1. Survey and Stakeout Information.

a. General.

1) Stakeout controls; provide the necessary stakeout controls on the drawings for setting the alignment to construct the pipeline(s).

2) Survey controls, see Appendix "D" (WSSC Survey and Right of Way Criteria), for WSSC standards and requirements.

b. Survey Controls.

1) Survey controls to be shown on the drawings. Depending on the type of pipeline construction, different survey controls may be required. The following guidelines indicate the type of information to be shown on the drawings. For additional requirements and information, see Appendix "D" (WSSC Survey and Right of Way Criteria).

a) Proposed subdivision and development contracts.

(1) For pipelines smaller than 24-inch diameter and located in the roadway or adjacent lots, the Developer will be required to set all property pipes, centerline of roadways, etc., necessary to stakeout the alignment for construction. Provide a note in the General Notes to indicate this requirement.

(2) For pipelines 24-inch and larger diameter located in an undeveloped parcel or open area, provide survey information on the drawings.

b) Existing subdivision, outfall, etc., provide survey and stakeout information on the drawings.

c. Stakeout Controls.

1) Provide survey information, when required. For additional requirements and information, see Appendix "D" (Survey and Right of Way Criteria).

a) Horizontal stakeout control (traverse lines), show the traverse station numbers, azimuths, distances between stations and sketches of the traverse references.

b) Vertical stakeout control, show the described turning points and bench marks with the index number, elevation and description. Provide at least three (3) bench marks per plan sheet.

2) Alignment stakeout information to be shown on the drawing(s).

a) Water pipelines smaller than 24-inch diameter.

(1) Show the final ties to all existing pipelines at the cap or plug. If no ties are available, note that on the plans as NTA (No Ties Available).

(2) Pipelines in horizontal curves. Show the radius of the curve and the location of the tangent points of the curve (PC, PI and PT). Exceptions, if the pipeline is 12-inch and smaller, and is running parallel to or meandering along a roadway.

(3) Provide stakeout ties for pipelines and appurtenances as follows:

(a) For pipelines larger than 12-inch and smaller than 24-inch, provide stakeout from the traverse stations.

(b) For pipelines 12-inch and smaller, provide stakeout from physical features, if available. If not available, provide from the traverse stations.

(c) If the pipeline is located within a proposed subdivision or development, provide stakeout ties from property corners, proposed road stations, etc.

b) Water pipelines 24-inch and larger in diameter.

(1) Show the final ties to all existing pipelines at the cap or plug. If no ties are available, note that on the plans as NTA.

(2) Provide stakeout ties for pipeline fittings and appurtenances from the traverse stations, which includes tangent points (PC, PT) and points of intersection (PI) for all horizontal curves. For horizontal curves, show the delta, radius, tangent, length or arc of the curve, and pipeline stations and location of tangent points (PC, PT).

c) Sewer pipelines smaller than 24-inch in diameter, provide stakeout ties from the traverse stations for manholes. If the manholes and pipelines are located within a proposed subdivision or development, provide stakeout ties from property corners, proposed road stations, etc.

d) Sewer pipelines larger than 24-inch in diameter, provide stakeout ties from the traverse stations for manholes, and tangent points (PC, PT) and point of intersection (PI) for all horizontal curves.

e) Force mains and pressure sewers, provide stakeout in accordance with the requirements for water pipelines.