

## SECTION 16121

### WIRING AND CONTROL DEVICES

#### PART 1 GENERAL

##### 1.1 SUMMARY

- A. Description Of Systems
  - 1. Provide lighting control and receptacle services as required, and all materials and equipment, including switches, receptacles, device plates, lighting contractors, as indicated or specified.

##### 1.2 RELATED WORK SPECIFIED UNDER OTHER SECTIONS

##### 1.3 SUBMITTALS

- A. Furnish submittals for items that are identified in maintained contact this SECTION by a different typeface and a bracketed code (e.g., *Item [L]*). Refer to SECTION 01340 for definition of codes for types of submittals and the administrative requirements governing submittal procedure. Additional submittal requirements pertaining to this SECTION are specified herein under this Article.
- B. Submit complete data on each item. Coordinate the items, as they relate to the work, prior to submittal.

#### PART 2 PRODUCTS

##### 2.1 MATERIALS

##### 2.2 WALL SWITCHES

- A. Switch for Controlling Lighting Directly on AC Systems in General: Toggle-operated, brown (match existing in color), specification grade, composition base, heavy duty, maintained contact, flush, quiet type, with provision for back and side wiring, and rated 20 amperes, 120/277 volts AC.
  - 1. Hubbell/Bryant Electric 4900 Series.
  - 2. Cooper 2220 Series
  - 3. Hubbell HBL 1220 Series
  - 4. Leviton 1220 Series
  - 5. Pass & Seymour/Legend PS 20AC Series.

##### 2.3 CONVENIENCE RECEPTACLES

- A. 20 Ampere Duplex Convenience Receptacle; for 120 Volt, Single Phase Service. Straight blade, 2 pole, 3 wire, NEMA configuration 5-20R, rated 20 amperes, 125 volts, NEMA

performance standard, specification grade, for back and side wiring, brown (match existing) in color.

1. Cooper 5362 Series
2. Hubbell/Bryant Electric BRY5362 Series
3. Leviton 5362A Series
4. Pass and Seymour/Legrand 5362 Series.
5. Hubbell HBL5362 Series.

B. *20 Ampere Duplex Ground Fault Circuit Interrupter (GFCI) Convenience Receptacle [U]*; for 120 Volt, Single Phase Service. Straight blade, 2 pole, 3 wire grounding, NEMA configuration 5-20R, rated Class A, 20 amperes, 120 volts, 60 hertz, NEMA Standard WD1-4.02, heavy duty, brown (match existing), in color wired to provide protection as indicated on the DRAWINGS.

1. Cooper GF20 Series
2. Hubbell/Bryant Electric GF53A Series
3. Leviton 6899 Series
4. Pass & Seymour 2091 Series

## 2.4 POWER RECEPTACLES

A. *60 Ampere Combination Nonfusible Switch and Interlocked Receptacle [U]*; for 480 Volt, Three Phase Service. Consisting of a circuit-breaking 3 pole, 3 wire, grounding type receptacle rated 60 amperes, 600 volts AC, with angle type aluminum weather-resistant socket housing with spring door, interlocked with a 3 pole, 60 ampere, 600 volt, NEMA "HD" heavy duty, quick-make, quick-break, visible blade safety switch in a NEMA 12 enclosure. Provide interlocking such that the switch cannot be closed until the plug is fully inserted and the plug cannot be withdrawn unless the switch is open. Furnish one matching plug with each receptacle furnished (match existing).

B. Assembly manufacturer (Nonfusible):

1. Cooper/Crouse-Hinds WSRD63542 with plug APJ6485
2. Russellstoll FCSRA13-60 with plug 8418
3. Thomas & Betts/Russellstoll Heavy Service Everlok ESDWH84 14F00.

## 2.5 DEVICE PLATES

A. Device Plates in Finished Areas: Stainless steel No. 302 finish (match existing).

B. Device Plates in Utility and Similar Areas: Zinc or cadmium plated steel (match existing).

C. Device Plates in Wet or Moist Areas and Outdoors: Weatherproof type. Provide UL listed rain tight NEMA 3R cover on outdoor receptacle enclosures in wet locations. Assembly shall be clearly marked "Suitable For Wet Locations While In Use" (match existing).

1. Cooper Weather Box WIU Series
2. Hubbell/Raco-Bell Rayntite II series
3. Intermatic Flexi-Guard
4. Leviton 5900 Series
5. Tay Mac Corporation of Tempe, Arizona

6. Thomas & Betts/Red Dot CKNM Series

D. Screws. Provide screws having a finish matching the plate.

## 2.6 LIGHTING CONTACTOR

A. *Mechanically Held Type [U]*: Three pole, single throw, electrically-operated, mechanically held as indicated, with contacts rated 600 volts AC, 120 volt operating coil and a 480-120 volt control transformer fused and grounded as required, all in a NEMA 12 enclosure. Provide contact load rating as indicated.

1. ASCO
2. General Electric
3. Russell Electric
4. Square D
5. Cutler-Hammer

## PART 3 EXECUTION

### 3.1 INSTALLATION

A. Mount equipment at locations indicated.

B. Install receptacles and switches in outlet boxes as specified in SECTION 16050 unless otherwise specified in this SECTION. Mount receptacles and switches at uniform heights above the floor for various areas as indicated.

C. Install plates on flush mounted outlets with all four edges in continuous contact with finished wall surfaces without the use of plaster mats or similar devices. Do not use plaster or similar fillings. Install plates vertically, unless otherwise noted, with an alignment tolerance of 1/16 inch.

D. Identify wiring and control devices as per SECTION 16050 - Appendix "A".

END OF SECTION

Revision History	
Date	Rev. No.
A	0
B	0
D	0
E	0
F	0
02-19-09	0

EY/ca

C:\d\timsdata\BROOKHAVEN\_NATIONAL\_LABORATORY\SF070003\200-PROJEXEC\280-SPEC\16121.doc

THIS PAGE INTENTIONALLY LEFT BLANK