



# Boise State University

## Division 28 - Electronic Safety and Security

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### Summary

The purpose of this document is to provide the design team with an easy to reference document containing Boise State University's guidelines for construction projects on campus and is intended as a resource to inform the design process. This document does not remove responsibility from the designer, preclude the use of engineering judgment, or relieve the designer from meeting all adopted code requirements. Questions, clarifications, or suggestions can be directed to the Boise State University Project Manager (PM).

These guidelines have been developed as a joint effort between the Facilities, Operation and Maintenance (FOM), Department of Public Safety (DPS), Office of Information Technology (OIT), and the Architectural and Engineering Services (AES) teams to help ensure the resiliency of Boise State's campus by considering maintenance needs, sustainability goals, future expansion, and responsible stewardship of our resources. These guidelines are created from both common industry standards and lessons learned. They are arranged using the Masterspec Divisions to help facilitate a common language.

### Related / Supporting Documents

In addition to this document, see the following Boise State University Guidelines:

1. *Division 08 - Openings*
2. *Boise State Cabling Standards*

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## Section 281000 - Access Control

### General

1. Provide all access control items including card readers, control boards, batteries, etc. under Division 28.
  - a. See Boise State University's *Division 08 - Openings* guidelines document for electrified door hardware standards.
2. Provide access control and security devices for all new buildings and major renovations. Common rooms requiring access control include laboratories, OIT rooms, main MEP, and other critical or sensitive areas.
3. Provide access control and card readers at all exterior doors.
  - a. Exception: Little-used service doors may be excluded from this requirement. Discuss with the Boise State Project manager for approval.
4. ADA doors with an ADA operator are required to be provided with a dedicated power supply and accessory board.
5. All-access doors must be equipped with card reader / credential reader devices that are mounted at ADA heights.
6. Specify that all access doors and their associated electrified hardware and head end units must be on emergency power via a generator system. When a generator system is not present, access door systems must have battery backup sufficient to operate the door devices and headend unit.
  - a. Provide a minimum of five (5) batteries attic stock for new builds, and a minimum of 10% batteries for small retrofits, but no less than 1.
7. Provide power for door hardware devices and head end controllers with separate circuits.
8. Boise State will program the doors into Boise State University's existing card access system.

### Platform/Software

1. Campus Standard Access Control platform: Lenel OnGuard.
  - a. Coordinate with the Boise State Project Manager for sole source item requirements.
2. Coordinate with your Boise State Project Manager and the Department of Public Safety for access control licensing costs that must be captured in the design drawings and contractors budget. In general:
  - a. Construction documents must state that there is a \$100 charge per installed card reader for the Lenel OnGuard licensing, paid to the Boise State Department of Public Safety. Discuss available funding options with the Boise State Project Manager.
  - b. Projects with a scope of fifteen card readers or more must purchase a Lenel License Pack containing sixty-four (64) licences. Discuss available funding options with the Boise State Project Manager.
3. Security Control System and access control items are a sole sourcing item. Coordinate with your Boise State Project Manager to develop the sole sourcing letter.
4. Provide the latest model hardware Manufactured within 6 months. Clarify model numbers with your Boise State University Project Manager and the facilities lockshop team.
  - a. Card readers (24volt): Contact your project manager for model numbers.
  - b. Intelligent Dual Reader Controller: Contact your project manager for model numbers.
  - c. Dual Reader Interface Module: Contact your project manager for model numbers.

- i. Dual reader interface required for all doors. Provide for single doors.

## **Network Cabling**

1. Any network cabling will be done in accordance with [Boise State University Policy 8010](#) and follow [Boise States Cabling Standards](#) for new buildings and remodels.
2. There is a \$100 unit charge for each site controller that must be paid to the Boise State University Office of Information Technology to connect to Boise State University's Ethernet. Discuss available funding options with the Boise State Project Manager.

## **Card Reader Locations**

1. Card readers are required at:
  - a. Building Entrances and entry stairwells
  - b. Elevator Lobbies: In dormitories and other critical or sensitive areas where preventing unauthorized entrance to the entire elevator network is required.
  - c. Elevator cabs serving penthouse or other secure locations (Dormitories, Research Labs, etc.).
  - d. Information Technology (IT) rooms
  - e. Research Laboratories
  - f. Main Mechanical, Electrical, and Plumbing (MEP) rooms.
  - g. Common Restrooms in Housing buildings.

## **Section 281613 – Access Control Interfaces to Intrusion Detection**

1. When intrusion detection is required / requested, coordinate with your Boise State Project Manager and the Department of Public Safety for requirements.

## **Section 281631 – Access Control Interfaces to Perimeter Security Systems**

1. When perimeter security systems are required / requested, coordinate with your Boise State Project Manager and the Department of Public Safety for requirements.

## **Section 282000– Video Surveillance (General)**

### **Platform/Software**

1. Campus Standard Surveillance Platform: Avigilon ACC.
  - a. This is a sole source item. Coordinate with your Boise State Project Manager to develop a sole sourcing request letter.

### **Camera Specifications**

1. Manufacturer: Avigilon
  - a. No Alternates: Cameras are a sole source item. Coordinate with your Boise State Project Manager to develop a sole sourcing request letter.
  - b. <https://www.avigilon.com/products/cameras-sensors>

2. Security camera design requires input from multiple stakeholders at the University. Coordinate with your project manager to discuss the security camera design. In general:
  - a. Department of Public Safety / Access Control: Camera model selection and placement must be done in conjunction with DPS. This ensures that final camera locations accomplish the design intent.
  - b. Architectural and Engineering Services: Mounting methods must be coordinated with AES to maintain the integrity of campus infrastructure and appropriate visual aesthetic.
  - c. Office of Information Technology (OIT): Coordinate network connections and wiring with the OIT department. See [Boise States Cabling Standards](#) for more information.
3. Provide one each of the following licences for each camera:
  - a. 1 ACC7-ENT license
  - b. 1 ACC7\_ENT-FO license
4. Construction documents must indicate a one-time OIT data storage fee for new cameras.
  - a. Coordinate with your Boise State Project Manager and the OIT department for the actual data storage fee. The fee changes between \$250 to \$500 depending upon the camera type being installed.

### **Systems Requests (Non-DPW projects)**

1. New video surveillance camera or video surveillance system requests not associated with a DPW project must utilize the online application procedure:
  - a. [Integrated Security Technology Request Form](#)
2. See [Boise State University BSU Policy #12140](#) for more details.

### **Camera Locations**

Camera locations must be approved by DPS.

1. Cameras are typically required at the following locations:
  - a. Building Entrances
  - b. Elevator Lobbies
  - c. Elevator Cabs
  - d. Stairwells
  - e. Critical Laboratory/Classroom spaces
  - f. Electrical and OIT Spaces (Large Rooms)
  - g. Other spaces as determined by DPS.

## **Section 283111 – Building Intrusion Detection**

### **Central Station Software**

1. Existing Campus Standardized System: Manitou
2. Any system that connects to or interacts with the campus Manitou Central Station Software must utilize a point-to-point Contact ID communication protocol. This includes systems such as fire alarm and other building intrusion detection systems.

## **System Testing**

1. The contractor must have Boise State on site for a 100% pretest of all security devices prior to the AHJ final. Examples of pretesting include:
  - a. Access Control: Full functionality, door forced, door held, access granted, etc.
  - b. Cameras: Verify Field of Vision (FOV), zoom, pan, and other capabilities.

## **Central Station Monitoring**

1. The central monitoring station receivers will receive input from the FACPs via GSM cell dialer. The GSM cellular dialer must have IP capability on-board at installation and be capable of interfacing via Alarmnet.
2. All codes and code descriptions that can and will be sent from the FACP to the Agency's central monitoring station must be provided in both hard and soft copies. The soft copy must be in Microsoft Excel format and provided to the PM two weeks prior to the system coming fully online.
3. Training must incorporate what codes can be transmitted to Boise State University's central monitoring station and which of these codes constitute alarm, trouble, and supervisory conditions. This training is in addition to the training provided to Agency personnel on the FACP devices.

## **FACP Access Codes**

1. FACP access codes must be provided to the Boise State University Electric Shop Supervisor as soon as the system reports to the central monitoring station.

## **As Built Drawings**

1. A complete set of electronic "as built" drawings showing installed wiring, color coding, and wire tag notations for exact locations of all installed equipment, specific interconnections between all equipment, and internal wiring of the equipment must be delivered to the owner upon completion of the system.

## **Section 284621.11 - Addressable Fire-Alarm Systems**

### **General Requirements**

1. Provide an Analog/ Addressable Fire Alarm System with Voice Evacuation.
2. When possible, provide emergency power for fire alarm systems via an emergency generator.
3. Pull Stations: Discuss pull station locations with Boise State University Facilities.
4. Discuss salvage of fire alarm system components with the Boise State University PM and Facilities team for parts.

### **Owner Provided Items**

1. Programming for all Edwards EST fire alarm systems (new or existing) will be completed by the Boise State Facilities Electrical team.

2. Programming for extensions or modifications on existing outdated systems will be done by a qualified vendor.

## Products

### New Buildings / Systems Basis of Design:

Substitutions from the basis of design for fire alarm systems are not acceptable. Coordinate with the Boise State University PM to develop a sole source request letter.

1. FACP: Edwards EST4.
2. Cell Dialer:
  - a. MFGR: Honeywell
  - b. Model: Contact your project manager for model numbers.
    - i. Compatible with Verizon and Alarmnet
3. Devices: Edwards, compatible with EST4

### Retrofits / Existing Systems

1. For small projects that do not warrant a complete replacement, it is acceptable to modify or add new devices to the existing system.
2. All fire alarm devices must be of the same type and manufacture of the existing fire alarm system. If the devices are obsolete and no longer available the new devices must have the same communication protocol as the existing system and report to the fire alarm panel. In the event no devices can be sourced to meet the aforementioned requirements then the stand alone device(s) must report to the fire alarm system via a fire alarm module and be powered from the existing fire alarm system.

### Wires / Conductors

1. **Basis of Design:** Plenum-FPLP, individually stranded copper and shielded conductor for all AWG wire sizes.
2. Initiating circuits must be color coded red for positive, red with black stripe for negative. Indicating circuits must be color coded red with yellow stripe for positive, red with brown stripe for negative.
3. All conductors must be numbered and their numbers must correspond to the terminal block numbering they are connected to. Provide conductor wiring and terminal block numbering.
4. T-TAPS are not acceptable for SLC or NAC circuits.
5. See Division 26 - Electrical Guidelines for 120 V conductors.

### Fire Alarm Devices

1. All fire alarm initiating devices must be powered from the existing fire alarm system.
2. **Smoke and duct detectors:** Must be Self-Restoring type. Detectors will not require resetting or readjustment after actuation to restore them to normal operation other than at the FACP.
3. Provide Dual Action pull Stations
  - a. Review quantity and locations of pull stations with Boise State Facilities. Additionally pull stations beyond code minimum may be desired for specific buildings or applications where having a convenient way to evacuate a building provides value to the university (i.e. laboratories).

## Labeling

1. In addition to factory equipment nameplates, provide contractor installed nameplates for the fire alarm panel. Indicate upstream equipment and circuits on the name plate using the words “FED FROM [INSERT EQUIPMENT AND CIRCUIT]”
2. Provide tape labels for fire alarm equipment. Tape labels must be red with white lettering for all emergency equipment.
  - a. Label Junction boxes with circuit number and upstream equipment.
  - b. Label fire alarm devices with the device identification number.
  - c. Provide a tape label on the ceiling with the device identification number for fire alarm devices located above the ceiling.
3. Provide brady wire labels for all conductors in each junction box and at each termination.

## Section 284700 – Mass Notification Systems

### Blue Light Phones

Coordinate with your Boise State Project Manager to develop a sole sourcing request letter.

1. Campus Standard Pedestal Style: Code Blue model CB-1
  - a. Color: Safety Blue
  - b. Lighting: Beacon / Strobe (LED)
  - c. Dual Button speakerphone.
2. Campus Standard Wall Mounted Style: Code Blue (coordinate with DPS for specifics.)
3. All Blue Light phones must, when possible, connect back to the analog phone infrastructure in the Heat Plant (HTPT) building. Coordinate with Boise State OIT on path and options.
4. All blue light phones must have security camera capability.
  - a. Avigilon Multisensor 360 degree camera.
    - i. Ensure that conduit includes room for additional network wire to serve the camera.
  - b. BLPs are placed where they can be seen from each other.
  - c. All BLPs have the ability to have a camera mounted on top.
  - d. All BLPs need to meet accessibility (ADA) requirements, including the ability for those in wheelchairs being able to get to them (so need to be accessible by pavement).
5. When projects require temporary disconnect / reconnect of blue phones, coordinate with the Boise State PM, DPS, and OIT departments.

### Area of Refuge Phones

1. Where area of refuge phones are required by code, coordinate products and requirements with the Boise State University Project Manager and Office of Information and Technology (OIT).
2. All calls must be directed to the main dispatch number.
3. Provide owner training for Area of Refuge Phone systems.