
I. Project Overview and Limits

The Contractor will perform Subsurface Utility Engineering (SUE) and perform utility coordination for both underground and overhead utilities on two separate projects on T.H. 23. These projects are 2 lane/2way highways to a 4 lane highway conversion project on T.H. 23 between New London and Paynesville (S.P. 3408-18) and between Paynesville and Richmond (S.P. 7305-124). These projects are currently proposed on similar alignments as the existing highway but do include several alignment adjustments, storm water basin locations and connecting side roads. All utilities will be located to quality Level B Designating along with up to 100 hours of quality Level A locates as directed by the Project Manager.

The preliminary layout and State Survey and Design files for this Contract will be provided to the Contractor electronically via the State’s FTP Site link below.

ftp://ftp2.dot.state.mn.us/pub/outbound/district8/

See Directories: /TH23/340818/UtilityLocateContractFiles/
/TH23/7305-124/UtilityLocateContractFiles/

Contractor will locate and designate public and private underground and overhead utility facilities within the project limits of S.P. 3408-18 (T.H. 23) and 7305-124 (T.H. 23) improvement projects as shown on the draft layouts provided by the State. The project limits are understood as:

For S.P. 3408-18 (T.H. 23)

- On the proposed 4-lane highway corridor for T.H 23 between New London and Paynesville, which is from 500-feet West of the West Junction of CR31 to a location 3500-feet east of CR 6. (also includes a minimum of 50-feet outside proposed R/W or disturbance limits, whichever is greater)
- Portions of the following connecting roadways as shown in the draft layout including 500’ beyond the termini limits of construction or as approved by the Project Manager if less than 500’ to correctly identify existing utilities. Side roads include but not limited to:

CR31 (East and West Junction)
115st ST NE (East and West Junction)
212th Ave (East and West Connection)
CR135
132nd St NE
225th Ave NE
141st ST NE
CR2 (East and West Junction)
CR 106
Cemetery Road
For S.P.7305-124 (TH23)

- On the proposed 4-lane highway corridor for TH 23 between Paynesville and Richmond, which is from 1-mile West of the West Junction of 263rd Ave to the Sauk River bridge on the west side of the City of Richmond. (also includes a minimum of 50-feet outside proposed R/W or disturbance limits, whichever is greater)
- Portions of the following connecting roadways as shown in the draft layout including 500’ beyond the termini limits of construction or as approved by the Project Manager if less than 500’ to correctly identify existing utilities. Side roads include but not limited to:

  263rd Ave (East and West Junction)
  CR123 (East and West Junction)
  253rd Ave
  205th St
  210th St
  CR10
  CR114
  246th Ave
  Big Lake Ct
  CR12/CR43
  Becker Lake Circle

II. Project Goal

The goal of this project is to obtain accurate utility field data broken down into an electronic format to avoid delays in the project due to inaccurate utility location information. The Contractor will assist the State in identifying utility impacts for the project. The Contractor will complete the Utility Coordination thru MnDOT’s step 4 – “Utility Design Meeting”, as well as complete the preliminary Utility Information Sheets (UIS) for each utility’s conflict points within the corridor.

III. Deliverable Standards

The following standards apply to all deliverables in the contract. See the individual deliverable description for more specific deliverable standard requirements.

a. Software
   Sections within the scope of work identify the computer software to be used for deliverables. This section lists the software version the Contractor will use for deliverables.
   1. Microsoft (MS) Word 2010
   2. Adobe Acrobat 10.0
3. Microsoft (MS) Excel 2010
4. Microstation Version 08.05.02.55

b. Paper Copies of Reports
   Paper copies will be printed as two-sided copies to the extent possible.

c. Paper Copies of Drawings
   Paper copies of drawings will be printed on 11” x 17” white bond paper.

d. Electronic Documents
   Electronic documents will be delivered via email or compact disc (CD), whenever practicable.

IV. Scope of Work and Deliverables

The State requires SUE services of underground and overhead utility survey identification and location for this project located on and adjacent to TH 23. The Contractor must respond within 48 hours of receiving the notice to proceed to discuss the scope of work, utility impacts, required equipment, direct cost, and to negotiate hours of work. After the State gives the Contractor notice to proceed, the Contractor will commence work. The Contractor will submit an intermediate and final submission of the quality Level B Designating Utilities for each State Project within the following timeframe:

S.P. 3408-18
   1. First submission no later than 6 weeks from Notice to Proceed
   2. Final submission no later than 10 weeks from Notice to Proceed

S.P. 7305-124
   1. First submission no later than 8 weeks from Notice to Proceed
   2. Final submission no later than 12 weeks from Notice to Proceed

Submission of final reports to the State for each State Project with all required deliverables must be completed by December 31, 2016 for S.P. 3408-18 and January 31, 2017 for S.P. 7305-124.

The Contractor will provide and verify quality level B (Designating) identification of Utilities for these projects and up to 100 hours of quality level A (locating) at critical locations as determined thru consultation between Contractor and Project Manager. The provided information will be as directed by the State and as described in the Federal Highway Administration (FHWA) Subsurface Utility Engineering publications and the American Society of Civil Engineers (ASCE) Standard CI/ASCE 38-02 for the whole project. The Contractor will fully accomplish these tasks to make it unnecessary for the State to supplement any of this work with its own personnel, except as noted hereinafter. The State may, however, review the work from time to time to verify accuracy and evaluate the performance of the Contractor.

V. Project Coordination Tasks

A. The Contractor will:
   1. Work closely with the State to facilitate the orderly progress and timely completion of the project.
2. Attend an initial meeting and an on-site inspection with the State Project Manager to ensure familiarity with existing conditions and project requirements.

3. Develop a work plan that includes a description of the tasks to be performed and a proposed schedule of activities. The work plan must satisfy the requirements of the project and must be approved by the State prior to commencing work.

4. Meet with the State periodically, and at a minimum of once every two weeks, to coordinate the work effort, discuss progress, and resolve problems.

5. Provide the State with copies of diaries and correspondence that document work-related communications between the Contractor, utility owners, outside agencies, and/or private landowners.

6. Obtain all necessary permits and rights of entry from the State, local jurisdictions, and/or private landowners for all conflict locations and include the name in the list of deliverables to the State.

7. Provide all maintenance and traffic control necessary to perform the work. All maintenance and traffic control will be performed in accordance with the current Minnesota Manual of Uniform Traffic Control Devices (MMUTCD) and Part VI, “Field Manual for Temporary Traffic Control Zone Layouts”, the “Guide to Establishing Speed Limits in Highway Work Zones”, the Minnesota Flagging Handbook, the provisions of State Standard Specifications 1401 and 1710, the Minnesota Standard Signs Manual Parts 1 and II, and the Traffic Engineer Manual.

8. Provide all necessary equipment, supplies, and support personnel, including surveying capability, to secure the survey data required in this contract.

9. Upon completion of the work the Contractor will provide the State with a final report for each State Project consisting of:
   - Electronic copy of the Certified SUE Plans with Verified Utility Matrix .pdf and .dgn..
   - Electronic copy of Test Hole Data Sheets in .pdf (when completed)
   - Hard copies of the above documents.

   Contractor will also coordinate and verify utility impacts with the project in accordance with the States Utilities Manual. Contractor will prepare the Preliminary Utility Information Sheets (UIS) for each conflict within the project limits. Upon completion of the work the Contractor will also provide the State with a final report consisting of:
   - Utility Information Sheets (UIS) in .pdf and .doc
     - Existing Utilities will be labeled with the utility owner and type. This information will be in the line work of the illustrated utility as shown in Microstation drawings and on any plan sheets.
     - Preliminary Utility impacts will be labeled in plan view. An example plan sheet of utility line work and illustrated utility impacts is provided in the FTP site.
   - Estimated Utility Relocation Costs in .xlsx and .pdf
   - Hard copies of the above documents.

B. The State will:

1. Provide highway information showing the project limits, alignment, profile, benchmark data, drainage, coordinate data, CADD files, and any other applicable information; and
2. Provide a preliminary list of utilities or agency contact persons within the project limits.

VI. Designating (Quality Level B)

A. For the purpose of this Contract, “designate” refers to finding the presence and horizontal location of underground utilities using geophysical prospecting techniques, including electromagnetic, magnetic, ground penetrating radar, acoustical, pulse, sonic, and other energy fields methods. Contractor will also use appropriate methods to locate non-tonable facilities, such as unreinforced concrete mains or clay pipes. This work includes efforts and processes to achieve quality levels D, C, and B.

B. The Contractor will:

1. Verify, update and refine the survey information for above-ground and overhead utility facilities provided by State as needed.

2. Designate, record, and mark the approximate horizontal location of existing underground utilities and their major laterals and services to existing buildings (quality level B), including storm sewer, sanitary sewer and water main. All survey work will be the Contractor’s, or their Sub Contractor’s responsibility.

3. Horizontal surveying of underground utilities will be accurate to applicable survey standards.

4. Inspect manholes for active inlets or outlets to determine if the number of inlets and outlets match the information gathered to date. Any known inlets and outlets will be investigated to designate the attached facility to the maximum extent within the project limits.

5. Inspect manholes for inlets and outlets that have been bulkheaded. If bulkheads are found the Contractor must investigate the history of the bulkhead with the utility owner to determine if the facility was left in place and out of service or removed.

6. Designate abandoned of left in place out of service facilities based on Contractors recommendation or as directed by the State Project Manager.

7. Separately submit all quality level B utility designating data to the State in a Microstation file compatible with States Level 2 CADD standards, available at www.dot.state.mn.us/caes/cadd/. Contractor will also submit data to the State in an Excel spreadsheet file, as well as providing two hard copies of the microstation plans and Excel spreadsheets. Contractor will await States written authorization to perform quality level A work.

8. Be responsible for the accuracy of all information presented to the State. An official of the Contractor will certify all completed designating services on the plans as the State directs.

C. The State will:

1. Provide the Contractor with any Quality Level D and C information that others have previously acquired or provided.

VII. Locating (Quality Level A)

A. Upon the State’s authorization and direction, the Contractor will locate utilities that have a high potential for conflicts with the proposed improvements (up to 100 hours). For the purpose of this Contract, “locate” means to
obtain the precise horizontal and vertical position of subsurface utilities by excavating a test hole. The test holes will be done using vacuum excavation or comparable nondestructive equipment in a manner that will not cause damage to the utility line while exposing it for data collection. After excavating a test hole, the Contractor will perform a field survey to determine the exact location and vertical position of the utility line. This work is considered quality level A.

B. The Contractor will:

1. Review plans and recommend areas to the State that require locating test hole sites within the project limits. The Contractor will recommend changes to the State’s location plan based on SUE best practices and obtain utility company records as required.

2. Locate abandoned or left in place out of service facilities based on Contractors recommendation or as directed by the State Project Manager.

3. Obtain all necessary permits and rights of entry from the State, local jurisdictions, and/or private landowners.

4. Neatly cut and remove the existing pavement or surface, with a maximum cut area of 225 square inches unless unusual circumstances exist. The Contractor will excavate using a method enabling vertical and horizontal exploration through this cut.

5. Excavate test holes to expose the utility to be measured in a manner that ensures the safety of excavation and prevents any damage to the utility. In performing such excavations, the Contractor will comply with all applicable utility damage prevention laws and coordinate with utility inspectors as required.

6. Investigate, evaluate, measure, and record all utility data ascertainable from each test hole site.

7. Be responsible for any damage to the utility during excavation. In the event of utility damage, the Contractor will stop work and notify appropriate agencies, including the utility owner. Work will not resume until the owner has determined what action to take. The Contractor will be liable for all costs associated with the repair or replacement of the facility and will contact the appropriate environmental coordinator immediately if hazardous materials are encountered.

8. Backfill the excavation with approved material around the utility structure and compact, in lifts, with appropriate devices.

9. Permanently restore the pavement within the limits of the original cut at the time of backfill. If the test hole is excavated in an area other than the roadway pavement, the Contractor will restore the area to equal or better condition than it was in before excavation. The Contractor will be responsible for the integrity of the backfill/surface restoration. If the work site is not appropriately restored, the Contractor must return and properly restore the site at no extra cost to the State.

10. Furnish, install, and color code a permanent above-the-ground marker (i.e., PK nail, peg, steel pin, or hub) directly above the centerline of the structure and record the elevation of the marker.

11. Provide complete cleanup of the work site to equal or better condition than it was before excavation.

12. Tie all vertical elevations to a minimum of two checked benchmarks. The accuracy of these turns will be in accordance with established surveying practices.
13. Return utility “locating” information (quality level A) to the State in a digital format compatible with the State’s Level 2 CADD Standards, available at www.dot.state.mn.us/caes/cadd/. The following test hole information must be included:

   a. Elevation of the top and/or bottom of the utility, tied to datum of the furnished plan;
   b. Elevation of the existing grade over the utility at the test hole;
   c. Horizontal location referenced to the project coordinate datum after performing all required survey work;
   d. Outside diameter of the pipe or width of the duct banks and configuration on the non-encased multiconduit systems;
   e. Utility structure material compositions;
   f. Pavement thickness and type, where applicable;
   g. Identification or benchmarks used to determine elevations;
   h. Elevation with accuracy of +/-0.05 ft;
   i. Horizontal location with an accuracy that is at least 0.01 feet; and

14. Be responsible for the accuracy of all information presented to the State. An official of the Contractor will certify all completed locating services on the plans as the State directs.

C. The State will:

   1. Provide input and recommendation of test hole locations.

VIII. Utility Coordination

A. Contractor will:

   1. Assess the quality of any utility information gathered to date for this project and update as needed using various methods to identify all utility facilities and their owners within the project limits. Using the list provided by the State, Contractor will contact utilities, local government, and businesses needed to obtain records that are missing and to verify that records already received are the most current and correct to the best of the utility owners knowledge.

   2. Contact Gopher State One Call to identify which utility owners have facilities in the project limits. Make Gopher State One Call for field utility locates and document ticket request information. Ticket request information to be supplied to State with deliverables.

   3. Review the project site for utilities not already listed.

   4. Update the preliminary lists of utilities or agency contact persons within the project limits provided by the State. Compile utility contact information including name of key contact person, address, phone numbers and e-mail addresses.

   5. Schedule and facilitate a SUE Kick-Off Meeting to familiarize the utility owners with the project and facilitate discussions to determine if there are any initial concerns or information that can be shared prior to starting field locations.

   6. Provide State meeting minutes of the Sue Kick-Off Meeting, and any other additional coordination meetings that occur during the duration of the Contract.

   7. Update and refine the above ground and overhead designating information provided by the State as
needed.

8. Provide a recommendation to the State Project Manager on the utility quality level needed to locate any abandoned or left in place out of service facilities identified taking into account the risk that the facility may pose to the project.

9. Create a UIS sheet and assign a unique conflict number for each potential conflict.

10. Provide each UIS to the respective utility owner for review.

11. Schedule Utility Workshops for each utility owner.

12. In coordination with State and each utility owner, review a resolution for utility conflicts for the “Proposed Resolution” section of the UIS. Discuss all utility conflicts and potential resolutions with Utility Owners as per MnDOT’s Utility Coordination Process.

13. Follow up with each utility owner in order to complete the “Resolution Conditions” Section of the UIS.

14. Ensure that all the UIS forms are completed to the satisfaction of the State Project Manager.

15. Summarize, by conflict, the estimated costs for utility relocation for the project.

B. The State will:

1. Provide the Contractor with any Quality Level D and C information acquired.
2. Provide a brief presentation at the SUE Kick-off meeting to describe the construction projects.
3. Attend coordination meetings as required.
5. Incorporate the utility information from the Utility Information Sheets to complete the Master Utility Agreements.

IX. Data Management

A. Data management involves assembling and presenting the designating and locating information in a format compatible with the State’s Level 2 CADD standards, available at [www.dot.state.mn.us/caes/cadd/](http://www.dot.state.mn.us/caes/cadd/).

B. Field information obtained and recorded in field books will be drafted on plan sheets in electronic format using the current MicroStation and Geopak Standards and format that the State uses under the supervision of a Minnesota Licensed Professional Engineer.

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