PREFACE

This publication has been prepared as a guide for Architectural and Engineering (A&E) firms in the preparation of documents for the design and construction of new structures and the remodeling of existing structure for Indiana University. Items pertinent to requirements of Indiana University are contained herein.

The specification section numbers referenced by these standards are to help the A&E firms identify where IU Engineering standards are to be applied. These specification section numbers are based upon CSI standards and may not correspond to a particular A&E firm’s standard specification section numbering scheme.

Compliance with codes and OSHA regulations are minimum requirements. When requirements of Federal and/or State Codes are at variance with the contents of this publication, the most demanding requirements shall be observed.

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IT IS NOT INTENDED THAT THESE STANDARDS BE COPIED AND USED AS A SPECIFICATION!
MATERIAL CONTAINED HEREIN SHALL NOT BE COPIED VERBATIM IN SPECIFICATIONS OR IN NOTES ON THE DRAWINGS EXCEPT WHEN INSTRUCTIONS ARE GIVEN TO COPY CERTAIN ARTICLES OR PARAGRAPHS.
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Changing technology and changes in State or University policies will require continuing revisions of these standards. Revisions will be maintained online at www.indiana.edu/~uao. Architects and Engineers doing work for the University are expected to ensure that they are working with the latest revision of the standards.

Throughout these standards, cross-references have been made frequently to emphasize the importance of coordination of all parts of the contract documents for a project. Because of the requirement for complete coordination, the holder of this document is cautioned to furnish complete standards to consultants or to ascertain that consultants have copies of the referenced sections and paragraphs affecting the consultant’s work.

If questions arise concerning instructions contained herein, please request clarification from Indiana University, Department of Engineering Services, (812) 856 - 7055.
A. Wiring Devices

1. Wall Switches
   a. TOGGLE SWITCHES: Toggle switches shall be back and side wired, heavy duty, specification grade, AC only, quiet-type, quick make, quick break, 20 ampere, 120/277 volt.
   b. WALL BOX DIMMERS: Refer to Section 26 09 63 - Architectural Lighting Controls for wall box dimmer requirements.

2. Receptacles
   a. CONVENIENCE RECEPTACLES: Convenience receptacles shall be back and side wired, heavy duty, specification grade, parallel blade, U-grounding slot, 20 ampere, 125 volt, NEMA configuration 5-20R, with a one-piece brass or brass alloy plated backstrap and single ground strap with integral ground contacts.
   b. SURGE SUPPRESSOR RECEPTACLES: Surge suppressor receptacles (SSR) shall be specification grade grounding type duplex receptacle with integral protection from line to ground, line to neutral, and neutral to ground surges that meet or exceed the standards published in the latest edition of UL Standards 1449 and 498. SSR shall have visible and audible surge protection status indicators. The audible indicator shall sound continuously when surge protection is no longer functioning and shall continue until the device is replaced. The audible alarm shall be capable of being muted without removing coverplate. SSR shall be rated 20 amperes, 125 volts, NEMA configuration 5-20R.
   c. GROUND FAULT CURRENT INTERRUPTING RECEPTACLES: Ground fault current interrupting (GFCI) receptacles shall be specification grade grounding type duplex receptacle with integral ground fault circuit interrupter UL listed to standard 498 and 943 Class A. GFCI receptacles shall be rated 20 amperes, 125 volts, NEMA configuration 5-20R. GFCI receptacles shall be installed in restrooms and within 6’ of any sink, including janitor mop sinks. Exterior receptacles shall be GFCI. Downstream protection feature of GFCI receptacles shall not be utilized except where approved by Engineering Services or CFS.
   d. USB COMBINATION RECEPTACLES: USB combination type receptacles, i.e. single device with USB charger ports and tamper-resistant convenience receptacle, shall be considered for use in student lounges and similar areas.

3. Device Color
   a. Wall switch and receptacle color shall be ivory.
   b. Where wall coverings are dark or wood use brown colored devices.
4. Device Coverplates  
a. Device coverplates in interior spaces shall be brushed stainless steel (302/304), satin smooth finish.  
b. Where brown colored devices are used, use brass coverplates.  
c. Where specifically required by Architects and approved by Engineering Services or CFS, heavy duty thermoplastic plates may be used in some office areas. It is anticipated that the reason for using plastic device plates will be to obtain a unique color.  
d. WEATHERPROOF COVERPLATES  
   1) Receptacle covers shall be high impact polycarbonate “while-in-use” style, like Raco “Rayntite II” series.  
   2) Switch covers shall be high impact polycarbonate lever style, like Carlon E98TSCN. Also acceptable switch covers are clear silicon bubble plate style, like Hubbell HBL1795.

5. Preferred Manufacturers for Wiring Devices  
a. Cooper  
b. Hubbell  
c. Legrand - Pass & Seymour  
d. Leviton

B. Floor Boxes: Floor box service fittings shall be coordinated with Engineering Services or CFS for specific application.

C. Occupancy Sensors  
1. Occupancy sensors shall be installed in classrooms, offices, storage rooms, restrooms, and etc. to meet the requirements found in the Indiana Energy Conservation Code and ASHRAE 90.1. Closely coordinate application and sensor technology with Engineering Services or CFS.

2. Occupancy sensors shall be low voltage, ceiling or wall mounted, dual technology (both ultra-sonic and infrared sensing) type. Use manufacturer’s standard power pack / relay device to provide power to occupancy sensor, to provide on/off control to switched lighting circuit, and to provide auxiliary contact closure for use with HVAC control systems.  
   a. Refer to Drawing E1, Occupancy Sensor Installation Detail, at end of this section, for ceiling mounted occupancy sensors installed on the IUPUI campus.

3. The use of combination wall switch / occupancy sensor shall be closely coordinated with Engineering Services or CFS. Where this type of device is used, it shall be dual technology (both ultra-sonic and infrared sensing) type.

4. Occupancy sensors shall not be used in mechanical and electrical equipment rooms. Mechanical timer switches may be installed in mechanical and electrical equipment rooms with approval of Engineering Services or CFS. The use of night lights (constant on) to clearly mark the egress from mechanical and electrical equipment rooms is preferred.
5. Preferred Manufacturers for Occupancy Sensors
   a. Watt-Stopper
   b. Hubbell
   c. Leviton
   d. Lutron

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NOTE:

LOW VOLTAGE CABLES TO BE SUPPORTED OFF THE CEILING, PREFERABLY TO THE STRUCTURE, BY VELCO OR CABLE TIES.