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PANEL LOAD SUMMARY

Panel: RPL-PUMP

Equipment	LIGHT	RCPT	O/M	CB SIZE	CIRCUIT #	PHASE A	PHASE B	PHASE C	CIRCUIT #	CB SIZE	LIGHT	RCPT	O/M	Equipment
POOL DECK RECEPTACLE		1200		20/1(GFI)	1	1420			22	20/1(GFI)	220			POOL LIGHTS
POOL DECK RECEPTACLE		1200		20/1(GFI)	2		1475		23	20/1(GFI)	275			POOL LIGHTS
UV TREATMENT SYSTEM			650	20/2	3			760	24	20/1(GFI)	110			POOL LIGHTS
			650		4	650			25	20/1(GFI)				SPARE
SANITIZER/PH BUFFER RECEP.		400		20/1(GFI)	5		400		26	20/1(GFI)				SPARE
LEISURE CHEMICAL CONT.			400	20/1(GFI)	6			400	27	20/1(GFI)				SPARE
LEISURE CHEMICAL CONT.			400	20/1(GFI)	7	400			28	20/1(GFI)				SPARE
LEISURE WATER LVL CONT.		400		20/1(GFI)	8		400		29	20/1(GFI)				SPARE
SPRAY WATER LVL CONT.		400		20/1(GFI)	9			400	30	20/1(GFI)				SPARE
LEISURE ASH SLURRY PUMP		400		20/1(GFI)	10	400			31	50/1				SPACE
SPRAY ASH SLURRY PUMP		400		20/1(GFI)	11		400		32	50/1				SPACE
LEISURE CHLORINATOR		400		20/1(GFI)	12			400	33	50/1				SPACE
SPRAY CHLORINATOR		400		20/1(GFI)	13	400			34	50/1				SPACE
SPRAY GROUND CHEM CONT.			400	20/1(GFI)	14		400		35	50/1				SPACE
SPRAY GROUND CHEM CONT.			400	20/1(GFI)	15			400	36	50/1				SPACE
LEISURE CHEMICAL CONT.			400	20/1(GFI)	16	400			37	50/1				SPACE
SPRAY CHEMICAL CONT.			400	20/1(GFI)	17		400		38	50/1				SPACE
SPARE				20/1	18			0	39	50/1				SPACE
SF-1			800	20/1	19	800			40	50/1				SPACE
EF-1			718	15/2	20		718		41	50/1				SPACE
			718		21			718	42	50/1				SPACE
Sub-Total	0	6200	5936			4470	4193	3078			605	0	0	Sub-Total

LOAD TYPE	TOTAL CONNECTED LOAD PER PHASE(VA) Phase A	Phase B	Phase C	DEMAND FACTOR	DEMAND LOAD (VA) Phase A	Phase B	Phase C
LIGHTING	220.00	275.00	110.00	1.00	220.00	275.00	110.00
RECEPTACLES	2000.00	2400.00	800.00	*	2000.00	2400.00	800.00
MOTORS/OTHER	2250.00	1518.00	2168.00	1.00	2250.00	1518.00	2168.00
TOTAL	4470.00	4193.00	3078.00		4470.00	4193.00	3078.00

TOTAL CONNECTED LIGHTING LOAD	0.61	KVA
TOTAL CONNECTED RECEPTACLE LOAD	5.20	KVA
TOTAL CONNECTED MOTOR/OTHER LOAD	5.94	KVA
TOTAL CONNECTED LOAD	11.74	KVA

* Diversified per NEC Table 220.13.

WIRE SIZE CALCULATIONS		
LARGEST PHASE DEMAND	4.47	KVA
NO. OF PHASES	3.00	
DEMAND LOAD	13.41	KVA
SPARE CAPACITY @25%	3.35	KVA
TOTAL DESIGN LOAD	16.76	KVA
SUPPLY VOLTAGE	208.00	V
MINIMUM CCT AMPS	46.53	AMPS

ENCLOSURE	NEMA 4X
MOUNTING	SURFACE
MAIN TYPE	ML
SIZE	100A
FEED THRU	NO
FEED	BOTTOM
BUS RATING	125A
SERVICE RATED	NO
MIN FULL EQUIP KAIC RATING	22
TYPE	NQOD
MANUFACTURER	SQ D
OTHER	

VOLTS 120/ 208 V 3 Phase, 4 Wire & Grd Bus Bar

PANEL LOAD SUMMARY

Panel: PPH-POOL

Equipment	LIGHT	RCPT	O/M	CB SIZE	CIRCUIT #	PHASE A	PHASE B	PHASE C	CIRCUIT #	CB SIZE	LIGHT	RCPT	O/M	Equipment
RPL-POOL	2344	11020	11116	150/3	1	36280			22	70/3			11800	POOL RECIRC PUMP (PP1)
	1547	10674	13492		2		37513		23				11800	
	2932	8760	14259		3			37761	24				11800	
KEF-1			459	20/3	4	4337			25	25/3			3878	POOL FEATURE PUMP (PP3)
			459		5		4337		26				3878	
			459		6			4337	27				3878	
MAU-1			692	20/3	7	6409			28	40/3			5817	POOL WATER SLIDE PUMP (PP2)
			692		8		6409		29				5817	
			692		9			6409	30				5817	
SPARE				20/1	10	2105			31	15/3			2105	SPRAY RECIRC PUMP (PP4)
SPARE				20/1	11		2105		32				2105	
PARKING LOT POLE LTG.	452			20/1	12			2557	33				2105	
PARKING LOT POLE LTG.	678			20/1	13	2783			34	15/3			2105	SPRAY FEATURE PUMP (PP5)
PARKING LOT POLE LTG.				20/1	14		2105		35				2105	
SPARE				20/1	15			2105	36				2105	
POOL DECK POLE LIGHTS	2495			20/1	16	2495			37	20/1				SPARE
POOL DECK POLE LIGHTS	2495			20/1	17		2495		38	20/1				SPARE
POOL DECK POLE LIGHTS	2495			20/1	18			2495	39	20/1				SPARE
POOL DECK POLE LIGHTS	2495			20/1	19	2495			40	20/1				SPARE
POOL DECK POLE LIGHTS	2495			20/1	20		2495		41	20/1				SPARE
POOL DECK POLE LIGHTS	2495			20/1	21			2495	42	20/1				SPARE
Sub-Total	22923	30464	42020			56904	67459	58149			0	0	77115	Sub-Total

LOAD TYPE	TOTAL CONNECTED LOAD PER PHASE(VA) Phase A	Phase B	Phase C	DEMAND FACTOR	DEMAND LOAD (VA) Phase A	Phase B	Phase C
LIGHTING	8012.00	6537.00	8374.00	1.00	8012.00	6537.00	8374.00
RECEPTACLES	11020.00	10674.00	8760.00	*	7176.50	7003.50	6046.50
MOTORS/OTHER	37872.00	40248.00	41015.00	1.00	37872.00	40248.00	41015.00
TOTAL	56904.00	67459.00	58149.00		53060.50	53788.50	55435.50

TOTAL CONNECTED LIGHTING LOAD	22.92	KVA
TOTAL CONNECTED RECEPTACLE LOAD	30.45	KVA
TOTAL CONNECTED MOTOR/OTHER LOAD	119.14	KVA
TOTAL CONNECTED LOAD	172.51	KVA

* Diversified per NEC Table 220.13.

WIRE SIZE CALCULATIONS		
LARGEST PHASE DEMAND	55.44	KVA
NO. OF PHASES	3.00	
DEMAND LOAD	166.31	KVA
SPARE CAPACITY @25%	41.58	KVA
TOTAL DESIGN LOAD	207.88	KVA
SUPPLY VOLTAGE	480.00	V
MINIMUM CCT AMPS	250.04	AMPS

ENCLOSURE	NEMA 1
MOUNTING	SURFACE
MAIN TYPE	MB
SIZE	300A
FEED THRU	NO
FEED	BOTTOM
BUS RATING	400A
SERVICE RATED	YES
MIN FULL EQUIP KAIC RATING	42
TYPE	NF
MANUFACTURER	SQ D
OTHER	TVSS

VOLTS 277/ 480 V 3 Phase, 4 Wire & Grd Bus Bar

PANEL LOAD SUMMARY

Panel: RPL-POOL (SECTION I)

Equipment	LIGHT	RCPT	O/M	CB SIZE	CIRCUIT #	PHASE A	PHASE B	PHASE C	CIRCUIT #	CB SIZE	LIGHT	RCPT	O/M	Equipment
STOR 18/CONC 017 RECEP.		600		20/1(GFI)	1	700			22	20/1			100	WATER HEATER FAN
EXTERIOR RECEPTACLE		800		20/1(GFI)	2		900		23	20/1			100	WATER HEATER FAN
POOL PUMP ROOM 001 RECEP.		600		20/1(GFI)	3			700	24	20/1			100	RECIRC. PUMP
WOMENS 016 RECEP.		400		20/1(GFI)	4	600			25	20/1			100	RECIRC. PUMP
WOMENS 016 HAND DRYER			100	20/1(GFI)	5		1456		26	20/1(GFI)		1356		COFFEE BREWER (10)
WOMENS 016 SUIT SPINNER			100	20/1(GFI)	6			1780	27	20/1(GFI)		1680		TEA BREWER (11)
PATIO DRINKING FOUNTAIN		400		20/1(GFI)	7	1600			28	20/1(GFI)		1200		SOFT DRINK DISP (5)
PATIO DRINKING FOUNTAIN		400		20/1(GFI)	8		1264		29	20/1(GFI)		864		ICE CREAM FREEZER (15)
PATIO DRINKING FOUNTAIN		400		20/1(GFI)	9			1600	30	20/1(GFI)		1200		POINT OF SALE (6)
ICE MACHINE			500	20/1(GFI)	10	1196			31	20/1(GFI)		696		SANDWICH PREP (21)
JAN 009/CE 011/STOR 014 RECEP.		800		20/1	11		2050		32	20/1(GFI)		1250		HEATED SHELF (22)
FAMILY 008 RECEPTACLE		200		20/1(GFI)	12			1640	33	20/1(GFI)		1440		HEATED DISPLAY CASE (23)
TBB RECEPTACLE		800		20/1	13	1784			34	20/1(GFI)			984	ICE MAKER (14)
TBB RECEPTACLE		800		20/1	14		1448		35	20/1(GFI)		648		REACH IN FRIDGE (26)
SOUND RACK RECEP.		400		20/1	15			640	36	20/1(GFI)		240		GRIDDLE (28)
OFFICE 012 RECEP.		600		20/1	16	1680			37	20/1(GFI)		1080		FRYER FILTER(29)
OFFICE 012 RECEP.		600		20/1	17		1356		38	20/1(GFI)		756		FRYER HEAT LAMP(29)
SOUND RACK RECEP.		400		20/1	18			620	39	20/1(GFI)			120	BAG-N-BOX(5A)
MENS 007 RECEPTACLE		400		20/1(GFI)	19	1240			40	20/1(GFI)		840		REACH IN FREEZER(30)
MENS 007 HAND DRYER			100	20/1	20		1300		41	20/1			1200	EXHAUST HOOD(31)
MENS 007 SUIT SPINNER			100	20/1	21			1180	42	20/1			1080	AIR CURTAIN(12)
Sub-Total	0	8600	900			8700	9774	8060			0	13250	3784	Sub-Total

LOAD TYPE	TOTAL CONNECTED LOAD PER PHASE(VA) Phase A	Phase B	Phase C
LIGHTING	0.00	0.00	0.00
RECEPTACLES	7016.00	8274.00	6560.00
MOTORS/OTHER	1684.00	1500.00	1500.00
TOTAL	8700.00	9774.00	8060.00

ENCLOSURE	NEMA 1
MOUNTING	SURFACE
MAIN TYPE	MB
SIZE	250A
FEED THRU	YES
FEED	TOP
BUS RATING	400A
SERVICE RATED	NO
MIN FULL EQUIP KAIC RATING	22
TYPE	NQ
MANUFACTURER	SQ D
OTHER	

VOLTS 120/ 208 V 3 Phase, 4 Wire & Grd Bus Bar

Panel: RPL-POOL (SECTION II)

Equipment	LIGHT	RCPT	O/M	CB SIZE	CIRCUIT #	PHASE A	PHASE B	PHASE C	CIRCUIT #	CB SIZE	LIGHT	RCPT	O/M	Equipment
VRF-1,2,3,4			146	15/2	43	546			64	20/1		400		CP-1
			146		44		546		65	20/1			400	VRF CONTROL PANEL
VRF-5,6,7,8			188	15/2	45			988	66	20/1		800		STOR/LIFEGUARD/DRESSING RECEP.
			188		46	438			67	20/1	250			EXTERIOR LIGHTING
EF-3			500	20/1	47		600		68	20/1			100	POWER FOR GATE
SF-2			800	20/1	48			1550	69	20/1	750			POOL PUMP RM 001 LTG.
SF-3			800	20/1	49	1350			70	20/1	550			RMS 005,006,008,008-015 LTG.
EF-2			718	15/2	50		1790		71	20/1	1072			MENS LOCKER LTG.
			718		51			1790	72	20/1	1072			WOMENS LOCKER LTG.
MAG METERS		800		20/1	52	1124			73	20/1	324			CONCESSIONS LTG.
VALVE BOX HEATER			1900	40/1 (GFI)	53		2100		74	20/1	200			PATIO LIGHTING
VALVE BOX HEATER			1400	30/1 (GFI)	54			2400	75	20/1	1000			PATIO FANS
ECH-1			1000	20/2	55	2000			76	20/1	1000			PATIO FANS
			1000		56		2082		77	15/2			1082	DSCU-1
EWH-1			1000	20/2	57			2082	78				1082	
			1000		58	2900			79	**40/1 (GFI)			1900	FIRE SPRINKLER HEAT TRACE
DSHP-1			2080	40/2	59		2920		80	**20/1 (GFI)			840	WATERLINE HEAT TRACE
			2080		60			2480	81	20/1		400		CONDENSATE RECEP.
HP-1			4323	60/3	61	8393			62	100/3	220	2000	1850	RPL-PUMP
			4323		62		7718		83		275	2400	718	
			4323		63			7001	84		110	800	1766	
Sub-Total	0	800	28633			16761	17754	18291			6823	6600	9740	Sub-Total

LOAD TYPE	TOTAL CONNECTED LOAD PER PHASE(VA) Phase A	Phase B	Phase C
LIGHTING	2344.00	1547.00	2932.00
RECEPTACLES	10216.00	10674.00	8560.00
MOTORS/OTHER	12891.00	15307.00	14859.00
TOTAL	25451.00	27528.00	26351.00

TOTAL CONNECTED LIGHTING LOAD	6.82	KVA
TOTAL CONNECTED RECEPTACLE LOAD	29.45	KVA
TOTAL CONNECTED MOTOR/OTHER LOAD	43.06	KVA
TOTAL CONNECTED LOAD	79.33	KVA

* Diversified per NEC Table 220.13. ** 30MA GFI

ENCLOSURE	NEMA 1
MOUNTING	SURFACE
MAIN TYPE	ML
SIZE	250A
FEED THRU	YES
FEED	TOP
BUS RATING	[illegible]
SERVICE RATED	[illegible]
MIN FULL EQUIP KAIC RATING	22
TYPE	NQ
MANUFACTURER	SQ D
OTHER	

VOLTS 120/ 208 V 3 Phase, 4 Wire & Grd Bus Bar

Panel: RPL-POOL (SECTION III)

Equipment	LIGHT	RCPT	O/M	CB SIZE	CIRCUIT #	PHASE A	PHASE B	PHASE C	CIRCUIT #	CB SIZE	LIGHT	RCPT	O/M	Equipment
FRIDGE BASE (28)		804		20/1 (GFI)	85	[illegible]			106	[illegible]			1000	EWH-2
WASHER		1200		20/1	86		[illegible]		107				1000	
DRYER		2800		30/2	[illegible]			2800	108	[illegible]				SPARE
		2800			88	2800			[illegible]	20/2				SPARE
FRONT EXTERIOR CANOPY LTG	200			20/1	89		[illegible]		[illegible]					
FRONT COLUMN/SIGN LTG	200			20/1	90			200	111	20/2				SPARE
LIGHTING CONTACTOR			200	20/1	91	[illegible]			112					
RPZ VAULT			1000	20/1 (GFI)	92		1000		113	50/1				SPACE
PATIO CONV. RECEPTACLE		600		20/1 (GFI)	93			600	114	50/1				SPACE
IRRIGATION CONTROLLER		200		20/1 (GFI)	94	200			115	50/1				SPACE
KITCHEN RECEPTACLE		200		20/1 (GFI)	95		[illegible]		116	50/1				SPACE
LIV-A	400			20/1	96			400	117	50/1				SPACE
FACP			400	20/1	97	400			118	50/1				SPACE
POOL POLE LIGHTING CONTROLLER			400	20/1	98		400		119	50/1				SPACE
SPARE				20/1	99			0	120	50/1				SPACE
SPARE				20/1	100	0			121	50/1				SPACE
SPARE				20/1	101		0		122	50/1				SPACE
SPARE				20/1	102			0	123	50/1				SPACE
SPARE				20/1	103	0			124	50/1				SPACE
SPARE				20/1	104		0		125	50/1				SPACE
SPARE				20/1	105			0	126	50/1				SPACE
Sub-Total	[illegible]	8604	2000			6404	4000	4000			0	0	2000	Sub-Total

LOAD TYPE	TOTAL CONNECTED LOAD PER PHASE(VA) Phase A	Phase B	Phase C	DEMAND FACTOR	DEMAND LOAD (VA) Phase A	Phase B	Phase C
LIGHTING	2344.00	1747.00	3532.00	1.00	2344.00	1747.00	3532.00
RECEPTACLES	14020.00	12074.00	11960.00	*	8676.50	7703.50	7646.50
MOTORS/OTHER	14491.00	17707.00	14859.00	1.00	14491.00	17707.00	14859.00
TOTAL	30855.00	31528.00	30351.00		25511.50	27157.50	26037.50

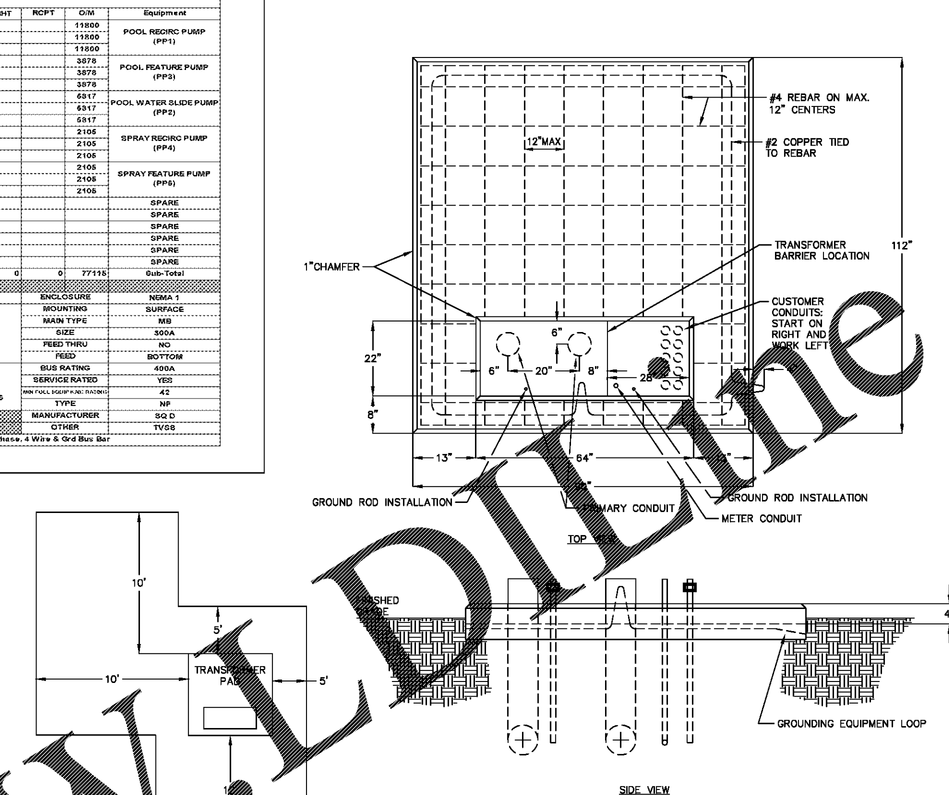
TOTAL CONNECTED LIGHTING LOAD	7.62	KVA
TOTAL CONNECTED RECEPTACLE LOAD	38.05	KVA
TOTAL CONNECTED MOTOR/OTHER LOAD	47.06	KVA
TOTAL CONNECTED LOAD	92.73	KVA

* Diversified per NEC Table 220.13.

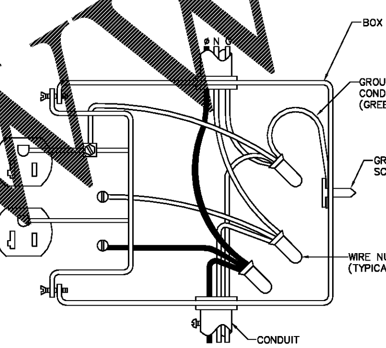
WIRE SIZE CALCULATIONS		
LARGEST PHASE DEMAND	27.16	KVA
NO. OF PHASES	3.00	
DEMAND LOAD	81.47	KVA
SPARE CAPACITY @10%	8.15	KVA
TOTAL DESIGN LOAD	89.62	KVA
SUPPLY VOLTAGE	208.00	V
MINIMUM CCT AMPS	248.76	AMPS

ENCLOSURE	NEMA 1
MOUNTING	SURFACE
MAIN TYPE	ML
SIZE	250A
FEED THRU	NO
FEED	BOTTOM
BUS RATING	400A
SERVICE RATED	NO
MIN FULL EQUIP KAIC RATING	22
TYPE	NQ
MANUFACTURER	SQ D
OTHER	TVSS

VOLTS 120/ 208 V 3 Phase, 4 Wire & Grd Bus Bar



DETAIL
APCO TRANSFORMER PAD
NO SCALE



DETAIL
RECEPTACLE INSTALLATION
NOT TO SCALE

TYPICAL FEEDER DESIGNATION

_#_ & 1#_GRD – _C (_A/_P)

- NUMBER OF CIRCUIT CONDUCTORS
- SIZE OF CIRCUIT CONDUCTORS "AWG UNLESS NOTED kCMIL"
- PROTECTIVE DEVICE TO WHICH THE CIRCUIT IS CONNECTED
- SIZE OF CONDUIT
- SIZE OF GROUNDING CONDUCTOR

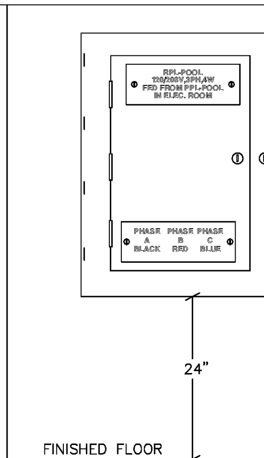
NOTE:

1. CONDUCTOR INSULATION TO BE 600V UNLESS OTHERWISE INDICATED.
2. IF CONDUCTOR TYPE (ALUMINUM OR COPPER) NOT SHOWN IN FEEDER DESIGNATION, CONDUCTOR IS COPPER OTHERWISE IS ALUMINUM AS SHOWN (AL).

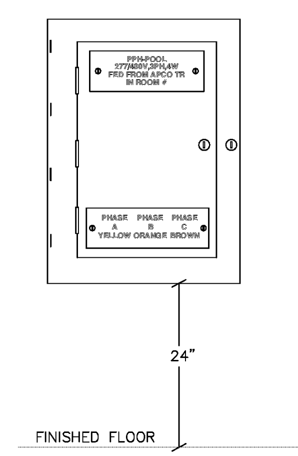
TYPICAL LUMINAIRE, DEVICE AND CIRCUIT DESIGNATIONS

- a(R)1 LUMINAIRE TYPE 'R', CIRCUIT NO. 1, CONTROLLED BY SWITCH "a"
- 2 (A) b FLUORESCENT LUMINAIRE TYPE 'A', CIRCUIT NO. 2, CONTROLLED BY SWITCH "b"
- 2 WALL OUTLET WITH RECEPTACLE NOTED, CONNECT TO CIRCUIT NO. 2
- 1 EQUIPMENT CONNECTION – CONNECT TO CIRCUIT NO. 1

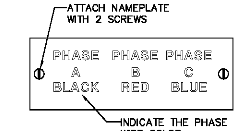
DETAIL
WIRING DESIGNATION
NOT TO SCALE



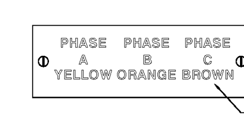
DETAIL
120/208V PANELBOARD INSTALLATION
& NAMEPLATE DETAIL
NOT TO SCALE



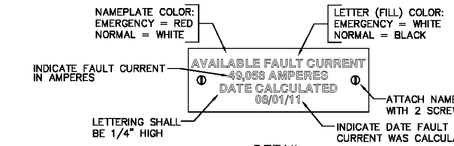
DETAIL
277/480V PANELBOARD INSTALLATION
& NAMEPLATE DETAIL
NOT TO SCALE



DETAIL
120/208V PANELBOARD
ELECTRICAL NAMEPLATE
NOT TO SCALE



DETAIL
277/480V PANELBOARD
ELECTRICAL NAMEPLATE
NOT TO SCALE



DETAIL
AVAILABLE FAULT CURRENT NAMEPLATE
NOT TO SCALE

FISHER ARNOLD
ENGINEERING INTEGRATION
1507 Alex Drive, Suite 101 | Birmingham, AL 35210
205.833.7033 | Fax 205.314.0180 | fisherarnold.com
PROJECT: J10495

ALABAMA LICENSED No. 37441-E PROFESSIONAL ENGINEER JOSEPH MUYA KIUMU 10/6/17

HOMEWOOD PATRIOT PARK POOL

HOMEWOOD PARKS & RECREATION

HOMEWOOD PARKS AND RECREATION;
HOMEWOOD, AL

DAVIS ARCHITECTS

OWNER
HOMEWOOD PARKS AND RECREATION
1632 OXMOOR ROAD
HOMEWOOD, AL 35209
205-322-6704
ATTN: BERKLEY SQUIRES

ARCHITECT
DAVIS ARCHITECTS, INC.
120 23RD STREET SOUTH
BIRMINGHAM, AL 35233
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ATTN: JIM HARTSELL

LANDSCAPE ARCHITECT
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CONSTRUCTION MANAGER
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ATTN: JOHN HANSON

STRUCTURAL ENGINEER
LBYD INC.
716 SOUTH 30TH STREET
BIRMINGHAM, AL 35233
205-251-4500
ATTN: WIN BISHOP / BRAD CHRISTOPHER

MECHANICAL ENGINEER
WHITAKER & RAWSON
3332 OLD MONTGOMERY HIGHWAY
SUITE 103
BIRMINGHAM, AL 35209
205-870-0801
ATTN: DAN WHITAKER, ERIK HARTWIG, AND MARK D'ANDREA

CIVIL ENGINEER
LBYD INC.
716 SOUTH 30TH STREET
BIRMINGHAM, AL 35233
205-251-4500
ATTN: CURTIS EATMAN AND BRAIN HATCHER

ELECTRICAL ENGINEER
FISHER ARNOLD
1507 ALEX DR.
SUITE 101
BIRMINGHAM, AL 35210
205-833-7033
ATTN: JOSEPH KIUMU AND NICHOLAS BROWN

PLUMBING / FIRE PROTECTION ENGINEER
EDMONDS ENGINEERING
2 RIVERCHASE OFFICE PLAZA
SUITE 205
BIRMINGHAM, AL 35244
205-988-2069
ATTN: CAROL JOHNSON

POOL CONSULTANT
COUNSILMAN HUNSAKE
10733 SUNSET OFFICE DRIVE
SUITE 400
ST. LOUIS, MO 63127
314-894-1245
ATTN: JEFF NODORFT

REV	DATE	DESCRIPTION

DATE: OCTOBER 6, 2017
PHASE: 100% CONSTRUCTION DOCUMENTS
ISSUED FOR:
ISSUED BY: DAVIS ARCHITECTS — PROJECT NO. 3822

SHEET TITLE: DETAILS

DRAWING NO. E0.06