

**ELECTRICAL**

**SECTION 262416 - PANELBOARDS**

- 1.1 QUALITY ASSURANCE
  - A. MANUFACTURER QUALIFICATIONS: ISO 9001 OR 9002 CERTIFIED.
- 1.2 PRODUCTS
  - A. GENERAL REQUIREMENTS FOR PANELBOARDS:
    - 1. CONSTRUCTED TO WITHSTAND SEISMIC FORCES.
    - 2. ENCLOSURES: SURFACE MOUNTED.
      - a. FRONT: HINGED COVER WITH KEY LOCK.
      - b. OPTIONAL ENCLOSURE FEATURES: SKIRT FOR SURFACED-MOUNTED PANELBOARDS
      - c. DIRECTORY CARD.
    - 3. INCOMING MAINS: CONVERTIBLE BETWEEN TOP AND BOTTOM
    - 4. PHASE, NEUTRAL AND GROUND BUSES: TIN-PLATED COPPER.
    - 5. CONDUCTOR CONNECTORS:
      - a. MATERIAL: TIN-PLATED COPPER.
      - b. MAIN AND NEUTRAL LUGS: MECHANICAL TYPE.
      - c. FEED-THROUGH LUGS: MECHANICAL TYPE.
    - 6. PERCENTAGE OF FUTURE SPACE CAPACITY: TEN PERCENT.
    - 7. SERVICE EQUIPMENT LABEL FOR PANELBOARDS INCORPORATING ONE OR MORE MAIN SERVICE DISCONNECTING AND OVERCURRENT PROTECTIVE DEVICES
  - B. PANELBOARD OR LOAD CENTER SHORT-CIRCUIT CURRENT RATING: FULLY RATED TO INTERRUPT SYMMETRICAL SHORT-CIRCUIT CURRENT AVAILABLE AT TERMINALS. LISTED SERIES RATED SYSTEM MAY BE USED IF APPROVED BY EOR TO LIMIT FAULT TO BELOW 22K AIC FOR GFI BREAKERS.
    - 1. MAINS: LUGS ONLY.
    - 2. BRANCH OVERCURRENT PROTECTIVE DEVICES FOR CIRCUIT-BREAKER FRAME SIZES 125 A AND SMALLER: PLUG-IN CIRCUIT BREAKERS.
    - 3. BRANCH OVERCURRENT PROTECTIVE DEVICES FOR CIRCUIT-BREAKER FRAME SIZES LARGER THAN 125 A: BOLT-ON CIRCUIT BREAKERS.
  - C. LIGHTING AND APPLIANCE BRANCH-CIRCUIT PANELBOARDS:
    - 1. MAINS: LUGS ONLY.
    - 2. BRANCH OVERCURRENT PROTECTIVE DEVICES: PLUG-IN CIRCUIT-BREAKER TYPE.
    - 3. DOORS: CONCEALED HINGE.
  - D. LOAD CENTERS:
    - 1. MAINS: LUGS ONLY.
    - 2. BRANCH CIRCUIT BREAKERS: PLUG-IN.
    - 3. DOORS: CONCEALED HINGE.
    - 4. CONDUCTOR CONNECTORS: MECHANICAL TYPE.
  - E. DISCONNECTING AND OVERCURRENT PROTECTIVE DEVICES:
    - 1. CIRCUIT BREAKERS: THERMAL-MAGNETIC, GFCI AND AFCI TYPES.
    - 2. GFI CIRCUIT BREAKERS: RATED FOR PERSONNEL.
    - 3. AFCI CIRCUIT BREAKERS: AS REQUIRED BY CODE.
    - 4. OPTIONS AND TYPES AS NEEDED.
  - F. IDENTIFICATION:
    - 1. PANELBOARD LABELS: MANUFACTURER'S NAME AND TRADEMARK, VOLTAGE, AMPERAGE, NUMBER OF PHASES, ARC FLASH HAZARD, AND NUMBER OF POLES SHALL BE LOCATED ON THE INTERIOR OF THE PANELBOARD DOOR.
    - 2. BREAKER LABELS: FACEPLATE SHALL LIST CURRENT RATING, UL AND IEC CERTIFICATION STANDARDS, AND AIC RATING.
    - 3. CIRCUIT DIRECTORY: DIRECTORY CARD INSIDE PANELBOARD DOOR, MOUNTED IN TRANSPARENT CARD HOLDER OR METAL FRAME WITH TRANSPARENT PROTECTIVE COVER.
  - G. ACCESSORIES:
    - 1. ACCESSORY SET INCLUDING TOOLS.
    - 2. PORTABLE TEST SET FOR TESTING FUNCTIONS OF SOLID-STATE TRIP DEVICES WITHOUT REMOVING FROM PANELBOARD.

- 1.3 FIELD QUALITY CONTROL
  - A. TESTING: BY CONTRACTOR.

END OF SECTION 262416

**ELECTRICAL**

**SECTION 262713 - ELECTRICITY METERING**

- 1.1 EQUIPMENT FOR ELECTRICITY METERING BY UTILITY COMPANY
  - A. UTILITY-COMPANY-COMPLIANT CURRENT-TRANSFORMER CABINETS: COMPLY WITH REQUIREMENTS OF ELECTRICAL-POWER UTILITY COMPANY.
  - B. METER SOCKETS: COMPLY WITH REQUIREMENTS OF ELECTRICAL-POWER UTILITY COMPANY.

END OF SECTION 262713

**ELECTRICAL**

**SECTION 262726 - WIRING DEVICES**

- 1.1 PRODUCTS
  - A. RECEPTACLES: DUPLEX, 125 V, 20 A.
    - 1. STRAIGHT BLADE: CONVENIENCE AND ISOLATED GROUND.
    - 2. GFCI: FEED THROUGH.
    - 3. TWIST-LOCKING TYPE WITH ISOLATED-GROUND TERMINAL.
  - B. PENDANT CORD-CONNECTOR DEVICES WITH EXTERNAL CABLE GRIP.
  - C. CORD AND PLUG SETS: MATCH VOLTAGE AND CURRENT RATINGS AND NUMBER OF CONDUCTORS TO REQUIREMENTS OF EQUIPMENT BEING CONNECTED.
  - D. TOGGLE SWITCHES: 120/277 V, 20 A.
    - 1. PILOT-LIGHT SWITCHES.
    - 2. KEY-OPERATED SWITCHES.
  - E. WALL-BOX DIMMERS:
    - 1. MODULAR, FULL-WAVE, SOLID-STATE UNITS WITH SLIDER CONTROL.
      - a. INCANDESCENT: SOFT TAP OR OTHER QUIET SWITCH; EMI/RFI FILTER TO ELIMINATE INTERFERENCE.
      - b. FLUORESCENT: TRIM POTENTIOMETER FOR LOW-END DIMMING.
      - c. LED: COMPATIBLE WITH LED DRIVER OR LAMP.
  - F. WALL PLATES:
    - 1. MATERIAL FOR WORKROOM: THERMOPLASTIC WITH COLOR PER STARBUCKS AND/OR SATIN-FINISHED STAINLESS STEEL
    - 2. MATERIAL FOR BAR: THERMOPLASTIC WITH COLOR PER STARBUCKS AND SATIN-FINISHED STAINLESS STEEL
    - 3. MATERIAL FOR CUSTOMER AREAS: THERMOPLASTIC WITH COLOR OPTION PER STARBUCKS
  - G. FLOOR SERVICE FITTINGS: MODULAR, (DUAL SERVICE IF NEEDED), WITH POWER RECEPTACLE (AND VOICE AND DATA COMMUNICATION OUTLET IF NEEDED).
    - 1. TYPE: FLUSH
    - 2. SERVICE PLATE: RECTANGULAR BRASS
    - 3. VOICE AND DATA COMMUNICATION OUTLET: BLANK COVER WITH BUSHED CABLE OPENINGS OR TWO MODULAR, KEYED, RJ-45 JACKS (COORDINATE WITH LOW-VOLTAGE CONTRACTORS).
  - H. POKE-THROUGH ASSEMBLIES: BELOW-FLOOR JUNCTION BOX WITH MULTICHANNELLED, THROUGH-FLOOR RACEWAY/FIRESTOP AND DETACHABLE FLOOR SERVICE-OUTLET ASSEMBLY
    - 1. SERVICE-OUTLET ASSEMBLY: SURFACE TYPE.
    - 2. SIZE: 4 INCHES (100 MM)
  - I. MULTIOUTLET ASSEMBLIES: MANUFACTURED AND LISTED METAL RACEWAYS.
  - J. SERVICE POLES: TO EXTEND POWER AND VOICE AND DATA COMMUNICATION WIRING FROM DISTRIBUTION WIRING IN CEILING TO DEVICES OR OUTLETS IN POLE NEAR FLOOR.
    - 1. FINISH: PAINTED
    - 2. POWER RECEPTACLES: TWO, DUPLEX, 20 A.
    - 3. VOICE AND DATA COMMUNICATION OUTLETS: FOUR CATEGORY 5E JACKS
  - K. FINISHES:
    - 1. CONNECTED TO NORMAL POWER SYSTEM: BLACK
    - 2. CONNECTED TO EMERGENCY POWER SYSTEM: RED
    - 3. ISOLATED-GROUND RECEPTACLES: ORANGE

END OF SECTION 262726

**ELECTRICAL**

**SECTION 262816 - ENCLOSED SWITCHES AND CIRCUIT BREAKERS**

- 1.1 PRODUCTS
  - A. FUSIBLE SWITCHES:
    - 1. GENERAL DUTY, SINGLE THROW, [240-V] [600V] AC, 800 A AND SMALLER: UL 98 AND NEMA 3R TYPE GD.
    - 2. ACCESSORIES:
      - a. EQUIPMENT GROUND KIT.
      - b. NEUTRAL KIT.
      - c. ISOLATED GROUND KIT.
      - d. CLASS R FUSE KIT.
      - e. AUXILIARY CONTACT KIT.
      - f. HOOKSTICK HANDLE.
      - g. LUGS: MECHANICAL.
      - h. SERVICE-RATED SWITCHES.
      - i. ACCESSORY CONTROL POWER.
  - B. NONFUSIBLE SWITCHES:
    - 1. GENERAL DUTY, SINGLE THROW, [240-V] [600V] AC, 600 A AND SMALLER: UL 98 AND NEMA 3R TYPE GD.
    - 2. ACCESSORIES:
      - a. EQUIPMENT GROUND KIT.
      - b. NEUTRAL KIT.
      - c. ISOLATED GROUND KIT.
      - d. AUXILIARY CONTACT KIT.
      - e. HOOKSTICK HANDLE.
      - f. LUGS: MECHANICAL.
      - g. ACCESSORY CONTROL POWER.
  - C. MOLDED-CASE CIRCUIT BREAKERS:
    - 1. THERMAL-MAGNETIC TYPE.
    - 2. ADJUSTABLE INSTANTANEOUS-TRIP TYPE.
    - 3. ELECTRONIC-TRIP TYPE.
    - 4. CURRENT-LIMITING TYPE.
    - 5. INTEGRALLY FUSED TYPE.
    - 6. GFCI TYPE.
    - 7. GFCP TYPE.
    - 8. FEATURES AND ACCESSORIES:
      - a. LUGS: MECHANICAL.
      - b. TYPE SWD FOR SWITCHING FLUORESCENT LIGHTING LOADS.
      - c. TYPE HID FOR FEEDING FLUORESCENT AND HIGH-INTENSITY DISCHARGE LIGHTING CIRCUITS.
      - d. GROUND-FAULT PROTECTION: SELF-POWERED TYPE.
      - e. SHUNT TRIP.
      - f. UNDERVOLTAGE TRIP: 35 TO 75 PERCENT OF RATED VOLTAGE WITHOUT INTENTIONAL TIME DELAY.
      - g. AUXILIARY CONTACTS: ONE SPDT SWITCH OR TWO SPDT SWITCHES
      - h. ALARM SWITCH: ONE (NO) OR (NC) CONTACT.
      - i. KEY INTERLOCK KIT.
      - j. ZONE-SELECTIVE INTERLOCKING: INTEGRAL WITH ELECTRONIC AND GROUND-FAULT TRIP.
      - k. ELECTRICAL OPERATOR.
      - l. ACCESSORY CONTROL POWER.
  - D. MOLDED-CASE SWITCHES:
    - 1. MCCB WITH FIXED, HIGH-SET INSTANTANEOUS TRIP ONLY, AND SHORT-CIRCUIT WITHSTAND RATING EQUAL TO EQUIVALENT BREAKER FRAME SIZE
    - 2. INTERRUPTING RATING.
    - 3. FEATURES AND ACCESSORIES:
      - a. LUGS: MECHANICAL.
      - b. GROUND-FAULT PROTECTION: REMOTE-MOUNTED AND POWERED TYPE.
      - c. SHUNT TRIP.
      - d. UNDERVOLTAGE TRIP: 35 TO 75 PERCENT OF RATED VOLTAGE WITHOUT INTENTIONAL TIME DELAY.
      - e. AUXILIARY CONTACTS: ONE SPDT SWITCH OR TWO SPDT SWITCHES
      - f. ALARM SWITCH: ONE (NO) OR (NC) CONTACT.
      - g. KEY INTERLOCK KIT.
      - h. ZONE-SELECTIVE INTERLOCKING: INTEGRAL WITH REMOTE GROUND-FAULT TRIP UNIT.
      - i. ELECTRICAL OPERATOR.
      - j. ACCESSORY CONTROL POWER.
  - E. ENCLOSURES:
    - 1. INDOOR, DRY AND CLEAN LOCATIONS: NEMA 250, TYPE 1.
    - 2. OUTDOOR LOCATIONS: NEMA 250, TYPE 3R.

- 1.2 FIELD QUALITY CONTROL
  - A. TESTING: BY CONTRACTOR.

- 1.3 ADJUSTING
  - A. SET FIELD-ADJUSTABLE CIRCUIT-BREAKER TRIP RANGES.

END OF SECTION 262816



**STARBUCKS COFFEE COMPANY**  
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**ISSUED FOR CONSTRUCTION - 08/23/2017**

PROJECT NAME:  
**RENOVATION OF STARBUCKS COFFEE PORTLAND, 1080 FOREST AVE.**  
 PROJECT ADDRESS:  
**1080 FOREST AVENUE PORTLAND, ME 04103 CUMBERLAND COUNTY**

STORE #: 11917  
 PROJECT #: 37548-037  
 ISSUE DATE: 08/04/2017  
 PROGRAM MANAGER: J. BOND  
 DESIGNER: A. LEE  
 LEED AP: R. TURNER-LAUCK  
 PRODUCTION DESIGNER: E. VEGA  
 CHECKED BY: BMS / SWE

Revision Schedule			
Rev	Date	By	Description

SHEET TITLE:  
**ELECTRICAL OUTLINE SPECIFICATIONS**  
 SCALE: AS SHOWN

SHEET NUMBER: E-0003

