

DIVISION 26 - ELECTRICAL

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. BASIC ELECTRICAL REQUIREMENTS
- B. INTENT IS TO PROVIDE AND INSTALL ALL MATERIALS & LABOR TO IMPLEMENT THE DESIGN AS INTENDED FOR A COMPLETE WORKING ELECTRICAL SYSTEMS, AS REQUIRED TO ACCOMMODATE THE ALTERATIONS.

1.2 PERFORMANCE REQUIREMENTS

- A. CONFORM TO REQUIREMENTS OF THE STATE ADOPTED EDITION OF ANSI/NFPA 70 NATIONAL ELECTRICAL CODE (N.E.C.) AND ALL STATE/LOCAL REQUIREMENTS.
- B. CONFORM TO REQUIREMENTS OF ALL LOCAL, STATE AND FEDERAL LAWS AND REGULATIONS, PLUS LOCAL ELECTRIC UTILITY COMPANY'S RULES, AND THE FIRE UNDERWRITERS' REQUIREMENTS.
- C. FURNISH PRODUCTS LISTED AND CLASSIFIED BY UNDERWRITERS' LABORATORIES, INC. (U.L.) AS SUITABLE FOR PURPOSE SPECIFIED AND SHOWN.
- D. SECURE AND PAY FOR ALL PERMITS AND CERTIFICATES AS REQUIRED BY LOCAL, STATE AND FEDERAL LAWS.
- E. REQUEST INSPECTIONS FROM AUTHORITY HAVING JURISDICTION.
- F. CIRCUITS SHALL BE BALANCED AND LOADS AND CAPACITIES SHALL BE IN ACCORDANCE WITH N.E.C. CRITERIA AND NATIONAL BOARD OF FIRE UNDERWRITERS.
- G. EXACT LOCATIONS OF ALL EQUIPMENT SHALL BE VERIFIED AT THE SITE, WITH THE OWNER AND ARCHITECT.

1.3 SEQUENCING AND SCHEDULING

- A. SCHEDULE AND COORDINATE ALL WORK WITH THE CONSTRUCTION MANAGER AND THE OWNER.
- B. ARRANGE TO EXECUTE THE WORK AT SUCH TIMES AND IN SUCH LOCATIONS AS MAY BE REQUIRED TO PROVIDE UNINTERRUPTED SERVICES FOR THE BUILDING, OR ANY OF ITS SECTIONS.
 - 1. SERVICES INCLUDE BUT NOT LIMITED TO: POWER, LIGHTING, AND LIFE SAFETY SYSTEMS AS REQUIRED TO MAINTAIN SAFE OCCUPANCY.
 - 2. COSTS FOR OVERTIME WORK AND TEMPORARY WORK SHALL BE INCLUDED IN THE BID.
- C. ALL EXISTING WIRING THAT IS DISCONNECTED SHALL BE COMPLETELY REMOVED TO SOURCE. ALL EXISTING WIRING THAT IS DISTURBED BUT INTENDED TO REMAIN, SHALL BE REFEED AND RECONNECTED AS REQUIRED.
- D. ALL ELECTRICAL ITEMS REMOVED AND NOT REUSED SHALL BE REMOVED FROM THE SITE. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER DISPOSAL OF ALL MATERIALS.
- E. VERIFY THAT ELECTRICAL WORK DOES NOT AFFECT EXISTING POWER & SYSTEMS. PROVIDE CONNECTIONS OR RE-FEED AS REQUIRED TO RESTORE POWER & SYSTEMS.

1.4 SUBMITTALS

- A. SUBMIT SHOP DRAWINGS, OWNER'S MANUALS, AND OPERATING INSTRUCTIONS, INCLUDE THE FOLLOWING:
 - 1. FIRE ALARM SYSTEM DEVICES AND DOCUMENTATION OF MANUFACTURER'S AUTHORIZED INSTALLER AND TESTING REPORT.
 - 2. FIRE STOP SEALANT.

1.5 RECORD DRAWINGS

- A. KEEP A MARKED SET OF DRAWINGS AT THE SITE AS A RECORD SET INDICATING ALL REVISIONS IN THE WORK AS THE WORK PROGRESSES. AT THE COMPLETION OF THE WORK, MARK THE DRAWINGS "AS-BUILT DRAWINGS" WITH THE CONTRACTOR'S NAME AND DATE, AND DELIVER TO THE ARCHITECT.

PART 2 - PRODUCTS

2.1 WIRE AND CABLE

- A. #12 AND #10 AWG WIRING SHALL BE SOLID COPPER, THWN/THHN, COLOR CODED AS INDICATED BELOW. ALL WIRING #8 AWG AND ABOVE SHALL BE STRANDED COPPER, THWN/THHN, COLOR CODED AS INDICATED BELOW, MINIMUM SIZE #12 AWG.
- B. WIRE COLOR CODE SHALL BE AS FOLLOWS:

277/480V	120/208V	277/480V	120/208V
PHASE A BROWN	BLACK	NEUTRAL GREY	WHITE
PHASE B ORANGE	RED	GROUND GREEN	GREEN
PHASE C YELLOW	BLUE		
- C. CONCEALED METAL CLAD CABLE SHALL BE ANSI NFPA 70 (N.E.C.), TYPE MC WITH SEPARATE INSULATED GROUND. CONDUCTORS SHALL BE COPPER MINIMUM #12 AND MAXIMUM #10 AWG.

2.4 SURFACE METAL RACEWAYS

- A. WIREMOLD SERIES: 500.
- B. DESCRIPTION: U.L. APPROVED ASSEMBLY COMPRISING OF A METAL BASE AND COVER TO FORM A RACEWAY DESIGNED FOR SURFACE MOUNTING.
- C. FINISH: IVORY ENAMEL.
- D. FITTINGS, BOXES, COUPLINGS, ELBOWS AND CONNECTORS: FURNISH MANUFACTURER'S STANDARD ACCESSORIES FOR A COMPLETE INSTALLATION.

2.5 SYSTEMS

- A. MINOR FIRE ALARM ALTERATIONS SHOWN ON THE DRAWINGS SHALL BE PROVIDED UNDER DIV.26. INCLUDE THE SERVICES OF A MANUFACTURERS AUTHORIZED INSTALLER VENDOR TO PROVIDE SYSTEM MODIFICATIONS, INCLUDING ALL REQUIRED PROGRAMMING AND TESTING.

PART 3 - EXECUTION

3.1 WORKMANSHIP AND INSTALLATION

- A. EXECUTE ALL WORK IN A NEAT MANNER ACCEPTABLE TO THE LOCAL AND STATE ELECTRICAL INSPECTOR. FOLLOW MANUFACTURER'S INSTALLATION RECOMMENDATIONS.
- B. PERFORM ALL ELECTRICAL WORK BY LICENSED ELECTRICIANS WELL SKILLED IN THE TRADE AND SUPERVISED BY A MASTER ELECTRICIAN.

3.2 INSTALLATION

- A. EACH AFFECTED PANEL SHALL HAVE NEW TYPED DIRECTORY SCHEDULE IDENTIFYING TYPE OF LOAD AND AREA SERVED.
- B. PROVIDE AND INSTALL BONDING CONDUCTOR TO EACH ELECTRICAL ITEM AND OTHERS AS INDICATED.
- C. ALL WIRING SHALL BE CONCEALED WHERE POSSIBLE. UTILIZE SURFACE METAL RACEWAYS IN FINISHED AREAS WHERE WIRING CANNOT BE CONCEALED.
- D. ALL WIRES SHALL BE RUN IN CONDUIT OR DUCT SYSTEM WITH BOTH ENDS TAGGED, MINIMUM CONDUIT SIZE SHALL BE 1/2" UNLESS INDICATED OTHERWISE. CONCEALED BRANCH CIRCUITS #12 AWG AND #10 AWG MAY BE MC CABLE.
- E. MAKE WIRING CONNECTIONS IN WIRING COMPARTMENT OF PRE-WIRED EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
- F. ALL PENETRATIONS THROUGH WALLS SHALL BE SEALED. FIRE STOP SEALANTS SHALL BE USED TO MEET RATINGS OF WALLS BEING PENETRATED.
- G. OUTLET BOXES FOR ALL CONCEALED WORK SHALL BE MINIMUM 4" SQUARE, WITH RAISED COVERS AS REQUIRED TO EXTEND FLUSH TO FINISHED SURFACE.
- H. PROVIDE DISCONNECT SWITCHES AS INDICATED OR REQUIRED BY CODE.
- I. BONDING CONDUCTORS SHALL BE CONTINUOUS WHERE POSSIBLE. WHERE SPLICES ARE REQUIRED, PROVIDE T & B, OR APPROVED EQUAL, COMPRESSION CONNECTORS OF APPROVED PATTERN. INSULATE CONNECTORS TO EQUIVALENT THICKNESS OF CONDUCTORS.
- J. ALL CONDUITS AND MC CABLE SHALL BE PROPERLY SUPPORTED PER CODE REQUIREMENTS. WIRING SHALL NOT BE RUN DIAGONALLY AND SHALL BE CABLED NEATLY.

3.3 TESTING AND ADJUSTING

- A. THE INSTALLATION SHALL BE FREE FROM SHORT CIRCUITS AND IMPROPER GROUNDS. TEST IN THE PRESENCE OF THE ARCHITECTS OR THEIR REPRESENTATIVES.
- B. TEST ALL LIGHTING AND OUTLETS FOR PROPER OPERATION, INCLUDING ADJACENT SPACES TO ASSURE THAT THEY WERE NOT AFFECTED BY THE RENOVATIONS.
- C. TEST EACH SYSTEMS FOR PROPER OPERATION AND MAKE ADJUSTMENTS AS REQUIRED TO SATISFY THE CONSTRUCTION MANAGER AND THE OWNER.

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PROJECT 2015-011.1

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Date	05-19-15
Scale	NO SCALE

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ELECTRICAL
SPECIFICATIONS

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