

GENERAL ELECTRICAL NOTES

- ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (N.E.C. 2011) AND GOVERNING MUNICIPAL, STATE AND LOCAL CODES. ALL MATERIAL SHALL BE NEW AND SHALL BEAR THE U.L. LABEL WHERE APPLICABLE.
- ALL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICAL CONTRACTOR IN A FIRST CLASS WORKMANLIKE MANNER. THE COMPLETED SYSTEM SHALL BE FULLY OPERATIVE AND ACCEPTED BY THE OWNER.
- IT IS NOT THE INTENT OF THESE PLANS TO SHOW EVERY MINOR DETAIL OF CONSTRUCTION. THE CONTRACTOR IS EXPECTED TO FURNISH AND INSTALL ALL ITEMS FOR A COMPLETE ELECTRICAL SYSTEM AND PROVIDE ALL REQUIREMENTS NECESSARY FOR EQUIPMENT TO BE PLACED IN PROPER WORKING ORDER.
- CONTRACTOR SHALL MAKE ALL NECESSARY CUTTING AND DO ALL THE REPATCHING AS NECESSARY FOR THE PROPER EXECUTION OF THIS WORK.
- AFTER COMPLETION OF THE INSTALLATION, THE SYSTEM SHALL TEST FREE FROM SHORT CIRCUITS AND GROUNDS.
- WHERE ELECTRICAL CONDUCTORS ARE INSTALLED IN CONDUIT, THE CONDUIT SHALL COMPLY WITH THE N.E.C. REQUIREMENTS.
- ALL CONDUCTORS SHALL BE COPPER. NO CONDUCTOR SHALL BE SMALLER THAN #12 AWG AND SHALL BE RATED FOR 600VOLTS THIN OR THIN INSULATION. INSTALL A GROUNDING CONDUCTOR WITH ALL CIRCUITS, UNLESS NOTED OTHERWISE, SIZED PER N.E.C. 250-122.
- VERIFY BREAKER AND CORRESPONDING WIRE SIZES FOR ALL ELECTRICAL EQUIPMENT. DO NOT ORDER MATERIAL BEFORE VERIFYING BREAKER & WIRE SIZE. REPORT ANY DISCREPANCY IMMEDIATELY TO THE ENGINEER OF RECORD.
- ALL OUTDOOR DISCONNECTS AND ELECTRICAL PANELS TO BE NEMA-3R. ALL OUTDOOR DISCONNECTS AND ELECTRICAL PANELS IN A SALT SPRAY AREA TO BE NEMA-4X.
- PANELS SHALL BE SQUARE 'D', GENERAL ELECTRIC OR EQUAL, TYPE AND NUMBER OF BREAKERS AS INDICATED ON PANEL SCHEDULE. STENCIL PANEL DESIGNATION ON INSIDE OF PANEL. ALL TWO-POLE BREAKERS SHALL BE COMMON TRIP. PROVIDE TYPE WRITTEN SCHEDULE IN EACH LOAD CENTER. CONNECTION TO MAIN BUS SHALL BE WITH BURNDY ANNULAR COMPRESSION LUGS. PANELS A/C RATING SHALL BE AS INDICATED ON PLANS.
- PROVIDE NAMEPLATES FOR ALL PANEL BOARDS, DISCONNECTS, TRANSFORMER, TERMINAL CABINETS AND ALL ELECTRICAL EQUIPMENT IDENTIFIED BY NAME ON DRAWINGS.
- ALL ELECTRICAL MATERIALS, DEVICES, APPLIANCES AND EQUIPMENT SHALL BE LABEL LISTED BY AN APPROVED THIRD PARTY TESTING AGENCY.
- LOAD DATA IS BASED ON INFORMATION GIVEN ENGINEER AT TIME OF DESIGN. VERIFY ALL EQUIPMENT AND PANEL SIZES BEFORE ORDERING AND BEFORE INSTALLATION.
- ALL EXTERIOR ELECTRICAL EQUIPMENT SHALL BE ANCHORED TO COMPLY WITH LOCAL CODE FOR WIND RESISTANCE.
- ALL ELECTRICAL AND COMMUNICATIONS OUTLETS TO BE AT 15" A.F.F TO BOTTOM OF OUTLET UNLESS OTHERWISE NOTED. ALL LIGHT SWITCHES SHALL BE @ 48" AFF. TO TOP OF SWITCH.
- TIME CLOCK FOR LIGHTING CONTROL TO BE AN ASTRONOMICAL TIME CLOCK.
- THE CONTRACTOR SHALL CONTACT THE LOCAL POWER COMPANY AND OBTAIN, IN WRITING, THE AVAILABLE FAULT CURRENT OF THE UTILITY TRANSFORMER. THE CONTRACTOR SHALL ENSURE THAT ALL ELECTRICAL EQUIPMENT HAS AN AMP INTERRUPTING CAPACITY (AIC) GREATER THAN THE AVAILABLE FAULT CURRENT AT ANY POINT IN THE ELECTRICAL DISTRIBUTION SYSTEM.
- WIRING METHOD:
ALL CONDUCTORS SHALL BE INSTALLED IN ELECTRICAL METALLIC TUBING (EMT) OR MC CABLE & FLEXIBLE METAL CONDUIT (GREENFIELD) AS PER NEC 330-10, PROVIDED IT IS USED IN NON DESTRUCTIVE OR CORROSIVE SURROUNDINGS AS SPECIFIED IN NEC 2011 330-12. ALL FITTINGS AND COUPLINGS FOR EMT CONDUIT SHALL BE ALL STEEL, RAIN TIGHT COMPRESSION TYPE OR ALL STEEL CONCRETE TIGHT SET SCREW TYPE, SCHEDULE 40 PVC CONDUIT WITH FITTINGS AND COUPLINGS APPROPRIATE FOR THE USE. SHALL BE USED UNDERGROUND OR BELOW SLABS ON GRADE.
- BRANCH-CIRCUIT WIRING, OTHER THAN 2-WIRE OR MULTIWIRE BRANCH CIRCUITS SUPPLYING POWER TO LUMINAIRES CONNECTED TOGETHER, SHALL NOT BE PASSED THROUGH AN OUTLET BOX THAT IS AN INTEGRAL PART OF A LUMINAIRE UNLESS THE LUMINAIRE IS IDENTIFIED FOR THROUGH-WIRING.
LUMINAIRES SHALL NOT BE USED AS A RACEWAY FOR CIRCUIT CONDUCTORS UNLESS LISTED AND MARKED FOR USE AS A RACEWAY. PROVIDE J-BOXES AS REQUIRED.
- SEAL ALL NEW CONDUIT PENETRATIONS THROUGH FIRE RATED WALLS, CEILINGS, FLOORS, ETC., TO MAINTAIN EXISTING FIRE RATING CONDITIONS. FURNISH AND INSTALL FIRE RATED ENCLOSURES FOR ALL EQUIPMENTS PENETRATING FIRE RATED ENVELOPES, SPACES, ECT.
- ELECTRICAL CONTRACTOR IS RESPONSIBLE TO PROVIDE WIRING FOR HVAC SYSTEM: A/C EQUIPMENTS(S), SMOKE DETECTORS, THERMOSTATS, TEST STATIONS, MOTORIZED VOLUME DAMPERS, ETC. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH MECHANICAL DRAWINGS AND PROVIDE ALL NECESSARY CONTROL WIRING. ELECTRICAL CONTRACTOR TO THOROUGHLY REVIEW MECHANICAL PLANS AND PROVIDE POWER TO ANY MECHANICAL EQUIPMENT OR DEVICE THAT IS NOT SHOWN ON ELECTRICAL PLANS BUT IS SHOWN ON MECHANICAL PLANS.
- INSTALL "GFCI" GROUND FAULT INTERRUPTER RECEPTACLES WITH WEATHERPROOF COVER WITHIN 25 FT OF HVAC EQUIPMENT, MOUNT RECEPTACLE ON UNISTRUT (UNLESS HVAC EQUIPMENT IS SPECIFIED WITH FACTORY INSTALLED CONVENIENT RECEPTACLE).
- WHEN NEW ELECTRIC SERVICE IS BEING INSTALLED, IT IS THE GENERAL CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH FPL/FPL ENGINEERS ON THE SIZE OF THE FPL TRANSFORMER THAT IS REQUIRED TO PROVIDE THE NEW ELECTRICAL SERVICE SHOWN ON ELECTRIC PLANS. GC HAS TO INFORM THE OWNER ABOUT ANY EXTRA FPL CHARGES THAT MIGHT OCCUR IN ORDER TO PULL NEW SERVICE. THIS HAS TO BE DONE AS EARLY AS POSSIBLE DURING THE BIDDING PROCESS.
- ELECTRICAL SERVICE EQUIPMENT MUST BE 3' ABOVE MSL, AND 8' ABOVE N.V.G.D. VERIFY AT SITE. ALL ELECTRICAL EQUIPMENTS SHALL BE INSTALLED ABOVE FLOOD LEVEL.
- CONTRACTOR MUST VISIT THE SITE PRIOR TO BID OR CONSTRUCTION TO VERIFY ALL EXISTING CONDITIONS. BEFORE SUBMITTING BID, BECOME THOROUGHLY FAMILIAR WITH ACTUAL EXISTING CONDITIONS AT THE BUILDING SITE. THE INTENT OF THE WORK IS SHOWN ON THE DRAWINGS AND DESCRIBED HEREINAFTER. BY THE ACT OF SUBMITTING A BID PROPOSAL FOR WORK, THE CONTRACTOR SHALL BE DEEMED TO HAVE MADE SUCH STUDY AND EXAMINATION AND TO ACCEPT ALL CONDITIONS PRESENT AT THE SITE. NO REQUEST FOR ADDITIONAL PAYMENT SHALL BE CONSIDERED AS VALID, DUE TO THE FAILURE TO ALLOW FOR CONDITIONS WHICH MAY EXIST. CONTRACTOR TO REPLACE ANY EXISTING DEVICE OR COMPONENT THAT IS CALLED AS EXISTING IF IT IS NOT FULLY OPERATIONAL.
- WIRING METHODS IN ALL PATIENT CARE AREAS TO BE IN COMPLIANCE WITH REDUNDANT GROUNDING REQUIREMENTS OF NEC 2011 SECTION 517.13.
- ALL DIMMING MECHANISMS HAVE TO BE COMPATIBLE WITH FIXTURE DIMMING REQUIREMENTS. CONTRACTOR MUST VERIFY ALL DIMMING MECHANISM AND FIXTURE DIMMING REQUIREMENTS BEFORE ANY ORDERING, INSTALLING, OR WIRING OF ANY DIMMING MECHANISMS AND FIXTURES.
- ALL OUTDOOR RECEPTACLES TO BE GFCI & WEATHER PROOF.

BRANCH CIRCUIT VOLTAGE DROP MAXIMUM 3% PER 2014 FBC ENERGY CONSERVATION CODE SECTION 405.7.3.2		
CIRCUIT LOAD IN AMPS	WIRE SIZE COPPER	MAXIMUM LENGTH IN FEET
5 AMPS OR LESS	#12 AWG	180
6 AMPS	#12 AWG	150
7 AMPS	#12 AWG	130
8 AMPS	#12 AWG	115
9 AMPS	#12 AWG	100
10 AMPS	#12 AWG	90
11 AMPS	#12 AWG	83
12 AMPS	#12 AWG	75
13 AMPS	#12 AWG	70
14 AMPS	#12 AWG	65
15 AMPS	#12 AWG	60
16 AMPS	#12 AWG	57
17 AMPS	#12 AWG	54
18 AMPS	#12 AWG	51
19 AMPS	#12 AWG	48
20 AMPS	#12 AWG	45

ELECTRICAL SYMBOL LEGEND

- RECEPTACLE DUPLEX 120V
- SWITCHED RECEPTACLE
- RECEPTACLE @ CEILING
- FLOOR RECEPTACLE
- QUAD RECEPTACLE
- 220V RECEPTACLE
- DISCONNECT SWITCH
- ELECTRICAL PANEL
- COMPUTER/PHONE JACK
- WP WEATHER PROOF
- WR WEATHER RESISTANT
- GFCI GROUND FAULT CURRENT INTERRUPTER
- JUNCTION BOX
- Ⓜ PROGRAMMABLE THERMOSTAT
- EX. EXISTING TO REMAIN

NOTE:
PER N.E.C. 2011 406.9
ALL NEW RECEPTACLES IN DAMP LOCATIONS INDICATED AS WEATHERPROOF ON PLAN (WP) SHALL HAVE AN ENCLOSURE THAT IS WEATHERPROOF WHETHER OR NOT THE ATTACHMENT PLUG CAP IS INSERTED.
ALL NEW RECEPTACLES IN WET LOCATIONS INDICATED AS WEATHER-RESISTANT ON PLAN (WR) SHALL HAVE AN ENCLOSURE THAT IS WEATHER-PROOF WHETHER OR NOT THE ATTACHMENT PLUG CAP IS INSERTED. NONLOCKING RECEPTACLES SHALL BE LISTED WEATHER-RESISTANT TYPE.

405.7.3 VOLTAGE DROP.
405.7.3.1 FEEDERS AND CUSTOMER OWNED SERVICE CONDUCTORS. FEEDER AND CUSTOMER OWNED SERVICE CONDUCTORS SHALL BE SIZED FOR A MAXIMUM VOLTAGE DROP OF 2 PERCENT AT DESIGN LOAD.
405.7.3.2 BRANCH CIRCUITS. BRANCH CIRCUIT CONDUCTORS SHALL BE SIZED FOR A MAXIMUM VOLTAGE DROP OF 3 PERCENT AT DESIGN LOAD.

405.7.4 COMPLETION REQUIREMENTS.
405.7.4.1 DRAWINGS. CONSTRUCTION DOCUMENTS SHALL REQUIRE THAT WITHIN 30 DAYS AFTER THE DATE OF SYSTEM ACCEPTANCE, RECORD DRAWINGS OF THE ACTUAL INSTALLATION SHALL BE PROVIDED TO THE BUILDING OWNER, INCLUDING:
1. A SINGLE-LINE DIAGRAM OF THE BUILDING ELECTRICAL DISTRIBUTION SYSTEM AND
2. FLOOR PLANS INDICATING LOCATION AND AREA SERVED FOR ALL DISTRIBUTION.

405.7.4.2 MANUALS. CONSTRUCTION DOCUMENTS SHALL REQUIRE THAT AN OPERATING MANUAL AND MAINTENANCE MANUAL BE PROVIDED TO THE BUILDING OWNER. THE MANUALS SHALL INCLUDE, AT A MINIMUM, THE FOLLOWING:
1. SUBMITTAL DATA STATING EQUIPMENT RATING AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE.
2. OPERATION MANUALS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE. REQUIRED ROUTINE MAINTENANCE ACTIONS SHALL BE CLEARLY IDENTIFIED.
3. NAMES AND ADDRESSES OF AT LEAST ONE QUALIFIED SERVICE AGENCY.
NOTE: ENFORCEMENT AGENCIES SHOULD ONLY CHECK TO BE SURE THAT THE CONSTRUCTION DOCUMENTS REQUIRE THIS INFORMATION TO BE TRANSMITTED TO THE OWNER AND SHOULD NOT EXPECT COPIES OF ANY OF THE MATERIALS.

405.5 TANDEN WIRING:
LUMINAIRES DESIGNED FOR USE WITH ONE OR THREE LINEAR FLUORESCENT LAMPS GREATER THAN 30 W EACH SHALL BE TANDEN WIRED WHEN TWO OR MORE LUMINAIRES ARE IN THE SAME SPACE AND ON THE SAME CONTROL DEVICE.
EXCEPTIONS:
1. RECESSED LUMINAIRES MORE THAN 10 FEET APART MEASURED CENTER TO CENTER.
2. SURFACE-MOUNTED OR PENDANT LUMINAIRES THAT ARE NOT CONTINUOUS.
3. LUMINAIRES USING THREE-LAMP HIGH-FREQUENCY ELECTRONIC OR THREE-LAMP ELECTROMAGNETIC BALLASTS.
4. RECESSED LUMINAIRES MORE THAN 10 FEET APART MEASURED CENTER TO CENTER.
5. SURFACE-MOUNTED OR PENDANT LUMINAIRES THAT ARE NOT CONTINUOUS.
6. LUMINAIRES USING THREE-LAMP HIGH-FREQUENCY ELECTRONIC OR THREE-LAMP ELECTROMAGNETIC BALLASTS.

FLORIDA BUILDING CODE 2014 ENERGY CONSERVATION SECTION 405.2 LIGHTING CONTROLS

PROVIDE AN ASTRONOMICAL TIME CLOCK TO TURN OFF ALL LIGHTS DURING OFF BUSINESS HOURS AS INDICATED BELOW.

PROVIDE TIME CLOCK BYPASS SWITCHES AT LOCATIONS SHOWN ON THE PLAN. THE BYPASS SWITCHES MUST BE CAPABLE OF OVERRIDING TIME OF DAY SCHEDULED SHUT-OFF CONTROL FOR NO MORE THAN FOUR HOURS AND BE EQUIPPED WITH LED.

THE AUTOMATIC TIME SWITCH CONTROL DEVICE INSTALLED SHALL INCORPORATE AN AUTOMATIC HOLIDAY SCHEDULING FEATURE THAT TURNS OFF ALL LOADS FOR AT LEAST 24 HOURS, THEN RESUMES THE NORMALLY SCHEDULED OPERATION.

ALL EMERGENCY AND EXIT LIGHTS TO BE CONNECTED AHEAD OF ANY SWITCH OR TIME CLOCK.

(LIGHTING INTENDED FOR 24HR OPERATION IS EXEMPT FROM THE REQUIREMENTS OF THIS CODE.)

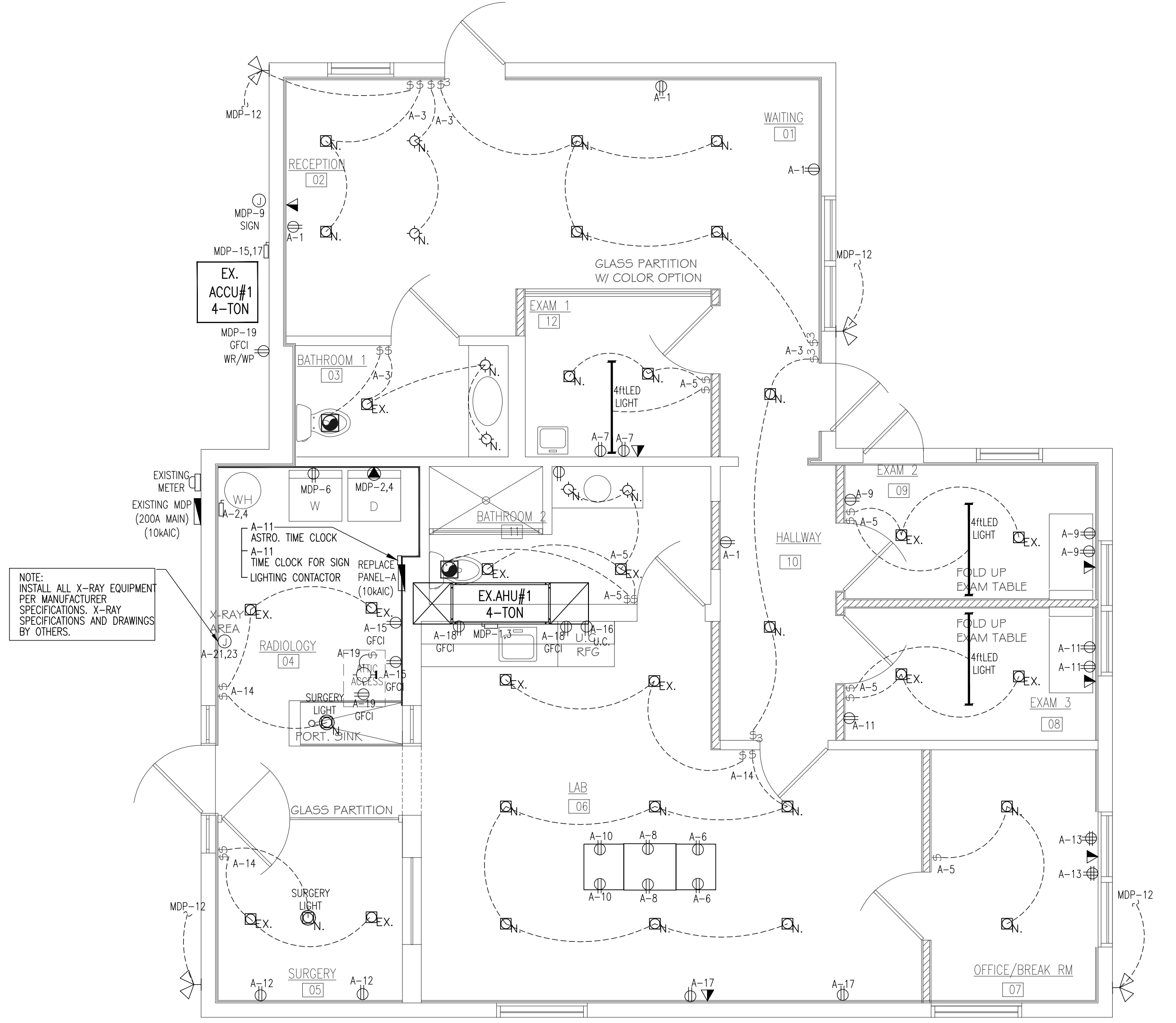
CIRCUITS ON ASTRONOMICAL TIME CLOCK:
A-3, A-5, A-14 (EXCEPT BATHS & STORAGE)

NOTE:
INTERIOR LIGHTING CONTROL SHALL COMPLY WITH FBC 2014 ENERGY CONSERVATION SECTION 405.2

CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS AND INFORM THE PROJECT ENGINEER AND ARCHITECT OF ANY DISCREPANCY BETWEEN THESE PLANS AND THE EXISTING CONDITIONS. THE CONTRACTOR SHALL INCLUDE IN HIS BID TO CORRECT SUCH CONDITION AS DIRECTED. THE ENGINEER AND ARCHITECT ARE NOT RESPONSIBLE FOR ANY ADDITIONAL COSTS RESULTING FROM VERIFIABLE EXISTING CONDITIONS DISCOVERED AFTER CONTRACT HAS BEEN AWARDED.

NOTE:
THE LIGHTING SPECIFICATIONS WERE SUPPLIED BY OTHERS. CONTRACTOR TO COORDINATE WITH OWNER/OWNER REP OR OWNER'S INTERIOR DESIGNER. VERIFY THAT THE SPECIFICATIONS ON THIS PLAN ARE WHAT THE OWNER ASKED FOR AND PROPERLY WIRE CONTROLS PER MANUFACTURER SPECIFICATIONS. ELECTRICAL CONTRACTOR TO CHECK MANUFACTURER SPECIFICATIONS AND INSTALLATION INSTRUCTIONS FOR LIGHTS AND CONTROLS FOR LIGHTS PRIOR TO ORDERING AND ROUGH-IN.

NOTE: CONTRACTOR TO REFER TO CUT SHEETS AND SPECIFICATIONS FOR ALL ELECTRICAL EQUIPMENT REQUIREMENT PRIOR TO INSTALLATION.



ELECTRICAL PLAN
SCALE: 1/4"=1'-0"

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WRITTEN DIMENSIONS ON THESE DRAWINGS SHALL HAVE PRECEDENCE OVER SCALE DIMENSIONS. CONTRACTOR SHALL VERIFY AND BE RESPONSIBLE FOR ALL DIMENSIONS AND CONDITIONS ON THE JOB, AND THIS OFFICE MUST BE NOTIFIED OF ANY VARIATION FROM THE DIMENSIONS. COPYRIGHT STEVE SIEBERT ARCHITECTURE - UNAUTHORIZED REPRODUCTION OR OTHER USE OF THIS DRAWING IS PROHIBITED.

PROJECT NO.: 16-093
DATE: 6.10.16
DRAWN BY: S.W.S.
CHECKED BY: B.K.
REVISIONS:

E-1
SHEET NO.