

A-3.3 STANDARD UTILITY PLAN SUBMISSION REQUIREMENTS

The Santa Margarita Water District has adopted the following document submission requirements for the development of record drawings. These written guidelines and District web site prototype digital CAD template file(s) and documentation can be revised and adapted to best meet the operational requirements of the District as revisions become necessary.

A-3.31 Purpose

Representing the location and attributes of public utilities and their appurtenances is extremely critical for ensuring sustainable service delivery. Design and construction information is transmitted to the Engineering Department, Operations Department, and to the District's Geographic Information System during the pre-construction phase and once a development project is completed. The following data model standards were designed to facilitate the most efficient transfer, evaluation, and conversion for this information into the District's record systems.

This document sets forth those requirements of what information must be incorporated on record drawing documents before any public utility, or other improvement shall be accepted by the District. The term record drawing shall mean engineering drawings prepared after installation of utility, structure, or other improvement which shall contain a statement by a registered engineer/surveyor certifying it to be a drawing of record.

The submission of record drawing information will be provided in paper, mylar, and digital formats. Requests for available records and standards should be made through the District's Engineering Department.

The District will work cooperatively with professional design and engineering firms to provide clarification regarding these standards.

A-3.32 Preparing Utility Record Drawings

A-3.3.1 Signed Utility Plans. Four sets of completely signed and approved domestic water, recycled water, sanitary sewer, storm drain, and private fire water systems improvement plans shall be furnished to the Engineer at least two working days before the required preconstruction conference prior to commencing work.

A-3.3.2 Time Period Signed Plans Valid. Plans approved by the District will be valid for only one year from the date of District approval. If construction has not started within one year from date of approval, the District will then require the plans to be reviewed and reserves the right to require additional plan review fees.

A-3.3.3 Digital Submittal Requirements. The digital submission requirements standardize the way electronic drawing files are produced to provide consistent appearance and content. The standards for AutoCAD files will enable the District to electronically render the hardcopy paper drawings. They will also facilitate a process to create a comprehensive utility information database maintained by the District's Geographic Information System (GIS). These standards will promote the accuracy, completeness, and quality of the utility record drawing information utilized to service customers throughout the District.

District utility linework and appurtenances shall be exported from within the AutoCAD environment into the District's GIS geodatabase utilizing an ESRI (Environmental Systems Research Institute) application linking AutoCAD with the ArcGIS platform to provide self-service mapping and feature services to AutoCAD users through web or local GIS service providers. This application provides tools for preparing native CAD geometry within AutoCAD drawing files as ArcGIS-ready data sets with attributes attached to AutoCAD objects. The objects shall represent specific facilities such as pipes, valves, manholes and structures dedicated to the District for operation and maintenance. Visit the link [http://smwd.com/ Doing Business with Us/Engineering Counter](http://smwd.com/Doing_Business_with_Us/Engineering_Counter) for additional information, guidelines, and prototype drawings. Click here to view the [Digital Submittal Requirements for GIS Mapping](#) documentation.

- A-3.3.4 Digital Submittal Set #1: Pre-Construction Design Set and Composite Plan View Submission Requirements. District engineering consultants, contractors, and developers shall provide AutoCAD drawing file(s) that replicate the physical hardcopy to portray the pre-construction design set as submitted. Provide a separate AutoCAD GIS-ready drawing file(s) depicting the overall plan view of the entire pre-construction / project area representing a seamless, utility network with all connected appurtenances. The separate AutoCAD GIS-ready drawing file(s) will show proposed, existing, and/or removed (abandoned) facilities within the pre-construction / project area. These requirements will be utilized as preliminary GIS overlays for evaluating and analyzing potential impact on field operation activities of the District. The submitted drawing file(s) will also be reviewed at this stage to confirm District GIS submittal standards are being met for subsequent final facilities conversion into the District's GIS geodatabase for Domestic Water, Recycled Water, Wastewater, and Storm Drain systems.
- A-3.3.5 Digital Submittal Set #2: Construction Design Set Submission Requirements. District engineering consultants, contractors, and developers shall provide AutoCAD drawing file(s) that replicates the physical hardcopy to portray the construction design plan set as submitted with Contract Bid Documents for the given project submission. Upon completion of design activities, submit given project digital CAD files along with bond paper originals (signed by Consultant, Contractor or Developer) for District signature, reproduction/scanning, assembly and bidding. This drawing set shall enable the District to place the given project out to bid, to obtain permits from local authorities, and to provide comprehensive instructions to the contractor as to how the given project should be constructed.
- A-3.3.6 Digital Submittal Set #3: Final Record Drawing Set Submission Requirements. District engineering consultants, contractors, and developers shall provide AutoCAD drawing file(s) that replicates the physical hardcopy to portray the set of utility record drawings submitted for the given project submission. This drawing set shall enable the District to render all of the drawings prepared for the District including elements such as site plans, plan & profile, and detail sheets in addition to base maps, title blocks, fonts, and all other associated files.
- A-3.3.7 Digital Submittal Set #4: Final Record Drawing Composite Plan View Submission Requirements. District engineering consultants, contractors, and developers shall

provide a separate AutoCAD GIS-ready drawing file(s) depicting the overall plan view of the entire construction / project area representing a seamless, utility network with all connected appurtenances. The drawing files(s) will show a subset of the information contained in the Digital Submittal Set #3 including constructed, existing, and/or removed (abandoned) facilities within the construction / project area. These requirements will be utilized to extract geometry and attribute information for final facilities conversion into the District's GIS geodatabase for Domestic Water, Recycled Water, Wastewater, and Storm Drain systems.

A-3.3.8 Data Accuracy. The submitted AutoCAD drawing file(s) will be verified for data accuracy (to the hundredths place), completeness, quality, and be administratively managed by the District's Chief Engineer or authorized representative. The Digital Submission Requirements shall be consistent with the standards set forth in this section and in compliance with District CAD standards. Substantial changes to plans submitted to the District for approval by the Engineer may require a resubmittal of digital drawing file(s) prior to the approval of plans.

A-3.3.9 Horizontal/Vertical Projection. All features in the AutoCAD drawing file (Pre-Construction and Final Record Drawing Composite Plan View) shall be drawn in linear units of US Feet and projected to the coordinate system indicated by the Santa Margarita Water District. The current requirements for the coordinate systems are: horizontal datum is NAD 1983, California State Plane Coordinate System, Zone 6 (Epoch 2007) or latest Orange County Survey horizontal control datum CCS83, Zone 6, 1991.35, 2007, 2009, 2011 or 2017.50 epoch adjustment as determined by Orange County Public Works. All vertical elevations identified must be referenced to the NAVD88 (North American Vertical Datum of 1988) system including the OC 1995 (Orange County 1995) adjustment. A reference to at least two (2) monuments provided by the Orange County Survey department of Orange County Public Works office shall be incorporated. A minimum of one (1) geodetic control point to benchmark the plan set shall also be referenced within the affected construction area.