

Section 104

1 **104-11 FINAL CLEANING UP**

2 Before acceptance of the project, the highway, borrow sources, waste areas and all ground
3 occupied by the Contractor within the project limits in connection with the work shall be
4 cleaned of all rubbish, excess materials, temporary structures and equipment. All parts of the
5 work shall be left in an acceptable condition.

6 The Contractor will not be directly compensated for the work of final cleaning up, as this
7 work will be considered incidental to the work covered by the various contract items.

8 **104-12 VALUE ENGINEERING PROPOSAL**

9 This value engineering specification is to provide an incentive to the Contractor to initiate,
10 develop and present to the Department for consideration, any cost reduction proposals
11 conceived by him involving changes to the contract. This specification does not apply unless
12 the proposal submitted is specifically identified by the Contractor as being presented for
13 consideration as a Value Engineering Proposal (VEP). Submittals that propose material
14 substitutions of permanent features, such as, but not limited to, changes from rigid to flexible
15 or flexible to rigid pavements, concrete to steel or steel to concrete bridges will not be
16 considered acceptable VEPs. Depending on the complexity of evaluation and
17 implementations, VEPs that provide for a total savings before distribution of less than
18 \$10,000 may not be considered.

19 **(A) Types of Proposals**

20 VEPs contemplated are those that would result in a net savings to the Department by
21 providing a decrease in the total cost of construction or reduce the construction time
22 without increasing the cost to construct the project. The effects the VEP may have on the
23 following items, but not limited to these items, will be considered by the Department
24 when evaluating the VEP:

- 25 (1) Service life,
- 26 (2) Safety,
- 27 (3) Reliability,
- 28 (4) Economy of operation,
- 29 (5) Ease of maintenance,
- 30 (6) Desired aesthetics,
- 31 (7) Design,
- 32 (8) Standardized features, and
- 33 (9) Environmental impact.

34 **(B) Evaluation of Proposals**

35 The Department reserves the right to reject the VEP or deduct from the savings identified
36 in the VEP to compensate for any adverse effects to these items that may result from
37 implementation of the VEP.

38 The Department reserves the right to reject, at its discretion, any VEP submitted that
39 would require additional right of way. Substitution of another design alternate detailed in
40 the contract plans for the one that the Contractor bid will not be allowed. Plan errors that
41 are identified by the Contractor and that result in a cost reduction will not qualify for
42 submittal as a VEP. Pending execution of a formal supplemental agreement
43 implementing an approved VEP and transferal of final plans (hard copy and electronic)
44 sealed by an engineer licensed in the State of North Carolina incorporating an approved
45 VEP to the Resident Engineer and the State Value Management Engineer, the Contractor
46 shall remain obligated to perform in accordance with the terms of the existing contract.
47 No time extension will be granted due to the time required to review a VEP.

1 **(C) Subcontractors**

2 The Contractor is encouraged to include this specification in contracts with
 3 subcontractors. The Contractor shall encourage submissions of VEPs from
 4 subcontractors; however, it is not mandatory that the Contractor accept or transmit to the
 5 Department, VEPs proposed by his subcontractors. The Contractor may choose any
 6 arrangement for the subcontractor value engineering payments, provided that these
 7 payments shall not reduce the Department's share of the savings resulting from the VEP.

8 **(D) Preliminary Review**

9 Should the Contractor desire a preliminary review of a possible VEP, before expending
 10 considerable time and expense in full development, a copy of the preliminary VEP shall
 11 be submitted to the Resident Engineer and the State Value Management Engineer at
 12 ValueManagementUnit@ncdot.gov. The submittal shall state "Preliminary Value
 13 Engineering Proposal Review Request" and shall contain sufficient drawings, cost
 14 estimates and written information that can be clearly understood and interpreted. Include
 15 the identity of any Private Engineering Firms proposed by the Contractor to prepare
 16 designs or revisions to designs. The Department will review the preliminary submittal
 17 only to the extent necessary to determine if it has possible merit as a VEP. This review
 18 does not obligate the Department to approve the final VEP should a preliminary review
 19 indicate the VEP has possible merit. The Department is under no obligation to consider
 20 any VEP (Preliminary or Final) that is submitted.

21 **(E) Final Proposal**

22 A copy of the Final VEP shall be submitted by the Contractor to the Resident Engineer
 23 and the State Value Management Engineer at ValueManagementUnit@ncdot.gov. The
 24 VEP shall contain, at a minimum, the following:

- 25 (1) A statement that the request for the modification is being made as a VEP.
- 26 (2) A description of the difference between the existing contract requirements and the
 27 proposed modifications, with the comparative advantages and disadvantages of each.
- 28 (3) If applicable, a complete drawing of the details covering the proposed modifications
 29 and supporting design computations shall be included in the final submittal. The
 30 preparation of new designs or drawings shall be accomplished and sealed by
 31 an engineer licensed in the State of North Carolina. Further, the Department may
 32 require a review, and possibly the redesign, be accomplished by the project's original
 33 designer, or an approved equal. The Department may contract with private
 34 engineering firms, when needed, for reviews requested by the Department. The
 35 Contractor shall contract with the original project designer, or an approved equal,
 36 when required by the Department, for any design work needed to completely and
 37 accurately prepare contract drawings. The Department may waive the requirements
 38 to have the preparation of contract drawings accomplished by an engineer licensed in
 39 the State of North Carolina or the project's original design based on the extent, detail
 40 and complexity of the design needed to implement the proposal.
- 41 (4) An itemized list of the contract requirements that would be modified and
 42 a recommendation of how to make each modification.
- 43 (5) A detailed estimate of the cost of performing the work under the proposed
 44 modification.
- 45 (6) A statement of the time when approval of the proposal shall be issued by the
 46 Department to obtain the total estimate cost reduction during the remainder of the
 47 contract, noting any effect on the contract completion or delivery schedule.

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1 (F) Modifications

2 To facilitate the preparation of revisions to contract drawings, the Contractor may
3 purchase reproducible copies of drawings for his use through the Department's Value
4 Management Unit. The preparation of new design drawings by or for the Contractor
5 shall be coordinated with the appropriate Design Branch through the State Value
6 Management Engineer. The Contractor shall provide, at no charge to the Department,
7 one set of reproducible drawings of the approved design needed to implement the VEP.
8 Drawings (hardcopy and electronic) which are sealed by an engineer licensed in the State
9 of North Carolina shall be submitted to the State Value Management Engineer no later
10 than 10 business days after acceptance of a VEP unless otherwise permitted.

11 The Engineer will be the sole judge of the acceptability of a VEP requested in accordance
12 with these requirements and of the estimated net savings resulting from the approval of
13 all or any part of the VEP. The Contractor has the right to withdraw, in whole or in part,
14 any VEP not accepted by the Department within the period to be specified in the VEP per
15 Subarticle 104-12(E)(6).

16 If a VEP is approved, the necessary changes will be effected by supplemental agreement.
17 Included as a part of the supplemental agreement will be requirements for price
18 adjustment giving the Contractor 50% of the net savings to the project resulting from the
19 modifications. Supplemental agreements executed for design-bid-build contracts shall
20 reflect any realized savings in the corresponding line items. Supplemental agreements
21 executed for design-build contracts shall add one line item deducting the full savings
22 from the total contract price and one line item crediting the Contractor with 50% of the
23 total VEP savings.

24 The Department reserves the right to include in the supplemental agreement any
25 conditions it deems appropriate for consideration, approval and implementation of the
26 VEP. Acceptance of the supplemental agreement by the Contractor shall constitute
27 acceptance of such conditions.

28 The final net savings to be distributed will be the difference in cost between the existing
29 contract cost for the involved unit bid items and actual final cost occurring as a result of
30 the modification. Only those unit bid items directly affected by the supplemental
31 agreement will be considered in making the final determination of net savings. In
32 determining the estimated net savings, the Department reserves the right to disregard the
33 contract prices if, in the judgment of the Department, such prices do not represent a fair
34 measure of the value of the work to be performed or to be deleted. Subsequent change
35 documents affecting the modified unit bid items, but not related to the VEP, will be
36 excluded from such determination. The Department's review and administrative costs for
37 VEPs will be borne by the Department. The Contractor's costs for designs and/or
38 revisions to designs and the preparation of design drawings will be borne by the
39 Contractor. The costs to either party will not be considered in determining the net
40 savings obtained by implementing the VEP. The Contractor's portion of the net savings
41 shall constitute full compensation to him for effecting all changes pursuant to the
42 agreement. The net savings will be prorated, 50% to the Contractor and 50% to the
43 Department, for all accepted VEPs.

44 Upon execution of the supplemental agreement, the Department will thereafter have the
45 right to use, duplicate or disclose, in whole or in part, any data necessary for the use of
46 the modification on other projects without obligation or compensation of any kind to the
47 Contractor. Restrictions or conditions imposed by the Contractor for use of the VEP on
48 other projects shall not be valid.

49 Except as may be otherwise precluded by this specification, the Contractor may submit
50 a previously approved VEP on another project.

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1 Unless and until a supplemental agreement is executed and issued by the Department and
2 final plans (hard copy and electronic) sealed by an engineer licensed in the State of North
3 Carolina incorporating an approved VEP have been provided to the Resident Engineer
4 and the State Value Management Engineer, the Contractor shall remain obligated to
5 perform the work in accordance with the terms of the existing contract.

6 Acceptance of the modification and its implementation will not modify the completion
7 date of the contract unless specifically provided for in the supplemental agreement.

8 The Contractor shall not be entitled to additional compensation under Section 104 for
9 alterations in the plans or in the details of construction pursuant to the VEP.

10 The Department will not be liable to the Contractor for failure to accept or act upon any
11 VEP nor for any delays to the work attributable to any such VEP.

12 The Department reserves the right to negotiate desired changes with the Contractor under
13 the requirements of the contract even though the changes are the result of a VEP
14 submitted on another contract. In this instance the savings will be prorated in accordance
15 with the terms of the negotiated agreement.

16 **104-13 RECYCLED PRODUCTS OR SOLID WASTE MATERIALS**

17 It is the policy of the Department to aid in reduction of materials that become a part of our
18 solid waste stream. To that extent the Department encourages contractors to initiate, develop
19 and use products and construction methods that incorporate the use of recycled or solid waste
20 products in the project. Recycled products or waste materials will be those products or
21 materials that would otherwise become solid waste and are collected, separated, or processed
22 and reused or returned to reuse in the form of raw materials or products that are incorporated
23 into a beneficial reuse on the project. Targeted materials include, but are not limited to, the
24 following: plastic, glass, paper, cardboard, shingles, tires, fly ash, bottom ash, sludge and
25 construction and demolition debris.

26 This Specification will not be applicable to reclaimed asphalt materials used in accordance
27 with Section 610 and shall not be applicable to any recycled or solid waste materials that are
28 specified for use by the Department on the project.

29 To use recycled or solid waste materials, the Contractor shall submit to the Department of
30 Transportation a Recycled Products or Solid Waste Materials Proposal for approval. This
31 proposal shall be submitted to the Resident Engineer and the State Value Management
32 Engineer in the Value Management Office. The proposal shall contain, at a minimum,
33 a statement that the request for the modification is being made as a Recycled Products or
34 Solid Waste Materials proposal and the requirements in Subarticles 104-12(E)(2)
35 through 104-12(E)(6).

36 The Contractor shall be responsible for obtaining any and all permits that may be required for
37 the hauling, storing, or handling of the targeted materials.

38 If a Recycled Products or Solid Waste Materials proposal is approved, the necessary changes
39 will be effected by supplemental agreement. Included as a part of the supplemental
40 agreement will be requirements for price adjustment as follows:

41 (A) If the proposal results in a net savings to the Department the savings and distribution of
42 the savings shall be done in accordance with Article 104-12.

43 (B) If the proposal results in a net increase in the project cost but is judged to have
44 a significant effect on the development of long term markets for the targeted materials, or
45 results in significant beneficial usage of project generated debris that would have
46 otherwise been disposed of in accordance with Section 802, the Department will bear the
47 approved increased costs, if any. This includes recycled products that have been
48 approved by the Department but were not originally included in this contract.