

Supplemental Technical Specs

General Requirements

SUPPLEMENTAL TECHNICAL SPECIFICATION

SECTION 1503

MOBILIZATION

621.1 DESCRIPTION

This work shall consist of preparatory and final work and operations, including, but not limited to, those necessary for the movement of personnel, equipment, supplies and incidentals to and from the project site; for the establishment of all offices, buildings and other facilities necessary for work on the project; and, for all other work and operations which must be performed or costs incurred prior to beginning work on the project.

621.2 MOBILIZATION ADMINISTRATION REQUIREMENTS

621.2.1 DEFINITIONS

The following definitions shall apply:

- a) Total original contract amount shall mean the total amount bid as compensation for the contract.
- b) Total original contract amount less mobilization and demobilization shall mean the total amount bid as compensation for the contract less the amounts bid for mobilization.

621.2.2 GENERAL

It is the intent of this specification to provide for the Contractor to:

- a) Receive 100% of the amount bid for mobilization by the time the Contractor has performed 10% of the total original contract amount bid less the amount bid for mobilization.

621.2.3 PAYMENT PROCEDURES FOR MOBILIZATION

The following will apply in effecting mobilization payments:

- a) When the Contractor is eligible for payment of less than 5% of the total original contract amount bid less mobilization, the Contractor will be paid 25% of the amount bid for mobilization.
- b) When the Contractor is eligible for payment of from 5% to less than 10% of the total original amount bid less mobilization, the Contractor will be paid 50% of the amount bid for mobilization minus any mobilization amount already paid.
- c) When the Contractor is eligible for payment of 10% or more of the total original contract amount less mobilization, the Contractor will be paid 100% of the amount bid for mobilization minus any mobilization amount already paid.

621.2.4 PAYMENT CALCULATIONS

P_M	=	Mobilization Payment
M	=	Total amount bid for Mobilization
f_M	=	Mobilization payment percentage factor
	=	0.25, or 0.50, or 1.0, as applicable
P_M	=	M x f_M

EXAMPLE 1
MOBILIZATION

Total Original Contract Amount Bid	\$110,000
Amount Bid for Mobilization	\$ 5,000
Total Original Contract Amount Less Mobilization	\$105,000

Percent of Work Completed	f _M	M	P _M
<5% of \$102,000	0.25	x 5,000	= \$1,250
>5% to <10% of \$102,000	0.50	x 5,000	= \$2,500*
≥10% of \$102,000	1.00	x 5,000	= \$5,000*
*minus previously paid amounts			

621.3 METHOD OF MEASUREMENT

Mobilization will be measured by lump sum unit.

621.4 BASIS OF PAYMENT

Mobilization will be paid for at the contract price per Mobilization Bid Item. The amount Bid for Mobilization shall not exceed 5% of the Total Base Bid.

No additional payments will be made for demobilization and remobilization due to shutdowns or suspensions of the work or for other mobilization and demobilization activities required to complete the contract.

SUPPLEMENTAL TECHNICAL SPECIFICATION

SECTION 1504

NPDES COMPLIANCE

630.1 SCOPE OF WORK

The work under this section includes compliance with the U.S. Environmental Protection Agency (EPA), National Pollutant Discharge Elimination System (NPDES) Regulations for Storm Water Discharges from construction sites. A Storm Water Pollution Prevention Plan (SWPPP). This work consists of developing and maintaining this plan to control erosion, pollution, sediment and runoff during the construction of the project.

630.2 MEASUREMENT AND PAYMENT

630.2.1 UNIT PRICE BID PROPOSALS: For Unit Price Bid Proposals, NPDES compliance shall be paid for as follows:

630.2.1.1 Fifteen (15) percent of the Lump Sum unit price amount shall be paid after the Contractor has completed an EPA Notice of Intent (NOI) for Storm Water Discharges Associated with Construction Activity Under a NPDES General Permit, or a Low Erosivity Waiver (LEW) form, if applicable. A copy of the EPA acceptance of the NOI or LEW must be delivered to the Owner. All required erosion control measures sufficient to begin construction must also be in place. This will be defined in the plan specifications and/or the SWP3.

630.2.1.2 Payment for an additional sixty (60) percent of the Lump Sum unit price amount shall be prorated based on the Actual Percent Complete on the *Application for Payment* as approved by the Architect, Engineer or Landscape Architect. For example, if the Contractor is 20% complete, the contractor can take the 20% (0.2) and multiply it by half of the Lump Sum unit price amount, and receive that portion.

In order to receive payments, the field inspection forms must be sent in with the *Application for Payment* each month. If there are deficiencies maintaining or implementing the SWP3 and its Best Management Practices (BMPs), the payment will be withheld until the deficiencies are corrected.

630.2.1.3 The remaining twenty-five (25) percent of the Lump Sum unit price amount will be based on the completion and submittal to EPA of an EPA Notice of Termination (NOT) of Coverage Under a NPDES General Permit for Storm Water Discharges Associated with Construction Activity, and BMP removal. A copy of the NOT acceptance verification from EPA must be delivered to the Owner. BMPs must be removed as defined in the plan specifications or SWP3. This is done in case there are some BMPs that must remain until final stabilization is met, and that there are no more NPDES concerns for the Contractor.

END OF SECTION

SUPPLEMENTAL TECHNICAL SPECIFICATION

SECTION 1505

CONTROL OF STORM WATER AND NUISANCE FLOW

1505.1 DESCRIPTION

This work covers the control of storm and nuisance flow water in the vicinity of this project.

1505.2 CONSTRUCTION REQUIREMENTS

All permanent work shall be performed in areas free from water. The CONTRACTOR shall construct and maintain all dikes and drainage ditches necessary for the elimination of water from work areas and shall furnish, install, maintain, and operate all necessary pumping and other dewatering equipment required for dewatering the various work areas. Two (2) types of flow can be expected;

- 1) Continuous or intermittent flow through the main arroyo;
- 2) Local sheet flow from adjacent properties or adjacent streets.

The CONTRACTOR is responsible for adequacy of the scheme or plans, or for furnishing all equipment, labor and materials necessary for dewatering the work areas and breaking up and removing such ice or snow as may have formed or settled in the work area. The CONTRACTOR shall be fully responsible for all dewatering operations, and the cost of all dewatering operations shall be included in the lump sum price for this work. The CONTRACTOR shall also be responsible for removal of any sediment deposited by storm and nuisance water, and the cost of sediment removal work shall be included in the lump sum price for this work.

In the event that storm flow, snowmelt or other water flows overtop the Contractor's diversion method, the Contractor will be responsible for any and all damage, including damage to the existing channel and any damage to new work and is responsible for immediate resolution and repair in a manner acceptable to SSACFCA.

Diversion methods may be by use of sand bag diversion channels, sand bag dams, pumping or piping around or over the work areas, or any method or combination.

1505.3 BASIS OF PAYMENT

The bid item for this effort will be on a Lump Sum (LS) basis. Providing and maintaining the diversion and care of water, regardless of the amount of water actually handled, shall be paid for as follows:

Payment for protection of project from water will be made as a percentage of the dollar amount of work completed to date minus the Mobilization bid item and Protection of the Project From Water During Construction bid item.

<u>Pay Item</u>	<u>Pay Unit</u>
Protection of Project from Water During Construction	LS

END OF SECTION

SUPPLEMENTAL TECHNICAL SPECIFICATION

SECTION 1506

CONSTRUCTION STAKING

1506.1 DESCRIPTION

This work consists of construction staking lines, grades, and layouts by the Contractor in accordance with the plans and specifications and as directed by the Engineer for the control and completion of the project.

1506.2 MATERIALS

The Contractor shall furnish all stakes, templates, straightedges, surveying equipment and other devices necessary for establishing, checking, marking, and maintaining points, including P.I.'s, P.C.'s, P.T.'s, and lines, grades and layouts. As directed by the Engineer, points shall be referenced so that they may later be re-established.

1506.3 CONSTRUCTION REQUIREMENTS

Local Survey Control has been set for vertical and horizontal control throughout the construction area. These stakes and marks shall constitute the field control by and in accordance with which the Contractor shall establish other necessary controls and perform the work.

The Contractor shall be responsible for all other control, slope stakes, cut stakes, offset stakes, bench marks, blue tops or other staking necessary for proper execution of the work, or as requested by the Project Manager, to assure compliance with the plans.

1506.4 CONSTRUCTION SURVEYS

The contractor shall obtain and pay for the services of a Professional Surveyor registered in the State of New Mexico to perform surveys of earthwork quantities, during and at the completion of the project construction. These surveys shall consist of the following phases.

- Phase 1: A cross section survey, with no greater than 50 foot spacing, to determine the location of existing ground prior to construction after clearing and grubbing and after removal of the trash and debris. Cross section data collected shall be of sufficient spacing, including all breaks in the terrain to be able to create an original ground digital terrain model (DTM). The "original ground" DTM shall be submitted to the Engineer for review and acceptance prior to proceeding with excavation, embankment or export of excess material. Cross section data must be sufficient to determine earthwork quantities.
- Phase 2: Cross-section and location surveys that may be made during the excavation and backfill construction for the purposes of verifying the contractor's work. Where shown, the excavation dimensions (pay limits for unclassified excavation, backfill and sub-excavation) shown on the plans shall be used to determine the excavation cross-section for payment to the contractor. The cross-section data must be sufficient to verify the limits of excavation.
- Phase 3: A cross-section survey, at the same locations as the cross-sections in Phase 1 to determine the location of the finish grade at the completion of construction.
- Phase 4: The Phase 4 Survey will be completed during construction to demonstrate compliance with

the design grades shown on the plan set. Phase 4 Survey will also include the update and completion of as-builts for the project and the submittal on a weekly basis of as-builts on a set of the construction drawings, to the satisfaction of the Project Manager.

All surveys must be certified by the Professional Surveyor and include complete documentation. Cross sections of the Phase 1, 2 and 3 surveys and the pay limit for excavation as shown on the plans must be used by the Professional Surveyor to compute the quantity of excavation, subject to the provisions for measurement in Section 203. Volume shall be based on the "average end area" computation. All computations of excavation and backfill must be submitted to the Engineer in sufficient detail. This submittal shall be such that methods and computations can be fully verified and are subject to approval by the Engineer. The Contractor shall also submit the electronic survey point files, including break lines, in a format compatible with Civil3D such that the Engineer can use the data for verification of cut/fill quantities.

At the end of the Project, Engineer will transcribe the as-built information provided by the Contractor onto the record drawing. The Contractor's Professional Surveyor will be required to stamp, sign and certify the information shown on the As-Built drawings.

1506.5 METHOD OF MEASUREMENT

Submit a construction-staking schedule of values as part of Construction Progress Meetings or monthly progress schedule to the Project Manager for approval.

1506.6 BASIS OF PAYMENT

Pay Item	Pay Unit
Construction Staking by the Contractor	Lump Sum

SSCAFCA will make partial payments in accordance with the approved construction-staking schedule of values.

END OF SECTION

SUPPLEMENTAL TECHNICAL SPECIFICATION

SECTION 1507

TESTING AND QUALITY ASSURANCE

1507.1 GENERAL

- A. This Section includes testing and quality control measures required on this project. The Section is additional to requirements specified for testing and quality assurance in the standard specifications and other supplemental specifications.
- B. Materials and equipment are subject to inspection, sampling, and testing before acceptance of the work.

1507.2 RELATED WORK

- A. General and Supplemental General Conditions of the Contract.

1507.3 REFERENCES AND DEFINITIONS

- A. All materials and equipment shall be tested, by the CONTRACTOR, pursuant to their technical specification (unless otherwise specified herein) and the manufacturer's recommendations.
- B. Structure shall include but is not limited to: parking lots, pavement, sidewalk, curb and gutter, foundations, structural concrete, piping, wet-wells, manholes, retaining walls, junction boxes, and buildings.

1507.4 SUBMITTALS

- A. Test Reports from tests performed by independent testing firm: Submit for acceptance, complete test reports from approved independent testing laboratories certifying that product conforms to performance characteristics and testing requirements specified herein and in other supplemental/standard specifications. Independent firm to submit reports to the ENGINEER and CONTRACTOR, in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
- B. Test Reports from tests performed by CONTRACTOR: Submit for acceptance, complete test reports from CONTRACTOR certifying that product conforms to performance characteristics and testing requirements specified herein and in other supplemental/standard specifications.

1507.5 QUALITY ASSURANCE

- A. Quality Assurance/Control of Installation – The CONTRACTOR shall:
 - 1. Comply fully with manufacturers' instructions, including each step in sequence.

2. Request clarifications from ENGINEER before proceeding should manufacturers' instructions conflict with Contract Documents.
3. Request clarification from ENGINEER before proceeding should specified reference standards conflict with Contract Documents. The contractual relationship of the parties to the Contract shall not be altered from the Contract Documents by mention or inference otherwise in any reference document.
4. Comply with specified standards as a minimum quality for the work except when more stringent specified tolerances, codes, or requirements indicate higher standards or more precise workmanship are required.
5. Make sure work is performed by qualified persons.
6. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion or disfigurement.

B. Testing Laboratory Services

1. Reports will be submitted by the independent firm to the ENGINEER and CONTRACTOR, in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.

1507.6 TESTING METHODS

Testing methods shall comply with ASTM Standards and as specified in the technical specifications for the project.

1507.7 EXECUTION

A. Testing Laboratory Services

1. The CONTRACTOR will employ and pay for services of an independent testing firm to perform testing.
2. The independent firm will perform tests and other services specified in individual Specification Sections and as required by the OWNER.
3. CONTRACTOR shall:
 - a) Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage and assistance as requested.
 - b) Notify ENGINEER and independent firm 8 hours prior to expected time for operations requiring services.
 - c) Make arrangements with independent firm and pay for additional samples and tests required for CONTRACTOR'S use.

B. Retesting required because of non-conformance to specified requirements shall be performed by the same independent firm on instructions by the ENGINEER. No additional payment will be made for re-testing due to failing tests.

1507.8 TESTING FREQUENCY AND TYPE OF TESTING

Frequency and type of testing shall be per the requirements listed in the specifications for each type of Work. The Engineer may increase and/or add testing for any Work items. The Testing Allowance will be adjusted for increases in testing by Section 1507.9.D.

1507.9 MEASUREMENT AND PAYMENT

Testing shall be paid for as an allowance on a Lump Sum basis. The Contractor may request percent of LS cost payments during construction, however, the Contractor shall provide actual testing lab invoices as back-up for the percent complete that is being requested in a Pay Application.

Testing allowances are provided as part of the project and invoiced for testing will be paid for through this allowance.

Costs included in testing price include:

- A. Cost of engaging an independent testing firm, execution of tests by the testing firm, and reporting results by the testing firm.
- B. Costs of incidental labor and facilities required to assist testing firm.
- C. Costs of testing laboratory services used by CONTRACTOR separate from Contract Document requirements
- D. Costs of re-testing due to failure of previous tests will be included in the cost for testing and no additional payment will be made for this work.

The CONTRACTOR shall submit two copies of the testing firm's invoice to OWNER with Pay Application. Reimbursement to the Contractor will be for actual invoiced costs and no mark-up will be added to this invoice. The Contractor shall receive reimbursement for actual invoice of testing firm upon certification that payment has been made to the testing laboratory. Payment will be made at the next application for payment from OWNER.

END OF SECTION

SUPPLEMENTAL TECHNICAL SPECIFICATION

SECTION 1508

PROJECT RECORD DOCUMENTS

1508.1 GENERAL

This Section includes administrative and procedural requirements for Project Record Documents, including the following:

1. Record Drawings.
2. Record Specifications.
3. Record Product Data.

1508.2 RECORD DRAWINGS

Record Prints: Maintain one set of red-lined prints of the Contract Drawings and Shop Drawings. These prints shall be updated no less frequently than once per week. These prints will be reviewed for verification of updates by the construction observer on a regular basis, depending on the length of the contract. Immediately before inspection for Certificate of Substantial Completion, review marked-up Record Prints with ENGINEER.

- 1508.2.1** Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Mark whichever drawing is most capable of showing field conditions fully. Require individual or entity who obtained record data, whether individual or entity is Installer, SUB-CONTRACTOR, or similar entity, to prepare the marked-up Record Prints.
- a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
- 1508.2.2** Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-references on the Contract Drawings.
- 1508.2.3** Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
- 1508.2.4** Note Construction Change Directive numbers (field orders or Request for Information changes), alternate numbers, Change Order numbers, and similar identification, where applicable.
- 1508.2.5** Verification of current record prints status will be included in the monthly payment approval process that will be noted by the construction's observer's field reports.

1508.3 RECORD SPECIFICATIONS

Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later. Note related Change Orders, field order notes, Request for Information (RFI) notes, Record Product Data, and Record Drawings where applicable.

1508.4 MISCELLANEOUS RECORD SUBMITTALS

Assemble Certifications, Lab Test Reports, and Field Test Reports required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

1508.5 SUBMITTALS

See New Mexico Standard Specifications For Public Works Construction Section 1502.

1508.6 RECORDING AND MAINTENANCE

- 1508.6.1** Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur.

- 1508.6.2** Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. It is not advisable to use Project Record Documents for construction purposes. Provide access to Project Record Documents for Engineer's reference on the project site.

1508.7 MEASUREMENT AND PAYMENT

The cost of project record documents shall be incidental to the Work and no separate payment shall be made for this effort. However, the Project Record Documents shall be reviewed per Section 1508.2.5 and they shall be updated prior to pay applications being processed.

END OF SECTION

SUPPLEMENTAL TECHNICAL SPECIFICATION
SECTION 1510
PROJECT SIGN

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. The CONTRACTOR shall provide, erect, and maintain for the duration of the construction project one identification sign at each construction site. The CONTRACTOR shall also provide, erect and maintain additional signs as necessary for Storm Water Pollution Prevention Plan (SWPPP), if applicable, and labor notification.

1.2 RELATED SECTIONS

- A. General and Supplemental General Conditions of the Contract and Division 1.
- B. Section 103: Submittal Procedures

1.3 REFERENCES

- A. Where all or part of a Federal, American Society for Testing and Materials (ASTM), American National Standards Institute (ANSI), American Water Works Association (AWWA), New Mexico Standard Specifications for Public Works Construction, etc., standard is incorporated by reference in these specifications, the reference standard shall be the latest edition and revision.

1.4 PERFORMANCE REQUIREMENTS

- A. SWPPP Sign (if applicable)
 - 1. If a SWPPP is required, a sign or other notice must be posted conspicuously near the main entrance of the construction site. If displaying near the main entrance is infeasible, the notice can be posted in a local public building such as the town hall or public library. The sign or other notice must contain the following information.
 - 2. A copy of the completed Notice of Intent as submitted to the EPA Stormwater Notice Processing Center; and
 - 3. If the location of the SWPPP or the name and telephone number of the contact person for scheduling SWPPP viewing times has changed (i.e., is different than that submitted to EPA in the NOI), the current location of the SWPPP and name and telephone number of a contact person for scheduling viewing times.
 - 4. For linear projects, the sign or other notice must be posted at a publicly accessible location near the active part of the construction projects (e.g., where a pipeline project crosses a public road).
- B. Labor Sign
 - 1. A sign shall also include all notification and sign requirements from the following so that they are weather tight.

- a. Equal employment opportunity poster
- b. Federal and State wage rate information
- c. Safety posters
- d. Official announcements and notices

C. Project Sign

- 1. SIGN DIMENSIONS: 1200 mm x 2400 mm x 19 mm (approx. 4' x 8' x 3/4")
Plywood Panel (APA RATED A-B GRADE-EXTERIOR)
 - 2. Sign shall be white background with black letters
 - 3. Final information regarding CONTRACTOR will be supplied after the project has been awarded.
 - 4. See SSCAFCA Standard Drawing M201 for additional sign details.
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1.5 SUBMITTALS

- A. General: Submit listed submittals in accordance with conditions of the Contract and STS 103.
- B. Shop drawings: Submit clear, concise drawing showing model number, size, arrangement and configuration of all products specified. Minimum sheet size is 8.5" X 11".

1.6 QUALITY ASSURANCE

- A. Sign Paint (Primer, Paint and Finishes): The paint used for the sign shall be specifically designated for exterior use. It shall resist weathering and fading for the indicated construction schedule.

1.7 DELIVERY, STORAGE AND HANDLING

- A. The CONTRACTOR is responsible for the safe storage of the equipment until it is incorporated in the completed project.
- B. The material and equipment shall be stored and handled per the manufacturer's recommendations.

PART 2 PRODUCTS

2.1 MATERIALS

- A. The sign(s) shall be painted on one side with a background color of white not smaller than 4' x 8', marine grade plywood.

PART 3 EXECUTION

3.1 CONTRACTOR'S RESPONSIBILITY

- A. The CONTRACTOR is responsible for furnishing and installing the PRODUCT including all site preparation, and other items necessary for the proper installation and operation of the PRODUCT.

3.2 EXAMINATION

- A. Examine all products for compliance with this section.
- B. Proceed with installation only after unsatisfactory conditions have been corrected. Immediately correct all deficiencies and conditions which would cause improper execution of Work specified in this Section and subsequent Work.
- C. Verify that the PRODUCT dimensions are correct and project conditions are suitable for installation. Do not proceed with installation until conditions deficiencies have been corrected.

- D. Proceeding with Work specified in this Section shall be interpreted to mean that all conditions were determined to be acceptable prior to start of Work.

3.3 INSTALLATION

- A. Each sign shall be mounted on two 4" x 4" posts, with the bottom of the sign at least four feet above grade. The identification sign shall be mounted level and at the location designated by the Architect/ENGINEER or the OWNER'S Project Manager.
- B. Keep signs and supports clean. Repair deterioration and damage.
- C. Remove signs, framing, supports, and foundations to a depth of 2 feet upon completion of the project. Restore the area to a condition equal to or better than before construction.
- D. The signs shall be salvaged to the OWNER or disposed of by the CONTRACTOR at the OWNER's direction at the end of the construction project.

END OF SECTION 1510