SECTION 149133

LAUNDRY AND LINEN CHUTES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes laundry and linen chutes.

1.3 DEFINITIONS

A. Chase: The shaft that encloses a chute.

B. Intake Door: Door or hatch that penetrates the chase wall and chute, and through which materials are fed into the chute.

C. Discharge Door: Door or hatch at the bottom of a chute, through which materials exit the chute.

D. Access Door: Door other than an intake or discharge door that penetrates the chase wall for service access to devices in the chase.

1.4 ACTION SUBMITTALS

A. Product Data: For each type of product.
1. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes for chutes.

B. Shop Drawings:
1. Include plans, elevations, sections, and mounting and attachment details.
2. Include dimensions, weights, loads, required clearances, method of field assembly, components, and location and size of each field connection.
3. Include each type and location of intake, discharge, and access door.
4. Include diagrams for power, signal and control wiring.

1.5 INFORMATIONAL SUBMITTALS

A. Coordination Drawings: Plan(s) and other details drawn to scale, on which the following items are shown and coordinated with each other, using input from installers of the items involved:
1. Size and construction of chase enclosing each chute; locations for power, signal, and control wiring; and sprinkler-piping and water-service connections.
2. Chute-discharge locations coordinated with compactor-intake or container locations.

B. Product Certificates: For each type of chute, from manufacturer.

1.6 CLOSEOUT SUBMITTALS

A. Operation and Maintenance Data: For chutes to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, [provide products by the following] [provide products by one of the following] [available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following]:
   1. Chutes International.
   2. Midland Chutes; a Shale-Inland, LLC company.
   3. U.S. Chutes Inc.; Division of U.S.C. Group.
   4. Wilkinson Hi-Rise.

2.2 PERFORMANCE REQUIREMENTS

A. Fire-Rated Door Assemblies: Assemblies complying with NFPA 80 that are listed and labeled by a qualified testing and inspecting agency, for fire-protection ratings indicated.
   1. Test Pressure: Test at atmospheric (neutral) pressure according to NFPA 252 or UL 10B.
   2. Intake Doors: Labeled, [1] [1-1/2]-hour fire-resistance rated[with 30-minute temperature rise of 250 deg F].
   3. Discharge Doors: Labeled, [1] [1-1/2]-hour fire-resistance rated[with 30-minute temperature rise of 250 deg F].
   4. Access Doors: Labeled, [1] [1-1/2]-hour fire-resistance rated[with 30-minute temperature rise of 250 deg F].

B. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

C. Standard: Provide chutes complying with NFPA 82[unless otherwise indicated].

2.3 CHUTES

A. Chute Metal: Aluminum-coated, cold-rolled, commercial steel sheet; ASTM A 463/A 463M, Type 1, with not less than T1-40 coating.
   1. Thickness: 0.075 inch.

B. Chute Size: 24-inch diameter.

C. External Reinforcing for Offsets: Additional thickness of 0.11-inch thick chute metal with bracing to structure.

2.4 DOORS

A. Intake-Door Assemblies: ASTM A 240/A 240M, Type 304, stainless-steel self-closing units with positive latch and latch handle, with stainless-steel trim; constructed as required for performance requirements indicated; and with frame suitable for the enclosing chase construction.
   1. Door Type: Side hinged, 180-degree swing, square.
   2. Size: Manufacturer's standard size for door type, chute type, and diameter indicated.
   3. Finish: Manufacturer's standard satin or No. 3 directional polish.
   4. Lockset: Lever-handle-type cylinder lock that releases latch with key that is removable only when cylinder is locked.
      a. Lock Cylinder: Cylinders standard with manufacturer.
      b. Keying: For each chute, key cylinders to master key system.
      c. Keys: for each cylinder.
   5. Latchset: Lever-handle type that unlatches door.

6. Accessible Automatic Door Operating System: Manufacturer's standard system complying with applicable provisions in [the U.S. Architectural & Transportation Barriers Compliance Board's ADA-ABA Accessibility Guidelines for Buildings and Facilities] [and] [ICC A117.1].
7. Electrical Interlocks: Interlock system that is energized by opening one intake door; remaining intake doors automatically lock when system is energized.

B. Discharge-Door Assemblies: Aluminum-coated-steel doors; horizontal-discharge, top-hinged, self-closing and latching, hopper-type door; constructed as required for performance requirements indicated; equipped with [165 deg F] <Insert temperature> fusible links that cause doors to close in the event of fire; with floor-mounted leg brace designed to absorb impact of material dropping against chute; and with minimum NPS 2 (DN 50) drain pipe connection.

C. Access-Door Assemblies: Manufacturer's standard ASTM A 240/A 240M, Type 302/304, stainless-steel doors with trim; constructed as required for performance requirements indicated; with frame suitable for the enclosing chase construction; and in satin or No. 3 directional polish finish; equipped with cylinder locks that release latch with keys that are removable only when cylinder is locked.
1. Lock Cylinder: Cylinders standard with manufacturer.
2. Keying: Key access-door cylinders to master key system.
3. Keys: for each cylinder.

D. Manual Control System: Control system with manual switch that lock chute doors during shutdown hours and service operations.

2.5 ACCESSORIES

A. Sanitizing Unit: NPS 3/4 disinfecting and sanitizing spray-head unit located in chute above highest intake door, including 1-gal. tank and adjustable proportioning valve with bypass for manual control of sanitizing and flushing operation, ready for hot-water piping connection, and with access door for spray-head and piping maintenance.

B. Sound Dampening: Manufacturer's standard sound and vibration isolator pads at supporting frame at each floor penetration sound-insulating wrap around exterior of chute and intake assemblies.

2.6 FABRICATION

A. General: Factory-assemble chutes to greatest extent practicable with nonleaking, continuously welded or lock-seamed joints without bolts, rivets, or clips projecting into chute interior. Include intake-door assemblies, metal supporting framing at each floor, and chute expansion joints between each support point.

B. Offsets: Construct offsets where indicated on Drawings. Fabricate so that installed chute is without obstructions that might prevent materials from free falling within chute.
1. Offsets below Intake Doors: Unless otherwise indicated, do not exceed a 15 degree maximum offset angle at any point, or place offset closer than 48 inches to nearest door above offset.
2. Offset above Top Intake Door: Do not exceed a 45 degree maximum offset angle between the highest intake door and the upper termination of chute.
3. Offsets at Floors: Complete offset between floors by returning chute to plumb before penetrating floors.
4. External Reinforcing: Externally reinforce impact area of offsets located below top intake door. Install vibration isolators where braced to structure.

C. Roof Vent: Fabricate vent unit as full-size extension of chute, open to the atmosphere. Extend vent to height above roofing surface as indicated on Drawings. Equip vent with full insect screening and metal explosion-release cap. Fabricate with roof-deck flange, counterflashing, and clamping ring of nonferrous metal compatible with chute metal.

D. Equipment Access: Fabricate chutes with access for maintaining equipment located within the chute, such as flushing and sanitizing units, fire sprinklers, and plumbing and electrical connections.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install and test chutes before installing enclosing chase construction.

B. Install chutes according to NFPA 82 and manufacturer's written instructions. Assemble components with tight, nonleaking joints. Anchor chutes securely to supporting structure to withstand impacts and stresses. Install chute and components to maintain fire-resistive performance of chute and the enclosing chase construction.

C. Install chutes plumb, without obstructions that might prevent materials from free falling within chutes.

D. Anchor flanges of chute vents to roof curbs before installing roofing and flashing. Install chute-vent counterflashing after roofing and roof-penetration flashing are installed.

E. Intake and Discharge Doors: Interface door units with throat sections of chutes for safe, snag-resistant, sanitary depositing of materials in chutes.
1. Interconnect sanitizer control with door interlock system.

F. Electrical Interlock System: Install according to applicable NECA 1 recommendations.

G. Test and adjust chute components after installation. Operate doors, locks, and interlock systems to demonstrate that hardware operates properly and smoothly and electrical wiring is connected correctly.

H. Operate sanitizing unit through one complete cycle of chute use and cleanup, and replenish chemicals or cleaning fluids in unit containers.

I. Plumbing Access Doors: After construction of chase enclosure, verify that access doors have been correctly located and properly installed for their purpose.

3.2 CLEANING

A. After completing chase enclosure, clean exposed surfaces of chute system's components. Do not remove labels of testing and inspecting agencies.

3.3 DEMONSTRATION

A. [Engage a factory-authorized service representative to train] [Train] Owner's maintenance personnel to adjust, operate, and maintain each chute and related equipment.

B. Demonstrate replenishment of sanitizing-unit chemicals or cleaning fluids.

END OF SECTION 149133