

# SECTION 22 13 00

## FACILITY SANITARY SEWERAGE

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - a. Sanitary waste piping
  - b. Vent piping
  - c. Greywater separation and diversion
  - d. Overflow connections
  - e. Cleanouts and accessories

#### 1.2 RELATED SECTIONS

- A. Section 22 13 16 - Greywater Collection and Distribution
- B. Section 32 84 25 - Greywater Treatment and Irrigation System
- C. Section 03 30 00 - Cast-in-Place Concrete

#### 1.3 REFERENCES

- A. Local Plumbing Code Requirements
- B. Relevant Standards:
  - a. NSF/ANSI 350 - Onsite Residential and Commercial Water Reuse Treatment Systems
  - b. ASTM F1760 - Standard Specification for Coextruded Poly(Vinyl Chloride) (PVC) Non-Pressure Plastic Pipe Having Reprocessed-Recycled Content
  - c. ASTM D2661 - Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe and Fittings
  - d. ASTM F628 - Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe With a Cellular Core
  - e. ASTM D4068 - Standard Specification for Chlorinated Polyethylene (CPE) Sheet for Concealed Water-Containment Membrane
  - f. ASTM D2665 - PVC Drain, Waste, and Vent Pipe and Fittings
  - g. ASTM D3034 - PVC Sewer Pipe and Fittings
- C. National Plumbing Code (NSPC)

#### 1.4 SYSTEM DESCRIPTION

- A. Design Requirements:

- a. Segregation of greywater sources from blackwater
  - b. Overflow protection
  - c. Venting requirements
  - d. Clean-out access
- B. Performance Requirements:
  - a. Maintain minimum slope requirements
  - b. Provide adequate venting
  - c. Allow for system maintenance
  - d. Prevent cross-contamination

## 1.5 SUBMITTALS

- A. Product Data:
  - a. Pipe and fitting specifications
  - b. Diversion valve details
  - c. Clean-out information
- B. Shop Drawings:
  - a. Piping layout
  - b. Connection details
  - c. Greywater separation details
  - d. Overflow connections

# PART 2 - PRODUCTS

## 2.1 MATERIALS

- A. Below Grade Piping:
  - a. Material: Schedule 40 PVC
  - b. Fittings: DWV pattern
  - c. Joints: Solvent welded
- B. Above Grade Piping:
  - a. Material: Schedule 40 PVC
  - b. Fittings: DWV pattern
  - c. Joints: Solvent welded
- C. Diversion Valves:
  - a. Type: 3-way PVC ball valve
  - b. Size: Match pipe size
  - c. Pressure rating: 150 PSI minimum
- D. Cleanouts:
  - a. Material: PVC
  - b. Access: Grade level with cover

## 2.2 GREYWATER SEPARATION

- A. Collection Points:
  - a. Bathroom sinks
  - b. Showers
  - c. Washing machines
  - d. Other approved sources
- B. Excluded Sources:
  - a. Toilets
  - b. Kitchen sinks
  - c. Dishwashers
  - d. Floor drains

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Verify existing conditions
- B. Confirm pipe routing
- C. Identify conflicts
- D. Review separation requirements detailed in shop drawings

### 3.2 INSTALLATION

- A. Pipe Installation:
  - a. Minimum slope: 2% or per code
  - b. Support spacing: Per code
  - c. Clean-out locations: Per code
- B. Greywater separation:
  - a. Clearly identify greywater lines using labels
  - b. Install diversion valves
- C. Venting:
  - a. Install per code requirements
  - b. Connect to building vent system
  - c. Maintain minimum sizes
- D. Overflow Connections:
  - a. Connect to sanitary sewer
  - b. Install backwater valves
  - c. Provide clean-out access

### 3.3 FIELD QUALITY CONTROL

- A. Testing:
  - a. Pressure test all lines
  - b. Verify proper drainage
  - c. Confirm separation

- d. Test diversion valves
- B. Inspection:
  - a. Local authority approval
  - b. System verification
  - c. Documentation

### 3.4 PROTECTION

- A. During Construction:
  - a. Cap open ends
  - b. Protect from damage
  - c. Maintain separation
- B. After Installation:
  - a. Protect cleanouts
  - b. Maintain access
  - c. Label systems

END OF SECTION