

SPECIFICATIONS

<p>PART 1 - GENERAL</p> <p>11 FURNISH AND INSTALL LABOR AND MATERIALS NECESSARY TO PROVIDE A COMPLETE INSTALLATION OF ALL ELECTRICAL SERVICES AND SYSTEMS INDICATED AND AS MAY BE REQUIRED TO MAKE THE WORK COMPLETE FOR THE PURPOSE INTENDED. LAYOUTS SHOWN ARE DIAGRAMMATIC. INSTALL FIXTURES, DEVICES, EQUIPMENT AND CONDUITS TO MEET ACTUAL FIELD CONDITIONS.</p> <p>12 BIDDING REQUIREMENTS: VISIT SITE PRIOR TO BIDDING TO BE FULLY ACQUAINTED WITH FIELD CONDITIONS AND TO DETERMINE FULL EXTENT OF WORK REQUIRED. COORDINATE NEW INSTALLATIONS WITH EXISTING SYSTEMS. ITEMS NOT SPECIFICALLY INDICATED ON DRAWINGS THAT ARE IN CONFLICT WITH WORK SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND ENGINEER PRIOR TO BID FOR A DECISION. BIDDERS SHALL ACQUAINT THEMSELVES WITH THE WORKING CONDITIONS AND REQUIREMENTS OF THE ENTIRE PROJECT. WORK WILL BE BASED UPON FURNISHING ALL LABOR AND MATERIALS REQUIRED TO ENTIRELY COMPLETE WORK READY FOR USE.</p> <p>13 CODES: WORK SHALL COMPLY WITH LOCAL, MUNICIPAL, STATE ELECTRICAL CODES. MATERIALS SHALL BE IN COMPLIANCE WITH NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS.</p> <p>14 OBTAIN AND PAY FOR LICENSES, PERMITS AND INSPECTIONS FOR WORK REQUIRED. CERTIFICATES OF INSPECTION SHALL BE DELIVERED TO THE OWNER.</p> <p>15 SHOP DRAWINGS TO BE SUBMITTED (SIX COPIES) FOR FIXTURES, EQUIPMENT, DEVICES AND MATERIALS WITHIN 14 DAYS OF CONTRACT AWARD FOR REVIEW. MINOR CHANGES IN LOCATION FROM THOSE SHOWN ON THE DRAWINGS SHALL BE MADE WITHOUT CHARGE IF SO DIRECTED BY THE ARCHITECT BEFORE INSTALLATION.</p> <p>16 SCHEDULE WORK TO AVOID DOWNTIME AND INCONVENIENCE TO OWNER. OWNER'S EXISTING FACILITY SHALL REMAIN IN OPERATION AT ALL TIMES. REQUIRED SHUTDOWN OF EXISTING UTILITIES SHALL BE SCHEDULED WITH OWNER'S OPERATING PERSONNEL. NOTIFY OWNER'S REPRESENTATIVE 48 HOURS IN ADVANCE PRIOR TO ANY SHUTDOWN OF EXISTING SYSTEMS.</p> <p>17 TEMPORARY SERVICES ARE TO BE PROVIDED TO MAINTAIN OPERATION OF FACILITY DURING THE PHASING OF WORK.</p> <p>18 COOPERATE FULLY WITH WORK. DO WORK NORMALLY DONE BY THE ELECTRICAL TRADES OR REQUIRED BY LOCAL JURISDICTIONAL RULINGS, WHETHER SPECIFICALLY INDICATED OR NOT.</p> <p>19 CHANGES IN THE LOCATION OF THE EQUIPMENT, ETC., FROM THOSE SHOWN ON THE DRAWINGS SHALL BE MADE WITHOUT CHARGE IF SO DIRECTED BY THE ARCHITECT/OWNER BEFORE INSTALLATION.</p> <p>20 OWNER TRAINING IN THE PROPER OPERATION, MAINTENANCE AND SERVICING OF SYSTEMS IS TO BE PROVIDED. DIGITALLY RECORD (AUDIO AND VIDEO) ALL TRAINING SESSIONS. PROVIDE IN A SOUND FORMAT TWO (2) SETS OF OPERATIONS, MAINTENANCE AND INSTRUCTION MANUALS, INCLUDING INFORMATION ON SPARE PARTS, LUBRICATION SCHEDULE, WIRING DIAGRAMS, ETC., FOR ALL MATERIALS AND EQUIPMENT. PROVIDE TWO (2) SETS OF ACCURATELY MARKED "AS BUILT" PRINTS, ELECTRONIC FILE OF AS-BUILTS, AND TWO COPIES OF TRAINING SESSION VIDEO (DVD FORMAT).</p> <p>21 WARRANTY DEFECTS TO EQUIPMENT, MATERIALS AND LABOR FOR A PERIOD OF ONE (1) YEAR AFTER FINAL ACCEPTANCE OF THE BUILDING BY THE ARCHITECT AND ENGINEER. DEFECTIVE FIXTURES, EQUIPMENT AND MATERIALS SHALL BE REPAIRED OR REPLACED AT NO COST TO THE OWNER. GUARANTEE THAT ALL WORKMANSHIP IS OF HIGH QUALITY AND THAT ALL EQUIPMENT FURNISHED UNDER THIS CONTRACT FULFILLS THE REQUIREMENTS OF THE SPECIFICATIONS. CONDUCT, AT NO COST TO THE OWNER, TESTS ON ANY EQUIPMENT FURNISHED WHEN SO REQUESTED BY THE ARCHITECT OR HIS REPRESENTATIVE WITHIN THE ONE YEAR PERIOD.</p> <p>PART 2 - GENERAL COORDINATION - NOT USED</p> <p>PART 3 - EXECUTION</p> <p>31 COORDINATE EQUIPMENT ELECTRICAL REQUIREMENTS (VOLTAGES, PHASE, LOAD, ETC.) TO AVOID CONFLICTS.</p> <p>32 EXCAVATION NECESSARY FOR COMPLETION OF WORK SHALL BE PROVIDED COORDINATE IN FIELD TO SHARE TRENCHES WITH OTHER SERVICES, WHEREVER POSSIBLE.</p> <p>33 REFER TO THE CONTRACT DOCUMENTS FOR ADDITIONAL ELECTRICAL WORK AND REQUIREMENTS. FURNISH, INSTALL AND LOCATE DISCONNECT SWITCHES AT EQUIPMENT/MOTOR LOCATION, AS REQUIRED, AND IN ACCORDANCE WITH CODE. IF THE WORK OF OTHER TRADES CAUSES A LOSS OF CONTINUITY OF THE EXISTING ELECTRICAL DISTRIBUTION, GROUNDING SYSTEM OR CIRCUITRY, IT SHALL BE RECONNECTED AND REPAIRED AT NO ADDITIONAL COST.</p> <p>34 CONTRACTOR TO FIELD VERIFY IF EXISTING ASBESTOS WILL BE ENCOUNTERED PRIOR TO STARTING WORK. IF ASBESTOS IS PRESENT, THE OWNER WILL PROVIDE FOR THE REMOVAL OF ANY MATERIAL CONTAINING ASBESTOS.</p> <p>35 COORDINATE PHASING OF WORK AND PROVIDE TEMPORARY POWER AND SERVICES AS REQUIRED FOR THE IMPLEMENTATION OF WORK WHILE MAINTAINING SERVICES TO PORTIONS OF BUILDING TO REMAIN OCCUPIED.</p> <p>36 VISIT SITE PRIOR TO BID TO DETERMINE AND VERIFY EXISTING INTERIOR AND EXTERIOR ELECTRICAL SYSTEMS TO VERIFY QUANTITIES AND LOCATIONS OF EXISTING SYSTEMS TO DETERMINE FULL EXTENT OF DEMOLITION WORK. INCLUDE ALL NECESSARY MODIFICATIONS TO THE EXISTING CONDITIONS (INCLUDING CEILING, WALLS, FLOORS, PIPES, CONDUIT, ROOF WORK, ETC.) AS REQUIRED, TO ALLOW FOR PROPER INSTALLATION OF WORK. ADJUST INSTALLATIONS TO MEET FIELD CONDITIONS AS REQUIRED FOR A COMPLETE AND PROPER INSTALLATION. NO EXTRAS WILL BE ALLOWED AFTER BIDDING FOR REWORK OF EXISTING FIELD CONDITIONS TO RESOLVE ANY CONFLICTS FROM NOT FULLY UNDERSTANDING THE SCOPE OF THE WORK REQUIRED. EXISTING EQUIPMENT, CONDUIT, PIPING, ETC. SHALL BE REMOVED AS NOTED ON DRAWINGS AND AS REQUIRED TO MEET NEW SCOPE OF WORK.</p> <p>37 LAYOUT IS DIAGRAMMATIC. PROVIDE DEVICES, CONDUIT AND EQUIPMENT TO MEET ACTUAL FIELD CONDITIONS.</p>		<p>38 HIDDEN CONDITIONS IDENTIFIED THROUGH THE COURSE OF CONSTRUCTION SHALL BE IMMEDIATELY BROUGHT TO ATTENTION IN WRITTEN FORM FOR REVIEW AND DIRECTION. FAILURE TO DO SO SHALL REQUIRE THE CHANGES AND SYSTEMS CORRECT SAID HIDDEN LOCATION TO BE COMPLETED AT NO COST. EXISTING EQUIPMENT NOT IDENTIFIED SHALL BE BROUGHT TO ATTENTION FOR REVIEW AS TO WHETHER THE EQUIPMENT SHALL REMAIN AND BE RECONNECTED TO THE NEW SERVICES, BE RELOCATED, BE ABANDONED, ETC.</p> <p>39 REMOVE AND REINSTALL EXISTING CEILING, NOT BEING REPLACED (INCLUDING LIGHTS, MOTION SENSORS, FIRE ALARM DEVICES AND ANY OTHER ELECTRICAL DEVICES AS REQUIRED) WHERE NECESSARY TO PERFORM WORK. THIS ALSO INCLUDES EXISTING CEILING OF PLASTER, DRYWALL, ETC. COORDINATE WORK IN ANY CEILING SPACE SO AS TO MINIMIZE THE AMOUNT OF CEILING WHICH MUST BE REMOVED AND REINSTALLED. REVIEW THE ENTIRE SET OF CONTRACT DOCUMENTS IN ORDER TO FULLY UNDERSTAND AND INCLUDE ALL CEILING WORK NECESSARY FOR WORK ON THE PROJECT WHEN WORK IS COMPLETED IN THE SPACE, REINSTALL OR PATCH EXISTING CEILING, REINSTALL DEVICES AND EQUIPMENT AND REPAIR DAMAGE AS REQUIRED TO COMPLETELY MATCH EXISTING CONDITIONS. REPAIR OR REPLACE ANY DAMAGE CAUSED TO EXISTING CEILING AREAS.</p> <p>310 REMOVE EXISTING CONSTRUCTION AS REQUIRED AT EXISTING WALLS, FLOORS, PIPE CHASES, SURFACES, FINISHES, ETC. WHICH ARE AFFECTED BY THIS WORK. REPAIR EXISTING SURFACES AFFECTED TO MATCH EXISTING SURFACE OF EQUAL OR BETTER QUALITY TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE.</p> <p>311 PROVIDE NEW PANEL DIRECTORIES IN EXISTING MODIFIED PANELBOARDS TO CORRECTLY IDENTIFY EXISTING AND NEW LOADS. FINAL DIRECTORIES SHALL BE TYPE WRITTEN.</p> <p>312 EXISTING LIGHTING FIXTURES, ELECTRICAL DEVICES, CONDUIT, ETC. SHALL BE REMOVED AS NOTED ON DRAWINGS AND AS REQUIRED TO MEET NEW SCOPE OF WORK. EXISTING ELECTRICAL EQUIPMENT AND LIGHTING FIXTURES SHALL REMAIN PROPERTY OF THE OWNER AND SHALL BE PROPERLY STORED ON SITE, OR DESIGNATED TO BE ABANDONED AND REMOVED FROM SITE AS DIRECTED BY OWNER.</p> <p>313 EXISTING ELECTRICAL DEVICES (RECEPTACLES, SWITCHES, OUTLET BOXES, CONDUIT ETC.) WITHIN WALLS TO BE REMOVED SHALL BE DISCONNECTED COMPLETELY. REROUTE AND EXTEND EXISTING CIRCUITRY, ELECTRICAL FEEDERS AND GROUNDING SYSTEMS AS REQUIRED TO MAINTAIN CIRCUIT, FEEDER AND GROUNDING SYSTEM INTEGRITY FOR REMAINING DEVICES/EQUIPMENT. VERIFY EXACT CONDITIONS AND REQUIREMENTS IN FIELD.</p> <p>314 WHERE NEW CIRCUIT BREAKERS, FUSES AND SWITCHES ARE TO BE ADDED TO EXISTING PANELBOARDS, THEY SHALL BE OF THE SAME MANUFACTURER AND DESIGN AS THE EXISTING BREAKERS OR SWITCHES IF NOT OBSOLETE AND SHALL BE OF THE SIZE AS INDICATED. REARRANGE ANY AND ALL CIRCUIT BREAKERS WITHIN THE EXISTING EQUIPMENT TO ACCOMMODATE THE NEW CIRCUIT BREAKERS OR SWITCHES. BRANCH CIRCUITS ASSIGNED TO EXISTING PANELBOARDS ARE ARBITRARY AND ARE INTENDED TO INDICATE BRANCH CIRCUIT REQUIREMENTS ONLY. ACTUAL PANEL NUMBER ASSIGNMENTS FOR DESIGNATED BRANCH CIRCUITS SHALL BE ADJUSTED TO MEET FIELD CONDITIONS. PROVIDE ADDITIONAL BUS, BUS EXTENSION, BOLTS AND HARDWARE ENCLOSED HOUSINGS, DIRECTORY MODIFICATIONS, ETC., AS REQUIRED TO ACCOMPLISH THE WORK.</p> <p>315 CUTTING AND PATCHING WHICH MUST BE DONE TO ALLOW WORK TO BE PROPERLY INSTALLED, ALL DISTURBED CONSTRUCTION, SURFACES OR FINISHES MUST BE REPAIRED OR REFINISHED TO THE ARCHITECT'S SATISFACTION. UNDER NO CONDITION SHALL STRUCTURAL WORK BE CUT EXCEPT UPON APPROVAL OF THE ARCHITECT.</p> <p>316 EXISTING CIRCUITRY NOT INTERRUPTED BY THE WORK SHALL REMAIN AS IS UNLESS SPECIFICALLY NOTED OTHERWISE.</p> <p>317 EXISTING CIRCUITRY (TO REMAIN) INTERRUPTED BY THE WORK SHALL BE PROPERLY RECONNECTED AS REQUIRED FOR A COMPLETE OPERATING SYSTEM.</p> <p>318 EXISTING CONDUIT MAY BE REUSED WHEREVER POSSIBLE. REMOVE EXISTING BRANCH CIRCUIT WIRING AND INSTALL NEW AS SHOWN OR AS REQUIRED WHERE CIRCUITS ARE INTERRUPTED AND TO BE EXTENDED TO PANELS.</p> <p>319 DEENERGIZE AFFECTED CIRCUITS AND REMOVE ELECTRICAL EQUIPMENT DEVICES, FIXTURES, CONDUIT, WIRING, ETC. AND CAREFULLY REMOVE ITEMS.</p> <p>320 DISCONNECT ELECTRICALLY OPERATED EQUIPMENT WHERE REMOVAL IS REQUIRED.</p> <p>321 WHERE CONDUITS ARE TO BE INSTALLED IN EXISTING WALLS, CUT A SUITABLE CHASE FOR PROPERLY CONCEALING CONDUIT, FITTINGS AND OUTLET BOXES, EXCEPT THAT WHEREVER POSSIBLE, USE EXISTING VOIDS TO FISH CONDUITS DOWN WALLS. CUT OPENINGS FOR BOXES AS REQUIRED, EXERCISING CARE TO PRESERVE EXISTING FINISHES.</p> <p>322 VERIFY CEILING STILES/FRAMES AND TYPES BEFORE ORDERING FIXTURES AND CEILING MOUNTED DEVICES, PROVIDE APPROPRIATE STILES/FRAMES AS REQUIRED TO MATCH CEILING STYLE AND TYPE.</p> <p>323 SOME OR ALL CEILING SPACES ARE RETURN AIR FLENUMS. EXAMINE FLENUM BEFORE CEILING IS INSTALLED (OR REPLACED) AND SEAL OPENINGS AROUND CONDUIT, CABLE ETC. PROVIDE FLENUM RATED CABLE (UNLESS IN CONDUIT), DEVICES AND EQUIPMENT PER CODE.</p> <p>324 PROVIDE PROPER AND SUFFICIENT SUPPORT FOR ALL FIXTURES AS REQUIRED FOR THE TYPE OF CEILING CONSTRUCTION.</p> <p>325 PROVIDE A COMPLETE EXIT AND EMERGENCY LIGHTING SYSTEM AS REQUIRED, WITH SEPARATE CONDUIT, WIRING, FIXTURES, AS INDICATED ON THE PLANS. DIRECTIONAL SIGNS SHALL BE OF THE TYPE, STYLE AND LOCATION REQUIRED BY THE LOCAL ELECTRICAL INSPECTION DEPARTMENT.</p> <p>326 THE USE OF EMT IS PERMITTED IN ALL INTERIOR PARTITIONS AND ABOVE SUSPENDED CEILING. THE USE OF RMC AND IMC IS PERMITTED IN ALL INSTALLATIONS BELOW GRADE AND LOCATIONS REQUIRING MECHANICAL PROTECTION. RMC SHALL BE USED IN LENGTHS 6 FT OR LESS FOR FINAL CONNECTIONS TO VIBRATING EQUIPMENT IN DRY LOCATIONS. LFC SHALL BE USED IN LENGTHS OF 6 FT OR LESS FOR FINAL CONNECTIONS TO VIBRATING EQUIPMENT IN WET LOCATIONS. THE USE OF RMC IS PERMITTED ONLY WHERE INDICATED ON PLANS. (VERIFY WITH LOCAL GOVERNING CODES PRIOR TO INSTALLATION)</p>	<p>327 MINIMUM CONDUIT SIZE SHALL BE 3/4" EMT, IMC OR RMC. (VERIFY WITH LOCAL GOVERNING CODES PRIOR TO INSTALLATION.)</p> <p>328 COUPLINGS AND CONNECTORS SHALL BE GLAND OR SET SCREW TYPE.</p> <p>329 MINIMUM WIRE SIZE SHALL BE #2 THIN (OR THIN) SOLID OR STRANDED COPPER OVER 15' RUNS SHALL BE MINIMUM #2 THIN COPPER UNLESS NOTED OTHERWISE ON THE PLANS.</p> <p>330 PROVIDE PROPER AND SUFFICIENT GROUND CONNECTION FOR ELECTRICAL DEVICES AND EQUIPMENT. CONDUIT CONNECTIONS SHALL BE DRAWN UP TIGHT AND SECURE.</p> <p>331 WIRE SPLICES AND JOINTS SHALL BE MECHANICALLY AND ELECTRICALLY PERFECT. TWISTED SPLICES AND JOINTS SHALL BE DRAWN UP TIGHT AND FITTED WITH PROPER SIZED SCOTCHLOK OR IDEAL ELECTRICAL SPRING CONNECTORS.</p> <p>332 SOLDERLESS CONNECTORS AND LUGS SHALL BE USED ON WIRES AND CABLES #6 AND LARGER. SPLICES AND JOINTS #6 AND LARGER SHALL BE TIGHTLY TAPED WITH BEST GRADE TAPE OF A HIGH GRADE VINYLITE PLASTIC TO AN INSULATION VALUE EQUIVALENT OR IN EXCESS OF THAT OF THE WIRE INSULATION.</p> <p>333 SURFACE MOUNTED PULL BOXES, OUTLET BOXES, ETC. SHALL HAVE SUPPORTS INDEPENDENT OF CONDUIT SYSTEM AND SECURELY ANCHORED TO THE STRUCTURE. THE ENTIRE CONDUIT SYSTEM SHALL BE INDEPENDENTLY SUPPORTED FROM STRUCTURE. NO CONDUITS SHALL BE SUPPORTED FROM THE VENTILATING DUCTS, MECHANICAL PIPING OR THEIR HANGERS.</p> <p>334 WHERE INDICATED ON THE DRAWINGS IN UNFINISHED SPACES, RUN EXPOSED RACEWAYS PARALLEL WITH OR AT RIGHT ANGLES TO WALL.</p> <p>335 NO RACEWAYS SHALL BE INSTALLED WITHIN 6" OF STEAM, HOT WATER PIPES OR SIMILAR HEAT PRODUCING APPLIANCES.</p> <p>336 PROVIDE FULL WIRE IN EACH RACEWAY IN WHICH WIRING IS NOT INSTALLED.</p> <p>337 COVERS OF JUNCTION OR PULL BOXES SHALL BE ACCESSIBLE AND IDENTIFIED PER SPECIFICATIONS. FIRE ALARM JUNCTION BOXES SHALL BE PAINTED RED. JUNCTION OR PULL BOXES AND THE LIKE SHALL BE INDEPENDENTLY SUPPORTED TO BUILDING STRUCTURE WITH NO WEIGHT BEARING ON RACEWAYS.</p> <p>338 WIRE COLOR CODING SHALL BE COORDINATED THROUGHOUT THE ENTIRE PROJECT/BUILDING FOR NEW AND EXISTING SYSTEMS.</p> <p>339 IF MORE THAN THREE (3) PHASE (UNGROUND) CONDUCTORS ARE RUN IN THE SAME RACEWAY, CONDUCTOR AMPACITY SHALL BE DERATED IN ACCORDANCE WITH NEC ARTICLE 310.</p> <p>340 THE MINIMUM DISTANCE BETWEEN SMOKE OR HEAT DETECTORS AND CEILING MOUNTED SUPPLY DIFFUSERS SHALL BE A MINIMUM OF 4 FEET AND WALL MOUNTED DIFFUSERS SHALL BE 10 FEET. COORDINATE WITH CONTRACTOR AS REQUIRED.</p> <p>341 PROVIDE A COMPLETE ELECTRICAL SERVICE AS INDICATED ON THE DRAWINGS OR REQUIRED. PANEL BOARDS, DISCONNECT SWITCHES AND ELECTRICAL EQUIPMENT SHALL BE MANUFACTURED BY SQUARE-D OR APPROVED EQUAL BY SIEMENS OR EATON. DISCONNECT SWITCHES SHALL BE HEAVY DUTY. PANEL BOARDS SHALL BE NGCCD TYPE AND DISTRIBUTION PANEL SHALL BE R-LINE TYPE BOTH WITH COPPER PHASE, NEUTRAL AND GROUND BUSING. ELECTRICAL EQUIPMENT USED AS A SERVICE ENTRANCE SHALL BE SERVICE ENTRANCE RATED.</p> <p>342 PROVIDE ENGRAVED NAMEPLATES FOR PANELS, BOARDS AND DISCONNECT SWITCH.</p> <p>343 PROVIDE GROUND FAULT INTERRUPTER DEVICES AND CIRCUITS AS REQUIRED BY LOCAL CODE AUTHORITIES.</p> <p>344 PROVIDE A MINIMUM 3/4" CONDUIT FROM EACH TELEPHONE OR DATA OUTLET AND TERMINATE IN AN ACCESSIBLE LOCATION AS SHOWN ON DRAWINGS WITH INSULATED BUSING.</p> <p>345 TELEPHONE OUTLETS SHALL BE MOUNTED SAME HEIGHTS AS ADJACENT RECEPTACLE OR AS NOTED ON DRAWINGS. TELEPHONE COVERPLATES SHALL MATCH ELECTRICAL DEVICE PLATES.</p> <p>346 CONDUIT, LIGHTING, EQUIPMENT, ETC. SHALL NOT BE SUPPORTED FROM THE BOTTOM CHORD OF ENGINEERED JOISTS WITHOUT WRITTEN APPROVAL FROM THE STRUCTURAL ENGINEER. ALL CONDUITS, ROUTED THROUGH AREAS WITH NO CEILING, SHALL BE ROUTED WITHIN THE WEBBING OF THE JOISTS AND SHALL NOT BE ROUTED BELOW THE BOTTOM CHORD OF THE JOIST.</p> <p>347 SMOKE OR HEAT DETECTORS SHALL BE SURFACE MOUNTED TO CEILING, ROOF DECK MATERIALS, ETC. IN LIEU OF MOUNTING TO BOTTOM CHORD OF ENGINEERED JOIST OR ANY OTHER COMPONENTS NOT AN INTEGRAL PART OF THE HORIZONTAL CEILING.</p> <p>348 VERIFY EXISTING AND NEW MECHANICAL AND ELECTRICAL SERVICES PRIOR TO START OF NEW CONSTRUCTION. COORDINATE AND ADJUST NEW WORK AS REQUIRED TO AVOID CONFLICTS WITH EXISTING SERVICES AND NEW SERVICES PROVIDED BY OTHERS.</p> <p>349 PROVIDE NECESSARY ROOFING COMPONENTS COMPATIBLE WITH EXISTING ROOFING SYSTEMS TO PROVIDE A WEATHERTIGHT INSTALLATION FOR ROOF PENETRATIONS AND ABANDONED HOLES FROM REMOVED ITEMS. PATCH ROOF OPENINGS FOR REMOVED PIPE PENETRATIONS, WITH RIGID ROOF INSULATION AND ROOF DECK MATERIAL FROM BELOW ROOF TO MATCH EXISTING ADJACENT MATERIALS. PROPERLY STRIP ROOFING MEMBRANE, ETC. AS REQUIRED, TO MATCH EXISTING ROOF SYSTEM WITH PROPER AND COMPATIBLE MATERIALS. WORK IS TO PROVIDE A COMPLETE AND PROPER WEATHERTIGHT CONDITION.</p> <p>350 ROOF SUPPORTS FOR ALL CONDUITS TO BE EQUIVALENT TO PORTABLE PIPE HANGERS, INC. TYPE PP-10, WITH ROLLER GUIDE SUPPORT FOR SINGLE PIPES AND CHANNEL GUIDE SUPPORT FOR MULTIPLE PIPES. SUPPORTS TO HAVE HIGH DENSITY POLYPROPYLENE PLASTIC BASE WITH THREADED RODS FOR ADJUSTABLE HEIGHT ROLLER. SUPPORTS ARE TO SIT ON TOP OF ROOFING MEMBRANE. SUPPORTS ARE TO BE INSTALLED AS PER MANUFACTURER'S RECOMMENDATION AND TO BE COMPATIBLE WITH AND MAINTAIN THE INTEGRITY OF THE EXISTING OR NEW ROOF SYSTEM WHERE CONDUITS AND WIRING ARE RUN IN EXTERIOR LOCATIONS OR EXPOSED TO SUNLIGHT, CONDUCTORS SHALL BE PROPERLY UPSIZED PER NEC 310.</p>	<p>351 WIRING DEVICES SHOWN BACK-TO-BACK IN WALLS SHALL BE SEPARATED BY 8" MINIMUM.</p> <p>352 UNLESS OTHERWISE NOTED, DEVICE ELEVATIONS REFER TO CENTER LINE OF JUNCTION BOX. VERIFY JUNCTION BOX LOCATIONS IN FIELD AND WITH OWNER'S FINAL EQUIPMENT LAYOUT PRIOR TO ROUGHING IN SAME.</p> <p>353 FURNISH AND INSTALL A GREEN GROUND WIRE IN ALL POWER CONDUITS, DEVICES, EQUIPMENT, FIXTURES AND THE LIKE, MUST BE GROUNDED MECHANICAL/ELECTRICAL BONDS OF THE METALLIC RACEWAY SYSTEM SHALL BE MAINTAINED.</p> <p>354 PROVIDE CONDUIT AND WIRE, AND MAKE FINAL POWER CONNECTIONS AS REQUIRED TO EXHAUST FANS AND MISCELLANEOUS EQUIPMENT FURNISHED WITH MOTORIZED BACKDRAFT DAMPERS. DAMPERS SHALL BE CONNECTED TO EQUIPMENT 120 VOLT POWER CIRCUIT SO AS TO INTERLOCK THE MOTORIZED DAMPER WITH THE EXHAUST FAN. FOR THREE PHASE MOTORS, PROVIDE AN ADDITIONAL 120 VOLT CIRCUIT ROUTED THROUGH AN AUXILIARY CONTACT IN THE MOTOR STARTER.</p> <p>355 AT NEW FIRE OR SMOKE/FIRE DAMPER LOCATIONS, WIRE EACH SMOKE/FIRE DAMPER TO NEAREST EMERGENCY PANEL, TO LOCAL ACTIVATION SMOKE DETECTORS ON EITHER SIDE OF THE DAMPER (WITHIN 3'-0") AND ALSO WIRE THE SAME TO THE FIRE ALARM CONTROL PANEL AS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM. REFER TO CONTRACT DOCUMENTS FOR LOCATIONS WHERE DUCTS PASS THROUGH SMOKE OR FIRE BARRIERS.</p> <p>356 MODIFY EXISTING FIRE ALARM SYSTEM AS INDICATED ON DRAWINGS AND SPECIFICATIONS AND AS REQUIRED FOR A COMPLETE, CODE COMPLIANT INSTALLATION. FURNISH AND INSTALL INTERFACE WIRING INTEGRAL TO THE FIRE ALARM SYSTEM AS WELL AS INTERFACE TO NEW ELEVATOR CONTROL PANEL, BUILDING AUTOMATION SYSTEM, ETC. FOR A COMPLETE AND OPERATING INSTALLATION. THE COMPLETED FIRE ALARM SYSTEM SHALL BE FULLY TESTED BY THE CONTRACTOR IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE, THE LOCAL AUTHORITY HAVING JURISDICTION AND THE MANUFACTURER'S NICET CERTIFIED TECHNICAL REPRESENTATIVE. UPON COMPLETION OF A SUCCESSFUL TEST, THE CONTRACTOR SHALL CERTIFY SUCH IN WRITING PER NFPA 72. ANY QUESTIONS REGARDING THE REQUIREMENTS OF THE FIRE ALARM SYSTEM OR THE INTENT OF THE CODE SHALL BE DIRECTED TO THE ARCHITECT/ENGINEER FOR REVIEW PRIOR TO BID.</p> <p>358 CONDUIT INSTALLED FOR LOW VOLTAGE SYSTEMS SHALL BE COORDINATED WITH THE LOW VOLTAGE INSTALLER IN FIELD. PRIOR TO ROUGH-IN, SUCH CONDUIT SHALL BE ROUTED TO MINIMIZE CABLE LENGTH AND COMPLY WITH LOW VOLTAGE CABLEING DISTANCE LIMITATIONS.</p> <p>359 THE FLASH RATES FOR ALL FIRE ALARM STROBES SHALL BE SYNCHRONIZED, COORDINATE ADDITIONAL REQUIREMENTS WITH NFPA 72.</p> <p>360 ALL SINGLE POLE CIRCUITS SHALL HAVE SEPARATE INDEPENDENT NEUTRAL CONDUCTORS (NON-NETWORKED) WHICH (PER CODE) ARE CONSIDERED CURRENT CARRYING CONDUCTORS. THEREFORE, IF MORE THAN THREE (3) CURRENT CARRYING CONDUCTORS ARE RUN IN THE SAME RACEWAY, CONDUCTOR AMPACITY SHALL BE DERATED IN ACCORDANCE WITH NEC ARTICLE 310. AS SUCH, ALL MULTIPLE BRANCH CIRCUIT HOME RUNS SHALL, AT A MINIMUM, UTILIZE #2 AWG CONDUCTORS TO COMPLY WITH REQUIREMENTS HEREIN. COORDINATE REQUIREMENTS IN FIELD WITH SPECIFIC HOME RUN CONFIGURATION AND NEC 202.8.</p> <p>361 TELEPHONES, SWITCHING EQUIPMENT AND TELEPHONE CABLE SHALL BE ROUGH-IN ONLY.</p> <p>362 PRIOR TO THE START OF WORK AND THE ORDERING OF EQUIPMENT, CONTRACTOR SHALL CAREFULLY MEASURE AND VERIFY THE VOLTAGE, PHASE AND WIRING CONFIGURATION OF EXISTING PANELS AND EXISTING GEAR THAT ARE PART OF WORK AND SHALL CAREFULLY VERIFY THAT ALL ELECTRICAL CONNECTIONS, GEAR AND EQUIPMENT HAVE BEEN CAREFULLY COORDINATED TO ELIMINATE CONFLICTS. COORDINATE WITH OTHER TRADES AS REQUIRED TO ELIMINATE ELECTRICAL CONFLICTS PRIOR TO START OF WORK.</p> <p>363 CAREFULLY VERIFY COLOR TEMPERATURES OF FIXTURES WITH ARCHITECT PRIOR TO ORDERING.</p>
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TRIA
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PROJECT MANAGER: XXX	1
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