*Delete highlighted text before printing.*

Section 14 9100 – Facility Chutes

Section 14 9182 – Trash Chutes

PART 1 – GENERAL

* 1. RELATED DOCUMENTS
1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.
2. RELATED SECTIONS

Delete items below if not required.

1. Division 21 0000 Sections for connection to Sprinklers.
2. Division 22 0000 Sections for connecting the Disinfecting and Sanitizing Unit.
3. Division 26 0000 Sections for electrical connects to Electric Interlocks.
4. Division 28 0000 Sections for Smoke Detectors.
5. DESCRIPTION OF WORK
6. This section includes Trash Chutes.
	1. SUBMITTALS
7. See Section 01 7700 – Administrative Requirements, for submittal procedures. General Contractor to furnish Subcontractor approved shop drawings and plan view drawing of trash room.
	1. Product Data: Manufacturer’s product specifications, standard details and recommendations for project conditions; indicate selected sizes and installation details specific to the project.
	2. Shop Drawings:
		1. Indicate chute location
		2. Specific project conditions
		3. Interface with adjacent construction
		4. Dimensions and clearances required
		5. Products required for installation of the chute, but not supplied by manufacturer.

Delete following if NO Electric or Pneumatic Interlocks

* + 1. Wiring Diagrams: Power, signal and control wiring
		2. Pneumatic Diagrams: Power, regulator flow and control tubing.
1. Close-out Submittals:
	1. Operation and Maintenance Manual (O&M Manual).
	2. Warranty Documents: Issued and executed by the manufacturer and installer of the system.
	3. QUALITY ASSURANCE

Recommended qualifications listed below. Delete subparagraphs as needed.

1. Qualifications:
	1. Manufacturer: Minimum five (5) years documented experience-producing products specified in this section.
	2. Installer: Approved by the Manufacturer, and/or having a minimum of five (5) years experience.
	3. Products must be manufactured in the United States.
2. Fire Rated Door Assemblies: Intake doors and Access doors: 1½-hour fire rated with 30-minute temperature rise of 250° F (140° C). UL Labeled.
3. Standard: Provide chutes complying with NFPA 82.

Delete following subparagraph if NO Electric Interlocks.

1. 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.

* 1. WARRANTY
1. Manufacturer’s warranty: Furnish manufacturer’s standard one (1) year warranty from date of shipment. Warranty shall apply to defects in product workmanship and material only.

1.5     RELATED WORK BY OTHERS SPECIFIED ELSEWHERE

1. The following work is excluded from the scope of work in this Section 14 9100 and is included in other divisions of the specifications for inclusion in the scope of work for others.
	1. Electrical Standards:  The following electrical circuits with disconnects are required and are to be installed by others: 1 each:  120VAC, 20 Amp 1-Phase, 60 Hz Circuit.  Local disconnect box to be NEMA 13
	2. Water supply and valves to fire sprinkler heads and flushing spray heads.
	3. ADA- Braille signage provided by others, if required.

PART 2 – PRODUCTS

2.1 MANUFACTURER

1. Basis of Design:
	1. **CHUTES International Manufacturing**,

33 Industrial Park Drive, Waldorf, Maryland 20602;

Telephone: (800) 882-4883; FAX (301) 753-4109.

[www.chutes.com](http://www.chutes.com) or sales@chutes.com

* 1. TRASH CHUTES

In subparagraph below, select chute metal. Aluminized steel is standard.

1. Chute Metal: **[Aluminum-coated; ASTM A 463/A 463M, Type 1 with not less than T1-40 (T1M-120) coating] [430 ROIF Stainless Steel; ASTM A240/ASME SA240] [304 Stainless Steel; ASTM A 240]** cold-rolled, commercial steel sheet.

In subparagraph below, select chute metal thickness. 16 gauge is standard.

* 1. Thickness: **[0.060 inch (16 gauge)] [0.080 inch (14 gauge)].**

In subparagraph below, select chute diameter. 24 inch diameter is standard.

1. Size: **[24 inch] [28 inch] [30 inch] [36 inch]** diameter.
2. Fire Sprinklers: Manufacturer’s standard NPS ½” (DN 13) fire sprinklers ready for piping connections.
	1. DOORS
3. Intake Door Assemblies: Stainless steel front and back, noiseless, self- closing with positive latch and ADA compliant lever handle; as required to provide fire-protection and temperature rise ratings indicated. And with corrosion-resistant, industrial grade enamel painted steel frame suitable for enclosing chase shaft construction.
	1. Door type: Bottom hinged, hopper type, typically used in public access applications.
	2. Stainless Steel intake trash deflector to protect bottom of intake door from debris build-up.
	3. Size: Manufacturer’s standard size for door type, chute type, and diameter indicated.
	4. Finish: Stainless steel, front and back, with 430 ROIF finish.
	5. Handles and Locks: ADA compliant lever handle, with 2 keys. All locks keyed alike.
4. Discharge Assemblies: Required to provide fire protection; equipped with fusible links that cause discharge to automatically close in the event of a fire.

In subparagraph below, choose one discharge door type. Accordion Damper is recommended.

1. Direct Vertical Discharge:
2. Accordion Damper Assembly (one time use only), “UL” labeled, interlocking type blades held open by fusible link assembly for automatic closing with heat rising above 165° F.
3. Rolling Incline Door held open by fusible link assembly for automatic closing with heat rising above 165° F. Not intended to use as a chute shut off.

2.4 OPTIONAL DOOR ACCESSORIES

Delete subparagraph below if NO Electrical Interlocks

1. Electric Interlocks: Interlock system that is energized by opening one intake door. All other doors remain locked when system is energized. Wave controlled with handles and locks.

Delete subparagraph below if NO Pneumatic Interlocks.

1. Pneumatic Interlocks: Interlock system that is energized by opening one intake door; interlock valve shuts off air pressure to the remaining doors automatically locking them out until the door in use closes.
	* 1. ADA Compliant bottom-hinged, self-closing, positive latching, pneumatically operated chute intake doors with push button opening mechanism designed to preclude the need to grasp, twist or pinch the control mechanism in order to operate the intake doors.
		2. The Pneumatic Intake Door opens to the NFPA approved position and remains open typically for 10 seconds or other time programmed.  Door then closes automatically releasing the pneumatic interlock valve. Air Regulator/Dump Valve Control System: Control system with air regulator and manual dump valve to de-energize chute intake doors during maintenance and etc. Includes manual solenoid lever to bypass interlock system. Wave controlled, no handles. Pneumatic system powered by an air compressor.

Delete subparagraph below if NO Heat and Smoke Detector connection.

1. Heat Sensor and Smoke Detector Connection: Electro Thermal Fusible Link and wire connection at Manual Control Box to lock out chute doors. *NOTE: Only available with electric & pneumatic interlock systems.* (Heat Sensor located outside discharge door). 24-32 VDC smoke detector supplied by others, manufacturer provides connector only.

Delete subparagraph below if NO Interlock Control System.

1. Control System: Manual control system with key operated switch that can lock doors of chute during maintenance and etc.

 Delete subparagraph below if NO Smart System.

1. Smart system allows centralized, touch screen or remote monitoring of all the chute doors in your system for building personnel.
	1. Clog Detection: Clog detection for a chute involves implementing systems or methods to identify and address any obstructions or blockages within the chute. Clogs in chute can lead to operational disruptions, fire hazards, and potential damage to the chute. Detecting and addressing clogs promptly is crucial to maintaining smooth operations.

Delete subparagraph below if NO Access Door Assembly.

1. Access Door Assembly: Stainless steel, front and back, with 430 ROIF finish. Noiseless, self- closing with positive latch and ADA compliant lever handle; as required to provide fire-protection and temperature rise ratings indicated. And with corrosion-resistant, industrial grade enamel painted steel frame suitable for enclosing chase construction.

(This is an accessory to the Disinfecting and Sanitizing Unit, please see 2.5A under “optional chute accessories.”)

Delete subparagraph below if NO Rubber Sheet Baffles.

1. Intake Door Baffles: Rubber baffles, 1/8” (3 mm) thick to minimize back draft when door is opened.

2.5 OPTIONAL CHUTE ACCESSORIES

Delete subparagraph below if NO Disinfecting and Sanitizing Unit.

1. Disinfecting and Sanitizing Unit: NPS ¾” (DN 19) flushing spray head unit located in chute above highest intake door, including 1-gal. (3.8-L) tank and adjustable proportioning valve with bypass for manual control of sanitizing and flushing operation. Provided by others: connection to hot or cold water piping connection, and with access for head and piping maintenance.

Delete subparagraph below if NO Redhat Solenoid.

* 1. Redhat Solenoid: Operate D&S Unit from Discharge Room. Requires separate wiring than interlocks. Connections done by others.

Delete subparagraph below if NO Sound Dampening.

1. Sound Dampening: Manufacturer’s factory applied standard sound dampening coating on exterior of chute from discharge level to top of last intake.

Delete subparagraph below if NO Isolator Pads.

1. Isolator Pad: Manufacturer’s standard, ¼” top and bottom grooved design, oil resistant, neoprene with ⅜” close grained cork core.

Delete subparagraph below if NO Odor Butler.

1. Odor Butler Compact Vaporizer Systems: A small-scale, dry vaporized odor control system. For control of odors emitting from garbage compactors, garbage dumpsters, and/or garbage chutes. 100% natural plant extract essential oil concentrate, no water to be added. See manufacturer for full specification.

2.6 CHUTE FABRICATION

1. All trash chute sections are factory manufactured and vertical seams are to be fully welded. All sections sleeve inside the sections below and there are to be no bolts, clips, or other projections inside the chute to snag the flow of material. Pre-positioned support clips assure proper intake levels and there shall be an expansion joint in the chute between all support joints. No ‘spiral’ manufactured sections within chute will be allowed.
2. Discharge offsets, where required, will be made of 12 gauge material Delete end of sentence if impact plate option is NOT wanted. And be reinforced with 12 gauge material at area of impact.
3. Vent: Full diameter Aluminum .080 (12 gauge) vent extending 3 feet (per NFPA Code 82; 2009) above roof penetration with aluminum hinged metal safety cap.
4. Standard Floor Frames: Corrosion resistant, industrial grade enamel painted, steel angle floor frames are 1-1/2” x 1-1/2” x 3/16”. Floor frames at the lowest level, above the discharge room, will have a thicker density of 1-1/2” x 1- 1/2” x 1/4”whenever there is an offset in the discharge room and/or the chute is 15 or more stories high.
5. Fire Sprinklers: ½” NPT sprinkler and ¾” NPT flushing head above top intake. Additional ½” sprinkler heads at alternate intake floors and at intake above discharge floor as required by NFPA Code 82.

PART 3 – EXECUTION

* 1. EXAMINATION
1. Verification of conditions:
	1. Confirm slab penetrations are properly sized (diameter of chute + 4” minimum), aligned, plumb and clear of any obstructions at chute location. Also, confirm floor heights and other applicable dimensions are in accordance with the approved shop drawings.
	2. INSTALLATION
2. Install chute in accordance with approved shop drawings and manufacturer’s printed installation instructions.
3. General Contractor shall provide control line for location and finished face wall to determine chute intake centerline location.

END OF SECTION 14 9182