

Special Specification 4092

Cast-In-Place Noise Walls



1. DESCRIPTION

Furnish materials and construct noise walls as shown on the plans and required by this Item.

2. MATERIALS

Conform to the pertinent requirements of the following standard specification Items:

- Item 420, "Concrete Substructures"
- Item 421, "Hydraulic Cement Concrete"
- Item 427, "Surface Finishes For Concrete"
- Item 440, "Reinforcement for Concrete"

Provide cast-in-place concrete noise walls unless otherwise shown on the plans.

Provide Class "H" Concrete for cast-in-place components that require a form liner with a compressive strength of 4000 psi minimum.

Provide joint fillers, grout, and other incidental materials as shown on the plans or as approved by the Engineer.

- 2.1. **Options.** Contractor has the option to furnish any proprietary noise wall system which meets the requirements of this specification and complies with the design criteria shown on the plans. All noise wall systems will be cast-in-place systems supported below by a retaining wall. Provide for the use of these systems in accordance with Article 7.5 "Patented Devices, Material, and Processes."
- 2.2. **Working Drawings.** Prior to fabrication, prepare and submit working drawings for the proposed noise wall system to the Engineer for approval. If an alternative system is proposed, provide design calculations to the Engineer for approval. Submit drawings on 11 in. x 17 in. size sheets. Submit 7 sets of cast-in-place shop drawings for each detail of the plans requiring the use of reinforcement. Provide 7 sets of construction drawings and 2 sets of design calculations if an alternative system is proposed. Upon completion of construction, submit 1 set of reproducible as-built drawings to the Engineer.
- Include all information necessary for casting wall elements as shown in the drawings. Shop drawings must reflect the shape and dimension of wall components, the size, quantity, and details of the reinforcing steel, and any additional details necessary.
- Include a wall layout reflecting field verified horizontal and vertical alignment of the wall. Also include all information needed to construct the wall, including the proposed connection to retaining wall below, limits of riprap, and any additional details.
- Provide design calculations that include a summary of design parameters used, including material types, strength values, allowable stresses, assumed loads and load combinations. Submit calculations covering the range of heights and loading conditions on the project.
- Provide drawings and design calculations that bear the seal of a licensed professional Engineer who is registered in the State of Texas.

3. CONSTRUCTION

Construct noise walls conforming to the design and details shown on the plans and to the pertinent requirements of the following Items:

- Item 420, "Concrete Substructures"
- Item 429, "Concrete Structure Repair"

Set all walls plumb and firm to the line and grade shown on the plans.

Do not exceed a 1/2 in. horizontal alignment tolerance per 20 ft or wall length. The overall vertical tolerance of the wall (plumb from top to bottom) must not exceed 1/4 in. per 10 ft. of wall height.

4. MEASUREMENT

This item will be measured by the square foot of front surface area of the noise wall, complete in place.

This is a plans quantity measurement item. The quantity to be paid is the quantity shown in the proposal and unless modified by Article 9.2 "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

5. PAYMENT

The work performed and material furnished in accordance with this Item and measured as provided for under "Measurement" will be paid for at the unit price bid for "Cast-In-Place Noise Wall." This price is full compensation for furnishing and installing all noise wall materials including anchorage into the retaining wall; for noise wall preparation, hauling and erection; and for equipment, labor, tools, and incidentals.