WIRING DEVICES

DESIGN GUIDELINES

1. Summary:
   a. This section provides guidelines and standards for Receptacles, Toggle Switches and Multi-Outlet Wireways.

2. Design
   a. Receptacles:
      • Hospital grade shall be utilized in all patient areas
      • All receptacles for special equipment shall be coordinated during design with the equipment plug configuration.
      • Receptacles in wet areas, cold rooms, outside, kitchens, within 6 feet of a sink and as per the NEC shall be GFCI type or protected by GFCI circuit breakers. GFCI receptacles shall be accessible.
      • Avoid placement of refrigerators with 6 feet of sink, where possible, to eliminate need for GFCI receptacle at refrigerator.
      • Receptacles that are to be located/used outdoors shall use: Cast aluminum weatherproof while-in-use covers (Hubbell WP8M or equal).
      • Floor outlets for special applications shall be reviewed with WUSM OMFD.
      • Plugtail Wiring is NOT allowed
      • Any receptacle mounted from the ceiling (in an outlet box or wireway) shall have the arrangement, type (straight-blade or twist-lock type), orientation and height approved by WUSM.
      • All 208V receptacles shall be on dedicated circuits.
      • All receptacles in hallways used for housekeeping appliances, shall be connected to a dedicated circuit. Run #10 stranded wire as a minimum to these duplex receptacles.
   b. Toggle Switches:
      • Typically, rooms shall be controlled by automatic means. Refer to Lighting Controls Design Standard for typical room control methods.
      • Toggle Switches shall only be used to override automatic means or where approved by the owner.
      • Plugtail Wiring is NOT allowed
   c. Cover Plates
      • For labs (ex. BSL) with special air pressurization requirements, provide gasketing behind faceplate. Refer to BSL guidelines for additional information.
d. Multi-Outlet Wireways
   • Wireway installed at labs to be prewired using twist-on wire connectors (wire nuts), no "pinch connectors" or "butt splices".
   • Dual Channel shall be utilized where power and high-volume low-voltage outlets are required. Dual channel shall also be provided to keep emergency and normal power outlet branch circuits separated.

e. Refer to Identification of Electrical Systems for labeling of receptacle and switch coverplates.

f. Cold Rooms:
   • All penetrations for devices in cold rooms shall be sealed air tight. Provide gasketing behind coverplate.

3. Color:
   a. Light switches, receptacles and associated cover plates shall be:
      • White or ivory (coordinate with Architect) for normal power branch circuits.
      • Red when connected to emergency power.

4. Related Sections
   a. Raceways, Fittings and Boxes
   b. Lighting Controls
   c. Identification of Electrical Systems

EQUIPMENT and PRODUCT REQUIREMENTS

1. Receptacles:
   a. Approved Manufacturers:
      • Hubbell
   b. Material:
      • NEMA 5-20R configuration unless otherwise required.
      • Heavy duty, specification grade and/or hospital grade duplex receptacles.
      • Ground Fault Current Interrupter (GFCI) Duplex Receptacles: Shall be provided with end-of-life indication and shall be self-test in accordance with UL 943.

2. Toggle Switches:
   a. Approved Manufacturers:
      • Hubbell
   b. Material:
• Toggle switches shall be Extra Heavy Duty, Industrial Grade, quiet operating type rated 120/277V, 20 amperes equal to Hubbell #HBL 1221 Series.
• Refer to Lighting Controls Design Standard for Occupancy/Vacancy Sensors, Dimmers and Timer Switches,

3. Cover Plates:
   a. Approved Manufacturer:
      • Hubbell High Abuse Nylon
   b. Plastic Wall Plates (Thermoset) are not acceptable.
   c. Stainless may be utilized in high-abuse locations.

4. Multi-Outlet Pre-Wired Wireways
   a. Approved Manufacturers:
      • Wiremold 4000 Series (Dual Channel)
      • Wiremold 3000 Series (Single Channel)
   b. Material:
      • Labs, cold rooms and other wet areas: Brushed aluminum finish.
      • Offices: Steel, color-coordinated with Architect
      • Plastic Wireway is not allowed.

5. Mounting:
   a. Wall receptacles shall be mounted 18” above finished floor to center unless otherwise noted.
   b. Wall switches shall be mounted 48” above finished floor to top unless otherwise noted.

6. Testing:
   a. Test wiring devices for proper polarity and ground continuity. Operate each operable device at least 6 times.
   b. Test ground fault circuit interrupter operation with fault simulations according to manufacturer recommendations.