

# Addendum 1

**City of Canton, Ohio**  
Purchasing Department  
218 Cleveland Ave. SW, 4<sup>th</sup> floor  
Canton, Ohio 44702

Sugarcreek Water Treatment Plant Filter Backwash Dechlorination Facility

---

**Item/Project**

Water Department

---

**Responsible Department**

Tuesday, March 16, 2021 at 2:00 PM local time

---

**Bids Due On or Before**

**Bid Proposal Submitted By:**

---

**Company Name**

---

**Street Address**

---

**City**

**State**

**Zip**

---

**Contact Person**

**Phone No.**

**Email Address**

**Sugarcreek Water Treatment Plant Filter Backwash Dechlorination Facility  
Water Department**

**Addendum No. 1**

**CLARIFICATION:**

1. The Contractor shall provide all material testing for the project using a third party testing agency approved by the Owner.
2. A man gate is not required to be installed in the new fence.
3. Crystalline waterproofing admixture specified in Section 03 30 00 Part 2.1 E. 5. f is not required for this project.

**TECHNICAL SPECIFICATIONS:**

1. **Appendix D – Table of Contents.** For Division 8 – Openings, ADD Section 08 12 50 Fiberglass-Reinforced Plastic (FRP) Doors and Section 08 71 00 Finish Hardware
2. **Section 01 11 00 Part 1.2 B.7.** ADD the following: “The City is providing four chemical totes with 250 gallons of chemical in each tote delivered to the jobsite. Each tote is equipped with a 2” ball valve facing the front of the tank within the molded base of the tank for connection to chemical suction line to pump.”
3. **Section 06 74 13 Part 2.3A.** REPLACE with the following:
  - “A. **Manufacturer**
  1. Grating shall be 1-1/2-inch Duragrid I-4000, safety yellow color, 40% open, designed for 0.042-inch deflection with uniform load of 300 psf across a 30” span, as produced by Strongwell Corporation, Bristol VA.
  2. Approved equal”
4. **Section 08 12 50.** ADD the attached specification.
5. **Section 08 71 00.** ADD the attached specification.

**PROJECT PLANS:**

1. **Sheet 4 of 19.** DELETE the note “REMOVE EX FENCE” on upper right corner of sheet to the east of the containment sump. (Limits of fence to be removed is shown cross hatched to denote removal. The new fence shall be installed around the building as shown on Sheet 4.)
2. **Sheet 6 of 19:**
  - Under design criteria for the 1 (New) Chemical Feed Pump for Dechlorination, Add the following note: “NEW PUMP SHALL BE BLUE WHITE MODEL FLEX-PROM-2, WATSON-MARLOW QDOS 60, OR APPROVED EQUAL AND SHALL MEET OR EXCEED DESIGN CRITERIA OF THE EXISTING PUMP TO REMAIN.”
  - In Section A, ADD the depiction of a ½” CPVC ball valve approximately 18” above the floor in the NaHSO<sub>3</sub> piping as shown in Section B, and ADD the following note: “½” CPVC ball valves approximately 18” above the floor with a ½” NPT pipe - tubing adapter coupling to connect the solution feed piping to the tubing in the carrier pipe that discharge in the effluent manhole.”

**Sugarcreek Water Treatment Plant Filter Backwash Dechlorination Facility  
Water Department**

3. **Sheet E-3, 19 of 19:** ADD the following note regarding the Float Switch and Alarm Warning Light. “ CONTRACTOR SHALL INSTALL THE SPECIFIED NEMA 4X, NON-METALLIC JUNCTION BOX IN THE CONTAINMENT SUMP (ABOUT 12” BELOW THE GRADE) TO SUPPORT THE FLOAT SWITCH WITH UNDERGROUND CONDUIT TO THE WALL MOUNTED WARNING LIGHT AS SHOWN ON THE DRAWINGS. THE FLOAT SWITCH SHALL BE UL LISTED, MECHANICALLY ACTIVATED, NARROW ANGLE, SNAP ACTION CONTACT, 20’ CABLE WITH REQUIRED WEIGHT ASSEMBLY MANUFACTURED BY SJW RHOMBUS, CONERY OR EQUAL. THE WARNING LIGHT SHALL BE UL LISTED, WEATHERPROOF, 120VAC, FLASHING AUDIBLE/VISUAL WITH RED LENS. FEDERAL SIGNAL MODEL AV1-LED OR EQUAL.”

## SECTION 08 12 50

### FIBERGLASS-REINFORCED PLASTIC (FRP) DOORS

#### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

- A. **General.** Drawings and general provisions of Contract, including General Conditions, Special Conditions, Division 1 – “General Requirements,” and all related specification sections, apply to this section.

##### 1.2 DESCRIPTION OF WORK

- A. **General.** The Contractor shall provide the labor, tools, equipment, and materials necessary to furnish and install fiberglass-reinforced plastic (FRP) doors in accordance with the plans and as specified herein.
- B. **This section includes** the following products.
  - 1. Doors. Seamless, FRP doors.
  - 2. Frames. Seamless, FRP door frames.
  - 3. Provide factory-finished doors and frames (gray).
- C. **Door hardware is specified** in another Division 8 specification.
- D. **Glass and glazing are specified** in another Division 8 specification.

##### 1.3 QUALITY ASSURANCE

- A. **Codes and Standards.** Perform all work to furnish and install FRP doors in compliance with applicable requirements of governing agencies having jurisdiction and in accordance with these plans and as specified herein.

##### 1.4 SUBMITTALS

- A. **General.** Comply with Section 01300, “Contractor Submittals” and submit the following supplemental requirements within this specification section.
- B. **Submit the following** in accordance with Conditions of Contract and Division 1 specification sections.
  - 1. Product data for each type of door specified, including details of construction, materials, dimensions, hardware preparation, core, profiles, and finishes.
  - 2. Shop drawings showing fabrication and installation of doors. Include elevations of door design types, conditions at openings, details of construction, location and installation requirements of door hardware and reinforcements, and details of joints and connections. Show anchorage and accessory items.

- a. Provide schedule of doors and frames using same reference numbers for details and openings as those on contract drawings.
  - b. Coordinate door hardware preparation with door hardware requirements.
3. Samples for initial selection purposes in form of manufacturer's color charts showing full range of colors available for factory-finished doors.
  4. Samples for verification purposes of each type of exposed finish required, prepared on samples not less than 3" x 5" and of same thickness and material indicated for final unit of work. Where finishes involve normal color and texture variations, include sample sets showing full range of variations expected.

#### 1.5 **JOB CONDITIONS**

Not used.

#### 1.6 **DELIVERY, STORAGE, AND HANDLING**

- A. **General.** Handle, store, and protect items removed and stored or reset in accordance with Section 01610 and 01611 and the manufacturer's instructions, and the supplemental requirements within this specification section.
- B. **Delivery doors and frames** cardboard-wrapped or crated to provide protection during transit and job storage. Provide additional protection to prevent damage to finish of factory-finished doors and frames.
- C. **Inspect doors and frames** upon delivery for damage. Minor damage may be repaired provided refinished items are equal in all respects to new work and acceptable to Engineer/Architect; otherwise, remove and replace damaged items as directed.
- D. **Store doors and frames** at building site under cover. Place units on minimum 4-inch-high wood blocking. Avoid use of nonvented plastic or canvas shelters which could create humidity chamber. If cardboard wrapper on door becomes wet, remove carton immediately. Provide 1/4-inch spaces between stacked doors to promote air circulation.

#### 1.7 **SPECIAL WARRANTY**

Not used.

### **PART 2 - PRODUCTS**

#### 2.1 **ACCEPTABLE MANUFACTURERS**

- A. **Manufacturer.** Subject to compliance with requirements, provide FRP doors and frames by one of the following:
  1. FRP Doors and Frames.

- a. Chem-Pruf Door Co.
- b. Marshall Vega Corp.

## 2.2 MATERIALS

- A. **Glass Fiber Reinforcement.** Continuous-strand mats utilizing continuous-strand roving and woven roving.
- B. **Resin.** Cross-linking polymer, flame-retardant isophthalic polyester with ultraviolet (UV) inhibitor additives. Class I flame retardant by American Society for Testing and Materials (ASTM) E 84.
- C. **Supports, Reinforcements, and Anchors.** Manufacturer's standard units.
- D. **Inserts, Bolts, and Fasteners.** Manufacturer's standard units.
- E. **Factory-Applied Finish.** Manufacturer's standard corrosion-resistant finish.

## 2.3 DOORS

- A. **Provide doors and frames** of types and styles as indicated on drawings.
  - 1. Minimum 0.125-inch FRP with 0.500-inch FRP stiles.
  - 2. Minimum 0.250 fiberglass-reinforced frames.

## 2.4 FABRICATION

- A. **Fabricate door and frame units** to be rigid, neat in appearance, and free from defects, warp, or buckle. Fit and assemble units in manufacturer's plant. Clearly identify work that cannot be permanently factory-assembled before shipment to ensure proper assembly at project site.
  - 1. Internal Construction. Manufacturer's standard core on inside of face sheets.
  - 2. Clearances. Not more than 1/8 inch at jambs and heads. Not more than 3/4 inch at bottom.
- B. **Fabricate exposed faces** of doors and panels, including stiles and rails of nonflush units, from FRP.
- C. **Fabricate concealed stiffeners**, reinforcement, edge channels, and moldings from FRP.
- D. **Fabricate top and bottom edges** of doors as integral part of door construction.
- E. **Exposed Fasteners.** Unless otherwise indicated, provide oval heads for exposed screws and bolts.
- F. **Hardware Preparation.** Prepare doors and frames to receive mortised and concealed hardware in accordance with final Door Hardware Schedule and templates provided by hardware supplier. Comply with applicable requirements

of American National Standards Institute (ANSI) A115 Series Specifications for door preparation for hardware.

- G. **Reinforce door and frames** to receive surface-applied hardware.
- H. **Locate hardware as indicated** on final shop drawings or, if not indicated, in accordance with "Recommended Locations for Builder's Hardware on Standard Steel Doors and Frames," published by Door and Hardware Institute.

### **PART 3 - EXECUTION**

#### **3.1 INSTALLATION**

- A. **General.** Install FRP doors and frames and accessories in accordance with final shop drawings and manufacturer's data, and as herein specified.
- B. **Door Installation.** Fit FRP doors accurately in frames.

#### **3.2 ADJUST AND CLEAN**

- A. **Protection Removal.** Immediately prior to final inspection, remove protective plastic wrappings from prefinished doors.
- B. **Final Adjustments.** Check and readjust operating hardware items, leaving doors undamaged and in complete and proper operating condition.

END OF SECTION

## SECTION 08 71 00

### FINISH HARDWARE

#### PART 4 – GENERAL

##### 4.1 RELATED DOCUMENTS

- A. **Drawings and general provisions** of Contract, including General and Supplementary Conditions and Division 1 Specification sections, apply to work of this section.

##### 4.2 DESCRIPTION OF WORK

- A. **Definition.** "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.
- B. **Extent of finish hardware** required is indicated on drawings and in schedules.
- C. **Types of finish hardware** required include the following:
  - 1. Butt Hinges
  - 2. Continuous Hinges
  - 3. Lock cylinders and keys
  - 4. Lock and latch sets
  - 5. Exit devices
  - 6. Closers
  - 7. Electronic door control devices
  - 8. Overhead Holders
  - 9. Door trim units

##### 4.3 RELATED SECTIONS

- A. **Division 8** - Aluminum Doors and Frames

##### 4.4 QUALITY ASSURANCE

- A. **Codes and Regulatory Agencies.** Perform all work in compliance with all applicable federal, state, and local codes and regulatory agencies.
- B. **Standards.** All hardware shall be in conformance with the following standards.
  - 1. ANSI – American National Standards Institute.
  - 2. NBHA – National Builders Hardware Association.
- C. **Qualifications.** All finish hardware shall be furnished by a single supplier. Each category of hardware shall be manufactured by a single firm specializing in the production of this type of work.



- D. **This supplier shall be responsible** to field check existing openings for proper application of sizes and strikes for all openings.

#### 4.5 REGULATORY REQUIREMENTS

- A. **Comply with accessibility requirements**, comply with Americans with Disabilities Act (ADA), "Accessibilities Guidelines for Buildings and Facilities (ADAAG)," ANSI A117.1, FED-STD-795, "Uniform Federal Accessibility Standards."
- B. **Fire Rated Openings.** Provide hardware for fire rated openings in compliance with NFPA Standard No. 80 and local building code requirements. Provide only hardware which has been tested and listed by UL or an approved testing agency for types and sizes of doors required and complies with requirements of door and door frame labels.
- C. **Fire-Rated Assemblies.** Upon completion of the installation, all fire door assemblies shall be tested to confirm proper operation of the closing device and that it meets all criteria of a fire door assembly as per NFPA 80 2007 Edition. At completion of the project, written record shall be furnished by the door hardware supplier and given to the owner to be made available to the Authority Having Jurisdiction, "AHJ". The record shall show all fire rated openings, door number and location, along with hardware supplied and installed for the opening. The inspection of the fire doors that are swinging doors with builders hardware type to be performed by individuals with knowledge and understanding of the operating components of the type of door being subjected to testing as required by the AHJ.

#### 4.6 SUBMITTALS

- A. **Product Data.** Submit manufacturer's technical product data for each item of hardware in accordance with Division 1 section "Submittals". Include whatever information may be necessary to show compliance with requirements, and include instructions for installation and for maintenance of operating parts and finish.
- B. **Hardware Schedule.** Submit final hardware schedule in a vertical format as recognized by the Door and Hardware Institute (DHI). Horizontal schedule format will not be accepted. Coordinate hardware with doors, frames and related work to ensure proper size, thickness, hand, function and finish of hardware.
  - 1. Final Hardware Schedule Content: Based on finish hardware indicated, organize hardware schedule into "hardware sets" indicating complete designations of every item required for each door or opening. Include the following information:
    - a. Type, style, function, size and finish of each hardware item.
    - b. Name and manufacturer of each item.
    - c. Fastenings and other pertinent information.
    - d. Index to include location of hardware set cross referenced to indications on drawings both on floor plans and in door and frame schedule.

- e. Explanation of all abbreviations, symbols, codes, etc., contained in schedule.
  - f. Mounting locations for hardware.
  - g. Door and frame sizes and materials.
  - h. Keying information.
  - i. Wiring diagrams with theory of operation.
- C. **Submittal Sequence.** Submit schedule in accordance to Division 1, particularly where acceptance of hardware schedule must precede fabrication of other work (e.g., hollow metal frames) which is critical in the project construction schedule. Include with schedule the product data, samples, shop drawings of other work affected by finish hardware, and other information essential to the coordinated review of hardware schedule.
- D. **Keying Schedule.** Submit separate detailed schedule indicating clearly how the Owner's final instructions on keying of locks has been fulfilled.
- E. **Samples if Requested.** Prior to submittal of the final hardware schedule and prior to final ordering of finish hardware, submit one sample of each type of exposed hardware unit, finish as required, and tagged with full description for coordination with schedule.
- F. **Templates.** Furnish hardware templates to each fabricator of doors, frames and other work to be factory prepared for the installation of hardware. Upon request, check shop drawings of such other work, to confirm that adequate provisions are made for proper location and installation of hardware.

#### 4.7 PRODUCT HANDLING

- A. **Tag each item** or package separately, with identification related to final hardware schedule, and include basic installation instructions with each item or package.
- B. **Inventory hardware** jointly with representatives of hardware supplier and hardware installer until each is satisfied that count is correct.
- C. **Deliver individually packaged** hardware items at the proper times to the proper locations (shop or project site) for installation.
- D. **Provide secure lock up** for hardware delivered to the project, but not yet installed. Control handling and installation of hardware items which are not immediately replaceable, so that completion of the work will not be delayed by hardware losses, both before and after installation.

## PART 5 - PRODUCTS

### 5.1 SCHEDULED HARDWARE

A. **Requirements for design**, grade, function, finish, size and other distinctive qualities of each type of finish hardware is indicated in the Finish Hardware Data Sheet and Hardware Schedule at the end of this section. Products are identified by using hardware designation numbers of the following.

B. **Manufacturer's Product Designations.**

Continuous Hinges:	Ives
Locksets:	Schlage Lock Co. (No Substitutions)
Closers:	LCN Closers (No Substitutions)
Overhead Holders:	Glynn-Johnson
Kickplates:	Ives
Silencers:	Ives
Floor/Wall Stops:	Ives
Threshold & Weatherstrip	National Guard Products
Exit Devices	Von Duprin (No Substitutions)

### 5.2 MATERIALS AND FABRICATION

A. **General.**

1. Hand of door: Drawings show direction of slide, swing or hand of each door leaf. Furnish each item of hardware for proper installation and operation of door movement as shown.
2. Manufacturer's Name Plate: Do not use manufacturer's products which have manufacturer's name or trade name displayed in a visible location (omit removable nameplates), except in conjunction with required UL labels and as otherwise acceptable to Architect.
3. Manufacturer's identification will be permitted on rim of lock cylinders only.
4. Finish: All hardware finish shall match US26D unless otherwise indicated. Closer bodies, covers and arms shall be powder coated finish.
5. Lockset Design: Lever handle design shall be similar to 06 as manufactured by Schlage Lock Co.
6. Fasteners: Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation. Do not provide hardware which has been prepared for self-tapping sheet metal screws, except as specifically indicated.
7. Furnish screws for installation, with each hardware item. Provide Phillips flat-head screws except as otherwise indicated. Finish exposed (exposed under any condition) screws to match hardware finish or, if exposed in surfaces of other work, to match finish of such other work as closely as possible, including "prepared for paint" in surfaces to receive painted finish.
8. Provide concealed fasteners for hardware units which are exposed when door is closed, except to extent no standard units of type specified are available with concealed fasteners. Do not use thru-bolts for installation

where bolt head or nut on opposite face is exposed in other work, except where it is not feasible to adequately reinforce the work. In such cases, provide sleeves for each thru-bolt or use sex screw fasteners.

9. Tools and Maintenance Instructions for Maintenance: Furnish a complete set of specialized tools and maintenance instructions as needed for Owner's continued adjustment, maintenance, and removal and replacement of finish hardware.

### 5.3 CONTINUOUS HINGES (Not Used)

- A. **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" acetal bearings through a full 180 degrees. The door leaf and jamb leaf shall have templated screw hole locations for future replacement needs. All heavy duty hinges (HD) shall have a minimum of 32 bearings for a 7' length.
- B. **Acceptable Manufacturers.**
  1. Ives
  2. Hager Roton
  3. Select Products

### 5.4 LOCK CYLINDERS AND KEYING

- A. **General.** Supplier will meet with Owner to finalize keying requirements and obtain final instructions in writing.
- B. **Review the keying system** with the Owner and provide the type required (master, grandmaster or great-grandmaster). If key pinning charts are required, owner to furnish charts to hardware supplier.
- C. **Furnish Schlage Patented Security Primus XP** removable core cylinders at all doors, keyed as directed by the owner.
- D. **Furnish temporary keyed cores** for the construction period, and remove these when directed. The construction cores remain property of the supplier and shall be returned to the supplier when they are removed. Contractor shall install the permanent cores in the presence of the owner's representative.
- E. **Metals.** Construct lock cylinder parts from brass/bronze, stainless steel or nickel silver.
- F. **Comply with Owner's instructions** for masterkeying and, except as otherwise indicated, provide individual change key for each lock which is not designated to be keyed alike with a group of related locks.

- G. **Permanently inscribe** each key and cylinder with Visual Key Control that identifies cylinder manufacturer key symbol, and inscribe key with the notation "DO NOT DUPLICATE".
- H. **Key Material.** Provide keys of nickel silver only.
- I. **Key Quantity.**
  - 1. Furnish 3 change keys for each lock.
  - 2. 5 master keys for each master system.
  - 3. 5 grandmaster keys for each grandmaster system.
  - 4. One extra blank for each lock.
  - 5. 3 Control Keys (Construction and Permanent).
  - 6. 6 Construction master keys.
  - 7. 25 Primus key blanks.
- J. **Deliver keys** as directed by the owner.
- K. **Key Control System.** Provide a key control system including envelopes, labels tags with self locking clips, receipt forms, 3-way visible card index, and standard metal cabinet, with a capacity for 150% of the number of locks required for this project.
  - 1. Key cabinet and system shall be provided as a part of this contract by the hardware supplier. Cabinet shall be indexed and set up by supplier with the owner's representative.

## 5.5 LOCKS, LATCHES AND BOLTS

- A. **Locks shall meet these certifications.**
  - 1. Mortise Locks – ANSI A156.13, 1994, Grade 1 Operational, Grade 2 Security, ANSI/ASTM F476-76 Grade 30, UL listed. Levers shall be forged brass, bronze, or cast stainless steel, 93 lever design extruded brass, bronze or stainless steel. Meets A117.1 Accessibility Codes. Steel Case with 3/4" throw stainless steel anti-friction latchbolt and a 1" throw stainless steel deadbolt. Lock case shall be field reversible, without opening the lock chasis and universal chasis to accept both knob and lever functions. Lock trim shall incorporate individual lever support springs in each rose or escutcheon. Lever connection by attaching threaded bushings tightened by a spanner wrench. Threaded set screws will not be accepted. Lock spindles shall be two independent inside and outside spindles to prevent manipulation of lock. Strikes: Provide manufacturer's standard wrought box strike for each latch or lock bolt, with curved lip extended to protect frame.
    - a. Lock design shall be Schlage L9000 series 06A design – Finish to be 626.
- B. **Comply with UL requirements** for throw of bolts and latch bolts on rated fire openings.

- C. **Lock Manufacturers.** Subject to compliance with requirements, provide lockset products of the following approved manufacturers:
  - 1. Schlage Lock Co. "L9000 Series"
- D. **Flush Bolt Heads.** Minimum of 1/2" diameter rods of brass, bronze or stainless steel, with minimum 12" long rod for doors up to 7'-0" in height. Provide longer rods as necessary for doors exceeding 7'-0" in height.
- E. **Provide dust-proof strikes** for foot bolts, except where special threshold construction provides non-recessed strike for bolt.

## 5.6 Exit Devices

- A. **Exit Devices and Auxiliary Items.** BHMA A156.3.
  - 1. Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Von Duprin; an Ingersoll-Rand company.
- B. **Panic Exit Devices.** Listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for panic protection, based on testing according to UL 305.
- C. **Fire Exit Devices.** Devices complying with NFPA 80 that are listed and labeled by a testing and inspecting agency acceptable to authorities having jurisdiction, for fire and panic protection, based on testing according to UL 305 and NFPA 252.
- D. **Rim Exit Devices.** Grade 1.
  - 1. Type: Type 1.
  - 2. Grade: Grade 1.
  - 3. Actuating Bar: Cross bar.
  - 4. Material: Stainless steel.
- E. **Surface Vertical-Rod Exit Devices.** Grade 1.
  - 1. Type: Type 2
  - 2. Grade: Grade 1.
  - 3. Actuating Bar: Cross bar.
  - 4. Material: Stainless Steel.
  - 5. Configuration: Top and bottom rods.
- F. **Exit Devices Outside Trim.** Lever or Lever with cylinder; material and finish to match locksets, unless otherwise indicated.
  - 1. Match design for lock trim, unless otherwise indicated.

## 5.7 CLOSERS AND DOOR CONTROL DEVICES

- A. **Size of Units.** Except as otherwise specifically indicated, comply with the manufacturer's recommendations for size of door control unit, depending upon size of door, exposure to weather and anticipated frequency of use.
- B. **Closers.** All door closers shall be of one manufacturer to provide for proper installation and servicing after installation. All closers shall be inspected after installation by a factory representative to ensure proper adjustment and operation. A report shall be filed with the architect after said visit has been made. Closer shall carry a manufacturer's TEN YEAR WARRANTY for hydraulic units and 2 year warranty for electrical and/or handicap power assist door closers against manufacturing defects and workmanship.
- C. **Cylinder.** Shall be of high strength cast iron construction. All door exterior closers shall be tested to ANSI/BHMA A156.4 test requirements by a BHMA certified independent testing laboratory. A written certification showing successful completion of a minimum of 10,000,000 cycles for all exterior door closers must be provided.
- D. **All door closers** shall be fully hydraulic and have full rack and pinion action with a shaft diameter of a minimum of 1 1/16" and piston diameter of 1-1/2". Closer shall utilize full complement bearings at shaft. Pinion and pistons shall be hardened regardless of closer size. The closer shall incorporate tamper resistant non-critical screw valves of V-slot design to reduce possible clogging. Closer shall have separate and independent screw valve adjustments for latch speed, general speed and hydraulic backcheck. Backcheck shall be properly located so as to effectively slow the swing of the door at a minimum of 10 degrees in advance of the dead stop location.
- E. **Pressure relief valves** are not acceptable.
- F. **All door closers** shall pass UL10C positive pressure fire test.
- G. **Parallel Arm Closers.** Shall incorporate one piece solid forged steel arms with bronze bushings. 1-9/16" x 1/2" steel stud shoulder bolts, shall be incorporated in regular arms, hold open arms, arms with stop built in, arms with hold open and stop built in. All other closers to have forged steel main arms for strength, and durability.
- H. **Built-In Stops:** Where closers with built-in positive stops are used, the stops shall be of one piece cast malleable iron material. Screw on stops of any kind are not acceptable. Where required, the hold-open assembly handle for these stops shall rotate on ball bearings.
- I. **All closers** to have a powder coat finish on closer body, arm, metal cover and adapter plate. Powder coat finish shall exceed a minimum 100 hour salt spray test, as described in ANSI Standard A156.4 and ASTM B117.
- J. **Hydraulic Fluid.** All closers, with the exception of interior and interior electronic closers, shall utilize temperature stable fluid capable of withstanding

temperature ranges of 120 degrees F. to -30F. without requiring seasonal adjustment of closer speed to properly close the door.

- K. **Supply all drop plates**, shoe supports, templates, etc. to properly install closers according to manufacturer's recommendations.
- L. **Provide grey resilient** parts for exposed bumpers.
- M. **Closer being submitted** for approval shall have been manufactured for at least 10 years. A list of (10) year old projects using submitted closer shall be available upon request.
- N. **Closer Manufacturers.** Subject to compliance with compliance with requirements, provide closer products of the following approved manufacturers:
  - 1. LCN Closers – 4040XP Series ( No Substitutions)

#### 5.8 DOOR TRIM UNITS

- A. **Fasteners.** Provide manufacturer's standard exposed fasteners for door trim units (kick plates, edge trim, viewers, knockers, mail drops and similar units); either machine screws or self-tapping screws.
- B. **Fabricate protection plates** (armor, kick or mop) not more than 1-1/2" less than door width on stop side and not more than 1/2" less than door width on pull side, x the height indicated. All protection plates shall have all edges beveled (B4E).
- C. **Metal Plates.** Stainless steel, .050" (U.S. 18 ga.).
- D. **All pull plates and handles** to be thru-bolted. Install pull plate prior to push plate to conceal thru-bolts. Provide concealed fasteners for all push/pull applications.
- E. **Acceptable Manufacturers.**
  - 1. Ives
  - 2. Rockwood
  - 3. Quality

#### 5.9 WEATHERSTRIP AND GASKETING

- A. **General.** Except as otherwise indicated, provide continuous weather stripping at each leaf of every exterior door. Provide type, sizes and profiles shown or scheduled. Provide non-corrosive fasteners as recommended by manufacturer for application indicated.
- B. **Replaceable Seal Strips.** Provide only those units where resilient or flexible seal strips is easily replaceable and readily available from stocks maintained by the manufacturer.



C. **Acceptable Manufacturers.**

1. Pemko Mfg. Co.
2. Reese
3. National Guard Products

5.10 THRESHOLDS

A. **General.** Except as otherwise indicated provide standard aluminum threshold unit of type, size and profile as shown or detailed.

B. **Provide welded** custom thresholds where scheduled and noted in the hardware sets. Provide cover plates where scheduled.

C. **Provide thresholds** that are 1" wider than depth of frame unless specified or detailed otherwise.

D. **Acceptable Manufacturers.**

1. Pemko Mfg. Co.
2. Reese
3. National Guard Products

5.11 DOOR SILENCERS

A. **All hollow metal frames** shall have grey resilient type silencers. Quantity (3) on single doors and quantity (2) on pairs of doors.

## PART 6 - EXECUTION

6.1 EXAMINATION

A. **Site Verification of Conditions.**

1. Verify that hardware with designated door is correct as specified.
2. Verify that doors and jambs are drilled, punched, and reinforced correctly for specified hardware.
3. Verify that all prefabricated doors properly fit the assigned jamb opening.

6.2 INSTALLATION

A. **Mount hardware units** at heights indicated in "Recommended Locations for Builders Hardware for Standard Steel Doors and Frames" by the Door and Hardware Institute, except as specifically indicated or required to comply with governing regulations, and except as may be otherwise directed by Architect.

B. **Install each hardware item** in compliance with the manufacturer's instructions and recommendations. Wherever cutting and fitting is required to install hardware onto or into surfaces which are later to be painted or finished in

another way, coordinate removal, storage and reinstallation or application of surface protections with finishing work specified in the Division-9 sections. Do not install surface-mounted items until finishes have been completed on the substrate.

- C. **Set units level**, plumb and true to line and location. Adjust and reinforce the attachment substrate as necessary for proper installation and operation.
- D. **Drill and countersink units** which are not factory-prepared for anchorage fasteners. Space fasteners and anchors in accordance with industry standards.
- E. **Set thresholds** for exterior doors in full bed of butyl-rubber or polyisobutylene mastic sealant.

### 6.3 ADJUST AND CLEAN

- A. **Adjust and check each** operating item of hardware and each door, to ensure proper operation or function of every unit. Replace units which cannot be adjusted to operate freely and smoothly as intended for the application made.
- B. **Clean adjacent surfaces** soiled by hardware installation.
- C. **Final Adjustment.** Wherever hardware installation is made more than one month prior to acceptance or occupancy of a space or area, return to the work during the week prior to acceptance or occupancy, and make final check and adjustment of all hardware items in such space or area. Clean operating items as necessary to restore proper function and finish of hardware and doors. Adjust door control devices to compensate for final operation of heating and ventilating equipment.
- D. **Instruct Owner's Personnel** in proper adjustment and maintenance of hardware and hardware finishes, during the final adjustment of hardware.
- E. **Continued Maintenance Service.** Approximately six months after the acceptance of hardware in each area, the Installer, accompanied by the representative of the latch and lock manufacturer, shall return to the project and re-adjust every item of hardware to restore proper function of doors and hardware. Consult with and instruct Owner's personnel in recommended additions to the maintenance procedures. Replace hardware items which have deteriorated or failed due to faulty design, materials or installation of hardware units. Prepare a written report of current and predictable problems (of substantial nature) in the performance of the hardware.

### 6.4 DOOR HARDWARE SCHEDULE

- A. **Hardware.** The hardware sets represent the design intent and direction of the owner and architect. They are a guideline only and should not be considered a detailed hardware schedule. Discrepancies, conflicting hardware and missing items should be brought to the attention of the architect with corrections made prior to the bidding process. Omitted items not included in a hardware set should be scheduled with the appropriate additional hardware required for proper application and functionality.

Set 1

Description: Exterior door

3	Hinge (hvy wt)	210HD 83	628	IV
1	Exit Device	88 L	630	VD
1	Cylinder	Primus XP	626	SC
1	Interchangeable Core	8027	626	SC
1	Closer (PA w/stop)	4040XP	689	LC
1	Threshold	154SS	689	PE
1	Weather strip	315SSR	630	PE
1	Door sweep	345ANB		PE
1	Latch Protector	321	630	RO
1	Kick Plate	10x34	630	IV

Set 2 (Not Used)

Description: Interior door

3	Hinge (hvy wt)	210HD 83	628	IV
1	Mortise Lock (entrance)	L9453R 06A	626	SC
1	Interchangeable Core	8027	626	SC
1	Closer (PA w/stop)	4040XP	689	LC
1	Door sweep	345ANB		PE
1	Threshold	154SS	689	PE
1	Kick Plate	10x34	630	IV
3	Silencers	SR64		IV

END OF SECTION