. PROVIDE SEAL OFF FITTINGS, APPROVED FOR SUCH USE, WHERE RACEWAYS PENETRATE BETWEEN A DRY, CONDITIONED ENVIRONMENT AND THE EXTERIOR OR OTHER WET ENVIRONMENTS AND ADDITIONAL AREAS WHERE CONDUITS PASS FROM WARM TO COLD LOCATIONS SUCH AS WALK-IN COOLERS OR REEZERS, BOILER ROOMS, ETC. 3. PROVIDE POLYOLEFIN JET-LINE #232 (NYLON PULL STRING) IN EACH EMPTY CONDUIT WITH ENGRAVED METAL TAG INDICATING CONDUIT DESIGNATION.

TELEPHONE, CABLE TV, ETC.) AND INCLUDE ALL COSTS FOR PROVIDING TEMPORARY AND PERMANENT 14. ALL HOMERUNS SHALL BE IN 3/4" RACEWAY MINIMUM. 1/2" RACEWAY IS ACCEPTABLE FOR A SINGLE CIRCUIT FROM THE HOMERUN TO REMAINING DEVICES. LIMITED TO, EXCAVATION, RACEWAYS, BACKFILL, EQUIPMENT, EQUIPMENT PADS, BACKBOARDS, METERS, . CONDUIT SHALL USE SET SCREW TYPE FITTINGS OR COMPRESSION FITTINGS. 6. WHERE RACEWAYS ARE INSTALLED IN SLABS, THE MINIMUM SPACING, MAXIMUM RACEWAY SIZE, AND ANY OTHER STRUCTURAL LIMITATIONS SHALL BE COORDINATED WITH THE STRUCTURAL DRAWINGS INTERFERENCE WITH NORMAL BUSINESS OPERATIONS, TRAFFIC, PARKING, ETC. ONGOING IN ADJACENT AND THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION.

> ALL WIRE SHALL BE SIZED AS SHOWN ON THE DRAWINGS. IF NO WIRE SIZE IS SHOWN, THEN WIRE BRANCH CIRCUITS SHALL BE INCREASED IN SIZE AS REQUIRED TO COMPENSATE FOR VOLTAGE DROP FROM LENGTH OF CIRCUIT DUE TO FIELD ROUTING. FINAL INSTALLATION SHALL NOT EXCEED A MAXIMUM OF 3% VOLTAGE DROP FOR BRANCH CIRCUITS. REFER TO VOLTAGE DROP TABLE BELOW FOR CONDUCTOR SIZES FOR BRANCH CIRCUITS AS FOLLOWS: A. 120V, 20A CIRCUITS SHALL BE: i. #12 FROM 0-70 FT

ii. #10 FROM 71-115FT iii. #8 FROM 116-180FT B. 277V, 20A CIRCUITS SHALL BE: i. #12 FROM 0-140FT

1. ANY TEMPORARY INTERRUPTION OF POWER REQUIRED FOR THE SYSTEM TIE-IN OR SWITCHOVER FOR

SCHEDULED IN ADVANCE.

PROCEEDING WITH REPAIRS.

SURFACE MOUNTED)

GROUNDING, UTILITY ENGINEERING AND IMPACT FEES.

ANY PORTION OF THE ELECTRICAL SYSTEM SHALL BE PRE-APPROVED IN WRITING BY THE OWNER AND

 $2.\,$  COORDINATE EXACT REQUIREMENTS WITH THE LOCAL UTILITY COMPANIES AND PROVIDERS (ELECTRIC,

SERVICES REQUIRED FOR THIS PROJECT IN THE BID PRICE. BID PRICE SHALL INCLUDE, BUT NOT BE

SURROUNDING OCCUPANTS, EQUIPMENT, FINISHES, FURNITURE, ETC. FROM DAMAGE OR EXCESSIVE

LOSSES OR ANY DAMAGE RESULTING FROM THE FAILURE TO ADHERE TO THIS REQUIREMENT. RESTORE

DAMAGED ELEMENTS TO ORIGINAL CONDITION TO THE SATISFACTION OF THE ARCHITECT/ENGINEER

14. COORDINATE THE LOCATION OF ALL LIGHT FIXTURES, DEVICES AND BOXES WITH WINDOWS, MIRRORS,

CONDUITS OR BOXES. REVIEW ALL CONTRACT DRAWINGS TO ASCERTAIN ANY CONFLICTS PRIOR TO

NOT BE ENTITLED TO ADDITIONAL COMPENSATION FOR WORK REQUIRED TO RELOCATE OUTLET

ARE TO BE INSTALLED. ALL COMPONENTS OF THE ELECTRICAL SYSTEM LOCATED OUTDOORS OR

INDOORS WHERE EXPOSED TO SIGNIFICANT MOISTURE SHALL BE WEATHERPROOF, NEMA 3R, AS A

TERMINATION PROVISIONS FOR ALL ELECTRICAL EQUIPMENT (PANELBOARDS, SWITCHBOARD,

. WORKING CLEARANCES FOR ELECTRICAL EQUIPMENT SHALL BE IN COMPLIANCE WITH NEC.

PROVIDE VIBRATION ISOLATORS AND/OR ANCHORS PER MANUFACTURER'S INSTRUCTIONS.

STEEL (COVER AND DOOR WHERE PANEL IS FLUSH MOUNTED; PANEL BOX, COVER & DOOR WHERE

PROVIDE SURGE PROTECTION DEVICE FOR ALL MAIN SERVICE EQUIPMENT, PANELBOARDS SERVING

SENSITIVE ELECTRONIC EQUIPMENT (DATA RACKS) OR COMPUTERS, EMERGENCY SWITCHBOARDS AND

PANELBOARDS, LIGHTING PANELS SERVING EXTERIOR LIGHTING, POWER CIRCUITS OR LOW VOLTAGE

(FIRE ALARM, TELECOMMUNICATIONS) EXITING THE BUILDING. PROVIDE MINIMUM 30A/3P BREAKER IN

BRANCH CIRCUIT PANELBOARDS AND 60A/3P IN DISTRIBUTION PANELBOARDS OR SWITCHBOARDS,

UNLESS NOTED OTHERWISE, OR PER THE SPD MANUFACTURER'S RECOMMENDATIONS FOR SURGE

9. CONTRACTOR IS TO SUBMIT FOR APPROVAL TO THE ENGINEER OF RECORD FINAL COORDINATED

10. PROVIDE AFCI PROTECTION TO COMPLY WITH NEC IN ALL GUEST ROOMS AND GUEST SUITES WITH

PROVISIONS FOR COOKING, IN ALL DWELLING UNITS, APARTMENTS AND CONDOMINIUMS.

SETTINGS REQUIRED FOR MAIN CIRCUIT BREAKER AND ALL DOWNSTREAM ADJUSTABLE OVERCURRENT

PROTECTIVE DEVICES, BASED ON SELECTED EQUIPMENT MANUFACTURER. SUBMITTAL SHALL INCLUDE

BIDDING. OBTAIN CLARIFICATION FROM THE ARCHITECT/ENGINEER PRIOR TO BID. CONTRACTOR SHALL

EQUIPMENT SHALL BE OF MATERIALS SUITABLE FOR AND RATED FOR THE ENVIRONMENT IN WHICH THEY

TRANSFORMERS, DISCONNECT SWITCHES, MOTOR CONTROLLERS, AUTOMATIC TRANSFER SWITCHES,

ENCLOSED CIRCUIT BREAKERS, BUSWAYS, ETC.) SHALL BE LISTED AND IDENTIFIED FOR USE WITH

. THE ELECTRICAL DEDICATED EQUIPMENT SPACE EXTENDING FROM FLOOR TO 6' ABOVE ELECTRICAL

DEPTH OF THE PANELBOARD OR SWITCHBOARD MUST BE CLEAR OF ALL PIPING. DUCTS. ARCHITECTURA

EQUIPMENT OR TO THE STRUCTURAL CEILING, WHICHEVER DISTANCE IS LOWER, WITH A WIDTH AND

MILLWORK, CABINETS, GLASS CURTAIN WALLS, AND GLASS WALLS PRIOR TO INSTALLATION OF

CONDUCT WORK OPERATIONS AND DEBRIS REMOVAL IN A MANNER THAT ENSURES MINIMUM

AND OWNER, AT NO ADDITIONAL COSTS. REPORT OF ANY SUCH OCCURRENCE TO THE

BOXES OR RACEWAYS FOR COORDINATION WITH OTHER TRADE'S WORK.

MINIMUM, WHETHER INDICATED ON THE CONTRACT DRAWINGS OR NOT.

PROVIDE HACR RATED CIRCUIT BREAKER FOR ALL HVAC EQUIPMENT.

TIME CURRENT CURVES TO DEMONSTRATE COORDINATION.

MINIMUM 75 DEG. F CONDUCTORS IN ACCORDANCE WITH NEC.

ARCHITECT/ENGINEER AND OWNER IMMEDIATELY AND AWAIT WRITTEN DIRECTION PRIOR TO

OCCUPIED SPACES OR FACILITIES. PROVIDE ALL THAT IS REQUIRED TO EFFECTIVELY PROTECT

NOISE THROUGHOUT THE DURATION OF THIS PROJECT. CONTRACTOR IS RESPONSIBLE FOR ANY

ii. #10 FROM 141-220FT iii. #8 FROM 221-350FT ANYTHING LONGER THAN THE ABOVE SHALL BE SUBMITTED TO THE ENGINEER WITH CALCULATIONS

ALL CONDUCTORS IN CABINETS MUST BE CAREFULLY FORMED AND HARNESSED SO THAT EACH CONDUCTOR DROPS OFF DIRECTLY OPPOSITE TO TERMINAL . ALL WIRE SIZES ARE BASED ON AMPACITIES FOR 60 DEG F TEMPERATURE RATING FROM 0-100A AND 75 DEG. F TEMPERATURE RATING LISTED IN NEC FOR 100A AND ABOVE. ALL CONDUCTORS SHALL BE COPPER, THHN/THWN; SOLID FOR #10 AWG AND SMALLER; STRANDED FOR CONDUCTORS USED IN WET LOCATIONS, INCLUDING BUT NOT LIMITED TO UNDERGROUND CONDUITS/ DUCTBANKS AND EXTERIOR CONDUITS SHALL COMPLY WITH NEC 310.10 AND BE LISTED FOR USE IN WET LOCATIONS.

APPURTENANCES AND OTHER EQUIPMENT FOREIGN TO THE ELECTRICAL INSTALLATION IN ACCORDANCE FIRE PROTECTION PIPING SHALL NOT BE USED FOR GROUNDING. PROVIDE A REINFORCED CONCRETE PAD, SIZED 4" LARGER IN ALL DIRECTIONS THAN THE FOOTPRINT ALL FEEDERS AND BRANCH CIRCUITS SHALL INCLUDE AN EQUIPMENT GROUND CONDUCTOR. METAL OF THE EQUIPMENT, AND 4" HIGH, FOR ALL FREESTANDING, FLOOR-MOUNTED ELECTRICAL EQUIPMENT. RACEWAYS SHALL NOT BE USED AS THE SOLE EQUIPMENT GROUND. WHERE A PHASE CONDUCTOR IS INCREASED IN SIZE DUE TO VOLTAGE DROP, THE EQUIPMENT GROUND CONDUCTOR SHALL BE INCREASED IN SIZE PROPORTIONATELY. . ALL PANELBOARDS OR DISCONNECT SWITCHES LOCATED IN KITCHEN AREAS SHALL BE STAINLESS PROVIDE A GROUND BUS BAR IN EACH ELECTRICAL ROOM AND TELECOMMUNICATIONS / IDF/ MDF ROOM

> FOR ALL NEW CONSTRUCTION AND NEW ROOMS IN EXISTING CONSTRUCTION, AND IN EXISTING CONSTRUCTION WHERE THERE IS NONE INSTALLED WITHIN AN EXISTING ROOM. THE INFRASTRUCTURE FOR THE ACCESS CONTROL/ CCTV OR SECURITY ELECTRONICS SYSTEM (CONDUITS, ELECTRICAL BOXES) SHALL BE INSTALLED BY DIVISION 26. THE ACCESS CONTROL/ CCTV OR SECURITY ELECTRONICS SYSTEM CONTRACTOR SHALL PROVIDE AND INSTALL THE WIRE AND CABLE FOR THE SYSTEM AND ALL REQUIRED EQUIPMENT. INSTALLATION OF THE CONDUITS AND ELECTRICAL BOXES SHALL BE UNDER THE DIRECT SUPERVISION OF THE ACCESS CONTROL/ CCTV SYSTEM CONTRACTOR. COORDINATE EXACT LOCATIONS OF DEVICES, RACEWAY LOCATIONS, SIZES AND

QUANTITY, AND CONDUIT STUB-UPS PRIOR TO ROUGH IN. THE INFRASTRUCTURE FOR THE VOICE/DATA TELECOMMUNICATIONS SYSTEM (CONDUITS, ELECTRICAL BOXES) SHALL BE INSTALLED BY DIVISION 26. THE TELECOMMUNICATIONS CONTRACTOR SHALL PROVIDE AND INSTALL THE WIRE AND CABLE FOR THE SYSTEM AND ALL REQUIRED EQUIPMENT AND COMPONENTS. INSTALLATION OF THE CONDUITS AND ELECTRICAL BOXES SHALL BE UNDER THE OF DEVICES, RACEWAY LOCATIONS, SIZES AND QUANTITY, AND CONDUIT STUB-UPS PRIOR TO ROUGH

MISCELLANEOUS CIRCUIT INSTALLATION REQUIREMENTS: PROVIDE 120V 20A 5-20R RECEPTACLE AT ALL FAN COIL UNITS FOR CONDENSATE PUMP POWER AND HOT WATER RECIRCULATING PUMPS. WHETHER SHOWN ON PLANS OR NOT, RECEPTACLE IS TO BE CONNECTED TO NEAREST 120V RECEPTACLE CIRCUIT PROVIDE 120V CONNECTION TO ALL MOTORORIZED DAMPERS INDICATED ON MECHANICAL PLANS. WHETHER SHOWN ON DIVISION 26 DRAWINGS OR NOT. FIRE/SMOKE DAMPER CIRCUITS ARE TO BE PROVIDED AS SHOWN ON FIRE SMOKE DAMPER DETAIL ON THE DETAILS SHEET. COORDINATE RECEPTACLE LOCATIONS WITH TECHNOLOGY DRAWINGS OR OWNER'S VENDOR DRAWINGS SO THAT A 120V 20A 5-20R RECEPTACLE IS LOCATED ADJACENT TO EACH VOICE/DATA OUTLET AND TV OUTLET INDICATED ON PLANS. RECEPTACLE IS TO BE CONNECTED TO NEAREST 120V RECEPTACLE CIRCUIT, UNLESS OTHERWISE NOTED ON PLANS.

FIRE ALARM SYSTEM NOTES

ALL FIRE ALARM EQUIPMENT IS TO BE NEW, ULLISTED FOR FIRE SERVICE, AND SHALL BE COMPATIBLE WITH THE SYSTEM BEING USED. ALL WIRING AND CONDUIT IS TO CONFORM TO NEC ARTICLE 760. WIRING SHALL BE ULLISTED. MINIMUM 300V TYPE FPLP PLENUM RATED SOLID COPPER OR STRANDED COPPER WITH MAXIMUM 19

LOW VOLTAGE CONDUCTORS: PROVIDE CONDUCTORS IN ACCORDANCE WITH NFPA 70 AND NFPA 72, AND AS RECOMMENDED BY THE FIRE ALARM SYSTEM MANUFACTURER. CONDUCTORS SHALL BE COPPER. MINIMUM NO. 14 AWG, TWISTED SHIELDED PAIR. SURVIVABILITY: A 2-HOUR RATED CABLE ASSEMBLY SHALL BE PROVIDED FOR NOTIFICATION APPLIANCE CIRCUITS AND ANY OTHER CIRCUITS NECESSARY FOR THE OPERATION OF THE NOTIFICATION APPLIANCE CIRCUITS FROM THE POINT AT WHICH THEY EXIT THE CONTROL UNIT UNTIL

THE POINT THAT THEY ENTER THE NOTIFICATION ZONE THAT THEY SERVE. MANUAL PULL STATIONS ARE TO BE INSTALLED AT 42" TO BOTTOM OF DEVICE AND NO HIGHER THAN 48" TO HANDLE ABOVE FINISHED FLOOR. PROVIDE MINIMUM 3/4" CONDUIT AND WIRING BETWEEN EACH FIRE ALARM DEVICE AND FROM LAST DEVICE TO FACP UNLESS OTHERWISE NOTED. PROVIDE DUCT DETECTOR (AND FIRE ALARM RELAY WHERE APPLICABLE) CONNECTED TO FIRE

FIRE ALARM CONTROL PANEL IS TO BE PROVIDED WITH DEDICATED 120V CIRCUIT WITH EQUIPMENT GROUND CONNECTION PER MANUFACTURER'S RECOMMENDATIONS AND ARTICLE 760 OF THE NEC. PROVIDE MINIMUM #12 AWG FOR GROUND CONNECTION. NOTE: PANEL NEUTRAL OR CONDUIT GROUND IS NOT ACCEPTABLE. 120V CIRCUIT SHALL BE FROM EMERGENCY/LIFE SAFETY BRANCH

SECONDARY BACK-UP POWER SHALL BE PROVIDED BY INTEGRAL BATTERIES WITHIN THE FIRE ALARM CONTROL PANEL TO SUPPLY POWER TO THE SYSTEM UNDER QUIESCENT LOAD FOR A MINIMUM OF 24 HOURS, AND THEN BE CAPABLE OF AN ADDITIONAL 15 MINUTES (5 MINUTES FOR NON VOICE SYSTEMS) ALARM OPERATION AT MAXIMUM CONNECTED LOAD. 0. ALL FIRE ALARM POWER CIRCUITS SHALL HAVE A DEDICATED 120V 20A BREAKER THAT SHALL BE RED IN COLOR AND MECHANICALLY PROTECTED (LOCKABLE IN THE "ON" POSITION), MARKED AS "FIRE

2. A CERTIFICATION OF COMPLETION AND UL LISTING SHALL BE ISSUED AND INSTALLED ON THE FIRE ALARM CONTROL PANEL. SUBMIT NFPA RECORD OF COMPLETION FORM ALONG WITH SMOKE DETECTOR SENSITIVITY REPORT FOR ALL HEADS WITHIN THE PROJECT AREA TO ENGINEER AND MAKE AVAILABLE AT FINAL INSPECTION. . MINIMUM CANDELA RATING OF STROBES IS 75; "110" ADJACENT TO DEVICE INDICATES 110 CANDELA

4. ALL STROBES SHALL ACTIVATE UPON INITIATION OF THE GENERAL ALARM. 15. ALL STROBES SHALL BE INSTALLED PER ADA MOUNTING HEIGHT REQUIREMENTS. WALL MOUNTED STROBES SHALL BE INSTALLED SO THAT THE BOTTOM OF THE STROBE LENS IS 80" AFF. . STROBES SHALL BE INSTALLED WITHIN 15' OF THE ENDS OF ALL CORRIDORS. 7. FIRE ALARM DEVICES INSTALLED OUTSIDE OR IN AREAS OPEN TO THE EXTERIOR SHALL BE

18. SMOKE DETECTORS SHALL BE PHOTO-ELECTRIC ADDRESSABLE TYPE, UNLESS SPECIFICALLY 9. SMOKE DETECTORS ARE TO BE INSTALLED PER NFPA 72. WALL MOUNTED SMOKE DETECTORS SHALL BE MOUNTED 4"-12" BELOW THE CEILING AND AWAY FROM CORNERS. 20. SMOKE DETECTORS LOCATED IN ELEVATOR LOBBIES. ELEVATOR HOISTWAYS AND ELEVATOR MACHINE ROOMS SHALL INITIATE ELEVATOR RECALL, ACTIVATE ELEVATOR WARNING LIGHTS AND

1. DUCT DETECTORS SHALL BE PHOTO-ELECTRIC ADDRESSABLE TYPE, AND RATED FOR VELOCITIES 2. HEAT DETECTORS SHALL BE ADDRESSABLE. FIXED TYPE @ 135 DEG F. UNLESS OTHERWISE NOTED. 3. FOR PROJECTS WITH AN ELEVATOR, THE ELEVATOR CONTROL PANEL SHALL HAVE TWO SIGNALS FROM THE FIRE ALARM CONTROL PANEL/ ASSOCIATED SMOKE DETECTORS - ONE FROM THE

"DESIGNATED FLOOR" SMOKE DETECTOR AND ANOTHER COMBINED SIGNAL FROM THE SMOKE DETECTORS AT THE OTHER LOBBY LANDINGS AND IN THE ELEVATOR EQUIPMENT ROOM. 24. ACTIVATION OF ANY SMOKE DETECTOR IN THE ELEVATOR LOBBY OF THE DESIGNATED PRIMARY RECALL LEVEL OR ELEVATOR MACHINE ROOM SHALL ACTIVATE ALTERNATE LEVEL RECALL. 5. PRIOR TO INSTALLATION OF ELEVATOR HOISTWAY HEAT DETECTORS, VERIFY WITH LOCAL AUTHORITY HAVING JURISDICTION IF THEY ARE REQUIRED. 26. HEAT DETECTORS SHALL BE LOCATED WITHIN 24" OF SPRINKLER HEADS LOCATED IN THE ELEVATOR MACHINE ROOM AND ALL HOISTWAY SPRINKLER HEADS LOCATED 24" ABOVE THE ELEVATOR PIT

FLOOR. THESE HEAT DETECTORS SHALL HAVE BOTH A LOWER TEMPERATURE RATING AND HIGHER SENSITIVITY THAN THE SPRINKLER HEADS. HEAT DETECTORS SHALL OPEN THE MAIN DISCONNECT/POWER SUPPLY TO THE ELEVATOR CONTROLLER. CONTROL CIRCUITS TO SHUT OFF ELEVATOR POWER SHALL BE MONITORED BY THE FIRE ALARM CONTROL PANEL. CONTROL MODULE SHALL BE WITHIN 3 FEET OF THE ELEVATOR CONTROLLER. . WHERE THERE IS A GENERATOR ON THE PROJECT, PROVIDE RELAYS AS REQUIRED FOR THE FIRE ALARM SYSTEM TO MONITOR THE FOLLOWING THREE CONDITIONS: GENERATOR RUNNING; GENERATOR FAULT; GENERATOR SWITCH NOT IN AUTO.

B. WHERE THERE IS A FIRE PUMP ON THE PROJECT, PROVIDE RELAYS AS REQUIRED FOR THE FIRE ALARM SYSTEM TO MONITOR THE FOLLOWING THREE CONDITIONS: FIRE PUMP RUNNING; FIRE PUMP LOSS OF POWER: FIRE PUMP POWER PHASE REVERSAL. 9. PROVIDE AN ADDRESSABLE FIRE ALARM SYSTEM PER NFPA AND ALL STATE AND LOCAL CODE

FIRE ALARM CONTRACTOR SHALL PREPARE AND SUBMIT SIGNED AND SEALED DRAWINGS FOR THE LOCAL AUTHORITY HAVING JURISDICTION/ FIRE MARSHAL 30. FIELD VERIFY LOCATION OF AREA SMOKE DETECTORS AND HEAT DETECTORS. DO NOT LOCATE WITHIN 36" OF AN HVAC DIFFUSER (SUPPLY OR RETURN). IN DIRECT AIR FLOW PATH, OR WITHIN 24" OF A SPRINKLER HEAD UNLESS NOTED OTHERWISE. SMOKE DETECTORS FOR DOOR RELEASE SHALL BE LOCATED ON THE CENTERLINE OF THE DOOR AND A MAXIMUM OF FIVE FEET FROM THE DOOR. THE MINIMUM DISTANCE FROM THE DOOR SHALL BE THE DEPTH OF THE WALL SECTION ABOVE THE DOOR, BUT NOT LESS THAN 12".

 PROVIDE LABELS FOR REMOTE ALARM INDICATORS FOR DUCT MOUNTED SMOKE DETECTORS (I.E., AHU-1 SUPPLY, AHU-2 RETURN, FIRE/SMOKE DAMPER, ETC.). DUCT DETECTORS SHOULD BE LOCATED WITHIN 6 TO 10 EQUIVALENT DIAMETERS OF STRAIGHT, UNINTERRUPTED DUCTWORK. DUCT DETECTORS FOR FIRE/SMOKE DAMPERS SHOULD BE LOCATED BETWEEN THE LAST INLET OR OUTLET UPSTREAM OF THE DAMPER AND THE FIRE INLET OR OUTLET DOWNSTREAM OF THE

DAMPER, AND WITHIN FIVE FEET OF THE FIRE/SMOKE WALL. 2. EQUIPMENT SHUT DOWN FIRE ALARM RELAYS SHALL BE LOCATED WITHIN THREE (3) FEET OF THE EQUIPMENT CONTROLS AND THE WIRING TO THE RELAY SHALL BE MONITORED BY THE FIRE ALARM B. ALL FIRE ALARM CABLE SHALL BE INSTALLED IN CONDUIT; NO FIRE ALARM CONDUIT SHALL BE

INSTALLED UNDER SLAB. PROVIDE MANUFACTURED RED CONDUIT UNLESS OTHERWISE NOTED. 4. MINIMIZE EXPOSURE OF DETECTORS TO DIRT AND DUST FROM CONSTRUCTION. PROVIDE PLASTIC COVERS DURING CONSTRUCTION. 35. ALL NOTIFICATION DEVICES SHALL BE WHITE IN. 36. IN NEW FACILITIES FIRE ALARM CIRCUITS FIRE ALARM CIRCUITS SHALL BE CLASS "B", STYLE "C" FOR

INITIATION DEVICE CIRCUITS (IDC) AND CLASS "B" STYLE "Y" FOR NOTIFICATION DEVICE CIRCUITS (NAC), UNLESS OTHERWISE NOTED. 37. IN NEW FACILITIES FIRE ALARM CIRCUITS SHALL BE FIRE ALARM CIRCUITS SHALL BE CLASS "A", 38. NOTIFICATION DEVICES SHALL BE ADDRESSABLE ELECTRIC-VIBRATING-POLARIZED HORNS, SELECTABLE FOR HIGH OR LOW dBA OUTPUT. THEY SHALL HAVE A SOUND PRESSURE LEVEL OF 90dBA MEASURED 10 FEET FROM HORN, USING CODED SIGNAL PER NFPA 72.

39. FIRE ALARM CONTRACTOR/VENDOR SHALL PREPARE FLORIDA LICENSE P.E. WORKING DRAWINGS INCORPORATING THE FIRE ALARM CRITERIA DESIGN AND CONFIRMING TO AHJ REQUIREMENTS. CONTRACTOR SHALL PROVIDE ALL MATERIAL REQUIRED PER AHJ AND DESIGN CRITERIA FOR A FULLY FUNCTIONING AND PERMITTABLE FIRE ALARM SYSTEM. SUBMIT TO DESIGN PROFESSIONAL AS A SHOP DRAWING FOR REVIEW. SUBMIT COMPLETE SIGNED & SEALED DRAWINGS TO PERMITTING AGENCY AND FOR CERTIFICATE OF OCCUPANCY. COMPLETED FIRE ALARM CERTIFICATION SHALL BE PROVIDED TO OWNER AT COMPLETION OF CONSTRUCTION. 0. FIRE ALARM DESIGN IS IN ACCORDANCE WITH FLORIDA STATUTES CHAPTER 61G15-32. WHERE A FIRE ALARM RISER IS INDICATED, IT IS DIAGRAMMATIC IN NATURE AND NOT INTENDED TO REPRESENT A COMPLETE WIRING AND DEVICE DISPLAY. ALL WIRING AND DEVICES SHALL BE IN ACCORDANCE

WITH SELECTED VENDOR'S POINT-BY-POINT WIRING DIAGRAM. REFER TO FLOOR PLAN FOR DESIGN

INTENT AND PROPOSED QUANTITY OF FIRE ALARM SYSTEM COMPONENTS.

**APPLICABLE CODES** 

**APPLICABLE CODES:** ALL WORK UNDER THIS DIVISION SHALL BE IN STRICT COMPLIANCE AND IN ACCORDANCE WITH THE APPLICABLE PROVISIONS OF THE FOLLOWING CODES AND STANDARDS INCLUDING THE REGULATIONS OF GOVERNING LOCAL, STATE, COUNTY AND OTHER APPLICABLE CODES. REFER TO SPECIFICATIONS FOR ADDITIONAL CODE REQUIREMENTS

**BUILDING CODES:** • FLORIDA BUILDING CODE, 6TH EDITION (2017) FLORIDA ENERGY CONSERVATION CODE, 6TH EDITION (2017)

ADDITIONAL CODES, STANDARDS, AND REQUIREMENTS 1. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI). INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE). NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION (NEMA). 4. REQUIREMENTS OF LOCAL POWER COMPANY. 5. THE AMERICANS WITH DISABILITIES ACT (ADA).

• FLORIDA FIRE PREVENTION CODE, 6TH EDITION (2017)

6. OWNER'S PUBLISHED DESIGN STANDARDS.

ALL MATERIALS SHALL BE NEW AND FREE OF DEFECTS, AND SHALL BE LISTED BY A NATIONALLY RECOGNIZED TESTING LAB. AS DEFINED BY OSHA. WHERE NO LABELING OR LISTING SERVICE IS AVAILABLE FOR CERTAIN TYPES OF EQUIPMENT, TEST DATA SHALL BE SUBMITTED TO VALIDATE THAT EQUIPMENT MEETS OF EXCEEDS AVAILABLE STANDARDS.

NATIONAL FIRE PROTECTION (NFPA) STANDARDS: NFPA 70, 2014 EDITION, NATIONAL ELECTRICAL CODE®.

NEPA 72, 2013 EDITION, NATIONAL FIRE ALARM AND SIGNALING CODE.

 NFPA 90A, 2015 EDITION, STANDARD FOR THE INSTALLATION OF AIR-CONDITIONING AND VENTILATING NFPA 92, 2012 EDITION, STANDARD FOR SMOKE-CONTROL SYSTEMS.

• NFPA 101, 2015 EDITION, LIFE SAFETY CODE®. • NFPA 110, 2013 EDITION, STANDARD FOR EMERGENCY AND STANDBY POWER SYSTEMS. • NPFA 780, 2014 EDITION, INSTALLATION OF LIGHTNING PROTECTION SYSTEMS

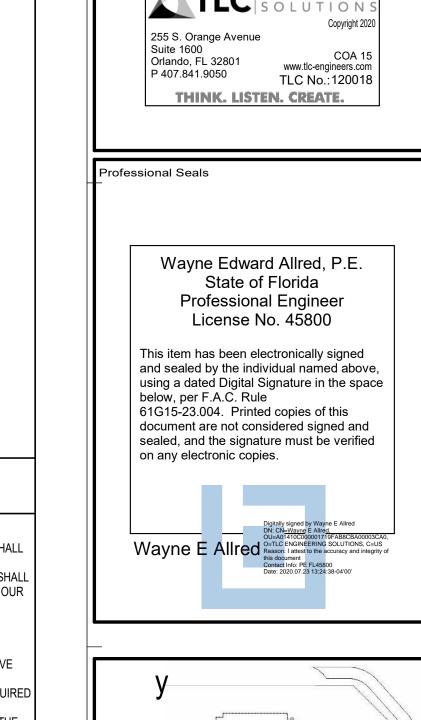
## **SMOKE CONTROL SYSTEM NOTES**

POWER & FIRE ALARM SYSTEM COMPONENTS ASSOCIATED WITH THE SMOKE CONTROL SYSTEM SHALL COMPLY WITH 2017 FLORIDA BULDING CODE, 6TH EDITION, CHAPTER 9, SECTION 909. WHERE CONTROL WIRING AND POWER WIRING ASSOCIATED WITH THE SMOKE CONTROL SYSTEM SHALL BE EITHER ENCLOSED WITHIN THE 2-HOUR FIRE BARRIERS. WHERE THEY ARE NOT WITHIN THE 2-HOUR BARRIER, THEY SHALL COMPLY WITH ONE OF THE FOLLOWING: A. CONTROL WIRING AND POWER WIRING SHALL UTILIZE A 2-HOUR RATED CABLE.

B. CONTROL WIRING AND POWER WIRING SHALL BE ENCASED WITH NOT LESS THAN 2 INCHES OF C. CONTROL WIRING AND POWER WIRING SHALL BE PROTECTED BY A LISTED ELECTRICAL PROTECTIVE

SYSTEM WITH A FIRE-RESISTANCE RATING OF NOT LESS THAN 2 HOURS. FIRE FIGHTER'S SMOKE CONTROL PANEL SHALL CONTAIN ALL THE NECESSARY COMPONENTS REQUIRE UNDER CHAPTER 9, SECTION 909, AND SHALL BE MANUFACTURED TO FIT WITHIN THE DIMENSIONS SHOWN ON THE ENLARGED PLAN (5' HIGH X 6' WIDE MAXIMUM). SHOP DRAWINGS SHALL INDICATE THE CONTROL PANEL DRAWN TO SCALE. APPLICABLE TRADES (MECHANICAL, ELECTRICAL, FIRE ALARM, MECHANICAL CONTROLS, ETC.) SHALL

COORDINATE WITH EACH OTHER PRIOR TO INSTALLATION, WIRING OR TESTING TO ENSURE ALL INTERFACE BETWEEN TRADES HAS BEEN ACCOUNTED FOR.



f +1 407.649.8664

10365 Hood Road South Suite 203 t +1 904-262-8660

ISSUED FOR PERMIT

JULY 24, 2020 **ELECTRICAL** 

W ALLRED

L WOLFE

**GENERAL NOTES** 

PROJECT NO. 50101397

WHERE THERE IS A DISCREPANCY BETWEEN ABOVE GENERAL NOTES AND SPECIFICATIONS, WHERE APPLICABLE, SPECIFICATIONS SHALL BE FOLLOWED

FOR THE DURATION OF THIS PROJECT

THE CONTRACTOR FOR SAID SERVICES.

COMPONENT OF THE ELECTRICAL SYSTEM.

EQUIPMENT CONTROLLERS PER NEC.

NUMBER(S) DEVICE IS CONNECTED TO.

OUT TAG-OUT REQUIRED"

THE MAIN SERVICE DISCONNECTING MEANS IS LOCATED INSIDE.

PUBLISHED DESIGN STANDARDS WHERE APPLICABLE.

SCHEDULES, ETC.

GUARANTEE ALL MATERIALS AND WORKMANSHIP ARE FREE FROM DEFECTS FOR A PERIOD OF NOT

LESS THAN ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE BY THE ARCHITECT/ENGINEER AND

OWNER, UNLESS NOTED OTHERWISE IN DIVISION 1. AT NO ADDITIONAL COSTS, PROVIDE THE

AND GUIDELINES CONCERNING REMOVAL, HANDLING, DISPOSAL AND PROTECTION AGAINST

PROVIDE ELECTRONIC SUBMITTALS (PRODUCT DATA & SHOP DRAWINGS) FOR EACH MAJOR

THE ARCHITECT/ENGINEER. ALLOW A MINIMUM OF TEN (10) BUSINESS DAYS FOR REVIEW BY

ENVIRONMENTAL EXPOSURE OR POLLUTION. PROVIDE DOCUMENTATION OF SAID COMPLIANCE.

COMPONENT OF THE ELECTRICAL SYSTEM FOR REVIEW BY THE ARCHITECT/ENGINEER AND OWNER.

MAJOR COMPONENTS INCLUDE, BUT ARE NOT LIMITED TO, RACEWAYS, BOXES, WIRE AND CABLE,

SWITCHES, FIRE ALARM SYSTEM, ETC. ALL SUBMITTALLS ARE TO BE REVIEWED AND APPROVED BY THE

CONTRACTOR FOR CONFORMANCE WITH THE PROJECT REQUIREMENTS PRIOR TO SUBMITTING TO

0. THE ELECTRICAL PORTION OF THE CONTRACT DOCUMENTS ARE COORDINATED WITH THE DESIGN

BASIS EQUIPMENT SPECIFIED BY DIVISION 26 AND OTHER DIVISIONS. WHERE THE CONTRACTOR

SUBSTITUTION IS ACCEPTED BY THE ARCHITECT/ENGINEER AND OWNER, THE CONTRACTOR SHALL

CONTRACTOR'S DESIGN SUBSTITUTION RESULTS IN THE NEED FOR THE ENGINEER TO REVISE THE

CONTRACT DOCUMENTS, THE ENGINEER RESERVES THE RIGHT TO REQUEST COMPENSATION FROM

. MAINTAIN A CURRENT AND ACCURATE SET OF PROJECT RECORD DOCUMENTS (AS-BUILTS) AT THE

SITE THROUGHOUT THE DURATION OF THE PROJECT. RECORD DRAWINGS SHALL BE UPDATED EACH

ISSUED TO THE ARCHITECT/ ENGINEER FOR REVIEW AND THEN SUBMITTED TO THE OWNER WITHIN 30

ELECTRICAL DISTRIBUTION SYSTEM, SITE PLANS AND ALL ELECTRICAL FLOOR PLANS, DETAILS, PANEL

PROVIDE TYPED PANEL DIRECTORIES FOR ALL NEW PANELBOARDS, AND EXISTING PANELBOARDS

BRANCH CIRCUITS. DIRECTORIES SHALL INCLUDE WHERE EACH PANEL IS FED FROM. ADDITIONALLY, EACH

RECEPTACLES-RMS 501,503). ROOM NUMBERS SHALL BE BASED ON ACTUAL ROOM SIGNAGE INSTALLED IN

DISTRIBUTION PANEL, PANELBOARD, MOTOR CONTROL CENTER, SAFETY SWITCH, ENCLOSED CIRCUIT

BREAKER, CABINET, STEP-DOWN TRANSFORMER, TRANSFER SWITCH, ETC., AND ANY OTHER MAJOR

PROVIDE ENGRAVED PLASTIC LAMINATE NAME TAGS FOR EACH DISTRIBUTION BREAKER OR BRANCH

PROVIDE LABELS ON THE INSIDE OF EACH DEVICE COVERPLATE, IDENTIFYING THE PANEL(S)/ CIRCUIT

PROVIDE NEATLY, HANDWRITTEN IDENTIFICATION ON THE EXTERIOR COVER OF ALL JUNCTION BOXES,

PROVIDE A PERMANENT SIGN ON THE MAIN ELECTRICAL ROOM DOOR TO THE BUILDING STATING THAT

PROVIDE A PERMANENT LABEL ON ALL PANELBOARDS. SWITCHBOARDS. SWITCHGEAR. MOTOR CONTROL

CENTERS AND DISTRIBUTION PANELS STATING "DO NOT WORK ON EQUIPMENT WHILE ENERGIZED. LOCK-

PULLBOXES AND WIREWAYS, IDENTIFYING THE PANEL(S)/ CIRCUIT NUMBER(S) CONTAINED WITHIN.

PROVIDE REQUIRED IDENTIFICATION PER ANSI STANDARDS, NEC REQUIREMENTS, AND OWNER'S

DISTRIBUTION EQUIPMENT. NAME TAG SHALL INCLUDE LOAD DESCRIPTION AND ROOM NUMBER FOR EACH |

CIRCUIT BREAKER IN SWITCHGEAR, SWITCHBOARDS, MOTOR CONTROL CENTERS AND OTHER

4. ARC FLASH DANGER/WARNING LABELS SHALL BE APPLIED TO SWITCHBOARD, PANELBOARDS, AND

AFFECTED BY THIS PROJECT. DIRECTORIES SHALL REFLECT PROJECT AS-BUILT CONDITIONS FOR ALL

BRANCH CIRCUIT LOAD DESCRIPTION SHALL INCLUDE THE ROOM NUMBER(S) FOR EACH LOAD (I.E.,

FIELD. COORDINATE EXACT ROOM NUMBERS WITH ARCHITECT/ENGINEER AND OWNER PRIOR TO

PROVIDE ENGRAVED PLASTIC LAMINATE NAME TAGS ON EACH SWITCHBOARD, SWITCHGEAR,

DAY TO REFLECT THE ACTUAL LOCATIONS, SIZES, ROUTING, ETC. OF EACH PORTION OF THE

DAYS AFTER THE DATE OF FINAL ACCEPTANCE. PROVIDE RECORD DRAWINGS OF THE ACTUAL

INSTALLATION INCLUDING SINGLE LINE DIAGRAM, POWER RISER DIAGRAM OF THE BUILDING

ELECTRICAL SYSTEM AFFECTED BY THIS WORK. A FINAL SET OF RECORD DOCUMENTS SHALL BE

AND OPERATIONAL INSTALLATION OF THE EQUIPMENT AT NO ADDITIONAL COSTS. WHERE THE

MAKE ALL CORRECTIONS TO THE ELECTRICAL SYSTEM NECESSARY IN ORDER TO ENSURE A COMPLETE

ELECTS TO SUBSTITUTE A PRODUCT IN LIEU OF PROVIDING THE DESIGN BASIS, AND SAID

EQUIPMENT, DEVICES, LIGHT FIXTURES, SWITCHGEAR, PANELBOARDS, CIRCUIT BREAKERS, SAFETY

INCLUDE ALL COSTS ASSOCIATED WITH PERMITS, LICENSES, FEES, INSPECTIONS, TESTING AND

IF HAZARDOUS MATERIALS ARE ENCOUNTERED, COMPLY WITH ALL APPLICABLE RULES, REGULATIONS

CORRECTION OF ANY DEFECTS INCLUDING REPAIR OR REPLACEMENT

TEMPORARY POWER IN THE BID PRICE, UNLESS NOTED OTHERWISE

ARCHITECT/ENGINEER, UNLESS NOTED OTHERWISE IN DIVISION 1

**DESTROY AFTER USE** 

APPROVED BY

CHECKED BY