

PEARL PLACE 2

SECTION 087100 – FINISH HARDWARE

PART 1 –GENERAL

1.01 RELATED DOCUMENTS

- A. All of the Contract Documents, including General and Supplementary Conditions and Division 1 General Requirements, apply to the work of this section.

1.02 DESCRIPTION OF WORK

- A. The work of this section includes, but is not limited to, the following:
 - 1. Providing hardware for all doors, except doors provided with their own hardware.
 - 2. Providing lock cylinders for all work requiring cylinders.
 - 3. Providing the services of a qualified hardware consultant to prepare detailed schedules of hardware required for the project.

1.03 RELATED WORK

- A. Carefully examine all of the Contract Documents for requirements which affect the work of this section. Other specifications sections which directly relate to the work of this section include, but are not limited to, the following:
 - 1. Section 08100 – Hollow Metal Doors and Frames; work requiring template coordination, metal astragals for fire-rated doors.
 - 2. Section 08210 – Wood Doors; work requiring template coordination, metal astragals for fire-rated doors.

1.04 INTENT

- A. A major intent of the work of this section is to provide hardware for every door in the project, except as indicated, so that each door functions correctly for its intended use. Provide only hardware that complies with applicable codes and requirements of authorities having jurisdiction including requirements for barrier-free accessibility.

1.05 QUALITY ASSURANCE

- A. Hardware supplier shall have in his employ one or more members of the Door and Hardware Institute to include at least one Certified Architectural Hardware Consultant in good standing, who shall be responsible for preparation of the Finish Hardware Schedule. This Consultant shall be acceptable to the Architect and is to ensure that the intent requirement of this specification is fulfilled, and certify that the work of this section meets or exceeds the requirements specified in this section and the requirements of authorities having jurisdiction.

PEARL PLACE 2

- B. Hardware supplier shall warrant and guarantee, in writing, that hardware supplied is free of defective material and workmanship. Supplier shall further warrant and guarantee for a period of one year from Owner's Use and Occupancy that the hardware shall function in a satisfactory manner without binding, collapse, or dislodging of its parts, provide the installation is made to the manufacturer's recommendations.
- C. The hardware supplier shall repair or remedy, without charge, any defect of workmanship or material for which he is responsible hereunder.

1.06 SUBMITTALS

- A. Submit the following in accordance with SECTION 01300-SUBMITTALS:
 - 1. Schedule: Submit to the Architect six (6) copies of the complete hardware schedule within the fourteen (14) days after receipt of contract award. Submit therewith complete catalog cuts and descriptive data of all products specifically scheduled therein. No materials shall be ordered or templates issued until the hardware schedule has been approved by the Architect. Form and detail of hardware schedule shall be in vertical format in conformance to the door and hardware industry standards. All hardware sets shall be clearly cross-referenced to the hardware set numbers listed in the specifications.
 - 2. Samples: If requested, submit to the Architect for approval, a complete line of samples as directed. Samples shall be plainly marked giving hardware number used in this specification, the manufacturer's numbers, types and sizes. The Architect will deliver approved samples to the project site to be stored. Samples will remain with the Architect until delivery of all hardware to the project is complete, after which time they will be turned over to the General Contractor for incorporation into the work.
 - 3. Keying System Submission: Before cylinders are ordered, submit a complete proposed keying system for approval. This should be done after a keying meeting has been held with the owner's representative.

1.07 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Delivery of hardware shall be made to the project by the Hardware Supplier in accordance with the instructions of the General Contractor.
- B. The finish hardware shall be delivered to the jobsite and received there by the General Contractor. The General Contractor shall prepare a locked storage room with adequate shelving, for all hardware. The storage room shall be in a dry, secure area, and shall not include storage of other products by other trades.
- C. The General Contractor shall furnish the Hardware Supplier with receipts for all hardware and accessory items received, and shall send copies of these receipts to the Architect, if requested.

PEARL PLACE 2

1.08 REGULATORY REQUIREMENTS

- A. Conform to all applicable codes. Provide all throws, projections, coatings, knurling, opening and closing forces, and other special functions required by State and Local Building Codes, and all applicable Handicap Code requirements.
- B. For fire rated openings, provide hardware complying with NFPA 80 and NFPA 101 without exception. Provide only hardware tested by UL for the type and size of door installed and fire resistance rating required.

1.09 SPECIAL REQUIREMENTS

- A. Hardware Supplier shall determine conditions and materials of all doors and frames for proper application of hardware.
- B. The Hardware Schedule shall list the actual product series numbers. Bidders are required to follow the manufacturers' catalog requirement for the actual size of door closers, brackets and holders. All door opening sizes are as noted on the Door Schedule and all hardware shall be in strict accordance with requirements of height, width, and thickness.

PART 2 – PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

PEARL PLACE 2

Hinges	McKinney Stanley Ives	Scranton, PA New Britain, CT New Haven, CT
Locksets	Schlage (No substitutions)	Colorado Springs, CO
Exit Devices	Von Duprin (No substitutions)	Indianapolis, IN
Door Closers	LCN Sargent	Princeton, IL New Haven, CT
Door Stop	Glynn Johnson Ives Rockwood	Indianapolis, IN New Haven, CT Rockwood, PA
Push/Pulls	Rockwood Burns Ives	Rockwood, PA Erie, PA New Haven, CT
Protective Plates	Rockwood Burns Ives	Rockwood, PA Erie, PA New Haven, CT
Thresholds/ Weatherstripping/ Rain Drips	NGP Pemko Reese	Memphis, TN Memphis, TN Rosemount, MN
Silencers	Ives Glynn Johnson Rockwood	New Haven, CT Indianapolis, IN Rockwood, PA

2.02 MATERIALS AND QUALITY

- A. All hardware shall be of the best grade of solid metal entirely free from imperfections manufacturer and finish.
- B. Qualities, weights, and sizes given herein are the minimum that will be accepted. It is the responsibility of the Hardware Supplier to supply the specified size and weight of hardware and the proper function of hardware in each case and to provide UL approved hardware at all fire rated doors.
- C. Provide, as far as possible, locks of one lock manufacturer and hinges of one hinge manufacturer. Modifications to hardware that are necessary to conform to construction shown or specified shall be provided as required for the specified operation and functional features.

2.03 HARDWARE DESIGNATIONS

PEARL PLACE 2

- A. All items of hardware are referenced by manufacturer's names and numbers. The manufacturer's names and numbers are used to define the function, design, and the quality of the material to be supplied.

Substitution of products other than those listed shall be submitted to the Architect at least ten (10) days PRIOR to the bid date. The Architect shall be the sole judge of any proposed substitution.

2.04 TEMPLATES

- A. Hardware supplier shall immediately, but not later than three (3) days after approval of his Schedule by the Architect, furnish the General Contractor with complete template information necessary for the fabrication of doors, frames, etc. No templates shall be furnished prior to the approval of the hardware schedule.

2.05 HARDWARE FOR LABELED FIRE DOORS, EXIT DEVICES AND SMOKE DOORS

- A. Hardware shall conform to requirements of NFPA 80 for labeled fire doors and to NFPA 101 for exit doors, as well as to other requirements specified. Labeling and listing by UL Building Materials Directory, for class of door being used will be accepted as evidence of conformance to these requirements. Install minimum latch throw as specified on label of individual doors. Provide hardware listed by UL except where heavier materials, larger sizes, or better grades are specified herein under paragraph entitled "Hardware Sets". In lieu of UL labeling and listing, test reports from a nationally recognized testing agency may be submitted showing that hardware has been tested in accordance with UL test methods and that it conforms to NFPA requirements. Specific hardware requirements of door or frame manufacturers which exceed sized or weights of hardware herein listed shall be provided with no additional charge.

2.06 KEYING:

- A. All locks and cylinders shall be 6 pin tumbler key removable and interchangeable core cylinders keyed as required by the owners instruction and operated by one (1) Masterkey Group AA.
- 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 each key removable core cylinder with a construction masterkey core of brass or plastic. The construction cores shall be used by the General Contractor throughout the construction period. One (1) week prior to acceptance of the building, or at the owners request, the successful hardware contractor shall visit the building and by use of a special control key, shall remove the brass or plastic construction cores from all cylinders and replace them with the permanent

PEARL PLACE 2

cores required with each cylinder.

- D. Provide a total of six (6) Masterkeys and one (1) special control key for removing the key removable core cylinder. Provide a total of six (6) construction masterkeys for the temporary cores.
- E. Provide a minimum of four (4) keys for each keyed different change.

2.07 FASTENERS

- A. Manufacture hardware to conform to published templates, generally prepared for machine screw installation.
- B. Furnish screws for installation, with each hardware item. Provide Phillips flat-head screws except as otherwise indicated. Furnish exposed screws to match the hardware finish, or, if exposed in surfaces of other work, to match the finish of such other work as closely as possible, except as otherwise indicated.
- C. Provide concealed fasteners for hardware units which are exposed when the door is closed, except to the extent no standard manufactured units of the type specified are available with concealed fasteners. Do not use thru-bolts unless specifically approved by the Architect.
- D. All hardware shall be installed only with fasteners supplied by manufacturers of specific products.

2.08 PACKING AND MARKING

- A. All hardware shall have the required screws, bolts and fastenings necessary for proper installation and shall be wrapped in the same package as the hardware item for which it is intended and shall match finish of hardware with which to be used.
- B. Each package shall be clearly labeled indicating the portion of the work for which it is intended.

2.09 ENVIROMENTAL CONCERN FOR PACKGING

- A. The hardware shipped to the jobsite is to be packaged in biodegradable packs such as paper or cardboard boxes and wrapping. If non-biodegradable packing such as plastic, plastic bags or large amounts of Styrofoam is utilized, then the Contractor will be responsible for the disposal of the non-biodegradable packing to a licensed or authorized collector for recycling of the non-degradable packing.

2.10 FINISH HARDWARE DESCRIPTION

- A. Hardware items shall conform to respective specifications and standards and to requirements specified herein.
- B. MATERIALS AND FINISH MATERIALS AND FINISHES SHALL BE:

PEARL PLACE 2

1. Interior Butts: US26D (BHMA 652)
2. Exterior Geared Hinges US28 (BHMA 628)
3. Door Closers: Sprayed to match hardware finish.
4. Exit Devices: US26D (BHMA 626)
5. Kick, Push Plates: US32D (BHMA 630)
6. All other hardware shall be: US26D (BHMA 626), or as scheduled.

C. HINGES

1. Number of hinges per door, two hinges for doors up to and including five feet in height and an additional hinge for each two and one half feet or fraction thereof.
2. Hinges shall be as follows:

Exterior	McKinney	TA2314	4 ½ x 4 ½ NRP
	Stanley	FBB191	4 ½ x 4 ½ NRP
Interior	McKinney	TA2714	4 ½ x 4 ½
	Stanley	FBB179	4 ½ x 4 ½
Elec	McKinney	TA2714-CC4	
	Stanley	CEFBB179	

D. DOOR CLOSERS:

1. Door closers shall have fully hydraulic, full rack and pinion action. Cylinder body shall be 1-1/2" in diameter, and double heat treated pinion shall be 11/16" in diameter.
2. Hydraulic fluid shall be of a type requiring no seasonal closer adjustment for temperatures ranging from 120 degrees F to -30 degrees F.
3. Spring power shall be continuously adjustable over the full range of closer sizes, and allow for reduced opening force for physically handicapped. Hydraulic regulation shall be by tamper-proof, non-critical valves. Closers shall have separate adjustment for latch speed, general speed, and hydraulic back-check.
4. All closers shall have solid forged steel main arms (and forged forearms for parallel arm closers).
5. Closer arms (and metal covers when specified) shall have a powder coating finish.
6. Provide drop, mounting plates, where required.
7. Do not locate closers on the side of doors facing corridors, passageways or similar type areas. Where it is necessary, due to certain conditions and

PEARL PLACE 2

approval of the Architect, to have closers in corridors, provide such closers with parallel or track type arms.

8. All door closers shall be adjusted by the installer in accordance with the manufacturer's templates and written instructions. Closers with parallel arms shall have back-check features adjusted prior to installation.
8. Closers shall conform to all applicable code requirements relative to setting closing speeds for closers and maximum pressure for operating interior and exterior doors.
9. Closers shall conform to all applicable code requirements relative to setting closing speeds for closers and maximum pressure for operating interior and exterior doors.
10. Door closers meeting this specification are as follows:

	LCN
Exterior	4111S-CUSH 4111S-H-CUSH
Interior	4011 4111 4040SE 4000T 4310ME-SF 4040SE-DE

E. EXIT DEVICES:

1. Shall be Von Duprin as follows: (No substitutions)

Function	Von Duprin
A	CD99NL-OP
B	CD99EO

PEARL PLACE 2

C	99L
D	99L-BE
E	99EO-F
F	99L-F
G	99L-F-BE
H	9927EO
I	9927L
J	9927L-BE
K	CD9927EO x LBR
L	9927L x LBR
M	9927L-BE x LBR
N	9927EO-F
O	9927L-F
P	9927L-F-BE
Q	9927EO-F x LBR
R	9927L-F x LBR
S	9927L-F-BE x LBR
T	9927TP
U	EL99L-F

NOTE: Lever design shall match lock trim

F. LOCKSETS, LATCH SETS:

1. Heavy duty cylinder, Grade 1, 2 3/4" backset, six pin cylinder with lever handles.

Lockset manufacturer Schlage Lock ND Series RHO (No substitutions)

2. Lock functions as indicated in the hardware schedule shall be as follows:

Function	Schlage
A (Storeroom)	80
C (Office)	50
D (Passage)	10
E (Vestibule)	60
F (Classroom)	70
G (Spec Classroom)	71
H (Privacy)	40

G. INTERIOR APARTMENT LEVER HANDLE CYLINDRICAL LOCKS

1. Locksets for this project shall be heavy duty cylindrical key-in-Lever handle type locksets.
2. Locksets shall have adjustable backsets with 1/2" throw latchbolt, with deadlocking latch, and a cylindrical housing of steel with a zinc dichromate finish.

PEARL PLACE 2

3. Locksets shall be fastened by thru-bolts, thru 3 ½” diameter inside rose back plate into threaded studs in the outside rose back plate. Thru-bolts shall be placed in separate bolt holes, thru the door and outside the cylindrical case at 180 deg. from each other.
4. The inside and outside rose scalps shall be 3 ½” diameter zinc die cast or bronze. When assembled, all thru-bolts in the face of the door shall be concealed from view. The lever handles shall be solid cast in the same finish as the rose.
5. The ½” throw latchbolt shall be listed and approved for use by Underwriters Laboratories.
6. Strikes shall be curved lip ANSI A115.2 4 7/8” x 1 ¼” wrought brass or bronze.
7. The following locksets shall be considered acceptable for this project:

Schlage	F Series	ELAN Design
---------	----------	-------------
8. All locksets and cylinders for this project, shall be by the same Manufacturer and shall be manufactured in the United States of America by a reputable builders hardware manufacturer.
9. The following is a list of lock functions as indicated under “hardware sets”:

<u>FUNCTIONS</u>	<u>SCHLAGE</u>
(1)	10
(2)	40
(3)	170

H. ELECTRONIC INTERCONNECTED LOCKSETS:

1. Provide interconnected locksets with electronic deadbolt conforming to ANSI/BHMA A156.12, Grade 2 requirements, with simultaneous retraction of deadbolt and latch for single-operation egress. Locks shall be certified by UL for 3-hour fire resistance rating.
2. Locks shall be adjustable for 2 3/8-inch or 2 3/4-inch backset, with a 1/2-inch throw latchbolt and 1-inch throw deadbolt. Locks shall accommodate door thickness of 1 3/8 inches to 1 3/4 inches.
3. Strikes shall be standard 1 1/8-inch x 2 1/4-inch square corner strikes, unless extended-lip strikes are required for protection of trim.
4. Locks shall be non-handed, and shall accommodate 4-inch or 5 1/2-inch spacing between lockset and deadbolt preparation on door.
5. Lever style shall be Elan
6. Electronic deadbolt shall be battery-operated, and shall accept iButton credentials, as well as mechanical key override.
7. Software shall generate 1,000-event audit reports which include credential used and date/time of access, and shall allow time-zone control of access credentials. Software shall accommodate 500 user credentials.

PEARL PLACE 2

8. The following components are also required as part of this system:
 - a. Schlage Security Management System Express (SMS Express) software (Comm: SXPR-SFT-1, Res: 56-063).
 - b. Handheld Programming Device Kit (HHD kit) includes HHD Programming Device and HH-USB Cable.
 - c. Female/Female Serial Cable (Comm: P394548, Res: 56-036).
 - d. Programming iButton (48-515).
 - e. User iButton on black fob (100-pack – 48-530).
9. Acceptable Manufacturers and Products: Schlage FE210 series

I. OFFLINE ELECTRONIC LOCKSETS:

1. Bored type locksets to be non-handed, heavy-duty cylindrical type, with 2 3/4" backset, as specified, with 1/2 inch throw latchbolt with 3/4 inch throw available. Chassis to accommodate standard 161 cylindrical lock prep for 1 3/4" doors standard; with 1 3/8" to 2 3/4" thick doors in 1/8" increments. Backset to be 2 3/4" standard, with 2 3/8", 3 3/4" and 5" backset optional.
2. Lockset to meet or exceed ANSI Standard A156.25 and A156.2 Series 4000, Grade 1 strength and operational requirements. Lockset listed to UL294. Lockset certified to UL10C, FCC Part15, Florida Building Code Standards TAS 201 large missile impact, TAS 202 and TAS 203. Lockset shall be compliant with ICC / ANSI A117.1, NFPA 101, NFPA 80, and Industry Canada RSS-210.
3. Exterior lever to be designed with ability to rotate freely while door remains securely locked, preventing damage to internal lock components from vandalism by excessive force. Lever trim to be non-handed, and to operate independently of non-locking levers for extended life cycles.
4. Lockset powered by four AA batteries.
5. Furnish locks with following functions that are field configurable:
 - a. Classroom / Storeroom 70.
 - b. Office 50.
 - c. Privacy 40.
6. Lever style:
 - a. Athens
 - b. Knurling option available for tactile feedback.
7. Lockset to have visual tri-colored LED indicators that indicate activation, operational systems status, system error conditions and low power conditions. Lockset to have audible feedback that can be enabled or disabled. Lockset to have a on board processor with memory capacity of 2,000 users, 2,000 event audit history, up to 16 time zones and up to 32 calendar events. Lockset to have a

PEARL PLACE 2

standard Mechanical Key Override Switch. Lockset to have an optional Door Position Switch. Lockset to have ability to communicate Battery Status.

8. Credential reader capabilities for SMS Express Software will include and may not be limited to:
 - a. 125 kHz Proximity card credentials: Schlage.
 - b. Dual credential reading capabilities credential card/fob + pin.
 - c. 12 button keypad.
9. The lockset will have the ability to utilize emergency mechanical key with Full Size Interchangeable Cores from Schlage.
10. Acceptable Manufacturers and Products: Schlage CO-200-CY-PRK Series

J. OFFLINE ELECTRONIC ACCESS CONTROLLED EXIT DEVICE TRIM:

1. Exit device lever trim to be non-handed, and field reversible.
2. Exit device trim to be provided with a universal mounting plate enabling it to operate specified exit devices.
3. Exit device trim to meet or exceed A156.25 Grade 1 Operational and Security. Exit device trim shall be listed to UL294. Exit device trim certified to UL10C, FCC Part15, Florida Building Code Standards TAS 201 large missile impact, TAs 202 and TAS 203. Exit device trim shall be compliant with ICC / ANSI A117.1, NFPA 101, NFPA 80, and Industry Canada RSS-210.
4. Exterior lever to be designed with ability to rotate freely while door remains securely locked, preventing damage to internal lock components from vandalism by excessive force.
5. Exit device trim powered by four AA batteries.
6. Exit device lever trim to release the latch bolt for the following exit device applications: rim, surface vertical rod, concealed vertical rod and mortise.
7. Furnish trim with following functions:
 - a. Classroom / Storeroom.
8. Lever style:
 - a. Rhodes
 - b. Knurling option available for tactile feedback.
9. Trim to have a on board processor with memory capacity of 2,000 users, 2,000 event audit history, 16 time zones and 32 calendar events. Exit device trim to have the following switch provided standard: Mechanical Key Override. Lockset to have the following optional switch: Door Position Switch. Exit device trim to have the ability to communicate Battery Status
10. Credential reader capabilities for SMS Express Software will include and may not be limited to: [Line item 22 or 23 must be referenced]
 - a. 125 kHz Proximity card credentials: Schlage
 - b. Dual credential reading capabilities credential card/fob + pin.

PEARL PLACE 2

c. 12 button keypad with non-backlit buttons.

11. The exit device trim will have the ability to utilize emergency mechanical key with Full Size Interchangeable Cores from Schlage.

12. Acceptable Manufacturers and Products: Schlage CO-200-993-PRK Series

K. ACCESS CONTROL SYSTEM:

1. The Access Control shall be a modular system that is capable of expansion to large projects with multiple remote sites, alarm monitoring, badging, digital video servers and CCTV system control. The system shall also reflect the open-architecture design that is flexible and easily expandable.

2. The software program shall be a 32-bit, client/server, ODBC compliant application based on Microsoft tools and standards. The software program shall operate in one of the following environments; Windows XP or greater using Intel Pentium III Processor or greater. The software shall manage both online and offline locksets; Schlage FE-series, CO-series, and CT5000 controllers.

3. The manufacturer shall offer both single workstation and multi workstation systems from the product family. The software program shall consist of multiple servers including, but not limited to, database server, communication server and client and workstation server. The servers shall be capable of being installed on one or more PCs across a network providing a distribution of systems and processes.

4. A PC/workstation computer, furnished by others, shall be used to program all access control functions, generate reports, display in real-time all or selected alarms, operator instructions for alarm response, alarm resets, all or selected valid and invalid entry activity, and all internal system status alarms such as communication loss/restore, power loss etc.

5. The system programming should be user friendly and capable of being accomplished by personnel with no prior computer experience. The software shall be of a consistent user interface that is compatible with current software techniques employed by Microsoft and other software developers, namely drop down menus, drag and drop programming, dialogue boxes, check boxes, etc. The basic user interface shall be consistent with techniques used in the Windows 2000 operating system, or its predecessor, Windows NT and shall also have a manual mode of operation allowing authorized operators to respond to alarm or trouble conditions, unlock doors or override control points.

6. The System shall provide a means for scheduled automatic backups of any or all database system files.

7. The system (single user system or multi user system) shall have the capability to communicate with the controllers via LAN/WAN connections utilizing industry standard TCP/IP communication protocol. The system shall also support dial-up communication via an on-board modem at 2400-baud rate and direct communication via RS232 protocol.

8. Access Control Server Software to be installed in Owner supplied computer system.

9. Acceptable Manufacturers and Products: Schlage SMS Express.

L. ELECTRIC STRIKES

PEARL PLACE 2

1. Provide non-handed surface mounted electric strikes that require no alteration or field cutting to existing frame designed for use with the rim type exit device where scheduled.
 2. Provide electric strikes meeting UL1034 burglary resistant and UL Listed up to 3-hours. Provide fail-secure type electric strikes, unless specified otherwise.
 3. Provide transformers and rectifiers for each strike as required. Strikes shall be field selectable voltage 12-24 VDC.
 4. Acceptable Manufacturers and Products: Von Duprin 6300 series.
- M. HAND HELD PROGRAMMING DEVICE:
1. Capable of initializing lock and accessories using preloaded Schlage Utility Software
 2. Used to field configure devices:
 - a. Credential Reader Formats
 - b. Lock Function
 - c. Unlock Period
 - d. Power Failure Mode
 - e. Audible Alarm ON/OFF
 - f. Battery Status
 - g. Validate hardware and software revision
 - h. Troubleshooting Status Signals
 - i. Special Access Delay (ADA)
 - j. Delayed Egress (Release Delay)
 - k. Door Propped open Delay
 - l. Lockdown Cancel Delay Time Out between credential and PIM
 - m. Number of Key presses without valid PIN before lockout
 - n. Current Date/Time
 - o. Enable/Disable Manual Programming
 3. Utilized to download firmware updates and door files to device
 4. Utilized to download audit files from device
 5. Hand Held Device to have:
 - a. 3.5 inch LCD display minimum
 - b. Touch Screen/Keypad Backlit
 - c. 32-bit processor minimum
 - d. Memory: 128MB RAM/256 MB ROM
 - e. Battery: Rechargeable Li-ion
 6. Acceptable Manufactures: Schlage HHD Kit

PEARL PLACE 2

N. MINI-MULLION PROXIMITY CARD READER:

1. Provide mounting suited for door mullions or narrow stile mounting.
2. The reader shall contain a sensor for tamper detection.
3. The reader shall be UL 294 listed, and shall be FCC and CE certified.
4. Transmit frequency: 125kHz
5. The reader shall have a read range of up to 4.5”.
6. The reader shall be capable of reading access control data from Schlage Proximity, XceedID™ Proximity, HID® Proximity, and GE/CASI ProxLite® Proximity credentials.
7. The reader shall be capable of transmitting card data in standard Wiegand format.
8. The reader shall have a Wiegand output.
9. The reader shall have separate terminal control points for LEDs and for the audible indicator.
10. The reader shall have multiple LEDs for increased visibility.
11. The reader’s color shall be (select) Black or Gray.
12. The reader shall produce an audio signal providing unique tone sequences for various status conditions.
13. The reader shall have a limited lifetime warranty against defects in materials and workmanship.
14. Acceptable Manufacturers and Products: Schlage SXF1050

O. PUSH PLATES, DOOR PULLS, PUSH/PULL BARS:

1. Shall be as manufactured by Rockwood, Burns or Ives.
 - a. Push plates shall be 4” x 16” x .050 thickness unless otherwise listed in hardware sets.

Rockwood	70 Series
Burns	50 Series
Quality	40 Series

- b. Door pulls shall be 1” x 10”

Type A

Rockwood	BF111
Burns	BF26C
Quality	BF163-10”

- c. Push/Pull bars

Type A (Wide Stile Doors)

Rockwood	BF11147 x T1006 Mounting
Burns	BF26C x 442 x Sim. Mounting as Above

PEARL PLACE 2

Quality BF 482 x Sim. Mounting as Above

P. KICK PLATES, ARMOR PLATES, MOP PLATES:

1. Kick plates shall be 8 in. high. Armor plates shall be 34 in. high. Mop plates shall be 4 in. high. All plates shall be 2 in. less the width of door. Plates shall be .050 thickness, bevel 4 edges, screws shall be oval head counter-sunk.

Q. STOPS

1. Shall be furnished at all doors. Wherever and opened door or any item of hardware thereon strikes a wall, at 90 degrees. Provide wall bumpers, unless otherwise indicated in hardware sets.
2. Where wall bumpers cannot be effectively used, a floor stop shall be furnished and installed.
3. Provide roller bumpers for each door where two doors interfere with each other in swinging.

Manufacturer	Wall Bumpers	Floor Stops	Roller Bumpers
Rockwood	409	440, 442	456
Ives	407 ½	436B, 438B	470 Series
Glynn Johnson	WB 50XT	FB13, FB14	RB-3

4. Where overhead stops are listed they shall be the surface mounted type as follows:

Manufacturer	Series
Glynn Johnson	GJ450
Sargent	1540
ABH	4400

R. THRESHOLDS, WEATHERSTIP, SEAL:

1. Thresholds shall be as detailed and furnished on all doors where shown on drawings. Thresholds shall be aluminum unless otherwise indicated. Set thresholds for exterior and acoustical doors in full bed of sealant complying with requirements specified in Division 7 Section "Joint Sealants".
2. Weatherstripping shall be furnished on all exterior doors unless otherwise indicated.

Product	Pemko	Reese	NGP
Threshold	as detailed		
Brush Seal	45062AP	970	A626A
Auto. Door	430CR	330	420

PEARL PLACE 2

Bottom			
Door Sweep	345AV	353	101AV
Set Astragals	351C x 351CP	95 x 95P	140 x 140P
Astragal	357SP	183S	139SP
Rain Drip	346C	R210A	16A

S. ROLLER BUMPERS:

1. Where required roller bumpers shall be installed where two doors open against each other and shall be equal to Rockwood 456.

T. KEY CABINET:

1. Furnish a wall mounted key cabinet in grey neutratone finish with a capacity capable of containing all the keyed different and alike changes required for this project and an additional 20% greater quantity for future expansion.
2. Provide a complete cross-indexing system, including: 1. Hook number, 2. Key number, 3. Description of item to which key belongs.
3. It shall be the responsibility of the hardware supplier to receive the keys from the lock manufacturer. He shall then prepare a complete type-written cross-file index system as prescribed in the manufacturers key index manual. It shall also be the hardware supplier's responsibility to attach the keys to the fibre tags and to install on corresponding numbered hook in the key cabinet.
4. It shall be the general contractor's responsibility to install the key cabinet where directed by the Owner.
5. Key control systems of the following manufacturers will be acceptable for this project:
Telkee, Inc.
Key Control Systems, Inc.

PART 3—EXECUTION

3.01. INSPECTION

1. It shall be the general contractors responsibility to inspect all doors openings and doors to determine that each door and door frame has been properly prepared for the required hardware. If errors in dimensions or preparation are encountered, they are to be corrected by the responsible parties prior to the installation of hardware.

3.02. PREPARATION

1. All doors and frames, requiring field preparation for finish hardware, shall be carefully mortised, drilled for pilot holes, or tapped for machine screws for all

PEARL PLACE 2

items of finish hardware in accordance with the manufacturers templates and instructions.

3.03 INSTALLATION/ADJUSTMENT/LOCATION

1. All materials shall be installed in a workmanlike manner following the manufacture's recommended instructions.
2. Exit Devices shall be carefully installed so as to permit friction free operation of crossbar, touch bar, lever. Latching mechanism shall also operate freely without friction or binding.
3. Door Closers shall be installed in accordance with the manufacturer's instructions. Each door closer shall be carefully installed, on each door, at the degree of opening indicated on the hardware schedule. Arm position shall be shown on the instruction sheets and required by the finish hardware schedule.
4. The adjustments for all door closers shall be the installer's responsibility and these adjustments shall be made at the time of installation of the door closer. The closing speed and the latching speed valves, shall be adjusted individually to provide a smooth, continuous closing action without slamming. The delayed action feature or back check valve shall also be adjusted so as to permit the correct delayed action cycle or hydraulic back check valve shall also be adjusted so as the opening cycle. All valves must be properly adjusted at the time of installation. Each door closer has adjustable spring power capable of being adjusted, in the field from size 2 thru 6. It shall be the installers' responsibility to adjust the spring power for each door closer in exact accordance with the spring power adjustment chart illustrated in the door closer installation sheet packed with each door closed.
5. Installation of all other hardware, including locksets, push-pull latches, overhead holders, door stops, plates and other items, shall be carefully coordinated with the hardware schedule and the manufacturer's instruction sheets.
6. Locations for finish hardware shall be in accordance with dimensions listed in the pamphlet "Recommended locations for Builders' Hardware" published by the Door and Hardware Institute.

3.04 FIELD QUALITY CONTROL

1. Upon completion of the installation of the finish hardware, it shall be the responsibility of the finish hardware supplier to visit the project and to examine the hardware for each door on which he has provided hardware and to verify that all hardware is in proper working order. Should he find items of hardware not operating problem he should make a report, in writing, to the general contractor, advising him of the problem and the measures required to correct the problem.

3.05 PROTECTION

1. All exposed portions of finish hardware shall be carefully protected, by use of cloth, adhesive backed paper or other materials, immediately after installation of

PEARL PLACE 2

the hardware item on the door. The finish shall remain protected until completion of the project. Prior to acceptance of the project by the Architect and owner, the general contractor shall remove the protective material exposing the finish hardware.

3.06 CLEANING

1. It shall be the responsibility of the general contractor to clean all items of finish hardware and to remove any remaining pieces of protective materials and labels.

3.07 INSTRUCTIONS AND TOOLS

1. It shall be the responsibility of the finish hardware supplier to provide installation and repair manuals and adjusting tools, wrenches, etc... for the following operating products.
 - a. Locksets (all types)
 - b. Exit Devices (all types)
 - c. Door Closers

3.08 HARDWARE SETS

1. Each Hardware Set listed below represents the complete hardware requirements for one opening. (Single Door or Pair of Doors). Furnish the quantities required for each set for the work.

ITEM 1

Door S2-0A

Door to Have: Hinges, Offline Electronic Controlled Exit Device, Auto Opener, Electric Strike

ITEM 2

Doors 004.1

Pair to Have: Hinges, Offline Electronic Lockset, Flush Bolts, Closers, Electric Strike

ITEM 3

PEARL PLACE 2

Doors 002.2, 500.1, 500.2

Door to Have: Hinges, Lockset (Function A), Closer, Kick Plate, Weatherstrip, Door Bottom, Threshold

ITEM 4

Doors 100K.1, 100K.2

Each Door to Have: Hinges, Offline Electronic Controlled Exit Device, Closer, Stop

ITEM 5

Door 000.1

Door to Have: Hinges, Exit Device, Closer, Kick Plate, Weatherstrip, Door Bottom, Threshold

ITEM 6

Doors 001.1, 009.1, S1.0B, S3.0B, 100G.1

Each Door to Have: Hinges, Offline Electronic Lockset, Closer, Kick Plate, Stop, Silencers

ITEM 7

Door S1.0A, S3.0A

Each Door to Have: Hinges, Offline Electronic Controlled Exit Device, Kick Plate, Weatherstrip, Door Bottom, Stop

ITEM 8

Doors 002.1, 005.1, 006.1, 008.1, 100D.1, 100F.1, 100M.1, S2.0F, S2.0H, 200D.1, S2.01, 300D.1, S2.0G, 400.D1

Each Door to Have: Hinges, Lockset (Function A), Closer, Kick Plate, Stop, Silencers

ITEM 9

Doors 003.1

Door to Have: Hinges, Lockset (Function A), Flush Bolts, Closers, Kick Plates, Stops, Silencers

ITEM 10

Doors S2.0B, 006.2, 100E.1

Each Door to Have: Hinges, Passage Set (Function D), Closer, Kick Plate, Stop, Silencers

ITEM 11

Doors S1.1A, S1.3 S2.1A, S3.1A, S1.2, S2.2, S3.2, S3.1A, S2.3A, S3.3A, S1.4A, S2.4A, S3.4A

Each Door to Have: Hinges, Exit Device w/Lever Handle, Closer, Kick Plate, Stop

ITEM 12

Door 100C.1

Door to Have: Hinges, Privacy Set (Function H), Closer, Kick Plate, Stop, Silencers

PEARL PLACE 2

ITEM 13

Doors 101A.1, 102H.1, 103H.1, 105A.1, 106H.1, 107H.1, 109A.1, 110A.1, 111A.1, 112A.1, 113H.1, 114H.1, 201A.1, 202H.1, 203J.1, 204A.1, 205A.1, 206H.1, 207H.1, 208A.1, 209H.1, 210A.1, 211A.1, 212A.1, 213H.1, 214H.1, 301A.1, 302H.1, 303J.1, 304A.1, 305A.1, 306H.1, 307A.1, 308A.1, 309A.1, 310A.1, 311A.1, 312A.1, 313H.1, 314H.1, 401A.1, 402H.1, 403J.1, 404A.1, 405A.1, 406H.1, 407A.1, 408A.1, 409A.1, 410A.1, 411H.1, 412A.1, 413H.1, 414H.1
Each Door to Have: Hinges, Spring Hinges, Electronic Interconnected Lockset, Door Viewer, Kick Plate, Stop, Silencers
Provide Roller Bumpers at Door Opening into Closet Doors

TYPICAL INTERIOR APARTMENT DOORS

ITEM 14

Paired Closet Doors
Each Pair to Have: Hinges, Dummy Lever Set (Function 3), Magnetic Catch

ITEM 15

Single Closet Doors
Each Door to Have: Hinges, Latchset (Function 1)

ITEM 16

Single Bathroom/Bedroom Doors
Each Door to Have: Hinges, Privacy Set (Function 2)