

2. Pipeline Sizes and Materials. (Gravity Sewers)

a. General.

- 1) Standard pipe materials. Ensure that all designs allow for the use of materials that conform to all applicable sections of the Specifications and the Standard Details.
- 2) Special pipe materials. Submit any special design features and/or special materials required due to the specific nature of the contract for approval to the WSSC prior to being incorporated into the contract documents. If approved, it will be for the specific case in question and not a general approval for use elsewhere (other contract documents). Special Provisions to the Specifications and special details on the drawings may be required.

b. Minimum Pipe Size.

- 1) Minimum 8-inch diameter for mainline sewer pipelines.
- 2) Minimum of 4-inch diameter for SHCs.

c. Hydraulic Design for Sewer Pipelines.

- 1) Provide some reserve capacity when designing the pipe sizes. Do not design the sewer pipeline to flow completely full at the design flow rate, see Appendix C (WSSC Design Criteria for Sewer Systems).
- 2) For sewer pipelines over 12-inch, submit hydraulic calculations in support of the sewer design.
- 3) For existing sewer pipelines, larger than 15-inch diameter, review as-builts and request information on existing flow conditions, before designing connections to the sewer pipeline. In some areas, the existing sewer pipeline was design to be surcharge.

d. Allowable Pipe Material.

- 1) See Part Two, Section 3 (Selection of Pipe Material (Gravity Sewers)).

e. Allowable Pipe Joints.

- 1) Polyvinyl Chloride Pipe (PVC) with bell gasket joints per ASTM F477.
- 2) Reinforced Concrete Pipe (RCP) with bell gasket joints per ASTM C443.
- 3) Ductile Iron Pipe (DIP), see requirements under Part One, Section 3 (Pipe and Fitting Joints).
- 4) Polyvinyl Chloride Pipe AWWA C900/C905, see requirements under Part One, Section 3 (Pipe and Fitting Joints).
- 5) For additional requirements, see Specifications and the Standard Details.



f. Special Pipe.

- 1) Determine the type of pipe that will be required. If the design requires a non-standard (special) pipe material, submit all necessary calculations and data supporting the design change to WSSC.
- 2) Examples of special pipe: Non-Float Pipe, Reinforced Concrete Pipe (RCP) other than ASTM C76, etc.
- 3) For more information, see Part Two, Section 3 (Selection of Pipe Material (Gravity Sewers)).

