

SECTION 1500

MISCELLANEOUS ITEMS

1500.1 GENERAL

This section contains construction activities that are considered minor in nature as compared to the activities in other sections.

1500.2 CONTENTS

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SECTION 1501 MONUMENTS

1501.1 GENERAL

This work shall consist of furnishing and installing precast portland cement concrete right-of-way monuments and either precast or cast-in-place survey monuments at the locations shown on the plans or directed by the ENGINEER and as specified in these specifications and the Supplementary Specifications. Monuments shall conform to the dimensions and details on the drawings.

1501.2 REFERENCES

1501.2.1 This Publication

Section 101

1501.3 MATERIALS

The concrete portion of monuments shall be constructed in accordance with the provisions in Section 101. Marker plates, as approved by the OWNER and shown on the plans, for survey monuments will be furnished by the CONTRACTOR unless otherwise specified in the Supplementary Specifications.

1501.4 CONSTRUCTION

In constructing precast monuments, the forms shall not be removed until after the concrete has hardened. Monuments that are warped will be rejected. The exposed surface of the finished monuments shall be uniform, of even texture, and shall be free from holes, cracks, and chipped edges. The precast monuments shall not be transported to the work site until the concrete has cured. Survey monuments may be cast-in-place in drilled holes without the use of forms. The size shall be 12 inches in diameter and 3 feet in depth. Marker plates shall be placed in survey monuments before the concrete block has acquired its initial set and shall be firmly bedded in the concrete. The concrete block shall be so located that, when the plate is inserted, the reference point will fall within a 1/2 inch circle in the center of the plate. The marker plates shall be stamped with the appropriate elevation above sea level and the coordinates of the point, if applicable, or as required by the ENGINEER.

1501.5 INSTALLATION

All monuments shall be set firmly and vertically in the ground to a depth of at least 3 feet. The tops of survey monument covers, where required, shall be set flush with the ground line or pavement surface, whichever applies. The monuments shall be set in position after paving; the space around them shall be filled with earth free from rock. The filling material shall be watered and tamped

into place in such manner as to hold the monument securely in position. Pavement or concrete surfaces adjacent to monuments that have been removed for the setting of monuments shall be restored to match existing contiguous surfaces and in a manner satisfactory to the ENGINEER. The CONTRACTOR shall furnish reproducible drawings to the ENGINEER showing reference survey monuments as marked on curbs or otherwise located.

1501.6 MEASUREMENT AND PAYMENT

Measurement and payment will be the unit price per each for the class and type required as specified in the Bid Proposal.

SECTION 1502

SUBMITTALS

1502.1 GENERAL

The requirements of this section of the specifications consist of furnishing all manufacturer's data, shop drawings, samples, certifications, guarantees, reports, operation manuals, maintenance manuals, lubrication charts, spare parts lists, special tools and factory representative required for installation of special items, in strict accordance with the specifications and the applicable drawings, and subject to the terms and conditions of the contract.

1502.2 SUBMITTAL CHECK LIST

The Submittal Check List that will be part of the Supplemental Specifications on each project, lists items which will be required to construct the project for which submittals will be required by the ENGINEER. The list of submittals is for the convenience of the CONTRACTOR and supplier, and should not be considered as the complete and final requirements. Additional submittals and material may be required by the ENGINEER as project progresses.

1502.3 WHAT TO SUBMIT

1502.3.1 The following is an explanation of what to submit if indicated on the check list.

- A. Manufacturer's Data: Any catalog type literature on the item.
- B. Shop Drawings: Detail drawings with all dimensions and locations shown.
- C. Samples: The item that will be supplied.
- D. Certifications: Any certifications required by these specifications or standard specifications and/or requirements for that item, to cover raw materials and testing of the final product.
- E. Guarantees: A copy of the guarantee to be given to the Owner on that item.
- F. Lab Test Reports: Laboratory test reports required to show that the item meets all specified requirements.
- G. Operation Manuals and Maintenance Manuals: The manufacturer's standard Operation and Maintenance Manuals on that item.
- H. Special Tools: A list of special tools required to operate and maintain that item and the number of each tool the manufacturer will supply.

- I. Lubrication Charts and Grease Specs: A list of all lubrication points on that item with frequency and type of lubricant to be used at each point.
- J. Spare Parts List: A list of spare parts that the manufacturer recommends the Owner maintains.
- K. Factor Representative: A factory representative will be required to be present for installation and/or start-up of that item of equipment.
- L. Field Test Reports: The field test reports are reports and/or tests that have been conducted on the item in an existing installation over a period of time.
- M. Pump and Blower Curves: Certified curves based on the test performance of each pump or blower to be installed on this project.
- N. Load Design: Load design calculations shall show the maximum load the item can carry under the support conditions shown on the drawings for both uniform and concentrated loads. These calculations shall be under a New Mexico registered professional engineer's signature.
- O. Additional literature, reports and/or tests may be required by the ENGINEER.

1502.3.2 When pumps of any type are part of the project, in addition to the other information required on pump submittals the CONTRACTOR shall submit the following data for each unit of pumping equipment.

- A. Name of manufacturer
- B. Type of pumps.
- C. Number of stages and speed.
- D. Diameter of impeller.
- E. Type of bearings.
- F. Size of suction and discharge piping and barrel.
- G. Type of thrust bearing.
- H. Shut-off pressure.
- I. Impeller material.
- J. Pump shaft material and diameter.
- K. Capacity and head.
- L. Make and type of motor.
- M. Horsepower of motor with proper NEMA Standard insulation.
- N. Type of motor bearings.
- O. Net weight of complete unit.
- P. Guaranteed KWH required to pump 1,000 gallons against the required head.
- Q. Discharge column:
 - Material
 - Weight per foot
 - Type of Joint

- Spacing of joints
- Inside diameter
- R. Line shaft:
 - Material
 - Diameter
 - Length of sections
- S. Line Shaft Bearing:
 - Length
 - Spacing Type
 - Material
- T. Thrust Bearing:
 - Complete computations on thrust conditions.
 - Computed pump thrust at shut-off.
 - Computed pump thrust at operating condition
 - Rated bearing capacity.
 - Manufacturer.
 - Method of cooling.
 - Weight of bearing.
- U. Combined overall efficiency of pump and motor when operating at rated condition
- V. Does equipment offered differ from specification requirement?
- W. Do catalogs, descriptive literature, etc., covering all equipment accompany the bid?

