

SECTION II

GENERAL DESIGN REQUIREMENTS FOR WATER AND WASTEWATER PROJECTS

A policy has been adopted that all ‘as-built’ plans will be reduced to one-half scale by the Engineering Department. Therefore, it is essential that the CAD technicians or draftsperson preparing final plans be made aware that prints from reduced originals will be used for future reference so that they may perform their work with this requirement in mind. The Water Department requires that plans be prepared on sheets measuring 24” x 36”.

To maintain uniformity of plans and to meet the minimum requirements of the Fort Worth Water Department, the project engineer will provide the following information of the plans:

1. Existing construction such as pavement, curbs, gutters, driveways, drainage structures, utilities, railroad tracks, and buildings (in or adjacent to the proposed improvements), shall be clearly located in the plan and in the profile wherever it is necessary for the clarification of the design.
2. Approved design of any proposed construction, which may be pertinent to the design of the project, shall be clearly located in the plan and in profile as necessary to clarify design.
3. Profiles of all proposed or existing streets containing water and wastewater utilities shall be included in the plans or made available as needed through the Transportation and Public Works Department.
4. Construction and permanent easements shall be delineated on the plans, including the affected property owner’s name and easement reference designation in the project specifications. Copies of executed easements shall be part of the Special Contract Document and Specifications for the project.
5. All utilities, including pipe lines, underground cables, power, telecommunication wires, poles, meter boxes, vaults, manholes etc., shall be clearly located in all proposed and existing dedications to contain water and wastewater utilities, both in plan and profile.
6. Scales are to be shown on each sheet, both numerically and graphically. Acceptable scales are:

STANDARD PLAN & PROFILE

1" = 4' vertical

1" = 40' horizontal

1" = 100' layout

Exceptions may be approved by the Fort Worth Water Department when a double scale would show the overall layout more clearly.

7. Street names, R.O.W and pavement widths, types of surfacing, curbs and proposed curbs shall be shown where pertinent to the proposed water and wastewater utilities.
8. Notes to reconstruct any driveways, sidewalks, ramps, parking lots, etc. affected by design should be shown.
9. Notes to reconstruct streets, fences, etc., which are affected by design should be shown.
10. Notes pertinent to connections with existing water and wastewater utilities should be included.
11. A North arrow and Tarrant Appraisal District map number should be shown on each plan view.
12. Topography notations should be included as necessary for clarification of design.
13. The location of all benchmarks (permanent or temporary) shall be shown on the plans (minimum of two). The location of the nearest permanent benchmark shall be described and shown if the on-site benchmarks are temporary. Also, provide minimum of two survey control points for each line segment
14. Existing and future surface grades should be shown (on the profile) and labeled.
15. Label all wastewater sizes, grade lines and profiles. Show datum elevations as often as necessary for clarification. Pipe sizes 10-inch and above, indicate in mgd the capacity required and provided.
16. Show water profiles for pipes 12-inch diameter and greater, valves, percent grade, pipe material and other utilities, etc.
17. Onsite water and wastewater systems shall be displayed on different layout sheets. Onsite wastewater profiles must be shown separate, indexed by line

numbers on the layout sheet may be used. The line weight needs to be lighter than Off-site work.

18. All wastewater mains, which are substantially cross-country (or off-site) will required a combined plan and profile drawing(s).
19. Services for water and wastewater will be shown on the separate layout sheet, but stationing of services will not be required (unless the service locations deviate from the standard locations), and wastewater service grades will not be required.
20. Any additional information not specifically mentioned above which will add to the clarity of the plans and specifications should be included.
21. A copy of the recorded (or proposed) final plat of the project area shall be included in the plans.
22. Standard title block (shown below)

CITY OF FORT WORTH, TEXAS			
WATER DEPARTMENT			
P L A N & P R O F I L E			
DESIGNED :		SUBMITTED:	
_____		_____	
REVIEWED:		RECOMMENDED:	
_____		_____	
DESIGN:	SCALE	PROJECT NO.	SHEET
DRAWN:	DATE		
CHECKED:			
		OF	

23. Fort Worth standard symbols and abbreviations must be used (as shown in the Appendix G).
24. Texas coordinate system shall also be provided in addition to sectioning on plan or profile sheet as appropriate.

25. On each sheet there shall be a “Warning to the Contractor” note requiring the location of any utilities 48 hours prior to any execution.
26. On all water and wastewater plan sheets, show stationary objects (e.g. valves, hydrant, manholes, etc.)
27. Provide general construction notes as needed.