

WATER and WASTEWATER DESIGN CRITERIA MANUAL
MAJOR PROPOSED AMENDMENTS

NOTE: A number of updates to reflect current City office names and position titles and “wordsmithing” changes for clarifications were made. Some deletions of material were made and only referenced. If the reader wishes to identify all specific changes, they may do so by comparing the revised sections with a copy of the 2002 manual.

Section 2 – Preliminary Design

- Indicated as “Applicable to City Projects.”
- Updated to reflect electronic records and communications among current City offices for internal coordination of Preliminary Design.
- Updated to reflect current utility companies for external coordination of Preliminary Design.

Section 3 – Water Design Guidelines

3.1 General

- Updated to reflect current reference documents for design of water mains.

3.2 Water Main Separation from Wastewater Mains

- Updated to refer to current name of state environmental regulatory agency and state requirements for separation.

3.3 Size of Water Distribution Mains

- Added requirement that development water systems have two points of connections to existing City water system for reliability of supply and fire flow.
- Added standard water service line sizes.
- Made 8 in. water main the minimum water main size (from 6 in.).
- Updated references to Denton Development Code and International Fire Code for fire hydrants and mains.

3.5 Pipe and Fittings

- Updated acceptable pipe and fitting materials.
- Referenced appropriate Standard Detail drawings for required thrust blocking.
- Added requirement of restrained joints, in addition to thrust blocking, for all 16 in. - 30 in. water main fittings.

3.6 Meters and Meter Cans/Vaults

- Updated acceptable meter brands per size and type.
- Added sections for meter sizing, location, installation and referenced appropriate Standard Detail Sheets.

3.7 Water Main Horizontal and Vertical Alignment

- Added separation requirements for water mains from other utilities.

3.14 Methods of Connection

- Added alert that connections between two pressure zones may require a pressure reducing valve station.
- Added references to appropriate Standard Detail Sheets for connections and extensions.
- Added Pressure Zone Map for design reference.

3.15 Valves

- Added clarity for location of valves.
- Updated acceptable valves.
- Added reference to appropriate Standard Detail Drawings for valves and placements.
- Added requirement for air release valves.

3.16 Dead-end Mains

- Required new system extensions to be looped in lieu of dead-end mains.
- Changed flush points for dead-end mains, which cannot be avoided, to fire hydrants only.

3.17 Fire Hydrant Locations and Coverage

- Moved location requirements to this section.

3.18 Requirements for Abandoning Water Mains

- Added requirements for abandoned water mains.
- Added references to appropriate Standard Detail Sheets.

Water Drawings

- Removed all water drawings since they are now contained in the Standard Detail Sheets.

Section 4 – Wastewater Design Guidelines

4.1 General

- Updated to reflect current reference documents for design of wastewater mains.

4.2 Estimated Wastewater Flows

- Updated references and flow table.

4.3 Separation Distances Between Wastewater Collection System Pipes and Manholes and Water Supply Pipes

- Updated information based on TCEQ requirements and listed TECQ requirements.

4.4 Size and Slope of Sewers

- Updated Minimum and Maximum Pipe Slopes Table to match TCEQ requirements.

4.9 Gravity and Force Main Sewer Pipe Material

- Updated acceptable pipe materials.

4.11 Manholes

- Updated acceptable manhole types.
- Added references to appropriate Standard Detail Sheets.

4.12 State Highway Alignment Criteria

- Added requirement that all City water and wastewater utilities be placed in utility easements outside of TxDOT ROW.

4.14 Tunneling, Jacking and Boring

- Changed allowable wastewater carrier pipe in casings from DIP to PVC.

4.15 Creek Crossings

- Added references to appropriate Standard Detail Drawings.

4.19 Lift Stations

4.19.3 Hydraulic Design

- Added TCEQ rule for storage capacity to accommodate power outages.

4.19.6 Electrical, Instrumentation and Supervisory Control and Data Acquisition (SCADA) Requirements

- Removed from manual, due to rapid advancement in associated technology and equipment. Design engineer must contact Director of Wastewater Utilities for latest ion requirements. (Only a few lift stations are constructed for developments.)

4.20 Lift Stations

- Increased minimum distance from a lift station to a residential or commercial building from 100 ft. to 200 ft., unless lift station site is enclosed with an opaque concrete or masonry wall and an approved odor control system is provided.

4.21 Low Pressure Collection Systems

- Allowed low pressure collection systems with approval.

4.22 On-Site Sewage Facilities

- Incorporated “Old” Section 10 into Section 4.
- Updated for current references to TCEQ and City Development Code.
- Added that “professional engineer or professional sanitarian must be licensed by the State of Texas.

Section 5 – Construction Plans

- Added new Section to identify current requirements for construction plans for water and wastewater.

Section 6 (“Old” Section 5) – Rights-of-Way and Easements

- Updated to reflect current procedures and practices. Basically, that the City provides the appropriate document forms for easements required to serve a development that are to become City easements, and developer is responsible for acquiring those easements.

Section 7 (“Old” Section 6) – Addenda, Plans Revisions and Change Orders

- Updated to indicate difference in requirements for City and development projects.

Section 8 (“Old” Section 7) – Submittals

- Updated to indicate the differences in “Materials” and “Shop Drawing” submittals and current procedures and practices.

“Old” Section 8 – Addenda, Plan Revision and Change Orders

- Deleted, since it was a duplicate of Section 6, with some minor differences.

“Old” Section 9 – Submittals

- Deleted, since it was a duplicate of Section 7, with some minor differences.

Wastewater Drawings

- Removed from this update, since references are now made in the appropriate manual sections to the applicable City Standard Detail Sheets.

“Old” Section 10 – On-Site Sewage Facilities

- Incorporated into Section 4, since they are Wastewater facilities.