

WIRING LEGEND

NOTE: ALL CONDUCTORS SPECIFIED, SHALL BE COPPER NOTED OTHERWISE

LOAD SUMM	1ARY
LIGHTING	63.5 KVA
RECEPTACLE	75.48 KVA
MOTOR	31.42 KVA
A/C	68.2 KVA
HEATING	14.6 KVA
MISCELLANEOUS	1.0 KVA
TOTAL CONNECTED LOAD	254.2 KVA

GERALD
ROBERDS

PROFESSIONAL ENGINEER

ATLANTA

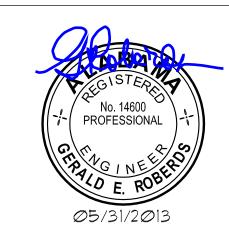
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455 EAST PACES FERRY ROAD, N.E.

SUITE 300

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ELECTRICAL RISER DIAGRAM DETAILS & SCHEDULES

ELECTRICAL	RISER DIAGRAM KEYED N	OTES

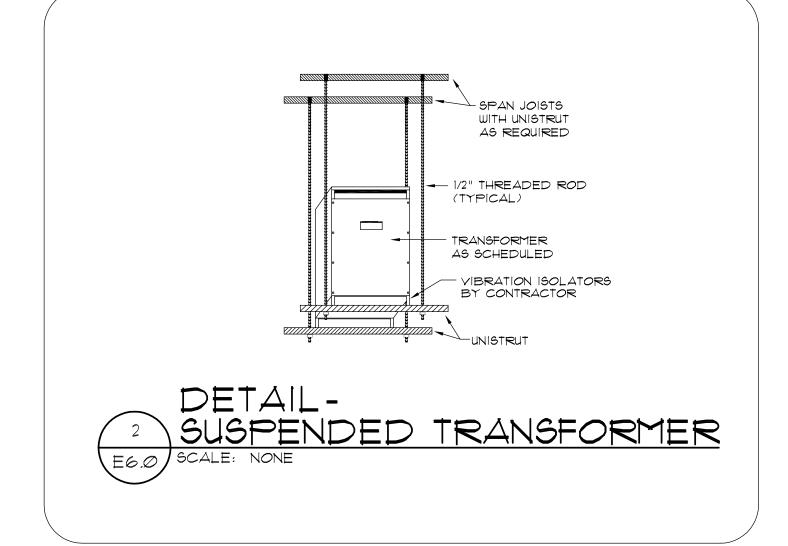
- 1) PROVIDE CONCRETE ENCASED 3 SETS 4-400KCM AND 4" SCHEDULE 80 PVC CONDUITS (EACH SET) WITH 36" MINIMUM RADIUS GALVANIZED RIGID ELBOWS PER UTILITY COMPANY SPECIFICATIONS. CONDUITS ENTERING SWITCHBOARD MUST BE RIGID, PER UTILITY COMPANY REQUIREMENTS.
- 2 PROVIDE 1# 3/0 GND 1" C. TO BUILDING STEEL, WATER PIPE, GROUND RODS, AND FOOTING REBAR.
- 3 TRANSIENT VOLTAGE SURGE SUPPRESSOR FURNISHED BY CPI AND WIRED BY CONTRACTOR PER DETAIL 3/E6.0. REFER TO SPECIFICATIONS SECTION 16630 FOR MORE INFORMATION.
- PROVIDE DIGITAL METER AND CTO REQURED TO MONITOR SERVICE TO DEVICE INDICATED. METER SHALL BE CAPABLE OF PEAK KW DEMAND AND REAL TIME MONITORING, METER SHALL BE INSTALLED WITH ALL ACCESSORIES REQUIRED TO INTERFACE WITH EMS VIA BACNET COMMUNICATION PROTOCALL. PROVIDED BY CONTRACTOR TO METER. COORDINATE
- CABLE TYPE WITH EMS REPRESENTATIVE.

 5 PROVIDE (1) 1-1/2"C. (RIGID STEEL) WITH PULLWIRE FOR UTILITY COMPANY USE.
- 6 45 KVA TRANSFORMER SECONDARY (K4): PROVIDE 5# 1/0 4 1# 6G 4 1# 6 ISOLATED GND-2"C (NOT TO EXCEED 10' LENGTH PER NEC). 208Y TO 208Y/120Y.
- 1) 60A FEEDER: PROVIDE 4# 6 & I# 10 GDN 1" C. 8 NOT USED.
- 9 PROVIDE 3" HIGH CONCRETE HOUSEKEEPING PAD FOR MAIN SWITCHBOARD AND ALL CPI GEAR,
- 45 KVA TRANSFORMER GROUND: PROVIDE I* 6 GND-3/4"C. TO BUILDING STEEL.
- PROVIDE GROUNDING CONDUCTOR (SAME SIZE AS SERVICE GROUNDING ELECTRODE CONDUCTOR) FOR BONDING OF EXPOSED METALLIC GAS AND METALLIC COMPRESSED AIR PIPING SYSTEMS. DO NOT BOND TO UNDERGROUND GAS PIPING PER NEC 250.52 (B).
- (12) 45 KVA 208V PRIMARY TO 208Y/120V SECONDARY TRANSFORMER WITH K4 RATING. SUSPEND FROM STRUCTURE (SEE DETAIL 2/E6.0) (13) PROVIDE (2) 20A/2P ENCLOSED SHUNT TRIP CIRCUIT BREAKERS WITH LOCK-OUT ACCESSORY IN NEMA 3R ENCLOSURE FOR FUEL PUMP AND FUEL DISPENSER CIRCUITS. ROUTE BOTH PHASE AND NEUTRAL CONDUCTORS OF FUELD DISPENSER CIRCUIT THROUGH SHUNT TRIP BREAKER PER NEC 514.11. PROVIDE PERMANENT ENGRAVED NAMEPLATE THAT READS "FUEL SYSTEM MAINTENANCE DISCONNECTS" PER NEC 514.13. SHUNT TRIP BREAKERS SHALL DISCONNECT POWER TO FUEL SYSTEM PUMP AND DISPENSER
- 1/E1.3 FOR MORE INFORMATION. PROVIDE (2) 20A/2P ENCLOSED SHUNT TRIP CIRCUIT BREAKERS WITH LOCK-OUT ACCESSORY IN NEMA 3R ENCLOSURE FOR DISPENSER PULSAR IUNPUT WIRES. ROUTE BOTH PHASE AND NEUTRAL CONDUCTORS OF FUELD DISPENSER CIRCUIT THROUGH SHUNT TRIP BREAKER PER NEC 514.11. PROVIDE PERMANENT ENGRAVED NAMEPLATE THAT READS "FUEL SYSTEM MAINTENANCE DISCONNECTS" PER NEC 514.13. SHUNT TRIP BREAKERS SHALL DISCONNECT POWER TO FUEL SYSTEM PUMP AND DISPENSER (INCLUDING NEUTRAL) UPON ACTIVATION OF EMERGENCY SHUT-OFF SWITCHES. BREAKERS SHALL BE CAPABLE OF BEING LOCKED IN THE OPEN POSITION PER NEC 514.13. SEE FUEL SYSTEM RISER DIAGRAM 1/E1.3 FOR MORE

(INCLUDING NEUTRAL) UPON ACTIVATION OF EMERGENCY SHUT-OFF SWITCHES. BREAKERS SHALL BE CAPABLE OF BEING LOCKED IN THE OPEN POSITION PER NEC 514.13. SEE FUEL SYSTEM RISER DIAGRAM

EMS OUTPUT & CONTACTOR SCHEDULE										
			CONTACT CIRCUIT		COIL	CONTROLLED		CIRCUITS ROUTED THROUGH		
MARK	SERVES	OPERATION	VOLTS A	AMPS	P0.	LES N.C.	VOLT		REMARKS	CONTACTOR
14	SHOWROOM 50% / PRESENTATION	E.O.M.H.	208	30	6		120	EMS OUTPUT 1		LA-1, 3, 7, 8, 14, 15
2A	SHOWROOM FULL INTERIOR	E.O.M.H.	208	3Ø	4		120	EMS OUTPUT 2		LA-2, 5
2B	SALES EXHAUST FANS	E.O.M.H.	208	3Ø	4		120	EMS OUTPUT 2		PP-14, 16
3 <i>A</i>	SERVICE EXHAUST FANS	E.O.M.H.	208	3Ø	4		120	EMS OUTPUT 3		PP-18, 2Ø
44	FUTURE CAR WASH	E.O.M.H.	208	3Ø	2		120	EMS OUTPUT 4		
54	EXTERIOR SECURITY AND SIGNS	E.O.M.H.	208	3Ø	28		120	EMS OUTPUT 5		SLA-1, 3, 6, 8, 10, 12, 17, 19, 18, 20, 22, 24, 34, 36, 38, 40, 42 & LA-16, 17, 18 19, 21, 23, 25
5B	EXTERIOR SECURITY	E.O.M.H.	208	3Ø	8		120	EMS OUTPUT 5		SLA-33, 35, 37, 39, 41
5C	EXTERIOR SECURITY	E.O.M.H.	208	3Ø	4		12Ø	EMS OUTPUT 5		SLA-13, 15
6A	LOW LEVEL 50%, EXTERIOR LIGHTING (NOT PERIMETER)	E.O.M.H.	208	3Ø	4		120	EMS OUTPUT 6		SLA-5, 7
٦A	FULL LEVEL EXTERIOR LIGHTING 100% (NOT PERIMETER)	E.O.M.H.	208	3Ø	10		120	EMS OUTPUT 7		SLA-2, 4, 21, 23,26,28
84	LOW LEVEL 50% PERIMETER	E.O.M.H.	208	3Ø	4		120	EMS OUTPUT 8		SLA-10,12
94	FULL LEVEL 100% PERIMETER	E.O.M.H.	208	3Ø	6		120	EMS OUTPUT 9		SLA-9,11,14, 16
11	SERVICE ZONE I	E.O.M.H.	208	3Ø	2		120	EMS OUTPUT II		LA-10
12	SERVICE ZONE 2	E.O.M.H.	208	3Ø	2		120	EMS OUTPUT 12		LA-2Ø
13	WET BAY SERVICE ZONE 3	E.O.M.H.	208	3Ø	4		120	EMS OUTPUT 13		LA-11, 12

NOTE: MECHANICALLY HELD CONTACTORS SHALL BE PROVIDED WITH COIL-CLEARING CONTACTS. REFER TO NOVAR EMS SHOP DRAWINGS FOR CONTRACTOR CONTROL WIRING.



SWITCHBOARD

CIRCUIT BREAKER

SIZE P TRIP

100 3

225 3

225 3

100 3

200 3

100 3

FAULT DUTY: 35,000 AIC

TOTAL LOAD: 254.2 KVA

FEEDER

400 3 400 4#600MCM \$ 1#3GND - 3 1/2"C. 96.4

100 4#1 \$ 1#8GND - 1 1/2"C.

200 4#3/0 \$ 1#6GND - 2"C.

225 4*4/Ø \$ 1*4GND - 2 1/2"C.

60 4#6 \$ 1#10GND - 3/4"C.

200 4#3/0 \$ 1#6GND - 2"C.

BUS SIZE: 1000 A

ACCESSORIES

VOLTAGE: 208Y/120V

1000A/3P MAIN BREAKER

SERVES

PANEL 'PP'

PANEL 'LA'

PANEL 'SLA'

PANEL 'RA'

PANEL 'SR'

SPACE

TRANSFORMER 'TLCP' | 225 | 3 |

