

Section 1105. Control of Work

1105.01 AUTHORITY OF ENGINEER.

- A.** The Engineer will decide all questions which may arise as to the quality and acceptability of materials furnished and work performed and as to the rate of progress of the work, all disputed and mutual rights between contractor, all contract documents, and all questions as to the acceptable fulfillment of the contract on the part of the Contractor. Except as provided in [Article 1109.12](#), the Engineer's decisions will be final.
- B.** For authority to temporarily suspend work, see [Articles 1105.07](#) and [1108.06](#).

1105.02 PLANS.

- A.** The final plans on file in the office of the Contracting Authority, show the location, typical construction details, and dimensions of the work contemplated. The work shall be performed in conformity therewith, except in case of error or unforeseen contingency.
- B.** The plans are made from careful surveys and represent the foreseen construction requirements. Any appreciable deviation from the plans made necessary to expedite construction, or because of error, shall be called to the attention of the other party, in writing, by the party discovering such conditions. If necessary, revised plans will be provided.

1105.03 WORKING DRAWINGS.

- A.** The plans will be supplemented by such working drawings as are necessary to adequately control the work. Working drawings shall be furnished by the Contractor, as required by the contract documents. When certification by a Professional Engineer licensed in the State of Iowa is required, the certification shall be in the appropriate branch of engineering, for the work specified in the contract documents. Working drawings may include shop drawings of fabricated materials, erection plans, falsework plans, cofferdam plans, or other supplemental plans or data. Shop drawings for structures shall show fully detailed dimensions and sizes of all component parts of the structure. Prior to review of working drawings, any work done or material ordered shall be at the Contractor's risk. The Contractor shall understand that the Contracting Authority's review of working drawings submitted by the Contractor covers only requirements for strength and arrangement of component parts. The Contracting Authority assumes no responsibility for errors in dimensions and assumes the Contractor will use material complying with requirements of the contract documents or, where not specified, those of sound and reasonable quality, and will erect the subjects of such working drawings in accordance with recognized standards of first quality work or, when specified, in accordance with standards of the contract documents. If unanticipated and either unusual or complex construction procedures or site conditions occur, the Engineer may require the Contractor to submit such working drawings as, in the judgment of the Engineer, are necessary to satisfactorily complete the proposed construction.
- B.** For non-Primary projects, working drawings shall be submitted to the Engineer unless noted otherwise in the contract documents.
- C.** For Primary and Interstate projects, all submittals shall be processed by the Contractor and sent to the Review Office identified in Table 1105.03-1 below with a copy of the cover letter sent to the Resident Construction Engineer and District Materials Engineer. The cover letter shall include the following information:
 - Date of submittal or resubmittal
 - Project number
 - Description of submittal
 - Contractor's name, address, and telephone number
 - Number of submittal copies
 - Fabricator's name, address, and telephone number (if applicable).

Table 1105.03-1: Review Offices for Working Drawings

DESCRIPTION	REVIEW OFFICE	NUMBER OF COPIES	REVIEW TIME (calendar days)
Falsework for slab bridges	Bridges and Structures	2	30
Cofferdam design (when required)	Bridges and Structures	2	30
Reconstruction of substructure (detailed plans for supporting the superstructure)	Bridges and Structures	2	30
Steel Structures	Bridges and Structures	7	30
Detail plans for falsework or centering support of steel structures (i.e. erection plans)	Bridges and Structures	2	30
Steel and aluminum pedestrian hand rails	Bridges and Structures	2	30
Highway sign support structures (i.e. trusses, cantilevers, & bridge mounts)	Bridges and Structures	2	30
Precast concrete (i.e. deck panels, RCB culverts, noise wall panels, arch sections, etc.)	Bridges and Structures	2	30
Tower lighting	Bridges and Structures	2	30
Highway lighting	Traffic & Safety	2	30
Highway signing steel breakaway posts	Traffic and Safety	2	30
Traffic signalization*	Traffic and Safety	2	30
Highway signing - Type A & B signs	Traffic and Safety	2	30
Bridge components	Bridges and Structures	2	30
Pre-engineered steel truss recreational trail bridge	Bridges and Structures	2	30
MSE, segmental, & modular block retaining walls	Design (Soils Design Section)	Preliminary submittal: 3 design calculations, 3 shop drawings, & 3 field construction drawings	30
		Final submittal: 3 design calculations, 3 shop drawings, & 3 field construction drawings	14
Soil nail & tie-back retaining walls	Design (Soils Design Section)	6 final design plans	60
Intermediate foundation improvement (IFI) (i.e. stone columns, geopiers, etc.)	Design (Soils Design Section)	4 design calculations & 8 field construction drawings	30
Removal of box girder bridges	Bridges and Structures	2	30
Structural erection manual	Bridges and Structures	2	30
Temporary shoring	Bridges and Structures	2	30
Temporary sheet pile retaining wall	Bridges and Structures	2	30
Safety grates for RCB culverts	Bridges and Structures	2	30
* Submittal time shall be within 45 calendar days from the date of award of contract.			

D. Unless specified otherwise in the contract documents, Contractor submittal time shall be subject to the specified review time and the Contractor's need based on their schedule for the work.

- E. When the contract documents specify submittals to be sent to the Design Consultant, copies of the cover letter shall be sent to the specified Review Office, Resident Construction Engineer, and District Materials Engineer.

1105.04 CONFORMITY WITH AND COORDINATION OF THE CONTRACT DOCUMENTS.

- A. In case of a discrepancy between contents of the contract documents, the following items listed by descending order shall prevail:
 - 1. Addendum
 - 2. Proposal Form
 - 3. Special Provision
 - 4. Plans
 - 5. Standard Bridge Plans, Standard Culvert Plans, and Standard Road Plans
 - 6. Developmental Specifications
 - 7. Supplemental Specifications
 - 8. General Supplemental Specifications
 - 9. Standard Specifications
 - 10. Materials I.M.
- B. Should there be a discrepancy between figures and drawings on any of the contract documents, the figures shall govern unless they are obviously incorrect.
- C. The Contractor shall not take advantage of any apparent error, omission, or discrepancy in the contract documents. The Engineer will be permitted to make such correction in interpretation as may be deemed necessary for the fulfillment of the intent of the contract documents subject to compensation as provided in [Articles 1109.03, 1109.04 and 1109.16](#). Written notice of changes in the contract documents will be given to the Contractor by the Engineer.
- D. All work performed and all materials furnished shall be in reasonably close conformity with the lines, grades, cross sections, dimensions, and material requirements, including tolerances, shown in the contract documents.
- E. If the Engineer finds the material or the finished product in which the material is used is not within reasonably close conformity with the contract documents but that reasonably acceptable work has been produced, the Engineer will then make a determination if the work shall be accepted and remain in place. In this event, the Engineer will document the basis of acceptance by contract modification which will provide for an appropriate adjustment in the contract price for such work or materials as is necessary to conform to the determination based on engineering judgment.
- F. If the Engineer finds the material or the finished product in which the material is used or the work performed is not in reasonably close conformity with the contract documents and has resulted in an inferior or unsatisfactory product, the work or material shall be considered unacceptable work and shall be removed and replaced or otherwise corrected by and at the expense of the Contractor.

1105.05 SUPERVISION BY CONTRACTOR.

The Contractor or a competent Superintendent must be on the project when construction activities are taking place. This representative must be capable of reading and thoroughly understanding the contract documents and experienced in the type of work being performed. The Superintendent shall supervise, direct, and control the Contractor's operations, personnel, work, and the subcontractor's operations. The Superintendent shall have full authority to execute orders or directions of the Engineer without delay and to promptly supply such materials, equipment, tools, labor, and incidentals as may be required. The Contractor shall give the Engineer written notification of the name of the Superintendent. A copy of the official plans and specifications shall be available on the project site at all times.

1105.06 CONSTRUCTION STAKES.

- A.** Minimum standards for Construction Survey provided by the Engineer will meet the requirements of [Section 2526](#). The Engineer will set the necessary center line, slope, and grade stakes promptly upon notification by the Contractor that stakes are needed.
- B.** For all structures, the Engineer will set stakes for roadway center line and such other stakes as are necessary to establish the location, elevation, and alignment of the structure. If requested by the Contractor, the Engineer will furnish stakes determining the center line of piers or pedestals, the faces of abutments, and angles of the wings or retaining walls. When these stakes or lines are given by the Engineer, the Contracting Authority will be responsible for the correctness thereof, and the Contractor shall be responsible for their proper use, interpretation, and preservation.
- C.** The Contracting Authority will not be responsible for delays due to lack of grade or line stakes unless the Contractor has given the Engineer a 24 hour written notice that such stakes will be needed and the Contractor's work is being conducted in a satisfactory manner and at the specified rate of progress.
- D.** The Contractor shall be responsible for the preservation of stakes and marks. If in the opinion of the Engineer any of the survey stakes or marks have been carelessly or willfully destroyed or disturbed by the Contractor, the cost of replacing them will be charged against the Contractor.

1105.07 AUTHORITY AND DUTIES OF INSPECTOR.

The Contracting Authority may appoint inspectors to represent the Engineer in the inspection of materials used in and work done under the contract. Such inspection may extend to any part of the work and to preparation or manufacture of materials to be used. The inspector will not be permitted to modify in any way the provisions of the contract documents or to delay the work by failing to inspect materials and work with reasonable promptness. An inspector is placed on the work to keep the Engineer informed as to its progress and the manner in which it is being performed. Results of inspection tests and examinations will be available to the Contractor on an informational basis. Absence or presence of representative test data does not alter the Contractor's responsibility for compliance with the contract documents in accordance with [Article 1104.01](#). The inspector will not act as supervisor or perform other duties for the Contractor, nor improperly interfere with management of the work. The inspector will not be authorized to approve or accept any portion of the work. In case of dispute between the Contractor and inspector as to quality of materials or manner of performing the work, the inspector has authority to reject materials or suspend the work until the question at issue can be decided by the Engineer. Written notice of suspension of work will be given to the Engineer and Contractor by the inspector.

1105.08 INSPECTION OF WORK.

- A.** The Contractor shall furnish the Engineer with every reasonable facility for ascertaining whether the work is being performed in conformance with the contract documents. At any time before acceptance of the work, upon request of the Engineer, the Contractor shall remove or uncover such portions of finished work as the Engineer may direct. After examination has been made, the Contractor shall restore such portions of the work to the standard required by the contract documents.
- B.** If work thus exposed or examined proves acceptable, the uncovering or removing and replacing of covering, or the restoring of parts removed, will be paid for as extra work, except that no payment will be made for work involved in checking smoothness of pavement surfaces. If work thus exposed and examined proves unacceptable, the Contractor shall replace the defective work in accordance with the specifications. If work thus exposed and examined proves either unacceptable or deficient, the Contractor will be paid only for work as finally accepted.
- C.** Work done without the Engineer having been afforded ample opportunity to provide suitable inspection, or unauthorized work, may be ordered removed and replaced at the Contractor's expense, or may be excluded from the quantities measured for payment.

1105.09 REMOVAL OF DEFECTIVE WORK.

- A.** Any defective work shall be removed and replaced at the Contractor's expense.

- B. Should the Contractor fail or refuse to remove defective work when so ordered by the Engineer, the Engineer has authority to order the Contractor to suspend further operations, and may withhold payment on estimates until such defective work has been removed and replaced in accordance with the contract documents. Continued failure or refusal on the part of the Contractor to correct defective work promptly will be sufficient cause for the Contracting Authority to declare the contract in default and to complete the work in accordance with [Article 1108.11](#).

1105.10 UNAUTHORIZED WORK.

Unauthorized work or work done in excess of that provided by the lines and grades shown in the contract documents or as given by the Engineer will not be paid for.

1105.11 FINAL INSPECTION.

Upon notification by the Contractor or the Contractor's authorized representative that the work is completed, the Engineer shall make prompt final inspection of each item of work included in the contract. If the work is found not to be in accordance with the contract documents, the Contractor will be advised as to the particular defects to be remedied.

1105.12 RESTRICTIONS ON MOVING AND USE OF HEAVY EQUIPMENT.

The following restrictions shall apply to the moving and use of heavy equipment:

- A. Movement of equipment to and from the project shall be in compliance with the laws governing the operation of vehicles on the highways of Iowa. Movement and operation of equipment over completed portions of pavements, HMA surfaces, base courses, and structures which are a part of the project shall be with legal axle loads, except as modified in this article.
- B. In the case of earthwork and shouldering to be done in connection with either rigid or flexible pavement or pavement widening and resurfacing, earth moving equipment shall not be operated or driven on or across the pavement, except as authorized by the Engineer at designated equipment crossings.

When equipment crossings are specifically permitted, the Contractor shall designate before use the location and number of equipment crossings to be used. The location of all equipment crossings shall be subject to the approval of the Engineer. The Engineer will not approve equipment crossings in areas of limited sight distance or near structures or railroad crossings or at any other location which will place safety of the traveling public in jeopardy. At these equipment crossings, equipment having axle loads greater than the maximum permitted by law may be used.

Equipment crossings shall be 30 feet (10 m) in width measured along the center line of the road to be crossed and shall not be closer than 300 feet (100 m) to each other.

Within the prescribed limits, the Contractor may operate hauling equipment on the surface of the pavement or on a hauling bridge constructed by the Contractor.

If an equipment crossing is used, the existing driving surface on the through road shall be restored at the end of each day's operation to safely serve traffic at expected speeds. The Contractor may install pavement protection at equipment crossings to reduce the surface restoration at the end of each day's operation.

For each equipment crossing used, the Contractor shall, at the Engineer's option, either replace the pavement or pay the Contracting Authority at the rate of \$7,500 dollars on the basis of a two lane pavement.

If a hauling bridge is used, it shall support loaded hauling equipment with no contact with the pavement surface and will be subject to the Engineers approval. When a hauling bridge is used, no pavement replacement or payment to the Contracting Authority will be required.

Pavement protection installations and hauling bridges shall accommodate two lanes of public traffic. They shall be removed from the through road at the close of each day's operations.

- C. Drag lines, cranes, or power shovels shall not be operated with any part of the machine resting upon a pavement, HMA surface, or base course except with approval of the Engineer and in accordance with restrictions in that approval.

- D.** For structures, the following equipment and material loads shall apply:
1. Only legal load vehicles and equipment will be permitted on structures unless approved by the Engineer.
 2. Legal load vehicles and equipment will be subject to weight restrictions according to the posted limits.
 3. All loads in spans where critical or damaged members, as indicated in the contract documents, are being repaired or replaced shall be subject to the approval of the Engineer.
 4. Material loads stored on the structure shall be limited to a maximum weight of 20 tons (20 Mg). Distribution of load shall be governed by the following:
 - a. If the material load is greater than 200 pounds per square foot (9.5 kPa) and less than 500 pounds per square foot (23.9 kPa), the loaded area will be restricted to an area 5 feet by 10 feet (50 square feet) (1.5 m by 3 m (4.5 m²)) with a clear spacing of 15 feet (4.6 m) between loaded areas.
 - b. If the material load is less than or equal to 200 pounds per square foot (9.5 kPa), the loaded area is only restricted by the 20 ton (20 Mg) maximum.
 5. Construction vehicles and equipment not involved with the loading and unloading of stored material shall be restricted from operating within 10 feet (3 m) of the area where the material is stored.

All vehicle, equipment, and material loads exceeding the limitations as stated above shall be submitted to the Engineer for checking and review prior to subjecting the loads to the structure. The Contractor shall include in their submittal all details, calculations, and assumptions. The calculations shall be certified by a Professional Engineer licensed to practice engineering in the State of Iowa.

The above submittal requirements shall also apply to cranes or other construction equipments when:

- a. Other components are added resulting in overall weight greater than legally allowed or granted by special permit.
 - b. The operational weight including construction loads is greater than legally allowed or granted by special permit.
 - c. Load distribution is altered during operation due to the use of outriggers or other devices.
- E.** Under no conditions shall machines equipped with metal lugs or similar projections on the treads be operated on the surface of a pavement, HMA surface, base course, or structures.
- F.** For building shoulders on completed pavements of any type, the maximum axle load used for equipment operating on pavement shall not exceed the legal axle load.
- G.** Crawler type equipment shall not be moved on or off a pavement or base course except at places where the compacted earth adjacent to slab is at least 2 inches (50 mm) higher than the surface of the pavement or base course. When heavy, crawler type equipment is moved on or off the edge of a pavement or base course, an adequate timber approach shall be built at the edge of slab to prevent overloading or otherwise damaging the edge of the slab.
- H.** Compacting equipment having axle loads greater than 20,000 pounds may be used on the work under the following provisions:
1. The equipment shall be transported to and from the work and across the bridges on the work in compliance with laws of the State of Iowa.
 2. For compaction of subbase, the weight (mass) of the equipment used shall not be greater than that of compaction equipment used in correction of the roadbed for grade and cross section.

3. For compaction of base course, the weight (mass) of the equipment used shall not be greater than the weight of the equipment used in compaction of the subbase on which the base is placed.
 4. For compaction of surface courses, the weight (mass) of the equipment shall not be greater than that of equipment used in compaction of the base on which the surface course is placed.
- I. For grading or any other type of work, no equipment having an axle load greater than 50,000 pounds shall be operated over a culvert except as may be authorized by the Engineer.

1105.13 TEMPORARY PRIMARY ROAD HAUL ROADS.

- A. For Primary Road projects, the Department may designate any Secondary Road or city street, excluding officially designated temporary Primary Road detours, as a temporary Primary Road haul road, over which materials from any source are to be hauled, such as those listed below:
1. Soil for embankments or shouldering;
 2. Sand, gravel, and crushed stone for base and subbase courses;
 3. Roadway paving aggregates prior to mixing;
 4. Granular surfacing or backfill;
 5. Mixed HMA or PCC for paving, transported from the plant to the work site;
 6. Broken or milled pavement.
- B. Designation of temporary Primary Road haul roads shall be as follows:
1. When materials such as those listed, in an amount greater than 5000 tons (5000 Mg), are to be transported to the work by truck, and when requested by the Contractor, or on its own initiative, the Department will designate a temporary Primary Road haul road. In making such designation, the Department will only consider routes which are physically capable for such use. In addition, the Department will consider if the route submitted by the Contractor is practical and feasible regarding length of haul, road conditions, traffic, and maximum utilization of the Primary Road System. The designation will include a separate return route from the project if requested by the Contractor when granular surfaced roads are to be used for the return route. If a separate return route is not requested by the Contractor, it will be designated by the Contracting Authority.
 2. The Department reserves the right to designate as a temporary Primary Road haul road a route other than a route selected by the Contractor which is physically capable for such use; in this case, haul in excess of the route selected by the Contractor will be paid for by the Department. The Department will not designate, as a temporary Primary Road haul road, roads normally serving primarily as access to a regularly operated commercial source.
 3. When temporary Primary Road haul roads are required, the Contractor shall submit the suggested haul route or routes to the Department within 21 calendar days after the approval for award. Haul route requests shall be submitted to the Engineer. These are to be the most reasonable and practical route or routes. They shall be suitable for use as the haul road or haul roads. In evaluating the feasibility of haul routes, the Contractor shall contact the appropriate local jurisdictions, prior to submitting the haul road request. Roads or bridges with load restrictions and low structural values will not be considered as feasible routes, physically capable of use by the Contractor. If the Contractor fails to provide haul road information within the time allowed, the Department will have the right to establish a route without increased compensation to the Contractor.
- C. Primary Roads and temporary Primary Road haul roads for the project shall be used for delivery of materials for which routes are designated.

- D. Prior to any revocation by the Department of the temporary Primary Road haul road designation, The Department will comply with Subsections 1, 2, and 3 of Section 313.28 and Section 313.29, Code of Iowa. If restorative work is ordered to be done by the Contractor, payment will be made as extra work in accordance with [Article 1109.03](#).

1105.14 PROTECTION OF WATER QUALITY AND WETLANDS.

- A. The Contractor shall comply with the requirements of the Clean Water Act (33 U.S.C. 1344 and 33 CFR 323) and Executive Order 11990. When it becomes necessary for the Contractor to work in waters of the United States, the Contractor shall be aware that a Section 404 permit may be required.
- B. When required, the Contracting Authority will obtain a Section 404 permit for essential work on the right-of-way prior to the award of the contract. The Contractor shall adhere to the requirements of the permit. Activities occurring in or across waters of the United States not specifically reviewed and approved in the permit are not authorized. If the Contractor desires to use construction methods that are not specifically approved by the permit, the Contractor shall be responsible for obtaining approval in the form of a new Section 404 permit from the U.S. Army Corps of Engineers and possibly Iowa DNR. The Contractor shall not use construction methods that require additional mitigation by the Contracting Authority. The Contractor will not be granted additional compensation or contract time due to their request for a new permit. If, however, due to no fault of the Contractor, a Section 404 permit modification involving activities within the right-of-way is deemed necessary by the Engineer, additional contract time and/or compensation may be considered.
- C. Projects that are regulated by the requirements of a Clean Water Act Section 404/401 Permit will be identified in the contract documents. The Contractor shall comply with the following requirements in order to meet the general conditions of Clean Water Act Section 404/401 Permits.
 - 1. **Historic or Archaeological Remains.**
The Contractor shall comply with [Article 2102.03, J](#).
 - 2. **Inspection.**
The Contractor shall allow representatives from the Iowa Department of Natural Resources or U.S. Army Corps of Engineers to inspect the work any time deemed necessary to ensure that the work is being accomplished in accordance with the terms and conditions of the contract documents and permit.
 - 3. **Timing.**
The Contractor is encouraged to conduct construction activities during a period of low flow unless otherwise agreed upon by the Engineer.
 - 4. **Vegetation Clearing.**
Clearing of vegetation, including trees located in or immediately adjacent to waters of the state, shall be limited to that which is absolutely necessary for construction of the project as indicated in the contract documents. Vegetative clearing material shall not be disposed of in wetlands unless otherwise indicated in the contract documents.
 - 5. **Disposal and Handling.**
All construction debris shall be disposed of at upland, non-wetland locations so that it cannot enter a waterway or wetland. Construction equipment, activities, and materials shall be kept out of the water to the maximum extent possible. Equipment for handling and conveying materials during construction shall be operated to prevent dumping or spilling the materials into waterbodies, streams, or wetlands except as approved by the Engineer. Care shall be taken to prevent petroleum products, chemicals, or other deleterious materials from entering waterbodies, streams, or wetlands.
 - 6. **Erosion Control.**
Erosion control features shall be installed by the Contractor in accordance with [Sections 2601 and 2602](#).

- 7. Revegetation.**
All disturbed areas not covered with revetment shall be seeded in accordance with [Section 2601](#).
- 8. Temporary Fills.**
If temporary crossings, causeways, or work pads are needed for the work, then temporary structures and fills shall be constructed in accordance with [Section 2547](#).
- 9. Flowable Mortar.**
Flowable mortar shall be installed in accordance with [Section 2506](#).
- 10. Bridge Removal.**
When bridge removal is identified in the contract documents, the bridge and piers shall be removed in accordance with [Section 2401](#). Debris from bridge removal that falls into the water shall remain there only temporarily and shall be removed by the Contractor.
- 11. Revetment.**
Revetment materials shall comply with [Section 4130](#).
- 12. Indiana Bats.**
Suitable habitat for the Indiana bat (*Myotis sodalis*), as identified by the Contracting Authority, shall be removed between September 15th and April 15th when Indiana bats are not expected to be using potentially suitable trees. The Contractor shall limit removal of forest cover to those areas which are absolutely necessary for the construction of the work. Questions regarding this condition shall be directed to the Engineer.
- 13. Navigation.**
No activity shall cause more than a minimal adverse effect on navigation. Safety lights and signals required by the contract documents shall be installed on authorized facilities in navigable waters of the United States. Payment will be made in accordance with [Article 1109.03](#).
- 14. Aquatic Life Movements.**
When indigenous aquatic life has been identified in the contract documents, no activity shall substantially disrupt the necessary life cycle movements of those species of aquatic life indigenous to the waterbody, including those species that normally migrate through the area.
- 15. Spawning Areas.**
When spawning areas and spawning seasons have been identified in the contract documents, the Contractor shall limit activities in spawning areas during spawning seasons and avoid these areas. Contractor's activities that result in physical destruction (e.g., through excavation, fill, or downstream smothering by substantial turbidity) of an important spawning area will be prohibited, unless otherwise indicated in the contract documents.
- 16. Migratory Bird Breeding Areas.**
When migratory bird breeding areas have been identified in the contract documents, activities in waters of the United States that serve as breeding areas for migratory birds shall be avoided by the Contractor.
- 17. Shellfish Beds.**
When shellfish beds have been identified in the contract documents, no construction activity shall occur in areas of concentrated shellfish populations.
- 18. Suitable Material.**
No activity shall use undesirable material (e.g. trash, debris, car bodies, asphalt, etc.). Discharged material or material used for construction shall be free from toxic pollutants in toxic amounts in accordance with Section 307 of the Clean Water Act.
- 19. Water Supply Intakes.**
Unless otherwise indicated in the contract documents, no activity shall occur in the proximity of a public water supply intake, except where the activity is for repair or improvement of public water supply intake structures or adjacent bank stabilization.

20. Adverse Effects From Impoundments.

If construction activity creates an impoundment of water, adverse effects to the aquatic system due to accelerating the passage of water, or restricting its flow shall be minimized.

21. Management of Water Flows.

To the maximum extent practical; the pre-construction course, condition, capacity, and location of open waters shall be maintained by the Contractor during construction, including stream channelization and storm water management activities.

22. Equipment.

Heavy equipment working in wetlands or mudflats shall be placed on mats, or other measures shall be taken to minimize soil disturbance.

23. Endangered Species.

No activity will be authorized which will jeopardize the continued existence of a threatened or endangered species or a species proposed for such designation, as identified under the Federal Endangered Species Act, or will destroy or adversely modify the critical habitat of such species.

24. Historic Properties.

No activity will be authorized which violates the requirements of Section 106 of the National Historic Preservation Act.

25. Mitigation.

The work shall be constructed to avoid and minimize adverse effects, both temporary and permanent, to waters of the United States at the project site (i.e., on site).

1105.15 VALUE ENGINEERING PROPOSAL.

- A.** The Contractor may submit written Value Engineering (VE) Proposals to the Engineer, for changing the plans, specifications, or other contract requirements. The purpose of this provision is to encourage the Contractor to suggest alternative lower cost or more efficient construction and to share with the Contractor any cost savings. The changes shall not impair the essential functions or characteristics of the project, including but not limited to service life, economy of operation, ease of maintenance, desired appearance, or design and safety standards.
- B.** VE Proposals shall contain the following information:

 - 1. Existing requirements and proposed changes;
 - 2. Contract requirements that must be changed if the VE proposal is adopted;
 - 3. A detailed cost estimate of performing the work as stipulated and as proposed;
 - 4. The time within which the Engineer must make a decision thereon;
 - 5. The items of work affected by the proposed changes, including quantity variations;
 - 6. A statement that the VE proposal is submitted pursuant to the provisions of Article 1105.15.
- C.** The provisions of this article do not require the Engineer to consider any VE proposal that is submitted. Proposed changes that involve the basic design of a bridge or pavement type, or involve the use of mechanical dowel bar inserters will not be considered an acceptable incentive proposal.
- D.** If a VE proposal is similar to a change in the contract documents under consideration by the Contracting Authority for the project at the time the VE proposal is submitted, or if the VE proposal is based on or similar to standard specifications, special provisions, or plans adopted by the Contracting Authority, the Engineer will not accept the VE proposal.
- E.** The Contractor shall continue to perform the work in accordance with contract requirements until a change order incorporating the VE proposal has been processed. If a change order has not been

processed by the date on which the Contractor's VE proposal specifies that a decision thereon should be made, or such other date as the Contractor may subsequently have specified in writing, the proposal shall be rejected.

- F.** The Contracting Authority will not be liable to the Contractor for failure to accept or act upon any VE Proposal submitted or for any delays to the work attributable to any such VE proposal.
- G.** The Engineer shall be the sole judge of the acceptability of a VE proposal and of the estimated net savings in construction costs from adoption of all or any part of such VE proposal. In determining the estimated net savings, the right is reserved to disregard the contract bid prices if, in the judgment of the Engineer, the prices do not represent a fair measure of the value of work to be performed or to be deleted.
- H.** The Contracting Authority reserves the right to require the Contractor to share in the Contracting Authority's costs of investigating a VE proposal. Where this condition is imposed, the Contractor shall indicate acceptance in writing, and acceptance may constitute authority for the Contracting Authority to deduct up to 50% of the investigation costs from any money due to the Contractor resulting from the change.
- I.** If the Contractor's VE proposal is accepted in whole or in part, such acceptance will be by change order. The change order will incorporate the changes in the contract documents which are necessary to permit the VE Proposal to be put into effect, and will include any conditions upon which the Contracting Authority's approval is based. The change order shall also set forth the estimated net savings in the cost of performing the work attributable to the VE proposal effectuated by the change order, and will further provide that the Contractor be paid 50% of the estimated net savings amount.
- J.** Acceptance of the VE proposal and performance of the work will not extend the time of completion of the contract, unless specifically provided for in the change order authorizing the proposal.
- K.** The amount specified to be paid to the Contractor in the change order for a VE proposal shall constitute full compensation to the Contractor for the proposal and performance of the work.
- L.** The Contracting Authority reserves the right to adopt a VE Proposal for general use on contracts administered by the Contracting Authority when it determines that a VE proposal is suitable for application to other contracts. When an accepted VE proposal is adopted for general use, only the Contractor who first submitted this VE proposal will be eligible for compensation according to this article, and in that case, only on those contracts awarded to the same Contractor prior to submission of the accepted VE proposal and on which such VE proposal is also submitted and accepted. VE proposals identical or similar to previously submitted VE proposals will be eligible for consideration and compensation under provisions of this article if those VE proposals were not adopted for general application to other contracts administered by the Contracting Authority. Subject to the provisions contained herein, the State or any other public agency will have the right to use all or any part of any submitted VE proposal without obligation or compensation of any kind to the Contractor.
- M.** The Contractor is encouraged to include the provisions of this article in contracts with subcontractors. All VE proposals by subcontractors shall be submitted by the prime contractor.