

SECTION 4

PLAN PREPARATION

4-1 GENERAL

The Public Works Department has established procedures which must be followed in the preparation of plans. Deviations from these requirements, unless specifically authorized, will be cause for rejection by the City Engineer. Civil engineers who are preparing water plans should have in their possession a complete set of these Standards.

All plans representing proposed improvements shall be created by means of CAD and prepared using City standard title blocks provided by the City in AutoCAD format. Plans produced by any other means (i.e., hand drafted) must be approved in advance by the City Engineer. If so approved, plans produced by hand shall be drawn with India ink on Mylar sheets provided by the Public Works Department. Note that there is a charge for these sheets.

It should be understood that the responsibility for accuracy and completeness of the drawings rests with the applicant's engineer. By signing the drawings, the City Engineer attests to the fact that they have been reviewed and duly authorized for construction. The applicant's engineer has a distinct responsibility to follow the progress of the work, to submit a change order when a revision is needed, and to incorporate the subsequent revision on the drawings. "As-built" information which pertains to the project but does not require a change order (such as the discovery of abandoned water pipes in the vicinity of the improvements) shall also be depicted on the Record Drawings.

4-2 SHEET SIZE AND MARGINS

The overall dimensions of any drawing submitted for plan check shall be 24" x 36" and 4/1000 of an inch (4-mil) in thickness. The margins shall be 2 inches on the left and 1/2 inch on the other three sides.

4-3 SIGNATURE BLOCK

All sheets of the plans shall have an engineer's signature block. The signature blocks shall be signed before any construction occurs. Any changes to the plans after initial approval shall be shown as revisions and shall be approved by the Public Works Department.

4-4 COVER SHEET

The cover sheet for water improvements is available from the Public Works Department in AutoCAD format.

The title sheet shall be the first sheet in the set and shall contain:

4-4.1 Index Map: An overall plan at a scale sufficient to show the general layout of waterlines, sizes of mainlines, valve and fire hydrant locations, named streets, tract boundaries, lot boundaries and numbers, a sheet index and other pertinent information. The cover sheet shall include a note as to the pressure zone by number and elevation.

4-4.2 Vicinity Map: A map with a scale of 1" = 1,000' showing tract boundary, streets, adjacent tracts, major streets outside of tract boundaries and the location of the bench mark.

4-4.3 Bench Marks: The reference bench mark used in the project shall be graphically shown on this sheet and the elevations, descriptions, locations, etc., shall be described.

All elevations used in preparation of standard plans shall be based on United States Coast and Geodetic Survey mean sea level datum.

4-4.4 General Notes: The general notes shall be shown on the cover sheet and need not be shown on the other sheets.

4-4.5 Water Certification Statement: The certificate shall be filled out and signed by the applicant's engineer prior to approval of the plans by the City.

4-4.6 Certificate of Record Drawings: Prior to submittal of the as-built plans to the City for final acceptance of the work, the engineer shall fill out and sign the certificate of record drawings.

4-4.7 Material List: Prior to submittal of the as-built plans to the City for final acceptance of the work, the engineer shall fill out the Material List contained on the cover sheet.

4-5 PLAN OF WATER SYSTEM

The water system plan shall be depicted on the lower portion of the plan and profile sheet. All plan and profile sheets shall have the same dimensions and standard title block as the cover sheet.

In the same manner as the cover sheet, the plan and profile sheet is available from the Public Works Department in AutoCAD format. Plan drawings shall show location of water mains, service line locations and other structures in relation to survey lines and stations. Included shall be blowoffs, combination air release valves, main line valves, fire hydrants, thrust blocks, etc. Provide all data for horizontal deflections or curves and indicate limits of any easements. Any known pad locations which are adjacent to an easement should be shown as well as fences, walls, trees, etc., which are within the easement. Show and label, on the plans, the size and ownership of all existing and/or proposed underground utilities that cross or parallel the waterline. Facilities of other water purveyors shall be included on the plans where they exist.

4-6 PROFILE OF WATER SYSTEM

Profiles shall show the grade, including any vertical curve data, as well as the size, type and class of pipe. The linear distances of each size, type and class of pipe shall be specified in feet and accurate to two decimal places. Any special encasement required to carry loads on the pipe shall be shown. Items such as valves or appurtenant features shall also be shown on the profile. Designate all elevations of water mains at the top of pipe to 0.01 foot. Any pipe, conduit or line which crosses the waterline (i.e., water, wastewater, gas, telephone, power, storm drain, television, fiber optic or oil line) shall be shown and labeled on the profile. The grade of major paralleling lines within 5 feet of the waterline shall be shown as a dashed line.

The City is not responsible for the accuracy of location or depth of underground lines shown on any improvement plans. The review and release of water plans by the City does not constitute a representation as to the accuracy of the location, or the existence or nonexistence of any underground utility, pipe or structure within the limits of the project. As part of the plan review process, City staff assumes that the engineer has fully researched and correctly plotted the locations of all existing substructures and/or overhead utilities which may conflict with or play a role in the installation of the proposed main. The engineer is fully responsible for the accuracy of the facilities shown on the plan, and these are not reviewed by City staff but are assumed to be correct as shown on the plans.

4-7 GRAPHIC SCALES AND NORTH ARROW

All plan and profile sheets shall contain:

4-7.1 Graphic Scales: Horizontal and vertical graphic scales shall be illustrated in such a manner that a true representation is produced when the plans are reduced in size, and they shall be as follows:

Horizontal: 1" = 40'
Vertical 1" = 4'

Double vertical scale drawings (i.e., 1" = 8') may only be submitted where the predominant slope of the existing ground surface on any one sheet exceeds 15 percent. In such cases, the words "Double Scale" shall be boldly shown.

- 4-7.2 North Arrow: The north arrow shall be oriented toward the top or to the right, or as approved. Generally, north shall be oriented towards the top or right hand side of the sheet.

4-8 PROCEDURE FOR APPROVAL

Approval for improvement plans consists of two phases. Each phase consists of a series of requirements which must be met before final acceptance.

1. Requirements for authorization of construction are covered in Section 5.
2. Requirements for final acceptance are covered in Section 11.

4-9 PLAN CHECKING LIST

The following check list of plan checking and project requirements is intended as a guideline to assist the engineer; it is not represented to be a complete list of requirements.

4-9.1 Cover Sheet:

Standard Title, Revision, and Engineer's Signature blocks
24" x 36" x 4-mil mylar plans
Vicinity Map with North Arrow and 1"=1000' Scale
Index Map with North Arrow and Scale
Lot lines and numbers shown on Index Map
Sheet numbers shown on Index Map
Adjacent tracts shown on Index Map
Street layout and names on both maps
Benchmark data
Certificate of "Record Drawings"
General Notes
Fire flow requirement
Maximum and minimum water pressures
"Dig Alert" 811 Logo

Engineer's stamp and expiration date.

4-9.2 General Design:

Conforms to master plan
Check for oversizing requirements
Selection of pipe type(s)

For any tie-ins to the City's existing system, provide instructions relative to sequencing, timing and thrust blocks. Plans must reference the drawing and sheet number(s) of the existing system, and the station number for the proposed point of connection (i.e., Install 6"x6"x8" Tee at Sta. 7+95.39 = Sta. 3+02.00 of Drawing 20186, Sheet 7).

4-9.3 Plan & Profile Sheets:

Graphic scales (Horizontal and Vertical)
North Arrows
Water line stationing left to right
Elevations to top of pipe
Proper depth of pipe
Curve data
Pipe sizes and type(s)
Street widths and names, curb-to-curb dimensions
Lot boundaries
Easements
Angle points with deflection angle shown
Valves, fire hydrants, combination air release and blowoffs
Where meter boxes not behind curb, show detail
Lot numbers and pad elevations
Size of all domestic and irrigation meters
Minimum separation between any parallel pipes is normally 4 feet outside diameter to outside diameter.
Minimum separation between parallel wastewater pipes is 10 feet outside diameter to outside diameter.
Thrust blocks

4-9.4 Administrative Items Before Construction of Main(s):

Agreement for construction
Cost estimate
Inspection and plan check fee
Bonds and insurance
Fire flow calculations
Calleguas Ordinance #14 (District release or District receipt)
Fire Protection District approval of location and sizes of all fire hydrants

4-9.5 Administrative Items During or After Construction of Main(s):

Payment of all fees
Submittal of changes orders and payment of change order fees
Meter installation requests.

4-10 STANDARD LANGUAGE FOR QUITCLAIMS AND EASEMENTS

The following is intended as an example of standard language for quitclaims and easements. It shall be modified if necessary to fit a particular set of circumstances.

4-10.1 Quitclaim Deed: The City of Thousand Oaks, a municipal corporation, does hereby remise, release and forever quitclaim of its rights, title and interests in and to the water system pipelines and appurtenances thereto as located in, on, over, under and across streets, easements and rights-of-way shown on Tract _____ as per map thereof recorded in Book _____, Page _____, and shown on the easement(s) as per Document No. _____, recorded on _____ of Official Records, in the Office of the County Recorder, County of Ventura, State of California.

4-10.2 Easement Deed: A water easement and right-of-way to lay, construct, repair, maintain, operate, renew and replace pipelines and appurtenances incidental thereto (herein referred to as "facilities") for the conveyance of water with right of ingress and egress to and from same, in, over, under and across the easement.

GRANTOR agrees for itself, its successors and assigns, not to erect, place or maintain, nor to permit the erection, placement, or maintenance of any buildings, planter boxes, earthfill, large trees, large shrubs, block walls, concrete pavement, decking, structures and other similar improvements that would unreasonably interfere with the ability of GRANTEE to obtain access to the easement for the purposes of repair, replacement, or installation of facilities.

CITY and its contractors, agents and employees, shall have the right to trim or cut tree roots as may endanger or interfere with the function of this easement and shall have free access to the facilities and every part thereof, at all times, for the purpose of exercising the rights granted herein. In doing work on property of the GRANTOR, CITY will conduct work in such a manner as will cause the least injury to the surface of the ground or surface around construction area, and will replace the earth so removed, and will restore the surface of the ground to as near a condition as existed prior to such work as is practicable.

In the event prohibited structures and/or improvements are installed or planted within the easement area, CITY may require GRANTOR to remove same and, if GRANTOR does not comply, CITY may cause removal and charge costs back to owner.

4-11 STANDARD NOTES

The standard notes shown on the cover sheet are subject to change to suit the needs of the Public Works Department. Since they may be periodically revised, the applicant's engineer should contact the Public Works Department to obtain an updated copy of the title sheet containing the standard notes currently in effect before preparing a set of plans.

