Guidelines for MassDOT SUE Deliverables

May 8, 2026

The items below represent the current minimum requirements for MassDOT Subsurface Utility Engineering (SUE) project deliverables. Not all items may be applicable in all circumstances as each project may have unique aspects that should be considered. The final scope requirements should be confirmed by the District Utilities and Constructability Engineer (DUCE).

These guidelines have been prepared in accordance with recognized engineering principles, standards and practices. They should not be used without the user's competent knowledge of these principles, standards and practices. Satisfying these guidelines does not guarantee acceptance of SUE Deliverables by MassDOT, as other comments may apply.

Project Submittals – General

- Each SUE Project Submittal for Quality Level A or Quality Level B Scope Deliverables shall include the following, prepared as indicated:
    - SUE AutoCAD .dwg file with appropriate Project File Number, SUE deliverable stage (DRAFT or FINAL) and file deliverable date within the file name (e.g. "608192_SUE_DRAFT(10.31.25).dwg". All files shall be purged and all non-essential points and blocks removed to reduce file size.
    - SUE Sheet Layout .pdf file with the appropriate Project File Number, SUE deliverable stage (DRAFT or FINAL) and file deliverable date within the file name (e.g. "613459_SUE_FINAL(7.17.25).pdf". SUE Sheet Layout set deliverables shall be 24" x 36" and professionally sealed (MA: P.E., P.L.S.). Each sheet shall be stamped, signed and dated by a P.E. or P.L.S. registered in Massachusetts.

SUE Report

- This report describes the Subsurface Utility Engineering techniques used and addresses any issues or limitations encountered.

SUE Base Plan

Utility Engineering Cover Sheet

- Include a Locus Map with:
    - Available mapping showing roadway and basic topographic features of the project area such as waterway, roadway, and railway features
    - Legible mainline and side street names of sufficient density to establish project location
    - The Project Limits of Work (clearly labeled/defined)
    - A north arrow

- Include current MassDOT State Kit Title Block with:
    - MassDOT Project File Number
    - Project Name and Location
    - County
    - % Submission Draft or Final

Utility Engineering Legend Sheet

- Include an SUE Utility Legend showing **all** of the following employed in the plans:
    - Add any project specific Symbology and Line Types required
    - Add any project specific Abbreviations required

Utility Engineering General Notes Sheet

- Provide any General Notes applicable to the SUE investigation including limitations encountered
- Include the following SUE note under title "Project Description" (Fill in the appropriate highlighted items):
    - A Subsurface Utility Engineering (SUE) Investigation was performed by *"SUE Consultant"* on *MM/YY* for this project. The existing underground facilities shown hereon were included in this SUE Investigation. The presence of these utility facilities has been investigated through records research and visual field inspections. Utilities installed after the date above were not included in this investigation.
    - All other existing topographic features depicted hereon have been referenced from a topographic/mapping survey and control package provided by a survey performed between *MM/YY* and *MM/YY* by *"survey consultant"*.
- Include a Utility Owners list under the Utility Summary Section showing information found through utility record research efforts either provided to, or performed by the SUE Consultant:
    - Full name, Utility Type, Contact Name, Owners Address, Email, Phone Number and Owner Abbreviation. Maximum five-character space limit for Owner Abbreviation
    - Include MassDOT, MBTA/KEOLIS/CSX/AMTRAK as owners, where applicable
    - Include information indicating limits of ownership where applicable
- Include the following note above the Utility Owners list:
    - The following Utility Owners were reported to have facilities within the vicinity of this project at the time of the SUE Investigation. Utilities found within the project limits at the time of the SUE Investigation are noted for each Utility

Owner listed and are shown on the plans hereon.

- Provide project survey control information and notes stating how project survey control was established by the project surveyor. This information is to be provided to the SUE Consultant.

SUE Utility Engineering Plan Sheets (UE Sheets) – General SUE Drawing Requirements

- MassDOT project sheet layouts should be provided by the project design consultant:
  - Create cut sheets to cover the entire SUE investigation limits
  - Create cut sheets if the cut sheets for the survey basemap are not available
  - Provide extra cut sheets if the SUE investigation limits extend beyond the project cut sheet limits
  - Reference in the project survey base map files provided by the project design consultant or the project surveyor and apply a color (8) layer override to gray scale back the existing conditions information
- Include **all** the following:
  - North arrow
  - Scale bar
  - Match lines
- Show the accepted Limits of SUE (LOS).
  - Typically, the LOS will be shown as the greatest extents of the following or as instructed by the DUCE:
    - The required right-of-way
    - The existing right-of-way
    - The limits of proposed improvements
- Label all major and minor roadway names and bodies of water on each cut sheet.
- Provide a note on the cut sheet(s) stating that there was "NO SUE THIS SHEET" if no SUE services were provided.
- Copy the existing utility information (i.e. utility poles, manholes, etc.) from the survey mapping file into the SUE file. Freeze all scoped utility information from the survey base map that is within the LOS to avoid duplication.
- Show QL-Delineation when the same Quality Level cannot be achieved throughout a specific utility line's length. Show the continuation of the utility at a lesser Quality Level up to the SUE limits for all scoped utilities where required.
- Clearly show **all** of the visible/accessible utility appurtenances within the LOS.

- For private/public utility service connectivity, show the connectivity of the service lines from the utility main to the respective appurtenance. This is typically from the main to the individual meter, cleanout, SHLO line, etc.
- Graphically show the correct orientation of all utility symbols to street curb or sheet view, as applicable.
- Apply the appropriate utility line widths by use of “multi-lines” for any utility equal to or larger than 8” in width.
- Provide sufficient labels for the size and material type for all **known** utilities within the LOS for each facility, where the information is available from record data. Follow the guidelines below for utility line labeling:
    - “Size” “Material Type” “Utility Type” “Utility Owner Abbreviation” “Utility Quality Level”
        - EXAMPLE: 12” RCP SD MADOT QL-C
        - EXAMPLE: 4-4” PVC E NGRD QL-B
- If the size and material type is **NOT** available:
    - For all utility mains: clearly label the line as “UNK SIZE/TYPE“.
    - For all utility services: clearly label the line as “SVC”, add the abbreviation to the Utility Legend and define as “Service, unknown size/type”.
    - Provide a minimum of one label every 250 linear feet for the size and material type for all known underground utility facilities within the LOS for each scoped utility on each sheet, where the information is available from record. It is acceptable to provide a general note on the Notes Sheet regarding the majority utility owner for any given utility type, labeling only the minority utility owners within the project limits.
    - Clearly indicate with sufficient labels or notation when the line sizes/material types change along a utility line, if available from record information.
    - Record utility information (QL-D), should be adjusted accordingly both within and outside the LOS to reflect information found during the SUE Investigation.
- It is acceptable to provide a general note on the Notes Sheet regarding the size and material of fire hydrant lateral lines, as applicable.
- Show the extents, correct orientation and position of all utility structures. All dimensions will be shown on the plans (if available) and labeled accordingly. Such structures may include, but are not limited to:
    - Telephone and Electrical manholes
    - Water, Gas, and Steam vaults, etc.
    - Gravity Sewer and Storm Drain Structures, etc.

- Provide MH IDs where are available from record information.

- Provide all duct bank run information available for all underground duct lines (electric, communications, traffic control, etc.). This may be derived from SUE field investigations, interviewing the respective utility owners, or from utility records and includes information such as, but not limited to:
    - Duct run conduit configuration
    - Number of ducts/innerduct (small conduit)
    - Conduit material type
- Show the underground traffic control serving the traffic detection loops. Do not include the loops that are in the pavement.

Utility Test Pits: Quality Level A Plan Set Deliverables

The following guidelines are to be adhered to when QL-A utility test pits are included in the SUE scope of services.

SUE Plan Set: Utility Test Hole (TH) Logs

- Create new cut sheets or use updated sheets, as necessary.
- Provide a unique ID# for each TH performed. Show the associated TH information using one of the following options:
    - **OPTION 1:** Create a TH Log for each utility data point, as needed. **(Preferred Method)**
        - Ensure the test hole information has the following:
            - Elevation of top and/or bottom of utility
            - Elevation of existing grade over utility test hole
            - Horizontal location referenced to project coordinate datum to the .01 accuracy
            - Outside diameter of pipe or width of duct banks, if applicable
            - Utility structure material compositions and condition
            - Orientation of TH Log view perspective
    - **OPTION 2:** Reference the TH ID# and information in a data table format.
        - Provide a table on each sheet. The table will contain the TH information for that sheet only.

        OR

        - Provide a comprehensive data table on a separate cut sheet.
        - Update the SUE dwg file accordingly including adjustment of QL-B/C/D linework to reflect the information found during the QL-A investigation, as

needed.

- Add a TH symbol in the SUE dwg file at the surveyed location of each QL-A TH performed.