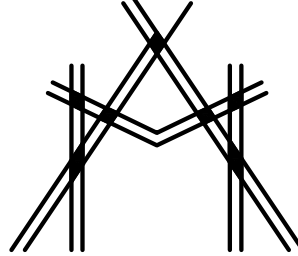




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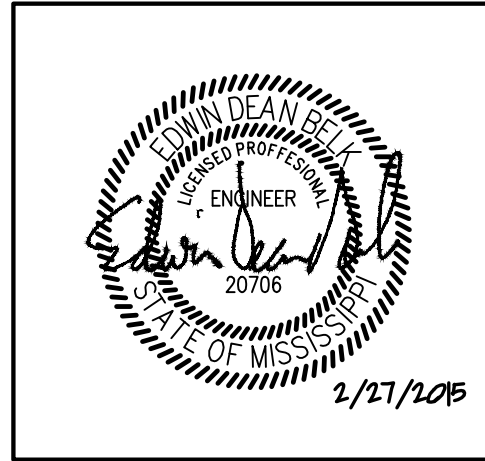
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| REVISIONS | | |
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KEY PLAN

Shiva Southaven
Inc.

Holiday Inn Express
& Suites

Lot 16 (Rev Lot 3) Southcrest
Pkwy.
Southcrest Subdivision
Southaven, MS 38671

Drawing Title

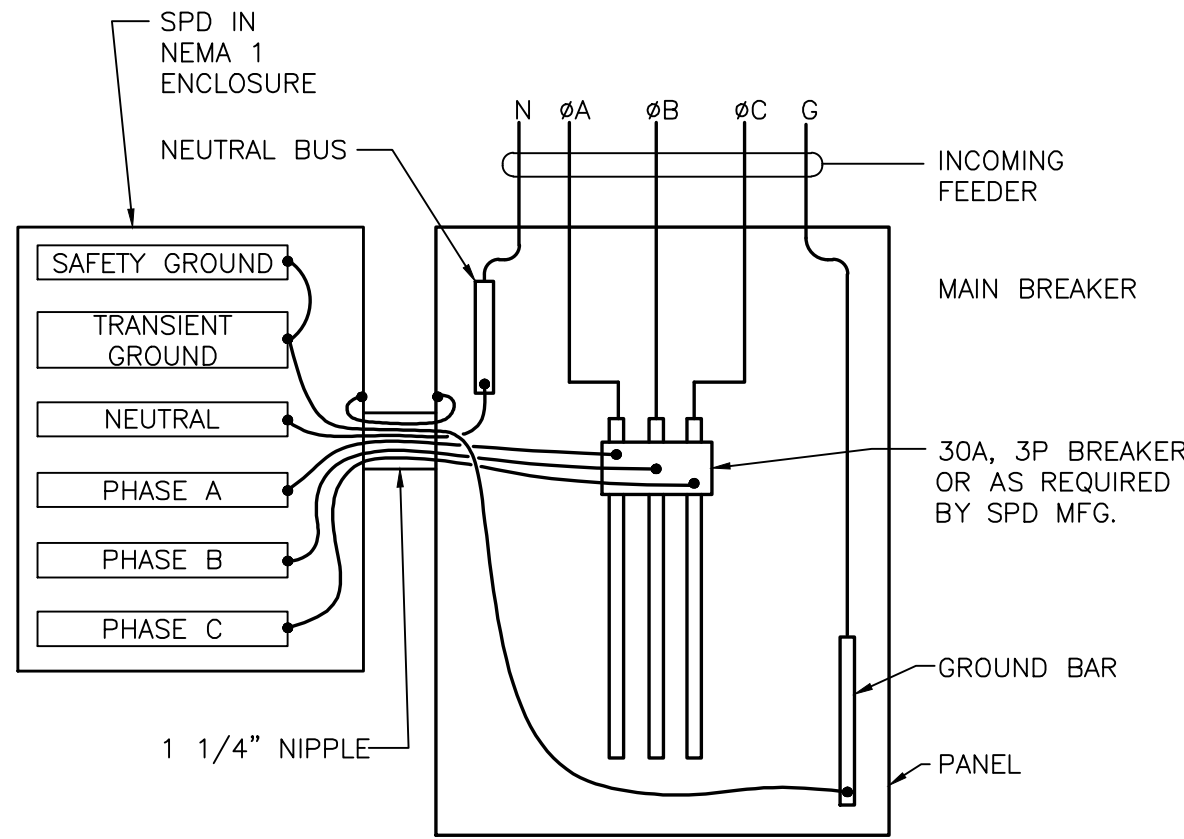
ELECTRICAL SPECIFICATIONS

Phase
Construction Documents

| | | | |
|-------------|---------------|-----------|------|
| Project No. | 14-081 | Sheet No. | |
| Prepared by | MAH | | E001 |
| Checked by | EDB | | |
| Date | Feb. 27, 2015 | | |

SURGE PROTECTION DEVICE SPECIFICATION

- SPD SHALL COMPLY WITH THE FOLLOWING STANDARDS:
 - UNDERWRITERS LABORATORIES, INC. STANDARD NO. 1449, SECOND EDITION.
 - IEEE STANDARD C62.11-1987;C62.33-1982;C62.41-1991; AND C62.45-1987.
 - NATIONAL ELECTRICAL CODE ARTICLE 240-21 (EQUIPMENT COMPLYING WITH TAP CONDUCTOR RULES) AND ARTICLE 110-9 (INTERRUPTING CAPACITY).
 - NEMA LS-1,1992.
- SPECIFICATIONS FOR THE LIFE OF THE UNIT SHALL BE INCLUDED IN TERMS OF THE NUMBER OF "HITS" EACH UNIT CAN WITHSTAND IN THE LINE-TO-NEUTRAL MODE AT SPECIFIC SURGE CURRENT LEVELS BEFORE UNIT FAILURE UTILIZING THE CATEGORY C2 8X20 MICROSECOND CURRENT WAVEFORM TEST.
- JOULE RATINGS SHALL BE INCLUDED ON THE SUBMITTALS.
- SUBMIT TEST RESULTS (GRAPHS) FOR THE APPROPRIATE NEMA LS1 TESTS FOR ALL MODELS SUBMITTED SHOWING ACTUAL LET THROUGH VOLTAGES (USING 6" LEAD LENGTH AS MEASURED FROM THE POINT WHERE THE CONNECTION CONDUCTORS EXIT THE SPD ENCLOSURE).
 - LEAD LENGTH MUST BE SPECIFIED AS WELL AS ALL APPLICABLE TEST PARAMETERS NECESSARY TO PERFORM A COMPLETE EVALUATION OF TEST RESULTS.
 - H1 & H2 UNITS SHALL BE STATIC TESTED.
 - L1 & L2 UNITS SHALL BE DYNAMIC TESTED @ 90 DEGREE PHASE ANGLE.
- UNITS SHALL CONSIST OF PARALLEL CONNECTIONS ONLY. SERIES ELEMENTS ARE NOT ACCEPTABLE.
- THE TRANSIENT SUPPRESSION DEVICE MUST BE UL LISTED UNDER THE UL 1449, JULY 1987 REVISION, AS A COMPLETE ENTITY. LISTED UL LET THROUGH VOLTAGE RATING MUST BE CLEARLY STATED.
- UNIT SHALL EMPLOY METAL OXIDE VARISTORS AS THE PRIMARY SUPPRESSION TECHNOLOGY.
- SYSTEM VOLTAGES:
 - 480Y/277V, 3ø, 4 WIRE
 - 208Y/120V, 3ø, 4 WIRE
- THE FOLLOWING MODELS ARE ACCEPTABLE (OR APPROVED EQUAL):
 - TYPE L1(120/208V, 3ø,4 WIRE SERVICE PANEL DEVICE) (400KA PER PHASE 200KA MIN. PER MODE.)
 - CURRENT TECHNOLOGY #TG 200 120/208 3GY L1
 - PSP #H2C400-MHWID
 - CUTLER HAMMER #CPS-S3-208Y-SD-RSX-CX
 - LIEBERT #LM 200-120Y-ANSE
 - TYPE L2(120/208V, 3ø,4 WIRE BRANCH PANEL DEVICE) (160KA PER PHASE, 80KA MIN. PER MODE.)
 - CURRENT TECHNOLOGY #TG 100 120/208 3GY
 - PSP #H2C200-04-N
 - CUTLER HAMMER #CPS-BX-208Y-SD-RSX-CX
 - LIEBERT #LM 100-120Y-ANSE
- ADDITIONAL FEATURES
 - UNLIMITED KVA OR AMPERE RATING OF PROTECTED LOAD.
 - LED INDICATORS SHALL BE UTILIZED TO INDICATE FAILURE OF PROTECTION MODULES.
 - ALL UNITS SHALL BE ENCLOSED IN A WALL MOUNTABLE HEAVY DUTY ENCLOSURE EQUIVALENT TO A NEMA 12 RATING.
 - 5 YEAR UNCONDITIONAL WARRANTY.
- UNITS SHALL BE INSTALLED OF THE SAME VOLTAGE RATING AS THE INTENDED PROTECTED EQUIPMENT.
- INSTALL UNITS WITH SHORTEST POSSIBLE LEAD LENGTH (MAXIMUM OF 18" FOR TYPE H1 AND H2 UNITS, MAXIMUM OF 6" FOR TYPE L1 AND L2 UNITS). WHERE CONDUIT IS NECESSARY TO INSTALL LEAD CONNECTION CONDUCTORS, LEADS SHALL BE INSTALLED IN RIGID NON-METALLIC CONDUIT AND SHALL NOT CONTAIN UNNECESSARY BENDS OR LOOPS.
- INSTALL ALL H1 AND L1 UNITS ON OR IMMEDIATELY ADJACENT TO THE DISTRIBUTION SECTION OF THE SERVICE GEAR ENCLOSURES WHERE THE CONNECTION LEAD LENGTH CAN BE KEPT AS SHORT AS POSSIBLE BUT ALSO SO THAT THE INSTALLATION WILL NOT INTERFERE WITH REMOVAL OF SERVICE GEAR PANELS. PROVIDE A DEDICATED 30A,3-POLE CIRCUIT BREAKER IN SERVICE GEAR FOR CONNECTION TO EACH UNIT.
- INSTALL ALL H2 AND L2 UNITS IMMEDIATELY ADJACENT TO THE PANEL ENCLOSURES.
- SPD SHALL HAVE A SHORT CIRCUIT RATING EXCEEDING THE FAULT CURRENT AVAILABLE AT THE SERVICE ENTRANCE POINT.



NOTES:

- ALL WIRING SHALL BE #8 AWG.
- AVOID SHARP BENDS IN WIRES. ALL WIRE LENGTHS SHALL NOT EXCEED 18" (WHERE POSSIBLE).
- SEE SPD SPECIFICATION FOR EXACT TYPE (H1, H2, L1, L2) FOR LOCATION AS INDICATED ON THE POWER RISER DIAGRAM.

1 SPD CONNECTION DETAIL
E001 NO SCALE

ELECTRICAL SPECIFICATIONS

PART 1: GENERAL

- PROVIDE ALL WORK AND MATERIALS FOR THE INSTALLATION OF COMPLETE WIRING SYSTEMS AS SPECIFIED HEREIN AND INDICATED ON THE DRAWINGS.
- ALL ELECTRICAL PERMITS AND INSPECTION FEES SHALL BE OBTAINED AND PAID FOR BY THE ELECTRICAL CONTRACTOR.
- ELECTRICAL CONTRACTOR SHALL GUARANTEE ALL WORK AND MATERIALS FOR ONE YEAR EFFECTIVE THE DAY THE PROJECT IS ACCEPTED BY THE OWNER.
- THE ELECTRICAL CONTRACTOR SHALL HAVE A MINIMUM OF 5 YEARS COMMERCIAL EXPERIENCE TO BE QUALIFIED TO PERFORM THE WORK HERE-IN. ANY CONTRACTOR THAT DOES NOT HAVE THE EXPERIENCE REQUIRED MAY BE REMOVED FROM THE PROJECT AT ANYTIME.
- WORK SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, OSHA, STATE BUILDING CODE AND ALL OTHER APPLICABLE LOCAL REQUIREMENTS. ALL WORK SHALL COMPLY WITH THE LATEST ADDITION OF NECA STANDARDS OF INSTALLATION.
- ALL MATERIALS, DEVICES, AND APPLIANCES SHALL BE NEW, EXCEPT WHERE OTHERWISE NOTED, AND SHALL BE LISTED BY AN APPROVED TESTING AGENCY WHERE SUCH A LISTING IS AVAILABLE. FACTORY ASSEMBLED EQUIPMENT SHALL BE LISTED AND LABELED AS AN ASSEMBLY, ANY EQUIPMENT NOT LISTED SHALL HAVE PRIOR APPROVAL FROM THE LOCAL AUTHORITY HAVING JURISDICTION. ALL MATERIALS SHALL COMPLY WITH APPLICABLE ANSI, IEEE AND NEMA STANDARDS.
- PROVIDE ALL CUTTING, PATCHING, CHANNELING AND CHASING FOR INSTALLATION OF WORK AND REPAIR ANY DAMAGE OF EXISTING OR NEW INSTALLATIONS AT THE CONTRACTORS EXPENSE.
- SHOP DRAWINGS AND CATALOG DATA SHALL BE SUBMITTED FOR APPROVAL PRIOR TO BEGINNING WORK. SUBMIT FOUR COPIES OF SHOP DRAWINGS FOR LIGHTING FIXTURES, LAMPS, BALLASTS AND PANELBOARDS. SUBMIT FOUR COPIED OF CATALOG DATA FOR DISCONNECT SWITCHES AND WIRING DEVICES.
- PROVIDE ENGRAVED PHENOLIC NAMEPLATES FOR PANELBOARDS, WIRING TROUGHS, AND FUSED SWITCHES, WHITE LETTERS ON BLACK FOR 120/208 VOLT SYSTEMS. LABEL ALL BREAKERS INSIDE THE PANEL NEXT TO THE BREAKER USING THE NUMBER SCHEME INDICATED ON THE DRAWINGS.
- AN ELECTRICAL INSPECTION CERTIFICATE SHALL BE ISSUED BY THE LOCAL INSPECTION AUTHORITIES BEFORE APPROVAL FOR FINAL PAYMENT.
- THE CONDUIT AND NEUTRAL SYSTEM SHALL BE GROUNDED AT THE MAIN SERVICE EQUIPMENT. GROUNDING ELECTRODE SYSTEM SHALL BE INSTALLED PER N.E.C. ARTICLE 250 AND AS INDICATED ON THE DRAWINGS.
- WIRING SHALL BE TESTED FOR CONTINUITY AND GROUNDS BEFORE BEING ENERGIZED. FAULTY WIRING SHALL BE REPLACED AT NO ADDITIONAL EXPENSE TO THE OWNER.
- IF, DURING THE COURSE OF WORK, THE ELECTRICAL CONTRACTOR DISCOVERS A PROBLEM WITH THE PERFORMANCE OF THE INSTALLATION RELATIVE TO THE PLANS AND SPECIFICATIONS OR NEC OR OTHER CODES, THE CONTRACTOR SHALL IMMEDIATELY BRING THE PROBLEM TO THE ATTENTION OF THE ARCHITECT OR ENGINEER FOR RESOLUTION PRIOR TO THE EXECUTION OF THE WORK.
- THE ELECTRICAL CONTRACTOR SHALL CONNECT ALL EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS, UNLESS OTHERWISE NOTED, EXCEPT FOR CONTROL WIRING FOR EQUIPMENT NOT PROVIDED BY THE ELECTRICAL CONTRACTOR. CONTROL WIRING FOR SUCH EQUIPMENT SHALL BE PROVIDED BY THE RESPECTIVE DISCIPLINE.
- COORDINATE LOCATION AND REQUIREMENTS FOR ELECTRICAL SERVICE WITH THE POWER COMPANY. WHERE MORE THAN ONE SERVICE IS SUPPLIED TO A BUILDING, PROVIDE IDENTIFICATION AT EACH SERVICE PER NEC 230-2(B) AND AS INDICATED ON THE DRAWINGS.
- COORDINATE LOCATION AND REQUIREMENTS FOR TELEPHONE SERVICE WITH THE TELEPHONE COMPANY AND AS INDICATED ON THE DRAWINGS.
- THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND PROVIDING TEMPORARY POWER.

PART 2: RACEWAY

- CONDUIT SHALL BE ZINC-COATED EMT INDOORS. EMT FITTINGS SHALL BE STEEL SCREW. MINIMUM SIZE SHALL BE 1/2"C, UNLESS OTHERWISE NOTED. USE SCHEDULE 40 PVC OUTDOORS ABOVE 8'-0" OR BELOW GRADE. USE IMC WHERE REQUIRED BY CODE OR EXPOSED BELOW 8'-0".
- SUPPORT ALL CONDUITS WITH STRAPS AND CLAMPS. RUN ALL CONDUIT PARALLEL OR PERPENDICULAR TO BUILDING WALLS.
- JUNCTION AND PULL BOXES SHALL BE CODE GAUGE GALVANIZED SHEET METAL.
- LIQUID-TIGHT FLEXIBLE METAL CONDUIT SHALL BE USED FOR EQUIPMENT CONNECTIONS, BUT NOT AS A WIRING METHOD OTHERWISE.
- MC CABLE MAY BE USED AS A WIRING METHOD WHERE ALLOWED BY CODE.
- RACEWAY PENETRATIONS THROUGH FLOOR SLABS AND FIRE-RATED WALLS SHALL BE FILLED WITH IMPERVIOUS, NON-SHRINK GROUT SUFFICIENTLY TIGHT TO PREVENT THE TRANSFER OF SMOKE, WATER, AND DUST. ROOF PENETRATIONS SHALL BE WITHIN THE EQUIPMENT CURB WHERE POSSIBLE.
- CONDUIT INSTALLED UNDERGROUND OR IN CONCRETE SHALL HAVE JOINTS MADE WATER-TIGHT BY USE OF POLYTETRA-FLUOROETHYLENE TAPE. AAPPROVED SEALS SHALL BE PROVIDED IN HAZARDOUS LOCATIONS AS REQUIRED BY THE N.E.C.

PART 3: CONDUCTORS

- ALL CONDUCTORS SHALL BE SINGLE CONDUCTOR COPPER. THHN/THWN, SOLID FOR SIZES #14 THROUGH #10. THHN/THWN STRANDED FOR SIZES #8 AND LARGER.
- BRANCH CIRCUITS SHALL NOT BE SMALLER THAN #12 AWG. CONTROL WIRING MAY BE #14 AWG.
- CONDUCTORS SHALL BE COLOR CODED BLACK/RED/BLUE FOR 120/208 VOLT SYSTEMS FOR A, B, AND C PHASES, RESPECTIVELY.
- WIRING TO LIGHTING FIXTURES SHALL BE AS REQUIRED BY UL LABEL.
- ALL BRANCH CIRCUIT CONDUITS OR CABLE ASSEMBLIES SHALL CONTAIN AN INSULATED GREEN GROUNDING CONDUCTOR SIZED PER NEC 250-122.
- ALL CONDUCTORS INSTALLED IN VERTICAL RACEWAYS SHALL BE SUPPORTED AT INTERVALS AS REQUIRED PER NEC ARTICLE 300-19.
- ALL EQUIPMENT AND DEVICE TERMINATIONS SHALL BE UL LISTED FOR USE WITH 75°C INSULATED CONDUCTORS AT THEIR 75°C AMPACITY.
- PROVIDE A SEPARATE NEUTRAL FOR EACH PHASE CONDUCTOR IN ALL BRANCH CIRCUITS.

PART 4: WIRING DEVICES

- WIRING DEVICES SHALL BE ALMOND WITH MATCHING PLASTIC COVER PLATES, SPECIFICATION GRADE AS INDICATED BELOW, EQUAL TO THE COOPER QUALITY INDICATED.

TOGGLE SWITCHES SHALL BE AS FOLLOWS:

| | |
|------------------------|--------------|
| SINGLE POLE 20 AMP | COOPER 1221 |
| DOUBLE POLE 20 AMP | COOPER 1222 |
| THREE WAY 20 AMP | COOPER 1223 |
| FOUR WAY 20 AMP | COOPER 1224 |
| SINGLE POLE/KEY 20 AMP | COOPER 1221L |
| DOUBLE POLE/KEY 20 AMP | COOPER 1222L |
| THREE WAY/KEY 20 AMP | COOPER 1223L |
| FOUR WAY/KEY 20 AMP | COOPER 1224L |

DUPLEX RECEPTACLES SHALL HAVE A NYLON FACE AND SHALL BE AS FOLLOWS:

| | |
|--------------------|---------------|
| 15 AMP DUPLEX | COOPER 5252 |
| 20 AMP DUPLEX | COOPER 5362 |
| 15 AMP DUPLEX-GFCI | COOPER GF5262 |
| 20 AMP DUPLEX-GFCI | COOPER GF5362 |
| 15 AMP DUPLEX-IG | COOPER IG5252 |
| 20 AMP DUPLEX-IG | COOPER IG5362 |
| 15 AMP DUPLEX-TVSS | COOPER 5262S |
| 20 AMP DUPLEX-TVSS | COOPER 5362S |
- DUPLEX RECEPTACLES ON DEDICATED CIRCUIT SHALL BE 20 AMP. OTHER DUPLEX RECEPTACLES MAY BE 15 AMP, UNLESS OTHERWISE NOTED.
- OUTLET BOXES SHALL NOT BE MOUNTED BACK-TO-BACK.
- A MAXIMUM OF 10 RECEPTACLES SHALL BE ON EACH BRANCH CIRCUIT.
- WEATHERPROOF COVERS SHALL HAVE A LID SO THAT PLUGS MAY BE INSTALLED WITHOUT COMPROMISING THE WP FUNCTION, EQUAL TO INTERMATIC GUARDIAN ONE #WP1020C.
- ALL OUTLETS (INCLUDING TELEPHONE, CABLE TV AND DATA) SHALL HAVE COVER PLATES, BLANK IF NOT USED.

PART 5: DISCONNECT SWITCHES

- DISCONNECT SWITCHES SHALL BE HEAVY-DUTY TYPE IN NEMA 1 ENCLOSURES (UNLESS OTHERWISE INDICATED), FUSED OR NON-FUSED AS INDICATED. FUSED SWITCHES SHALL HAVE REJECTION-TYPE FUSE CLIPS. SWITCHES SHALL BE SQUARE D, OR EQUAL. FUSES SHALL BE CLASS R-5, TIME DELAY. A SET OF 3 SPARE FUSES OF EACH SIZE AND TYPE SHALL BE FURNISHED TO THE OWNER.

PART 6: PANELBOARDS

- PANELBOARDS SHALL BE DEAD-FRONT SAFETY TYPE. ALL CIRCUIT BREAKERS SHALL BE MOLDED-CASE, BOLT-ON, AUTOMATIC THERMAL MAGNETIC TYPE, CALIBRATED FOR 40°C, OR AMBIENT COMPENSATION. CABINET SHALL BE 20 INCHES WIDE MINIMUM, WITH NOT LESS THAN 4-INCH WIRING CUTTERS AT TOP, SIDES, AND BOTTOM. SQUARE D "N", "NOD", OR EQUAL. BUS SHALL BE ALUMINUM WITH RATINGS AS INDICATED ON DRAWINGS. LUGS SHALL BE SIZED TO ACCOMMODATE CONDUCTORS INDICATED ON THE POWER RISER DIAGRAM.
- PROVIDE HANDLE LOCK-ON DEVICES ON ALL CIRCUIT BREAKERS CONNECTED TO EMERGENCY, EXIT, AND NIGHT LIGHTING, FIRE ALARM, TELEPHONE AND SECURITY SYSTEMS.
- CIRCUIT BREAKERS USED FOR SWITCHING OF LIGHTING OR SIGN CIRCUITS SHALL BE SWITCHING DUTY RATED AND SHALL BE MARKED "SWD".

PART 7: LIGHT FIXTURES

- CATALOG NUMBERS GIVEN DENOTE MINIMUM QUALITY AND PERFORMANCE REQUIRED. EQUAL EQUIPMENT BY OTHER MANUFACTURERS IS ACCEPTABLE AS INDICATED ON THE LIGHT FIXTURE SCHEDULE.
- H.I.D. BALLASTS SHALL BE HIGH POWER FACTOR WITH QUIETEST SOUND RATING.
- LAY-IN FIXTURES SHALL BE SUSPENDED FROM STRUCTURE WITH 2 WIRES AT OPPOSITE CORNERS. DO NOT SUPPORT FROM CEILING GRID.
- SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR EXACT LOCATION OF LIGHT FIXTURES.
- ALL RECESSED LIGHTING FIXTURES SHALL BE THERMALLY PROTECTED.
- COMPACT FLUORESCENT BALLASTS SHALL BE ELECTRONIC WITH END OF LIFE PROTECTION.

PART 8: TELEPHONE/DATA SYSTEM

- FURNISH AND INSTALL A COMPLETE TELEPHONE/DATA CONDUIT SYSTEM AS INDICATED ON THE DRAWINGS. ALL OUTLET BOXES FOR TELEPHONE AND/OR DATA JACKS SHALL BE DOUBLE GANG WITH A SINGLE-GANG OPENING.
- PULL AND LEAVE IN EACH CONDUIT ONE PULL CORD FOR PULLING IN CABLE. ALL WIRING, OUTLETS AND EQUIPMENT SHALL BE PROVIDED AND INSTALLED BY THE OWNERS TELE/DATA SUPPLIER.
- TELEPHONE SERVICE CONDUITS SHALL BE PROVIDED TO THE PROPERTY LINE OR AS INDICATED ON THE DRAWINGS.
- THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL A #6 AWG GREEN COPPER WIRE IN A 3/4" CONDUIT FROM THE NEAREST COLD WATER METAL MAIN TO A LUG AT THE TELEPHONE/DATA BACKBOARD.

PART 9: LIGHTING CONTROLS

- FURNISH AND INSTALL AN ELECTRONIC TIME CONTROLLER WHERE INDICATED. CONTROLLER SHALL BE CAPABLE OF SWITCHING 40 AMPERES PER POLE CONTINUOUSLY AT 120 VOLTS AND SHALL BE SPST (DPST, 3PST, DPTDT, SPDT, AS REQUIRED).
- LIGHTING CONTACTORS SHALL SWITCH A LOAD AT 120 VOLTS, 60 HZ AND SHALL HAVE THE NUMBER OF POLES INDICATED ON THE DRAWINGS. THE CONTACTOR SHALL BE CONTINUOUSLY RATED 20 AMPERES PER POLE FOR ALL TYPES OF BALLAST AND TUNGSTEN LIGHTING AND RESISTANCE LOADS.
- ALL LIGHTING CONTACTORS SHALL BE ELECTRICALLY HELD AND HAVE A NEMA 1 ENCLOSURE UNLESS OTHERWISE NOTED.

PART 10: FIRE ALARM SYSTEM

- SYSTEM SHALL BE A CENTRALIZED, ANALOG, ADDRESSABLE, FULLY ELECTRONICALLY SUPERVISED (INCLUDING AUXILIARY SYSTEMS INTERCONNECT WIRING) SYSTEM LISTED BY UL IN COMPLIANCE WITH ALL APPLICABLE NFPA 72 AND OTHER STANDARDS AS WELL AS THE AMERICAN'S WITH DISABILITIES ACT (ADA). ALL FINAL CONNECTIONS, TESTING AND ADJUSTMENTS SHALL BE PERFORMED BY OR UNDER DIRECT SUPERVISION OF AN AUTHORIZED FACTORY REPRESENTATIVE. SYSTEM SHALL BE SIMPLEX, NOTIFIER, EDWARDS OR EQUAL, AS ACCEPTED BY THE ENGINEER. SYSTEM SHALL HAVE A 24HR MINIMUM BATTERY BACKUP. OR NEW DEVICES SHALL BE CONNECTED TO THE EXISTING FIRE ALARM SYSTEM IN COMPLIANCE WITH ALL APPLICABLE NFPA 72 AND OTHER STANDARDS AS WELL AS THE AMERICAN'S WITH DISABILITIES ACT (ADA). ALL FINAL CONNECTIONS, TESTING AND ADJUSTMENTS SHALL BE PERFORMED BY OR UNDER DIRECT SUPERVISION OF AN AUTHORIZED FACTORY REPRESENTATIVE. NEW DEVICES SHALL BE COMPATIBLE WITH THE EXISTING FIRE ALARM SYSTEM. THE CONTRACTOR SHALL FIELD VERIFY EXACT SYSTEM MANUFACTURER AND TYPE. THE FIRE ALARM SUPPLIER SHALL VERIFY THE EXISTING SYSTEM CAN ACCOMMODATE THE NEW DEVICES PRIOR TO BID. WHEN THE EXISTING SYSTEM CAN NOT HANDLE THE DEVICES, THE FIRE ALARM SUPPLIER SHALL INCLUDE IN THEIR PRICE THE ADDITION OF NOTIFICATION APPLIANCE CIRCUITS (NAC) POWER EXTENDERS AS REQUIRED. SUPPLIER SHALL INCLUDE THE UPDATING OF EXISTING STROBES IN THE RENOVATED AREA SO THAT ALL STROBES, NEW AND EXISTING, ARE SYNCHRONIZED.
- INITIATING DEVICE ACTIVATION SHALL CAUSE OPERATION OF THE PROPER ZONE ALARM CIRCUIT IN THE CONTROL PANEL, AND OPERATE ALL AUDIBLE INDICATING ALARMS. ALL AIR HANDLING UNITS SHALL BE STOPPED UPON ANY ALARM INPUT. EACH AIR HANDLER UNIT SHALL BE PROVIDED WITH A SYSTEM CONTROLLED RELAY TO EFFECT SHUTDOWN. ALL ALARM DEVICES AND LAMPS SHALL CONTINUE TO OPERATE UNTIL THE INITIATING DEVICE IS RESET. SUBSEQUENT ALARMS SHALL RESOUND THE SYSTEM. AN AUDIBLE AND VISUAL SIGNAL SHALL INDICATE SYSTEM TROUBLE. THE CONTROL PANEL SHALL PROVIDE FOR ACTIVATING A UL LISTED CENTRAL STATION SIGNAL.
- MANUAL STATIONS SHALL BE NON-CODED, WITH PULL LEVER AND GLASS ROD, SEMI-FLUSH MOUNTED. COMBINATION LIGHT AND HORN SIGNALS SHALL BE FLUSH MOUNTED. WIRING SHALL BE IN CONDUIT AS PREVIOUSLY SPECIFIED. #14 AWG MINIMUM, THHN, THE USE OF PLENUM RATED CABLE IS NOT ALLOWED. ALL JUNCTION BOXES USED FOR THE FIRE ALARM SYSTEM SHALL BE PAINTED RED.
- SPRINKLER SYSTEM TAMPER SWITCHES SHALL BE CONNECTED INTO A COMMON ZONE WHICH SHALL DISTINGUISH BETWEEN A CIRCUIT FAULT AND A CLOSED VALVE. A CLOSED VALVE SHALL BE INDICATED AS AN ALARM CONDITION, BUT WILL NOT ACTIVATE THE AUDIBLE-VISUAL DEVICES OR CAUSE A SIGNAL TO BE TRANSMITTED TO THE CENTRAL STATION.
- WHERE REQUIRED BY THE LOCAL AUTHORITY HAVING JURISDICTION, THE FIRE ALARM SUPPLIER SHALL A SEPARATE SET OF PLANS FOR A SEPARATE FIRE ALARM PERMIT. THE ENGINEER IS NOT RESPONSIBLE FOR PRODUCING THESE DRAWINGS OR FOR SUBMITTING FOR THIS PERMIT, IT IS THE SOLE RESPONSIBILITY OF THE FIRE ALARM SUPPLIER.
- ALL STROBES LOCATED WITHIN THE SAME AREA SHALL BE SYNCHRONIZED.

PART 11: FIRE STOPPING

- ALL PENETRATIONS OF NON-RATED PENETRATIONS SHALL BE SEALED WITH RATED MATERIALS MEETING ASTM E-814.
- PROVIDE FIRE STOPPING DEVICE(S) OR SYSTEM(S) WHICH HAVE BEEN TESTED AND LISTED AS COMPLYING WITH ASTM E-814. INSTALL THE DEVICE(S) OR SYSTEM(S) IN ACCORDANCE WITH THE CONDITIONS OF THEIR LISTING. PROVIDE THE APPROPRIATE DEVICE(S) OR SYSTEM(S) WITH AN "F" RATING EQUAL TO THE RATING OF THE ASSEMBLY BEING PENETRATED.
- DEVICE(S) AND/OR SYSTEM(S) SHALL BE BY HILTI, 3M OR EQUIVALENT.
- WHERE OPENINGS FOR INSTALLATION OF ELECTRICAL BOXES EXCEEDS 16 SQUARE INCHES IN RATED WALLS OR PARTITIONS, THE OPENING SHALL BE PROTECTED AS REQUIRED BY THE APPROPRIATE WALL LISTING TYPE.

SEISMIC RESTRAINT OF ELECTRICAL SYSTEMS - DESIGN/BUILD SPECIFICATION

THE ELECTRICAL CONTRACTOR SHALL RETAIN THE SERVICES OF A STRUCTURAL ENGINEER TO DETERMINE SITE CLASSIFICATION AND SEISMIC RESTRAINT REQUIREMENTS FOR ELECTRICAL EQUIPMENT, PIPING, DUCTWORK, ETC. REQUIRED FOR THIS PROJECT. WHERE REQUIRED, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING RESTRAINTS TO RESIST THE EARTHQUAKE EFFECTS ON THE ELECTRICAL SYSTEM. THE REQUIREMENTS FOR THESE RESTRAINTS ARE FOUND IN THE INTERNATIONAL BUILDING CODE, 2006.

THE ELECTRICAL CONTRACTOR SHALL RETAIN THE SERVICES OF A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE STATE OF NORTH CAROLINA TO DESIGN SEISMIC RESTRAINT ELEMENTS REQUIRED FOR THIS PROJECT. THE ENGINEER'S COMPUTATIONS, BEARING HIS PROFESSIONAL SEAL, SHALL ACCOMPANY SHOP DRAWINGS WHICH SHOW INTERNATIONAL BUILDING CODE, 2006 COMPLIANCE. COMPUTATIONS AND SHOP DRAWINGS SHALL BE SUBMITTED FOR REVIEW PRIOR TO THE PURCHASING OF MATERIALS, EQUIPMENT, SYSTEMS AND ASSEMBLIES.

THE ELECTRICAL CONTRACTOR SHALL INCLUDE SHOP DRAWINGS OF THE SPECIFIC METHODS OF SEISMIC RESTRAINT TO BE USED FOR THIS PROJECT PRIOR TO INSTALLATION OF PIPING, DUCTWORK AND EQUIPMENT.

INTERNAL SEISMIC RESTRAINT ELEMENTS OF MANUFACTURED EQUIPMENT SHALL BE CERTIFIED BY A PROFESSIONAL ENGINEER RETAINED BY THE MANUFACTURER. SUCH CERTIFICATE APPLIES ONLY TO INTERNAL ELEMENTS OF THE EQUIPMENT. ALL EQUIPMENT ANCHORAGE REQUIREMENTS SHALL BE COORDINATED WITH THE BUILDING STRUCTURE AND SHALL BE COMPATIBLE THERETO. ALL SUCH ANCHORAGE SHALL BE REVIEWED BY THE PROJECT'S ELECTRICAL ENGINEER PRIOR TO INSTALLATION.

THE PROFESSIONAL ENGINEER RETAINED BY THE ELECTRICAL CONTRACTOR FOR SEISMIC RESTRAINT CALCULATIONS AND DESIGN SHALL VISIT THE JOB SITE UPON COMPLETION OF THE SEISMIC RESTRAINT INSTALLATION. THIS ENGINEER SHALL PROVIDE IN WRITING, VERIFICATION OF COMPLIANCE WITH THE APPROVED SEISMIC SUBMITTAL. THIS ENGINEER SHALL ALSO PERFORM ANY SPECIAL INSPECTIONS REQUIRED BY THE INTERNATIONAL BUILDING CODE, 2006. THIS VERIFICATION SHALL BEAR THE ENGINEER'S PROFESSIONAL SEAL. JOB SITE INSPECTION BY OTHER THAN THIS ENGINEER IS NOT ACCEPTABLE.

REVIEW OF THE SEISMIC DESIGN AND SHOP DRAWINGS BY THE PROJECT'S ELECTRICAL ENGINEER, STRUCTURAL ENGINEER OR ARCHITECT SHALL NOT RELIEVE THE CONTRACTOR OF THEIR RESPONSIBILITY TO COMPLY WITH THE SEISMIC OR ANY OTHER REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE, 2006.