

## SECTION 22 13 19

### SANITARY WASTE PIPING SPECIALTIES

#### PART 1 - GENERAL

##### 1.1 WORK INCLUDED

- A. Air gap fittings
- B. Area drains
- C. Backwater valves
- D. Cleanouts
- E. Condensate drains
- F. Floor drains
- G. Floor sinks
- H. Trap primer valves
- I. Trench drains

##### 1.2 RELATED SECTIONS

- A. Section

##### 1.3 REFERENCE STANDARDS

- A. ASSE (American Society of Sanitary Engineering).
- B. ASTM (American Society for Testing and Materials).
- C. PDI (Plumbing Drainage Institute).

##### 1.4 SUBMITTALS

- A. Submit shop drawings on all equipment provided under this section.

#### PART 2 - PRODUCTS

##### 2.1 ACCEPTABLE MANUFACTURERS

- A. Air Gap Fittings: Josam, J.R. Smith, Wade, Zurn.
- B. Area Drains: Josam, J.R. Smith, Wade, Zurn.
- C. Backwater Valves: Josam, J.R. Smith, Wade, Zurn.
- D. Cleanouts: Josam, J.R. Smith, Wade, Zurn.

- E. Downspout Nozzles: Josam, J.R. Smith, Wade, Zurn.
- F. Floor Drains: Josam, J.R. Smith, Wade, Zurn.
- G. Floor Sinks: Josam, J.R. Smith, Wade, Zurn.
- H. Frost Proof Roof Jackets: Moore or approved equal.
- I. Manholes and Catch Basins: Elk River Concrete Products or approved equal.
- J. Manhole and Catch Basin Castings: Neenah or approved equal.
- K. Trap Primer Valves: Josam, J.R. Smith, Wade, Zurn.
- L. Trench Drains: Josam, J.R. Smith, Wade, Zurn, ACO, Polydrain

## 2.2 AIR GAP FITTINGS

- A. Equal to Josam Series 88900. Pipe sizes 1 inch to 4 inches. Cast iron with air ports, threaded inlet and outlet.

## 2.3 BACKWATER VALVES

- A. Equal to Josam Series 67500. Cast iron backwater valve with bronze swing check valve, hub and spigot connections, bolted gasketed cover, size as indicated per drawings.
- B. Equal to Josam Series 67360. Combination Cast iron backwater valve, straight-through type with shear gate with non-rising stem, bronze swing check valve, hub and spigot connections, size as indicated per drawings.[3 to 6 inches]

## 2.4 CLEANOUTS

- A. Floors or Outdoors: Equal to Josam Series 56000. Furnish with adjustable flange, internal gasketed cleanout plug, secured round nikaloy cover. Top of cleanouts to be flush with floor or grade.
- B. Walls: Equal to Josam Series 58890. Furnish with secured round stainless steel cover and bronze tapped plug. Provide rust inhibitor within brass plug thread to prevent plug seizure to piping.

## 2.5 FLOOR DRAINS

- A. Floor drains shall be as scheduled on drawings.]
- B. Provide 4 inch funnel strainer where indicated on the drawings.
- C. On Grade:
  1. Mechanical, Chiller and Boiler Room Drains: [Equal to Josam Series 38250A.] Furnish with coated cast iron body, trap primer fitting, integral 4 inch deep seal P-trap and full size cleanout, spigot outlet, double drainage flange, nikaloy medium duty loose set grate and internal ball type backwater valve.[2 to 4 inch]
  2. General Use and Shower Drains: [Equal to Josam Series 30000-A.] Furnish with cast iron body, trap primer fitting, 4 inch deep seal P-trap, spigot outlet, double drainage flange, nikaloy adjustable secured strainer, [and internal backwater valve.]

- D. Above grade:
  - 1. General Use and Shower Drains: [Equal to Josam Series 30000-A.] Furnish with cast iron body, trap primer fitting, bottom outlet with deep seal P-trap, double drainage flange, flashing collar when waterproof membrane is used and 6 inch diameter maximum nikaloy adjustable secured strainer.

## 2.6 FLOOR SINKS

- A. [Floor sinks to be as scheduled on the drawings.]
- B. On or above grade:
  - 1. General Use: [Equal to Josam Series 49300 for square top.][Equal to Josam Series 49220A for round top.] Furnished with cast iron body, trap primer fitting, bottom outlet with deep seal P-trap, acid resistant interior, double drainage flange, flashing collar when waterproof membrane is used, internal aluminum dome strainer, [6 inch deep by 8 inch square top, full Nikaloy loose grate.][6 inch deep by 8-1/2 inch round top, and cast iron non-traffic acid-resisting anti-tilting SUPER-FLO Grat.] [half Nikaloy loose grate for indirect drain piping.]

## 2.7 MANHOLES, CATCH BASINS AND CASTINGS

- A. Precast manholes and catch basin section shall conform to California Highway Department Standards.
- B. Joints between precast concrete sections shall be made with rubber gaskets. Concrete adjusting rings shall be used to attain final grade.

## 2.8 TRAP PRIMER VALVES

- A. Equal to Josam Series 88250. Bronze valve with integral vacuum breaker, threaded connections for installation in cold water service.

## 2.9 TRENCH DRAINS

- A. Trench drains shall be Aco Polymer Products, or equal, incorporating the NW-100 channel slope system with the 460 slotted heavy duty cast iron grate with locking devices, as recommended by the manufacturer.
- B. Trench drains channels shall be precast, pre-sloped, and interlocking, incorporating polyester resins and formulated aggregate with recesses for grating lock-down devices molded into the channel walls. Locking devices shall keep grates from moving.

## PART 3 - EXECUTION

### 3.1 AREA DRAINS, FLOOR DRAINS, FLOOR SINKS AND PATIO DRAINS

- A. Set drains so that strainer top is level with finished floor surface. Floor finishes and elevations are shown on Architectural drawings.
- B. Adjustable strainers shall be adjusted to accommodate finished floor material.

### 3.2 BACKWATER VALVES

- A. Install backwater valve in concrete pit constructed by [another Contractor] [this Contractor].
- B. Frame pit large enough for valve access, with non-gasketed steel cover, sealed watertight.
- C. Verify adequate venting of the system and provide vent at backwater valve if required by governing codes.

### 3.3 CLEANOUTS

- A. Provide cleanouts for soil, waste and drain pipes at base of stacks, at every change in direction, where indicated on the drawings and as required by governing codes.
- B. Adjust floor cleanouts so that top of cleanout is level with finished floor material.

### 3.4 CONDENSATE DRAINS

- A. Provide a deep seal "P" trap at condensate drain beneath each air conditioning unit cooling coil, and extend piping to nearest floor drain, service sink or as shown on drawings. "P" trap may be omitted at fan-coil unit drains.
- B. Traps for roof mounted equipment shall be constructed of rubber; drain piping shall be [Type "M" copper with soldered joints] and shall be extended to nearest roof drain.
- C. Effective water seal of "P" trap shall be minimum of two times negative static pressure in fan plenum for draw-through fan unit, but not less than 3 inch. Depth of trap shall be minimum of one-half the plenum maximum negative static pressure.
- D. Provide condensate drain piping from evaporator coils in walk-in freezer and walk-in cooler. Furnish and install electric heat cable along condensate drain piping from evaporator in walk-in freezer before piping is insulated. Refer to [Section 15430, Plumbing Specialties] [Division 16] for additional information.

### 3.5 MANHOLES AND CATCH BASINS

- A. Manholes and catch basin openings shall be pre-formed. Provide rubber gaskets in joints between sections. Castings shall be set to finished grade on a full mortar bed. No more than four concrete adjusting rings shall be used to attain final grade and mortar levels shall not exceed one inch in thickness.
- B. Channels in bottoms of manholes and catch basins shall be formed to conform with the lower ½ of the pipes and to provide a smooth, unobstructed flow. Joints and openings shall be sealed, inside and out, with concrete mortar. After mortar is set, all shrinkage cracks and slump openings shall be resealed from the inside with equal to "Embeco" grout and "Waterstop".

### 3.6 INVERT ELEVATIONS

- A. Verify all invert elevations and exact locations before commencing work.

END OF SECTION