GENERAL NOTES

1. ELECTRICAL LAYOUT DRAWINGS ARE PARTIALLY DIAGRAMMATIC. REFER TO ARCHITECTURAL, STRUCTURAL, MECHANICAL AND HVAC DRAWINGS FOR GUIDANCE ON DIMENSIONS, CEILING HEIGHTS, DOOR SWINGS, ROOM FINISHES, STRUCTURAL AND ARCHITECTURAL DETAILS, LOCATIONS OF DUCTS, PIPES AND STRUCTURAL STEEL. INSTALL THE ELECTRICAL SYSTEMS WITHOUT INTERFERING WITH DUCTS, PIPES, STRUCTURAL STEEL OR OTHER SYSTEMS. LOCATE LIGHTING SYMMETRICALLY IN PROPER RELATION TO FINISHED AREAS EXCEPT WHERE DIMENSIONED ON THE DRAWINGS OR LOCATED ON REFLECTED CEILING PLANS.
2. THE ELECTRICAL INSTALLATION SHALL BE IN ACCORDANCE WITH THE LATEST EDITION (2020 NFPA 70) OF THE NATIONAL ELECTRICAL CODE (N.E.C.), THE LATEST RULES AND REGULATIONS OF THE SAFETY ORDERS ISSUED BY THE DIVISION OF INDUSTRIAL SAFETY, THE NATIONAL BOARD OF FIRE UNDERWRITERS AND ALL APPLICABLE STATE AND LOCAL CODES ISSUED BY AUTHORITIES HAVING JURISDICTION INCLUDING 2023 FLORIDA BUILDING CODE (F.B.C.), 8th EDITION AND 2023 FLORIDA FIRE PREVENTION CODE (NFPA-101).
3. PROVIDE ADDITIONAL SUPPORTS FOR SWITCHES, PANELBOARDS, RACEWAYS, TRANSFORMERS, CABLE TRAYS AND OTHER ELECTRICAL EQUIPMENT WHERE THE BUILDING STRUCTURE IS NOT SUITABLE FOR DIRECT MOUNTING. ALL OTHER SUPPORTS AS REQUIRED BY THE NATIONAL ELECTRICAL CODE.
4. VERIFY CEILING SUSPENSION SYSTEMS IN THE VARIOUS AREAS AND PROVIDE THE PROPER MOUNTING ACCESSORIES, TRIMS, ETC. TO SUIT THE PARTICULAR AREA.
5. ANY CONDUIT AND BOXES FOR HVAC CONTROL WIRING IS INCLUDED IN THIS SCOPE OF WORK. SEE MECHANICAL PLANS FOR LOCATIONS, TYPE AND QUANTITY OF CONTROL DEVICES.
6. MAINTENANCE MANUALS AND INSTRUCTIONS: FURNISH THREE (3) SETS OF OPERATING INSTRUCTIONS FOR ANY ELECTRICAL EQUIPMENT INSTALLED AS STATED IN FBC EC 505.7.4.2. THE MANUALS SHALL BE SUBMITTED TO THE BUILDING'S OWNER AND MUST INCLUDED THE FOLLOWING:

6.1 SUBMITTAL DATA STATING EQUIPMENT RATING AND SELECTED OPERATIONS FOR EACH PIECE OF EQUIPMENT REQUIRED MAINTENANCE.

6.2 OPERATION MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRED MAINTENANCE. REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED.

6.3 NAMES AND ADDRESSES OF AT LEAST ONE (1) QUALIFIED SERVICE AGENCY.

7. ALL ELECTRICAL EQUIPMENT AND INSTALLATION WORK SHALL HAVE A ONE YEAR (1) OR AS PER SPECIFICATIONS, WHAT EVER IS MORE STRINGENT WARRANTY. FURNISH WARRANTY SO THE DEFECTIVE MATERIALS AND/OR WORKMANSHIP SHALL BE REPAIRED/REPLACED IMMEDIATELY UPON NOTIFICATION AT NO COST TO THE OWNER FOR THE PERIOD OF THE WARRANTY.
8. FIRE WALL PENETRATIONS: ANY CONDUIT AND/OR CABLE TRAY PENETRATIONS THROUGH ANY FIRE WALL OR FLOOR SHALL BE FIRESTOPPED EQUAL TO OR GREATER THAN THE RATING OF THE FIRE WALL OR FLOOR THAT THEY PASS THROUGH. USE ONLY UL APPROVED METHODS AND ASSEMBLIES. RECEPTACLES LOCATED ON OPPOSITE SIDES OF A FIRE BARRIER SHALL BE SEPERATED BY A MINIMUM HORIZONTAL DISTANCE OF 2'0".
9. PERMITS: OBTAIN AND PAY FOR ALL REQUIRED PERMITS, LICENSES, FEES INSPECTIONS, AND POWER COMPANY AID TO COMPLETE WORK SHOWN. INCLUDE ALL POWER COMPANY COSTS IN BID.
10. CUTTING AND PATCHING: PROVIDE ALL CUTTING REQUIRED TO DO THE WORK. DO NOT CUT ANY STRUCTURAL ELEMENT WITHOUT APPROVAL. PATCHING SHALL BE OF QUALITY EQUAL TO AND MATCHING APPEARANCE OF EXISTING CONSTRUCTION. DO NOT CUT ANY STRUCTURAL ELEMENT WITHOUT APPROVAL.
11. GROUNDING: ALL PARTS OF THE SYSTEM SHALL BE GROUNDED IN STRICT ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
12. WIRING DEVICES AND PLATES: SWITCHES SHALL BE HUBBELL OR LEVITON 20A 125VOLT AC COMMERCIAL SPECIFICATION GRADE. COLOR WHITE UNLESS NOTED OTHERWISE. USE STEEL COVER PLATES IN UNFINISHED AREAS AND MATCHING PLASTIC COVER PLATES IN FINISHED AREAS.
13. SAFETY SWITCHES: USE HEAVY DUTY TYPE FUSIBLE OR NON-FUSIBLE AS REQUIRED. NEMA TYPE 1 INDOORS AND NEMA TYPE 3R FOR OUTDOORS. ELECTRICAL CONTRACTOR TO FURNISH AND INSTALL WHERE SHOWN OR REQUIRED BY CODE. FUSES: USE DUAL ELEMENT, CURRENT LIMITING, TIME DELAY TYPE OR AS SPECIFIED BY EQUIPMENT SUPPLIER.
14. PANELBOARDS: USE PANELBOARDS WITH BOLT ON TYPE BREAKERS ONLY. PANELBOARDS SHALL HAVE SEPARATE NEUTRAL AND GROUND BUSSES. PROVIDE TYPED DIRECTORY CARDS FOR EACH PANELBOARD INSTALLED. LOADCENTERS SHALL HAVE SEPARATE NEUTRAL AND GROUND BUSSES. PROVIDE TYPED DIRECTORY CARDS FOR EACH LOADCENTER INSTALLED.
15. COORDINATION: COORDINATE ALL ELECTRICAL WORK WITH OTHER TRADES AND LOCAL UTILITY COMPANY. COORDINATE METERING REQUIREMENTS WITH LOCAL ELECTRICAL UTILITY COMPANY.
16. EQUIPMENT: CONNECT ALL ELECTRICALLY OPERATED EQUIPMENT INCLUDING HVAC. USE NEMA 3X DEVICES OUTDOORS. VERIFY LOADS AND LOCATIONS OF EQUIPMENT BEFORE CONNECTION. SIZE BREAKERS, DISCONNECTS, AND FUSES ACCORDING TO THE EQUIPMENT NAMEPLATE. SIZE WIRE ACCORDING TO THE NEC. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REVIEWING THE EQUIPMENT SUPPLIED BY THE MECHANICAL CONTRACTOR AND OTHER TRADES AND SHALL BE RESPONSIBLE FOR MODIFYING THE CONNECTIONS WIRE, DISCONNECTS, BREAKERS, ETC. SHOWN ON THE DRAWINGS IN ORDER TO MAKE A COMPLETE INSTALLATION AND TO SATISFY THE MANUFACTURER'S REQUIREMENTS. THE ELECTRICAL CONTRACTOR SHALL SUPPLY ALL LABOR AND MATERIALS TO COMPLETE THE INSTALLATION.
17. RECORD DRAWINGS: MAINTAIN A RECORD SET OF ALL CHANGES DURING CONSTRUCTION. RECORD CHANGES ON A CLEAN SET OF CONTRACT CONSTRUCTION DOCUMENTS WHICH SHALL BE TURNED OVER TO THE OWNER WITH IN 30 DAYS OF COMPLETION. RECORD DRAWINGS SHALL INCLUDED A SINGLE-LINE DIAGRAM OF THE BUILDING ELECTRICAL DISTRIBUTION SYSTEM AND FLOOR PLANS INDICATING LOCATION AND AREA SERVED FOR ALL DISTRIBUTION AS PER FBC EC 505.7.4.1.
18. IDENTIFICATION: IDENTIFY ALL MAJOR PIECES OF ELECTRICAL EQUIPMENT INSTALLED ON THE PROJECT. EXAMPLES INCLUDE PANELBOARDS, MOTOR STARTERS, DISCONNECTS, HVAC EQUIPMENT DISCONNECT AND CONTROL PANELS. IDENTIFY WITH PERMANENT PLASTIC NAMEPLATES.
19. MULTIWIRE BRANCH CIRCUITS: MULTIWIRE BRACH CIRCUIT CONDUCTORS MUST BE GROUPED TOGETHER BY WIRE TIES OR SIMILAR MEANS AT THE POINT OF ORIGIN. PROVIDE COMMON TRIPS TO ALL MULTIWIRE BRANCH CIRCUITS BY EITHER A 2 OR 3 POLE CIRCUIT BREAKERS OR HANDLE TIES ON 1 ALL POLE BREAKERS SERVING THE MULTIWIRE BRANCH CIRCUIT.
20. CONDUCTORS: ALL CONDUCTORS SHALL BE THWN COPPER UNLESS OTHERWISE SPECIFIED. GREEN INSULATED GROUND CONDUCTORS SHALL BE INSTALLED IN ALL FEEDER AND BRANCH CIRCUIT WIRING.
21. CONDUITS: ALL INTERIOR CONDUITS SHALL BE EMT OR MC CABLE. ALL HOMERUNS SHALL BE EMT. ALL EXTERIOR AND UNDERGROUND CONDUITS SHALL BE RIGID NON-METALLIC CONDUIT (RNC) SCHEDULE 80. ALL FEEDER AND BRANCH CIRCUIT CONDUITS SHALL BE INSTALLED CONCEALED IN FINISHED AREAS, UNLESS OTHERWISE NOTED. PLASTIC TYPE CONDUITS AND COMBUSTIBLE TYPE CONDUITS ARE NEVER TO BE USED IN AN AIR RETURN PLENUM. REFER TO MECHANICAL DRAWINGS OR FIELD VERIFY PLENUMS IN EXISTING INSTALLATIONS.
22. VOLTAGE DROP: CONTRACTOR SHALL SIZE CONDUCTORS PROPERLY DEPENDING ON DISTANCE TO ENSURE A MAXIMUM VOLTAGE DROP ON FEEDERS TO BE LESS THAN 2% AND LESS THAN 3% ON BRANCH CIRCUITS. IN NO EVENT SHALL THE TOTAL VOLTAGE DROP TO THE LAST DEVICE BE GREATER THAT 5% OF THE SERVICE VOLTAGE.
23. THE CONTRACTOR, PRIOR TO BIDDING, SHALL VISIT THE JOB SITE TO BECOME ACQUAINTED WITH THE INSTALLATION AND SYSTEMS RELATED TO THE WORK AND SHALL INCLUDE IN THE BID PROPOSAL ALL LABOR AND MATERIALS REQUIRED FOR THE ELECTRICAL INSTALLATION TO BE COMPLETE AND OPERATIVE. THE CONTRACTOR SHALL VERIFY ALL EXISTING SITE CONDITIONS IN THE FIELD BEFORE COMMENCEMENT OF THE WORK AND SHALL REPORT ANY DISCREPANCIES AND/OR INCONSISTENCIES BETWEEN THE DRAWING AND EXISTING FIELD CONDITIONS TO THE ENGINEER FOR CLARIFICATIONS BEFORE COMMENCEMENT OF WORK.
24. UPON COMPLETION OF HIS WORK, THE CONTRACTOR SHALL SCHEDULE AND PERFORM A COMPLETE FUNCTIONAL TEST TO DEMONSTRATE TO THE OWNER THAT THE NEW INSTALLATION IS OPERATING AS INTENDED. ANY DEFECTS OR DEFICIENCIES IN THE MATERIALS OR INSTALLATION WORK SHALL BE CORRECTED IMMEDIATELY BY AND AT THE CONTRACTOR'S EXPENSE. WORKMANSHIP SHALL BE OF THE HIGHEST QUALITY.
25. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS PRIOR TO ORDERING ANY EQUIPMENT. ALL ELECTRICAL EQUIPMENT SHALL BE NEW, U.L. LISTED AND APPROVED FOR INTENDED USE. ALL ELECTRICAL EQUIPMENT EXPOSED TO WEATHER SHALL BE WEATHERPROOF.
26. PROVIDE MINIMUM 10 FEET SLACK CONDUCTOR FOR SPARE WIRING INSIDE WIREWAYS OR PULLBOXES.
27. PROVIDE PAD AND OTHER SUPPORTS AS NEEDED AND AS PER MANUFACTURER'S SPECIFICATION FOR ANY LARGER ELECTRICAL EQUIPMENT. CONTRACTOR SHALL PROVIDE STRUCTURAL CALCULATIONS SIGNED BY AN STRUCTURAL PE IF REQUIRED.

ELECTRICAL DRAWING INDEX

SHEET	DESCRIPTION	ISSUED
E-00.0	GENERAL NOTES AND LEGENDS	YES
E-01.0	SITE PLAN	YES
E-02.0	GROUND FLOOR PLAN	YES
E-02.1	GROUND FLOOR PLAN	YES
E-03.0	SECOND FLOOR PLAN	YES
E-03.1	SECOND FLOOR PLAN	YES
E-04.0	POWER AND LIGHTING NOTES	YES
E-05.0	CABANA GROUND FLOOR PLAN	YES
E-06.0	RISER DIAGRAM AND PANEL SCHEDULES	YES
E-06.1	ELECTRICAL GENERATOR SPECSHEET	YES
E-06.2	ELECTRICAL ATS SPECSHEET	YES

ABBREVIATIONS

ABBREVIATIONS	DESCRIPTION
AFF.	ABOVE FINISHED FLOOR
ATS.	AUTOMATIC TRANSFER SWITCH
BKR.	BREAKER
C, COND.	CONDUIT
CB.	CIRCUIT BREAKER
CKT	CIRCUIT
CLG.	CEILING
DISC.	DISCONNECT.
EC.	EMPTY CONDUIT
G, GND.	GROUND
GFI.	GROUND FAULT INTERRUPTER
HP.	HORSE POWER
IG.	ISOLATED GROUND
MCC.	MOTOR CONTROL CENTER
MDP.	MAIN DISTRIBUTION PANEL
MLO.	MAIN LUGS ONLY
MTD.	MOUNTED
PH.	PHASE
PB.	PULL BOX.
PNL.	PANEL
PWR.	POWER
SP.	SURGE PROTECTOR
SW.	SWITCH
TEL.	TELEPHONE
TV.	TELEVISION
UON.	UNLESS OTHERWISE NOTED
V.	VOLTAGE
W.	WIRE
W/.	WITH
WP.	WEATHER PROOF
XMER.	TRANSFORMER

FIRE ALARM SYSTEM

SYMBOL	DESCRIPTION
D	ADDRESSIBLE SMOKE DETECTOR CEILING MOUNTED.
D FL	ADDRESSIBLE SMOKE DETECTOR UNDER RAISED FLOOR.
D	SMOKE DETECTOR DUCT MOUNTED.
H	ADDRESSIBLE CEILING MOUNTED HEAT DETECTOR.
F	MANUAL FIRE ALARM PULL STATION. 48" ABOVE FINISHED FLOOR.
F	FIRE ALARM SPEAKER AND FLASHING STROBE LIGHT 6'-8" ABOVE FINISH FLOOR.
L	FIRE ALARM FLASHING STROBE LIGHT 6'-8" ABOVE FINISH FLOOR.
CH	FIRE ALARM CHIME AND FLASHING STROBE LIGHT 6'-8" ABOVE FINISH FLOOR.
MH	MAGNETIC DOOR HOLDER.
TS	VALVE SUPERVISORY SWITCH (TAMPER SWITCH).
FS	WATER FLOW SWITCH.
PIV	POST INDICATOR VALVE.
FARA	FIRE ALARM REMOTE (GRAPHIC) ANNUNCIATOR PANEL.
FACP	FIRE ALARM ZONE ANNUNCIATOR AND CONTROL PANEL.
M	FIRE ALARM ADDRESSABLE CONTROL OR MONITORING MODULE.
S	FIRE ALARM SPEAKER-CEILING MOUNTED.
SE	GAS SOLENOID VALVE.
H	FIRE ALARM HORN, 6'-8" ABOVE FINISHED FLOOR.
CO	ADDRESSIBLE CARBON MONOXIDE DETECTOR. CEILING MOUNTED.
F	FIRE ALARM HORN AND FLASHING STROBE LIGHT CEILING MOUNTED.
EWL	ELEVATOR WARNING LIGHT PANEL.

DISTRIBUTION EQUIPMENT

SYMBOL	DESCRIPTION
	PANELBOARD.
M	TRANSFORMER WALL OR FLOOR MOUNTED; SIZE AND MOUNTING AS INDICATED ON DWGS.
G	GROUNDING PLATE. SEE DETAIL.
SP	SURGE PROTECTOR.
PB	PULLBOX.
LRP	LIGHTING RELAY PANEL.
	SAFETY OR DISCONNECT SWITCH.
CB	ENCLOSED CIRCUIT BREAKER.
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR.

RESIDENTIAL FIRE SAFETY SYSTEM

SYMBOL	DESCRIPTION
SD SD	SMOKE DETECTOR CEILING OR WALL MOUNTED. ON ARC-FAULT PROTECTED CIRCUIT. INTERCONNECT ALL SMOKE DETECTORS WITHIN UNIT. 120V SOURCE WITH BATTERY BACK UP.
CO	CARBON DIOXIDE (CO) DETECTOR CEILING OR WALL MOUNTED. ON ARC-FAULT PROTECTED CIRCUIT. INTERCONNECT ALL CO DETECTORS WITHIN UNIT. 120V SOURCE WITH BATTERY BACK UP.
SC	COMBINATION SMOKE/CARBON MONOXIDE DETECTOR.

LIGHTNING PROTECTION

SYMBOL	DESCRIPTION
	PARAPET BASE AIR TERMINAL.
	ADHESIVE POINT BASE AIR TERMINAL.
	VICE GRIP TEE SPLICER.
	DOWN CONDUCTOR AND GROUND ROD.

MOTORS AND CONTROLS

SYMBOL	DESCRIPTION
	MOTOR.
	MAGNETIC MOTOR STARTER. "FD" DENOTES FREQUENCY DRIVE CONTROLLER.
	COMBINATION MOTOR STARTER AND DISCONNECT SWITCH.
	PUSH BUTTON STATION (UP-DOWN-STOP MOTOR CONTROL).
	PUSH BUTTON STATION, 42" AFF.
FS	DUCT MOUNTED FIRES AT.
R	EMERGENCY LIGHTING RELAY. SEE WIRING DIAGRAM.
	SAFETY DISCONNECT SWITCH FOR DUCT HEATER WITH CONTACTOR.
T	THERMOSTAT.
C	MECHANICALLY HELD CONTACTOR.
PE	PHOTOELECTRIC CELL.
TC	SEVEN-DAY PROGRAMMABLE TIMER.

GENERAL LIGHTING

SYMBOL	DESCRIPTION
O_{2a}^{L}	RECESSED, SEMI RECESSED, SURFACE OR PENDANT MOUNTED FIXTURE. L=FIXTURE TYPE., 2=CIRCUIT No. AND a=SWITCH LEG.
	RECESSED, SEMI RECESSED, SURFACE OR PENDANT MOUNTED FIXTURE ON "LIFE SAFETY CIRCUIT" (EMERGENCY).
	SURFACE OR PENDANT MOUNTED LED STRIP FIXTURE.
	SURFACE OR PENDANT MOUNTED LED STRIP FIXTURE ON "LIFE SAFETY CIRCUIT" (EMERGENCY).
	SURFACE OR PENDANT MOUNTED LED FIXTURE.
	SURFACE OR PENDANT MOUNTED. LED FIXTURE ON "CRITICAL CIRCUIT".
	SURFACE OR PENDANT MOUNTED LED FIXTURE ON "LIFE SAFETY CIRCUIT" (EMERGENCY).
	RECESSED OR LAY-IN LED FIXTURE.
	RECESSED OR LAY-IN LED FIXTURE ON "CRITICAL CIRCUIT".
	RECESSED OR LAY-IN LED FIXTURE ON "LIFE SAFETY CIRCUIT" EMERGENCY).
	WALL MOUNTED LED FIXTURE. 7'-6" AFF. UON.
	WALL MOUNTED LED FIXTURE ON CRITICAL CIRCUIT" 7'-6" AFF. UON.
	ON "LIFE SAFETY CIRCUIT" 7'-6" AFF. UNLESS OTHERWISE NOTED. WALL MOUNTED LED FIXTURE.
	WALL MOUNTED FIXTURE @ MINIMUM 7'-6" AFF. UON.
	WALL MOUNTED FIXTURE ON "LIFE SAFETY CIRCUIT" @ MINIMUM 7'-6" AFF. UON. (EMERGENCY).
	CEILING-SURFACE MOUNTED SINGLE FACE LED EXIT LIGHT FIXTURE WITH ARROWS AS INDICATED.
	WALL MOUNTED LED EXIT LIGHT FIXTURE WITH ARROWS AS INDICATED, 7'-6" AFF. UON.
	SURFACE MOUNTED DOUBLE FACED LED EXIT LIGHT FIXTURE WITH ARROWS AS INDICATED.
	WALL MOUNTED DOUBLE FACED LED EXIT LIGHT FIXTURE WITH ARROWS AS INDICATED. 7'-6" AFF.
	WALL MOUNTED EMERGENCY LED LIGHT FIXTURE WITH EMERGENCY BATTERY PACK 7'-0" AFF. UON.
	ROADWAY OR PARKING LOT LUMINAIRE. SINGLE ARM, OR TOP MOUNT, POLE MOUNTED.
	ROADWAY OR PARKING LOT LUMINAIRE. DOUBLE ARM, POLE MOUNTED.

INTRUSION ALARM

SYMBOL	DESCRIPTION
DS	DOOR SWITCH AND CONNECTION.
DS FL	OVERHEAD DOOR FLOOR MOUNTED SWITCH AND CONNECTION.
DS R	ROOF HATCH DOOR SWITCH AND CONNECTION.
DS W	WINDOW SWITCH W/ FLUSH BOX AND ½" EC TO CLG. SPACE.
MD	MOTION DETECTOR.
GD	GLASS DETECTOR.
SSCP	SECURITY SYSTEM CONTROL PANEL.
KP	KEY PAD.
CR	CARD READER.

RECEPTACLES

SYMBOL	DESCRIPTION
	HALF SWITCHES.
	HALF SWITCHES. FLUSH WITH FLOOR.
	DUPLEX RECEPTACLE, 1P. 3 WIRE, GROUNDING TYPE, 20A. 120V. MOUNTED 18" AFF. UON.
USB	DUPLEX RECEPTACLE, 1P. 3 WIRE, GROUNDING TYPE WITH INTEGRAL USB OUTLETS, 20A. 120V.
CCG	DUPLEX RECEPTACLE, 1P. 3 WIRE, GROUNDING TYPE, 20A. 120V. MOUNTED AT CEILING. UON.
WP	DUPLEX RECEPTACLE, AS ABOVE, WITH SPRING-HINGED, CASKETED AND WEATHERPROOF COVER.
	DUPLEX RECEPTACLE, 1P. 3 WIRE, GROUNDING TYPE, 20A. 120V. MOUNTED 42" AFF.
	TWIN DUPLEX RECEPTACLE, 1P. 3 WIRE, GROUNDING TYPE, 20A. 120V. MOUNTED 18" AFF. UON.
	ISOLATED GROUND TYPE RECEPTACLE, 1P. 3 WIRE, 20A. 125V. MOUNTED 18" AFF. UON.
SP	SURGE PROTECTION DUPLEX RECEPTACLE, 1P. 3 WIRE 20A. 120V. MOUNTED 18" AFF. UON. (SP DENOTES SURGE PROTECTION).
GFI	GROUND FAULT INTERRUPTER TYPE, DUPLEX RECEPTACLE 2P. 3 WIRE, GROUNDING TYPE, 20A. 120V. MOUNTED 18" AFF. UON.
GFI	GROUND FAULT INTERRUPTER TYPE, DUPLEX RECEPTACLE, 1P. 3 WIRE, GROUNDING TYPE, 20A. 120V. MOUNTED 42" AFF. UON.
	SINGLE RECEPTACLE, 1P. 3 WIRE, GROUNDING TYPE, 20A. 120V. MOUNTED 18" AFF. UON.
	DUPLEX RECEPTACLE, 1P. 3 WIRE, GROUNDING TYPE, 20A. 120V. FLUSH WITH FLOOR.
	TWIN DUPLEX RECEPTACLE 1P. 3 WIRE, GROUNDING TYPE, 20A. 120V. FLUSH WITH FLOOR.
	30A OR 50A. 240V. 2 PHASES. 2P. 3 WIRE, GROUNDING TYPE, SINGLE RECEPTACLE.
	ELECTRICAL SURFACE RACEWAYS (DUPLEX RECEPTACLES AND TELEPHONE JACKS 18" O.C. OR AS DESIGNATED ON DRAWINGS) MOUNTED 36" AFF. UON.
	UNDERFLOOR DUCT DUPLEX RECEPTACLE IN RAISED ALUMINUM FLOOR ENCLOSURE.
J J	CEILING OR WALL MOUNTED JUNCTION BOX.
J FL	FLOOR MOUNTED JUNCTION BOX.
J FPRA	CEILING MOUNTED JUNCTION BOX FOR FIRE FIGHTER'S REPEATER ANTENNAE.
J LV	CEILING MOUNTED JUNCTION BOX FOR LOW VOLTAGE SYSTEMS.
	FLOOR OUTLET BOX WITH DUPLEX RECEPTACLE.
	FLOOR OUTLET BOX WITH DUPLEX RECEPTACLE AND ONE COMBINATION W/ VOICE/ DATA OUTLET.
	FLOOR OUTLET BOX WITH TWO DUPLEX RECEPTACLES AND ONE COMBINATION W/ VOICE/ DATA OUTLET.

WIRING

SYMBOL	DESCRIPTION
A-1,3,5	HOMERUN TO PANEL "A".1-3-5 ARE CIRCUIT No's. MAXIMUM 3 CIRCUITS PER CONDUIT EACH ON SEPARATE PHASES. RUN HOMERUNS TO PANELS AS SHOWN ON FLOOR PLANS, DO NOT COMBINE HOMERUNS. PROVIDE INDIVIDUAL NEUTRAL PER CIRCUIT.
	INDICATES A CONDUIT RUN CONCEALED IN A CEILING OR WALL.
	INDICATES A CONDUIT RUN EMBEDDED IN CONCRETE OR UNDERGROUND.
	INDICATES A CAPPED CONDUIT.
	INDICATES AN EXPOSED CONDUIT RUN.
	CONDUIT RUN TURNED DOWN (RISER DOWN).
	CONDUIT RUN TURNED UP (RISER UP).
	CONDUIT SEAL.
	FLEXIBLE CONDUIT.

NOTES

1	ALL DIMENSIONS ARE TO CENTERLINE UNLESS OTHERWISE NOTED.
2	ALL SYMBOLS SHOWN ON ELECTRICAL SYMBOL LEGEND ARE NOT NECESSARILY USED IN THIS PROJECT.
3	IT IS THE RESPONSIBILITY OF MECHANICAL, ELECTRICAL, AND PLUMBING CONTRACTORS TO VISIT THE SITE AND EXAMINE IN DETAIL THE SCOPE OF WORK OF THIS PROJECT PRIOR TO BID AND SHALL NOTIFY THE ARCHITECT AND/OR ENGINEER IF A CONDITION EXISTS WHICH PREVENTS HIM/HER FROM ACCOMPLISHING THE WORK INDICATED AND INTENDED BY THESE DRAWINGS, SO NO ADDITIONAL COST IS INCURRED BY THE OWNER. AFTER CONTRACT IS AWARDED IT WILL BE ASSUMED THAT THE SITE WAS VISITED AND EXAMINED AND ALL PARTIES ARE IN AGREEMENT WITH THE SCOPE OF THE WORK.

THEATRICAL LIGHTING

SYMBOL	DESCRIPTION
	JUNCTION BOX (6"x6"x4" DEEP) FOR CONNECTION OF HOUSE DIMMER CONTROL BOARD. 42" AFF.
	THEATRICAL LIGHTING OUTLET BOX. PROVIDED UNDER THEATRICAL LIGHTING PACKAGE INSTALL UNDER THIS CONTRACT. REFER TO THEATRICAL LIGHTING PACKAGE FOR EXACT LOCATION.

SWITCHES

SYMBOL	DESCRIPTION
$	SINGLE POLE TOGGLE SWITCH, 20A. 120/277 VAC. MOUNTED 48" AFF. "a" INDICATES SWITCH LEG.
$	THREE-WAY TOGGLE SWITCH. 20A. 120/277 VAC. MOUNTED 48" AFF. ABOVE FINISH FLOOR UON.
$	FOUR-WAY TOGGLE SWITCH. 20A. 120/277 VAC. MOUNTED 48" AFF.
$T	SINGLE POLE TOGGLE SWITCH WITH TIMER, 20A. 120/277 VAC. MOUNTED 48" AFF. "a" INDICATES SWITCH LEG.
$D	DIMMER SWITCH. MOUNTED 48" AFF.
$P	SINGLE POLE TOGGLE SWITCH, 20A. 120/277 VAC. WITH PILOT LIGHT. 48" ABOVE FINISH FLOOR UON.
$M	MOTOR MANUAL STARTER TOGGLE SWITCH WITH OVERLOADS, UON. MOUNTED 48" AFF.
$WP	WEATHERPROOF TOGGLE SWITCH, 20A. 120/277 VAC. MTD. 48" A.F.F.
$LOR	LOW VOLTAGE OVERRIDE SWITCH FOR LIGHTING CONTROL PANEL. MOUNTED 48" AFF.
$LV	LOW VOLTAGE LIGHTING CONTROL SWITCH. MOUNTED 48" AFF.
$OS	SINGLE POLE WALL MOUNTED OCCUPANCY SENSOR. 20A. 120/277 VAC. MOUNTED 48" AFF.
$OS2	DOUBLE POLE WALL MOUNTED OCCUPANCY SENSOR. 20A. 120/277 VAC. MOUNTED 48" AFF.
OS	SINGLE POLE OCCUPANCY SENSOR. 20A. 120/277 VAC. CEILING-SURFACE MOUNTED.
OS LV	LOW VOLTAGE OCCUPANCY SENSOR. CEILING-SURFACE MOUNTED.
$MS	MOTION SENSOR.

COMMUNICATION SYSTEM

SYMBOL	DESCRIPTION
M	INTERCOM MASTER STATION (OUTLET BOX ONLY) MOUNT 48" AFF.
S	INTERCOM STAFF STATION. WALL MOUNT 48" AFF (OUTLET BOX ONLY).
	PUSH BUTTON.
	DOOR CHIME.
S	CEILING MOUNTED SPEAKER.
S	WALL MOUNTED SPEAKER.
TV	TV OUTLET WITH RF CONNECTOR AT 18" ABOVE FINISH FLOOR UON.
	TELEPHONE OUTLET (RJ-11) MOUNTED 18" AFF UNLESS OTHERWISE NOTED. PROVIDE ¾" E.C. TO CEILING SPACE.
	DATA BOX "X" DENOTES NUMBER OF DATA PORTS (RJ-45) MOUNTED 18" AFF UNLESS OTHERWISE NOTED. 1" E.C. TO CEILING SPACE.
LP	COMBINATION TELEPHONE/DATA BOX "X" DENOTES NUMBER OF DATA PORTS, "Y" DENOTES NUMBER OF TELEPHONE PORTS MOUNTED 18" AFF UNLESS OTHERWISE NOTED. 1" E.C. TO CEILING SPACE.
	FLOOR MOUNTED TELEPHONE OUTLET (RJ-11).
D	DATA/ETHERNET OUTLET (RJ-45) MOUNTED 18" AFF UNLESS OTHERWISE NOTED. ½" E.C. TO CEILING.
D	FLOOR MOUNTED DATA/ETHERNET OUTLET (RJ-45).
C	INTERCOM COMBINATION SPEAKER/CLOCK STATION, WALL MOUNTED, 8'-0" AFF.
MC	MEDIA CABINET.
	LOW VOLTAGE PUSH BUTTON FOR DOOR CHIME.
B	DOOR CHIME.

DANIEL G. SANTILLAN LICENSE No. 79327 STATE OF FLORIDA PROFESSIONAL ENGINEER

PACHECO-MARTINEZ & ASSOCIATES LLC.
AA26002619 . AR6412 . AR93773
4990 SW 72ND AVE SUITE 101 MIAMI FL 33155
T (305) 666-2573 . F (305) 666-3871

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NEW RESIDENCE FOR:

MR. & MRS. DE LA CONCEPCION

8965 SW 63rd COURT PINECREST, FLORIDA 33156

LUSEO ENGINEERING
CA#32708
7875 SW 104th Street. SUITE 203
MIAMI, FL. 33156
TEL: +1(305)351-2960
WWW.LUSEOGROUP.COM

ENGINEER OF RECORD:
DANIEL G. SANTILLAN
FLORIDA P.E. #79327

Daniel G Santillan

NOT VALID UNLESS SIGNED & SEALED

"IN MY PROFESSIONAL JUDGEMENT AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, THESE PLANS AND SPECIFICATIONS COMPLY WITH APPLICABLE BUILDING CODES."

revisions
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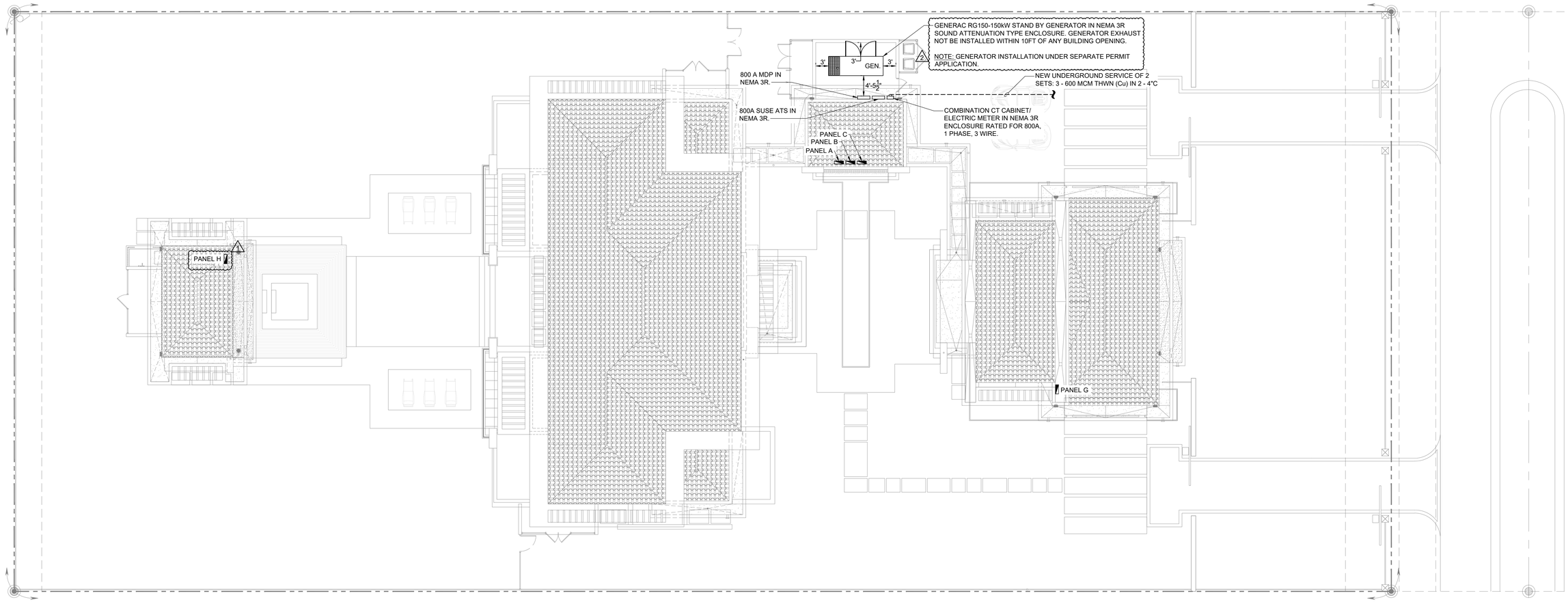

SITE PLAN

SCALE 3/32" = 1'-0"

N

GENERAL SITE PLAN NOTES

1. CONTRACTOR SHALL CONTACT SUNSHINE STATE ONE-CALL AT 1-(800)-432-4770 AT LEAST 48 HOURS PRIOR TO PERFORMING ANY DIGGING TO VERIFY THE EXACT LOCATION OF EXISTING UTILITIES. A CONTRACTOR'S REPRESENTATIVE MUST BE PRESENT WHEN UTILITY COMPANIES LOCATE THEIR FACILITIES.
2. THE CONTRACTOR IS ADVISED THAT PROPERTIES ADJACENT TO THE PROJECT HAVE ELECTRIC, TELEPHONE, GAS, WATER, AND/OR SEWER SERVICE LATERALS WHICH MAY NOT BE SHOWN IN PLANS. THE CONTRACTOR MUST REQUEST THE LOCATION OF THESE LATERAL SERVICES FROM THE UTILITY COMPANIES. THE ADDITIONAL COST OF EXCAVATING, INSTALLING, BACKFILLING, AND COMPACTING AROUND THESE LATERAL SERVICES MUST BE INCLUDED IN THE BID RELATED ITEM FOR THE WORK BEING DONE.
3. THE CONTRACTOR IS TO USE CAUTION WHEN WORKING IN OR AROUND AREAS OF OVERHEAD AND UNDERGROUND UTILITIES.
4. UNDERGROUND CONDUITS (SCHEDULE 40 PVC) SHALL BE PROTECTED AGAINST DAMAGE AS REQUIRED BY N.E.C. ART. 230.32. WITH 24" MIN. COVER AND/OR PROVIDE 2" CONCRETE ENCASEMENT IN THE EVENT COVER IS LESS THAN 24".
5. CONTRACTOR SHALL BACKFILL AND REGRADE, REPAVE AND FILL-IN SODDING AS REQUIRED FOR ALL TRENCHES AND EXCAVATIONS PROVIDED FOR THE INSTALLATION OF NEW UNDERGROUND CONDUITS.
6. PROVIDE DISCONNECT MEANS FOR ALL LED LIGHT FIXTURES AS REQUIRED BY N.E.C. ARTICLE 410.130(G).
7. CONTRACTOR SHALL REPAIR OR REPLACE ALL THE SEGMENTS OF THE EXISTING CHAIN LINK FENCE AND/OR EXISTING CONCRETE SIDEWALK AFFECTED BY THE NEW ELECTRICAL UNDERGROUND CONDUITS INSTALLATION AS REQUIRED.
8. LOCATION OF ANY ELECTRICAL EQUIPMENT SUCH AS, TRANSFORMER, JUNCTION BOXES, CONDUITS, AND DISTRIBUTION PANEL ARE APPROXIMATE ONLY. COORDINATE AND VERIFY LOCATIONS WITH OWNER'S REPRESENTATIVE.
9. LOW-VOLTAGE LUMINAIRES LOCATE AT 10FT FROM INSIDE WALL OF THE POOL SHALL COMPLY WITH NEC 680.23 (B)(6).

PACHECO-MARTINEZ
& ASSOCIATES LLC.
AA26002619 . AR6412 . AR93773
4990 SW 72ND AVE SUITE 101 MIAMI FL 33155
T [305] 666-2573 . F [305] 666-3871

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NEW RESIDENCE FOR:

MR. & MRS. DE LA CONCEPCION

8965 SW 63rd COURT PINECREST, FLORIDA 33156

LUSEO ENGINEERING
CA#32708
7875 SW 104th Street. SUITE 203
MIAMI, FL. 33156
TEL: +1(305)351-2960
WWW.LUSEOGROUP.COM

ENGINEER OF RECORD:

DANIEL G. SANTILLAN

FLORIDA P.E. #79327

Daniel G Santillan

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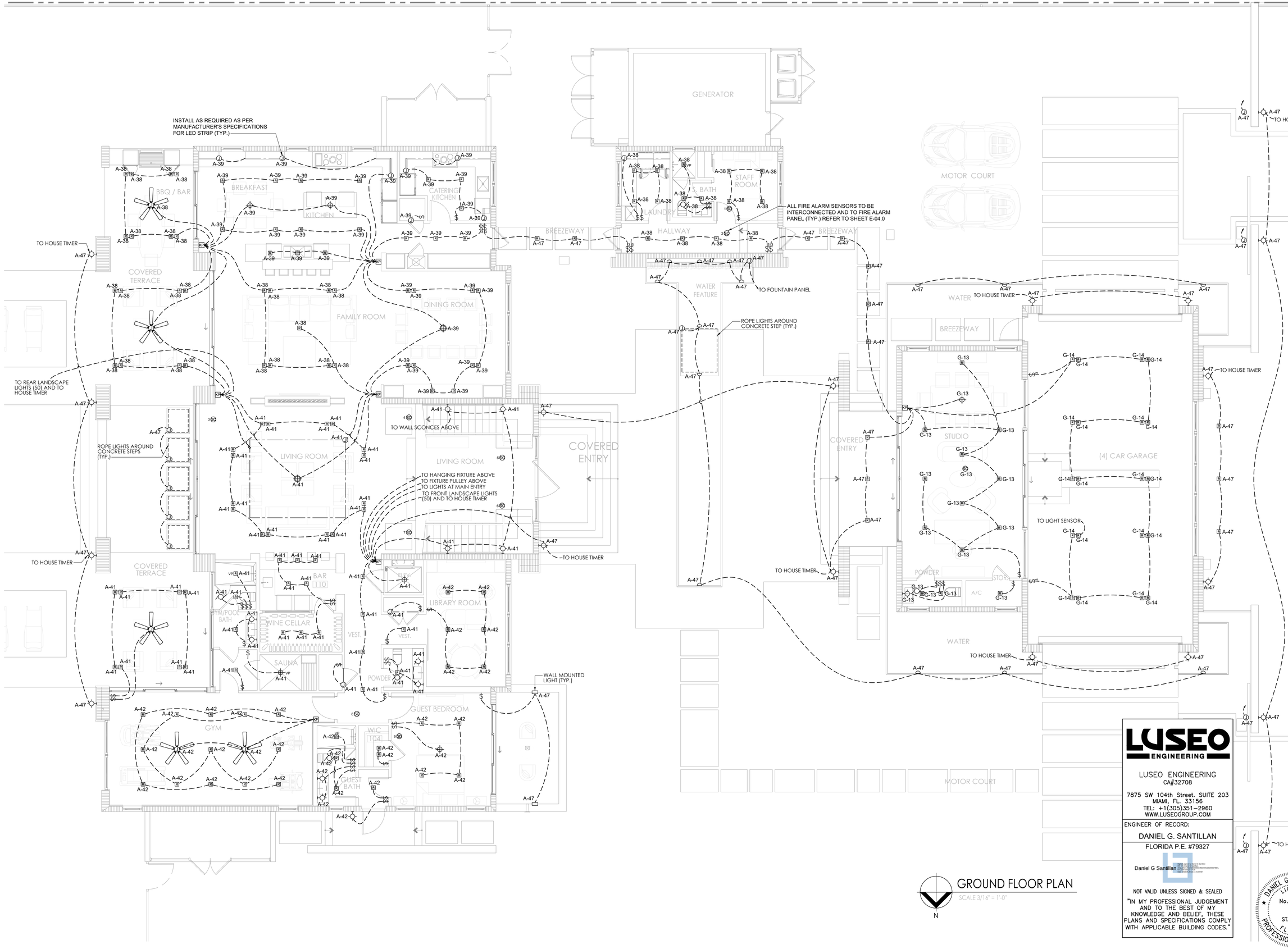

GROUND FLOOR PLAN

SCALE 3/16" = 1'-0"

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& ASSOCIATES LLC.
AA26002619 . AR6412 . AR93773
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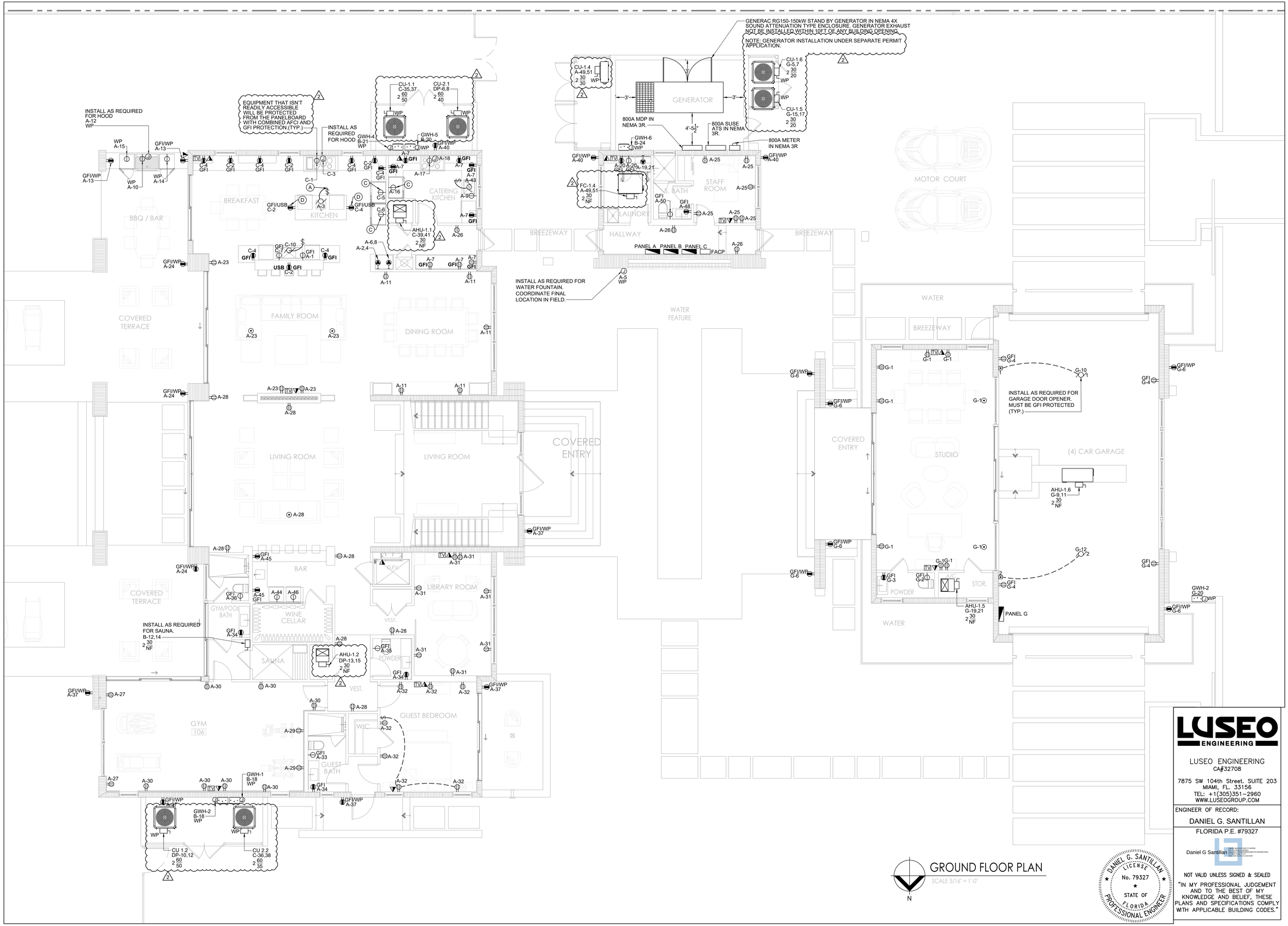

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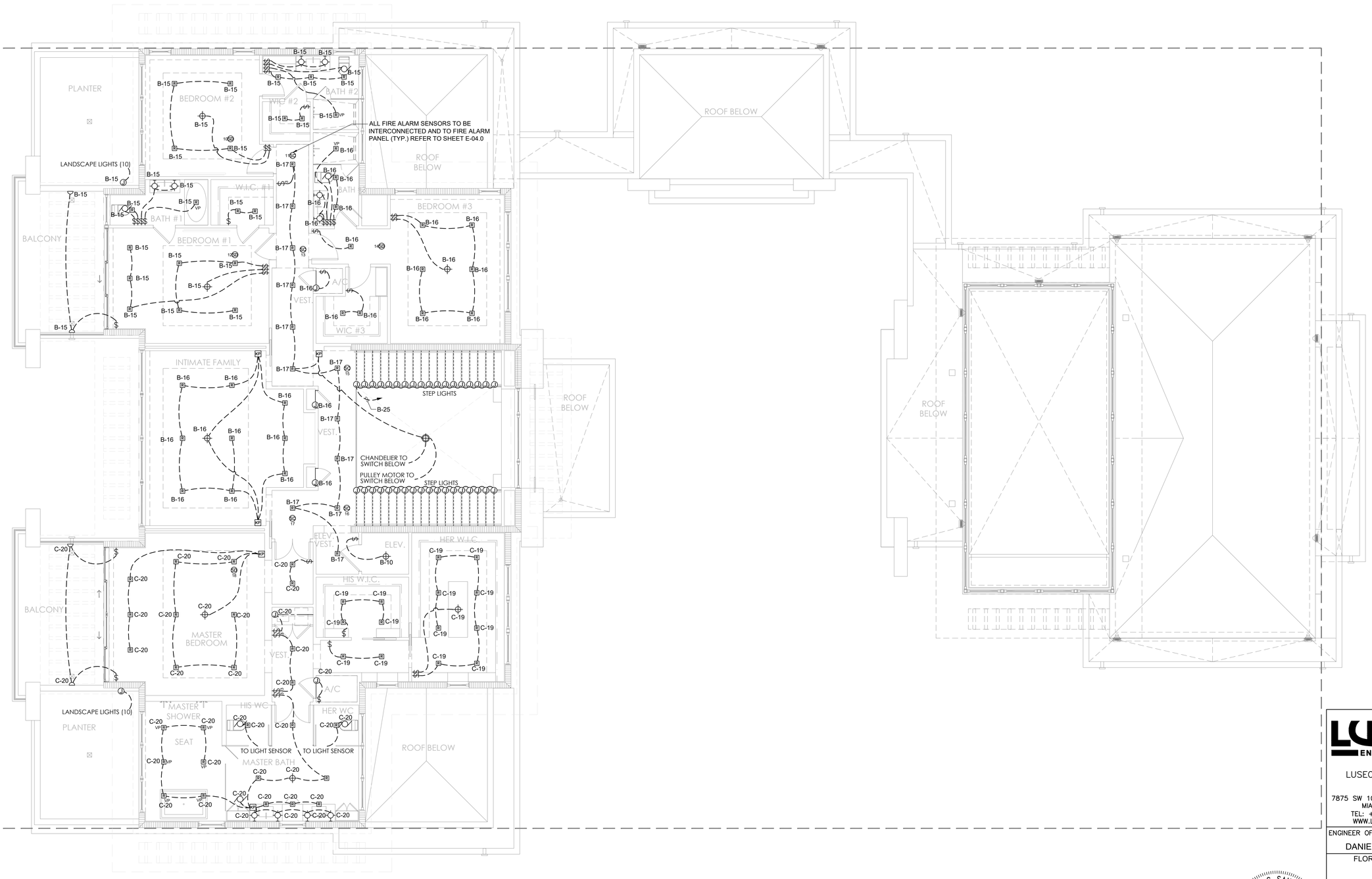

SECOND FLOOR PLAN

SCALE 3/16" = 1'-0"

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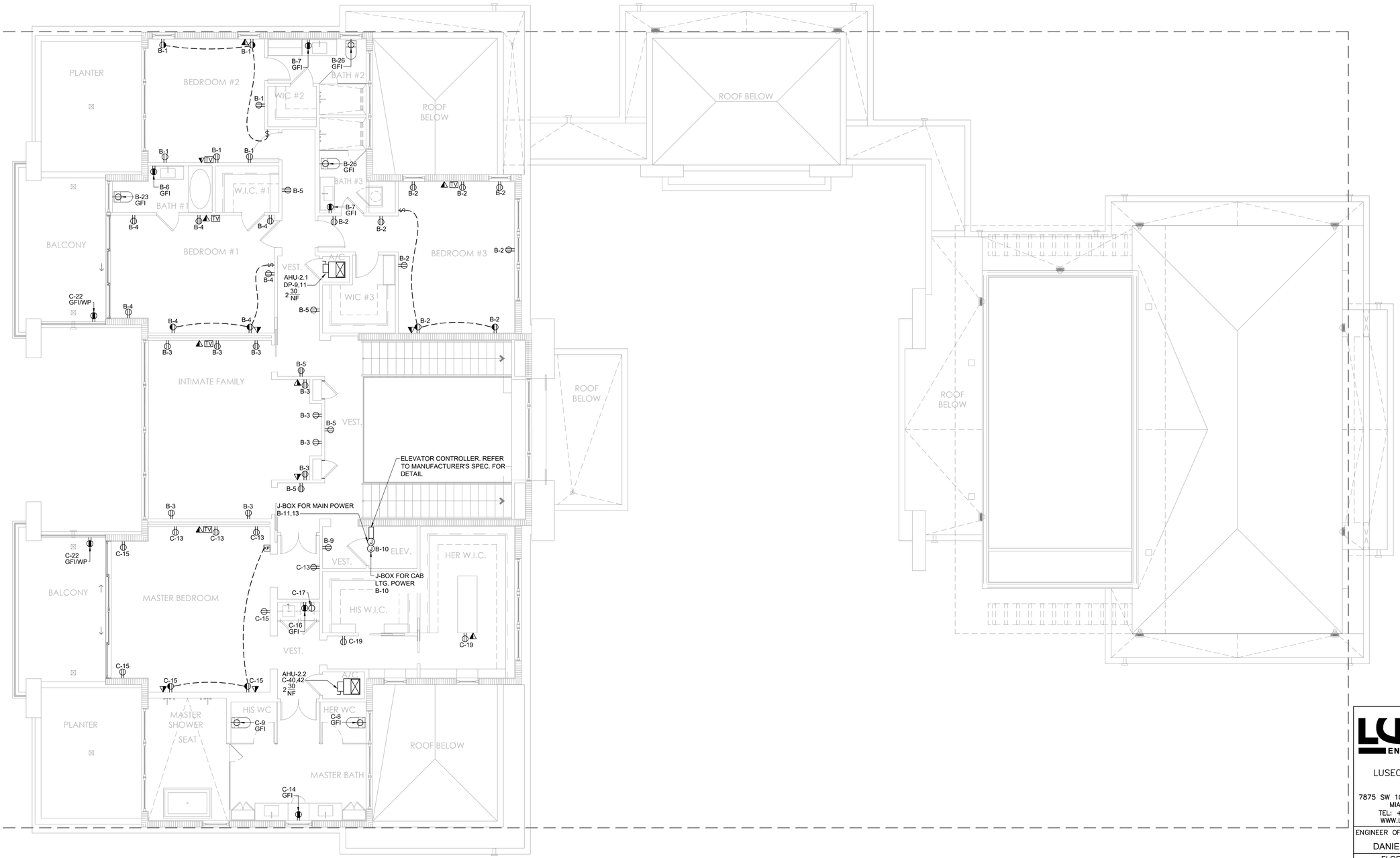

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GENERAL POWER NOTES

1. ALL OUTLETS SHALL BE INSTALLED AS SHOWN ON ELECTRICAL DRAWINGS.
2. ALL OUTLET INSTALLATION IN WALL BE DONE STAGGERED. NO BACK TO BACK OUTLET INSTALLATION IS TO BE ALLOWED.
3. COORDINATE FINAL LOCATION AND MOUNTING HEIGHT OF ELECTRICAL OUTLETS IN THE FIELD.
4. RECEPTACLES WITH-IN DWELLING UNITS SHALL BE LISTED TAMPER RESISTANT AS PER NEC 406.12
5. ALL CIRCUITS INSTALLED IN AREAS LISTED ON ARTICLE NEC210.12 SHALL BE AFCI PROTECTED.
6. ALL OUTLETS LOCATED IN A BATHROOM SHALL BE GROUND-FAULT CIRCUIT TYPE.
7. CONTRACTOR SHALL USE COMBINATION-TYPE AFCI OUTLETS FOR KITCHEN AS PER NEC 210.12
8. SMOKE DETECTOR SHALL BE LOCATED A MINIMUM OF 36" AWAY FROM A BATHROOM OR KITCHEN DOOR OR ANY SUPPLY DIFFUSER OR RETURN AIR OPENING.
9. ALL OUTDOORS INSTALLATIONS SHALL BE NEMA 3R AND SHALL COMPLY WITH NEC 110.12, 110.28, 358.12.
10. ALL ELECTRICAL EQUIPMENT SHALL BE ABOVE BASE FLOOD ELEVATION TO MEET FEMA AND CMB REGULATIONS.
11. PROVIDE HACR TYPE CKT. BRKR. FOR FCU & CU. HEATING & COOLING LOADS ARE NON-CONCURRENT.
12. PROVIDE BREAKER WITH LOCK-OUT DEVICE FOR WATER HEATER. LEAVE WHIP FOR CONNECTION TO EQUIPMENT BASED ON SUBMITTAL CUT SHEET.
13. ALL FAN BOXES SHALL COMPLY WITH FBC 422-18.
14. ALL DUPLEX RECEPTACLES IN WET LOCATIONS PROVIDE TYPE GFI.
15. PROVIDE 4 CONDUCTORS FOR RANGES AND DRYERS AS PER NEC 250.140.
16. INSTALL A COMBINATION-TYPE AFCI CIRCUIT BREAKER ON THE CIRCUITS SUPPLYING THE KITCHEN AND GFCI RECEPTACLES WHERE REQUIRED IN OR ADJACENT TO THE KITCHEN.
17. ALL TELEPHONE AND COMPUTER DATA OUTLETS WIRING SHALL BE FURNISHED, INSTALLED, CONNECTED & TESTED BY CONTRACTOR. ALL REQUIRED CONDUIT AND WIRING SHALL BE PROVIDED BY CONTRACTOR.
18. FINAL LOCATIONS OF ALL TV/ CABLE/ SATELLITE/ SERVER (S)/ DATA/ INTERNET CONNECTIONS/ AND OTHER SPECIALTY DEVICES TO BE COORDINATED WITH OWNER BY GC & OTHERS.
19. BARRIERS SHALL BE PLACED IN SERVICE EQUIPMENT SUCH THAT NO UNINSULATED, UNGROUNDED SERVICE BUSBAR OR SERVICE TERMINAL IS EXPOSED TO INADVERTENT CONTACT BY PERSONS OR MAINTENANCE EQUIPMENT WHILE SERVICING LOAD TERMINATIONS.

KITCHEN NOTES AND LEGEND

1. CONTRACTOR SHALL FURNISH AND INSTALL ALL CORDS AND PLUGS DEEMED NECESSARY FOR THE PROPER FINAL INSTALLATION OF ALL ELECTRICAL EQUIPMENT AND/OR APPLIANCES.
2. FOR EXACT LOCATION OF ALL KITCHEN EQUIPMENT (RANGES, REFRIGERATOR, OVEN, DISHWASHER, ETC.). SEE ARCHITECTURAL DRAWINGS.
3. PRIOR TO ROUGH-IN OF ELECTRICAL DEVICES COORDINATE EXACT LOCATION AND MOUNTING HEIGHTS WITH ARCHITECTURAL DRAWINGS.

   A. INSTALL INSIDE CABINET. COORDINATE EXACT LOCATION WITH MILLWORK SHOP DWGS.

   B. INSTALL FOR MICROWAVE COORDINATE LOCATION WITH SHOW DWGS.

   C. INSTALL AT 42" A.F.F.

   D. INSTALL NO MORE THAN 12" BELOW COUNTER TOP. MOUNTING HEIGHT TO BE MEASURED TO BOTTOM OF OUTLET. AS PER NEC 210.52(C)(5).

GENERAL LIGHTING NOTES

1. FOR EXACT LOCATION, TYPE AND DESCRIPTION OF LIGHT FIXTURES, REFER TO ARCHITECTURAL REFLECTED CEILING PLAN.
2. CONTRACTOR SHALL COORDINATE LIGHTING FIXTURE INSTALLATION WITH CEILING CONSTRUCTION.
3. ALL LIGHT FIXTURES SHALL BE PROVIDED WITH U.L. LABEL INDICATING FIXTURE IS SUITABLE FOR LOCATION USED.
4. ALL LIGHT FIXTURES AND LAMPS INSTALLED AND FURNISHED BY CONTRACTOR SHALL COMPLY WITH FLORIDA BUILDING CODE SECTION 404.1 A MINIMUM OF 90 PERCENT OF THE TOTAL HARD-WIRED LIGHTING FIXTURES, OR THE BULBS SHALL AN EFFICACY OF AT LEAST 45 LUMENS/W.
5. RECESSED LIGHTING: ALL RECESSED LIGHTING FIXTURES INSTALLED IN THE BUILDING THERMAL ENVELOPE SHALL BE SEALED TO LIMIT AIR LEAKAGE BETWEEN CONDITIONED SPACE AND UNCONDITIONED SPACE. ALL RECESSED LUMINARIES SHALL BE IC-RATED AND LABELED AS MEETING ASTM-E-283 (AIR TIGHT) AS PER R402.4.1 & FBC-EC 402.5.8. ALL RECESSED LIGHTING SHOULD BE SEALED WITH A GASKET OR CAULK BETWEEN THE HOUSING AND THE INTERIOR WALL OR CEILING COVERING.
6. PROVIDE DISCONNECT MEANS FOR ALL LED LIGHT FIXTURES AS REQUIRED BY N.E.C. ARTICLE 410.130(G).
7. AVAILABLE ELECTRICAL SERVICE FOR LIGHTING DISTRIBUTION IS 120 VOLT AND 240 VOLT. CONTRACTOR SHALL COORDINATE NEW LIGHT FIXTURES AND/OR REMOTE TRANSFORMER OPERATING VOLTAGE RATING WITH SPECIFIC AREA WHERE LIGHT FIXTURE IS BEING INSTALLED.
8. INSTALL SMOKE DETECTORS AND CARBON MONOXIDE DETECTORS AS PER LATEST EDITION OF NFPA 72, FBC 314, 315 AND IRC REQUIREMENTS.
9. ALL LUMINAIRES INSTALLED IN WET OR DAMP LOCATION SHALL BE MARKED "SUITABLE FOR WET LOCATION" AS PER NEC 410.10 (A).
10. RESIDENTIAL STAIRS ILLUMINATION SHALL MEET A MINIMUM OF 1FC. INSIDE AND OUTSIDE AS PER. FBC R303.7.
11. EGRESS ILLUMINATION SHALL BE 1 FOOT CANDLE AS REQUIRED BY IBC 1008.

LIGHTING LEGEND

SYMBOL	DESCRIPTION
	LED SURFACE MOUNTED FIXTURE
	VAPOR PROOF LIGHT FIXTURE
R	4" RECESSED HIGH-HAT
	CEILING SURFACE MOUNTED FIXTURE
	CEILING MOUNTED CHANDELIER FIXTURE
	WALL MOUNTED FIXTURE (SCONCE LIGHT)
	UNDERCABINET LED STRIP
	CEILING PADDLE FAN
J	JUNCTION BOX
$	LIGHTING SWITCH
	EXHAUST FAN
SD	SMOKE DETECTOR
CO	COMBINATION SMOKE CARBON MONOXIDE DETECTOR

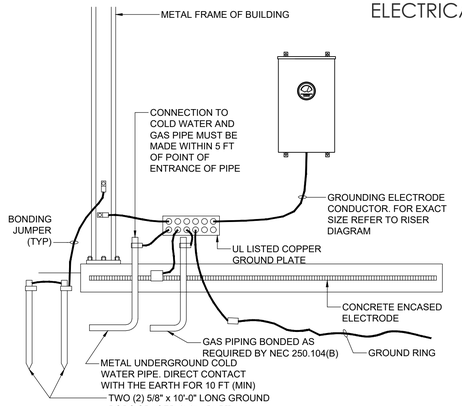
ELECTRICAL FIRE ALARM SYSTEM RISER

FIRE ALARM SYSTEM NOTES

1. ALL WIRING MUST BE INSTALLED IN COMPLIANCE WITH NFPA 70 STANDARDS, NATIONAL ELECTRICAL CODE, FLORIDA BUILDING CODE, AND APPLICABLE STATE AND LOCAL CODES, AND ANY SPECIAL REQUIREMENTS BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ).
2. USE U.L. LISTED #16 GAUGE FPL CODE.
3. ALL FIRE ALARM SENSORS TO BE INTERCONNECTED.
4. BATTERY STORAGE CALCULATION SHALL BE RUN BY THE FIRE ALARM SYSTEM CONTRACTOR.

FIRE ALARM SYSTEM LEGEND

SYMBOL	DESCRIPTION
CO	COMBINATION SMOKE/CARBON MONOXIDE DETECTOR.
SD	SMOKE DETECTOR.
FACP	FIRE ALARM CONTROL PANEL.
I	NTERFACE AND REVERSING RELAY MODULE.



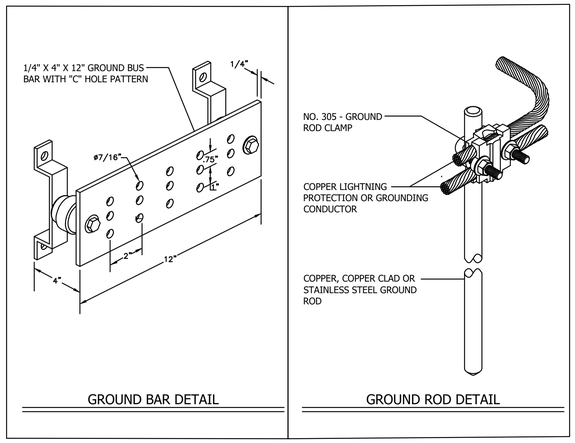
GROUNDING ELECTRODE SYSTEM DETAIL

N.T.S.

SYSTEM GROUNDING NOTES

ONE OF THE MOST IMPORTANT PARTS IN THE INSTALLATION OF ELECTRICAL SYSTEMS IS GROUNDING. PROPER GROUNDING WILL PROVIDE PROTECTION OF PERSONNEL, EQUIPMENT, AND CIRCUITS BY ELIMINATING THE POSSIBILITY OF DANGEROUS OR EXCESSIVE VOLTAGES.

- GROUNDING SYSTEM MUST BE IN ACCORDANCE WITH APPLICABLE NATIONAL, STATE OR LOCAL ELECTRICAL CODES.
- THE GROUND PATH MUST BE PERMANENT AND CONTINUOUS ALL GROUNDING ELECTRODES OF DIFFERENT SYSTEMS MUST BE BONDED TOGETHER. THE RESISTANCE OF THE GROUND PATHS MUST NOT EXCEED 20 OHMS.
- ALL GROUNDING ELECTRODES OF DIFFERENT SYSTEMS MUST BE BONDED TOGETHER.
- METALLIC CONDUIT USED TO ENCLOSE A GROUNDING CONDUCTOR MUST BE BONDED TO THE GROUNDING CONDUCTOR AT BOTH ENDS TO REDUCE IMPEDANCE.
- RECEPTACLE BOXES MUST BE GROUNDED BY RACEWAY BACK TO THE GROUNDED PANEL.
- IF FLEXIBLE OR PVC CONDUIT IS USED, OR WHERE REQUIRED BY LOCAL CODE, THEN A SEPARATE MECHANICAL GROUND WIRE MUST CONNECT THE OUTLET BOX TO THE PANEL MECHANICAL GROUND BUS.



GROUNDING STANDARDS DETAIL

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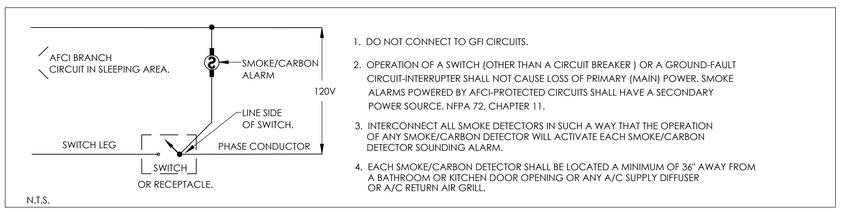
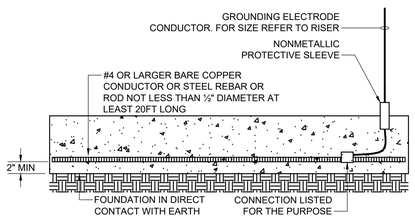


1. DO NOT CONNECT TO GFI CIRCUITS.
2. OPERATION OF A SWITCH (OTHER THAN A CIRCUIT BREAKER) OR A GROUND-FAULT CIRCUIT-INTERRUPTER SHALL NOT CAUSE LOSS OF PRIMARY (MAIN) POWER. SMOKE ALARMS POWERED BY AFCI-PROTECTED CIRCUITS SHALL HAVE A SECONDARY POWER SOURCE. NFPA 72, CHAPTER 11.
3. INTERCONNECT ALL SMOKE DETECTORS IN SUCH A WAY THAT THE OPERATION OF ANY SMOKE/CARBON DETECTOR WILL ACTIVATE EACH SMOKE/CARBON DETECTOR SOUNDING ALARM.
4. EACH SMOKE/CARBON DETECTOR SHALL BE LOCATED A MINIMUM OF 36" AWAY FROM A BATHROOM OR KITCHEN DOOR OPENING OR ANY A/C SUPPLY DIFFUSER OR A/C RETURN AIR GRILL.

SMOKE DETECTOR CONNECTION DETAIL

N.T.S.



CONCRETE ENCASED ELECTRODE DETAIL

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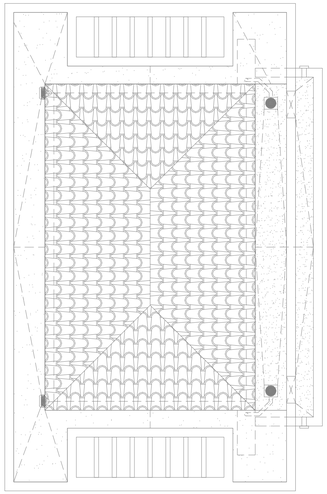

CABANA ROOF PLAN

SCALE 3/16" = 1'-0"

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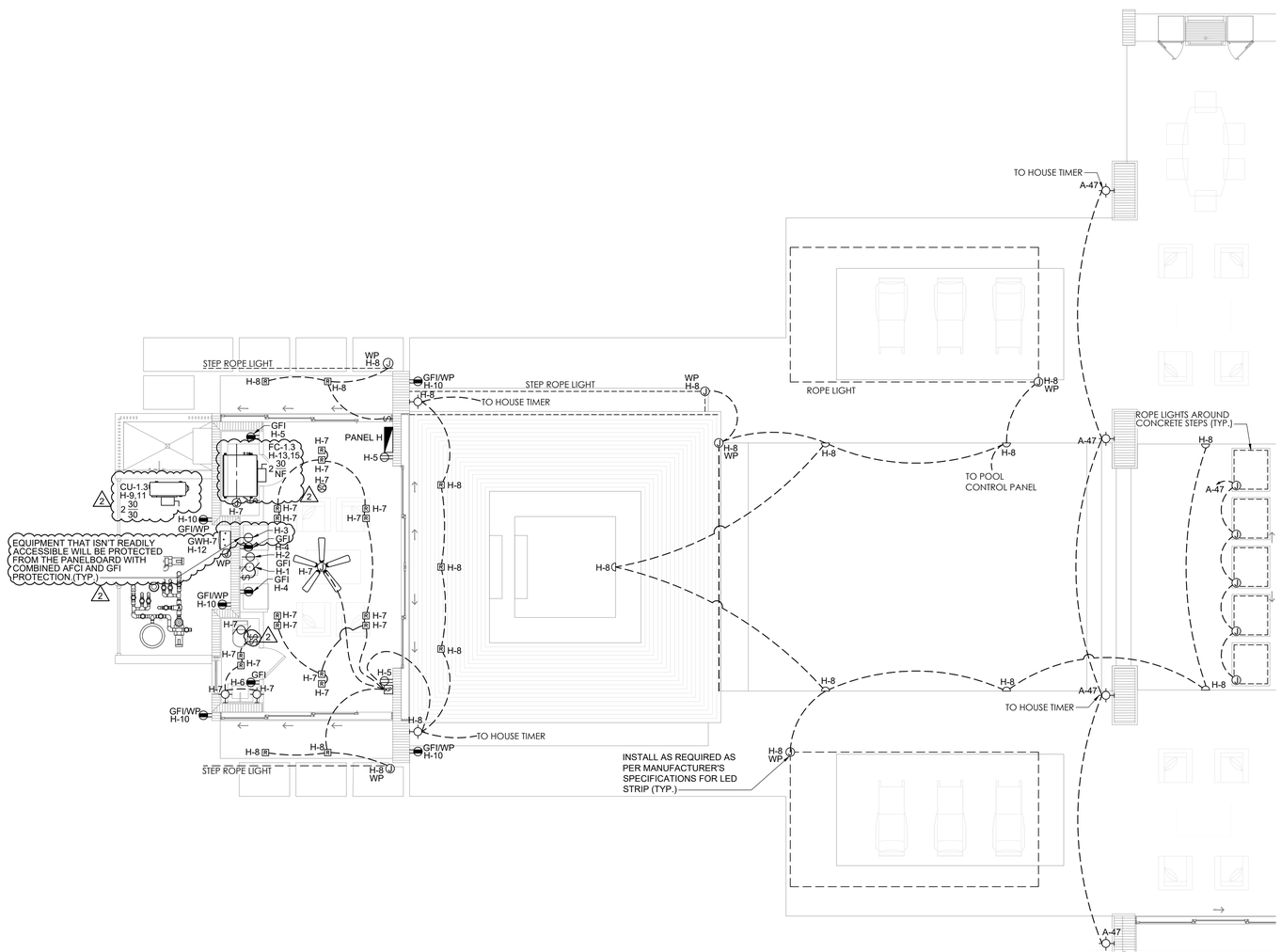

CABANA GROUND FLOOR PLAN

SCALE 3/16" = 1'-0"

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7875 SW 104th Street. SUITE 203
MIAMI, FL. 33156
TEL: +1(305)351-2960
WWW.LUSEOGROUP.COM

ENGINEER OF RECORD:
DANIEL G. SANTILLAN
FLORIDA P.E. #79327

Daniel G Santillan

NOT VALID UNLESS SIGNED & SEALED

"IN MY PROFESSIONAL JUDGEMENT AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, THESE PLANS AND SPECIFICATIONS COMPLY WITH APPLICABLE BUILDING CODES."

DANIEL G. SANTILLAN LICENSE No. 79327 STATE OF FLORIDA PROFESSIONAL ENGINEER

revisions	date
1 BDC - 04/25/2025	07-28-2020
2 BDC - 05/16/2023	issued
	drawn HM
	checked
	project no. 2024

sheet no.

E-05.0

NEW DISTRIBUTION PANEL 'DP'

MANUFACTURER: SQUARE D
TYPE: LOAD CENTER
MOUNTING: FLUSH
AIC: 35K
VOLTAGE: 120/240 VAC 1Φ 3W
BUS RATING: 800 A
MAIN: MLO
NEUTRAL: FULL

IDENTIFICATION	#	LOAD	WIRE	TRIP	CKT	CKT	TRIP	WIRE	LOAD	#	IDENTIFICATION
PANEL 'A'	9	46.66	4/0 - 2 1/2"C	2P-225A	1	2	*2P-100A	#3 - 1 ½"C	18.73	9	PANEL B
					3	4					
PANEL 'C'	9	29.21	1/0 - 2"C	2P-150A	5	6	*2P-40A	#8 - ¾"C	4.61	7	CU-2.1
AHU-2.1	8	1.54	#12 - ½"C	*2P-15A	7	8		#8 - ¾"C			
			#12 - ½"C		9	10	*2P-50A	#6 - 1"C	5.76	7	CU-1.2
AHU-1.2	8	1.54	#12 - ½"C	*2P-15A	11	12		#6 - 1"C			
			#12 - ½"C		13	14	2P-100A	#3 - 1 ½"C	18.68	9	PANEL G
			#12 - ½"C		15	16					
PANEL 'H'	9	13.50	#3 - 1 ¼"C	2P-100A	17	18	2P-20A	#12 - ½"C	2.00	9	FIRE ALARM CONTROL PANEL
					19	20		#12 - ½"C			
SPACE	-	-	-	-	21	22	*2P-100A	#3 -1½"C	19.20	9	FUTURE POOL PANEL BY OTHERS
SPACE	-	-	-	-	23	24					
SPACE	-	-	-	-	25	26	-	-	-	-	SPACE
SPACE	-	-	-	-	27	28	-	-	-	-	SPACE
SPACE	-	-	-	-	29	30	-	-	-	-	SPACE
CONNECTED KVA LOAD		91.44							68.98		CONNECTED KVA LOAD

*CONTROLLED BY SMART MODULE *AFCI PROTECTED *GFI PROTECTED **AFCI/GFI COMBINATION

#	LOADS:	LOAD KVA
1	LIGHTS & RECEPTACLES	0.00
2	SMALL APPLIANCES	0.00
3	LAUNDRY CIRCUITS LOADS	0.00
	SUBTOTAL:	0.00

**GENERAL LIGHTING LOAD:

SQFT*	W/FT*	KVA
0	3	0.00

	CONN.KVA	DEMAND	NECKVA
FIRST 3000 @ 100%	0.00	100%	0.00
REMAINDER @ 35%	0.00	35%	0.00
4 APPLIANCES LOADS	0.00	75%	0.00
5 CLOTHES DRYERS	0.00	(A)	0.00
6 COOKING APPLIANCE	0.00	(B)	0.00
7 AIR CONDITIONING	10.37	100%	10.37
8 HEATING	3.07	65%	2.00
9 PANELS	146.99	100%	146.99
SUBTOTAL:			159.35
SMALLEST AC/HEAT:			2.00
TOTAL DEMAND:			157.36 KVA / 240 VAC = 655.65 AMPS

NOTES:
A. DEMAND FACTOR AS PER NEC TABLE 220.54
B. DEMAND FACTOR AS PER NEC TABLE 220.55
C. APPLIANCES LOADS AS PER NEC 220.53
D. HEATING AS PER NEC 220.82(C)(3)

NEW PANEL 'A'

MANUFACTURER: SQUARE D
TYPE: LOAD CENTER
MOUNTING: FLUSH
AIC: 22K
VOLTAGE: 120/240 VAC 1Φ 3W
BUS RATING: 225 A
MAIN: MLO
NEUTRAL: FULL

IDENTIFICATION	#	LOAD	WIRE	TRIP	CKT	CKT	TRIP	WIRE	LOAD	#	IDENTIFICATION
DISHWASHER	4	1.40	#12 - ½"C	**1P-20A	1	2	*2P-30A	#10 - ½"C	4.90	6	STEAM OVEN
GARBAGE DISPOSAL	4	1.00	#12 - ½"C	**1P-20A	3	4		#10 - ½"C			
WATER FOUNTAIN	4	1.20	#12 - ½"C	**1P-20A	5	6	*2P-30A	#10 - ½"C	3.80	6	SPEED OVEN
CATERING KIT. SMALL APPLIANCES	2	1.50	#12 - ½"C	*1P-20A	7	8		#10 - ½"C			
CATERING KIT. DISHWASHER	4	1.40	#12 - ½"C	**1P-20A	9	10	**1P-20A	#12 - ½"C	0.40	4	BBQ IGN
DINING RM. SMALL APPLIANCES	2	1.50	#12 - ½"C	*1P-20A	11	12	**1P-20A	#12 - ½"C	1.20	4	BBQ HOOD
BBQ SMALL APPLIANCES	2	1.50	#12 - ½"C	*1P-20A	13	14	**1P-20A	#12 - ½"C	1.20	4	BBQ U/C REFRIGERATOR
BBQ DISHWASHER	4	1.40	#12 - ½"C	**1P-20A	15	16	**1P-20A	#12 - ½"C	1.20	4	CATERING KIT. REFRIGERATOR
CATERING KIT. RANGE IGN.	4	0.40	#12 - ½"C	**1P-20A	17	18	**1P-20A	#12 - ½"C	1.20	4	CATERING KIT. HOOD
DRYER	5	5.00	#10 - ½"C	*2P-30A	19	20	*1P-20A	#12 - ½"C	1.50	3	WASHER
			#10 - ½"C		21	22	*1P-20A	#12 - ½"C	1.50	3	LAUNDRY RECEPTACLES
PANEL 'DP' NECKVA	9	29.26	#1/0 - 2"C	2P-100A	23	24	*1P-20A	#12 - ½"C	1.00	4	COVERED TERRACE RECEPT.
STAFF ROOM RECEPT.	1	**	#12 - ½"C	*1P-20A	25	26	*1P-20A	#12 - ½"C	**	1	HALLWAY & VESTIBULE RECEPT.
GYM MACHINES 1	4	1.80	#12 - ½"C	*1P-20A	27	28	*1P-20A	#12 - ½"C	**	1	LIVING RM. & VESTIBULE RECEPT.
GYM MACHINES 2	4	1.80	#12 - ½"C	*1P-20A	29	30	*1P-20A	#12 - ½"C	**	1	GYM RECEPTACLES
LIBRARY & HALLWAY	1	**	#12 - ½"C	*1P-20A	31	32	*1P-20A	#12 - ½"C	**	1	GUEST RECEPTACLES
GUST BATH SMART TOILET	4	1.60	#12 - ½"C	*1P-20A	33	34	*1P-20A	#12 - ½"C	**	1	GUEST, POWDER, AND GYM BATHS GFI RECEPT.
POWDER SMART TOILET	4	1.60	#12 - ½"C	*1P-20A	35	36	*1P-20A	#12 - ½"C	1.60	4	GYM BAT SMART TOILET
EXTERIOR RECEPT. 1	4	1.00	#12 - ½"C	*1P-20A	37	38	*1P-20A	#12 - ½"C	**	1	LAUNDRY, STAFF & FAMILY RM. LTG.
KITCHEN, VEST. & DINING RM. LTG.	1	**	#12 - ½"C	*1P-20A	39	40	*1P-20A	#12 - ½"C	1.00	4	EXTERIOR RECEPT. 2
LIVING & THEARER RM. LTG.	1	**	#12 - ½"C	*1P-20A	41	42	*1P-20A	#12 - ½"C	**	1	LIBRARY, GYM & BEDROOM 1 LTG.
CATERING KIT. GARBAGE DISPOSAL	4	1.20	#12 - ½"C	**1P-20A	43	44	**1P-20A	#12 - ½"C	1.20	4	BAR U/C REFRIGERATOR
BAR GFI RECEPT.	4	1.50	#12 - ½"C	*1P-20A	45	46	**1P-20A	#12 - ½"C	1.20	4	BAR ICE-MAKER
EXTERIOR LTG.	4	0.60	#12 - ½"C	*1P-20A	47	48	*1P-20A	#12 - ½"C	**	1	STAFF BATH GFI RECEPT.
FC-1.4/CU1.4	8	4.22	#10 - ½"C	*2P-30A	49	50	*1P-20A	#12 - ½"C	**	1	STAFF BATH SMART TOILET
			#10 - ½"C		51	52	-	-	-	-	SPACE
SPACE	-	-	-	-	53	54	-	-	-	-	SPACE
SPACE	-	-	-	-	55	56	-	-	-	-	SPACE
SPACE	-	-	-	-	57	58	-	-	-	-	SPACE
SPACE	-	-	-	-	59	60	-	-	-	-	SPACE
CONNECTED KVA LOAD		31.02							24.50		CONNECTED KVA LOAD

*CONTROLLED BY SMART MODULE *AFCI PROTECTED *GFI PROTECTED **AFCI/GFI COMBINATION

#	LOADS:	LOAD KVA
1	LIGHTS & RECEPTACLES	10.85
2	SMALL APPLIANCES	4.50
3	LAUNDRY CIRCUITS LOADS	3.00
	SUBTOTAL:	18.35

**GENERAL LIGHTING LOAD:

SQFT*	W/FT*	KVA
3617	3	10.85

	CONN.KVA	DEMAND	NECKVA
FIRST 3000 @ 100%	3.00	100%	3.00
REMAINDER @ 35%	15.35	35%	5.37
4 APPLIANCES LOADS	30.10	75%	22.58
5 CLOTHES DRYERS	5.00	(A)	5.00
6 COOKING APPLIANCE	8.70	(B)	8.70
7 AIR CONDITIONING	0.00	100%	0.00
8 HEATING	4.22	65%	2.75
SUBTOTAL:			47.39
SMALLEST AC/HEAT:			0.00
TOTAL DEMAND:			47.39 KVA / 240 VAC = 197.47 AMPS

NOTES:
A. DEMAND FACTOR AS PER NEC TABLE 220.54
B. DEMAND FACTOR AS PER NEC TABLE 220.55
C. APPLIANCES LOADS AS PER NEC 220.53
D. HEATING AS PER NEC 220.82(C)(3)

NEW PANEL 'G'

MANUFACTURER: SQUARE D
TYPE: LOAD CENTER
MOUNTING: FLUSH
AIC: 22K
VOLTAGE: 120/240 VAC 1Φ 3W
BUS RATING: 100 A
MAIN:100A M.C.B.
NEUTRAL: FULL

IDENTIFICATION	#	LOAD	WIRE	TRIP	CKT	CKT	TRIP	WIRE	LOAD	#	IDENTIFICATION
STUDIO RECET.	1	**	#12 - ½"C	*1P-20A	1	2	*1P-20A	#12 - ½"C	1.60	4	STUDIO POWDER SMART TOILET.
STUDIO POWDER GFI RECEPT.	1	**	#12 - ½"C	*1P-20A	3	4	*1P-20A	#12 - ½"C	1.00	4	GARAGE RECEPT.
CU-1.6	7	2.30	#12 - ½"C	*2P-20A	5	6	*1P-20A	#12 - ½"C	1.00	4	OUTDOOR RECEPT.
			#12 - ½"C		7	8	*1P-20A	#12 - ½"C	0.30	4	GAS WATER HEATER 3 (GWH-3)
AHU-1.6	8	0.96	#12 - ½"C	*2P-15A	9	10	*1P-20A	#12 - ½"C	1.00	4	GARAGE DOOR OPENER 1
			#12 - ½"C		11	12	*1P-20A	#12 - ½"C	1.00	4	GARAGE DOOR OPENER 2
STUDIO LTG.	1	**	#12 - ½"C	*1P-20A	13	14	*1P-20A	#12 - ½"C	1.00	4	GARAGE LTG.
CU-1.5	7	2.30	#12 - ½"C	*2P-20A	15	16	-	-	-	-	SPACE
			#12 - ½"C		17	18	-	-	-	-	SPACE
AHU-1.5	8	0.96	#12 - ½"C	*2P-15A	19	20	-	-	-	-	SPACE
			#12 - ½"C		21	22	-	-	-	-	SPACE
SPACE	-	-	-	-	23	24	-	-	-	-	SPACE
CONNECTED KVA LOAD		6.53							6.90		CONNECTED KVA LOAD

*CONTROLLED BY SMART MODULE *AFCI PROTECTED *GFI PROTECTED **AFCI/GFI COMBINATION

#	LOADS:	LOAD KVA
1	LIGHTS & RECEPTACLES	2.31
2	SMALL APPLIANCES	0.00
3	LAUNDRY CIRCUITS LOADS	0.00
	SUBTOTAL:	2.31

**GENERAL LIGHTING LOAD:

SQFT*	W/FT*	KVA
615	3	1.85

	CONN.KVA	DEMAND	NECKVA
FIRST 3000 @ 100%	3.00	100%	3.00
REMAINDER @ 35%	-0.69	35%	-0.24
4 APPLIANCES LOADS	6.90	75%	5.18
5 CLOTHES DRYERS	0.00	(A)	0.00
6 COOKING APPLIANCE	0.00	(B)	0.00
7 AIR CONDITIONING	4.61	100%	4.61
8 HEATING	1.92	65%	1.25
SUBTOTAL:			13.79
SMALLEST AC/HEAT:			1.25
TOTAL DEMAND:			12.54 KVA / 240 VAC = 52.25 AMPS

NOTES:
A. DEMAND FACTOR AS PER NEC TABLE 220.54
B. DEMAND FACTOR AS PER NEC TABLE 220.55
C. APPLIANCES LOADS AS PER NEC 220.53
D. HEATING AS PER NEC 220.82(C)(3)

NEW PANEL 'B'

TYPE: LOAD CENTER
MOUNTING: FLUSH
AIC: 22K
VOLTAGE: 120/240 VAC 1Φ 3W
BUS RATING: 100 A
MAIN: M.L.O.
NEUTRAL: FULL

IDENTIFICATION	#	LOAD	WIRE	TRIP	CKT	CKT	TRIP	WIRE	LOAD	#	IDENTIFICATION
BEDROOM 2 RECEPTACLES	1	**	#12 - ½"C	*1P-20A	1	2	*1P-20A	#12 - ½"C	**	1	BEDROOM 3 RECEPTACLES
FAMILY 2ND FLOOR	1	**	#12 - ½"C	*1P-20A	3	4	*1P-20A	#12 - ½"C	**	1	BEDROOM 1 RECEPTACLES
2ND. FL. VESTIBULE & GALLERY RECEP.	1	**	#12 - ½"C	*1P-20A	5	6	*1P-20A	#12 - ½"C	**	1	GFI BATH 1
GFI BATH 2 & 3	1	**	#12 - ½"C	*1P-20A	7	8	*1P-20A	#12 - ½"C	0.40	4	MACHINE ROOM GFI RECEPTACLE
ELEV. PIT. RECEPT.	4	1.20	#12 - ½"C	*1P-20A	9	10	*1P-30A	#10 - ½"C	1.00	1	ELEV. LTG./CNTRL.
ELEVATOR CONTROLLER	4	5.70	#10 - ½"C	*2P-30A	11	12		#10 - ½"C	3.00	4	SAUNA
			#10 - ½"C		13	14		#10 - ½"C			
BEDROOM 1 AND 2, BATH 1 AND 2 LTG.	1	**	#12 - ½"C	*1P-20A	15	16	*1P-20A	#12 - ½"C	**	1	BEDRM. 3, BATH 3, AND INTIMATE LTG.
2ND. FL. VESTIBULE LTG.	1	**	#12 - ½"C	*1P-20A	17	18	*1P-20A	#12 - ½"C	0.30	4	GAS WATER HEATER 1 (GWH-1)
GAS WATER HEATER 2 (GWH-2)	4	0.30	#12 - ½"C	*1P-20A	19	20	*1P-20A	#12 - ½"C	0.30	4	GAS WATER HEATER 5 (GWH-5)
GAS WATER HEATER 4 (GWH-4)	4	0.30	#12 - ½"C	*1P-20A	21	22	*1P-20A	#12 - ½"C	0.30	4	GAS WATER HEATER 6 (GWH-6)
SMART TOILET BATH 1	4	1.60	#12 - ½"C	*1P-20A	23	24	*1P-20A	#12 - ½"C	1.60	4	SMART TOILET BATH 2
STEP LTG.	1	**	#12 - ½"C	*1P-20A	25	26	*1P-20A	#12 - ½"C	1.60	4	SMART TOILET BATH 3
SPACE	-	-	-	-	27	28	-	-	-	-	SPACE
SPACE	-	-	-	-	29	30	-	-	-	-	SPACE
SPACE	-	-	-	-	31	32	-	-	-	-	SPACE
SPACE	-	-	-	-	33	34	-	-	-	-	SPACE
SPACE	-	-	-	-	35	36	-	-	-	-	SPACE
SPACE	-	-	-	-	37	38	-	-	-	-	SPACE
SPACE	-	-	-	-	39	40	-	-	-	-	SPACE
SPACE	-	-	-	-	41	42	-	-	-	-	SPACE
CONNECTED KVA LOAD		9.10							8.50		CONNECTED KVA LOAD

*CONTROLLED BY SMART MODULE *AFCI PROTECTED *GFI PROTECTED **AFCI/GFI COMBINATION

#	LOADS:	LOAD KVA
1	LIGHTS & RECEPTACLES	8.96
2	SMALL APPLIANCES	0.00
3	LAUNDRY CIRCUITS LOADS	0.00
	SUBTOTAL:	8.96

**GENERAL LIGHTING LOAD:

SQFT*	W/FT*	KVA
2390	3	7.17

	CONN.KVA	DEMAND	NECKVA
FIRST 3000 @ 100%	3.00	100%	3.00
REMAINDER @ 35%	5.96	35%	2.09
4 APPLIANCES LOADS	16.60	75%	12.45
5 CLOTHES DRYERS	0.00	(A)	0.00
6 COOKING APPLIANCE	0.00	(B)	0.00
7 AIR CONDITIONING	0.00	100%	0.00
8 HEATING	0.00	65%	0.00
SUBTOTAL:			17.54
SMALLEST AC/HEAT:			0.00
TOTAL DEMAND:			17.54 KVA / 240 VAC = 73.07 AMPS

NOTES:
A. DEMAND FACTOR AS PER NEC TABLE 220.54
B. DEMAND FACTOR AS PER NEC TABLE 220.55
C. APPLIANCES LOADS AS PER NEC 220.53
D. HEATING AS PER NEC 220.82(C)(3)

NEW PANEL 'C'

MANUFACTURER: SQUARE D
TYPE: LOAD CENTER
MOUNTING: FLUSH
AIC: 22K
VOLTAGE: 120/240 VAC 1Φ 3W
BUS RATING: 150 A
MAIN: M.L.O.
NEUTRAL: FULL

IDENTIFICATION	#	LOAD	WIRE	TRIP	CKT	CKT	TRIP	WIRE	LOAD	#	IDENTIFICATION
RANGE IGNITION	4	0.40	#12 - ½"C	**1P-20A	1	2	*1P-20A	#12 - ½"C	1.50	2	SMALL APPLIANCES
KITCHEK HOOD	4	1.20	#12 - ½"C	**1P-20A	3	4	*1P-20A	#12 - ½"C	1.50	2	SMALL APPLIANCES
FREEZER	4	1.20	#12 - ½"C	**1P-20A	5	6	**1P-20A	#12 - ½"C	1.20	4	REFRIGERATOR
DISHWASHER	4	1.40	#12 - ½"C	**1P-20A	7	8	*1P-20A	#12 - ½"C	1.20	4	MASTER SMART TOILET 1
MASTER SMART TOILET 2	4	1.20	#12 - ½"C	*1P-20A	9	10	**1P-20A	#12 - ½"C	1.20	4	GARBAGE DISPOSAL
INTERCOM SYSTEM	4	1.20	#12 - ½"C	*1P-20A	11	12	*1P-20A	#12 - ½"C	1.20	4	GATES
MASTER BEDROOM RECEPT.	1	**	#12 - ½"C	*1P-20A	13	14	**1P-20A	#12 - ½"C	1.20	4	MASTER BEDROOM BLOWER
MASTER BEDROOM RECEPT.	1	**	#12 - ½"C	*1P-20A	15	16	*1P-20A	#12 - ½"C	1.20	4	MASTER BATHROOM RECEPTACLES
MASTER BEDROOM U/C FRIDGE	4	1.60	#12 - ½"C	**1P-20A	17	18	*1P-20A	#12 - ½"C	**	1	MASTER CLOSET & GALLERY RECEPT.
MASTER CLOSET	4	1.20	#12 - ½"C	*1P-20A	19	20	*1P-20A	#12 - ½"C	**	1	MASTER BEDROOM & BATH LTG.
MASTER CLOSET LTG.	1	**	#12 - ½"C	*1P-20A	21	22	*1P-20A	#12 - ½"C	1.00	4	BALCONY
SPACE	-	-	-	-	23	24	-	-	-	-	SPACE
SPACE	-	-	-	-	25	26	-	-	-	-	SPACE
SPACE	-	-	-	-	27	28	-	-	-	-	SPACE
SPACE	-	-	-	-	29	30	-	-	-	-	SPACE
SPACE	-	-	-	-	31	32	-	-	-	-	SPACE
SPACE	-	-	-	-	33	34	-	-	-	-	SPACE
CU-1.1	7	5.76	#6 - 1"C	*2P-50A	35	36	*2P-35A	#8 - ¾"C	3.84	7	CU-2.2
			#6 - 1"C		37	38		#8 - ¾"C			
AHU-1.1	8	1.54	#12 - ½"C	*2P-15A	39	40	*2P-15A	#12	0.96	8	AHU-2.2
			#12 - ½"C		41	42		#12			
CONNECTED KVA LOAD		18.79							19.66		CONNECTED KVA LOAD

*CONTROLLED BY SMART MODULE *AFCI PROTECTED *GFI PROTECTED **AFCI/GFI COMBINATION

#	LOADS:	LOAD KVA
1	LIGHTS & RECEPTACLES	5.25
2	SMALL APPLIANCES	3.00
3	LAUNDRY CIRCUITS LOADS	0.00
	SUBTOTAL:	8.25

**GENERAL LIGHTING LOAD:

SQFT*	W/FT*	KVA
1400	3	4.20

	CONN.KVA	DEMAND	NECKVA
FIRST 3000 @ 100%	3.00	100%	3.00
REMAINDER @ 35%	5.25	35%	1.84
4 APPLIANCES LOADS	17.60	75%	13.20
5 CLOTHES DRYERS	0.00	(A)	0.00
6 COOKING APPLIANCE	0.00	(B)	0.00
7 AIR CONDITIONING	9.60	100%	9.60
8 HEATING	2.50	65%	1.62
SUBTOTAL:			29.26
SMALLEST AC/HEAT:			1.62
TOTAL DEMAND:			27.64 KVA / 240 VAC = 115.16 AMPS

NOTES:
A. DEMAND FACTOR AS PER NEC TABLE 220.54
B. DEMAND FACTOR AS PER NEC TABLE 220.55
C. APPLIANCES LOADS AS PER NEC 220.53
D. HEATING AS PER NEC 220.82(C)(3)

NEW PANEL 'H'

MANUFACTURER: SQUARE D
TYPE: LOAD CENTER
MOUNTING: FLUSH
AIC: 22K
VOLTAGE: 120/240 VAC 1Φ 3W
BUS RATING: 100 A
MAIN:100A M.C.B.
NEUTRAL: FULL

IDENTIFICATION	#	LOAD	WIRE	TRIP	CKT	CKT	TRIP	WIRE	LOAD	#	IDENTIFICATION
GARBAGE DISPOSAL	4	1.00	#12 - ½"C	**1P-20A	1	2	**1P-20A	#12 - ½"C	1.40	4	CABANA DISHWASHER
U/C REFRIGERATOR	4	1.20	#12 - ½"C	**1P-20A	3	4	*1P-20A	#12 - ½"C	1.50	2	CABANA SMALL APPLIANCES
CABANA GENERAL RECEPTACLES	1	**	#12 - ½"C	*1P-20A	5	6	*1P-20A	#12 - ½"C	**	1	CABANA BATH GFI RECEPT.
CABANA LTG.	1	**	#12 - ½"C	*1P-20A	7	8	*1P-20A	#12 - ½"C	1.20	1	EXTERIOR STEP LTG.
CU-1.3/FC 1.3	7	4.22	#10 - ½"C	*2P-30A	9	10	*1P-20A	#12 - ½"C	1.00	4	EXTERIOR RECEPT.
			#10 - ½"C		11	12	*1P-20A	#12 - ½"C	0.30	4	GAS WATER HEATER 7 (GWH-7)
SPACE	-	-	-	-	13	14	-	-	-	-	SPACE
SPACE	-	-	-	-	15	16	-	-	-	-	SPACE
SPACE	-	-	-	-	17	18	-	-	-	-	SPACE
SPACE	-	-	-	-	19	20	-	-	-	-	SPACE
SPACE	-	-	-	-	21	22	-	-	-	-	SPACE
SPACE	-	-	-	-	23	24	-	-	-	-	SPACE
CONNECTED KVA LOAD		6.42							5.40		CONNECTED KVA LOAD

*CONTROLLED BY SMART MODULE *AFCI PROTECTED *GFI PROTECTED **AFCI/GFI COMBINATION

#	LOADS:	LOAD KVA
1	LIGHTS & RECEPTACLES	1.88
2	SMALL APPLIANCES	1.50
3	LAUNDRY CIRCUITS LOADS	0.00
	SUBTOTAL:	3.38

**GENERAL LIGHTING LOAD:

SQFT*	W/FT*	KVA
500	3	1.50

	CONN.KVA	DEMAND	NECKVA
FIRST 3000 @ 100%	3.00	100%	3.00
REMAINDER @ 35%	0.38	35%	0.13
4 APPLIANCES LOADS	4.90	75%	3.68
5 CLOTHES DRYERS	0.00	(A)	0.00
6 COOKING APPLIANCE	0.00	(B)	0.00
7 AIR CONDITIONING	4.22	100%	4.22
8 HEATING	0.00	65%	0.00
SUBTOTAL:			11.03
SMALLEST AC/HEAT:			0.00
TOTAL DEMAND:			11.03 KVA / 240 VAC = 45.96 AMPS

NOTES:
A. DEMAND FACTOR AS PER NEC TABLE 220.54
B. DEMAND FACTOR AS PER NEC TABLE 220.55
C. APPLIANCES LOADS AS PER NEC 220.53
D. HEATING AS PER NEC 220.82(C)(3)

LOAD CALCULATION FOR GENERA TOR WITH A/C 2.1, A/C 1.2 AND FUTURE POOL PANEL CONTROLLED BY SMART MODULES

#	LOADS:	LOAD KVA
1	LIGHTS & RECEPTACLES	0.00
2	SMALL APPLIANCES	0.00
3	LAUNDRY CIRCUITS LOADS	0.00
	SUBTOTAL:	0.00

**GENERAL LIGHTING LOAD:

SQFT*	W/FT*	KVA
0	3	0.00

	CONN.KVA	DEMAND	NECKVA
FIRST 3000 @ 100%	0.00	100%	0.00
REMAINDER @ 35%	0.00	35%	0.00
4 APPLIANCES LOADS	0.00	75%	0.00
5 CLOTHES DRYERS	0.00	(A)	0.00
6 COOKING APPLIANCE	0.00	(B)	0.00
7 AIR CONDITIONING	0.00	100%	0.00
8 HEATING	0.00	65%	0.00
9 PANELS	127.79	100%	127.79
SUBTOTAL:			127.79
SMALLEST AC/HEAT:			0.00
TOTAL DEMAND:			127.79 KVA / 240 VAC = 532.45 AMPS

NOTES:
A. DEMAND FACTOR AS PER NEC TABLE 220.54
B. DEMAND FACTOR AS PER NEC TABLE 220.55
C. APPLIANCES LOADS AS PER NEC 220.53
D. HEATING AS PER NEC 220.82(C)(3)

RISER NOTES

1. CONTRACTOR SHALL INSTALL ALL ELECTRICAL DISTRIBUTION EQUIPMENT AS SHOWN ON ELECTRICAL RISER DIAGRAM.
2. ANY DEVIATIONS DUE TO EXISTING CONDITIONS SHALL BE COMMUNICATED TO THE ENGINEER FOR HIS RESOLUTION.
3. SERVICE EQUIPMENT SHALL BE LEGIBLY MARKED IN THE FIELD WITH MAXIMUM AVAILABLE FAULT CURRENT AS REQUIRED TO COMPLY WITH NEC ARTICLE 110.24. AND WITH THE ARCH FLASH HAZARD WARNING TO COMPLY WITH NEC ARTICLE 110.16.
4. BOND GAS PIPE AS PER NEC.
5. PROPOSED ELEVATION OF BOTTOM OF ELECTRICAL EQUIPMENT SHALL BE AT LEAST 1FT ABOVE NGVD FLOOD ELEVATION.

FEEDER SCHEDULE

TYPE	DESCRIPTION	GROUND	CONDUIT
-	-	-	-
100	3 - 3 THWN (Cu)	#8 (Cu)	1 1/4"
150	3 - 1/0 THWN (Cu)	#6 (Cu)	2"
225	3 - 4/0 THWN (Cu)	#4 (Cu)	2 1/2"
800	2 SETS: 3 - 600 MCM THWN (Cu)	#1/0 (Cu)	2 - 3"
SE800	2 SETS: 3 - 600 MCM THWN (Cu)	-	2 - 4"
USE800	2 SETS: 3 - 600 MCM THWN (Cu)	-	2 - 4"

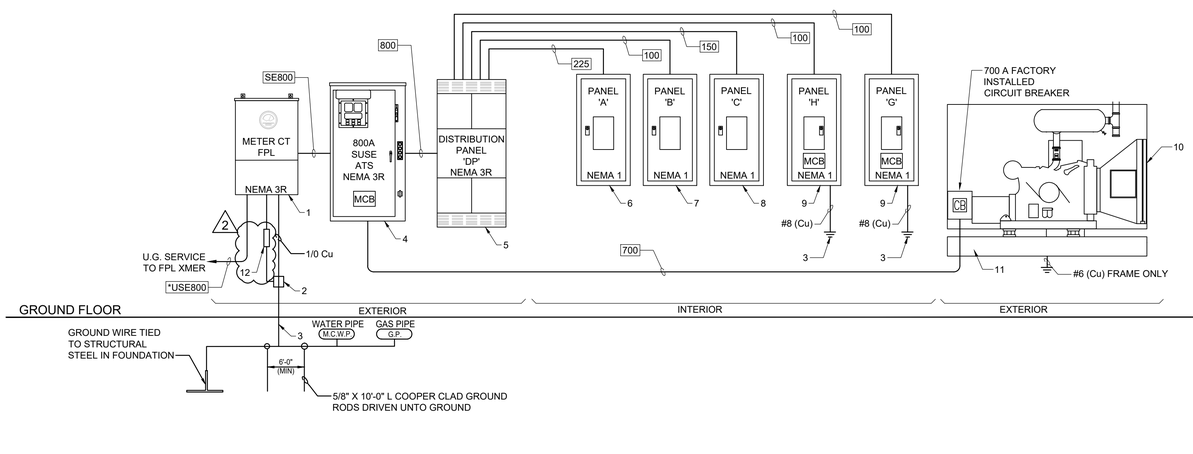
*AS PER NEC TABLE 310.15(B)(6)
CONDUIT FILL AS PER NEC CHAPTER 9 TABLE 4, 5, 5A & TABLE C.10 & C.10(A)

RISER LEGEND:

1. COMBINATION CT CABINET/ELECTRIC METER IN NEMA 3R ENCLOSURE RATED FOR 800A, 1 PHASE, 3 WIRE. COORDINATE REQUIREMENTS WITH LOCAL UTILITY PRIOR TO ORDERING.
2. INTERSYSTEM BONDING.
3. GROUNDING SYSTEM. REFER TO DETAIL SHEET.
4. SUITABLE FOR USE AS SERVICE EQUIPMENT AUTOMATIC TRANSFER SWITCH (SUSE ATS): 120/240V, 800 AMP NEMA 3R ENCLOSURE WITH 800 MCB. NOT SEPARATELY DERIVED. KOHLER KEP 800 OR EQUIVALENT WITH SMART MODULES.
5. NEW 120/240 1 PHASE, 3W, 800 AMP M.L.O. DISTRIBUTION PANEL 'DP' THRU ATS. REFER TO THIS SHEET FOR SCHEDULE. NEMA 3R ENCLOSURE.
6. NEW 120/240 1 PHASE, 3W, 225A M.L.O. PANEL 'A'. REFER TO THIS SHEET FOR SCHEDULE. NEMA 1 ENCLOSURE.
7. NEW 120/240 1 PHASE, 3W, 100A M.L.O. PANEL 'B'. REFER TO THIS SHEET FOR SCHEDULE. NEMA 1 ENCLOSURE.
8. NEW 120/240 1 PHASE, 3W, 150A M.L.O. PANEL 'A'. REFER TO THIS SHEET FOR SCHEDULE. NEMA 1 ENCLOSURE.
9. NEW 120/240 1 PHASE, 3W, 100A M.C.B. PANEL 'H' AND PANEL 'G'. REFER TO THIS SHEET FOR SCHEDULE. NEMA 1 ENCLOSURE.
10. GENERAC RG150-150kW STANDBY GENERATOR IN NEMA 4X SOUND ATTENUATION TYPE ENCLOSURE, 120/240V, 1-PHASE. WITH 800 A FACTORY INSTALLED CIRCUIT BREAKER.MINIMUM RECOMMENDED CONCRETE PAD SIZE (43") WIDE X (75") LONG. GENERATOR IS A SEPARATELY DERIVED SYSTEM.

NOTE: GENERATOR INSTALLATION UNDER SEPARATE PERMIT APPLICATION.

11. THE DESIGN AND DIMENSIONS OF THE CONCRETE PAD SHOULD BE DETERMINED BY A STRUCTURAL ENGINEER WHERE NECESSARY. OTHERWISE, PLEASE CONSULT THE INSTALLATION GUIDE SUPPLIED WITH THE UNIT FOR GUIDELINES ON CONCRETE PAD SPECIFICATIONS.
12. PERMANENTLY CONNECTER SURGE PROTECTION DEVICE (SDP), TYPE I+II.


800
SE800
METER CT

Protector® Series

GENERAC

PROTECTOR® SERIES
Standby Generators
Liquid-Cooled Gaseous Engine

INCLUDES:

- Power Zone 410 controller
- Isochronous Electronic Governor
- Sound Attenuated Enclosure
- Closed Coolant Recovery System
- Smart Battery Charger
- UV/Ozone Resistant Hoses
- Voltage and Frequency Regulation Designed for Sensitive Electronics
- 5 Year Limited Warranty
- UL 2200 Listed

Standby Power Rating
Model RG13090 (Aluminum - Bisque) - 130 kW 60 Hz
Model RG15090 (Aluminum - Bisque) - 150 kW 60 Hz

* Product may vary slightly from above image.

Meets EPA Emission Regulations
CA / MA Emission Compliant

FEATURES

- **INNOVATIVE DESIGN & PROTOTYPE TESTING** are key components of GENERAC'S success in "IMPROVING POWER BY DESIGN." But it doesn't stop there. Total commitment to component testing, reliability testing, environmental testing, destruction and life testing, plus testing to applicable CSA, NEMA, EGSA, and other standards, allows you to choose GENERAC POWER SYSTEMS with the confidence that these systems will provide superior performance.
- **TEST CRITERIA:**
  - ✓ **PROTOTYPE TESTED**
  - ✓ **SYSTEM TORSIONAL TESTED**
  - ✓ **NEMA MG1-22 EVALUATION**
  - ✓ **MOTOR STARTING ABILITY**
- **MOBILE LINK® CONNECTIVITY:** Free with select Protector Series standby generator sets, Mobile Link Wi-Fi allows users to monitor the generator set status from anywhere in the world using a smartphone, tablet, or PC. Easily access information such as the current operating status and maintenance alerts. Users can connect an account to an authorized service dealer for fast, friendly, and proactive service. With Mobile Link, users are taken care of before the next power outage.
- **NFPA 110 CAPABILITY:** Generator comes able to support NFPA 110 requirements. Requires the addition of an optional NFPA 110 accessory kit.
- **SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION.** This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine.
- **SINGLE SOURCE SERVICE RESPONSE** from Generac's extensive dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component.
- **GENERAC TRANSFER SWITCHES.** Long life and reliability are synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is the GENERAC product line is offered with its own transfer systems and controls for total system compatibility.

GENERAC

GENERAC

130 / 150 kW — operating data

GENERATOR OUTPUT VOLTAGE/kW - 60 Hz

		kW LPG	Amp LPG	kW Nat. Gas	Amp Nat. Gas	CB Size (Both)
RG13090	120/240 V, 1Ø, 1.0 pf	130	542	130	542	600
	120/208 V, 3Ø, 0.8 pf	130	451	130	451	500
	120/240 V, 3Ø, 0.8 pf	130	391	130	391	400
	277/480 V, 3Ø, 0.8 pf	130	195	130	195	225
RG15090	120/240 V, 1Ø, 1.0 pf	134	558	144	600	700
	120/208 V, 3Ø, 0.8 pf	140	486	150	520	600
	120/240 V, 3Ø, 0.8 pf	140	421	150	451	500
	277/480 V, 3Ø, 0.8 pf	140	210	150	226	250

SURGE CAPACITY IN AMPS

		Voltage Dip
		30%
RG13090	120 / 240 V, 1Ø	854
	120 / 208 V, 3Ø	816
	120 / 240 V, 3Ø	707
	277 / 480 V, 3Ø	351
RG15090	120 / 240 V, 1Ø	617
	120 / 208 V, 3Ø	619
	120 / 240 V, 3Ø	536
	277 / 480 V, 3Ø	351

ENGINE FUEL CONSUMPTION

		Natural Gas		Propane	
		(ft^3 / hr)	(m^3 / hr)	(ft^3 / hr)	(m^3 / hr)
RG13090	25% of rated load	509	14.4	172	4.9
	50% of rated load	858	24.3	278	7.9
	75% of rated load	1,206	34.1	385	10.9
	100% of rated load	1,555	44.0	491	13.9
RG15090	25% of rated load	562	15.9	187	5.3
	50% of rated load	963	27.3	306	8.7
	75% of rated load	1,370	38.8	432	12.2
	100% of rated load	1,768	50.1	559	15.8

Note: **Fuel pipe must be sized for full load.**

For BTU content, multiply ft^3 / hr x 2,520 (LP) or ft^3 / hr x 1,000 (NG).

For megajoule content, multiply m^3 / hr x 93.15 (LP) or m^3 / hr x 37.26 (NG).

Refer to "Emissions Data Sheets" for maximum fuel flow for EPA and SCAQMD permitting purposes.

STANDBY RATING: Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. There is no overload capability for this rating. Ratings are in accordance with ISO-3046-1. Design and specifications are subject to change without notice.

GENERAC

130 / 150 kW — application & engineering data

GENERATOR SPECIFICATIONS

	130 / 150 kW
Type	Synchronous
Rotor Insulation Class	H
Stator Insulation Class	H
Telephone Interference Factor (TIF)	<:50
Alternator Output Leads 1-Phase	4 wire
Alternator Output Leads 3-Phase	12 wire
Bearings	Sealed Ball
Coupling	Flexible Disc
Excitation System	Synchronous Brushless
Total Harmonic Distortion	<:5%

VOLTAGE REGULATION

Type	Full Digital
Sensing	All
Regulation	Designed for Sensitive Electronics

GOVERNOR SPECIFICATIONS

Type	Electronic
Frequency Regulation	Isochronous
Steady State Regulation	Designed for Sensitive Electronics

ELECTRICAL SYSTEM

Battery Charger Alternator	40 Amp
Static Battery Charger	5 Amp
Recommended Battery (battery included)	Group 31, 925 CCA
System Voltage	12 Volts

GENERATOR FEATURES

Revolving field heavy duty generator
Directly connected to the engine
Operating temperature rise 130° C above 25° C ambient
Class H insulation is NEMA rated
All models fully prototyped tested

ENCLOSURE FEATURES

Aluminum weather protective enclosure	Ensures protection against mother nature. Electrostatically applied textured epoxy paint for added durability.
Enclosed critical grade muffler	Quiet, critical grade muffler is mounted inside the unit to prevent injuries.
Small, compact, attractive	Makes for an easy, eye appealing installation.
SAE	Sound attenuated enclosure ensures quiet operation.

(All ratings in accordance with BSS514, ISO3046, ISO8528, SAE J1349 and DIN6271)

ENGINE SPECIFICATIONS

	130 / 150 kW
Make	Generac
Type	V
Cylinders	8
Displacement - in^3 (L)	540 (8.86)
Bore (in / mm)	4.5 / 114.3
Stroke (in / mm)	4.25 / 107.95
Compression Ratio (Turbo Charged)	9.1:1
Intake Air System	Turbocharged and Aftercooled
Lifter Type	Hydraulic Roller

ENGINE LUBRICATION SYSTEM

Oil Pump Type	Gear
Oil Filter Type	Full Flow Spin-On Cartridge
Crankcase Capacity (qt / L)	10.5 / 9.9

ENGINE COOLING SYSTEM

Type	Pressurized Closed
Water Pump	Belt-Driven
Fan Speed (rpm)	2,330
Fan Diameter (in / cm)	22 (55.9)
Fan Mode	Pusher

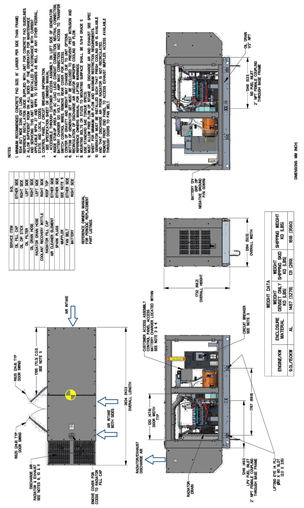
FUEL SYSTEM

Fuel Type	Natural Gas, Propane Vapor
Carburetor	Down Draft
Secondary Fuel Regulator	Standard
Fuel Shut Off Solenoid	Standard
LP Fuel Pressure	7 - 11 in Water Column
NG Fuel Pressure	7 - 11 in Water Column

GENERAC

150 kW — installation layout

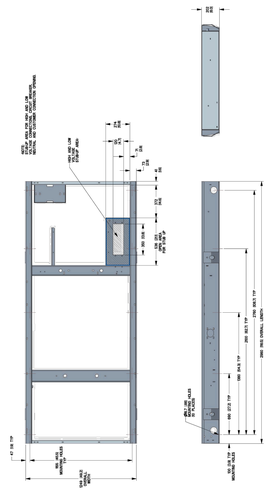
Drawing #A0001618957 (1 of 2)



GENERAC

150 kW — installation layout

Drawing #A0001618957 (2 of 2)



GENERAC

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PACHECO-MARTINEZ
& ASSOCIATES LLC.
AA26002619 AR6412 AR93773
4990 SW 72ND AVE SUITE 101 MIAMI FL 33155
T (305) 666-2573 : F (305) 666-3871

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NEW RESIDENCE FOR:
MR. & MRS. DE LA CONCEPCION
8965 SW 63rd COURT PINECREST, FLORIDA 33156

revisions
1 BDC - 04/25/2025
2 BDC - 05/16/2025

date 07-28-2020
issued
drawn HM
checked
project no. 2024.
sheet no.
E-06.1 2 NEW SHEET

LUSEO ENGINEERING

LUSEO ENGINEERING
CA#32708
7875 SW 104th Street, SUITE 203
MIAMI, FL. 33156
TEL: +1(305)351-2960
WWW.LUSEOGROUP.COM

ENGINEER OF RECORD:
DANIEL G. SANTILLAN
FLORIDA P.E. #79327

Daniel G Santillan
Digitally signed by Daniel G Santillan
DN: c=US, o=LUSEO ENGINEERING, cn=Daniel G Santillan, email=dsantillan@luseogroup.com
Date: 2025.05.16 21:21:12 -04'00'

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DANIEL G. SANTILLAN LICENSE No. 79327 STATE OF FLORIDA PROFESSIONAL ENGINEER

TX301 Series Transfer Switch

800 — 1000 Amps

Service Entrance Rated ·Contactor Type ·Closed Transition

- Automatic Transfer Switch
- 800 – 1000A up to 600V VAC, 60 Hz, 100% current rated
- Single or Three Phase
- 2, 3, or 4 Poles
- NEMA 1 or 3R
- Closed Transition
- ETL Listed to UL 1008
- High Withstand and Closing Ratings

Image used for illustration purposes only

Codes and Standards

Not all codes and standards apply to all configurations. Contact factory for details.

cETL Listed

NFPA 70, 99, 110

NEC 700, 701, 702, 708

Description

Generac's patented* closed transition contactor type transfer switches are double-throw robust switch construction with inherent interlocks for safe positive transfer between power sources. The contacts are silver composite for long life, resisting pitting or burning. The switches are rated for full load transfers in mission critical, emergency, legally required, and optional power systems.

The microprocessor based controller provides the customers with the flexibility to program a comprehensive group of set points to match the application needs. The controller has two programmable inputs and one programmable output as standard and is available with an optional expansion board for up to four programmable inputs and outputs. The LCD displays real time and historical information with time-stamped events. The integrated plant exerciser can be configured in off, daily, day of week, biweekly, and monthly intervals with user selectable run time. Standard features of the controller include three phase sensing on both sources, phase unbalance, phase reversal, load shed, emergency inhibit, and communications.

*Patent Number: US 11,616,386 B2

TX301 Series

1 of 4

TX301 Series Transfer Switch

800 — 1000 Amps

Service Entrance Rated ·Contactor Type ·Closed Transition

STANDARD FEATURES

GENERAL

- Floor Mounted, Wall Secured
- Cable Entry is Top or Bottom
- Double-Throw, Stored Energy Transfer Mechanism
- Can be Electrically Isolated while Energized
- Graphical LCD-Based Display for Programming, System Diagnostics and Help Menu Display Mimic
- Diagram with Source Available and Connected
- Method of Transfer: Closed Transition
- Mechanically Interlocked to Prevent Connection of Both Sources
- Modbus® RTU
- TXC 100 Controller
- Operating Temperature -4 ° to 158 °F (-20 ° to 70 °C)
- Removable Top and Bottom Plates for Ease of Entry
- Voltage Agnostic*
- High Withstand and Closing Ratings
- Heater Kit Standard on All 3R Enclosures
- Auxiliary Input Includes: Permissive Inputs (24VDC)
- General Alarm Indication
- Expandable Input/Output Board Module Includes: 4 Relay Outputs and 4 Optically Isolated Inputs
- 2 Year Standard Warranty

VOLTAGE AND FREQUENCY SENSING

- Three Phase Under and Over Voltage Sensing on Normal and Emergency Sources
- Under and Over Frequency Sensing on Normal and Emergency
- Selectable Settings: Single or Three Phase Voltage
- Sensing on Normal and Emergency 60 Hz
- Phase Sequence Sensing for Phase Sensitive Loads

START CIRCUIT

- 2-wire Start
- 3-wire Start from C Contact for Circuit Monitoring

DIGITAL OUTPUTS

- Switch Position Indication (2 Form C)
- Signal Before Transfer (Elevator)
- General Alarm

DIGITAL INPUTS

- Emergency Inhibit (Permissive & Load Shed)
- Go to Emergency
- Manual Generator Retransfer

CONTROLS

- Front Programmable Control Reduces PPE Needs and Arc Flash Hazard
- Built in Battery Backup – Increases Switch Reliability and Reduces Switch Transition Time to Alternate Source
- Battery Backup Able to Power the Controller for up to 60 Minutes in the Event of No Source Availability
- Generator Battery Backup for Controller
- Accessible USB Port for Easy Data Downloads, Firmware Updates without Requiring PPE, Reducing the Risk of Arc Flash
- All Amp Nodes Offered with Delayed Transition
- Heater Programmable through Control for Desired Temperature and Humidity Settings
- Front Accessible Customer Connections
- Time-Stamped Event History Log
- Programmable Exerciser – Daily, Weekly, Biweekly, Monthly

* 480 V 3-Wire Systems and all 600 V systems must be specified at time of ordering for Transformer Kit to be included

AVAILABLE OPTIONS

- Remote Annunciator
- 3R Padlockable Cover for Controller (Standard on 3R Enclosure)
- CTs for Integrated Metering
- Heater Option for Temperature and Humidity Control (Standard on 3R Enclosure)
- Expandable Input/Output Board Module Includes: 4 Relay Outputs and 4 Optically Isolated Inputs
- Kickplate Kit
- Lug Kit for up to 750 MCM Cables
- 2 Year Extended Limited Warranty
- 5 Year Basic Limited Warranty
- 5 Year Extended Limited Warranty
- 7 Year Extended Limited Warranty
- 10 Year Extended Limited Warranty

ENGINEERED OPTIONS

- Transient Voltage Surge Suppressor (TVSS)
- Manual Generator Retransfer Switch
- Go to Emergency Switch

CONVERSION KITS

- 480 V Transformer Kit for 3-Wire Systems
- 600 V Transformer Kit

TX301 Series

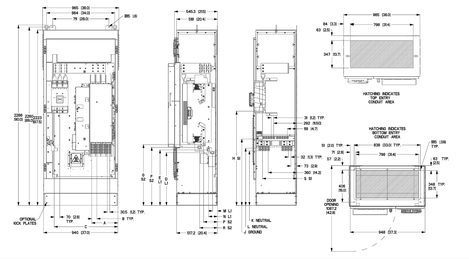
2 of 4

TX301 Series Transfer Switch

800 — 1000 Amps

Service Entrance Rated ·Contactor Type ·Closed Transition

UNIT DIMENSIONS*



Service Entrance Rated, Contactor Type, Closed Transition, 800 - 1000 A, Type 1 or 3R					
Description		800A 2 & 3 Pole	800A 4 Pole	1000A 2 & 3 Pole	1000A 4 Pole
in (mm)	A (Dim)	13.0 (331)	13.0 (331)	13.0 (331)	13.0 (331)
	B (Dim)	2.6 (66)	2.6 (66)	2.6 (66)	2.6 (66)
	C (Dim)	31.7 (805)	31.7 (805)	31.7 (805)	31.7 (805)
	D (Dim)	26.4 (669)	26.4 (669)	26.4 (669)	26.4 (669)
	E (Dim)	27.3 (703)	27.3 (703)	27.3 (703)	27.3 (703)
	F (Dim)	29.0 (736)	29.0 (736)	29.0 (736)	29.0 (736)
	G (Dim)	30.3 (770)	30.3 (770)	30.3 (770)	30.3 (770)
	H (Dim)	47.1 (1195)	47.1 (1195)	47.1 (1195)	47.1 (1195)
	J (Dim)	33.1 (841)	33.1 (841)	33.1 (841)	33.1 (841)
	K (Dim)	27.2 (691)	27.2 (691)	27.2 (691)	27.2 (691)
	L (Dim)	28.6 (726)	28.6 (726)	28.6 (726)	28.6 (726)
	M (Dim)	2.4 (62)	2.4 (62)	2.4 (62)	2.4 (62)
	N (Dim)	4.4 (111)	4.4 (111)	4.4 (111)	4.4 (111)
	P (Dim)	6.9 (175)	6.9 (175)	6.9 (175)	6.9 (175)
	R (Dim)	8.9 (175)	8.9 (175)	8.9 (175)	8.9 (175)
	S (Dim)	17.0 (432)	17.0 (432)	17.0 (432)	17.0 (432)

* All measurements are approximate and for estimation purposes only. Specification characteristics may change without notice. Please contact a Generac Power Systems Industrial Dealer for detailed installation drawings.

TX301 Series

3 of 4

PACHECO-MARTINEZ
& ASSOCIATES LLC.
AA26002619 . AR6412 . AR93773
4990 SW 72ND AVE SUITE 101 MIAMI FL 33155
T (305) 666-2573 . F (305) 666-3871

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MR. & MRS. DE LA CONCEPCION

8965 SW 63rd COURT PINECREST, FLORIDA 33156

LUSEO ENGINEERING

LUSEO ENGINEERING
CA#32708

7875 SW 104th Street. SUITE 203
MIAMI, FL. 33156
TEL: +1(305)351-2960
WWW.LUSEOGROUP.COM

ENGINEER OF RECORD:
DANIEL G. SANTILLAN
FLORIDA P.E. #79327

Daniel G Santillan

Digitally signed by Daniel G Santillan
DN: C=US, E=dsantillan@luseogroup.com, O=LUSEO ENGINEERING, CN=Daniel G Santillan
Date: 2025.05.01 14:16:34 -04'00'

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"IN MY PROFESSIONAL JUDGEMENT AND TO THE BEST OF MY KNOWLEDGE AND BELIEF, THESE PLANS AND SPECIFICATIONS COMPLY WITH APPLICABLE BUILDING CODES."

DANIEL G. SANTILLAN LICENSE No. 79327 STATE OF FLORIDA PROFESSIONAL ENGINEER

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1 BDC - 04/25/2025
2 BDC - 05/14/2025

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