

I. GENERAL

- All materials shall be made in the USA, new, of the best grade, and bear a U.L. label. All workmanship shall be of the highest standards.
- All work to be performed in accordance with the International Building Code, prevailing local codes, and the National Electrical Code, 2014 ed. Contractor shall secure and pay for all permits.
- Shop drawings shall be submitted for approval for the following items:
 - Lighting fixtures.
 - Apparatus including panelboards, safety switches, and fuses.
 - Wiring devices.
 - Sprinkler Monitoring system.
 - Other items requested by the architect.
- Submittals/shop drawings shall bear a stamp by the electrical subcontractor and the general contractor indicating they have been reviewed and that the equipment proposed is compatible without exception with the contract documents. Submittals/shop drawings without such stamp shall be returned without review by the Engineer.
- Automatic control wiring is not included except as shown on the drawings.
- All materials and installation to be guaranteed against defects for a period of one year from date of completion and final acceptance.
- Contractor shall repair all remodel penetrations made by his forces to original condition, paying particular attention to preservation of original fire ratings. Contractor shall submit UL Fire Resistance Directory details for all penetrations through fire rated assemblies.
- Contractor shall maintain an up to date set of drawings on site at all times reflecting as constructed changes. Drawings shall be turned over to the architect at the time of final acceptance.
- Contractor shall prepare 3 bound copies of all approved submittals, maintenance instructions, and other data the architect may request and submit to the architect at the time of final acceptance.
- Contractor shall provide engraved phenolic labels for all major pieces of electrical equipment.
- In all cases the word "provide" shall mean to both furnish and install.

II. RACEWAYS

- In or under concrete slabs - Schedule 40 PVC (3/4" minimum).
- Direct burial in earth - Schedule 40 PVC (3/4" minimum). Provide 24" minimum cover for runs below finished grade outside of buildings unless otherwise noted.
- Conduits entering building from underground shall be sealed.
- Concealed in walls or above ceilings - E.M.T.
- Exposed:
 - Portions of service entrance - Rigid steel.
 - Other areas - E.M.T.
- For interior connections to motors, transformers, and vibrating equipment - Flexible metal conduit.
- For connections to motors, etc. exposed to weather - sealtight.
- Fittings:
 - For E.M.T. - Die-cast set-screw compression type where exposed to weather).
 - For sealtight - Steel insulated throat type.
- Conduit shall be run concealed wherever possible. All conduit (exposed and concealed) shall be run parallel or perpendicular to major building elements.
- All conduit are to be cleaned and have pull string installed.
- Provide pull and junction boxes where required by code whether or not they are shown on the drawings. All boxes shall be legibly marked to indicate the circuits contained therein.
- Type MC cable with full size ground wire may be employed where concealed and allowed by NEC. In no case shall type MC cable be employed in exposed applications.

III. WIRING AND CABLE

- All wire to be copper unless specifically noted otherwise on the drawings. Minimum size to be #12 A.W.G. All conductors to be installed in conduit.
- Insulation:
 - Service entrance - Type XHHW.
 - #12 and larger - Type THHN/THWN.
- Splices in feeders will not be permitted.
- Color coding as follows shall be employed:

Voltage	Phase A	Phase B	Phase C	Neutral
120/208	Black	Red	Blue	White

IV. WIRING DEVICES

- Duplex Receptacles - 20 Amp, 120 volt, Hubbell CR20WH.
- Switches, single pole - 20 amp, 120/277 volt, Hubbell CS120W.
- Switches, 2 pole - 20 Amp, 277 Volt Hubbell CSB220W.
- Switches, momentary, center off - 20 Amp, 277 Volt Hubbell HBL1557W.
- Occupancy Sensor Switches, single pole - 120/277 Volt Sensor Switch WSX PDT VA WH (verify color with architect prior to purchase).
- All devices shall be white. Plates shall be smooth, opaque white nylon. Exposed receptacles shall be in 4" square boxes with industrial covers.
- All outlet boxes shall be minimum 4" square with device rings appropriate for the wall construction and openings as required to accommodate the indicated devices.
- Devices installed outdoors to be weather resistant type.

V. EQUIPMENT WIRING

- Provide final connection to all equipment shown on the drawings.
- Provide local disconnecting means for all equipment except where specifically noted on the drawings to be by others.
- Verify all equipment ratings prior to connection and notify architect of any discrepancy prior to proceeding with connection of same.
- Contractor shall be responsible for coordination of all materials interfaced, i.e. lug size versus conductors or other similar items.

VI. DISTRIBUTION EQUIPMENT

- Panelboards:
 - 120/208 Volt circuit breaker panelboards - Square D NQ00 or equivalent. Refer to local current study (LUS AFC) or drawings for minimum AIC rating.
 - Provide each panelboard with an engraved phenolic nameplate and typewritten directory card in plastic pocket. Directory cards shall be worded to indicate the rooms being served.
 - Provide a ground bus on panelboards.
 - Where breakers are serving HVAC equipment with a requirement for HACR breakers, in the range of 15-60 Amps, UL approved HACR breakers shall be used.
 - Contractor shall include Arc-Flash Study and Hazard Warning label for meter socket and each panelboard in accordance with the requirements of NEC 110.16.
- Disconnect safety switches:
 - All switches shall be general duty.
 - Switches exposed to weather shall be NEMA 3R.
 - Provide rejection clips for all fusible units.
 - All fuses shall be Class RK1, RK5 or Class L with applications as follows:
 - Service entrance: Class RK1.
 - Transformer and motor loads: Class RK5.
 - Ratings above 601 amps: Class L.

VII. LIGHTING FIXTURES

- Provide lamps as indicated on the schedule and manufactured by Sylvania, Phillips, or GE.
- Ballasts for fluorescent fixtures shall be electronic type, and fused where required by local code.
- All fixtures shall be securely fastened to structural elements from two (2) points.

VIII. LIGHTING CONTACTORS

- All contactors to be electrically or mechanically held as indicated on the drawings, Square D class 8903, 30 amp contacts minimum.
- Provide lockable, hinged NEMA 3R enclosure sized to house all control devices shown on drawings.

IX. TELEPHONE AND DATA SYSTEMS

- In insulated walls, outlets shall consist of a 4" square box with single gang device ring with 3/4" conduit extended to the ceiling space and terminated in a bushing.
- In non-insulated walls and non-firewalls the use of a single gang device ring with pull string extended through the top plate of the partition shall be acceptable.
- Route conduits to minimize number of elbows.
- Install long-sweep, 90 degree rigid galvanized steel elbows on all PVC telephone service conduits.
- Plywood backboard shall be painted with (2) coats of fire retardant paint.
- Provide a 1" minimum conduit from the main telephone service location to the telephone board in the space.

X. SPRINKLER MONITOR PANEL

- The contractor is to provide a complete and operating system in accordance with all applicable codes, regulations, and the requirements of all appropriate authorities. The system shall be addressed per plans, electrically supervised, connected, tested and left in first class operating condition. All equipment herein specified shall comply with applicable standards of Underwriters Laboratories and the National Fire Protection Association.
- Actuation of an initiating device shall initiate its respective address display at the FACP and annunciator panel. The visual alarm indicator shall remain illuminated until the system has been restored to the normal operating mode. Activation of the system shall silence any and all public addressing systems.
- The main control panel shall be supplied with an alarm silence/acknowledge switch which will silence the audible alarm. Should a subsequent alarm actuation of a different address occur, the alarm devices will sound until silenced or the main control panel is reset.
- Each initiating circuit shall be supervised. Any disarrangement of system wiring such as loss of power, opens, or grounds shall initiate the audible supervisory trouble indicators. The trouble lamp illumination shall be noncanceling except by an actual clearing of the trouble condition. The audible trouble signal may be silenced or used as a trouble silence switch which incorporates the ring-bell feature.
- Power for operation of smoke detectors will be obtained from a supervised power supply within the main fire alarm control panel.
- The control unit shall derive its primary operating power from a 120 VAC single phase 60 Hz supply. The FACP shall be equipped with battery charger and nicad batteries. The system shall be provided with sufficient battery capacity to operate the entire system upon loss of normal 120 VAC power for a normal supervisory mode of a period of twenty-four (24) hours with five (5) minutes, but not less than that required by the local authority, of alarm indication at the end of this period. The system shall automatically transfer to the standby batteries upon power failure. All battery charging and recharging operations shall be automatic. Batteries, once discharged, shall recharge at a rate to provide a minimum of 70% capacity in 12 hours.
- System and components shall be as manufactured by Silent Knight or approved equivalent by Notifier or EST. Products are as follows:
 - FACP - 50 address, Model 5700 with built in digital alarm communicator transmitter (Power limited, addressable-analog system).
 - Horn/Strobe units - Wall mounted, 75 candela minimum.
 - Pull Stations - Semi flush, double action.
 - Smoke Detectors - Photoelectric type ceiling mounted.
 - Smoke Detectors - Photoelectric type, duct mounted with enclosure with sampling tubes and remote test station. Contractor is to connect control circuit of RTU via relay to shut down fans. Detectors are to be furnished by the electrical subcontractor and installed by the mechanical contractor the wired by the electrical contractor.
 - Water Flow and Tamper switches - Provide addressable monitoring modules.
- Wiring:
 - For alarm initiating circuits - #16 AWG wire to comply with NEC 760.
 - For bell circuits, 24 VDC power, door holder wiring - #14 AWG wire to comply with NEC 760.
 - All wire to be installed in conduit. All conduit to be electrical metallic tubing (EMT).
 - Consistent color coding shall be maintained throughout the system.
 - All wiring is power limited Class B.
- Labeling:
 - Contractor shall provide a framed typewritten address schedule which clearly indicates devices connected to each alarm address and signal circuit and hang adjacent to the FACP.
 - Junction boxes shall be spray painted red.
- Supervision and Testing:
 - The installation shall be supervised by an authorized manufacturer's representative as a Remote Supervisory Station Fire Alarm System.
 - Upon completion, the system shall be tested in accordance with NFPA 72 in the presence of the owner and tenant's representative, the Fire Marshal, and an authorized manufacturer's representative.
 - Manufacturer's and contractor's certification of completed, operable, and successfully tested system shall be furnished to the owner.

Order Plans

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NEW DEVELOPMENT FOR:

WEST PALM BEACH
RETAIL BUILDING

1560 PALM BEACH LAKES BLVD
WEST PALM BEACH, FL 33401

THIS DRAWING HAS BEEN ISSUED.

FOR REVIEW ONLY
 FOR PERMITTING ONLY
 SCHEMATIC DESIGN
 DESIGN DEVELOPMENT
 CONSTRUCTION DOCUMENTS

Drawing Title:
SPECIFICATION

Date: 05/24/17

Designed By: DS
Drawn By: SW
Reviewed By: DS

Comm. No. 170217

Revisions:

Job Number: 40103

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