SECTION 221319

SANITARY WASTE PIPING SPECIALTIES

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**NOTE TO SPECIFIER**

*Use this Specification Section for Mail Processing Facilities.*

***This is a Type 1 Specification with completely editable text; therefore, any portion of the text can be modified by the A/E preparing the Solicitation Package to suit the project.***

*For Design/Build projects, do not delete the Notes to Specifier in this Section so that they may be available to Design/Build entity when preparing the Construction Documents.*

*For the Design/Build entity, this specification is intended as a guide for the Architect/Engineer preparing the Construction Documents.*

*The MPF specifications may also be used for Design/Bid/Build projects. In either case, it is the responsibility of the design professional to edit the Specifications Sections as appropriate for the project.*

*Text shown in brackets must be modified as needed for project specific requirements.* *See the “Using the USPS Guide Specifications” document in Folder C for more information.*

*The last date that USPS revised this standard specification section occurs in two places, at the end of this section and in the Table of Contents. If the date in this section matches the date in the Table of Contents, then you are using the latest version. Do not delete or revise the “last revised” date at the end of the section during the development of the Project Manual.*

*The footer in this section should be edited to replace the text, “USPS MPF SPECIFICATION” with the project name, and the blank date in the center should be replaced with the submission date, for interim design reviews, or the issue date of the completed Project Manual.*

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1. GENERAL
	1. SUMMARY
		1. This Section includes the following sanitary drainage piping specialties:
			1. Cleanouts.
			2. Floor drains.
			3. Roof flashing assemblies.
			4. Miscellaneous sanitary drainage piping specialties.
			5. Flashing materials.
			6. Grease interceptors.
	2. SUBMITTALS
		1. Product Data: For each type of product indicated. Include rated capacities, operating characteristics, and accessories for grease interceptors.
	3. QUALITY ASSURANCE
		1. Drainage piping specialties shall bear label, stamp, or other markings of specified testing agency.
2. PRODUCTS
	1. CLEANOUTS
		1. Exposed Cast-Iron Cleanouts:
			1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
				1. Josam Company; Josam Div.
				2. MIFAB, Inc.
				3. Smith, Jay R. Mfg. Co.; Division of Smith Industries, Inc.
				4. Tyler Pipe; Wade Div.
				5. Watts Drainage Products Inc.
				6. Zurn Plumbing Products Group; Specification Drainage Operation.
			2. Standard: ASME A112.36.2M for cast iron for cleanout test tee.
			3. Size: Same as connected drainage piping
			4. Body Material: As required to match connected piping.
			5. Closure: Countersunk brass or cast-iron plug.
			6. Closure Plug Size: Same as or not more than one size smaller than cleanout size.
		2. Cast-Iron Floor Cleanouts:
			1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
				1. Josam Company; Josam Div.
				2. Oatey.
				3. Sioux Chief Manufacturing Company, Inc.
				4. Smith, Jay R. Mfg. Co.; Division of Smith Industries, Inc.
				5. Tyler Pipe; Wade Div.
				6. Watts Drainage Products Inc.
				7. Zurn Plumbing Products Group; Light Commercial Operation.
				8. Zurn Plumbing Products Group; Specification Drainage Operation.
			2. Standard: ASME A112.36.2M for adjustable housing cleanout.
			3. Size: Same as connected branch.
			4. Closure: Brass plug with straight threads and gasket OR cast-iron plug.
			5. Top Loading Classification: [Extra Heavy] [Heavy] [Light] [Medium] Duty.
			6. Riser: ASTM A 74, Service class, cast-iron drainage pipe fitting and riser to cleanout.
		3. Cast-Iron Wall Cleanouts:
			1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
				1. Josam Company; Josam Div.
				2. MIFAB, Inc.
				3. Smith, Jay R. Mfg. Co.; Division of Smith Industries, Inc.
				4. Tyler Pipe; Wade Div.
				5. Watts Drainage Products Inc.
				6. Zurn Plumbing Products Group; Specification Drainage Operation.
			2. Standard: ASME A112.36.2M. Include wall access.
			3. Size: Same as connected drainage piping.
			4. Closure Plug Size: Same as or not more than one size smaller than cleanout size.
			5. Wall Access: Round, flat, chrome-plated brass or stainless-steel cover plate with screw.
	2. FLOOR DRAINS
		1. Cast-Iron Floor Drains:
			1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
				1. Commercial Enameling Co.
				2. Josam Company; Josam Div.
				3. MIFAB, Inc.
				4. Prier Products, Inc.
				5. Smith, Jay R. Mfg. Co.; Division of Smith Industries, Inc.
				6. Tyler Pipe; Wade Div.
				7. Watts Drainage Products Inc.
				8. Zurn Plumbing Products Group; Light Commercial Operation.
				9. Zurn Plumbing Products Group; Specification Drainage Operation.
			2. Standard: ASME A112.6.3 with backwater valve, if required.
			3. Body Material: Gray iron.
			4. Backwater Valve: Integral, ASME A112.14.1, swing-check type, if required.
			5. Coating on Interior and Exposed Exterior Surfaces: Acid-resistant enamel, where required.
			6. Sediment Bucket:
			7. Top or Strainer Material: Nickel bronze.
			8. Top of Body and Strainer Finish: [Nickel bronze] [Polished bronze] [Rough bronze].
			9. Top Shape: Square.
			10. Top Loading Classification: [Extra Heavy-Duty] [Heavy Duty] [Light Duty] [Medium Duty].
	3. ROOF FLASHING ASSEMBLIES
		1. Roof Flashing Assemblies:
			1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
				1. Acorn Engineering Company; Elmdor/Stoneman Div.
				2. Thaler Metal Industries Ltd.
		2. Description: Manufactured assembly made of 6.0-lb/sq. ft., 0.0938-inch-thick, lead flashing collar and skirt extending at least 10 inches from pipe, with galvanized-steel boot reinforcement and counterflashing fitting.
			1. Open-Top Vent Cap: Without cap.
			2. Low-Silhouette Vent Cap: With vandal-proof vent cap.
			3. Extended Vent Cap: With field-installed, vandal-proof vent cap.
	4. MISCELLANEOUS SANITARY DRAINAGE PIPING SPECIALTIES
		1. Open Drains:
			1. Description: Shop or field fabricate from ASTM A 74, Service class, hub-and-spigot, cast-iron, soil-pipe fittings. Include P-trap, hub-and-spigot riser section; and where required, increaser fitting joined with ASTM C 564, rubber gaskets.
			2. Size: Same as connected waste piping.
		2. Deep-Seal Traps:
			1. Description: Cast-iron or bronze casting, with inlet and outlet matching connected piping and cleanout trap-seal primer valve connection.
			2. Size: Same as connected waste piping.
				1. NPS 2: 4-inch- minimum water seal.
				2. NPS 2-1/2 and Larger: 5-inch- minimum water seal.
		3. Floor-Drain, Trap-Seal Primer Fittings:
			1. Description: Cast iron, with threaded inlet and threaded or spigot outlet, and trap-seal primer valve connection.
			2. Size: Same as floor drain outlet with NPS 1/2 side inlet.
		4. Air-Gap Fittings:
			1. Standard: ASME A112.1.2, for fitting designed to ensure fixed, positive air gap between installed inlet and outlet piping.
			2. Body: Bronze or cast iron.
			3. Inlet: Opening in top of body.
			4. Outlet: Larger than inlet.
			5. Size: Same as connected waste piping and with inlet large enough for associated indirect waste piping.
		5. Sleeve Flashing Device:
			1. Description: Manufactured, cast-iron fitting, with clamping device, that forms sleeve for pipe floor penetrations of floor membrane. Include galvanized-steel pipe extension in top of fitting that will extend 2 inches above finished floor and galvanized-steel pipe extension in bottom of fitting that will extend through floor slab.
			2. Size: As required for close fit to riser or stack piping.
		6. Stack Flashing Fittings:
			1. Description: Counterflashing-type, cast-iron fitting, with bottom recess for terminating roof membrane, and with threaded or hub top for extending vent pipe.
			2. Size: Same as connected stack vent or vent stack.
		7. Vent Caps:
			1. Description: Cast-iron body with threaded or hub inlet and vandal-proof design. Include vented hood and setscrews to secure to vent pipe.
			2. Size: Same as connected stack vent or vent stack.
	5. FLASHING MATERIALS
		1. Lead Sheet: ASTM B 749, Type L51121, copper bearing, with the following minimum weights and thicknesses, unless otherwise indicated:
			1. General Use: 6-lb/sq. ft., 0.0938-inch thickness.
		2. Fasteners: Metal compatible with material and substrate being fastened.
		3. Metal Accessories: Sheet metal strips, clamps, anchoring devices, and similar accessory units required for installation; matching or compatible with material being installed.
		4. Solder: ASTM B 32, lead-free alloy.
		5. Bituminous Coating: SSPC-Paint 12, solvent-type, bituminous mastic.
	6. GREASE INTERCEPTORS
		1. Grease Interceptors:
			1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
				1. Applied Chemical Technology, Incorporated.
				2. Josam Company; Josam Div.
				3. MIFAB, Inc.
				4. Rockford Sanitary Systems, Inc.
				5. Schier Products Company.
				6. Smith, Jay R. Mfg. Co.; Division of Smith Industries, Inc.
				7. Tyler Pipe; Wade Div.
				8. Watts Drainage Products Inc.
				9. Zurn Plumbing Products Group; Light Commercial Operation.
				10. Zurn Plumbing Products Group; Specification Drainage Operation.
				11. Ashland Trap Distribution Co.
				12. Bio-Microbics, Inc.
				13. Canplas LLC.
				14. Schier Products Company.
				15. Zurn Plumbing Products Group; Light Commercial Operation.
			2. Standard: ASME A112.14.3 and PDI-G101, for intercepting and retaining fats, oils, and greases from food-preparation or processing wastewater.
			3. Large facilities may require custom large (750 gallons and above) unit per local utility requirements.
			4. Plumbing and Drainage Institute Seal.
			5. Body Material: Cast iron for small systems. Large systems will be concrete or plastic tanks with integral baffles and manhole access.
			6. Interior Lining: Corrosion-resistant enamel.
			7. Exterior Coating: Corrosion-resistant enamel.
			8. Body Extension: As required.
			9. Operation: Manual manual cleaning
3. EXECUTION
	1. INSTALLATION
		1. Refer to Division 22 Section "Common Work Results for Plumbing" for piping joining materials, joint construction, and basic installation requirements.
		2. Install cleanouts in aboveground piping and building drain piping according to the following, unless otherwise indicated:
			1. Size same as drainage piping up to NPS 4. Use NPS 4 for larger drainage piping unless larger cleanout is indicated.
			2. Locate at each change in direction of piping greater than 45 degrees.
			3. Locate at minimum intervals of 50 feet for piping NPS 4 and smaller and 100 feet for larger piping.
			4. Locate at base of each vertical soil and waste stack.
		3. For floor cleanouts for piping below floors, install cleanout deck plates with top flush with finished floor.
		4. For cleanouts located in concealed piping, install cleanout wall access covers, of types indicated, with frame and cover flush with finished wall.
		5. Install floor drains at low points of surface areas to be drained. Set grates of drains flush with finished floor, unless otherwise indicated.
			1. Position floor drains for easy access and maintenance.
			2. Set floor drains below elevation of surrounding finished floor to allow floor drainage. Set with grates depressed according to the following drainage area radii:
				1. Radius, 30 Inches or Less: Equivalent to 1 percent slope, but not less than 1/4-inch total depression.
				2. Radius, 30 to 60 Inches: Equivalent to 1 percent slope.
				3. Radius, 60 Inches or Larger: Equivalent to 1 percent slope, but not greater than 1-inch total depression.
			3. Install floor-drain flashing collar or flange so no leakage occurs between drain and adjoining flooring. Maintain integrity of waterproof membranes where penetrated.
			4. Install individual traps for floor drains connected to sanitary building drain, unless otherwise indicated.
		6. Install roof flashing assemblies on sanitary stack vents and vent stacks that extend through roof.
		7. Install flashing fittings on sanitary stack vents and vent stacks that extend through roof.
		8. Assemble open drain fittings and install with top of hub 2 inches above floor.
		9. Install deep-seal traps on floor drains and other waste outlets, if indicated.
		10. Install floor-drain, trap-seal primer fittings on inlet to floor drains that require trap-seal primer connection.
			1. Exception: Fitting may be omitted if trap has trap-seal primer connection.
			2. Size: Same as floor drain inlet.
		11. Install air-gap fittings on draining-type backflow preventers and on indirect-waste piping discharge into sanitary drainage system.
		12. Install sleeve flashing device with each riser and stack passing through floors with waterproof membrane.
		13. Install vent caps on each vent pipe passing through roof.
		14. Install grease interceptors, including trapping, venting, and flow-control fitting, according to authorities having jurisdiction and with clear space for servicing.
			1. Above-Floor Installation: Set unit with bottom resting on floor, unless otherwise indicated.
			2. Flush with Floor Installation: Set unit and extension, if required, with cover flush with finished floor.
			3. Recessed Floor Installation: Set unit in receiver housing having bottom or cradle supports, with receiver housing cover flush with finished floor.
			4. Install cleanout immediately downstream from interceptors not having integral cleanout on outlet.
		15. Install traps on plumbing specialty drain outlets. Omit traps on indirect wastes unless trap is indicated.
		16. Install escutcheons at wall, floor, and ceiling penetrations in exposed finished locations and within cabinets and millwork. Use deep-pattern escutcheons if required to conceal protruding pipe fittings.
	2. CONNECTIONS
		1. Piping installation requirements are specified in other Division 22 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.
		2. Install piping adjacent to equipment to allow service and maintenance.
		3. Grease Interceptors: Connect inlet and outlet to unit, and connect flow-control fitting and vent to unit inlet piping. Install valve on outlet of automatic drawoff-type unit.
	3. FLASHING INSTALLATION
		1. Fabricate flashing from single piece unless large pans, sumps, or other drainage shapes are required. Join flashing according to the following if required:
			1. Lead Sheets: 6.0-lb/sq. ft., 0.0938-inch thickness or thinner.
		2. Install sheet flashing on pipes, sleeves, and specialties passing through or embedded in floors and roofs with waterproof membrane.
			1. Pipe Flashing: Sleeve type, matching pipe size, with minimum length of 10 inches, and skirt or flange extending at least 8 inches around pipe.
			2. Sleeve Flashing: Flat sheet, with skirt or flange extending at least 8 inches around sleeve.
			3. Embedded Specialty Flashing: Flat sheet, with skirt or flange extending at least 8 inches around specialty.
		3. Set flashing on floors and roofs in solid coating of bituminous cement.
		4. Secure flashing into sleeve and specialty clamping ring or device.
		5. Install flashing for piping passing through roofs with counterflashing or commercially made flashing fittings, according to Division 07 Section "Sheet Metal Flashing and Trim."
		6. Extend flashing up vent pipe passing through roofs and turn down into pipe, or secure flashing into cast-iron sleeve having calking recess.
	4. LABELING AND IDENTIFYING
		1. Equipment Nameplates and Signs: Install engraved plastic-laminate equipment nameplate or sign on or near each grease interceptor.
		2. Distinguish among multiple units, inform operator of operational requirements, indicate safety and emergency precautions, and warn of hazards and improper operations, in addition to identifying unit. Nameplates and signs are specified in Division 22 Section "Identification for Plumbing Piping and Equipment."
	5. PROTECTION
		1. Protect drains during remainder of construction period to avoid clogging with dirt or debris and to prevent damage from traffic or construction work.
		2. Place plugs in ends of uncompleted piping at end of each day or when work stops.

END OF SECTION

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