



Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001

Construction Memorandum

To: District Construction Engineers
From: Paul Jagoda, P.E.
Construction Engineering Services Engineer
Date: September 17, 2007
Subject: Value Engineering Proposals

This Construction Memo provides a uniform process for the submission and processing of Value Engineering Proposals in accordance with Standard Specification 104.08.

For assistance or questions related to Value Engineering Proposals, please contact the Construction Engineering Services Engineer or your District CES Reviewer.

PJ/fb

CC:	EPMs Kevin Christensen, PE District Administrators	District Office Engineers FHWA Operations Engineers Bureau Chiefs	CES Bureau Loran Frazier, PE DESSs	Lisa Durbin, PE Traci Steen
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GUIDANCE FOR EVALUATING VALUE ENGINEERING PROPOSALS

A Value Engineering (VE) Proposal is typically an improved construction technique, an alternative material, or other innovation originated by the Contractor that would be expected to result in a cost savings to the project. The function and quality of the project must be maintained or enhanced. Net cost savings is shared between the Contractor and the Department.

The Construction Engineering Services (CES) Bureau will be responsible for processing Value Engineering (VE) proposals, according to Standard Specification 104.08, and for coordinating any reviews and investigations performed by other involved Divisions and Bureaus. These Divisions and Bureaus will provide technical advice and recommendations in their functional area of expertise.

VE proposals should be evaluated in a timely manner and every reasonable effort should be made to complete the response within the time frame given in the proposal. If the time frame given appears to be unreasonably short, the EPM should contact the contractor, state that the time frame appears to be unreasonable and request the contractor direct MDT to either proceed with the proposal under a revised date or rescind the proposal.

The District CES Reviewer will be the point of contact and will be responsible for coordinating the review of the proposal and tracking progress.

The Construction Administration Services Bureau's Change Order Specialist (Traci Steen) will maintain a database containing pertinent proposal information.

The Construction Engineering Services Bureau will share lessons learned in order to incorporate innovative practices into future MDT projects, either at the planning phase, or into future VE Proposals.

Pre-Bid Information

The Value Engineering concept is based on savings generated from changes to the contract work. It is not intended to provide a competitive advantage in the bidding process.

Post Award Information

Contractors, in many cases, will be concerned about incurring the expense of developing a proposal that could ultimately be rejected.

The Department can only make a commitment on a proposal submitted in accordance with contract provisions. Any comment on tentative proposals should be confined to general concepts. Care must be taken to make it understood that such comments do not constitute an endorsement or a commitment that the proposal would be accepted.

Evaluation

VE proposal evaluations are a two-step process. The initial step is the Preliminary Review. The purpose of the Preliminary Review is to screen proposals to determine if a detailed investigation is warranted. Costs incurred by the Department during the Preliminary Review stage will not be charged to the Contractor.

Proposals found to have a reasonable possibility of meeting service requirements and being cost effective will be advanced to the Detailed Review stage. The Detailed Review stage will include analysis and investigation. Costs incurred by the Department during the Detailed Review stage will be shared equally by the Department and the Contractor.

The following generally would not qualify as a VE Proposal and should be rejected:

- An alternate construction method or idea that has been previously considered (such as in the design phase of project development)
- Deletions of pay items
- Deletions of specifications

Preliminary Review

1. The District will notify the following personnel via email upon receiving of a proposal:
 - District's CES Reviewer
 - Change Order Specialist (Traci Steen)
2. The District will review the proposal for form, content and completeness in accordance with Standard Specification 104.08. This will include overall concept, cost data, and time allowed for evaluation.
3. The District will then send the proposal to the Construction Engineering Services Reviewer, for a check of the District's Preliminary Review.
4. The Construction Engineering Services Bureau will transmit the proposal to involved Divisions and Bureaus and FHWA (on oversight projects) for Preliminary Review of the technical and functional aspects of the proposal. A statement of time available for the Preliminary Review will be included.
5. The involved Divisions and Bureaus and FHWA (on oversight projects) will make a Preliminary Review of proposal features that relate to their functional areas. This is intended only to be cursory review in order to determine if the proposal warrants detailed investigation and analysis. The Preliminary Review should only require sufficient detail to identify obvious problems in regard to design standards, service requirements, materials properties and other factors affecting performance and operation.
6. The results of the Preliminary Review from each functional area will be transmitted to the Construction Engineering Services Bureau. This will include a brief statement of significant problems, a recommendation as to whether or not a

detailed investigation is warranted, and a rough estimate of the time and cost required for Detailed Review.

7. The Construction Engineering Services Bureau will summarize and evaluate Preliminary Review reports and make a recommendation to the Construction Engineer. The Construction Engineer will make a determination to proceed with a Detailed Review or to reject the proposal.
8. For rejected proposals, the Construction Engineering Services Bureau will notify the District who will then notify the contractor, in writing, of the decision and the reasons for the rejection. The contractor will have the option of revising the proposal to answer the objections.

Note: Frequent and open communication between the EPM, CES, and other parties is essential and is strongly encouraged.

Detailed Reviews

1. The CES Bureau will notify the involved Divisions and Bureaus and FHWA (on oversight projects) to proceed with detailed investigations and of the time that is allowed. All time spent on this work should be tracked on timesheets using the activity number 065.
2. The purpose of the Detailed Review is to assure the essential functions of the project are not impaired. This may include re-design, design review, review of consultant designs, materials tests and evaluation, quantity calculations and cost estimates. This stage may include internal meetings and/or meetings with contractors and their consultants to clarify and negotiate solutions to problems.
3. Each of the appropriate Divisions or Bureaus will submit a Detailed Review report to the CES Bureau. Reports will include a recommendation as to whether or not the proposal should be accepted in whole or in part. Suggested modifications to make it acceptable should be furnished as appropriate. Reports should include recommended any changes to contract documents necessary to implement the proposal. Quantity changes and cost estimates should be supplied. An estimate of the cost and time required for any detailed re-design or plan revisions should be included.
4. The CES Bureau will compile the Detailed Review reports and provide a summary of findings and a recommendation to the Construction Engineer.
5. CES will produce a report on the 065 activity number, in order to determine the total cost incurred during the Detailed Review. The cost amount will be provided to the District Construction Engineer and Project Manager.
6. The Construction Engineer will determine whether or not to accept the proposal and will notify the District Construction Engineer of the decision by memorandum,

with a copy to the Project Manager. The District will then notify the contractor, in writing, of the decision.

7. For accepted proposals, the District will prepare a change order with any supporting documentation. The adjusted contract amount will reflect the estimated net savings from the VE proposal, less fifty percent of the Detailed Review cost. The change order will be submitted to the Construction Administration Services Bureau for approval prior to final processing.
8. For rejected proposals, the District will prepare a change order to document the cost sharing of the Detailed Review.

Department Expense to Evaluate and Implement

The costs to the Department incurred during the Detailed Reviews are to be shared equally by the contractor and Department.

These costs may include, but are not limited to:

- 1 Investigation and Review.
- 2 Re-Design or Design checks.
- 3 Quantity calculations and estimates.
- 4 Plan revision or preparation.
- 5 Laboratory sampling and testing for investigation.
- 6 Field surveys or re-surveys.

Increased costs to the Department associated with the implementation of Value Engineering proposals are also to be shared equally by the contractor and Department.

These costs may include, but are not limited to:

- 1 Additional inspection, testing, or surveys required to implement the proposal.
- 2 Any increased pay item quantities.
- 3 Increased road user-costs.
- 4 Increased traffic control costs.
- 5 Increased erosion control costs.

Example Calculation:

In this example, the contractor has proposed to replace the planned box beam guardrail with a new type of rail. The benefit is that it will reduce the amount of unclassified excavation on the project.

Detailed Review Costs	\$ 1,100
800 m ACME Type Guardrail	\$190,000
800 m Guard rail – box beam	- \$180,000
8000 cu m unclass excavation	<u>- \$ 50,000</u>
net savings	- \$ 38,900

change order amount = 50% x \$38,900 = \$19,450 contract reduction

Templates

The following attached templates may be used in Value Engineering proposal correspondence:

- Memo template: CES Bureau's evaluation & recommendation to the Construction Engineer
- Memo template: VE acceptance/denial to DCE from Construction Engineer



Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001

Memorandum

To: Kevin Christensen, P.E.
Construction Engineer

From: Paul Jagoda, PE
Construction Engineering Services Engineer

Date: February 6, 2003

Subject: (Project Number)
(Description)
Value Engineering proposal

Attached is a Value Engineering (VE) proposal from the prime contractor, _____, for the subject project, dated _____. The contractor has proposed to _____. A meeting to discuss the proposal was held on _____.

Those in attendance at the meeting were:

The meeting began with a general discussion of the merits of the proposal, and to determine if the criteria for a Value Engineering Proposal were met, as set forth in Subsection 104.08. Those criteria are, and the groups' findings were:

Service Life:

Economy of Operation: This proposal will provide a significant benefit in a number of ways. The net savings in _____ to the MDT, \$ _____, _____.

Ease of Maintenance: This proposal should have _____ effect.

Reliability: For reasons noted in the Service Life discussion, reliability would be enhanced.

Desired Appearance: This proposal should have _____ effect.

Safety: This proposal should have effect.

The following unit priced items are contained in this VE proposal:

Net Savings =

The recommendation from the Construction Engineering Services Bureau for the acceptance/denial of the subject Value Engineering proposal is

Cc: Construction Engineering Services Bureau
Materials Bureau
 , District Administrator
 , District Construction Engineer
 , FHWA
 , District Design Supervisor
 , EPM
Traci Steen
MDT Consultant Design
File-



Montana Department of Transportation
PO Box 201001
Helena, MT 59620-1001

Memorandum

To: <name>
District Construction Engineer

From: Kevin Christensen, PE
Construction Engineer

Date: February 4, 2008

Subject: (Project Number)
(Description)
Value Engineering Proposal

The Detailed Review of the subject VE proposal has been completed.

It has been determined that the proposal would be mutually beneficial to both the Department and the Contractor and is accepted with the following conditions/stipulations:

-
-
-

or

Based upon the results of the Detailed Review, the Department has declined to accept the proposal.

Please proceed with processing a change order for the subject VE.

Cc: Construction Engineering Services Bureau
, EPM
Traci Steen
File-