

DIVISION 28 - ELECTRONIC SAFETY AND SECURITY

28 10 00 ELECTRONIC ACCESS CONTROL AND INTRUSION DETECTION

28 13 00 ACCESS CONTROL

28 13 19 ACCESS CONTROL SYSTEMS INFRASTRUCTURE

- 1 University standard for:
 - A On-line hardwired card access is Schlage Security Management System-Access Control (Ingersol-Rand). See Appendix B.
 - B Off-line stand alone (battery powered) units is Schlage Security Management System-Campus Lock (Ingersol-Rand) magnetic stripe reader and dual validation reader (both magnetic stripe and keypad). See Appendix B.
- 2 Card Access for University buildings shall be as follows:
 - A Installations shall be in conformance with NFPA 70 and NFPA 731.
 - B For all non-residential buildings, at least one exterior entrance door shall be provided with a hardwired (on-line) card access reader (Schlage SMR-20). Where paired exterior doors are used both leafs shall be electrified. Panic hardware does not dog down.
 - C For spaces within non-residential buildings that require special security, such as computer labs, science labs, Information & Technolgy equipment and control rooms and server farms, access shall be provided with a hardwired (on-line) card access reader (Schlage SMR-20).
 - D For residential (student housing) buildings electronic access shall be as follows:
 - 1) Main entry doors into housing and doors to outdoor public patios shall be provided with a hardwired (on-line) card access reader (Schlage SMR-20).
 - 2) Where paired exterior doors are used both leafs shall be electrified. Panic hardware does not dog down.
 - 3) Doors into student dorm rooms and/or apartments shall be furnished with a stand alone (off-line) battery operated card access unit. Unit shall be Schlage CL Campus Lock, Model No. CL5594-MGK-T1 -17-LC -626-ATK with magnetic stripe and push button key pad. Keyed emergency override cylinder shall be BEST 1E74 CC. Core is furnished and installed by the University.
 - 4) In additon to the hardware configuration described in #3 above, every Type A accessible apartment entry door hall be provided with rough-in for future SMR 20 card access and 9540 Senior Swing power opener. Rough-in shall include, at a minimum, all necessary conduits, boxes and door frame preparation for electric strike.
 - 5) Local audible door prop alarms shall be provided at all exterior doors.Prop alarm shall sound local audible alarm AND send alarm signal to main card access system located in the Key Shop at the University's Central Utilities Building.
 - D. Tracks on cards with magentic stripe shall be programmed as follows:
 - 1) Track 1: CL Locks
 - 2) Track 2: SMR-20 locks
 - 3) Track 3: Reserved for existing BEST electronic locks used on campus.
 - E. Electronic card access shall be on buildings emergency generator.
- 3 Card access at doors equipped for handicap access: Card swipe will release latch and door(s) open. The should be no need to depress auto door ADA button. ADA buttons are to still be provided however. Card readers and ADA buttons are to be adjacent to one another. Cards used for this purpose shall be programmed with "Special Privileges" allowing only the disabled user to activate this operational sequence.

- 4 All card access points are to have a keyed emergency override cylinder that shall be BEST 1E74 CC. Core is furnished and installed by the University.
- 5 Card access, when used in elevators:
 - A must be coordinated with Elevator supplier to insure complete proper operational installation when complete.
 - B Must have restriction for access to basement level.
 - C Each elevator shall include a keyed switch to allow the use of a GVSU brass key. Keyed switch is to be prepped to receive University's BEST core system. Core is supplied by University.
- 6 Processes and Procedures,
 - A The following are to be clearly described in the Professional's Project Specifications and Construction Managers Bid Division Descriptions:
 - 1) The General Trades Contractor shall furnish and install stand alone (off-line) CL locks with all related hardware. Installer shall be Ingersol-Rand (IR) factory trained and certified. Written verification of certification shall be provided to the University prior to installation. Failure to comply will result in stop work order and project completion date shall not be delayed.
 - 2) The General Trades Contractor shall provide dust protection of card swipe slot or opening and keypad. Protection shall be provided immediately after the locks are installed and remain until construction is substantially complete and dust and/or painting operations are completed. Blue painters tape shall be the material used for dust protection.
 - 3) The General Trades Contractor shall attend weekly Commissioning meetings.
 - 4) Installation of CL locks shall be performed in accordance with the following steps:
 - (a) Lock is shipped and installed with internal wire connection unplugged. Batteries are included but are not installed at initial CL lock installation.
 - (b) Once lock is installed place black plastic plug key in cylinder. Turning plug key and lever handle will allow access into space.
 - (c) Protect swipe slot and keypad. See #2 above.
 - (d) When ready to secure room, either with construction core or University permanent core, activate lock operation by the following:
 - (i) Take cover off lock, install batteries, that are furnished with lock, and plug in wire connector. Replace cover.
 - (ii) Take protective tape off swipe slot and keypad.
 - (iii) Remove black plug key.
 - (iv) Install construction or permanent cores.
 - (v) Provide PDA upload immediately following lock activation sequence. Programming is to allow for temporary contractor cards that are time limited. Coordinate time requirements with GVSU Project Manager.
 - 5) When the University installs final cores, the University will issue, to the Construction Manager's field Superintendent, temporary construction cards for access. The Construction Manager's Field Superintendent shall control distribution of these temporary cards.
 - 6) The Access Control Contractor (ACC) shall furnish and install hardware, software and programming for the hardwired (on-line) card access system and furnish and install software and programming for the CL off-line system. This effort shall include, but is not necessarily limited to, the following:
 - (a) Programming of on-line system credentials and pre-programming of off-line CL system credentials into the SMS system. The University will provide a "Access Rights Spreadsheet"

- for the ACC to use for programming. This includes programming in staff who have existing cards and will require access to the new building(s).
- (b) Entering card holders,
 - (c) Assigning ID and access credentials,
 - (d) Assigning area access,
 - (e) Badging of cards,
 - (f) Production of encoded cards, preprinted with card number and GVSU logo for all CL and SMR-20 locks per the quantities listed on the University furnished Access Rights Spreadsheet. In regard to color number, when a project entails multiple buildings each numbering system shall be a separate color for each different building; e.g. green card number for Building #1, Lt. Blue card number for Building #2 and Black card number for Building #3. Colors used must be distinctly different; e.g. Do not use dark navy blue and black.
 - (g) Reprogramming corrections as a result of initial input errors.
 - (h) Programming shall identify door number and location description; eg Door # 104; Student Apartment, First Floor, East Wing.
 - (i) Provide PDA uploads to all CL off-line locks.
 - (j) Attend weekly commissioning meetings.
 - (k) Conform and adhere to requirements for the pre-functional and functional commissioning plans.
 - (l) Provide a final test and inspection of all CL off-line locks and on-line electronic access control system. Upon successful completion of test and inspection (all elements must pass) submit completed Access Control Inspection & Testing Report (See Appendix J, to be included in Project Specifications) to University's commissioning agent, University's Project Manager and Construction Manager.
 - (m) Testing of ALL programmed cards for proper functionality.
 - (n) Upon successful completion of all required testing provide the University with database (hard copy and electronically) and programmed cards.
 - (o) Provide spare cards. Spare cards provided for the CL off-line system are to be pre-programmed for "All-Pass". Refer to Section 01 78 46 for quantities.
 - (p) Provide attic stock for SM on-line locks and related components. See Section 01 78 46.
 - (q) Provide own computer, printer and card printer for programming and card production. Use of University computers and equipment will not be permitted.
 - (r) Provide Owner training.
 - (s) If programming is completed with a newer software version than that of the University's, provide one copy of system software.
 - (t) Provide all Owner manuals, including but not limited to, instructional manuals, maintenance instructions, component parts list and/or isometric or schematic diagrams, as-built drawings and warranties as part of project close-out requirements.
- 7) The General Trades Contractor shall provide attic stock for the CL off-line locks and related components. See Section 01 78 46.
- 8) The General Contractor shall provide, as relates to the CL off-line locks, all Owner manuals, including but not limited to, instructional manuals, maintenance instructions, component parts list and/or isometric or schematic diagrams, as-built drawings and warranties as part of project close-out requirements.

28 30 00 ELECTRONIC DETECTION AND ALARM

28 31 00 FIRE DETECTION AND ALARM

- 1 Acceptable systems are Simplex and Siemens.
- 2 Review/provide for pull station protection in areas where pull stations can be tampered with. (Provide break glass or "push/pull" type devices," in locations so identified).
- 3 All fire alarm components shall be tested in presence of GVSU representative.
- 4 New fire alarm systems for the Allendale Campus shall be fully addressable at Central Utilities Building (CUB). The system shall permit the alarm to report inside the attendant booth at CUB and shall allow the alarm to be acknowledged and silenced from the computer PC located within the booth, and have a printer for producing a hard copy. The system shall also permit resetting from inside the booth.
- 5 New fire alarm systems for the Pew Campus shall be fully addressable at Pew Campus Security located in the Eberhard Center.
- 6 Fire Protection: Surge protection is to be provided at all control panels. This protection shall protect primary power, secondary power and communication lines.
- 7 Consultant is required to coordinate design of fire alarm system with University, the University's Office of Public Safety. Coordination shall include, but is not necessarily limited to, location of manual fire pulls and alarm panels.
- 8 Manual fire pull stations shall be positioned in conformance with ADA and clear of any other building obstructions, such as chair rails, electrical devices or louvers, so as to allow full and proper operation of the pull.
- 9 Exterior cover assembly must be installed and keyed to Simplex "B" key, regardless if system installed is a Simplex system or not.
- 10 Point descriptors of address points shall be reviewed and approved by GVSU Facilities Services staff prior to programming. Submittals for GVSU review shall be made no less than 90 days prior to the projects scheduled date of Substantial Completion.
- 11 Combination intelligent smoke/fire detectors shall have a fixed temperature point for the fire detection component. Rate of rise is NOT to be used.
- 12 Provide copy of smoke detector program.
- 13 Trouble Sequence of Operation shall be as follows:
 - A Visual and audible trouble alarm indicated by device at the alarm control panel.
 - B Visual only trouble alarm indicated at remote annunciator panels located in building entrance lobbies or other public spaces.
 - C The system shall automatically display the highest priority event on the LCD display. The priorities shall be alarm, supervisory, trouble and monitor. The user shall be able to review each event by simply scrolling through each event using scroll keys.
 - D Trouble signal transmitted to GVSU central campus monitoring.
 - E Manual acknowledge function, at fire alarm control panel silences audible trouble alarm; visual alarm is displayed until initiating failure or circuit trouble is cleared. Event shall be logged into the system database with the time of the event and up to a 40-character custom user description.
- 14 LEVEL 1 Alarm Sequence of Operation: Actuation of any initiating device (ie. smoke detector, heat detector, manual pull, flow switch), in other than individual living unit, places circuit in alarm mode, which causes the following system operations:
 - A Sound and display local fire alarm signaling devices with signal.
 - B Transmit non-coded Level 1 signal to GVSU central campus monitoring.
 - C Indicate location of alarm device on the fire alarm panel and on remote annunciator panel.
 - D Transmit signal to building mechanical systems to initiate shutdown of fans and damper operation.

- E Transmit signal to release door hold-open devices, if provided, by zone.
- 15 LEVEL 2 Alarm Sequence of Operation: Actuation of a smoke device, in an individual living unit, places circuit in alarm mode, which causes the following system operations:
 - A Sound and display local fire alarm signaling devices within individual living unit.
 - B Transmit non-coded Level 2 signal to GVSU central campus monitoring.
 - C Indicate location of alarm device on the fire alarm panel and on remote annunciator panel.
 - D Actuation of heat initiating device in an individual living unit places circuit in Level 1 alarm mode, as described above.

END OF SECTION