

Standards for Record Drawings

Sweetwater Authority

1. Purpose

Record drawings are required to provide a means to document the engineering design and to show any changes found and/ or made during the construction process. Secondly, record drawings serve as a reference for future construction and maintenance operations. Record drawings are required by Sweetwater Authority for all work orders, 2280 development projects and repair orders requiring the installation of new pipe fittings or valves.

2. Definitions

Detail Drawings – Depicts a close-up detailed view of the project that includes information such as dimensions and notes relating to thrust blocks, fittings, valves, alignment stationing and special instructions. Detail drawings are often found on the same page or on its own page on a set of drawings.

Drawings – Construction plans that have been designed and/ or approved by a registered professional engineer. Often issued with work orders for larger projects.

Plan View – View of the project from directly above; showing the horizontal measurements.

Profile – A side view representation of the project; showing the vertical measurements.

Record Drawing – A record drawing depicts the final installed configuration, location and elevation of pipelines, offsets, valve packages, pipe fittings and the type of materials installed in the distribution system. The record drawing incorporates:

- a. All of the field mark ups on the issued construction plan drawings.
- b. All design change orders issued against the construction plan drawings.

Stations – Vertical and/ or horizontal points along a survey line in feet. Stations can also depict elevations.

3. Record Drawing Standards – For Work Orders *With* Drawings and/ or Stations

a. Drawings (construction plans)

1. Field Crew Supervisors shall provide “Record Drawing(s)” on one set of construction plans.
2. If the project was installed per plan and the drawings provide details only actual lay lengths, elevations and station measurements are required on the details.
3. “Record Drawing” shall be drawn on the construction plans using a red pen or red pencil.
4. Information shall be clear and legible.
5. A red cloud shall be drawn around the detailed drawing and legend to illustrate a record drawing.

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6. Include completed project pothole sheet.
7. “North” as illustrated on the construction plans.
8. “Record Drawing” shall be identified as a “profile” or “plan view” if record drawing depicts a different view than the original construction plan detail.
9. Vertical off-sets and vertical changes (different than plans) to pipe depth shall be drawn in “profile view”.
10. Record drawing shall use symbol descriptions (Appendix A)
11. If the project was not installed per plan the record drawing must have the following information for all fittings and/ or valves:
 - A. Actual Station Number
 - B. Measurement - From the project’s centerline
 - C. Measurement - Top of pipe to finish grade or elevation
 - D. Description of material type, fitting and/ or valve
12. The marked up construction plan(s) shall be attached to the completed work order for processing.
13. The work order’s 8-1/2” x 11” Record Drawing Form is not required and shall only reference the “Record Drawing(s)” depicted on the construction plan(s).

NOTE: If project was not installed per plan the record drawing must have a Change Order to support changes. Find an example of a record drawing in Appendix B.

4. Record Drawing Standards – For 2280’s and Maximo Work Orders *Without* Drawings
 - a. 8-1/2” x 11” Record Drawing Form
 1. Field Crew Supervisors and/ or designee shall provide one, 8-1/2” x 11”, record drawing form.
 2. Information shall be written in red ink or red pencil
 3. Information shall be clear and legible.
 4. “North” pointing toward the top of the form for “plan view” drawings.
 5. Vertical off-sets shall be drawn in “profile view”.
 6. Drawing shall be identified as a “profile” or “plan view”.
 7. Record drawing shall use symbol descriptions (Appendix A)
 8. Record drawing shall have the following information for all fittings and/ or valves:
 - A. Centerline of the nearest cross street shall be used to properly document location of the fitting and/ or valve.
 - B. Top of pipe to finish grade measurement
 - C. Pipe lay length
 - D. Description of material type, fitting and/ or valve
 9. The completed record drawing form shall be attached to the completed work order, Maximo work order or service paper for processing.

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NOTE: Find an example of a record drawing in Appendix B.

5. Appendix
 - Appendix A - Pipe Detail Symbols and Legend
 - Appendix B - Record Drawing Example