**Recommended Bid Analysis Procedures**

Goals for bid analysis improvement include a standardized procedure and report format.

The bid analysis is performed in four steps:

* 1. Competition analysis
	2. Major cost deviation analysis
	3. Unit price deviation analysis
	4. Documentation of results and recommendations

**Step 1, Competition Analysis:**

1. Identify the engineer’s estimate
2. Identify the number of bidders
3. Identify the range of bids
4. Assess the competition in accordance with Section 5.a. of FHWA’s Guidelines on Preparing Engineer's Estimate, Bid Reviews and Evaluation dated October 7, 2021. This can be found at <https://www.fhwa.dot.gov/programadmin/contracts/ta508046.cfm>

If the preliminary assessment confirms that competition was adequate, the apparent low bid should be further reviewed using the criteria in Section 5.c. of FHWA’s Guidelines on Preparing Engineer's Estimate, Bid Reviews and Evaluation dated October 7, 2021.

1. If the preliminary assessment indicates that competition was inadequate, justification regarding why the contract should be executed is required and should consider the following:
* Safety of the traveling public
* Emergency work and/or situations
* Analysis of bid history on similar (scope and/or geography and/or cost) projects – identifying whether improved competition would be anticipated if the project were re-let

**Step 2, Major Cost Deviations Analysis for reasonableness and unbalancing:**

1. Items to be analyzed are selected
	1. The acceptable deviation, in dollars, for a single item is determined. Typically, this is 1% of the contract total low bid or the contract total estimate (whichever is lower).
	2. The items where the actual difference of the extended low bid amount (quantity multiplied by unit price) is above or below the extended estimate amount by more than the acceptable deviation as determined in a) above are identified.
	3. An acceptable level of cost variance is determined.
		* An acceptable level is considered to be 80% of the sum of the absolute value of the difference of extended low bid amount minus the extended estimate amount for all pay items in the contract. Using the absolute values ensures that all variance will be analyzed whether it is high or low. This method provides for better analysis of projects that have an overall low bid that is reasonably close to the estimate but have individual pay items with high variance between the extended low bid amount and the extended estimate amount.
	4. The sum the absolute value of the difference of extended low bid amount minus the extended estimate amount for the items identified in ii above is compared to the acceptable level of the cost variance as determined in iii above to determine if a reasonable analysis level has been met.
		* If the sum of the absolute values of the difference of extended low bid amount minus the extended estimate amount for the identified pay items is not greater than, or reasonably close to, the acceptable level of the cost variance then the acceptable deviation from i above is adjusted up or down to add to the identified item list until the acceptable level is met.
2. A detailed analysis is performed on the selected items. The analysis can include quantity checks, estimated price checks, review of specifications, questioning of bidder, relation of low bid to second and third bids, comparison of bids to similar projects, and other methods. The intent is to determine reasonableness of the bid and if unbalancing (contact QAU for assistance) is present.

**Step 3, Unit price deviation analysis for unbalancing:**

1. Identify the items where the low bid unit price exceeds the estimate unit price. A starting point of items to analyze is those items where the low bid unit price exceeds the estimate unit price by 25% or more.
2. Identify the items where the low bid unit price is lower than the estimate unit price. A starting point of items to analyze is those items where the low bid unit price is lower than 75% of the estimate.
3. If an item has been analyzed as part of step 2, no additional analysis is needed.
4. If an item has not been analyzed as part of step 2, perform an estimate check and quantity check to determine if unbalancing is present.
5. Additional consideration can include number of bidders, bids of second and third bidder, project urgency, and market conditions.

**Step 4, Documentation of results and recommendations**

1. Documentation of the analysis is in the form of a memo to Contract Administration.
2. The Documentation shall include a narrative of general observations, number of bidders, range of bids, what acceptable deviation was used, any findings from Step 1 of the analysis, and a summary statement of what the analysis found.
3. The Documentation shall include a detailed narrative for each pay item analyzed in Steps 2 and 3.
4. The Documentation shall contain a recommendation as to award or rejection of the bid.
5. The Documentation shall be approved by the Program manager and Director of PDD.
6. A sample documentation with guidelines is attached



**State of Vermont** *Agency of Transportation*

### Program Development

### Highway, Safety & Design

One National Life Drive [phone] 802-828-2664

Montpelier, VT 05633-5001 [fax] 802-828-2437

**www.aot.state.vt.us** [ttd] 800-253-0191

**VERMONT AGENCY OF TRANSPORTATION OFFICE MEMORANDUM**

**TO:** Michael G. Lozier, P.E., Contracts and Specifications Engineer

**FROM:** Jesse Devlin, Quality Assurance & Technical Development Engineer [*Name, Title*]

**DATE:** June 22, 2010 [*Current date*]

**SUBJECT**: Bid Analysis

**PROJECT:** East Montpelier STPG 028-3(35)S [*Project Name & Project Number*]

**CONTRACTOR**: J. Hutchins, Inc. [*Low bid contractor as listed on “VTrans Results Of Bids”*]

**BID OPENING DATE:** May 14, 2010 [*Date bids were opened*]

**ANALYSIS BY:** Jesse Devlin, Quality Assurance & Technical Development Engineer [*Name, Title*]

**ANALYSIS COMPLETED DATE:** May 21, 2010 [*Date analysis was completed*]

Bids submitted for this contract have been reviewed for reasonable conformance with the engineer's estimated prices, resulting in the following recommendation.

 [x]  The bid should be accepted. Analysis has failed to indicate an advantage to the contractor with corresponding disadvantage to the State.

 [ ]  The bid should be rejected for the following reason(s):

APPROVED:                                                                                         Date:

 Kevin Marshia, P.E.

Highway Safety & Design Program Manager

APPROVED:                                                                                         Date:

 Richard M. Tetreault, P.E.

Director of Program Development

Attachment:

cc: Design File

**GENERAL OBSERVATIONS:**

Engineer’s Estimate: $1,919,815.94

Low Bid: $1,578,986.55

Difference: -$340,829.39 or 17.75 %

The subject project was estimated at $1,919,815.94. There were a total of six bidders, three bids were lower than the engineer’s estimate and three bids were higher than the engineer’s estimate. These bids ranged from $1,578,986.55 to $2,257,110.00. [*Statement regarding the number of bidders and the corresponding range of bids is required.*]

For the purposes of this bid analysis, only the construction items that were overbid or underbid by $15,789.87 or more in cost between the engineer’s estimate and the low bid price were analyzed. This amount ($15,789.87) represents 1.00% of the low bid price. The low bid unit prices not included in this range were reviewed and no outliers were present, meaning that these items of lesser dollar amounts can be considered insignificant. [*Statement explaining how construction items were chosen for analysis is required. The majority of Highway, Safety & Design projects will utilize the 1.00% of low bid price procedure described above, however an alternate threshold may be applied based on specific project characteristics. Review of low bid unit prices outside of this range should be performed. Any construction items that vary significantly should be analyzed and the calculated quantities verified. If these additional items are included in the bid analysis, justification for their selection should be provided with each individual construction item.*]

As indicated and discussed in the attached sheets, several unit bid prices varied from the engineer’s estimate, yet this analysis has failed to reveal any unbalancing of low bid unit prices by the Contractor and therefore recommend that this bid be accepted. [*Provide a summary statement that explains the general result of the bid analysis with a recommendation for acceptance or denial*. *The statement above is an adequate sample and should be used in place of the common “reveal any clear cut advantage for the Contractor with an equally corresponding disadvantage to the State.” Note that a bid may be accepted even if it is determined that it is unbalanced if it is the best course of action and any potential overrun would not create a situation where the low bidder was no longer the low bidder.*]

**Item Number: 201.15**

**Item Description: Common Excavation**

**Estimated Quantity: 7000 CM**

 Estimate Extended Low Bid Extended Low Bid

 Unit Price Estimate Unit Price Low Bid Difference

 $13.65 $95,550.00 $7.85 $54,950.00  $40,600.00

[*Item number, item description, quantity, estimate unit price, extended estimate, low bid unit price, extended low bid, and low bid difference are all required. Low bids that are less than the engineer’s estimate shall be notated with a “-“, and those that are higher than the engineer’s estimate shall be notated with a “+” in the low bid difference column.*]

**Description:** The low bid unit price is lower than the regression price (estimate unit price) for this construction item. While the low bid unit price is on the lower side it does fall within the range of the bid trend for projects of similar size and is consistent with the second and fourth low bidders, as well as with past bids submitted by J. Hutchins, Inc. [*Comparison to other received bids, similar projects, and/or contractor bid history should be performed and described. The Quality Assurance Unit is available to assist, as necessary, to obtain this information.*] The listed quantity of 7000 CM has been verified. [*For items carrying units of measure other than LS a statement indicating that the estimated quantities have been verified is required.*] Recommend acceptance of low bid unit price. [*If it is determined that an error in the engineer’s estimate was made, it should be stated and explained*.]

[*Other considerations should be listed under “Description” on a project specific basis. These considerations include but are not limited to; geographic location of the bidders, potential for savings if the project is re-advertised, presence of front-loading or un-balanced bids, variance from a construction item’s “normal” installation, and any unique project characteristics that could influence the low bid unit price.*]