

**Final Report
Special Experimental Project No. 14 (SEP-14)
Michigan Department of Transportation
Fixed Price Variable Scope Contracting
November 13, 2017**

Project Number: 107966A
Control Section: 84915
Project Scope: Installation of Environmental Sensor Station ITS
Location: Various locations in the Southwest Region

Introduction

In 2015, MDOT received approval to utilize the Fixed Price Variable Scope (FPVS) contracting method for the installation of Environmental Sensor Station (ESS) ITS along various routes in Allegan, Barry, Berrien, Branch, Calhoun, Cass, Kalamazoo, St. Joseph, and Van Buren Counties. The purpose of using the FPVS contracting method was to gain more value by installing additional sites than if the traditional Design-Bid-Build process was utilized.

Contract Information

This contract can be found on MDOT's e-proposal website by clicking on the following link: <http://mdotcf.state.mi.us/public/eprop/login/index.cfm>. Once registered, enter the e-proposal website by typing in the user's email address and password. Instructions for registering new users are on the left side of this page. Select the letting date (October 7, 2015) from the "Lettings" area on the left side of the page. The project plans and proposal, and contractor inquiries and responses will be available for downloading from this location.

MDOT has also developed a guide of the development of FPVS projects. This guide is incorporated as an appendix to MDOT's Innovative Construction Contracting Guide which is publicly posted on MDOT's website.

Project Overview

The project work includes the installation of at least thirteen to fifteen ESS ITS sites. Each site includes items such as detection equipment, cabinets, power, communications, atmospheric sensors, and other miscellaneous devices to provide a working system.

Project Development

The project was divided into three sections for contractors to bid on. Contract documents were included to define the work included in each Section and provide clear bidding instructions.

Section 1 included the work needed to install ESS sites 1 through 13. This was the minimum amount of work that could be bid, and bids could be submitted at any price.

Section 2 included the work needed to install ESS sites 1 through 14, and bids were required to be less than or equal to \$1,800,000. Bids greater than this dollar amount would be considered non-responsive.

Section 3 included the work needed to install ESS sites 1 through 15, and bids were required to be less than or equal to \$1,800,000. Bids greater than this dollar amount would be considered non-responsive.

Contractors were only allowed to bid on one Section, and the selection of the contractor was based on the following criteria:

1. Work completed: The selected contractor will be the one that can complete the most work.
2. Price: If two or more contractors are tied after applying criteria 1, the tied contractor's price will be considered. The contractor with the lowest price will be the selected contractor.
3. Best and Final Offer (BAFO): If two or more contractors are tied after applying criteria 2, MDOT will request a BAFO from the tied contractors. The contractor with the lowest price will be the selected contractor.
4. Random Selection: If two or more contractors are tied after applying criteria 3, MDOT will draw a name from a container to determine the selected contractor.

Bid Results

The total number of bidders for this project was 2. The low bidder bid on Section 2 at a price of \$1,714,775.28. The low bid included the installation of ESS sites 1 through 14, which allowed for one more site to be constructed in 2016 than if the project utilized the traditional Design-Bid-Build process. The ESS system will operate as planned without the additional units.

The other bidder also bid on Section 2 (sites 1 through 14) with a bid of \$1,793,658.49.

Industry Reaction

There were no comments/concerns or possible improvements to the FPVS contracting method voiced by the contracting industry. MDOT project staff noted it was a beneficial tool since we completed one additional site as a result of using the FPVS contracting method. The other benefit to this method is the ability to stay within a limited budget when project estimates aren't as certain. For this project, pay items weren't as familiar and the installation sites were more widespread, which made the cost estimating more difficult.