

## **REVISION OF SECTION 618 MOVE CONCRETE BRIDGE**

Section 618 of the Standard Specifications is hereby revised for this project to include the following:

### **DESCRIPTION**

This work consists of constructing temporary falsework for the superstructure of a new bridge adject to the existing structure as shown on the plans. In addition, this work includes moving the new bridge into its final location on the permanent abutments in conformity to the lines and grades shown in the plans.

### **MATERIALS AND CONSTRUCTION REQUIREMENTS**

The Contractor shall submit a complete plan for initial construction of the bridge on temporary falsework and moving the bridge into its final location following the removal of the existing structure. This plan shall be signed and sealed by a Professional Engineer registered in the State of Colorado. The plan calculations, working drawings, girder erection plan, design data, and manufacturer's information shall be submitted for information at least 6 weeks prior to the start of the work.

- a. Falsework. The Contractor's Professional Engineer shall design and certify the falsework in accordance with subsection 601.11. The falsework design shall include all loads imposed by the jacks and system to move the bridge from the falsework onto the new abutments.
- b. Girder Erection. The Contractor's Professional Engineer shall submit a girder erection plan that shall facilitate construction of the bridge on to temporary falsework. This plan shall be completed and conform to subsection 618.14(c).
- c. Bridge Installation. Bridge installation shall consist of a system that includes all items to facilitate the move of the proposed bridge to the new location, including temporary track, dollies, winches, bearing pads, jacking systems and other work. The system shall be capable of controlling final placement of the structure to the lines and grades shown on the plans and with a vertical tolerance of + or - 1/4-inch and a horizontal transverse to the bridge and 1-inch longitudinal to the bridge.

These drawings, details, and calculations shall include the following:

1. Complete details for the track, supports, rollers or bearings, foundations, connections to the falsework and abutments, braking system, winch system, jacking system, and all other elements necessary to perform the installation.
2. Type and grade of structural materials used within the system.
3. Support capacity for the jacking system, tracks, track foundations, and all other major supports including catalog cut sheets and manufacturer's data.
4. The required loads applied to each jack during the operation. The jacking system shall have the capacity to control the load distribution so that the working loads on adjacent jacks do not vary by more than 40-percent. The jacking system shall be capable of controlling all jacks together to raise and lower the bridge uniformly.

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5. The actual load applied to the permanent abutment and superstructure during the move operation. The superstructure and abutment piles have been designed to support the loads as shown on the plans. The Contractor's Engineer shall provide calculations verifying these loads. Jacking systems that require any variance in the magnitude or locations of the loads may be used provided the Contractor's Engineer submit calculations verifying stresses in the abutment diaphragm, girders, and abutment do not exceed the allowable as defined by design codes listed on the contract drawings. If these allowable stresses are exceeded, the Contractor may re-design these elements at no additional cost to the contract.
6. All specification references and design codes for the system design criteria.
7. The tolerance for final placement of the superstructure in reference to the bearing seat elevations.
8. A contingency plan detailing measures and methods the Contractor will take to resolve problems during the move operation.

A pre-move conference will be held at least 2 weeks prior to the moving operations. The conference shall include the Engineer, Contractor, Contractor's Engineer, and all subcontractors related to the work.

The Contractor's Engineer shall be onsite full-time during girder erection and the moving operation. The Contractor's Engineer shall provide inspection and written certification for each phase of the work from initial falsework construction through final placement of the superstructure onto the permanent abutments. Any deviation from these working plans shall result in a stop of work. Work shall not resume until written notice that the plan revisions has been received from the Contractor's Engineer.

**METHOD OF MEASUREMENT**

Constructing falsework and moving the bridge into the final location will not be measured but will be paid for as a single lump sum.

Payment will be made under:

<b>Pay Item</b>	<b>Pay Unit</b>
Move Concrete Bridge	Lump Sum

Payment will be full compensation for constructing the falsework and installation of the superstructure onto the permanent abutments. This will include all materials, equipment, and labor necessary to construct the falsework and moving system.

All costs associated with preparation of the complete working plan for this operation will not be measured and paid for separately but shall be included in the work.

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All costs associated with implementation of the plan including construction, inspection by the Contractor's Engineer, certification by the Contractor's Engineer, the moving operation and removal of the falsework and moving system will not be measured and paid for separately but shall be included in the cost of the work.

Revisions to the contract design including concrete, reinforcing steel and other items require as a result of the Contractor's method of temporary supporting and moving the bridge will not be paid for separately but shall be included in the work.