

SECTION 221323 - SANITARY WASTE INTERCEPTORS

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:

- 1. Grease interceptors.

1.3 DEFINITIONS

- A. FRP: Fiberglass-reinforced plastic.
- B. PP: Polypropylene plastic.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of interceptor indicated. Include materials of fabrication, dimensions, rated capacities, retention capacities, operating characteristics, size and location of each pipe connection, furnished specialties, and accessories.
- B. Shop Drawings: For each type and size of precast-concrete interceptor indicated.
 - 1. Include materials of construction, dimensions, rated capacities, retention capacities, location and size of each pipe connection, furnished specialties, and accessories.

1.5 INFORMATIONAL SUBMITTALS

- A. Coordination Drawings: Interceptors, drawn to scale, on which the following items are shown and coordinated with each other, based on input from Installers of the items involved:
 - 1. Interceptors.
 - 2. Piping connections. Include size, location, and elevation of each.
 - 3. Interface with underground structures and utility services.

1.6 PROJECT CONDITIONS

- A. Interruption of Existing Sewer Services: Do not interrupt services to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary sewer services according to requirements indicated:
1. Notify Owner no fewer than seven days in advance of proposed interruption of service.
 2. Do not proceed with interruption of sewer services without Owner's written permission.

PART 2 - PRODUCTS

2.1 GREASE INTERCEPTORS

- A. Grease Interceptors: Precast concrete complying with ASTM C 913.
1. Include rubber-gasketed joints, vent connections, manholes, compartments or baffles, and piping or openings to retain grease and to permit wastewater flow.
 2. Structural Design Loads:
 - a. Heavy-Traffic Load: Comply with ASTM C 890, A-16 (ASSHTO HS20-44).
 3. Resilient Pipe Connectors: ASTM C 923 (ASTM C 923M), cast or fitted into interceptor walls, for each pipe connection.
 4. Steps: Individual FRP steps, FRP ladder, or ASTM A 615/A 615M, deformed, 1/2-inch (13-mm) steel reinforcing rods encased in ASTM D 4101, PP, wide enough to allow worker to place both feet on one step and designed to prevent lateral slippage off step. Cast or anchor steps into sidewalls at 12- to 16-inch (300- to 400-mm) intervals. Omit steps if total depth from floor of interceptor to finished grade is less than 60 inches (1500 mm).
 5. Grade Rings: Reinforced-concrete rings, 6- to 9-inch (150- to 225-mm) total thickness, to match diameter of manhole frame and cover.
 6. Manhole Frames and Covers: Ferrous; 24-inch (610-mm) ID by 7- to 9-inch (175- to 225-mm) riser with 4-inch- (100-mm-) minimum width flange and 26-inch- (660-mm-) diameter cover.
 - a. Ductile Iron: ASTM A 536, Grade 60-40-18, unless otherwise indicated.
 - b. Gray Iron: ASTM A 48, Class 35, unless otherwise indicated.
 - c. Include indented top design with lettering cast into cover, using wording equivalent to "GREASE INTERCEPTOR."
- B. Capacities and Characteristics:
1. Length by Width by Depth: <Insert inches (mm)>.
 2. Number of Compartments: [One] [Two] <Insert number>.
 3. Retention Capacity: <Insert gal. or lb (L or kg)>.
 4. Inlet and Outlet Pipe Size: <Insert NPS (DN)>.
 - a. Centerline of Inlet to Floor: <Insert inches (mm)>.
 - b. Centerline of Outlet to Floor: <Insert inches (mm)>.

5. Trapped Outlet Required: **[Integral] [No] [Yes]**.
6. Vent Pipe Size: **[Not required] <Insert NPS (DN)>**.
7. Installation Position: **[Top flush with grade] [Underground with manhole riser to grade] <Insert position>**.

2.2 PRECAST-CONCRETE MANHOLE RISERS

- A. Precast-Concrete Manhole Risers: ASTM C 478 (ASTM C 478M), with rubber-gasket joints.
 1. Structural Design Loads:
 - a. Heavy-Traffic Load: Comply with ASTM C 890, A-16 (ASSHTO HS20-44).
 2. Length: From top of underground concrete structure to grade.
 3. Riser Sections: 3-inch (75-mm) minimum thickness and 36-inch (915-mm) diameter.
 4. Top Section: Eccentric cone, unless otherwise indicated. Include top of cone to match grade ring size.
 5. Gaskets: ASTM C 443 (ASTM C 443M), rubber.
 6. Steps: Individual FRP steps, FRP ladder, or ASTM A 615/A 615M, deformed, 1/2-inch (13-mm) steel reinforcing rods encased in ASTM D 4101, PP, wide enough to allow worker to place both feet on one step and designed to prevent lateral slippage off step. Cast or anchor steps into sidewalls at 12- to 16-inch (300- to 400-mm) intervals.
- B. Grade Rings: Reinforced-concrete rings, 6- to 9-inch (150- to 225-mm) total thickness, diameter matching manhole frame and cover, and height as required to adjust the manhole frame and cover to indicated elevation and slope.
- C. Manhole Frames and Covers: Ferrous; 24-inch (610-mm) ID by 7- to 9-inch (175- to 225-mm) riser with 4-inch- (100-mm-) minimum width flange and 26-inch- (660-mm-) diameter cover.
 1. Ductile Iron: ASTM A 536, Grade 60-40-18, unless otherwise indicated.
 2. Gray Iron: ASTM A 48, Class 35, unless otherwise indicated.
 3. Include indented top design with lettering cast into cover, using wording equivalent to the following:
 - a. Grease Interceptors in Sanitary Sewerage System: "GREASE INTERCEPTOR."

PART 3 - EXECUTION

3.1 EARTHWORK

- A. Excavating, trenching, and backfilling are specified in Division 31 Section "Earth Moving."

3.2 INSTALLATION

- A. Install precast-concrete interceptors according to ASTM C 891. Set level and plumb.

- B. Install manhole risers from top of underground concrete interceptors to manholes and gratings at finished grade.
- C. Set tops of manhole frames and covers flush with finished surface in pavements. Set tops [3 inches (75 mm)] above finish surface elsewhere, unless otherwise indicated.
- D. Set tops of grating frames and grates flush with finished surface.

3.3 CONNECTIONS

- A. Piping installation requirements are specified in other Division 22 Sections. Drawings indicate general arrangement of piping, fittings, and specialties.
- B. Make piping connections between interceptors and piping systems.

3.4 IDENTIFICATION

- A. Arrange for installation of green warning tapes directly over piping and at outside edges of underground interceptors.
 - 1. Use warning tapes or detectable warning tape over ferrous piping.
 - 2. Use detectable warning tape over nonferrous piping and over edges of underground structures.

END OF SECTION 221323