

## **SECTION 262726 - WIRING DEVICES**

### **PART 1 - GENERAL**

#### 1.1 WORK INCLUDES

- A. Base and Alternate Bids:
  - 1. Contractor Provide:
    - a. Wall switches.
    - b. Receptacles
    - c. Device plates and decorative box covers.

#### 1.2 RELATED SECTIONS

- A. Division 1 – Submittal Procedures.
- B. Section 260534 - Boxes.

#### 1.3 REFERENCES

- A. NEMA WD 1 - General Requirements for Wiring Devices.
- B. NEMA WD 6 - Wiring Device -- Dimensional Requirements.
- C. NFPA 70 - National Electrical Code, 2008 edition.

#### 1.4 SUBMITTALS

- A. Submit under provisions of Division 1.
- B. Product Data: Provide manufacturer's catalog information showing dimensions, colors, and configurations.
- C. Submit manufacturer's installation instructions.

#### 1.5 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum 3 years experience.

#### 1.6 REGULATORY REQUIREMENTS

- A. Conform to requirements of NFPA 70.
- B. Furnish products listed and classified by a NRTL as suitable for purpose specified and shown.

## **PART 2 - PRODUCTS**

### 2.1 WALL SWITCHES

- A. Manufacturers:
  - 1. Hubbell.
  - 2. Leviton.
  - 3. P&S.
- B. Description: NEMA WD 1, heavy-duty AC only general-use snap switch. If using stranded conductor provide device suitable for that use.
- C. Device Body: White plastic with toggle handle.
- D. Ratings:
  - 1. Dielectric Withstand Voltage: 1500V minimum.
  - 2. Overload; Minimum 4.8 times rated current for 100 cycles.
  - 3. Temperature Rise: 30 Deg. C maximum at rated current.
  - 4. Endurance: 50,000 cycles minimum, resistive, inductive, tungsten filament lamp load.
  - 5. Voltage: 120-277 volts, AC.
  - 6. Current: 20 amperes.
- E. Certification: UL Listed to UL Standard 20; Federal Specification WS896E listed; NEMA WD-1.
- F. Provide switches as indicated on the drawings.

### 2.2 RECEPTACLES

- A. Duplex Receptacle
  - 1. Hubbell.
  - 2. Leviton.
  - 3. P&S
- B. Description: NEMA WD 1; industrial specification grade general-use receptacle. If using stranded conductor provide device suitable for that use.
  - 1. Color: General Purpose – white, unless noted otherwise.
  - 2. Ratings:
    - a. NEMA Type 5-20R
    - b. Dielectric Withstand Voltage: 2000V minimum.
    - c. Overload; Minimum 4.8 times rated current for 100 cycles.
    - d. Temperature Rise: 30 Deg. C maximum at rated current after 50 cycles of overload at 150% of rated current with direct current.
    - e. Voltage: 250 volts, AC.
    - f. Current Interrupting: Certified for current interrupting at full rated current, 20 amperes.
- C. GFCI Receptacle: Convenience receptacle with integral ground fault circuit interrupter to meet regulatory requirements.
  - 1. Color: White.
  - 2. Ratings:

- a. Dielectric Withstand Voltage: 2000V minimum.
  - b. Overload; Minimum 4.8 times rated current for 100 cycles.
  - c. Temperature Rise: 30 Deg. C maximum at rated current after 50 cycles of overload at 150% of rated current with direct current.
  - d. Voltage: 250 volts, AC.
  - e. Current Interrupting: Certified for current interrupting at full rated current, 20 amperes.
- D. Combination AC/USB duplex receptacle
1. Color: White.
  2. Provide with (2) USB charging ports.
  3. Ratings:
    - a. Dielectric Withstand Voltage: 2000V minimum.
    - b. Overload; Minimum 4.8 times rated current for 100 cycles.
    - c. Temperature Rise: 30 Deg. C maximum at rated current after 50 cycles of overload at 150% of rated current with direct current.
    - d. Voltage: 250 volts, AC.
    - e. Current Interrupting: Certified for current interrupting at full rated current, 20 amperes.
    - f. USB ports:
      - 1) 5V.
      - 2) USB 2.0 and 3.0 compatible.
      - 3) 3.1A charging capability

## 2.3 WALL PLATES

- A. Decorative Cover Plate: Nylon beveled type with smooth rolled outer edge.
1. Acceptable Manufacturers:
    - a. Cooper Wiring Devices
    - b. Leviton
    - c. P & S
  2. Color to match device color.
  3. For devices fed from a Computer Power Panel (“C” in the circuit number), permanently emboss cover plate with “Computer Use”.
- B. Jumbo Cover Plate: Nylon beveled type with smooth rolled outer edge. Acceptable Manufacturers:
1. Cooper Wiring Devices
  2. Leviton
  3. P & S
- C. Weatherproof Cover Plate: Weatherproof In-Use Cover: Polycarbonate or impact resistant thermoplastic covers with stainless steel springs. Gray in color. Cover shall be listed as weatherproof with plug inserted into the receptacle. Cover shall be lockable by padlock. Provide for each exterior receptacle and as indicated on the plans. Cover shall be configured for horizontal mounting of receptacle. Acceptable Manufacturers:
1. Cooper Wiring Devices
  2. Leviton
  3. P&S
  4. Raco

## PART 3 - EXECUTION

## 3.1 EXAMINATION

- A. Verify that outlet boxes are installed at proper height.
- B. Verify that wall openings are neatly cut and will be completely covered by wall plates.
- C. Verify that boxes are adjusted properly.
- D. Verify that branch circuit wiring installation is completed, tested, and ready for connection to wiring devices.

## 3.2 PREPARATION

- A. Provide extension rings to bring outlet boxes flush with finished surface.
- B. Clean debris from outlet boxes.

## 3.3 INSTALLATION

- A. Install devices plumb and level.
- B. Install switches with OFF position down.
- C. Install receptacles with grounding pole on bottom.
- D. Connect wiring device grounding terminal to branch circuit equipment grounding conductor per NEC.
- E. Install decorative plates on switch, receptacle, and blank outlets in finished areas.
- F. Connect wiring devices by wrapping conductor around screw terminal. Specification grade heavy duty screw clamps may be used. Do not wire through devices.
- G. Use jumbo size plates for outlets installed in masonry walls.
- H. Install galvanized steel plates on outlet boxes and junction boxes in unfinished areas, above accessible ceilings, and on surface mounted outlets.
- I. Install hinged cover and flanges on concealed service floor boxes.
- J. Ceiling mounted receptacles shall be mounted within the ceiling pad. No receptacles are to be installed above the ceiling. Provide a 10 foot flexible conduit from the junction box to the device to allow for relocation.
- K. Clearly write the panel name and circuit number serving each wiring device with indelible marker on the back of each coverplate.

## 3.4 COORDINATION

- A. Coordinate locations of outlet boxes provided under Section 260534 to obtain mounting heights specified and indicated on drawings.
- B. Coordinate location of outlet with furniture layouts.
- C. Install wall switch at 48 inches above finished floor.
- D. Install convenience receptacle 18 inches above finished floor unless indicated otherwise.
- E. Install convenience receptacle 6 inches above counter or backsplash of counter.

### 3.5 FIELD QUALITY CONTROL

- A. Inspect each wiring device for defects.
- B. Operate each wall switch with circuit energized and verify proper operation.
- C. Verify that each receptacle device is energized.
- D. Test each receptacle device for proper polarity.
- E. Test each GFCI receptacle device for proper operation.

### 3.6 ADJUSTING

- A. Adjust devices and wall plates to be flush and level.

### 3.7 CLEANING

- A. Clean exposed surfaces to remove splatters and restore finish.

END OF SECTION 262726