

March 2018, rev 00

08 7100 – Door Hardware

PART 1 – GENERAL

1.01 SUMMARY

A. Base Bid:

1. General Contractor Provide: The furnishing and installation of all items of finish hardware as hereinafter specified or obviously necessary to complete the building, except those items which are specifically excluded from this section of the specifications.
2. Electrical Contractor Provide: The installation of all power and control devices hereinafter specified or obviously necessary to complete the building, except those items which are specifically excluded from this section of the specifications.

1.02 RELATED WORK

A. The following sections contain requirements that relate to the work of this section:

1. Section 08 1100: Metal Doors and Frames
2. Section 08 1416: Flush Wood Doors
3. Section 08 4113: Aluminum-Framed Entrances and Storefronts
4. Section 26 0500: Common Work Results for Electrical
5. Section 28 1300: Access Control

1.03 DESCRIPTION OF WORK

A. “Finish Hardware” includes items known commercially as finish hardware which are required for swing, sliding and folding doors, except special types of unique and non-matching hardware specified in the same section as the door and door frame. Extent of finish hardware required is indicated on drawings and in schedules. Types of finish hardware required may include, but is not necessarily limited to the following:

1. Continuous Hinges
2. Pivots
3. Butt Hinges
4. Lock cylinders and keys
5. Lock and latch sets
6. Bolts
7. Exit Devices
8. Push/pull units
9. Closers
10. Electronic hold-open devices
11. Automatic door openers
12. Protection plates

13. Weatherstripping for exterior doors
14. Thresholds
15. Silencers

1.04 QUALITY ASSURANCE

- A. Hardware has been specified herein by manufacturers' name, brand and catalog numbers for the purpose of establishing a basis for quality, finish, design and operational function.
- B. To insure a uniform basis of acceptable materials, it is the intention that only manufacturers' items specified as "Acceptable and Approved" be furnished for use on this project.
- C. Deviation from, or modification of items will be permitted only for the special instances caused by reason of construction characteristics and for the purpose of providing proper operational function. The Contractor shall be responsible for checking any necessary deviation in order to assure that the hardware shall fit and function properly.
- D. Substitutions – Request for substitution of hardware items listed as "Acceptable and Approved" shall be made to the Architect no later than ten (10) days prior to bid opening. Approval of substitutions will only be made in writing or by addendum. Requests for substitutions shall be accompanied by samples and/or detailed information clearly showing pertinent data for the proposed manufacturers' product (s). Submittal of a request for substitution will not constitute automatic approval of substitute. The A/E and NIU reserve the right to reject substitutions.
- E. Supplier – A recognized builders hardware supplier who has been furnishing hardware in the project's vicinity for a period of not less than five (5) years, and who is or has in employment an Architectural Hardware Consultant (AHC) in good standing as certified by the Door and Hardware Institute or equivalent. This consultant shall have experience in the preparation of Architectural hardware specifications, estimating, detailing, ordering, and servicing of Architectural hardware and will be available at reasonable times during the course of the work for hardware consultation with the Owner, Architect and Contractor.
- F. All hardware provided and installed shall comply with all regulatory agency requirements including the Americans with Disabilities Act, Illinois Accessibility Requirements and NFPA 101 Life Safety Code.
- G. Pre-Installation Meetings: Prior to start of hardware installation, contractor shall schedule and conduct pre-installation meetings with hardware supplier, lock, exit device, and door closer manufacturers' representative(s), installer and related trades, to coordinate materials and techniques, and sequence complex hardware items and systems installation. Proper and correct

installation and adjustment of hardware is to be reviewed, and criteria for punch list review will be established. Convene at least one week prior to commencement of related work. Written documentation of date and attendees/participants is to be provided to architect and owner for record.

1.05 REFERENCES

- A. Finish hardware in this section shall meet the following standards as established by the American National Standards Institute, Inc. (ANSI) which is sponsored by the Builders Hardware Manufacturers Association, Inc. (BHMA). Product tests are to be administered by the ETL Testing Laboratories, Inc., Underwriters Laboratories, or other official testing laboratories, which have been designated by BHMA for the testing of ANSI standards. The standards latest revision will be in effect.

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| 1. Materials & Finishes | |
| 2. Butts & Hinges | ANSI A156.1 Grade 1 |
| 3. Locks & Lock Trim | ANSI A156.2 Grade 1 |
| 4. Exit Devices | ANSI A156.3 Grade 1 |
| 5. Door Controls – Closers | ANSI A156.4 Grade 1 |
| 6. Auxiliary Lock & Assoc. Products | ANSI A156.5 Grade 1 |
| 7. Architectural Door Trim | ANSI A156.6 |
| 8. Template Hinge Dimensions | ANSI A156.7 |
| 9. Door Controls – Overhead Holders | ANSI A156.8 Grade 1 |
| 10. Cabinet Hardware | ANSI A156.9 |
| 11. Power Operated Pedestrian Doors | ANSI A156.10 |
| 12. Cabinet Locks | ANSI A156.11 Grade 1 |
| 13. Mortise Locks & Latches | ANSI A156.13 |
| 14. Sliding & Folding Door Hardware | |
| 15. Closer Holder Release Devices | |
| 16. Auxiliary Hardware | |

- B. Listed Hardware – Hardware which is to be installed in or on fire labeled doors and frames, Class A or lesser, single or pairs, shall be tested and listed by Underwriters Laboratories and/or Warnock Hersey Laboratories Division. Exit devices which are to be used as panic hardware shall be tested and listed in Underwriters Laboratories “Accident Equipment List – Panic Hardware”. All listed hardware shall be in compliance with National Fire Protection Association Number 80 and be properly stamped or labeled for easy identification.

1.06 SUBMITTALS

- A. After the award of a formal contract, six (6) completed typewritten copies of the proposed Finish Hardware Schedule shall be submitted to the Architect for approval. This schedule shall be prepared using the “Sequence and Format for the Hardware Schedule” as approved and recommended by the Door and Hardware Institute (DHI).

- After approval of the schedule, the Hardware Supplier shall provide two (2) copies of the approved schedule to the Architect for file and distribution purposes.
- B. When submitting schedules for approval, include three (3) sets of manufacturers' cut sheets on hardware item proposed.
 - C. Samples – As part of this contract, provide as requested by the Architect, one brand new (not used) sample of each item of finish hardware that is to be furnished for this project. These samples will be held by the Architect until completion of the project and will then be turned over to the Owner. They will serve as product samples for the building maintenance department.
 - D. ANSI – Upon request of the Architect, the hardware manufacturers will issue letters of compliance that their products meet with ANSI standards, have been tested, and are the grades required in this specification.
 - E. Templates – The Hardware Supplier shall provide necessary templates and/or physical hardware to all trades requiring them in order to cut, reinforce, or otherwise prepare their material or product to receive the hardware item. In the event that physical hardware is required by any manufacturer, the Hardware Supplier shall ship to them such hardware via prepaid freight in sufficient time to prevent any delay in execution of their work.

1.07 DELIVERY, STORAGE AND HANDLING

- A. All items of hardware to be delivered to the job site shall be completely packaged with all necessary screws, bolts, miscellaneous parts, instructions, and where necessary, installation templates for manufacturer's suggested installation. They are to be clearly labeled so as to conveniently identify them and their intended location in the building.
- B. A representative of the General Contractor shall receive the hardware when delivered at the job site. A dry, locked storage space, complete with shelving, shall be set aside for the purpose of unpacking, sorting out, checking and storage.
- C. Finish hardware shall be delivered to the General Contractor by the Hardware Supplier. Direct factory shipments to the job site are not acceptable.
- D. The hardware shall be jointly inventoried by representatives of the General Contractor and the Hardware Supplier.
- E. Items damaged prior to acceptance by General Contractor shall be replaced promptly with proper material, and without additional cost to the General Contractor.

- F. All hardware shall be handled in a manner to minimize marring, scratching, or damage.

1.08 WARRANTY

- A. The finish hardware shall carry a limited warranty against defects in workmanship and operation for a period of one year or as listed below from date of final acceptance. No liability is to be assumed where damage or faulty operation is due from abuse, improper usage, improper installation or failure to exercise normal maintenance.
- B. The finish hardware shall be delivered in good condition, expeditiously as possible.
- C. The finish hardware shall be wrapped and covered to eliminate any deterioration caused by weather or freak occurrences.

PART 2 – PRODUCTS

2.01 GENERAL HARDWARE REQUIREMENTS

- A. Requirements for design, grade, function, finish, size, and other distinctive qualities of each type of finish hardware are indicated in this section and the hardware schedule at the end of this section.

2.02 FINISH OF HARDWARE

- A. Finish of hardware items shall conform to ANSI A156.18 unless other specified as follows:
 - 1. General Contractor shall field verify existing hardware finish at each building. It is the intent of this specification that hardware installed in existing buildings will match the existing hardware finish.
 - 2. Provide satin stainless steel (US 32D) on exterior and doors subject to special atmospheric conditions (pool areas, chemical laboratories, etc) locations at all new buildings. Provide satin chrome, satin aluminum finish at balance. Closers only – painted MTLPC finish.
 - 3. Provide Satin bronze (US 10) at existing buildings as determined by the owner. Closer only - painted finish to match US 10.

2.03 KEYING

- A. All locks and cylinders shall be keyed to the existing SCHLAGE GMK system as required by the owner's instruction.
- B. It is required that the key systems have visual key control and that all keys and cylinders be stamped with the alphanumeric key symbol designated for each key

- change as recommended by the Nomenclature for Masterkey Systems established by the Door and Hardware Institute.
- C. Provide six (6) construction master keys to be supplied with the locksets to the General Contractor. The construction master key shall operate all locks and cylinders, and shall permit access to all areas by the General Contractor, during the construction period, prior to the owner assuming control of the building.
 - D. Upon completion of the building, the Owner shall remove the construction cores by means of a control key to be supplied by the finish hardware contractor and install the permanent master keyed cores.
 - E. Provide a total of one (1) cut key for each core combination. For each lock or cylinder supplied, provide two (2) uncut blank keys. Provide 6 construction master keys.
 - F. All operating keys, control keys, master and grand master keys shall be delivered directly to the Owner by the hardware subcontractor who shall obtain a receipt for delivery of same.

2.04 BUTT HINGES

- A. Except for hinges and pivots to be installed entirely (both leaves) into wood doors and frames, provide only template hinges which conform to ANSI whenever applicable.
- B. Use ball bearing hinges on all doors.
- C. All butt hinges to be used on exterior doors or doors subject to special atmospheric conditions (pool areas, chemical laboratories, etc.), shall be of non-ferrous material: Brass, Bronze or Stainless Steel.
- D. Unless noted above, hinges for interior doors may be steel.
- E. Hinge pins, except as otherwise indicated, shall be as follows:
 - 1. Steel hinges: Steel pins.
 - 2. Non-ferrous hinges: Stainless Steel pins.
 - 3. Exterior doors: Non-removable pins (NRP) or security stud.
 - 4. Out-swing corridor doors: Non-removable pins (NRP).
 - 5. Interior doors: Non-rising pins.
 - 6. Tips: Flat button and matching plug, finished to match leaves, except where hospital tip is indicated.
- F. Size of hinges shall be as follows:
- G.

Door Thickness Width	Hinge Height	Hinge Width
1-3/8" to 32"	3-1/2"	3-1/2"
1-3/8" over 32"	4"	3-1/2"
1-3/4" to 36"	4-1/2"	4" or 4-1/2"
1-3/4" over 36"	5"	4-1/2" Extra Heavy Ball Bearing
1-3/4" over 42"	6"	4-1/2" Extra Heavy Ball Bearing
2-1/4" to 42"	5"	4-1/2" Extra Heavy Ball Bearing
2-1/4" over 42"	6"	4-1/2" Extra Heavy Ball Bearing

H. Numbers of hinges per door, provide quantities as follows:

1. For doors less than 5 feet high: 1 pair.
2. For doors 5 feet to 7 feet 6 inches high: 1-1/2 pair and one addition hinge for each additional 2-1/2 feet of door height or fraction thereof.
3. When projection of door trim is such as to prevent desired degree of opening, the proper hinge width shall be provided to allow the door to clear the trim.

I. Acceptable and Approved as follows:

1. Hager BB1191
2. Ives 5BB1

2.05 CONTINUOUS HINGES

A. Hinges shall be aluminum alloy 6063-T6 with anodized finish, to match other door hardware.

B. Hinge shall be a pinless assembly of three interlocking extrusions applied to the full height of the door and frame without mortising. The door leaf and jamb leaf shall be geared together for the entire length of the hinge and joined by a channel. Hinge knuckle shall be monolithic in appearance. Continuous hinge with visible knuckle separations are not acceptable. Vertical door loads shall be carried on minimum 3/4" acetyl bearings through a full 180 degrees. Screw hole locations on door leaf and jamb leaf to be templated. All continuous hinges shall be fully templated for fasteners.

C. Acceptable Manufacturers:

1. Ives 224HD/112HD Series
2. Roton 780-224HD/112HD Series

2.06 MORTISE LEVER HANDLE LOCKSETS

A. Locksets for this project shall be mortise type with solid cast stainless steel lever handle x escutcheon trim.

- B. The lockset case shall be .093 gauge wrought steel with zinc dichromate finish.
- C. Locksets shall have armor front with adjustment for door bevel.
- D. Locksets to have full ¾” projection stainless steel mechanical anti-friction deadlocking latchbolt and 1” projection stainless steel deadbolt.
- E. Strikes shall be curved lip stainless steel ANSI Standard A115.1, 4-7/8” x 1-1/4”. Universal type is not acceptable. Strike shall match lock requirements.
- F. All locksets and cylinders for this project shall be manufactured in the United States of America by a recognized and reputable lock manufacturer.
- G. Locksets for labeled fire doors shall have a fusible link or other mechanism to prevent latchbolt retraction in the event of fire.
- H. Acceptable and Approved as follows:
 - 1. Schlage L9000 x 07N
 - 2. Best 40H x 16M

2.07 MORTISE DEADLOCKS

- A. Mortise deadlock cases shall be plated steel for corrosion resistance.
- B. Deadbolt shall be full 1” projection stainless steel.
- C. Armored front is to be adjustable for door bevel.
- D. Functions shall be as specified in Hardware Sets.
- E. Acceptable and Approved as follows:
 - 1. Schlage L400 Series
 - 2. Best 38H Series

2.08 CYLINDERS

- A. All cylinders shall be SCHLAGE, seven pin small format interchangeable core type.
- B. Permanent cores to be provided to the owner uncombined for keying.
- C. All cylinders are to be provided with two keys blanks stamped “Do Not Duplicate” on the reverse.
- D. Deliver all keys to:
 - 1. Key Control

c/o Mrs. Char Marx
Northern Illinois University
Physical Plant Building
120 Stadium Drive West
DeKalb, IL 60115

- E. Acceptable and Approved as follows:
1. Schlage – EVEREST SFIC, seven pin – Verify keyway prior to ordering.

2.09 EXIT DEVICES

- A. All exit devices for this project shall have the chassis, end cap, and horizontal mounting rail, mounted directly to, and flush with, the door surface. No gaps or space shall be permitted between the back of the horizontal mounting rail and the door surface. If required, a continuous solid spacer bar shall be used to fill the space between the back of the device and the door surface. Provide guarded latch bolts for all exit device types.
- B. The touch pad shall retract the latchbolt by means of a sliding motion of the touch pad towards the lock stile, activating the level arm for easy operations and reduced friction.
- C. All exit devices shall have deadlocking latchbolts, minimum 3/4" projection.
- D. Concealed vertical latch exit devices shall be cable actuated.
- E. All exit devices, regardless of function, except for fire rated or electrically operated devices, shall have cylinder dogging.
- F. Trim to match existing exit device hardware.
- G. All electrically operated exit devices shall have electric latch retraction with no dogging capabilities and shall include manufacturer's recommended power supply and mortise-type electrical power transfer:
1. Von Duprin VD QEL 99 (for door stiles \geq 4-3/4" width).
 - a. (Von Duprin VD QEL 33A for door stiles \geq 1-3/4" and $<$ 4-3/4" width).
 2. Von Duprin VD PS 900 series
 3. Von Duprin VD EPT 10
- H. Acceptable and Approved exit devices are as follows:
1. Von Duprin 99/99F Rim Series (for door stiles \geq 4-3/4" width).
 - a. (Von Duprin 33A Rim Series for door stiles \geq 1-3/4" and $<$ 4-3/4" width).
- I. Removable Mullions: Where indicated, mullions shall be key removable type with wall mounted storage kit.

2.10 ELECTRONIC ACCESS CONTROL LOCKSET

- A. Hardwired Mortise Type – (Exterior Doors, Pod Dorm Entries – Verify Locations with the University)
1. Hardwired electronic locksets to comply with the following requirements:
 - a. Type: Mortise, field-reversible handing.
 - b. Backset: 2-3/4-inch (70 mm), nominal.
 - c. Latchbolt: 3-piece, beveled, stainless steel with 3/4-inch (19 mm) throw and anti-friction latch.
 - d. Chassis: Shall accommodate ANSI standard mortise lock prep for 1-3/4-inch (44 mm) doors standard, or 1-3/8-inch (35 mm) to 2-3/4-inch (70 mm) thick doors in 1/8-inch (3 mm) increments.
 - e. Applicable Standards:
 - 1) Listed, UL 294 - The Standard of Safety for Access Control System Units.
 - 2) Compliant with A156.25 and A156.13 Series 1000, Grade 1 Operational and Security.
 - 3) Lockset to meet or exceed ANSI Standard A156.25 and A156.13 Series 1000, Grade 1 strength and operational requirements.
 - 4) Certified to UL10C, FCC Part15, Florida Building Code Standards TAS 201 large missile impact, TAS 202 and TAS 203.
 - 5) Compliant with ASTM E330 for door assemblies.
 - 6) Compliant with ICC / ANSI A117.1, NFPA 101, NFPA 80, and Industry Canada IC.
 - f. Lockset Functions: Provide locks with following functions, as scheduled, that are field configurable without taking the lock off the door:
 - 1) Classroom / Storeroom 70. NOTE: Not available in mortise deadbolt option.
 - 2) Apartment 60.
 - 3) Office 50. NOTE: Not available in mortise deadbolt option.
 - 4) Privacy 40.
 - g. Deadbolt Option: Provide lockset incorporating deadbolt complying with the following.
 - 1) Characteristics: Stainless steel, 1-inch (25 mm) throw, 1-5/8-inch (41 mm) high and 5/8-inch (16 mm) thick.
 - 2) Operation:
 - a) Deadbolt can be thrown from interior when door is in closed position to prevent unauthorized entry.
 - b) Deadbolt can be retracted from both interior and exterior.
 - c) Deadbolt interconnected with latch.
 - h. Power Supply:
 - 1) Required Power Supply: 12VDC or 24VDC.
 - a) Max current draw not to exceed 250mA.

- B. Hardwired Exit Device Trim – (Exterior Doors, Stairwells – Verify Locations with the University)
1. Hardwired exit device trim to comply with the following requirements:
 - a. Type: Exit device trim, field-reversible handing.
 - b. Exit Device Configurations: Exit device lever trim to retract latchbolt for the following exit device applications:
 - 1) Rim
 - 2) Surface vertical rod
 - 3) Mortise
 - 4) Concealed vertical rod
 - c. Exit Device Compatibility: Provide exit device trim with universal mounting plate enabling operation as follows:
 - 1) All Von Duprin 98/99 Series exit device configurations.
 - 2) Von Duprin 22 Series rim and surface vertical rod configurations.
 - 3) Rim exit devices from Falcon, 25 Series.
 - d. Applicable Standards:
 - 1) Listed, UL 294 - The Standard of Safety for Access Control System Units.
 - 2) Compliant with ANSI/BHMA A156.25 Grade 1 Operation and Security Requirement.
 - 3) Certified to UL10C, FCC Part15, Florida Building Code Standards TAS 201 large missile impact, TAS 202 and TAS 203.
 - 4) Compliant with ASTM E330 for door assemblies.
 - 5) Compliant with ICC / ANSI A117.1, NFPA 101, NFPA 80, and Industry Canada IC.
 - e. Exit Device Trim Functions: Provide exit device trim with following functions, as scheduled, that are field configurable without taking the trim off the door:
 - 1) Classroom / Storeroom.
 - f. Power Supply:
 - 1) Required Power Supply: 12VDC or 24VDC.
 - a) Max current draw not to exceed 250mA.
- C. Wireless Mortise Type – (Interior Dorm Rooms – Verify Locations with the University)
1. Wireless electronic locksets to comply with the following requirements:
 - a. Type: Mortise, field-reversible handing.
 - b. Backset: 2-3/4-inch (70 mm), nominal.
 - c. Latchbolt: 3-piece, beveled, stainless steel with 3/4-inch (19 mm) throw and anti-friction latch.
 - d. Chassis: Shall accommodate ANSI standard mortise lock prep for 1-3/4-inch (44 mm) doors standard, or 1-3/8-inch (35 mm) to 2-3/4-inch (70 mm) thick doors in 1/8-inch (3 mm) increments.
 - e. Applicable Standards:
 - 1) Listed, UL 294 - The Standard of Safety for Access Control System Units.

- 2) Compliant with A156.25 and A156.13 Series 1000, Grade 1 Operational and Security.
 - 3) Lockset to meet or exceed ANSI Standard A156.25 and A156.13 Series 1000, Grade 1 strength and operational requirements.
 - 4) Certified to UL10C, FCC Part15, Florida Building Code Standards TAS 201 large missile impact, TAS 202 and TAS 203.
 - 5) Compliant with ASTM E330 for door assemblies.
 - 6) Compliant with ICC / ANSI A117.1, NFPA 101, NFPA 80, and Industry Canada IC.
- f. Lockset Functions: Provide locks with following functions, as scheduled, that are field configurable without taking the lock off the door:
- 1) Classroom / Storeroom 70. NOTE: Not available in mortise deadbolt option.
 - 2) Apartment 60.
 - 3) Office 50. NOTE: Not available in mortise deadbolt option.
 - 4) Privacy 40.
- g. Deadbolt Option: Provide lockset incorporating deadbolt complying with the following.
- 1) Characteristics: Stainless steel, 1-inch (25 mm) throw, 1-5/8-inch (41 mm) high and 5/8-inch (16 mm) thick.
 - 2) Operation:
 - a) Deadbolt can be thrown from interior when door is in closed position to prevent unauthorized entry.
 - b) Deadbolt can be retracted from both interior and exterior.
 - c) Deadbolt interconnected with latch.
- h. Power Supply:
- 1) Lockset powered by four AA batteries with options for eight AA batteries or a 12V or 24V DC power supply.
 - 2) Lockset shall have ability to communicate battery status and battery voltage level by means of a handheld programming device at door and remotely by Partner integrated software.
- i. Wireless Transmission:
- 1) Modulation: 900 MHz spread spectrum, direct sequence, 10 channels.
 - 2) Encryption: AES-128 bit Key minimum.
- D. Wireless Exit Device Trim – (Verify Locations with the University)
1. Wireless Exit Trim to comply with the following requirements:
 - a. Type: Exit device trim, field-reversible handing.
 - b. Exit Device Configurations: Exit device lever trim to retract latchbolt for the following exit device applications:
 - 1) Rim
 - 2) Surface vertical rod
 - 3) Mortise
 - 4) Concealed vertical rod

- c. Exit Device Compatibility: Provide exit device trim with universal mounting plate enabling operation as follows:
 - 1) All Von Duprin 98/99 Series exit device configurations.
 - 2) Von Duprin 22 Series rim and surface vertical rod configurations.
 - 3) Rim exit devices from Falcon, 25 Series.
- d. Applicable Standards:
 - 1) Listed, UL 294 - The Standard of Safety for Access Control System Units.
 - 2) Compliant with ANSI/BHMA A156.25 Grade 1 Operation and Security Requirement.
 - 3) Certified to UL10C, FCC Part15, Florida Building Code Standards TAS 201 large missile impact, TAS 202 and TAS 203.
 - 4) Compliant with ASTM E330 for door assemblies.
 - 5) Compliant with ICC / ANSI A117.1, NFPA 101, NFPA 80, and Industry Canada IC.
- e. Exit Device Trim Functions: Provide exit device trim with following functions, as scheduled, that are field configurable without taking the trim off the door:
 - 1) Classroom / Storeroom.
- f. Power Supply:
 - 1) Lockset powered by four AA batteries with options for eight AA batteries or a 12V or 24V DC power supply.
 - 2) Lockset shall have ability to communicate battery status and battery voltage level by means of a handheld programming device at door and remotely by Partner integrated software.
- g. Wireless Transmission:
 - 1) Modulation: 900 MHz spread spectrum, direct sequence, 10 channels.
 - 2) Encryption: AES-128 bit Key minimum.

E. Requirements

- 1. Emergency Override: Lockset shall have the ability to utilize emergency mechanical key override with the following manufacturer's key systems in the lever:
 - a. Full Size cylinders from Schlage and Sargent up to 6-pin cylinders and Falcon up to 7-pin cylinders.
 - b. Full Size Interchangeable Cores from Schlage, Sargent, Corbin Russwin, Medeco, and Yale format by Medeco in up to 6 pin cylinders
 - c. Small Format Interchangeable core up to 7 pin by Schlage, Falcon, BEST, Sargent, Corbin Russwin, Medeco, Yale, and others.
- 2. Levers:
 - a. Vandal Resistance: Exterior (secure side) lever designed with ability to rotate freely while door remains securely locked, preventing damage to internal lock components from vandalism by excessive force.
 - b. Levers shall operate independently of each other.
 - c. Style: Athens (07)

- d. Tactile Warning (Knurling): Provide on levers on exterior (secure side) of doors serving rooms considered to be hazardous by the authority having jurisdiction.
3. Features: Locksets shall incorporate the following features.
 - a. Ability to communicate unit's communication status.
 - b. Visual tri-colored LED indicators that indicate activation, additional PIN code credential required, operational systems status, system error conditions and low power conditions.
 - c. Visual bi-colored LED indicator on interior that is capable of indicating secured/unsecured status of device to occupants on interior.
 - d. Audible feedback that can be enabled or disabled.
 - e. Tamper-Resistant Screws: Tamper torx screws on inside escutcheon for increased security.
4. Adaptability:
 - a. Open Architecture: Locksets manufactured with open architecture characteristics capable of handling new and existing access control software and credential reading technology.
 - b. Field changeable Reader Modules: Lockset to have the ability to change credential reader technologies without being removed from door.
5. Switches: Provide locksets with the following switches, standard:
 - a. Door Position Switch
 - b. Interior Cover Tamper Guard
 - c. Mechanical Key Override
 - d. Request to Exit
 - e. Request to Enter
 - f. Unlock/Lock Status (Clutch Position).
6. Credential Reader:
 - a. Credential Reader Configuration: Provide credential reader modules in the following configurations, as indicated in door hardware sets. Multi-tech contactless reader shall be NFC-Compatible and read access control data from both 125 kHz and 13.56 MHz contactless smart cards. The multi-tech contactless reader shall be optimally designed for use in access control applications that require reading both 125 kHz proximity and 13.56 MHz contactless smart cards.
 - 1) Proximity, Smartcard, Multi-Technology and keypad.
 - b. Credential reader capabilities, which can be configured at lockset with handheld programming device and remotely by Partner software to include, but may not be limited to:
 - 1) 13.56 MHz Smart card credentials:
 - a) Secure section (Multi-Technology and Smartcard): Schlage, XceedID ISO-X, MIFARE, ISO-X Lite, my-d, DESFire 8-EV1.
 - b) 13.56 MHz Serial number only (Multi-Technology and Smartcard): MIFARE, DESfire, iClass, Inside Pictotag, ST Micro, TI Tagit.
 - c) 125 kHz Proximity card credentials: Schlage, XceedID, HID, GE/CASI ProxLite and AWID. NOTE: Multi-tech reader.

- 2) Dual credential reading capabilities credential card or fob and PIN.
 - 3) 12 button keypad with backlit buttons.
7. Operation:
- a. Lockset System Interface:
 - 1) Directly via RS485.
 - b. Lockset to have real-time bidirectional communication between access control system and lock.
 - c. Credential Verification Time: less than 1 second.
 - d. When Utilized with Access Control Network Software With Remote Commanding Capability: Lockset shall have ability to be remotely locked down or unlocked within 10 seconds or less without user interface at the device.
 - e. Upon Loss of Power to Lockset: Lockset shall have ability to manage access control offline in one of three methods below that can be configured in the field at lockset by handheld programming device and remotely by Partner integrated software:
 - 1) Fail locked (secured)
 - 2) Fail unlocked (unsecured)
 - 3) Fail As-Is
 - f. Upon Loss of Communication Between Lockset and Network: Lockset shall have ability to manage access control offline in one of four methods below that can be configured in the field at lockset by handheld programming device and remotely by Partner integrated software:
 - 1) Fail locked (secured)
 - 2) Fail unlocked (unsecured)
 - 3) Fail As-Is
 - 4) Fail to Degraded/cache mode utilizing cache memory with following selectable options:
 - a) Grant access up to the last 1,000 unique previously accepted User IDs.
 - b) Grant access up to the last 1,000 unique previously accepted facility/site codes
 - c) Remove from cache previously stored User IDs or facility/site codes that have not been presented to lock within the last 5 days.
 - g. Lockset shall have ability to be configured at door by handheld programming device and remotely by Partner integrated software the length of time device is unlocked upon access grant.
 - h. Lockset shall have the ability to communicate identifying information such as firmware versions, hardware versions, serial numbers, and manufacturing dates by handheld programming device and remotely by Partner integrated software.
- F. Acceptable and Approved exit devices are as follows:
1. Schlage AD-300-MS/MD
 2. Schlage AD-400-MS/MD
 3. Schlage AD-300-993

4. Schlage AD-400-993

2.11 DOOR CLOSERS

- A. All door closers for this project shall be the product of one of the manufacturer and shall have cast iron cylinders.
- B. The cast iron door closer cylinder shall be a Class 30 gray iron with a minimum 180RBH hardness.
- C. Door closers shall be full rack and pinion type construction, non-handed and adjustable spring power size 1 through 6 in accordance with ANSI A117.1 handicapped code.
- D. All closers shall have separate adjustable, non-critical key control valves, one each for the following:
 - 1. Closing Speed
 - 2. Latching Speed
 - 3. Back check and/or delayed action
- E. All closers to have metal covers with MTLPC finish.
- F. The spindle shall be heavy-duty heat-treated steel construction; piston to be one-piece forged steel.
- G. Closer fluid shall be of type that requires no seasonal adjustment from –30F to 120F.
- H. The installing contractor shall be responsible for proper installation of door closers in accordance with degree of opening indicated on hardware schedule. The installing contractor shall be responsible for adjustment of the three individual valves, for proper control as follows:
 - 1. Closing speed
 - 2. Latching speed
 - 3. Delayed action, or backcheck
- I. All door closers shall be listed by Underwriters Laboratories for use on self-closing fire rated doors.
- J. All door closers shall carry a minimum ten (10) year warranty.
- K. Pressure relief valve feature is not accepted on door closers.
- L. All door closers on exterior doors shall be located on the interior side of the building.
- M. Acceptable and Approved devices are as follows:

1. LCN 4040XP EDA Series; LCN 1460T-B Series (for dorm rooms)

2.12 ELECTRO-HYDRAULIC AUTOMATIC OPERATORS (VERIFY WITH UNIVERSITY)

A. Requirements:

1. Provide low energy automatic operator units with hydraulic closer complying with ANSI A156.19.
2. Hydraulic Fluid: Fireproof, passing requirements of UL10C, and requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
3. Provide units with conventional door closer opening and closing forces unless power operator motor is activated. Provide door closer assembly with adjustable spring size, back-check, and opening and closing speed adjustment valves to control door
4. Provide units with on/off switch for manual operation, motor start up delay, vestibule interface delay, electric lock delay, and door hold open delay.
5. Provide units with conventional door closer opening and closing forces unless power operator motor is activated. Provide door closer assembly with adjustable spring size, back-check valve, sweep valve, latch valve to control door.
6. Provide drop plates, brackets, or adapters for arms as required for details.
7. Provide hard-wired actuator switches for operation as specified.
8. Provide weather-resistant actuators at exterior applications.
9. Provide key switches with LED's, recommended and approved by manufacturer of automatic operator as required for function described in operation description of hardware group below. Cylinders: Refer to "KEYING" article, herein.
10. Provide complete assemblies of controls, switches, power supplies, relays, and parts/material recommended and approved by manufacturer of automatic operator for each individual leaf. Actuators control both doors simultaneously at pairs. Sequence operation of exterior and vestibule doors with automatic operators to allow ingress or egress through both sets of openings as directed by Architect. Locate actuators, key switches, and other controls as directed by Architect.
11. Provide units with vestibule inputs that allow sequencing operation of two units, and SPDT relay for interfacing with latching or locking devices.
12. Provide a 1 channel wireless receiver with sequencing feature.
13. Provide handheld 1/2/3/4 channel wireless transmitters as required. (Verify with University)
14. Provide 4-1/2" round wall mounted hardwired actuators. Provide jamb mounted actuators where wall mounting is not feasible.
15. Bollard posts will not be accepted without prior owner approval.

B. Acceptable and Approved devices are as follows:

1. LCN 4600 Series

C. Acceptable and Approved actuators are as follows:

1. LCN 8310-856
2. LCN 8310-818
3. LCN 8310-861/2/3/4

2.13 ELECTRO-MECHANICAL AUTOMATIC OPERATORS (VERIFY WITH UNIVERSITY)

A. Requirements:

1. Provide low energy automatic operator units that are electro-mechanical design complying with ANSI A156.19.
 - a. Opening: Powered by DC motor working through reduction gears.
 - b. Closing: Spring force.
 - c. Manual, hydraulic, or chain drive closers: Not permitted.
 - d. Operation: Motor is off when door is in closing mode. Door can be manually operated with power on or off without damage to operator. Provide variable adjustments, including opening and closing speed adjustment.
 - e. Cover: Aluminum.
2. Provide units with manual off/auto/hold-open switch, push and go function to activate power operator, vestibule interface delay, electric lock delay, hold-open delay adjustable from 2 to 30 seconds, and logic terminal to interface with accessories, mats, and sensors.
3. Provide drop plates, brackets, or adapters for arms as required to suit details.
4. Provide hard-wired motion sensors and/or actuator switches for operation as specified. Provide weather-resistant actuators at exterior applications.
5. Provide key switches, with LED's, recommended and approved by manufacturer of automatic operator as required for function as described in operation description of hardware sets. Cylinders: Refer to "KEYING" article, herein.
6. Provide complete assemblies of controls, switches, power supplies, relays, and parts/material recommended and approved by manufacturer of automatic operator for each individual leaf. Actuators control both doors simultaneously at pairs. Sequence operation of exterior and vestibule doors with automatic operators to allow ingress or egress through both sets of openings as directed by Architect. Locate actuators, key switches, and other controls as directed by Architect.
7. Provide units with inputs for smoke evacuation doors, where specified, which allow doors to power open upon fire alarm activation and hold open indefinitely or until fire alarm is reset, presence detector input, which prevents closed door from opening or door that is fully opened from closing, hold open toggle input, which allows remote activation for indefinite hold open and close second time input is activated, vestibule inputs, which allow sequencing operation of two units, and SPDT relay for interfacing with latching or locking devices.
8. Provide a 1 channel wireless receiver with sequencing feature.
9. Provide handheld 1/2/3/4 channel wireless transmitters as required. (Verify with University)
10. Provide 4-1/2" round wall mounted hardwired actuators. Provide jamb mounted actuators where wall mounting is not feasible.

11. Bollard posts will not be accepted without prior owner approval.

B. Acceptable and Approved devices are as follows:

1. LCN 9500 Senior Swing Series

C. Acceptable and Approved actuators are as follows:

1. LCN 8310-856
2. LCN 8310-818
3. LCN 8310-861/2/3/4

2.14 DOOR STOPS

A. It shall be the responsibility of the hardware supplier to provide door stops for all doors in accordance with the following requirements.

B. Wall type bumpers with a concealed type flange shall be used wherever possible and shall be one of the following:

1. H.B. Ives WS406
2. Rockwood 407

C. Where wall type bumpers cannot be used, such as on unreinforced partitions or in situations where door comes in contact with material such as glass, or any other obstruction, provide dome type floor stops of the proper height.

1. Ives FB13, FB17
2. Rockwood 467

D. Where wall type bumpers cannot be used and floor stop presents a tripping hazard, such as doors that swings more than 140 degrees before striking a wall or in situations where door comes in contact with material such as glass, or any other obstruction, provide heavy duty surface mounted overhead stops of the proper size.

1. Glynn-Johnson 90 Series
2. Glynn-Johnson 100 Series (Aluminum Entrances)

2.15 PUSH/PULLS

A. Pull Handles:

1. Pull units shall consist of offset 1" diameter round stainless steel bar, 10" center-to-center, with 2" minimum projection and 1-1/2" clearance.
2. Acceptable and Approved as follows:
 - a. Ives 8103
 - b. Rockwood 111
3. Push plates to be provided for push side of door.

B. Push Bars: Provide a push bar at full glass doors. Push bar to be 1" diameter, 2-1/2" projection.

1. Acceptable and Approved as follows:
 - a. Ives 9100
 - b. Rockwood 47

KICK AND MOP PLATES

- C. Kickplates shall be .050 gauge solid stainless steel
 1. 10” by 2” less than door width for singles.
 2. 10” by 1” less than door width for pairs.
- D. Kickplates shall be applied on the push side of all doors where noted.
- E. Mop plates shall be .050 gauge solid stainless steel, 10” by 1” less than door width.
- F. Mop plates shall be applied on the pull side of all doors where noted.
- G. All kick and mop plates to be beveled three sides.
- H. Acceptable and Approved as follows:
 1. Ives 8400 B-CS
 2. Rockwood .050 B3E

2.16 FLUSH BOLTS

- A. Constant latching extension flush bolts shall have forged bronze faceplate with extruded brass lever and with wrought brass guide and strike. Rods for flush bolts shall be 12” steel or brass for doors up to 7’6” in height. Where doors are over 7’6” in height the flush bolt rod length shall be increased in increments of 6” for each 6” of additional door height. Plate size shall be 6-3/4” x 1” to meet ANSI A115 and SDI specifications. Bolt projection shall be 5/8”.
- B. Floor strikes for flush bolts shall be dustproof type cast or extruded bronze with cast bronze floor plate minimum 3-1/2” x 1-5/8” with masonry anchors for concrete floor provided a dustproof strike for sill application, for all bottom flush bolts for pairs of doors.
- C. Acceptable and Approved as follows:
 1. Ives FB51P x DP2
 2. Trimco 3820 x 3910

2.17 SURFACE BOLTS

- A. Where surface bolts are specified, it is required that both top and bottom bolts be supplied. For doors up to 7’6” the top bolt shall be 8”. Where doors are over 7’6” in

height the surface bolt length shall be increased in increments of 6” for each 6” of additional door height.

B. Acceptable and Approved as follows:

1. Ives SB453
2. Trimco 3922

2.18 ELECTRIC STRIKES

A. Electric strikes shall be monitor type for use with mortise locks on single doors or pairs.

B. Strikes shall fit standard A115.3 frame cut-out with modification.

C. One piece faceplate and body to be of drop-forged brass.

D. Provide appropriate transformer and rectifier with each electric strike.

E. Acceptable and Approved as follows:

1. Von Duprin 6000-DS-LC Series
2. Folger Adams 310/700-LCMLBM Series

WEATHERSTRIPPING

F. To be provided at all exterior doors.

1. Jamb and head seal. Replaceable bumper in surface mounted extruded aluminum housing. Gray Solid silicone, hollow bulb or loop.
2. Bottom sweep seal. Replaceable sweep in surface mounted extruded aluminum housing. Gray Solid silicone.
3. Finish to match other door hardware.

G. Acceptable and Approved as follows:

1. Zero International 39A Series; 429A Series; 328AA Series
2. National Guard Products 200S Series; 137S Series
3. Pemko Manufacturing 315 Series; 297S Series
4. Reese Enterprises 322 Series; 403 Series

THRESHOLDS

H. To be provided at all exterior doors.

1. Aluminum storefront to be 5” wide x ½” high saddle
2. Hollow metal public doors to be 5” wide x ¼” high bumper type.
3. Mechanical spaces to be 5” wide x ½” high bumper type.

- I. Ribbed aluminum, minimum of 5" wide. Finish to match other door hardware. Width shall cover joints between interior floor surface and exterior walking surface where applicable.
- J. Provide sealant for setting of thresholds.
- K. Acceptable and Approved as follows:
 - 1. Zero International 625A Series, 566A Series, 560A Series
 - 2. National Guard Products 425 Series, 896S Series, 804S Series
 - 3. Pemko Manufacturing 1715 Series, 2005AT Series, 177AT Series
 - 4. Reese Enterprises S205A Series, S483AS Series, S487AU Series
- L. Select styles and modify types indicated above, to suit actual conditions, changes in elevation, and to fit door hardware and frames.

PART 3 – INSTALLATION

3.01 HARDWARE

- A. Mount hardware units at heights indicated in “Recommended Locations for Builders Hardware” for (Standard Steel Doors and Frames), (Custom Steel Doors and Frames), (Wood Doors and Frames) by the Door and Hardware Institute (DHI), except if otherwise specifically indicated or to comply with requirements of governing regulations, requirements for the handicapped, or if otherwise directed by the Architect.
- B. Degree of opening for doors with overhead holders, closers, etc., shall be included in the hardware schedule for the Architect’s approval.
- C. All hardware shall be installed or supervised by tradesmen skilled in the application of commercial grade hardware.
- D. Install each hardware item in compliance with the instructions and recommendations. Securely fasten all parts to be attached. Fit faces of mortised parts snug and flush. Make sure all operating parts move freely and smoothly without binding, sticking or excessive clearance. Wherever cutting and fitting is required to install hardware onto or into surfaces which are later to be painted or finished in another way, the hardware shall be removed and stored prior to the painting or finishing. Items shall then be reinstalled only when the finishes have been completed on the surface to which the hardware is to be applied.
- E. Do not modify openings in existing fire-rated/label doors in field.

- F. At exterior doors and elsewhere as indicated, set thresholds in a bed of sealant as specified in Section 07900 to completely fill concealed voids and exclude moisture from every source. Do not plug drain holes or block weeps. Remove excess sealant.
- G. After installation, representative templates, instruction sheets and installation details shall be placed in a file folder to be turned over to the Owner when the building is accepted. Included shall be at least five (5) each of any special adjusting and/or installation tools furnished with the hardware by the manufacturer.
- H. Post-Installation Walk Through: Prior to substantial completion, contractor shall schedule post-installation walk through with hardware supplier, lock, exit device, and door closer manufacturers' representative(s), to inspect installation of door hardware to insure that all hardware is functioning correctly. Provide complete list of findings and recommendations to Architect.

3.02 ADJUSTING AND CLEANING

- A. Adjust and check each operating item of hardware to ensure correct operation and function. Units which cannot be adjusted to operate as intended for the application made shall be replaced.
- B. Occupancy adjustment: Whenever hardware is installed more than one month prior to building acceptance or occupancy of a space or area, the installer shall return to the work during the week prior to acceptance or occupancy and make final check and adjustment of all hardware items. Hardware shall be cleaned as necessary to restore correct operation, function, and finish. Door control devices shall be adjusted to compensate for the final operation of heating and ventilating equipment.
- C. Final Adjustment: Approximately six months after date of Substantial Completion, Installer's Architectural Hardware Consultant shall examine and readjust each item of door hardware, including adjusting operating forces, as necessary to ensure function of doors, door hardware, and electrified door hardware.

3.03 PROTECTION

- A. Whenever hardware is located in areas where it may be subject to damage during construction by handling, cleaning, etc., (i.e. painting, cleaning of bricks) it shall be protected and/or removed from its location until the hazardous condition is terminated.

3.04 SCHEDULES

- A. The following is a general listing of the hardware requirements and is not intended for use as a final hardware schedule. Any items of hardware required by established

standards or practices, or to meet state and local codes, shall be furnished whether or not specifically called out in the following groups.

3.05 [BUILDING NAME OR AREA IF APPLICABLE] *Modify sets below per project*

Hardware Group No. 01 - Exterior Door – Access Control & Auto Operator

Qty		Description	Catalog Number	Finish	Mfr
2	EA	CONT. HINGE	112HD EPT	628	IVE
2	EA	POWER TRANSFER	EPT10	689	VON
1	EA	KEYED REMOVABLE MULLION	KR4954-MT54	SP28	VON
1	EA	ELEC PANIC HARDWARE	RX-LC-CD-99-EO	626	VON
1	EA	ELEC PANIC HARDWARE	RX-LC-QEL+-SD-99-NL-OP-LESS TRIM-110	626	VON
3	EA	SFIC MORTISE CYL.	80-102	626	SCH
1	EA	SFIC RIM HOUSING	80-129	626	SCH
4	EA	SFIC CONST CORE	80-035	GRN	SCH
4	EA	SFIC EVEREST 29 CORE	80-036	626	SCH
2	EA	90 DEG OFFSET PULL	8190 10"	630	IVE
1	EA	OH STOP	100S	630	GLY
1	EA	CLOSER	4040XP ARM AS REQUIRED	MTLP C	LCN
1	EA	SURF. AUTO OPERATOR	9542	689	LCN
1	EA	WEATHER RING	8310-800	689	LCN
2	EA	ACTUATOR, WALL MOUNT	8310-856	630	LCN
2	EA	DOOR SWEEP	39A	AL	ZER
1	EA	THRESHOLD	625A	AL	ZER
1	EA	MULTITECH READER	MTK15	BLK	SCE
2	EA	DOOR CONTACT	679-05HM	BLK	SCE
1	EA	POWER SUPPLY	PS902 2RS	LGR	VON

Card Reader connections by campus security contractor.

The card reader releases the RHR leaf exit device and turns on the exterior actuator.

The inside actuator is active at all times.

Seals by Door Manufacturer.

Hardware Group No. 02 - Exterior Door

Qty		Description	Catalog Number	Finish	Mfr
2	EA	CONT. HINGE	112HD EPT	628	IVE
2	EA	POWER TRANSFER	EPT10	689	VON
1	EA	KEYED REMOVABLE MULLION	KR4954-MT54	SP28	VON
2	EA	ELEC PANIC HARDWARE	RX-LC-CD-99-EO	626	VON
3	EA	SFIC MORTISE CYL.	80-102	626	SCH
3	EA	SFIC CONST CORE	80-035	GRN	SCH
3	EA	SFIC EVEREST 29 CORE	80-036	626	SCH
2	EA	90 DEG OFFSET PULL	8190 10" O	630	IVE
2	EA	OH STOP	100S	630	GLY
2	EA	SURFACE CLOSER	4040XP ARM AS REQUIRED	MTLP C	LCN
2	EA	DOOR SWEEP	39A	AL	ZER
1	EA	THRESHOLD	625A	AL	ZER
2	EA	DOOR CONTACT	679-05HM	BLK	SCE

Seals by Door Manufacturer.

Hardware Group No. 03 - Vestibule Door – Auto Operator

Qty		Description	Catalog Number	Finish	Mfr
2	EA	CONT. HINGE	112HD	628	IVE
2	EA	PUSH/PULL BAR	9190-10"-STD	630	IVE
1	EA	OH STOP	100S	630	GLY
1	EA	CLOSER	4040XP ARM AS REQUIRED	MTLP C	LCN
1	EA	SURF. AUTO OPERATOR	9542	689	LCN
2	EA	ACTUATOR, WALL MOUNT	8310-856	630	LCN

Seals by Door Manufacturer.

Hardware Group No. 04 - Vestibule Door

Qty		Description	Catalog Number	Finish	Mfr
2	EA	CONT. HINGE	112HD	628	IVE
2	EA	PUSH/PULL BAR	9190-10"-STD	630	IVE
2	EA	OH STOP	100S	630	GLY
2	EA	SURFACE CLOSER	4040XP ARM AS REQUIRED	MTLP C	LCN

Seals by Door Manufacturer.

Hardware Group No. 05 – Exterior Door – Access Control - Single

Qty		Description	Catalog Number	Finish	Mfr
1	EA	CONT. HINGE	224HD EPT	628	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	ELEC CLASSROOM LOCK	AD-300-MS-70-MTK-ATH-BD	626	SCE
1	EA	SFIC CONST CORE	80-035	GRN	SCH
1	EA	SFIC EVEREST 29 CORE	80-036	626	SCH
1	EA	SURFACE CLOSER	4040XP ARM AS REQUIRED	MTLP C	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
1	SET	JAMB SEALS	328AA	AL	ZER
1	EA	HEAD SEAL	429A	AL	ZER
1	EA	DOOR SWEEP	39A	AL	ZER
1	EA	THRESHOLD	566A	AL	ZER

Mount 429A head seal prior to mounting closer.

Hardware Group No. 06 – Exterior Pair – Mechanical Space

Qty		Description	Catalog Number	Finish	Mfr
6	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	SET	CONST LATCHING BOLT	FB51P	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	L9080BD 07N	626	SCH
1	EA	SFIC CONST CORE	80-035	GRN	SCH
1	EA	SFIC EVEREST 29 CORE	80-036	626	SCH
1	EA	OH STOP & HOLDER	90 SERIES AS REQUIRED	630	GLY

1	EA	SURFACE CLOSER	4040XP ARM AS REQUIRED	MTLP C	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW	630	IVE
1	SET	JAMB SEALS	328AA	AL	ZER
1	EA	HEAD SEAL	429A	AL	ZER
1	EA	DOOR SWEEP	39A	AL	ZER
1	EA	THRESHOLD	566A	AL	ZER
2	EA	DOOR CONTACT	679-05HM	BLK	SCE

Mount 429A head seal prior to mounting closer.

Hardware Group No. 07 – Exterior Single – Mechanical Space

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	630	IVE
1	EA	STOREROOM LOCK	L9080BD 07N	626	SCH
1	EA	SFIC CONST CORE	80-035	GRN	SCH
1	EA	SFIC EVEREST 29 CORE	80-036	626	SCH
1	EA	SURFACE CLOSER	4040XP ARM AS REQUIRED	MTLP C	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	SET	JAMB SEALS	328AA	AL	ZER
1	EA	HEAD SEAL	429A	AL	ZER
1	EA	DOOR SWEEP	39A	AL	ZER
1	EA	THRESHOLD	566A	AL	ZER
1	EA	DOOR CONTACT	679-05HM	BLK	SCE

Mount 429A head seal prior to mounting closer.

Hardware Group No. 08 – Interior Pair – Access Control

Qty		Description	Catalog Number	Finish	Mfr
6	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
2	EA	POWER TRANSFER	EPT10	689	VON
1	EA	KEYED REMOVABLE MULLION	KR4954-MT54	SP28	VON
1	EA	ELEC CLASSROOM LOCK	AD-300-993R-70-MTK-ATH-BD	626	SCE
2	EA	PANIC HARDWARE	RX-LC-CD-99-EO	626	VON
3	EA	SFIC MORTISE CYL.	80-102	626	SCH
4	EA	SFIC CONST CORE	80-035	GRN	SCH
4	EA	SFIC EVEREST 29 CORE	80-036	626	SCH

2	EA	SURFACE CLOSER	4040XP ARM AS REQUIRED	MTLP C	LCN
2	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
2	SET	SEALS	188S	CLR	ZER

Hardware Group No. 09 – Single Interior – Access Control

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	POWER TRANSFER	EPT10	689	VON
1	EA	ELEC CLASSROOM LOCK	AD-300-993R-70-MTK-ATH-BD	626	SCE
1	EA	FIRE EXIT HARDWARE	RX-LC-99-EO-F	626	VON
1	EA	SFIC CONST CORE	80-035	GRN	SCH
1	EA	SFIC EVEREST 29 CORE	80-036	626	SCH
1	EA	SURFACE CLOSER	4040XP ARM AS REQUIRED	MTLP C	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	SET	SEALS	188S	CLR	ZER

Card Reader connections by campus security contractor.

Hardware Group No. 10 – Interior Pair – Storage

Qty		Description	Catalog Number	Finish	Mfr
6	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	SET	CONST LATCHING BOLT	FB51P	630	IVE
1	EA	DUST PROOF STRIKE	DP2	626	IVE
1	EA	STOREROOM LOCK	L9080BD 07N	626	SCH
1	EA	SFIC CONST CORE	80-035	GRN	SCH
1	EA	SFIC EVEREST 29 CORE	80-036	626	SCH
1	EA	COORDINATOR	COR X FL	628	IVE
2	EA	MOUNTING BRACKET	MB	689	IVE
2	EA	SURFACE CLOSER	4040XP ARM AS REQUIRED	MTLP C	LCN
2	EA	KICK PLATE	8400 10" X 1" LDW	630	IVE
2	EA	WALL STOP	WS407CCV	630	IVE

1	SET	SEALS	188S	CLR	ZER
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Hardware Group No. 11 – Interior Single – Storage

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	STOREROOM LOCK	L9080BD 07N	626	SCH
1	EA	SFIC CONST CORE	80-035	GRN	SCH
1	EA	SFIC EVEREST 29 CORE	80-036	626	SCH
1	EA	SURFACE CLOSER	4040XP ARM AS REQUIRED	MTLP C	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
1	SET	SEALS	188S	CLR	ZER

Hardware Group No. 12 – Multi-Use Washroom

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5	652	IVE
1	EA	CLASSROOM DEAD LOCK	L463BD	626	SCH
1	EA	SFIC CONST CORE	80-035	GRN	SCH
1	EA	SFIC EVEREST 29 CORE	80-036	626	SCH
1	EA	PUSH PLATE	8200 4" X 16"	630	IVE
1	EA	PULL PLATE	8303 10" 4" X 16"	630	IVE
1	EA	CLOSER	4040XP ARM AS REQUIRED	MTLP C	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE

Hardware Group No. 13 – Interior Single – Classroom

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	CLASSROOM SECURITY LOCK	L9071BD 07N	626	SCH
2	EA	SFIC CONST CORE	80-035	GRN	SCH
2	EA	SFIC EVEREST 29 CORE	80-036	626	SCH

1	EA	SURFACE CLOSER	4040XP ARM AS REQUIRED – IF FIRE RATED	MTLP C	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
1	SET	SEALS	188S – IF FIRE RATED	CLR	ZER

Hardware Group No. 14 – Interior Single – Office

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	OFFICE LOCK	L9050BD 07N	626	SCH
1	EA	SFIC CONST CORE	80-035	GRN	SCH
1	EA	SFIC EVEREST 29 CORE	80-036	626	SCH
1	EA	SURFACE CLOSER	4040XP ARM AS REQUIRED – IF FIRE RATED	MTLP C	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
1	SET	SEALS	188S – IF FIRE RATED	CLR	ZER

Hardware Group No. 15 – Interior Single – Dorm – Wireless

Qty		Description	Catalog Number	Finish	Mfr
3	EA	HINGE	5BB1 4.5 X 4.5 NRP	652	IVE
1	EA	ELEC CLASSROOM LOCK	AD-400-MS-70-MTK-ATH-BD	626	SCE
1	EA	SFIC CONST CORE	80-035	GRN	SCH
1	EA	SFIC EVEREST 29 CORE	80-036	626	SCH
1	EA	SURFACE CLOSER	1460T	MTLP C	LCN
1	EA	KICK PLATE	8400 10" X 2" LDW	630	IVE
1	EA	WALL STOP	WS407CCV	630	IVE
1	SET	SEALS	188S – IF FIRE RATED	CLR	ZER
1	EA	VIEWER	U698	626	IVE

End of Division 08 7100

This section of the NIU Design Requirements establishes minimum requirements only.

It should not be used as a complete specification.