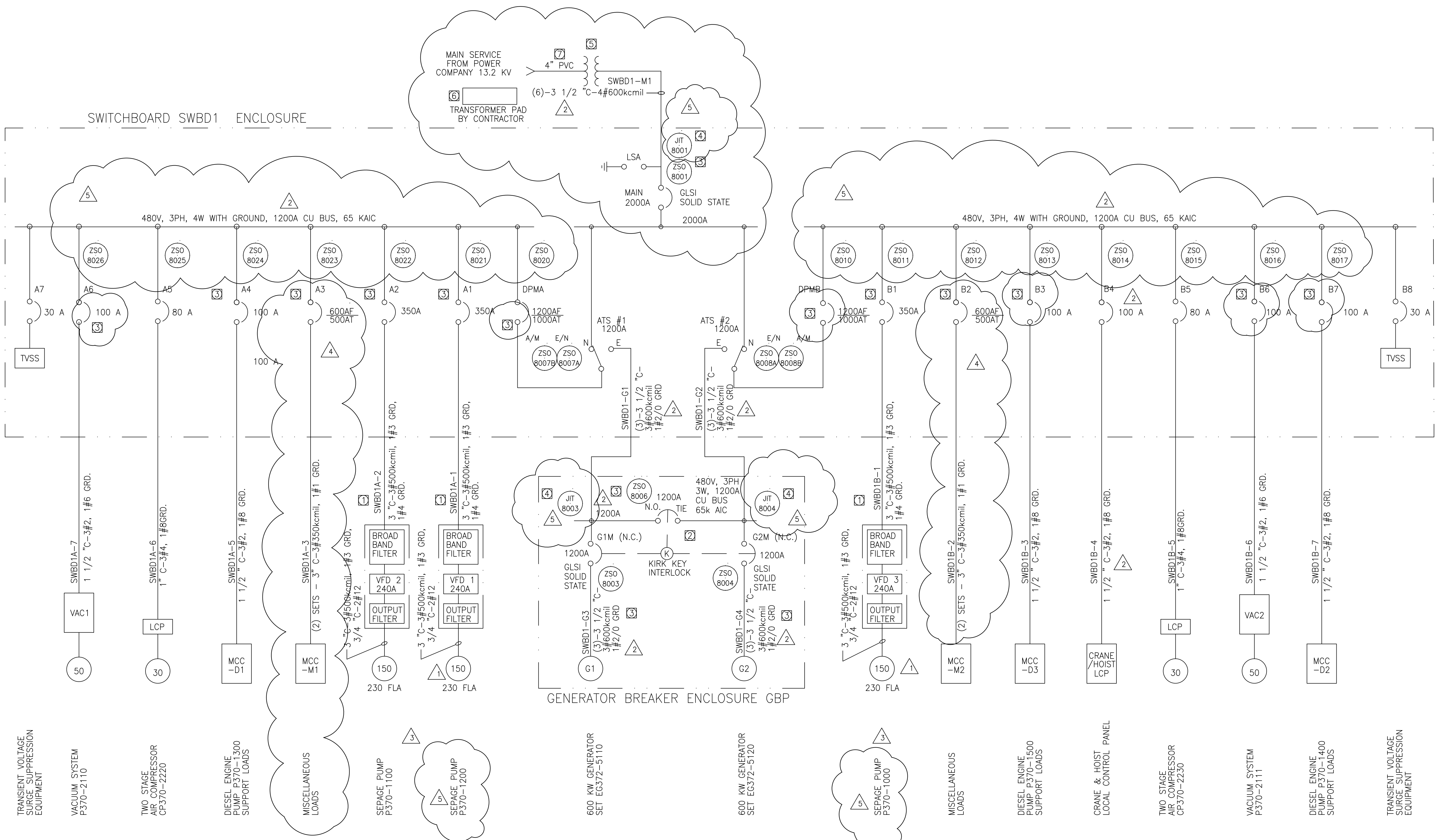
Scale For Microfilming  
Millimeters

Inches

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REVISIONS	DATE	CHKD	DWN	REV. PER SUBMITTAL 16500
	5/15/2002	AL	LPP	
SCALE	NONE			
DRAWN	BAJ/MSB	DSGN	BAJ/JCN	
CHKD	J.C. NETZEL			
DATE	5/15/2002			
SCALE	NONE			
<p>Brown Cunningham Gannuch ENGINEERS • ARCHITECTS • CONSULTANTS 2701 ANKAWA ST. MEMPHIS, TENNESSEE 38108 License No. EB0000895</p>				
<p>MONTGOMERY WATSON CORPORATION 490 SHAWWEE SUITE 300 SUNRIDGE, FL 33325</p>				
EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372 ELECTRICAL DETAILS - 2				
SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406				
JOHN C. NETZEL P.E. FLA. P.E. NO. 43113				
CONTRACT NO. C-E304 DRAWING NO. EC-4 SHEET OF				

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NEW PUMP STATION G-370 SWITCHBOARD SWBD1

- NOTES:
- ① VFD SHALL BE IN NEMA 1A ENCLOSURE WITH LOCKABLE DOOR HANDLE. VFD SHALL BE SEPARATE FROM MCC ENCLOSURE.
  - ② PROVIDE KEY INTERLOCKS TO ALLOW ONLY (2) OF THE (3) BREAKERS CLOSED AT ANY TIME
  - ③ BREAKER POSITION SWITCH STATUS TO PLC
  - ④ PROVIDE GE-PQM POWER MONITOR WITH RS-485 MODBUS DATA PORT WITH (3) V-G VOLTAGES, (3) CURRENTS, POWER, POWER FACTOR
  - ⑤ TRANSFORMER SUPPLIED UNDER DIFFERENT CONTRACT.
  - ⑥ CONTRACTOR TO PROVIDE CONCRETE TRANSFORMER PAD, PER FPL SPECIFICATIONS.
  - ⑦ CONTRACTOR TO INSTALL 150 FT. OF CONDUIT PROVIDED BY FP&L

**RECORD DRAWING**

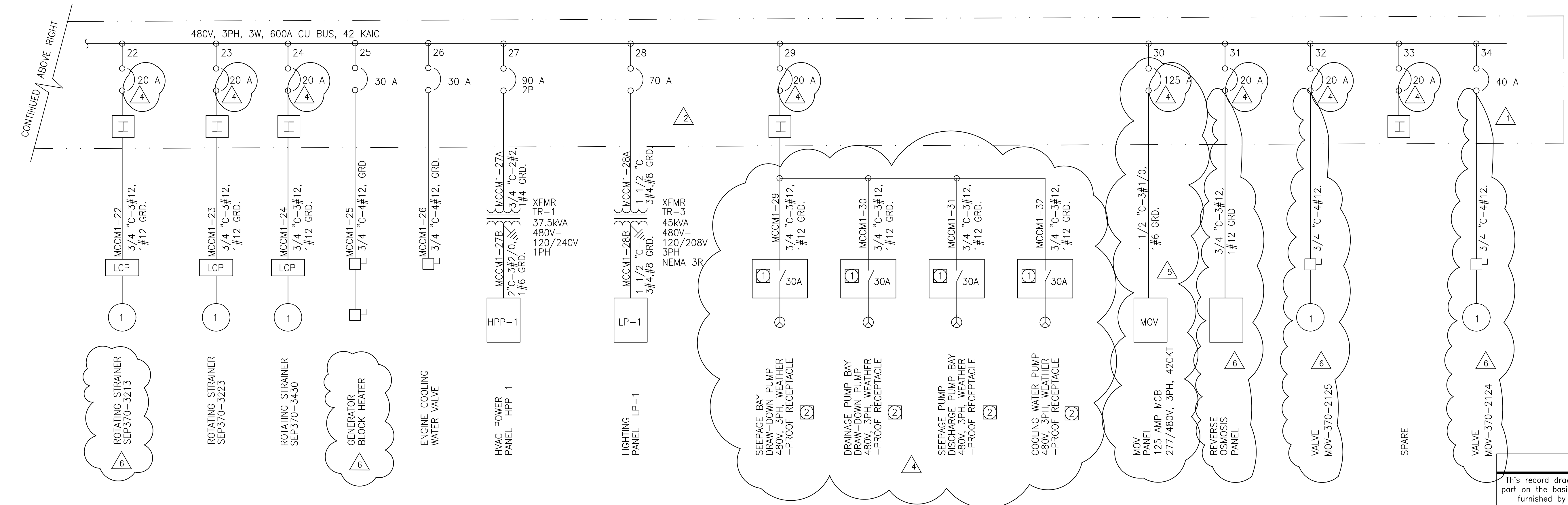
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JOHN C. NETZEL, P.E.  
FLA. P.E. NO. 43113

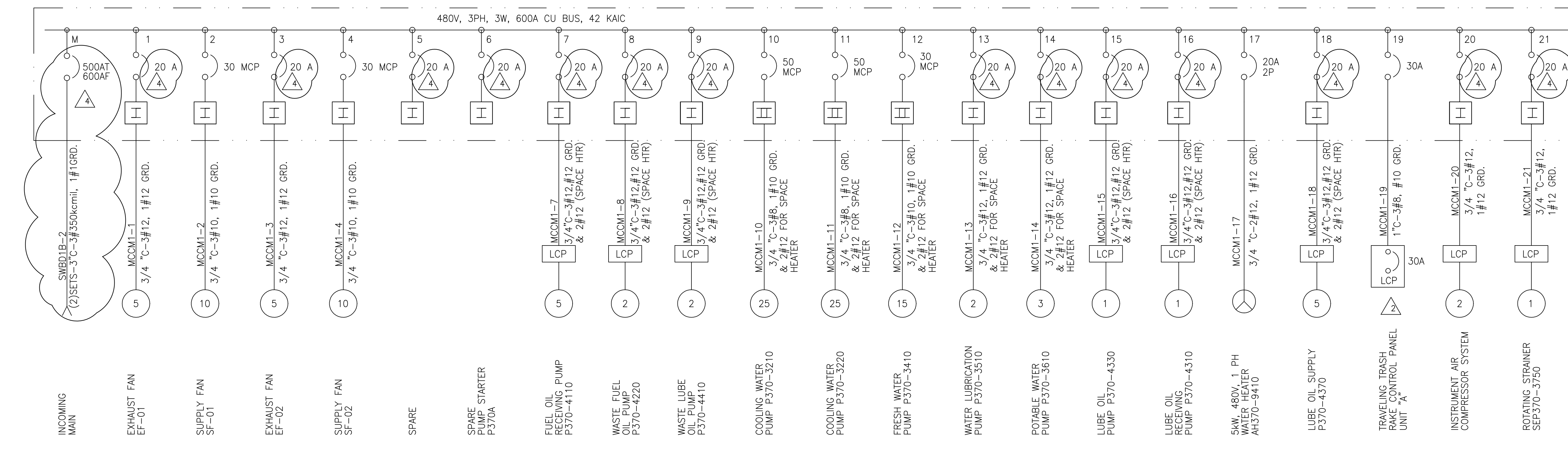
<p><b>MONTGOMERY WATSON</b> ENGINEERS • ARCHITECTS • CONSULTANTS 2701 KENNESAW ST. MEMPHIS, TENNESSEE 38108 License No. EB0000895</p>		<p><b>Brown Cunningham</b> ENGINEERS • ARCHITECTS • CONSULTANTS 2701 KENNESAW ST. MEMPHIS, TENNESSEE 38108 License No. EB0000895</p>	
<p>EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372</p>	<p>PUMP STATION G-370 SWITCHBOARD SINGLE LINE DIAGRAM - 1</p>	<p>SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406</p>	<p>CONTRACT NO. C-E304 DRAWING NO. EC-5 SHEET OF</p>
<p>TRANSIENT VOLTAGE SURGE SUPPRESSION EQUIPMENT</p>	<p>VACUUM SYSTEM P370-2110</p>	<p>TWO STAGE AIR COMPRESSOR CP370-2220</p>	<p>DIESEL ENGINE PUMP P370-1300 SUPPORT LOADS</p>
<p>MISCELLANEOUS LOADS</p>	<p>SEPAGE PUMP P370-1100</p>	<p>SEPAGE PUMP P370-1200</p>	<p>600 KW GENERATOR SET EG372-5110</p>
<p>600 KW GENERATOR SET EG372-5120</p>	<p>SEPAGE PUMP P370-1000</p>	<p>MISCELLANEOUS LOADS</p>	<p>DIESEL ENGINE PUMP P370-1500 SUPPORT LOADS</p>
<p>CRANE &amp; HOIST LOCAL CONTROL PANEL</p>	<p>TWO STAGE AIR COMPRESSOR CP370-2230</p>	<p>VACUUM SYSTEM P370-2111</p>	<p>DIESEL ENGINE PUMP P370-1400 SUPPORT LOADS</p>
<p>TRANSIENT VOLTAGE SURGE SUPPRESSION EQUIPMENT</p>	<p>MCC -D1</p>	<p>MCC -M1</p>	<p>MCC -D2</p>

DKG	SMR	3/11/2004	CONSTRUCTION REVISION
LRP	AL	9/30/2002	REV. PER RFI 108/109
LRP	AL	7/30/2002	REV. PER SUBMITTAL 16490
BAL	JCN	7/5/01	REVISED PER ADDENDUM NO. 4
BAL	JCN	6/13/01	REVISED PER ADDENDUM NO. 3
DWN	CHKD	DATE	REVISIONS

NOTES:  
1 NEMA 4X, 30 A SAFETY DISCONNECT SWITCH.



NEW PUMP STATION G-370 MCC-M1



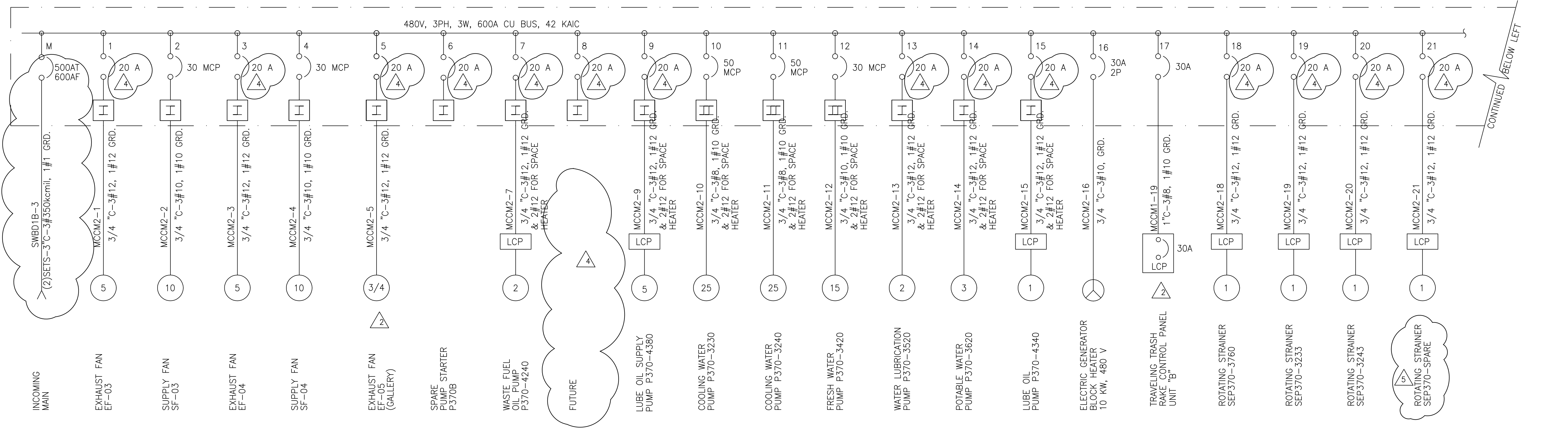
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- NOTE:
- 1 PROVIDE 30A NEMA-4X STAINLESS STEEL DISC SWITCH WITH 30A/3P 4W MALE FEMALE PLUG PAIR
  - 2 RECEPTACLES SHALL BE PARALLELED FOR NON-COINCIDENT LOADS.

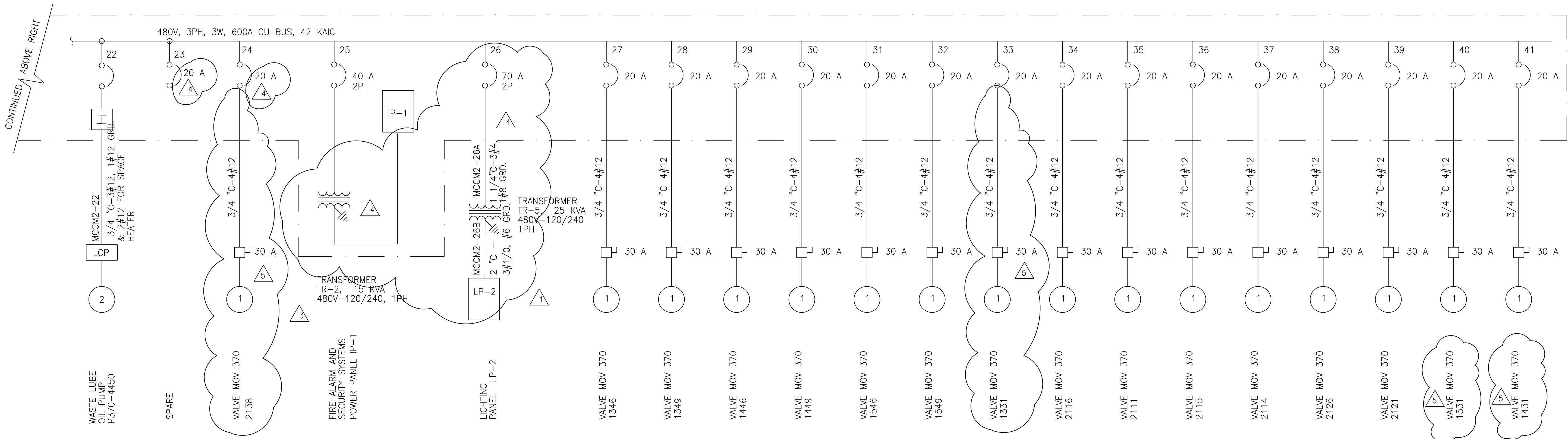
JOHN C. NETZEL P.E.  
FLA. P.E. NO. 43113

DRAWN	BAL/MSB	CHKD	DATE	SCALE	DATE	REVISIONS
LRP	AL	J.C. NETZEL	7/30/02	NONE	7/30/02	REVISED PER RFI NO. 108/109
DSGN	BAL/JCN	J.C. NETZEL	7/30/02	NONE	7/30/02	REVISED PER RFI NO. 69
CHKD	J.C. NETZEL	J.C. NETZEL	7/30/02	NONE	7/30/02	REVISED PER SUBMITTAL 11332
DATE	BAL	JCN	7/5/01	NONE	7/5/01	REVISED PER ADDENDUM NO. 4
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DWG SMR 3/11/04 CONSTRUCTION REVISION  
REVISAS PER RFI NO. 117



NEW PUMP STATION G-370 MCC-M2

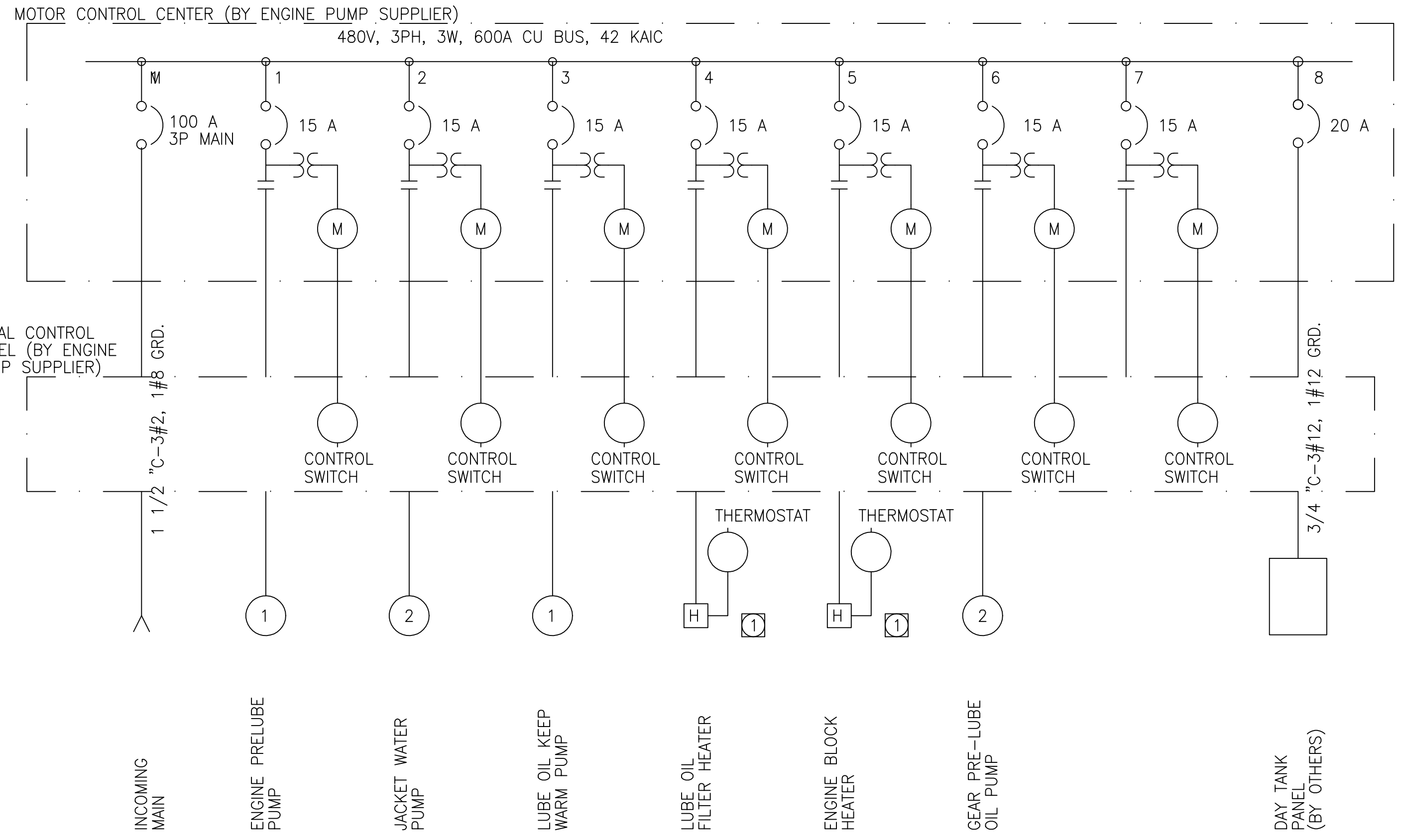


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	<p>DRAWN BAL/MSB</p>	<p>DESIGN BAL/JCN</p>	<p>DATE 6/13/01</p>	<p>REVISED PER REF. NO. 108/109</p>
	<p>SCALE NONE</p>	<p>DATE 7/30/02</p>	<p>DATE 7/30/02</p>	<p>REVISED PER SUBMITTAL 11332</p>
	<p>DATE 7/30/02</p>	<p>DATE 7/30/02</p>	<p>DATE 6/13/01</p>	<p>REVISED PER ADDENDUM NO. 3</p>
<p>DATE 6/13/01</p>	<p>DATE 6/13/01</p>	<p>DATE 6/13/01</p>	<p>DATE 6/13/01</p>	



**DIESEL PUMP SUPPORT MCC**

(TYPICAL OF PUMP STATION G-370 MOTOR CONTROL CENTERS MCC-D1, MCC-D2, AND MCC-D3 AND PUMP STATION G-372 MOTOR CONTROL CENTERS MCC-D1, MCC-D2, MCC-D3, AND MCC-D4)

**NOTES:**  
 1 ALL DEVICES SHOWN SHALL BE PROVIDED BY THE ENGINE SUPPLIER.

Scale For Microfilming  
 Millimeters  
 Inches

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REVISIONS	DATE	CHKD	DWN
7/5/01			

SCALE	NONE
DATE	7/5/01
CHKD	J.C. NETZEL
DWN	BAL

**Brown Cummins**  
 ENGINEERS • ARCHITECTS • CONSULTANTS  
 2701 KENNESAW ST.  
 METRO PARK, LOUISIANA 70008  
 License No. EB00008995

**MONTGOMERY WATSON**  
 ENGINEERS, ARCHITECTS, PLANNERS, PWY.  
 490 SANDHURST DRIVE, SUITE 300  
 SUNRIDGE, FL 33225

EVERGLADES CONSTRUCTION PROJECT  
 STORMWATER TREATMENT AREA 3/4  
 PUMPING STATIONS G-370 AND G-372  
 PUMP STATION G-370 MCC  
 SINGLE LINE DIAGRAMS - 3

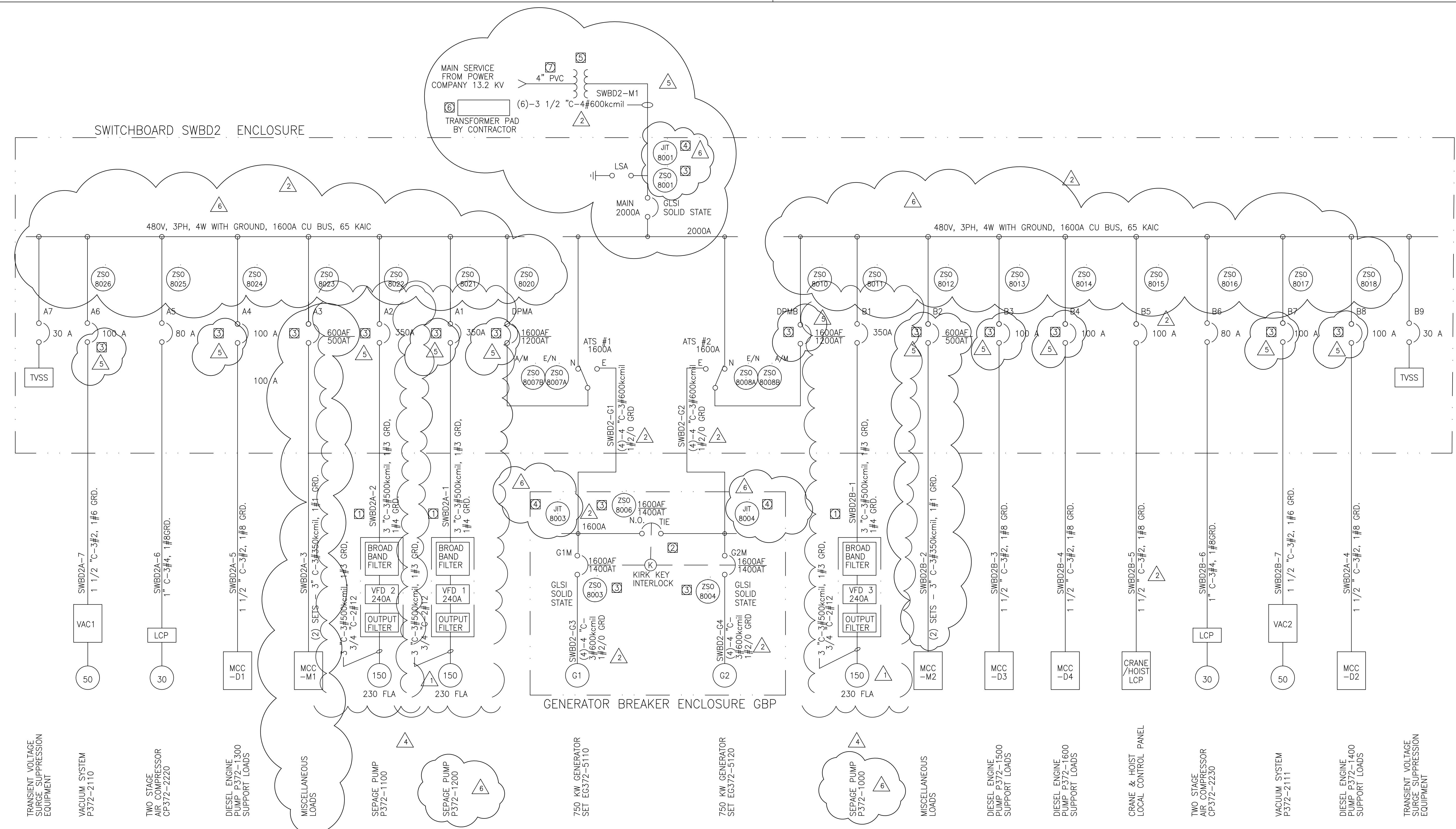
**SOUTH FLORIDA WATER MANAGEMENT DISTRICT**  
 EVERGLADES CONSTRUCTION PROJECT  
 3301 GUN CLUB ROAD  
 WEST PALM BEACH, FLORIDA 33406



CONTRACT NO. C-E304  
 DRAWING NO. EC-8  
 SHEET OF

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 FLA. P.E. NO. 43113



- NOTES:
- ① VFD SHALL BE IN NEMA 1A ENCLOSURE WITH LOCKABLE DOOR HANDLE. VFD SHALL BE SEPARATE FROM MCC ENCLOSURE.
  - ② PROVIDE KEY INTERLOCKS TO ALLOW ONLY (2) OF THE (3) BREAKERS CLOSED AT ANY TIME
  - ③ BREAKER POSITION SWITCH STATUS TO PLC
  - ④ PROVIDE GE-PQM POWER MONITOR WITH RS-485 MODBUS DATA PORT WITH (3) V-G VOLTAGES, (3) CURRENTS, POWER, POWER FACTOR
  - ⑤ TRANSFORMER SUPPLIED UNDER DIFFERENT CONTRACT.
  - ⑥ CONTRACTOR TO PROVIDE CONCRETE TRANSFORMER PAD, PER FPL SPECIFICATIONS.
  - ⑦ CONTRACTOR TO INSTALL 150 FT. OF CONDUIT PROVIDED BY FP&L

NEW PUMP STATION G-372 SWITCHBOARD SWBD2

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FLA. P.E. NO. 43113

**SOUTH FLORIDA WATER MANAGEMENT DISTRICT**  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-372 SWITCHBOARD  
SINGLE LINE DIAGRAM - 1



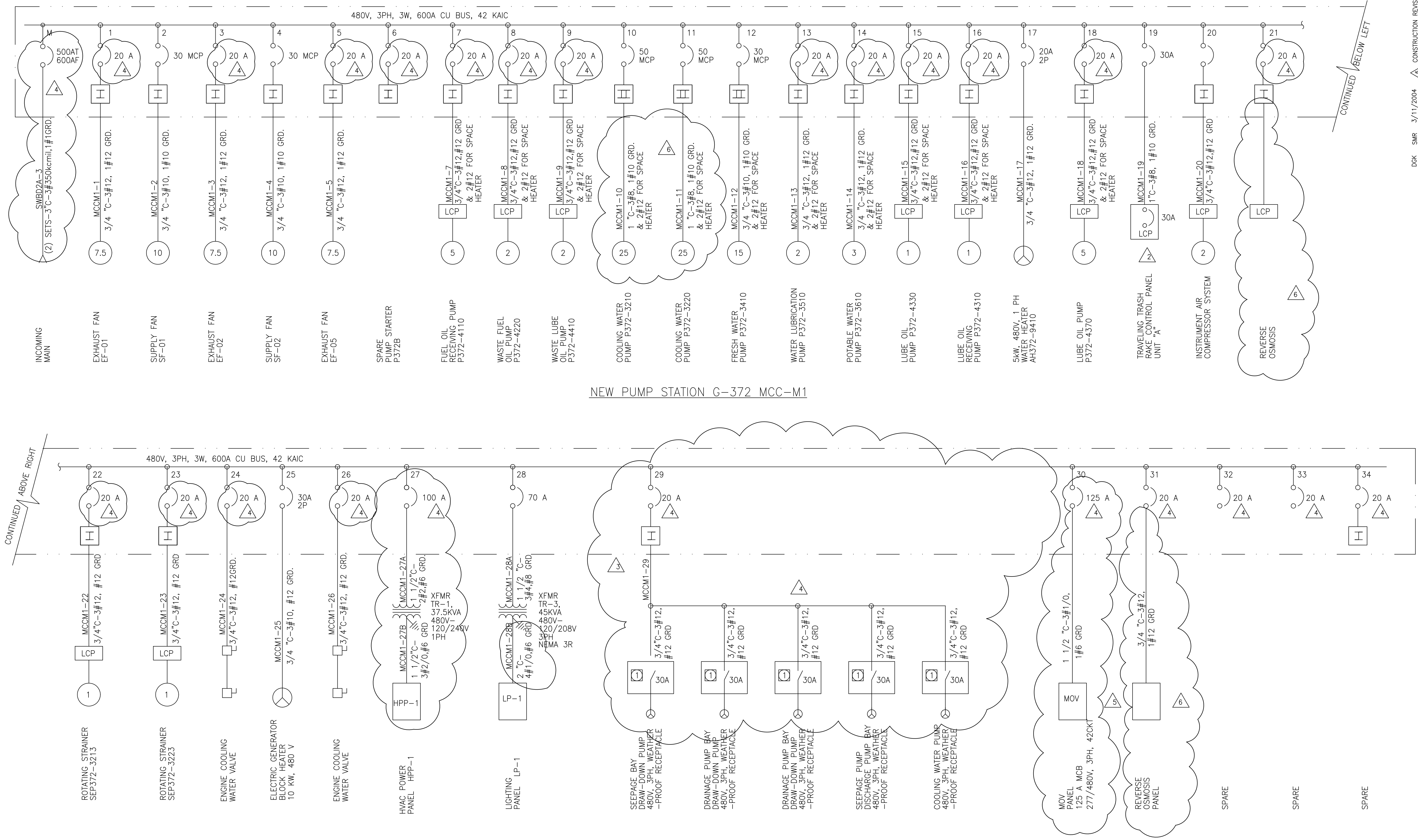
**Brown Cunningham Gannuch**  
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2701 KENWAY ST.  
METRO PARK, LOUISIANA 70008  
License No. EB0000895

REV.	DATE	BY	CHKD	DATE	REVISIONS
AL	9/30/2002	LRP	AL	9/30/2002	REV. PER REF 108/109
AL	7/30/2002	LRP	AL	7/30/2002	REV. PER SUBMITAL 16490
AL	5/15/2002	LRP	AL	5/15/2002	REV. PER SUBMITAL 16621
JCN	7/5/01	BAL	JCN	7/5/01	REVISED PER ADDENDUM NO. 4

CONSTRUCTION REVISION

DCK SMR 3/11/2004



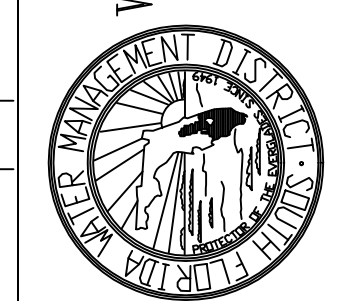


NEW PUMP STATION G-372 MCC-M1

NOTE:  
 ① PROVIDE 30A NEMA-4X STAINLESS STEEL DISC SWITCH WITH 30A/3P 4W MALE FEMALE PIUG PAIR

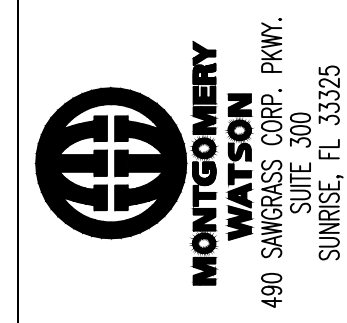
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JOHN C. NETZEL P.E.  
 FLA. P.E. NO. 43113



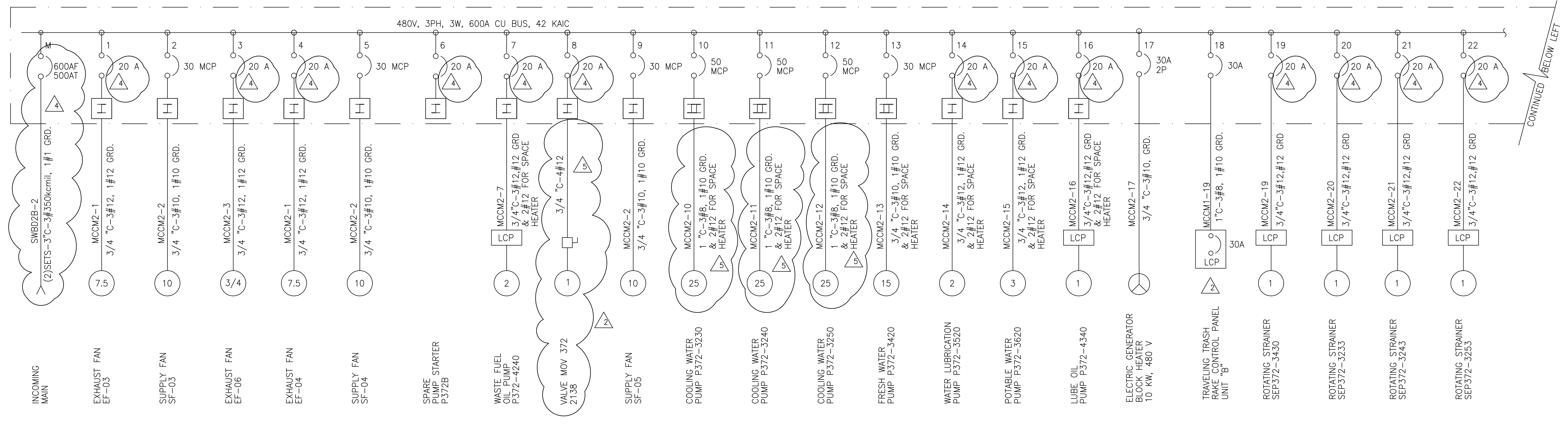
**SOUTH FLORIDA WATER MANAGEMENT DISTRICT**  
 EVERGLADES CONSTRUCTION PROJECT  
 3301 GUN CLUB ROAD  
 WEST PALM BEACH, FLORIDA 33406

**EVERGLADES CONSTRUCTION PROJECT**  
 STORMWATER TREATMENT AREA 3/4  
 PUMPING STATIONS G-370 AND G-372  
 PUMP STATION G-372 MCC  
 SINGLE LINE DIAGRAMS - 1

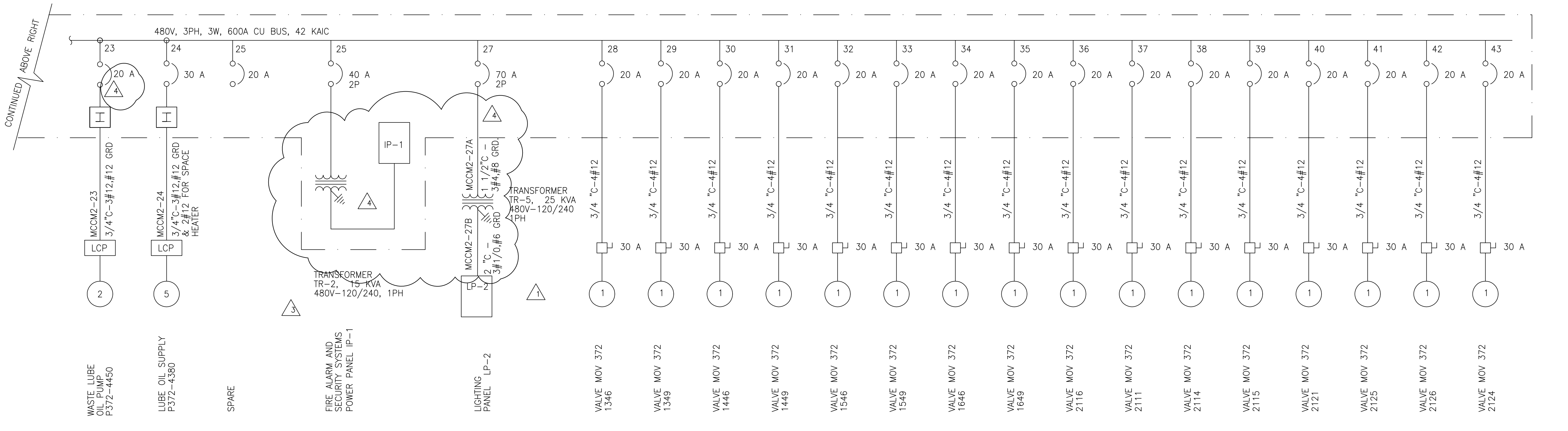


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DRAWN	BAL/MSB	CHKD	DATE	SCALE	NONE	DWN	CHKD	DATE	REVISIONS
UPP	AL	10/13/2002	REVISD PER REF NO. 108/109						CONSTRUCTION REVISION
UPP	AL	7/30/02	REVISD PER REF NO. 69						REVISED PER REF NO. 117
UPP	AL	7/30/02	REVISD PER SUBMITTAL 11332						
BAL	J.C. NETZEL	7/5/01	REVISD PER ADDENDUM NO. 4						



NEW PUMP STATION G-372 MCC-M2



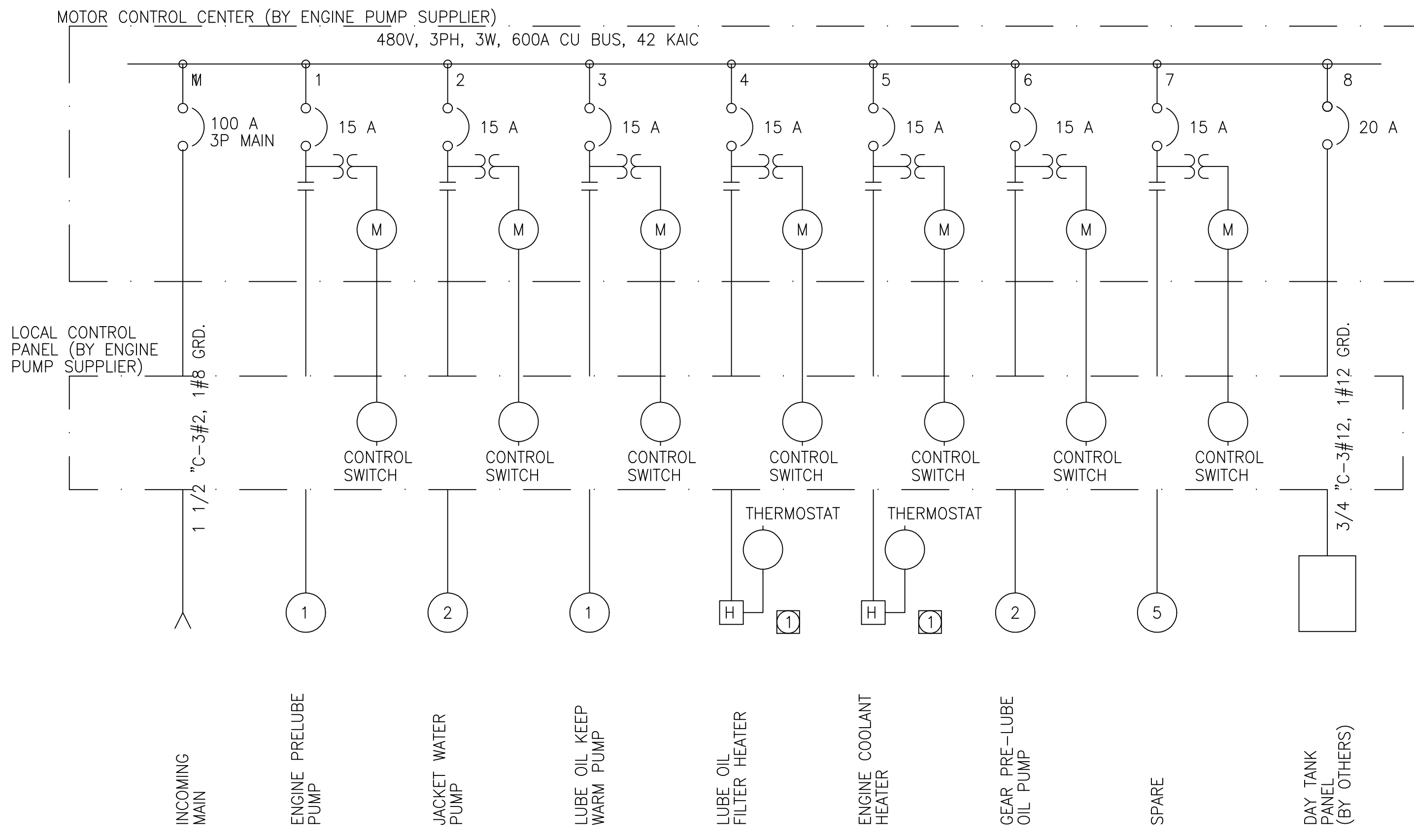
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<p>Brown Cummins Gannuch ENGINEERS • ARCHITECTS • CONSULTANTS 2701 ANKAWA ST. MEMPHIS, TENNESSEE 38108 License No. EB0000895</p>	<p>DRAWN: BAL/MSB DSGN: BAL/JCN CHKD: J.C. NETZEL DATE: 6/13/01</p>	<p>SCALE: NONE</p>	<p>DATE: CHKD: DWN:</p>	<p>REVISIONS</p>
	<p>REVISION PER REF 108/109</p>	<p>REVISION PER REF NO. 69</p>	<p>REVISION PER SUBMITTAL 11322</p>	<p>REVISION PER ADDENDUM NO.3</p>
	<p>3/11/2004</p>	<p>SMR</p>	<p>CONSTRUCTION REVISION</p>	<p>DATE</p>
	<p>9/30/02</p>	<p>AL</p>	<p>REVISION PER REF 108/109</p>	<p>DATE</p>
<p>EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372</p>	<p>PUMP STATION G-372 MCC SINGLE LINE DIAGRAMS - 2</p>	<p>SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406</p>	<p>CONTRACT NO. C-E304 DRAWING NO. EC-11 SHEET OF</p>	<p>JOHN C. NETZEL P.E. FLA. P.E. NO. 43113</p>

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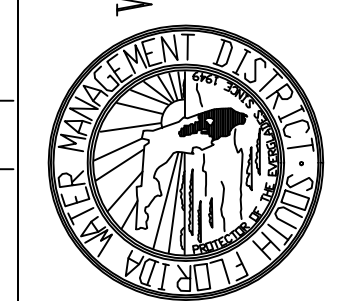
**DIESEL PUMP SUPPORT MCC**

(TYPICAL OF PUMP STATION G-370 MOTOR CONTROL CENTERS MCC-D1, MCC-D2, AND MCC-D3 AND PUMP STATION G-372 MOTOR CONTROL CENTERS MCC-D1, MCC-D2, MCC-D3, AND MCC-D4)

**NOTES:**  
 1 ALL DEVICES SHOWN SHALL BE PROVIDED BY THE ENGINE SUPPLIER.

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CONTRACT NO.  
C-E304  
DRAWING NO.  
EC-12  
SHEET OF



**SOUTH FLORIDA WATER MANAGEMENT DISTRICT**  
 EVERGLADES CONSTRUCTION PROJECT  
 3301 GUN CLUB ROAD  
 WEST PALM BEACH, FLORIDA 33406

EVERGLADES CONSTRUCTION PROJECT  
 STORMWATER TREATMENT AREA 3/4  
 PUMPING STATIONS G-370 AND G-372  
 PUMP STATION G-372 MCC  
 SINGLE LINE DIAGRAMS - 3



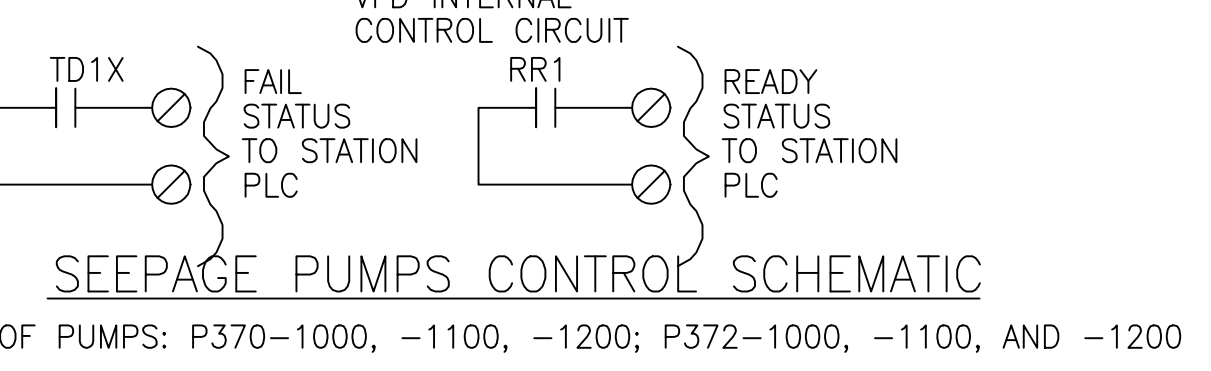
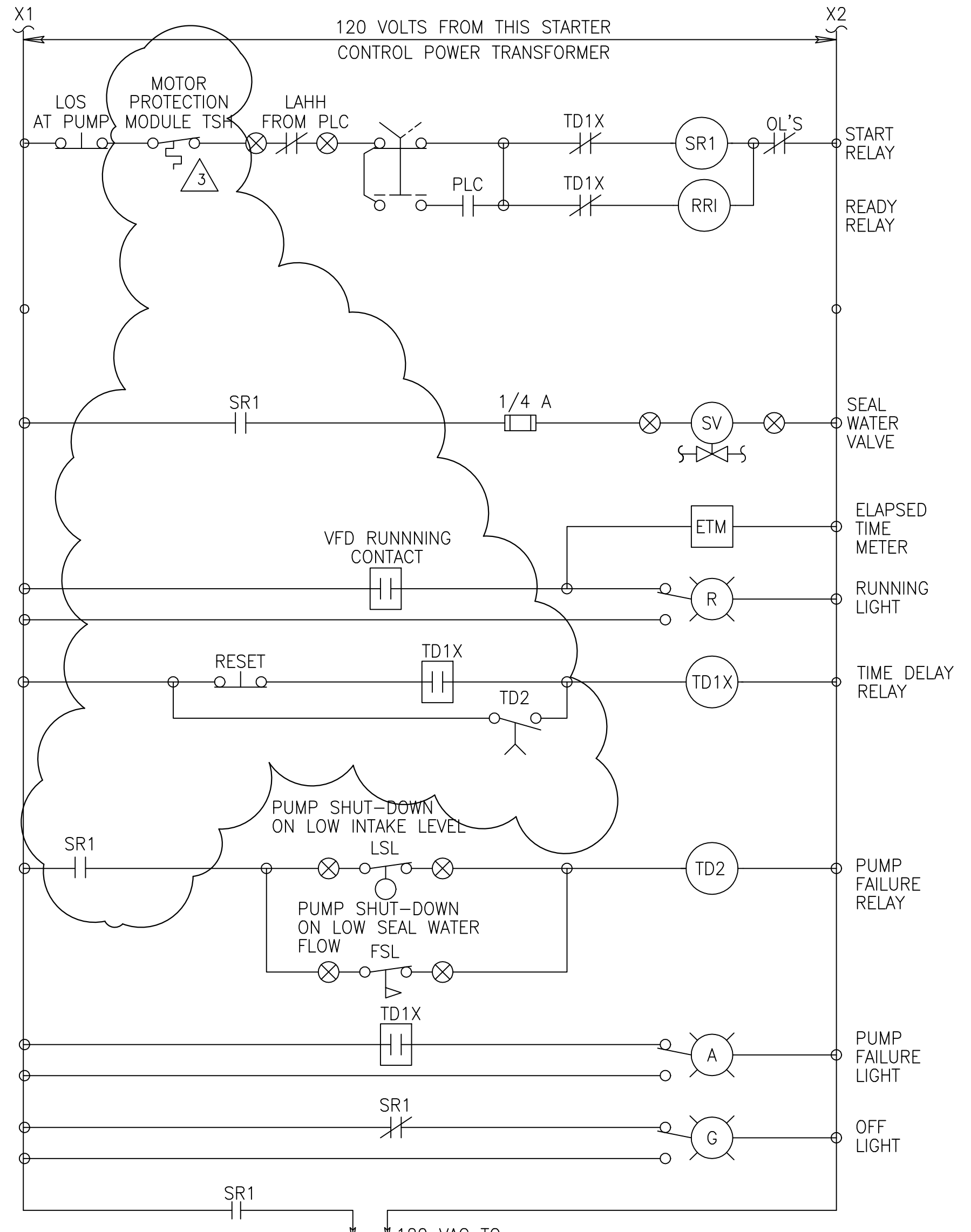
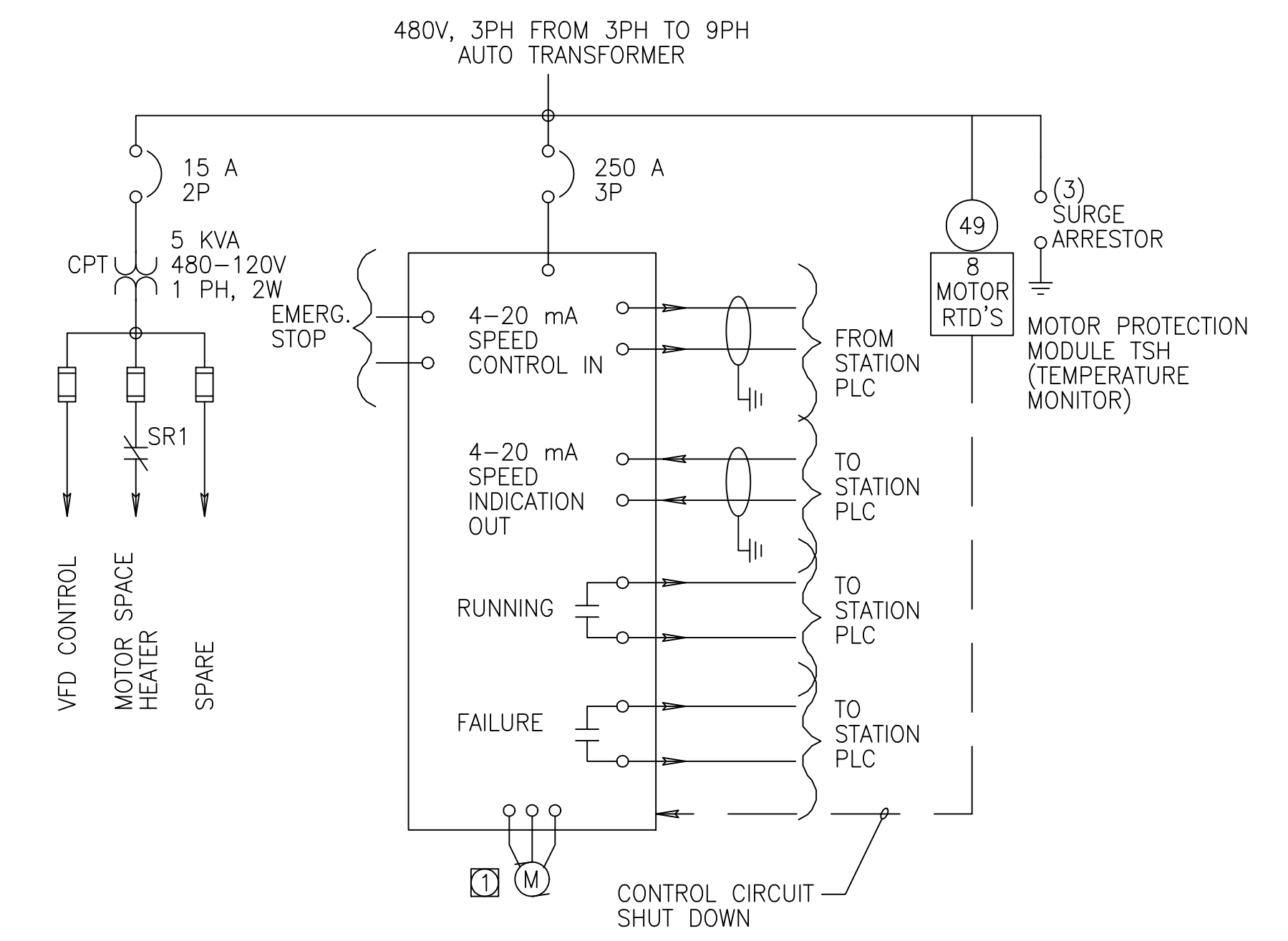
480 SANDHURST DRIVE, SUITE 300  
 SUNRIDGE, FL 33225

**BCG**  
 Brown Cunningham Gannuch  
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 METRO PARK, LUCASVILLE, OHIO 43084  
 License No. EB00008995

DRAWN	BAL/MSB
DSGN	BAL/JCN
CHKD	J.C. NETZEL
DATE	7/5/01
SCALE	NONE

BAL	JCN	7/5/01	REVISED PER ADDENDUM NO. 4
DWN	CHKD	DATE	REVISIONS


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 Scale For Micromilming  
 Millimeters  
 Inches

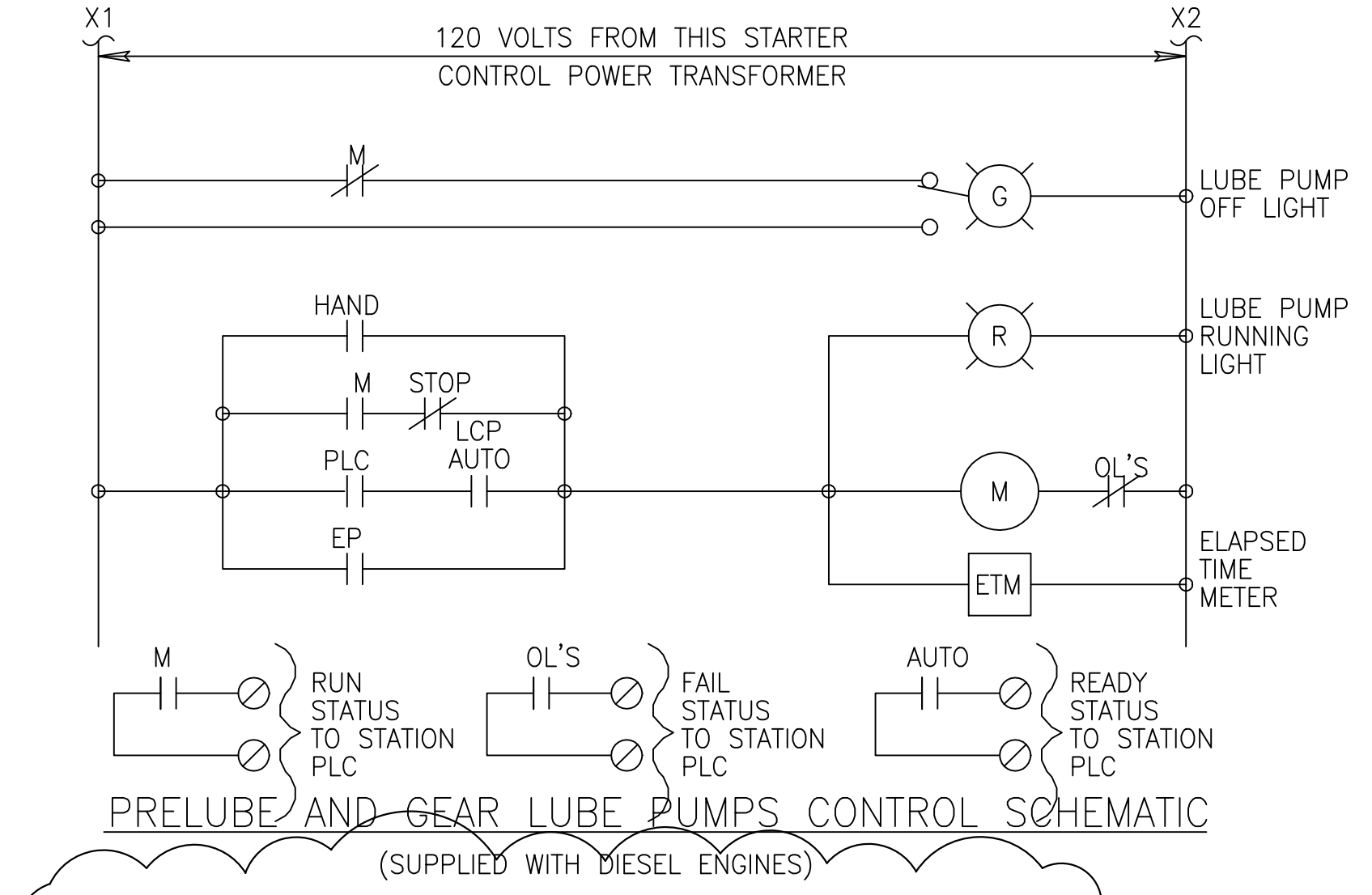


**SEEPAGE PUMPS CONTROL SCHEMATIC**  
 (TYPICAL OF PUMPS: P370-1000, -1100, -1200; P372-1000, -1100, AND -1200)

**NOTES:**

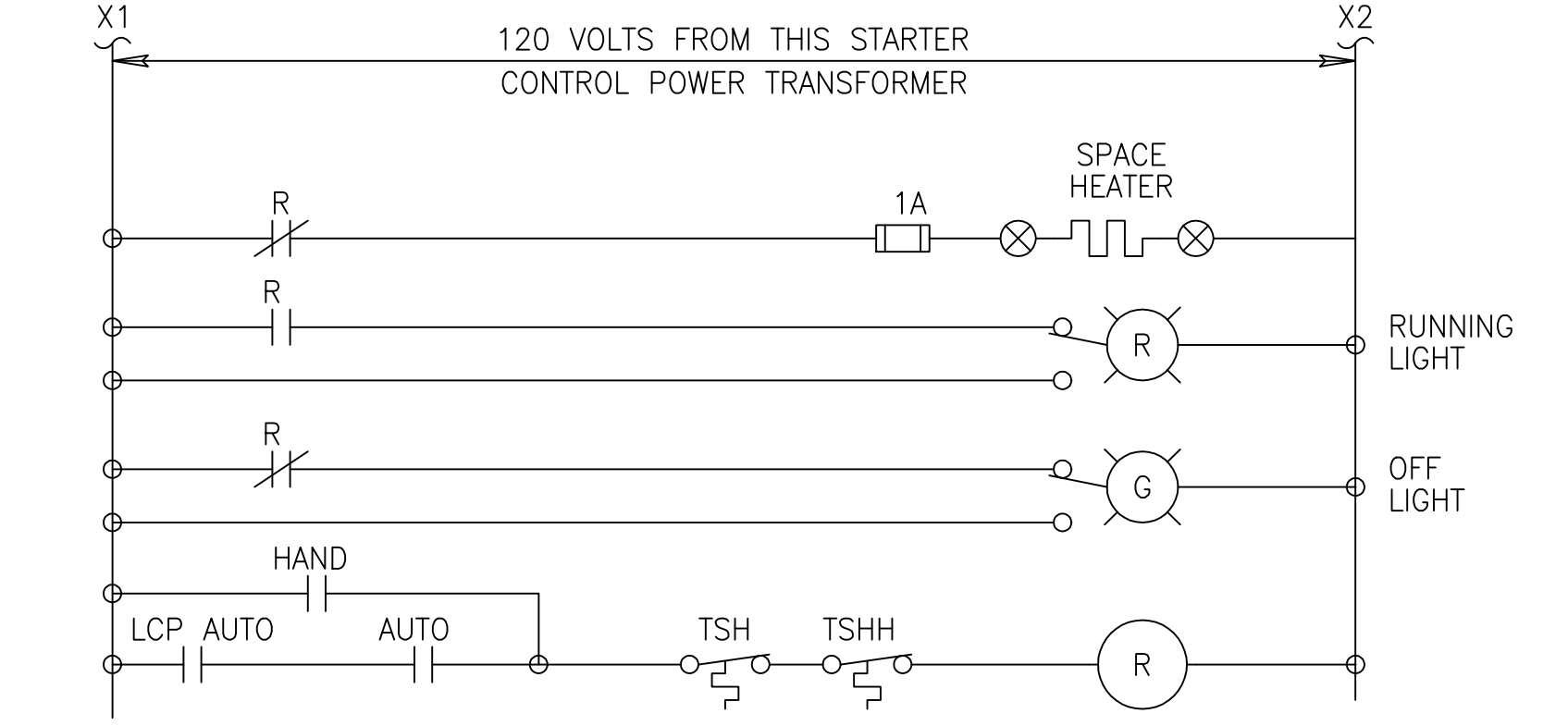
1 MOTOR AT SEEPAGE PUMP IS 150 HP

2 PROVIDE TIME DELAY RELAY TO START THE VFD 1 TO 5 MINUTES AFTER THE RELAY SR1 IS MADE AND THE SEAL WATER RELAY IS MADE.

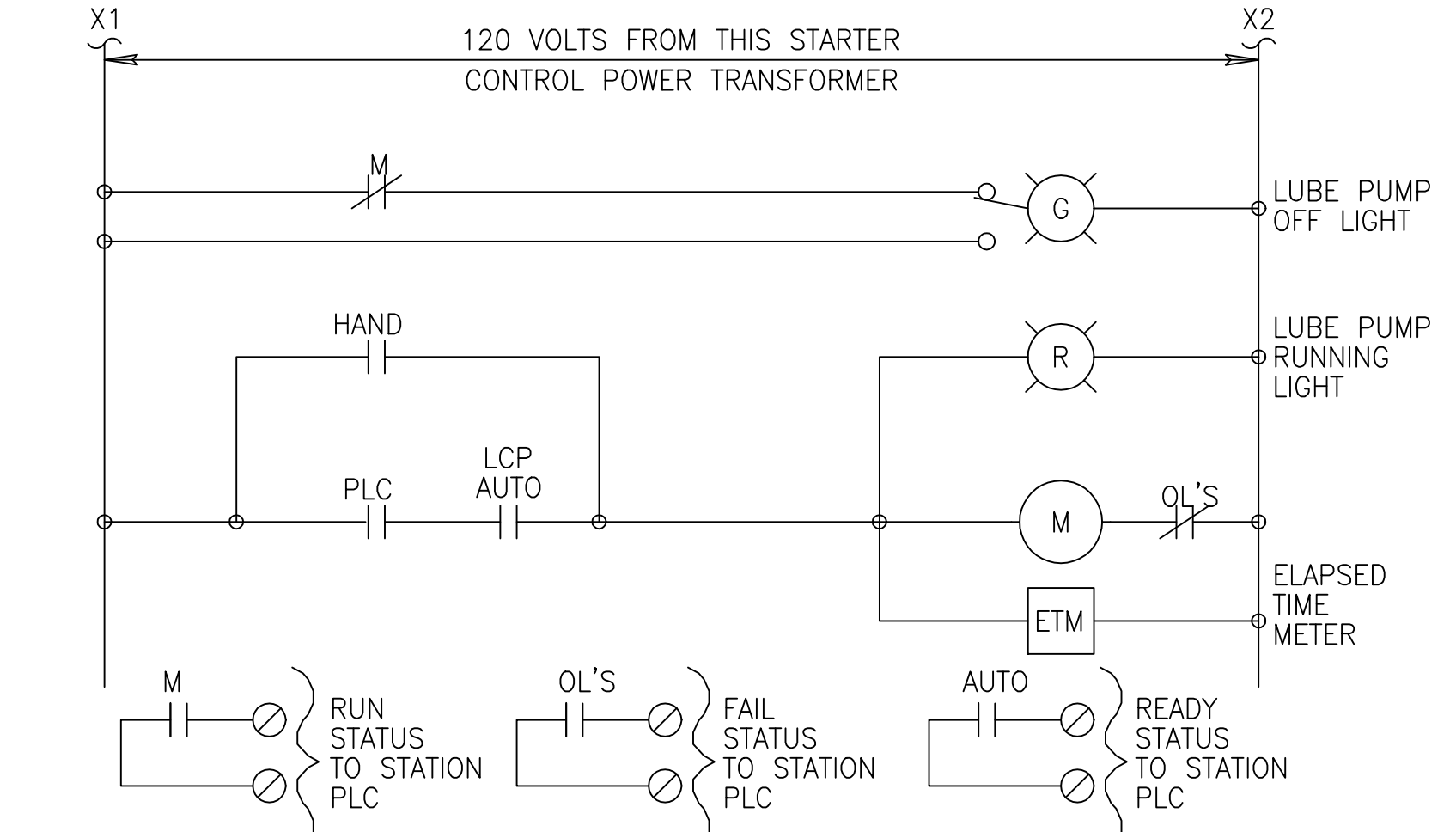


**PRELUBE AND GEAR LUBE PUMPS CONTROL SCHEMATIC**  
 (SUPPLIED WITH DIESEL ENGINES)

1 INTERLOCK LUBE OIL HEATER TO START WITH LUBE OIL PUMP

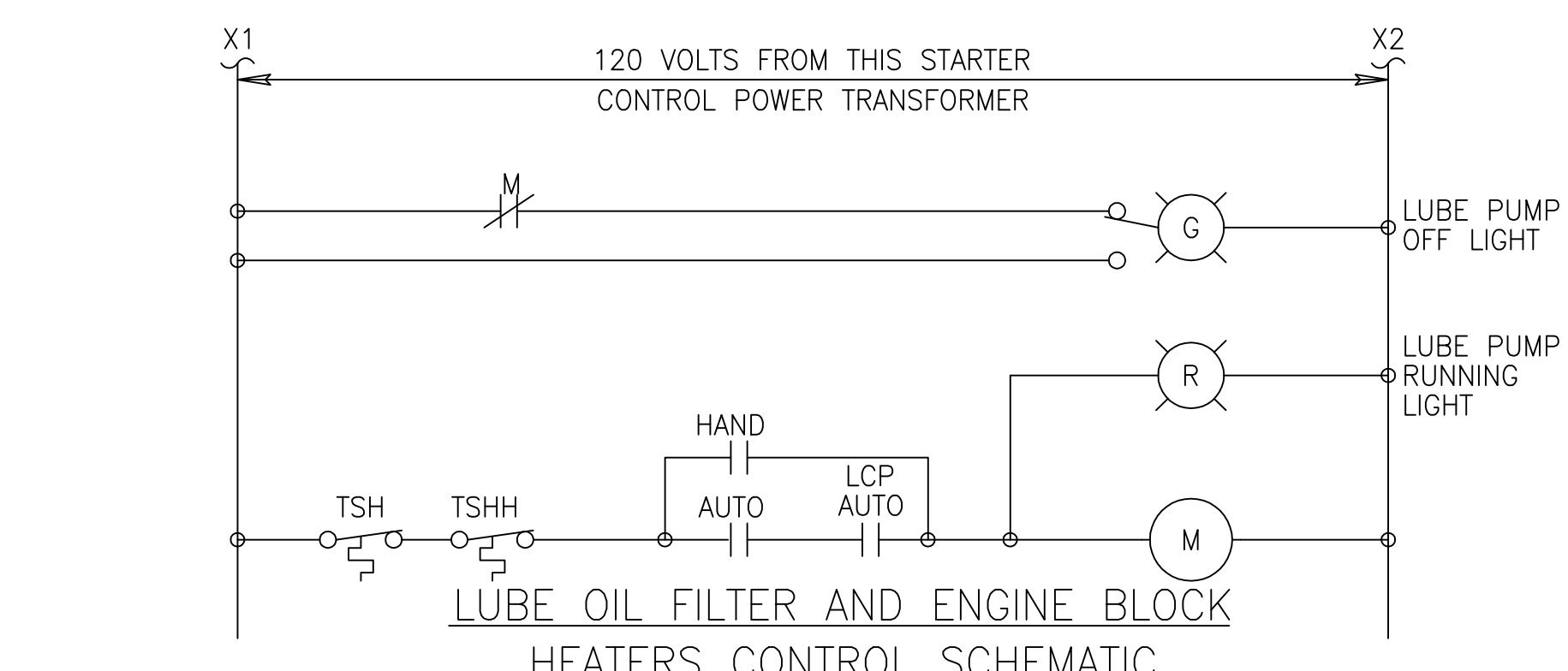
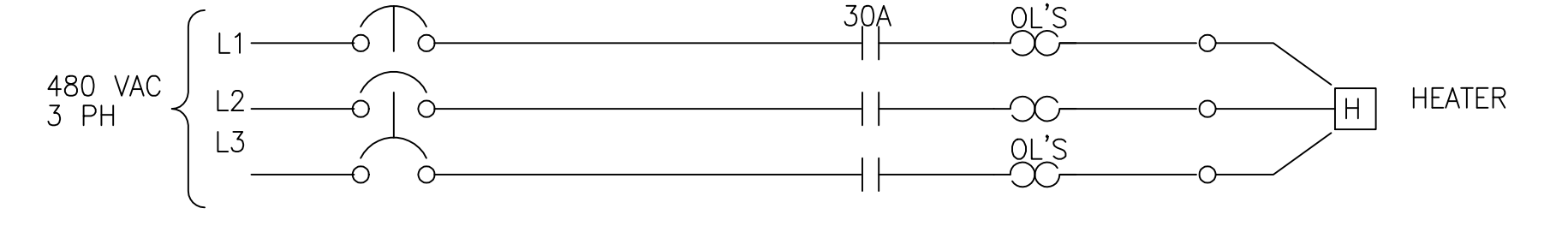


**GEAR LUBE OIL HEATER CONTROL SCHEMATIC**  
 (SUPPLIED WITH DIESEL ENGINES)

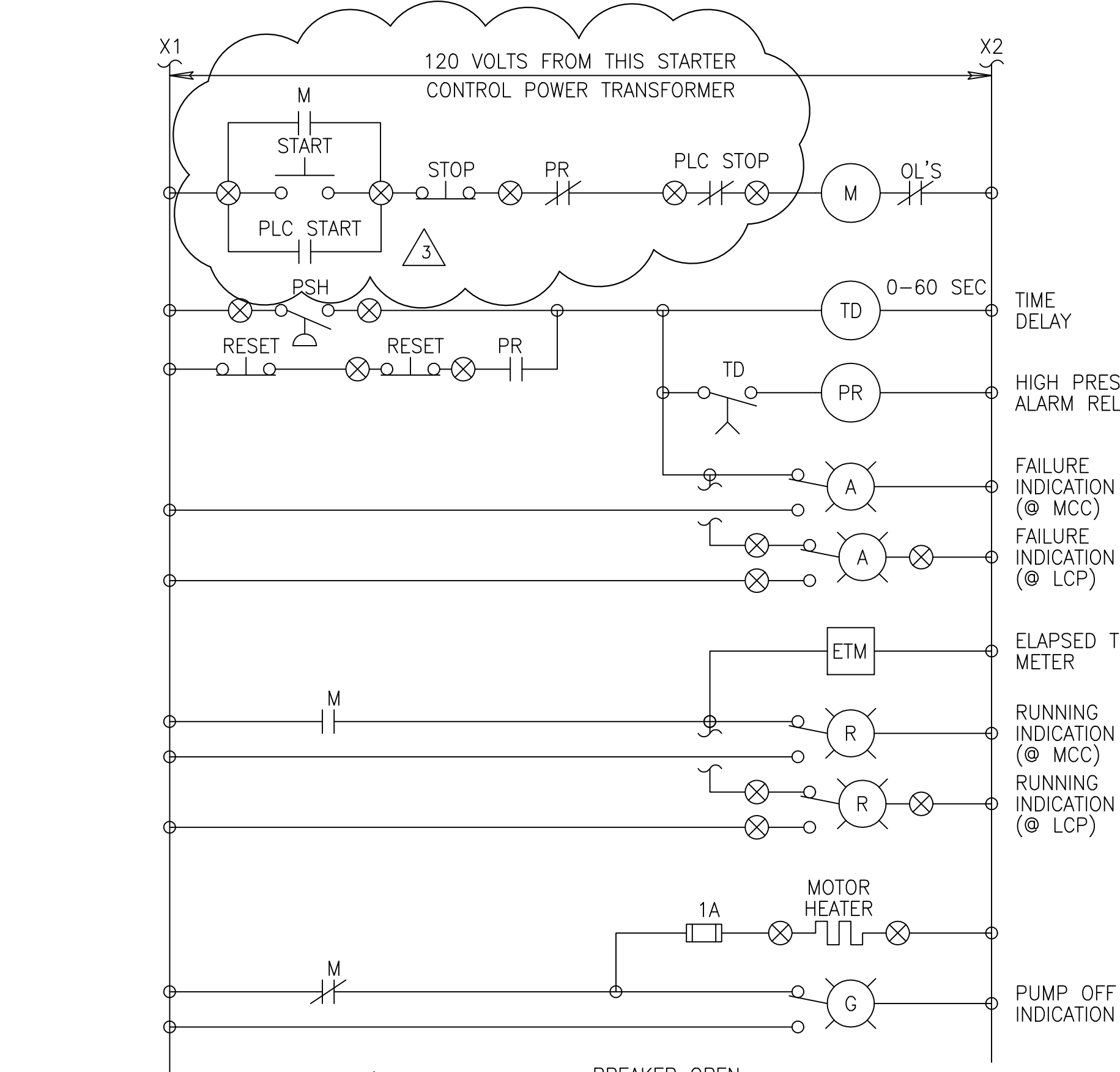


**ENGINE JACKET WATER PUMP CONTROL SCHEMATIC**  
 (SUPPLIED WITH DIESEL ENGINES)

1 INTERLOCK ENGINE JACKET HEATER TO START WITH ENGINE JACKET WATER PUMP

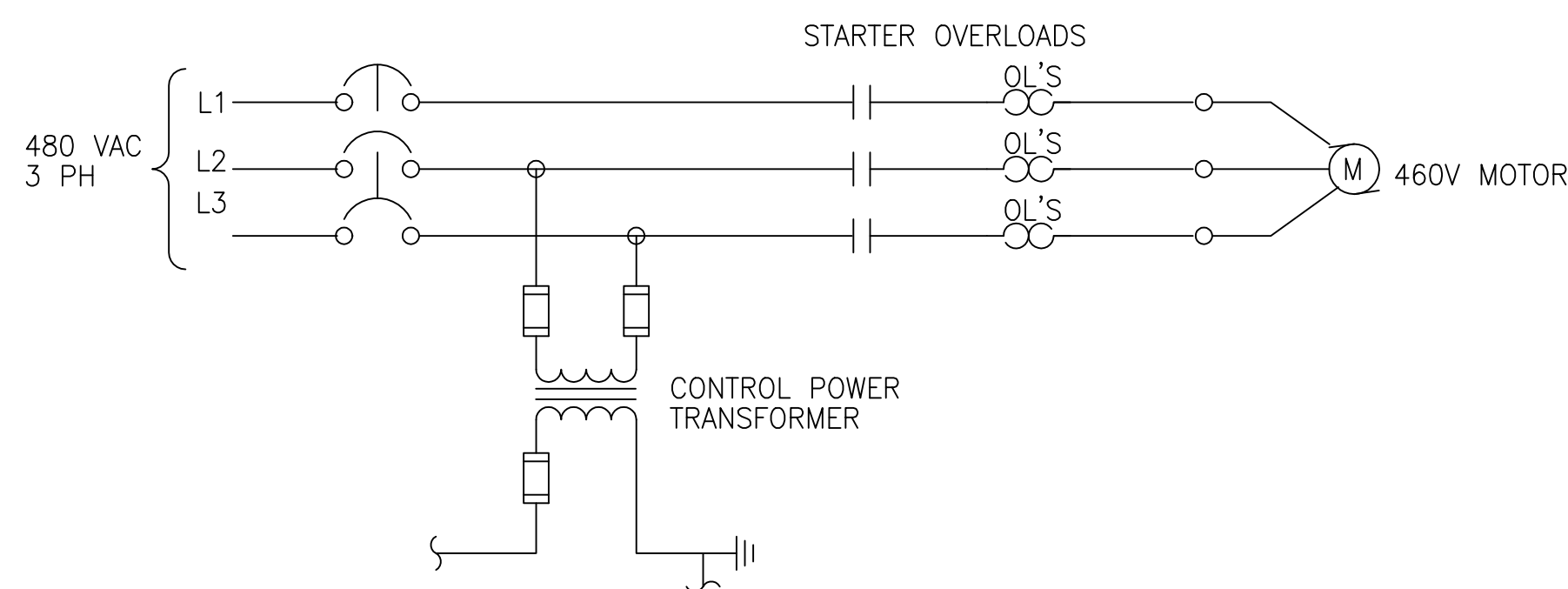
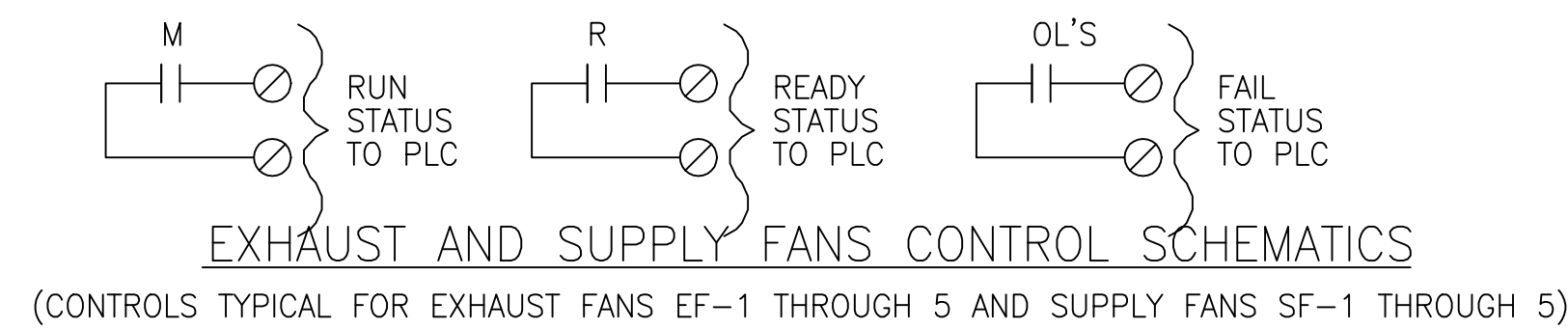
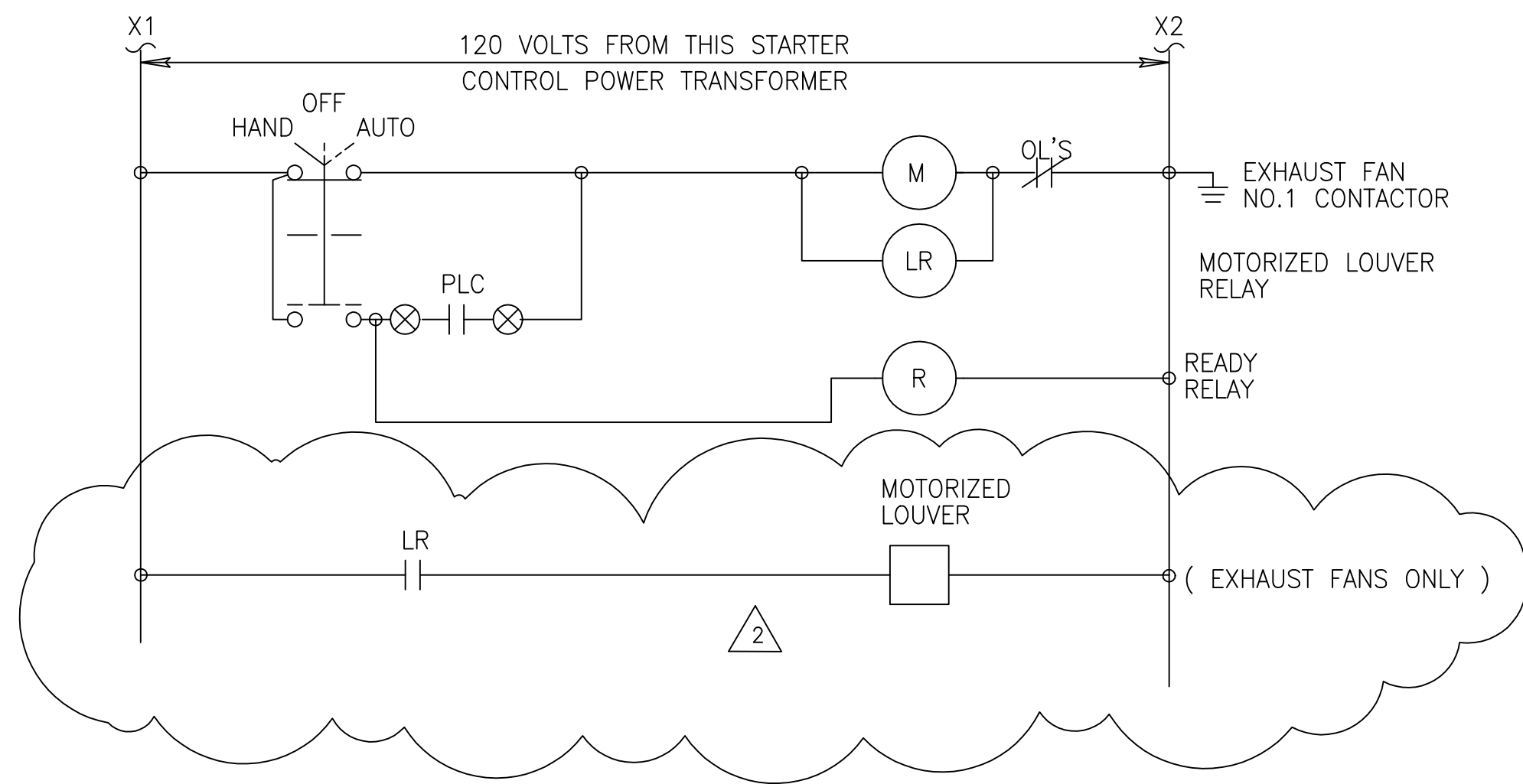


**LUBE OIL FILTER AND ENGINE BLOCK HEATERS CONTROL SCHEMATIC**  
 (SUPPLIED WITH DIESEL ENGINES)



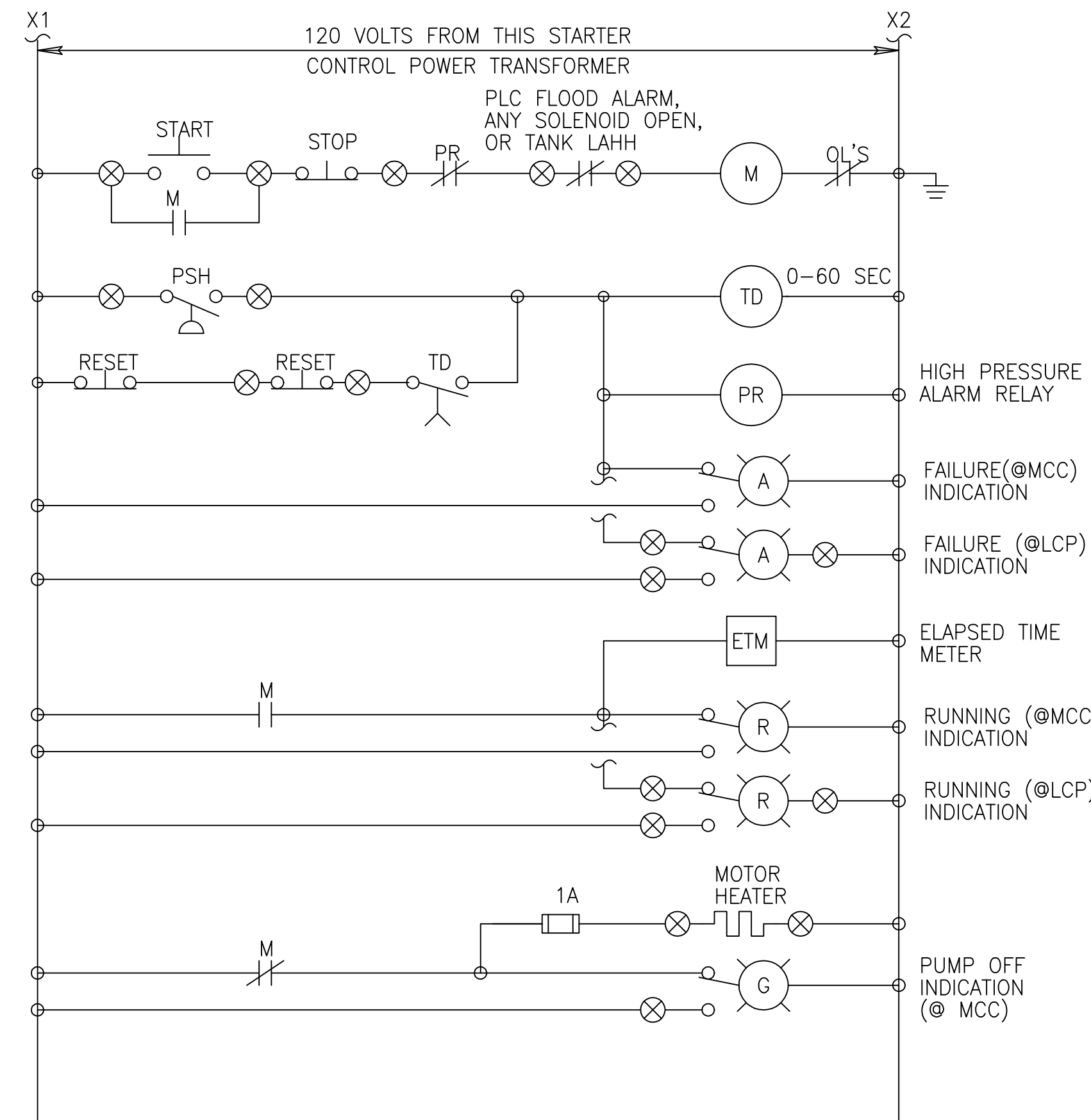
**WASTE LUBE OIL COLLECTION TANK PUMPS CONTROL SCHEMATIC**  
 (TYPICAL OF WASTE FUEL OIL PUMPS)  
 (PUMPS P370-4220, -4240, -4410, AND PUMPS P372-4220, -4240, AND -4410)

CONSTRUCTION REVISION	3/11/2004	DATE
REVISED PER ADDENDUM NO. 4	7/5/01	DATE
REVISED PER ADDENDUM NO. 3	6/13/01	DATE
SMR	JCN	CHKD
DKK	BAL	DWN
BAL/MS	BAL/JCN	NONE
DSGN	J.C. NETZEL	SCALE
CHKD	DATE	
 Brown Cummins Engineers & Consultants ENGINEERS • ARCHITECTS • CONSULTANTS 2701 ANKAWA ST. METairie, LOUISIANA 70006 License No. EB0000895		
 <b>MONTGOMERY WATSON</b> 480 SANDHURST DRIVE, SUITE 300 SUNRISE, FL 33325		
EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372		
MOTOR STARTER DIAGRAMS - 1		
SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406		
JOHN C. NETZEL P.E. FLA. P.E. NO. 43113		
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CONTRACT NO. C-E304 DRAWING NO. EC-13 SHEET OF		



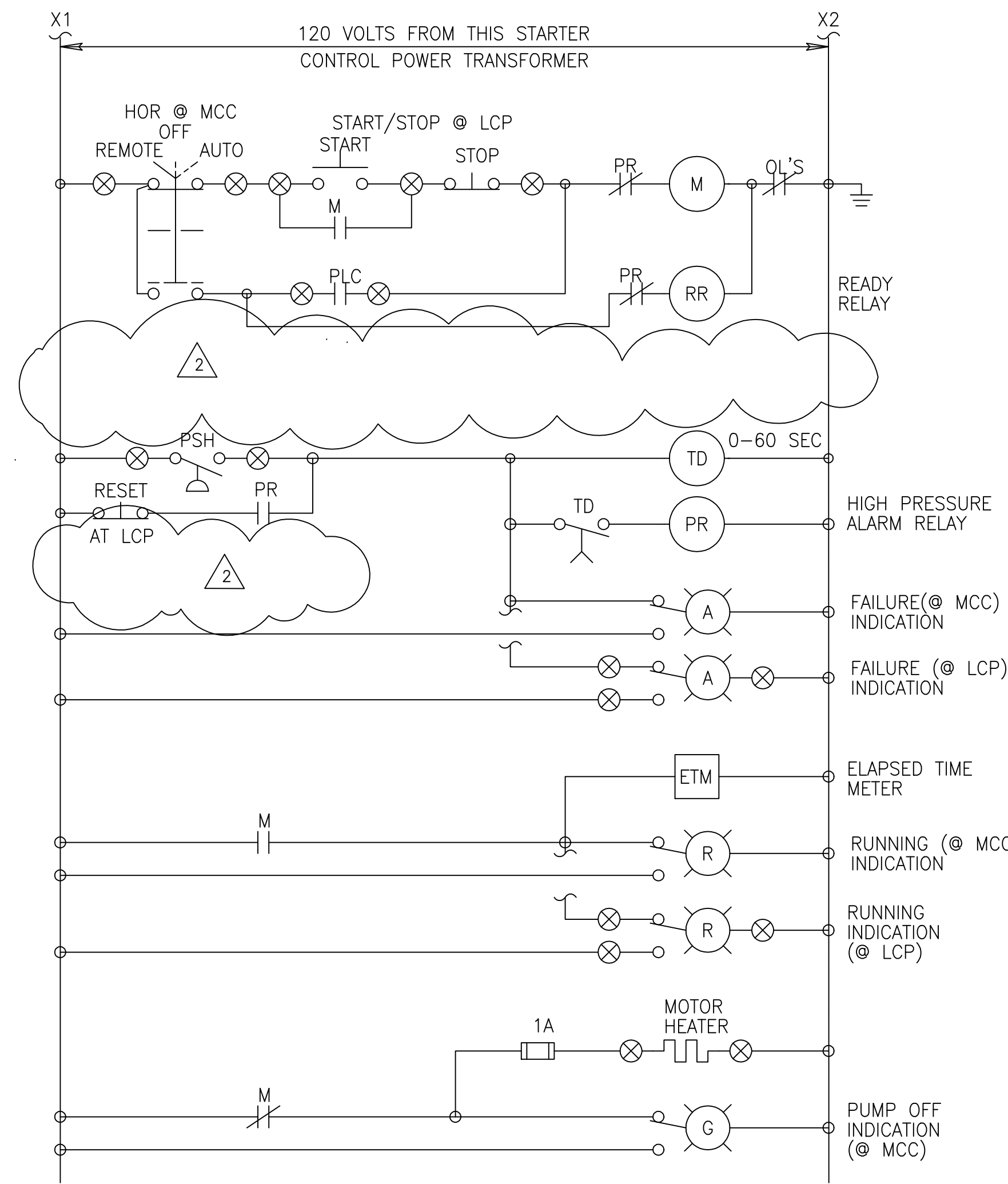
**TYPICAL 480V STARTER SCHEMATIC**

1. PROVIDE 200 VA CAPACITY FOR SPACE HEATER FOR ALL MOTORS 50 HP AND ABOVE. PROVIDE 100VA CAPACITY FOR SPACE HEATER FOR ALL MOTORS LESS THAN 50 HP.
2. PROVIDE HOA SWITCH WITH RUN LIGHT, READY RELAY, AND RUN STATUS CONTACT FOR SPARE STATER



**FUEL OIL RECEIVING PUMP CONTROL SCHEMATIC**

(TYPICAL OF PUMPS P370-4110 AND P372-4110)  
(S4 SOLENOID FOR STATION P372 ONLY)

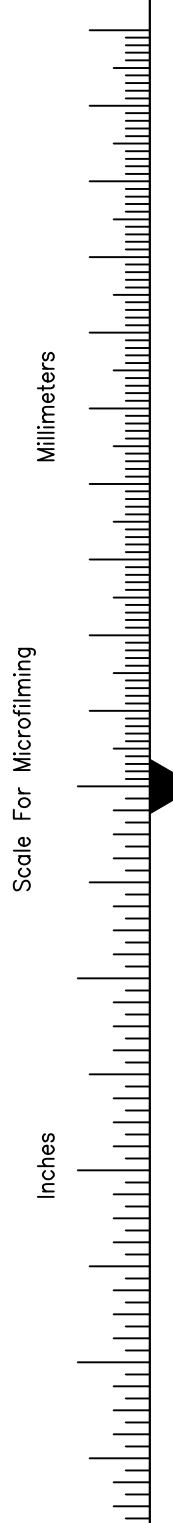


**FUEL OIL TRANSFER PUMPS CONTROL SCHEMATIC**

(TYPICAL OF LUBE OIL PUMPS)  
(PUMPS P370-4330, -4340, -4370, -4380, AND SPARE PUMPS STARTER P370A, P370B, PUMPS P372-4330, -4340, -4370, -4380, AND SPARE PUMPS STARTER P372A, P372B COMBINATION STARTER FOR PUMPS P370-4120, -4130, 4140, P372-4120, -4130, -4140, 4150)

**NOTES**

1. INSTALL LEAK ALARM PROVIDED BY PUMP SUPPLIER IN MOTOR STARTER. WIRE TO ALARM CONTACT INTO PRESSURE ALARM CIRCUIT. TYPICAL OF PUMPS P370-4120, 4130, 4140, AND P372-4120, 4130, 4140, AND 4150.



<p>EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372</p>	<p>MONTGOMERY WATSON INCORPORATED 490 SW 30th Ave., Suite 300 Sunrise, FL 33325</p>	<p>BAL/MSB BAJ/JCN DSGN CHKD DATE</p>	<p>BAL/MSB BAJ/JCN J.C. NETZEL DATE</p>	<p>CONSTRUCTION REVISION NO. 1</p>
<p>MOTOR STARTER DIAGRAMS - 2</p>	<p>REVISIONS</p>	<p>DATE</p>	<p>CHKD</p>	<p>REV. PER ADDENDUM NO. 1</p>

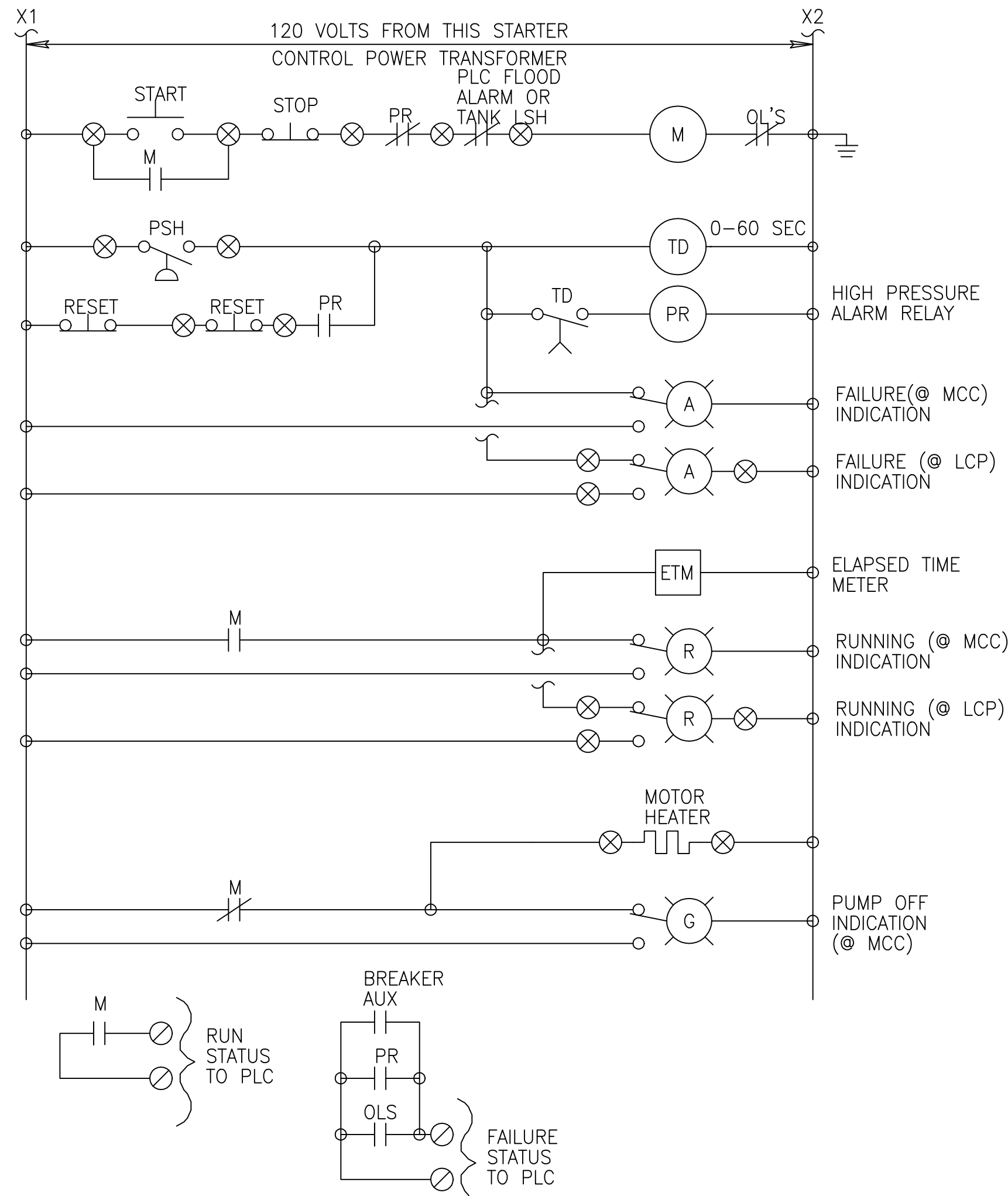
**SOUTH FLORIDA WATER MANAGEMENT DISTRICT**  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406



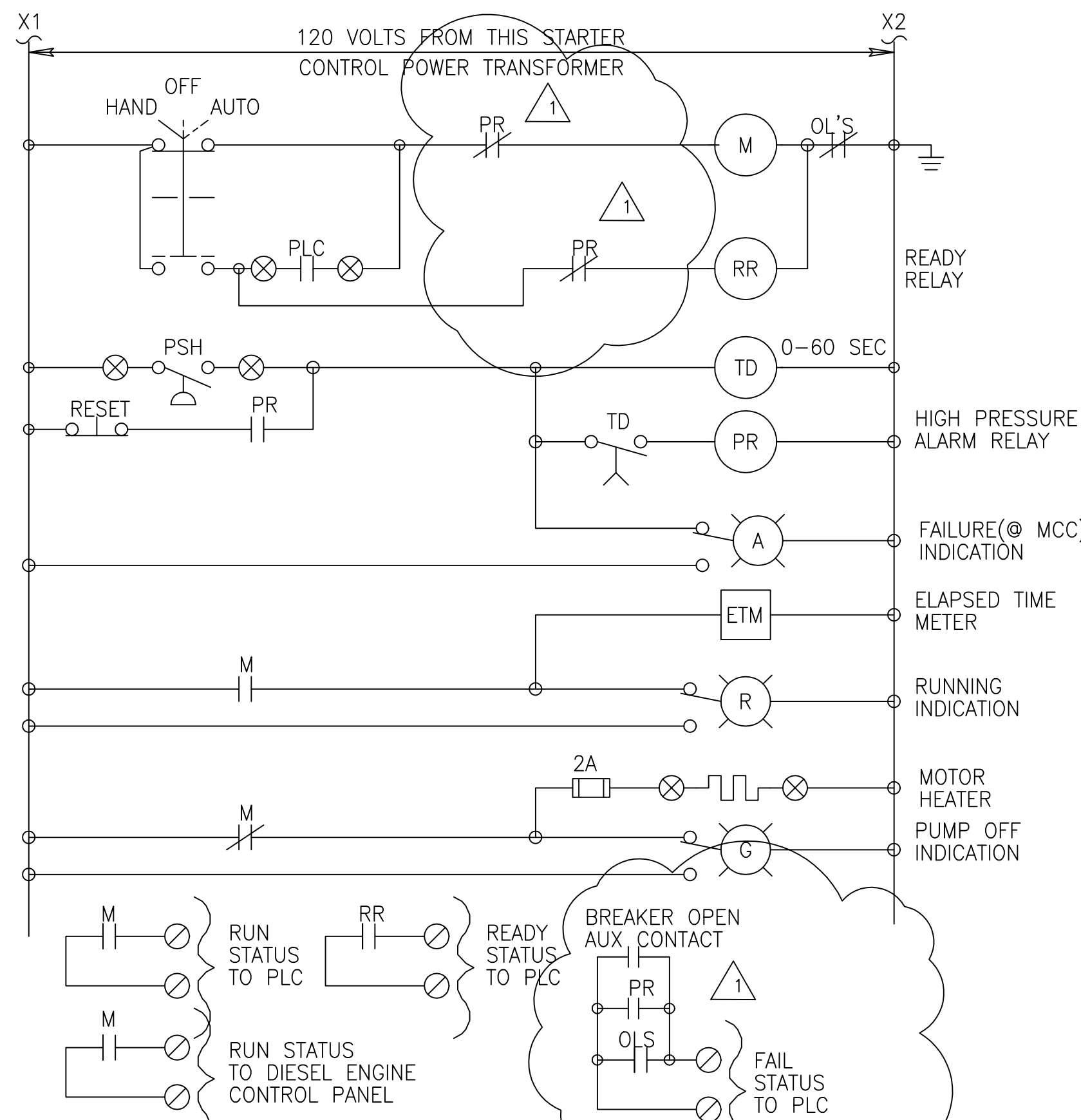
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FLA. P.E. NO. 43113

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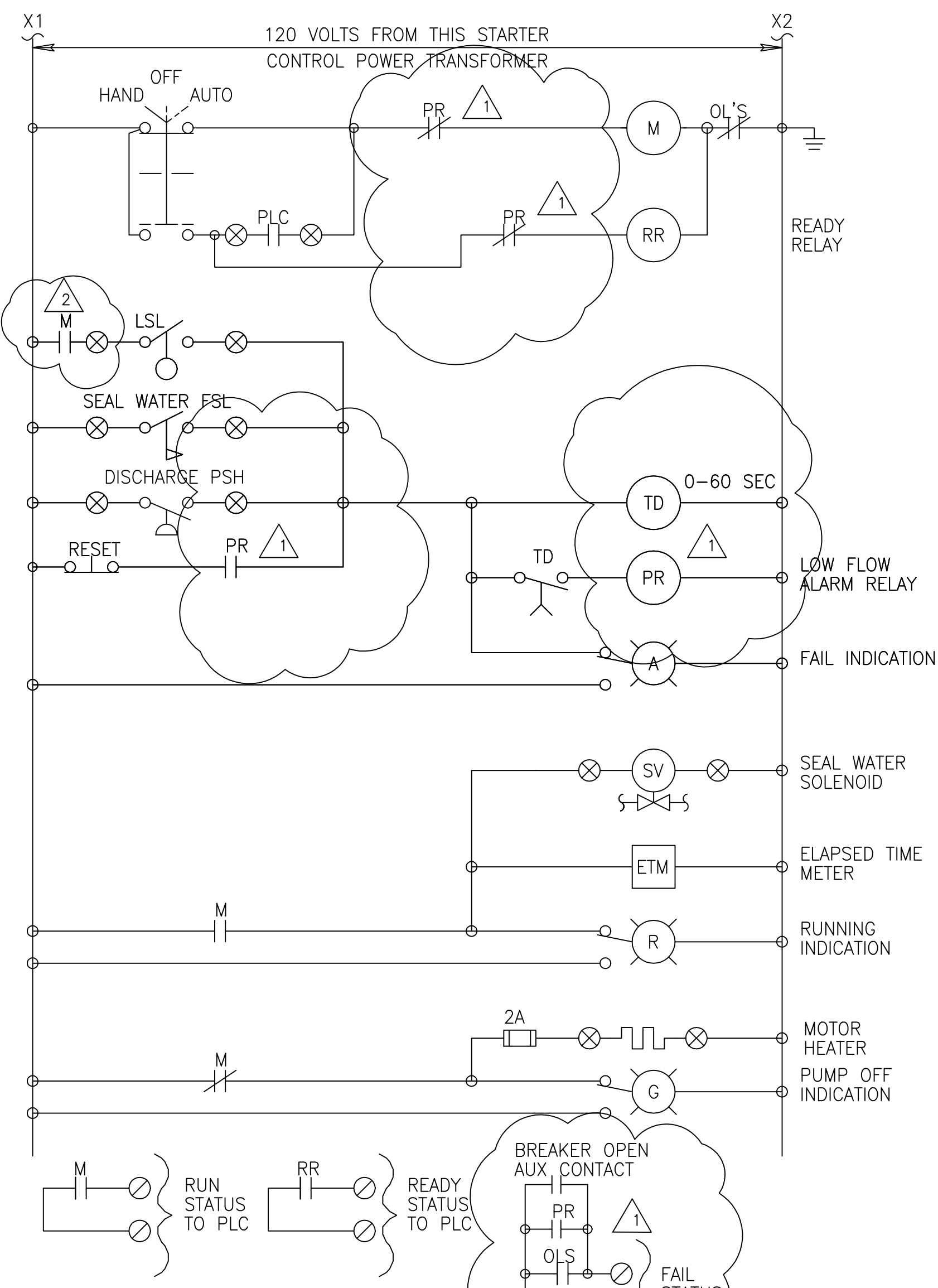
CONTRACT NO.  
C-E304  
DRAWING NO.  
EC-14  
SHEET OF



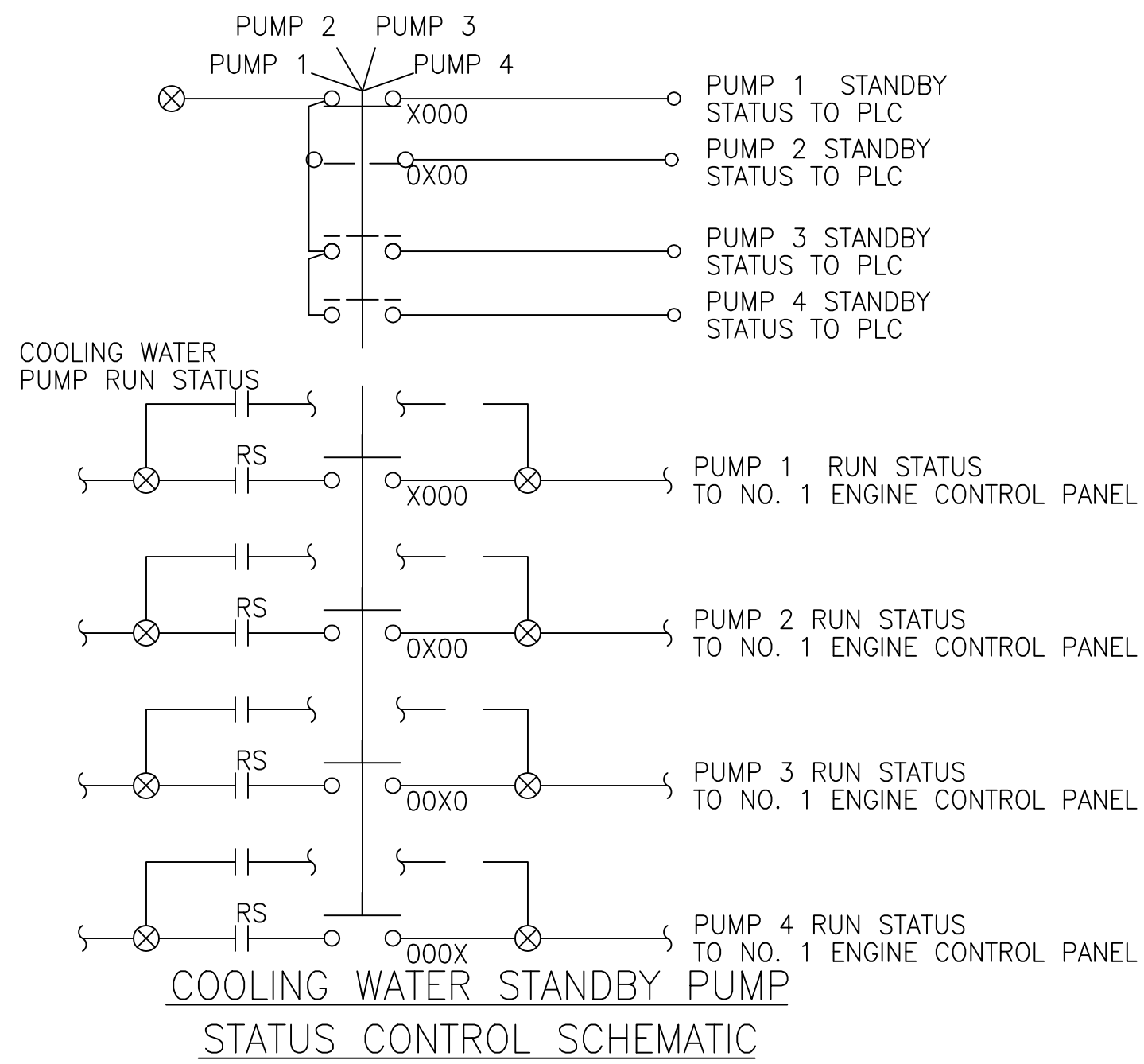
LUBE OIL RECEIVING PUMP CONTROL SCHEMATIC  
(TYPICAL OF PUMPS P370-4310 AND P372-4310)



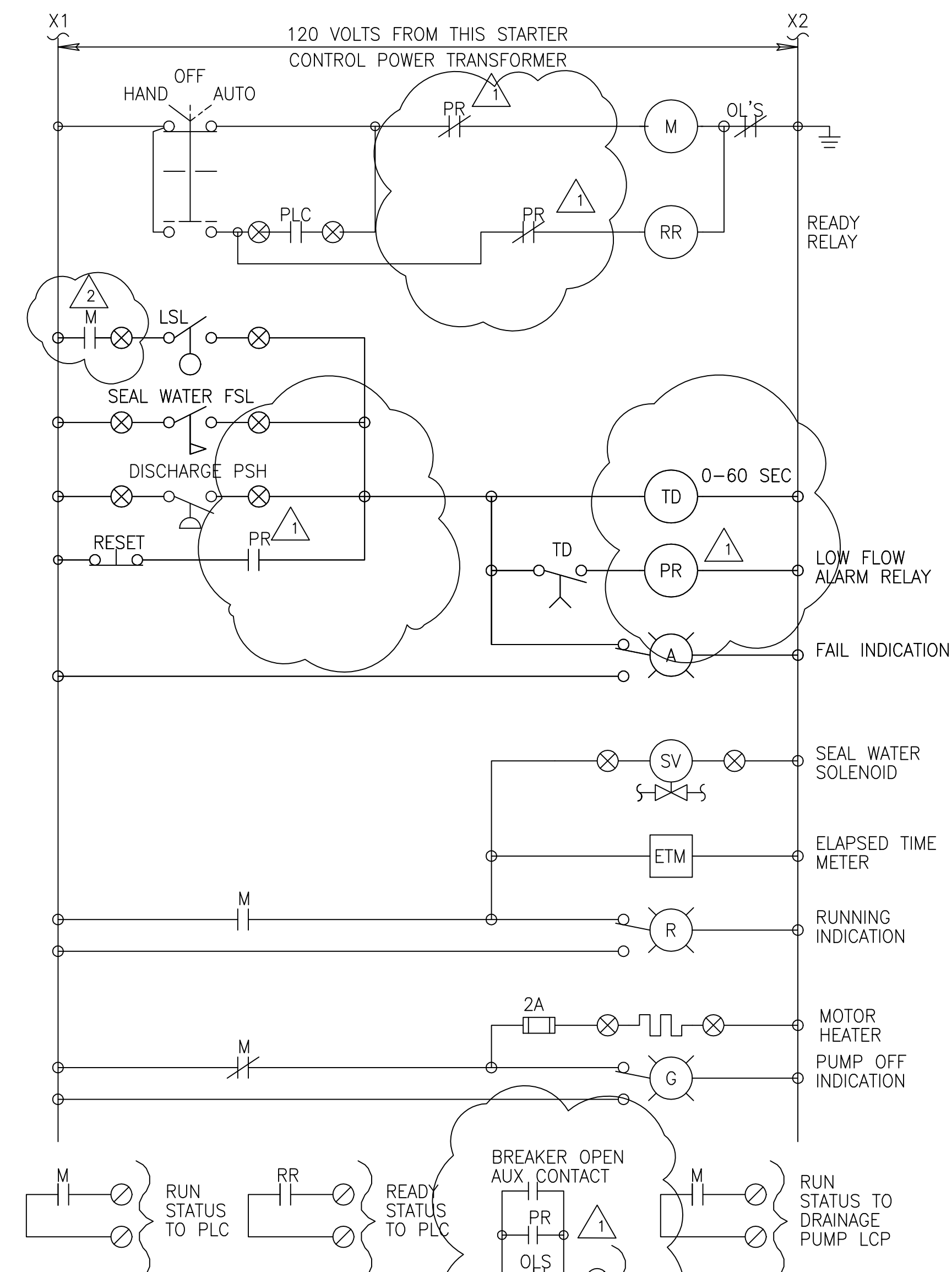
POTABLE WATER PUMPS CONTROL SCHEMATIC  
(TYPICAL OF WATER LUBRICATION PUMPS)  
(PUMPS P370-3510, -3520, -3610, AND -3620  
PUMPS P-372-3510, -3520, -3610, AND -3620)



FRESH WATER SUPPLY PUMPS CONTROL SCHEMATIC  
(TYPICAL OF 2 FRESH WATER PUMPS)  
(PUMPS P370-3410 AND -3420  
PUMPS P372-3410 AND -3420)



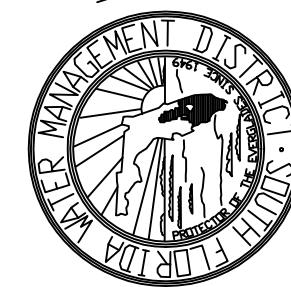
COOLING WATER STANDBY PUMP  
STATUS CONTROL SCHEMATIC



COOLING WATER PUMPS CONTROL SCHEMATIC  
(TYPICAL OF DIESEL ENGINE COOLING PUMPS)  
(PUMPS P370-3210, -3220, -3230, -3240, AND -3250  
PUMPS P372-3210, -3220, -3230, -3240, AND -3250)

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WATER MANAGEMENT DISTRICT  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
MOTOR STARTER DIAGRAMS - 3



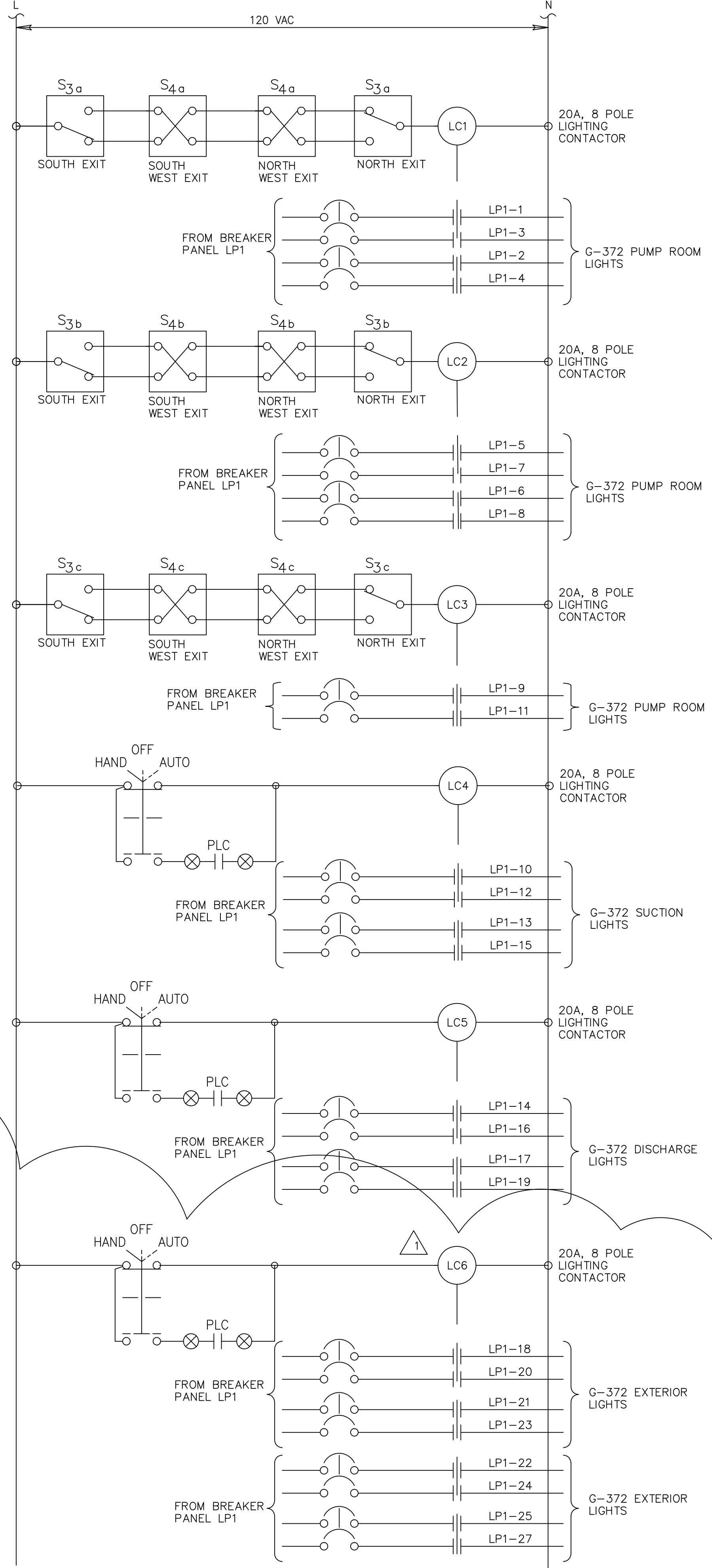
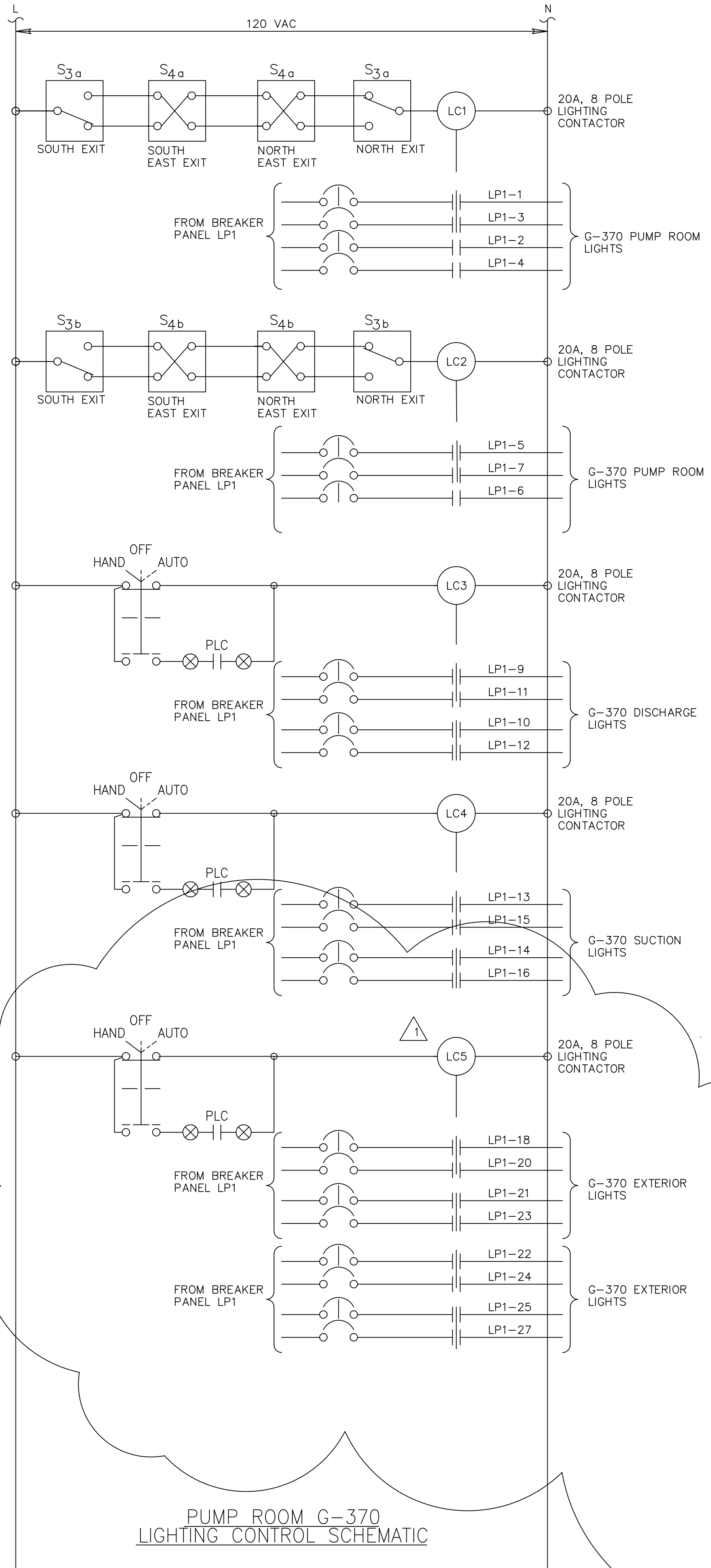
MONTGOMERY  
WATSON  
CONSTRUCTION  
490 SW 30th Ave., Suite 300  
Miami, FL 33135

Brown Cunningham Gannuch  
ENGINEERS • ARCHITECTS • CONSULTANTS  
2701 ANKAWA ST.  
MIAMI, FLORIDA 33135  
License No. EB0000895

DRAWN	BAL/MSB	DATE	CHKD	DATE
DSGN	BAL/JCN	3/11/2004	SMR	
CHKD	J.C. NETZEL	6/13/01	JCN	
SCALE	NONE		DWN	

REVISIONS	CONSTRUCTION REVISION
REVISED PER ADDENDUM NO. 3	

Scale For Microfilming  
Inches  
Millimeters



GENERAL NOTES:  
1. LOCATE CONTACTORS IN MCC

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FLA. P.E. NO. 43113

DRAWN		BAL/MSB	DATE	
DSGN		BAL/JCN	CHKD	
CHKD		J.C. NETZEL	DWN	
DATE		6/13/01	REVISED PER ADDENDUM NO. 3	
SCALE		NONE	REVISIONS	

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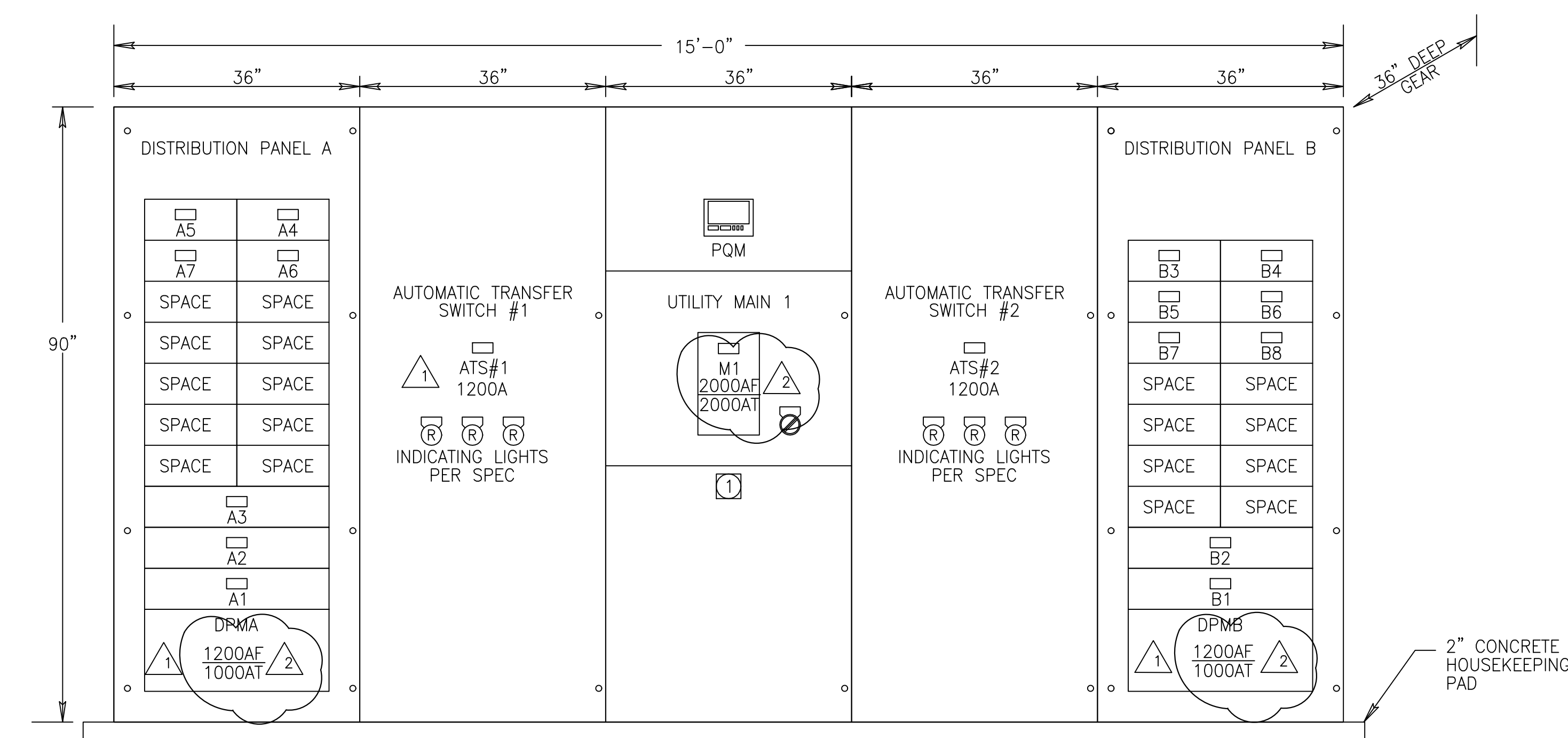
**MONTGOMERY WATSON**  
P.E. P.W.  
480 SHAWWEE SUITE 301  
SUNRISE, FL 33325

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372

LIGHTING CONTROL DIAGRAM

SOUTH FLORIDA WATER MANAGEMENT DISTRICT  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406

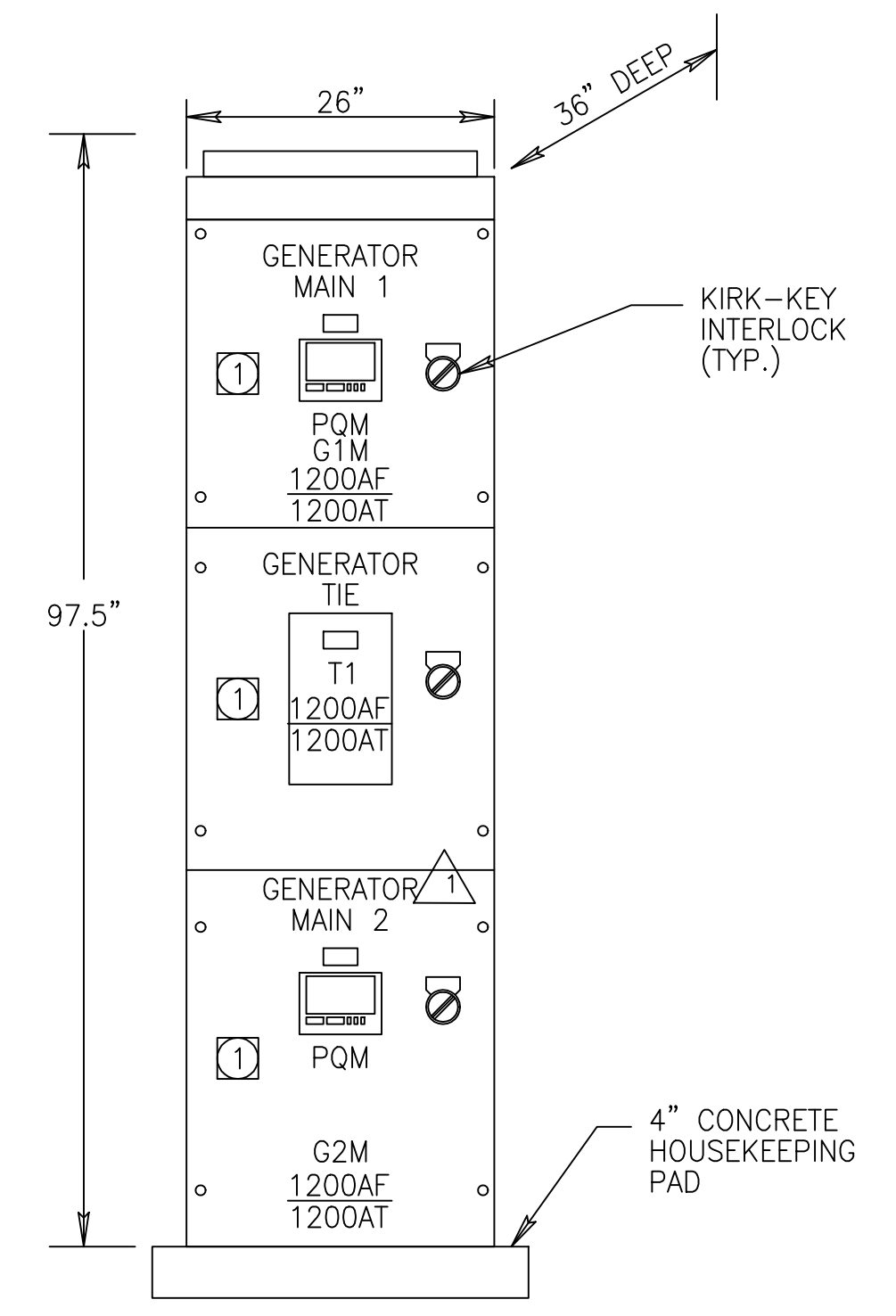
CONTRACT NO. C-E304  
DRAWING NO. EC-16  
SHEET OF



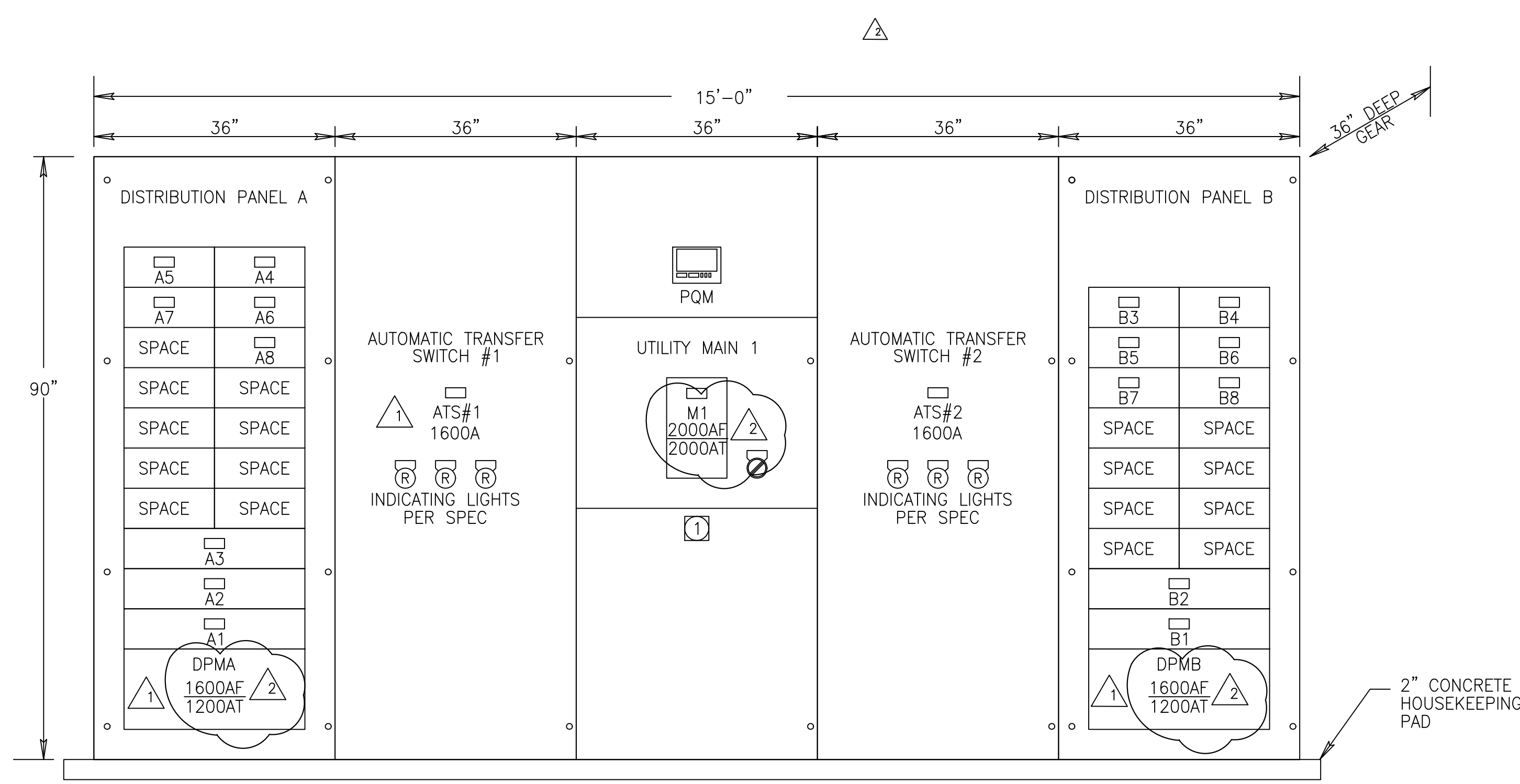
NEW PUMP STATION G-370 SWITCHBOARD SWBD1 - ELEVATION

(SWITCHGEAR SHALL HAVE BOTTOM ENTRY TO BUS NEMA-1A ENCLOSURE WITH FILTERED LOUVERS, VENTILATION FANS)

- NOTES:  
 ① PROVIDE STATUS SWITCH TO INDICATE BREAKER POSITION TO PLANT CONTROL SYSTEM MONITOR.

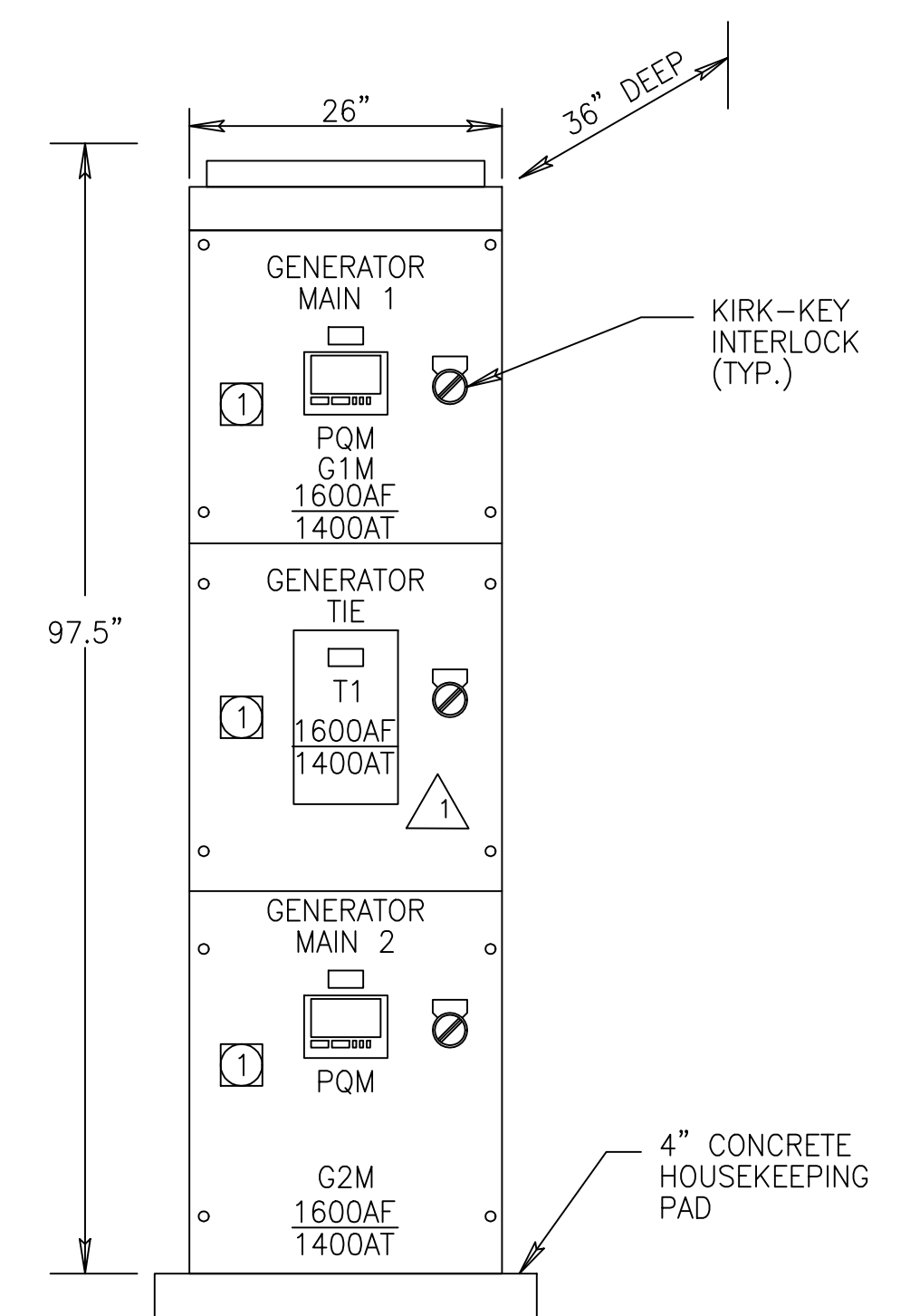


NEW PUMP STATION G-370 GENERATOR BREAKER ENCLOSURE GBP



NEW PUMP STATION G-372 SWITCHBOARD SWBD2 - ELEVATION

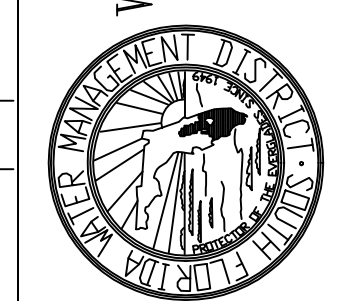
(SWITCHGEAR SHALL HAVE BOTTOM ENTRY TO BUS NEMA-1A ENCLOSURE WITH FILTERED LOUVERS, VENTILATION FANS)



NEW PUMP STATION G-372 GENERATOR BREAKER ENCLOSURE GBP

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 DRAWING NO. EC-17  
 SHEET OF

EVERGLADES CONSTRUCTION PROJECT  
 STORMWATER TREATMENT AREA 3/4  
 PUMPING STATIONS G-370 AND G-372  
 SWITCHGEAR ELEVATIONS

SOUTH FLORIDA WATER MANAGEMENT DISTRICT  
 EVERGLADES CONSTRUCTION PROJECT  
 3301 GUN CLUB ROAD  
 WEST PALM BEACH, FLORIDA 33406

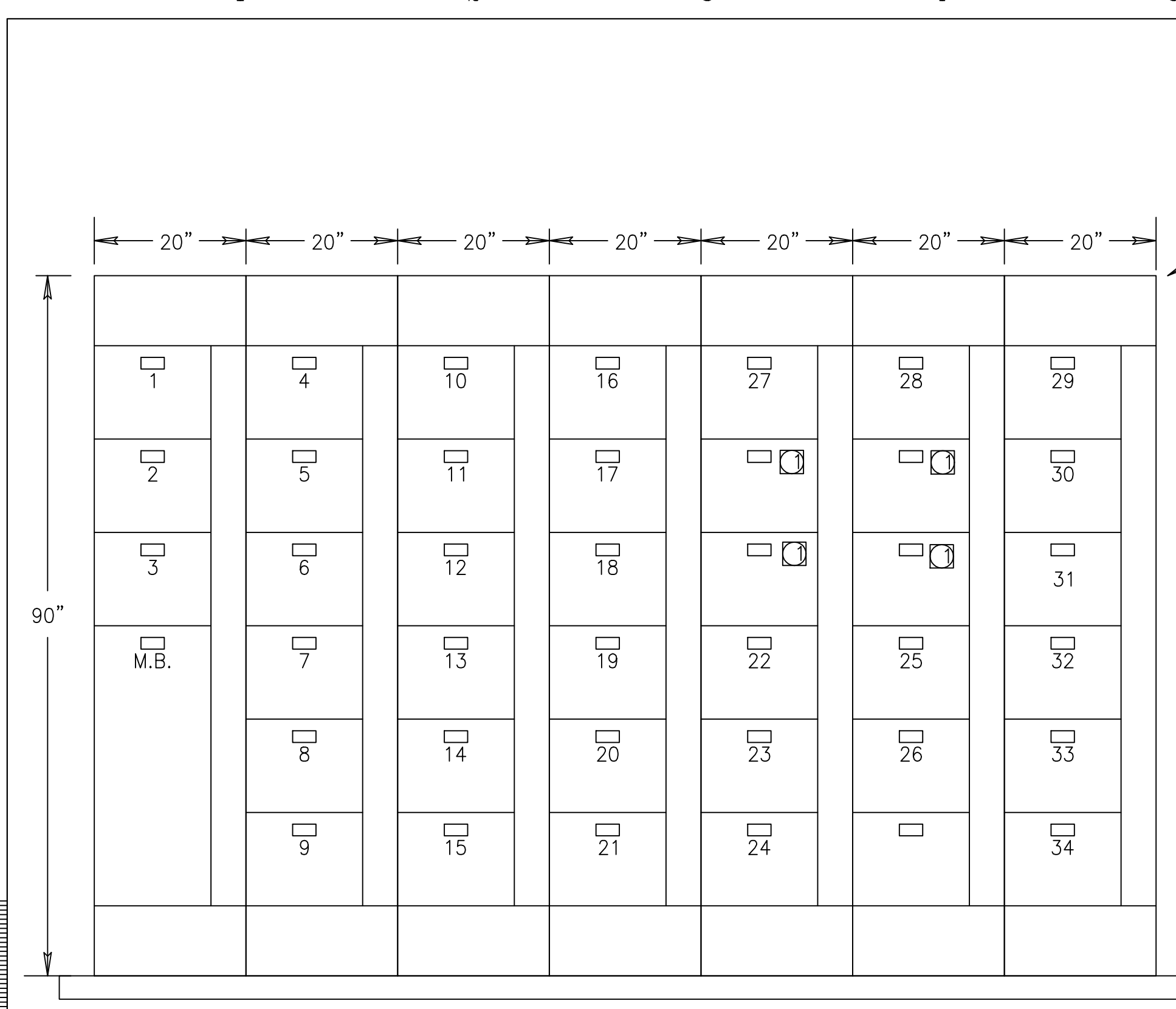
**BCJ**  
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 METRO CENTER SUITE 7008  
 MIAMI, FL 33133  
 License No. EB0008095

**MONTGOMERY WATSON**  
 ENGINEERS, ARCHITECTS, PLANNERS  
 490 SW 3rd Avenue, Suite 300  
 Sunrise, FL 33325

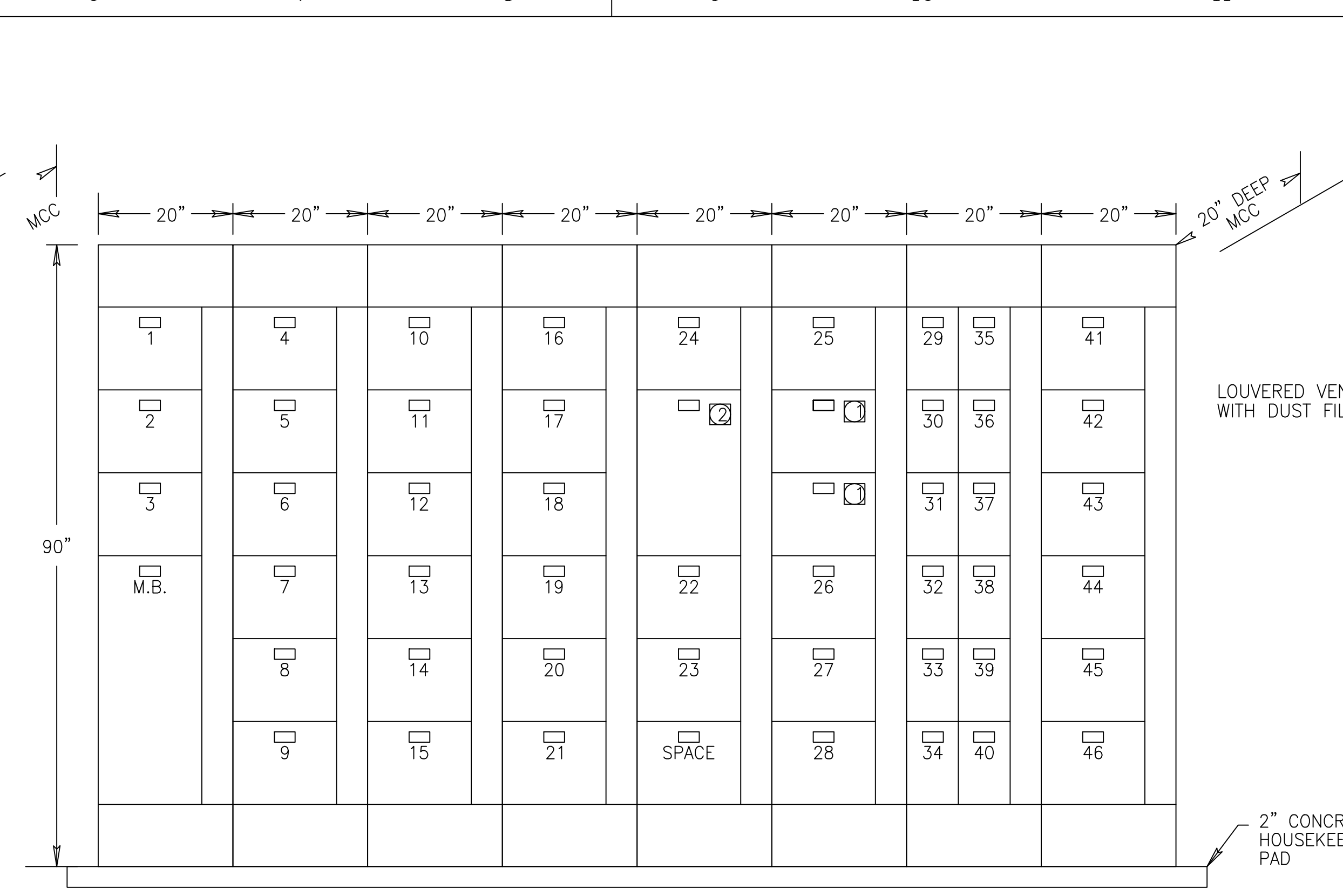
REV.	DATE	CHKD	DATE	REV. PER	REVISIONS
1	5/15/2002	LPP	AL	REV. PER SUBMITTAL 16621	
2	9/30/2002	LPP	AL	REV. PER RFI 108/109	

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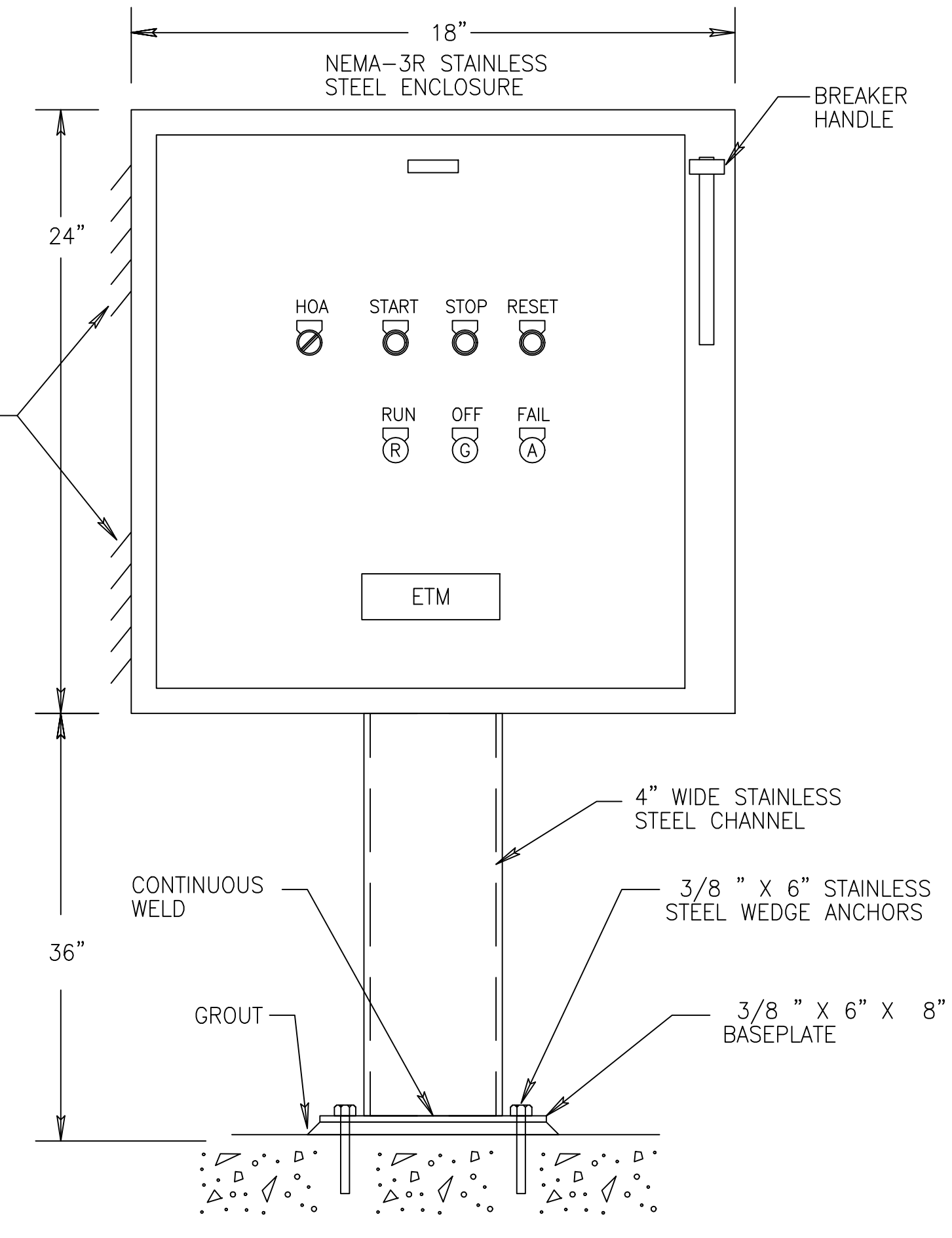




PUMP STATION G-370 MCC-M1

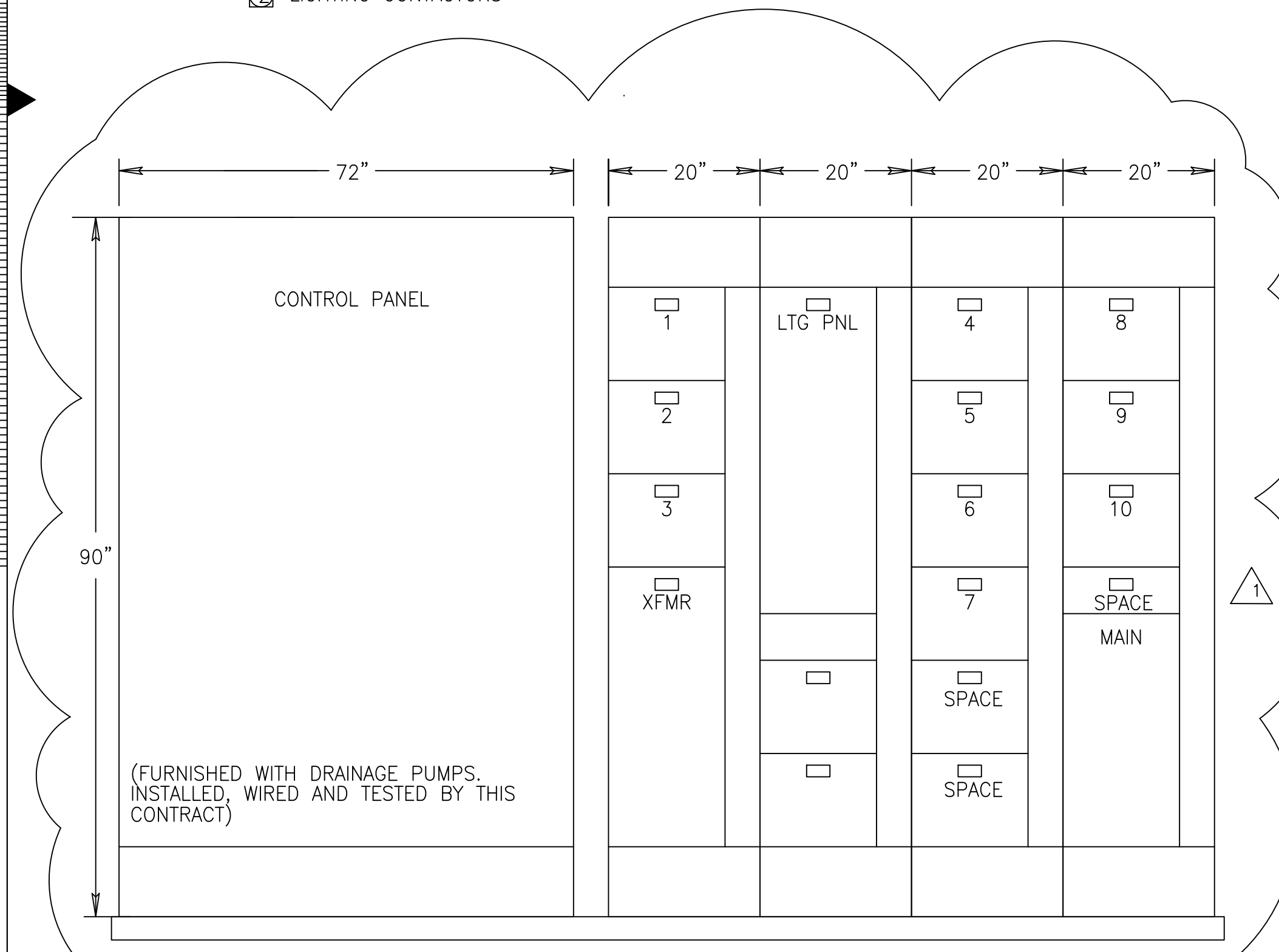


PUMP STATION G-370 MCC-M2

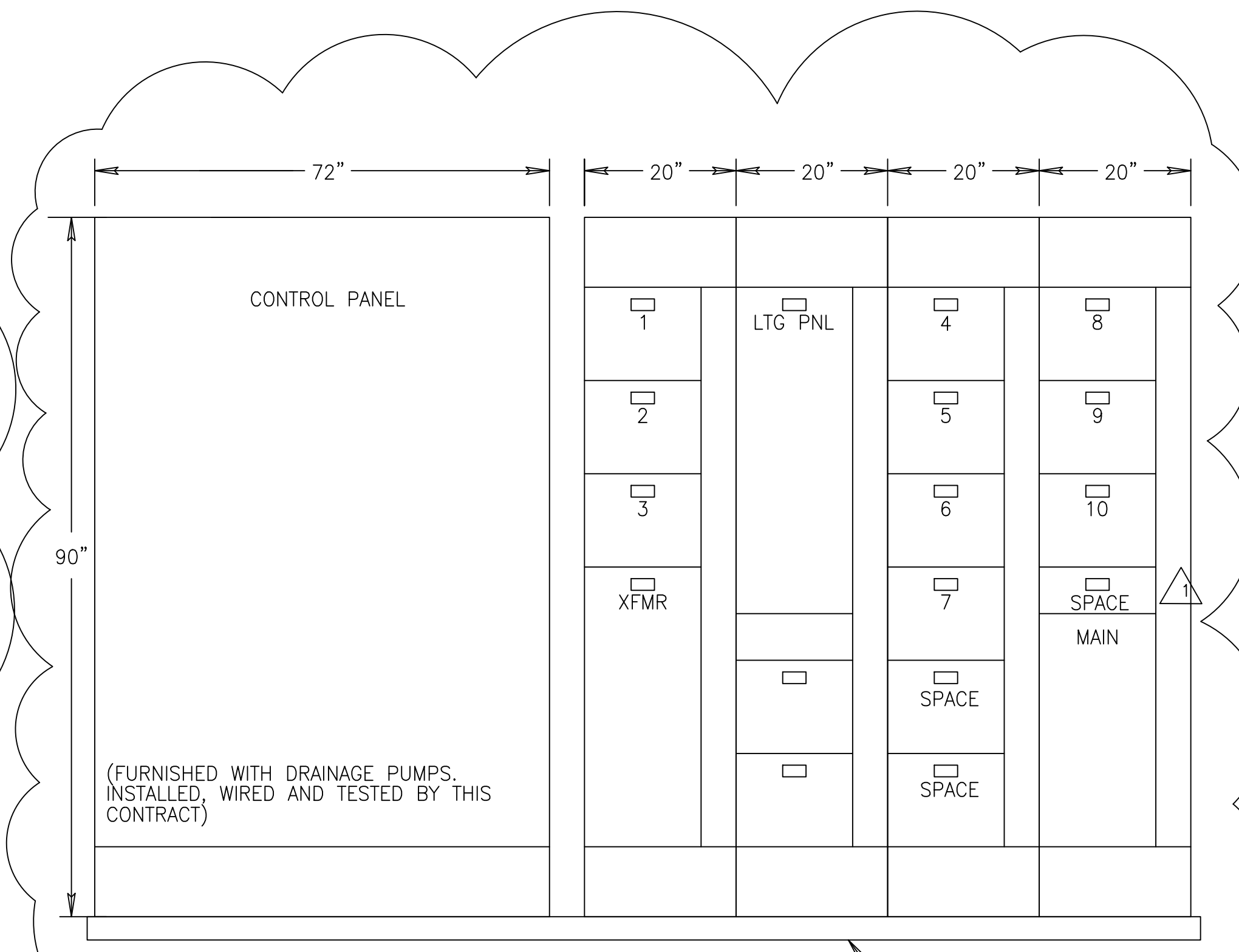


FUEL OIL TRANSFER PUMP COMBINATION STARTER LCP  
(TYPICAL PUMPS P370-4120, -4130, -4140)

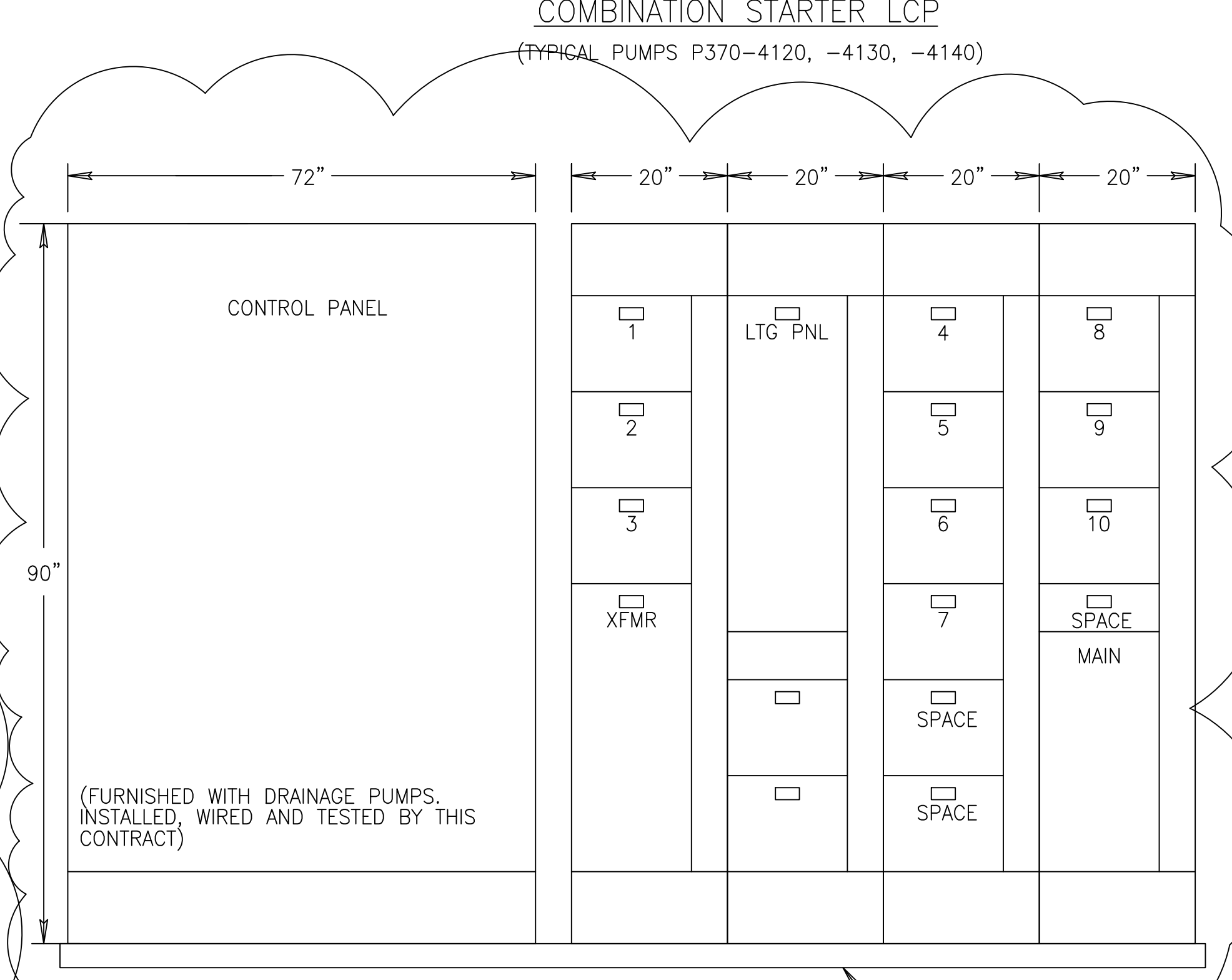
- NOTE:
- 1 PROVIDE 20A/3P BREAKER FOR ALL EMPTY BUCKETS IN MCC
  - 2 LIGHTING CONTACTORS



PUMP STATION G-370 DIESEL PUMP SUPPORT MCC-D1  
(FURNISHED WITH DRAINAGE PUMPS, INSTALLED, WIRED AND TESTED BY THIS CONTRACT)



PUMP STATION G-370 DIESEL PUMP SUPPORT MCC-D2  
(FURNISHED WITH DRAINAGE PUMPS, INSTALLED, WIRED AND TESTED BY THIS CONTRACT)



PUMP STATION G-370 DIESEL PUMP SUPPORT MCC-D3  
(FURNISHED WITH DRAINAGE PUMPS, INSTALLED, WIRED AND TESTED BY THIS CONTRACT)

REV.	DATE	CHKD	DATE	REV. PER FINE COMMENTS	REVISIONS
AL	5/15/2002	LPP	DWN		

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CORPORATION  
490 SHAWHUT CIRCLE, SUITE 300  
SUNRISE, FL 33325

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
MCC ELEVATIONS - 1

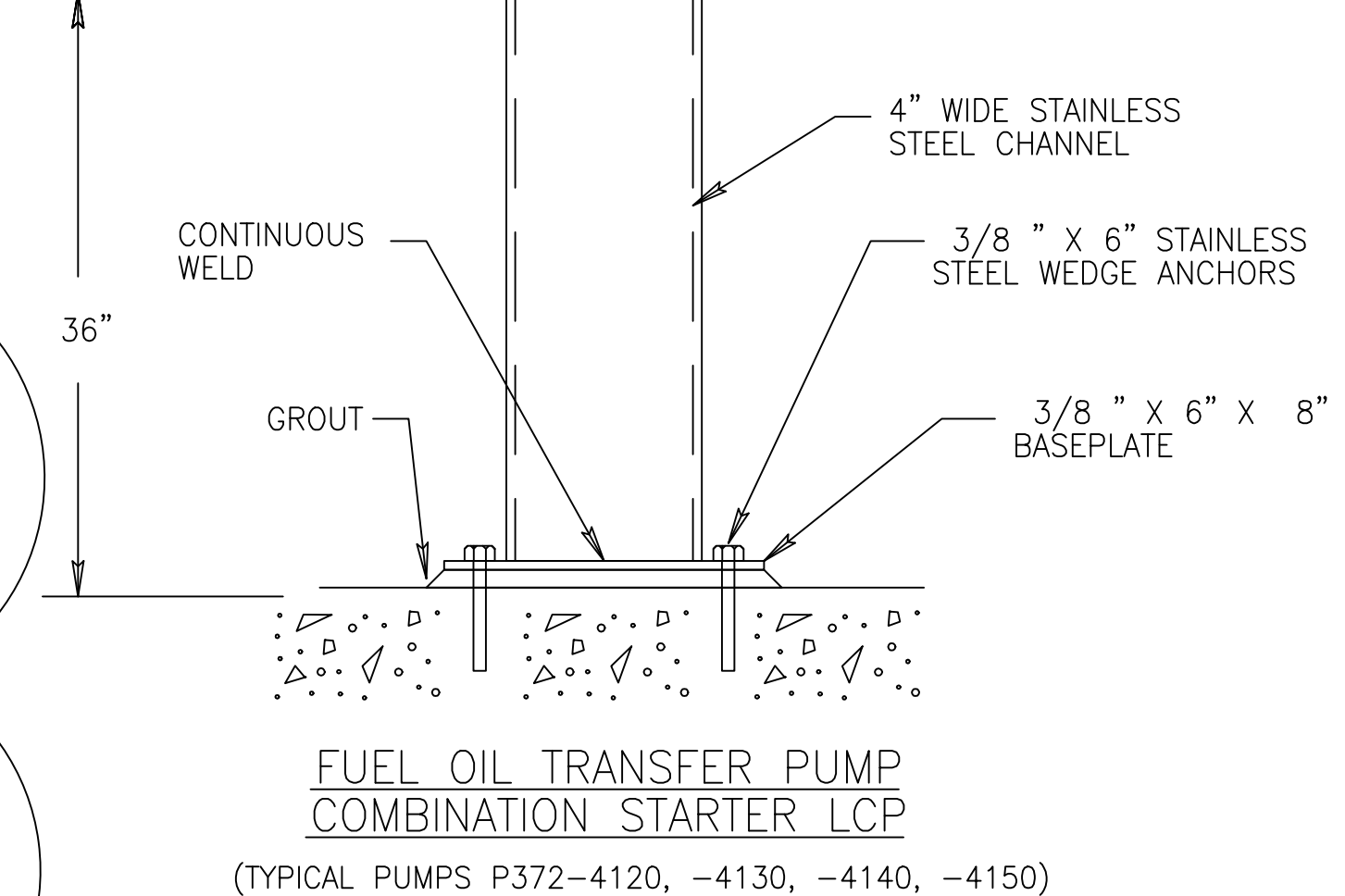
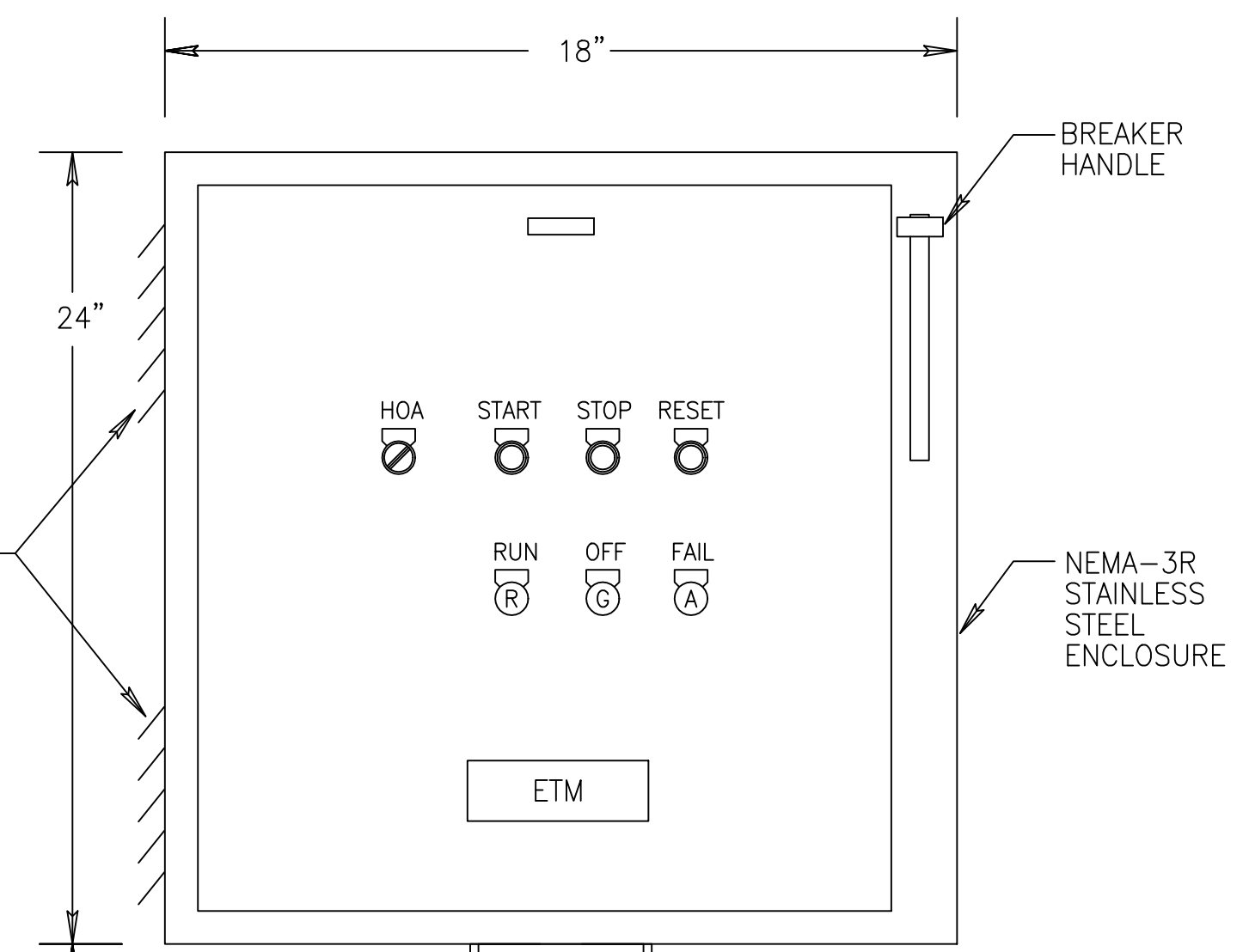
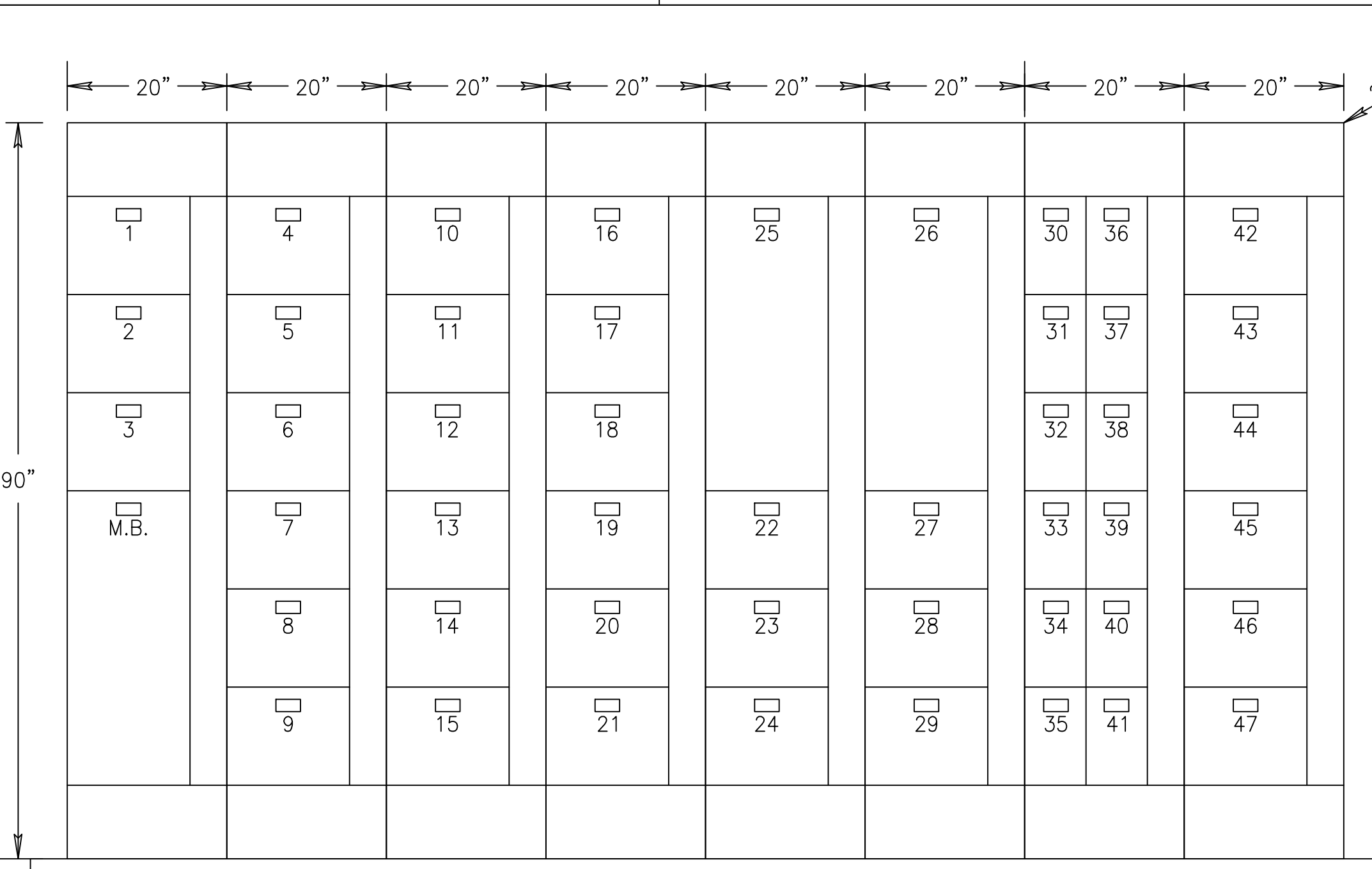
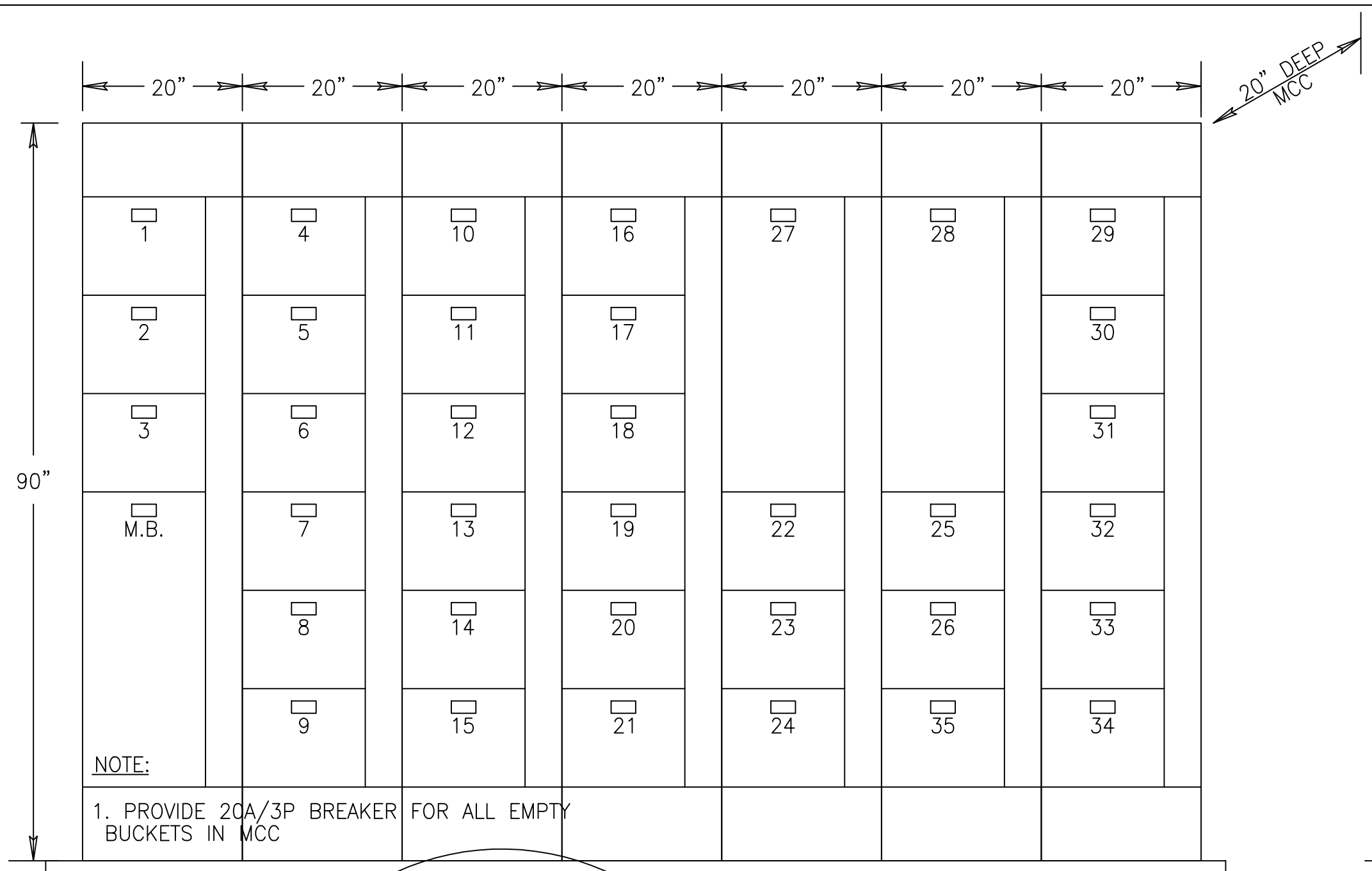
**SOUTH FLORIDA WATER MANAGEMENT DISTRICT**  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406

JOHN C. NETZEL P.E.  
FLA. P.E. NO. 43113

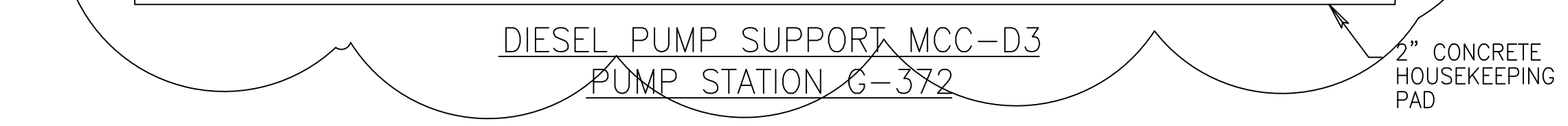
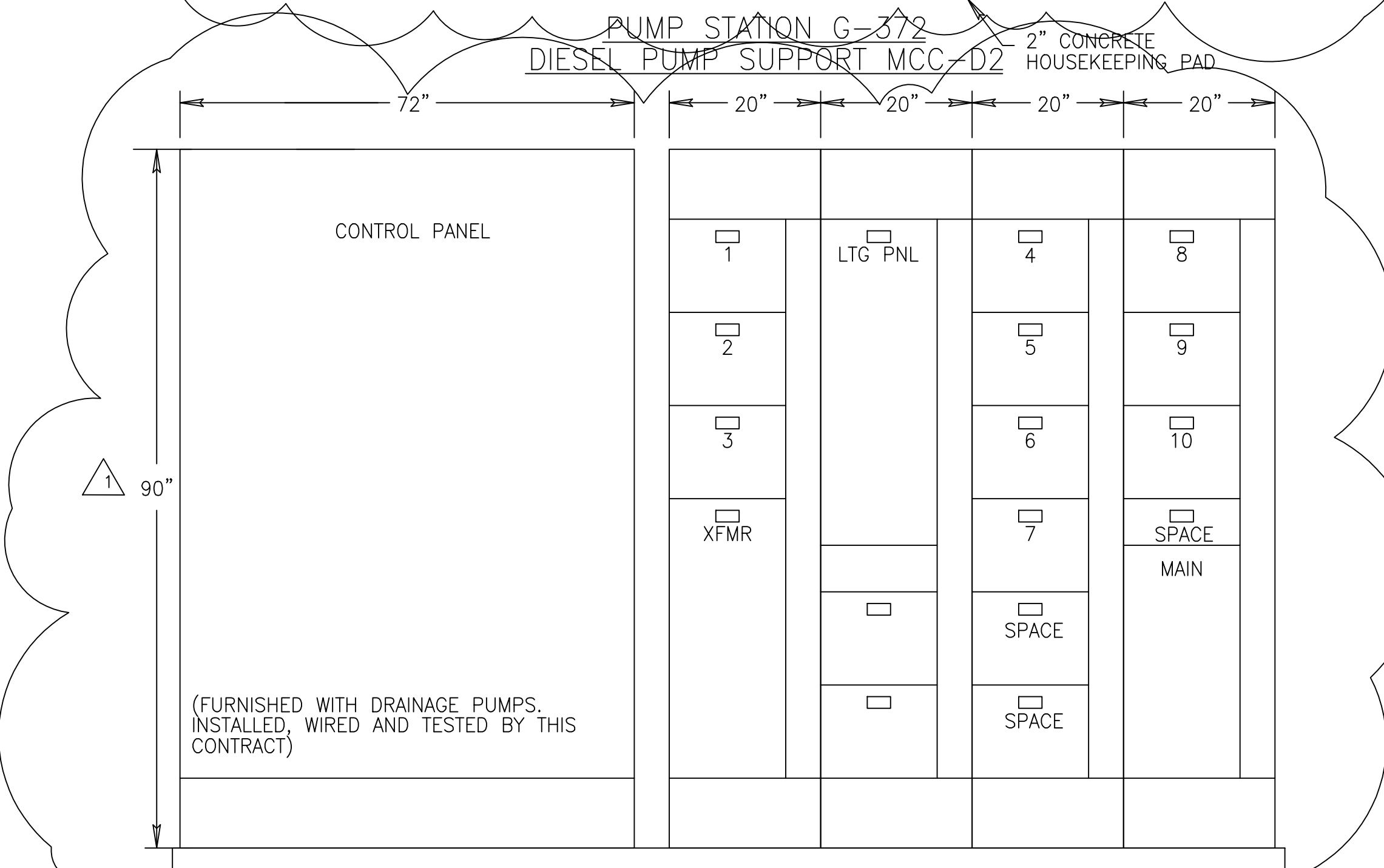
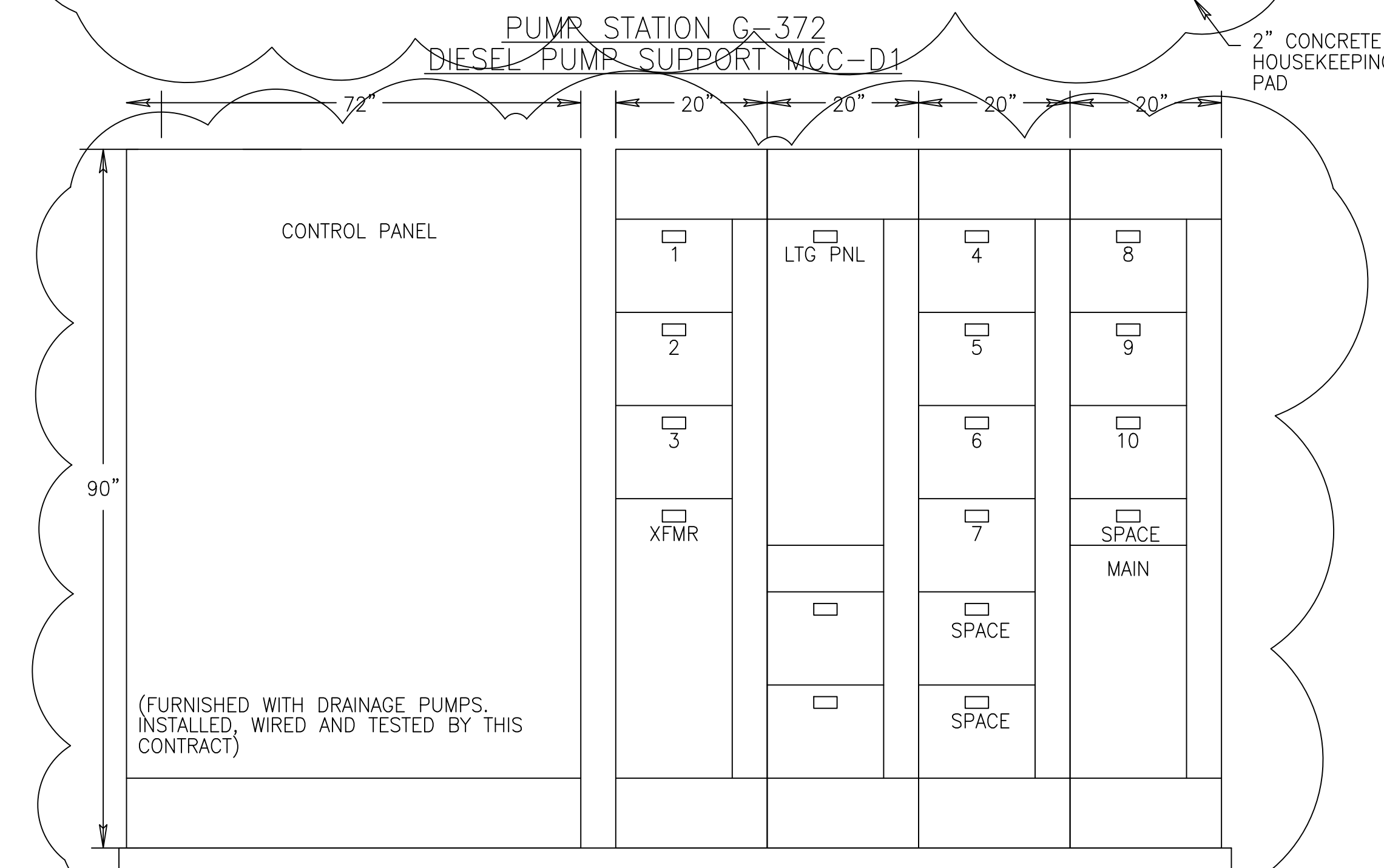
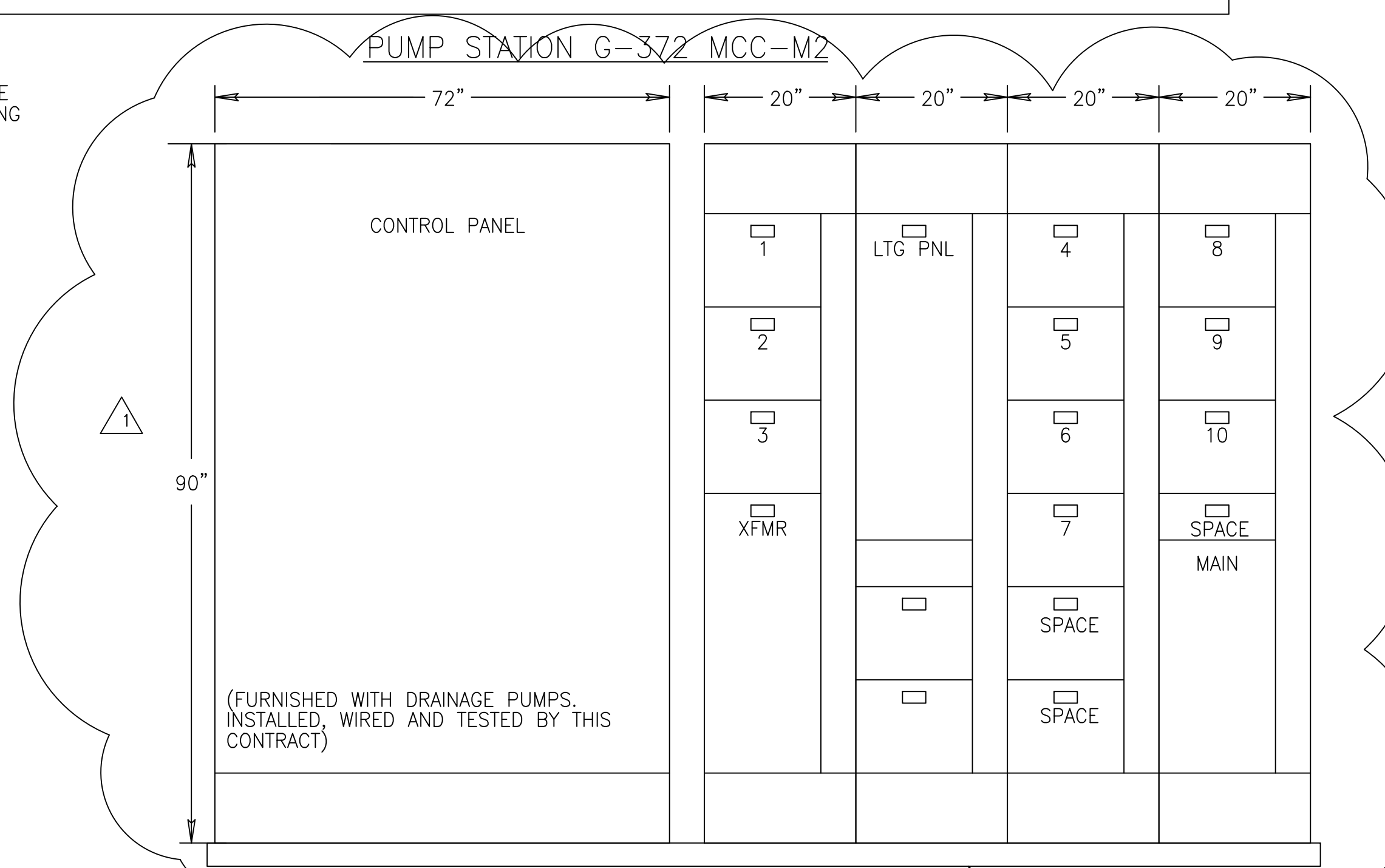
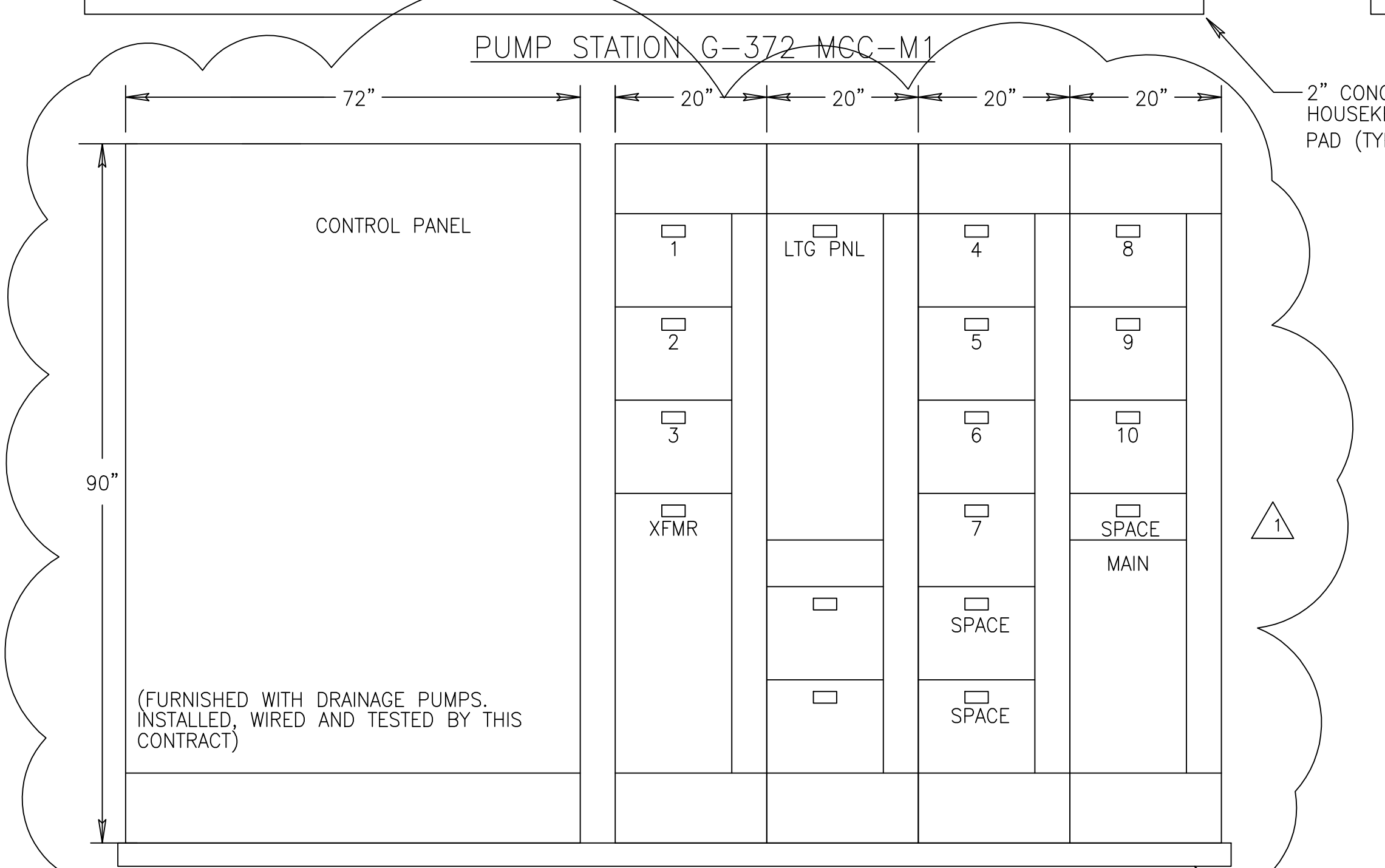
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FUEL OIL TRANSFER PUMP COMBINATION STARTER LCP (TYPICAL PUMPS P372-4120, -4130, -4140, -4150)



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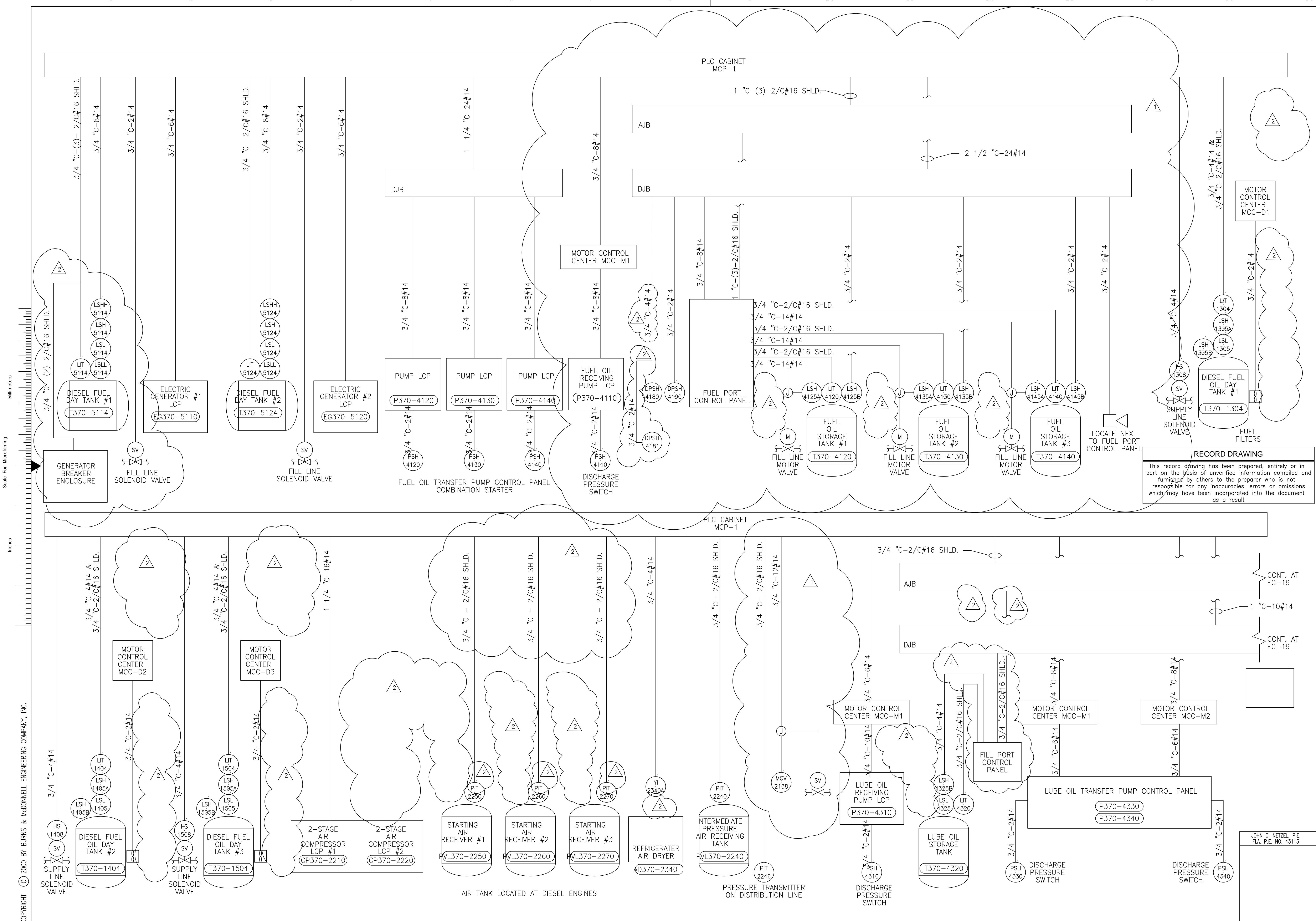
EVERGLADES CONSTRUCTION PROJECT  
 STORMWATER TREATMENT AREA 3/4  
 PUMPING STATIONS G-370 AND G-372  
 MCC ELEVATIONS - 2

SOUTH FLORIDA WATER MANAGEMENT DISTRICT  
 EVERGLADES CONSTRUCTION PROJECT  
 3301 GUN CLUB ROAD  
 WEST PALM BEACH, FLORIDA 33406

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 SUNRIDGE, FL 33325

REV.	DATE	CHKD	DATE	REV. PER FINE COMMENTS	REVISIONS
AL	5/15/2002	LPP			
		DWN			



Scale For Micromilming  
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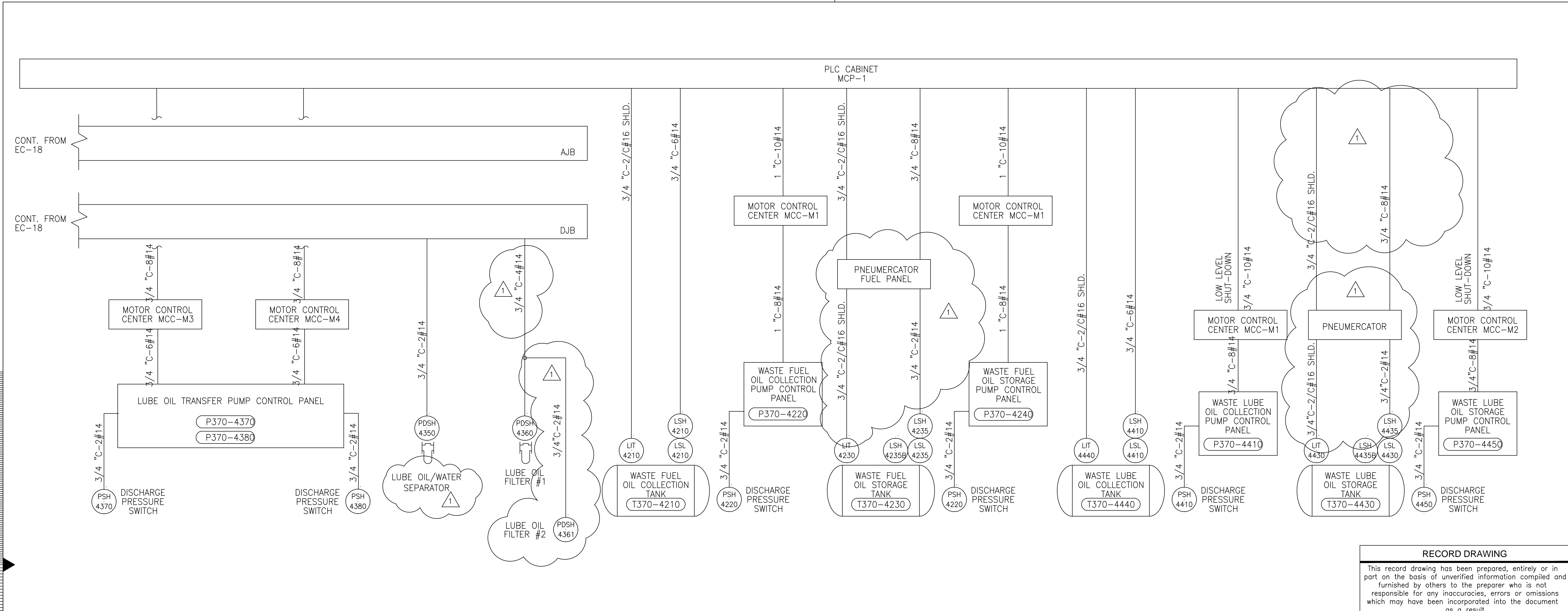
Inches

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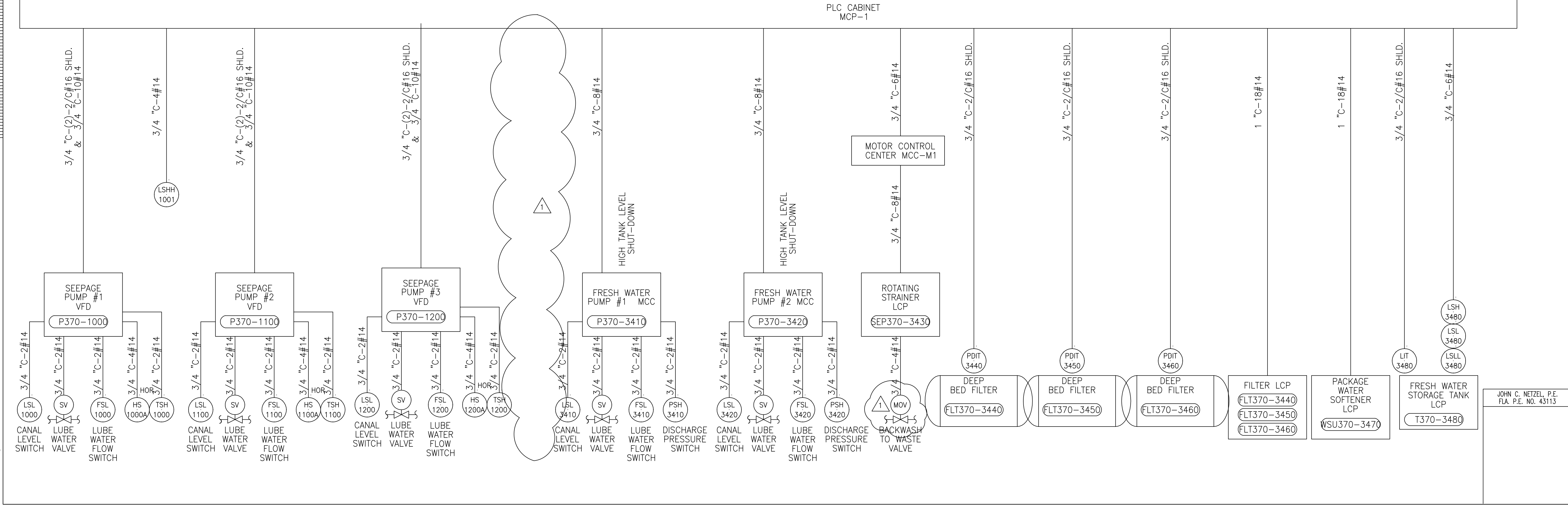
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<table border="1"> <tr><th>BAU/MS</th><td></td></tr> <tr><th>DRAWN</th><td>BAU/JCN</td></tr> <tr><th>DSGN</th><td>J.C. NETZEL</td></tr> <tr><th>CHKD</th><td>COP</td></tr> <tr><th>DATE</th><td></td></tr> <tr><th>SCALE</th><td>NONE</td></tr> </table>	BAU/MS		DRAWN	BAU/JCN	DSGN	J.C. NETZEL	CHKD	COP	DATE		SCALE	NONE	<table border="1"> <tr><th>SMR</th><td>3/11/2004</td></tr> <tr><th>JCN</th><td>5/18/2001</td></tr> <tr><th>COP</th><td></td></tr> <tr><th>DWN</th><td></td></tr> <tr><th>CHKD</th><td></td></tr> <tr><th>DATE</th><td></td></tr> <tr><th>SCALE</th><td></td></tr> </table>	SMR	3/11/2004	JCN	5/18/2001	COP		DWN		CHKD		DATE		SCALE		<table border="1"> <tr><th>CONSTRUCTION REVISION</th><td></td></tr> <tr><td>Δ</td><td>REV. PER ADDENDUM NO. 1</td></tr> <tr><td>Δ</td><td></td></tr> <tr><td>Δ</td><td></td></tr> <tr><td>Δ</td><td></td></tr> </table>	CONSTRUCTION REVISION		Δ	REV. PER ADDENDUM NO. 1	Δ		Δ		Δ		<table border="1"> <tr><th>REVISIONS</th><td></td></tr> <tr><th>DATE</th><td></td></tr> <tr><th>CHKD</th><td></td></tr> <tr><th>DWN</th><td></td></tr> </table>	REVISIONS		DATE		CHKD		DWN	
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<p><b>SOUTH FLORIDA WATER MANAGEMENT DISTRICT</b> EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406</p>		<p>CONTRACT NO. C-E304 DRAWING NO. EC-20 SHEET OF</p>																																													

Scale For Micromilming  
Inches  
Millimeters

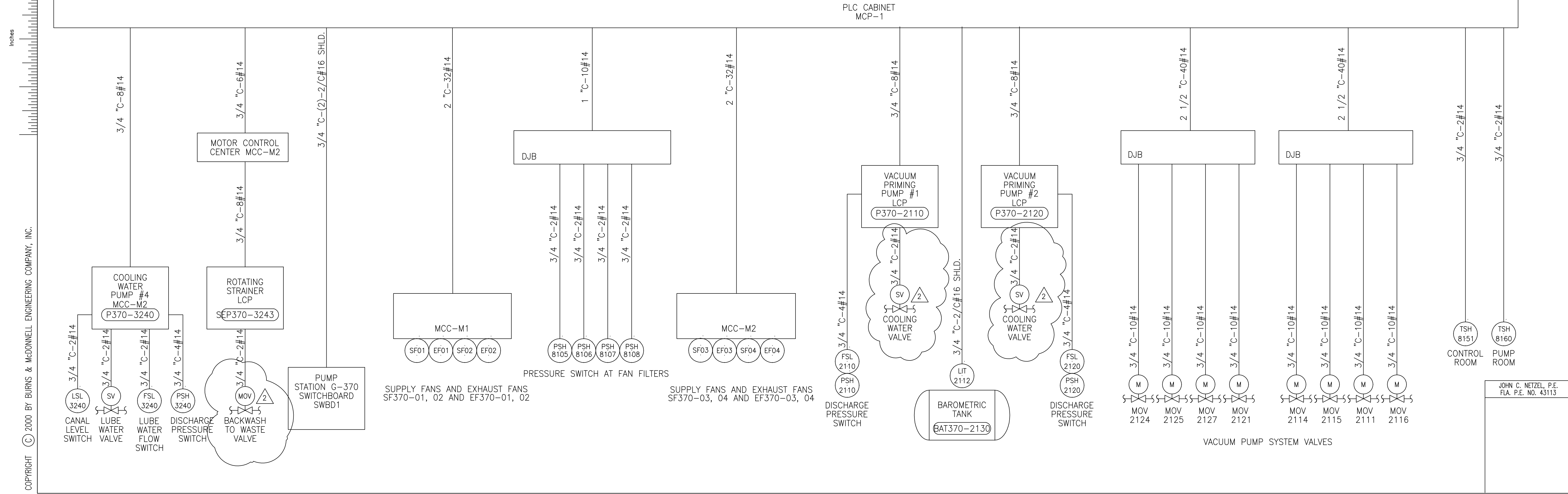
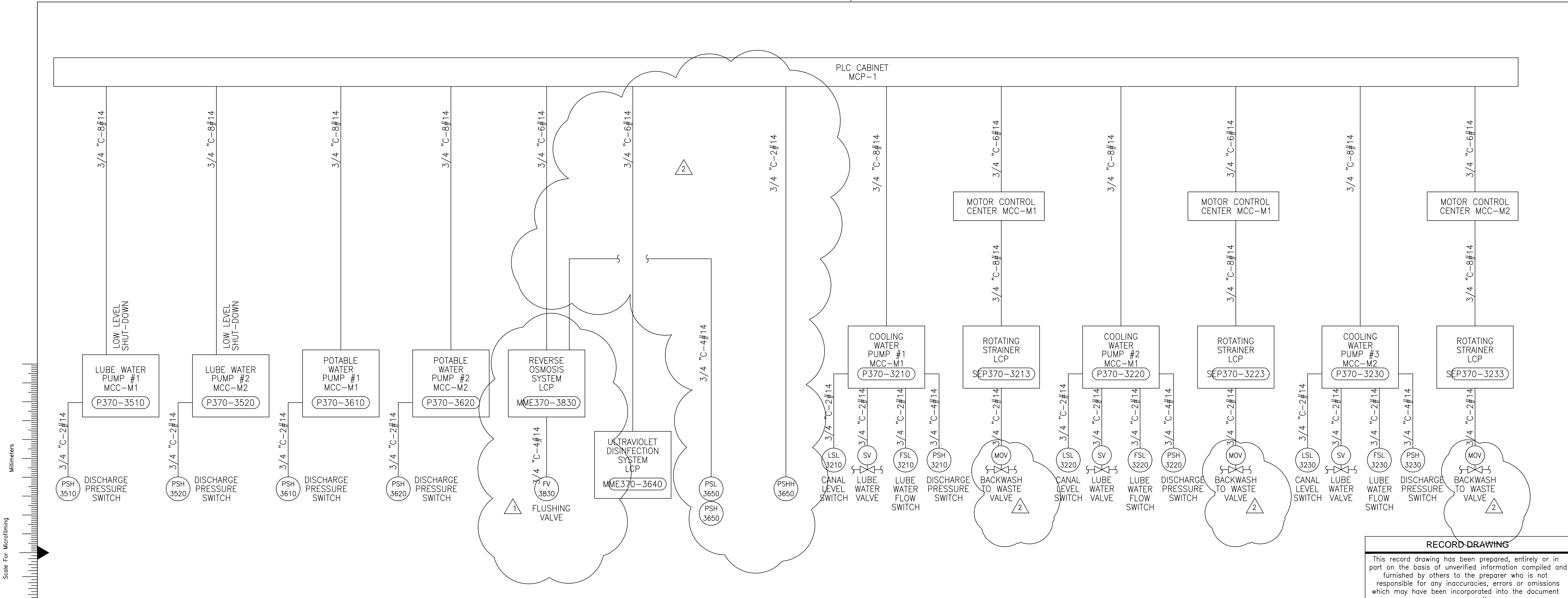


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	DESIGN	BAL/JCN	
	DATE	J.C. NETZEL	
	DATE	SMR	
<p><b>MONTGOMERY WATSON</b> P.E. P.W. 490 SHAWWOOD SUITE 300 SUNRIDGE, FL 33325</p>	DATE	3/11/2004	CONSTRUCTION REVISION
	DATE	DCK	REVISIONS
	DATE	SMR	DATE
	DATE	SMR	DATE
<p><b>SOUTH FLORIDA WATER MANAGEMENT DISTRICT</b></p> <p>EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406</p>	CONTRACT NO.	C-E304	<p>PUMP STATION G-370 CONDUIT DIAGRAM - 2</p>
	DRAWING NO.	EC-21	
<p>EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372</p>		DATE	3/11/2004
<p>EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372</p>		SCALE	NONE



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<p>MONTGOMERY WATSON        490 SW 10th Ave., Suite 300        Sunrise, FL 33325</p>		DATE: 3/11/2004 CHKD: JCN DATE: 6/13/01 SCALE: NONE REVISIONS:
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SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406		
CONTRACT NO. C-E304 DRAWING NO. EC-22 SHEET OF		
JOHN C. NETZEL P.E. FLA. P.E. NO. 43113		

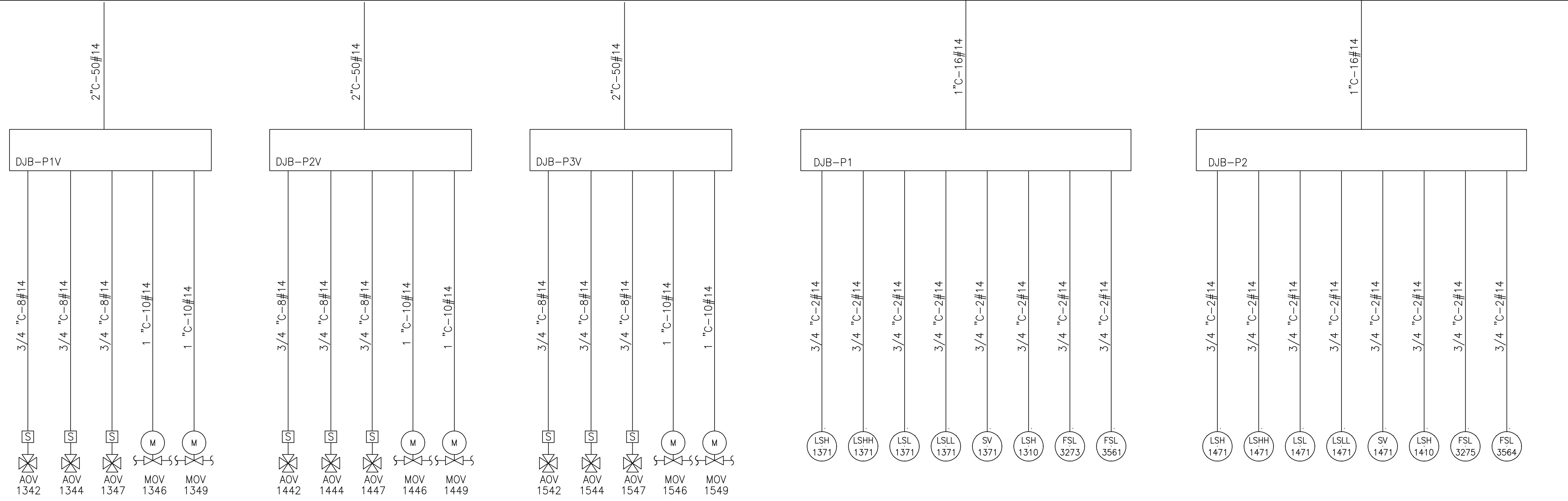
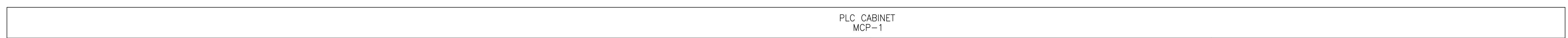
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Inches

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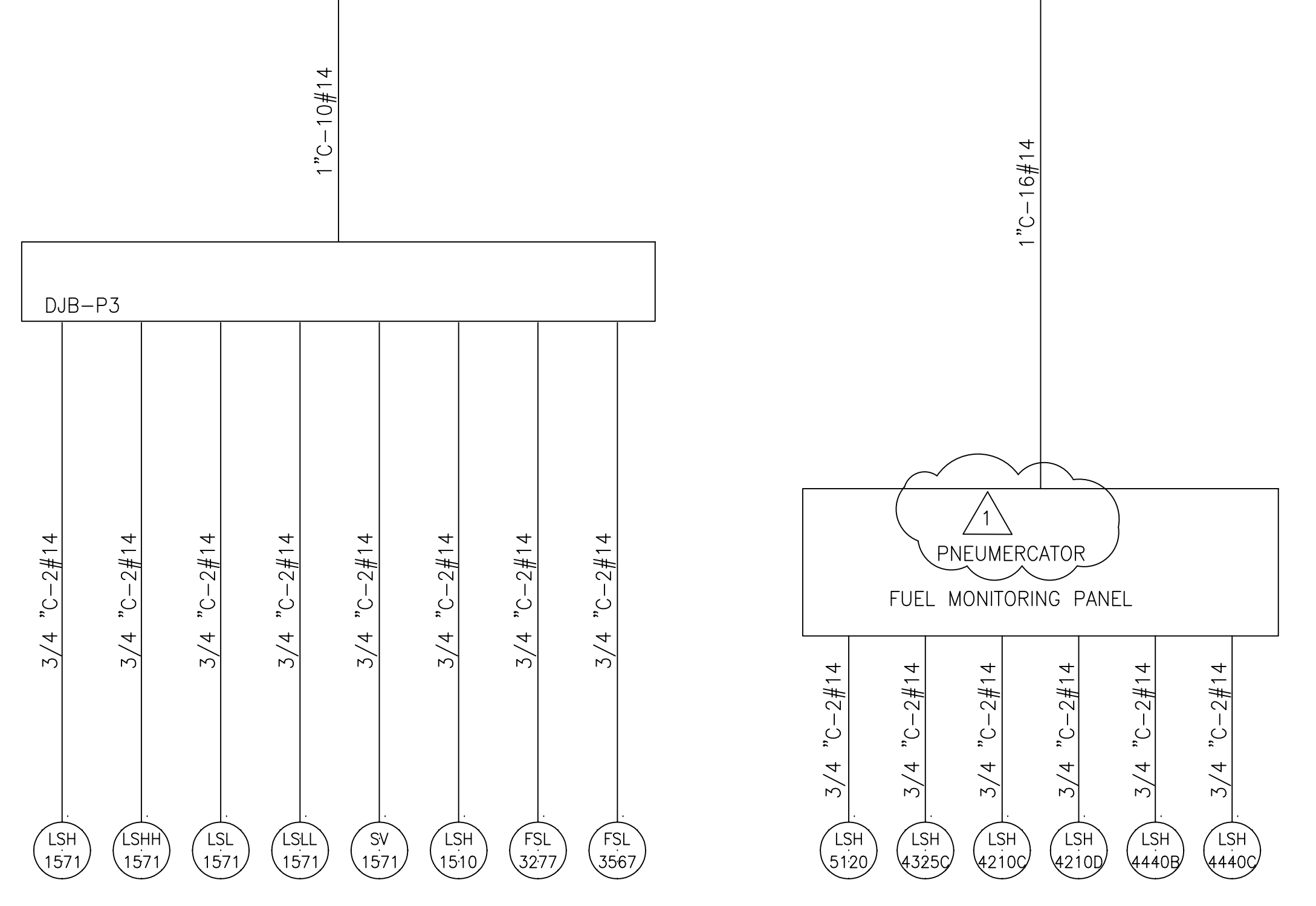
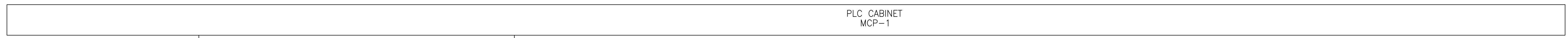
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VACUUM BREAK PUMP No. 2

VACUUM BREAK PUMP No. 3

DRAINAGE PUMP No. 1

DRAINAGE PUMP No. 2



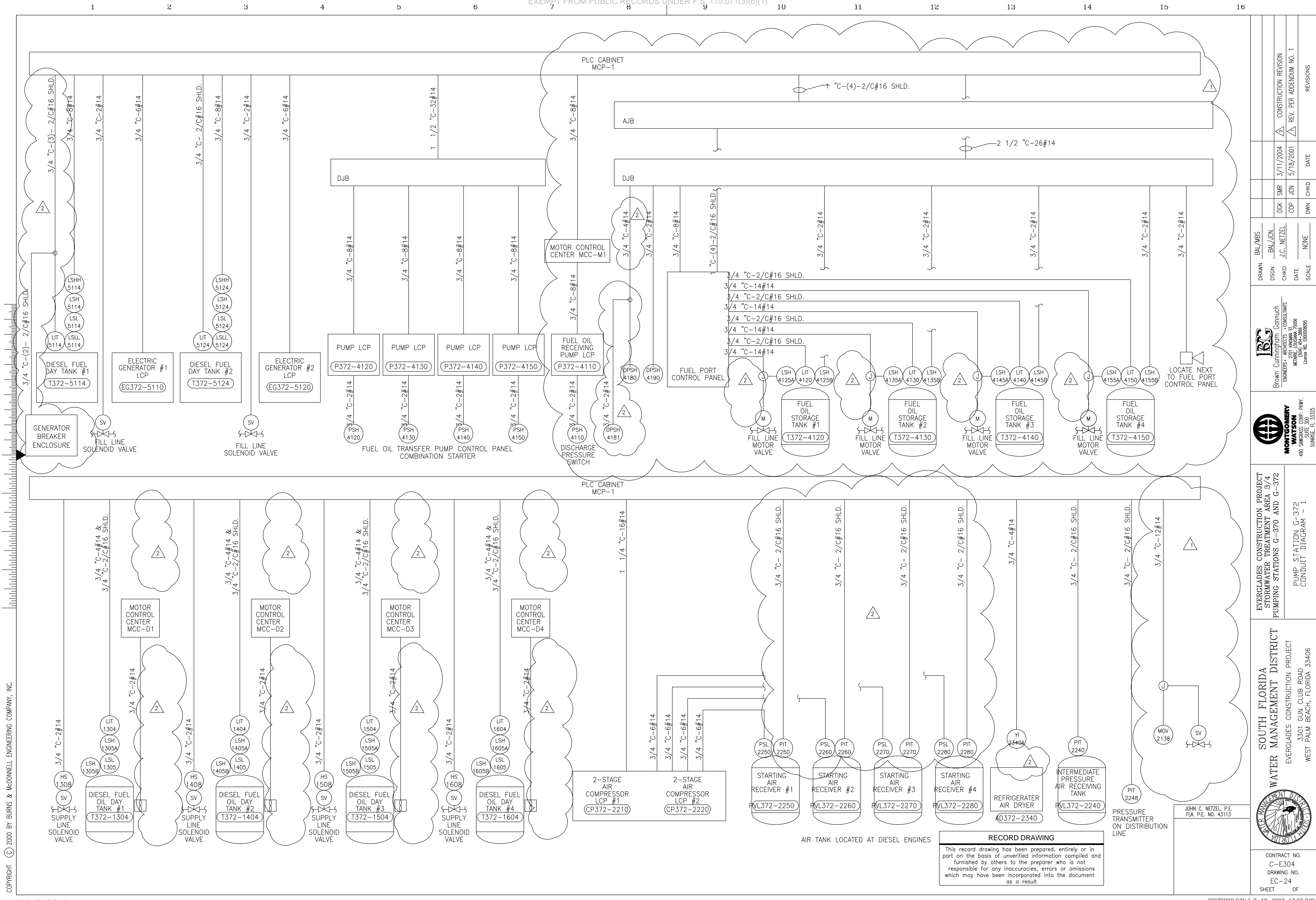
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DGN DATE	CHKD DATE	DATE 3/11/2004	DATE	SCALE	REVISIONS
 Brown Cunningham Gannuch ENGINEERS - ARCHITECTS - CONSULTANTS 2075 KIRKMAN ST. METRO CENTER BUILDING SUITE 1500 MIAMI, FL 33133 License No. EB00000895					
 McQuay-Norris 490 SW 30th St. Suite 300 Sarasota, FL 34235					
EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 8/4 PUMPING STATIONS G-370 AND G-372  PUMP STATION G-370 CONDUIT DIAGRAM - 4					
SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406					
CONTRACT NO. C-E304 DRAWING NO. EC-23 SHEET OF					



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Millimeters

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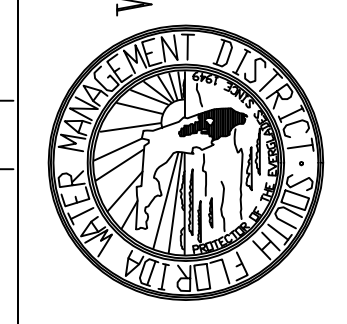
BMcD PROJECT NO. xx-xxx-x-xxx

EXEMPT FROM PUBLIC RECORDS UNDER F.S. 119.071(3)(b)(1)

<p>Brown Cummins ENGINEERS • ARCHITECTS • CONSULTANTS 2701 KENNESAW ST. MARIETTA, GEORGIA 30067 License No. EB0000895</p>		DRAWN BAJ/MSB	DSGN BAJ/JCN	CHKD J.C. NETZEL	DATE 5/18/2001	SCALE NONE	DATE 5/18/2001	DATE 3/11/2004	CONSTRUCTION REVISION REV. PER ADDENDUM NO. 1
<p>MONTGOMERY WATSON CORPORATION 490 SW 30th Ave., Suite 300 Surfside, FL 33325</p>		DRAWN BAJ/MSB	DSGN BAJ/JCN	CHKD J.C. NETZEL	DATE 5/18/2001	SCALE NONE	DATE 5/18/2001	DATE 3/11/2004	CONSTRUCTION REVISION REV. PER ADDENDUM NO. 1
EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372		SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406							
PUMP STATION G-372 CONDUIT DIAGRAM - 1		CONTRACT NO. C-E304 DRAWING NO. EC-24 SHEET OF							

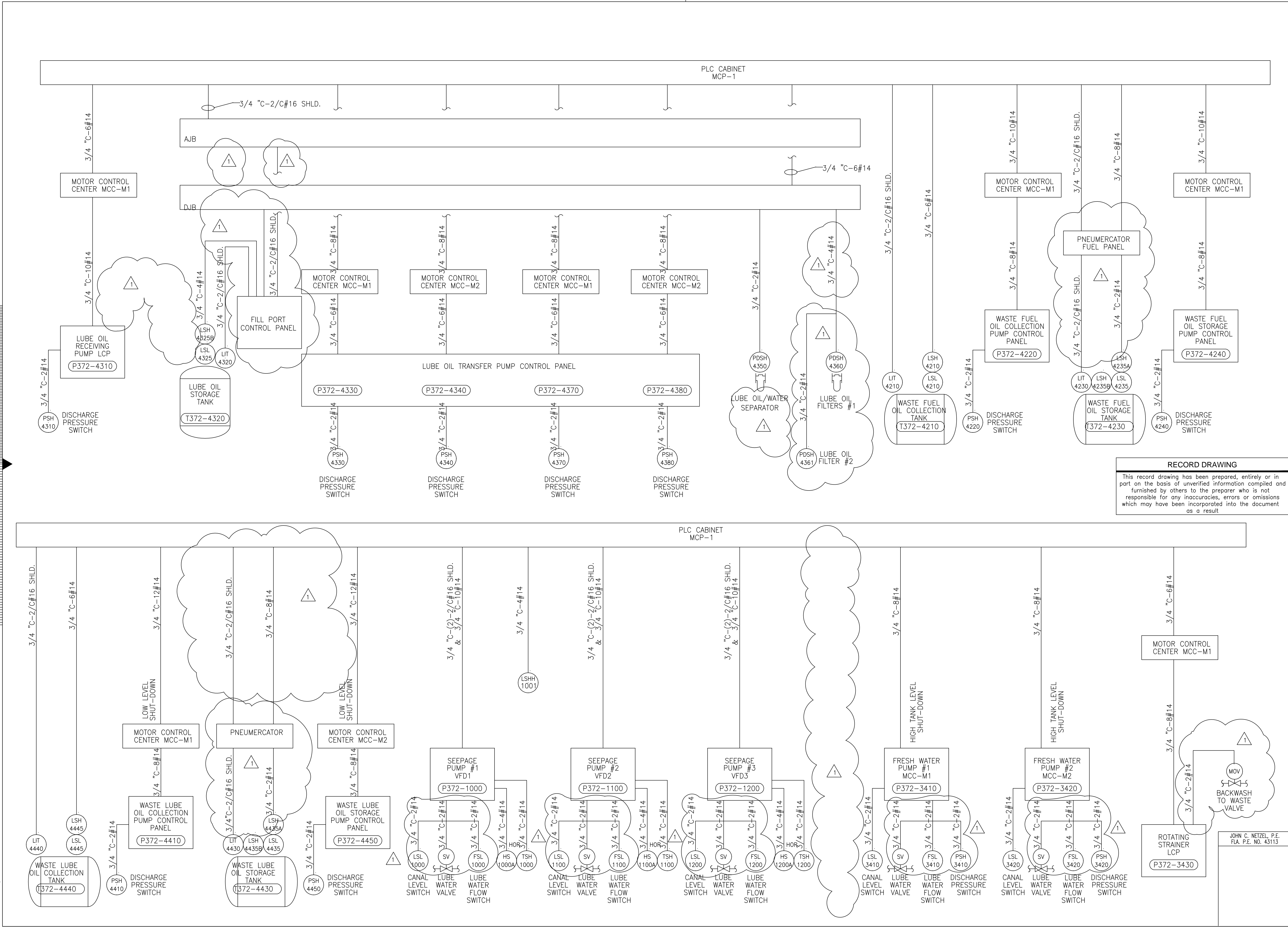
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C-E304  
DRAWING NO.  
EC-24  
SHEET OF

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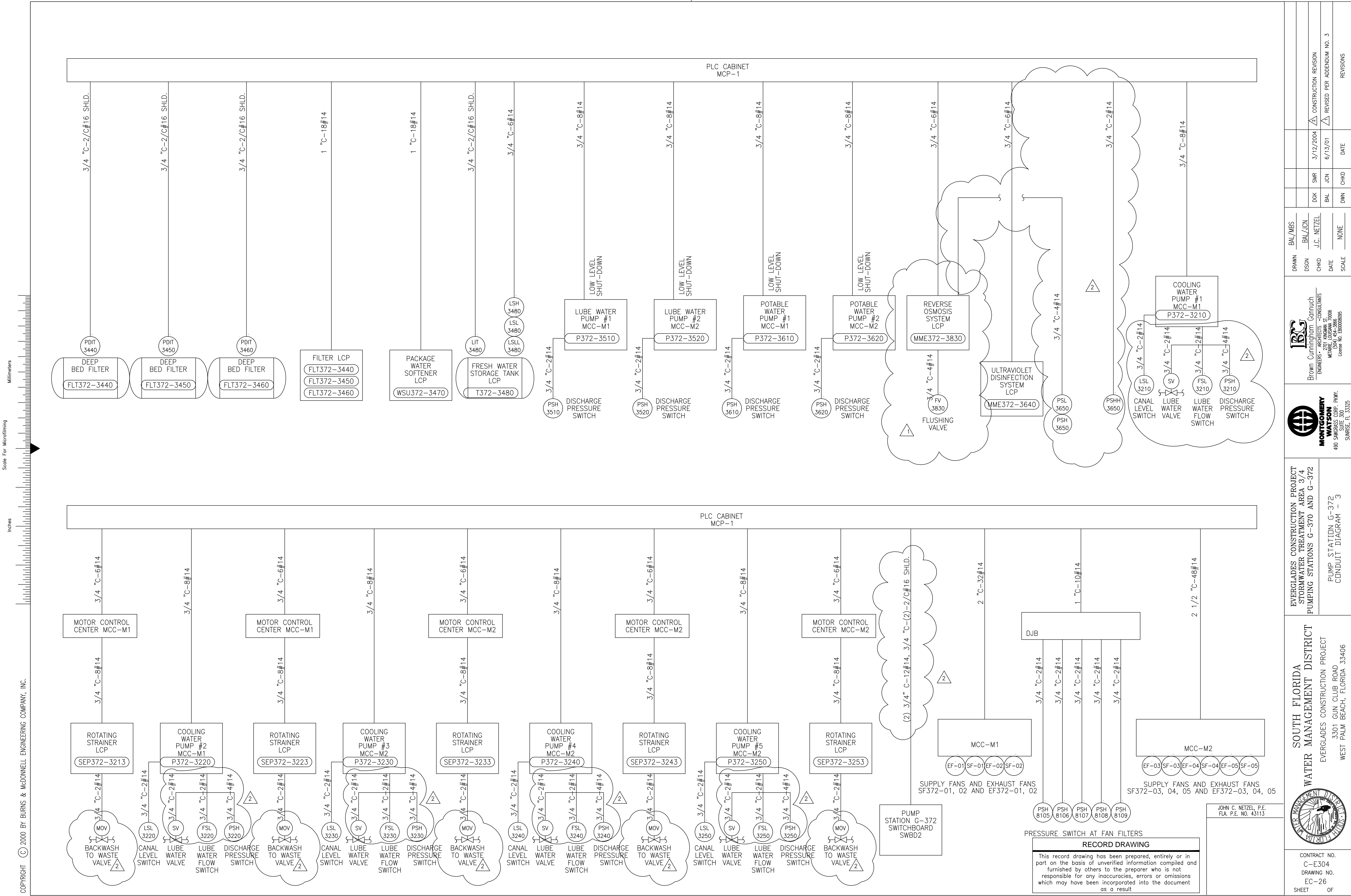


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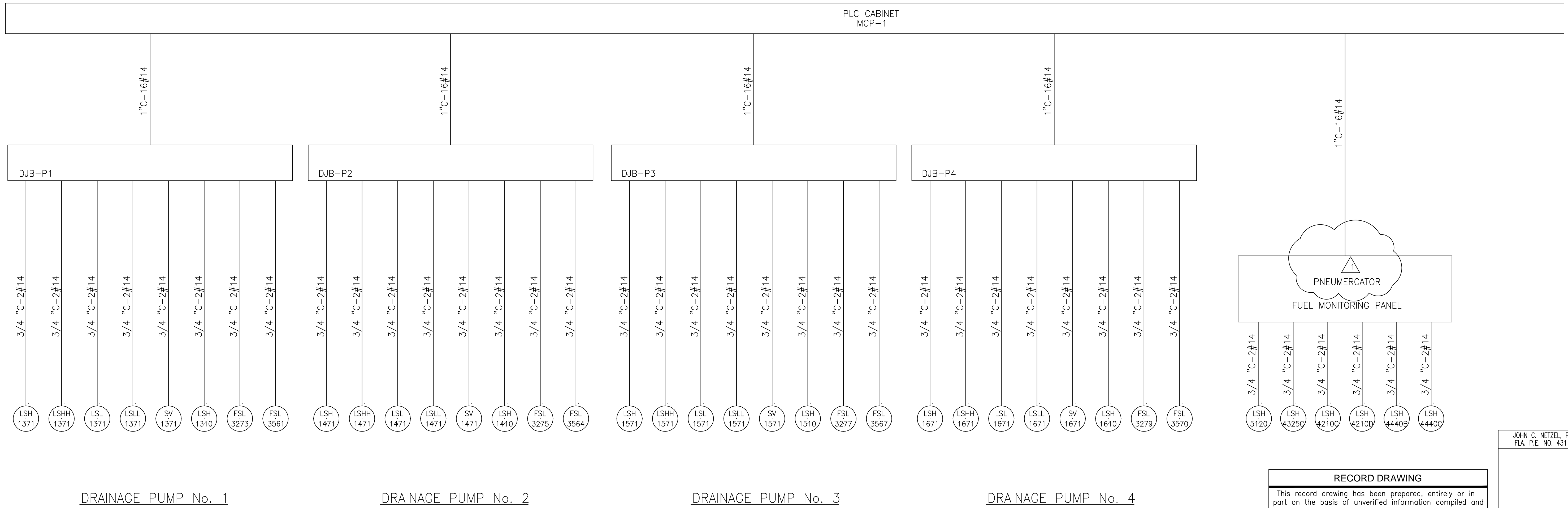
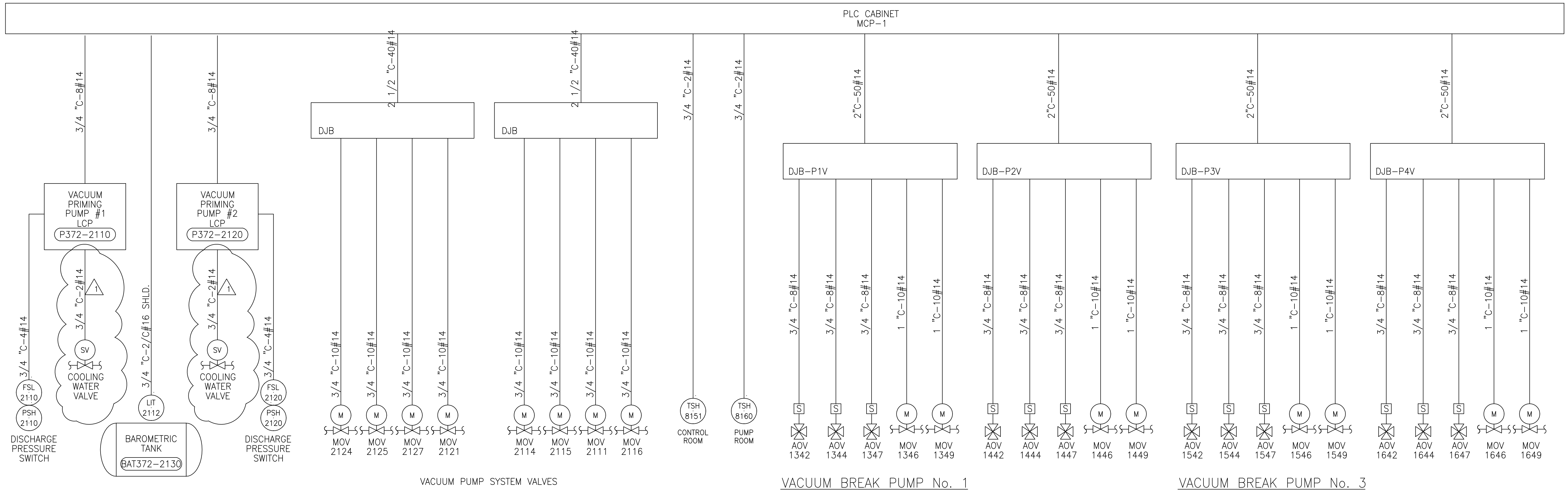


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<b>MONTGOMERY WATSON</b> P.E. P.W. 490 SW 10th Ave., Suite 300 Sunrise, FL 33325		EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372 PUMP STATION G-372 CONDUIT DIAGRAM - 3
SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406		CONTRACT NO. C-E304 DRAWING NO. EC-26 SHEET OF

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DRAINAGE PUMP No. 1

DRAINAGE PUMP No. 2

DRAINAGE PUMP No. 3

DRAINAGE PUMP No. 4

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 MONTGOMERY WATSON 490 SHAWEE BLVD., SUITE 300 SUNRISE, FL 33325		EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372 PUMP STATION G-372 CONDUIT DIAGRAM - 4
SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406		CONTRACT NO. C-E304 DRAWING NO. EC-27 SHEET OF

NOTES:

- 1 INSTALL ENGINE CONTROL PANEL PROVIDED WITH ENGINE UNDER ENGINE PROCUREMENT. TERMINATE ALL FIELD WIRES.
- 2 INSTALL BATTER RACK PROVIDED WITH ECP.
- 3 MAIN CONTROL PANEL, LOCATED IN CONTROL ROOM, PROVIDED UNDER THIS CONTRACT.
- 4 3/4" C ALLEN BRADLEY BLUE HOSE DATA HIGHWAY CABLE TWIMAX CABLE.
- 5 3/4" C 6PR. 22GA SHIELD CABLE FOR MODEM.
- 6 1" C 24#14 VENT VALVES, PRIMING VALVE AND VACUUM CONTROL
- 7 3/4" C WITH 3C#18 RTD CABLE.
- 8 3/4" C-4#14 TO ECP.
- 9 3/4" C-2/C#20 (BELDEN 3111A XLPE PVC JACKET) TO ECP.
- 10 3/4" C-4#14 TO ECP.
- 11 3/4" C-4#12, 2#12 TO ENGINE MCC.
- 12 PROVIDE 30A NF HD 600V NEMA-12 SAFETY SWITCH, CONNECT TO MOTOR.
- 13 1" C-4/C#16 SH TO ECP FROM CONTROL BOX ON GEAR.
- 14 3/4" C-2#12,#12 GND TO MCC.
- 15 PROVIDE 30A NF HD 600V NEMA-12 SAFETY SWITCH, CONNECT TO HEATER ON GEAR.
- 16 3/4" C-3#12 POWER FOR GEAR CONTROLS.
- 17 2" C(9)-2/C BELDEN 3111A XLPE PVC JACKET (CYLINDER EXHAUST), (1) 2/C BELDEN 3111A XLPE PVC JACKET (COMMON EXHAUST).
- 18 NOT USED
- 19 3/4" C-8#14 TO ECP FOR LUBE OIL LEVEL ALARM.
- 20 3/4" C-4#14 TO ECP FOR LUBE OIL FILTER.
- 21 1 1/4" C-(3) 3/C#16 SH (BELDEN 9366 XLPE PVC JACKET) FROM SPEED SWITCH TO ECP.
- 22 3/4" C-(2)2/C#16 SHIELD TO ECP. VIBRATION ELEMENT.

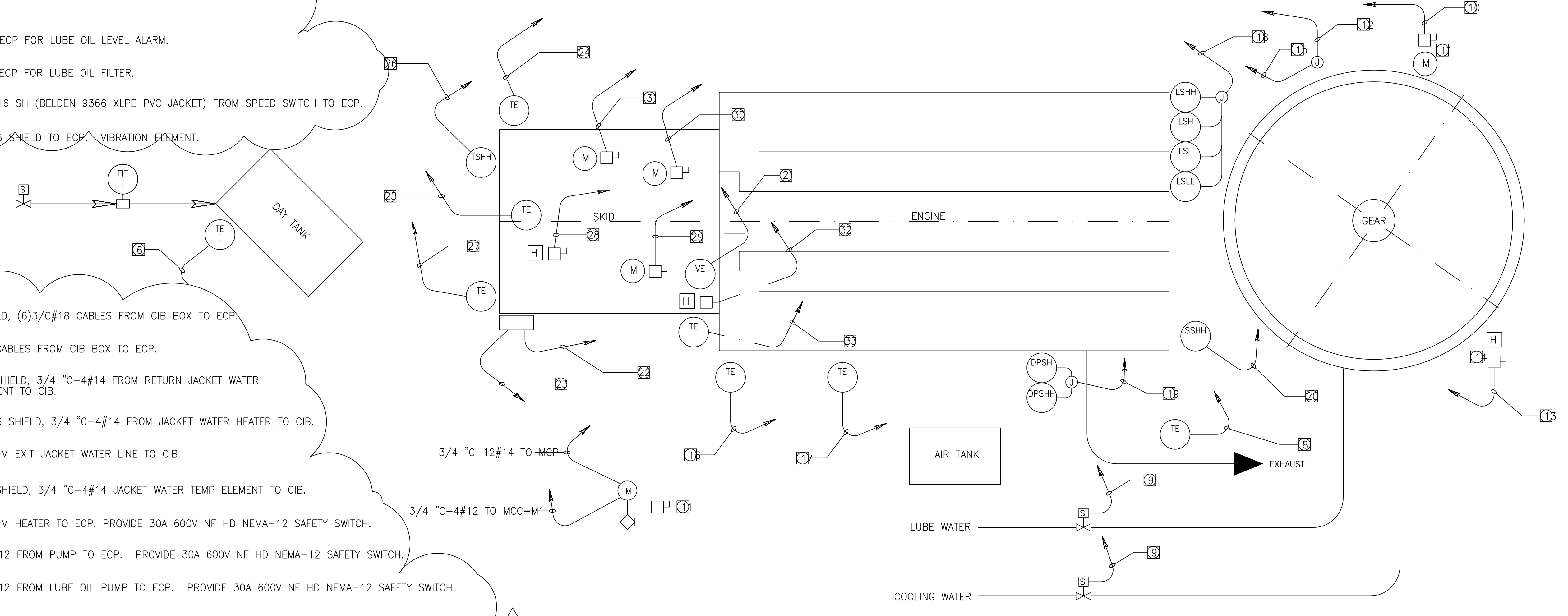
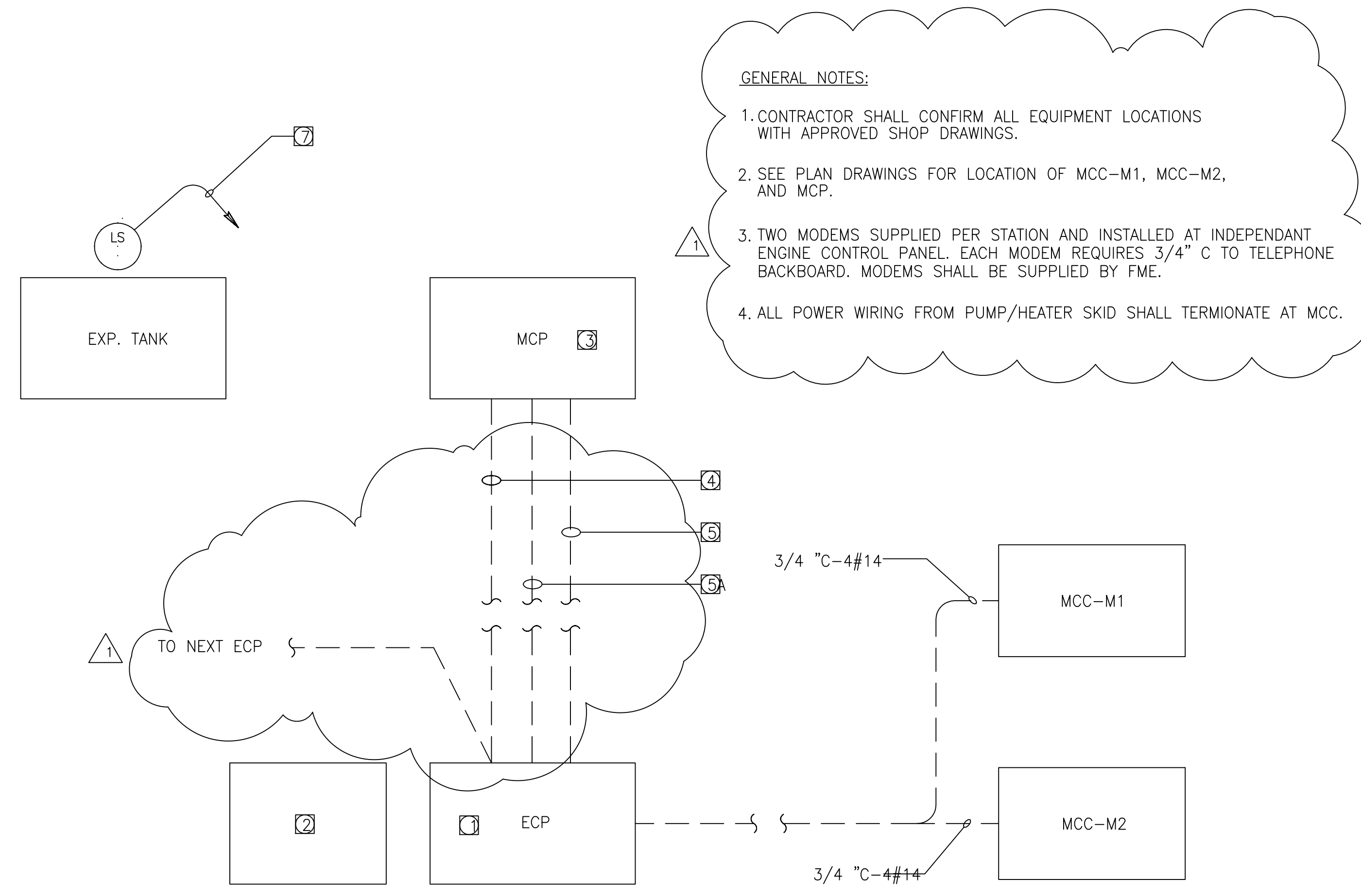
- 23 2" C(6)2/C#16 SHIELD, (6)3/C#18 CABLES FROM CIB BOX TO ECP.
- 24 2" C-6#14, 30#16 CABLES FROM CIB BOX TO ECP.
- 25 3/4" C-2/C#16 SHIELD, 3/4" C-4#14 FROM RETURN JACKET WATER TEMPERATURE ELEMENT TO CIB.
- 26 3/4" C-(2)2/C#16 SHIELD, 3/4" C-4#14 FROM JACKET WATER HEATER TO CIB.
- 27 3/4" C-2#14 FROM EXIT JACKET WATER LINE TO CIB.
- 28 3/4" C-2/C#16 SHIELD, 3/4" C-4#14 JACKET WATER TEMP ELEMENT TO CIB.
- 29 3/4" C-4#12 FROM HEATER TO ECP. PROVIDE 30A 600V NF HD NEMA-12 SAFETY SWITCH.
- 30 3/4" C-4#12, 2#12 FROM PUMP TO ECP. PROVIDE 30A 600V NF HD NEMA-12 SAFETY SWITCH.
- 31 3/4" C-4#12, 2#12 FROM LUBE OIL PUMP TO ECP. PROVIDE 30A 600V NF HD NEMA-12 SAFETY SWITCH.
- 32 3/4" C-4#12 FROM LUBE OIL HEATER PUMP TO ECP. PROVIDE 30A 600V NF HD NEMA-12 SAFETY SWITCH.
- 33 3/4" C-4#12 FROM LUBE OIL HEATER TO ECP. PROVIDE 30A 600V NF HD NEMA-12 SAFETY SWITCH.
- 34 3/4" C-3/C#16 SHIELD RTO CABLE FROM COOLING WATER TEMPERATURE ELEMENT TO CIB.

GENERAL NOTES:

- 1. CONTRACTOR SHALL CONFIRM ALL EQUIPMENT LOCATIONS WITH APPROVED SHOP DRAWINGS.
- 2. SEE PLAN DRAWINGS FOR LOCATION OF MCC-M1, MCC-M2, AND MCP.
- 3. TWO MODEMS SUPPLIED PER STATION AND INSTALLED AT INDEPENDANT ENGINE CONTROL PANEL. EACH MODEM REQUIRES 3/4" C TO TELEPHONE BACKBOARD. MODEMS SHALL BE SUPPLIED BY FME.
- 4. ALL POWER WIRING FROM PUMP/HEATER SKID SHALL TERMIONATE AT MCC.

Scale For Microfilming  
Inches  
Millimeters

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DIESEL ENGINE CONDUIT SCHEMATIC DIAGRAM

(TYPICAL OF 3 UNITS AT STATION G-370 AND 4 UNITS AT STATION G-372)

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FLA. P.E. NO. 43113

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DSGN		BAL/JCN		5/15/2002	
CHKD		J.C. NETZEL		REV. PER FME COMMENTS	
DATE		LUP		DWN	
SCALE		NONE		CHKD	
				DATE	
				REV. PER FME COMMENTS	
				REVISIONS	

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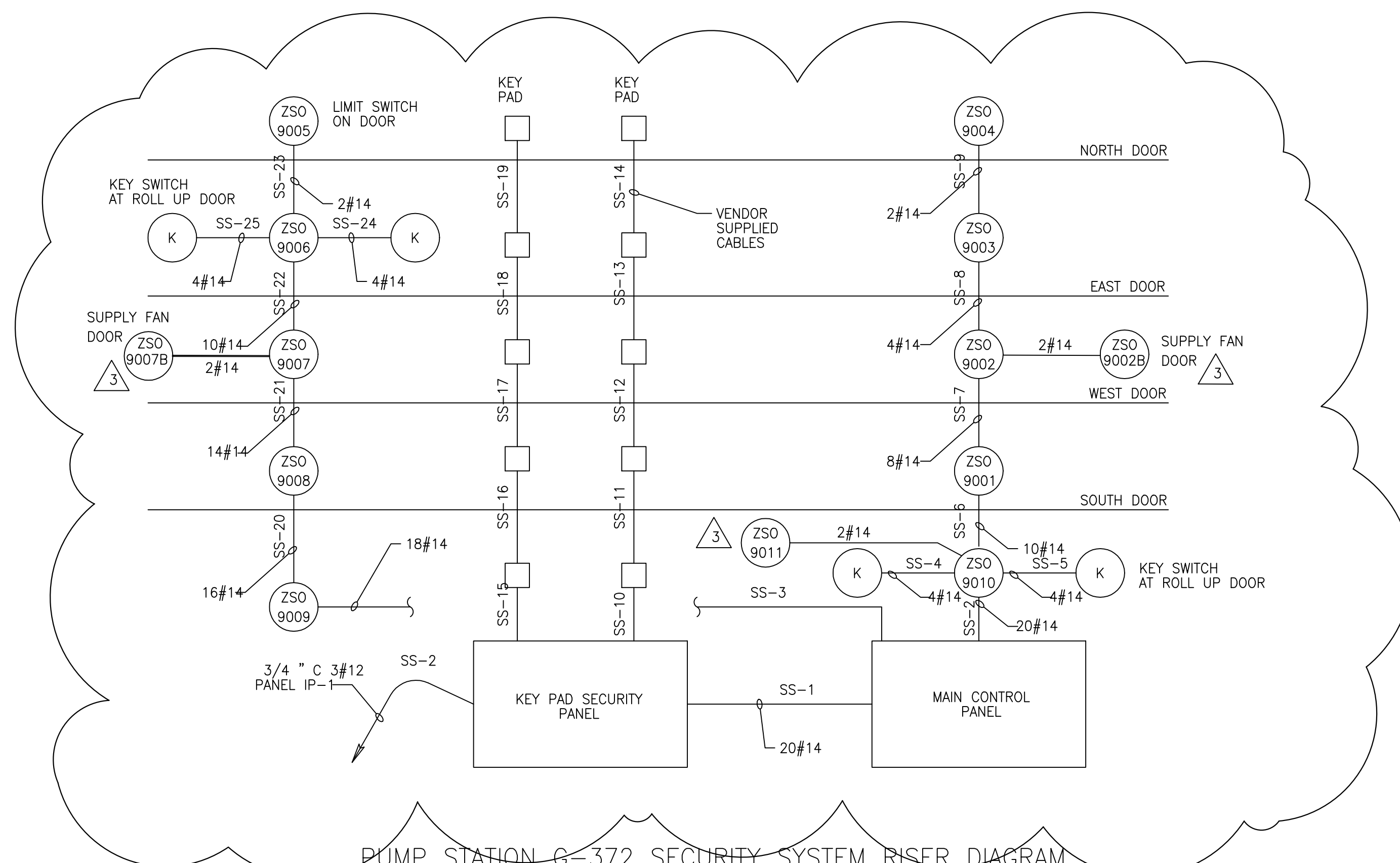
**MONTGOMERY WATSON** P.E., P.F.W.  
490 SHILOH BLVD., SUITE 300  
SUNRIDGE, FL 33225

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372

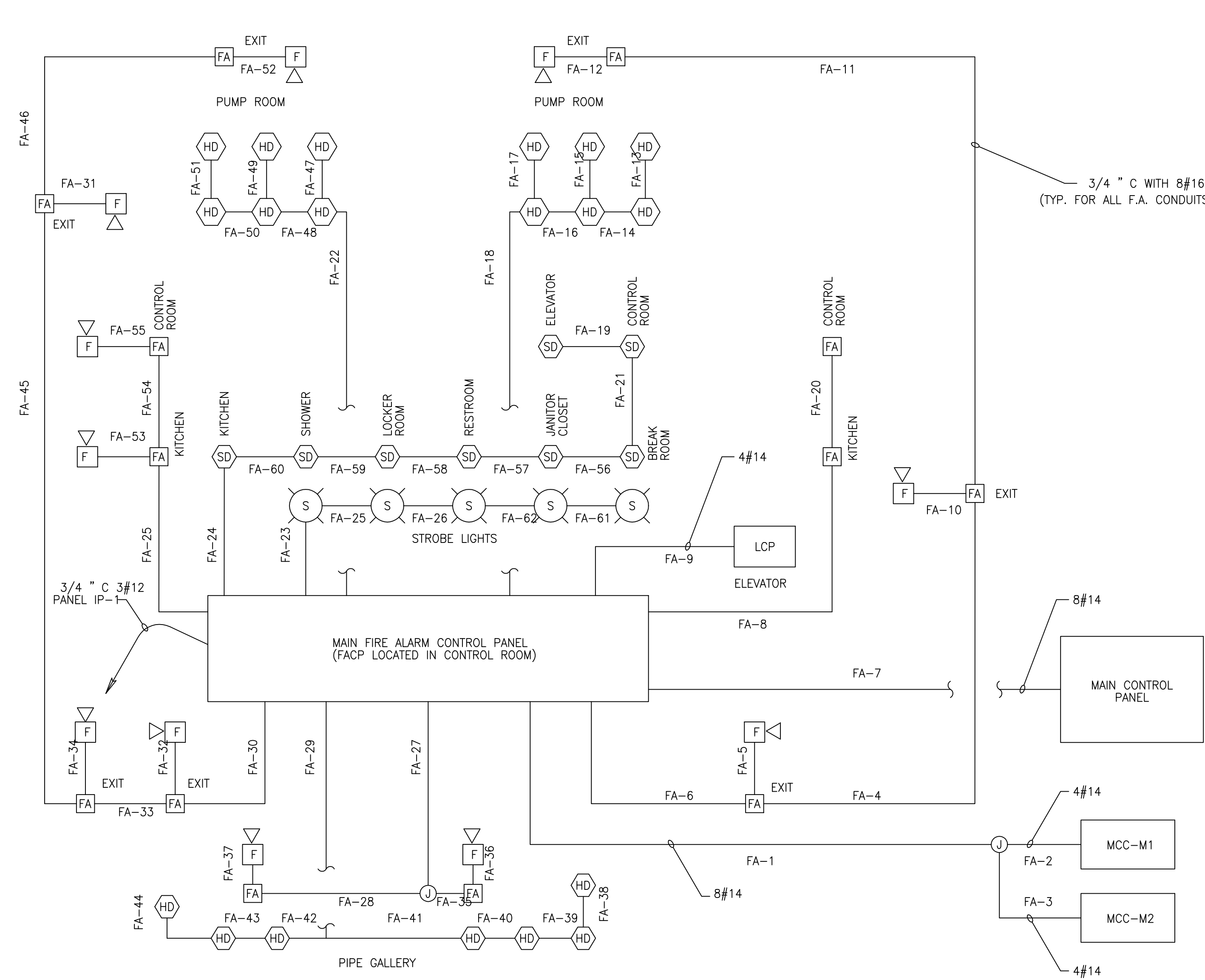
DIESEL ENGINE CONDUIT SCHEMATIC DIAGRAM

SOUTH FLORIDA WATER MANAGEMENT DISTRICT  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406

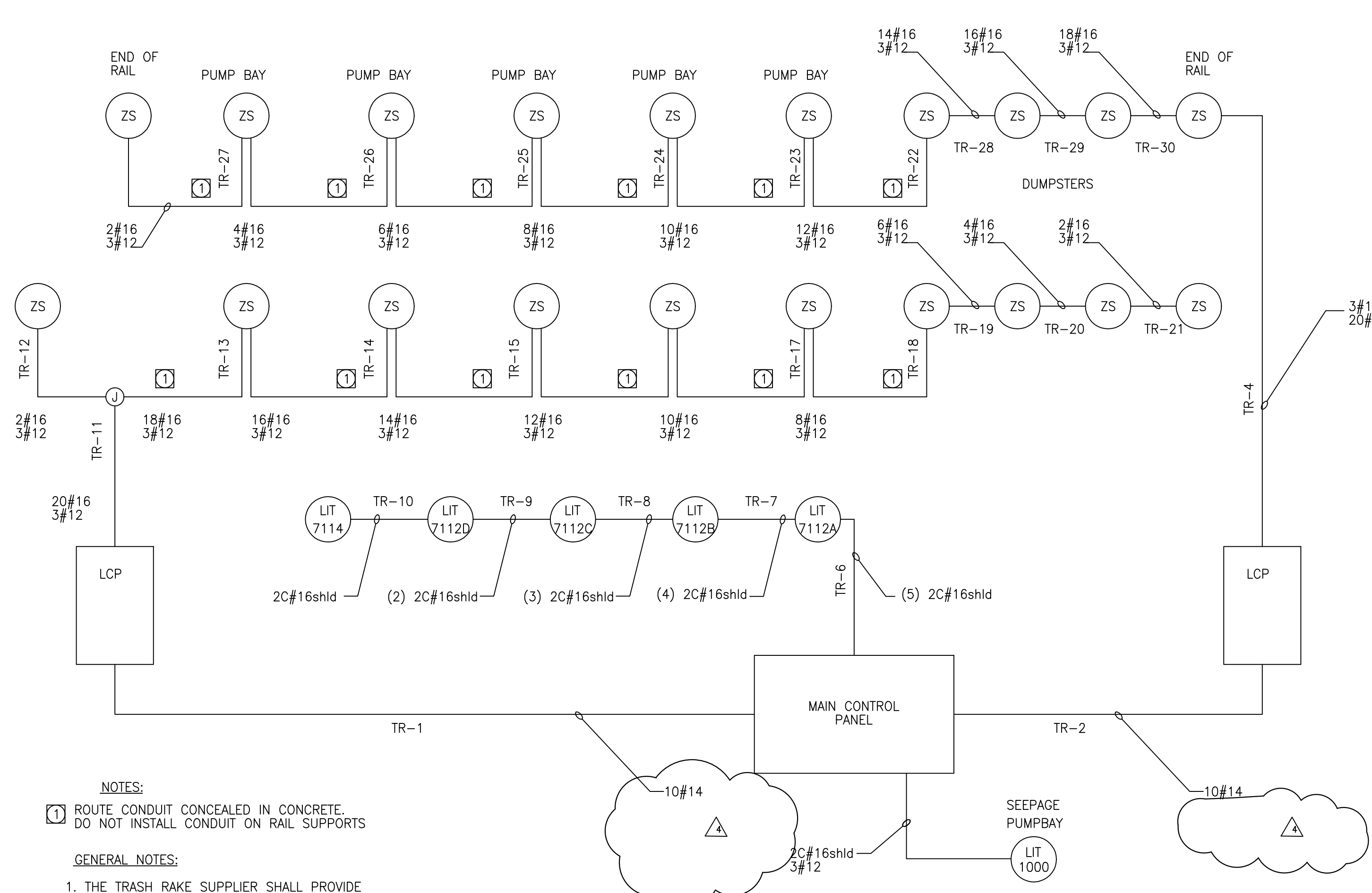
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DRAWING NO. EC-28  
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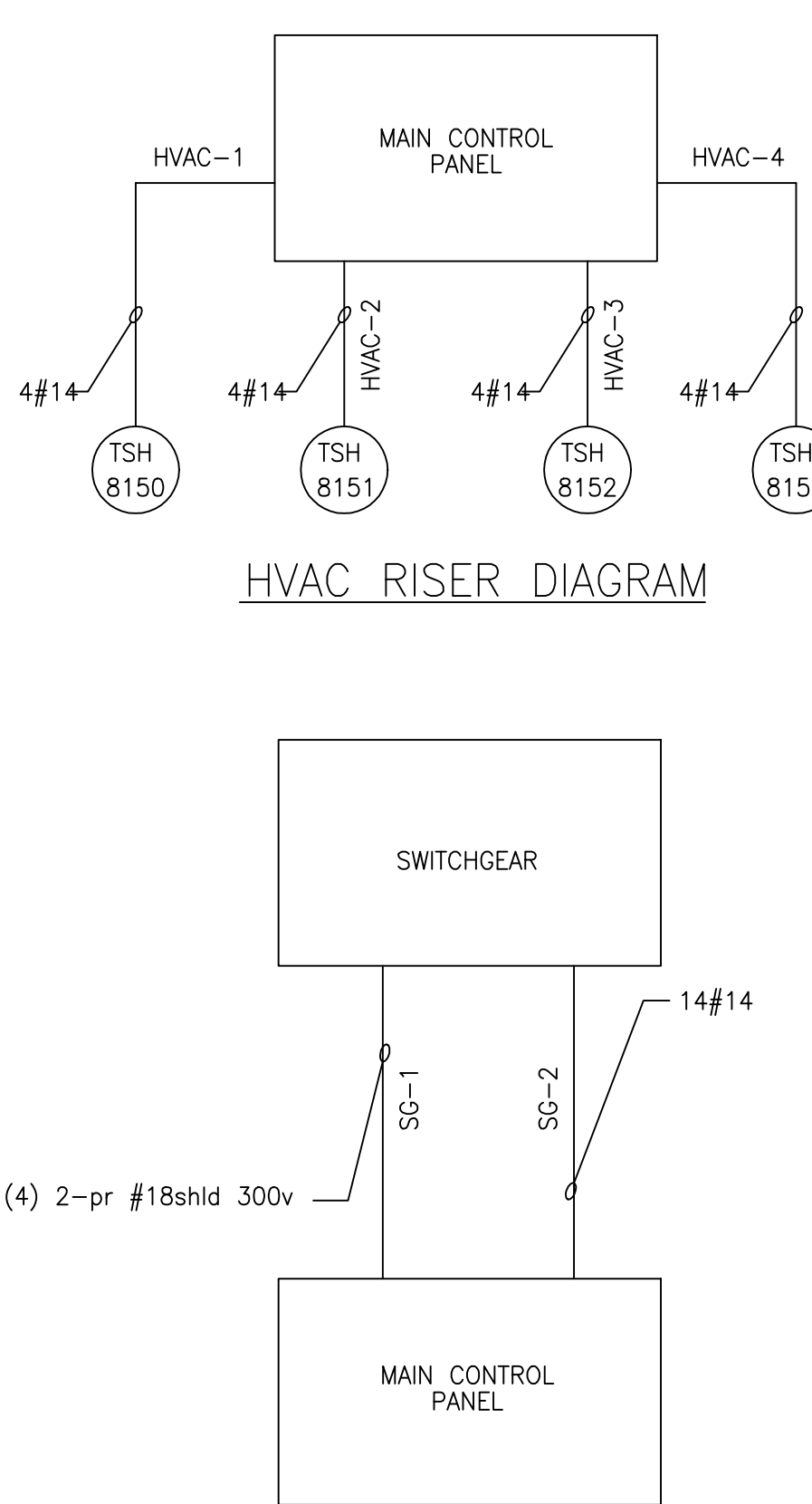
PUMP STATION G-372 SECURITY SYSTEM RISER DIAGRAM



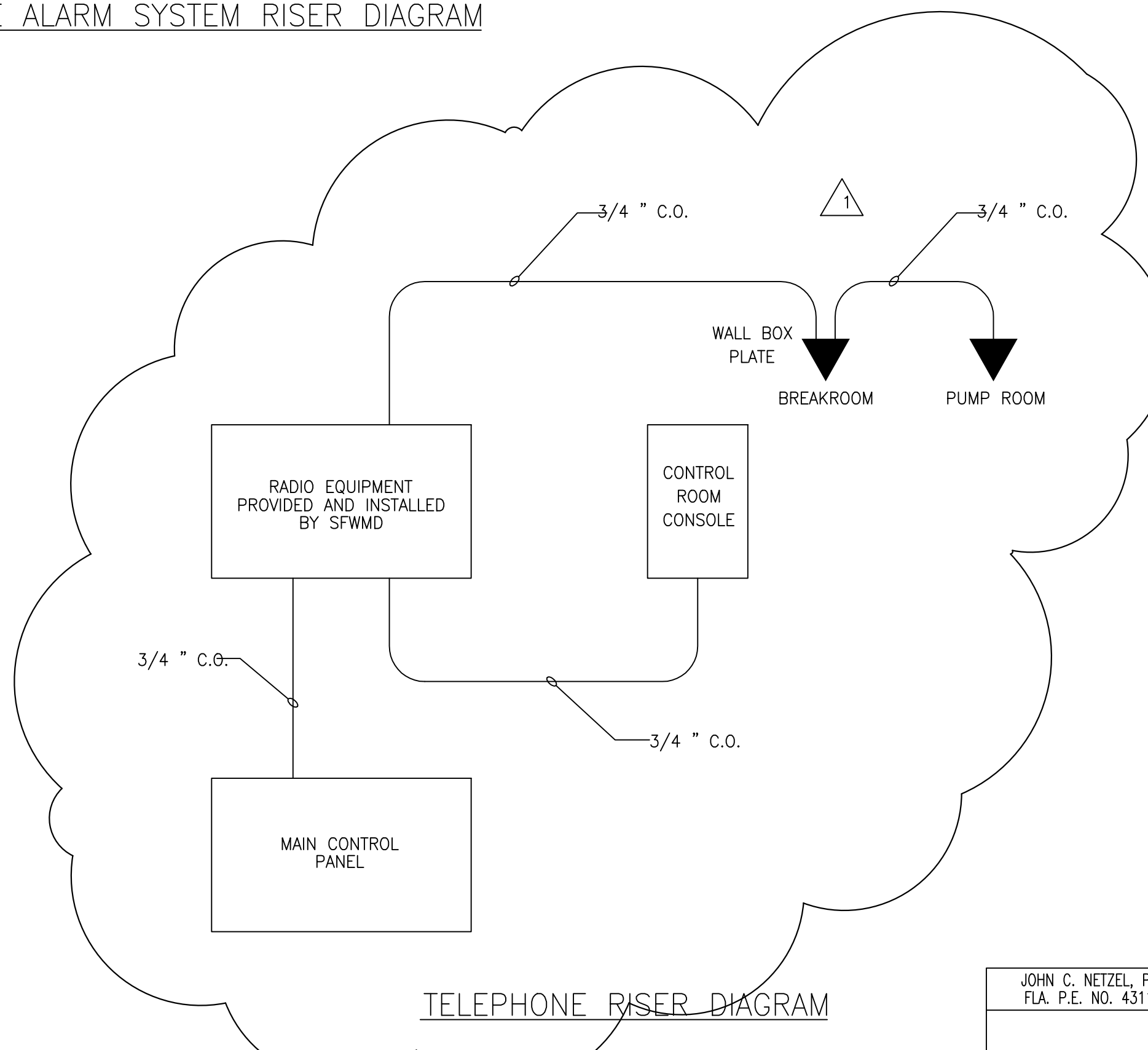
FIRE ALARM SYSTEM RISER DIAGRAM



PUMP STATION G-372 TRASH RACK SYSTEM RISER DIAGRAM



SWITCHGEAR RISER DIAGRAM



TELEPHONE RISER DIAGRAM

NOTES:  
 1. ROUTE CONDUIT CONCEALED IN CONCRETE. DO NOT INSTALL CONDUIT ON RAIL SUPPORTS

GENERAL NOTES:  
 1. THE TRASH RAKE SUPPLIER SHALL PROVIDE WIRING DIAGRAM. ELECTRICAL CONTRACTOR SHALL CONFIRM WIRE COUNT AND DEVICE LOCATION WITH WIRING DIAGRAM BEFORE INSTALLING CONDUITS

2. CONTRACTOR SHALL INCLUDE ALL CONDUIT AND WIRE FOR TRASH RAKE DEVICES. CONTRACTOR SHALL CONFIRM CONTROL WIRE REQUIREMENTS WITH THE SELECTED SUPPLIER AT BID TIME AND INCLUDE ALL INSTALLATION COST IN THE BID PRICE.

3. PROVIDE FIRE ALARM CONDUIT AND WIRE AS REQUIRED BY THE FIRE ALARM SYSTEM SUPPLIER. ALL FA WIRE SHALL BE IN CONDUIT.



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 FLA. P.E. NO. 43113

CONSTRUCTION REVISION	3/12/2004	SMR	BAL	JCN	7/5/2001	REV. PER ADDENDUM NO. 4
CONSTRUCTION REVISION	6/18/2001	COP	JCN	J.C. NETZEL	6/18/2001	REV. PER ADDENDUM NO. 3
CONSTRUCTION REVISION	5/22/2001	COP	JCN	J.C. NETZEL	5/22/2001	REV. PER ADDENDUM NO. 1
REVISIONS	DATE	CHKD	DWN	SCALE	DATE	REVISIONS
				NONE		

B.A. LEE	DGN	SMR	BAL	JCN	7/5/2001	REV. PER ADDENDUM NO. 4
BAL/JCN	DSGN	J.C. NETZEL	COP	JCN	6/18/2001	REV. PER ADDENDUM NO. 3
J.C. NETZEL	CHKD	J.C. NETZEL	COP	JCN	5/22/2001	REV. PER ADDENDUM NO. 1
	DATE					
	SCALE					
	NONE					

Brown Cunningham Gannuch	ENGINERS • ARCHITECTS • CONSULTANTS	2701 ANKAWAY ST.	MEMPHIS, TENNESSEE 38108	License No. EB0000895
MONTGOMERY WATSON	REGISTERED PROFESSIONAL ENGINEER - P.E.	480 SHAWWEE BLVD., SUITE 300	SUNRIDGE, FL 33325	

EVERGLADES CONSTRUCTION PROJECT	STORMWATER TREATMENT AREA 3/4	PUMPING STATIONS G-370 AND G-372
MISCELLANEOUS ELECTRICAL SYSTEMS RISER DIAGRAM		

SOUTH FLORIDA WATER MANAGEMENT DISTRICT	EVERGLADES CONSTRUCTION PROJECT	3301 GUN CLUB ROAD	WEST PALM BEACH, FLORIDA 33406
CONTRACT NO. C-E304	DRAWING NO. EC-29	SHEET OF	



Scale For Microlimiting  
 Millimeters  
 Inches

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	LAMPS		VOLTS	MANUFACTURER CATALOG NO.	REMARKS
		QTY.	TYPE			
A & AR	250W METAL HALIDE LOW PROFILE HIGH BAY FIXTURE WITH SWING-DOWN SIDE MOUNTED BALLAST, LOW COPPER ALUMINUM HOUSING, AND PRISMATIC BOROSILICATE GLASS REFRACTOR.	1	250W MH	208V	HOLOPHANE ENDURALUME: CATALOG NO. EL-25LMH-20-P4 AND EL-25LMH-20-P4-EM FIXTURES TO BE MOUNTED BETWEEN CEILING TRUSSES	AR - RESTRIKE LAMP, STANDBY FIXTURE FOR TEMPORARY POWER FAILURE PENDANT MOUNT
B	250W HIGH PRESSURE SODIUM FLOODLIGHT WITH ENERGY SAVING BALLAST, STAINLESS STEEL YOKE MOUNT AND 30' ALUMINUM ROUNDTAPERED POLE	1	250W MH	208V	HOLOPHANE MEDIUM PREDATOR: CATALOG NO. PF-25LHP-20-B-N-3-B-PDPR-ALRT30J/1/1	ALL SPOTLIGHTS SHALL BE CONTROLLED BY SAME PHOTO CONTROL. ALL POLES SHALL HAVE 120V WP/GFI DUPLEX RECEPTACLE
C	LOW BRIGHTNESS, HIGH EFFICIENCY FLUORESCENT FIXTURE WITH CLEAR ACRYLIC WRAP AROUND LENS	3	3-32W T8	120V	HOLOPHANE HW SERIES WRAP-AROUND: CATALOG NO. HW-T-M-4-D-S-H24-043-LP-1-1.	SURFACE MOUNT
D	1000W HPS FLOOD LIGHT WITH STAINLESS STEEL YOKE, BRONZE FINISH AND PHOTO-CONTROL.	1	1000W HPS	208V	HOLOPHANE LARGE PREDATOR: CATALOG NO. PL-C10HP-20-K-3-B-PS-PDPR	MOUNT ON PARAPET SHALL WITHSTAND 110 MPH WIND LOADS (PER S. FL BUILDING CODE)
E	SEMI-RECESSED EXIT LED EXIT SIGN, WITH EMERGENCY NI-CAD BATTERY	1	8W	120V	HOLOPHANE MAGELLAN SR2: CATALOG NO. MS2-SP-L-B-EA-R-3	SURFACE MOUNT ABOVE DOOR
F1	NEMA RATED INDUSTRIAL EMERGENCY LIGHT WITH NI-CAD BATTERY	2	2-12W	120V	HOLOPHANE DESOTO M50: CATALOG NO. DM5-N-25-12-2-WL	SURFACE MOUNT
F2	ARCHITECTURAL EMERGENCY LIGHT WITH NI-CAD BATTERY	2	2-25W	120V	HOLOPHANE CORTEZ A1 : CATALOG NO. C1-12N-25-W-2	SURFACE MOUNT
G & GR	ENCLOSED AND GASKETED FLUORESCENT FIXTURE UL LISTED FOR WET LOCATIONS	2	2-32W T8	120V	HOLOPHANE ES SERIES: CATALOG NO. ES-T-X-BBB-042-LP-1-1	AR - RESTRIKE LAMP, STANDBY FIXTURE FOR TEMPORARY POWER FAILURE SURFACE MOUNT TO CEILING
H	GENERAL PURPOSE INDUSTRIAL FLUORESCENT FIXTURE	3	3-32W T8	120V	HOLOPHANE SM SERIES: CATALOG NO. SM-T-X-NHH-U-043-LP-1-1	SURFACE MOUNT IN MECHANICAL WORKROOM
J	2' X 4' RECESSED TROFFER FLUORESCENT FIXTURE WITH ALUMINUM FRAME, HOLOPHANE 8224 DIFFUSER FOR COMPUTER APPLICATIONS, AND INBOARD/OUTBOARD SWITCHING	3	3-32W T8	120V	HOLOPHANE TG SERIES: CATALOG NO. TG-H-24-X-N-H24-043-LP-2-1	MOUNT IN CEILING TILE GRID
K	WALL MOUNTED HIGH PRESSURE SODIUM FIXTURE. SHALL HAVE WEATHER RESISTANT COPPER-FREE HEAVY DUTY ALUMINUM HOUSING WITH DARK BRONZE TGC FINISH. FIXTURE SHALL HAVE PRISMATIC GLASS REFRACTOR, AND BE UL LISTED FOR WET LOCATIONS.	1	150W HPS	208V	KIM CATALOG NO. WD14D2/150HPS208/DB-KYNAR-500-A32, OR EQUAL	WALL MOUNT
L	HIGH PRESSURE SODIUM SITE LIGHTING WITH BRONZE PAINT FINISH, REPLACEMENT PROTECTED STARTER, DOUBLE FUSE ASSEMBLY, PHOTOCONTROL, AND 30' SQUARE STRAIGHT ALUMINUM POLE		250W HPS	208V	HOLOPHANE SOMERSET: CATALOG NO. SMSTL1A-250HP-20-BZ-PM-PS-F2-CAZSQ30J/1A/R.	IES TYPE II DISTRIBUTION
M1	HIGH PRESSURE SODIUM SITE LIGHTING WITH BRONZE PAINT FINISH, REPLACEMENT PROTECTED STARTER, DOUBLE FUSE ASSEMBLY, PHOTOCONTROL, AND 30' SQUARE STRAIGHT ALUMINUM POLE		400W HPS	208V	HOLOPHANE SOMERSET: CATALOG NO. SMSTL1A-400HP-20-BZ-PM-PS-F2-CAZSQ30J/1A/R.	IES TYPE III DISTRIBUTION
M2	HIGH PRESSURE SODIUM SITE LIGHTING WITH BRONZE PAINT FINISH, REPLACEMENT PROTECTED STARTER, DOUBLE FUSE ASSEMBLY, PHOTOCONTROL, AND 30' SQUARE STRAIGHT ALUMINUM POLE, TWO FIXTURES PER POLE		400W HPS	208V	HOLOPHANE SOMERSET: CATALOG NO. SMSTL2A-400HP-20-BZ-PM-PS-F2-CAZSQ30J/2A/R.	BOTH FIXTURES SHALL HAVE IES TYPE III DISTRIBUTION; BOTH FIXTURES SHALL AIM IN THE SAME DIRECTION

Scale For Microfilming  
Inches  
Millimeters

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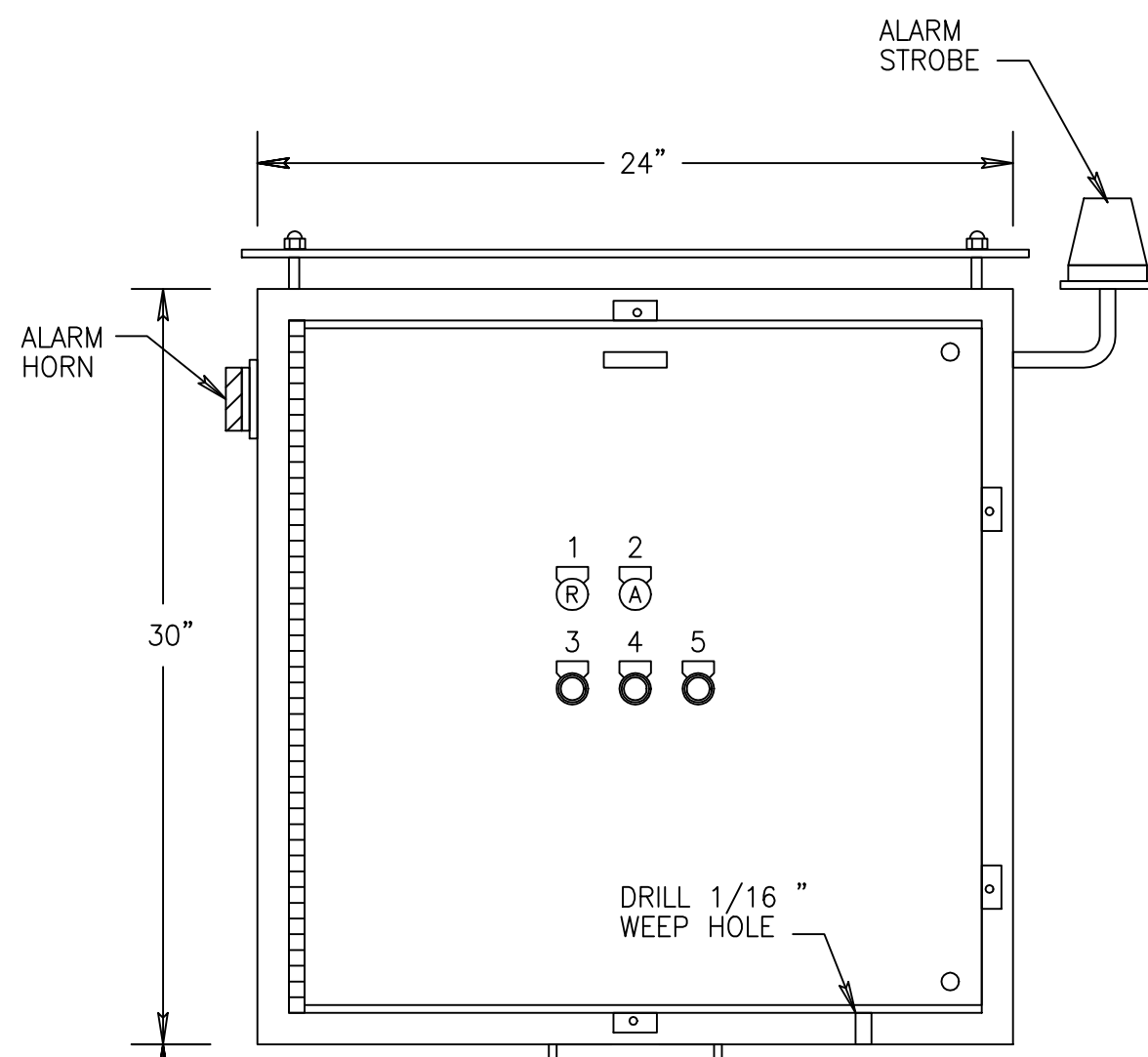
REVISIONS				
DATE				
CHKD				
DWN				
SCALE	NONE			
DATE				
CHKD	J.C. NETZEL			
DSGN	BAL/JCN			
DRAWN	B.A. LEE			
 Brown Cunningham Gannuch ENGINEERS • ARCHITECTS • CONSULTANTS 2701 KENYAN ST. MEMPHIS, TENNESSEE 38117 Licenses No. EB0000895				
 MONTGOMERY WATSON P.E., P.F.W. 490 SHAW ST., SUITE 301 SUNRISE, FL 33325				
EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372 LIGHTING FIXTURE SCHEDULE				
SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406				

JOHN C. NETZEL P.E.  
FLA. P.E. NO. 43113

**RECORD DRAWING**

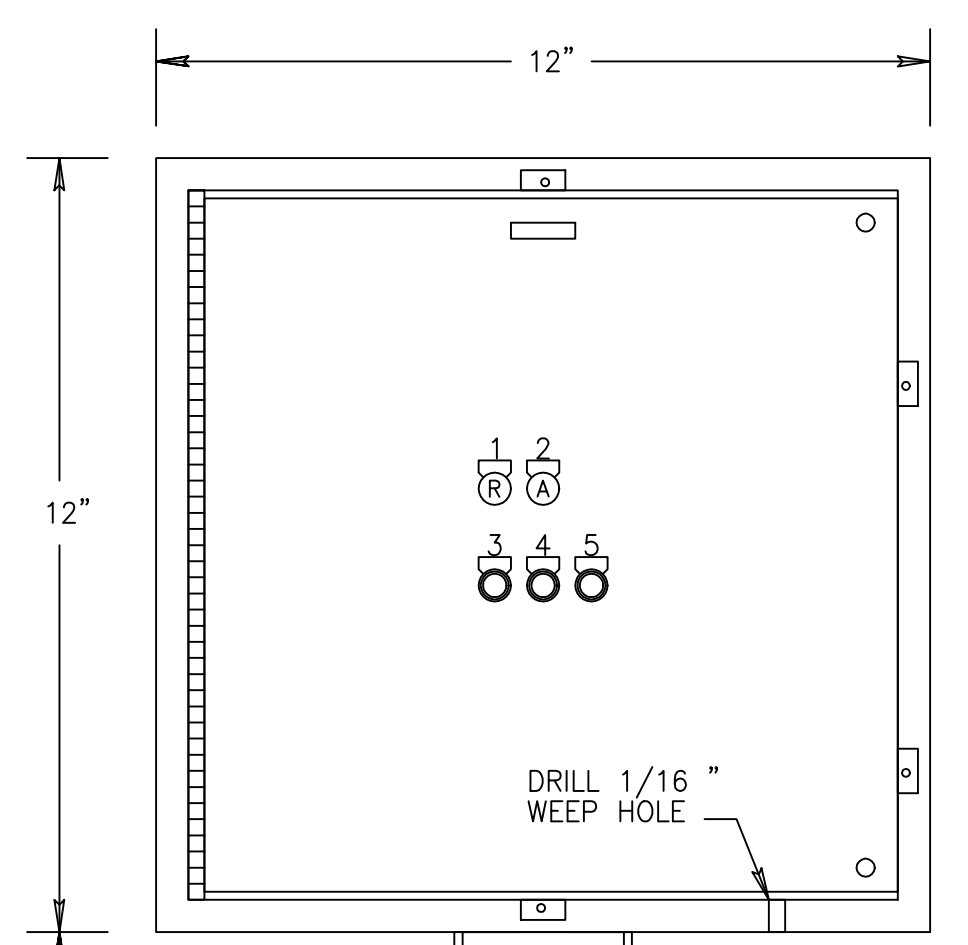
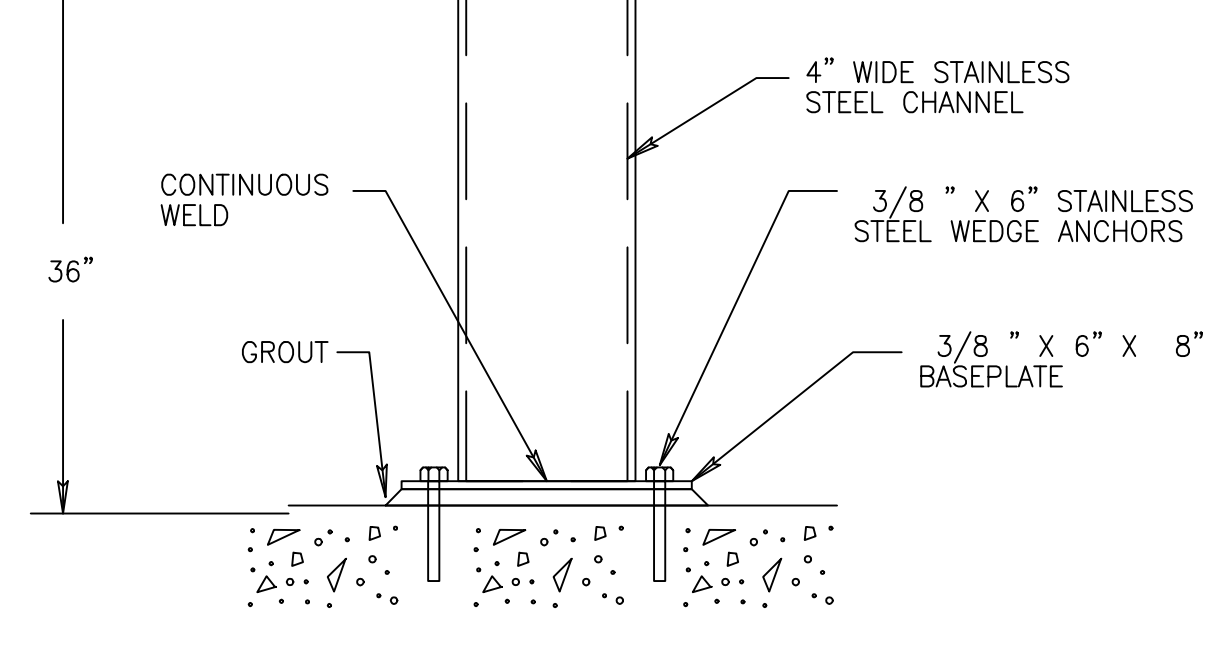
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CONTRACT NO.  
C-E304  
DRAWING NO.  
EC-30  
SHEET OF



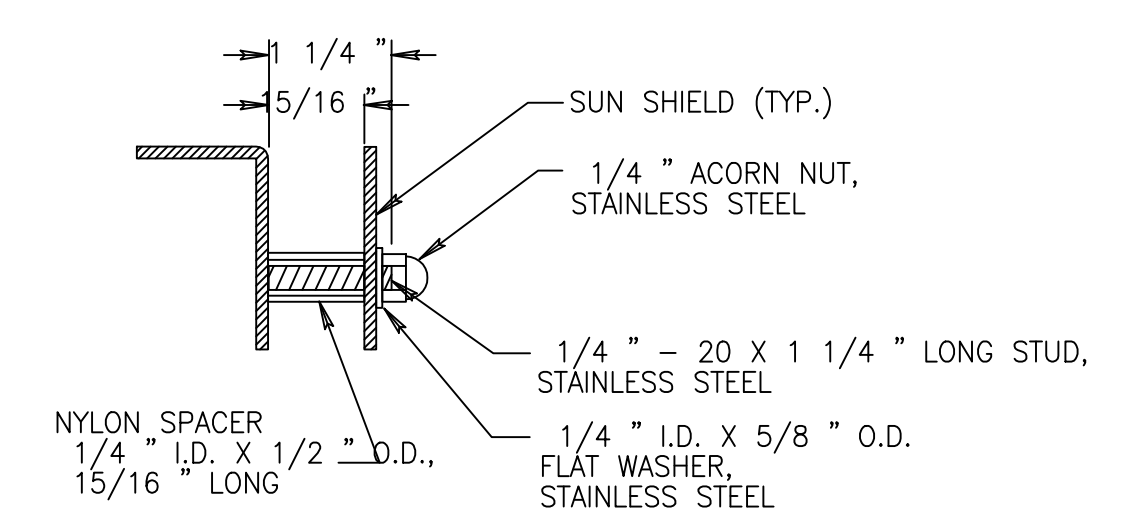
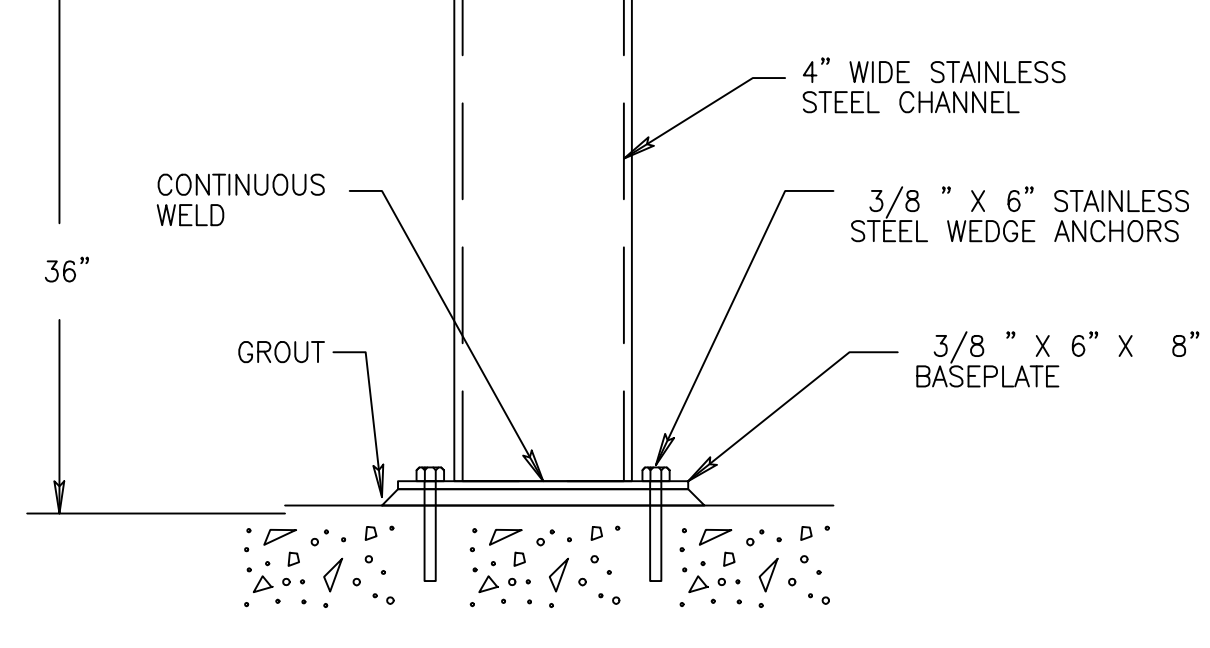
FUEL OIL RECEIVING PUMP CONTROL PANEL	
1	FUEL OIL RECEIVING PUMP RUNNING LIGHT
2	FUEL OIL RECEIVING PUMP FAILURE LIGHT
3	FUEL OIL RECEIVING PUMP START PUSH-BUTTON
4	ALARM RESET PUSH-BUTTON
5	FUEL OIL RECEIVING PUMP STOP PUSH-BUTTON

**FUEL OIL RECEIVING PUMP CONTROL PANEL FRONT ELEVATION**  
 (NEMA 4X ALUMINUM ENCLOSURE, OUTER DOOR NOT SHOWN FOR CLARITY. MOUNT SUN SHIELDS ON TOP AND DOOR. EMBED PANEL INTO RECESS IN CONTAINMENT AREA WALL)

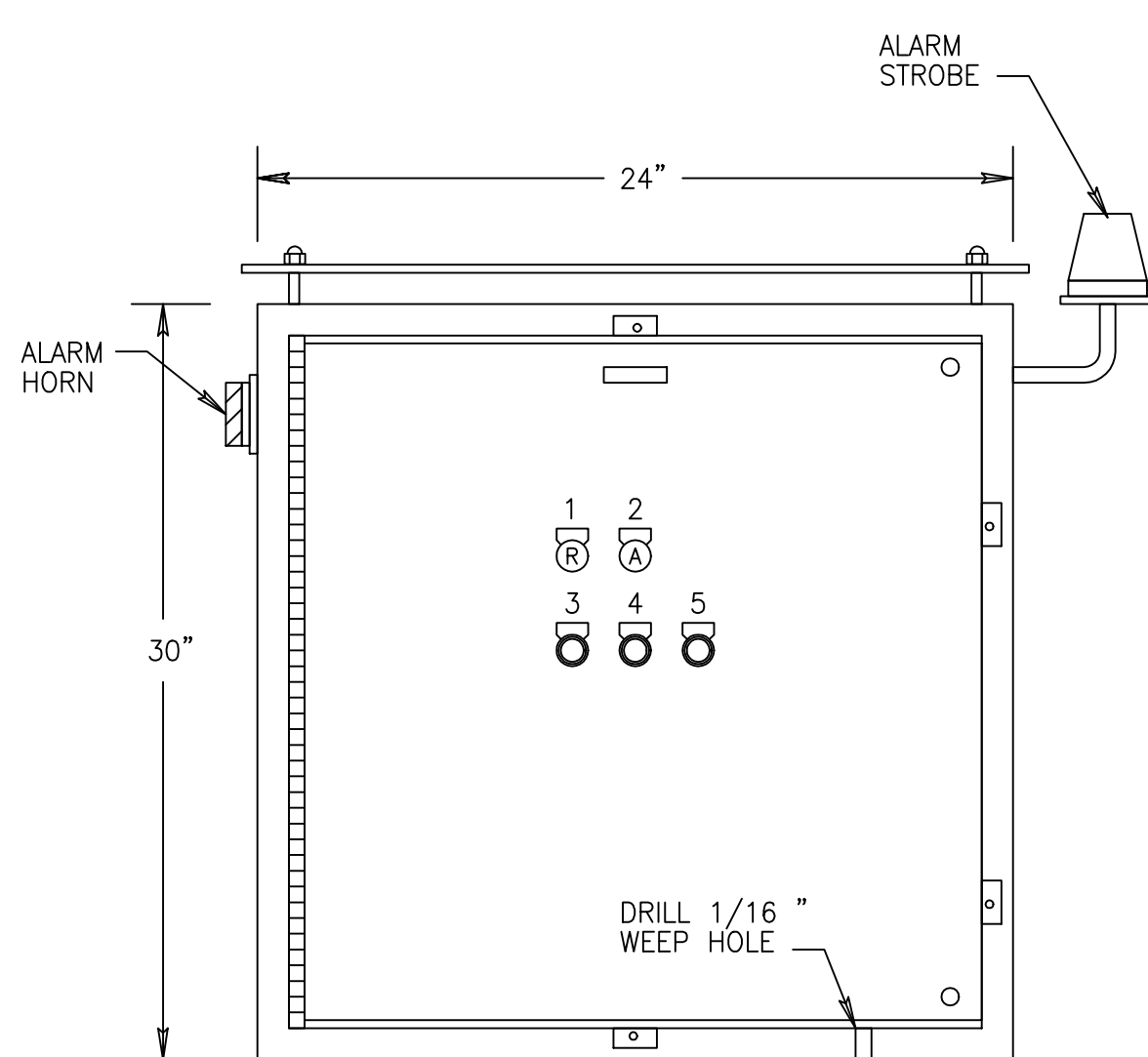


WASTE FUEL OIL COLLECTION TANK PUMPS CONTROL PANEL	
1	PUMP NO. 1 RUNNING INDICATION LIGHT
2	PUMP NO. 1 FAILURE INDICATION LIGHT
3	PUMP NO. 1 START PUSH-BUTTON
4	PUMP NO. 1 ALARM RESET PUSH-BUTTON
5	PUMP NO. 1 STOP PUSH-BUTTON

**WASTE LUBE OIL COLLECTION PUMPS CONTROL PANEL FRONT ELEVATION**  
 (NEMA 4X ALUMINUM ENCLOSURE, OUTER DOOR NOT SHOWN FOR CLARITY. MOUNT SUN SHIELDS ON ALL SIDES)

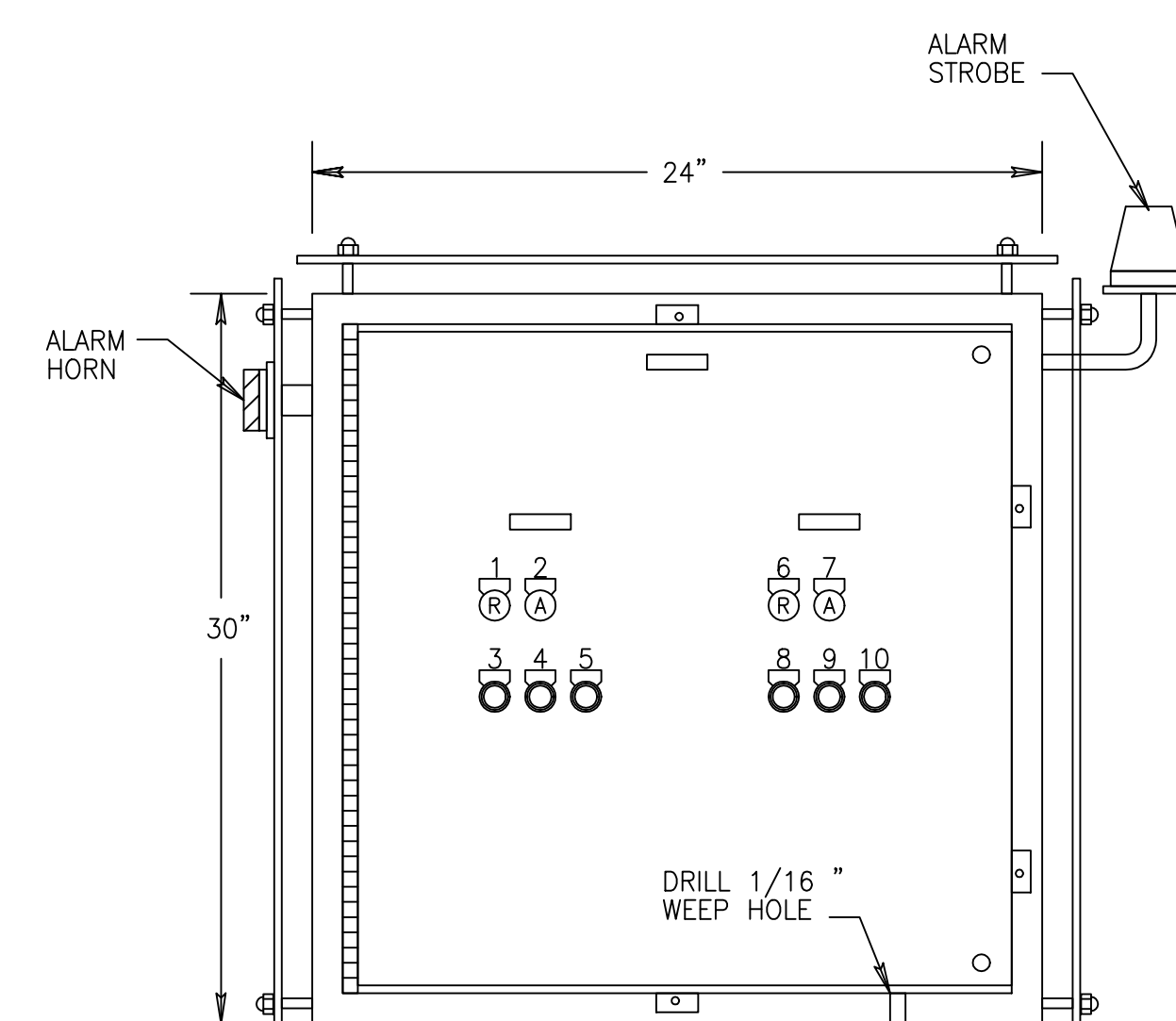
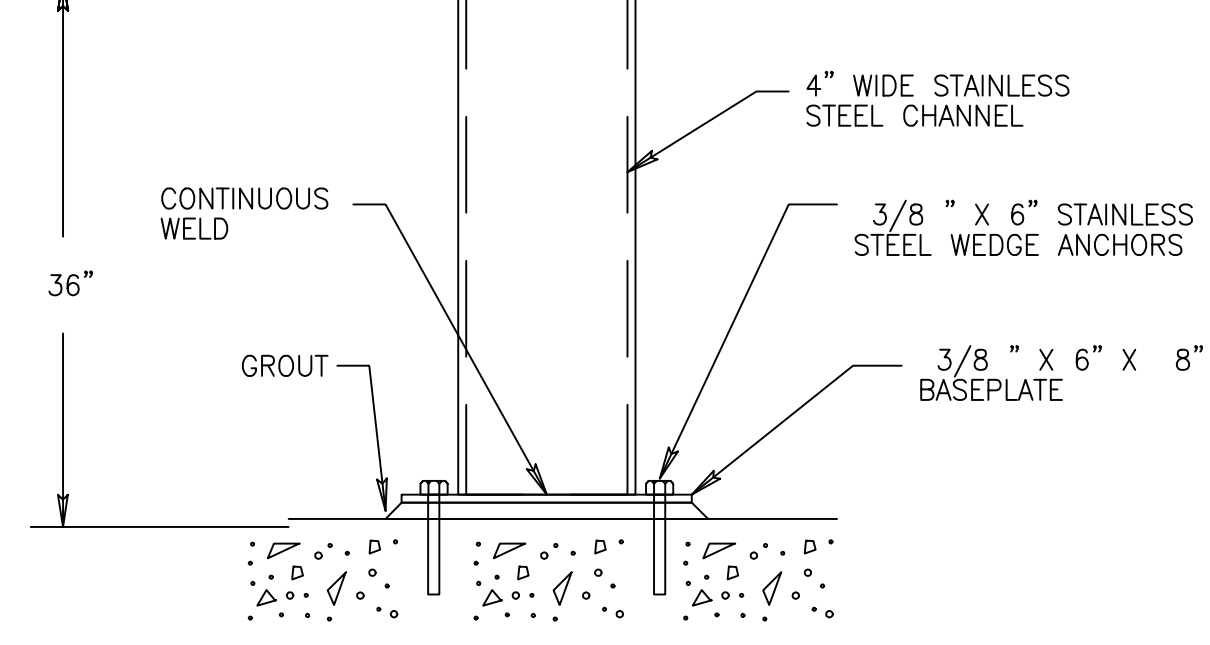


**SUN SHIELD MOUNTING DETAIL**



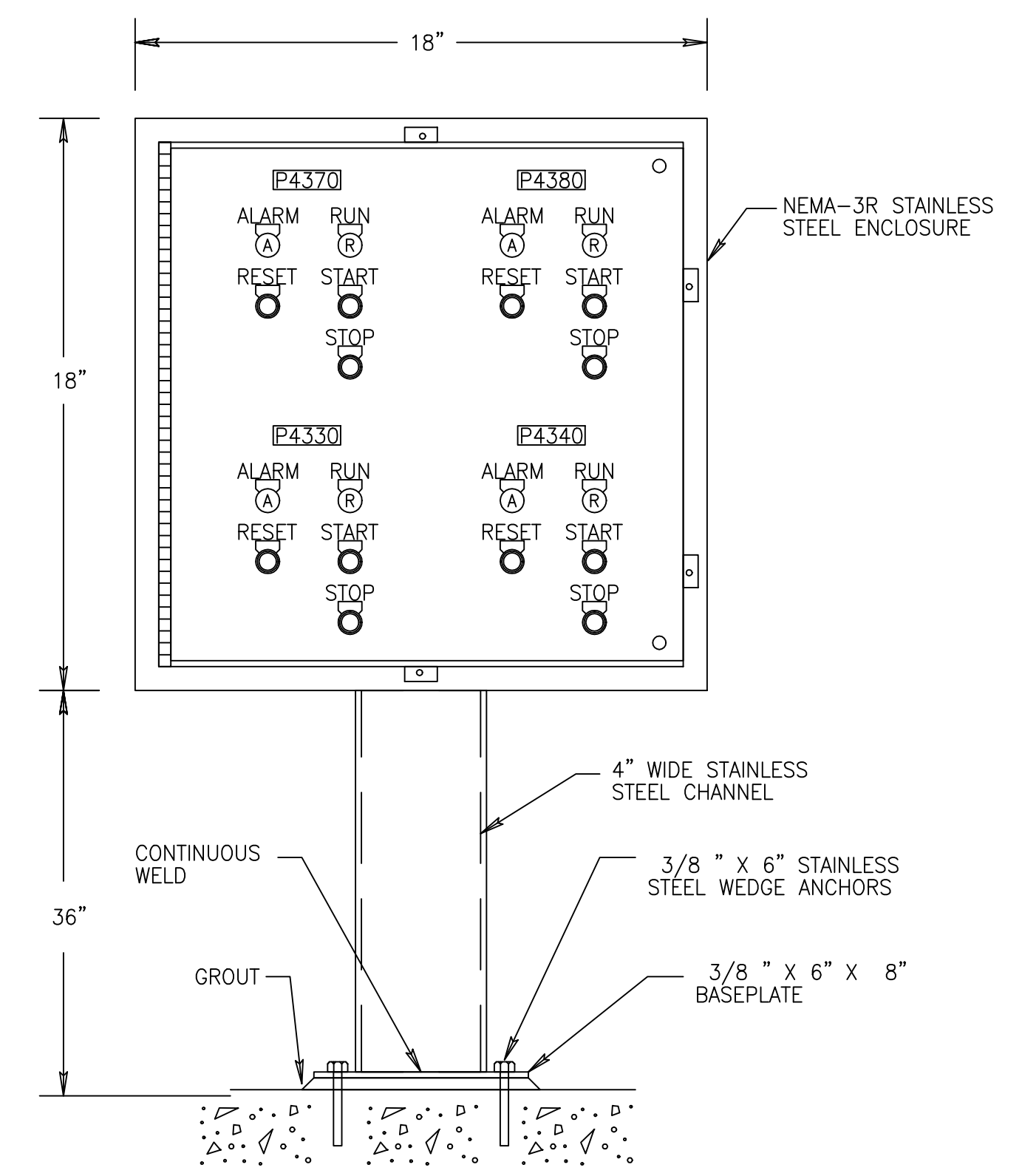
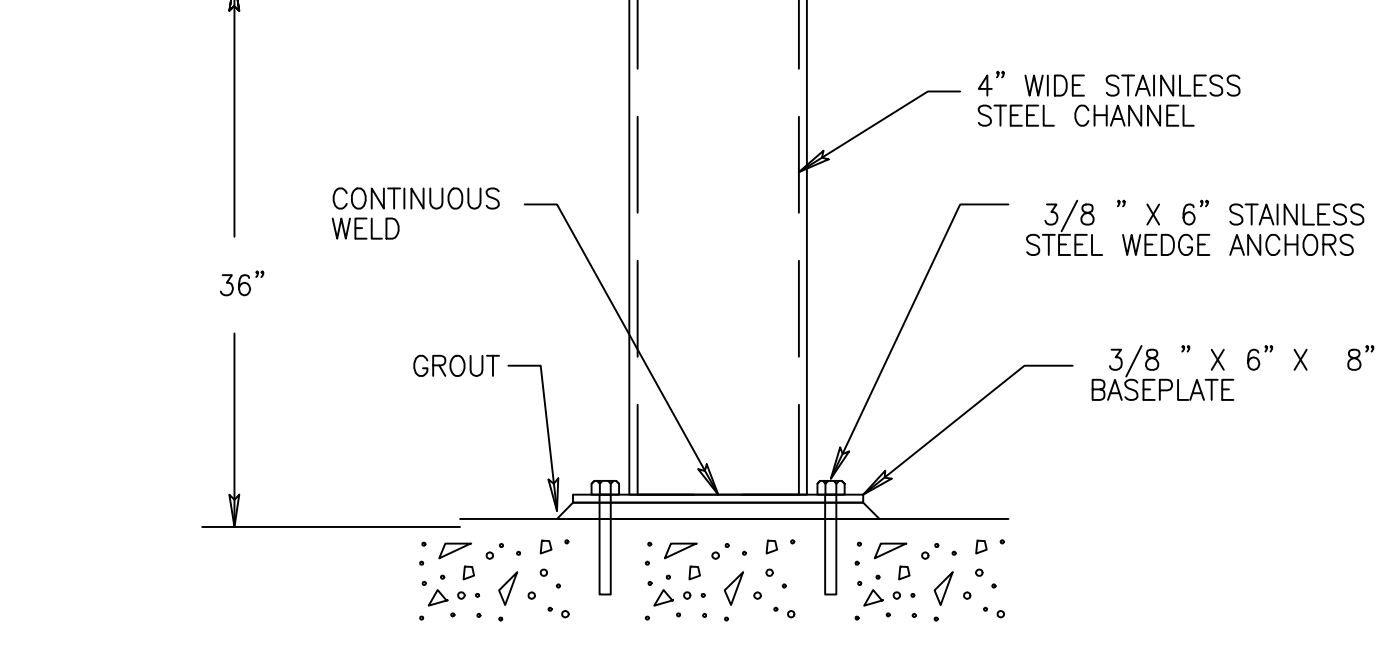
LUBE OIL RECEIVING PUMP CONTROL PANEL	
1	LUBE OIL RECEIVING PUMP RUNNING LIGHT
2	LUBE OIL RECEIVING PUMP FAILURE LIGHT
3	LUBE OIL RECEIVING PUMP START PUSH-BUTTON
4	ALARM RESET PUSH-BUTTON
5	LUBE OIL RECEIVING PUMP STOP PUSH-BUTTON

**LUBE OIL RECEIVING PUMP CONTROL PANEL FRONT ELEVATION**  
 (NEMA 4X ALUMINUM ENCLOSURE, OUTER DOOR NOT SHOWN FOR CLARITY. MOUNT SUN SHIELDS ON TOP AND DOOR. EMBED PANEL INTO RECESS IN CONTAINMENT AREA WALL)



WASTE FUEL OIL COLLECTION TANK PUMPS CONTROL PANEL	
1	PUMP NO. 1 RUNNING INDICATION LIGHT
2	PUMP NO. 1 FAILURE INDICATION LIGHT
3	PUMP NO. 1 START PUSH-BUTTON
4	PUMP NO. 1 ALARM RESET PUSH-BUTTON
5	PUMP NO. 1 STOP PUSH-BUTTON
6	PUMP NO. 2 RUNNING INDICATION LIGHT
7	PUMP NO. 2 FAILURE INDICATION LIGHT
8	PUMP NO. 2 START PUSH-BUTTON
9	PUMP NO. 2 ALARM RESET PUSH-BUTTON
10	PUMP NO. 2 STOP PUSH-BUTTON

**WASTE FUEL OIL COLLECTION PUMPS CONTROL PANEL FRONT ELEVATION**  
 (TYPICAL OF WASTE LUBE OIL PUMPS) (NEMA 4X ALUMINUM ENCLOSURE, OUTER DOOR NOT SHOWN FOR CLARITY. MOUNT SUN SHIELDS ON ALL SIDES)



**LUBE OIL TRANSFER PUMPS CONTROL PANEL**

Scale For Microfilming  
 Millimeters  
 Inches

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 FLA. P.E. NO. 43113

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NO.	DATE	BY	CHKD	SCALE	REVISIONS

B.A. LEE  
 B.M./JCN  
 J.C. NETZEL  
 DATE  
 NONE  
 SCALE

**BROWN CUMMINGS GANNON**  
 ENGINEERS • ARCHITECTS • CONSULTANTS  
 2701 ANKAWAY ST.  
 METairie, LOUISIANA 70008  
 License No. EB0000895

**MONTGOMERY WATSON**  
 ARCHITECTS • ENGINEERS • PLANNERS  
 480 SHOREWAY SUITE 300  
 SUNRISE, FL 33325

EVERGLADES CONSTRUCTION PROJECT  
 STORMWATER TREATMENT AREA 3/4  
 PUMPING STATIONS G-370 AND G-372

LOCAL CONTROL PANEL DETAIL

SOUTH FLORIDA WATER MANAGEMENT DISTRICT  
 EVERGLADES CONSTRUCTION PROJECT  
 3301 GUN CLUB ROAD  
 WEST PALM BEACH, FLORIDA 33406

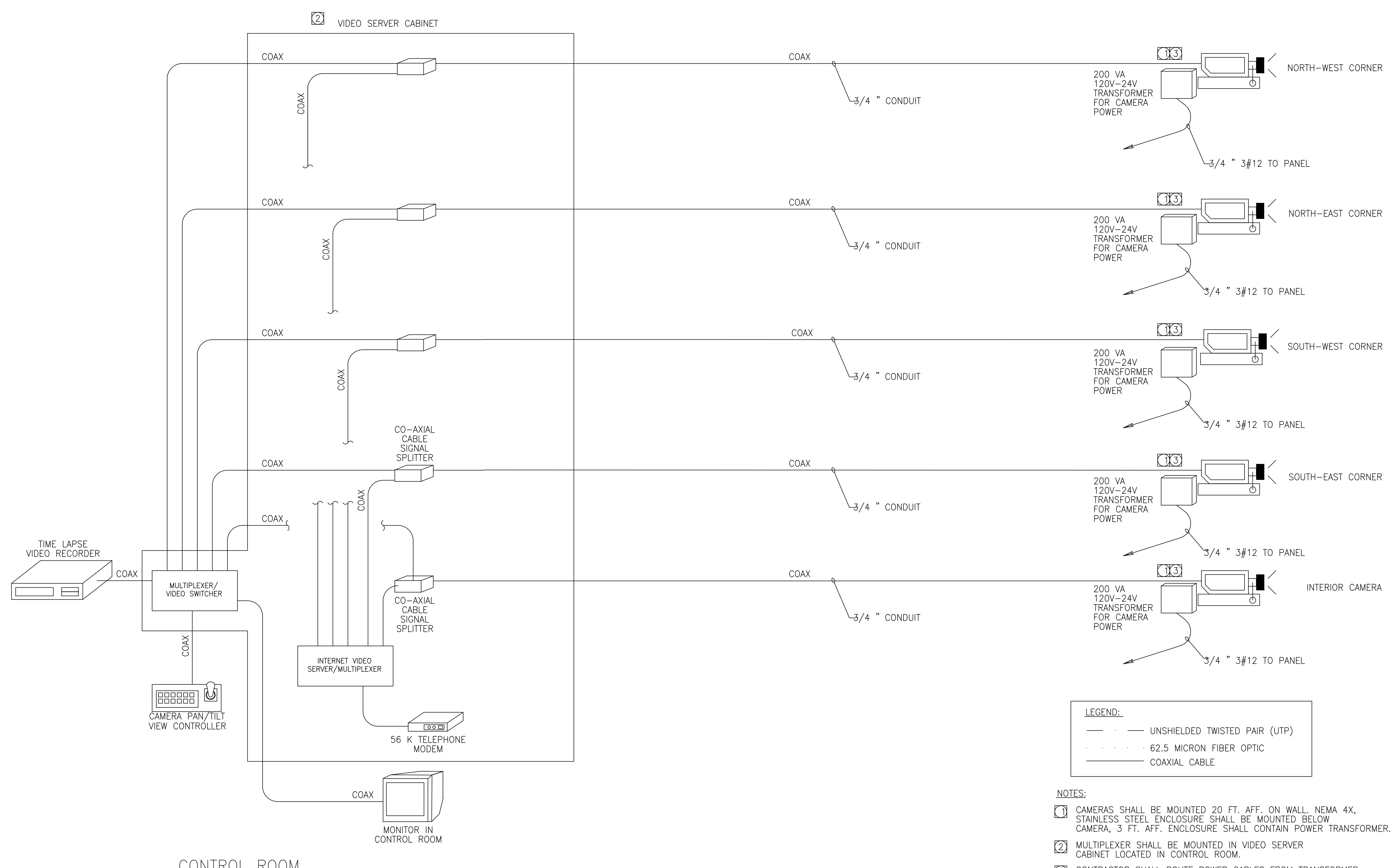
CONTRACT NO.  
 C-E304  
 DRAWING NO.  
 EC-31  
 SHEET OF







Scale For Microfilming  
Inches  
Millimeters



**LEGEND:**  
 - - - - - UNSHIELDED TWISTED PAIR (UTP)  
 . . . . . 62.5 MICRON FIBER OPTIC  
 ——— COAXIAL CABLE

- NOTES:**
- 1 CAMERAS SHALL BE MOUNTED 20 FT. AFF. ON WALL. NEMA 4X, STAINLESS STEEL ENCLOSURE SHALL BE MOUNTED BELOW CAMERA, 3 FT. AFF. ENCLOSURE SHALL CONTAIN POWER TRANSFORMER.
  - 2 MULTIPLEXER SHALL BE MOUNTED IN VIDEO SERVER CABINET LOCATED IN CONTROL ROOM.
  - 3 CONTRACTOR SHALL ROUTE POWER CABLES FROM TRANSFORMER, TO PAN/TILT MOTOR AS REQUIRED BY MANUFACTURER

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NO.	DATE	CHKD	DATE	REVISIONS

DRAWN	B.A. LEE	DSGN	BA/L/JCN	CHKD	J.C. NETZEL	DATE		SCALE	NONE
DWN									

**BCG**  
 Brown Cunningham Gannuch  
 ENGINEERS • ARCHITECTS • CONSULTANTS  
 2701 KENYAN ST.  
 METRO CENTER BUILDING, 7008  
 SUITE 300  
 TAMPA, FL 33625  
 License No. EB00008995

**MONTGOMERY WATSON**  
 P.E. P.W.  
 490 SANDHURST SUITE 300  
 SUNRIDGE, FL 33225

EVERGLADES CONSTRUCTION PROJECT  
 STORMWATER TREATMENT AREA 3/4  
 PUMPING STATIONS G-370 AND G-372  
 SOUTH FLORIDA WATER MANAGEMENT DISTRICT  
 EVERGLADES CONSTRUCTION PROJECT  
 3301 GUN CLUB ROAD  
 WEST PALM BEACH, FLORIDA 33406

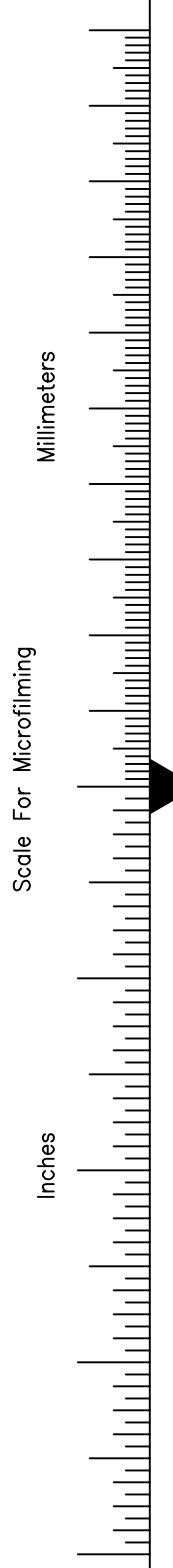
**SOUTH FLORIDA WATER MANAGEMENT DISTRICT**  
 EVERGLADES CONSTRUCTION PROJECT  
 3301 GUN CLUB ROAD  
 WEST PALM BEACH, FLORIDA 33406

CONTRACT NO.	C-E304
DRAWING NO.	EC-34
SHEET	OF

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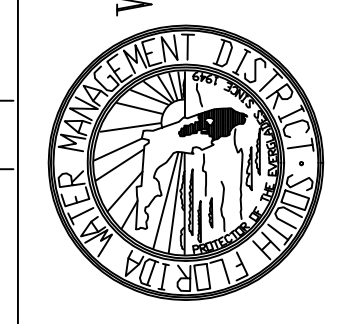
480-277 VOLTS 3 Ø 4 W			PANELBOARD MOV VALVE POWER										FEED BOTTOM					
125 A. MCB MAIN			LOCATION EL. 31 S.E. CORNER										MTG SURFACE					
LOAD DESCRIPTION	VOLT AMPERE			LTG	REC	MIS	CIR	BKR		BKR	CIR	MIS	REC	LTG	VOLT AMPERE			LOAD DESCRIPTION
	ØA	ØB	ØC												ØA	ØB	ØC	
MOV 370 2113	582					1	1	20	Ø	20	2				582			MOV 370 4121
		582							Ø		4				582			
			582						Ø		6				582			
MOV 370 2109	582					7	20	Ø	20	8				582			MOV 370 4131	
		582							Ø		10				582			
			582						Ø		12				582			
MOV 370 2119	582					13	20	Ø	20	14				582			MOV 370 4141	
		582							Ø		16			582				
			582						Ø		18			582				
MOV 370 2123	582					19	20	Ø	20	20				582			MOV 370 4151	
		582							Ø		22			582				
			582						Ø		24			582				
MOV 370 2138	582					25	20	Ø	20	26				582			MOV 370 1331	
		582							Ø		28			582				
			582						Ø		30			582				
SPARE						31	20	Ø	20	32							SPARE	
SPARE						33	20	Ø	20	34							SPARE	
SPARE						35	20	Ø	20	36							SPARE	
						37	20	Ø	20	38								
						39	20	Ø	20	40								
						41	20	Ø	20	42								
	2910	2910	2910			TOTAL				TOTAL				2910	2910	2910		
	PHASE TOTAL			TOTAL LOAD														
	5.8K	5.8K	5.8K	17.46 KVA ( 21 AMP)														



NOTE:  
1. NEW DRAWING AS PER RFI 117

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FLA. P.E. NO. 43113



CONTRACT NO.  
C-E304  
DRAWING NO.  
EC-35  
SHEET OF

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-370  
PANEL SCHEDULE - 2



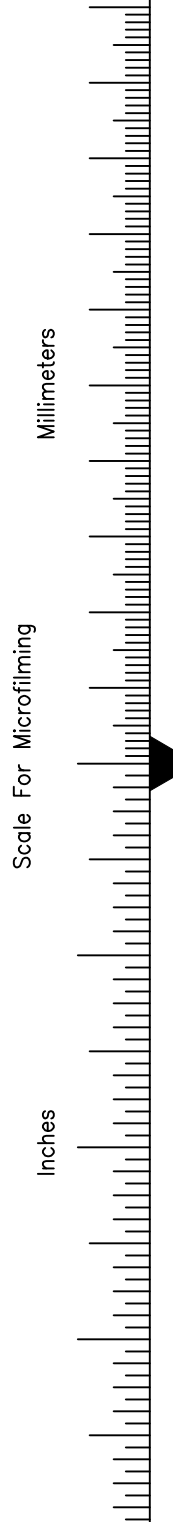
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2701 ANKAWAN ST.  
METRO PARK, FLORIDA 33008  
License No. EB00008995

DRAWN B.A. LEE  
DSGN BA/LJCN  
CHKD J.C. NETZEL  
DATE  
SCALE NONE

DATE  
CHKD  
DWN

REVISIONS

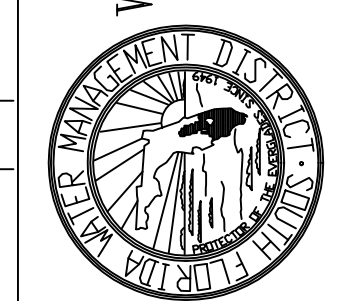
480-277 VOLTS		3 0 4 W		PANELBOARD MOV VALVE POWER										FEED BOTTOM			
125 A. MCB MAIN				LOCATION EL 31 S.W. CORNER										MTG SURFACE			
LOAD DESCRIPTION	VOLT AMPERE			LTG	REC	MIS	CIR	BKR	BKR	CIR	MIS	REC	LTG	VOLT AMPERE			LOAD DESCRIPTION
	ØA	ØB	ØC											ØA	ØB	ØC	
MOV 372 2113	582					1	1	20	20	2					582		MOV 372 4121
		582													582		
			582												582		
MOV 372 2109	582						7	20	20	8				582		MOV 372 4131	
		582													582		
			582												582		
MOV 372 2119	582						13	20	20	14				582		MOV 372 4141	
		582													582		
			582												582		
MOV 372 2123	582						19	20	20	20				582		MOV 372 4151	
		582													582		
			582												582		
MOV 372 2138	582						25	20	20	26				582		MOV 372 1331	
		582													582		
			582												582		
SPARE							31	20	20	32						SPARE	
SPARE							33	20	20	34						SPARE	
SPARE							35	20	20	36						SPARE	
							37	20	20	38							
							39	20	20	40							
							41	20	20	42							
	2910	2910	2910				TOTAL		TOTAL					2910	2910	2910	
	PHASE TOTAL			TOTAL LOAD													
	5.8K	5.8K	5.8K	17.46 KVA ( 21 AMP)													



NOTE:  
1. NEW DRAWING AS PER RFI 117

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FLA. P.E. NO. 43113



CONTRACT NO.  
C-E304  
DRAWING NO.  
EC-36  
SHEET OF

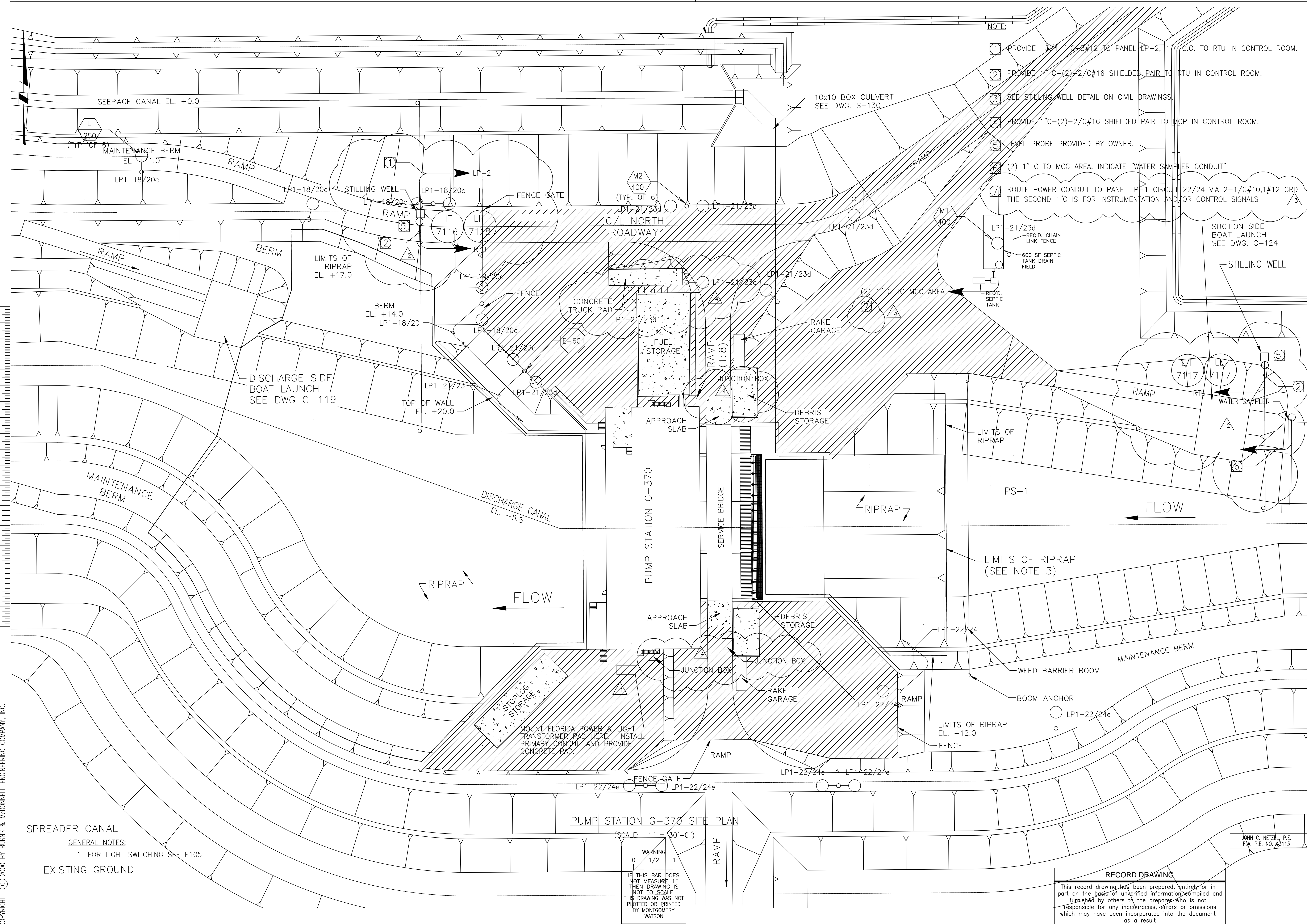
EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-372  
PANEL SCHEDULE - 2

SOUTH FLORIDA  
WATER MANAGEMENT DISTRICT  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406

**BCJ**  
Brown Cunningham Gannuch  
ENGINEERS • ARCHITECTS • CONSULTANTS  
2701 ANKAWA ST.  
METROPAULITAN PARKWAY 7008  
SUITE 300  
LEONARD FL 33008

**MONTGOMERY WATSON**  
P.E. P.W.  
490 SHAWNEE BLVD.  
SUITE 300  
SUNRIDGE, FL 33325

DRAWN	B.A. LEE	DATE		SCALE	NONE
DSGN	BA/LCN	CHKD	J.C. NETZEL	DWN	
CHKD		DATE		SCALE	
DATE		CHKD		DATE	
SCALE		DWN		CHKD	
					REVISIONS



- NOTE:
1. PROVIDE 3/4" C-3#12 TO PANEL LP-2, 1" C.O. TO RTU IN CONTROL ROOM.
  2. PROVIDE 1" C-(2)-2/C#16 SHIELDED PAIR TO RTU IN CONTROL ROOM.
  3. SEE STILLING WELL DETAIL ON CIVIL DRAWINGS.
  4. PROVIDE 1" C-(2)-2/C#16 SHIELDED PAIR TO MCP IN CONTROL ROOM.
  5. LEVEL PROBE PROVIDED BY OWNER.
  6. (2) 1" C TO MCC AREA. INDICATE "WATER SAMPLER CONDUIT"
  7. ROUTE POWER CONDUIT TO PANEL LP-1 CIRCUIT 22/24 VIA 2-1/C#10,1#12 GRD THE SECOND 1" C IS FOR INSTRUMENTATION AND/OR CONTROL SIGNALS

CONSTRUCTION REVISION	DATE	BY	CHKD
AS PER MEETING 10/7/2002	10/7/2002	AL	DWN
REV. PER RFI NO. 26	5/15/2002	AL	DWN
REVISED PER ADDENDUM #4	7/5/2001	BAL	DWN

DRAWN	DESIGN	CHKD	DATE	SCALE
BAL/MS	BAL/JCN	J.C. NETZEL		NONE

DCK	SMR	3/12/2004
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EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372

G-370 SIGHT LIGHTING

SOUTH FLORIDA WATER MANAGEMENT DISTRICT  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406

CONTRACT NO. C-E304  
DRAWING NO. E-101  
SHEET OF

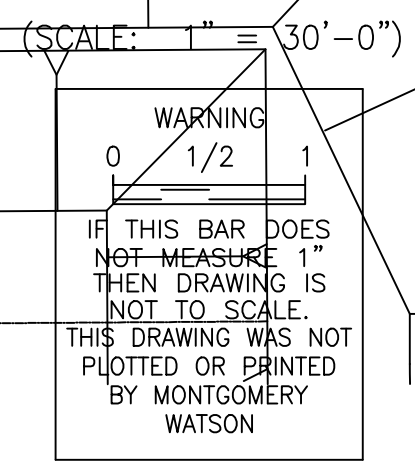
Scale For Microfilming

Inches

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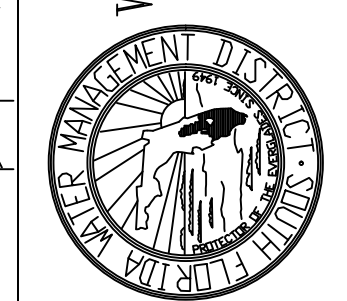
SPREADER CANAL  
GENERAL NOTES:  
1. FOR LIGHT SWITCHING SEE E105  
EXISTING GROUND

PUMP STATION G-370 SITE PLAN

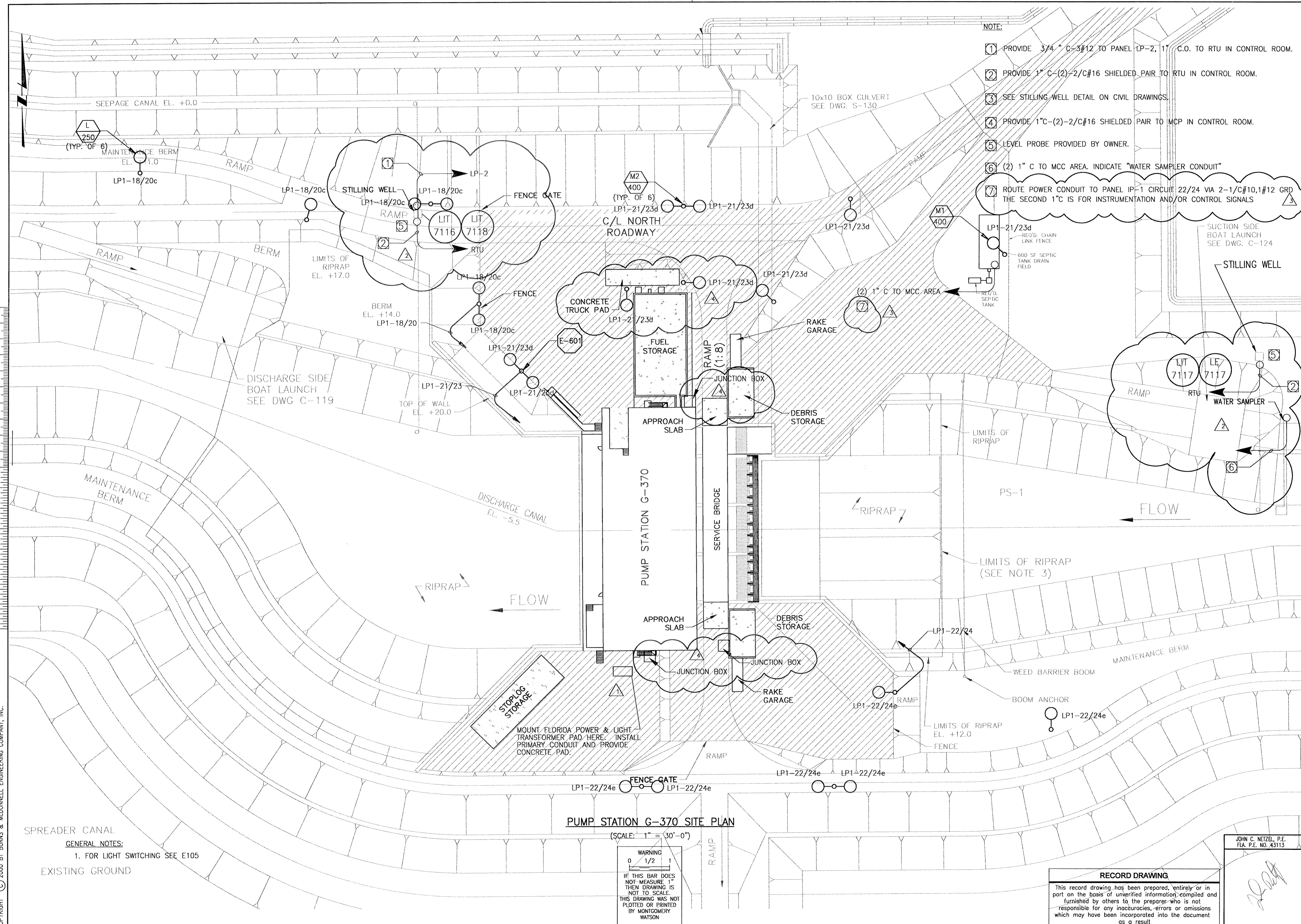


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JOHN C. NETZEL, P.E.  
F.L.A. P.E. NO. X3113



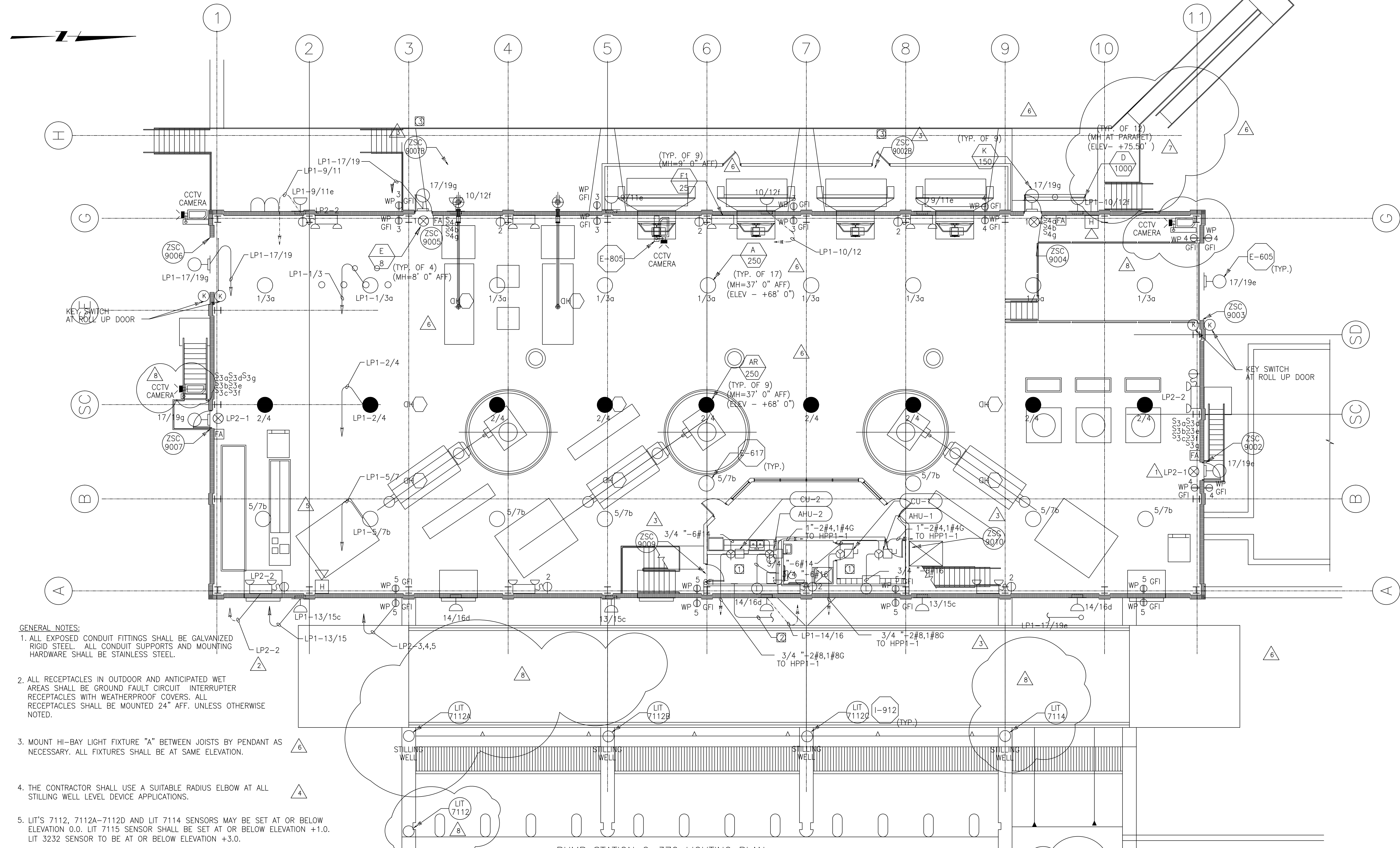
CONTRACT NO. C-E304  
DRAWING NO. E-101  
SHEET OF



- NOTE:
- ① PROVIDE 3/4" C-3#12 TO PANEL LP-2, 1" C.O. TO RTU IN CONTROL ROOM.
  - ② PROVIDE 1" C-(2)-2/C#16 SHIELDED PAIR TO RTU IN CONTROL ROOM.
  - ③ SEE STILLING WELL DETAIL ON CIVIL DRAWINGS.
  - ④ PROVIDE 1" C-(2)-2/C#16 SHIELDED PAIR TO MCP IN CONTROL ROOM.
  - ⑤ LEVEL PROBE PROVIDED BY OWNER.
  - ⑥ (2) 1" C TO MCC AREA. INDICATE "WATER SAMPLER CONDUIT"
  - ⑦ ROUTE POWER CONDUIT TO PANEL IP-1 CIRCUIT 22/24 VIA 2-1/C#10,1#12 GRD THE SECOND 1" C IS FOR INSTRUMENTATION AND/OR CONTROL SIGNALS

CONSTRUCTION REVISION	DATE	REVISIONS
AS PER MEETING 10/7/2002		
REV. PER RFI NO. 26		
REVISED PER ADDENDUM #4		
DKB	SMR	DWN
BAL/JCN	BAL/JCN	CHKD
CHKD	J.C. NETZEL	NONE
DATE	DATE	SCALE
5/15/2002	7/5/2001	NONE
3/12/2004		
 Brown Consulting Group, Inc. ENGINEERS 2075 W. WINDY WAY, SUITE 100 WEST PALM BEACH, FL. 33411 License No. EB000085		
 MONTGOMERY WATSON ENGINEERING CONSULTANTS, INC. 490 SAWGRASS CORP. PKWY. SUNGISE, FL. 33125		
EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372		
G-370 SIGHT LIGHTING		
SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406		
CONTRACT NO. C-E304 DRAWING NO. E-101 SHEET OF		

Scale For Microlining  
 Millimeters  
 Inches  
 Scale For Microlining  
 Inches  
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- GENERAL NOTES:**
1. ALL EXPOSED CONDUIT FITTINGS SHALL BE GALVANIZED RIGID STEEL. ALL CONDUIT SUPPORTS AND MOUNTING HARDWARE SHALL BE STAINLESS STEEL.
  2. ALL RECEPTACLES IN OUTDOOR AND ANTICIPATED WET AREAS SHALL BE GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLES WITH WEATHERPROOF COVERS. ALL RECEPTACLES SHALL BE MOUNTED 24" AFF. UNLESS OTHERWISE NOTED.
  3. MOUNT HI-BAY LIGHT FIXTURE "A" BETWEEN JOISTS BY PENDANT AS NECESSARY. ALL FIXTURES SHALL BE AT SAME ELEVATION.
  4. THE CONTRACTOR SHALL USE A SUITABLE RADIUS ELBOW AT ALL STILLING WELL LEVEL DEVICE APPLICATIONS.
  5. LIT'S 7112, 7112A-7112D AND LIT 7114 SENSORS MAY BE SET AT OR BELOW ELEVATION 0.0. LIT 7115 SENSOR SHALL BE SET AT OR BELOW ELEVATION +1.0. LIT 3232 SENSOR TO BE AT OR BELOW ELEVATION +3.0.
- NOTES:**
- 1 AHU-1, CU-1, AHU-2 AND CU-2 ARE ROOF MOUNTED. PROVIDE 60A, 3P, 600V NEMA 3R STAINLESS STEEL DISCONNECT SWITCH FOR AHU-1 AND AHU-2. PROVIDE 30A, 3P, 600V NEMA 3R STAINLESS STEEL DISCONNECT FOR CU-1 AND CU-2.
  - 2 PROVIDE 4" C.O. FROM CONTROL ROOM TO 80 FT RADIO ANTENNA
  - 3 PROVIDE INTRUSION ALARM SWITCHES ON VENTILATION FAN SHROUD ENCLOSURE DOORS.

PUMP STATION G-370 LIGHTING PLAN

(SCALE: 1/8" = 1'-0")

**WARNING**

0 1/2 1

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**RECORD DRAWING**

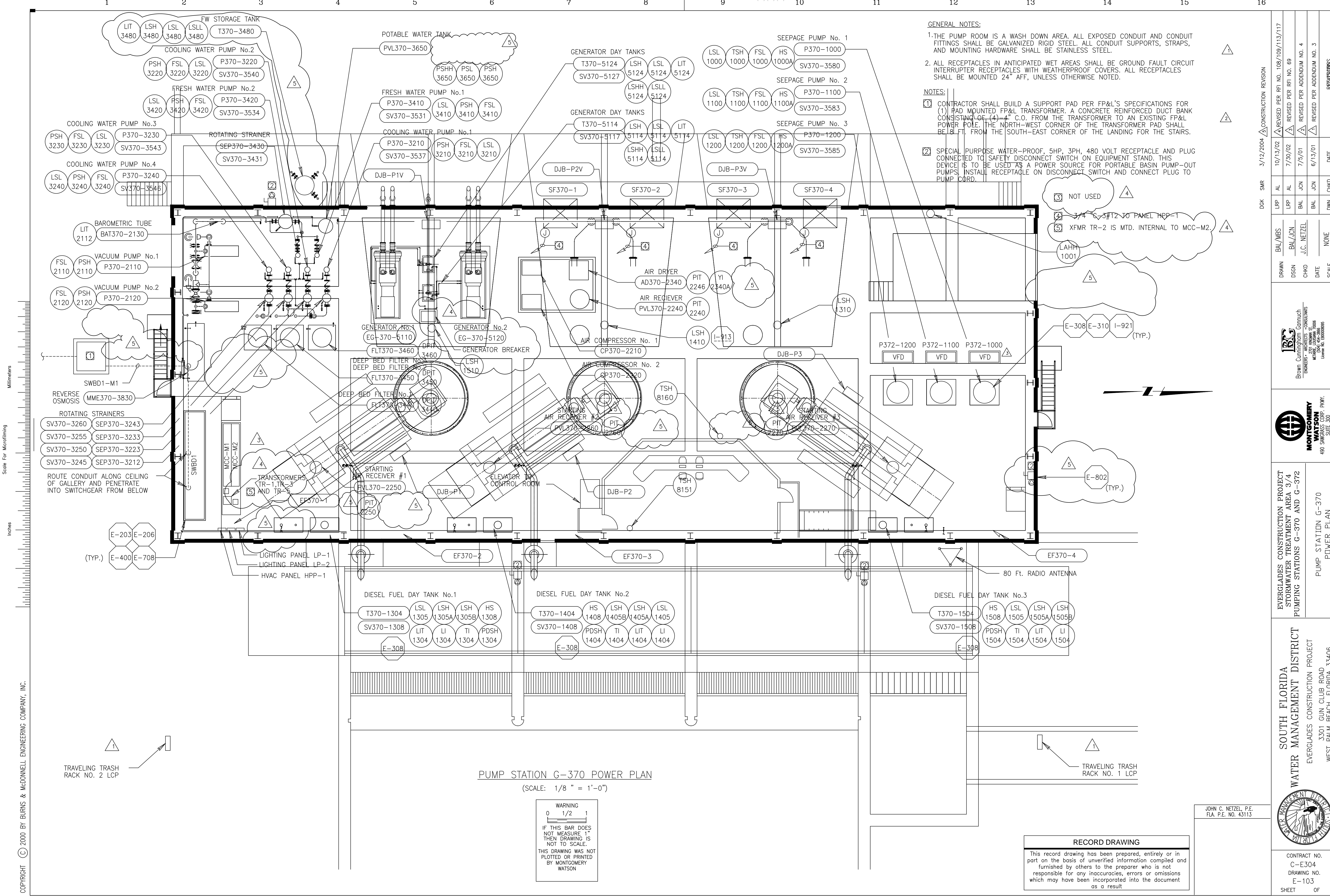
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Scale For Microfilming  
Inches  
Millimeters

<p><b>MONTGOMERY WATSON</b> ENGINEERS - ARCHITECTS - CONSULTANTS 490 SHAWWEE SUITE 300 SUNRISE, FL 33325</p>		<p>CONSTRUCTION REVISION</p> <table border="1"> <tr> <th>NO.</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> <tr> <td>1</td> <td>3/12/2004</td> <td>REVISED PER RFI NO. 117/113</td> </tr> <tr> <td>2</td> <td>10/11/02</td> <td>REVISED PER RFI NO. 57</td> </tr> <tr> <td>3</td> <td>8/09/02</td> <td>REVISED PER RFI NO. 69</td> </tr> <tr> <td>4</td> <td>7/30/02</td> <td>REVISED PER RFI NO. 69</td> </tr> </table>	NO.	DATE	DESCRIPTION	1	3/12/2004	REVISED PER RFI NO. 117/113	2	10/11/02	REVISED PER RFI NO. 57	3	8/09/02	REVISED PER RFI NO. 69	4	7/30/02	REVISED PER RFI NO. 69
NO.	DATE	DESCRIPTION															
1	3/12/2004	REVISED PER RFI NO. 117/113															
2	10/11/02	REVISED PER RFI NO. 57															
3	8/09/02	REVISED PER RFI NO. 69															
4	7/30/02	REVISED PER RFI NO. 69															
<p>EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372</p>	<p>DATE: 7/30/02</p> <p>SCALE: NONE</p>	<p>DATE: 7/30/02</p> <p>SCALE: NONE</p>															
<p>SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406</p>	<p>PUMP STATION G-370 LIGHTING PLAN</p>	<p>CONTRACT NO. C-E304 DRAWING NO. E-102 SHEET OF</p>															



**GENERAL NOTES:**

1. THE PUMP ROOM IS A WASH DOWN AREA. ALL EXPOSED CONDUIT AND CONDUIT FITTINGS SHALL BE GALVANIZED RIGID STEEL. ALL CONDUIT SUPPORTS, STRAPS, AND MOUNTING HARDWARE SHALL BE STAINLESS STEEL.
2. ALL RECEPTACLES IN ANTICIPATED WET AREAS SHALL BE GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLES WITH WEATHERPROOF COVERS. ALL RECEPTACLES SHALL BE MOUNTED 24" AFF, UNLESS OTHERWISE NOTED.

**NOTES:**

1. CONTRACTOR SHALL BUILD A SUPPORT PAD PER FP&L'S SPECIFICATIONS FOR (1) PAD MOUNTED FP&L TRANSFORMER. A CONCRETE REINFORCED DUCT BANK CONSISTING OF (4) 4" C.O. FROM THE TRANSFORMER TO AN EXISTING FP&L POWER POLE. THE NORTH-WEST CORNER OF THE TRANSFORMER PAD SHALL BE 18' FT. FROM THE SOUTH-EAST CORNER OF THE LANDING FOR THE STAIRS.
2. SPECIAL PURPOSE WATER-PROOF, 5HP, 3PH, 480 VOLT RECEPTACLE AND PLUG CONNECTED TO SAFETY DISCONNECT SWITCH ON EQUIPMENT STAND. THIS DEVICE IS TO BE USED AS A POWER SOURCE FOR PORTABLE BASIN PUMP-OUT PUMPS. INSTALL RECEPTACLE ON DISCONNECT SWITCH AND CONNECT PLUG TO PUMP CORD.

**PUMP STATION G-370 POWER PLAN**  
(SCALE: 1/8" = 1'-0")

**WARNING**  
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FLA. P.E. NO. 43113

DRAWN		DESIGN		CHECKED		DATE	
BAL/MS	BAL/JCN	BAL/JCN	J.C. NETZEL	BAL	JCN	6/13/01	REVISIONS
UPP	AL	UPP	AL	BAL	JCN	7/5/01	REVISIONS
AL	AL	AL	AL	BAL	JCN	7/30/02	REVISIONS
AL	AL	AL	AL	BAL	JCN	10/13/02	REVISIONS
AL	AL	AL	AL	BAL	JCN	3/12/2004	CONSTRUCTION REVISION

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-370  
POWER PLAN

**MONTGOMERY WATSON**  
ENGINEERS - ARCHITECTS - CONSULTANTS  
490 SHARPE AVENUE, SUITE 300  
SUNRISE, FL 33325

SOUTH FLORIDA WATER MANAGEMENT DISTRICT  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406

CONTRACT NO. C-E304  
DRAWING NO. E-103  
SHEET OF

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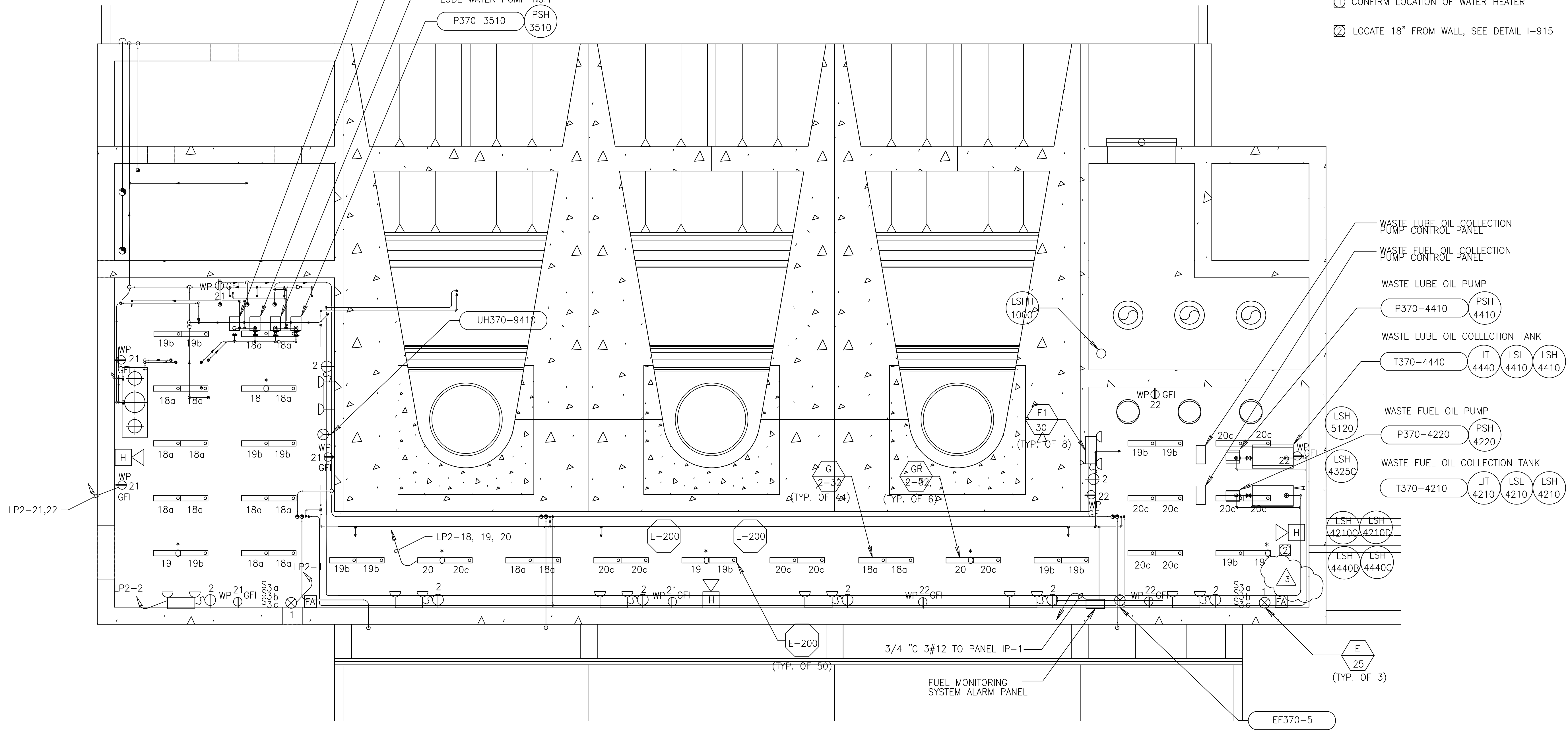
Scale For Microfilming  
Inches  
Millimeters

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16



- POT. WATER PUMP No.2  
P370-3620 PSH 3620
- POT. WATER PUMP No.1  
P370-3610 PSH 3610
- LUBE WATER PUMP No.2  
P370-3520 PSH 3520
- LUBE WATER PUMP No.1  
P370-3510 PSH 3510

- GENERAL NOTES:**
1. ALL EXPOSED CONDUIT FITTINGS SHALL BE GALVANIZED RIGID STEEL. ALL CONDUIT SUPPORTS AND MOUNTING HARDWARE SHALL BE STAINLESS STEEL.
  2. ALL RECEPTACLES IN OUTDOOR AND ANTICIPATED WET AREAS SHALL BE GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLES WITH WEATHERPROOF COVERS. ALL RECEPTACLES SHALL BE MOUNTED 24" AFF. UNLESS OTHERWISE NOTED.
  3. ASTERISK DENOTES AN UNSWITCHED FIXTURE
- ① CONFIRM LOCATION OF WATER HEATER
- ② LOCATE 18" FROM WALL, SEE DETAIL I-915



**PUMP STATION G-370 LIGHTING AND POWER PLAN**  
(SCALE: 1/8" = 1'-0")

**WARNING**  
0 1/2 1  
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FLA. P.E. NO. 43113

**SOUTH FLORIDA WATER MANAGEMENT DISTRICT**  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-370 PIPE GALLERY  
LIGHTING AND POWER PLAN



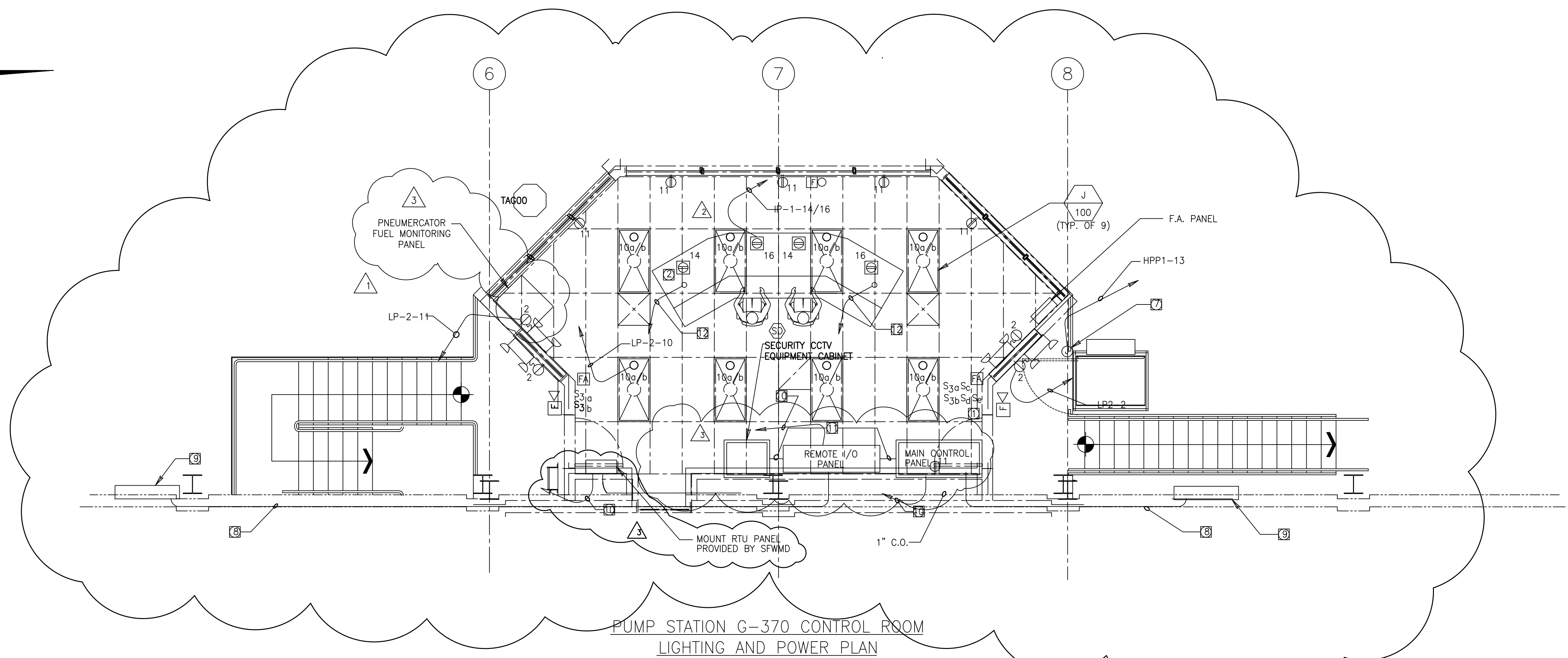
**BET**  
Brown Cumberland Council  
ENGINEERS - ARCHITECTS - CONSULTANTS  
201 W. WALKER ST.  
MIAMI, FL 33130  
TEL: (305) 451-3000  
FAX: (305) 451-3000  
WWW.BET.COM

DRAWN	DSGN	CHKD	DATE	SCALE
BAL/MSB	BAL/JCN	J.C. NETZEL		NONE

DCK	SMR	CHKD	DWN	DATE

CONSTRUCTION REVISION	UPDATED BACKGROUND PER RFI 113	REVISED PER ADDENDUM NO. 3	REVISIONS
3/12/2004	10/10/02	6/13/01	DATE
			CHKD
			DWN

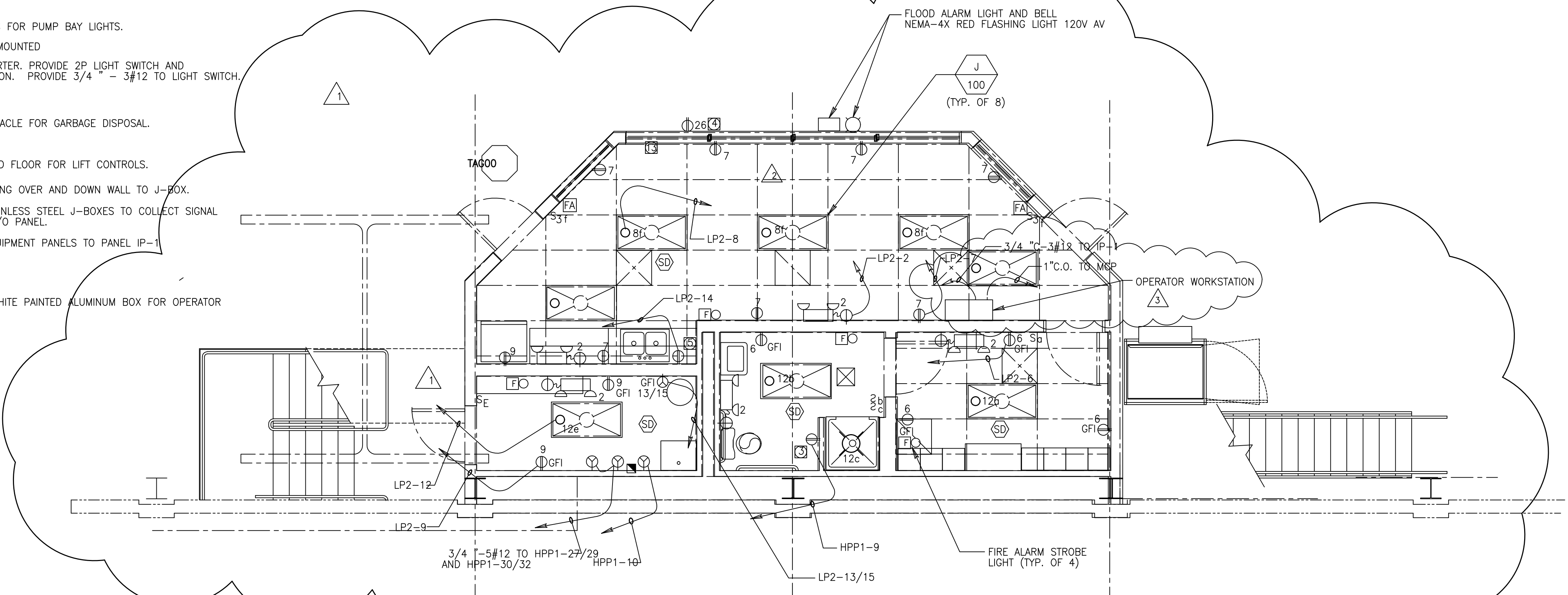




PUMP STATION G-370 CONTROL ROOM  
LIGHTING AND POWER PLAN

NOTES:

- 1 SWITCHES TO LIGHTING CONTACTORS FOR PUMP BAY LIGHTS.
- 2 120V QUAD RECEPTACLES, FLOOR-MOUNTED
- 3 PROVIDE 120V MANUAL MOTOR STARTER. PROVIDE 2P LIGHT SWITCH AND WIRE FAN TO RUN WHEN LIGHT IS ON. PROVIDE 3/4" - 3#12 TO LIGHT SWITCH.
- 4 WATER COOLER
- 5 PROVIDE 120V, 20A SINGLE RECEPTACLE FOR GARBAGE DISPOSAL.
- 6 50A, 240V RANGE RECEPTACLE.
- 7 JUNCTION BOX LOCATED ON SECOND FLOOR FOR LIFT CONTROLS.
- 8 ROUTE 3-4" C CONDUITS INTO CEILING OVER AND DOWN WALL TO J-BOX.
- 9 PROVIDE (2) 48" x 48" x 10" STAINLESS STEEL J-BOXES TO COLLECT SIGNAL AND CONTROL WIRES TO REMOTE I/O PANEL.
- 10 PROVIDE 3/4" C-3#12 FROM EQUIPMENT PANELS TO PANEL IP-1
- 11 2" C.O. FOR CONTROL CABLES
- 12 1" C.O. TO MAIN CONTROL PANEL
- 13 PROVIDE 14" x 14" x 6" 12 ga WHITE PAINTED ALUMINUM BOX FOR OPERATOR WORKSTATION.



PUMP STATION G-370 BREAK ROOM  
LIGHTING AND POWER PLAN

(SCALE: 1/4" = 1'-0")

WARNING  
0 1/2 1  
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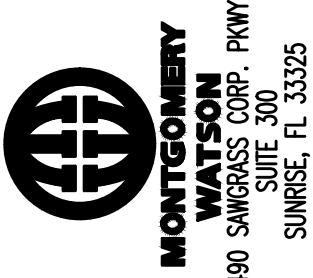
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FLA. P.E. NO. 43113



CONTRACT NO.  
C-E304  
DRAWING NO.  
E-105  
SHEET OF

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-370  
CONTROL AND BREAK ROOM  
LIGHTING AND POWER PLAN

SOUTH FLORIDA  
WATER MANAGEMENT DISTRICT  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406



187  
Brown Cumberland Council  
ENGINEERS - ARCHITECTS - CONSULTANTS  
201 W. PALM BLVD.  
SUITE 400  
WEST PALM BEACH, FL 33406  
Phone: 561.835.0000  
Fax: 561.835.0005

DRAWN	BAL/MSB	DATE	SCALE
DSGN	BAL/JCN	CHKD	J.C. NETZEL
DATE	6/13/01	SCALE	NONE

DCK	SMR	DATE	CHKD
LRP	AL	5/15/2002	DWN
BAL	JCN	6/13/01	CHKD

CONSTRUCTION REVISION	REV. PER RPT NO.	REVISIONS
3/12/2004	58	
5/15/2002	REVISED PER ADDENDUM NO. 3	
6/13/01		

NOTES FOR LIGHTNING PROTECTION SYSTEM

1. GENERAL

A SYSTEM OF LIGHTNING PROTECTION SHALL BE PROVIDED AND INSTALLED IN COMPLIANCE WITH THE PROVISIONS OF THE LATEST EDITION OF NFPA 780 LIGHTNING PROTECTION CODE AS ADOPTED BY THE NATIONAL FIRE PROTECTION ASSOCIATION AND THE UNDERWRITERS' LABORATORIES (UL), INC.

2. AIR TERMINALS

AIR TERMINALS SHALL BE 1/2 IN x 24IN SOLID COPPER AND SHALL EXTEND AT LEAST 24 INCHES ABOVE THE TOP OF THE STRUCTURE. AIR TERMINALS BASES SHALL BE CAST BRONZE WITH STAINLESS STEEL BOLT PRESSURE CABLE CONNECTIONS.

3. CONDUCTORS

MAIN AND DOWN CONDUCTORS SHALL CONSIST OF U.L. LISTED 29 STRANDS OF 14 GAUGE COPPER WIRE WEIGHING 190 LBS. PER 1000 FEET AND INSTALLED IN ACCORDANCE WITH THE U.L. CODE.(CLASS 1)

4. GROUND TERMINALS

ALL GROUNDING TERMINALS (RODS) SHALL BE NO LESS THAN 3/4 " IN DIAMETER AND 10 FT LONG, AND SHALL BE COPPER-CLAD STEEL, SOLID COPPER OR STAINLESS STEEL. GROUND TERMINALS SHALL BE DRIVEN TO A MINIMUM DEPTH OF 10 FT. AND MORE IF NECESSARY TO REACH PERMANENT MOISTURE. ONE GROUND ROD SHALL BE BONDED TO STEEL PIPE. GROUNDING TERMINALS SHALL BE LOCATED AT THE BASE OF THE STRUCTURE AND GROUND CONNECTIONS SHALL BE MADE AROUND THE PERIMETER OF THE STRUCTURE AND IN NO CASE SHALL AVERAGE OVER 100 FT APART.

5. CABLE CONNECTORS

ALL CABLE CONNECTORS SHALL BE CAST BRONZE WITH SCREW TYPE STAINLESS STEEL BOLTS AND NUTS. CONDUCTOR FASTENERS SHALL BE AN APPROVED TYPE OF NON-CORROSIVE METAL, HAVE AMPLE STRENGTH TO SUPPORT CONDUCTORS AND SHALL BE SPACED 3 FT ON CENTERS.

6. INTERCONNECTION OF METALS

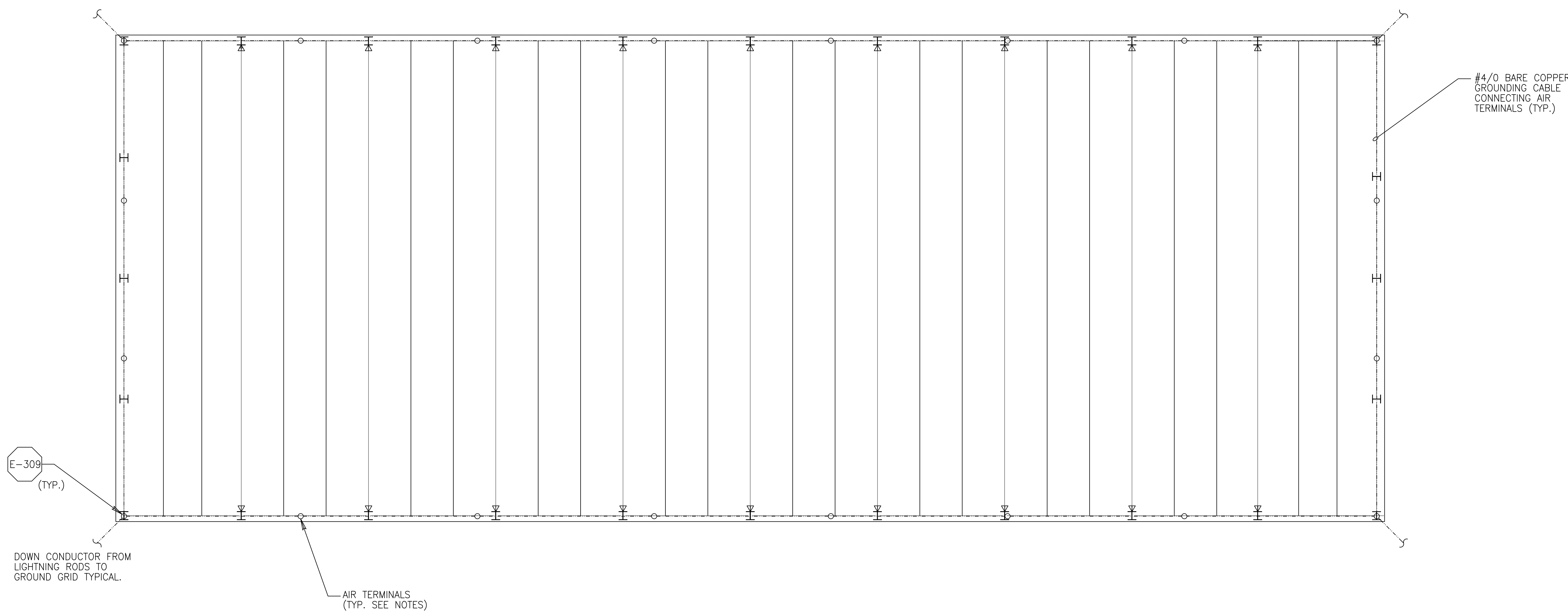
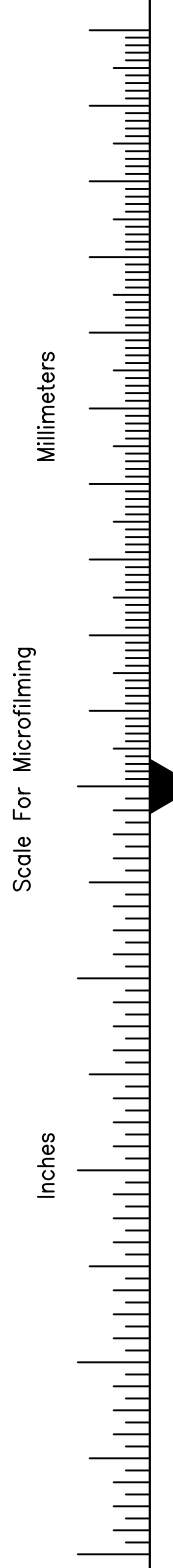
ALL METAL BODIES WITHIN 6 FT OF THE CONDUCTOR SHALL BE BONDED TO THE SYSTEM WITH APPROVED FITTINGS AND CONDUCTORS. CONNECTIONS BETWEEN DISSIMILAR METALS SHALL BE MADE WITH APPROVED BIMETALLIC CONNECTIONS. PRIMARY BONDS FOR METAL BODIES OF CONDUCTANCE SHALL BE BONDED WITH APPROPRIATE FITTINGS AND FULL SIZE CONDUCTORS, AND SHALL CONSIST OF, BUT NOT LIMITED TO THE FOLLOWING: LADDER AND RAIL SYSTEMS, TANK VENTS AND PIPING, ALUMINUM TO COPPER CONNECTIONS SHALL BE MADE WITH BIMETALLIC CONNECTORS.

7. COMMON GROUNDING

ALUMINUM TO COPPER CONNECTIONS SHALL BE MADE WITH BIMETALLIC CONNECTORS. GROUNDS FOR ELECTRICAL AND TELEPHONE SERVICES, AND LIGHTNING GROUNDS SHALL BE TIED TOGETHER TO FORM A COMMON GROUND.

8. MATERIALS

ALL LIGHTNING PROTECTION EQUIPMENT SHALL BE MANUFACTURED BY HEARY BROTHERS LIGHTNING PROTECTION CO., THOMPSON LIGHTNING PROTECTION CO., CAPITAL LIGHTNING PROTECTION CO., OR EQUAL.



PUMP STATION G-370 LIGHTNING PROTECTION PLAN

(SCALE: 1/8 " = 1'-0")

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JOHN C. NETZEL P.E.  
FLA. P.E. NO. 43113

SOUTH FLORIDA WATER MANAGEMENT DISTRICT  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-370  
LIGHTNING PROTECTION PLAN

MONTGOMERY WATSON  
490 SHAWHUTTS SUITE 300  
SUNRISE, FL 33325

Brown Cunningham Gannuch  
ENGINEERS • ARCHITECTS • CONSULTANTS  
2701 KENAWAN ST.  
METRO PARK, FLORIDA 33008  
License No. EB00008995

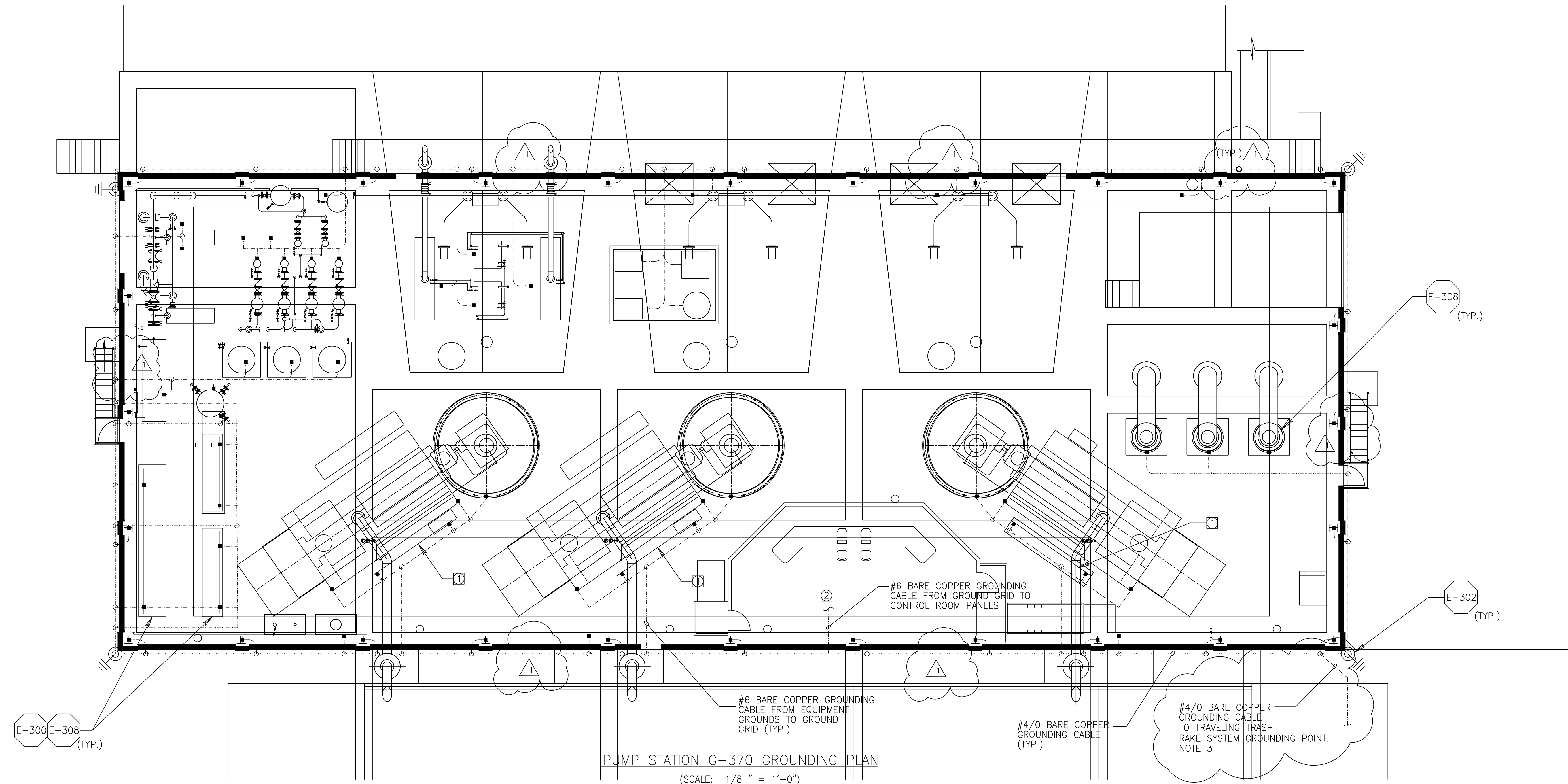
DRAWN BAI/MSB  
DSGN BAI/JCN  
CHKD J.C. NETZEL  
DATE  
SCALE 1/8" = 1'-0"

DWN  
CHKD  
DATE  
REVISIONS



- NOTES:
- ① CONTRACTOR SHALL CONNECT MOTOR CONTROL CENTER AND SWITCHGEAR GROUND BUS TO GROUND GRID.
  - ② CONTRACTOR SHALL CONNECT ALL CONTROL ROOM PANELS TO GROUND GRID.
  - ③ CONTRACTOR SHALL ENSURE THAT THE TRAVELING TRASH RAKE SYSTEM IS FULLY GROUNDED TO THE BUILDING GROUNDING SYSTEM.

Scale For Microfilming  
Inches  
Millimeters



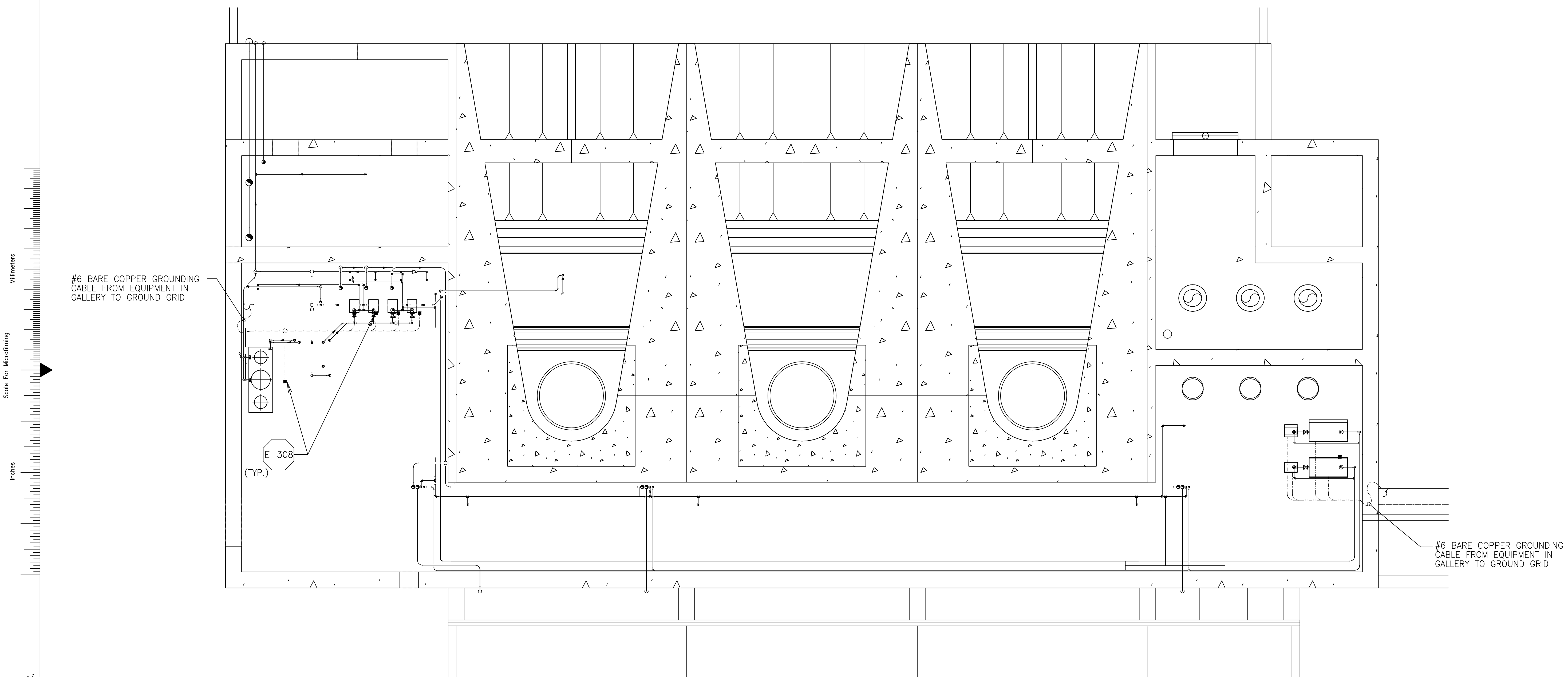
PUMP STATION G-370 GROUNDING PLAN  
(SCALE: 1/8" = 1'-0")

WARNING  
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 Brown Consulting Group ENGINEERS - ARCHITECTS - CONSULTANTS 201 W. PALM BLVD. SUITE 300 PALM BEACH, FL 33480		DRAWN: BAL/MSB DSGN: BAL/JCN CHKD: J.C. NETZEL DATE: NONE SCALE: NONE	REVISIONS 6/18/2001 AL JCN 6/18/2001 COP JCN 6/18/2001 DWN JCN DATE DATE DATE
 MONTGOMERY WATSON 490 SHAWHUTCHER BLVD., SUITE 300 SUNRIDGE, FL 33325		EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372 PUMP STATION G-370 GROUNDING PLAN	
SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406		CONTRACT NO. C-E304 DRAWING NO. E-107 SHEET OF	



Scale For Microfilming  
Inches  
Scale For Millimeter  
Millimeters

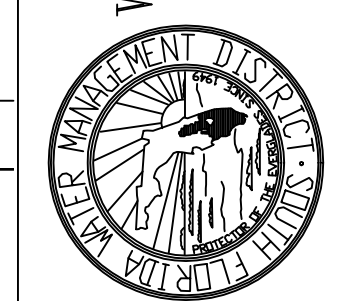
PUMP STATION G-370 PIPE GALLERY GROUNDING PLAN

(SCALE: 1/8" = 1'-0")

WARNING  
0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.  
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RECORD DRAWING  
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JOHN C. NETZEL P.E.  
FLA. P.E. NO. 43113



SOUTH FLORIDA WATER MANAGEMENT DISTRICT  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-370 PIPE GALLERY  
GROUNDING PLAN



Brown Cunningham Gannuch  
ENGINEERS • ARCHITECTS • CONSULTANTS  
2701 KENYAN ST.  
METRO PARK, LOUISIANA 70008  
License No. EB0000895

DRAWN \_\_\_\_\_  
DSGN \_\_\_\_\_  
CHKD \_\_\_\_\_  
DATE \_\_\_\_\_  
SCALE 1/8" = 1'-0"

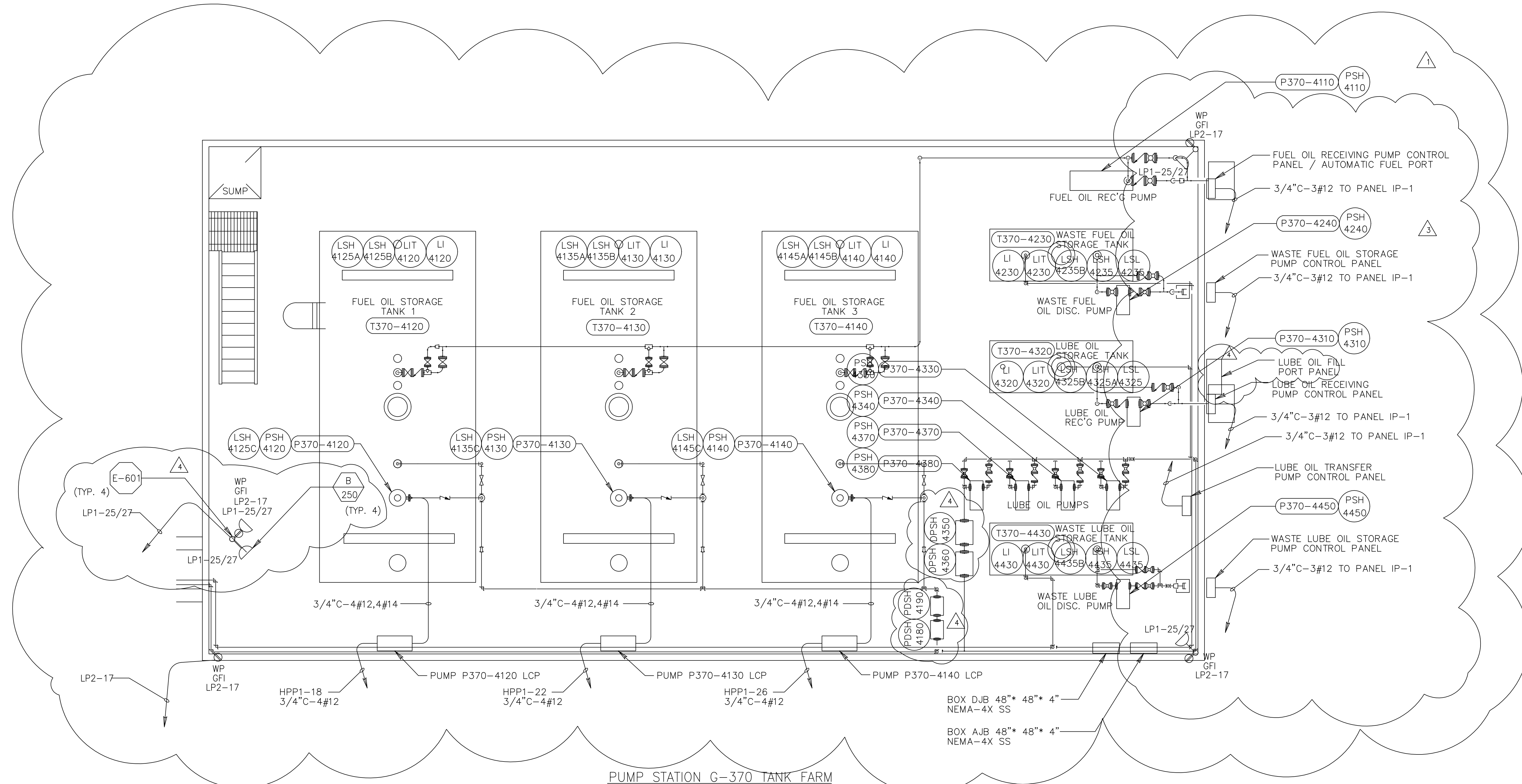
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REVISIONS

**GENERAL NOTES:**

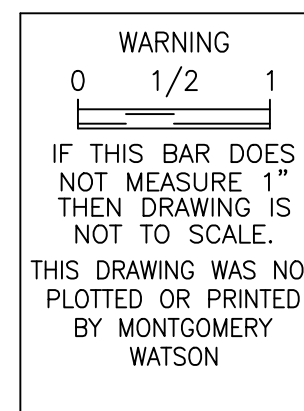
1. ALL EXPOSED CONDUIT FITTINGS SHALL BE GALVANIZED RIGID STEEL. ALL CONDUIT SUPPORTS AND MOUNTING HARDWARE SHALL BE STAINLESS STEEL. ALL BURIED CONDUIT SHALL BE SCH 80 PVC.
2. ALL RECEPTACLES IN OUTDOOR AND ANTICIPATED WET AREAS SHALL BE GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLES WITH WEATHERPROOF COVERS. ALL RECEPTACLES SHALL BE MOUNTED 24" AFF. UNLESS OTHERWISE NOTED. MOUNT TANK FARM RECEPTACLES ON POLES OUTSIDE THE TANK RETAINING WALL.

2



**PUMP STATION G-370 TANK FARM  
LIGHTING AND POWER PLAN**

(SCALE: 1/4" = 1'-0")



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**SOUTH FLORIDA  
WATER MANAGEMENT DISTRICT**  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
STATION G-370 TANK FARM  
LIGHTING AND POWER PLAN

**MONTGOMERY  
WATSON**  
CONSULTANTS  
490 SW 30th Ave., Suite 300  
Sunrise, FL 33325

**BCG**  
Brown Cunningham Gannuch  
ENGINEERS • ARCHITECTS • CONSULTANTS  
2701 KENNESAW ST.  
METROPLEX OFFICE BUILDING 7008  
SUITE 100  
LAKELAND, FL 33809  
License No. EB0000895

DRAWN: BAL/MSB  
DSGN: BAL/JCN  
CHKD: J.C. NETZEL  
DATE: 5/22/2001  
SCALE: 1/4" = 1'-0"

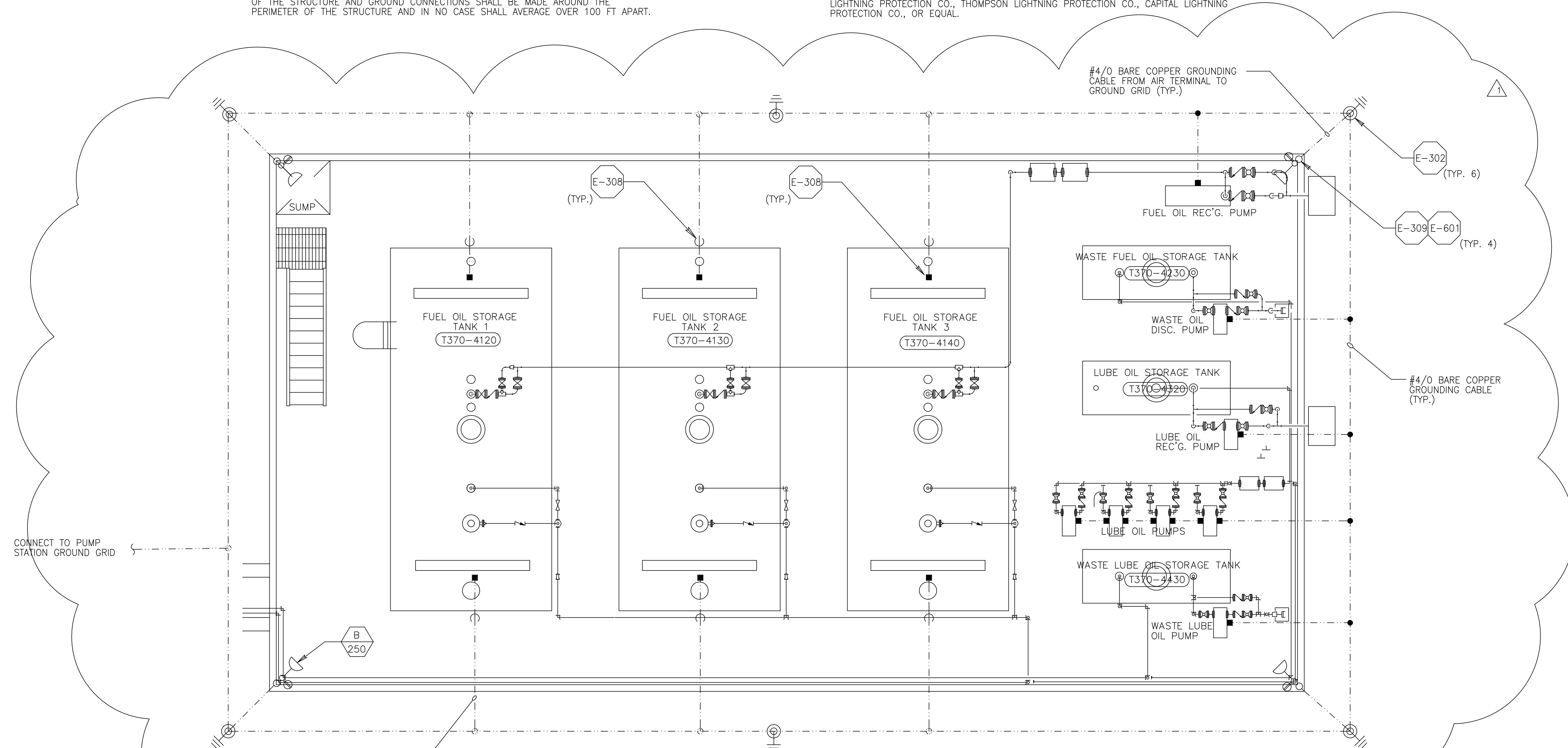
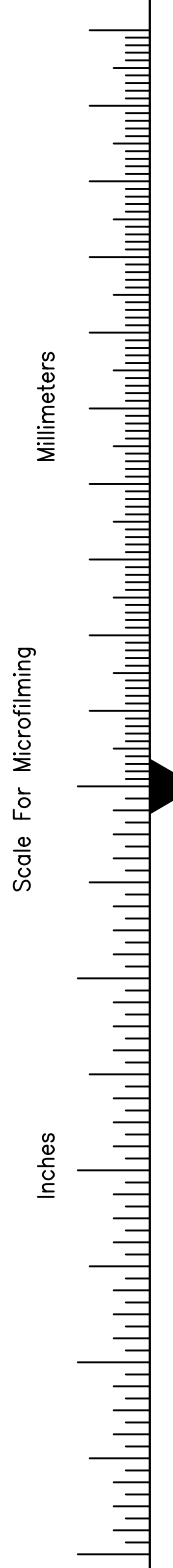
DKK: SMR  
BAL: JCN  
BAL: JCN  
COP: JCN  
DWN: CHKD

CONSTRUCTION REVISION	DATE	CHKD
1	3/12/2004	JCN
2	7/5/01	JCN
3	6/13/01	JCN
4	5/22/2001	JCN

**NOTES FOR LIGHTNING PROTECTION SYSTEM**

1. **GENERAL**  
A SYSTEM OF LIGHTNING PROTECTION SHALL BE PROVIDED AND INSTALLED IN COMPLIANCE WITH THE PROVISIONS OF THE LATEST EDITION OF NFPA 780 LIGHTNING PROTECTION CODE AS ADOPTED BY THE NATIONAL FIRE PROTECTION ASSOCIATION AND THE UNDERWRITERS' LABORATORIES (UL), INC.
2. **AIR TERMINALS**  
AIR TERMINALS SHALL BE 1/2 IN x 24IN SOLID COPPER AND SHALL EXTEND AT LEAST 24 INCHES ABOVE THE TOP OF THE STRUCTURE. AIR TERMINALS BASES SHALL BE CAST BRONZE WITH STAINLESS STEEL BOLT PRESSURE CABLE CONNECTIONS.
3. **CONDUCTORS**  
MAIN AND DOWN CONDUCTORS SHALL CONSIST OF U.L. LISTED 29 STRANDS OF 14 GAUGE COPPER WIRE WEIGHING 190 LBS. PER 1000 FEET AND INSTALLED IN ACCORDANCE WITH THE U.L. CODE.(CLASS 1)
4. **GROUND TERMINALS**  
ALL GROUNDING TERMINALS (RODS) SHALL BE NO LESS THAN 3/4 " IN DIAMETER AND 10 FT LONG, AND SHALL BE COPPER-CLAD STEEL, SOLID COPPER OR STAINLESS STEEL. GROUND TERMINALS SHALL BE DRIVEN TO A MINIMUM DEPTH OF 10 FT. AND MORE IF NECESSARY TO REACH PERMANENT MOISTURE. ONE GROUND ROD SHALL BE BONDED TO STEEL PIPE. GROUNDING TERMINALS SHALL BE LOCATED AT THE BASE OF THE STRUCTURE AND GROUND CONNECTIONS SHALL BE MADE AROUND THE PERIMETER OF THE STRUCTURE AND IN NO CASE SHALL AVERAGE OVER 100 FT APART.

5. **CABLE CONNECTORS**  
ALL CABLE CONNECTORS SHALL BE CAST BRONZE WITH SCREW TYPE STAINLESS STEEL BOLTS AND NUTS. CONDUCTOR FASTENERS SHALL BE AN APPROVED TYPE OF NON-CORROSIVE METAL, HAVE AMPLE STRENGTH TO SUPPORT CONDUCTORS AND SHALL BE SPACED 3 FT ON CENTERS.
6. **INTERCONNECTION OF METALS**  
ALL METAL BODIES WITHIN 6 FT OF THE CONDUCTOR SHALL BE BONDED TO THE SYSTEM WITH APPROVED FITTINGS AND CONDUCTORS. CONNECTIONS BETWEEN DISSIMILAR METALS SHALL BE MADE WITH APPROVED BIMETALLIC CONNECTIONS. PRIMARY BONDS FOR METAL BODIES OF CONDUCTANCE SHALL BE BONDED WITH APPROPRIATE FITTINGS AND FULL SIZE CONDUCTORS, AND SHALL CONSIST OF, BUT NOT LIMITED TO THE FOLLOWING: LADDER AND RAIL SYSTEMS, TANK VENTS AND PIPING, ALUMINUM TO COPPER CONNECTIONS SHALL BE MADE WITH BIMETALLIC CONNECTORS.
7. **COMMON GROUNDING**  
ALUMINUM TO COPPER CONNECTIONS SHALL BE MADE WITH BIMETALLIC CONNECTORS. GROUNDS FOR ELECTRICAL AND TELEPHONE SERVICES, AND LIGHTNING GROUNDS SHALL BE TIED TOGETHER TO FORM A COMMON GROUND.
8. **MATERIALS**  
ALL LIGHTNING PROTECTION EQUIPMENT SHALL BE MANUFACTURED BY HEARY BROTHERS LIGHTNING PROTECTION CO., THOMPSON LIGHTNING PROTECTION CO., CAPITAL LIGHTNING PROTECTION CO., OR EQUAL.



**PUMP STATION G-370 TANK FARM  
LIGHTNING PROTECTION AND GROUNDING PLAN**

(SCALE: 1/4" = 1'-0")

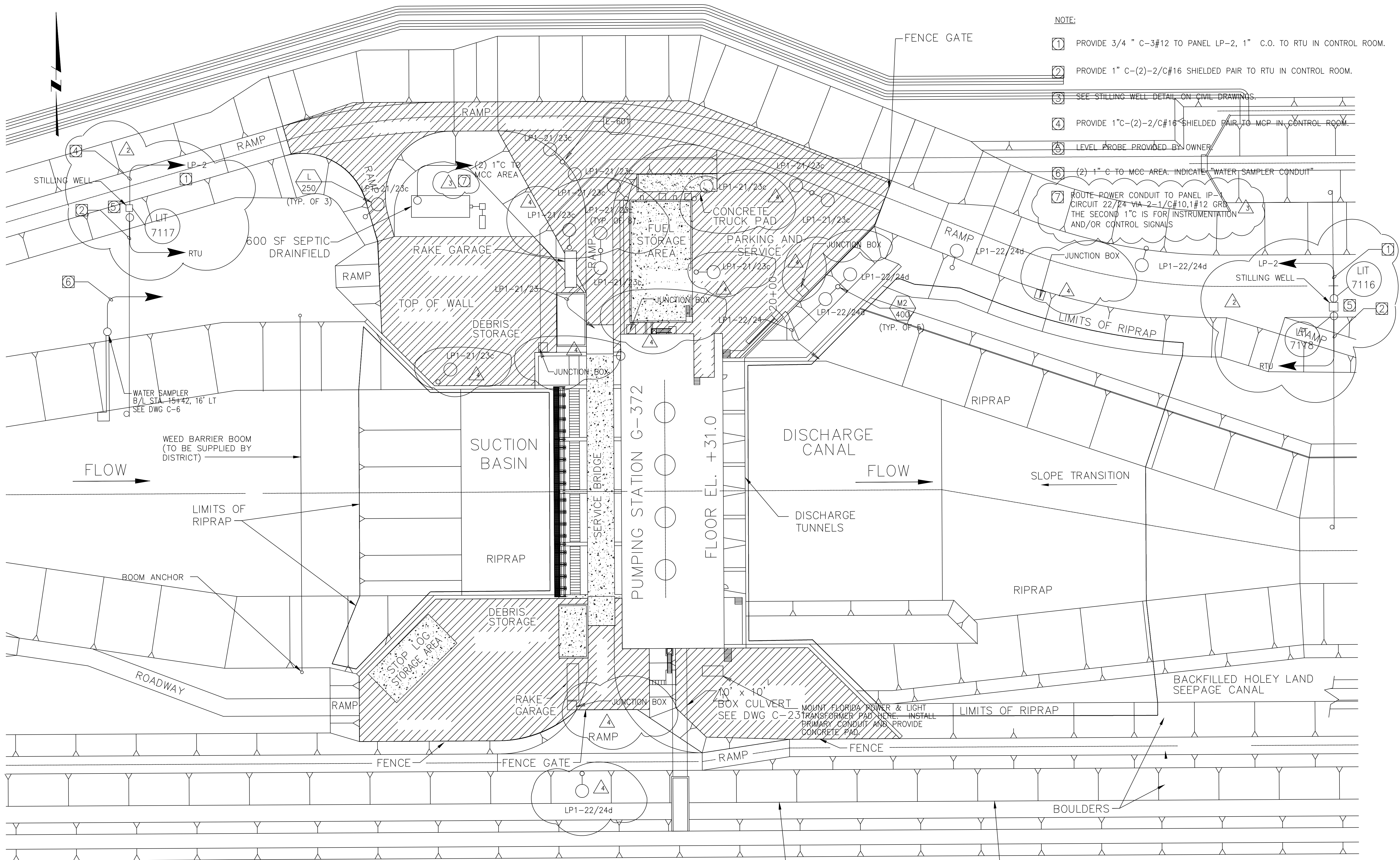
**WARNING**  
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**RECORD DRAWING**  
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JOHN C. NETZEL P.E.  
FLA. P.E. NO. 43113

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 BROWN CUNNINGHAM GANNUCH ENGINEERS • ARCHITECTS • CONSULTANTS 2701 KENNESAW ST. METRO PARK, LAKELAND, FL 33809 License No. EB0008995	DRAWN: BAL/MSB DSGN: BAL/JCN CHKD: J.C. NETZEL DATE: 5/22/2001 SCALE:	JCN COP DWN CHKD DATE REVISIONS
 MONTGOMERY WATSON PROFESSIONAL ENGINEERS 490 SHAWHUTT DRIVE, SUITE 300 SUNRISE, FL 33325	EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372 STATION G-370 TANK FARM LIGHTNING PROTECTION AND GROUNDING PLAN	SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406
CONTRACT NO. C-E304 DRAWING NO. E-110 SHEET OF		SFSTDBDR/DGN/ 7-18-2000 17:20/MDH

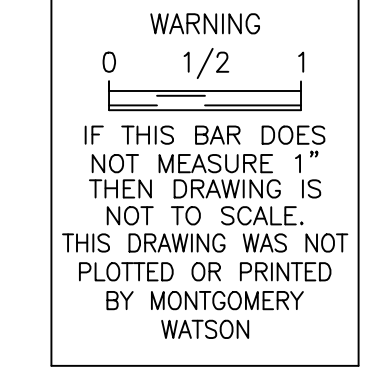


- NOTE:
- ① PROVIDE 3/4" C-3#12 TO PANEL LP-2, 1" C.O. TO RTU IN CONTROL ROOM.
  - ② PROVIDE 1" C-(2)-2/C#16 SHIELDED PAIR TO RTU IN CONTROL ROOM.
  - ③ SEE STILLING WELL DETAIL ON CIVIL DRAWINGS.
  - ④ PROVIDE 1" C-(2)-2/C#16 SHIELDED PAIR TO MCP IN CONTROL ROOM.
  - ⑤ LEVEL PROBE PROVIDED BY OWNER.
  - ⑥ (2) 1" C TO MCC AREA. INDICATE "WATER SAMPLER CONDUIT"
  - ⑦ ROUTE POWER CONDUIT TO PANEL IP-1 CIRCUIT 22/24 VIA 2-1/C#10,1#12 GRD. THE SECOND 1" C IS FOR INSTRUMENTATION AND/OR CONTROL SIGNALS

Scale For Microfilming  
Inches  
Millimeters

GENERAL NOTES:  
1. FOR LIGHT SWITCHING SEE E205

TOE EXISTING HOLEY LAND LEVEE  
(SCALE: 1" = 30'-0")



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FLA. P.E. NO. 43113

CONSTRUCTION REVISION	DATE	CHKD	DWN	REVISIONS
Δ AS PER MEETING 10/7/2002	3/12/2004	SMR	JCN	
Δ REV. PER RFI NO. 26	5/15/2002	ALP	JCN	
Δ REVISED PER ADDENDUM #4	7/5/2001	BAL	JCN	

DRAWN	SCALE	DATE	DATE
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DCGN			
CHKD			
J.C. NETZEL			

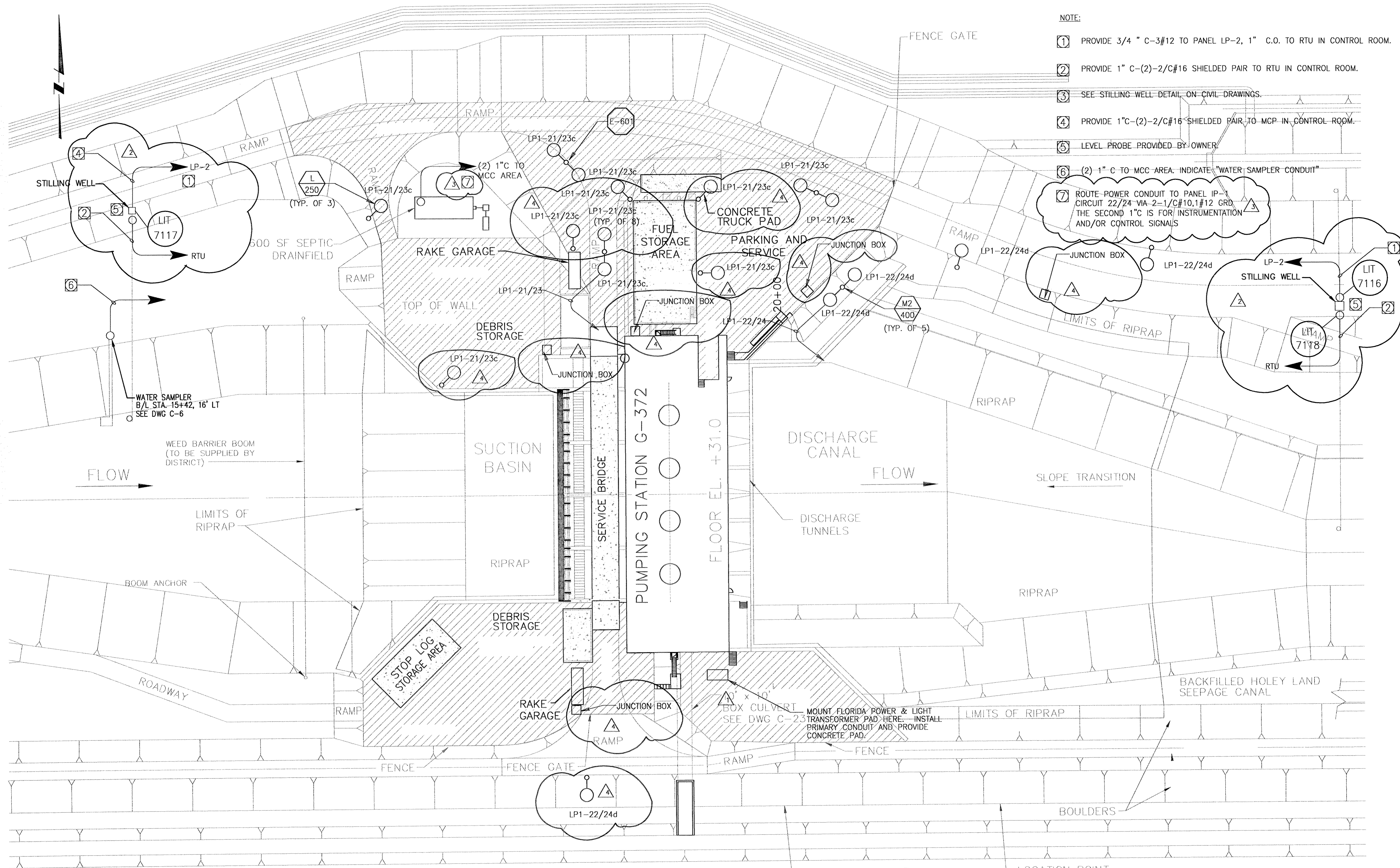
  

PROJECT	PROJECT
EVERGLADES CONSTRUCTION PROJECT	EVERGLADES CONSTRUCTION PROJECT
STORMWATER TREATMENT AREA 3/4	STORMWATER TREATMENT AREA 3/4
PUMPING STATIONS G-370 AND G-372	PUMPING STATIONS G-370 AND G-372

CONTRACT NO.	C-E304
DRAWING NO.	E-201
SHEET	OF

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- NOTE:**
- ① PROVIDE 3/4" C-3#12 TO PANEL LP-2, 1" C.O. TO RTU IN CONTROL ROOM.
  - ② PROVIDE 1" C-(2)-2/C#16 SHIELDED PAIR TO RTU IN CONTROL ROOM.
  - ③ SEE STILLING-WELL DETAIL ON CIVIL DRAWINGS.
  - ④ PROVIDE 1" C-(2)-2/C#16 SHIELDED PAIR TO MCP IN CONTROL ROOM.
  - ⑤ LEVEL PROBE PROVIDED BY OWNER.
  - ⑥ (2) 1" C TO MCC AREA. INDICATE "WATER SAMPLER CONDUIT"
  - ⑦ ROUTE POWER CONDUIT TO PANEL IP-1 CIRCUIT 22/24 VIA 2-1/C#10, 1#12 GRD. THE SECOND 1" C IS FOR INSTRUMENTATION AND/OR CONTROL SIGNALS

Scale For Microlifting  
Millimeters  
Inches

**GENERAL NOTES:**  
1. FOR LIGHT SWITCHING SEE E205

TOE EXISTING HOLEY LAND LEVEE  
(SCALE: 1" = 30'-0")

**WARNING**  
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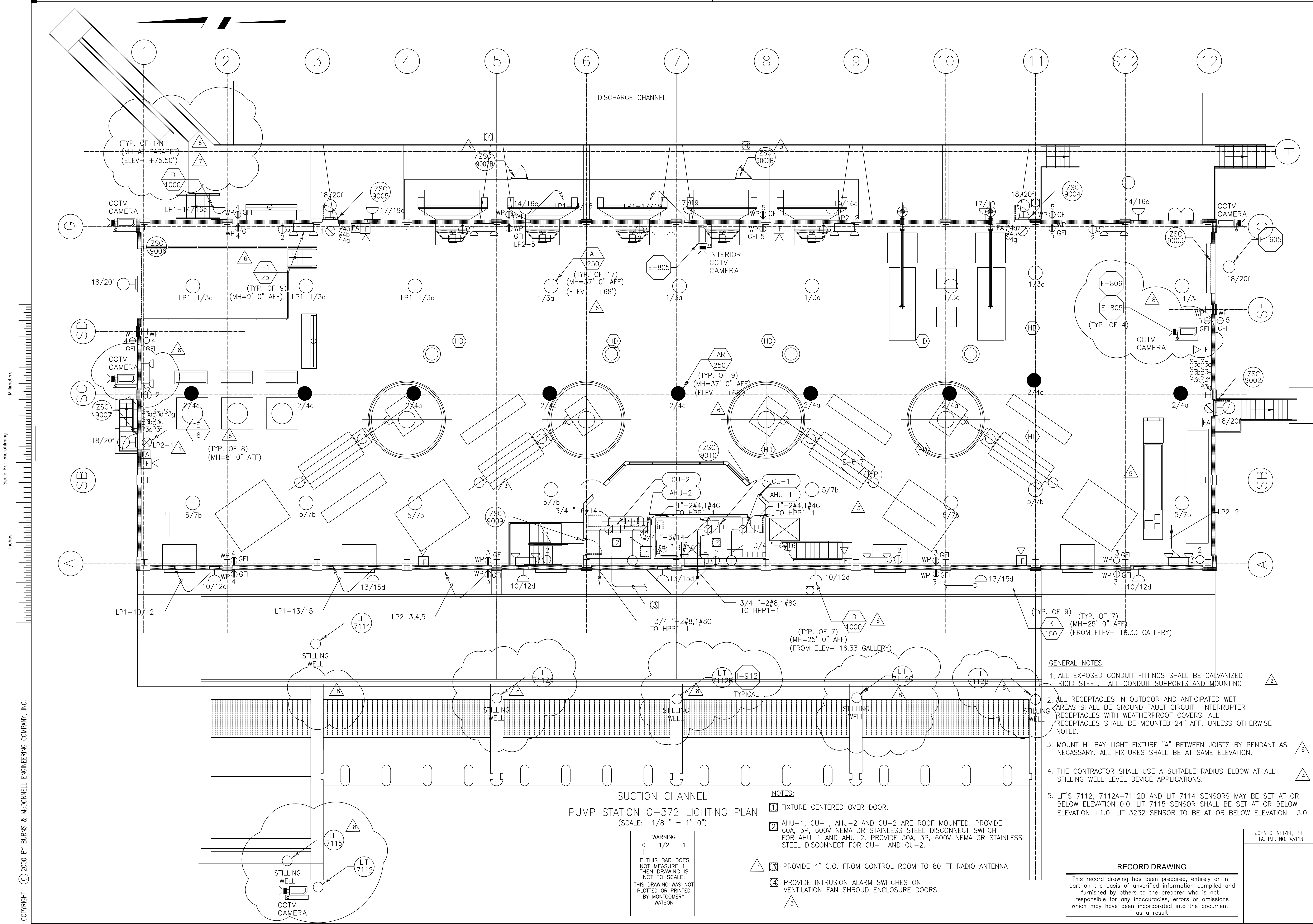
**RECORD DRAWING**  
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JOHN C. NETZEL, P.E.  
FLA. P.E. NO. 43113

CONSTRUCTION REVISION		DATE	
Δ	AS PER MEETING 10/7/2002	Δ	REV. PER REF NO. 26
Δ	REV. PER REF NO. 26	Δ	REVISED PER ADDENDUM #4
Δ	REVISED PER ADDENDUM #4	Δ	REVISIONS
DOK	SWR	3/12/2004	DATE
BAL/MS	BAL/JCN	5/15/2002	CHCD
DRWN	J.C. NETZEL	7/5/2001	DWN
DSGN	DATE	NONE	SCALE
CHCD	DATE	NONE	SCALE
<p>Brown Cunningham ENGINEERS - ARCHITECTS - CONSULTANTS MOUNTAIN VIEW, TEXAS LEWIS &amp; CLARK, MISSOURI LEWIS &amp; CLARK, MISSOURI</p>			
<p>MONTGOMERY WATSON 480 SWAGRAS CORP. PKWY. SUITE 300 SUNWISS, FL 33235</p>			
EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372			
G-372 SIGHT LIGHTING			
SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406			
CONTRACT NO. C-E304		DRAWING NO. E-201	
SHEET		OF	

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**SUCTION CHANNEL**  
**PUMP STATION G-372 LIGHTING PLAN**  
 (SCALE: 1/8" = 1'-0")

**WARNING**  
 IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE. THIS DRAWING WAS NOT PLOTTED OR PRINTED BY MONTGOMERY WATSON

- NOTES:**
- 1) FIXTURE CENTERED OVER DOOR.
  - 2) AHU-1, CU-1, AHU-2 AND CU-2 ARE ROOF MOUNTED. PROVIDE 60A, 3P, 600V NEMA 3R STAINLESS STEEL DISCONNECT SWITCH FOR AHU-1 AND AHU-2. PROVIDE 30A, 3P, 600V NEMA 3R STAINLESS STEEL DISCONNECT FOR CU-1 AND CU-2.
  - 3) PROVIDE 4" C.O. FROM CONTROL ROOM TO 80 FT RADIO ANTENNA
  - 4) PROVIDE INTRUSION ALARM SWITCHES ON VENTILATION FAN SHROUD ENCLOSURE DOORS.

- GENERAL NOTES:**
1. ALL EXPOSED CONDUIT FITTINGS SHALL BE GALVANIZED RIGID STEEL. ALL CONDUIT SUPPORTS AND MOUNTING
  2. ALL RECEPTACLES IN OUTDOOR AND ANTICIPATED WET AREAS SHALL BE GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLES WITH WEATHERPROOF COVERS. ALL RECEPTACLES SHALL BE MOUNTED 24" AFF. UNLESS OTHERWISE NOTED.
  3. MOUNT HI-BAY LIGHT FIXTURE "A" BETWEEN JOISTS BY PENDANT AS NECESSARY. ALL FIXTURES SHALL BE AT SAME ELEVATION.
  4. THE CONTRACTOR SHALL USE A SUITABLE RADIUS ELBOW AT ALL STILLING WELL LEVEL DEVICE APPLICATIONS.
  5. LIT'S 7112, 7112A-7112D AND LIT 7114 SENSORS MAY BE SET AT OR BELOW ELEVATION 0.0. LIT 7115 SENSOR SHALL BE SET AT OR BELOW ELEVATION +1.0. LIT 3232 SENSOR TO BE AT OR BELOW ELEVATION +3.0.

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 F.L.A. P.E. NO. 43113

Scale For Microfilming  
 Millimeters  
 Inches

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<p><b>MONTGOMERY WATSON</b>        ENGINEERS, ARCHITECTS, CONSULTANTS        490 SHORELINE BLVD., SUITE 300        SUNRISE, FL 33325</p>		<p>EVERGLADES CONSTRUCTION PROJECT        STORMWATER TREATMENT AREA 3/4        PUMPING STATIONS G-370 AND G-372        LIGHTING PLAN</p>	
<p>CONTRACT NO. C-E304</p>	<p>DRAWING NO. E-202</p>	<p>SHEET OF</p>	<p>DATE</p>
<p>CHKD DWN</p>	<p>DATE</p>	<p>REVISIONS</p>	<p>DATE</p>
<p>3/12/2004</p>	<p>10/11/02</p>	<p>8/9/02</p>	<p>7/30/02</p>
<p>CONSTRUCTION REVISION</p>	<p>REVISED PER RFI NO. 117/113</p>	<p>REVISED PER RFI NO. 57</p>	<p>REVISED PER RFI NO. 69</p>
<p>DCK LRP AL</p>	<p>BAU/MBS BAU/JCN</p>	<p>DRWN J.C. NETZEL</p>	<p>DATE 7/30/02</p>
<p>SMR AL</p>	<p>BAU/JCN</p>	<p>DATE 7/30/02</p>	<p>DATE 7/30/02</p>

CONTRACT NO. C-E304  
 DRAWING NO. E-202  
 SHEET OF

**GENERAL NOTES:**  
 1. THE PUMP ROOM IS A WASH DOWN AREA. ALL EXPOSED CONDUIT AND CONDUIT FITTINGS SHALL BE GALVANIZED RIGID STEEL. ALL CONDUIT SUPPORTS, STRAPS, AND MOUNTING HARDWARE SHALL BE STAINLESS STEEL.  
 2. ALL RECEPTACLES IN ANTICIPATED WET AREAS SHALL BE GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLES WITH WEATHERPROOF COVERS. ALL RECEPTACLES SHALL BE MOUNTED 24" AFF, UNLESS OTHERWISE NOTED.

**NOTES:**  
 1. CONTRACTOR SHALL BUILD A SUPPORT PAD PER FP&L'S SPECIFICATIONS FOR (1) PAD MOUNTED FP&L TRANSFORMER. A CONCRETE REINFORCED DUCT BANK CONSISTING OF (4)-4" C.O. FROM THE TRANSFORMER TO AN EXISTING FP&L POWER POLE. THE NORTH-EAST CORNER OF THE TRANSFORMER PAD SHALL BE 8 FT. FROM THE SOUTH-WEST CORNER OF THE LANDING FOR THE STAIRS.

2. SPECIAL PURPOSE WATER-PROOF 480 VOLT RECEPTACLE CONNECTED TO SAFETY DISCONNECT SWITCH ON EQUIPMENT STAND. THIS DEVICE IS TO BE USED AS A POWER SOURCE FOR PORTABLE BASIN PUMP-OUT PUMPS.  
 3. GENERATOR SHROUD  
 4. 3/4" x 3/4" x 3/4" TO PANEL HPP-1  
 5. XFMR TR-2 IS MTD. INTERNAL TO MMC-M2.

DISCHARGE CHANNEL

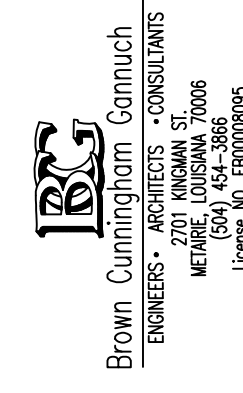
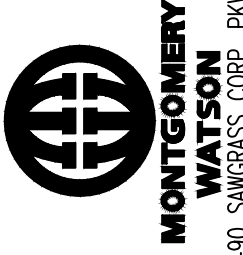
SUCTION CHANNEL

**PUMP STATION G-372 POWER PLAN**  
 (SCALE: 1/8" = 1'-0")

**WARNING**  
 0 1/2 1  
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JOHN C. NETZEL P.E.  
 FLA. P.E. NO. 43113

 Brown Construction Group ENGINEERS - ARCHITECTS - CONSULTANTS 200 W. WINDYWAY ST. SUITE 200 WEST PALM BEACH, FL 33409 Phone: 561-833-8888 Fax: 561-833-8889		 MONTGOMERY WATSON ENGINEERS - ARCHITECTS - CONSULTANTS 490 SW 11th Ave., Suite 300 SURFIDE, FL 33325	
DRAWN: BAL/MBS DSGN: BAL/JCN CHKD: J.C. NETZEL DATE: 3/12/2004	REVISIONS NO. 4 DATE CHKD DWN SCALE NONE	EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372 PUMP STATION G-372 POWER PLAN	SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406
CONSTRUCTION REVISION 3/12/2004 DCK SMR		CONTRACT NO. C-E304 DRAWING NO. E-203 SHEET OF	

Scale For Microlining  
 Millimeters  
 Inches  
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 BMcD PROJECT NO. xx-xxx-x-xxx  
 SFST0BDR.DGN / 7-18-2000 17:20/MDH

DISCHARGE CHANNEL

SUCTION CHANNEL

PUMP STATION G-372 LIGHTING AND POWER PLAN  
(SCALE: 1/8" = 1'-0")

WARNING  
0 1/2 1  
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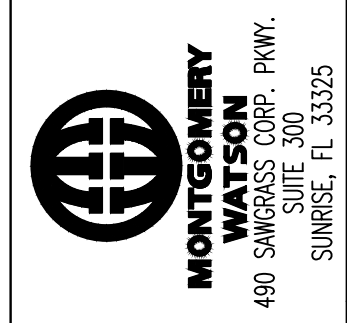
- GENERAL NOTES:
- ALL EXPOSED CONDUIT FITTINGS SHALL BE GALVANIZED RIGID STEEL. ALL CONDUIT SUPPORTS AND MOUNTING HARDWARE SHALL BE STAINLESS STEEL.
  - ALL RECEPTACLES IN OUTDOOR AND ANTICIPATED WET AREAS SHALL BE GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLES WITH WEATHERPROOF COVERS. ALL RECEPTACLES SHALL BE MOUNTED 24" AFF. UNLESS OTHERWISE NOTED.
  - ASTERISK DENOTES AN UNSWITCHED FIXTURE
- NOTES:
- ① LOCATE 18" FROM WALL, SEE DETAIL I-915

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FLA. P.E. NO. 43113

SOUTH FLORIDA WATER MANAGEMENT DISTRICT  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-372 PIPE GALLERY  
LIGHTING AND POWER PLAN



Brown Cunningham Gannett  
ENGINEERS, ARCHITECTS, CONSULTANTS  
METRO CENTER PLAZA, SUITE 2000  
1000 N. W. 10TH AVENUE  
MIAMI, FL 33136

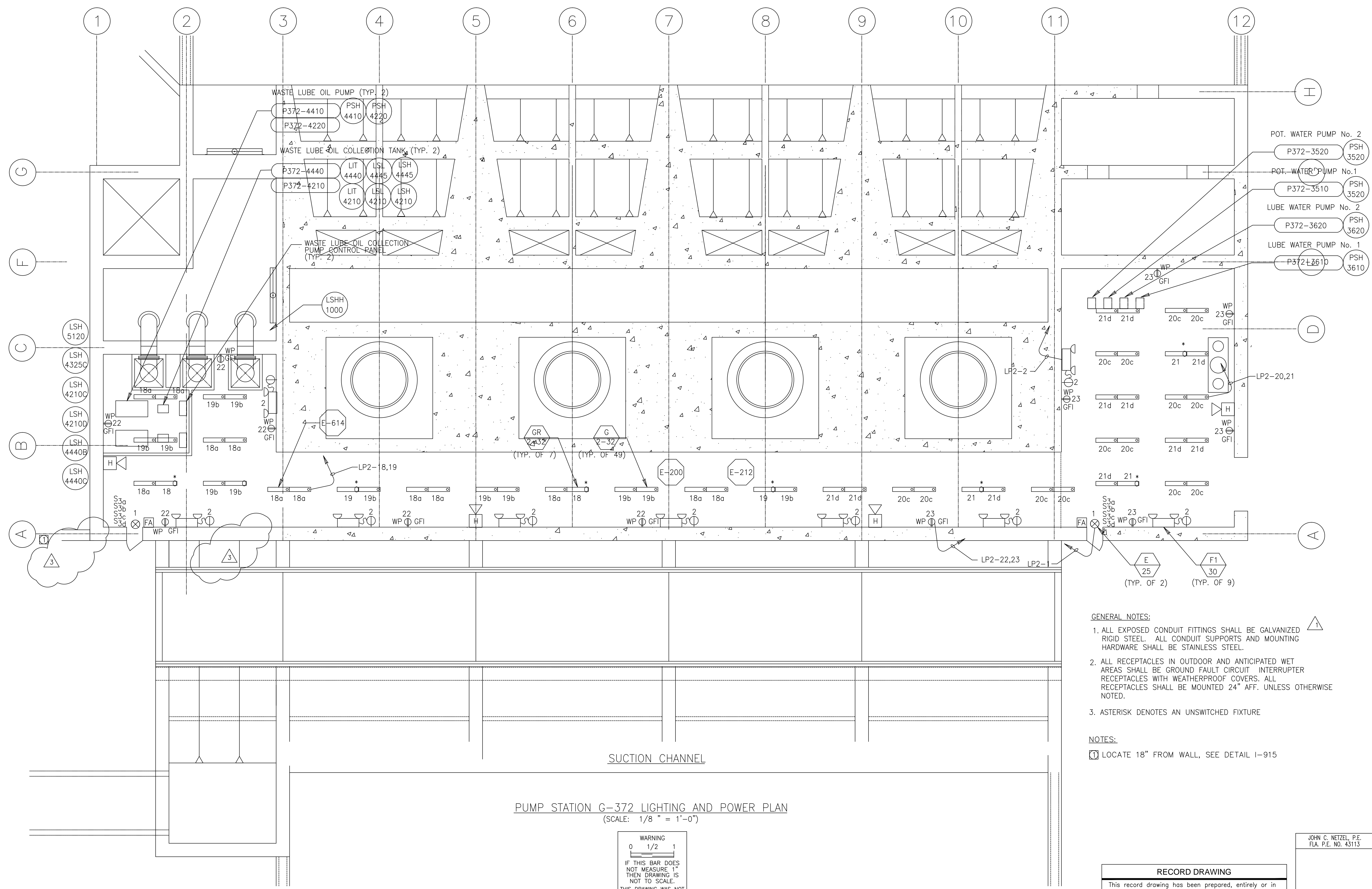
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		JCN	6/13/01	
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		DATE		
		DATE		
		DATE		

Scale For Microlimiting  
Inches  
Millimeters

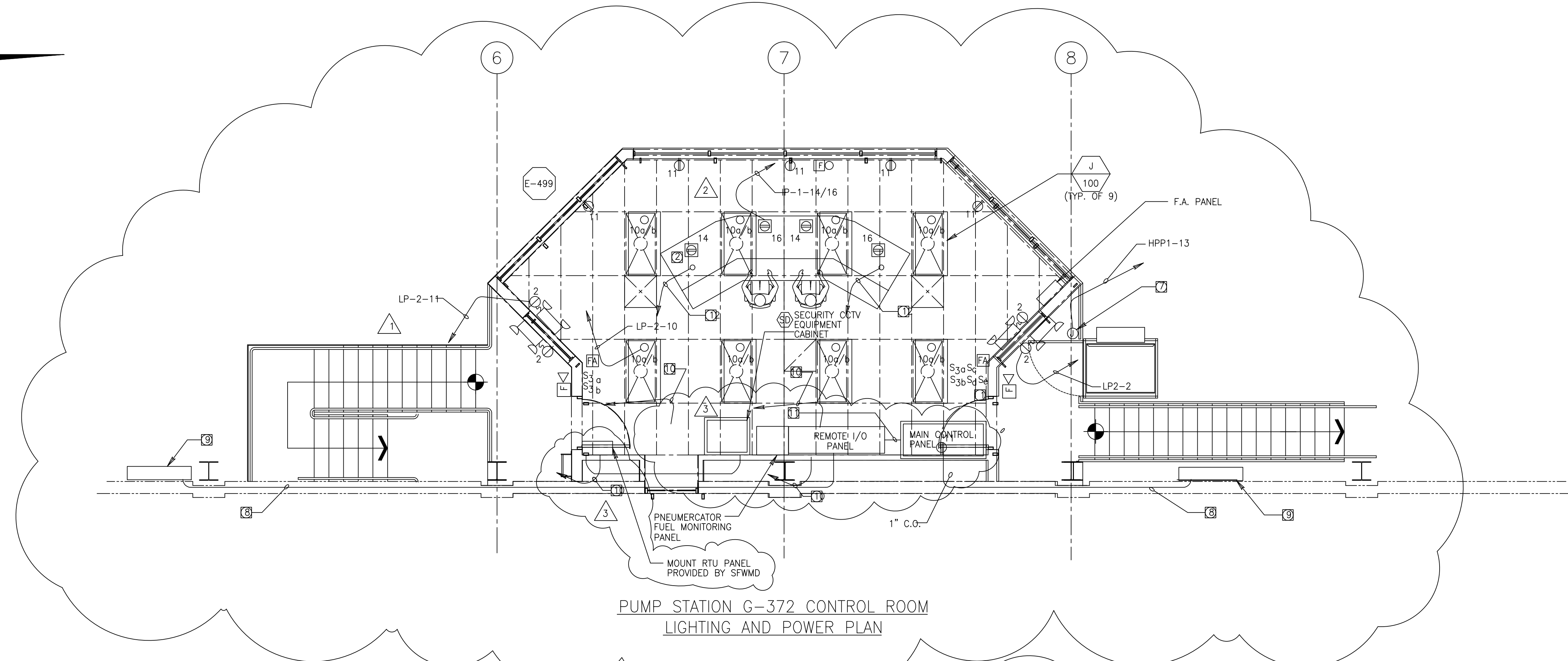
Scale: 1/8" = 1'-0"

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BMcD PROJECT NO. xx-xxx-x-xxx

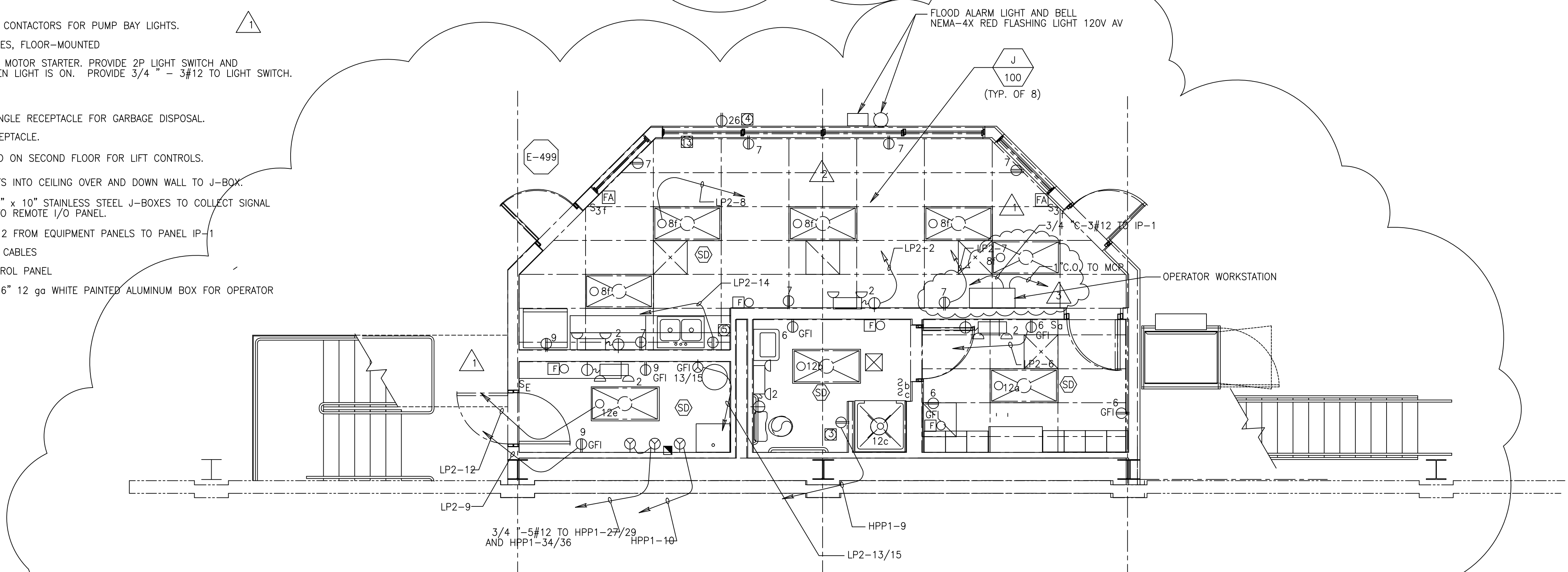


CONTRACT NO. C-E304  
DRAWING NO. E-204  
SHEET OF



PUMP STATION G-372 CONTROL ROOM  
LIGHTING AND POWER PLAN

- NOTES:
- 1 SWITCHES TO LIGHTING CONTACTORS FOR PUMP BAY LIGHTS.
  - 2 120V QUAD RECEPTACLES, FLOOR-MOUNTED
  - 3 PROVIDE 120V MANUAL MOTOR STARTER. PROVIDE 2P LIGHT SWITCH AND WIRE FAN TO RUN WHEN LIGHT IS ON. PROVIDE 3/4" - 3#12 TO LIGHT SWITCH.
  - 4 WATER COOLER
  - 5 PROVIDE 120V, 20A SINGLE RECEPTACLE FOR GARBAGE DISPOSAL.
  - 6 50A, 240V RANGE RECEPTACLE.
  - 7 JUNCTION BOX LOCATED ON SECOND FLOOR FOR LIFT CONTROLS.
  - 8 ROUTE 3-4" C CONDUITS INTO CEILING OVER AND DOWN WALL TO J-BOX.
  - 9 PROVIDE (2) 48" x 48" x 10" STAINLESS STEEL J-BOXES TO COLLECT SIGNAL AND CONTROL WIRES TO REMOTE I/O PANEL.
  - 10 PROVIDE 3/4" C-3#12 FROM EQUIPMENT PANELS TO PANEL IP-1
  - 11 2" C.O. FOR CONTROL CABLES
  - 12 1" C.O. TO MAIN CONTROL PANEL
  - 13 PROVIDE 14" x 14" x 6" 12 ga WHITE PAINTED ALUMINUM BOX FOR OPERATOR WORKSTATION.



PUMP STATION G-372 BREAK ROOM  
LIGHTING AND POWER PLAN

(SCALE: 1/4" = 1'-0")

WARNING  
0 1/2 1  
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE.  
THIS DRAWING WAS NOT PLOTTED OR PRINTED BY MONTGOMERY WATSON

**RECORD DRAWING**  
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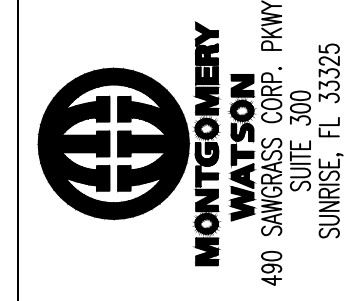
JOHN C. NETZEL P.E.  
FLA. P.E. NO. 43113



CONTRACT NO.  
C-E304  
DRAWING NO.  
E-205  
SHEET OF

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-372  
CONTROL AND BREAK ROOM  
LIGHTING AND POWER PLAN

SOUTH FLORIDA  
WATER MANAGEMENT DISTRICT  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406



MONTGOMERY  
WATSON  
ENGINEERS - ARCHITECTS - CONSULTANTS  
480 S.W. 3rd Street, Suite 300  
Sunrise, FL 33325

Brown Construction Company  
ENGINEERS - ARCHITECTS - CONSULTANTS  
201 NW 10th St.  
Miami, FL 33136  
Phone: 305-375-3000  
Fax: 305-375-3005  
E-mail: info@brownconstruction.com

DRAWN	BAL/MSB	DATE	SCALE
DSGN	BAL/JCN		
CHKD	J.C. NETZEL		

DWG	SMR	DATE	CHKD
LRF	AL	7/15/02	
BAL	JCN	6/13/01	

CONSTRUCTION REVISION	DATE
REVISD PER RFI NO. 58	3/12/2004
REVISD PER ADDENDUM NO. 3	7/15/02
REVISIONS	6/13/01

**NOTES FOR LIGHTNING PROTECTION SYSTEM**

**1. GENERAL**

A SYSTEM OF LIGHTNING PROTECTION SHALL BE PROVIDED AND INSTALLED IN COMPLIANCE WITH THE PROVISIONS OF THE LATEST EDITION OF NFPA 780 LIGHTNING PROTECTION CODE AS ADOPTED BY THE NATIONAL FIRE PROTECTION ASSOCIATION AND THE UNDERWRITERS' LABORATORIES (UL), INC.

**2. AIR TERMINALS**

AIR TERMINALS SHALL BE 1/2 IN x 24IN SOLID COPPER AND SHALL EXTEND AT LEAST 24 INCHES ABOVE THE TOP OF THE STRUCTURE. AIR TERMINALS BASES SHALL BE CAST BRONZE WITH STAINLESS STEEL BOLT PRESSURE CABLE CONNECTIONS.

**3. CONDUCTORS**

MAIN AND DOWN CONDUCTORS SHALL CONSIST OF U.L. LISTED 29 STRANDS OF 14 GAUGE COPPER WIRE WEIGHING 190 LBS. PER 1000 FEET AND INSTALLED IN ACCORDANCE WITH THE U.L. CODE.(CLASS 1)

**4. GROUND TERMINALS**

ALL GROUNDING TERMINALS (RODS) SHALL BE NO LESS THAN 3/4 " IN DIAMETER AND 10 FT LONG, AND SHALL BE COPPER-CLAD STEEL, SOLID COPPER OR STAINLESS STEEL. GROUND TERMINALS SHALL BE DRIVEN TO A MINIMUM DEPTH OF 10 FT. AND MORE IF NECESSARY TO REACH PERMANENT MOISTURE. ONE GROUND ROD SHALL BE BONDED TO STEEL PIPE. GROUNDING TERMINALS SHALL BE LOCATED AT THE BASE OF THE STRUCTURE AND GROUND CONNECTIONS SHALL BE MADE AROUND THE PERIMETER OF THE STRUCTURE AND IN NO CASE SHALL AVERAGE OVER 100 FT APART.

**5. CABLE CONNECTORS**

ALL CABLE CONNECTORS SHALL BE CAST BRONZE WITH SCREW TYPE STAINLESS STEEL BOLTS AND NUTS. CONDUCTOR FASTENERS SHALL BE AN APPROVED TYPE OF NON-CORROSIVE METAL, HAVE AMPLE STRENGTH TO SUPPORT CONDUCTORS AND SHALL BE SPACED 3 FT ON CENTERS.

**6. INTERCONNECTION OF METALS**

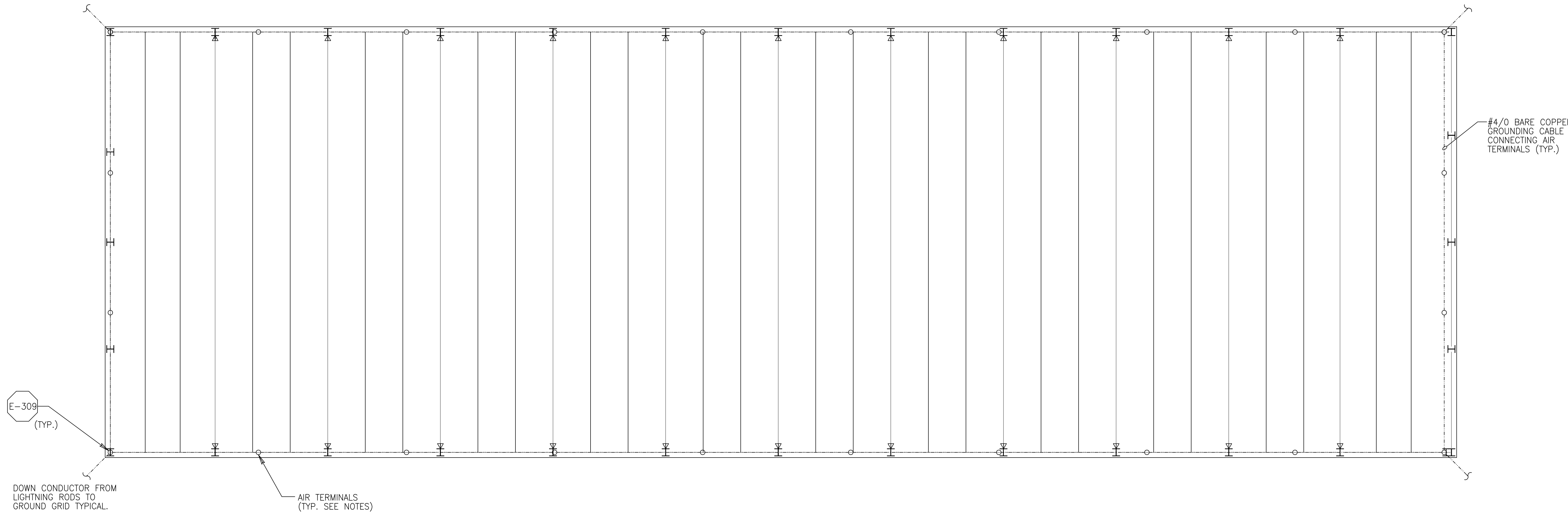
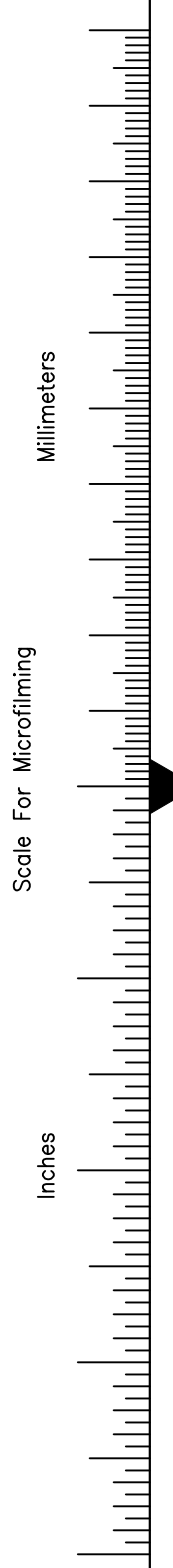
ALL METAL BODIES WITHIN 6 FT OF THE CONDUCTOR SHALL BE BONDED TO THE SYSTEM WITH APPROVED FITTINGS AND CONDUCTORS. CONNECTIONS BETWEEN DISSIMILAR METALS SHALL BE MADE WITH APPROVED BIMETALLIC CONNECTIONS. PRIMARY BONDS FOR METAL BODIES OF CONDUCTANCE SHALL BE BONDED WITH APPROPRIATE FITTINGS AND FULL SIZE CONDUCTORS, AND SHALL CONSIST OF, BUT NOT LIMITED TO THE FOLLOWING: LADDER AND RAIL SYSTEMS, TANK VENTS AND PIPING, ALUMINUM TO COPPER CONNECTIONS SHALL BE MADE WITH BIMETALLIC CONNECTORS.

**7. COMMON GROUNDING**

ALUMINUM TO COPPER CONNECTIONS SHALL BE MADE WITH BIMETALLIC CONNECTORS. GROUNDS FOR ELECTRICAL AND TELEPHONE SERVICES, AND LIGHTNING GROUNDS SHALL BE TIED TOGETHER TO FORM A COMMON GROUND.

**8. MATERIALS**

ALL LIGHTNING PROTECTION EQUIPMENT SHALL BE MANUFACTURED BY HEARY BROTHERS LIGHTNING PROTECTION CO., THOMPSON LIGHTNING PROTECTION CO., CAPITAL LIGHTNING PROTECTION CO., OR EQUAL.



**PUMP STATION G-372 LIGHTNING PROTECTION PLAN**  
(SCALE: 1/8" = 1'-0")

WARNING  
0 1/2 1  
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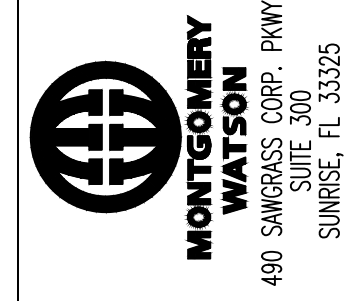
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JOHN C. NETZEL P.E.  
FLA. P.E. NO. 43113



CONTRACT NO.  
C-E304  
DRAWING NO.  
E-206  
SHEET OF

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-372  
LIGHTNING PROTECTION PLAN



**BCG**  
Brown Cunningham Gannuch  
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2701 KENNAN ST.  
METRO PARK, LOUISIANA 70008  
License No. EB00008995

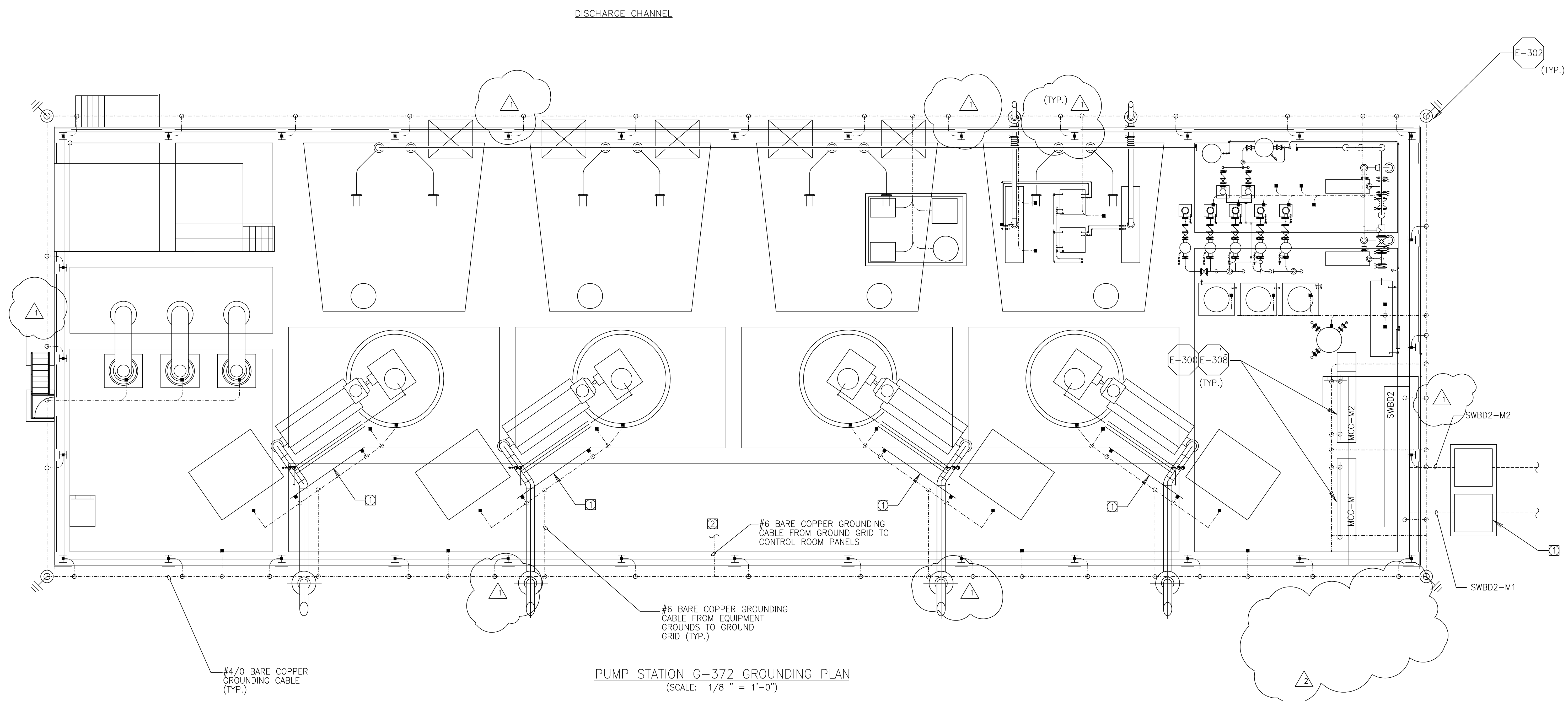
DRAWN	BAJ/MSB
DSGN	BAJ/JCN
CHKD	J.C. NETZEL
DATE	1/8" = 1'-0"
SCALE	

DATE	CHKD
DATE	DWN
DATE	REVISIONS



- NOTES:
- ① CONTRACTOR SHALL CONNECT MOTOR CONTROL CENTER AND SWITCHGEAR GROUND BUS TO GROUND GRID.
  - ② CONTRACTOR SHALL CONNECT ALL CONTROL ROOM PANELS TO GROUND GRID.
  - ③ CONTRACTOR SHALL ENSURE THAT THE TRAVELING TRASH RAKE SYSTEM IS FULLY GROUNDED TO THE BUILDING GROUNDING SYSTEM.

Scale For Microfilming  
Inches  
Millimeters



PUMP STATION G-372 GROUNDING PLAN  
(SCALE: 1/8" = 1'-0")

WARNING  
0 1/2 1  
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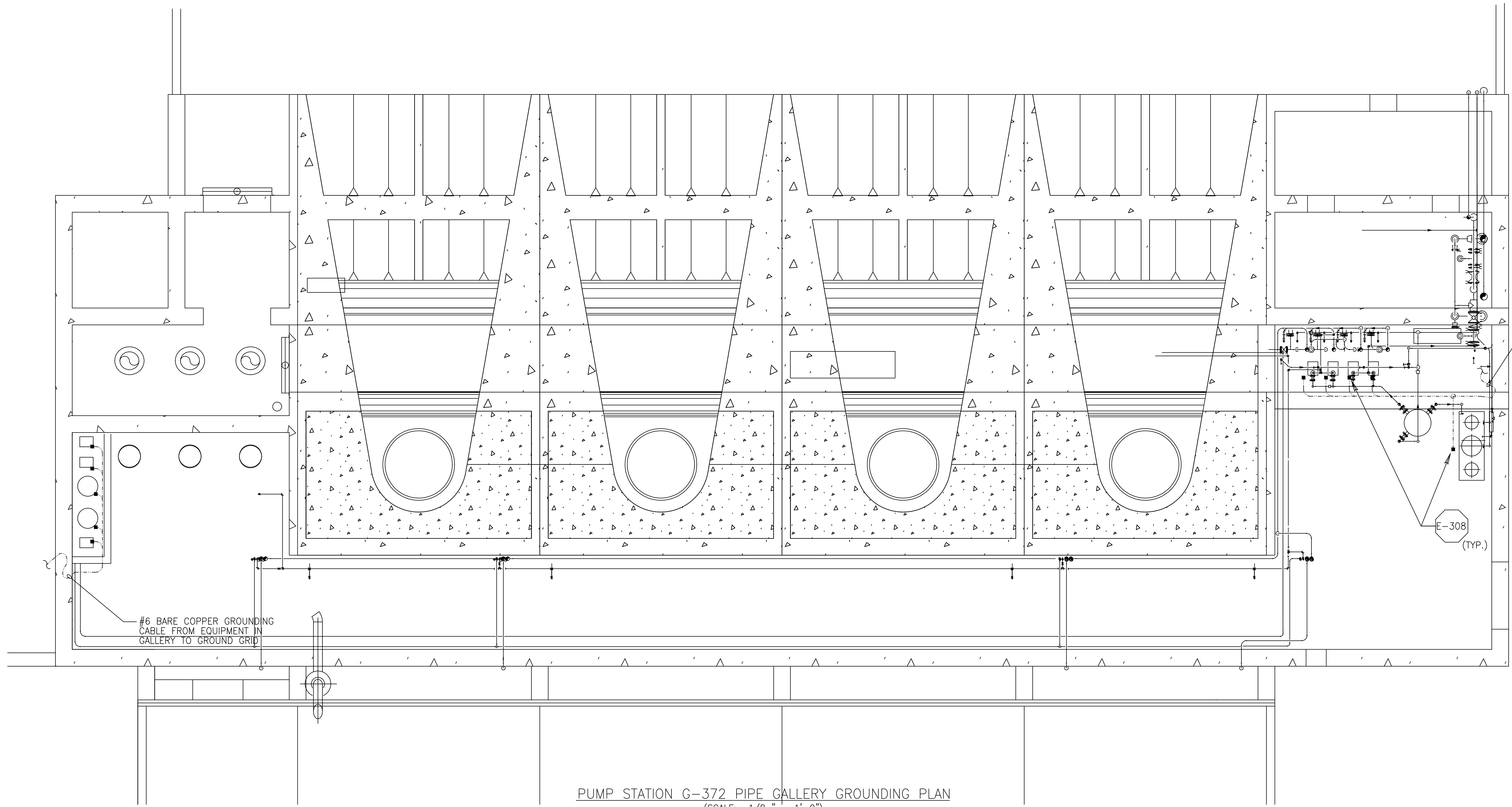
JOHN C. NETZEL P.E.  
FLA. P.E. NO. 43113

SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406		EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372 PUMP STATION G-372 GROUNDING PLAN		 <b>MONTGOMERY WATSON</b> ENGINEERS - ARCHITECTS - CONSULTANTS 480 SHAWHUTCHER SUITE 300 SUNRISE, FL 33325		 <b>Brown Construction Group</b> ENGINEERS - ARCHITECTS - CONSULTANTS 201 WINDYWAY ST. MIAMI, FL 33136 PHONE: 305-552-3000 FAX: 305-552-3005 E-MAIL: BCG@BCGFLA.COM WWW: WWW.BCGFLA.COM	
CONTRACT NO.	C-E304	BAL/MSB		DRAWN	LRP	DATE	7/30/02
DRAWING NO.	E-207	BAL/JCN	J.C. NETZEL	DSGN	AL	REV. PER SUBMITAL	11332
SHEET	OF	CHKD	COP	DATE	JCN	REV. PER ADDENDUM NO.	3
		SCALE	NONE		DWN	CHKD	DATE
						REVISIONS	

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Scale For Microfilming  
 Millimeters  
 Inches



#6 BARE COPPER GROUNDING CABLE FROM EQUIPMENT IN GALLERY TO GROUND GRID

#6 BARE COPPER GROUNDING CABLE FROM EQUIPMENT IN GALLERY TO GROUND GRID

PUMP STATION G-372 PIPE GALLERY GROUNDING PLAN  
 (SCALE: 1/8" = 1'-0")

WARNING  
 0 1/2 1  
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JOHN C. NETZEL P.E.  
 FLA. P.E. NO. 43113

**SOUTH FLORIDA WATER MANAGEMENT DISTRICT**  
 EVERGLADES CONSTRUCTION PROJECT  
 3301 GUN CLUB ROAD  
 WEST PALM BEACH, FLORIDA 33406

EVERGLADES CONSTRUCTION PROJECT  
 STORMWATER TREATMENT AREA 3/4  
 PUMPING STATIONS G-370 AND G-372  
 PUMP STATION G-372 PIPE GALLERY GROUNDING PLAN

**MONTGOMERY WATSON** P.E., P.W.  
 490 SANDHURST DRIVE, SUITE 301  
 SUNRISE, FL 33325

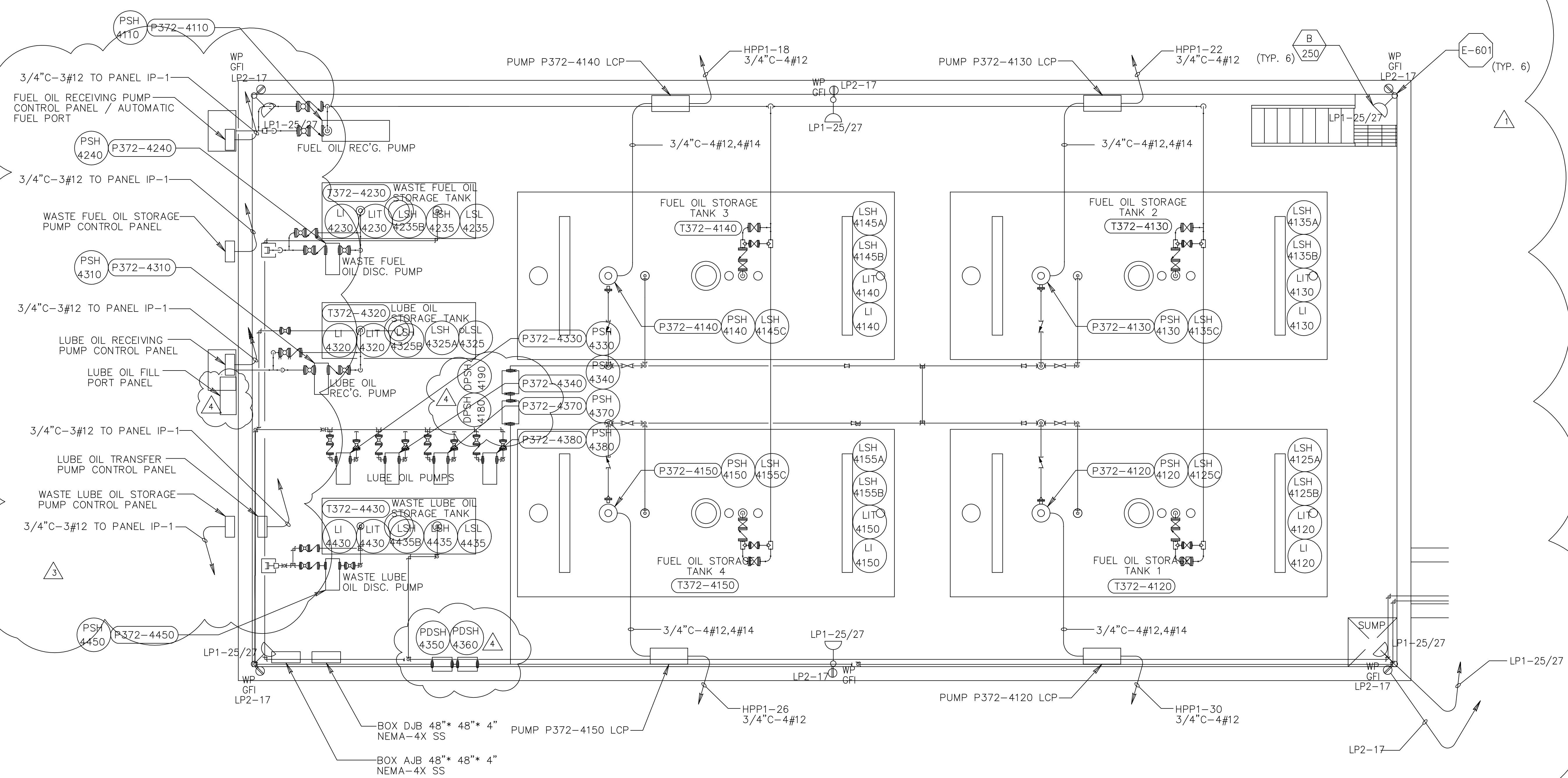
**BCG**  
 Brown Cunningham Gannuch  
 ENGINEERS • ARCHITECTS • CONSULTANTS  
 2701 KENNESAW ST.  
 METRO CENTER, SUITE 7000  
 ATLANTA, GA 30329  
 License No. EB0000895

DRAWN	BAL/MSB
DSGN	BAL/JCN
CHKD	J.C. NETZEL
DATE	
SCALE	1/8" = 1'-0"

DWN	CHKD	DATE	REVISIONS

**GENERAL NOTES:**

1. ALL EXPOSED CONDUIT FITTINGS SHALL BE GALVANIZED RIGID STEEL. ALL CONDUIT SUPPORTS AND MOUNTING HARDWARE SHALL BE STAINLESS STEEL. ALL BURIED CONDUIT SHALL BE SCH 80 PVC.
2. ALL RECEPTACLES IN OUTDOOR AND ANTICIPATED WET AREAS SHALL BE GROUND FAULT CIRCUIT INTERRUPTER RECEPTACLES WITH WEATHERPROOF COVERS. ALL RECEPTACLES SHALL BE MOUNTED 24" AFF. UNLESS OTHERWISE NOTED. MOUNT TANK FARM RECEPTACLES ON POLES OUTSIDE THE TANK RETAINING WALL.



**PUMP STATION G-372 TANK FARM  
LIGHTING AND POWER PLAN  
(SCALE: 1/4" = 1'-0")**

**WARNING**  
0 1/2 1  
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FLA. P.E. NO. 43113



CONTRACT NO. C-E304  
DRAWING NO. E-209  
SHEET OF

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-372 TANK FARM  
LIGHTING AND POWER PLAN



**MONTGOMERY WATSON**  
PROF. ENGR.  
490 SW 10TH AVE., SUITE 300  
SURFERS, FL 33325

**BCJ**  
Brown Cunningham Gannuch  
ENGINEERS • ARCHITECTS • CONSULTANTS  
2701 KENNAWAY ST.  
MIAMI BEACH, FLORIDA 33139  
License No. EB0000895

DRAWN: BAL/MSB  
DSGN: BAL/JCN  
CHKD: J.C. NETZEL  
DATE: 5/22/2001  
SCALE: 1/4" = 1'-0"

DCX	SMR	BAL	JCN	BAL	JCN	COP	JCN	DWN	CHKD	DATE	REVISIONS
											3/12/2004
											7/5/01
											6/13/01
											5/22/2001

CONSTRUCTION REVISION	REVISIONS
△	REVISED PER ADDENDUM NO. 4
△	REVISED PER ADDENDUM NO. 3
△	REV. PER ADDENDUM NO. 1



**NOTES FOR LIGHTNING PROTECTION SYSTEM**

**1. GENERAL**

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**2. AIR TERMINALS**

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**3. CONDUCTORS**

MAIN AND DOWN CONDUCTORS SHALL CONSIST OF U.L. LISTED 29 STRANDS OF 14 GAUGE COPPER WIRE WEIGHING 190 LBS. PER 1000 FEET AND INSTALLED IN ACCORDANCE WITH THE U.L. CODE.(CLASS 1)

**4. GROUND TERMINALS**

ALL GROUNDING TERMINALS (RODS) SHALL BE NO LESS THAN 3/4 " IN DIAMETER AND 10 FT LONG, AND SHALL BE COPPER-CLAD STEEL, SOLID COPPER OR STAINLESS STEEL. GROUND TERMINALS SHALL BE DRIVEN TO A MINIMUM DEPTH OF 10 FT. AND MORE IF NECESSARY TO REACH PERMANENT MOISTURE. ONE GROUND ROD SHALL BE BONDED TO STEEL PIPE. GROUNDING TERMINALS SHALL BE LOCATED AT THE BASE OF THE STRUCTURE AND GROUND CONNECTIONS SHALL BE MADE AROUND THE PERIMETER OF THE STRUCTURE AND IN NO CASE SHALL AVERAGE OVER 100 FT APART.

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**6. INTERCONNECTION OF METALS**

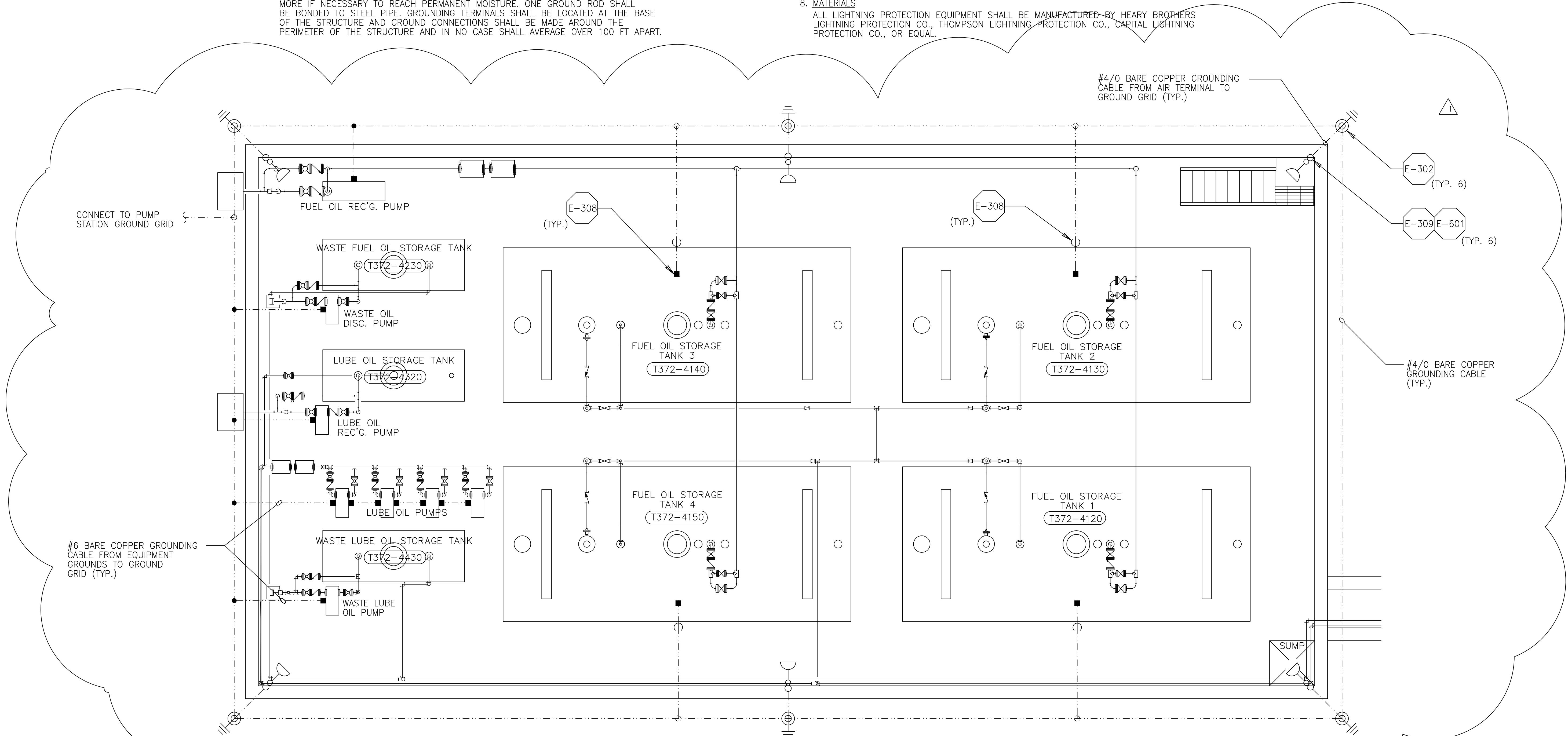
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**8. MATERIALS**

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**PUMP STATION G-372 TANK FARM  
LIGHTNING PROTECTION AND GROUNDING PLAN**

(SCALE: 1/4" = 1'-0")

**WARNING**  
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FLA. P.E. NO. 43113

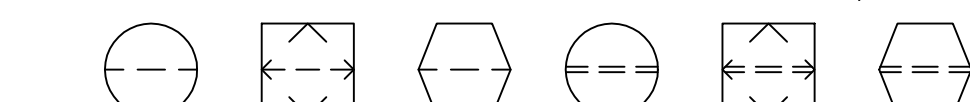
 Brown Cunningham Gannuch ENGINEERS - ARCHITECTS - CONSULTANTS 2701 MIAMI ST. MIAMI, FL 33135 License No. EB00080995	 MONTGOMERY WATSON 480 SW 86th ST. SUITE 300 SUNRISE, FL 33325	EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372 STATION G-372 TANK FARM LIGHTNING PROTECTION AND GROUNDING PLAN	SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406
DRAWN: BAL/MSB DSGN: BA/JCL CHKD: J.C. NETZEL DATE: 5/22/2001 SCALE: 1/4" = 1'-0"	JCN COP DWN CHKD	REV. PER ADDENDUM NO. 1 DATE REVISIONS	CONTRACT NO. C-E304 DRAWING NO. E-210 SHEET OF

GENERAL INSTRUMENT OR FUNCTION SYMBOLS

	PRIMARY LOCATION (b) NORMALLY ACCESSIBLE TO OPERATOR	FIELD MOUNT	AUXILIARY LOCATION (b) NORMALLY ACCESSIBLE TO OPERATOR
DISCRETE INSTRUMENTS	XXX(a)		
SHARED DISPLAY, SHARED CONTROL			
COMPUTER FUNCTION			
PROGRAMMABLE LOGIC CONTROL			

(a) DESIGNATIONS SUCH AS 100 (LOCAL CONTROL BOARD NO. 100), 200 (LOCAL CONTROL BOARD NO. 200), ETC., ARE USED WHEN NECESSARY TO SPECIFY INSTRUMENT OR FUNCTION LOCATION.

(b) NORMALLY INACCESSIBLE OR BEHIND-THE-PANEL DEVICES OR FUNCTIONS ARE DEPICTED BY USING THE SAME SYMBOLS BUT WITH DASHED HORIZONTAL BARS, I.E.



SINGLE INSTRUMENT OR OTHER COMPONENT HAVING MULTIPLE FUNCTIONS

(XXX) SOFTWARE AT SCADA SYSTEM/DISPLAY

(XXX) DESIGNATIONS OF CONTROL FUNCTIONS ASSOCIATED INSTRUMENT OR OTHER COMPONENTS.

- |                       |                        |
|-----------------------|------------------------|
| AHC - AUTO/HOLD/CLOSE | OCA - OPEN/CLOSE/AUTO  |
| AM - AUTO/MANUAL      | OSC - OPEN/STOP/CLOSED |
| DEV - DEVIATION       | POT - POTENTIOMETER    |
| HOA - HAND/OFF/AUTO   | RL - RAISE/LOWER       |
| HOR - HAND/OFF/REMOTE | RSL - RAISE/STOP/LOWER |
| LOS - LOCKOUT STOP    | SD - SHUTDOWN          |
| LR - LOCAL/REMOTE     | SEL - SELECT           |
| MOA - MANUAL/OFF/AUTO | SP - SET POINT         |
| OO - ON/OFF           | SR - START/RESET       |
|                       | SS - STOP/START        |

INSTRUMENT PANEL MOUNTED WITH COMPUTING OR CONVERTING FUNCTION

- |         |               |                            |
|---------|---------------|----------------------------|
| CONVERT | E - VOLTAGE   | H - HYDRAULIC              |
|         | I - CURRENT   | O - ELECTROMAGNETIC, SONIC |
|         | P - PNEUMATIC | R - RESISTANCE (ELECT.)    |
|         | A - ANALOG    | D - DIGITAL                |
|         | B - BINARY    |                            |

- |         |                 |                |
|---------|-----------------|----------------|
| COMPUTE | SUMMING         | AVERAGING      |
|         | SUBTRACTOR      | RATIO          |
|         | MULTIPLYING     | DIFFERENCE     |
|         | DIVIDING        | HIGH SELECTING |
|         | ROOT EXTRACTION | LOW SELECTING  |
|         | PROPORTIONAL    | INTEGRAL       |
|         | DERIVATIVE      |                |

(XXX) PANEL MOUNTED PILOT LIGHT WITH PANEL NUMBER DESIGNATION (I.E. XXX = 100, 200, ETC.).

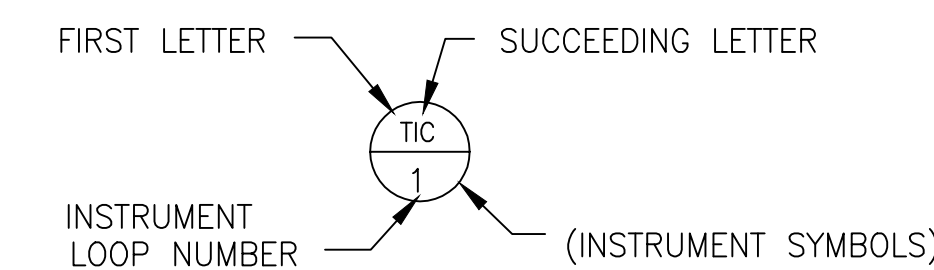
- |  |  |  |                          |
|--|--|--|--------------------------|
|  | DISCRETE INPUT/OUTPUT.                           |  | LIGHTNING SURGE ARRESTOR |
|  | ANALOG INPUT/OUTPUT.                             |  | INTERPOSING RELAY        |
|  | DATA HIGHWAY (I.E. MODBUS) DISCRETE INPUT/OUTPUT |  |                          |
|  | DATA HIGHWAY (I.E. MODBUS) ANALOG INPUT/OUTPUT   |  |                          |

IDENTIFICATION LETTERS

	FIRST-LETTER		SUCCEEDING-LETTERS		
	MEASURED OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION				
C	CONDUCTIVITY			CONTROL	CLOSED
D	DENSITY	DIFFERENTIAL			
E	VOLTAGE		SENSOR (PRIMARY ELEMENT)		
F	FLOW RATE	RATIO (FRACTION)			
G	GAGE		GLASS, VIEWING DEVICE		
H	HAND				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT		LOW
M	MOTOR	MOMENTARY			MIDDLE, INTERMEDIATE
N	TORQUE		ISOLATE	ISOLATOR	
O			ORIFICE, RESTRICTION		OPEN
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE, TOTALIZE			
R	RADIATION		RECORD		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTI VARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECHANICAL ANALYSIS			VALVE, DAMPER, LOUVER	
W	WEIGHT, FORCE		WELL		
X	INTRUSION	X AXIS			
Y	EVENT, STATE OR PRESENCE	Y AXIS		COMPUTE, CONVERT	
Z	POSITION, DIMENSION	Z AXIS		DRIVER, ACTUATOR, FINAL CONTROL ELEMENT	

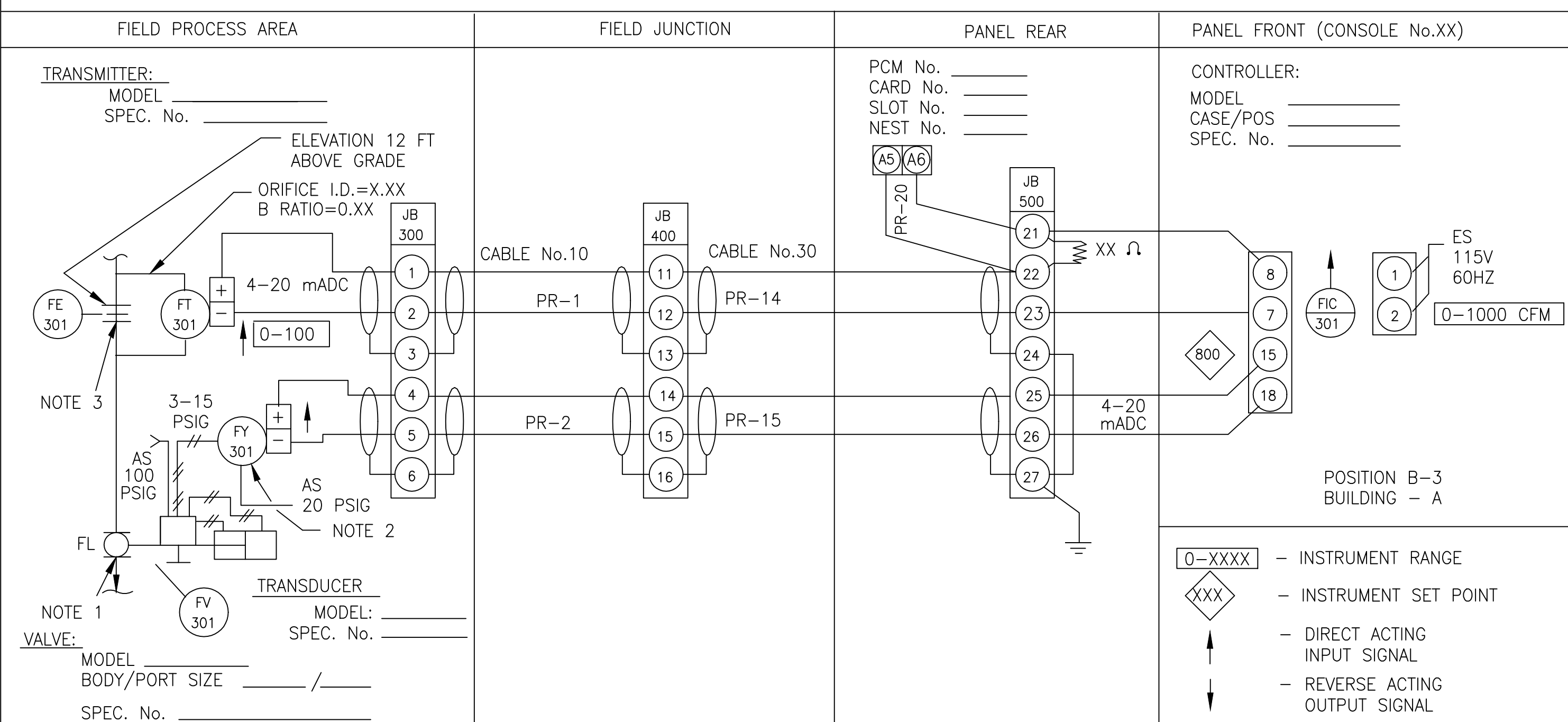
TAG NUMBERS

TYPICAL:  
FORMAT TIC-1 - INSTRUMENT IDENTIFICATION OR TAG NUMBER  
TIC - FUNCTIONAL IDENTIFICATION  
T - FIRST-LETTER  
IC - SUCCEEDING-LETTER(S)  
1 - LOOP NUMBER



EXPANDED:  
FORMAT 10-PAH-1A - TAG NUMBER  
A - OPTIONAL SUFFIX

SAMPLE LOOP DIAGRAM ISA EXPANDED FORMAT



- NOTES:
- FV-301 FULLY OPEN AT 3 PSIG AND FULLY CLOSED AT 15 PSIG.
  - STAND MOUNT PER INSTRUMENT STANDARD XXXX NEAR, BUT NOT ON THE CONTROL VALVE.
  - FE-301 REQUIRES 10 PIPE DIAMETERS UPSTREAM AND 5 PIPE DIAMETERS DOWNSTREAM OF STRAIGHT PIPE.

REVISIONS	DATE	CHKD	DWN	SCALE
				NONE

B.A. LEE  
DSSN  
CHKD  
DATE  
SCALE

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EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372

SOUTH FLORIDA  
WATER MANAGEMENT DISTRICT  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406



JOHN C. NETZEL P.E.  
FLA. P.E. NO. 43113

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CONTRACT NO.  
C-E304  
DRAWING NO.  
IC-1  
SHEET OF

Millimeters

Scale For Micromilming

Inches

SYMBOL

FLOW

LEVEL

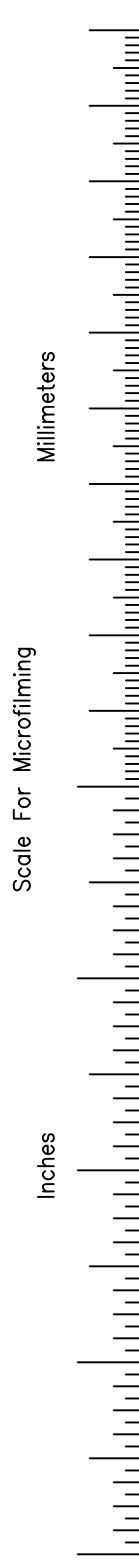
TEMPERATURE

FUNCTION	DEFINITION
<p>STATEMENT OF INPUT</p> <p>ALTERNATIVELY:</p> <p>INITIATING INSTRUMENT OR DEVICE NUMBER, IF KNOWN.</p>	AN INPUT TO THE LOGIC SEQUENCE.
<p>STATEMENT OF OUTPUT</p> <p>ALTERNATIVELY:</p> <p>OPERATED INSTRUMENT OR DEVICE NUMBER, IF KNOWN.</p>	AN OUTPUT FROM THE LOGIC SEQUENCE.
<p>A B C   A   D</p>	AND GATE: LOGIC OUTPUT "D" EXISTS IF AND ONLY IF ALL LOGIC INPUTS "A", "B" AND "C" EXIST.
<p>A B C   OR   D</p>	OR GATE: LOGIC OUTPUT "D" EXISTS IF AND ONLY IF ONE OR MORE LOGIC INPUTS "A", "B" AND "C" EXIST.
<p>A   D   t</p>	DELAY INITIATION OF OUTPUT: THE CONTINUOUS EXISTENCE OF LOGIC INPUT "A" FOR TIME "t" CAUSES LOGIC OUTPUT "B" TO EXIST. WHEN "t" EXPIRES "B" TERMINATES WHEN "A" TERMINATES.
<p>A   DT   t</p>	DELAY TERMINATION OF OUTPUT: THE EXISTENCE OF LOGIC INPUT "A" CAUSES LOGIC OUTPUT "B" TO EXIST IMMEDIATELY. "B" TERMINATES WHEN "A" HAS TERMINATED AND HAS NOT AGAIN EXISTED FOR TIME "t".
<p>A   PO   t</p>	PULSE OUTPUT: THE EXISTENCE OF LOGIC INPUT "A", REGARDLESS OF ITS SUBSEQUENT STATE, CAUSES LOGIC OUTPUT "B" TO EXIST IMMEDIATELY. "B" EXISTS FOR TIME "t" AND THEN TERMINATES.
<p>A B C   *   D</p> <p>*INTERNAL DETAILS REPRESENT NUMERICAL QUANTITIES</p>	QUALIFIED OR GATE: LOGIC OUTPUT "D" EXISTS IF AND ONLY IF A SPECIFIC NUMBER OF LOGIC INPUTS "A", "B", AND "C" EXISTS.
<p>A   NOT   B</p> <p>THE NOT SYMBOL MAY BE DRAWN TANGENT TO AN ADJACENT LOGIC SYMBOL.</p>	NOT GATE: LOGIC "B" EXISTS IF AND ONLY IF LOGIC INPUT "A" DOES NOT EXIST.
<p>A   S   C</p> <p>B   R   D *</p> <p>*OUTPUT D SHALL NOT BE SHOWN IF IT IS NOT USED.</p>	FLIP-FLOP (LATCH): LOGIC OUTPUT "C" EXISTS AS SOON AS LOGIC INPUT "A" EXISTS. "C" CONTINUES TO EXIST REGARDLESS OF THE SUBSEQUENT STATE OF "A" UNTIL RESET BY THE EXISTENCE OF LOGIC INPUT "B". LOGIC OUTPUT "D", IF USED, EXISTS WHEN "C" DOES NOT EXIST. "D" DOES NOT EXIST WHEN "C" EXISTS.
<p>A   MS   C</p> <p>B   R   D</p>	MAINTAINED FLIP-FLOP: SIMILAR TO DEFINITION OF FLIP-FLOP EXCEPT THAT THE MEMORY SHALL BE MAINTAINED IN THE EVENT OF LOGIC POWER LOSS.

<p>ORIFICE PLATE WITH VENA CONTRACTA, RADIUS, OR PIPE TAPS CONNECTED TO DIFFERENTIAL-PRESSURE-TYPE FLOW TRANSMITTER</p>	<p>TURBINE-OR PROPELLER TYPE PRIMARY ELEMENT</p>
<p>VENTURI TUBE</p>	<p>SINGLE PORT PITOT TUBE OR PITOT-VENTURI TUBE</p>
<p>FLUME</p>	<p>WEIR</p>
<p>POSITIVE-DISPLACEMENT-TYPE FLOW TOTALIZING INDICATOR</p>	<p>VARIABLE AREA FLOW INDICATOR (ROTAMETER)</p>
<p>MAGNETIC FLOWMETER</p>	<p>SONIC FLOWMETER "DOPPLER" OR "TRANSIT TIME" MAY BE ADDED</p>
<p>VORTEX SENSOR</p>	<p>PADDLE WHEEL</p>
<p>POSITION</p>	
<p>LIMIT SWITCH THAT IS ACTUATED WHEN VALVE IS CLOSED TO A PRE-DETERMINED POSITION</p>	<p>POSITION TRANSMITTER</p>

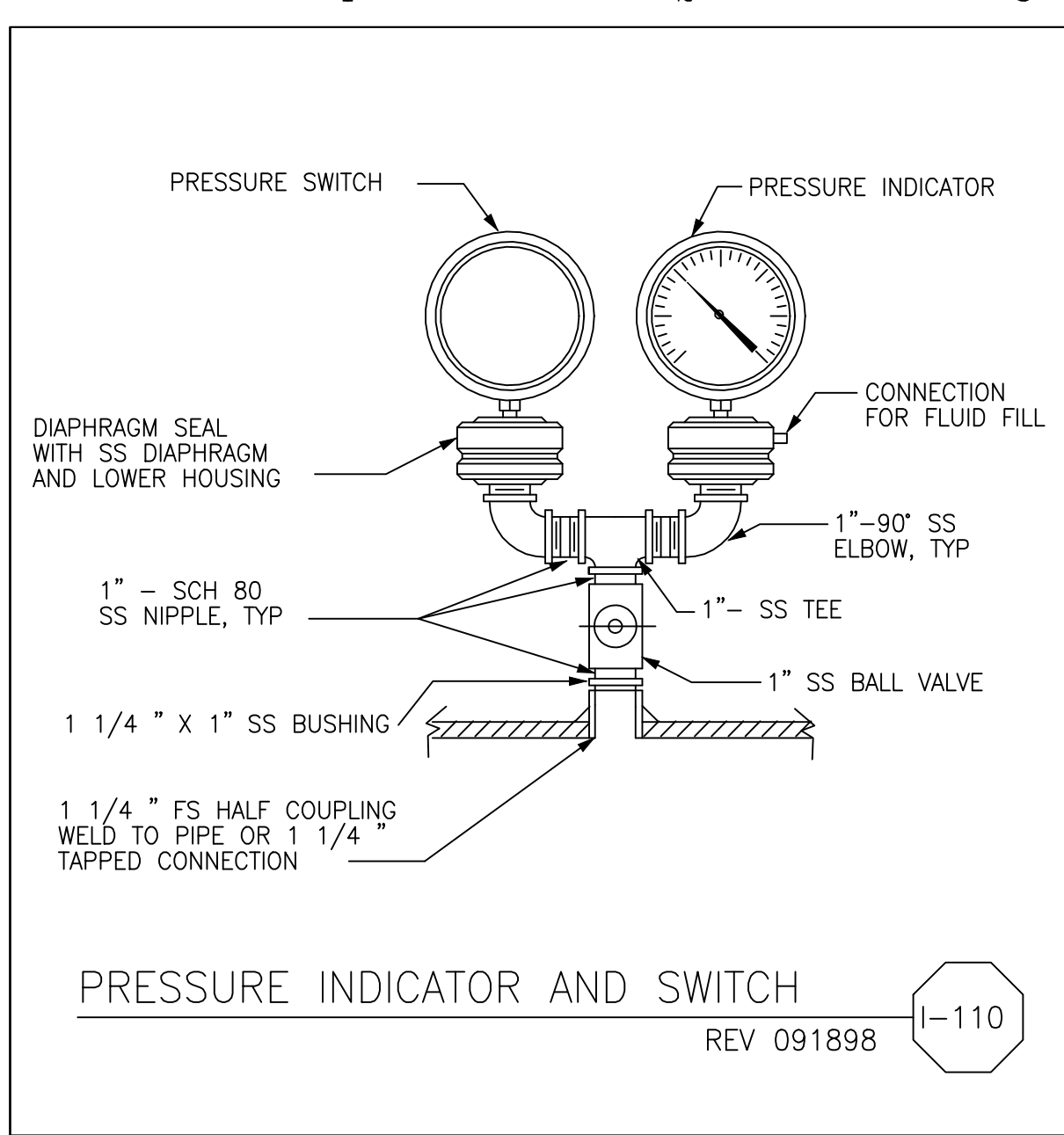
<p>GAGE GLASS, EXTERNALLY CONNECTED</p>	<p>LEVEL TRANSMITTER, DIFFERENTIAL-PRESSURE TYPE, MOUNTED ON TANK</p>
<p>LEVEL TRANSMITTER WITH ONE CONNECTION</p>	<p>LEVEL TRANSMITTER WITH INTEGRAL INDICATION</p>
<p>LEVEL SWITCH, PADDLE WHEEL OR LEVER TYPE, TO MEASURE LEVEL OF SOLIDS</p>	<p>LEVEL TRANSMITTER FLOAT TYPE</p>
<p>CAPACITANCE OR DIELECTRIC TYPE LEVEL ELEMENT CONNECTED TO LEVEL TRANSMITTER (TAG LEVEL ELEMENT LE)</p>	<p>RADIOACTIVE OR SONIC TYPE LEVEL TRANSMITTER WITH INTEGRAL SENSOR</p>
<p>WEIGHT</p>	
<p>WEIGHT TRANSMITTER, DIRECT-CONNECTED</p>	<p>WEIGH-BELT SCALE TRANSMITTER</p>
<p>STRAIN GAGE CONNECTED TO SEPARATE WEIGHT TRANSMITTER (TAG STRAIN GAGE WE)</p>	

<p>TEMPERATURE ELEMENT WITH WELL (ELEMENT NOT CONNECTED TO SECONDARY INSTRUMENT)</p>	<p>FILLED-SYSTEM-TYPE TEMPERATURE TRANSMITTER WITH WELL</p>
<p>BIMETALLIC-TYPE THERMOMETER, GLASS THERMOMETER, OR OTHER LOCAL UNCLASSIFIED TEMPERATURE INDICATOR</p>	<p>RTD (IF APPLICABLE)</p> <p>THERMOCOUPLE, RESISTANCE BULB (RTD) OR THERMISTOR (TH) CONNECTED TO TEMPERATURE TRANSMITTER</p>
<p>PRESSURE OR VACUUM</p>	
<p>WITH PRESSURE LEAD LINE</p>	<p>LINE - MOUNTED</p>
<p>PRESSURE INDICATOR CONNECTED TO DIAPHRAGM SEAL WITH FILLED SYSTEM</p>	<p>PRESSURE ELEMENT STRAIN-GAGE TYPE, CONNECTED TO PRESSURE INDICATING TRANSMITTER</p>
<p>PRESSURE INDICATOR, DIRECT - CONNECTED</p>	
<p>ANALYTICAL</p>	
<p>ANALYSIS INDICATING TRANSMITTER</p>	<p>ALK - ALKALINITY</p> <p>CL2 - CHLORINE CONCENTRATION</p> <p>COMB - COMBUSTABLE GAS</p> <p>CON - CONDUCTIVITY</p> <p>DO - DISSOLVED OXYGEN</p> <p>H2S - HYDROGEN SULFIDE</p> <p>LEL - LOWER EXPLOSIVE LIMIT</p> <p>O2 - OXYGEN CONCENTRATION</p> <p>O3 - OZONE</p> <p>ORP - OXIDATION/REDUCTION POTENTIAL</p> <p>PH - HYDROGEN ION CONCENTRATION</p> <p>SO2 - SULFUR DIOXIDE</p> <p>TH - TOTAL HARDNESS</p> <p>TURB - TURBIDITY</p> <p>UV - ULTRA VIOLET</p>

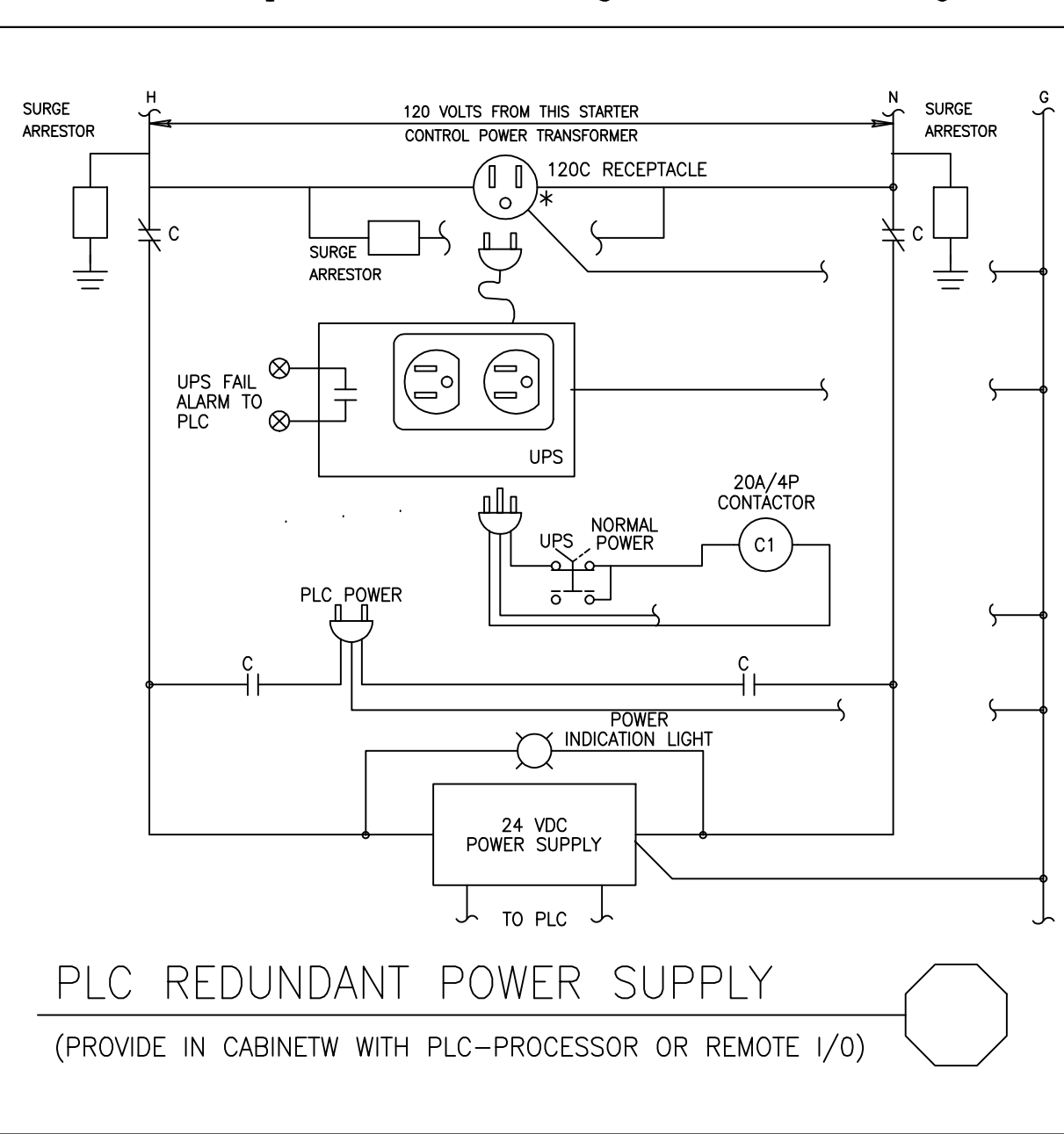


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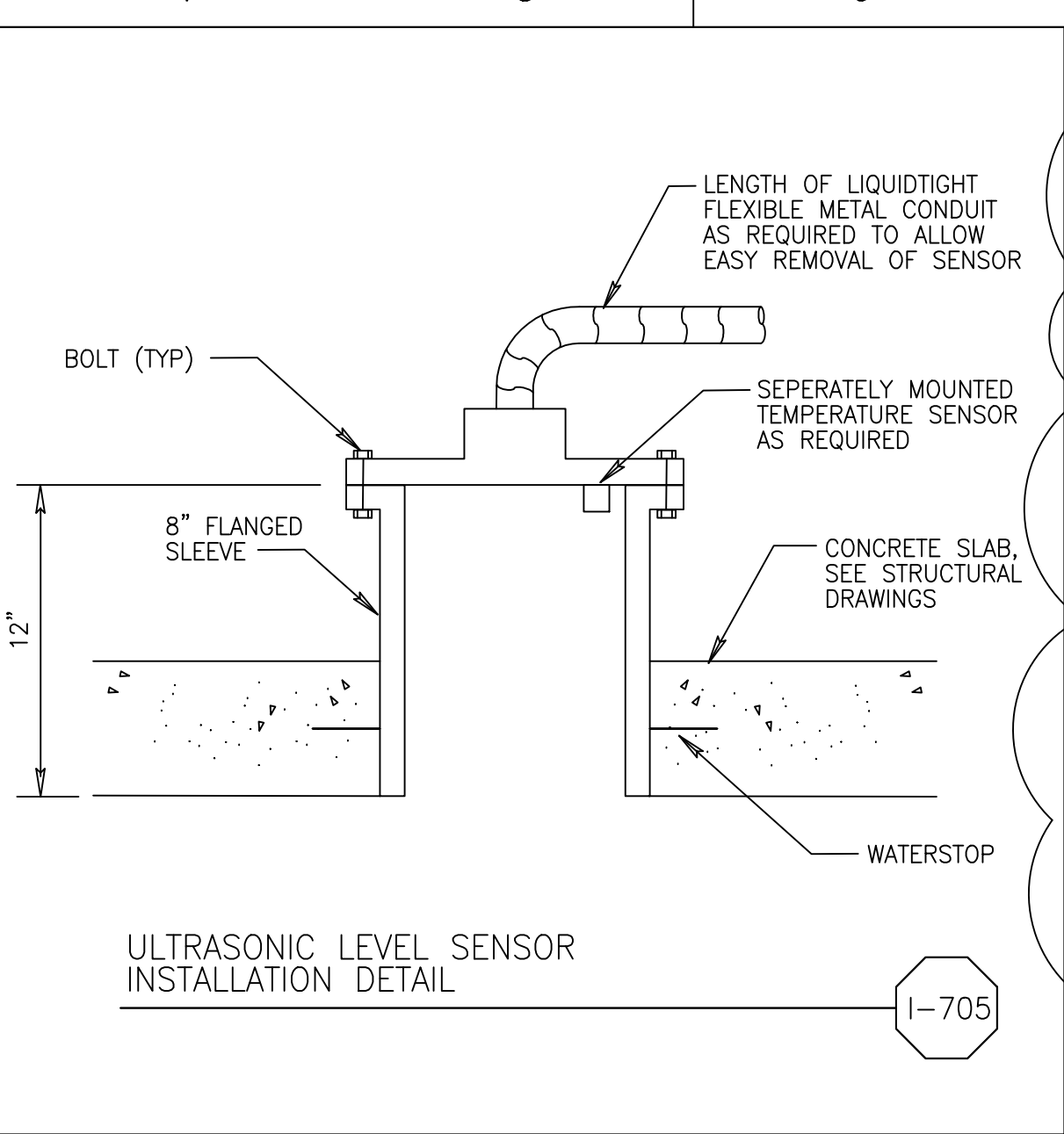
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<p>Brown Cunningham Gannuch</p> <p>ENGINEERS • ARCHITECTS • CONSULTANTS</p> <p>2701 KENNAN ST.</p> <p>MEMPHIS, TENNESSEE 38117</p> <p>License No. EB0000895</p>	
<p>MONTGOMERY WATSON</p> <p>490 SHILOH ROAD</p> <p>SUITE 300</p> <p>SUNRISE, FL 33325</p>	
<p>EVERGLADES CONSTRUCTION PROJECT</p> <p>STORMWATER TREATMENT AREA 3/4</p> <p>PUMPING STATIONS G-370 AND G-372</p>	<p>SYMBOLS AND Nomenclature</p>
<p>SOUTH FLORIDA WATER MANAGEMENT DISTRICT</p> <p>EVERGLADES CONSTRUCTION PROJECT</p> <p>3301 GUN CLUB ROAD</p> <p>WEST PALM BEACH, FLORIDA 33406</p>	
<p>JOHN C. NETZEL P.E.</p> <p>FLA. P.E. NO. 43113</p>	
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<p>CONTRACT NO.</p> <p>C-E304</p> <p>DRAWING NO.</p> <p>IC-2</p> <p>SHEET OF</p>	



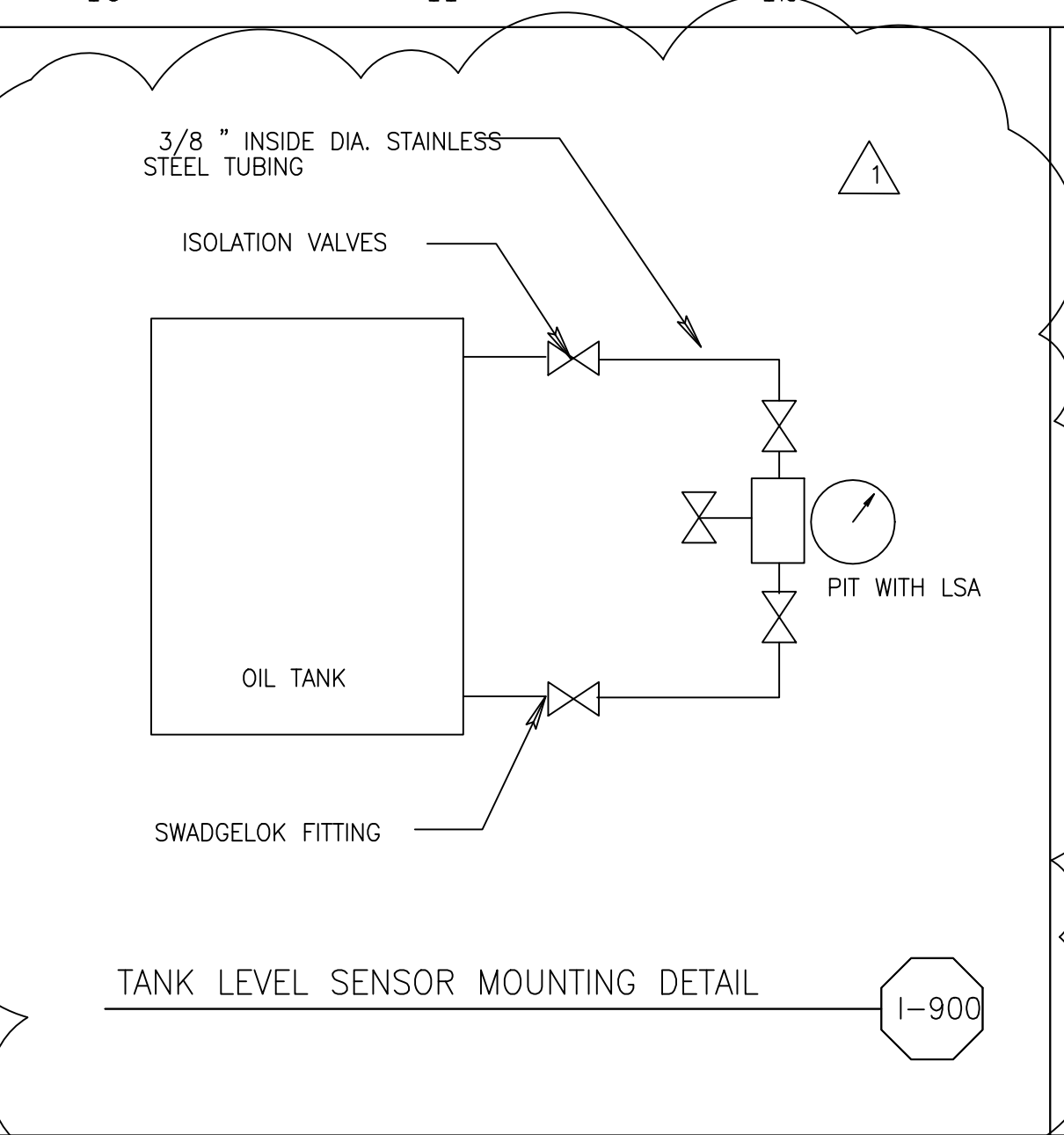
PRESSURE INDICATOR AND SWITCH  
REV 091898 I-110



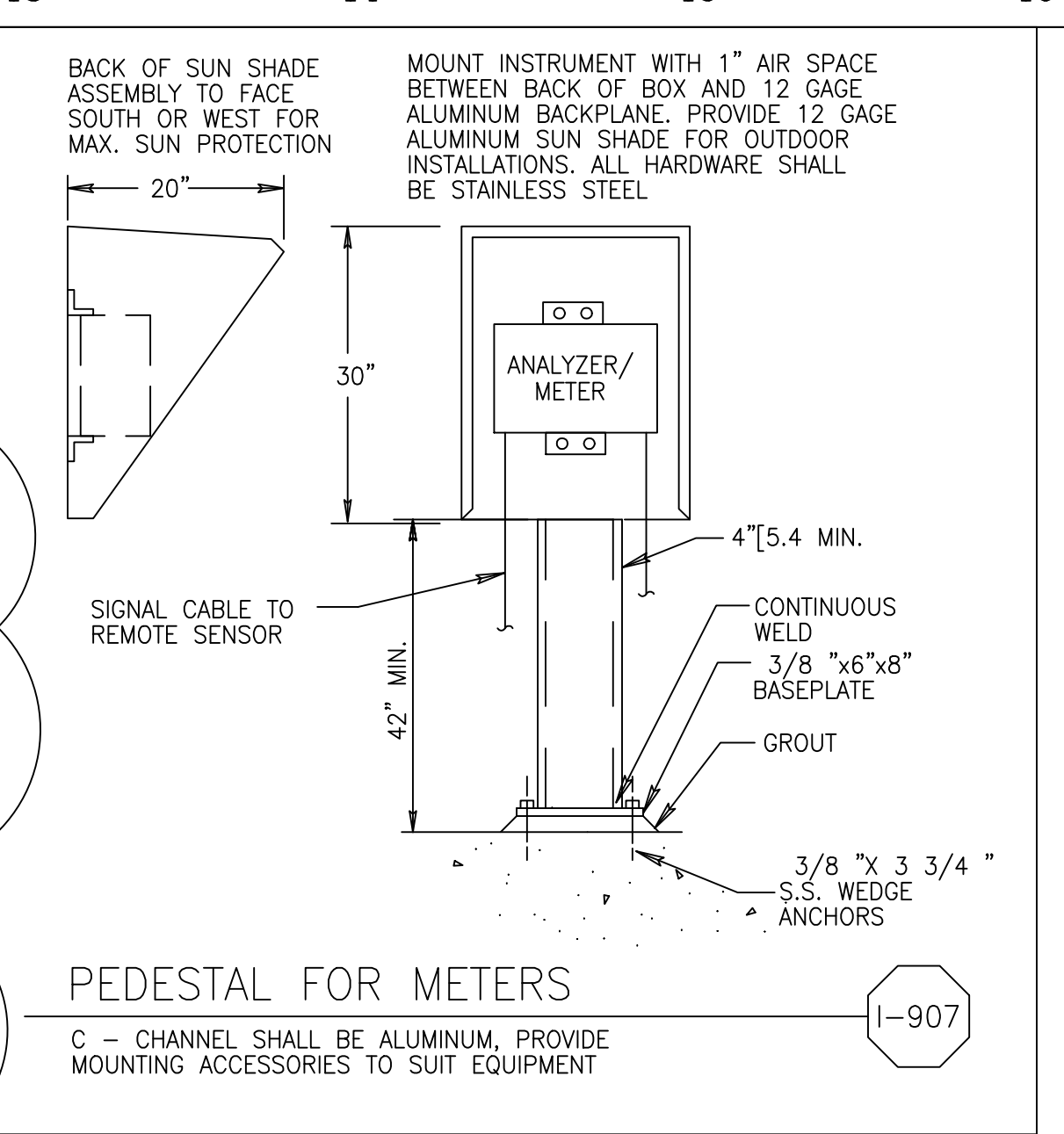
PLC REDUNDANT POWER SUPPLY  
(PROVIDE IN CABINETW WITH PLC-PROCESSOR OR REMOTE I/O) I-111



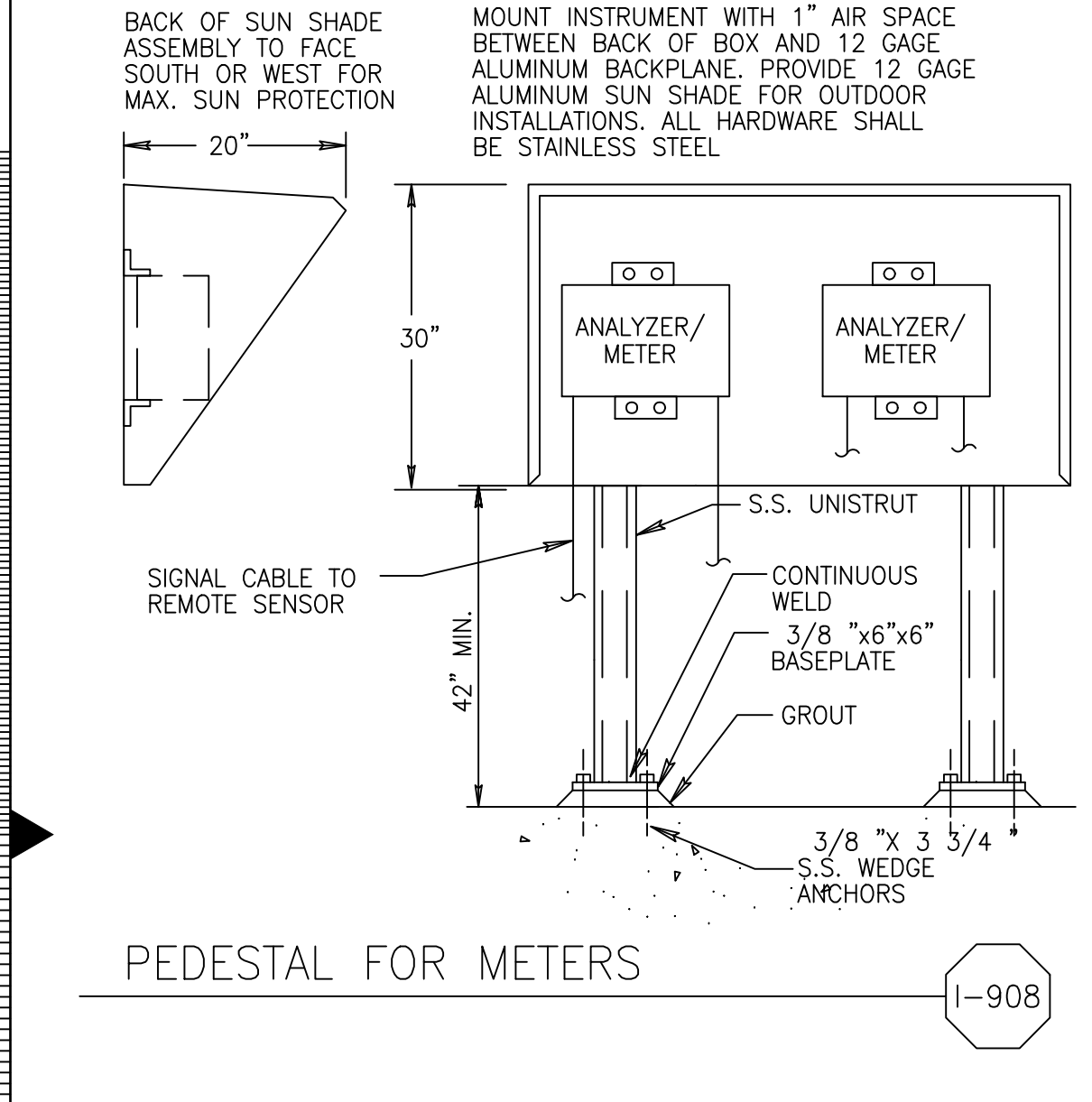
ULTRASONIC LEVEL SENSOR  
INSTALLATION DETAIL I-705



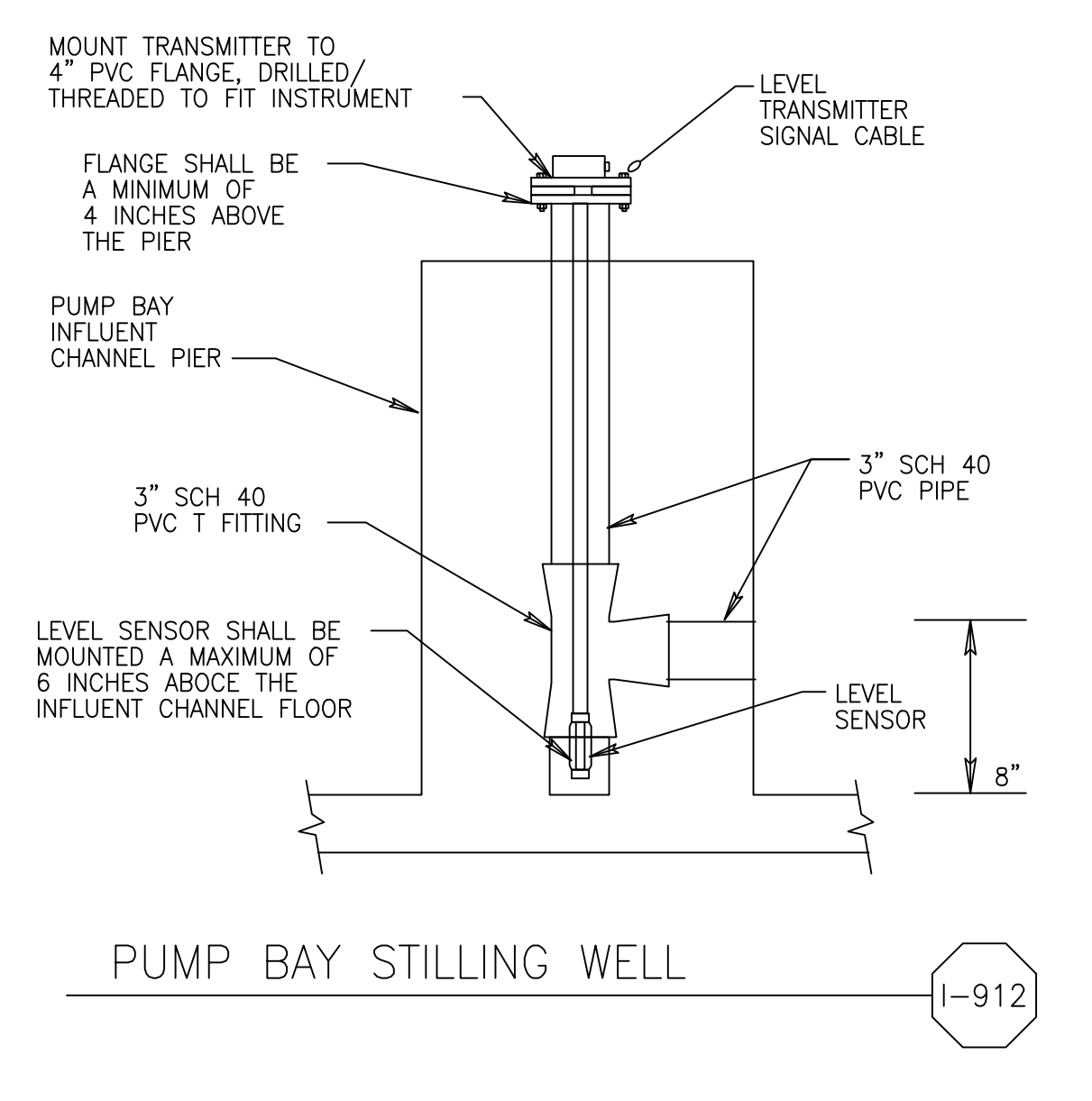
TANK LEVEL SENSOR MOUNTING DETAIL I-900



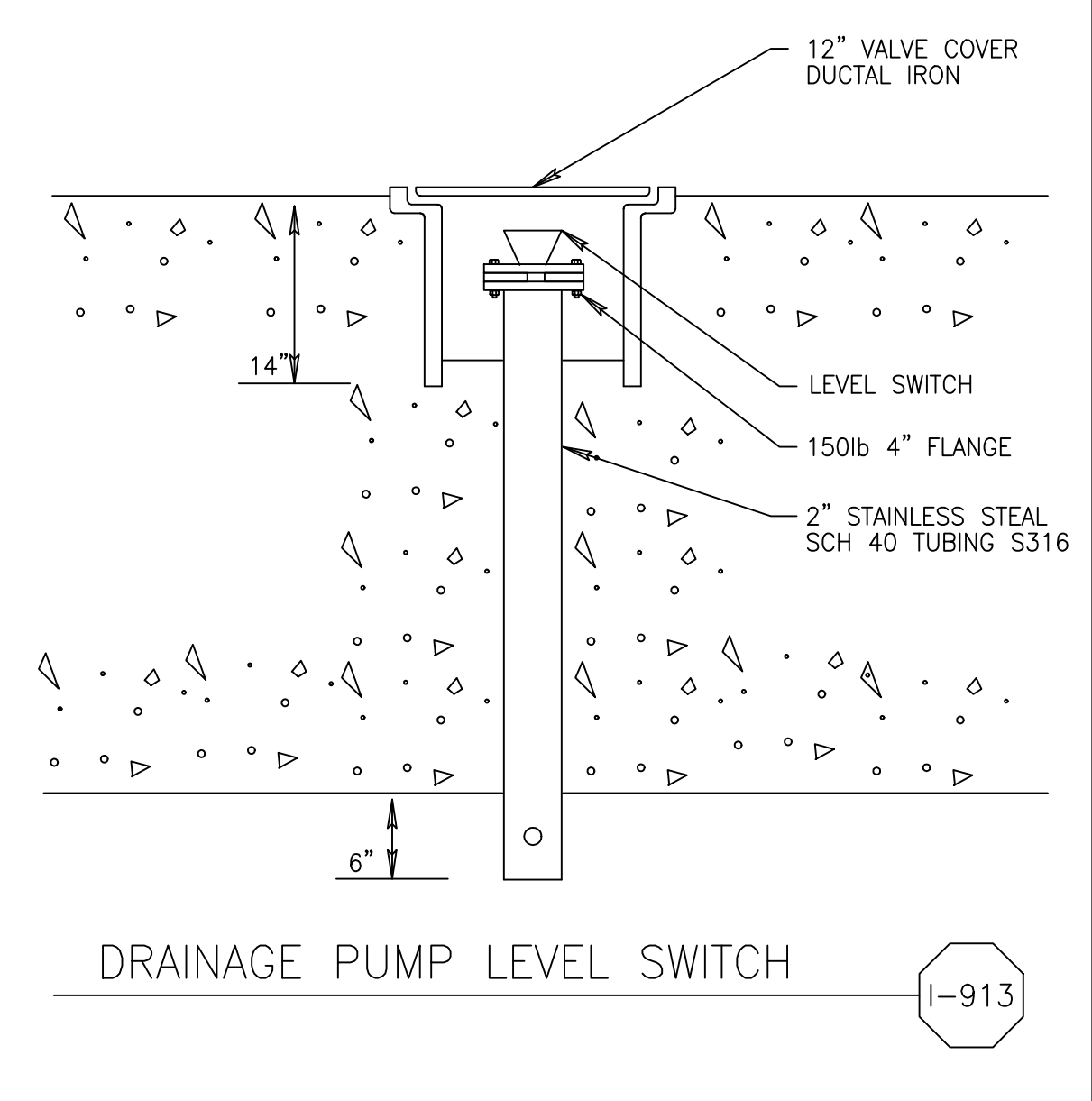
PEDESTAL FOR METERS I-907  
C - CHANNEL SHALL BE ALUMINUM, PROVIDE MOUNTING ACCESSORIES TO SUIT EQUIPMENT



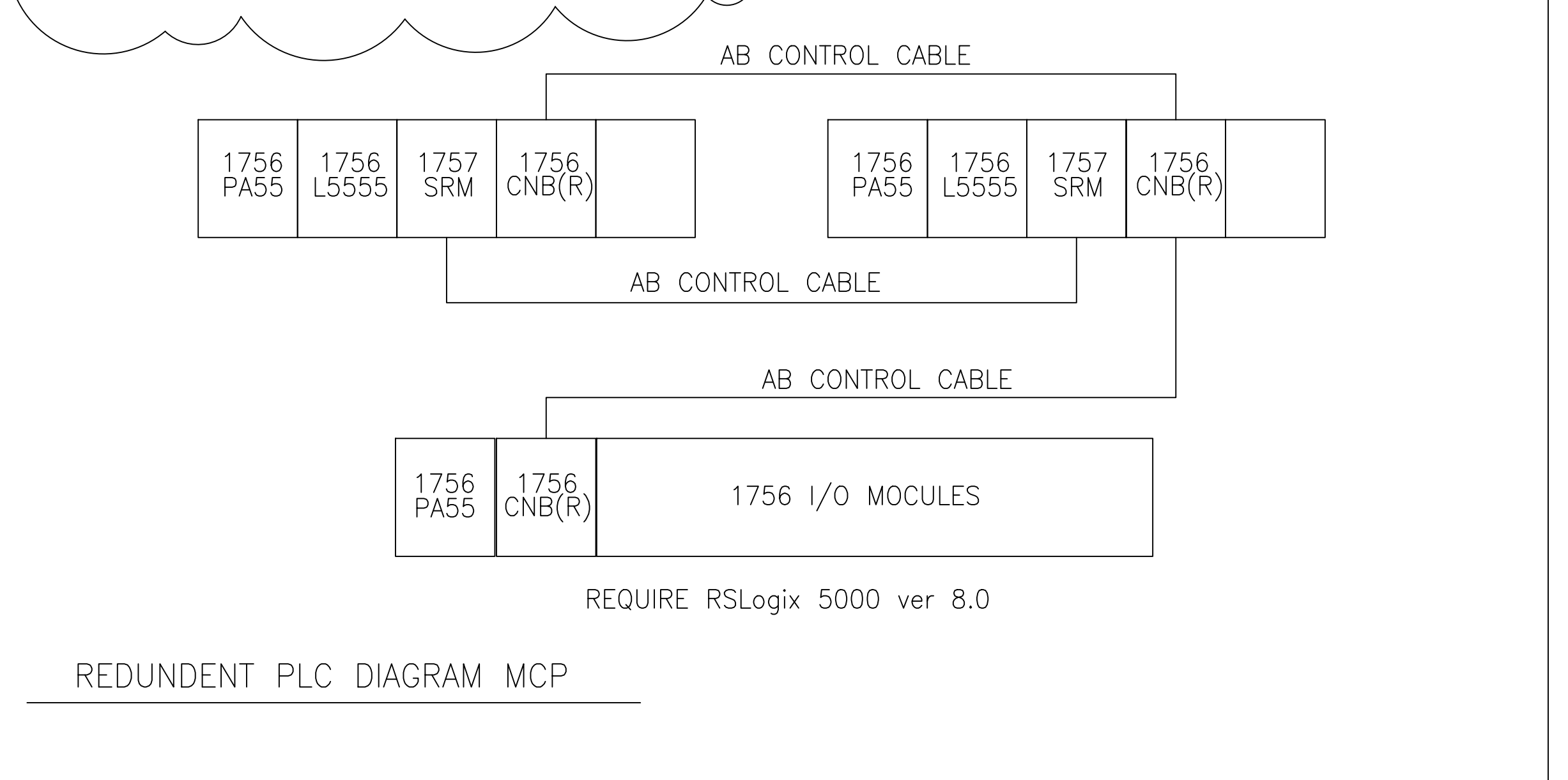
PEDESTAL FOR METERS I-908



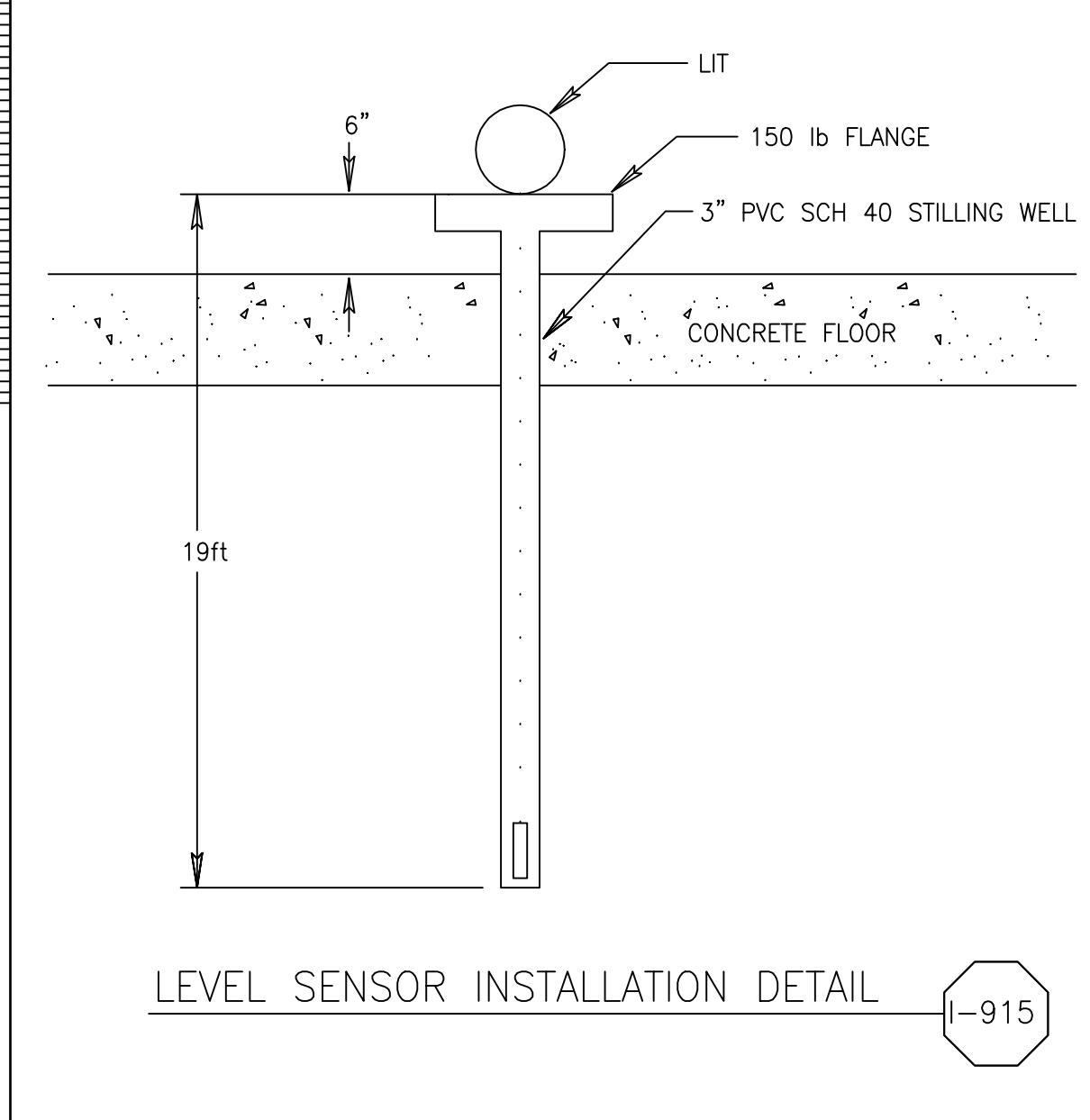
PUMP BAY STILLING WELL I-912



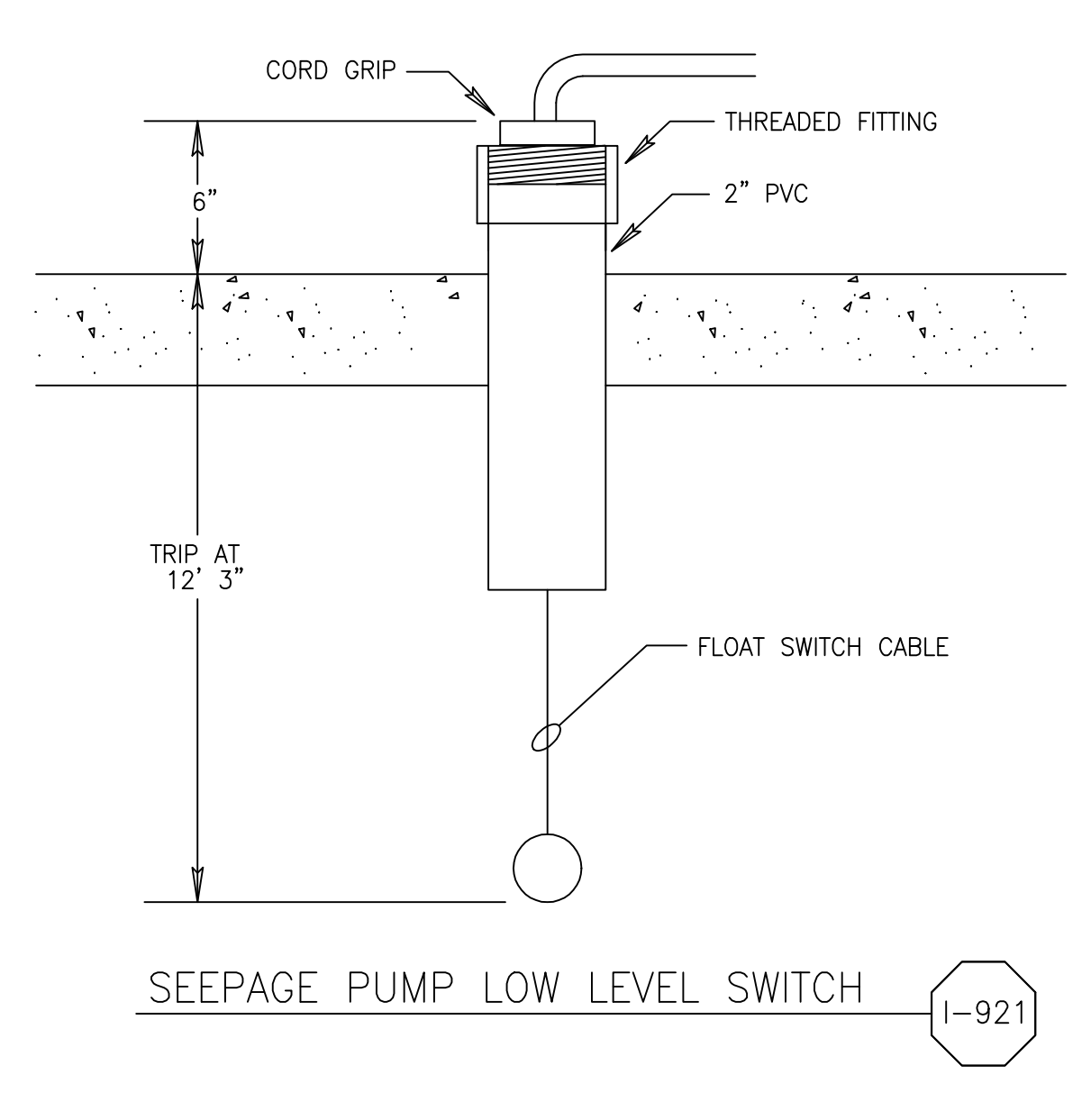
DRAINAGE PUMP LEVEL SWITCH I-913



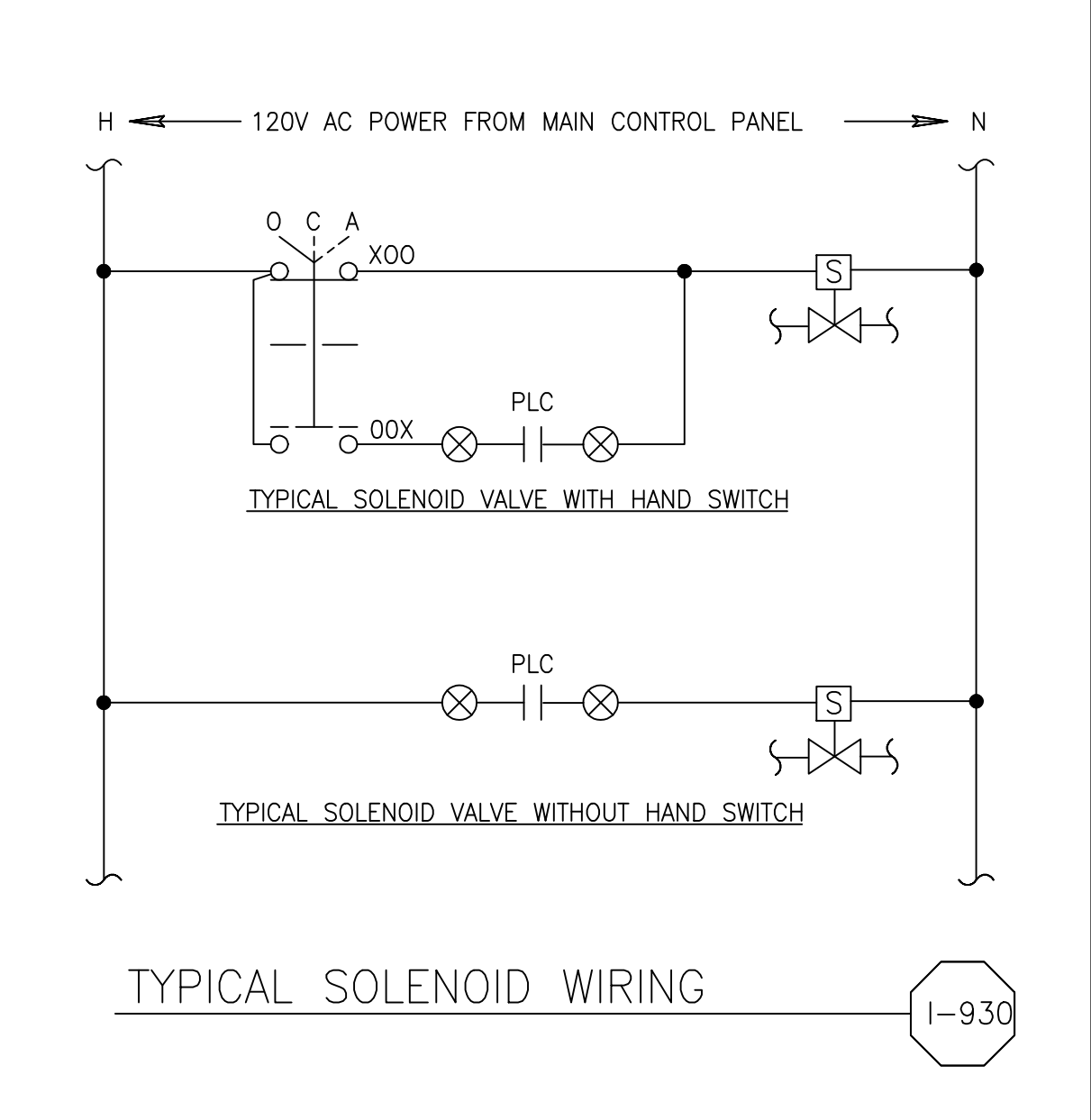
REDUNDENT PLC DIAGRAM MCP



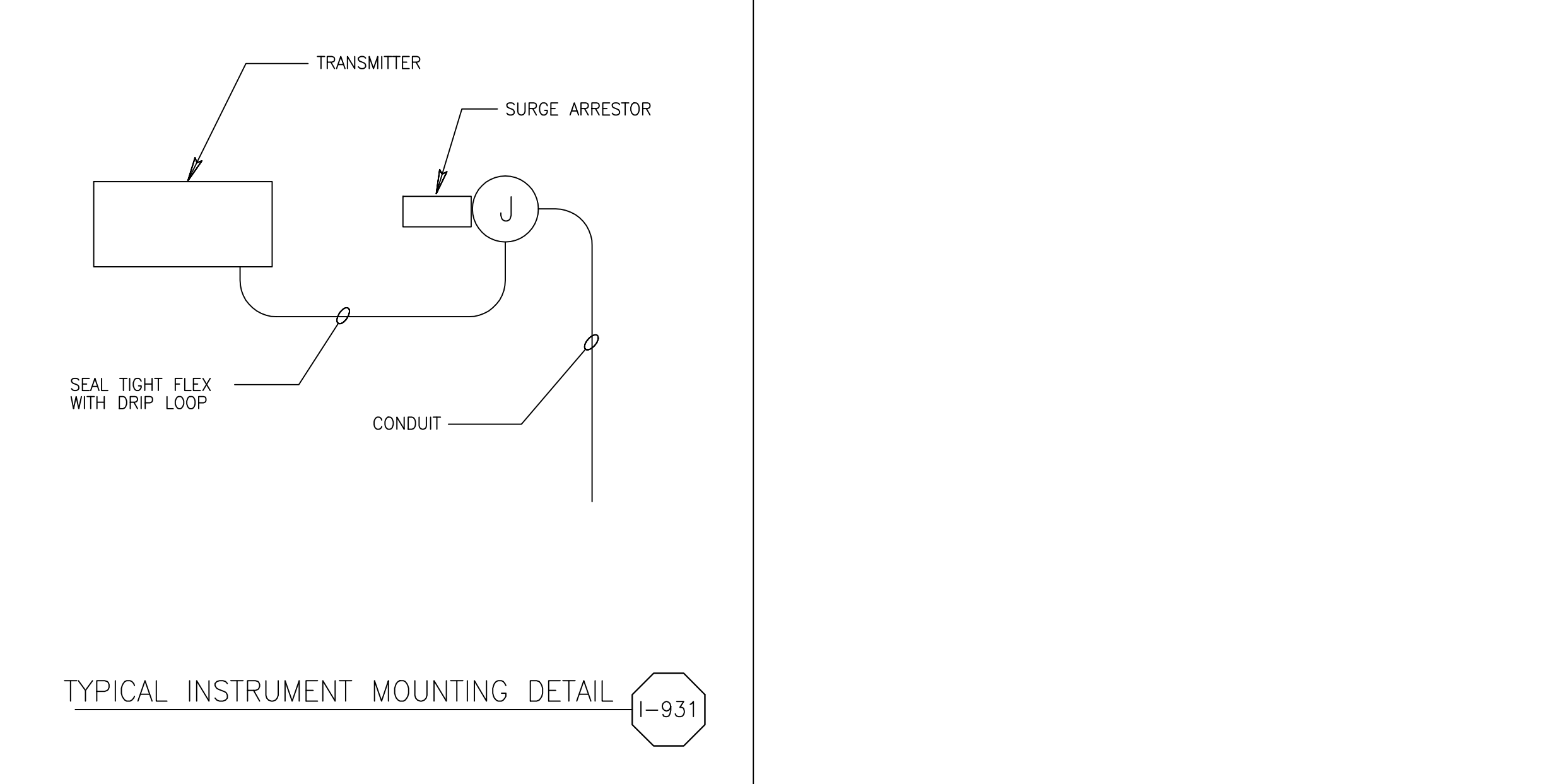
LEVEL SENSOR INSTALLATION DETAIL I-915



SEEPAGE PUMP LOW LEVEL SWITCH I-921



TYPICAL SOLENOID WIRING I-930



TYPICAL INSTRUMENT MOUNTING DETAIL I-931

Millimeters  
Scale For Microfilming

Inches

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NO.	DATE	BY	CHKD	DATE	REVISIONS
1	6/18/2001	JCN	DWN		REV. PER ADDENDUM NO. 3

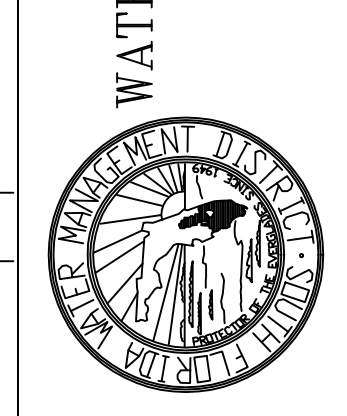
DRAWN	DSGN	CHKD	DATE	SCALE
B.A. LEE	BA/JCN	J.C. NETZEL		NONE

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**MONTGOMERY WATSON**  
P.E. P.W.  
490 SHARPE BLVD.  
SUITE 300  
SUNRIDGE, FL 33325

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
INSTRUMENTATION DETAILS

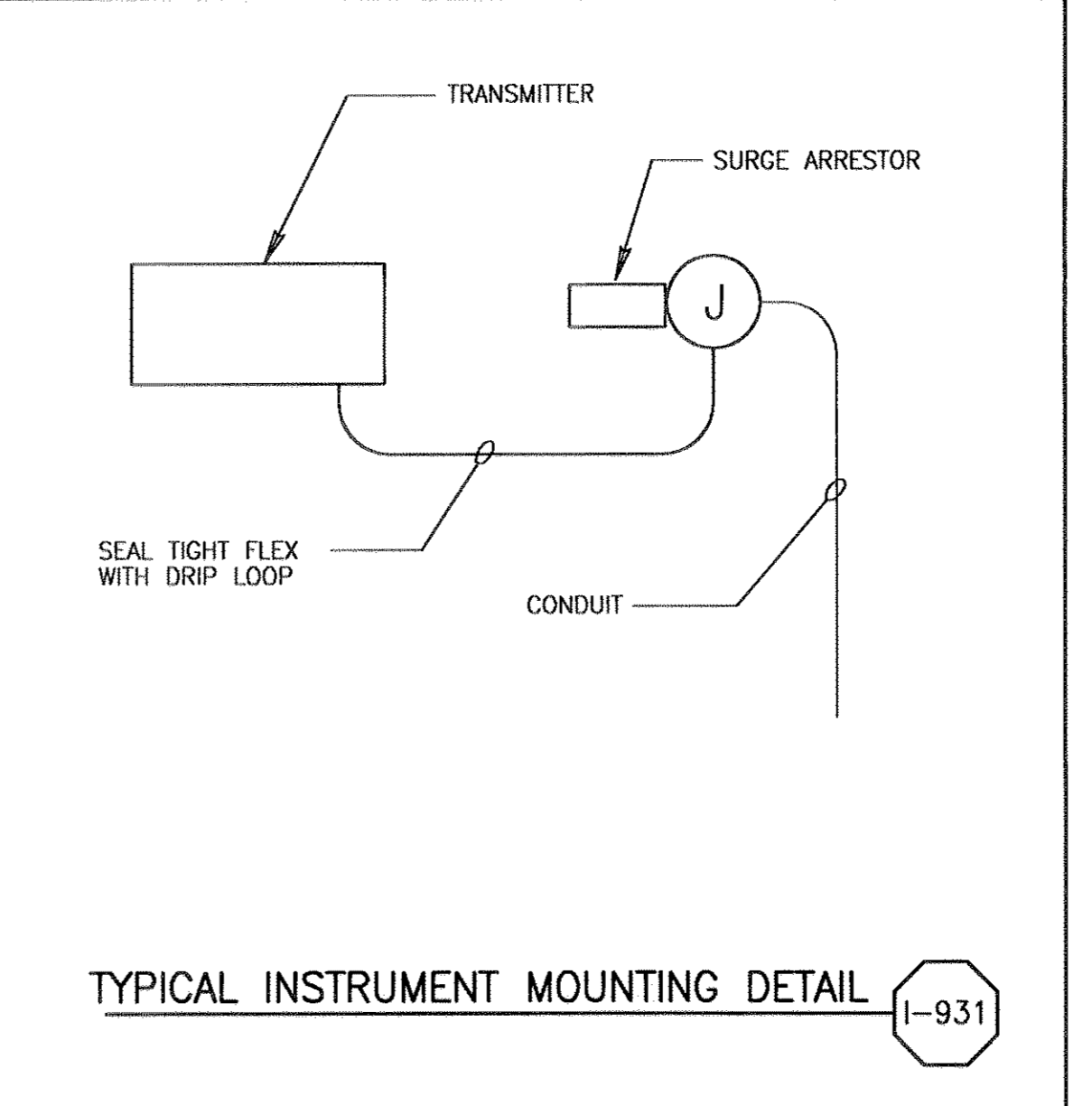
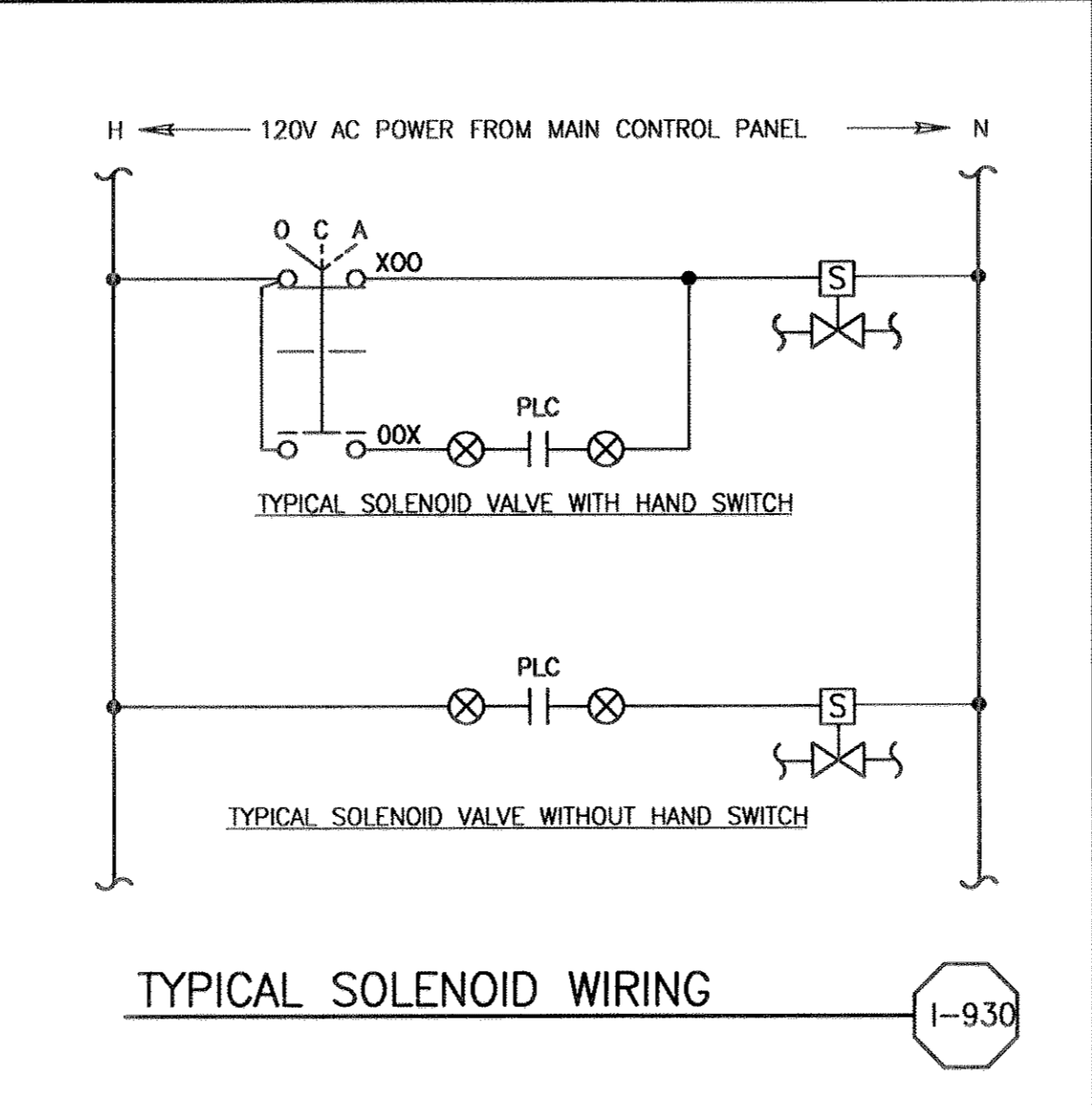
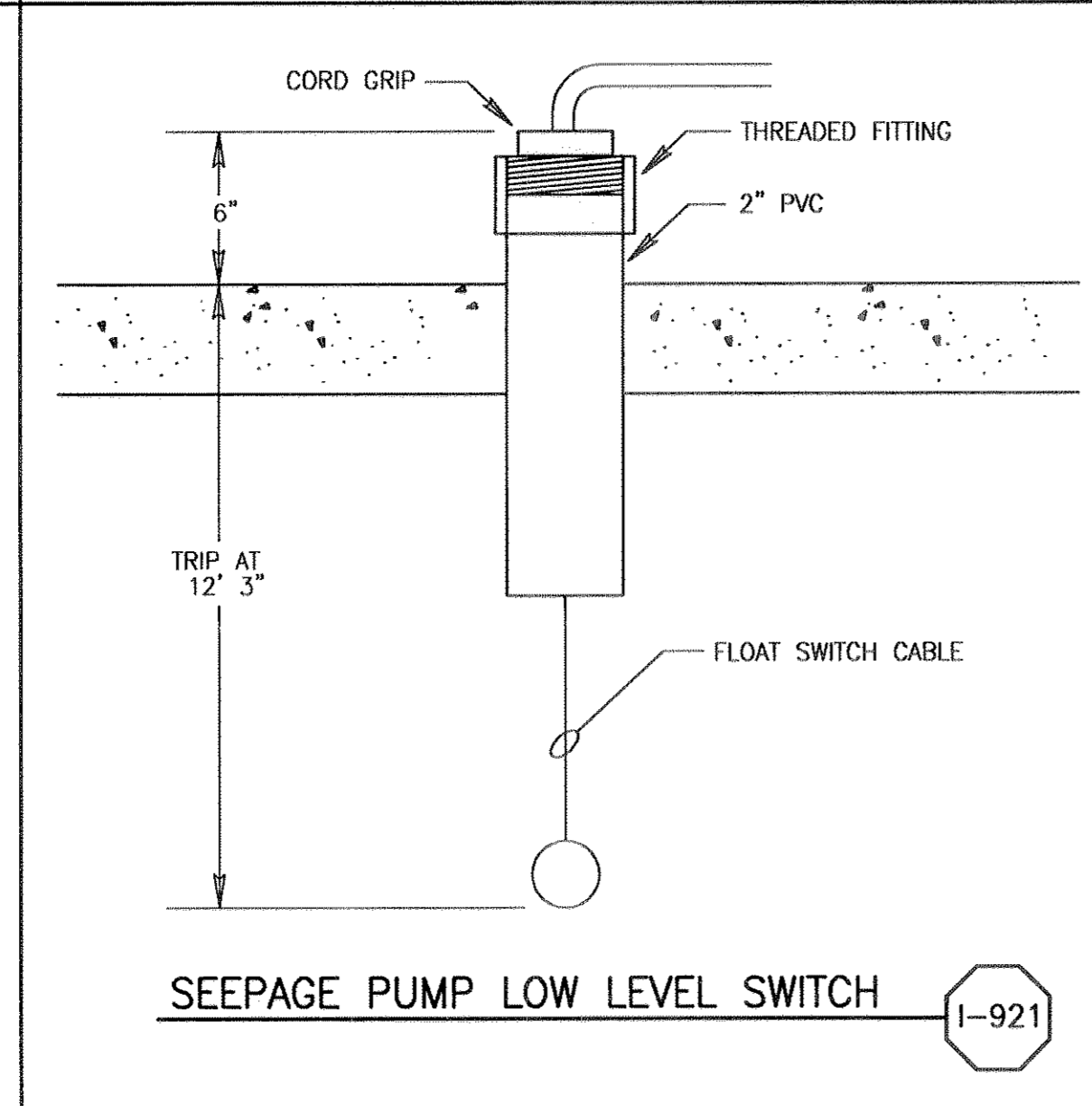
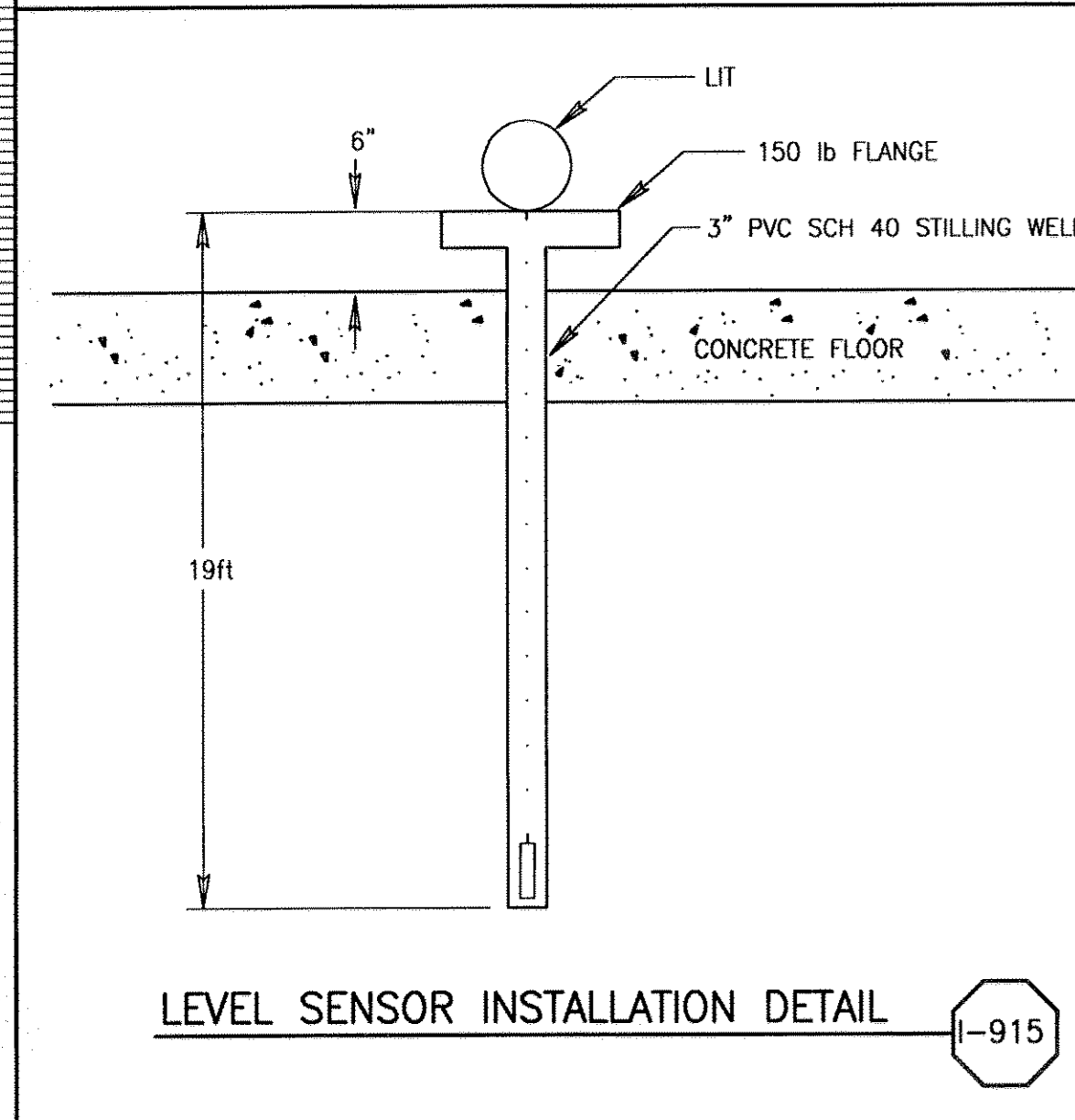
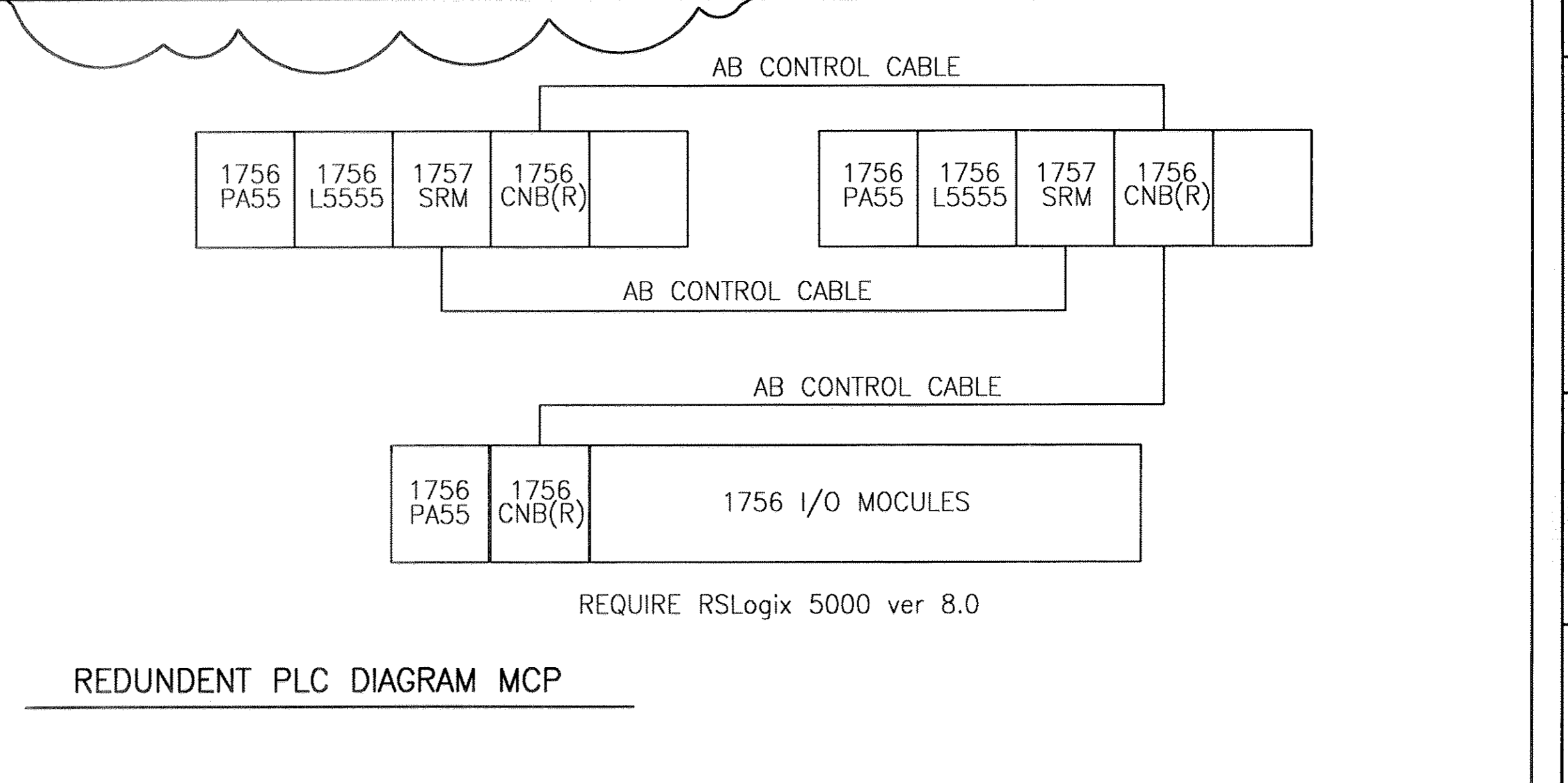
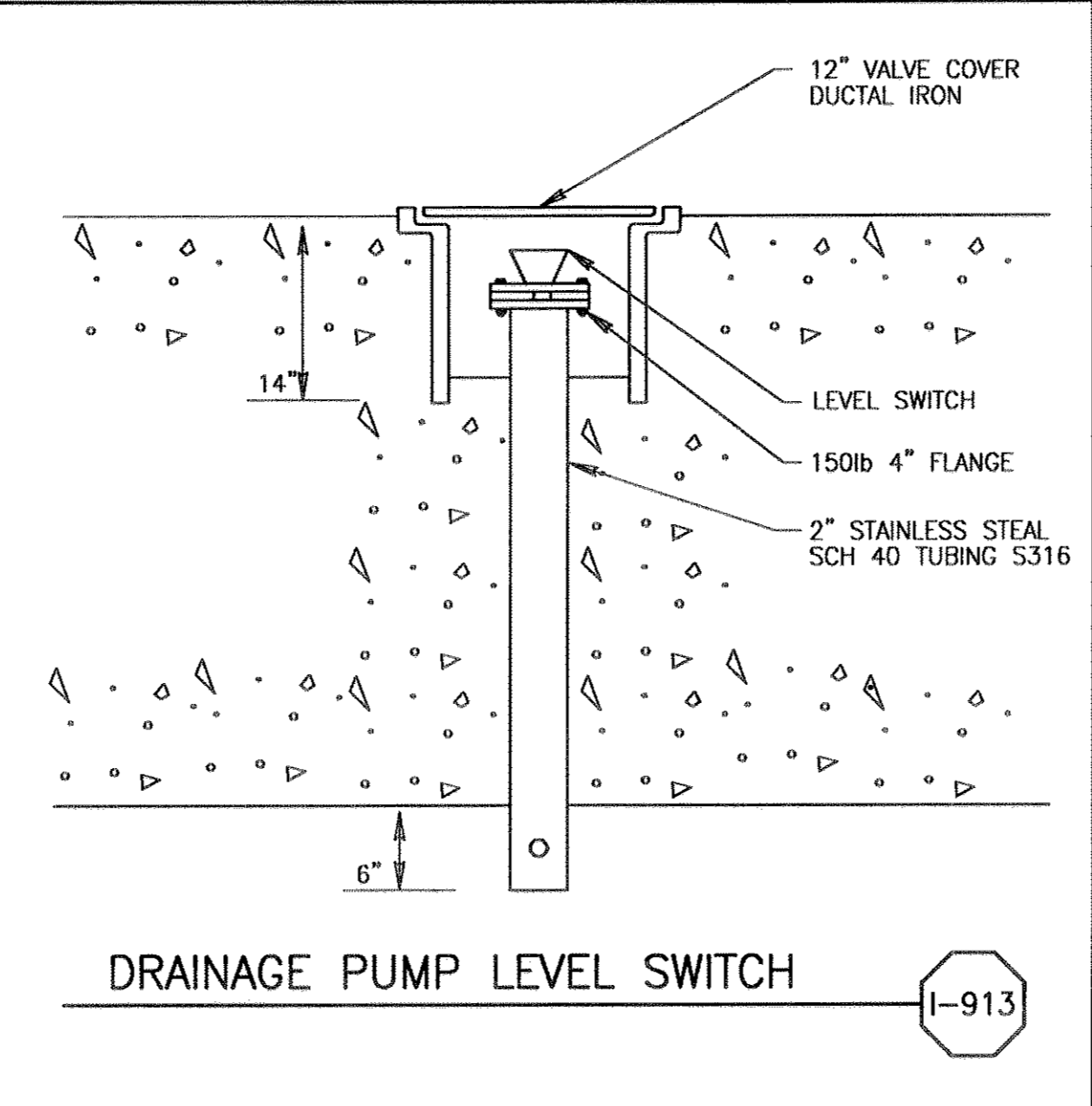
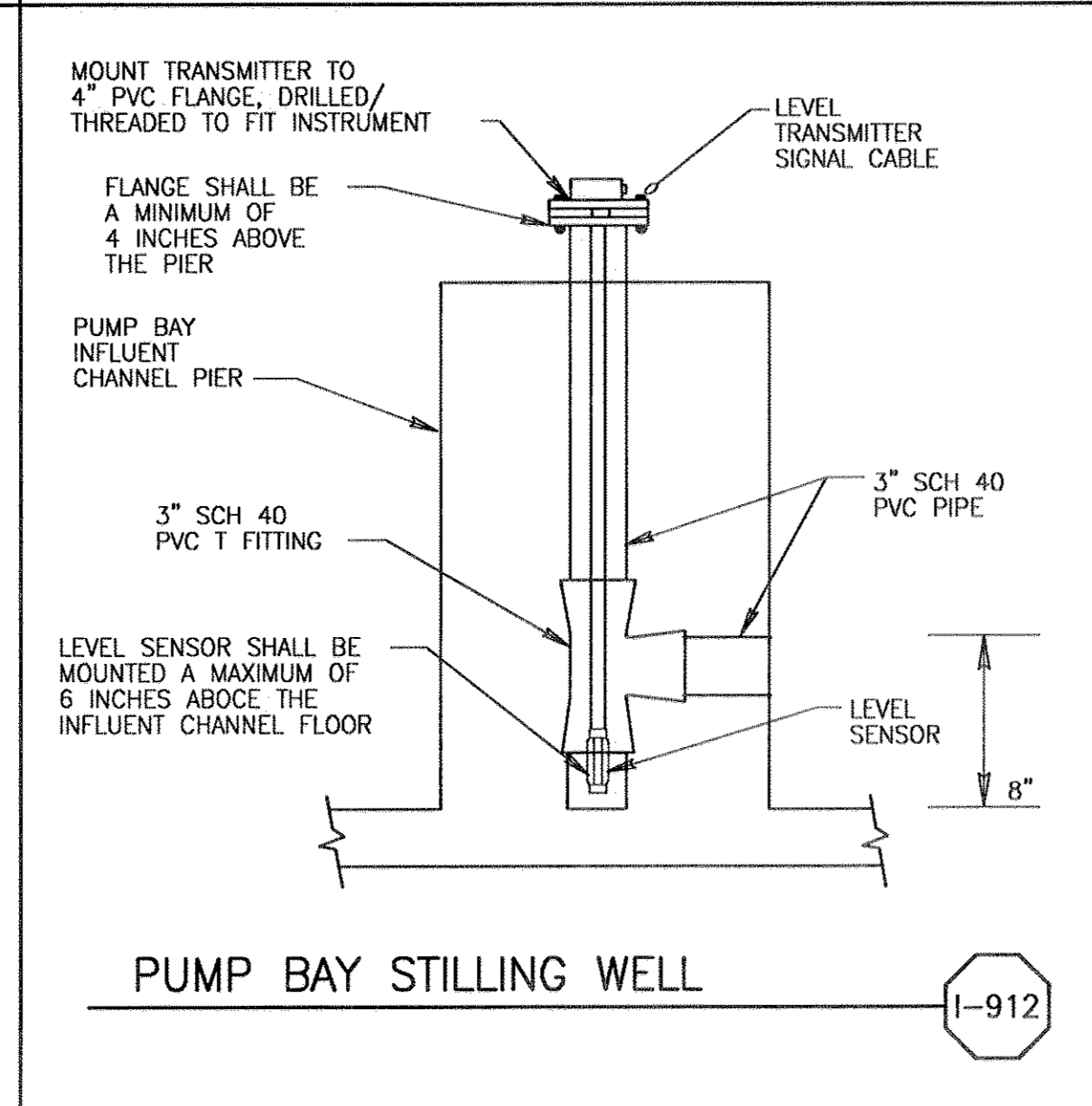
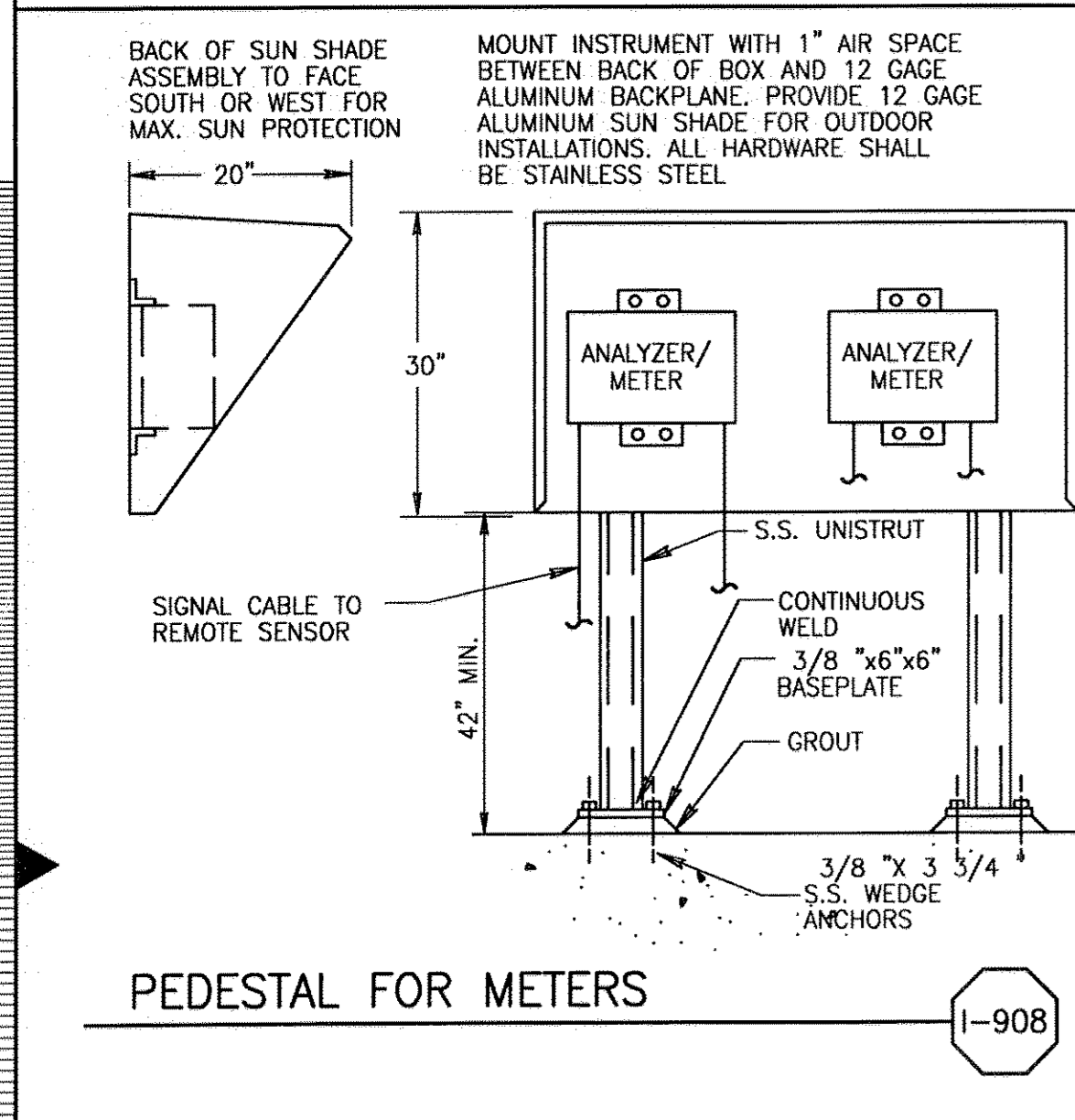
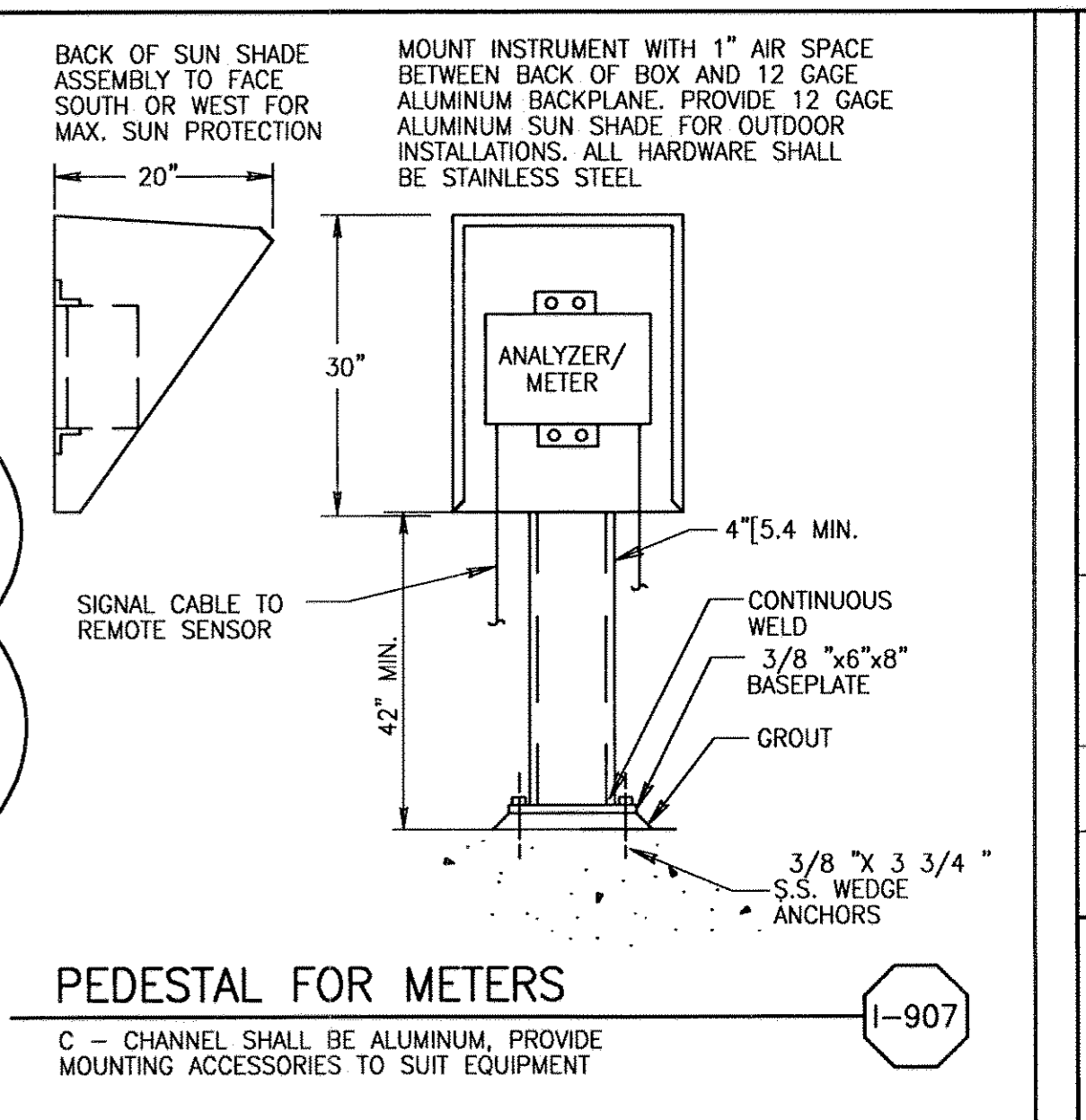
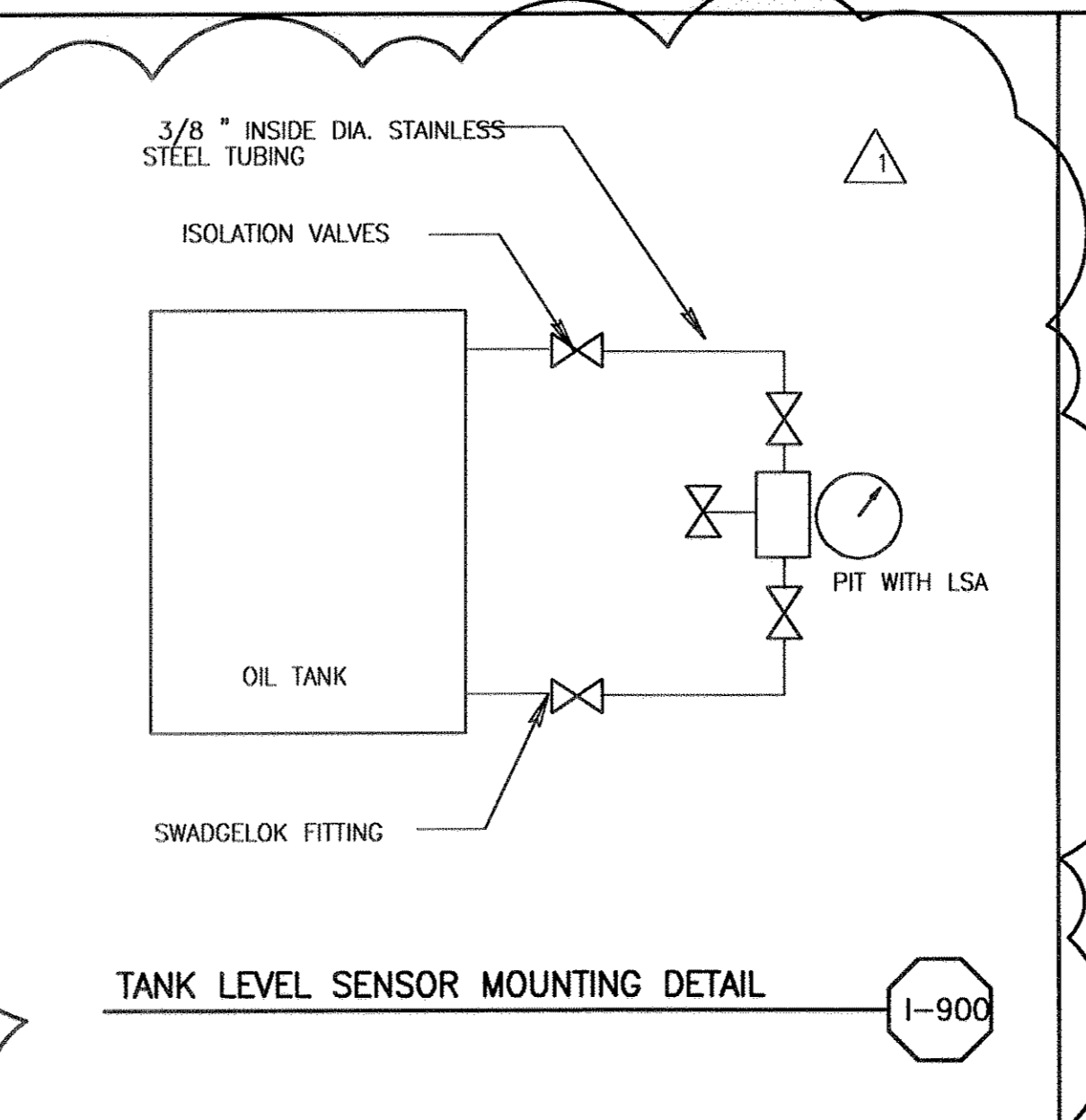
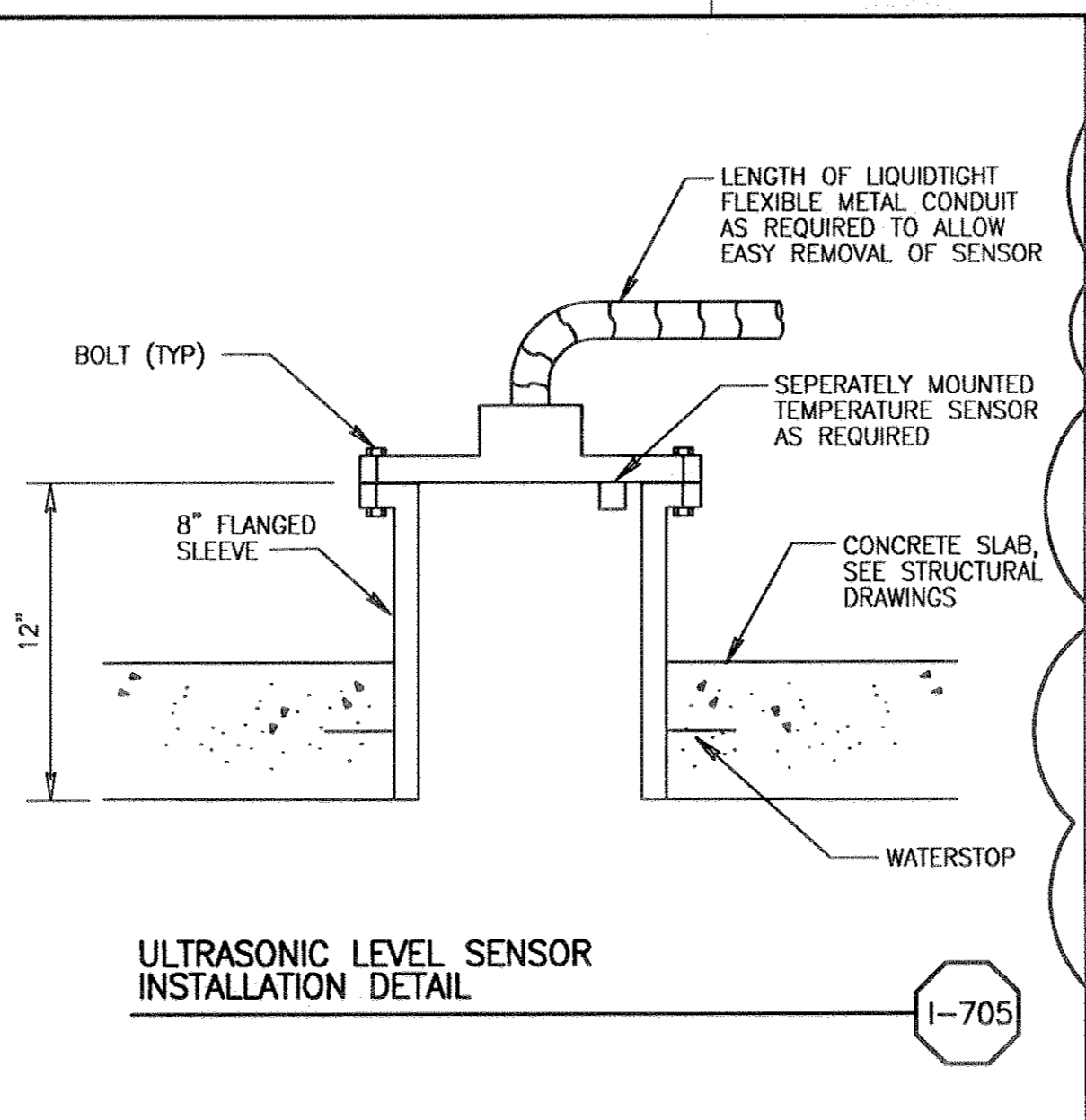
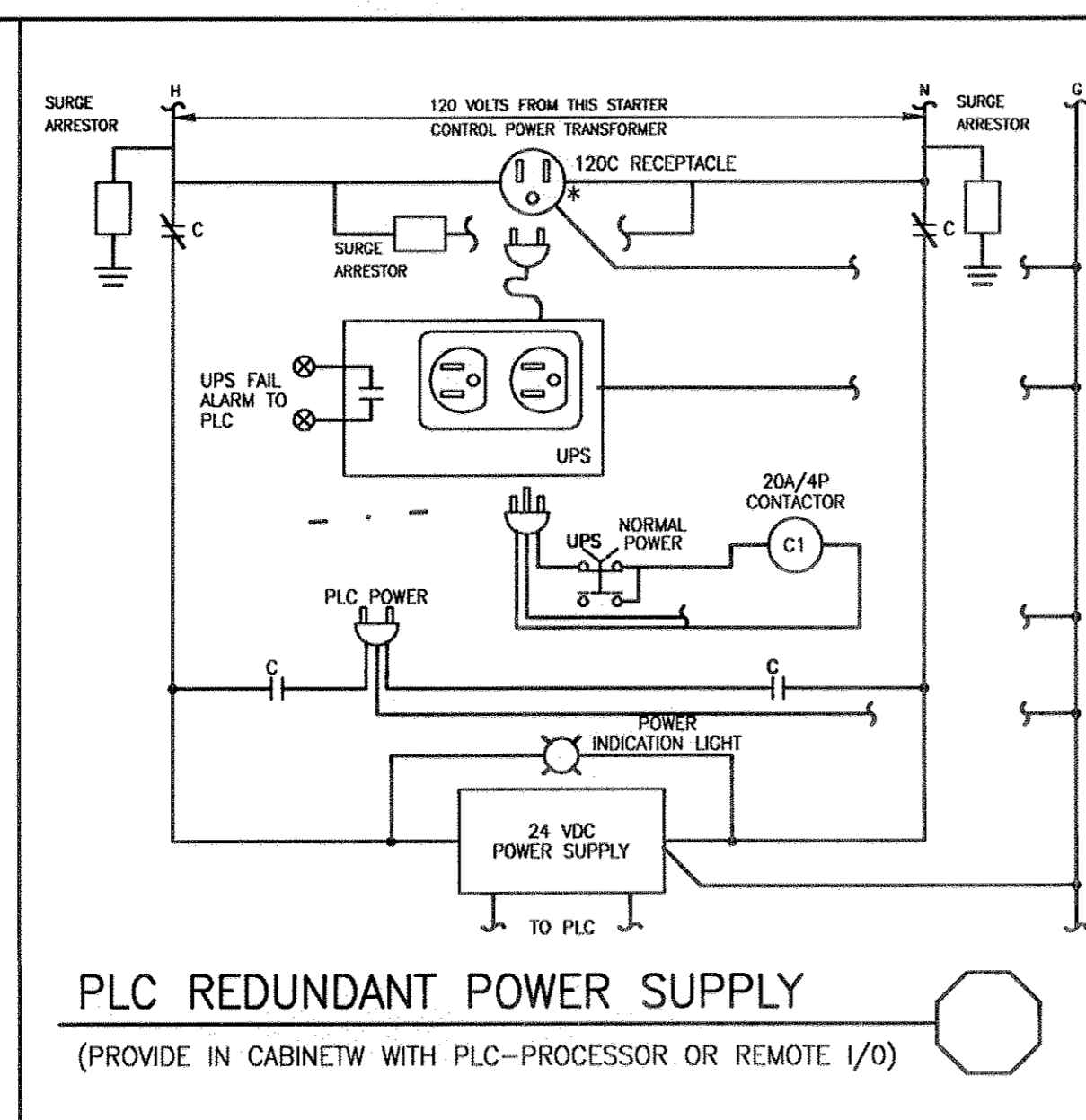
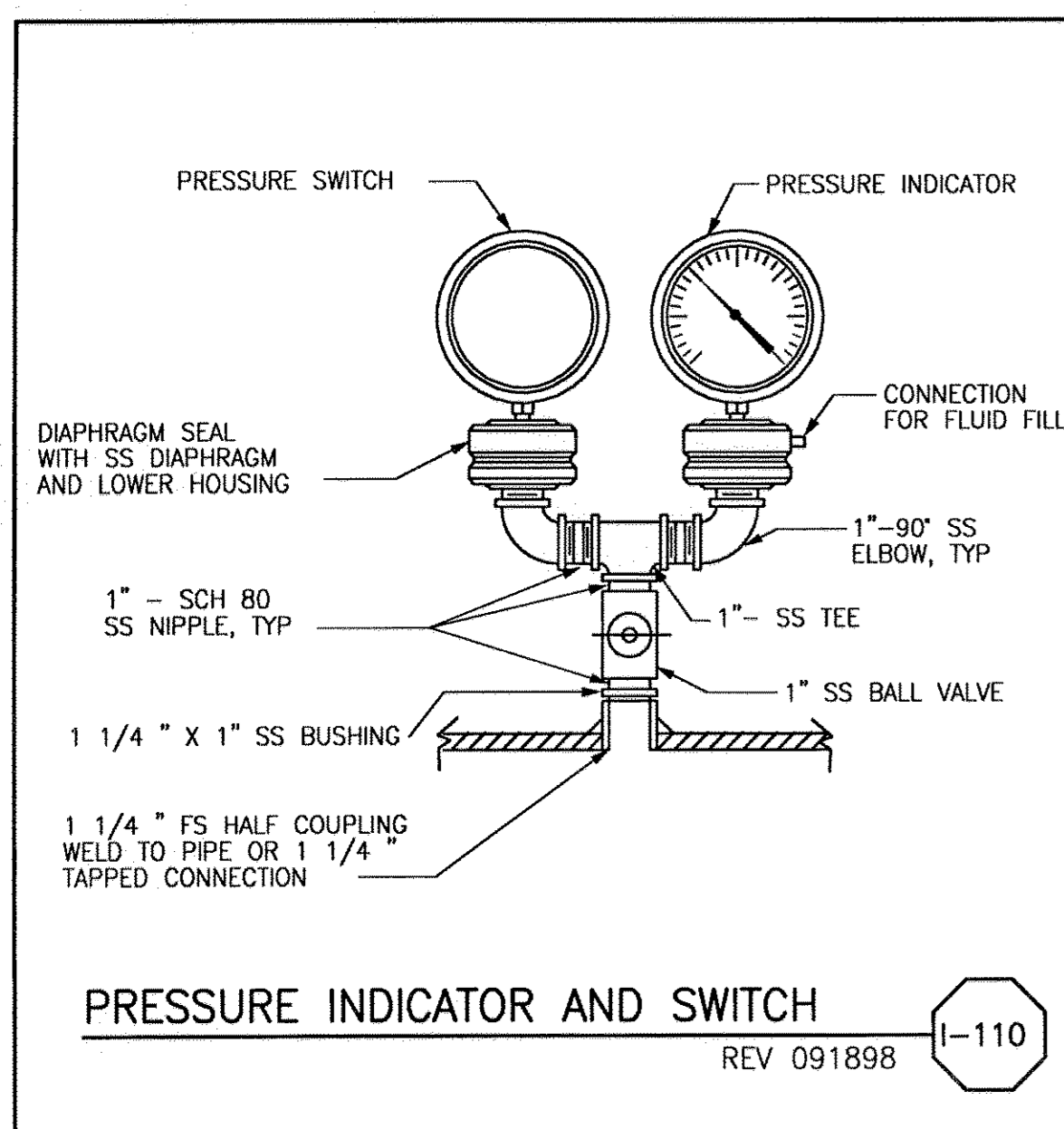
SOUTH FLORIDA  
WATER MANAGEMENT DISTRICT  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406



CONTRACT NO.  
C-E304  
DRAWING NO.  
IC-3  
SHEET OF

JOHN C. NETZEL, P.E.  
FLA. P.E. NO. 43113

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COP	DWN	CHKD

B.A. LEE  
BAI/JCN  
J.C. NETZEL  
JUN 5/18/2001  
NONE  
SCALE

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ENGINEERS: 2301 ROSA ST.  
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460 SANDHILL CORP. PKWY.  
SUITE 200  
DUNEDIN, FL 33525

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-970 AND G-972

**SOUTH FLORIDA WATER MANAGEMENT DISTRICT**  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406

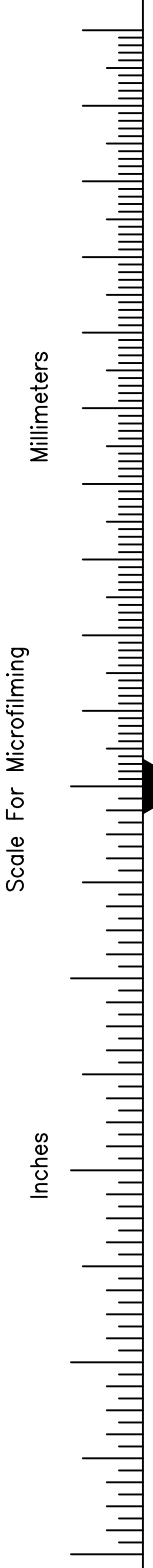
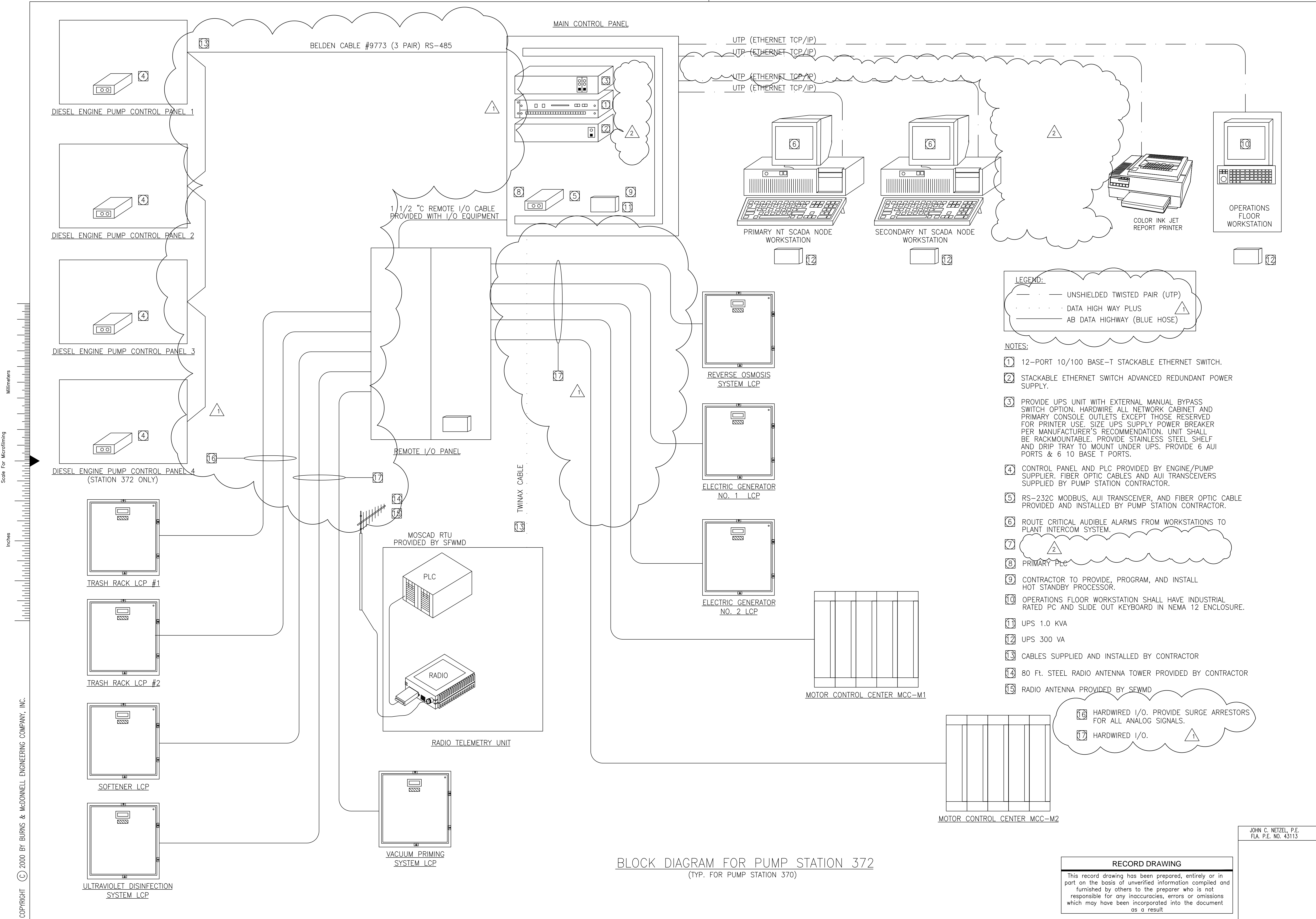
CONTRACT NO. C-E304  
DRAWING NO. IC-3  
SHEET OF

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MAIN CONTROL PANEL



**LEGEND:**  
 --- UNSHIELDED TWISTED PAIR (UTP)  
 - - - DATA HIGHWAY PLUS  
 ——— AB DATA HIGHWAY (BLUE HOSE)

- NOTES:**
- 1 12-PORT 10/100 BASE-T STACKABLE ETHERNET SWITCH.
  - 2 STACKABLE ETHERNET SWITCH ADVANCED REDUNDANT POWER SUPPLY.
  - 3 PROVIDE UPS UNIT WITH EXTERNAL MANUAL BYPASS SWITCH OPTION. HARDWIRE ALL NETWORK CABINET AND PRIMARY CONSOLE OUTLETS EXCEPT THOSE RESERVED FOR PRINTER USE. SIZE UPS SUPPLY POWER BREAKER PER MANUFACTURER'S RECOMMENDATION. UNIT SHALL BE RACKMOUNTABLE. PROVIDE STAINLESS STEEL SHELF AND DRIP TRAY TO MOUNT UNDER UPS. PROVIDE 6 AUI PORTS & 6 10 BASE T PORTS.
  - 4 CONTROL PANEL AND PLC PROVIDED BY ENGINE/PUMP SUPPLIER. FIBER OPTIC CABLES AND AUI TRANSCEIVERS SUPPLIED BY PUMP STATION CONTRACTOR.
  - 5 RS-232C MODBUS, AUI TRANSCEIVER, AND FIBER OPTIC CABLE PROVIDED AND INSTALLED BY PUMP STATION CONTRACTOR.
  - 6 ROUTE CRITICAL AUDIBLE ALARMS FROM WORKSTATIONS TO PLANT INTERCOM SYSTEM.
  - 7
  - 8 PRIMARY PLC
  - 9 CONTRACTOR TO PROVIDE, PROGRAM, AND INSTALL HOT STANDBY PROCESSOR.
  - 10 OPERATIONS FLOOR WORKSTATION SHALL HAVE INDUSTRIAL RATED PC AND SLIDE OUT KEYBOARD IN NEMA 12 ENCLOSURE.
  - 11 UPS 1.0 KVA
  - 12 UPS 300 VA
  - 13 CABLES SUPPLIED AND INSTALLED BY CONTRACTOR
  - 14 80 Ft. STEEL RADIO ANTENNA TOWER PROVIDED BY CONTRACTOR
  - 15 RADIO ANTENNA PROVIDED BY SEWMD

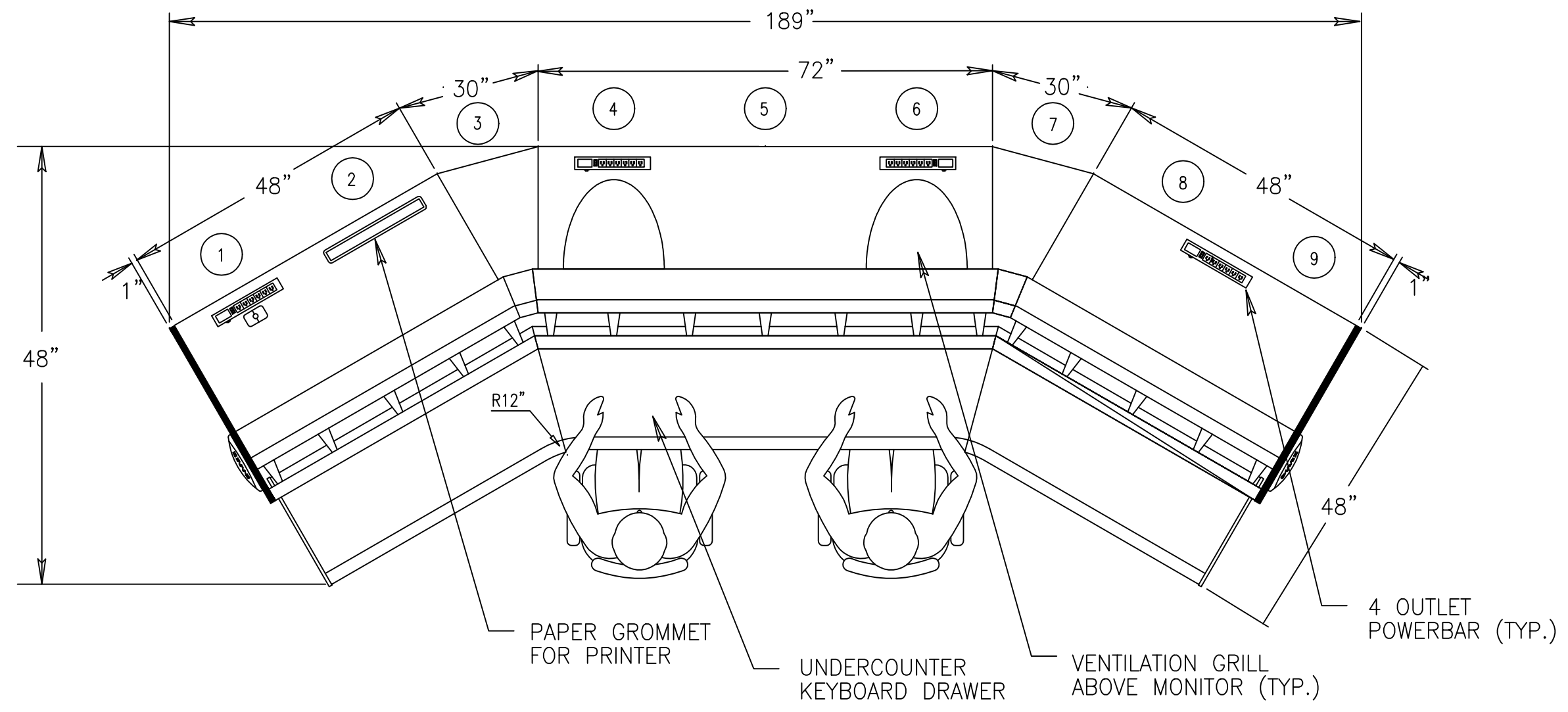
16 HARDWIRED I/O. PROVIDE SURGE ARRESTORS FOR ALL ANALOG SIGNALS.  
 17 HARDWIRED I/O.

BLOCK DIAGRAM FOR PUMP STATION 372  
 (TYP. FOR PUMP STATION 370)

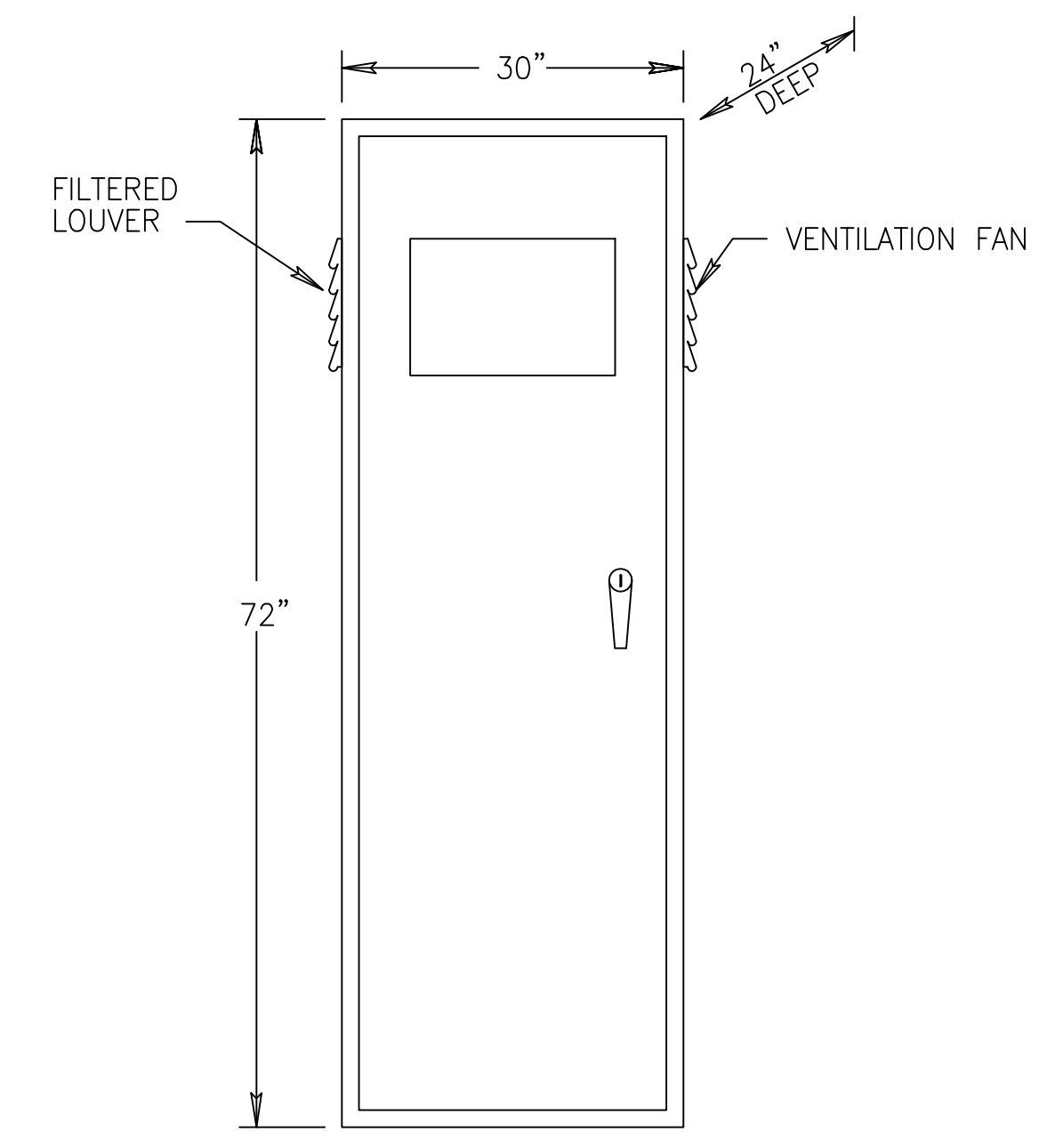
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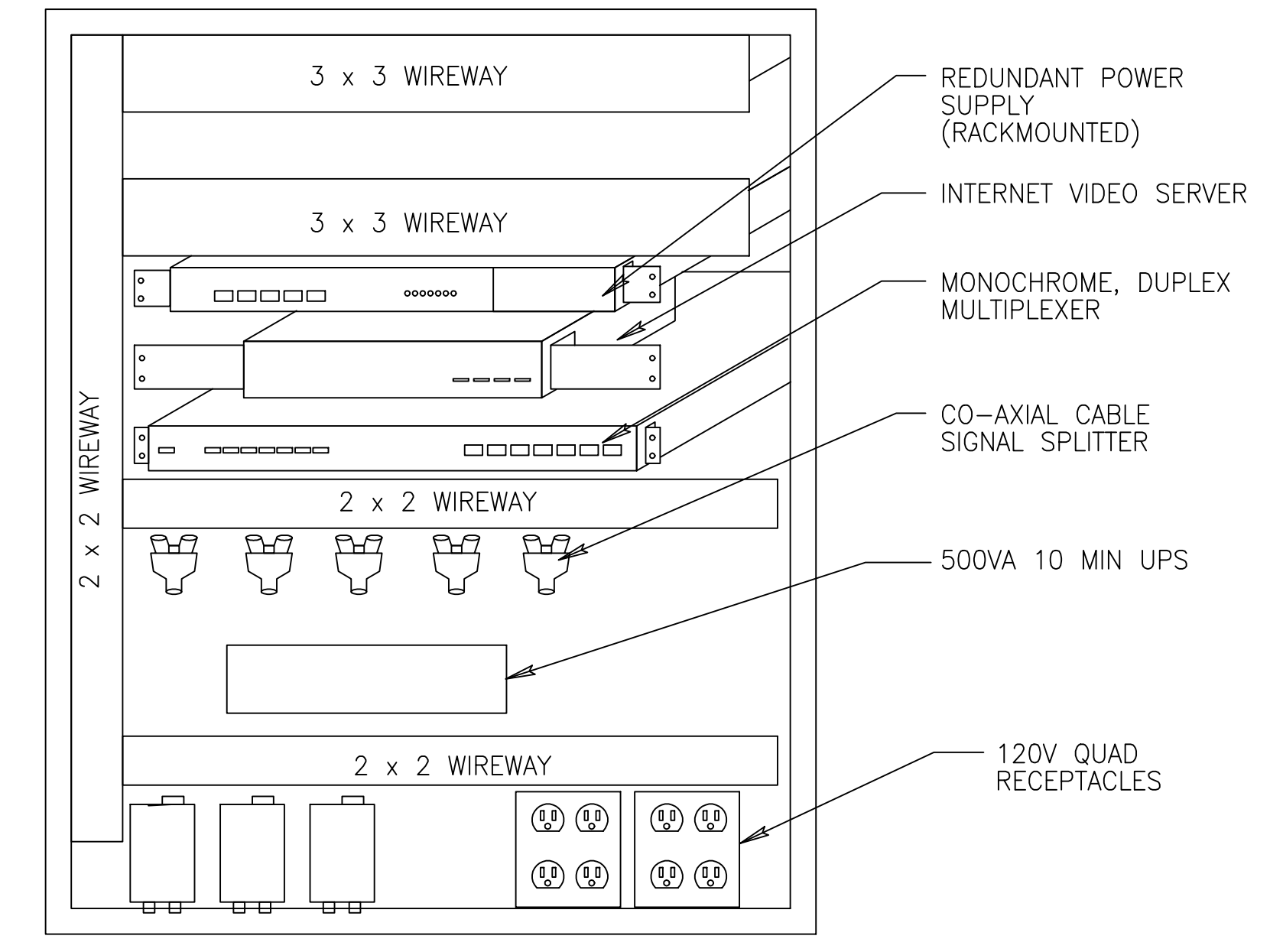
 Brown Cunningham Cornuch ENGINEERS - ARCHITECTS - CONSULTANTS METROPLEX, SUITE 200, LUDLOW 7006 (504) 451-3866 License No. 168060865	DRAWN: B.A. LEE DSGN: BA/JCN CHKD: J.C. NETZEL DATE: 5/15/2002 SCALE: NONE	CONSTRUCTION REVISION 3/15/2004 SWR AL 5/15/2002 LRP AL DWN CHKD DATE	REVISIONS REV. PER FINE COMMENTS
 MONTGOMERY WATSON 480 SWINGWASS CORP. PKWY. SUITE 300 SUNRISE, FL 33325	EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372 BLOCK DIAGRAM	SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406	CONTRACT NO. C-E304 DRAWING NO. IC-4 SHEET OF



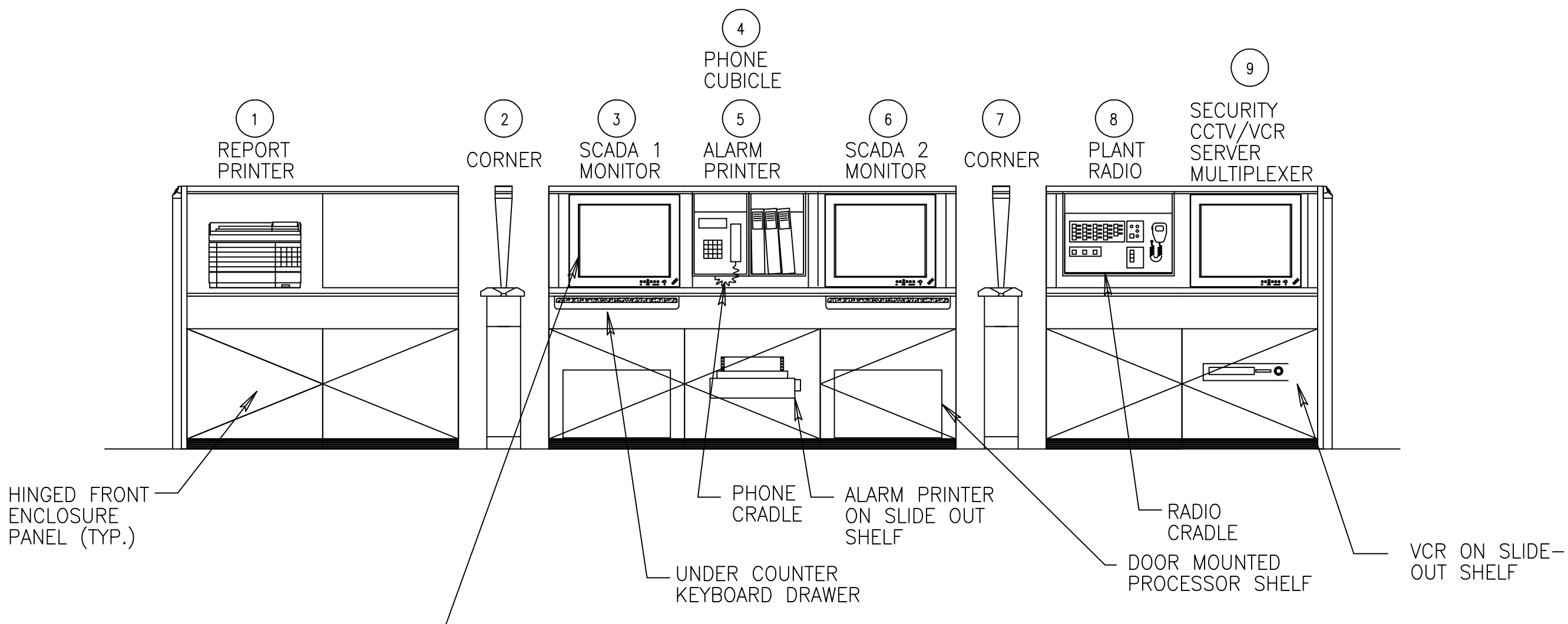
**PRIMARY CONSOLE - PLAN VIEW**  
(TYP. FOR STATIONS 370 AND 372)



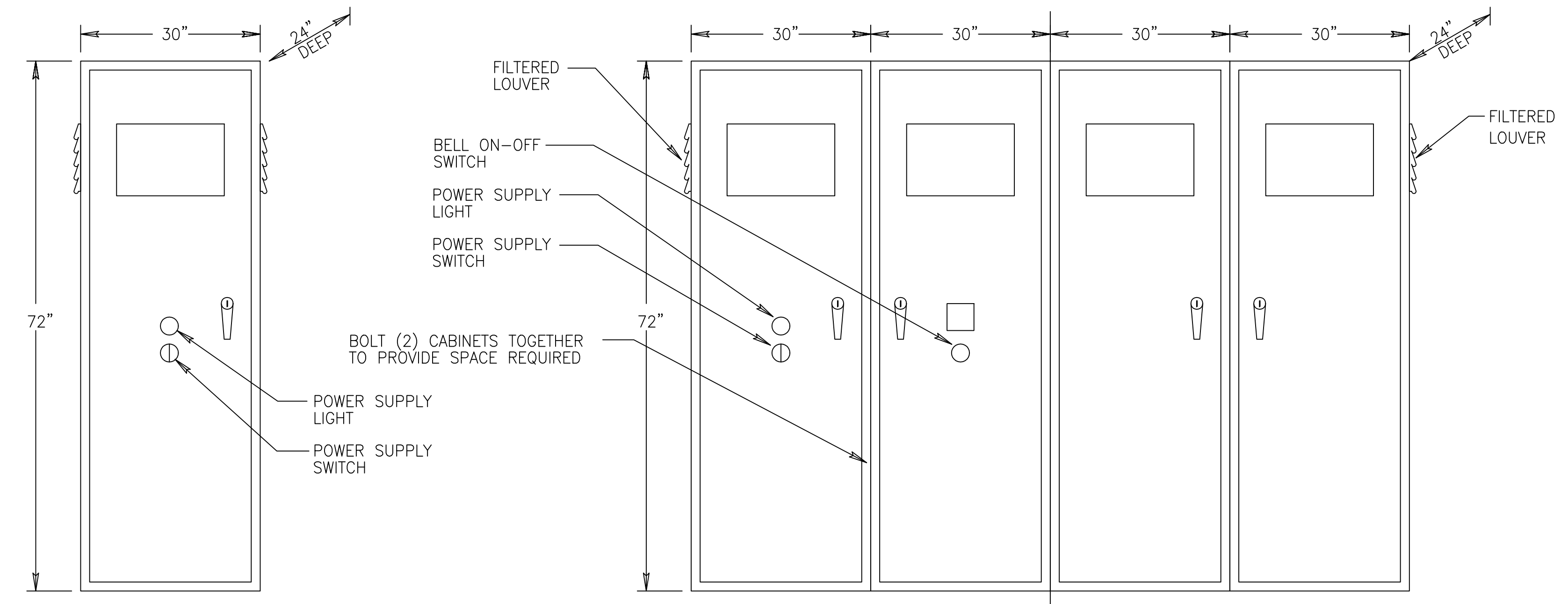
**CCTV SECURITY EQUIPMENT CABINET ELEVATION**  
(TYP. FOR STATIONS 370 AND 372)



**CCTV SECURITY EQUIPMENT CABINET BACKPLANE**  
(TYP. FOR STATIONS 370 AND 372)  
(NOT TO SCALE)

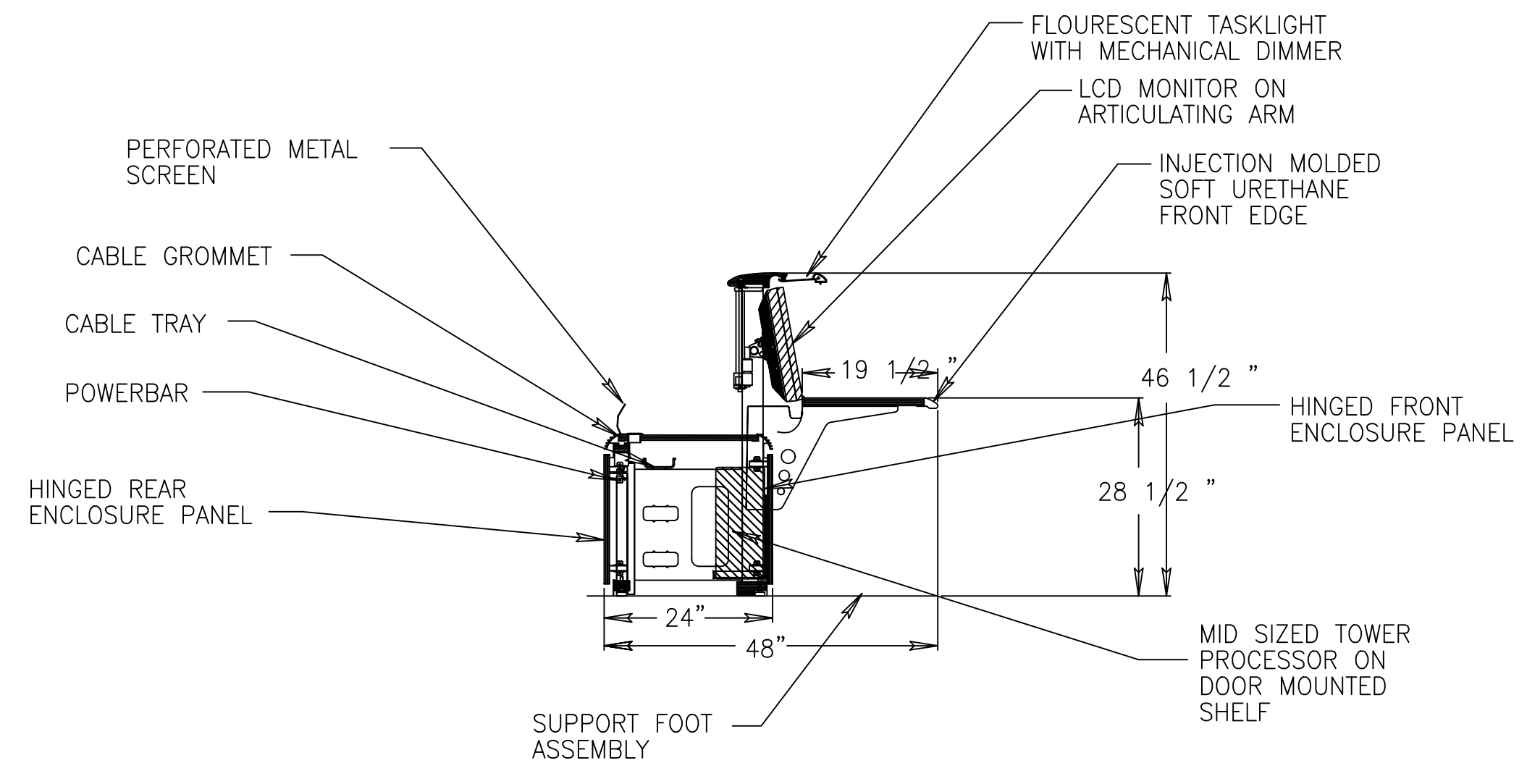


**PRIMARY CONSOLE - ELEVATION**  
(TYP. FOR STATIONS 370 AND 372)



**MAIN CONTROL PANEL**  
(TYP. FOR STATIONS 370 AND 372)

**REMOTE I/O PANEL ELEVATION**  
(TYP. FOR STATIONS 370 AND 372)



**PRIMARY CONSOLE WORKSTATION MODULE - SIDE VIEW**  
(TYP. FOR STATIONS 370 AND 372)

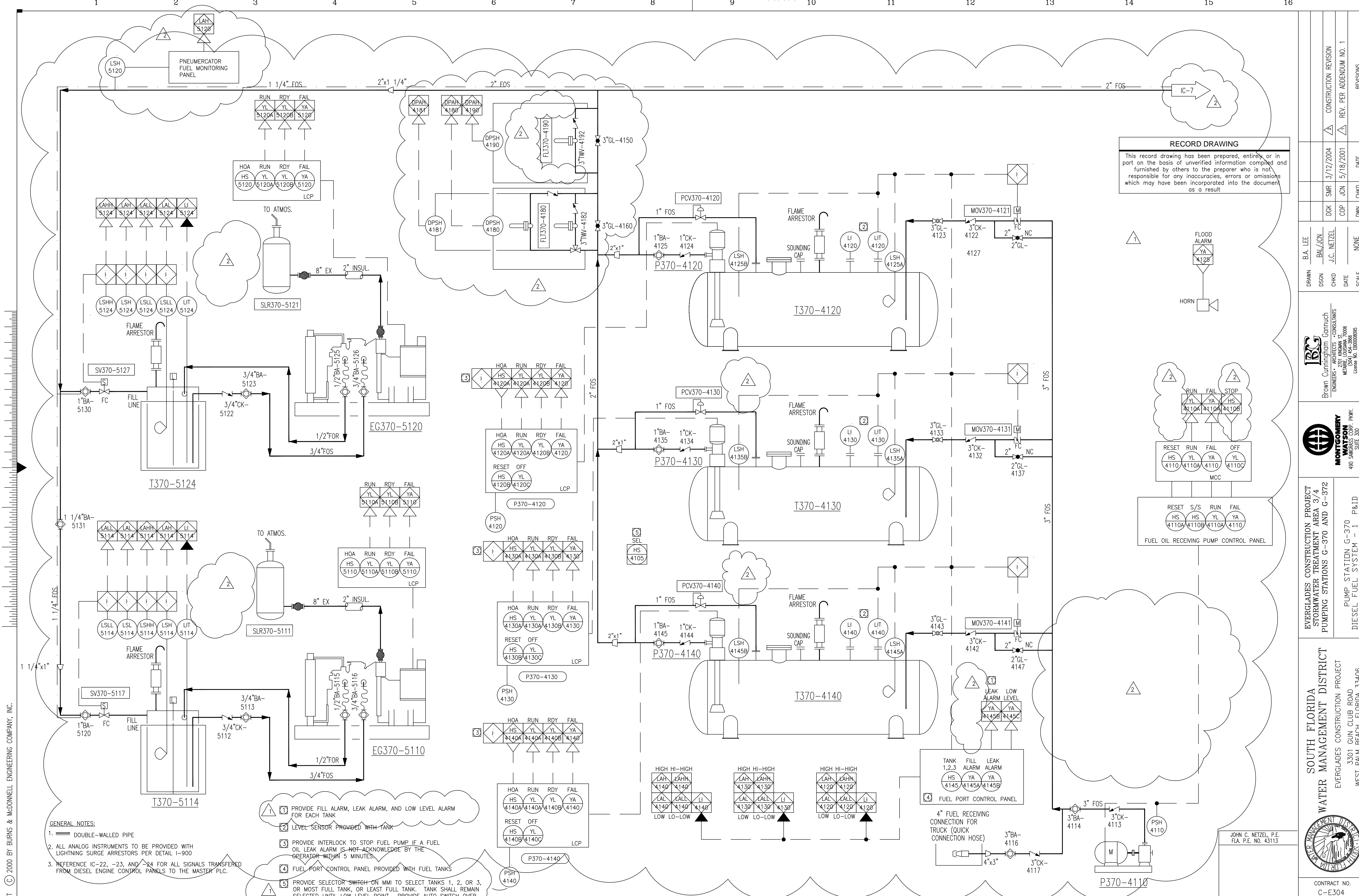
PANEL SHALL BE PAINTED STEEL, NEMA-12 ENCLOSURE WITH 1 DOOR, WINDOW KIT, AND SUPPLEMENTARY TOUCH-UP PAINT FOR GREY EXTERIOR AND WHITE INTERIOR. PANEL SHALL BE HOFFMAN HEAVY-DUTY FREE-STANDING ENCLOSURE ENCLOSURE SHALL BE SUPPLIED WITH RACK-MOUNT ANGLES AND SHELF TO SUPPORT UPS. PANEL SHALL HAVE VENTILATION FAN AND FILTERED LOUVERS.

PANEL SHALL BE PAINTED STEEL, NEMA-12 ENCLOSURE WITH 4 DOORS, WINDOW KIT, AND SUPPLEMENTARY TOUCH-UP PAINT FOR GREY EXTERIOR AND WHITE INTERIOR. PANEL SHALL BE HOFFMAN HEAVY-DUTY FREE-STANDING ENCLOSURE ENCLOSURE SHALL BE SUPPLIED WITH RACK-MOUNT ANGLES AND SHELF TO SUPPORT UPS. PANEL SHALL HAVE VENTILATION FAN AND FILTERED LOUVERS.

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JOHN C. NETZEL P.E.  
FLA. P.E. NO. 43113

DRAWN B.A. LEE		DESIGN B.M. JACOBSON		CHECKED J.C. NETZEL		DATE		DATE		REVISIONS	
SCALE NONE		DWN		CHKD		DATE		DATE		REVISIONS	
<p>Brown Cunningham Gannuch ENGINEERS • ARCHITECTS • CONSULTANTS 2701 KENYON ST. METRO PARK, LOUISIANA 70008 License No. EB0000895</p>											
<p>MONTGOMERY WATSON 490 SHAWHUTCH DRIVE, SUITE 300 SUNRISE, FL 33325</p>											
<p>EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372 INSTRUMENTATION PANEL ELEVATIONS</p>											
<p>SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406</p>											
<p>CONTRACT NO. C-E304 DRAWING NO. IC-5 SHEET OF</p>											



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Scale For Microlimiting  
 Inches  
 Millimeters

- GENERAL NOTES:**
- DOUBLE-WALLED PIPE
  - ALL ANALOG INSTRUMENTS TO BE PROVIDED WITH LIGHTNING SURGE ARRESTORS PER DETAIL I-900
  - REFERENCE IC-22, -23, AND -24 FOR ALL SIGNALS TRANSFERRED FROM DIESEL ENGINE CONTROL PANELS TO THE MASTER PLC.

- PROVIDE FILL ALARM, LEAK ALARM, AND LOW LEVEL ALARM FOR EACH TANK
- LEVEL SENSOR PROVIDED WITH TANK
- PROVIDE INTERLOCK TO STOP FUEL PUMP IF A FUEL OIL LEAK ALARM IS NOT ACKNOWLEDGE BY THE OPERATOR WITHIN 5 MINUTES.
- FUEL PORT CONTROL PANEL PROVIDED WITH FUEL TANKS
- PROVIDE SELECTOR SWITCH ON MMI TO SELECT TANKS 1, 2, OR 3, OR MOST FULL TANK, OR LEAST FULL TANK. TANK SHALL REMAIN SELECTED UNTIL LOW LEVEL POINT. PROVIDE AUTO SWITCH OVER TO 2ND TANK ON PUMP FAILURE.

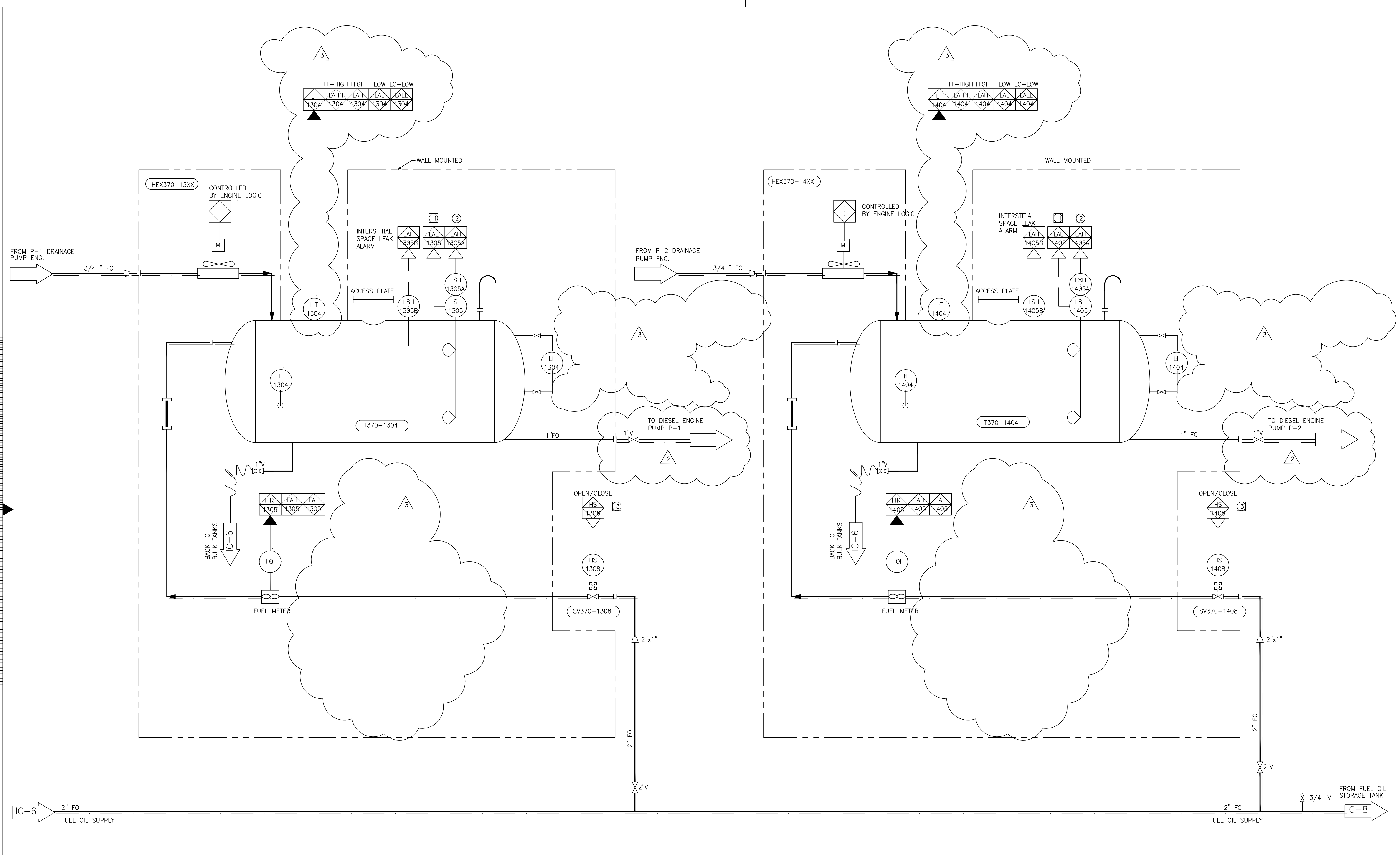
**DIESEL FUEL OIL SYSTEM**

DRAWN		B.A. LEE	DCK	SMR	3/12/2004	CONSTRUCTION REVISION
DSGN		BAL/JCN	J.C. NETZEL	COP	JCN	5/18/2001
CHKD		J.C. NETZEL	DATE	DATE	DATE	DATE
SCALE		NONE	SCALE	NONE	SCALE	NONE
PUMP STATION G-370		P&ID		DIESEL FUEL SYSTEM - 1		
<p><b>SOUTH FLORIDA WATER MANAGEMENT DISTRICT</b>          EVERGLADES CONSTRUCTION PROJECT          STORMWATER TREATMENT AREA 3/4          PUMPING STATIONS G-370 AND G-372          WEST PALM BEACH, FLORIDA 33406</p>						
<p>CONTRACT NO. C-E304          DRAWING NO. IC-6          SHEET OF</p>						
<p>EVERGLADES CONSTRUCTION PROJECT          STORMWATER TREATMENT AREA 3/4          PUMPING STATIONS G-370 AND G-372          WEST PALM BEACH, FLORIDA 33406</p>						
<p>Brown Cunningham Gannuch          ENGINEERS • ARCHITECTS • CONSULTANTS          2701 AVENUE ST.          MIAMI, FLORIDA 33133          License No. EB0008985</p>						
<p><b>MONTGOMERY WATSON</b>          ENGINEERS • ARCHITECTS • PLANNERS • PWES          480 SW 3RD AVENUE, SUITE 300          MIAMI, FLORIDA 33130          License No. EB0008985</p>						

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**GENERAL NOTES:**

1. VENDOR TO SUPPLY ALL ITEMS WITHIN-SKID LIMITS.
2. LEVEL TRANSMITTERS FOR DAY TANKS PROVIDE WITH THIS CONTRACT.
3. PROVIDE DRAINS AT PIPING LOW POINTS AND VENTS AT PIPING HIGH POINTS WHEN SHOWN.
4. CONTROLLED BY ENGINE LOGIC.
5. VENDOR FURNISHED INSTRUMENTATION.
6. ALL ANALOG INSTRUMENTS TO BE PROVIDED WITH LIGHTNING SURGE ARRESTORS PER DETAIL I-900
7. ——— DOUBLE-WALLED PIPE

**NOTES:**

- ① PROVIDE ALARM IF LEVEL REMAINS LOW FOR MORE THAN 5 MINUTES
- ② PROVIDE CONTROL TO START SELECTED FUEL PUMP (4160, 4170) TO FILL TANK ON LOW LEVEL AND STOP PUMP ON HIGH LEVEL
- ③ PROVIDE CONTROL TO OPEN VALVE TO FILL TANK AND CLOSE VALVE AND KEEP CLOSE ON HIGH LEVEL

**DIESEL FUEL DAY TANK SYSTEM**  
NO SCALE

**RECORD DRAWING**  
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FLA. P.E. NO. 43113

DRAWN B.A. LEE	DSGN BAL/JCN	CHKD J.C. NETZEL	DATE NONE	SCALE NONE	DATE CHKD	REVISIONS
DCK SMR	BAL JCN	COP JCN	DATE 6/18/2001	SCALE NONE	DATE 3/15/2004	REVISIONS
<p style="text-align: center;"><b>EVERGLADES CONSTRUCTION PROJECT</b> STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372</p> <p style="text-align: center;"><b>SOUTH FLORIDA WATER MANAGEMENT DISTRICT</b> EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406</p> <p style="text-align: center;">PUMP STATION G-370 DIESEL FUEL SYSTEM - 2 P&amp;ID</p>						
<p style="text-align: center;">CONTRACT NO. C-E304</p> <p style="text-align: center;">DRAWING NO. IC-7</p> <p style="text-align: center;">SHEET OF</p>						

**BROWN CUMMINGS GANNON**  
ENGINEERS • ARCHITECTS • CONSULTANTS  
2701 KENNAN ST.  
MEMPHIS, TENNESSEE 38108  
License No. EB0000895

**MONTGOMERY WATSON**  
P.E. P.W.  
480 SW 30th ST.  
SUITE 300  
SURFSE, FL 33225

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372

PUMP STATION G-370  
DIESEL FUEL SYSTEM - 2 P&ID

SOUTH FLORIDA WATER MANAGEMENT DISTRICT  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406

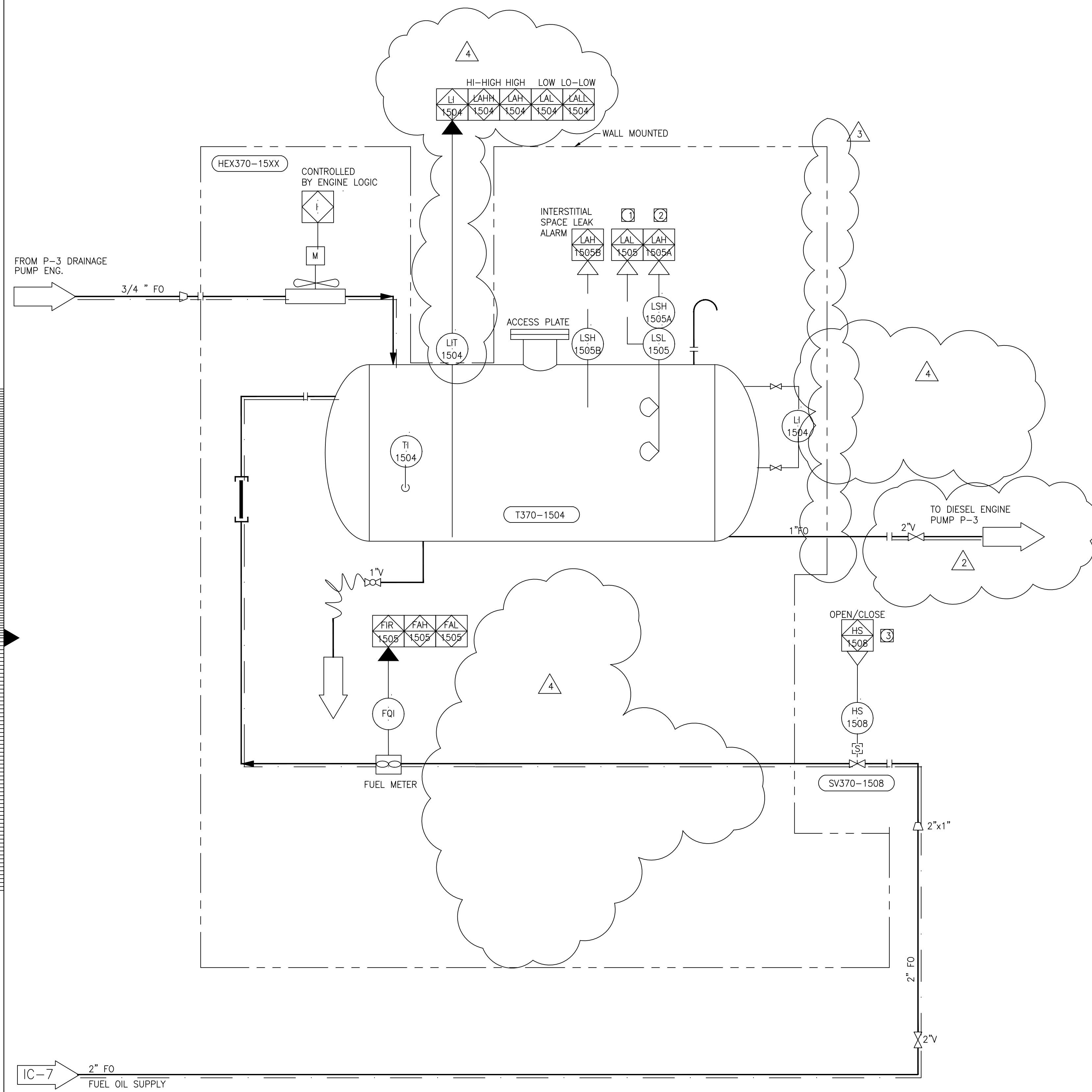
CONTRACT NO.  
C-E304

DRAWING NO.  
IC-7

SHEET OF

- GENERAL NOTES:**
- VENDOR TO SUPPLY ALL ITEMS WITHIN SKID LIMITS.
  - LEVEL TRANSMITTERS FOR DAY TANKS PROVIDE WITH THIS CONTRACT.
  - AT PIPING HIGH POINTS WHEN SHOWN.
  - CONTROLLED BY ENGINE LOGIC.
  - VENDOR FURNISHED INSTRUMENTATION.
  - ALL ANALOG INSTRUMENTS TO BE PROVIDED WITH LIGHTNING SURGE ARRESTORS PER DETAIL I-900
  - DOUBLE-WALLED PIPE

- NOTES:**
- PROVIDE ALARM IF LEVEL REMAINS LOW FOR MORE THAN 5 MINUTES
  - PROVIDE CONTROL TO START SELECTED FUEL PUMP (4160, 4170) TO FILL TANK ON LOW LEVEL AND STOP PUMP ON HIGH LEVEL
  - PROVIDE CONTROL TO OPEN VALVE TO FILL TANK AND CLOSE VALVE AND KEEP CLOSE ON HIGH LEVEL



Scale For Microfilming  
Inches  
Millimeters

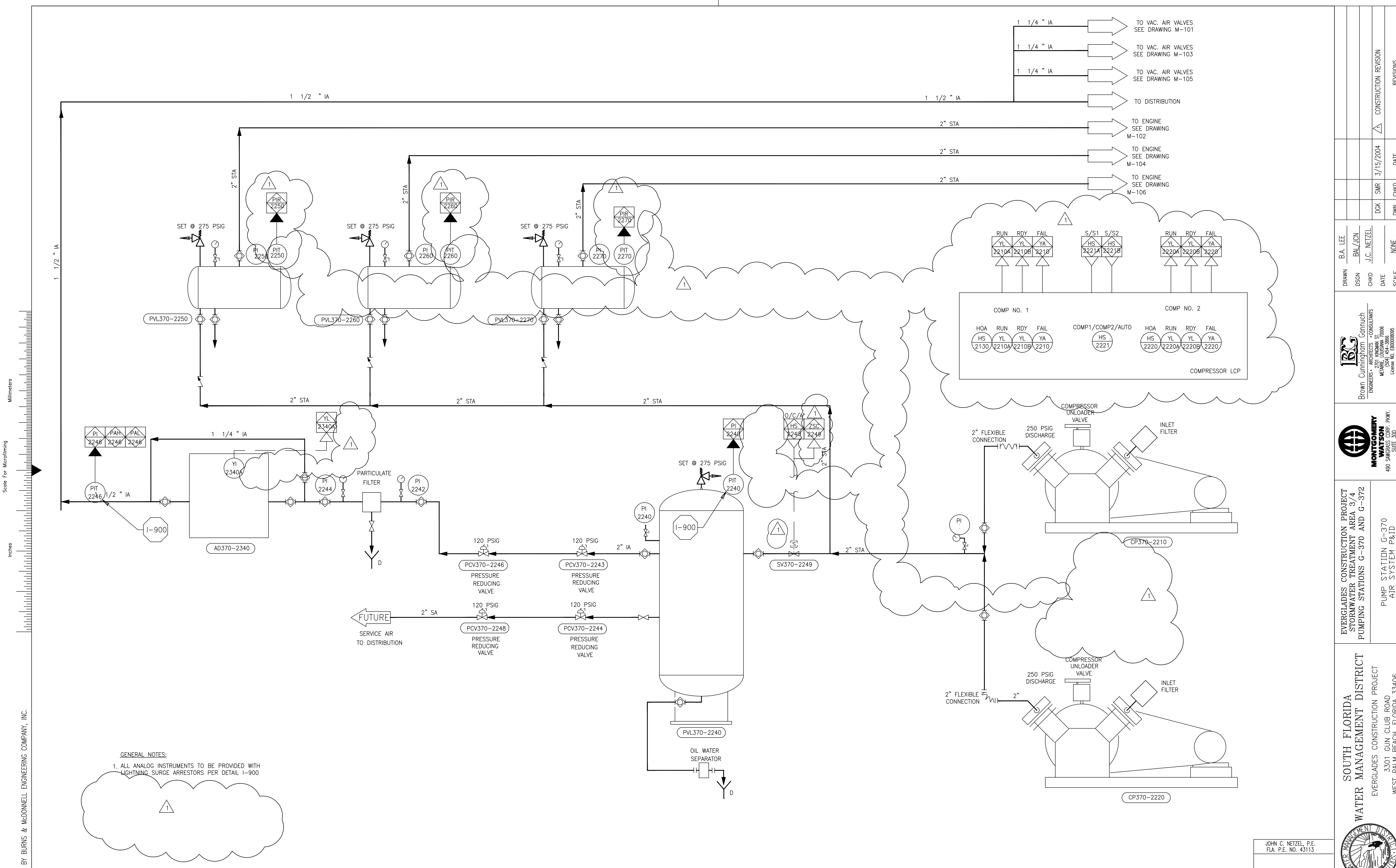
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**DIESEL FUEL DAY TANK SYSTEM**  
NO SCALE

**RECORD DRAWING**  
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FLA. P.E. NO. 43113

<p><b>EVERGLADES CONSTRUCTION PROJECT</b> STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372</p>		<p><b>SOUTH FLORIDA WATER MANAGEMENT DISTRICT</b> EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406</p>	
<p>PUMP STATION G-370 DIESEL FUEL SYSTEM - 3 P&amp;ID</p>		<p>CONTRACT NO. C-E304 DRAWING NO. IC-8 SHEET OF</p>	
<p>DRAWN B.A. LEE</p>	<p>DESIGN BAL/JCN</p>	<p>CHECKED J.C. NETZEL</p>	<p>DATE NONE</p>
<p>DRAWN B.A. LEE</p>	<p>DESIGN BAL/JCN</p>	<p>CHECKED J.C. NETZEL</p>	<p>DATE NONE</p>
<p>DWG LPP</p>	<p>APP BAL</p>	<p>COP JCN</p>	<p>CHKD DWN</p>
<p>DATE 3/15/2004</p>	<p>REV. PER FINE COMMENTS 5/15/2002</p>	<p>REV. PER ADDENDUM NO. 4 7/5/2001</p>	<p>REV. PER ADDENDUM NO. 3 6/18/2001</p>
<p>DATE 3/15/2004</p>	<p>REV. PER FINE COMMENTS 5/15/2002</p>	<p>REV. PER ADDENDUM NO. 4 7/5/2001</p>	<p>REV. PER ADDENDUM NO. 3 6/18/2001</p>
<p><b>BROWN CUMMINGS GANNUCH ENGINEERS • ARCHITECTS • CONSULTANTS</b> 2701 KENNAWAY ST. METRO PARK, FLORIDA 33008 License No. EB0000895</p>		<p><b>MONTGOMERY WATSON</b> P.E., P.W. 480 SW 30th Ave. SUITE 300 SURFSE, FL 33225</p>	

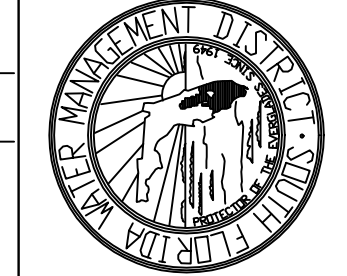


GENERAL NOTES:  
 1. ALL ANALOG INSTRUMENTS TO BE PROVIDED WITH LIGHTNING SURGE ARRESTORS PER DETAIL I-900

COMPRESSED AIR PIPING AND INSTRUMENT DIAGRAM  
 NO SCALE

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 F.L.A. P.E. NO. 43113



SOUTH FLORIDA WATER MANAGEMENT DISTRICT  
 EVERGLADES CONSTRUCTION PROJECT  
 3301 GUN CLUB ROAD  
 WEST PALM BEACH, FLORIDA 33406

EVERGLADES CONSTRUCTION PROJECT  
 STORMWATER TREATMENT AREA 9/4  
 PUMPING STATIONS G-370 AND G-372  
 PUMP STATION G-370  
 AIR SYSTEM P&ID



MONTGOMERY WATSON P&ID  
 480 S.W. 3rd Avenue, Suite 300  
 Sunrise, FL 33325

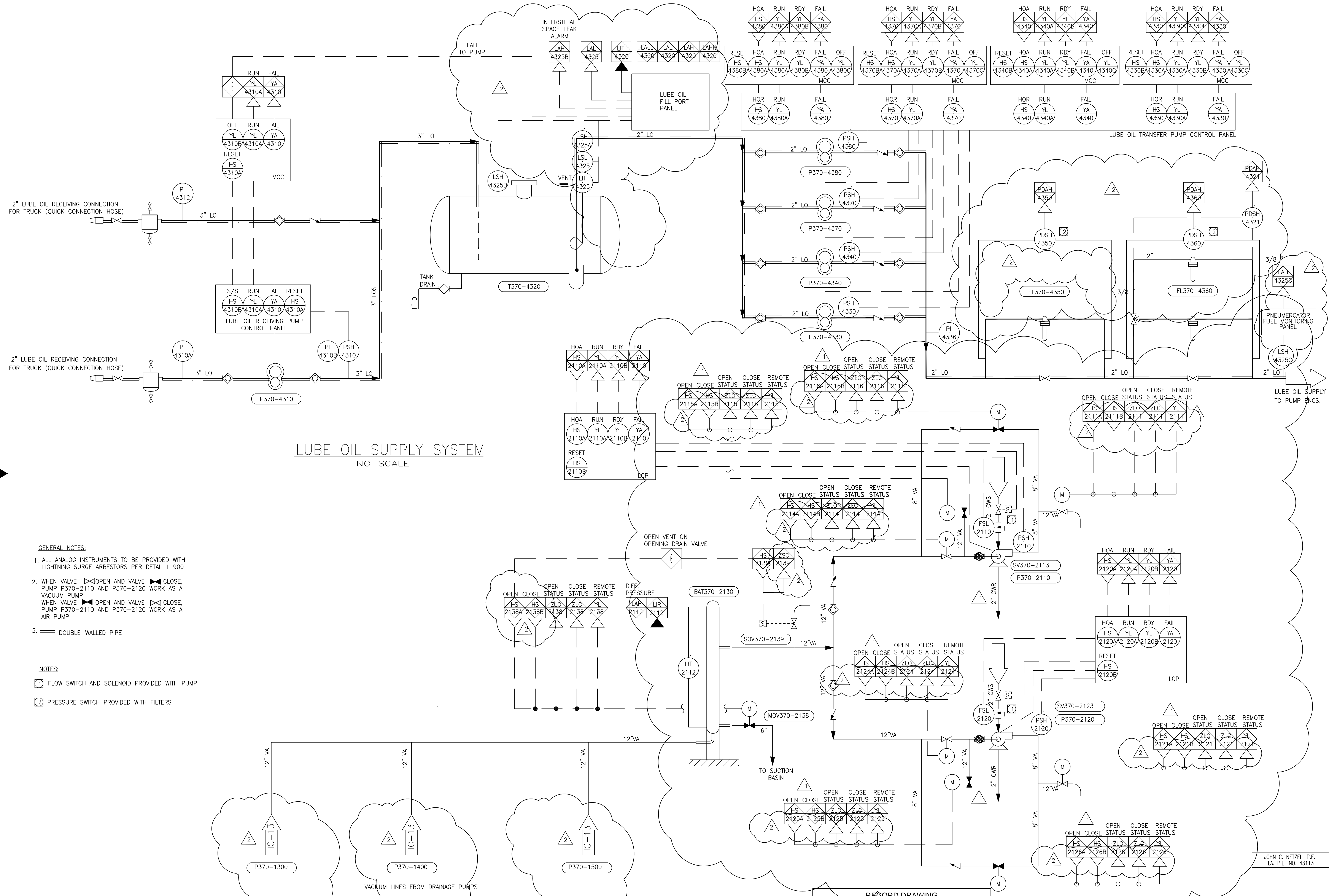
Brown Cunningham Gannuch  
 ENGINEERS • ARCHITECTS • CONSULTANTS  
 2201 WINDHAM ST.  
 MEMPHIS, TENNESSEE 38103  
 License No. E00000995

DRAWN	B.A. LEE	DESIGN	BAL/JCN	CHECKED	J.C. NETZEL	DATE	SCALE	NONE
DATE	3/15/2004	CHKD	SMR	DWN	CHKD	DATE	DATE	REVISIONS
								CONSTRUCTION REVISION

NO.	DATE	BY	REVISION
1			

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Scale For Micromilming  
 Millimeters  
 Inches



LUBE OIL SUPPLY SYSTEM  
NO SCALE

VACUUM PRIMING SYSTEM  
NO SCALE

- GENERAL NOTES:**
- ALL ANALOG INSTRUMENTS TO BE PROVIDED WITH LIGHTNING SURGE ARRESTORS PER DETAIL I-900
  - WHEN VALVE OPEN AND VALVE CLOSE, PUMP P370-2110 AND P370-2120 WORK AS A VACUUM PUMP  
WHEN VALVE OPEN AND VALVE CLOSE, PUMP P370-2110 AND P370-2120 WORK AS A AIR PUMP
  - DOUBLE-WALLED PIPE

- NOTES:**
- FLOW SWITCH AND SOLENOID PROVIDED WITH PUMP
  - PRESSURE SWITCH PROVIDED WITH FILTERS

**RECORD DRAWING**

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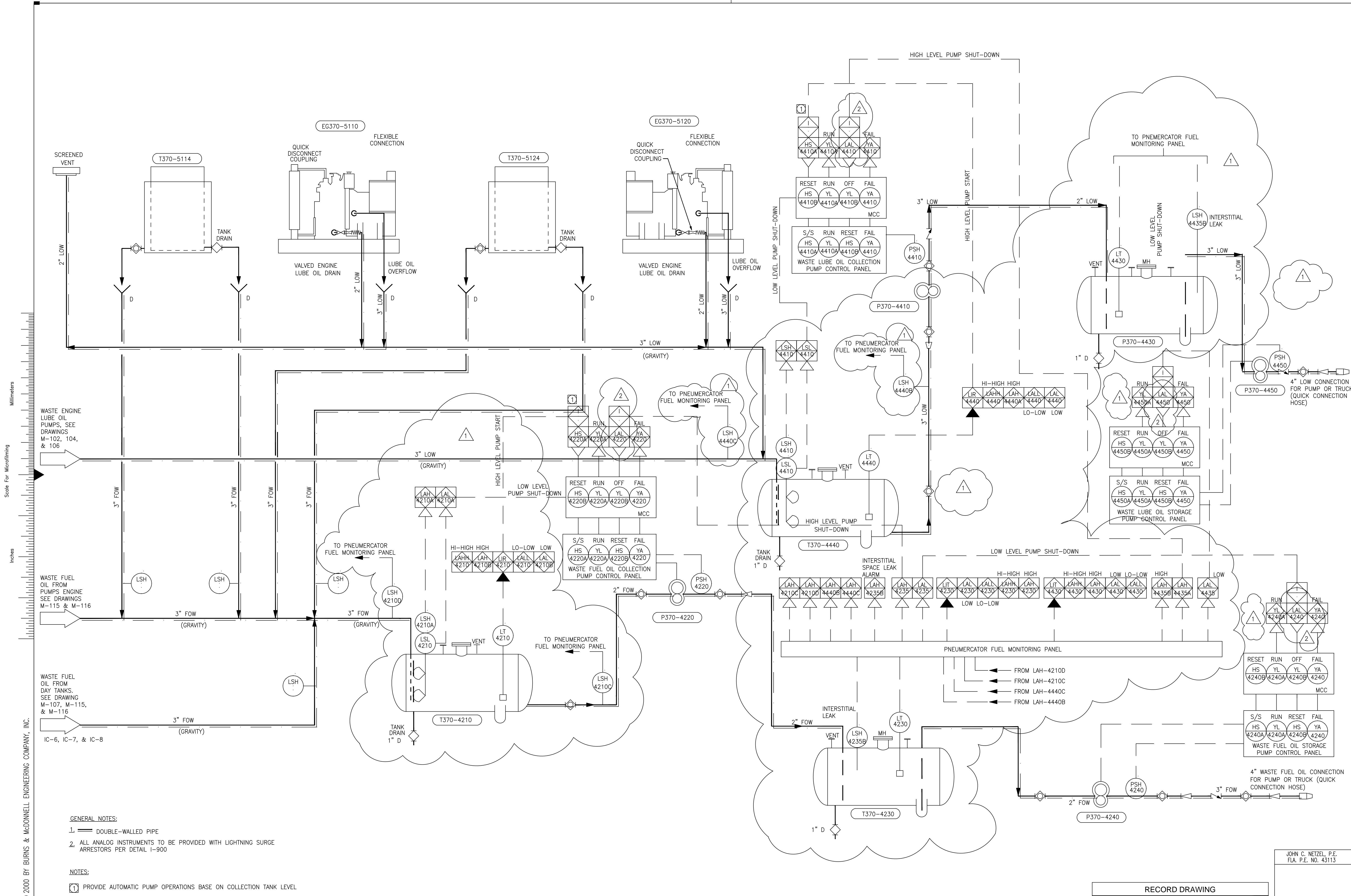
Scale For Microfilming  
Inches  
Millimeters

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 Brown Cunniff Group CONSULTANTS 707 W. PALM BEACH BLVD. WEST PALM BEACH, FL 33408 License No. EB000086	DRAWN: B.A. LEE DSGN: BAL/JCN CHKD: J.C. NETZEL DATE: 3/15/2004 SCALE: NONE	REVISIONS 3/15/2004 7/5/2001 DATE CHKD DATE
 MONTGOMERY WATSON 490 SWARGAS CORP. PKWY. SUITE 300 SUWANEE, FL 33325	EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372 PUMP STATION G-370 LUBE OIL SYSTEM P&ID	CONSTRUCTION REVISION REVISED PER ADDENDUM NO. 4



CONTRACT NO. C-E304  
DRAWING NO. IC-10  
SHEET OF



Scale For Microfilming  
 Millimeters  
 Inches

WASTE ENGINE LUBE OIL PUMPS, SEE DRAWINGS M-102, 104, & 106

WASTE FUEL OIL FROM PUMPS ENGINE SEE DRAWINGS M-115 & M-116

WASTE FUEL OIL FROM DAY TANKS. SEE DRAWING M-107, M-115, & M-116

IC-6, IC-7, & IC-8

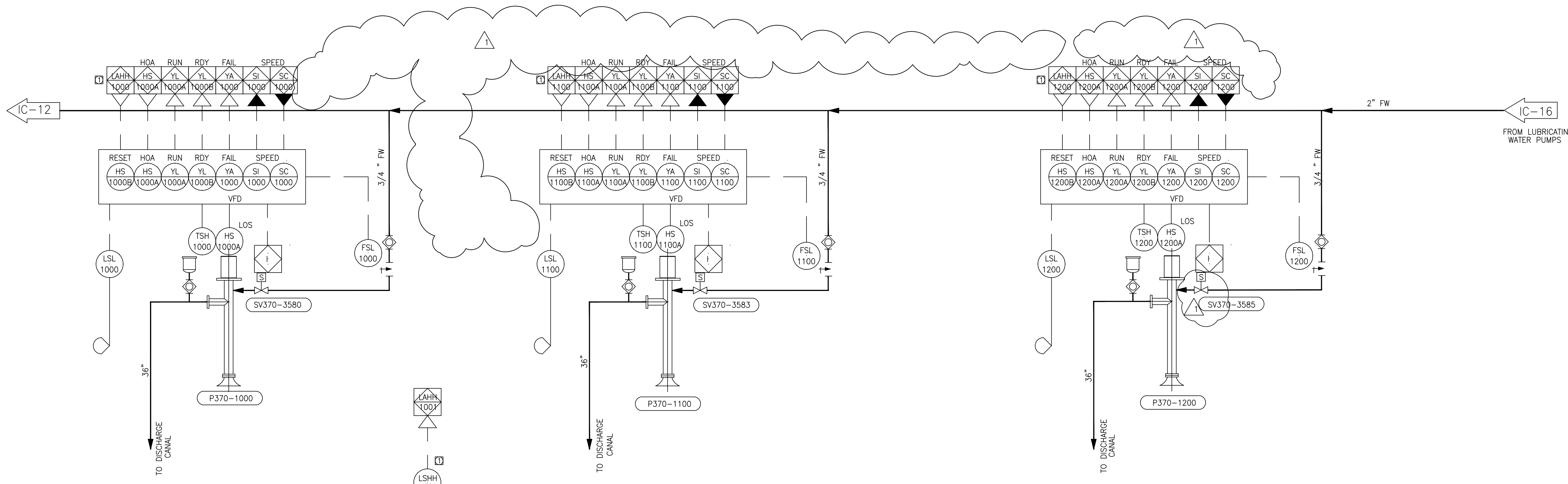
- GENERAL NOTES:**
1. DOUBLE-WALLED PIPE
  2. ALL ANALOG INSTRUMENTS TO BE PROVIDED WITH LIGHTNING SURGE ARRESTORS PER DETAIL I-900
- NOTES:**
1. PROVIDE AUTOMATIC PUMP OPERATIONS BASE ON COLLECTION TANK LEVEL

WASTE FUEL OIL & WASTE ENGINE OIL SYSTEMS  
 NO SCALE

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 FLA. P.E. NO. 43113

 Brown Cunningham ENGINEERS - 201 WINDYBUSH CIRCLE METairie, LOUISIANA 70006 License No. E-00008885	 <b>MONTGOMERY WATSON</b> 490 SANDRAS CORP. PKWY. SUNBELT, FL 33025	DRAWN: BA, LEE DSGN: BAL/JCN CHKD: J.C. NETZEL DATE: _____ SCALE: NONE	JHT: SMR DSK: SMR DWN: CHKD DATE: _____ REVISIONS:
EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372	SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406	PUMP STATION G-370 WASTE OIL SYSTEMS P&ID	CONSTRUCTION REVISION 3/15/2004 3/12/2004 REVISED PER ADDENDUM NO. 3



SEEPAGE PUMPS  
NO SCALE

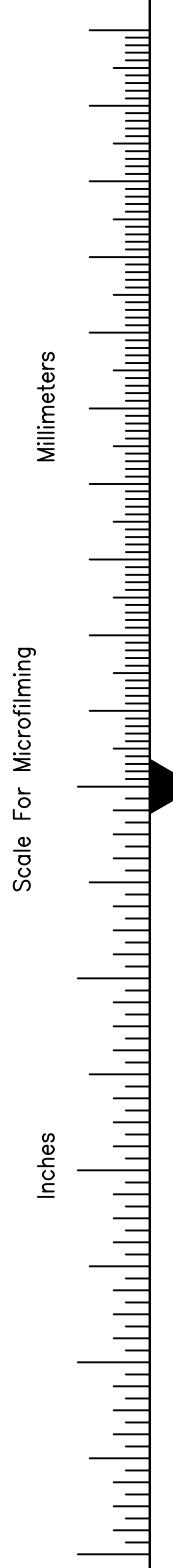
GENERAL NOTES:  
1. ALL ANALOG INSTRUMENTS TO BE PROVIDED WITH LIGHTNING SURGE ARRESTORS PER DETAIL 1-900

NOTE:  
STOP PUMP ON HIGH HIGH LEVEL IN DISCHARGE WELL. SET ALARM UNTIL RESET, ALARM AT MMI.

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FLA. P.E. NO. 43113

**LEGEND**  
SOLENOID VALVE

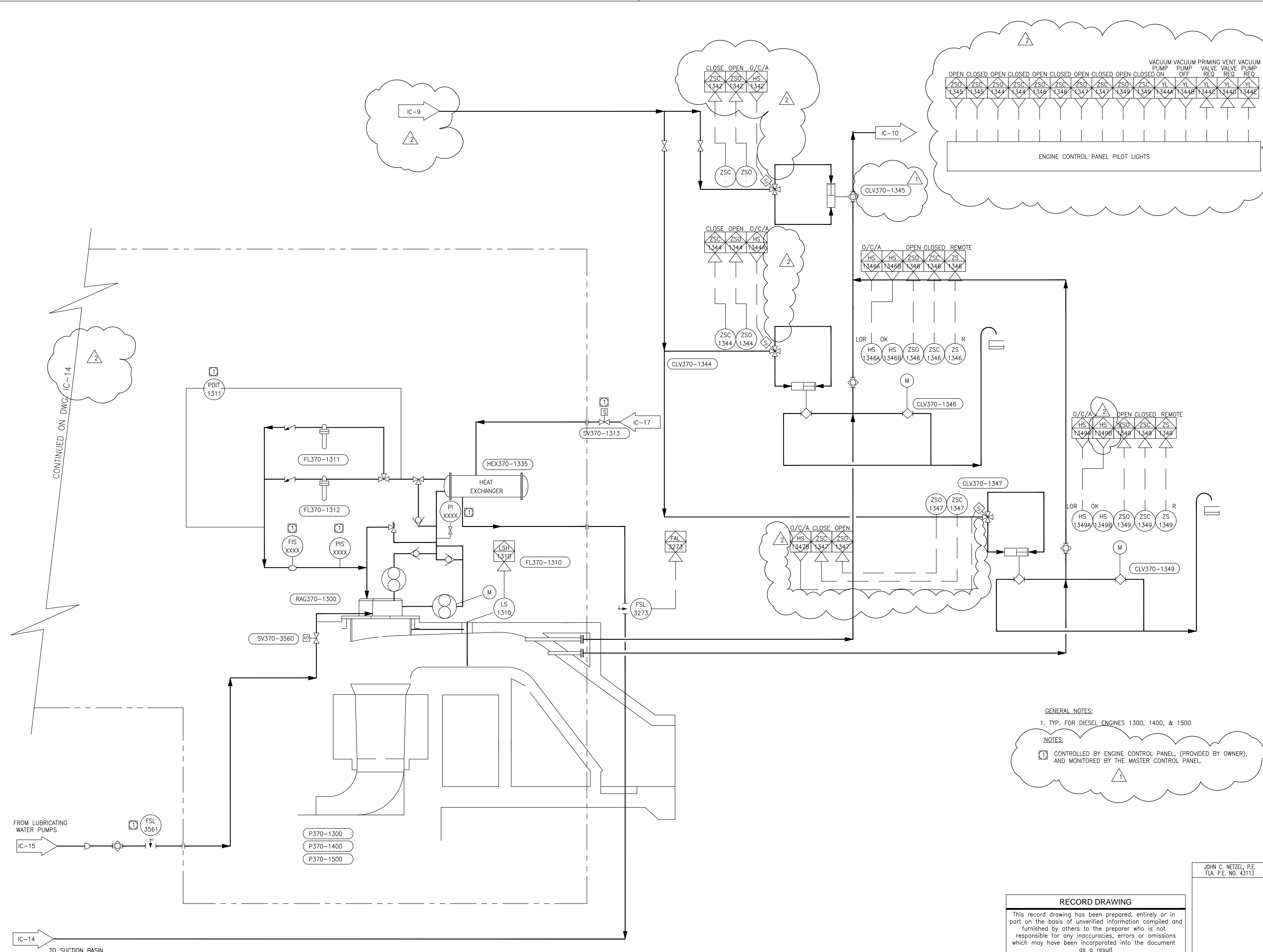


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 BROWN CUNNINGHAM GANNUCH ENGINEERS • ARCHITECTS • CONSULTANTS 2701 KENYON ST. METRO PARK, LOUISIANA 70008 License No. EB00008995		DRAWN: B.A. LEE DSGN: BA/LJCN CHKD: J.C. NETZEL DATE: 3/15/2004 SCALE: NONE	DCK: SMR DWN: DWN CHKD: CHKD DATE: DATE REVISIONS: REVISIONS
 MONTGOMERY WATSON 490 SHOREWAY DRIVE, SUITE 300 SUNRISE, FL 33325		EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372 PUMP STATION G-370 SERVICE WATER P&ID	
SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406		CONTRACT NO. C-E304 DRAWING NO. IC-12 SHEET OF	

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
 Scale For Microfilming  
 Inches  
 Millimeters  
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 BMCd PROJECT NO. xx-xxx-x-xxx

EXEMPT FROM PUBLIC RECORDS UNDER F.S. 119.071(3)(b)(1)



CONTINUED ON DWG. IC-14

**GENERAL NOTES:**  
 1. TYP. FOR DIESEL ENGINES 1300, 1400, & 1500

**NOTES:**  
 ① CONTROLLED BY ENGINE CONTROL PANEL, (PROVIDED BY OWNER), AND MONITORED BY THE MASTER CONTROL PANEL.

**RECORD DRAWING**  
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JOHN C. NETZEL, P.E.  
 FLA. P.E. NO. 43113

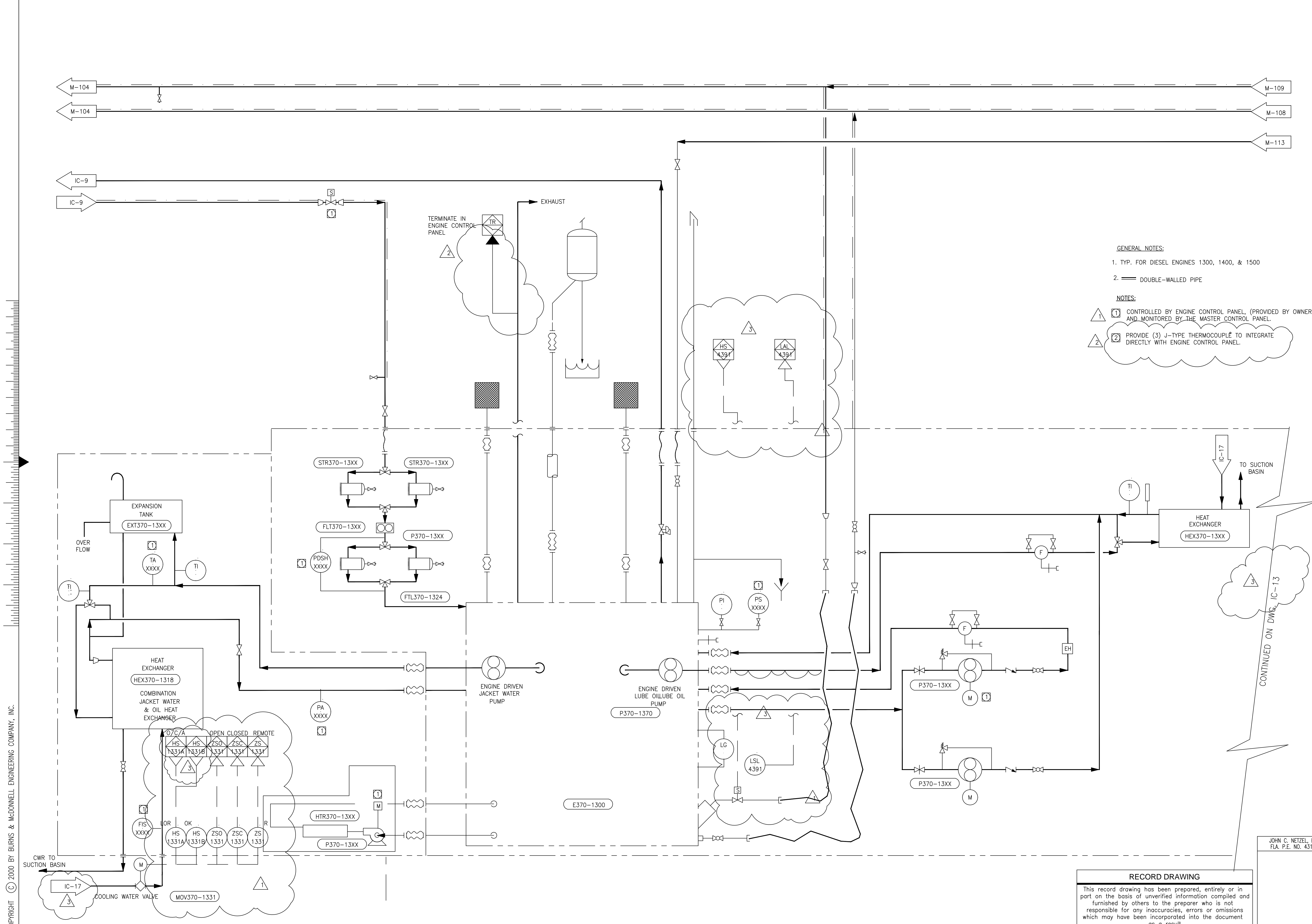
DRAWN	B.A. LEE	DSGN	BAL/JCN	CHKD	J.C. NETZEL	DATE	3/15/2004	REVISION	CONSTRUCTION
SCALE		DATE		DATE		DATE		REVISED PER	ADDENDUM NO.4
SCALE		DATE		DATE		DATE		REVISED PER	ADDENDUM NO.4

 Brown Cummins ENGINEERS - DESIGNERS - CONSULTANTS 2701 WINDYWAY ST. METairie, LOUISIANA 70006 License No. BE000096	 <b>MONTGOMERY WATSON</b> 480 SANDWICH CORP. PKWY. SUWANEE, FL 33325	EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372 PUMP STATION G-370 DIESEL ENGINE PUMP P&ID
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SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406	 CONTRACT NO. C-E304 DRAWING NO. IC-13 SHEET OF
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**GENERAL NOTES:**

1. TYP. FOR DIESEL ENGINES 1300, 1400, & 1500
2. DOUBLE-WALLED PIPE

**NOTES:**

- 1 CONTROLLED BY ENGINE CONTROL PANEL, (PROVIDED BY OWNER), AND MONITORED BY THE MASTER CONTROL PANEL.
- 2 PROVIDE (3) J-TYPE THERMOCOUPLE TO INTEGRATE DIRECTLY WITH ENGINE CONTROL PANEL.



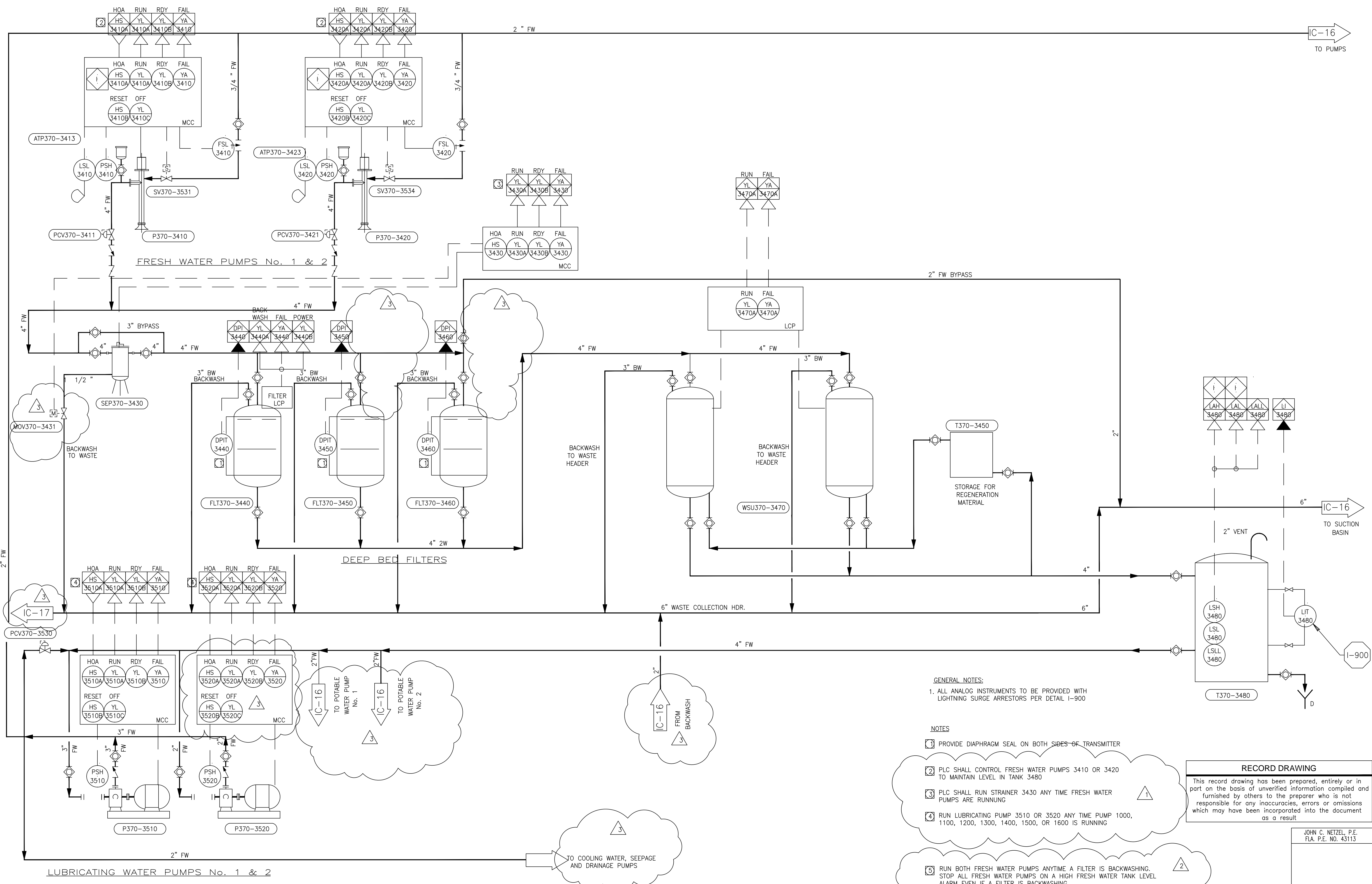
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<p style="font-size: small;">DRAWN: B.A. LEE                  DSGN: BAL/JCN                  CHKD: J.C. NETZEL                  DATE: _____                  SCALE: _____</p>	<p style="font-size: x-small;">JHT: SMR                  LRP: AL                  BAL: JCN                  DWN: _____                  CHKD: _____                  DATE: 3/15/2004                  5/15/2002                  7/5/2001</p>	<p style="font-size: x-small;">CONSTRUCTION REVISION                  REV. PER FINE COMMENTS                  REVISED PER ADDENDUM NO.4                  REVISIONS</p>	
<p style="font-size: small;">Brown Cunningham Connors                  ENGINEERS, ARCHITECTS - CONSULTANTS                  2701 WINKAVA ST.                  METairie, LOUISIANA, 70006                  License No. BE000996</p>			
<p style="font-size: small;">MONTGOMERY                  WATSON                  480 SANGRETT CORP. PKWY.                  SUWANEE, FL 33325</p>			
<p style="font-size: small;">EVERGLADES CONSTRUCTION PROJECT                  STORMWATER TREATMENT AREA 3/4                  PUMPING STATIONS G-370 AND G-372                  PUMP STATION G-370                  DIESEL ENGINE P&amp;ID</p>			
<p style="font-size: small;">SOUTH FLORIDA                  WATER MANAGEMENT DISTRICT                  EVERGLADES CONSTRUCTION PROJECT                  3301 GUN CLUB ROAD                  WEST PALM BEACH, FLORIDA 33406</p>			
<p style="font-size: x-small;">JOHN C. NETZEL, P.E.                  FLA. P.E. NO. 43113</p>			
<p style="font-size: x-small;">CONTRACT NO.                  C-E304                  DRAWING NO.                  IC-14                  SHEET _____ OF _____</p>			

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Scale For Microfilming  
Inches  
Millimeters



GENERAL NOTES:  
 1. ALL ANALOG INSTRUMENTS TO BE PROVIDED WITH LIGHTNING SURGE ARRESTORS PER DETAIL I-900

NOTES

- ① PROVIDE DIAPHRAGM SEAL ON BOTH SIDES OF TRANSMITTER
- ② PLC SHALL CONTROL FRESH WATER PUMPS 3410 OR 3420 TO MAINTAIN LEVEL IN TANK 3480
- ③ PLC SHALL RUN STRAINER 3430 ANY TIME FRESH WATER PUMPS ARE RUNNING
- ④ RUN LUBRICATING PUMP 3510 OR 3520 ANY TIME PUMP 1000, 1100, 1200, 1300, 1400, 1500, OR 1600 IS RUNNING
- ⑤ RUN BOTH FRESH WATER PUMPS ANYTIME A FILTER IS BACKWASHING. STOP ALL FRESH WATER PUMPS ON A HIGH FRESH WATER TANK LEVEL ALARM EVEN IF A FILTER IS BACKWASHING.

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 FLA. P.E. NO. 43113

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LUBRICATING WATER (BEARINGS)  
 NO SCALE

CONSTRUCTION REVISION	DATE	REVISIONS
3/15/2004	3/15/2004	CONSTRUCTION REVISION
7/15/2001	7/15/2001	REVISED PER ADDENDUM NO. 4
6/18/2001	6/18/2001	REV. PER ADDENDUM NO. 3

DRAWN	B.A. LEE
DSGN	BAL/JCN
CHKD	J.C. NETZEL
DATE	DATE
SCALE	NONE

**BROWN CUMMINGS CONSULTANTS**  
 ENGINEERS 7201 HAWAII ST.  
 METairie, LOUISIANA 70006  
 License No. EB000006

**MONTGOMERY WATSON**  
 490 SWINGWAY CORP. PKWY.  
 SUITE 300  
 SUNRISE, FL 33325

EVERGLADES CONSTRUCTION PROJECT  
 STORMWATER TREATMENT AREA 3/4  
 PUMPING STATIONS G-370 AND G-372  
 PUMP STATION G-370  
 FRESH WATER SYSTEMS P&ID

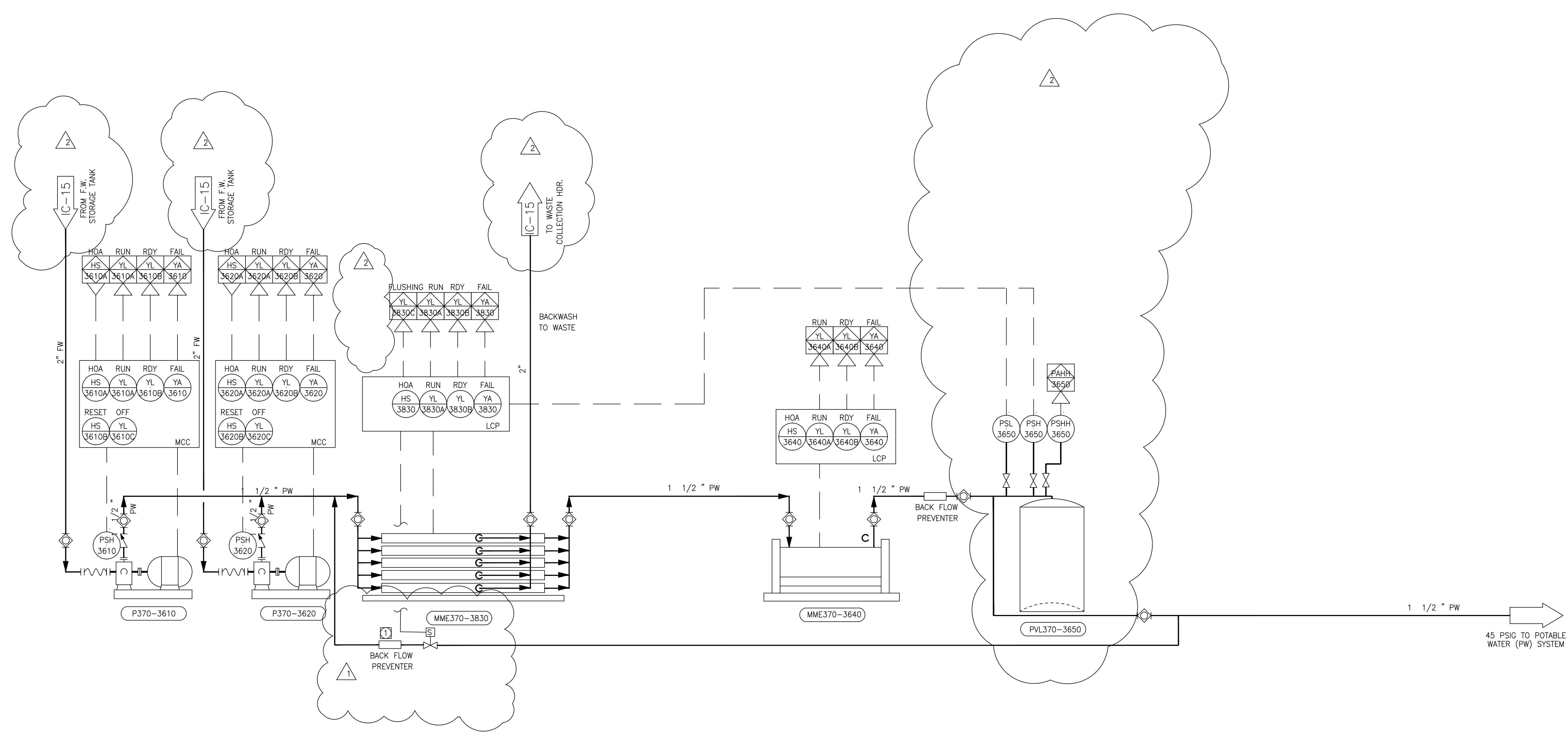
  

SOUTH FLORIDA WATER MANAGEMENT DISTRICT  
 EVERGLADES CONSTRUCTION PROJECT  
 3301 GUN CLUB ROAD  
 WEST PALM BEACH, FLORIDA 33406

CONTRACT NO. C-E304  
 DRAWING NO. IC-15  
 SHEET OF

Scale For Microfilming  
Inches  
Millimeters




POTABLE WATER  
NO SCALE

① LOCATE NEXT TO UNIT-3830

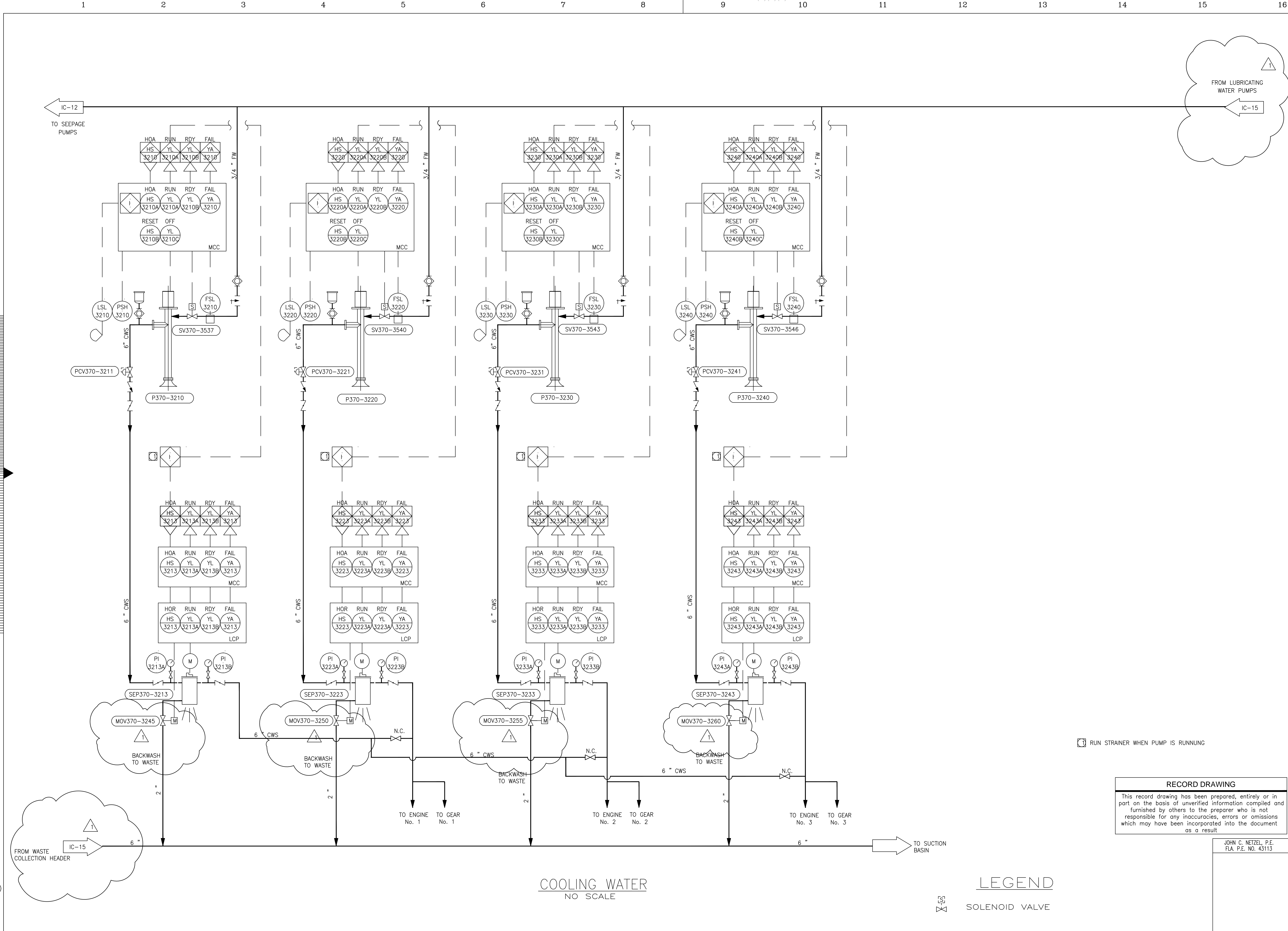
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JOHN C. NETZEL, P.E.  
FLA. P.E. NO. 43113

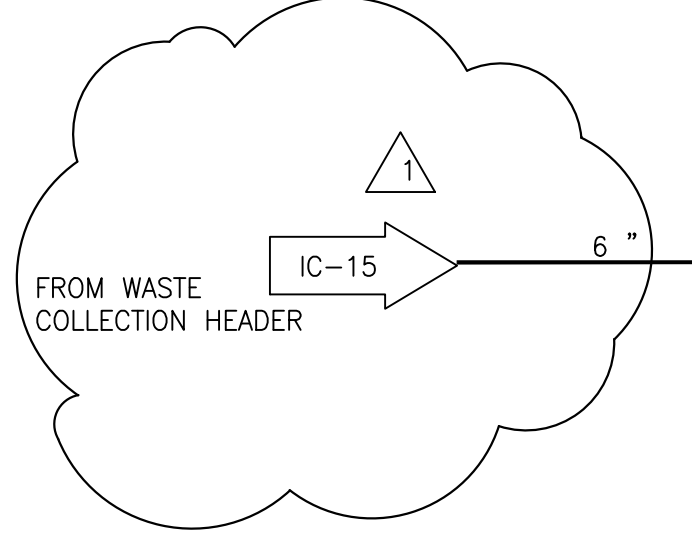
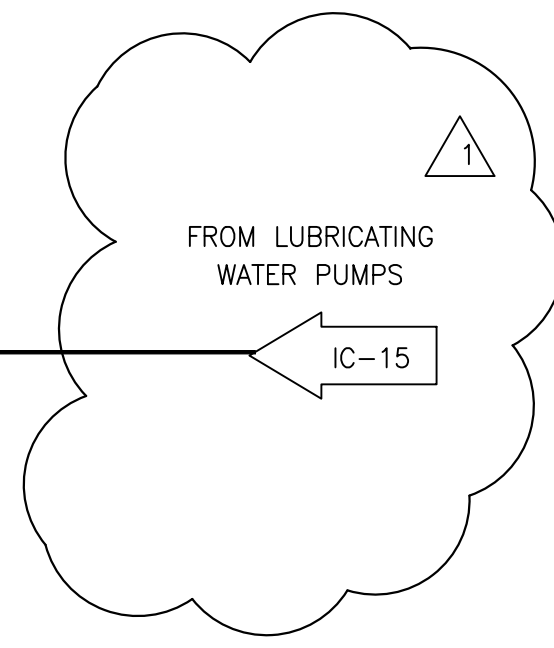
 <b>MONTGOMERY WATSON</b> 490 SWANSONS CORP. FWY. SUNRISE, FL 33325	EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372 POTABLE WATER SYSTEM P&ID	SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406	B.A. LEE DRAWN DSGN CHKD DATE SCALE NONE	BAL/JCN J.C. NETZEL DATE NONE	SMR BAL DWN CHKD DATE NONE	3/15/2004 7/15/2001 REVISIONS	CONSTRUCTION REVISION REVISED PER ADDENDUM NO.4 REVISIONS
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CONTRACT NO.  
C-E304  
DRAWING NO.  
IC-16  
SHEET OF



Scale For Microfilming  
 Inches  
 Millimeters  
 Scale For Microfilming  
 Inches  
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COOLING WATER  
NO SCALE

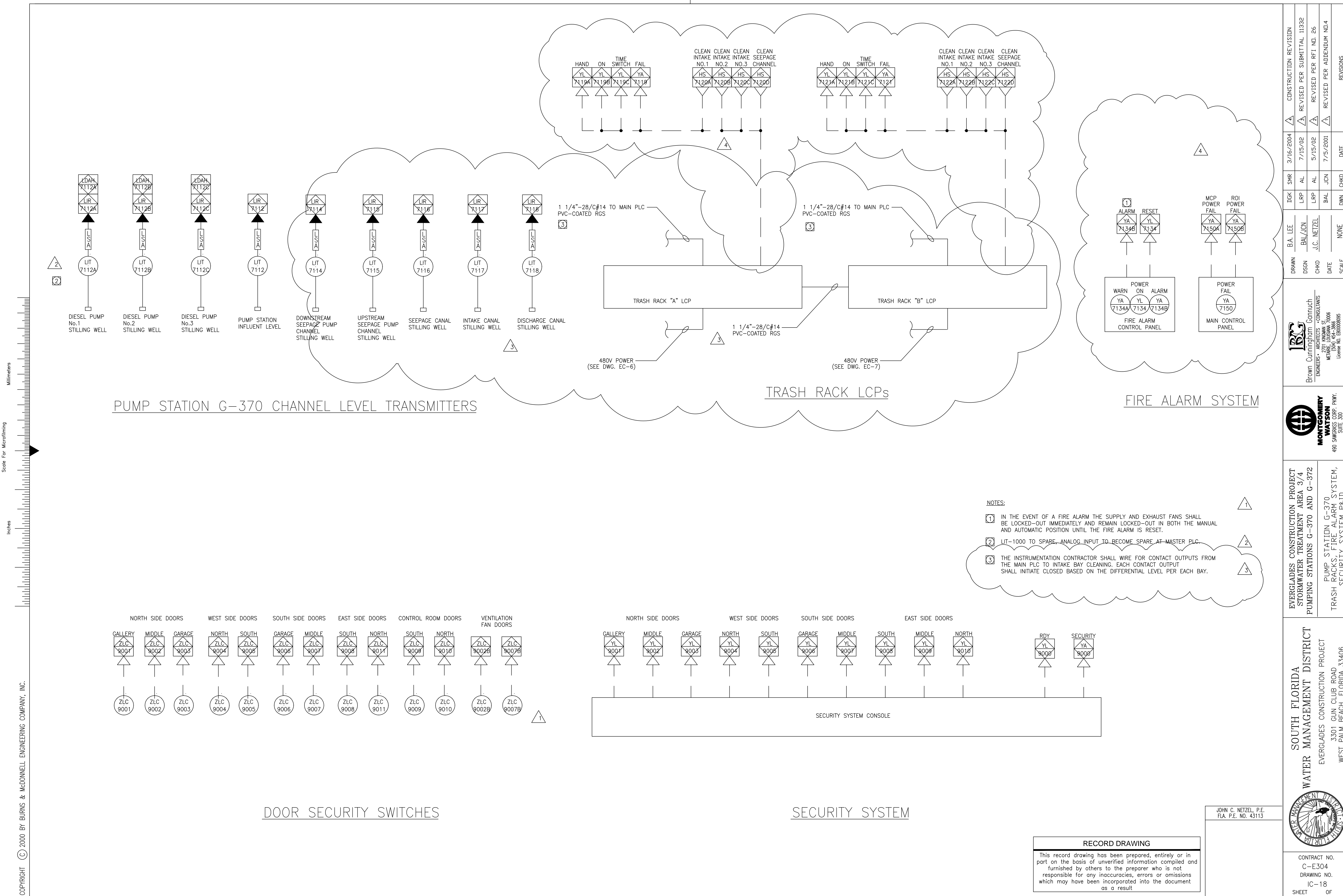
LEGEND  
SOLENOID VALVE

1 RUN STRAINER WHEN PUMP IS RUNNING

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FLA. P.E. NO. 43113

 Brown Cunningham ENGINEERS - 201 KIDMAN ST. METairie, LOUISIANA 70006 License No. EB0008905		DRAWN: B.A. LEE DSGN: BAL/JCN CHKD: J.C. NETZEL DATE: 3/15/2003 SCALE: NONE	DATE: _____ CHD: _____ DWN: _____ SMR: _____ CONSTRUCTION REVISION: _____ REVISIONS: _____
 MONTGOMERY WATSON 490 SWINGWAY CORP. PKWY. SUNRISE, FL 33325		EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372 PUMP STATION G-370 COOLING WATER SYSTEM P&ID	
SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406		CONTRACT NO. C-E304 DRAWING NO. IC-17 SHEET OF	



Scale For Microfilming  
 Millimeters  
 Inches  
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REVISIONS	DATE	CHKD	DWN	DATE
CONSTRUCTION REVISION	3/16/2004	SMR	SMR	
REVISED PER SUBMITTAL 11332	7/15/02	ALP	ALP	
REVISED PER RFI NO. 26	5/15/02	ALP	ALP	
REVISED PER ADDENDUM NO. 4	7/5/2001	BAL	JCN	

DRAWN: B.A. LEE  
 DSGN: BAL/JCN  
 CHKO: J.C. NETZEL  
 DATE: NONE  
 SCALE: NONE

**Brown Cunningham Gannouch**  
 ENGINEERS - ARCHITECTS - CONSULTANTS  
 2701 KIRKMAN ST.  
 METRO CENTER  
 SUITE 154-380  
 TAMPA, FL 33606  
 License No. EB0000895

**MONTGOMERY WATSON**  
 ENGINEERS - ARCHITECTS - PLANNERS  
 480 SW 86th AVE. SUITE 300  
 SUNRISE, FL 33325

EVERGLADES CONSTRUCTION PROJECT  
 STORMWATER TREATMENT AREA 3/4  
 PUMPING STATIONS G-370 AND G-372  
 PUMP STATION G-370  
 TRASH RACKS FIRE ALARM SYSTEM,  
 SECURITY SYSTEM P&ID

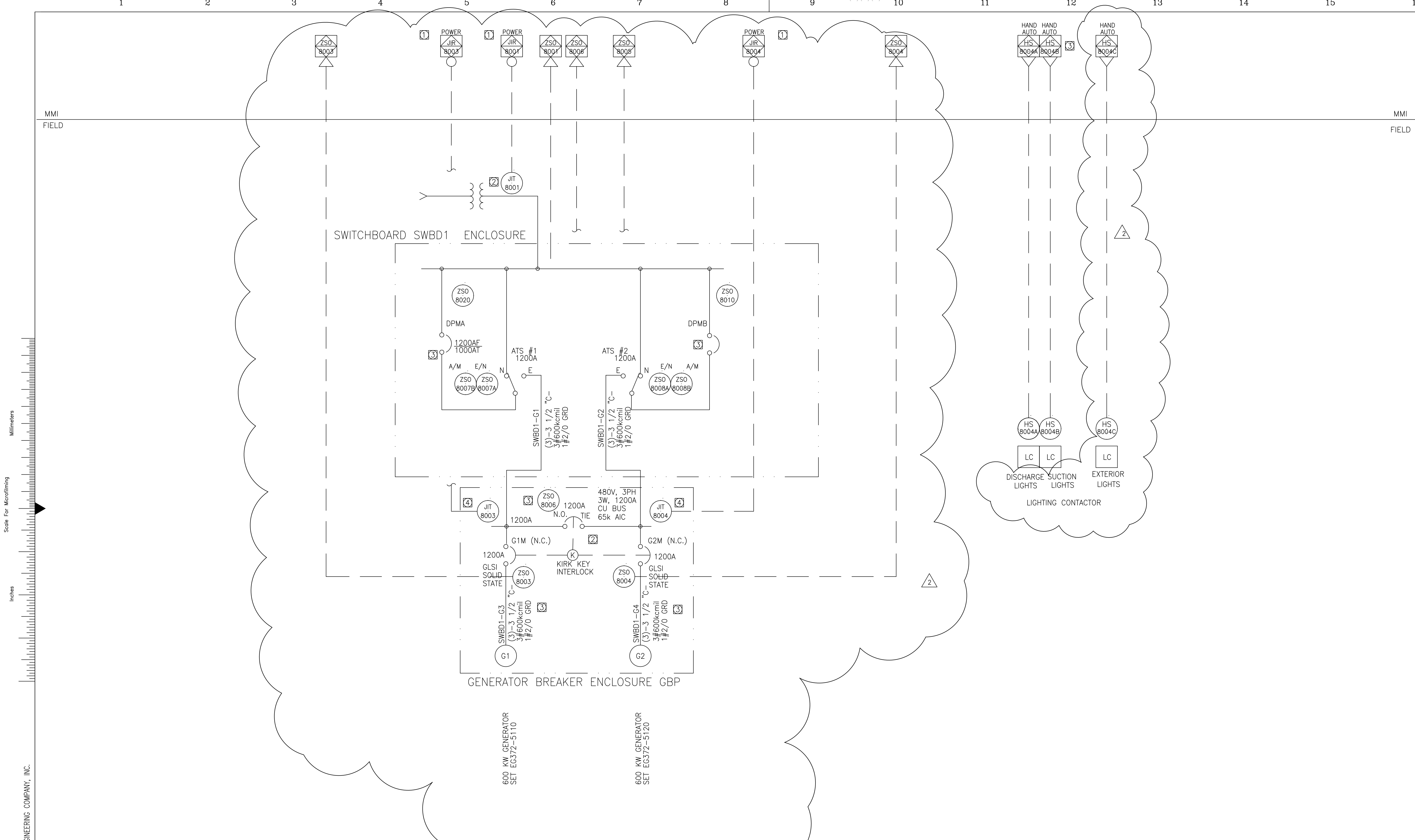
SOUTH FLORIDA  
 WATER MANAGEMENT DISTRICT  
 EVERGLADES CONSTRUCTION PROJECT  
 3301 GUN CLUB ROAD  
 WEST PALM BEACH, FLORIDA 33406

JOHN C. NETZEL, P.E.  
 FLA. P.E. NO. 43113

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CONTRACT NO. C-E304  
 DRAWING NO. IC-18  
 SHEET OF

- NOTES:**
- IN THE EVENT OF A FIRE ALARM THE SUPPLY AND EXHAUST FANS SHALL BE LOCKED-OUT IMMEDIATELY AND REMAIN LOCKED-OUT IN BOTH THE MANUAL AND AUTOMATIC POSITION UNTIL THE FIRE ALARM IS RESET.
  - LIT-1000 TO SPARE, ANALOG INPUT TO BECOME SPARE AT MASTER PLC.
  - THE INSTRUMENTATION CONTRACTOR SHALL WIRE FOR CONTACT OUTPUTS FROM THE MAIN PLC TO INTAKE BAY CLEANING. EACH CONTACT OUTPUT SHALL INITIATE CLOSED BASED ON THE DIFFERENTIAL LEVEL PER EACH BAY.

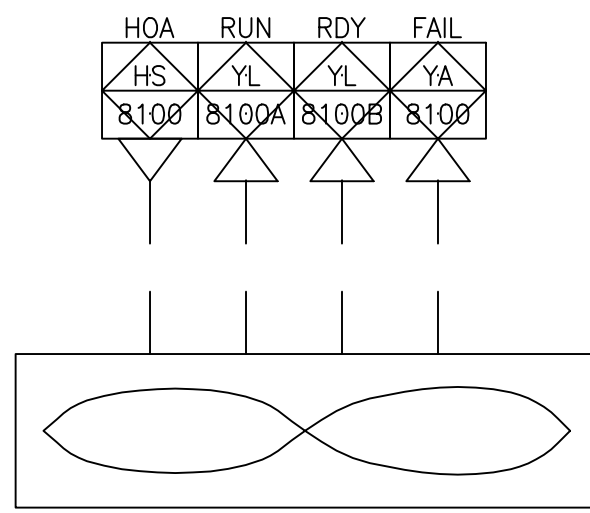


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 Scale For Microfilming  
 Millimeters  
 Inches

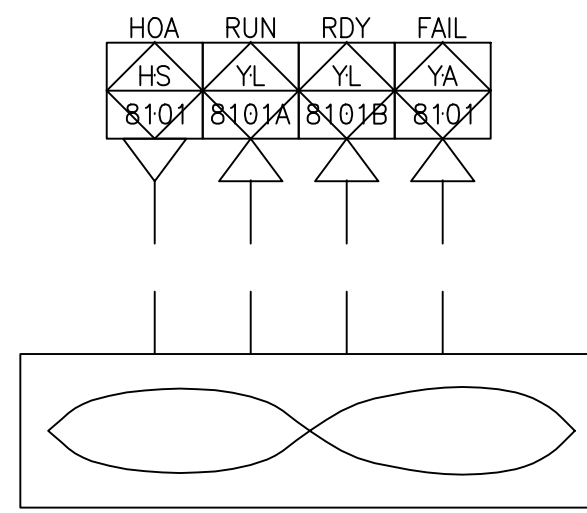
- NOTES:**
- ① MONITOR FOR (3) VOLTAGES (L-G), (3) CURRENTS, (1) POWER AND (1) POWER FACTOR THROUGH A MODBUS RS-485 CONNECTION
  - ② POWER MONITORS AND BREAKER STATUS SWITCHES PROVIDED AS PART OF SWITCHGEAR BY SWITCHGEAR PROVIDER
  - ③ PROVIDE LOGIC IN PLC TO TURN LIGHTS ON AT DUSK AND OFF AT DAWN. OPERATOR TO SET TIME.

NEW PUMP STATION G-370 SWITCHBOARD SWBD1

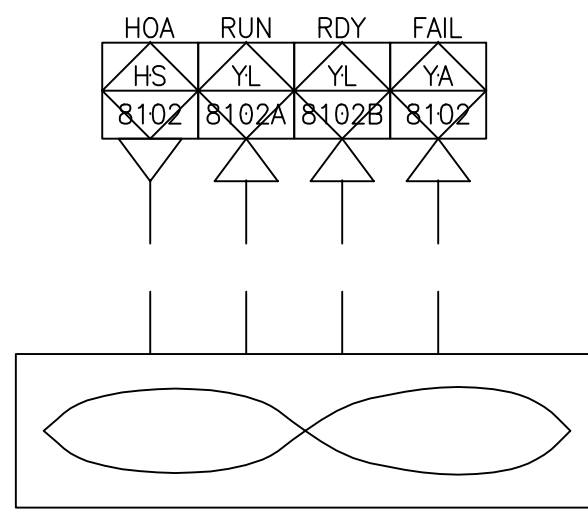
Brown Cunningham ENGINEERS - ARCHITECTS - CONSULTANTS 2701 ANDALUSIA ST. METairie, LOUISIANA 70006 License No. E00000896		DRAWN DSGN CHKD DATE SCALE	BAL/MS BAL/JCN J.C. NETZEL	DGN J.C. NETZEL	DSK BAL DWN DATE	SMR JCN CHD DATE	CONSTRUCTION REVISION REVISED PER ADDENDUM N01-4	REVISIONS
MONTGOMERY WATSON 490 SANDHILL CORP. PKWY. SUWANEE, FL 33325		EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372		PUMP STATION G-370 SWITCHBOARD SINGLE LINE DIAGRAM		SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406		
JOHN C. NETZEL, P.E. FLA. P.E. NO. 43113		RECORD DRAWING This record drawing has been prepared, entirely or in part on the basis of unverified information compiled and furnished by others to the preparer who is not responsible for any inaccuracies, errors or omissions which may have been incorporated into the document as a result		CONTRACT NO. C-E304 DRAWING NO. IC-19 SHEET OF		SFSTDBDR.DGN / 7-18-2000 17:20/MOH		



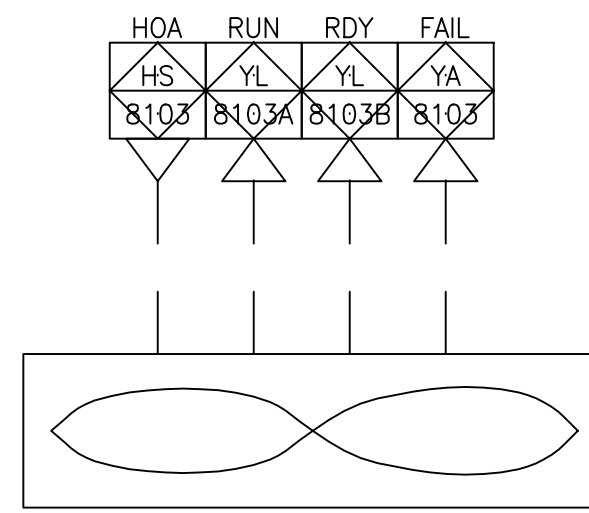
EXHAUST FAN  
EF-01



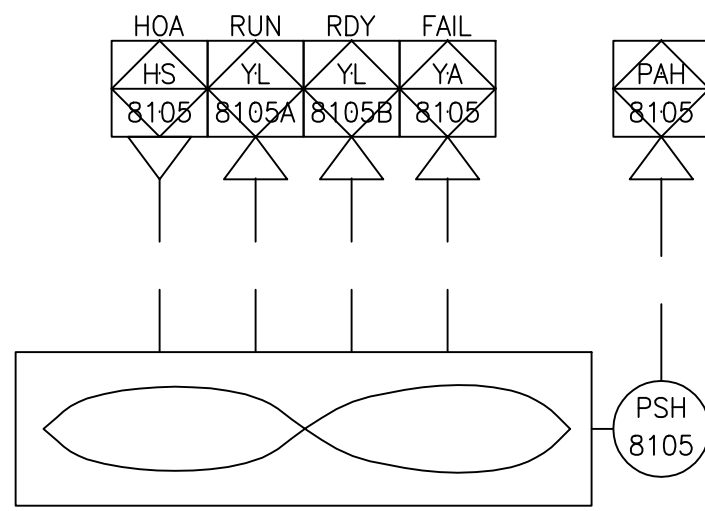
EXHAUST FAN  
EF-02



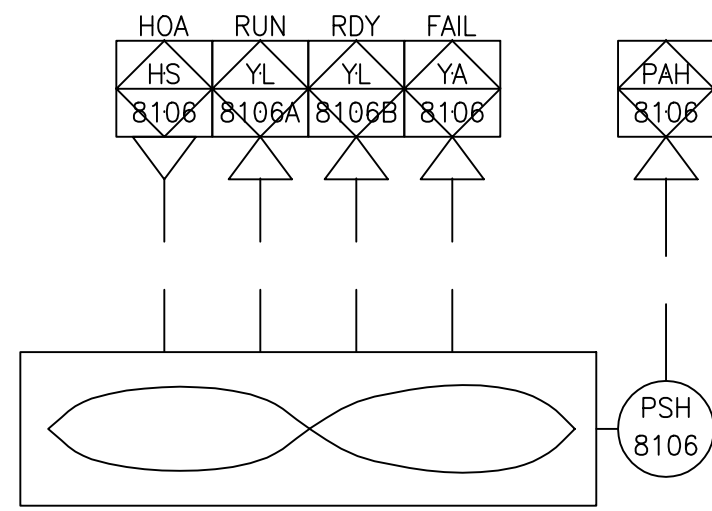
EXHAUST FAN  
EF-03



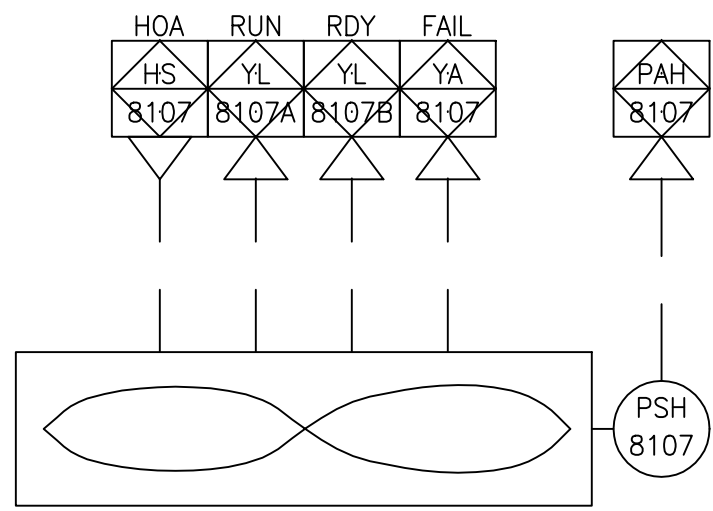
EXHAUST FAN  
EF-04



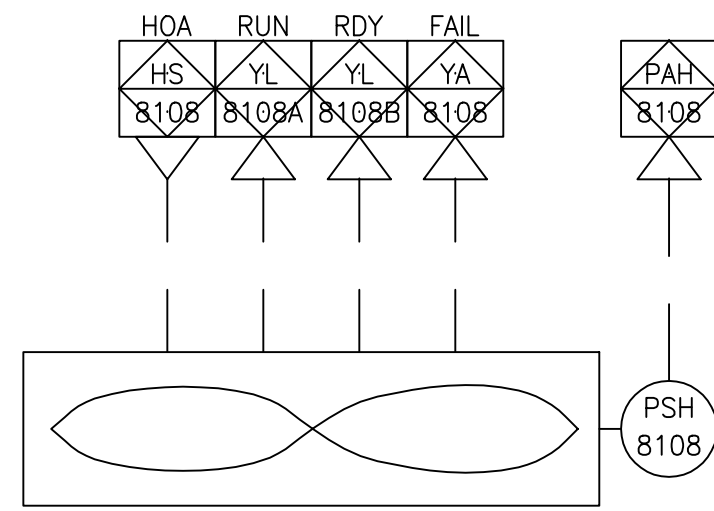
SUPPLY FAN  
SF-01



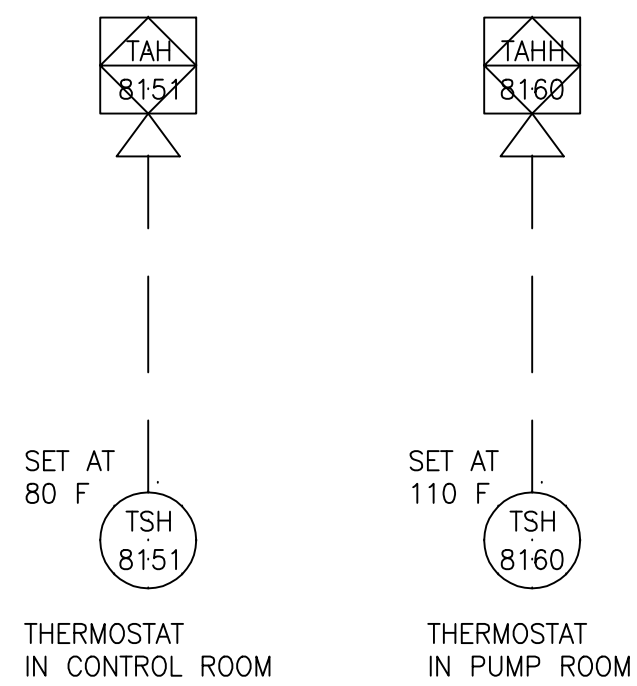
SUPPLY FAN  
SF-02



SUPPLY FAN  
SF-03



SUPPLY FAN  
SF-04



THERMOSTAT  
IN CONTROL ROOM

THERMOSTAT  
IN PUMP ROOM



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NEW PUMP STATION G-370 HVAC SYSTEM

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FLA. P.E. NO. 43113



CONTRACT NO.  
C-E304  
DRAWING NO.  
IC-20  
SHEET OF

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-370  
HVAC SYSTEM CONTROL



**MONTGOMERY WATSON**  
490 SWINGWATER PKWY.  
SUNBELT, FL 33525

**Brown Cunningham Connolly**  
ENGINEERS - ARCHITECTS - CONSULTANTS  
201 KRAMER ST.  
METairie, LOUISIANA 70006  
Louisiana License No. EB00000095

DRAWN: BAL/MS  
DSGN: BAL/JCN  
CHKD: J.C. NETZEL  
DATE: NONE  
SCALE: NONE

DWN: CHKD: DATE: REVISIONS:

I/O POINTS TRANSFERRED ACROSS DATA HIGHWAY			
LOOP NO.	DESCRIPTION	I/O TYPE	COMMENTS
YA-1300A	LOCK OUT	DISCRETE POINT	
YA-1300B	ENGINE OVER-CRANK	DISCRETE POINT	
YA-1300C	ENGINE OVER-SPEED	DISCRETE POINT	
YA-1300D	ENGINE UNDER-SPEED	DISCRETE POINT	
YA-1300E	ENGINE LUBE OIL PRESSURE LOW	DISCRETE POINT	
YA-1300F	ENGINE LUBE OIL LEVEL LOW	DISCRETE POINT	
YA-1300G	ENGINE LUBE OIL TEMPERATURE HIGH	DISCRETE POINT	
YA-1300H	ENGINE LUBE OIL TEMPERATURE LOW	DISCRETE POINT	
YA-1300I	ENGINE LUBE OIL FILTER DIRTY	DISCRETE POINT	
	SPARE		
YA-1300K	ENGINE FUEL DAY TANK LEVEL LOW	DISCRETE POINT	
YA-1300L	ENGINE FUEL DAY TANK LEVEL HIGH	DISCRETE POINT	
YA-1300M	ENGINE FUEL PRESSURE LOW	DISCRETE POINT	
YA-1300N	ENGINE JACKET WATER TEMPERATURE LOW	DISCRETE POINT	
YA-1300O	ENGINE JACKET WATER TEMPERATURE HIGH	DISCRETE POINT	
YA-1300P	ENGINE JACKET WATER TEMPERATURE HIGH-HIGH	DISCRETE POINT	
YA-1300Q	ENGINE JACKET WATER PRESSURE LOW	DISCRETE POINT	
YA-1300R	STARTING AIR PRESSURE LOW	DISCRETE POINT	
YA-1300S	ENGINE CRANKCASE PRESSURE HIGH	DISCRETE POINT	
YA-1300T	ENGINE EXHAUST TEMPERATURE HIGH	DISCRETE POINT	
YA-1300U	ENGINE CYLINDER TEMPERATURE HIGH	DISCRETE POINT	
YA-1300V	ENGINE TEMPERATURE HIGH-HIGH	DISCRETE POINT	
YA-1300W	ENGINE VIBRATION HIGH-HIGH	DISCRETE POINT	
YA-1300X	ENGINE VIBRATION HIGH	DISCRETE POINT	
YA-1300Z	GEAR VIBRATION HIGH	DISCRETE POINT	
YA-1300AA	GEAR LUBE OIL PRESSURE LOW	DISCRETE POINT	
YA-1300BB	GEAR LUBE OIL LEVEL LOW	DISCRETE POINT	
YA-1300CC	GEAR LUBE OIL FILTER DIRTY	DISCRETE POINT	
YA-1300DD	INFLOW PUMP BEARING 1 LUBRICATING FLOW LOW	DISCRETE POINT	
YA-1300EE	INFLOW PUMP BEARING 2 LUBRICATING FLOW LOW	DISCRETE POINT	
YA-1300FF	HIGH ENGINE CYLINDER TEMPERATURE DIFFERENTIAL	DISCRETE POINT	
	ALARM	DISCRETE POINT	
YA-1300GG	PUMPING SYSTEM CONTROLS NOT IN AUTO	DISCRETE POINT	
YA-1300HH	VACUUM SYSTEM TROUBLE	DISCRETE POINT	

I/O POINTS TRANSFERRED ACROSS DATA HIGHWAY			
LOOP NO.	DESCRIPTION	I/O TYPE	COMMENTS
YL-1300A	READY TO AUTO START	DISCRETE POINT	
YL-1300B	START SEQUENCE INITIATED,		
	PRE-LUBE PUMP RUNNING	DISCRETE POINT	
YL-1300C	ENGINE RUNNING AT IDLE SPEED	DISCRETE POINT	
YL-1300D	ENGINE RUNNING AT RATED SPEED	DISCRETE POINT	
YL-1300E	NORMAL SHUTDOWN INITIATED, ENGINE COOLING DOWN	DISCRETE POINT	
YL-1300F	GEAR PRE-LUBE RUNNING	DISCRETE POINT	
YL-1300G	SERVICE WATER PUMPS RUNNING	DISCRETE POINT	
YL-1300H	INFLOW PUMP SHAFT BEARING		
	LUBRICATING WATER FLOW	DISCRETE POINT	
YL-1300I	SERVICE WATER PUMP RUNNING	DISCRETE POINT	
YL-1300J	VACCUUM ASSIST	DISCRETE POINT	
YL-1300K	CONTROL START	DISCRETE POINT	
YL-1300L	CONTROL STOP	DISCRETE POINT	

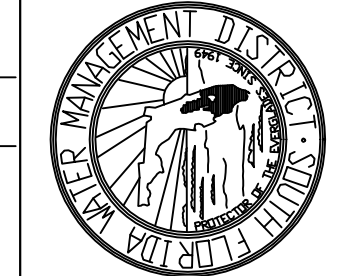
I/O POINTS TRANSFERRED ACROSS DATA HIGHWAY			
LOOP NO.	DESCRIPTION	I/O TYPE	COMMENTS
SI-1300	ENGINE SPEED, RPM	ANALOG VALUE	
KI-1300	ELAPSED RUNNING TIME, HRS	ANALOG VALUE	
PI-1301	INTAKE MANIFOLD PRESSURE, IN HG	ANALOG VALUE	
VI-1300	ENGINE VIBRATION, CHANNEL 1	ANALOG VALUE	
VI-1301	ENGINE VIBRATION, CHANNEL 2	ANALOG VALUE	
TI-1300A	CYLINDER 1 TEMPERATURE, F	ANALOG VALUE	
TI-1300B	CYLINDER 2 TEMPERATURE, F	ANALOG VALUE	
TI-1300C	CYLINDER 3 TEMPERATURE, F	ANALOG VALUE	
TI-1300D	CYLINDER 4 TEMPERATURE, F	ANALOG VALUE	
TI-1300E	CYLINDER 5 TEMPERATURE, F	ANALOG VALUE	
TI-1300F	CYLINDER 6 TEMPERATURE, F	ANALOG VALUE	
TI-1300G	CYLINDER 7 TEMPERATURE, F	ANALOG VALUE	
TI-1300H	CYLINDER 8 TEMPERATURE, F	ANALOG VALUE	
TI-1301	ENGINE COMMON EXHAUST TEMPERATURE, F	ANALOG VALUE	
TI-1303	ENGINE JACKET WATER INLET TEMPERATURE, F	ANALOG VALUE	
TI-1304	ENGINE JACKET WATER OUTLET TEMPERATURE, F	ANALOG VALUE	
TI-1305	ENGINE AUXILIARY CIRCUIT PUMP		
	OUTLET TEMPERATURE, F	ANALOG VALUE	
PI-1302	ENGINE JACKET WATER PRESSURE	ANALOG VALUE	
TI-1306	ENGINE LUBE OIL TEMPERATURE, F	ANALOG VALUE	
PI-1303	ENGINE LUBE OIL PRESSURE	ANALOG VALUE	
TI-1307	GEARLUBE OIL TEMPERATURE, F	ANALOG VALUE	
TI-1308	DAY TANK RETURN FUEL TEMPERATURE, F	ANALOG VALUE	
FI-1300	FUEL FLOW RATE	ANALOG VALUE	



NEW PUMP STATION G-370  
DIESEL ENGINE PUMP P-1 SIGNALS TO MAIN CONTROL PANEL

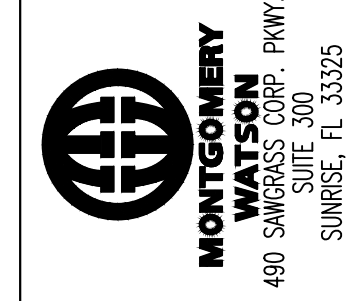
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JOHN C. NETZEL, P.E.  
FLA. P.E. NO. 43113



CONTRACT NO. C-E304  
DRAWING NO. IC-21  
SHEET OF

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-370  
DIESEL ENGINE PUMP P-1 SIGNALS TO MAIN CONTROL PANEL



Brown Cunningham Gannouch  
ENGINEERS - ARCHITECTS - CONSULTANTS  
2701 ANAKIA ST.  
MIAMI, FLORIDA 33133  
License No. EB0008995

BAU/MBS	BAU/JCN	J.C. NETZEL	DATE	SCALE
DKK	LRP	COP	DWN	CHKD
3/16/2004	5/15/2002	6/18/2001		
CONSTRUCTION REVISION	REV. PER FINE COMMENTS	REV. PER ADDENDUM NO. 3	REVISIONS	

I/O POINTS TRANSFERRED ACROSS DATA HIGHWAY			
LOOP NO.	DESCRIPTION	I/O TYPE	COMMENTS
YA-1400A	LOCK OUT	DISCRETE POINT	
YA-1400B	ENGINE OVER-CRANK	DISCRETE POINT	
YA-1400C	ENGINE OVER-SPEED	DISCRETE POINT	
YA-1400D	ENGINE UNDER-SPEED	DISCRETE POINT	
YA-1400E	ENGINE LUBE OIL PRESSURE LOW	DISCRETE POINT	
YA-1400F	ENGINE LUBE OIL LEVEL LOW	DISCRETE POINT	
YA-1400G	ENGINE LUBE OIL TEMPERATURE HIGH	DISCRETE POINT	
YA-1400H	ENGINE LUBE OIL TEMPERATURE LOW	DISCRETE POINT	
YA-1400I	ENGINE LUBE OIL FILTER DIRTY	DISCRETE POINT	
YA-1400J	INTERCOOLER COOLING WATER FLOW LOW	DISCRETE POINT	
YA-1400K	ENGINE FUEL DAY TANK LEVEL LOW	DISCRETE POINT	
YA-1400L	ENGINE FUEL DAY TANK LEVEL HIGH	DISCRETE POINT	
YA-1400M	ENGINE FUEL PRESSURE LOW	DISCRETE POINT	
YA-1400N	ENGINE JACKET WATER TEMPERATURE LOW	DISCRETE POINT	
YA-1400O	ENGINE JACKET WATER TEMPERATURE HIGH	DISCRETE POINT	
YA-1400P	ENGINE JACKET WATER TEMPERATURE HIGH-HIGH	DISCRETE POINT	
YA-1400Q	ENGINE JACKET WATER PRESSURE LOW	DISCRETE POINT	
YA-1400R	STARTING AIR PRESSURE LOW	DISCRETE POINT	
YA-1400S	ENGINE CRANKCASE PRESSURE HIGH	DISCRETE POINT	
YA-1400T	ENGINE EXHAUST TEMPERATURE HIGH	DISCRETE POINT	
YA-1400U	ENGINE CYLINDER TEMPERATURE HIGH	DISCRETE POINT	
YA-1400V	ENGINE TEMPERATURE HIGH-HIGH	DISCRETE POINT	
YA-1400W	ENGINE VIBRATION HIGH-HIGH	DISCRETE POINT	
YA-1400X	ENGINE VIBRATION HIGH	DISCRETE POINT	
YA-1400Z	GEAR VIBRATION HIGH	DISCRETE POINT	
YA-1400AA	GEAR LUBE OIL PRESSURE LOW	DISCRETE POINT	
YA-1400BB	GEAR LUBE OIL LEVEL LOW	DISCRETE POINT	
YA-1400CC	GEAR LUBE OIL FILTER DIRTY	DISCRETE POINT	
YA-1400DD	INFLOW PUMP BEARING 1 LUBRICATING FLOW LOW	DISCRETE POINT	
YA-1400EE	INFLOW PUMP BEARING 2 LUBRICATING FLOW LOW	DISCRETE POINT	
YA-1400FF	INFLOW PUMP LINESHAFT BEARING LUBRICATING FLOW LOW	DISCRETE POINT	
YA-1400GG	PUMPING SYSTEM CONTROLS NOT IN AUTO	DISCRETE POINT	
YA-1400HH	VACUUM SYSTEM TROUBLE	DISCRETE POINT	

I/O POINTS TRANSFERRED ACROSS DATA HIGHWAY			
LOOP NO.	DESCRIPTION	I/O TYPE	COMMENTS
YL-1400A	READY TO AUTO START	DISCRETE POINT	
YL-1400B	START SEQUENCE INITIATED, PRE-LUBE PUMP RUNNING	DISCRETE POINT	
YL-1400C	ENGINE RUNNING AT IDLE SPEED	DISCRETE POINT	
YL-1400D	ENGINE RUNNING AT RATED SPEED	DISCRETE POINT	
YL-1400E	NORMAL SHUTDOWN INITIATED, ENGINE COOLING DOWN	DISCRETE POINT	
YL-1400F	GEAR PRE-LUBE RUNNING	DISCRETE POINT	
YL-1400G	SERVICE WATER PUMPS RUNNING	DISCRETE POINT	
YL-1400H	INFLOW PUMP SHAFT BEARING LUBRICATING WATER FLOW	DISCRETE POINT	
YL-1400I	SERVICE WATER PUMP RUNNING	DISCRETE POINT	
YL-1400J	VACUUM ASSIST	DISCRETE POINT	
YL-1400K	CONTROL START	DISCRETE POINT	
YL-1400L	CONTROL STOP	DISCRETE POINT	

I/O POINTS TRANSFERRED ACROSS DATA HIGHWAY			
LOOP NO.	DESCRIPTION	I/O TYPE	COMMENTS
SI-1400	ENGINE SPEED, RPM	ANALOG VALUE	
KI-1400	ELAPSED RUNNING TIME, HRS	ANALOG VALUE	
PI-1401	INTAKE MANIFOLD PRESSURE, IN HG	ANALOG VALUE	
VI-1400	ENGINE VIBRATION, CHANNEL 1	ANALOG VALUE	
VI-1401	ENGINE VIBRATION, CHANNEL 2	ANALOG VALUE	
TI-1400A	CYLINDER 1 TEMPERATURE, F	ANALOG VALUE	
TI-1400B	CYLINDER 2 TEMPERATURE, F	ANALOG VALUE	
TI-1400C	CYLINDER 3 TEMPERATURE, F	ANALOG VALUE	
TI-1400D	CYLINDER 4 TEMPERATURE, F	ANALOG VALUE	
TI-1400E	CYLINDER 5 TEMPERATURE, F	ANALOG VALUE	
TI-1400F	CYLINDER 6 TEMPERATURE, F	ANALOG VALUE	
TI-1400G	CYLINDER 7 TEMPERATURE, F	ANALOG VALUE	
TI-1400H	CYLINDER 8 TEMPERATURE, F	ANALOG VALUE	
TI-1401	ENGINE COMMON EXHAUST TEMPERATURE, F	ANALOG VALUE	
TI-1403	ENGINE JACKET WATER INLET TEMPERATURE, F	ANALOG VALUE	
TI-1404	ENGINE JACKET WATER OUTLET TEMPERATURE, F	ANALOG VALUE	
TI-1405	ENGINE AUXILIARY CIRCUIT PUMP OUTLET TEMPERATURE, F	ANALOG VALUE	
PI-1402	ENGINE JACKET WATER PRESSURE	ANALOG VALUE	
TI-1406	ENGINE LUBE OIL TEMPERATURE, F	ANALOG VALUE	
PI-1403	ENGINE LUBE OIL PRESSURE	ANALOG VALUE	
TI-1407	GEARLUBE OIL TEMPERATURE, F	ANALOG VALUE	
TI-1408	DAY TANK RETURN FUEL TEMPERATURE, F	ANALOG VALUE	
FI-1400	FUEL FLOW RATE	ANALOG VALUE	



NEW PUMP STATION G-370  
DIESEL ENGINE PUMP P-2 SIGNALS TO MAIN CONTROL PANEL

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JOHN C. NETZEL, P.E.  
FLA. P.E. NO. 43113

CONSTRUCTION REVISION	DATE
△	3/16/2004
SMR	CHD
DKK	DWN
SCALE	NONE
DATE	SCALE
CHD	NONE
J.C. NETZEL	NONE
BAL/ICN	NONE
BAL/ICN	NONE
BAL/MBS	NONE
DRAWN	NONE
DSON	NONE
CHD	NONE
DATE	NONE
SCALE	NONE

**Brown Cunningham Connors**  
ENGINEERS - ARCHITECTS - CONSULTANTS  
2701 KRAMER ST.  
METairie, LOUISIANA 70006  
License No. EB0000895

**MONTGOMERY WATSON**  
SUNBELT CORP. PKWY.  
490 SUNBELT CORP. PKWY.  
SUNBELT, FL 33325

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-370  
DIESEL ENGINE PUMP 2 SIGNALS  
TO MAIN CONTROL PANEL

**SOUTH FLORIDA WATER MANAGEMENT DISTRICT**  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406

**FLORIDA WATER MANAGEMENT DISTRICT**

CONTRACT NO. C-E304  
DRAWING NO. IC-22  
SHEET OF



I/O POINTS TRANSFERRED ACROSS DATA HIGHWAY			
LOOP NO.	DESCRIPTION	I/O TYPE	COMMENTS
YA-1500A	LOCK OUT	DISCRETE POINT	
YA-1500B	ENGINE OVER-CRANK	DISCRETE POINT	
YA-1500C	ENGINE OVER-SPEED	DISCRETE POINT	
YA-1500D	ENGINE UNDER-SPEED	DISCRETE POINT	
YA-1500E	ENGINE LUBE OIL PRESSURE LOW	DISCRETE POINT	
YA-1500F	ENGINE LUBE OIL LEVEL LOW	DISCRETE POINT	
YA-1500G	ENGINE LUBE OIL TEMPERATURE HIGH	DISCRETE POINT	
YA-1500H	ENGINE LUBE OIL TEMPERATURE LOW	DISCRETE POINT	
YA-1500I	ENGINE LUBE OIL FILTER DIRTY	DISCRETE POINT	
YA-1500J	INTERCOOLER COOLING WATER FLOW LOW	DISCRETE POINT	
YA-1500K	ENGINE FUEL DAY TANK LEVEL LOW	DISCRETE POINT	
YA-1500L	ENGINE FUEL DAY TANK LEVEL HIGH	DISCRETE POINT	
YA-1500M	ENGINE FUEL PRESSURE LOW	DISCRETE POINT	
YA-1500N	ENGINE JACKET WATER TEMPERATURE LOW	DISCRETE POINT	
YA-1500O	ENGINE JACKET WATER TEMPERATURE HIGH	DISCRETE POINT	
YA-1500P	ENGINE JACKET WATER TEMPERATURE HIGH-HIGH	DISCRETE POINT	
YA-1500Q	ENGINE JACKET WATER PRESSURE LOW	DISCRETE POINT	
YA-1500R	STARTING AIR PRESSURE LOW	DISCRETE POINT	
YA-1500S	ENGINE CRANKCASE PRESSURE HIGH	DISCRETE POINT	
YA-1500T	ENGINE EXHAUST TEMPERATURE HIGH	DISCRETE POINT	
YA-1500U	ENGINE CYLINDER TEMPERATURE HIGH	DISCRETE POINT	
YA-1500V	ENGINE TEMPERATURE HIGH-HIGH	DISCRETE POINT	
YA-1500W	ENGINE VIBRATION HIGH-HIGH	DISCRETE POINT	
YA-1500X	ENGINE VIBRATION HIGH	DISCRETE POINT	
YA-1500Z	GEAR VIBRATION HIGH	DISCRETE POINT	
YA-1500AA	GEAR LUBE OIL PRESSURE LOW	DISCRETE POINT	
YA-1500BB	GEAR LUBE OIL LEVEL LOW	DISCRETE POINT	
YA-1500CC	GEAR LUBE OIL FILTER DIRTY	DISCRETE POINT	
YA-1500DD	INFLOW PUMP BEARING 1 LUBRICATING FLOW LOW	DISCRETE POINT	
YA-1500EE	INFLOW PUMP BEARING 2 LUBRICATING FLOW LOW	DISCRETE POINT	
YA-1500FF	HIGH ENGINE CYLINDER TEMPERATURE DIFFERENTIAL	DISCRETE POINT	
	ALARM	DISCRETE POINT	
YA-1500GG	PUMPING SYSTEM CONTROLS NOT IN AUTO	DISCRETE POINT	
YA-1500HH	VACUUM SYSTEM TROUBLE	DISCRETE POINT	

I/O POINTS TRANSFERRED ACROSS DATA HIGHWAY			
LOOP NO.	DESCRIPTION	I/O TYPE	COMMENTS
YL-1500A	READY TO AUTO START	DISCRETE POINT	
YL-1500B	START SEQUENCE INITIATED,		
	PRE-LUBE PUMP RUNNING	DISCRETE POINT	
YL-1500C	ENGINE RUNNING AT IDLE SPEED	DISCRETE POINT	
YL-1500D	ENGINE RUNNING AT RATED SPEED	DISCRETE POINT	
YL-1500E	NORMAL SHUTDOWN INITIATED, ENGINE COOLING DOWN	DISCRETE POINT	
YL-1500F	GEAR PRE-LUBE RUNNING	DISCRETE POINT	
YL-1500G	SERVICE WATER PUMPS RUNNING	DISCRETE POINT	
YL-1500H	INFLOW PUMP SHAFT BEARING		
	LUBRICATING WATER FLOW	DISCRETE POINT	
YL-1500I	SERVICE WATER PUMP RUNNING	DISCRETE POINT	
YL-1500J	VACCUUM ASSIST	DISCRETE POINT	
YL-1500K	CONTROL START	DISCRETE POINT	
YL-1500L	CONTROL STOP	DISCRETE POINT	

I/O POINTS TRANSFERRED ACROSS DATA HIGHWAY			
LOOP NO.	DESCRIPTION	I/O TYPE	COMMENTS
SI-1500	ENGINE SPEED, RPM	ANALOG VALUE	
KI-1500	ELAPSED RUNNING TIME, HRS	ANALOG VALUE	
PI-1501	INTAKE MANIFOLD PRESSURE, IN HG	ANALOG VALUE	
VI-1500	ENGINE VIBRATION, CHANNEL 1	ANALOG VALUE	
VI-1501	ENGINE VIBRATION, CHANNEL 2	ANALOG VALUE	
TI-1500A	CYLINDER 1 TEMPERATURE, F	ANALOG VALUE	
TI-1500B	CYLINDER 2 TEMPERATURE, F	ANALOG VALUE	
TI-1500C	CYLINDER 3 TEMPERATURE, F	ANALOG VALUE	
TI-1500D	CYLINDER 4 TEMPERATURE, F	ANALOG VALUE	
TI-1500E	CYLINDER 5 TEMPERATURE, F	ANALOG VALUE	
TI-1500F	CYLINDER 6 TEMPERATURE, F	ANALOG VALUE	
TI-1500G	CYLINDER 7 TEMPERATURE, F	ANALOG VALUE	
TI-1500H	CYLINDER 8 TEMPERATURE, F	ANALOG VALUE	
TI-150T	ENGINE COMMON EXHAUST TEMPERATURE, F	ANALOG VALUE	
TI-1503	ENGINE JACKET WATER INLET TEMPERATURE, F	ANALOG VALUE	
TI-1504	ENGINE JACKET WATER OUTLET TEMPERATURE, F	ANALOG VALUE	
TI-1505	ENGINE AUXILIARY CIRCUIT PUMP		
	OUTLET TEMPERATURE, F	ANALOG VALUE	
PI-1502	ENGINE JACKET WATER PRESSURE	ANALOG VALUE	
TI-1506	ENGINE LUBE OIL TEMPERATURE, F	ANALOG VALUE	
PI-1503	ENGINE LUBE OIL PRESSURE	ANALOG VALUE	
TI-1507	GEARLUBE OIL TEMPERATURE, F	ANALOG VALUE	
TI-1508	DAY TANK RETURN FUEL TEMPERATURE, F	ANALOG VALUE	
FI-1500	FUEL FLOW RATE	ANALOG VALUE	



NEW PUMP STATION G-370  
DIESEL ENGINE PUMP P-3 SIGNALS TO MAIN CONTROL PANEL

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JOHN C. NETZEL, P.E.  
FLA. P.E. NO. 43113



CONTRACT NO. C-E304  
DRAWING NO. IC-23  
SHEET OF

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-370  
DIESEL ENGINE PUMP 3 SIGNALS  
TO MAIN CONTROL PANEL



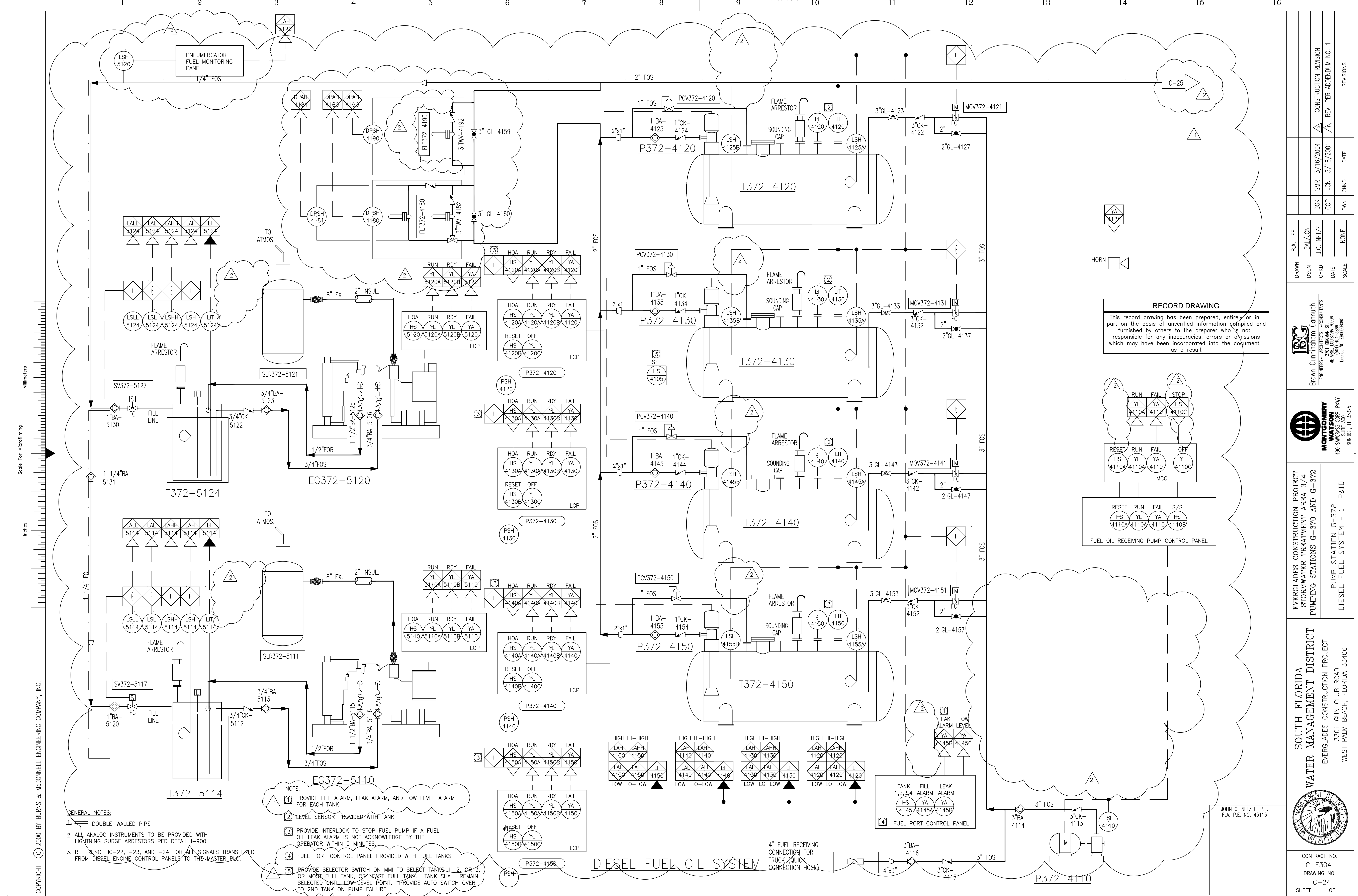
**MONTGOMERY WATSON**  
490 SANGRETT CORP. PKWY.  
SUNRISE, FL 33325

**BCG**  
Brown Cunningham  
ENGINEERS - ARCHITECTS - CONSULTANTS  
2701 ANDAHL ST.  
MEMPHIS, TENNESSEE 38117  
Licenses No. E00000896

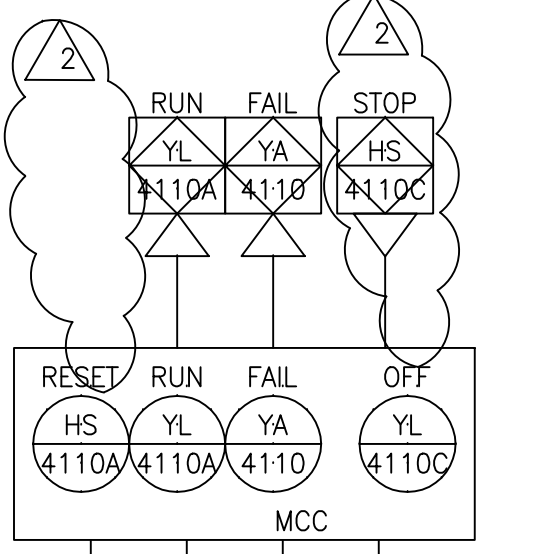
DRAWN BY: J.C. NETZEL  
DSGN BY: J.C. NETZEL  
CHKD BY: J.C. NETZEL  
DATE: NONE  
SCALE: NONE

DWG NO. 3/16/2004  
REV. PER ADDENDUM NO. 3  
DATE: 6/18/2001  
CHKD BY: JCN  
DWN BY: DWN

CONSTRUCTION REVISION  
REV. PER ADDENDUM NO. 3  
REVISIONS



**RECORD DRAWING**  
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- NOTE:**
- 1 PROVIDE FILL ALARM, LEAK ALARM, AND LOW LEVEL ALARM FOR EACH TANK
  - 2 LEVEL SENSOR PROVIDED WITH TANK
  - 3 PROVIDE INTERLOCK TO STOP FUEL PUMP IF A FUEL OIL LEAK ALARM IS NOT ACKNOWLEDGE BY THE OPERATOR WITHIN 5 MINUTES.
  - 4 FUEL PORT CONTROL PANEL PROVIDED WITH FUEL TANKS
  - 5 PROVIDE SELECTOR SWITCH ON MMI TO SELECT TANKS 1, 2, OR 3, OR MOST FULL TANK, OR LEAST FULL TANK. TANK SHALL REMAIN SELECTED UNTIL LOW LEVEL POINT. PROVIDE AUTO SWITCH OVER TO 2ND TANK ON PUMP FAILURE.

- GENERAL NOTES:**
- 1 DOUBLE-WALLED PIPE
  - 2 ALL ANALOG INSTRUMENTS TO BE PROVIDED WITH LIGHTNING SURGE ARRESTORS PER DETAIL I-900
  - 3 REFERENCE IC-22, -23, AND -24 FOR ALL SIGNALS TRANSFERRED FROM DIESEL ENGINE CONTROL PANELS TO THE MASTER PLC.

DRAWN		B.A. LEE	DATE	CHD
DSGN		BAL/JCN	DATE	DWN
CHKD		J.C. NETZEL	DATE	DWN
DATE		3/16/2004	DATE	5/18/2001
REV. PER ADDENDUM NO. 1		CONSTRUCTION REVISION	REV.	REV.
CONSTRUCTION REVISION		NO. 1	REV.	REV.
DATE		3/16/2004	DATE	5/18/2001
CONSTRUCTION REVISION		NO. 1	REV.	REV.
CONSTRUCTION REVISION		NO. 1	REV.	REV.
CONSTRUCTION REVISION		NO. 1	REV.	REV.
CONSTRUCTION REVISION		NO. 1	REV.	REV.
CONSTRUCTION REVISION		NO. 1	REV.	REV.

**Brown Cummins Corp.**  
ENGINEERS - CONSULTANTS  
MECHANICAL ENGINEERS  
7201 INDIANA ST.  
LOVING, TEXAS 75040  
PHONE NO. 972/988996

**MONTGOMERY WATSON**  
490 SW 83RD CORP. PKWY.  
SUITE 100  
MIAMI, FL 33156

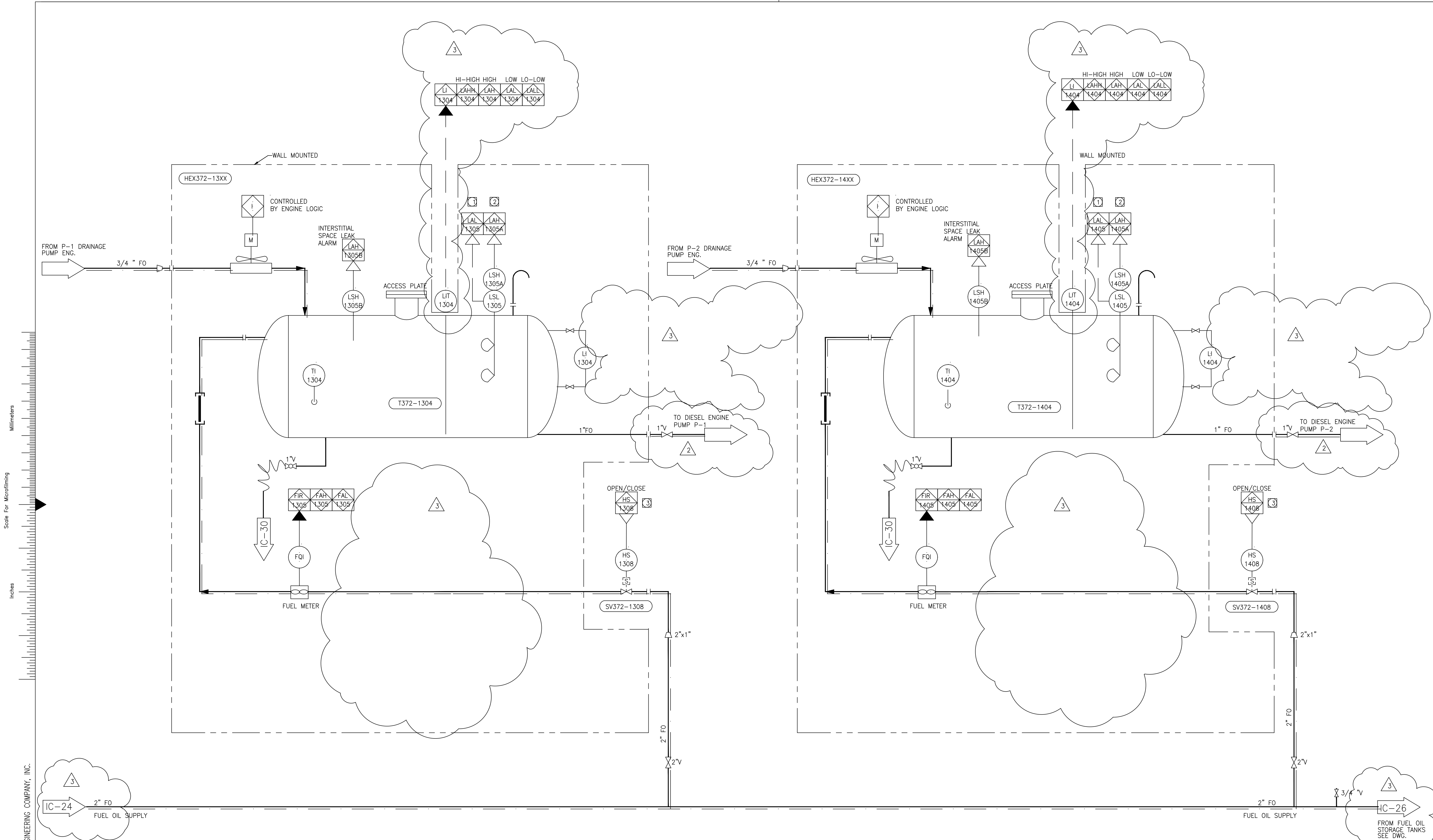
**EVERGLADES CONSTRUCTION PROJECT**  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-372  
DIESEL FUEL SYSTEM - 1 P&ID

**SOUTH FLORIDA WATER MANAGEMENT DISTRICT**  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406

CONTRACT NO. C-E304  
DRAWING NO. IC-24  
SHEET OF

JOHN C. NETZEL, P.E.  
FLA. P.E. NO. 43113

Scale For Microfilming  
Inches  
Millimeters



- GENERAL NOTES:**
- VENDOR TO SUPPLY ALL ITEMS WITHIN SKID LIMITS.
  - LEVEL TRANSMITTERS FOR DAY TANKS PROVIDE WITH THIS CONTRACT.
  - PROVIDE DRAINS AT PIPING LOW POINTS AND VENTS AT PIPING HIGH POINTS WHEN SHOWN.
  - CONTROLLED BY ENGINE LOGIC.
  - VENDOR FURNISHED INSTRUMENTATION.
  - ALL ANALOG INSTRUMENTS TO BE PROVIDED WITH LIGHTNING SURGE ARRESTORS PER DETAIL I-900
  - DOUBLE-WALLED PIPE
- NOTES:**
- PROVIDE ALARM IF LEVEL REMAINS LOW FOR MORE THAN 5 MINUTES
  - PROVIDE CONTROL TO START SELECTED FUEL PUMP (4160, 4170) TO FILL TANK ON LOW LEVEL AND STOP PUMP ON HIGH LEVEL
  - PROVIDE CONTROL TO OPEN VALVE TO FILL TANK AND CLOSE VALVE AND KEEP CLOSE ON HIGH LEVEL

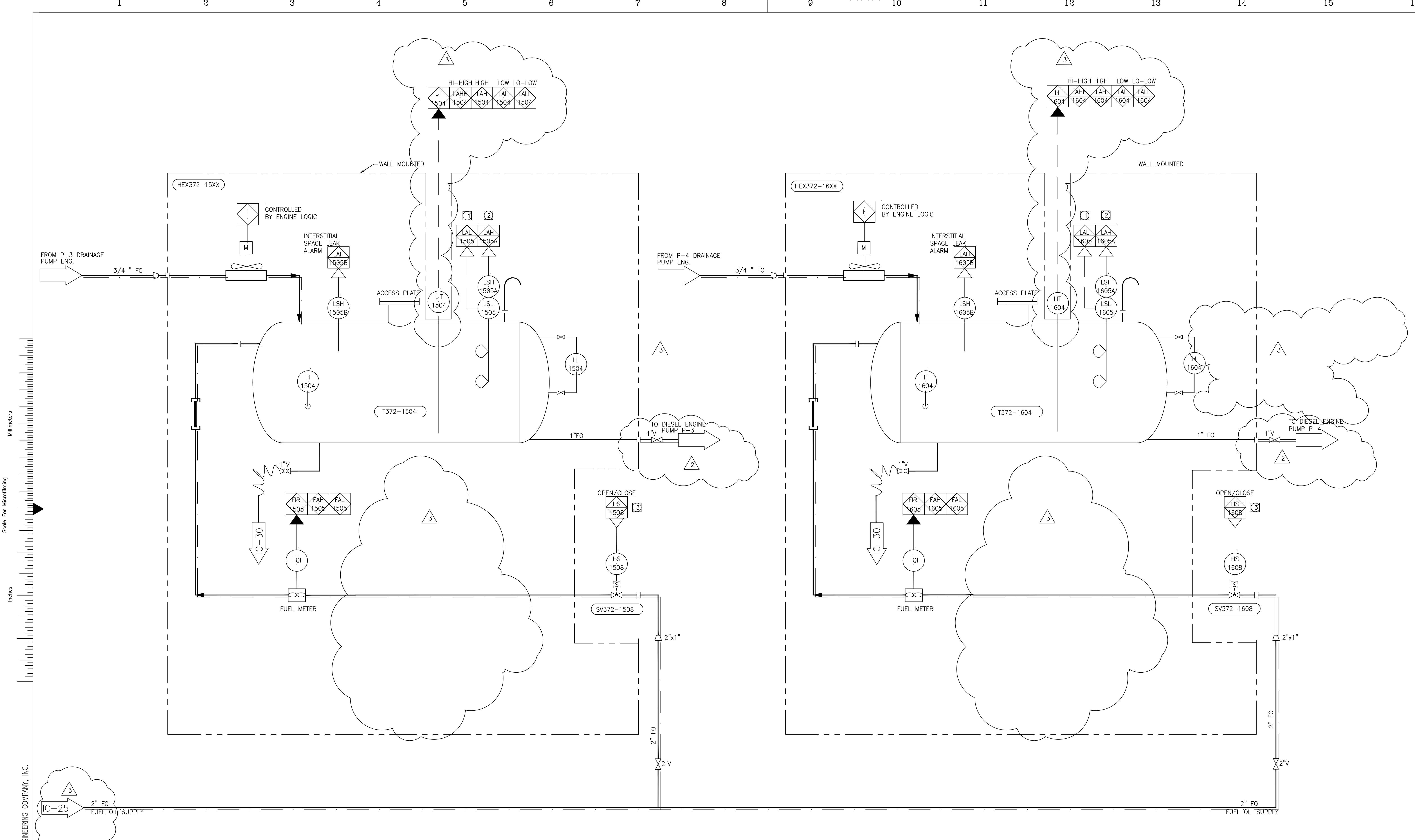
**DIESEL FUEL DAY TANK SYSTEM**  
NO SCALE

**RECORD DRAWING**  
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FLA. P.E. NO. 43113

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DRAWN		DCK		3/16/2004		CONSTRUCTION REVISION	
DSGN		BAL		7/5/2001		REV. PER ADDENDUM NO. 4	
CHKD		COP		6/18/2001		REV. PER ADDENDUM NO. 3	
DATE		DWN		CHKD		REVISIONS	
SCALE		NONE		DATE			
<p>Brown Cunningham Gannuch ENGINEERS - ARCHITECTS - CONSULTANTS 2701 ANDRAN ST. METairie, LOUISIANA 70006 Licenses: LA 00000895</p>							
<p><b>MONTGOMERY WATSON</b> 490 SANGRESS CORP. PKWY. SUNRISE, FL 33325</p>							
<p>EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372 PUMP STATION G-372 DIESEL FUEL SYSTEM - 2 P&amp;ID</p>							
<p>SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406</p>							
<p>CONTRACT NO. C-E304 DRAWING NO. IC-25 SHEET OF</p>							



- GENERAL NOTES:**
- VENDOR TO SUPPLY ALL ITEMS WITHIN SKID LIMITS.
  - LEVEL TRANSMITTERS FOR DAY TANKS PROVIDE WITH THIS CONTRACT.
  - PROVIDE DRAINS AT PIPING LOW POINTS AND VENTS AT PIPING HIGH POINTS WHEN SHOWN.
  - CONTROLLED BY ENGINE LOGIC.
  - VENDOR FURNISHED INSTRUMENTATION.
  - ALL ANALOG INSTRUMENTS TO BE PROVIDED WITH LIGHTNING SURGE ARRESTORS PER DETAIL I-900
  - DOUBLE-WALLED PIPE

- NOTES:**
- PROVIDE ALARM IF LEVEL REMAINS LOW FOR MORE THAN 5 MINUTES
  - PROVIDE CONTROL TO START SELECTED FUEL PUMP (4160, 4170) TO FILL TANK ON LOW LEVEL AND STOP PUMP ON HIGH LEVEL
  - PROVIDE CONTROL TO OPEN VALVE TO FILL TANK AND CLOSE VALVE AND KEEP CLOSE ON HIGH LEVEL

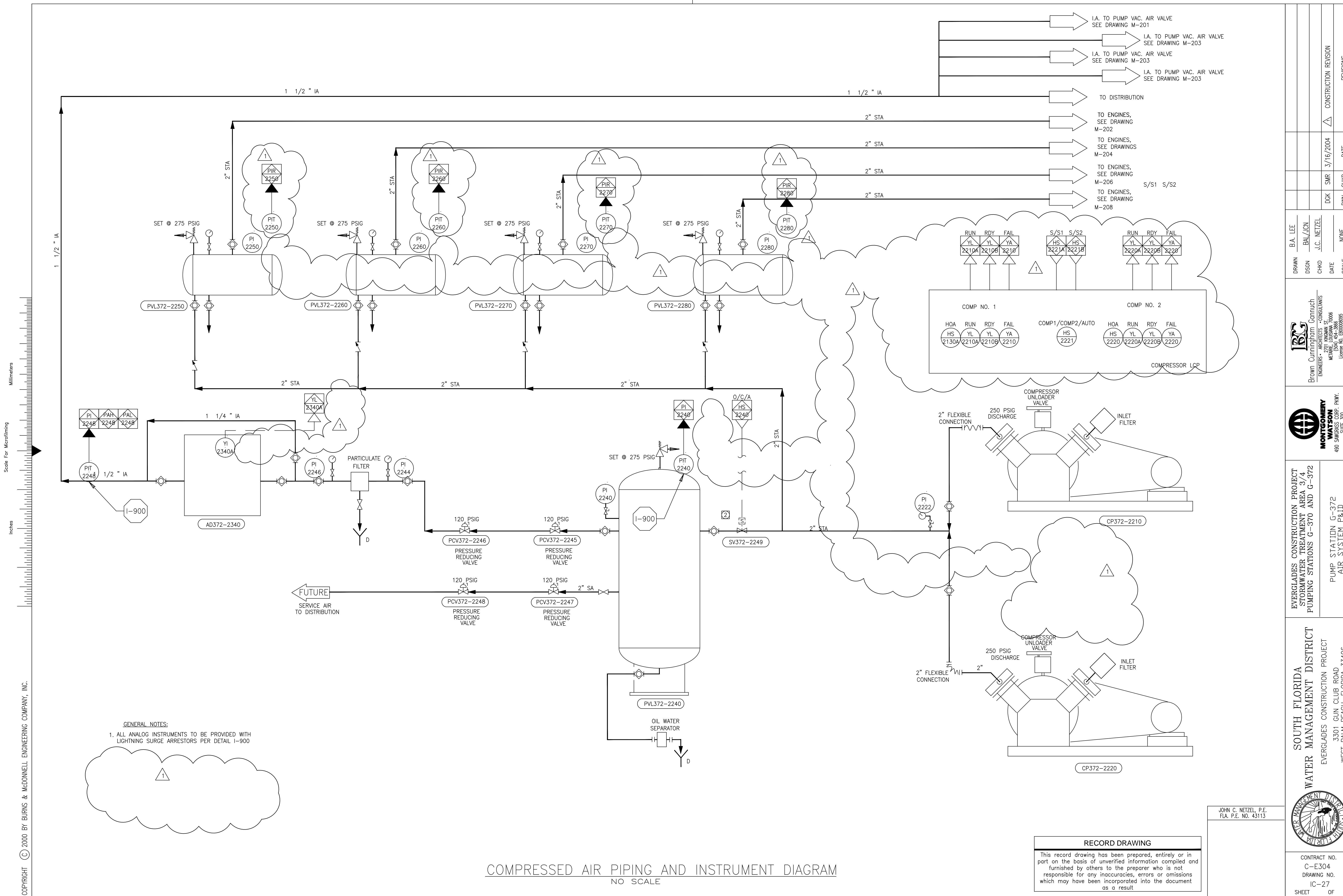
**DIESEL FUEL DAY TANK SYSTEM**  
NO SCALE

**RECORD DRAWING**  
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FLA. P.E. NO. 43113

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DRAWN B.A. LEE		DESIGN BAL/JCN		CHECKED J.C. NETZEL		DATE 6/18/2001		SCALE NONE	
CONSTRUCTION REVISION		SMR		JCN		CHKD		DATE	
DOK		BAL		COP		DWN		REVISIONS	
3/16/2004		7/5/2001		6/18/2001				REV. PER ADDENDUM NO. 4	
								REV. PER ADDENDUM NO. 3	
<p><b>BROWN CUMMINGS GANNON</b> ENGINEERS • ARCHITECTS • CONSULTANTS 2701 KENNAN ST. SUITE 100 MIAMI, FL 33133 License No. 180000895</p>									
<p><b>MONTGOMERY WATSON</b> PUMP STATION G-372 SUITE 300 SUNRISE, FL 33325</p>									
<p>EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372</p>									
<p>PUMP STATION G-372 DIESEL FUEL SYSTEM - 3 P&amp;ID</p>									
<p>SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406</p>									
<p>CONTRACT NO. C-E304 DRAWING NO. IC-26 SHEET OF</p>									



**GENERAL NOTES:**  
 1. ALL ANALOG INSTRUMENTS TO BE PROVIDED WITH LIGHTNING SURGE ARRESTORS PER DETAIL I-900

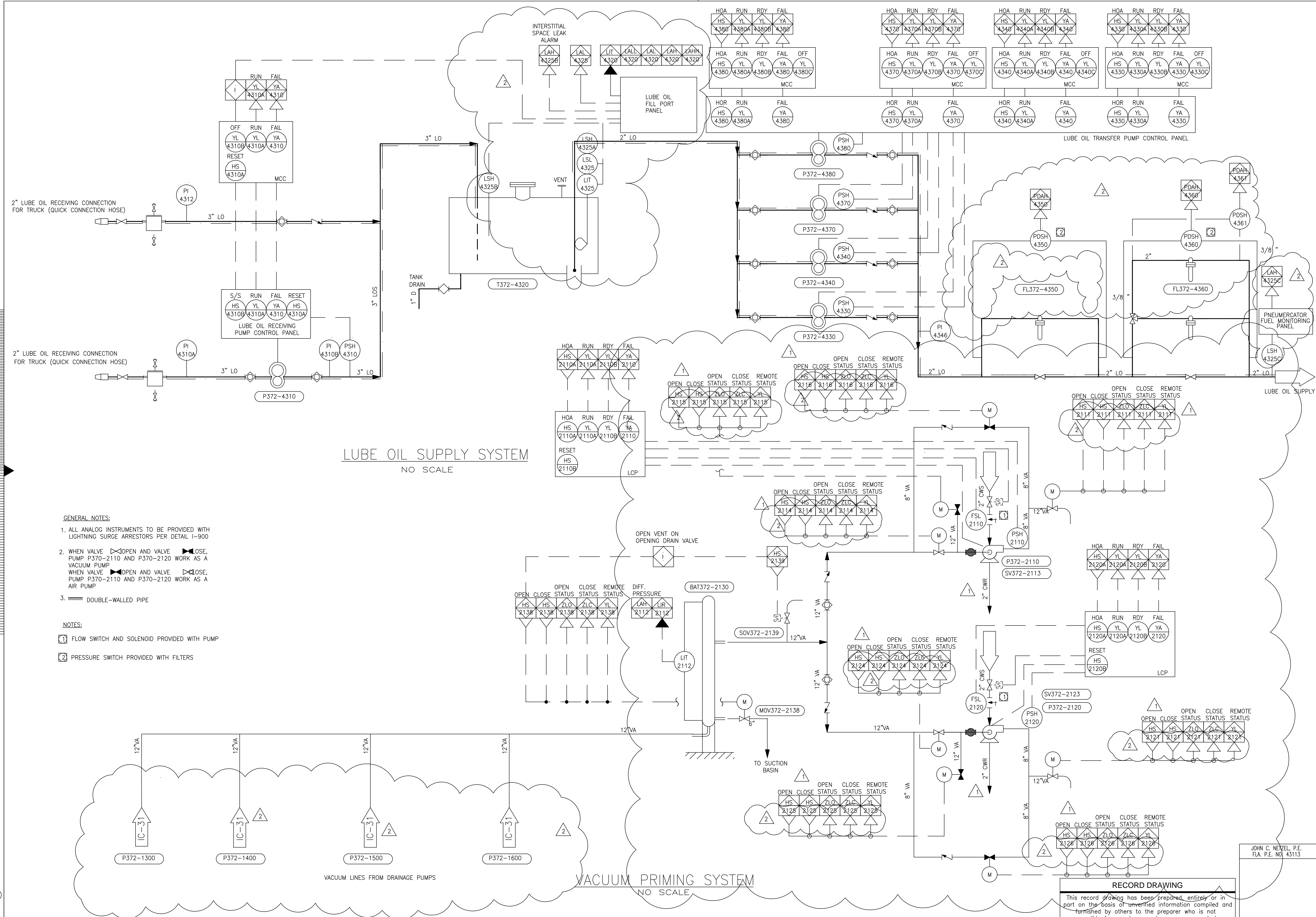
**COMPRESSED AIR PIPING AND INSTRUMENT DIAGRAM**  
 NO SCALE

**RECORD DRAWING**  
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JOHN C. NETZEL, P.E.  
 FLA. P.E. NO. 43113

<p>Brown Consulting Engineers          201 KRAMER ST.          METairie, LOUISIANA 70006          License No. EB000096</p>		<p>MONTGOMERY WATSON          490 SWANSON CORP. FWY.          SUITE 100          SUNBELT, FL 33435</p>	
DRAWN: B.A. LEE DSSN: BAL/JCN CHKD: J.C. NETZEL	DATE: 3/16/2004 DWN: CHHD	CONSTRUCTION REVISION	REVISIONS
EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372 PUMP STATION G-372 AIR SYSTEM P&ID			
SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406			
CONTRACT NO. C-E304 DRAWING NO. IC-27 SHEET OF		SFSTRDRR DGN / 7-18-2000 17:20/MDH	

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 Scale For Microfilming  
 Inches  
 Millimeters



LUBE OIL SUPPLY SYSTEM  
NO SCALE

VACUUM PRIMING SYSTEM  
NO SCALE

GENERAL NOTES:

- ALL ANALOG INSTRUMENTS TO BE PROVIDED WITH LIGHTNING SURGE ARRESTORS PER DETAIL I-900
- WHEN VALVE OPEN AND VALVE CLOSE, PUMP P370-2110 AND P370-2120 WORK AS A VACUUM PUMP  
WHEN VALVE OPEN AND VALVE CLOSE, PUMP P370-2110 AND P370-2120 WORK AS A AIR PUMP
- DOUBLE-WALLED PIPE

NOTES:

- FLOW SWITCH AND SOLENOID PROVIDED WITH PUMP
- PRESSURE SWITCH PROVIDED WITH FILTERS

Scale For Micromilming  
Inches  
Millimeters

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DRAWN	B.A. LEE	DATE	7/5/2001	REVISIONS
DSGN	BAL/JCN	CHKD	SMR	CONSTRUCTION REVISION
NETZEL	J.C. NETZEL	DATE	3/16/2004	REVISED PER ADDENDUM NO. 4
SCALE	NONE	DATE		
SCALE	NONE	DATE		

Brown Cunningham Connors  
ENGINEERS ARCHITECTS CONSULTANTS  
MECHANICAL ELECTRICAL PLUMBING  
7201 WINDYWAY ST.  
SUITE 100  
ORLANDO, FL 32835  
PHONE: 407.227.8800  
FAX: 407.227.8801  
WWW.BCCONN.COM

**MONTGOMERY WATSON**  
CORPORATION  
480 SANDGROVE CORP. PKWY.  
SUITE 100  
SUNBURG, FL 33525

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-970 AND G-972  
PUMP STATION G-972  
LUBE OIL SYSTEM P&ID

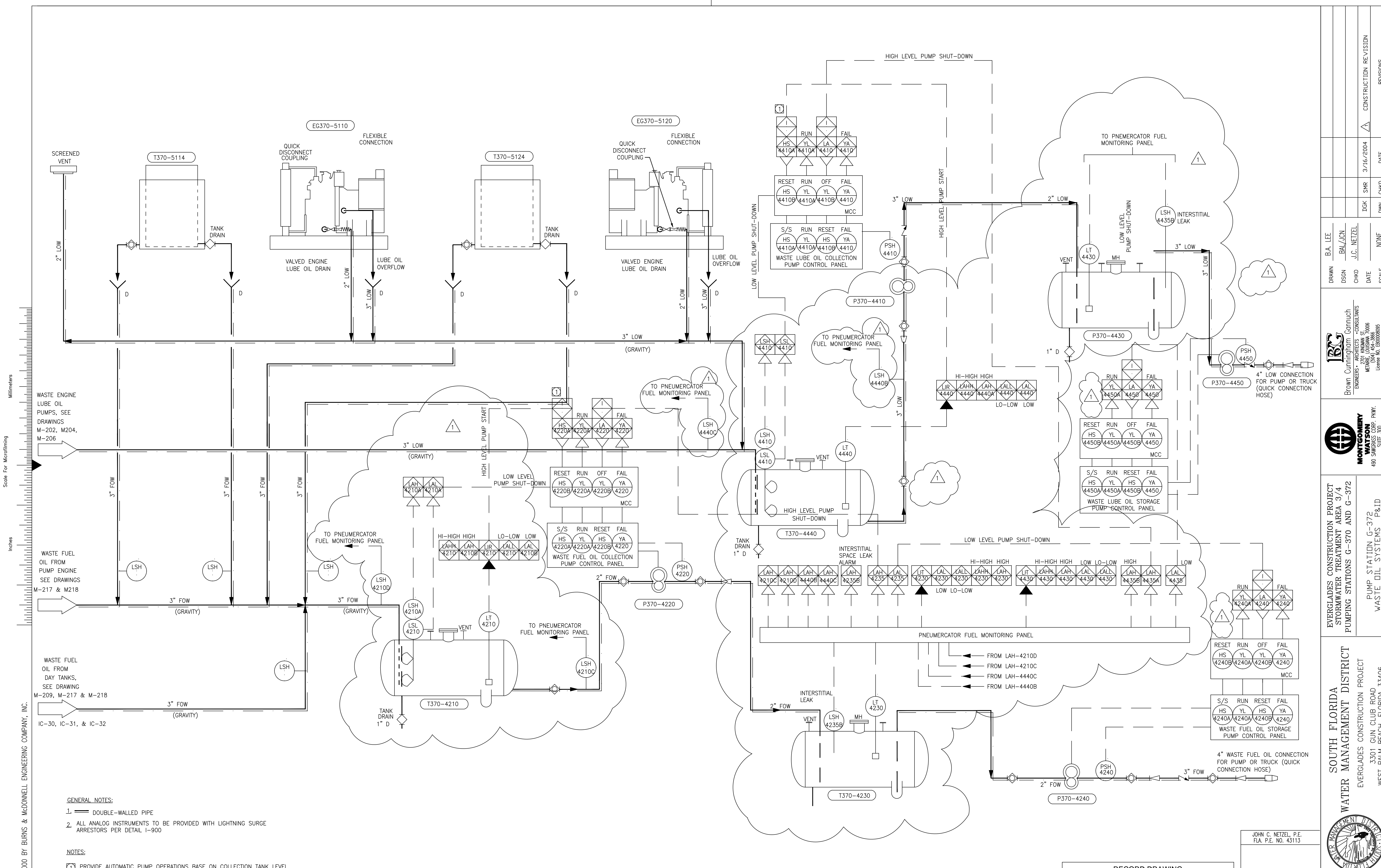
SOUTH FLORIDA WATER MANAGEMENT DISTRICT  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406

JOHN C. NETZEL, P.E.  
FLA. P.E. NO. 43113

CONTRACT NO. C-E304  
DRAWING NO. IC-28  
SHEET OF

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**GENERAL NOTES:**

- DOUBLE-WALLED PIPE
- ALL ANALOG INSTRUMENTS TO BE PROVIDED WITH LIGHTNING SURGE ARRESTORS PER DETAIL I-900

**NOTES:**

- PROVIDE AUTOMATIC PUMP OPERATIONS BASE ON COLLECTION TANK LEVEL

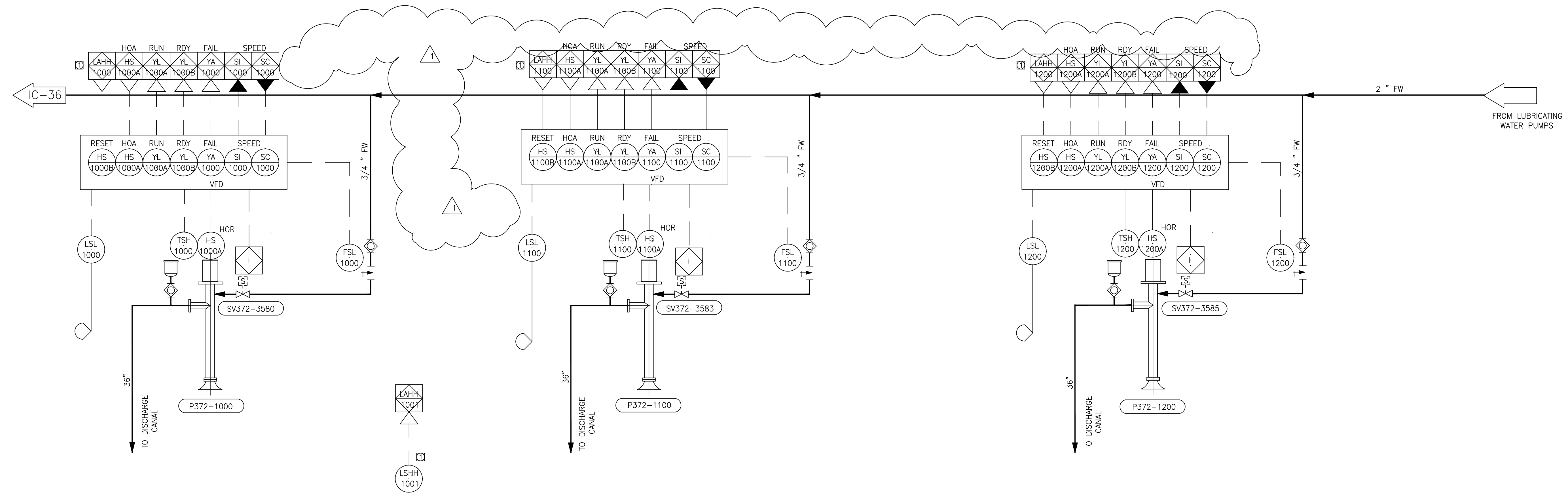
**WASTE FUEL OIL & WASTE ENGINE OIL SYSTEMS**  
NO SCALE

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FLA. P.E. NO. 43113

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 Scale For Microlining  
 Scale For Enlarging  
 Inches  
 Millimeters

Brown Cunningham Gannouch ENGINEERS • ARCHITECTS • CONSULTANTS 2701 WINDHAM ST. METairie, LOUISIANA 70006 License No. E03000995		MONTGOMERY WATSON ENGINEERS, ARCHITECTS & PLANNERS 480 SANDHURST DRIVE SUWANEE, FL 33325	
DRAWN: B.A. LEE DSGN: BAI/JCN CHKO: J.C. NETZEL DATE: 9/16/2004 SCALE: NONE	DATE: 9/16/2004 DWG: SMR DWN: CHKD REVISIONS:	EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372 WASTE OIL SYSTEMS P&ID	
SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406		CONTRACT NO. C-E304 DRAWING NO. IC-29 SHEET OF	



SEEPAGE PUMPS  
NO SCALE

**GENERAL NOTES:**  
 1. ALL ANALOG INSTRUMENTS TO BE PROVIDED WITH LIGHTNING SURGE ARRESTORS PER DETAIL I-900  
**NOTE:**  
 1. STOP PUMP ON HIGH HIGH LEVEL IN DISCHARGE WELL. SET ALARM UNTIL RESET, ALARM AT MMI.


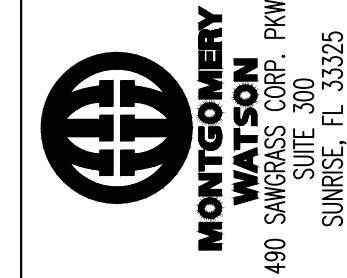
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 FLA. P.E. NO. 43113

**LEGEND**  
 SOLENOID VALVE



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 BROWN CUNNINGHAM GANNOCHE ENGINEERS - ARCHITECTS - CONSULTANTS METairie, LOUISIANA 70006 License No. EB0008895		DRAWN: B.A. LEE DSGN: BAL/JCN CHKD: J.C. NETZEL DATE: 9/16/2004 SCALE: NONE	DATE: 9/16/2004 CHKD: SMR DWN: DWN REVISIONS:
 MONTGOMERY WATSON ENGINEERS ARCHITECTS CONSULTANTS 490 SWINNEY CORP. PKWY. SUNRISE, FL 33325		EVERGLADES CONSTRUCTION PROJECT STORMWATER TREATMENT AREA 3/4 PUMPING STATIONS G-370 AND G-372 PUMP STATION G-372 SERVICE WATER P&ID	
SOUTH FLORIDA WATER MANAGEMENT DISTRICT EVERGLADES CONSTRUCTION PROJECT 3301 GUN CLUB ROAD WEST PALM BEACH, FLORIDA 33406		CONTRACT NO. C-E304 DRAWING NO. IC-30 SHEET OF	





480-208/120volts 3 φ 4 w PANELBOARD LP-1 LIGHTING POWER												FEED BOTTOM					
150A MAIN LOCATION ELEV 31 S.E. CORNER												MTG SURFACE					
LOAD DESCRIPTION	VOLT AMPERE			LTG	REC	MIS	CIR	BKR	BKR	CIR	MIS	REC	LTG	VOLT AMPERE			LOAD DESCRIPTION
	ΦA	ΦB	ΦC											ΦA	ΦB	ΦC	
PUMP ROOM LIGHTS	1425			9			1	20	20	2		9	1425			PUMP ROOM LIGHTS	
PUMP ROOM LIGHTS		1425		8			3	2P	2P	4			1425				
PUMP ROOM LIGHTS			1250	8			5	20	20	6						SPARE	
DISCHARGE CHANNEL LIGHT			1875	3			9	20	20	10		3	1875			DISCHARGE CHANNEL LIGHT	
SUCTION CHANNEL LIGHT			1875	3			11	2P	2P	12			1875				
SUCTION CHANNEL LIGHT			1575	3			13	20	20	14		3	1875			SUCTION CHANNEL LIGHT	
DOOR LIGHTS			900	9			15	2P	2P	16		6	1200			SIGHT LIGHTING	
SIGHT LIGHTING			900	9			17	20	20	18			1200				
SIGHT LIGHTING			1425	7			19	2P	2P	20		6	1200			SIGHT LIGHTING	
TANK FARM LIGHTS	625			4			23	2P	2P	24			1200			WATER COOLER	
TANK FARM LIGHTS		625		4			25	20	20	26			500				
SPARE							27	2P	2P	28			500			SPARE	
SPARE							29	20	20	30						SPARE	
SPARE							31	20	20	32						SPARE	
SPARE							33	20	20	34						SPARE	
SPARE							35	20	20	36						SPARE	
SPARE							37	20	20	38						SPARE	
SPARE							39	20	20	40						SPARE	
SPARE							41	20	20	42						SPARE	
TOTAL	5775	7225	5450				TOTAL						5000	6875	4275		
PHASE TOTAL	10.7k	14.1k	9.7k				TOTAL LOAD										
																34.6 KVA ( 96 AMP)	

480-120/240volts 1 φ 3 w PANELBOARD LP-2 LIGHTING POWER												FEED BOTTOM					
150 A MAIN LOCATION ELEV 31 S.E. CORNER												MTG SURFACE					
LOAD DESCRIPTION	VOLT AMPERE			LTG	REC	MIS	CIR	BKR	BKR	CIR	MIS	REC	LTG	VOLT AMPERE			LOAD DESCRIPTION
	ΦA	ΦB	ΦC											ΦA	ΦB	ΦC	
PMP RM EXIT SIGNS	250			10			1	20	20	2		24	720			PMP RM EMERGENCY LGHT	
PMP RM RECEPTACLES		1200		6			3	20	20	4		6	1200			PMP RM RECEPTACLES	
PMP RM RECEPTACLES	1600			8			5	20	20	6		4	800			LOCKER ROOM RECEPTACLES	
BREAK ROOM RECEPTACLES		1400		7			7	20	20	8			600			BREAK ROOM LIGHTS/REC	
JANITOR/REFRIG RECEPT.	600			3			9	20	20	10			700			CONTROL ROOM LIGHTS	
CONTROL ROOM RECEPT.		1400		7			11	20	20	12			480			LOCKER ROOM LIGHTS	
HOT WATER HEATER	1500						13	20	20	14	1		1080			DISPOSAL	
TANK FARM RECEPTACLES	800			4			17	20	20	18			540			KITCHEN RECEPTACLES	
PIPE GALLERY LIGHTS		1280		16			19	20	20	20			1280			PIPE GALLERY LIGHTS	
PIPE GALLERY RECEPTACLES	1200			6			21	20	20	22		5	1000			PIPE GALLERY RECEPTACLES	
STILLING WELL	400			1			23	20	20	24						SAMPLER	
GEN-1 BATTERY CHARGER							25	20	20	26						SPARE	
GEN-2 BATTERY CHARGER							27	20	20	28						SAMPLER	
SPARE							29	20	20	30						SPARE	
SPARE							31	20	20	32						SPARE	
SPARE							33	20	20	34						SPARE	
SPARE							35	20	20	36						SPARE	
SPARE							37	20	20	38						SPARE	
SPARE							39	20	20	40						SPARE	
SPARE							41	20	20	42						SPARE	
TOTAL	5950	7180					TOTAL						5740	4100			
PHASE TOTAL	11690	11280					TOTAL LOAD										
																22.9 KVA ( 96 AMP)	

480-120/240volts 1 φ 3 w PANELBOARD HPP-1 HVAC POWER												FEED BOTTOM					
175A MAIN LOCATION ELEV 31 S.E. CORNER												MTG SURFACE					
LOAD DESCRIPTION	VOLT AMPERE			LTG	REC	MIS	CIR	BKR	BKR	CIR	MIS	REC	LTG	VOLT AMPERE			LOAD DESCRIPTION
	ΦA	ΦB	ΦC											ΦA	ΦB	ΦC	
AHU-2	3500						1	60	60	2			3500			AHU-1	
CU-2		3500					3	2P	2P	4			3500			CU-1	
SHOWER FAN		1300					1	30	30	6		1	1300				
SPARE			1300				7	2P	2P	8			1300			JANITOR ROOM FAN	
WHEELCHAIR LIFT							9	20	20	10		1	50			SPARE	
G370 SF-1 FILTER		100					11	20	20	12						SPARE	
G370 SF-2 FILTER			100				13	20	20	14		1				SPARE	
G370 SF-3 FILTER							15	20	20	16							
G370 SF-4 FILTER							17	20	20	18			1000			FUEL PUMP 4120	
WATER COOLER							19	20	20	20			1000				
WATER COOLER							21	20	20	22			1000			FUEL PUMP 4130	
DRYER							23	20	20	24			1000				
UV PANEL							25	20	20	26			1000			FUEL PUMP 4140	
NORTH ROLL-UP DOOR							27	20	20	28			1000				
SOUTH ROLL-UP DOOR							29	2P	2P	30			500			DISHWASHER	
							31	20	20	32			500				
							33	20	20	34						SPARE	
							35	20	20	36						PIPE GALLERY	
							37	20	20	38						ROLL UP DOOR	
							39	20	20	40							
							41	20	20	42							
TOTAL	6550	5500					TOTAL						8350	8300			
PHASE TOTAL	14900	13800					TOTAL LOAD										
																28.7 KVA ( 120 AMP)	

480-120/240volts 1 φ 3 w PANELBOARD IP-1 INSTRUMENT POWER												FEED TOP					
70A MAIN LOCATION G-370 MCC-M2												MTG IN MCC					
LOAD DESCRIPTION	VOLT AMPERE			LTG	REC	MIS	CIR	BKR	BKR	CIR	MIS	REC	LTG	VOLT AMPERE			LOAD DESCRIPTION
	ΦA	ΦB	ΦC											ΦA	ΦB	ΦC	
MAIN CONTROL PANEL	100						1	20	20	2			100			SPARE	
MASTER CONTROL PANEL		100					3	20	20	4			100			ALL CCTVS	
RTU	100						5	20	20	6			100			SPARE	
CCTV SECURITY CABINET		100					7	20	20	8			100			SPARE	
FUEL MONITORING PANEL	100						9	20	20	10			100			SPARE	
SPARE		100					11	20	20	12			100			FIRE ALARM PANEL	
WASTE FUEL OIL PANEL	100						13	20	20	14	2		400			CONTROL ROOM CONSOLE	
SPARE		100					15	20	20	16	2		400			CONTROL ROOM CONSOLE	
LUBE OIL RECEIVING PANEL	100						17	20	20	18			100			KEY PAD PANEL	
FUEL OIL RECEIVING PANEL		100					19	20	20	20							
SPARE							21	20	20	22							
SPARE							23	20	20	24							
SPARE							25	20	20	26							
SPARE							27	20	20	28							
SPARE							29	20	20	30							
							31	20	20	32							
							33	20	20	34							
							35	20	20	36							
							37	20	20	38							
							39	20	20	40							
							41	20	20	42							
TOTAL	500	500					TOTAL						1976	2356			
PHASE TOTAL	2476	2856					TOTAL LOAD										
																5.33 KVA ( 23 AMP)	

Scale For Microlimiting  
Inches  
Millimeters

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JOHN C. NETZEL P.E.  
FLA. P.E. NO. 43113

**SOUTH FLORIDA WATER MANAGEMENT DISTRICT**  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406

CONTRACT NO. C-E304  
DRAWING NO. EC-32  
SHEET OF

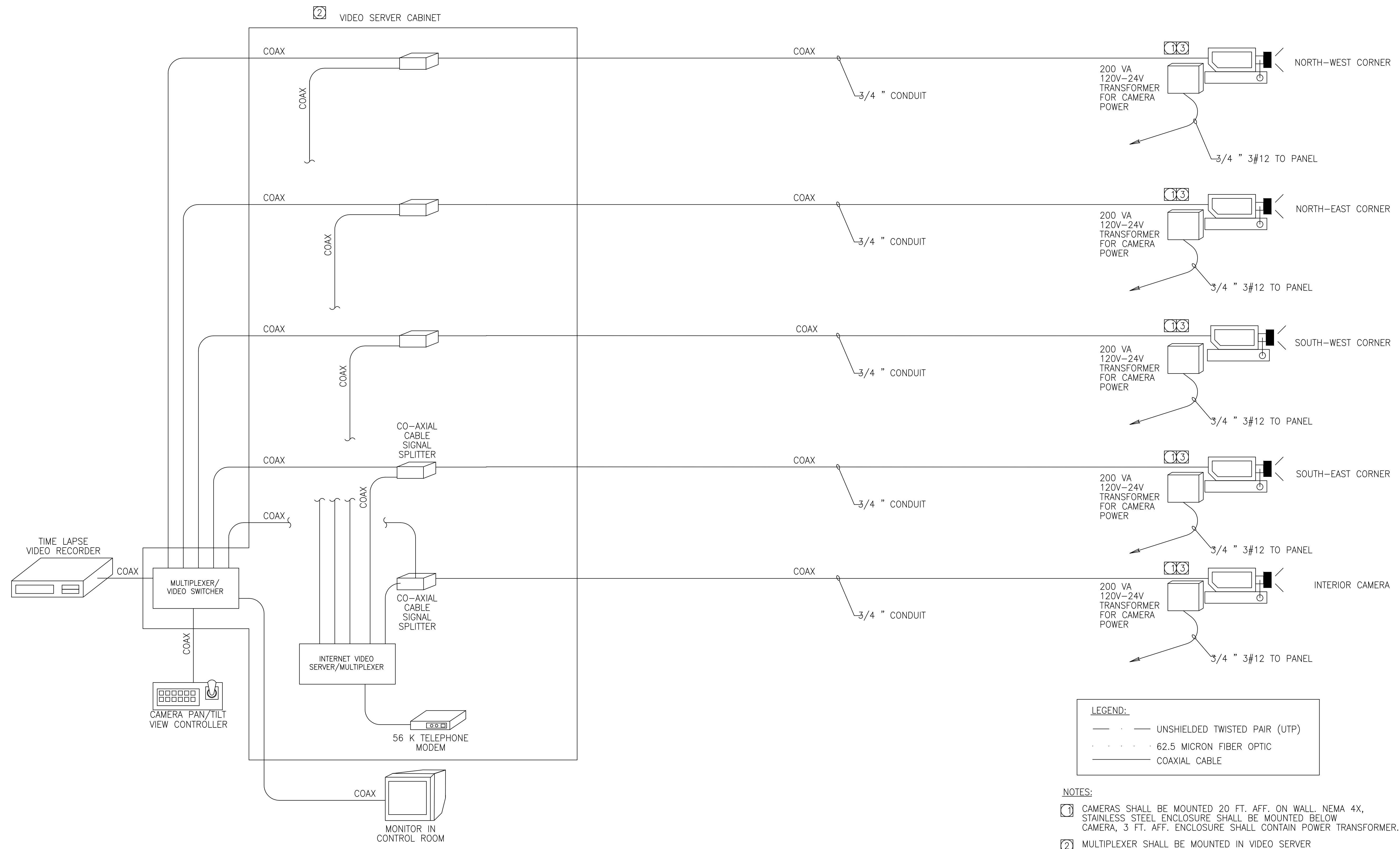
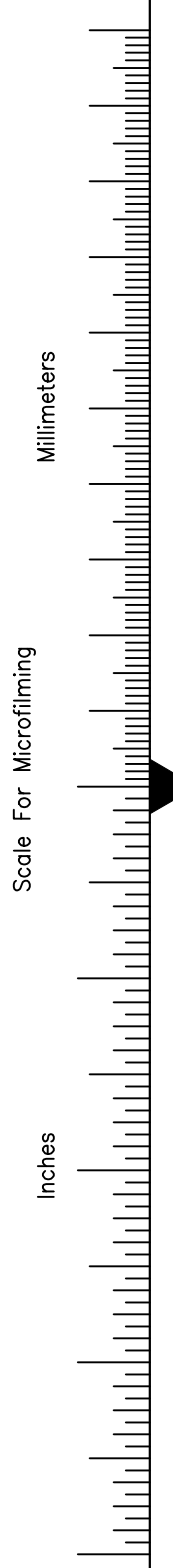
EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-370  
PANEL SCHEDULE

**MONTGOMERY WATSON**  
CONSULTANTS  
480 SHAWWEE DRIVE  
SUITE 300  
SUNRIDGE, FL 33225

**BCJ**  
Brown Cunningham Gannuch  
ENGINEERS • ARCHITECTS • CONSULTANTS  
2701 KANAWA ST.  
MEMPHIS, TENNESSEE 38108  
License No. EB0000895

DRAWN	DESIGN	CHECKED	DATE	SCALE	DATE	REVISIONS
B.A. LEE	BAL/JCN	J.C. NETZEL	7/30/02	NONE	6/13/01	
DKK	LRP	BAL	7/30/02		6/13/01	
SMR	AL	JCN	3/12/2004		6/13/01	





CONTROL ROOM

**LEGEND:**  
 - - - - - UNSHIELDED TWISTED PAIR (UTP)  
 . . . . . 62.5 MICRON FIBER OPTIC  
 ——— COAXIAL CABLE

- NOTES:**
- 1 CAMERAS SHALL BE MOUNTED 20 FT. AFF. ON WALL. NEMA 4X, STAINLESS STEEL ENCLOSURE SHALL BE MOUNTED BELOW CAMERA, 3 FT. AFF. ENCLOSURE SHALL CONTAIN POWER TRANSFORMER.
  - 2 MULTIPLEXER SHALL BE MOUNTED IN VIDEO SERVER CABINET LOCATED IN CONTROL ROOM.
  - 3 CONTRACTOR SHALL ROUTE POWER CABLES FROM TRANSFORMER, TO PAN/TILT MOTOR AS REQUIRED BY MANUFACTURER

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NO.	DATE	CHKD	DWN	REVISIONS

DRAWN	B.A. LEE
DSGN	BA/LCN
CHKD	J.C. NETZEL
DATE	
SCALE	NONE

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 METROPLEX BUILDING 7008  
 SUITE 300  
 LOS ANGELES, CA 90008  
 License No. EB0008995

**MONTGOMERY WATSON**  
 P.E. P.M.W.  
 490 SANDHURST SUITE 300  
 SUNRISE, FL 33325

EVERGLADES CONSTRUCTION PROJECT  
 STORMWATER TREATMENT AREA 3/4  
 PUMPING STATIONS G-370 AND G-372  
 CCTV BLOCK DIAGRAM & DETAILS

SOUTH FLORIDA  
 WATER MANAGEMENT DISTRICT  
 EVERGLADES CONSTRUCTION PROJECT  
 3301 GUN CLUB ROAD  
 WEST PALM BEACH, FLORIDA 33406

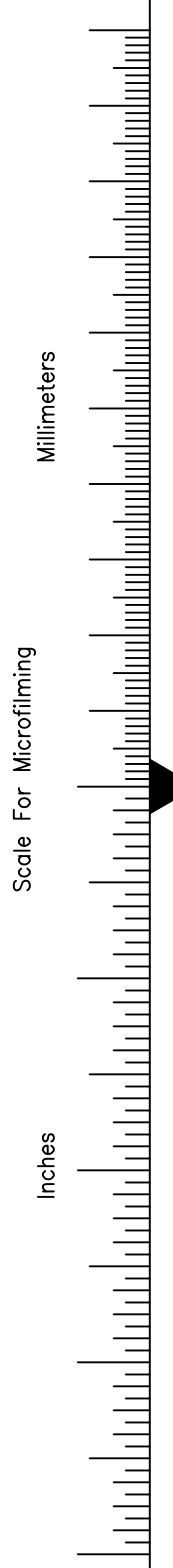


CONTRACT NO.	C-E304
DRAWING NO.	EC-34
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JOHN C. NETZEL P.E.  
 FLA. P.E. NO. 43113

480-277 VOLTS		3 Ø 4 W		PANELBOARD MOV VALVE POWER										FEED BOTTOM				
125 A. MCB MAIN				LOCATION EL. 31 S.E. CORNER										MTG SURFACE				
LOAD DESCRIPTION	VOLT AMPERE			LTG	REC	MIS	CIR	BKR		BKR	CIR	MIS	REC	LTG	VOLT AMPERE			LOAD DESCRIPTION
	ØA	ØB	ØC												ØA	ØB	ØC	
MOV 370 2113	582					1	1	20	⊕	20	2				582			MOV 370 4121
		582							⊕		4				582			
			582						⊕		6				582			
MOV 370 2109	582						7	20	⊕	20	8				582			MOV 370 4131
		582							⊕		10				582			
			582						⊕		12				582			
MOV 370 2119	582						13	20	⊕	20	14				582			MOV 370 4141
		582							⊕		16				582			
			582						⊕		18				582			
MOV 370 2123	582						19	20	⊕	20	20				582			MOV 370 4151
		582							⊕		22				582			
			582						⊕		24				582			
MOV 370 2138	582						25	20	⊕	20	26				582			MOV 370 1331
		582							⊕		28				582			
			582						⊕		30				582			
SPARE							31	20	⊕	20	32							SPARE
SPARE							33	20	⊕	20	34							SPARE
SPARE							35	20	⊕	20	36							SPARE
							37	20	⊕	20	38							
							39	20	⊕	20	40							
							41	20	⊕	20	42							
	2910	2910	2910				TOTAL				TOTAL				2910	2910	2910	
	PHASE TOTAL			TOTAL LOAD														
	5.8K	5.8K	5.8K	17.46 KVA ( 21 AMP)														

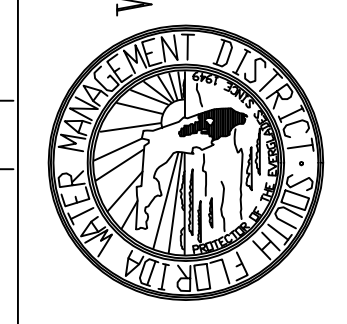


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NOTE:  
1. NEW DRAWING AS PER RFI 117

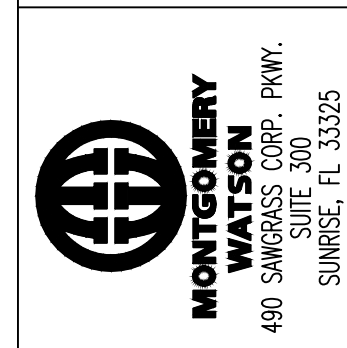
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FLA. P.E. NO. 43113



CONTRACT NO.  
C-E304  
DRAWING NO.  
EC-35  
SHEET OF

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-370  
PANEL SCHEDULE - 2



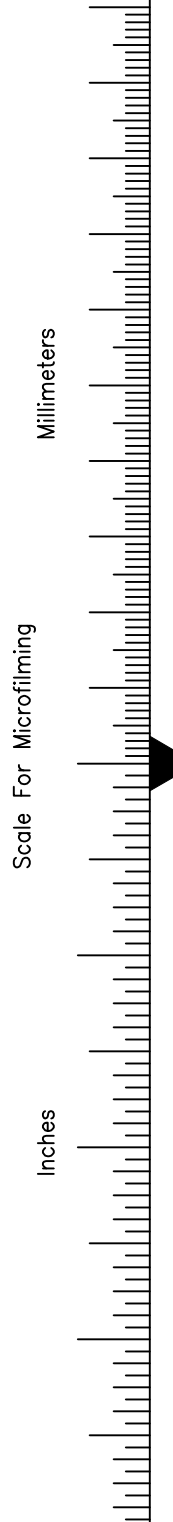
**BCG**  
Brown Cunningham Gannuch  
ENGINEERS • ARCHITECTS • CONSULTANTS  
2701 KENAWA ST.  
METRO CENTER, SUITE 7000  
LELAND, FL 33549  
License No. EB0000895

DRAWN: B.A. LEE  
DSGN: BA/LCN  
CHKD: J.C. NETZEL  
DATE: NONE  
SCALE: NONE

DIV: DWN  
CHKD: DWN  
DATE: DWN

REVISIONS

480-277 VOLTS		3 0 4 W		PANELBOARD MOV VALVE POWER										FEED BOTTOM				
125 A. MCB MAIN				LOCATION EL 31 S.W. CORNER										MTG SURFACE				
LOAD DESCRIPTION	VOLT AMPERE			LTG	REC	MIS	CIR	BKR		BKR	CIR	MIS	REC	LTG	VOLT AMPERE			LOAD DESCRIPTION
	ØA	ØB	ØC												ØA	ØB	ØC	
MOV 372 2113	582					1	1	20	⊕	20	2					582		MOV 372 4121
		582						3	⊕							582		
			582					5	⊕							582		
MOV 372 2109	582						7	20	⊕	20	8					582		MOV 372 4131
		582						9	⊕							582		
			582					11	⊕							582		
MOV 372 2119	582						13	20	⊕	20	14					582		MOV 372 4141
		582						15	⊕							582		
			582					17	⊕							582		
MOV 372 2123	582						19	20	⊕	20	20					582		MOV 372 4151
		582						21	⊕							582		
			582					23	⊕							582		
MOV 372 2138	582						25	20	⊕	20	26					582		MOV 372 1331
		582						27	⊕							582		
			582					29	⊕							582		
SPARE							31	20	⊕	20	32							SPARE
SPARE							33	20	⊕	20	34							SPARE
SPARE							35	20	⊕	20	36							SPARE
							37		⊕		38							
							39		⊕		40							
							41		⊕		42							
	2910	2910	2910				TOTAL			TOTAL					2910	2910	2910	
	PHASE TOTAL			TOTAL LOAD														
	5.8K	5.8K	5.8K	17.46 KVA ( 21 AMP)														



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NOTE:  
1. NEW DRAWING AS PER RFI 117

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FLA. P.E. NO. 43113



CONTRACT NO.  
C-E304  
DRAWING NO.  
EC-36  
SHEET OF

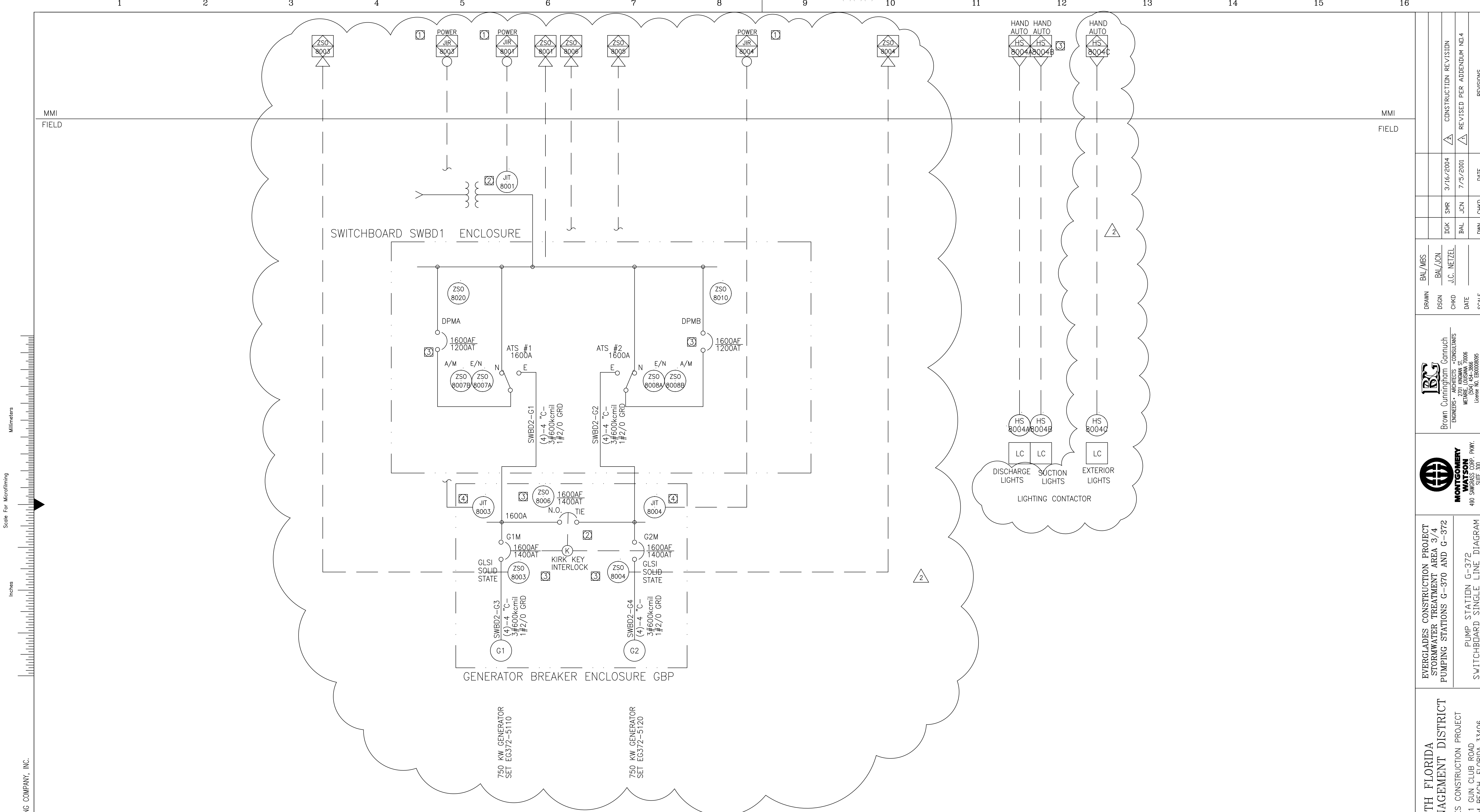
EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-372  
PANEL SCHEDULE - 2

SOUTH FLORIDA  
WATER MANAGEMENT DISTRICT  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406

**BCJ**  
Brown Cunningham Gannuch  
ENGINEERS • ARCHITECTS • CONSULTANTS  
2701 ANKAWA ST.  
METROPAULITAN LUCHANA 7008  
SUITE 300  
LEONARDO, FL 33525

**MONTGOMERY WATSON**  
P.E. P.W.  
490 SHAWNEE BLVD.  
SUITE 300  
SUNRIDGE, FL 33325

DRAWN	B.A. LEE	DATE		SCALE	NONE
DSGN	BA/LCN	CHKD	J.C. NETZEL	DWN	
REVISIONS					



NEW PUMP STATION G-372 SWITCHBOARD SWBD2

- NOTES:**
- ① MONITOR FOR (3) VOLTAGES (L-G), (3) CURRENTS, (1) POWER AND (1) POWER FACTOR THROUGH A MODBUS RS-485 CONNECTION
  - ② POWER MONITORS AND BREAKER STATUS SWITCHES PROVIDED AS PART OF SWITCHGEAR BY SWITCHGEAR PROVIDER
  - ③ PROVIDE LOGIC IN PLC TO TURN LIGHTS ON AT DUSK AND OFF AT DAWN. OPERATOR TO SET TIME.

Scale For Microfilming  
Inches  
Millimeters

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CONSTRUCTION REVISION	DATE
REVISOR	DATE

DWG	CHKD
DATE	SCALE

BAL/MS	DATE
SCALE	DATE

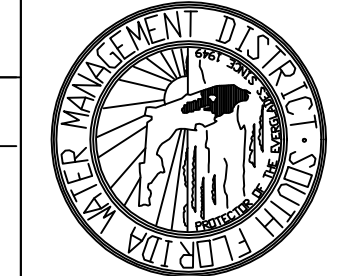
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ENGINEERS - ARCHITECTS - CONSULTANTS  
2701 ANDRAN ST.  
METairie, LOUISIANA 70006  
License No. 160008095

**MONTGOMERY WATSON**  
490 SW 5TH ST. SUITE 200  
SUNRISE, FL 33325

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-372  
SWITCHBOARD SINGLE LINE DIAGRAM

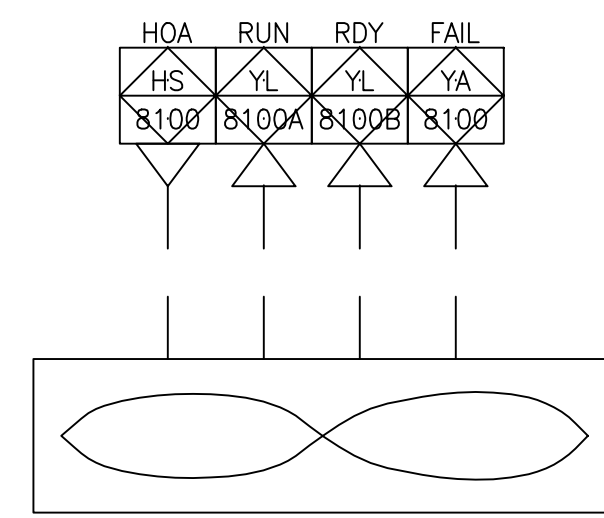
SOUTH FLORIDA  
WATER MANAGEMENT DISTRICT  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406

JOHN C. NETZEL, P.E.  
FLA. P.E. NO. 43113

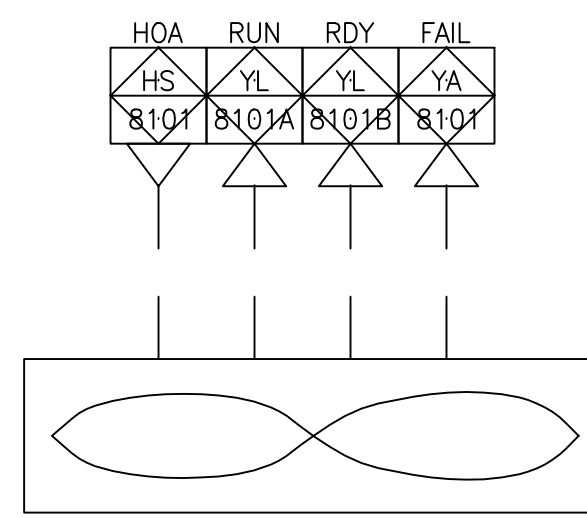


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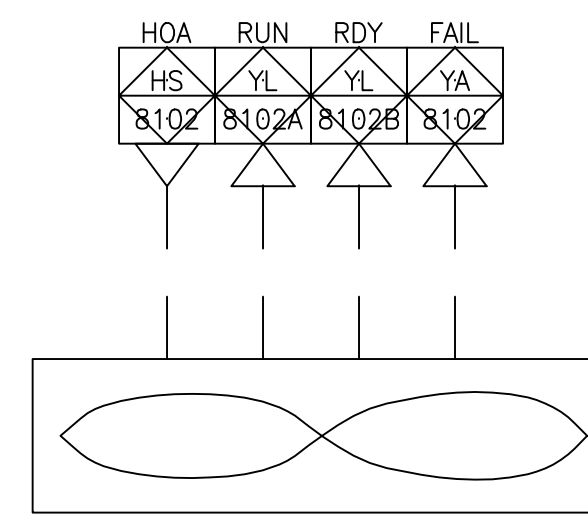
CONTRACT NO.  
C-E304  
DRAWING NO.  
IC-37  
SHEET OF



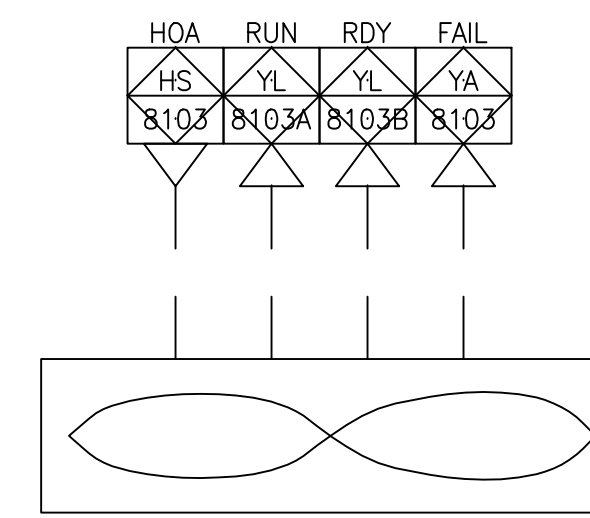
EXHAUST FAN  
EF-01



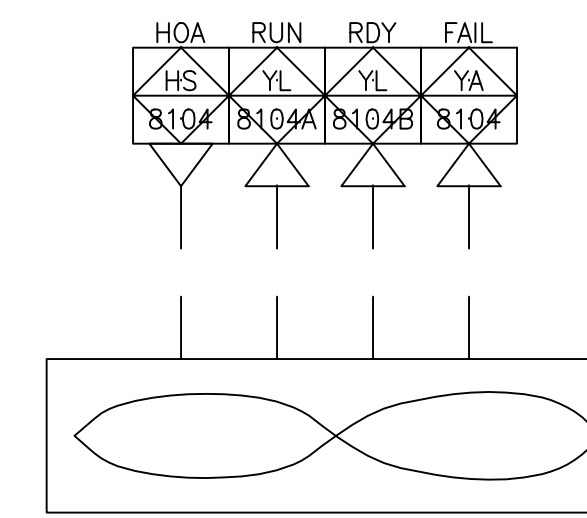
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EF-02



EXHAUST FAN  
EF-03

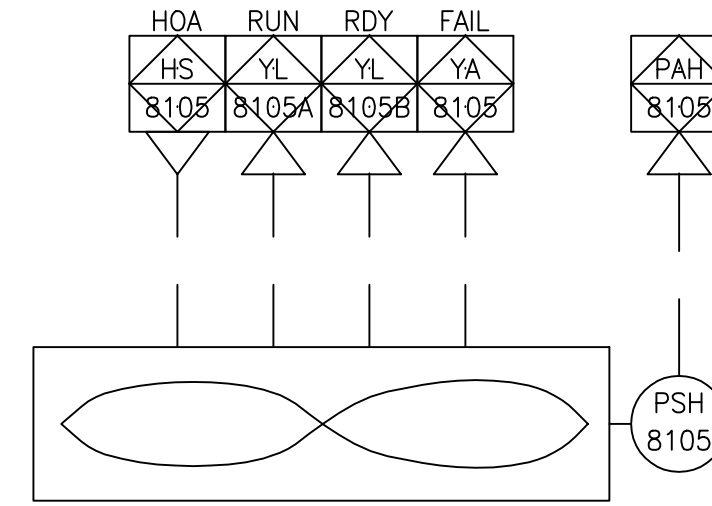


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EF-04

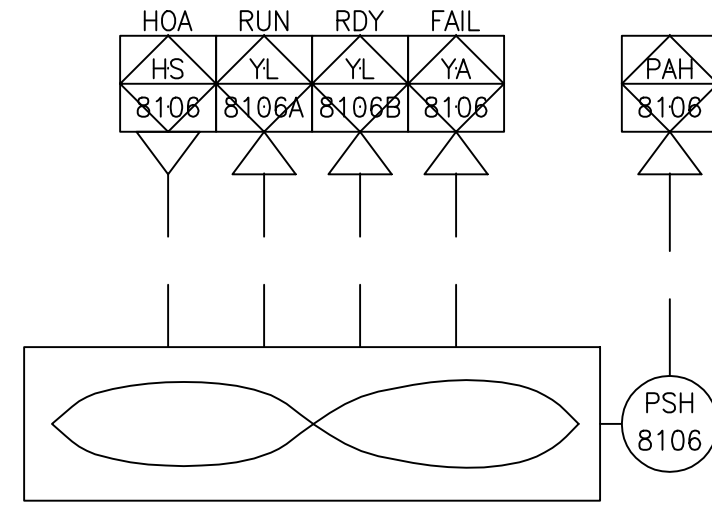


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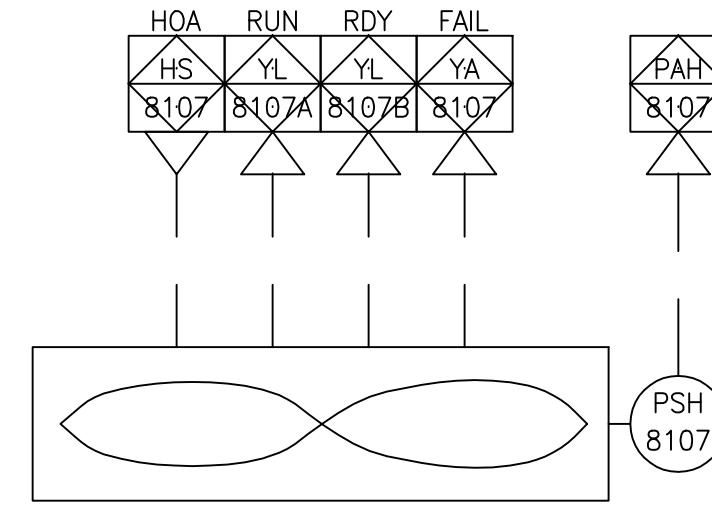
NEW PUMP STATION G-372 MCC-M1



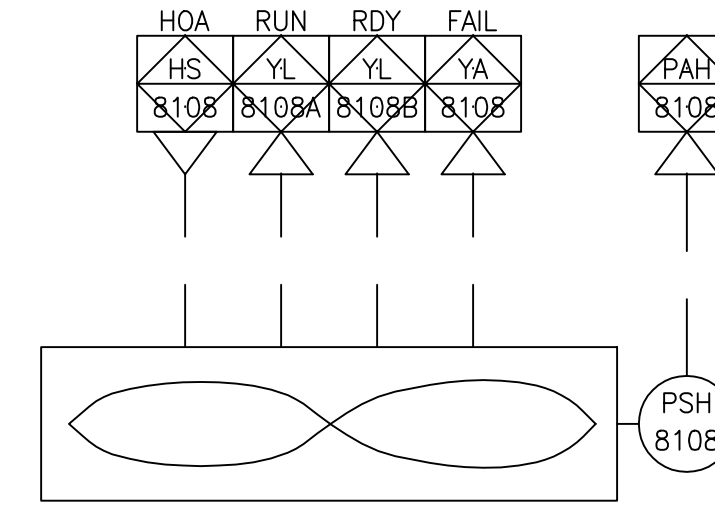
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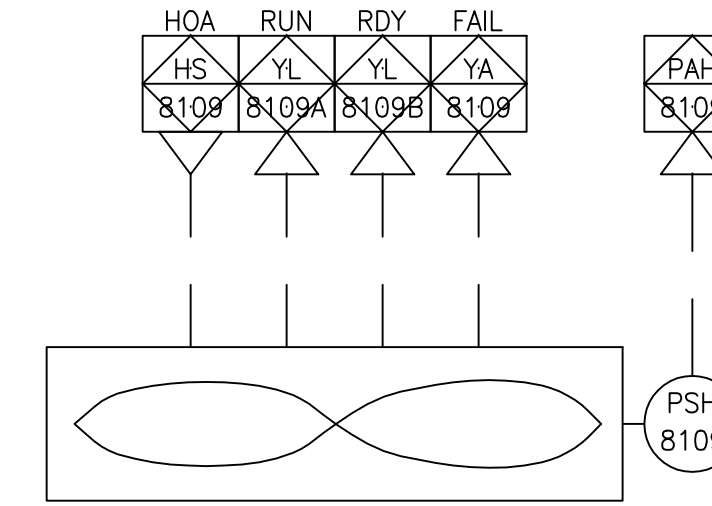
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SF-02



SUPPLY FAN  
SF-03

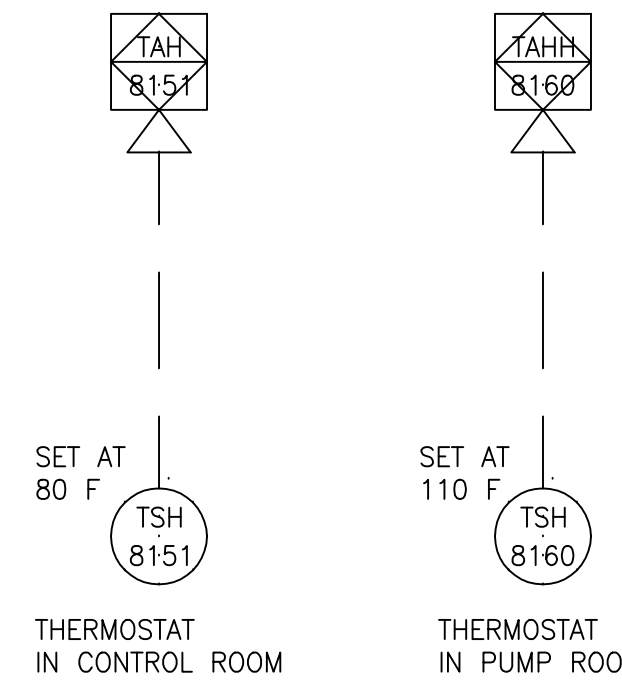


SUPPLY FAN  
SF-04



SUPPLY FAN  
SF-05

NEW PUMP STATION G-372 MCC-M2



NEW PUMP STATION G-372 HVAC SYSTEM



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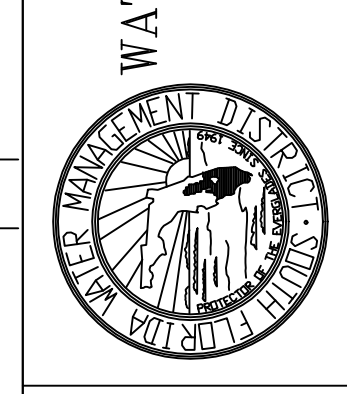
BAL/MBS	BAL/IGN	J.C. NETZEL	NONE
DRAWN	DSGN	CHKD	SCALE

**Brown Cunningham**  
ENGINEERS - ARCHITECTS - CONSULTANTS  
201 KIMMAN ST.  
METairie, LOUISIANA 70006  
License No. EB0008895

**MONTGOMERY WATSON**  
480 SWINGWAY CORP. PKWY.  
SUNRISE, FL 33325

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-372  
HVAC SYSTEM CONTROL

SOUTH FLORIDA  
WATER MANAGEMENT DISTRICT  
EVERGLADES CONSTRUCTION PROJECT  
3301 GUN CLUB ROAD  
WEST PALM BEACH, FLORIDA 33406



JOHN C. NETZEL, P.E.  
FLA. P.E. NO. 43113

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CONTRACT NO. C-E304  
DRAWING NO. IC-38  
SHEET OF



I/O POINTS TRANSFERRED ACROSS DATA HIGHWAY			
LOOP NO.	DESCRIPTION	I/O TYPE	COMMENTS
YA-1300A	LOCK OUT	DISCRETE POINT	
YA-1300B	ENGINE OVER-CRANK	DISCRETE POINT	
YA-1300C	ENGINE OVER-SPEED	DISCRETE POINT	
YA-1300D	ENGINE UNDER-SPEED	DISCRETE POINT	
YA-1300E	ENGINE LUBE OIL PRESSURE LOW	DISCRETE POINT	
YA-1300F	ENGINE LUBE OIL LEVEL LOW	DISCRETE POINT	
YA-1300G	ENGINE LUBE OIL TEMPERATURE HIGH	DISCRETE POINT	
YA-1300H	ENGINE LUBE OIL TEMPERATURE LOW	DISCRETE POINT	
YA-1300I	ENGINE LUBE OIL FILTER DIRTY	DISCRETE POINT	
YA-1300J	INTERCOOLER COOLING WATER FLOW LOW	DISCRETE POINT	
YA-1300K	ENGINE FUEL DAY TANK LEVEL LOW	DISCRETE POINT	
YA-1300L	ENGINE FUEL DAY TANK LEVEL HIGH	DISCRETE POINT	
YA-1300M	ENGINE FUEL PRESSURE LOW	DISCRETE POINT	
YA-1300N	ENGINE JACKET WATER TEMPERATURE LOW	DISCRETE POINT	
YA-1300O	ENGINE JACKET WATER TEMPERATURE HIGH	DISCRETE POINT	
YA-1300P	ENGINE JACKET WATER TEMPERATURE HIGH-HIGH	DISCRETE POINT	
YA-1300Q	ENGINE JACKET WATER PRESSURE LOW	DISCRETE POINT	
YA-1300R	STARTING AIR PRESSURE LOW	DISCRETE POINT	
YA-1300S	ENGINE CRANKCASE PRESSURE HIGH	DISCRETE POINT	
YA-1300T	ENGINE EXHAUST TEMPERATURE HIGH	DISCRETE POINT	
YA-1300U	ENGINE CYLINDER TEMPERATURE HIGH	DISCRETE POINT	
YA-1300V	ENGINE TEMPERATURE HIGH-HIGH	DISCRETE POINT	
YA-1300W	ENGINE VIBRATION HIGH-HIGH	DISCRETE POINT	
YA-1300X	ENGINE VIBRATION HIGH	DISCRETE POINT	
YA-1300Z	GEAR VIBRATION HIGH	DISCRETE POINT	
YA-1300AA	GEAR LUBE OIL PRESSURE LOW	DISCRETE POINT	
YA-1300BB	GEAR LUBE OIL LEVEL LOW	DISCRETE POINT	
YA-1300CC	GEAR LUBE OIL FILTER DIRTY	DISCRETE POINT	
YA-1300DD	INFLOW PUMP BEARING 1 LUBRICATING FLOW LOW	DISCRETE POINT	
YA-1300EE	INFLOW PUMP BEARING 2 LUBRICATING FLOW LOW	DISCRETE POINT	
YA-1300FF	HIGH ENGINE CYLINDER TEMPERATURE DIFFERENTIAL	DISCRETE POINT	
	ALARM	DISCRETE POINT	
YA-1300GG	PUMPING SYSTEM CONTROLS NOT IN AUTO	DISCRETE POINT	
YA-1300HH	VACUUM SYSTEM TROUBLE	DISCRETE POINT	

I/O POINTS TRANSFERRED ACROSS DATA HIGHWAY			
LOOP NO.	DESCRIPTION	I/O TYPE	COMMENTS
YL-1300A	READY TO AUTO START	DISCRETE POINT	
YL-1300B	START SEQUENCE INITIATED,		
	PRE-LUBE PUMP RUNNING	DISCRETE POINT	
YL-1300C	ENGINE RUNNING AT IDLE SPEED	DISCRETE POINT	
YL-1300D	ENGINE RUNNING AT RATED SPEED	DISCRETE POINT	
YL-1300E	NORMAL SHUTDOWN INITIATED, ENGINE COOLING DOWN	DISCRETE POINT	
YL-1300F	GEAR PRE-LUBE RUNNING	DISCRETE POINT	
YL-1300G	SERVICE WATER PUMPS RUNNING	DISCRETE POINT	
YL-1300H	INFLOW PUMP SHAFT BEARING		
	LUBRICATING WATER FLOW	DISCRETE POINT	
YL-1300I	SERVICE WATER PUMP RUNNING	DISCRETE POINT	
YL-1300J	VACCUUM ASSIST	DISCRETE POINT	
YL-1300K	CONTROL START	DISCRETE POINT	
YL-1300L	CONTROL STOP	DISCRETE POINT	

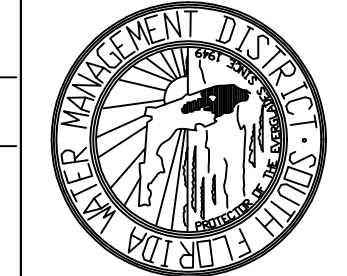
I/O POINTS TRANSFERRED ACROSS DATA HIGHWAY			
LOOP NO.	DESCRIPTION	I/O TYPE	COMMENTS
SI-1300	ENGINE SPEED, RPM	ANALOG VALUE	
KI-1300	ELAPSED RUNNING TIME, HRS	ANALOG VALUE	
PI-1301	INTAKE MANIFOLD PRESSURE, IN HG	ANALOG VALUE	
VI-1300	ENGINE VIBRATION, CHANNEL 1	ANALOG VALUE	
VI-1301	ENGINE VIBRATION, CHANNEL 2	ANALOG VALUE	
TI-1300A	CYLINDER 1 TEMPERATURE, F	ANALOG VALUE	
TI-1300B	CYLINDER 2 TEMPERATURE, F	ANALOG VALUE	
TI-1300C	CYLINDER 3 TEMPERATURE, F	ANALOG VALUE	
TI-1300D	CYLINDER 4 TEMPERATURE, F	ANALOG VALUE	
TI-1300E	CYLINDER 5 TEMPERATURE, F	ANALOG VALUE	
TI-1300F	CYLINDER 6 TEMPERATURE, F	ANALOG VALUE	
TI-1300G	CYLINDER 7 TEMPERATURE, F	ANALOG VALUE	
TI-1300H	CYLINDER 8 TEMPERATURE, F	ANALOG VALUE	
TI-1301	ENGINE COMMON EXHAUST TEMPERATURE, F	ANALOG VALUE	
TI-1303	ENGINE JACKET WATER INLET TEMPERATURE, F	ANALOG VALUE	
TI-1304	ENGINE JACKET WATER OUTLET TEMPERATURE, F	ANALOG VALUE	
TI-1305	ENGINE AUXILIARY CIRCUIT PUMP		
	OUTLET TEMPERATURE, F	ANALOG VALUE	
PI-1302	ENGINE JACKET WATER PRESSURE	ANALOG VALUE	
TI-1306	ENGINE LUBE OIL TEMPERATURE, F	ANALOG VALUE	
PI-1303	ENGINE LUBE OIL PRESSURE	ANALOG VALUE	
TI-1307	GEARLUBE OIL TEMPERATURE, F	ANALOG VALUE	
TI-1308	DAY TANK RETURN FUEL TEMPERATURE, F	ANALOG VALUE	
FI-1300	FUEL FLOW RATE	ANALOG VALUE	



NEW PUMP STATION G-372  
DIESEL ENGINE PUMP P-1 SIGNALS TO MAIN CONTROL PANEL

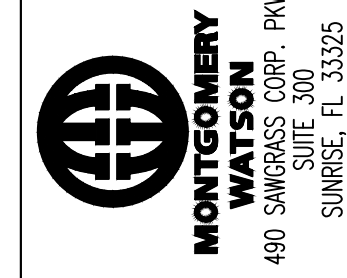
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FLA. P.E. NO. 43113



CONTRACT NO.  
C-E304  
DRAWING NO.  
IC-39  
SHEET OF

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-372  
DIESEL ENGINE PUMP P-1 SIGNALS TO MAIN CONTROL PANEL



**Brown**  
Brown, Cunningham, Gannouch  
ENGINEERS - ARCHITECTS - CONSULTANTS  
MEMBER, ILLINOIS ENGINEERING BOARD  
2701 ANAKIA ST.  
MERRILLVILLE, INDIANA 46750  
License No. 162000895

DRAWN: BAL/MBS  
DSGN: BAL/JCN  
CHKD: J.C. NETZEL  
DATE: NONE  
SCALE: NONE

DATE: 3/16/2004  
DATE: 6/18/2001  
CHKD: SMR  
CHKD: JCN  
DWN: DGN

CONSTRUCTION REVISION  
REV. PER ADDENDUM NO. 3  
REVISIONS

I/O POINTS TRANSFERRED ACROSS DATA HIGHWAY			
LOOP NO.	DESCRIPTION	I/O TYPE	COMMENTS
YA-1400A	LOCK OUT	DISCRETE POINT	
YA-1400B	ENGINE OVER-CRANK	DISCRETE POINT	
YA-1400C	ENGINE OVER-SPEED	DISCRETE POINT	
YA-1400D	ENGINE UNDER-SPEED	DISCRETE POINT	
YA-1400E	ENGINE LUBE OIL PRESSURE LOW	DISCRETE POINT	
YA-1400F	ENGINE LUBE OIL LEVEL LOW	DISCRETE POINT	
YA-1400G	ENGINE LUBE OIL TEMPERATURE HIGH	DISCRETE POINT	
YA-1400H	ENGINE LUBE OIL TEMPERATURE LOW	DISCRETE POINT	
YA-1400I	ENGINE LUBE OIL FILTER DIRTY	DISCRETE POINT	
YA-1400J	INTERCOOLER COOLING WATER FLOW LOW	DISCRETE POINT	
YA-1400K	ENGINE FUEL DAY TANK LEVEL LOW	DISCRETE POINT	
YA-1400L	ENGINE FUEL DAY TANK LEVEL HIGH	DISCRETE POINT	
YA-1400M	ENGINE FUEL PRESSURE LOW	DISCRETE POINT	
YA-1400N	ENGINE JACKET WATER TEMPERATURE LOW	DISCRETE POINT	
YA-1400O	ENGINE JACKET WATER TEMPERATURE HIGH	DISCRETE POINT	
YA-1400P	ENGINE JACKET WATER TEMPERATURE HIGH-HIGH	DISCRETE POINT	
YA-1400Q	ENGINE JACKET WATER PRESSURE LOW	DISCRETE POINT	
YA-1400R	STARTING AIR PRESSURE LOW	DISCRETE POINT	
YA-1400S	ENGINE CRANKCASE PRESSURE HIGH	DISCRETE POINT	
YA-1400T	ENGINE EXHAUST TEMPERATURE HIGH	DISCRETE POINT	
YA-1400U	ENGINE CYLINDER TEMPERATURE HIGH	DISCRETE POINT	
YA-1400V	ENGINE TEMPERATURE HIGH-HIGH	DISCRETE POINT	
YA-1400W	ENGINE VIBRATION HIGH-HIGH	DISCRETE POINT	
YA-1400X	ENGINE VIBRATION HIGH	DISCRETE POINT	
YA-1400Z	GEAR VIBRATION HIGH	DISCRETE POINT	
YA-1400AA	GEAR LUBE OIL PRESSURE LOW	DISCRETE POINT	
YA-1400BB	GEAR LUBE OIL LEVEL LOW	DISCRETE POINT	
YA-1400CC	GEAR LUBE OIL FILTER DIRTY	DISCRETE POINT	
YA-1400DD	INFLOW PUMP BEARING 1 LUBRICATING FLOW LOW	DISCRETE POINT	
YA-1400EE	INFLOW PUMP BEARING 2 LUBRICATING FLOW LOW	DISCRETE POINT	
YA-1400FF	HIGH ENGINE CYLINDER TEMPERATURE DIFFERENTIAL	DISCRETE POINT	
	ALARM	DISCRETE POINT	
YA-1400GG	PUMPING SYSTEM CONTROLS NOT IN AUTO	DISCRETE POINT	
YA-1400HH	VACUUM SYSTEM TROUBLE	DISCRETE POINT	

I/O POINTS TRANSFERRED ACROSS DATA HIGHWAY			
LOOP NO.	DESCRIPTION	I/O TYPE	COMMENTS
YL-1400A	READY TO AUTO START	DISCRETE POINT	
YL-1400B	START SEQUENCE INITIATED,		
	PRE-LUBE PUMP RUNNING	DISCRETE POINT	
YL-1400C	ENGINE RUNNING AT IDLE SPEED	DISCRETE POINT	
YL-1400D	ENGINE RUNNING AT RATED SPEED	DISCRETE POINT	
YL-1400E	NORMAL SHUTDOWN INITIATED, ENGINE COOLING DOWN	DISCRETE POINT	
YL-1400F	GEAR PRE-LUBE RUNNING	DISCRETE POINT	
YL-1400G	SERVICE WATER PUMPS RUNNING	DISCRETE POINT	
YL-1400H	INFLOW PUMP SHAFT BEARING		
	LUBRICATING WATER FLOW	DISCRETE POINT	
YL-1400I	SERVICE WATER PUMP RUNNING	DISCRETE POINT	
YL-1400J	VACCUUM ASSIST	DISCRETE POINT	
YL-1400K	CONTROL START	DISCRETE POINT	
YL-1400L	CONTROL STOP	DISCRETE POINT	

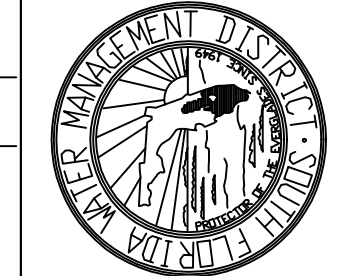
I/O POINTS TRANSFERRED ACROSS DATA HIGHWAY			
LOOP NO.	DESCRIPTION	I/O TYPE	COMMENTS
SI-1400	ENGINE SPEED, RPM	ANALOG VALUE	
KI-1400	ELAPSED RUNNING TIME, HRS	ANALOG VALUE	
PI-1401	INTAKE MANIFOLD PRESSURE, IN HG	ANALOG VALUE	
VI-1400	ENGINE VIBRATION, CHANNEL 1	ANALOG VALUE	
VI-1401	ENGINE VIBRATION, CHANNEL 2	ANALOG VALUE	
TI-1400A	CYLINDER 1 TEMPERATURE, F	ANALOG VALUE	
TI-1400B	CYLINDER 2 TEMPERATURE, F	ANALOG VALUE	
TI-1400C	CYLINDER 3 TEMPERATURE, F	ANALOG VALUE	
TI-1400D	CYLINDER 4 TEMPERATURE, F	ANALOG VALUE	
TI-1400E	CYLINDER 5 TEMPERATURE, F	ANALOG VALUE	
TI-1400F	CYLINDER 6 TEMPERATURE, F	ANALOG VALUE	
TI-1400G	CYLINDER 7 TEMPERATURE, F	ANALOG VALUE	
TI-1400H	CYLINDER 8 TEMPERATURE, F	ANALOG VALUE	
TI-1401	ENGINE COMMON EXHAUST TEMPERATURE, F	ANALOG VALUE	
TI-1403	ENGINE JACKET WATER INLET TEMPERATURE, F	ANALOG VALUE	
TI-1404	ENGINE JACKET WATER OUTLET TEMPERATURE, F	ANALOG VALUE	
TI-1405	ENGINE AUXILIARY CIRCUIT PUMP		
	OUTLET TEMPERATURE, F	ANALOG VALUE	
PI-1402	ENGINE JACKET WATER PRESSURE	ANALOG VALUE	
TI-1406	ENGINE LUBE OIL TEMPERATURE, F	ANALOG VALUE	
PI-1403	ENGINE LUBE OIL PRESSURE	ANALOG VALUE	
TI-1407	GEARLUBE OIL TEMPERATURE, F	ANALOG VALUE	
TI-1408	DAY TANK RETURN FUEL TEMPERATURE, F	ANALOG VALUE	
FI-1400	FUEL FLOW RATE	ANALOG VALUE	



NEW PUMP STATION G-372  
DIESEL ENGINE PUMP P-2 SIGNALS TO MAIN CONTROL PANEL

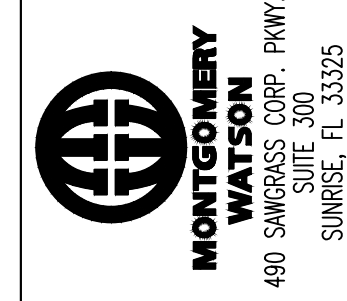
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JOHN C. NETZEL, P.E.  
FLA. P.E. NO. 43113



CONTRACT NO. C-E304  
DRAWING NO. IC-40  
SHEET OF

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-372  
DIESEL ENGINE PUMP P-2 SIGNALS TO MAIN CONTROL PANEL



**MONTGOMERY WATSON**  
ENGINEERS, ARCHITECTS & CONSULTANTS  
490 SANDHILLS DRIVE, SUITE 100  
SUNRISE, FL 33325

**Brown Cunningham Gannouch**  
ENGINEERS - ARCHITECTS - CONSULTANTS  
2701 ANDAHL ST.  
MEMPHIS, TENNESSEE 38114  
License No. 180008095

DRAWN: BAL/MBS  
DSGN: BAL/JCN  
CHKD: J.C. NETZEL  
DATE: NONE  
SCALE: NONE

DIGK: SMR  
COP: JCN  
DWN: DWN  
CHKD: CHKD

3/16/2004  
6/18/2001  
CONSTRUCTION REVISION  
REV. PER ADDENDUM NO. 3  
REVISIONS

I/O POINTS TRANSFERRED ACROSS DATA HIGHWAY			
LOOP NO.	DESCRIPTION	I/O TYPE	COMMENTS
YA-1500A	LOCK OUT	DISCRETE POINT	
YA-1500B	ENGINE OVER-CRANK	DISCRETE POINT	
YA-1500C	ENGINE OVER-SPEED	DISCRETE POINT	
YA-1500D	ENGINE UNDER-SPEED	DISCRETE POINT	
YA-1500E	ENGINE LUBE OIL PRESSURE LOW	DISCRETE POINT	
YA-1500F	ENGINE LUBE OIL LEVEL LOW	DISCRETE POINT	
YA-1500G	ENGINE LUBE OIL TEMPERATURE HIGH	DISCRETE POINT	
YA-1500H	ENGINE LUBE OIL TEMPERATURE LOW	DISCRETE POINT	
YA-1500I	ENGINE LUBE OIL FILTER DIRTY	DISCRETE POINT	
YA-1500J	INTERCOOLER COOLING WATER FLOW LOW	DISCRETE POINT	
YA-1500K	ENGINE FUEL DAY TANK LEVEL LOW	DISCRETE POINT	
YA-1500L	ENGINE FUEL DAY TANK LEVEL HIGH	DISCRETE POINT	
YA-1500M	ENGINE FUEL PRESSURE LOW	DISCRETE POINT	
YA-1500N	ENGINE JACKET WATER TEMPERATURE LOW	DISCRETE POINT	
YA-1500O	ENGINE JACKET WATER TEMPERATURE HIGH	DISCRETE POINT	
YA-1500P	ENGINE JACKET WATER TEMPERATURE HIGH-HIGH	DISCRETE POINT	
YA-1500Q	ENGINE JACKET WATER PRESSURE LOW	DISCRETE POINT	
YA-1500R	STARTING AIR PRESSURE LOW	DISCRETE POINT	
YA-1500S	ENGINE CRANKCASE PRESSURE HIGH	DISCRETE POINT	
YA-1500T	ENGINE EXHAUST TEMPERATURE HIGH	DISCRETE POINT	
YA-1500U	ENGINE CYLINDER TEMPERATURE HIGH	DISCRETE POINT	
YA-1500V	ENGINE TEMPERATURE HIGH-HIGH	DISCRETE POINT	
YA-1500W	ENGINE VIBRATION HIGH-HIGH	DISCRETE POINT	
YA-1500X	ENGINE VIBRATION HIGH	DISCRETE POINT	
YA-1500Z	GEAR VIBRATION HIGH	DISCRETE POINT	
YA-1500AA	GEAR LUBE OIL PRESSURE LOW	DISCRETE POINT	
YA-1500BB	GEAR LUBE OIL LEVEL LOW	DISCRETE POINT	
YA-1500CC	GEAR LUBE OIL FILTER DIRTY	DISCRETE POINT	
YA-1500DD	INFLOW PUMP BEARING 1 LUBRICATING FLOW LOW	DISCRETE POINT	
YA-1500EE	INFLOW PUMP BEARING 2 LUBRICATING FLOW LOW	DISCRETE POINT	
YA-1500FF	HIGH ENGINE CYLINDER TEMPERATURE DIFFERENTIAL	DISCRETE POINT	
	ALARM	DISCRETE POINT	
YA-1500GS	PUMPING SYSTEM CONTROLS NOT IN AUTO	DISCRETE POINT	
YA-1500HH	VACUUM SYSTEM TROUBLE	DISCRETE POINT	

I/O POINTS TRANSFERRED ACROSS DATA HIGHWAY			
LOOP NO.	DESCRIPTION	I/O TYPE	COMMENTS
YL-1500A	READY TO AUTO START	DISCRETE POINT	
YL-1500B	START SEQUENCE INITIATED,		
	PRE-LUBE PUMP RUNNING	DISCRETE POINT	
YL-1500C	ENGINE RUNNING AT IDLE SPEED	DISCRETE POINT	
YL-1500D	ENGINE RUNNING AT RATED SPEED	DISCRETE POINT	
YL-1500E	NORMAL SHUTDOWN INITIATED, ENGINE COOLING DOWN	DISCRETE POINT	
YL-1500F	GEAR PRE-LUBE RUNNING	DISCRETE POINT	
YL-1500G	SERVICE WATER PUMPS RUNNING	DISCRETE POINT	
YL-1500H	INFLOW PUMP SHAFT BEARING		
	LUBRICATING WATER FLOW	DISCRETE POINT	
YL-1500I	SERVICE WATER PUMP RUNNING	DISCRETE POINT	
YL-1500J	VACCUUM ASSIST	DISCRETE POINT	
YL-1500K	CONTROL START	DISCRETE POINT	
YL-1500L	CONTROL STOP	DISCRETE POINT	

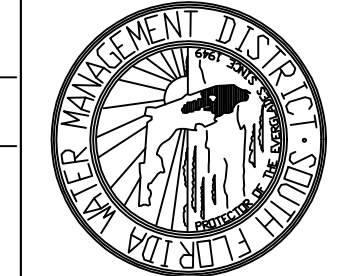
I/O POINTS TRANSFERRED ACROSS DATA HIGHWAY			
LOOP NO.	DESCRIPTION	I/O TYPE	COMMENTS
SI-1500	ENGINE SPEED, RPM	ANALOG VALUE	
KI-1500	ELAPSED RUNNING TIME, HRS	ANALOG VALUE	
PI-1501	INTAKE MANIFOLD PRESSURE, IN HG	ANALOG VALUE	
VI-1500	ENGINE VIBRATION, CHANNEL 1	ANALOG VALUE	
VI-1501	ENGINE VIBRATION, CHANNEL 2	ANALOG VALUE	
TI-1500A	CYLINDER 1 TEMPERATURE, F	ANALOG VALUE	
TI-1500B	CYLINDER 2 TEMPERATURE, F	ANALOG VALUE	
TI-1500C	CYLINDER 3 TEMPERATURE, F	ANALOG VALUE	
TI-1500D	CYLINDER 4 TEMPERATURE, F	ANALOG VALUE	
TI-1500E	CYLINDER 5 TEMPERATURE, F	ANALOG VALUE	
TI-1500F	CYLINDER 6 TEMPERATURE, F	ANALOG VALUE	
TI-1500G	CYLINDER 7 TEMPERATURE, F	ANALOG VALUE	
TI-1500H	CYLINDER 8 TEMPERATURE, F	ANALOG VALUE	
TI-1501	ENGINE COMMON EXHAUST TEMPERATURE, F	ANALOG VALUE	
TI-1503	ENGINE JACKET WATER INLET TEMPERATURE, F	ANALOG VALUE	
TI-1504	ENGINE JACKET WATER OUTLET TEMPERATURE, F	ANALOG VALUE	
TI-1505	ENGINE AUXILIARY CIRCUIT PUMP		
	OUTLET TEMPERATURE, F	ANALOG VALUE	
PI-1502	ENGINE JACKET WATER PRESSURE	ANALOG VALUE	
TI-1506	ENGINE LUBE OIL TEMPERATURE, F	ANALOG VALUE	
PI-1503	ENGINE LUBE OIL PRESSURE	ANALOG VALUE	
TI-1507	GEARLUBE OIL TEMPERATURE, F	ANALOG VALUE	
TI-1508	DAY TANK RETURN FUEL TEMPERATURE, F	ANALOG VALUE	
FI-1500	FUEL FLOW RATE	ANALOG VALUE	



NEW PUMP STATION G-372  
DIESEL ENGINE PUMP P-3 SIGNALS TO MAIN CONTROL PANEL

**RECORD DRAWING**  
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JOHN C. NETZEL, P.E.  
FLA. P.E. NO. 43113



CONTRACT NO. C-E304  
DRAWING NO. IC-41  
SHEET OF

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-372  
DIESEL ENGINE PUMP P-3 SIGNALS TO MAIN CONTROL PANEL



**Brown**  
Brown Cunningham Gannouch  
ENGINEERS - ARCHITECTS - CONSULTANTS  
2701 ANDAHL ST.  
MEMPHIS, TENNESSEE 38108  
License No. 180008095

DRAWN: BAL/MBS  
DSGN: BAL/JCN  
CHKD: J.C. NETZEL  
DATE: NONE  
SCALE: NONE

3/16/2004  
6/18/2001  
SMR JCN  
DGR COP  
DNE CHKD  
DNE

CONSTRUCTION REVISION  
REV. PER ADDENDUM NO. 3  
REVISIONS

I/O POINTS TRANSFERRED ACROSS DATA HIGHWAY			
LOOP NO.	DESCRIPTION	I/O TYPE	COMMENTS
YA-1600A	LOCK OUT	DISCRETE POINT	
YA-1600B	ENGINE OVER-CRANK	DISCRETE POINT	
YA-1600C	ENGINE OVER-SPEED	DISCRETE POINT	
YA-1600D	ENGINE UNDER-SPEED	DISCRETE POINT	
YA-1600E	ENGINE LUBE OIL PRESSURE LOW	DISCRETE POINT	
YA-1600F	ENGINE LUBE OIL LEVEL LOW	DISCRETE POINT	
YA-1600G	ENGINE LUBE OIL TEMPERATURE HIGH	DISCRETE POINT	
YA-1600H	ENGINE LUBE OIL TEMPERATURE LOW	DISCRETE POINT	
YA-1600I	ENGINE LUBE OIL FILTER DIRTY	DISCRETE POINT	
YA-1600J	INTERCOOLER COOLING WATER FLOW LOW	DISCRETE POINT	
YA-1600K	ENGINE FUEL DAY TANK LEVEL LOW	DISCRETE POINT	
YA-1600L	ENGINE FUEL DAY TANK LEVEL HIGH	DISCRETE POINT	
YA-1600M	ENGINE FUEL PRESSURE LOW	DISCRETE POINT	
YA-1600N	ENGINE JACKET WATER TEMPERATURE LOW	DISCRETE POINT	
YA-1600O	ENGINE JACKET WATER TEMPERATURE HIGH	DISCRETE POINT	
YA-1600P	ENGINE JACKET WATER TEMPERATURE HIGH-HIGH	DISCRETE POINT	
YA-1600Q	ENGINE JACKET WATER PRESSURE LOW	DISCRETE POINT	
YA-1600R	STARTING AIR PRESSURE LOW	DISCRETE POINT	
YA-1600S	ENGINE CRANKCASE PRESSURE HIGH	DISCRETE POINT	
YA-1600T	ENGINE EXHAUST TEMPERATURE HIGH	DISCRETE POINT	
YA-1600U	ENGINE CYLINDER TEMPERATURE HIGH	DISCRETE POINT	
YA-1600V	ENGINE TEMPERATURE HIGH-HIGH	DISCRETE POINT	
YA-1600W	ENGINE VIBRATION HIGH-HIGH	DISCRETE POINT	
YA-1600X	ENGINE VIBRATION HIGH	DISCRETE POINT	
YA-1600Z	GEAR VIBRATION HIGH	DISCRETE POINT	
YA-1600AA	GEAR LUBE OIL PRESSURE LOW	DISCRETE POINT	
YA-1600BB	GEAR LUBE OIL LEVEL LOW	DISCRETE POINT	
YA-1600CC	GEAR LUBE OIL FILTER DIRTY	DISCRETE POINT	
YA-1600DD	INFLOW PUMP BEARING 1 LUBRICATING FLOW LOW	DISCRETE POINT	
YA-1600EE	INFLOW PUMP BEARING 2 LUBRICATING FLOW LOW	DISCRETE POINT	
YA-1600FF	HIGH ENGINE CYLINDER TEMPERATURE DIFFERENTIAL	DISCRETE POINT	
	ALARM	DISCRETE POINT	
YA-1600GG	PUMPING SYSTEM CONTROLS NOT IN AUTO	DISCRETE POINT	
YA-1600HH	VACUUM SYSTEM TROUBLE	DISCRETE POINT	

I/O POINTS TRANSFERRED ACROSS DATA HIGHWAY			
LOOP NO.	DESCRIPTION	I/O TYPE	COMMENTS
YL-1600A	READY TO AUTO START	DISCRETE POINT	
YL-1600B	START SEQUENCE INITIATED,		
	PRE-LUBE PUMP RUNNING	DISCRETE POINT	
YL-1600C	ENGINE RUNNING AT IDLE SPEED	DISCRETE POINT	
YL-1600D	ENGINE RUNNING AT RATED SPEED	DISCRETE POINT	
YL-1600E	NORMAL SHUTDOWN INITIATED, ENGINE COOLING DOWN	DISCRETE POINT	
YL-1600F	GEAR PRE-LUBE RUNNING	DISCRETE POINT	
YL-1600G	SERVICE WATER PUMPS RUNNING	DISCRETE POINT	
YL-1600H	INFLOW PUMP SHAFT BEARING		
	LUBRICATING WATER FLOW	DISCRETE POINT	
YL-1600I	SERVICE WATER PUMP RUNNING	DISCRETE POINT	
YL-1600J	VACCUUM ASSIST	DISCRETE POINT	
YL-1600K	CONTROL START	DISCRETE POINT	
YL-1600L	CONTROL STOP	DISCRETE POINT	

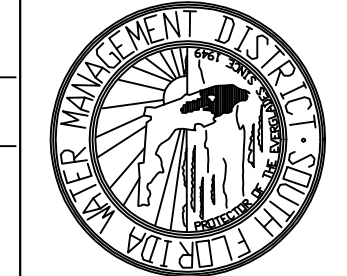
I/O POINTS TRANSFERRED ACROSS DATA HIGHWAY			
LOOP NO.	DESCRIPTION	I/O TYPE	COMMENTS
SI-1600	ENGINE SPEED, RPM	ANALOG VALUE	
KI-1600	ELAPSED RUNNING TIME, HRS	ANALOG VALUE	
PI-1601	INTAKE MANIFOLD PRESSURE, IN HG	ANALOG VALUE	
VI-1600	ENGINE VIBRATION, CHANNEL 1	ANALOG VALUE	
VI-1601	ENGINE VIBRATION, CHANNEL 2	ANALOG VALUE	
TI-1600A	CYLINDER 1 TEMPERATURE, F	ANALOG VALUE	
TI-1600B	CYLINDER 2 TEMPERATURE, F	ANALOG VALUE	
TI-1600C	CYLINDER 3 TEMPERATURE, F	ANALOG VALUE	
TI-1600D	CYLINDER 4 TEMPERATURE, F	ANALOG VALUE	
TI-1600E	CYLINDER 5 TEMPERATURE, F	ANALOG VALUE	
TI-1600F	CYLINDER 6 TEMPERATURE, F	ANALOG VALUE	
TI-1600G	CYLINDER 7 TEMPERATURE, F	ANALOG VALUE	
TI-1600H	CYLINDER 8 TEMPERATURE, F	ANALOG VALUE	
TI-1601	ENGINE COMMON EXHAUST TEMPERATURE, F	ANALOG VALUE	
TI-1603	ENGINE JACKET WATER INLET TEMPERATURE, F	ANALOG VALUE	
TI-1604	ENGINE JACKET WATER OUTLET TEMPERATURE, F	ANALOG VALUE	
TI-1605	ENGINE AUXILIARY CIRCUIT PUMP		
	OUTLET TEMPERATURE, F	ANALOG VALUE	
PI-1602	ENGINE JACKET WATER PRESSURE	ANALOG VALUE	
TI-1606	ENGINE LUBE OIL TEMPERATURE, F	ANALOG VALUE	
PI-1603	ENGINE LUBE OIL PRESSURE	ANALOG VALUE	
TI-1607	GEARLUBE OIL TEMPERATURE, F	ANALOG VALUE	
TI-1608	DAY TANK RETURN FUEL TEMPERATURE, F	ANALOG VALUE	
FI-1600	FUEL FLOW RATE	ANALOG VALUE	



NEW PUMP STATION G-372  
DIESEL ENGINE PUMP P-4 SIGNALS TO MAIN CONTROL PANEL

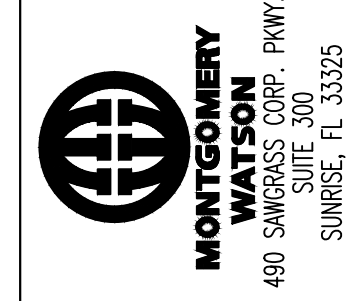
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JOHN C. NETZEL, P.E.  
FLA. P.E. NO. 43113



CONTRACT NO. C-E304  
DRAWING NO. IC-42  
SHEET OF

EVERGLADES CONSTRUCTION PROJECT  
STORMWATER TREATMENT AREA 3/4  
PUMPING STATIONS G-370 AND G-372  
PUMP STATION G-372  
DIESEL ENGINE PUMP 4 SIGNALS  
TO MAIN CONTROL PANEL



**Brown Cunningham Gannouch**  
ENGINEERS - ARCHITECTS - CONSULTANTS  
2701 ANAKIA ST.  
MIAMI, FLORIDA 33133  
License No. EB0008995

DRAWN: BAL/MSB  
DESIGN: BAL/JCN  
CHECKED: J.C. NETZEL  
DATE: 3/16/2004  
SCALE: NONE

DATE: 3/16/2004  
CHKD: SMR  
DATE: 6/18/2001  
CHKD: JCN

CONSTRUCTION REVISION  
REV. PER ADDENDUM NO. 3