

CONSTRUCTION STANDARD SPECIFICATION
SECTION 01701
SUBGRADE UTILITIES AS-BUILT REQUIREMENTS

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CONSTRUCTION STANDARD SPECIFICATION

SECTION 01701

SUBGRADE UTILITIES AS-BUILT REQUIREMENTS

PART 1 - GENERAL

1.01 DESCRIPTION OF WORK

- A. Section Includes: Administrative and procedural requirements for the General Construction Contractor to perform the as-built redline process and coordinate the Sandia National Laboratories (SNL) Utility Position Survey.

1.02 REFERENCE DOCUMENTS

- A. SECTION 01330, "SUBMITTAL REQUIREMENTS"
- B. SECTION 01700, "CONTRACT CLOSEOUT"

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.01 RECORD DOCUMENTS

- A. Record As-Built Drawings: Maintain as-built records of all construction elements on the project. These records shall be maintained as bound set red-lined contract drawings in the Contractor's field office, and shall be updated as necessary to ensure that no record of variations from clarification to the construction drawings are absent from the final markups transferred to SNL. If the contract does not require a field office, the General Contractor shall maintain the set of as-built Contract Drawings in an accessible location and make them available to SNL for review upon request.
 - 1. Mark whichever drawing is most capable of showing "field" condition fully and record a cross-reference at corresponding location on this set of contract drawings.
 - 2. Changes to Contract Drawings, including those that involve only narrative, shall be clearly and neatly marked in red pen or pencil, and shall be noted on the appropriate drawings. Applicable changes to the Contract Drawings include:

- a. Changes to material or equipment for substitutions approved through the SNL submittal process (Section 01330).
 - b. Shop Drawing information.
 - c. RFIs and Change Order information.
 - d. All construction changes made to accommodate field conditions.
3. General Contractor shall note each entry with a notation referencing the source of information (Example: RFI #94, CO #3, or field notes of name).
- a. As-built record drawings shall be updated no less frequently than once per week. As-builts will be reviewed for verification of updates by the construction observer on a regular basis, depending on the length of the contract.
 - b. Verification of current as-built record drawing status will be included in the monthly payment approval process that will be noted in the Sandia Construction Observer's (SCO) log notes. Final payment in accordance with Section 01700 will be withheld until final as-built record drawings have been submitted and approved.
 - c. Identify the contractor's representative(s) responsible for coordinating the verification of the as-built process with SNL to the Sandia Delegated Representative (SDR).
4. Submit current as-built red-lined drawings for the work completed since the last pay request and submit as an attachment to each new pay request, but in any event, no less than once a month. Alternatively, the SDR and the contractor's representative may establish a process which allows SNL to scan the as-built red line drawings no less than once a month.
- B. Record Specifications: Maintain one bound copy of specifications, including addenda, change orders and similar modifications as issued. Give particular attention to identify substitutions, selection of options, and similar information on work, which is concealed or cannot otherwise be readily discerned later by direct observation. Note related record drawing information and product data, where applicable. Upon completion of mark up, submit to SDR for records and future reference. **All marking shall be neatly shown in red ink.**
- C. Operation and Maintenance Manuals: Organize operation and maintenance manual information into suitable sets of manageable size, and bind into individual binders properly identified and indexed as per Section 01330. Include emergency instructions, spare parts listing, warranties, wiring diagrams, recommended "turn-around" cycles, inspection procedures, shop drawings, product data, and similar applicable information. Bind and label each manual of each set in a heavy-duty three-ring vinyl-covered binder, and include pocket folders for folded sheet information.

- D. Utility Position Survey Requirements: Coordinate a Utility Position Survey for all new infrastructure and utility service installations with SNL prior to backfilling any utility.
1. Coordination responsibilities shall include:
 - a. Initiate GPS Support Requests during normal working hours a minimum of two hours prior to the planned backfill activities, which may be initiated through a variety of methods. Establish the primary coordination method with SNL once the a notice to proceed on the contract is received. The preferred method is the GPS Support pager (505)530-4477 during normal working hours. Coordinate GPS Support Requests for work during non-standard hours a minimum of two working days in advance. GPS Support Requests may be scheduled in advance of these minima.
 - b. The SNL GPS Technician will be responsible for responding to all GPS Support Pages or requests. SNL GPS Technician will respond to each pager request by contacting the telephone number received on the pager system to coordinate the Utility Position Survey with the contractor's representative.
 - c. Include backfilling actives in the project schedule to allow SNL to anticipate workload with respect to supporting the Utility Position Survey.
 - d. Maintain an active GPS Support Request Log to document all GPS Support Requests. This log shall be reviewed at regular intervals and no less than once each pay period. The status of the log shall be reviewed during construction meetings to assure that the appropriate coordination between SNL and the Contractor is occurring. A sample GPS Support Request Log is shown as Attachment A to this Section.
 - e. The SNL Project Manager and the General Contractor may agree to modify the support process, as may be acceptable to both parties, to improve coordination for the overall benefit of the project.
 2. The consequences for backfilling prior to coordination of the Utility Position Survey in advance shall be:
 - a. Excavate all or portions of the utility system that was backfilled prior to coordination of the Utility Position Survey at Contractor's expense. The backfilled utility shall be sufficiently exposed allowing SNL to obtain utility position measurements safely. Install shoring, sheeting, or trench boxes as required. This shall include, but not be limited to, fittings, other appurtenances, changes in direction, changes in elevations, and points of connection.

- b. Further coordination of the Utility Position Survey for a particular utility in a specific location is not required, if SNL is “non-responsive” to the support request for that specific utility and location. However, SNL may issue a change order directing that the backfilled utility be uncovered, or portions of the utility be exposed by traditional excavation or vacuum excavation technology. “Non-responsive” shall be defined to be:
 - (1) No response received by the Contractor to GPS Support Pagers within the allotted 2 hour time period during normal hours.
 - (2) Support request was not completed by the GPS Technician within the allotted time period, or within the period agreed-upon in advance (such as support requests during non-standard hours), or support activities that have been arranged in advance.
 - (3) Document that coordination efforts were made by:
 - i. Completing the GPS Support Request Log, documenting the location of the utility where SNL was non-responsive. SNL will cross-reference the GPS Support Request Pager Log to verify all “non-responsive” claims.
 - ii. Notify the SNL Project Manager of each non-responsive occurrence in a timely manner.
- 3. Work performed by the SNL GPS Technician will be in accordance with the Contractors’ approved safety plan.
- E. Document, on the as-built drawings, existing known utilities exposed during trenching and/or excavation operations that vary from the construction drawings. Approximate the position and depth of burial below existing surface of such utilities, and mark the information on the as-built drawings. Contact SNL GPS personnel as above to ensure that the utility location is captured electronically prior to backfilling the excavation.

- END OF SECTION -

ATTACHMENT A

Sample GPS Support – Request Log

GPS SUPPORT—REQUEST LOG

Project Title: _____

Project Number: _____

Contractor: _____

Superintendent: _____

USE THE GPS SUPPORT PAGER (505)283-4477 FOR ALL SUPPORT REQUESTS PRIOR TO BACKFILLING ALL UTILITIES

Contractor shall allow for the appropriate response time per SNL Construction Standard Specification Section 01701 prior to backfilling any exposed utility. Contractor is responsible for keeping this log updated. The Construction Observer will verify that this log is current and may cross-reference with the SNL GPS Support Request Log prior to project invoicing.

Identify the following for each GPS Request:

Date/Time Pager was Called	Utility (Indicate if New or Existing)	Construction Drawing and Sequence #s	Station -to- Station	Date/Time GPS Completed	Contractor's Representative's Signature	GPS Technician's Signature

A copy of completed logs shall be submitted with the as-built red-lined drawings per Specification 01701 paragraph 3.02 D. Copies of in-progress logs shall be submitted to the SNL Project Team no less than monthly at a progress meeting. Submit copies of all logs in a binder at Project Closeout.