VERMONT

PROJECT
Wardsboro-Jamaica ER STP 013-1 (17)
Wardsboro BF 013-1 (21)
Wardsboro BF 013-1 (22)

VERMONT

AGENCY OF TRANSPORTATION

PROPOSAL

STANDARD SPECIFICATIONS FOR CONSTRUCTION
DATED 2011 SHALL APPLY TO THIS CONTRACT

SPECIAL PROVISIONS

SUPPLEMENTAL SPECIFICATIONS

SCHEDULE OF ITEMS

ELECTRONIC BID BOND to be submitted in the amount of 5% of the Contractor's bid.

BIDDING PROCEDURE

Bid Proposals will not be read unless accompanied by an electronic bid bond, and they may be rejected as irregular if they are not in compliance with Agency specifications.

NOTE: All bid proposals shall be properly filled out and submitted electronically utilizing Bid Express services.

SPECIAL PROVISIONS AND SUPPLEMENTAL SPECIFICATIONS

Vermont Project Wardsboro-Jamaica ER STP 013-1 (17) & Wardsboro BF 013-1 (21) & Wardsboro BF 013-1 (22) in the towns of Wardsboro and Jamaica.

The following provisions and supplemental specifications are included in this proposal and are effective for this contract.

Proposal holders are reminded of their responsibility to check the contents of this proposal against the following index. In the event that you suspect or determine the proposal is incomplete, notify the Agency's Contracts and Specifications Engineer immediately [(802)828-2641].

Proposal holders are also reminded of their other responsibilities to carefully examine all other information which affects the bidding process.

Required Contract Provisions for Federal-Aid Construction
Standard Federal EEO Specifications
Vermont Agency of Transportation Contractor Workforce Reporting Requirements
Workers' Compensation; State Contracts Compliance Requirement
General Special Provisions dated December 3, 2013
Bulletin 3.5 Attachment C: Standard State Provisions for Contracts and Grants
Special Provisions
Vermont Minimum Labor & Truck Rates
Disadvantaged Business Enterprise (DBE) Policy Contract Requirements
US Department of Labor Davis – Bacon Wage Rates
Asphalt Price Adjustment Provisions dated April 6, 2010
Stream Alteration Consultation BF 013-1 (21) (e-mail) dated January 16, 2014
Stream Alteration Consultation BF 013-1 (22) (e-mail) dated January 16, 2014
Army Corps of Engineers Category 1 Self-Verification Form for Culvert 70
Army Corps of Engineers Category 1 Self-Verification Form for Culvert 73
Army Corps of Engineers Gerneral Permit #NAE-2012-1167 dated December 6, 2012
Certification for Federal-Aid Contracts
Schedule of Items
Contractor's EEO Certification Form
Debarment & Non-Collusion Affidavit

FHWA-1273 -- Revised May 1, 2012

REQUIRED CONTRACT PROVISIONS
FEDERAL-AID CONSTRUCTION CONTRACTS

I. General
II. Nondiscrimination
III. Nonsegregated Facilities
IV. Davis-Bacon and Related Act Provisions
V. Contract Work Hours and Safety Standards Act Provisions
VI. Subletting or Assigning the Contract
VII. Safety: Accident Prevention
VIII. False Statements Concerning Highway Projects
IX. Implementation of Clean Air Act and Federal Water Pollution Control Act
X. Compliance with Governmentwide Suspension and Debarment Requirements
XI. Certification Regarding Use of Contract Funds for Lobbying

ATTACHMENTS

A. Employment and Materials Preference for Appalachian Development Highway System or Appalachian Local Access Road Contracts (included in Appalachian contracts only)

I. GENERAL

1. Form FHWA-1273 must be physically incorporated in each construction contract funded under Title 23 (excluding emergency contracts solely intended for debris removal). The contractor (or subcontractor) must insert this form in each subcontract and further require its inclusion in all lower tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services).

   The applicable requirements of Form FHWA-1273 are incorporated by reference for work done under any purchase order, rental agreement or agreement for other services. The prime contractor shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

   Form FHWA-1273 must be included in all Federal-aid design-build contracts, in all subcontracts and in lower tier subcontracts (excluding subcontracts for design services, purchase orders, rental agreements and other agreements for supplies or services). The design-builder shall be responsible for compliance by any subcontractor, lower-tier subcontractor or service provider.

   Contracting agencies may reference Form FHWA-1273 in bid proposal or request for proposal documents, however, the Form FHWA-1273 must be physically incorporated (not referenced) in all contracts, subcontracts and lower-tier subcontracts (excluding purchase orders, rental agreements and other agreements for supplies or services related to a construction contract).

2. Subject to the applicability criteria noted in the following sections, these contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.

3. A breach of any of the stipulations contained in these Required Contract Provisions may be sufficient grounds for withholding of progress payments, withholding of final payment, termination of the contract, suspension / debarment or any other action determined to be appropriate by the contracting agency and FHWA.

4. Selection of Labor: During the performance of this contract, the contractor shall not use convict labor for any purpose within the limits of a construction project on a Federal-aid highway unless it is labor performed by convicts who are on parole, supervised release, or probation. The term Federal-aid highway does not include roadways functionally classified as local roads or rural minor collectors.

II. NONDISCRIMINATION

The provisions of this section related to 23 CFR Part 230 are applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more. The provisions of 23 CFR Part 230 are not applicable to material supply, engineering, or architectural service contracts.

In addition, the contractor and all subcontractors must comply with the following policies: Executive Order 11246, 41 CFR 60, 29 CFR 1625-1627, Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The contractor and all subcontractors must comply with: the requirements of the Equal Opportunity Clause in 41 CFR 60-1.4(b) and, for all construction contracts exceeding $10,000, the Standard Federal Equal Employment Opportunity Construction Contract Specifications in 41 CFR 60-4.3.

Note: The U.S. Department of Labor has exclusive authority to determine compliance with Executive Order 11246 and the policies of the Secretary of Labor including 41 CFR 60, and 29 CFR 1625-1627. The contracting agency and the FHWA have the authority and the responsibility to ensure compliance with Title 23 USC Section 140, the Rehabilitation Act of 1973, as amended (29 USC 794), and Title VI of the Civil Rights Act of 1964, as amended, and related regulations including 49 CFR Parts 21, 26 and 27; and 23 CFR Parts 200, 230, and 633.

The following provision is adopted from 23 CFR 230, Appendix A, with appropriate revisions to conform to the U.S. Department of Labor (US DOL) and FHWA requirements.

1. **Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630, 29 CFR 1625-1627, 41 CFR 60 and 49 CFR 27) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:

   a. The contractor will work with the contracting agency and the Federal Government to ensure that it has made every good faith effort to provide equal opportunity with respect to all of its terms and conditions of employment and in their review of activities under the contract.

   b. The contractor will accept as its operating policy the following statement:

      "It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre-apprenticeship, and/or on-the-job training."

2. **EEO Officer:** The contractor will designate and make known to the contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active EEO program and who must be assigned adequate authority and responsibility to do so.

3. **Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

   a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.

   b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.

c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minorities and women.

d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.

e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

4. **Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such advertisements will be placed in publications having a large circulation among minorities and women in the area from which the project work force would normally be derived.

a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minorities and women. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority and women applicants may be referred to the contractor for employment consideration.

b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, the contractor is expected to observe the provisions of that agreement to the extent that the system meets the contractor's compliance with EEO contract provisions. Where implementation of such an agreement has the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Federal nondiscrimination provisions.

c. The contractor will encourage its present employees to refer minorities and women as applicants for employment. Information and procedures with regard to referring such applicants will be discussed with employees.

5. **Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:

a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with its obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of their avenues of appeal.

6. **Training and Promotion:**

a. The contractor will assist in locating, qualifying, and increasing the skills of minorities and women who are applicants for employment or current employees. Such efforts should be aimed at developing full journey level status employees in the type of trade or job classification involved.

b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision. The contracting agency may reserve training positions for persons who receive welfare assistance in accordance with 23 U.S.C. 140(a).

c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

d. The contractor will periodically review the training and promotion potential of employees who are minorities and women and will encourage eligible employees to apply for such training and promotion.

7. **Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use good faith efforts to obtain the cooperation of such unions to increase opportunities for minorities and women. Actions by the contractor, either directly or through a contractor's association acting as agent, will include the procedures set forth below:

a. The contractor will use good faith efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minorities and women for membership in the unions and increasing the skills of minorities and women so that they may qualify for higher paying employment.

b. The contractor will use good faith efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.

c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the contracting agency and shall set forth what efforts have been made to obtain such information.

d. In the event the union is unable to provide the contractor with a reasonable flow of referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minorities and women. The failure of a union to provide sufficient referrals (even though it is obligated to provide exclusive referrals under the terms of a collective bargaining agreement) does not relieve the contractor from the requirements of this paragraph. In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the contracting agency.

8. **Reasonable Accommodation for Applicants / Employees with Disabilities:** The contractor must be familiar with the requirements for and comply with the Americans with Disabilities Act and all rules and regulations established there under. Employers must provide reasonable accommodation in all employment activities unless to do so would cause an undue hardship.

9. **Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment. The contractor shall take all necessary and reasonable steps to ensure nondiscrimination in the administration of this contract.

a. The contractor shall notify all potential subcontractors and suppliers and lessors of their EEO obligations under this contract.

b. The contractor will use good faith efforts to ensure subcontractor compliance with their EEO obligations.

10. **Assurance Required by 49 CFR 26.13(b):**

a. The requirements of 49 CFR Part 26 and the State DOT's U.S. DOT-approved DBE program are incorporated by reference.

b. The contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy as the contracting agency deems appropriate.

11. **Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three years following the date of the final payment to the contractor for all contract work and shall be available at reasonable times and places for inspection by authorized representatives of the contracting agency and the FHWA.

a. The records kept by the contractor shall document the following:

(1) The number and work hours of minority and non-minority group members and women employed in each work classification on the project;

(2) The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women; and

(3) The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minorities and women;

b. The contractors and subcontractors will submit an annual report to the contracting agency each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. The staffing data should represent the project work force on board in all or any part of the last payroll period preceding the end of July. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data. The employment data should reflect the work force on board during all or any part of the last payroll period preceding the end of July.

III. NONSEGREGATED FACILITIES

This provision is applicable to all Federal-aid construction contracts and to all related construction subcontracts of $10,000 or more.

The contractor must ensure that facilities provided for employees are provided in such a manner that segregation on the basis of race, color, religion, sex, or national origin cannot result. The contractor may neither require such segregated use by written or oral policies nor tolerate such use by employee custom. The contractor's obligation extends further to ensure that its employees are not assigned to perform their services at any location, under the contractor's control, where the facilities are segregated. The term "facilities" includes waiting rooms, work areas, restaurants and other eating areas, time clocks, restrooms, washrooms, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing provided for employees. The contractor shall provide separate or single-user restrooms and necessary dressing or sleeping areas to assure privacy between sexes.

IV. DAVIS-BACON AND RELATED ACT PROVISIONS

This section is applicable to all Federal-aid construction projects exceeding $2,000 and to all related subcontracts and lower-tier subcontracts (regardless of subcontract size). The requirements apply to all projects located within the right-of-way of a roadway that is functionally classified as Federal-aid highway. This excludes roadways functionally classified as local roads or rural minor collectors, which are exempt. Contracting agencies may elect to apply these requirements to other projects.

The following provisions are from the U.S. Department of Labor regulations in 29 CFR 5.5 "Contract provisions and related matters" with minor revisions to conform to the FHWA-1273 format and FHWA program requirements.

1. **Minimum wages**

a. All laborers and mechanics employed or working upon the site of the work, will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph 1.d. of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided, That the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph 1.b. of this section) and the Davis-Bacon poster (WH–1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

b. (1) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(i) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
(ii) The classification is utilized in the area by the construction industry; and
(iii) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(2) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(3) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. The Wage and Hour Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(4) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs 1.b.(2) or 1.b.(3) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

c. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

d. If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

2. **Withholding**

The contracting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the contractor under this contract, or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the contracting agency may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

3. **Payrolls and basic records**

a. Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

b. (1) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the contracting agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g. , the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH–347 is available for this purpose from the Wage and Hour Division Web site at http://www.dol.gov/esa/whd/forms/wh347instr.htm or its successor site. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the contracting agency for transmission to the State DOT, the FHWA or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime contractor to require a subcontractor to provide addresses and social security numbers to the prime contractor for its own records, without weekly submission to the contracting agency.

(2) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(3) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH–347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 3.b.(2) of this section.

(4) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

c. The contractor or subcontractor shall make the records required under paragraph 3.a. of this section available for inspection, copying, or transcription by authorized representatives of the contracting agency, the State DOT, the FHWA, or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the FHWA may, after written notice to the contractor, the contracting agency or the State DOT, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

4. **Apprentices and trainees**

a. Apprentices (programs of the USDOL).

Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice.

The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.

In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

b. Trainees (programs of the USDOL).

Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration.

The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration.

Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.

In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. Equal employment opportunity. The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

d. Apprentices and Trainees (programs of the U.S. DOT).

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

5. **Compliance with Copeland Act requirements.** The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

6. **Subcontracts.** The contractor or subcontractor shall insert Form FHWA-1273 in any subcontracts and also require the subcontractors to include Form FHWA-1273 in any lower tier subcontracts. The prime contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

7. **Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

8. **Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

9. **Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

10. **Certification of eligibility.**

    a. By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

    b. No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

    c. The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

V. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT

The following clauses apply to any Federal-aid construction contract in an amount in excess of $100,000 and subject to the overtime provisions of the Contract Work Hours and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by 29 CFR 5.5(a) or 29 CFR 4.6. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

1. **Overtime requirements.** No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. **Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (1.) of this section, the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1.) of this section, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1.) of this section.

3. **Withholding for unpaid wages and liquidated damages.** The FHWA or the contacting agency shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2.) of this section.

4. **Subcontracts.** The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (1.) through (4.) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (1.) through (4.) of this section.

VI. SUBLETTING OR ASSIGNING THE CONTRACT

This provision is applicable to all Federal-aid construction contracts on the National Highway System.

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the contracting agency. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635.116).

   a. The term "perform work with its own organization" refers to workers employed or leased by the prime contractor, and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor or lower tier subcontractor, agents of the prime contractor, or any other assignees. The term may include payments for the costs of hiring leased employees from an employee leasing firm meeting all relevant Federal and State regulatory requirements. Leased employees may only be included in this term if the prime contractor meets all of the following conditions:

   (1) the prime contractor maintains control over the supervision of the day-to-day activities of the leased employees;

   (2) the prime contractor remains responsible for the quality of the work of the leased employees;

   (3) the prime contractor retains all power to accept or exclude individual employees from work on the project; and

   (4) the prime contractor remains ultimately responsible for the payment of predetermined minimum wages, the submission of payrolls, statements of compliance and all other Federal regulatory requirements.

   B "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid or propose on the contract as a whole and in general are to be limited to minor components of the overall contract.

2. The contract amount upon which the requirements set forth in paragraph (1) of Section VI is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.

3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the contracting officer determines is necessary to assure the performance of the contract.

4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the contracting agency has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

5. The 30% self-performance requirement of paragraph (1) is not applicable to design-build contracts; however, contracting agencies may establish their own self-performance requirements.

VII. SAFETY: ACCIDENT PREVENTION

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.

2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 3704).

3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C.3704).

VIII. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, Form FHWA-1022 shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined under this title or imprisoned not more than 5 years or both."

IX. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts.

By submission of this bid/proposal or the execution of this contract, or subcontract, as appropriate, the bidder, proposer, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any person who is or will be utilized in the performance of this contract is not prohibited from receiving an award due to a violation of Section 508 of the Clean Water Act or Section 306 of the Clean Air Act.

2. That the contractor agrees to include or cause to be included the requirements of paragraph (1) of this Section X in every subcontract, and further agrees to take such action as the contracting agency may direct as a means of enforcing such requirements.

X. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

This provision is applicable to all Federal-aid construction contracts, design-build contracts, subcontracts, lower-tier subcontracts, purchase orders, lease agreements, consultant contracts or any other covered transaction requiring FHWA approval or that is estimated to cost $25,000 or more – as defined in 2 CFR Parts 180 and 1200.

1. **Instructions for Certification – First Tier Participants:**

   a. By signing and submitting this proposal, the prospective first tier participant is providing the certification set out below.

   b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective first tier participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective first tier participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.

   c. The certification in this clause is a material representation of fact upon which reliance was placed when the contracting agency determined to enter into this transaction. If it is later determined that the prospective participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the contracting agency may terminate this transaction for cause of default.

   d. The prospective first tier participant shall provide immediate written notice to the contracting agency to whom this proposal is submitted if any time the prospective first tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

   e. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

   f. The prospective first tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

   g. The prospective first tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transactions," provided by the department or contracting agency, entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

   h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

   i. Nothing contained in the foregoing shall be construed to require the establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of the prospective participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

j. Except for transactions authorized under paragraph (f) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

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2. **Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion – First Tier Participants:**

a. The prospective first tier participant certifies to the best of its knowledge and belief, that it and its principals:

(1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency;

(2) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(3) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (a)(2) of this certification; and

(4) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

b. Where the prospective participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

2. **Instructions for Certification - Lower Tier Participants:**

(Applicable to all subcontracts, purchase orders and other lower tier transactions requiring prior FHWA approval or estimated to cost $25,000 or more - 2 CFR Parts 180 and 1200)

a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.

b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

d. The terms "covered transaction," "debarred," "suspended," "ineligible," "participant," "person," "principal," and "voluntarily excluded," as used in this clause, are defined in 2 CFR Parts 180 and 1200. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations. "First Tier Covered Transactions" refers to any covered transaction between a grantee or subgrantee of Federal funds and a participant (such as the prime or general contract). "Lower Tier Covered Transactions" refers to any covered transaction under a First Tier Covered Transaction (such as subcontracts). "First Tier Participant" refers to the participant who has entered into a covered transaction with a grantee or subgrantee of Federal funds (such as the prime or general contractor). "Lower Tier Participant" refers any participant who has entered into a covered transaction with a First Tier Participant or other Lower Tier Participants (such as subcontractors and suppliers).

e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.

f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions exceeding the $25,000 threshold.

g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant is responsible for ensuring that its principals are not suspended, debarred, or otherwise ineligible to participate in covered transactions. To verify the eligibility of its principals, as well as the eligibility of any lower tier prospective participants, each participant may, but is not required to, check the Excluded Parties List System website (https://www.epls.gov/), which is compiled by the General Services Administration.

h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

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Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion--Lower Tier Participants:

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participating in covered transactions by any Federal department or agency.

2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

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XI. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

This provision is applicable to all Federal-aid construction contracts and to all related subcontracts which exceed $100,000 (49 CFR 20).

1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

3. The prospective participant also agrees by submitting its bid or proposal that the participant shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such recipients shall certify and disclose accordingly.

ATTACHMENT A - EMPLOYMENT AND MATERIALS PREFERENCE FOR APPALACHIAN DEVELOPMENT HIGHWAY SYSTEM OR APPALACHIAN LOCAL ACCESS ROAD CONTRACTS

This provision is applicable to all Federal-aid projects funded under the Appalachian Regional Development Act of 1965.

1. During the performance of this contract, the contractor undertaking to do work which is, or reasonably may be, done as on-site work, shall give preference to qualified persons who regularly reside in the labor area as designated by the DOL wherein the contract work is situated, or the subregion, or the Appalachian counties of the State wherein the contract work is situated, except:

   a. To the extent that qualified persons regularly residing in the area are not available.

   b. For the reasonable needs of the contractor to employ supervisory or specially experienced personnel necessary to assure an efficient execution of the contract work.

   c. For the obligation of the contractor to offer employment to present or former employees as the result of a lawful collective bargaining contract, provided that the number of nonresident persons employed under this subparagraph (1c) shall not exceed 20 percent of the total number of employees employed by the contractor on the contract work, except as provided in subparagraph (4) below.

2. The contractor shall place a job order with the State Employment Service indicating (a) the classifications of the laborers, mechanics and other employees required to perform the contract work, (b) the number of employees required in each classification, (c) the date on which the participant estimates such employees will be required, and (d) any other pertinent information required by the State Employment Service to complete the job order form. The job order may be placed with the State Employment Service in writing or by telephone. If during the course of the contract work, the information submitted by the contractor in the original job order is substantially modified, the participant shall promptly notify the State Employment Service.

3. The contractor shall give full consideration to all qualified job applicants referred to him by the State Employment Service. The contractor is not required to grant employment to any job applicants who, in his opinion, are not qualified to perform the classification of work required.

4. If, within one week following the placing of a job order by the contractor with the State Employment Service, the State Employment Service is unable to refer any qualified job applicants to the contractor, or less than the number requested, the State Employment Service will forward a certificate to the contractor indicating the unavailability of applicants. Such certificate shall be made a part of the contractor's permanent project records. Upon receipt of this certificate, the contractor may employ persons who do not normally reside in the labor area to fill positions covered by the certificate, notwithstanding the provisions of subparagraph (1c) above.

5. The provisions of 23 CFR 633.207(e) allow the contracting agency to provide a contractual preference for the use of mineral resource materials native to the Appalachian region.

6. The contractor shall include the provisions of Sections 1 through 4 of this Attachment A in every subcontract for work which is, or reasonably may be, done as on-site work.

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STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION CONTRACT SPECIFICATIONS (EXECUTIVE ORDER 11246)

1. As used in these specifications:

   a. "Covered Area" means the geographical area described in the solicitation from which this contract resulted.

   b. "Director" means Director, Office of Federal Contract Compliance Programs, United States Department of Labor, or any person to whom the Director delegates authority.

   c. "Employer Identification Number" means the Federal Social Security Number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941.

   A Minority Group Member is:

   ...American Indian or Alaskan Native
   consisting of all persons having origins in any of the original people of North American and who maintain cultural identification through tribal affiliations or community recognition.

   ...Black
   consisting of all persons having origins in any of the Black racial groups of Africa.

   ...Asian or Pacific Islander
   consisting of all persons having origins in any of the original people of the Far East, Southeast Asia, the Indian Sub-Continent or the Pacific Islands. This area includes China, India, Japan, Korea, the Philippines and Samoa.

   ...Hispanic
   consisting of all persons of Mexican, Puerto Rican, Cuban, Central or South American or other Spanish culture or origin.

   ...Cape Verde an
   consisting of all persons having origins in the Cape Verde Islands.

   ...Portuguese
   consisting of all persons of Portuguese, Brazilian or other Portuguese culture or origin.

2. Whenever the Contractor, or any Subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of $10,000.00 the provisions of these specifications and the notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the Contractor is participating (pursuant to 41 CFR 60-4.5) in the Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors must be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each Contractor or subcontract participating in an approved Plan is individually required to comply with its obligations under the EEO clause, and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. the overall good faith performance by other Contractors or subcontractors toward a goal in an approved Plan does not excuse any covered Contractor's or subcontractor's failure to make good faith efforts to achieve the Plan goals and timetables.

4. The Contractor shall implement the specific affirmative action standards provided in Paragraphs 7a through p of these specifications. The goals set for the Contractor in the solicitation from which this contract resulted are expressed as percentages in the total hours of employment and training of minority and female utilization the Contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. The Contractor is expected to make substantially uniform progress toward its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement nor the failure by a union with whom the Contractor has a collective bargaining agreement to refer either minority or women shall excuse the Contractor's obligations under these specifications, Executive Order 11246, or the regulations promulgated pursuant thereto.

6. In order for the non-working training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees must be employed by the Contractor during the training period, and the Contractor must have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees must be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The Contractor shall take specific affirmative actions to ensure equal employment opportunity . The evaluation of the Contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The Contractor shall document these efforts fully and shall implement affirmative action steps at least as extensive as the following:

   a. Ensure and maintain a working environment free of harassment, intimidation and coercion at all sites, and in all facilities at which the Contractor's employees are assigned to work. The Contractor, where possible, will assign two or more women to each construction project. The Contractor shall specifically ensure that all foremen, superintendents, and other on-site supervisory personnel are aware of and carry out the Contractor's obligation to maintain such a working environment with specific attention to minority or female individuals working at such sites or in such facilities.

   b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the Contractor or its unions have employment opportunities available and maintain a record of the organizations' responses.

c. Maintain a current file of the names, addresses and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the Contractor by the union or, if referred, not employed by the Contractor, this shall be documented in the file with the reason therefor, along with whatever additional actions the Contractor may have taken.

d. Provide immediate written notifications to the Regional Director when the union or unions, with which the Contractor has a collective bargaining agreement, have not referred to the Contractor a minority person or woman sent by the Contractor or when the Contractor has other information that the union referral process has impeded the Contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the Contractor's employment needs, especially those programs funded or approved by the Department of Labor. The Contractor shall provide notice of these programs to the sources compiled under Paragraph 7b above.

f. Disseminate the Contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the Contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination or other employment decisions including specific review of these items with on-site supervisory personnel such as Superintendents, Supervisors etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the Contractor's EEO policy externally by including it in any advertising in the news media, and providing written notification to, and discussing the Contractor's EEO policy with, other Contractors and subcontractors with whom the Contractor anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female and community organizations, to schools with minority and female students and to minority and female recruitment and training organizations serving the Contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the Contractor shall send written notifications to organizations such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable, provide after school, summer and vacation employment to minority and female youth both on the site and in other areas of a Contractor's workforce.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation of all minority and female personnel for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments and other personnel practices, do not have a discriminatory effect by continually monitoring all personnel and employment-related activities to ensure that the EEO policy and Contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are non-segregated except that separate or single-user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisors' adherence to and performance under the Contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (Paragraph 7a through p). The efforts of a contractor association, joint contractor-union, contractor-community, or other similar group of which the Contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under Paragraph 7a through p of these Specifications provided that the Contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, reflected in the Contractor's minority and female workforce participation , makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the Contractor. The obligation to comply, however, is the Contractor's, and failure of such a group to fulfill an obligation shall not be a defense for the Contractor's non-compliance.

9. A single goal for minorities and a separate single goal for women have been established. The Contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, the Contractor may be in violation of the Executive Order if a particular group is employed in a substantially disparate manner (for example, even though the Contractor has achieved its goals for women generally, the Contractor may be in violation of the Executive Order if a specific minority group of women is under-utilized).

10. The Contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex or national origin.

11. The Contractor shall not enter into any subcontract with any person for firm debarred from Government contracts pursuant to Executive Order 11246.

12. The Contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, terminations and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any Contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The Contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in Paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the Contractor fails to comply with the requirements of the Executive Order, the implementing regulations or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The Contractor shall designate a responsible official to monitor all employment-related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government and to keep records. Records shall at least include for each employee the name, address, telephone numbers, construction trade union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application or requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

NOTICE OF REQUIREMENTS FOR AFFIRMATIVE ACTION TO ENSURE EQUAL EMPLOYMENT OPPORTUNITY (EXECUTIVE ORDER 11246)

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Specifications" set forth herein.

2. The goals and timetables for minority and female participation, expressed in percentage terms for the Contractor's aggregate workforce in each trade on all construction work in the covered area, are as follows:

Economic Areas	Timetables	Goals for Minority participation for each trade (%)	Goals for Female Participation in each trade (%)
Entire State of Vermont:			
Vermont 003 Burlington, VT Non-SMSA Counties NH Coos; NH Grafton: NH Sullivan; VT Addison; VT Caledonia; VT Chittenden; VT Essex; VT Franklin; VT Grand Isle; VT Lamoille; VT Orange; VT Orleans; VT Rutland; VT Washington; VT Windsor	Indefinite	0.8	6.9
Connecticut (Mass) 006 Hartford - New Haven Springfield, CT-MA Non-SMSA Counties CT Litchfield; CT Windham; MA Franklin; NH Cheshire; VT Windham	Indefinite	5.9	
New York 007 Albany - Schnectady - Troy, NY Non-SMSA Counties NY Clinton; NY Columbia; NY Essex; NY Fulton; NY Greene; NY Hamilton; NY Sohoharie; NY Warren; NY Washington; VT Bennington	Indefinite	2.6	

These goals are applicable to all the Contractor's construction work (whether or not it is Federal or federally assisted) performed in the covered area. If the Contractor performs construction work in a geographical area located outside of the covered area, it shall apply the goals established for such geographical area where the work is actually performed. With regard to this second area, the Contractor also is subject to the goals for both its federally involved and non-federally involved construction.

The Contractor's compliance with the Executive Order and the regulation in CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3 (a), and its efforts to meet the goals. The hours of minority and female employment and training must be substantially uniform throughout the length of the contract and in each trade, and the Contractor shall make a good faith effort to employ minorities and women evenly on each of its projects. The transfer of minority or female employees or trainees from Contractor to Contractor or from project to project for the sole purpose of meeting the Contractor's goals shall be a violation of the contract, the Executive Order and the regulations in 41 CFR Part 60-4. Compliance with the goals will be measured against the total work hours performed.

3. The Contractor shall provide written notification to the Director of the Office of Federal Contract Compliance Programs within ten working days of award of any construction subcontract in excess of $10,000.00 at any tier for construction work under the contract resulting from this solicitation. The notifications shall list the name, address and telephone number of the subcontractor; employer identification number of the subcontractor; estimated dollar amount of the subcontract; and the geographical area in which the subcontract is to be performed.

4. As used in this Notice, and in the contract resulting from this solicitation, the "covered area" is (insert description of the geographical areas where the contract is to be performed giving the state, county and city, if any)

VERMONT AGENCY OF TRANSPORTATION
CONTRACTOR WORKFORCE REPORTING REQUIREMENTS

The Contractor/Subcontractor shall submit to the State Resident Engineer assigned to this project, monthly and cumulative workforce information, on reporting forms provided herein. The monthly and cumulative workforce information shall be listed by construction trade category with the percentage of minority and female project hours in each category indicated. Failure to provide this information to the Resident Engineer on a monthly basis will result in suspension of bi-weekly progress payments, or part thereof due under the contract, until such time as the Contractor or Subcontractor demonstrates compliance with these contract terms.

Note: In lieu of using the reporting forms provided herein, the Contractor may use U.S. Department of Labor form CC-257, "Monthly Employment Utilization Report".

CONTRACTOR MONTHLY EMPLOYMENT UTILIZATION REPORT
Vermont Agency of Transportation
Office of Civil Rights and Labor Compliance

PROJECT NAME AND NUMBER:	CURRENT GOALS MINORITY: _____ FEMALE: 6.9%	REPORTING PERIOD FROM: _____ TO: _____

CONTRACTOR'S NAME AND ADDRESS: _____

	NUMBER OF WORK HOURS OF EMPLOYMENT												PERCENTAGE		NUMBER OF EMPLOYEES			
CONSTRUCTION TRADE CLASSIFICATION	TOTAL NUMBER - ALL WORK HOURS OF EMPLOYEES *BY TRADE*	BLACK (NOT OF HISPANIC ORIGIN)		HISPANIC		ASIAN OR PACIFIC ISLANDERS		AMERICAN INDIAN OR ALASKAN NATIVE		WHITE (NOT OF HISPANIC ORIGIN)		*PERCENTAGE* OF TOTAL WORK HOURS BY MINORITY & FEMALE		TOTAL *NUMBER* OF EMPLOYEES		TOTAL *NUMBER* OF MINORITY EMPLOYEES	
	(BOTH MALE AND FEMALE)	M	F	M	F	M	F	M	F	M	F	MINORITY	FEMALE	M	F	M	F
TOTALS													%	%				

COMPANY OFFICIAL'S SIGNATURE AND TITLE	TELEPHONE NUMBER	DATE SIGNED	PAGE _____ OF _____

INSTRUCTIONS FOR FILING
MONTHLY EMPLOYMENT UTILIZATION REPORT

1. **PROJECT NAME AND NUMBER**
Complete project name and number as assigned by the Vermont Agency of Transportation.

2. **CONTRACTOR'S NAME AND ADDRESS**
Indicate the name and address of the *PRIME CONTRACTOR* with a construction contract funded in whole or in part with Federal funds.

3. **CURRENT GOALS**
See section of contract regarding requirement for Affirmative Action (Executive Order 11246).

4. **REPORTING PERIOD**
Monthly, beginning with the effective date of the contract.

5. **CONSTRUCTION TRADE CLASSIFICATION**
Indicate only those classifications used on this contract.

6. **TOTAL NUMBER – ALL WORK HOURS OF EMPLOYEES BY TRADE**
Indicate the total number of hours (male and female *combined*) worked by employees in each trade classification.

7. **BLACK,/HISPANIC/ASIAN/AMERICAN INDIAN/WHITE CATEGORIES**
Indicate the total number of hours (male and female *separated*) worked by each specified ethnic group of employees in each classification.

8. **PERCENTAGE OF TOTAL WORK HOURS - MINORITY**
Indicate the PERCENTAGE of total minority work hours (male and female MINORITIES *combined)* of all work hours (the sum of the BLACK, HISPANIC, ASIAN, and AMERICAN INDIAN columns divided by the sum of TOTAL NUMBER OF ALL WORK HOURS - just one figure for each construction trade.)

9. **PERCENTAGE OF TOTAL WORK HOURS - FEMALE**
Divide the TOTAL NUMBER – ALL WORK HOURS OF EMPLOYEES BY TRADE for each classification by the total number of females reported in BLACK, HISPANIC, ASIAN, AMERICAN INDIAN **and WHITE** for each classification.

10. **TOTAL NUMBER OF EMPLOYEES**
Indicate the total number of male employees and the total number of female employees working in each classification in the contractor's work force during the reporting period.

11. **TOTAL NUMBER OF MINORITY EMPLOYEES**
Indicate the total number of male *MINORITY* employees and the total number of female *MINORITY (non-white)* employees working in each classification in the contractor's work force during the reporting period.

12. **COMPLETE THE FORM: SIGNATURE, TITLE, PHONE NUMBER, DATE, PAGE ____ OF ____.**

13. **AT THE END OF EACH MONTH, SUBMIT** the completed Monthly Employment Utilization Report Form to the State Resident Engineer on the project site. One of these forms should be completed for each month of the contract.

CONTRACTOR CUMULATIVE MONTHLY EMPLOYMENT UTILIZATION REPORT
(Include ALL SUBCONTACTORS)

Vermont Agency of Transportation
Office of Civil Rights and Labor Compliance

PROJECT NAME AND NUMBER:	CURRENT GOALS MINORITY: _____ FEMALE: 6.9%	REPORTING PERIOD FROM: _____ TO: _____

CONTRACTOR'S NAME AND ADDRESS: _____

	NUMBER OF WORK HOURS OF EMPLOYMENT										PERCENTAGE		NUMBER OF EMPLOYEES			
CONSTRUCTION TRADE CLASSIFICATION	TOTAL NUMBER - ALL WORK HOURS OF EMPLOYEES *BY TRADE*	BLACK (NOT OF HISPANIC ORIGIN)		HISPANIC		ASIAN OR PACIFIC ISLANDERS		AMERICAN INDIAN OR ALASKAN NATIVE		WHITE (NOT OF HISPANIC ORIGIN)		*PERCENTAGE* OF TOTAL WORK HOURS BY MINORITY & FEMALE		TOTAL *NUMBER* OF EMPLOYEES		TOTAL *NUMBER* OF MINORITY EMPLOYEES	
	(BOTH MALE AND FEMALE)	M	F	M	F	M	F	M	F	M	F	MINORITY	FEMALE	M	F	M	F
TOTALS												%	%				

COMPANY OFFICIAL'S SIGNATURE AND TITLE	TELEPHONE NUMBER	DATE SIGNED	PAGE _____ OF _____

INSTRUCTIONS FOR FILING
CUMULATIVE MONTHLY EMPLOYMENT UTILIZATION REPORT

[Using the Monthly Employment Utilization Reports collected from the subcontractors on the job, ***COMBINE all the information*** *to complete the CUMULATIVE Monthly Employment Utilization Report Form and submit to the State Resident Engineer on the project each month.]*

1. **PROJECT NAME AND NUMBER**
   Complete project name and number as assigned by the Vermont Agency of Transportation.

2. **CONTRACTOR'S NAME AND ADDRESS**
   Indicate the name and address of the *PRIME CONTRACTOR* with a construction contract funded in whole or in part with Federal funds.

3. **CURRENT GOALS**
   See section of contract regarding requirement for Affirmative Action (Executive Order 11246).

4. **REPORTING PERIOD**
   Monthly, beginning with the effective date of the contract.

5. **CONSTRUCTION TRADE CLASSIFICATION**
   Indicate only those classifications used on this contract.

6. **TOTAL NUMBER – ALL WORK HOURS OF EMPLOYEES BY TRADE**
   Indicate the total number of hours (male and female *combined*) worked by employees in each trade classification.

7. **BLACK,/HISPANIC/ASIAN/AMERICAN INDIAN/WHITE CATEGORIES**
   Indicate the total number of hours (male and female *separated*) worked by each specified ethnic group of employees in each classification.

8. **PERCENTAGE OF TOTAL WORK HOURS - MINORITY**
   Indicate the PERCENTAGE of total minority work hours (male and female MINORITIES *combined)* of all work hours (the sum of the BLACK, HISPANIC, ASIAN, and AMERICAN INDIAN columns divided by the sum of TOTAL NUMBER OF ALL WORK HOURS - just one figure for each construction trade.)

9. **PERCENTAGE OF TOTAL WORK HOURS - FEMALE**
   Divide the TOTAL NUMBER – ALL WORK HOURS OF EMPLOYEES BY TRADE for each classification by the total number of females reported in BLACK, HISPANIC, ASIAN, AMERICAN INDIAN **and WHITE** for each classification.

10. **TOTAL NUMBER OF EMPLOYEES**
    Indicate the total number of male employees and the total number of female employees working in each classification in the contractor's work force during the reporting period.

11. **TOTAL NUMBER OF MINORITY EMPLOYEES**
    Indicate the total number of male *MINORITY* employees and the total number of female *MINORITY (non-white)* employees working in each classification in the contractor's work force during the reporting period.

12. **COMPLETE THE FORM: SIGNATURE, TITLE, PHONE NUMBER, DATE, PAGE ____ OF ____.**

13. **AT THE END OF EACH MONTH, SUBMIT** the completed **CUMULATIVE** Monthly Employment Utilization Report Form to the State Resident Engineer on the project site. One of these forms should be completed for each month of the contract.

WORKERS' COMPENSATION; STATE CONTRACTS COMPLIANCE REQUIREMENT

Vermont Agency of Transportation
Subcontractor Reporting Form

This form must be completed in its entirety by the Contractor and included in all requests to sublet or assign work as outlined in Section 108.01 of the Standard Specifications for Construction.

The Agency of Transportation in accordance with Act 54, Section 32 of the Acts of 2009 and for total projects costs exceeding $250,000.00 requires the contractor to comply with the following provisions and requirements:

The Contractor is required to provide a list of subcontractors on the job along with lists of subcontractor's subcontractors and by whom those subcontractors are insured for workers' compensation purposes. Include additional pages if necessary. This is not a requirement for subcontractor's providing supplies only and no labor to the overall contract or project.

Subcontractor	Insured By		Subcontractor's Sub	Insured By

Date: _____ Project Name & Number: _____

Name of Company: _____ Contact Name: _____

Address: _____ Title: _____

_____ Phone Number: _____

E-mail: _____ Fax Number: _____

By: _____ Name: _____
Signature* (Type or Print)

*Form must be signed by individual authorized to sign on the contractor's behalf.

Rev. 11-01-10

GENERAL SPECIAL PROVISIONS FOR ALL PROJECTS
2011 STANDARD SPECIFICATIONS

SECTION 101 - DEFINITIONS AND TERMS

1. 101.01 ABBREVIATIONS, is hereby modified by adding the following new abbreviation directly after "CPM":

CPPP	Corrugated Polypropylene Pipe

2. 101.02 DEFINITIONS, HOLIDAYS, is hereby modified by deleting the ninth row in the listing (for "Columbus Day").

3. 101.02 DEFINITIONS, HOLIDAYS, is hereby further modified by adding the following as the eleventh row in the listing (directly after "Thanksgiving Day"):

Day After Thanksgiving	Fourth Friday in November

SECTION 105 - CONTROL OF THE WORK

4. 105.03 PLANS AND WORKING DRAWINGS, part (b) Working Drawings, subpart (4) List of Working Drawings, is hereby modified by deleting the phrase "Roadway, Traffic, and Safety Engineer" and replacing it with the phrase "Project Manager" in the twenty-third row (beginning "641").

5. 105.14 SUNDAY AND HOLIDAY WORK, part (b) Holidays, is hereby corrected by deleting punctuation "," at the end of the paragraph and replacing it with punctuation ".".

6. 105.16 LOAD RESTRICTIONS, part (a) General, is hereby modified by being deleted in its entirety and replaced with the following:

   (a) General. All Contractors, subcontractors, suppliers, or others involved in any project-related activities shall comply with all legal load restrictions specified in Title 23 VSA § 1392 in the hauling of equipment or material on public roads, including that beyond the limits of the project. The application for and possession of any hauling or related permit will not relieve the Contractor or others involved in any project-related activities of any liability that may arise due to any damage resulting from the use or moving of equipment, vehicles, or any other project-related activity.

7. 105.16 LOAD RESTRICTIONS, part (b) Limitations or Use of Equipment and Vehicles, is hereby modified by being deleted in its entirety and replaced with the following:

   (b) Limitations on Use of Equipment and Vehicles. Use of equipment and vehicles is subject to the following:

      (1) No vehicle or equipment exceeding the load restrictions cited in Title 23 VSA § 1392 will be permitted on any structure as defined by the Engineer.

      (2) The operation of any equipment or vehicle of such mass (weight) or any other project-related equipment loaded so as to cause damage to structures, the roadway, or to any other type of active construction will not be permitted, regardless of the limits set forth in Title 23.

(3) Hauling or operation of said vehicles or equipment over any permanent course of any bituminous pavement or any structure during active construction will not be permitted.

(4) No loads of any category will be permitted on a concrete pavement or concrete structure prior to expiration of the curing period and until the concrete reaches its specified 28-day compressive strength.

(5) Notwithstanding those restrictions above, the Contractor shall be responsible for any and all damages incurred to any public roadway as defined in Title 23 due to the use of any equipment or vehicles related to project activities.

8. 105.26 OPENING WASTE, BORROW, AND STAGING AREAS, part (f), is hereby corrected by deleting punctuation "." at the end of the paragraph.

SECTION 108 - PROSECUTION AND PROGRESS

9. 108.09 TEMPORARY SUSPENSION OF THE WORK, part (d) Seasonal Closure, is hereby modified by deleting the phrase "of the Engineer, and only under such conditions as specified therein" and replacing it with the phrase "from the Regional Construction Engineer" in the first sentence.

10. 108.09 TEMPORARY SUSPENSION OF THE WORK, part (d) Seasonal Closure, is hereby further modified by adding the following:

Permission will only be granted for work which will result in a direct benefit to the State or the traveling public. Items which may be considered as a benefit include but are not limited to shorter Contract duration, a cost savings, increased safety for the traveling public, and an ability to ensure the quality of work. The Contractor shall request permission in writing, detailing what Contract items may be affected, a schedule of work, and the benefits to the State or traveling public.

11. 108.11 DETERMINATION OF EXTENSION OF CONTRACT TIME FOR COMPLETION, part (b) Determination of Contract Completion Date Extension, subpart (8), is hereby modified by deleting the phrase ", delays in submittals, errors in submittals, and the Contractor's means and methods of construction".

12. 108.11 DETERMINATION OF EXTENSION OF CONTRACT TIME FOR COMPLETION, part (b) Determination of Contract Completion Date Extension, subpart (9), is hereby modified by deleting the phrase ", including but not limited to the Contractor's means and methods of construction".

13. 108.11 DETERMINATION OF EXTENSION OF CONTRACT TIME FOR COMPLETION, part (b) Determination of Contract Completion Date Extension, subpart (11), is hereby modified by being deleted in its entirety.

14. 108.11 DETERMINATION OF EXTENSION OF CONTRACT TIME FOR COMPLETION, part (b) Determination of Contract Completion Date Extension, subpart (13), is hereby modified by adding the following as the first sentence:

Industry-wide material or supply shortages not reasonably anticipated by the Contractor at the time the Contract was entered.

15. 108.11 DETERMINATION OF EXTENSION OF CONTRACT TIME FOR COMPLETION, part (b) Determination of Contract Completion Date Extension, subpart (13), is hereby further modified by changing the word "Delay" to the word "Delays" at the beginning of the second sentence.

SECTION 109 - MEASUREMENT AND PAYMENT

16. SECTION 109 - MEASURMENT AND PAYMENT, is hereby corrected by deleting pages 1-141 and 1-142 in their entirety.

SECTION 203 - EXCAVATION AND EMBANKMENTS

17. 203.01 DESCRIPTION, is hereby modified by adding the phrase "performing test borings for the purpose of determining areas of roadway and embankment subsurface voids;" after the phrase "trimming and shaping of slopes;" in the first sentence of the first paragraph.

18. 203.01 DESCRIPTION, is hereby further modified by adding the following new part (l):

(l) Test Borings. Test Borings shall consist of an investigative and planned approach to determining areas of roadway and embankment subsurface voids and repairing bored areas.

19. 203.02 MATERIALS, is hereby modified by adding the following to the Subsection listing:

PVC Plastic Pipe.....710.06

20. 203.02 MATERIALS, is hereby further modified by adding the following paragraphs:

Concrete for backfilling subsurface voids shall meet the requirements of Controlled Density (Flowable) Fill of Section 541.

Bituminous concrete pavement shall conform to the requirements of Section 406 or 490, as applicable for the Contract, with the exception that the mix design submittal and plant inspection requirements set forth in Section 406 or 490 will not apply.

21. 203.03 GENERAL CONSTRUCTION REQUIREMENTS, is hereby modified by adding the following as the eighth paragraph:

Prior to the construction of Test Borings and the placement of Controlled Density (Flowable) Fill, the Contractor shall submit to the Engineer site-specific plans, detailing the schedule of work (for these two items), type and location of drilling, sleeve installation, pumping system, confirmatory boring operation, method of filling bore hole (with or without voids being encountered), and repair of the roadway section (sand, gravel, and pavement).

22. 203.11 EMBANKMENTS, is hereby modified by adding the following new part (e):

(e) Test Borings. Test borings shall be performed at the approximate locations indicated in the Plans and/or as directed by the Engineer.

When used adjacent to culverts, test borings shall extend to a depth equal to the bottom of the culvert using casing advanced drilling methods. Alternate drilling equipment that provides a suitably clean, open hole may be submitted to the Engineer for approval.

If void(s) are encountered, Controlled Density (Flowable) Fill shall be placed to completely fill the void(s). Confirmatory borings shall be performed in these locations as directed by the Engineer.

The roadway surface at boring hole locations shall be backfilled and then patched using Bituminous Concrete Pavement.

23. 203.13 METHOD OF MEASUREMENT, is hereby modified by adding the following new part (e):

(e) Test Borings. The quantity of Test Borings to be measured for payment will be the number of meters (linear feet) of test boring performed in the complete and accepted work.

24. 203.14 BASIS OF PAYMENT, is hereby modified by adding the phrase "and Test Borings" after the phrase "Shoulder Berm Removal" in the first sentence of the first paragraph.

25. 203.14 BASIS OF PAYMENT, is hereby further modified by adding the phrase "submitting site-specific plans as required, performing test borings, installing sleeves, backfilling, patching with bituminous concrete pavement," after the phrase "work specified," in the second sentence of the first paragraph.

26. 203.14 BASIS OF PAYMENT, is hereby corrected by adding a period at the end of the sixth paragraph.

27. 203.14 BASIS OF PAYMENT, is hereby still further modified by adding the following paragraph and pay item:

Filling of subsurface voids encountered in performing Test Borings will be paid for under Contract item 541.45.

Payment will be made under:

Pay Item	Pay Unit
203.45 Test Borings	Meter (Linear Foot)

SECTION 406 - MARSHALL BITUMINOUS CONCRETE PAVEMENT

28. 406.03 COMPOSITION OF MIXTURE, part (f) Boxed Samples, is hereby corrected by adding the word "Engineer" to the end of the second (last) sentence.

29. 406.16 SURFACE TOLERANCE, is hereby modified by adding the phrase ", with the exception of all limited access highway on and off ramps," after the phrase "miscellaneous mix" in the second (last) sentence of the sixth (last) paragraph.

SECTION 490 - SUPERPAVE BITUMINOUS CONCRETE PAVEMENT

30. 490.14 COMPACTION, part (c) Coring Protocol, is hereby corrected by deleting text "0" and replacing it with text ")" in the first sentence of the seventh paragraph.

31. 490.16 SURFACE TOLERANCE, is hereby modified by adding the phrase ", with the exception of all limited access highway on and off ramps," after the phrase "miscellaneous mix" in the second (last) sentence of the sixth (last) paragraph.

SECTION 501 - HPC STRUCTURAL CONCRETE

32. 501.03 CLASSIFICATION AND PROPORTIONING, TABLE 501.03A (Metric), is hereby modified by deleting the fourth column (with header "Max. Slump (mm)") in its entirety and replacing it with the following:

Max.[7] Slump (mm)

N/A
---

33. 501.03 CLASSIFICATION AND PROPORTIONING, TABLE 501.03A (Metric), is hereby further modified by adding the following footnote:

[7] The mix shall not exhibit segregation at the slump/spread used at placement. If the Engineer suspects there is segregation, the Engineer will require a slump/spread test be performed by the Contractor to visually observe the characteristics of the mix. If in the opinion of the Engineer the mix does exhibit segregation, the load will be rejected and subsequent load(s) shall be tested, at a minimum of 3 loads or until the problem is corrected.

If the Contractor needs a concrete with a slump greater than 200 mm, the Contractor shall propose to the Engineer to use an SCC mix, which shall be submitted to the Engineer for review and acceptance.

34. 501.03 CLASSIFICATION AND PROPORTIONING, TABLE 501.03A (English), is hereby modified by deleting the fourth column (with header "Max. Slump (in)") in its entirety and replacing it with the following:

Max.[7] Slump (mm)

N/A
---

35. 501.03 CLASSIFICATION AND PROPORTIONING, TABLE 501.03A (English), is hereby corrected by deleting text "700 mm" and replacing it with text "28 inches" in footnote 4.

36. 501.03 CLASSIFICATION AND PROPORTIONING, TABLE 501.03A (English), is hereby further modified by adding the following footnote:

[7] The mix shall not exhibit segregation at the slump/spread used at placement. If the Engineer suspects there is segregation, the Engineer will require a slump/spread test be performed by the Contractor to visually observe the characteristics of the mix. If in the opinion of the Engineer the mix does exhibit segregation, the load will be rejected and subsequent load(s) shall be tested, at a minimum of 3 loads or until the problem is corrected.

If the Contractor needs a concrete with a slump greater than 8 inches, the Contractor shall propose to the Engineer to use an SCC mix, which shall be submitted to the Engineer for review and acceptance.

37. 501.03 CLASSIFICATION AND PROPORTIONING, is hereby corrected by deleting the phrase "1716 Barre-Montpelier Rd., Berlin, Vermont 05602" and replacing it with the phrase "2178 Airport Road Unit B, Berlin, Vermont 05641" in the second sentence of the ninth paragraph (beginning "A minimum of thirty (30)…").

38. 501.11 DEPOSITING CONCRETE UNDERWATER, part (a) General, subpart (1), is hereby corrected by deleting the phrase "1716 Barre-Montpelier Rd., Berlin, Vermont 05602" and replacing it with the phrase "2178 Airport Road Unit B, Berlin, Vermont 05641" in the second sentence of the second paragraph.

SECTION 505 - PILING

39. 505.09 BASIS OF PAYMENT, is hereby modified by adding the following pay item:

Pay Item	Pay Unit
505.12 Steel Piling, HP 250 x 85 (HP 10 x 57)	Meter (Linear Foot)

SECTION 506 - STRUCTURAL STEEL

40. 506.19 BOLTING AND CONNECTIONS, part (c) Installation, is hereby modified by deleting the tenth paragraph (Beginning "Bolts shall be tightened...") in its entirety and replacing it with the following:

Bolts shall be tightened to develop a tension not less than 5 percent in excess of the minimum bolt tension specified in Table 506.19A. Bolts shall not be tightened to more than the maximum tension specified in Table 506.19A.

41. 506.19 BOLTING AND CONNECTIONS, part (c) Installation, is hereby further modified by deleting subparts (1) Calibrated Wrench Method, (2) Turn of the Nut Method, and (3) Torque Method in their entirety.

42. 506.19 BOLTING AND CONNECTIONS, part (c) Installation, subpart (4) Tension Control Assembly Method, is hereby modified by being re-designated as part (1).

43. 506.19 BOLTING AND CONNECTIONS, part (c) Installation, subpart (5) Direct Tension Indicator Method, is hereby modified by being re-designated as part (2).

44. 506.19 BOLTING AND CONNECTIONS, part (c) Installation, is hereby still further modified by deleting TABLE 506.19B (including associated paragraphs) in its entirety.

45. 506.19 BOLTING AND CONNECTIONS, part (d) Acceptance of Bolt Tensioning, is hereby modified by deleting the second and third sentences of the first paragraph.

46. 506.19 BOLTING AND CONNECTIONS, part (d) Acceptance of Bolt Tensioning, is hereby further modified by deleting the fourth, fifth, ninth, eleventh, and twelfth paragraphs in their entirety.

SECTION 507 - REINFORCING STEEL

47. 507.01 DESCRIPTION, is hereby modified by adding the phrase "of the level specified" after the phrase "bar reinforcement".

48. 507.01 DESCRIPTION, is hereby further modified by adding the following paragraphs:

Levels and associated types of reinforcing steel are specified as follows:

(a) Level I (Limited Corrosion Resistance). Level I reinforcing includes plain, low alloy, and epoxy coated reinforcing steel.

(b) Level II (Improved Corrosion Resistance). Level II reinforcing includes stainless clad and dual-coated reinforcing steel.

(c) Level III (Exceptional Corrosion Resistance). Level III reinforcing includes solid stainless reinforcing steel.

The location, level, and when specified, type of reinforcing shall be as indicated in the Plans. Reinforcing supplied shall meet the requirements of the level specified or any higher level. Only one type of reinforcing steel shall be used for each level for the Contract work, unless permitted in writing by the Engineer.

49. 507.02 MATERIALS, is hereby modified by deleting the sixth (final) entry in the Subsection listing.

50. 507.03 FABRICATION AND SHIPMENT, part (a) General, is hereby modified by adding the phrase "deformed bar" after the phrase "shall be" in the first paragraph.

51. 507.03 FABRICATION AND SHIPMENT, part (a) General, is hereby corrected by deleting punctuation ".." and replacing it with punctuation "." at the end of the first paragraph.

52. 507.04 PROTECTION OF MATERIAL, is hereby modified by adding the following as the second sentence in the first paragraph:

When multiple levels of reinforcing steel are used on a project, they shall be stored separately, including during transport in order that there is no direct contact between the bars.

53. 507.04 PROTECTION OF MATERIAL, is hereby further modified by deleting the phrase "The epoxy coating" and replacing it with the word "Coatings" in the third sentence of the third paragraph.

54. 507.04 PROTECTION OF MATERIAL, is hereby still further modified by deleting the phrase "as required for damaged areas" and replacing it with the phrase "per the coating manufacturer's recommendations and to the satisfaction of the Engineer" in the third sentence of the fifth (last) paragraph.

55. 507.04 PROTECTION OF MATERIAL, is hereby still further modified by adding the following paragraph:

All ends of Level II reinforcement where the mild steel core is exposed shall be capped in accordance with one of the following:

(a) Heat-shrink cap applied in accordance with the cap manufacturer's instructions.

(b) Neoprene cap adhered with silicone or epoxy sealant.

(c) Stainless steel cap epoxied in place.

(d) Stainless steel seal weld.

56. 507.05 PLACING AND FASTENING REINFORCING STEEL, is hereby modified by deleting the sixth paragraph in its entirety and replacing it with the following:

Tie wires and supports used for installation of reinforcement shall be composed of the same material as any steel being contacted or shall be plastic. When forms are to be removed in their entirety, uncoated steel chairs equipped with snug-fitting, high-density, polyethylene tips which provide 3 mm (1/4 inch) clearance between the metal and any exposed surface may be used.

57. 507.10 METHOD OF MEASUREMENT, is hereby modified by deleting the phrase ", Epoxy Coated Reinforcing Steel, and Galvanized Reinforcing Steel" and replacing it with the phrase "of the type and size specified" in the first paragraph.

58. 507.10 METHOD OF MEASUREMENT, is hereby further modified by adding the phrase "of the type specified" at the end of the second paragraph (beginning "The quantity of Drilling and Grouting Dowels…").

59. 507.11 BASIS OF PAYMENT, is hereby modified by deleting the following pay items:

Pay Item	Pay Unit
507.15 Reinforcing Steel	Kilogram (Pound)
507.17 Epoxy Coated Reinforcing Steel	Kilogram (Pound)
507.18 Galvanized Reinforcing Steel	Kilogram (Pound)

60. 507.11 BASIS OF PAYMENT, is hereby further modified by adding the following pay items:

Pay Item	Pay Unit
507.11 Reinforcing Steel, Level I	Kilogram (Pound)
507.12 Reinforcing Steel, Level II	Kilogram (Pound)
507.13 Reinforcing Steel, Level III	Kilogram (Pound)

SECTION 516 - EXPANSION DEVICES

61. 516.01 DESCRIPTION, is hereby modified by adding the phrase ", or partially removing and modifying," after the word "installing".

62. 516.05A PARTIAL REMOVAL AND MODIFICATION, is hereby made a new Subsection of the Standard Specifications as follows:

516.05A PARTIAL REMOVAL AND MODIFICATION. The Contractor shall partially remove and modify the existing bridge joint at the locations indicated in the Plans and as directed by the Engineer.

Steel for new joint plates shall meet the requirements of Subsection 714.02.

The Contractor shall remove and dispose of existing joint plates, drain troughs, and associated hardware.

The Contractor shall grind existing steel plates and/or shoulder concrete to the configuration shown on the Plans. The final surface shall be to the satisfaction of the Engineer.

63. 516.06 METHOD OF MEASUREMENT, is hereby modified by adding the following paragraph:

The quantity of Partial Removal and Modification of Bridge Joint to be measured for payment will be the number of meters (linear feet) of bridge joint removed and modified in the complete and accepted work, measured along its centerline.

64. 516.07 BASIS OF PAYMENT, is hereby modified by adding the following paragraph and pay item:

The accepted quantity of Partial Removal and Modification of Bridge Joint will be paid for at the Contract unit price per meter (linear foot). Payment will be full compensation for partially removing and modifying the existing joint as specified and as detailed in the Plans, and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
516.20 Partial Removal and Modification of Bridge Joint	Meter (Linear Foot)

SECTION 525 - BRIDGE RAILINGS

65. 525.02 MATERIALS, is hereby modified by adding the following as the third entry in the Subsection listing:

Structural Steel.....714.02

66. 525.06 INSTALLATION, part (a) General, is hereby modified by adding the following as the sixth (last) paragraph:

Concrete railing shall receive an aesthetic finish in accordance with Subsection 501.16. Cracks in concrete railing shall be repaired by a method approved by the Engineer. Cracks in concrete greater than 0.25 mm (0.01 inch) may be cause for rejection.

67. 525.08 BASIS OF PAYMENT, is hereby modified by adding the phrase "for furnishing all forms, joint filler, admixtures, trial batches, and connection plates for approach railing terminal connectors; for satisfactory completion of any necessary repairs, surface finishing, and curing;" after the phrase "for all work necessary for verifying and adjusting post height and/or bolt spacing of existing posts;" in the second (last) sentence of the third paragraph.

68. 525.08 BASIS OF PAYMENT, is hereby further modified by adding the following pay item:

Pay Item	Pay Unit
525.45 Bridge Railing, Galvanized Steel Tubing/ Concrete Combination	Meter (Linear Foot)

SECTION 531 - BRIDGE BEARING DEVICES

69. 531.04 FABRICATION, part (b) Surface Protection, is hereby corrected by deleting punctuation ",." at the end of the paragraph and replacing it with punctuation ".".

SECTION 540 - PRECAST CONCRETE

70. 540.02 MATERIALS, is hereby modified by deleting the fourteenth entry (beginning "Coated Bar Reinforcement...") in the Subsection listing.

71. 540.02 MATERIALS, is hereby further modified by adding the following as the twenty-eighth entry in the Subsection listing:

Sheet Membrane Waterproofing, Preformed Sheet.....726.11

72. 540.07 FABRICATION, part (e) Placing Concrete, is hereby modified by deleting the phrase "done with care" and replacing it with the phrase "performed in accordance with Subsection 501.10(f)" in the third (last) sentence.

73. 540.10 INSTALLATION, is hereby modified by adding the following new part (c):

(c) Sheet Membrane Waterproofing. A reinforced asphalt, synthetic resin, or coal-tar based preformed sheet membrane shall be placed over the joints of precast concrete units in accordance with the Contract Documents. All work performed shall be in accordance with the manufacturer's recommendations.

Material for membrane shall meet the requirements of Subsection 726.11.

Waterproofing shall not be performed in wet weather or when the temperature is below 5°C (40°F), without the authorization of the Engineer.

The concrete surfaces that are to be waterproofed shall be reasonably smooth and free from projections or holes and shall be cleaned of dust and loose material. The surfaces shall be visibly dry prior to and during application of the membrane system.

74. 540.14 BASIS OF PAYMENT, is hereby modified by adding the following paragraph:

Furnishing and placing preformed sheet membrane waterproofing, including primer, mastic, polyurethane membrane sealant, and surface preparation, is considered incidental to the work for Precast Concrete Structure.

SECTION 541 - STRUCTURAL CONCRETE

75. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (Metric), is hereby modified by deleting footnote designation "*" in the first and fourth entries of the third row (for "Class A" concrete).

76. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (Metric), is hereby further modified by deleting footnote "*" and associated text (beginning "* When this class of concrete...").

77. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (Metric), is hereby still further modified by deleting the fourth (with header "Range in Slump (mm)") and fifth (with header "Air Cont. (%)") columns in their entirety and replacing them with the following:

Range* in Slump (mm)	Air Content (%)
---	7.0 ± 1.5
---	7.0 ± 1.5
---	7.0 ± 1.5
---	5.5 ± 1.5
---	5.5 ± 1.5
---	7.0 ± 1.5

78. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (Metric), is hereby still further modified by adding the following footnote:

* The mix shall not exhibit segregation at the slump/spread used at placement. If the Engineer suspects there is segregation, the Engineer will require a slump/spread test be performed by the Contractor to visually observe the characteristics of the mix. If in the opinion of the Engineer the mix does exhibit segregation, the load will be rejected and subsequent load(s) shall be tested, at a minimum of 3 loads or until the problem is corrected.

If the Contractor needs a concrete with a slump greater than 200 mm, the Contractor shall propose to the Engineer to use an SCC mix, which shall be submitted to the Engineer for review and acceptance.

79. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (English), is hereby modified by deleting footnote designation "*" in the first and fourth entries of the third row (for "Class A" concrete).

80. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (English), is hereby further modified by deleting footnote "*" and associated text (beginning "* When this class of concrete…").

81. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (English), is hereby still further modified by deleting the fourth (with header "Range in Slump (in.)") and fifth (with header "Air Cont. (%)") columns in their entirety and replacing them with the following:

Range* in Slump (mm)	Air Content (%)
---	7.0 ± 1.5
---	7.0 ± 1.5
---	7.0 ± 1.5
---	5.5 ± 1.5
---	5.5 ± 1.5
---	7.0 ± 1.5

82. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (English), is hereby still further modified by adding the following footnote:

* The mix shall not exhibit segregation at the slump/spread used at placement. If the Engineer suspects there is segregation, the Engineer will require a slump/spread test be performed by the Contractor to visually observe the characteristics of the mix. If in the opinion of the Engineer the mix does exhibit segregation, the load will be rejected and subsequent load(s) shall be tested, at a minimum of 3 loads or until the problem is corrected.

If the Contractor needs a concrete with a slump greater than 8 inches, the Contractor shall propose to the Engineer to use an SCC mix, which shall be submitted to the Engineer for review and acceptance.

83. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (Metric) is hereby modified by adding the following as the eighth (bottom) row with the included footnotes:

Controlled Density (Flowable) Fill	To be designed ***	To be designed ****	To be designed *****	10 min.	704.01 (Fine Aggregate)	0.85 max. ******	---

*** A mineral admixture may be used to replace a portion of the cement.

**** The minimum amount of water shall be used to produce the desirable flow for the intended use without showing segregation.

***** The slump (flowability) shall be such that material is able to completely fill the voids or area as needed without segregation.

******A minimum of 3 cylinders per test age required to constitute a test. If average strength at 28 days exceeds 115% of max. strength, then payment for Contract item 541.45 will be 85% of the Contract bid price.

84. 541.03 CLASSIFICATION AND PROPORTIONING, TABLE 541.03A (English) is hereby modified by adding the following as the eighth (bottom) row with the included footnotes:

Controlled Density (Flowable) Fill	To be designed ***	To be designed ****	To be designed *****	10 min.	704.01 (Fine Aggregate)	125 max. ******	---

*** A mineral admixture may be used to replace a portion of the cement.

**** The minimum amount of water shall be used to produce the desirable flow for the intended use without showing segregation.

***** The slump (flowability) shall be such that material is able to completely fill the voids or area as needed without segregation.

******A minimum of 3 cylinders per test age required to constitute a test. If average strength at 28 days exceeds 115% of max. strength, then payment for Contract item 541.45 will be 85% of the Contract bid price.

85. 541.10 PLACING CONCRETE, part (c) Placement Limitations, is hereby modified by adding the following paragraphs:

Flowable fill shall be applied to voids and other locations as specified in the Contract Documents and as directed by the Engineer. Flowable fill shall be able to completely fill the existing voids.

If voids are discovered, the Engineer may direct the Contractor to submit a plan for filling the remaining voids. This work, including preparing and submitting the plan and filling any remaining voids, will be at the Contractor's expense.

86. 541.11 DEPOSITING CONCRETE UNDERWATER, part (a) General, subpart (1), is hereby corrected by deleting the phrase "1716 Barre-Montpelier Rd., Berlin, Vermont 05602" and replacing it with the phrase "2178 Airport Road Unit B, Berlin, Vermont 05641" in the second sentence of the second paragraph.

87. 541.19 METHOD OF MEASUREMENT, is hereby modified by deleting the phrase "or LW" and replacing it with the phrase "LW, or Flowable Fill" in the first sentence of the first paragraph.

88. 541.20 BASIS OF PAYMENT, is hereby modified by adding the following pay item:

Payment will be made under:

Pay Item	Pay Unit
541.45 Controlled Density (Flowable) Fill	Cubic Meter (Cubic Yard)

SECTION 580 – STRUCTURAL CONCRETE REPAIR

89. 580.02 MATERIALS, is hereby modified by adding the following to the Subsection listing:

Polymer Concrete Repair Material.....780.05

90. 580.03 PROPORTIONING AND MIXING, is hereby modified by deleting the last sentence of the first paragraph in its entirety and replacing it with the following:

The product shall not be extended with sand or gravel, except for Rapid Setting Concrete Repair Material with Coarse Aggregate and Polymer Concrete Repair Material when mixed with approved aggregates in conformance with the manufacturer's recommendations.

91. 580.04 SURFACE PREPARATION FOR REPAIRS, OVERLAYS AND MEMBRANES, is hereby modified by adding the word "abrasive" after the phrase "shall be" and before the phrase "blast cleaned" in the first sentence of the third paragraph.

92. 580.04 SURFACE PREPARATION FOR REPAIRS, OVERLAYS AND MEMBRANES, is hereby further modified by adding the phrase ", or Polymer Concrete Repair Material," after the word "Aggregate" in the sixth paragraph.

93. 580.08 METHOD OF MEASUREMENT, is hereby modified by deleting the phrase "and not for new patches, which will be the responsibility of the Contractor" and replacing it with the phrase ", with no deductions made for areas of new patches" in the second sentence of the ninth paragraph.

94. 580.08 METHOD OF MEASUREMENT, is hereby further modified by adding the phrase ", and Polymer Concrete Repair Material" after the word "Aggregate" in the first sentence of the tenth paragraph.

95. 580.09 BASIS OF PAYMENT, is hereby modified by adding the phrase ", and Polymer Concrete Repair Material" after the word "Aggregate" in the seventh paragraph.

96. 580.09 BASIS OF PAYMENT, is hereby further modified by adding the following pay item:

Payment will be made under:

Pay Item	Pay Unit
580.21 Polymer Concrete Repair Material	Cubic Meter (Cubic Yard)

SECTION 601 - CULVERTS AND STORM DRAINS

97. 601.02 MATERIALS, is hereby modified by adding the following as the sixth entry in the Subsection listing:

Corrugated Polypropylene Pipe.....710.07

98. 601.07 JOINING PIPE, is hereby modified by adding the following new part (d) as follows:

(d) Corrugated Polypropylene Pipe. Corrugated Polypropylene pipe shall be joined by a system designed and approved by the pipe manufacturer. Couplings and fittings shall provide sufficient longitudinal strength to preserve pipe alignment and prevent separation at the joints.

99. 601.11 BASIS OF PAYMENT, is hereby modified by changing the end of the pay item number range for CPEP Elbow from 601.5999 to 601.5899.

100. 601.11 BASIS OF PAYMENT, is hereby further modified by adding the following pay items:

Payment will be made under:

Pay Item	Pay Unit
601.2800 to 601.2999 CPPP(SL)	Meter (Linear Foot)
601.5900 to 601.5999 CPPP Elbow	Each
601.7100 to 601.7199 CPPPES	Each

SECTION 608 - EQUIPMENT RENTAL

101. 608.02 GENERAL REQUIREMENTS, is hereby modified by adding the following new part (i):

(i) Truck-Mounted Attenuator, Advanced Warning Vehicle/Protection Vehicle (AWV/PV). Truck-Mounted Attenuator, AWV/PV shall consist of a Truck-Mounted Attenuator meeting the requirements of Subsection 608.02(h) and be equipped with a Changeable Message Sign in accordance with the MUTCD. The Changeable Message Sign shall be mounted so as to be clearly visible to the traveling public and shall be capable of being controlled from inside the cab of the vehicle, with capable controls including but not limited to turning the sign on and off, changing between preset messages, and inserting new messages when approved by the Engineer. Phases of signing shall have the ability to change automatically when required.

102. 608.04 BASIS OF PAYMENT, is hereby modified by changing the word "item" to "items" and by adding the phrase "and Truck-Mounted Attenuator, AWV/PV" after the phrase "Truck-Mounted Attenuator" in the second (last) paragraph.

103. 608.04 BASIS OF PAYMENT, is hereby further modified by adding the following pay item:

Payment will be made under:

Pay Item	Pay Unit
608.50 Truck-Mounted Attenuator, AWV/PV	Hour

SECTION 613 - STONE FILL, RIPRAP, AND SLOPE PAVING

104. 613.02 MATERIALS, is hereby modified by adding the following to the Subsection listing:

Rock Fill for Gabions.....706.06
Gabion Baskets.....712.04

105. 613.04 PLACING, is hereby modified by adding the following new part (d):

(d) Rock Fill for Gabions. The furnishing and installing of gabion baskets shall be performed in accordance with the manufacturer's recommendations.

The Contractor should expect to perform some manual stone placement to minimize voids and to create a neat, flat vertical surface of gabions.

106. 613.05 METHOD OF MEASUREMENT, is hereby modified by adding the following paragraph:

The quantity of Gabion Wall to be measured for payment will be the number of cubic meters (cubic yards) of Rock Fill for Gabions placed in the complete and accepted work.

107. 613.06 BASIS OF PAYMENT, is hereby modified by adding the phrase "and Gabion Wall" after the word "specified" in the first sentence of the first paragraph.

108. 613.06 BASIS OF PAYMENT, is hereby modified by adding the phrase ", including gabion baskets," after the word "material" in the third (last) sentence of the first paragraph.

109. 613.06 BASIS OF PAYMENT, is hereby still further modified by adding the phrase "or rock" after the word "stone" in the first sentence of the second paragraph.

110. 613.06 BASIS OF PAYMENT, is hereby still further modified by adding the following paragraph:

Geotextile fabric and bedding material for Gabion Wall will be paid for under the appropriate Contract items.

111. 613.06 BASIS OF PAYMENT, is hereby still further modified by adding the following pay item:

Payment will be made under:

Pay Item	Pay Unit
613.25 Gabion Wall	Cubic Meter (Cubic Yard)

SECTION 616 - CURBS AND GUTTERS

112. 616.05 REPOINTING GRANITE BRIDGE CURB, is hereby made a new Subsection of the Standard Specifications as follows:

616.05 REPOINTING GRANITE BRIDGE CURB. The existing mortar bed and vertical curb joints shall be repointed as shown on the Plans. Mortar shall meet the requirements of Subsection 707.01.

113. 616.14 METHOD OF MEASUREMENT, is hereby modified by adding the following as the second paragraph:

The quantity of Repointing Granite Bridge Curb to be measured for payment will be the number of liters (gallons) of mortar applied in the completed and accepted work, measured to the nearest liter (gallon).

114. 616.14 METHOD OF MEASUREMENT, is hereby corrected by changing the word "portland" to "Portland" in the fifth (last) paragraph.

115. 616.15 BASIS OF PAYMENT, is hereby modified by adding the following as the second paragraph:

The accepted quantity of Repointing Granite Bridge Curb will be paid for at the Contract unit price per liter (gallon). Payment will be full compensation for furnishing, transporting, handling, and placing the material specified and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

116. 616.15 BASIS OF PAYMENT, is hereby corrected by changing the word "portland" to "Portland" in the fourth paragraph.

117. 616.15 BASIS OF PAYMENT, is hereby further modified by adding the following pay item:

Payment will be made under:

Pay Item	Pay Unit
616.225 Repointing Granite Bridge Curb	Liter (Gallon)

SECTION 621 - TRAFFIC BARRIERS

118. 621.01 DESCRIPTION, is hereby modified by adding the phrase "repairing," after the phrase "removing,".

119. 621.02 MATERIALS, is hereby modified by adding the following as the fifth entry in the Subsection listing:

Wire Rope or Cable.....713.03

120. 621.13 REPLACEMENT, ADJUSTMENT, REMOVAL, AND DISPOSAL OF GURADRAIL OR GUIDE POSTS, is hereby modified by deleting the phrase "post assemblies and panel units" and replacing it with the phrase "guardrail components" in the second sentence of the first paragraph.

121. 621.13 REPLACEMENT, ADJUSTMENT, REMOVAL, AND DISPOSAL OF GUARDRAIL OR GUIDE POSTS, is hereby further modified by deleting the phrase "post assembly replacement or guardrail beam replacement occur" and replacing it with the phrase "guardrail component replacement occurs" in the fourth paragraph.

122. 621.13 REPLACEMENT, ADJUSTMENT, REMOVAL, AND DISPOSAL OF GURADRAIL OR GUIDE POSTS, is hereby still further modified by adding the following as the sixth and seventh paragraphs:

Offset blocks designated for replacement shall be replaced in-kind. Materials shall be in conformance with the applicable requirements of Subsection 728.01 for either wood, steel, or alternative blockouts.

Cable guardrail repair shall be performed in accordance with VTrans Standard Drawing G-6 and as directed by the Engineer.

123. 621.14 METHOD OF MEASUREMENT, is hereby modified by adding the following as the fourth and fifth paragraphs of the Subsection text:

The quantities of Cable Guardrail J-Bolt, Galvanized and Cable Guardrail Splice Unit to be measured for payment will be the number of units installed in the complete and accepted work.

The quantity of Replacement of Guardrail Cable to be measured for payment will be the number of meters (linear feet) installed in the complete and accepted work.

124. 621.14 METHOD OF MEASUREMENT, is hereby further modified by adding the following as the eighth paragraph of the Subsection text:

The quantities of Steel Beam Guardrail Delineator and Steel Beam Guardrail Offset Block to be measured for payment will be the number of each component replaced in the complete and accepted work.

125. 621.15 BASIS OF PAYMENT, is hereby modified by adding the following as the second, third, and fourth paragraphs of the Subsection text:

The accepted quantities of Cable Guardrail J-Bolt, Galvanized and Cable Guardrail Splice Unit will be paid for at the Contract unit price for each.

The accepted quantity of Replacement of Cable Guardrail will be paid for at the Contract unit price per meter (linear foot).

The accepted quantities of Steel Beam Guardrail Delineator and Steel Beam Guardrail Offset Block will be paid for at the Contract unit price for each.

126. 621.15 BASIS OF PAYMENT, is hereby further modified by adding the phrase "removing and disposing of damaged guardrail component(s)," after the phrase "specified," in the first sentence of the tenth paragraph.

127. 621.15 BASIS OF PAYMENT, is hereby still further modified by adding the following pay items:

Payment will be made under:

Pay Item		Pay Unit
621.173	Cable Guardrail J-Bolt, Galvanized	Each
621.174	Cable Guardrail Splice Unit	Each
621.175	Replacement of Guardrail Cable	Meter (Linear Foot)
621.218	Steel Beam Guardrail Delineator	Each
621.219	Steel Beam Guardrail Offset Block	Each
621.70	Guardrail Approach Section, Galvanized Type I	Each
621.71	Guardrail Approach Section, Galvanized Type II	Each
621.726	Guardrail Approach Section, Galvanized 3 Rail Box Beam w/Curb	Each
621.735	Guardrail Approach Section, Steel Beam	Each
621.736	Guardrail Approach Section, Steel Beam w/2.4 m (8 feet) Posts	Each
621.737	Guardrail Approach Section, Galvanized HD Steel Beam	Each
621.738	Guardrail Approach Section, Galvanized HD Steel Beam w/2.4 m (8 feet) Posts	Each
621.748	Guardrail Approach Section to Concrete Combination Bridge Railing, TL-3	Each

SECTION 641 - TRAFFIC CONTROL

128. 641.02 GENERAL CONSTRUCTION REQUIREMENTS, is hereby modified by adding the phrase "implement that plan or" after the phrase "the Contractor may" in the first sentence of the fourth paragraph.

129. 641.02 GENERAL CONSTRUCTION REQUIREMENTS, is hereby further modified by adding the following as the second sentence of the fourth paragraph:

When the Contractor will implement an Agency-designed traffic control plan, written certification shall be submitted to the Engineer indicating that traffic control will be performed in accordance with the Agency design.

130. 641.02 GENERAL CONSTRUCTION REQUIREMENTS, is hereby still further modified by changing the word "This" to the word "An" in the third sentence of the fourth paragraph.

131. 641.02 GENERAL CONSTRUCTION REQUIREMENTS, is hereby still further modified by adding the following paragraph:

When the Contract Documents specify that a site-specific traffic control plan be submitted by the Contractor, Construction Drawings shall be submitted in accordance with Section 105. The submitted site-specific plan shall include, for each phase of construction requiring a significant change in temporary traffic control, a narrative description of the proposed temporary traffic control for each phase (including pedestrian accommodations where appropriate) and the major work activities to be completed in each phase; and a layout for each phase of construction showing existing lane configurations, existing traffic control devices (signs, signals, and pavement markings), driveways, ramps, and highway intersections, and the location of all proposed temporary traffic control devices, flaggers, and UTO's. All pertinent dimensions, such as taper lengths, sign spacing, temporary lane widths, and distance(s) from existing traffic control devices shall be labeled.

SECTION 646 - RETROREFLECTIVE PAVEMENT MARKINGS

132. 646.02 MATERIALS, is hereby modified by deleting the Subsection listing in its entirety and replacing it with the following:

Polyurea Pavement Markings.....708.08(a)
Low VOC Chlorinated Rubber Traffic Paint.....708.08(b)
Low VOC Acetone Based Traffic Paint.....708.08(b)
Epoxy Paint.....708.08(c)
Waterborne Traffic Paint.....708.08(d)
Methyl-methacrylate Paint.....708.08(e)
Glass Beads.....708.09(a)
Premium Optics.....708.09(b)
Wet Recoverable and Wet Reflective Optics.....708.09(c)
Thermoplastic Pavement Markings, Type A.....708.10(a)
Thermoplastic Pavement Markings, Type B.....708.10(b)
Raised Pavement Markers, Type I.....708.11
Pavement Marking Tape, Type A.....708.12(a)
Pavement Marking Tape, Type B.....708.12(b)
Pavement Marking Tape, Type C.....708.12(c)
Pavement Marking Tape, Type D.....708.12(d)
Line Striping Targets.....708.13(a)
Raised Pavement Markers, Type II.....708.13(b)
Temporary Pavement Marking Tape.....708.13(c)
Pavement Marking Mask.....708.13(d)

133. 646.04 APPLICATION OF MARKINGS, GENERAL, part (c) Weather Limitations, subpart (2), is hereby modified by being deleted in its entirety and replaced as follows:

(2) At the time of application of durable pavement markings, the pavement surface and ambient air temperatures shall be as per the manufacturer's specified application temperatures. If the manufacturer's recommendations are unavailable, the pavement surface and ambient air temperatures shall be a minimum of 10°C (50°F).

134. 646.06 PAINT PAVEMENT MARKINGS, is hereby modified by being re-named WATERBORNE AND LOW VOC CHLORINATED RUBBER AND ACETONE BASED PAINT PAVEMENT MARKINGS.

135. 646.06 WATERBORNE AND LOW VOC CHLORINATED RUBBER AND ACETONE BASED PAINT PAVEMENT MARKINGS, is hereby modified by changing the word "Retroflective" to "Retroreflective" in the first sentence of the first paragraph.

136. 646.06 WATERBORNE AND LOW VOC CHLORINATED RUBBER AND ACETONE BASED PAINT PAVEMENT MARKINGS, is hereby further modified by deleting the phrase "shall have a dry film thickness of 380 ±25 μm (15 ±1 mil) for paint, unless otherwise specified, and" in the third (last) sentence of the first paragraph.

137. 646.06 WATERBORNE AND LOW VOC CHLORINATED RUBBER AND ACETONE BASED PAINT PAVEMENT MARKINGS, is hereby still further modified by adding the following as the third paragraph:

The markings shall be applied at a rate to create a uniform wet film thickness of 558.8 μm (22 mils) with an allowable range of ±50.8 μm (±2 mils) unless otherwise specified in the Contract Documents. Minimum application rates are 1.7 square meters per liter (70 square feet per gallon) with glass beads applied at a rate of 960 grams per liter (8.0 lb per gallon) of paint. The Contractor shall provide the Engineer and the Materials and Research Section with the optic drop on rates of all optic materials.

138. 646.06 WATERBORNE AND LOW VOC CHLORINATED RUBBER AND ACETONE BASED PAINT PAVEMENT MARKINGS, is hereby still further modified by deleting the fifth and sixth (last) paragraphs in their entirety.

139. 646.07 DURABLE PAVEMENT MARKINGS, is hereby modified by changing punctuation at the end of the third sentence of the first paragraph from ":" to ".".

140. 646.07 DURABLE PAVEMENT MARKINGS, is hereby further modified by adding the following at the end of the first paragraph:

The Contractor shall select optics that conform with Subsections 708.09(a), 708.09(b), and 708.09(c). The Contractor shall provide the Engineer and the Materials and Research Section with the optic drop on rates of all optic materials. The Contractor shall construct an evaluation section as directed by the Engineer for the purpose of collecting pavement marking retroreflectivity measurements. Measurements shall be performed in accordance with ASTM D7585, as specified in Table 646.07A. All measurements shall be collected by the Contractor in the presence of the Engineer in accordance with Section 6.4 of ASTM D7585, with the exception of skip lines, which should follow Section 6.3 of ASTM D7585. The Contractor shall provide to the Engineer the annual manufacturer calibration certificate for the testing device. The device shall be field calibrated daily, prior to testing.

TABLE 646.07A - EVALUATION SECTION CRITERIA

PAVEMENT MARKING TYPE	EVALUATION SECTION(S) REQUIRED	EVALUATION SECTION LENGTH m (feet)	MEASUREMENTS REQUIRED
Long Lines	1/3.2 km (2 miles)	120 (400)	20
Skip Lines	1/3.2 km (2 miles)	120 (400)	20 (2 per skip line)
Legends	3 letters	N/A	9 (3 per letter)
Symbols Less Than 2.4 m (8 Feet) Tall or Wide	3 Symbols	N/A	9 (3 per symbol)
Symbols More Than 2.4 m (8 Feet) Tall or Wide	6 Symbols	N/A	18 (3 per symbol)
Transverse Lines Less Than 2.4 m (8 Feet) Tall or Wide	3 Areas Per Line	N/A	9 (3 per line)
Transverse Lines More Than 2.4 m (8 Feet) Tall or Wide	6 Areas Per Line	N/A	18 (3 per line)
Crosswalk	3 Stripes	N/A	18 (6 per stripe)

For long lines and skip lines, if the average retroreflectivity as determined in accordance with ASTM D7585 fails to meet the minimum retroreflectivity requirements, or if 25% of the individual tests fail to meet the minimum retroreflectivity requirements, the entire length represented by the evaluation section shall be re-marked and re-tested until in compliance, at no additional cost to the Agency.

141. 646.07 DURABLE PAVEMENT MARKINGS, part (a) Pavement Marking Tape, Type I, is hereby modified by being deleted in its entirety and replaced as follows:

(a) Pavement Marking Tape, Type A. Type A tape for pavement markings is classified as high performance or high durable, and non-removable. Type A tape shall conform to the requirements of Subsection 708.12(a).

Type A tapes, when used as a final durable marking, shall be applied only by being inlaid in the bituminous pavement during the rolling operation or in a recess as defined in Subsection 646.09, and shall be applied in accordance with the manufacturer's requirements. Initial dry retroreflectivity minimums shall be 300 mcdl/lx/m^2 for yellow markings and 400 mcdl/lx/m^2 for white markings.

142. 646.07 DURABLE PAVEMENT MARKINGS, part (b) Epoxy Paint, is hereby modified by being re-designated as part (e).

143. 646.07 DURABLE PAVEMENT MARKINGS, part (c) Thermoplastic, is hereby modified by being re-designated as part (f) Extruded Thermoplastic.

144. 646.07 DURABLE PAVEMENT MARKINGS, part (d) Polyurea Paint, is hereby modified by being re-designated as part (h).

145. 646.07 DURABLE PAVEMENT MARKINGS, part (e) Methyl-methacrylate Paint, is hereby modified by being re-designated as part (i).

146. 646.07 DURABLE PAVEMENT MARKINGS, is hereby further modified by adding the following new parts (b), (c), and (d):

(b) Pavement Marking Tape, Type B. Type B tape for pavement markings is classified as non-removable, used in long line applications. Type B tape shall conform to the requirements of Subsection 708.12(b).

Type B tapes, when used as a final durable marking, shall be applied only by being inlaid in the bituminous pavement during the rolling operation or in a recess as defined in Subsection 646.09, and shall be applied in accordance with the manufacturer's requirements. Initial dry retroreflectivity minimums shall be 300 mcdl/lx/m^2 for yellow markings and 400 mcdl/lx/m^2 for white markings.

(c) Pavement Marking Tape, Type C. Type C tape for pavement markings is classified as non-removable, used in intersection applications. Type C tape shall conform to the requirements of Subsection 708.12(c).

Type C tapes, when used as a final durable marking, shall be applied only by being inlaid in the bituminous pavement during the rolling operation or in a recess as defined in Subsection 646.09, and shall be applied in accordance with the manufacturer's requirements.

(d) Pavement Marking Tape, Type D. Type D tape for pavement markings is classified as non-removable, used for symbols and legends applications. Type D tape shall conform to the requirements of Subsection 708.12(d).

Type D tapes, when used as a final durable marking, shall be applied only by being inlaid in the bituminous pavement during the rolling operation or in a recess as defined in Subsection 646.09, and shall be applied in accordance with the manufacturer's requirements. Initial dry retroreflectivity minimums shall be 300 mcdl/lx/m^2 for yellow markings and 400 mcdl/lx/m^2 for white markings.

147. 646.07 DURABLE PAVEMENT MARKINGS, part (e) Epoxy Paint, is hereby modified by deleting the fifth (last) sentence in its entirety.

148. 646.07 DURABLE PAVEMENT MARKINGS, part (e) Epoxy Paint, is hereby further modified by adding the following sentences:

Epoxy paint shall be applied at a rate to create a uniform wet film thickness of 558.8 μm (22 mils) with an allowable range of $\pm$50.8 μm ($\pm$2 mils) unless otherwise specified in the Contract Documents. Minimum application rates are 1.7 square meters per liter (70 square feet per gallon). Initial dry retroreflectivity minimums shall be 300 mcdl/lx/m^2 for yellow markings and 400 mcdl/lx/m^2 for white markings.

149. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, is hereby modified by replacing the phrase "708.10" with the phrase "708.10(a)" at the end of the first paragraph.

150. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, is hereby further modified by adding the following as the third paragraph:

Thermoplastic markings shall be applied at a rate to create a uniform wet film thickness of 2667 μm (105 mils) with an allowable range of ± 127 μm (±5 mils) unless otherwise specified in the Contract Documents. Minimum application rates are 0.36 square meters per liter (15 square feet per gallon).

151. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (1) Thermoplastic Application Equipment, a. Mobile Applicator Equipment, is hereby modified by deleting the phrase ", between 2.4 and 2.5 mm (96 and 100 mils)" and replacing it with the phrase "and 2667 μm (105 mils) with an allowable range of ± 127 μm (±5 mils)" in the second sentence of the second paragraph.

152. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (1) Thermoplastic Application Equipment, b. Portable Applicator Equipment, is hereby modified by deleting the phrase "between 2 and 2.5 mm (80 and 100 mils)" and replacing it with the phrase "and 2667 μm (105 mils) with an allowable range of ± 127 μm (±5 mils)" in the fourth sentence.

153. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (2) Application Requirements, b. Thermoplastic Composition, is hereby modified by replacing the phrase "708.10" with the phrase "708.10(a)".

154. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (2) Application Requirements, d. Extruded Markings, is hereby modified by deleting the phrase "2.4 and 2.5 mm (96 and 100 mils)" and replacing it with the phrase "2.54 and 2.794 mm (100 and 110 mils)".

155. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (2) Application Requirements, e. Beads, is hereby modified by being re-named Optics.

156. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (2) Application Requirements, e. Optics, subpart 1., is hereby modified by adding the phrase "shall be" after the phrase "Type I".

157. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (2) Application Requirements, e. Optics, subpart 1., is hereby further modified by adding the phrase "intermix of the" after the phrase "incorporated into the".

158. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (2) Application Requirements, e. Optics, subpart 1., is hereby still further modified by deleting the numbers "28" and "30" and replacing them with the numbers "30" and "40", respectively.

159. 646.07 DURABLE PAVEMENT MARKINGS, part (f) Extruded Thermoplastic, subpart (2) Application Requirements, e. Optics, subpart 2., is hereby modified by being deleted in its entirety and replaced as follows:

2. Initial dry retroreflectivity minimums shall be 300 mcdl/lx/m^2 for yellow markings and 400 mcdl/lx/m^2 for white markings.

160. 646.07 DURABLE PAVEMENT MARKINGS, is hereby still further modified by adding the following new part (g):

(g) Preformed Thermoplastic. Approved preformed thermoplastic marking materials shall be one of the preformed thermoplastic markings listed on the Approved Products List on file with the Agency's Materials and Research Section under Subsection 708.10(b).

161. 646.07 DURABLE PAVEMENT MARKINGS, part (h) Polyurea Paint, is hereby modified by deleting the second sentence in its entirety.

162. 646.07 DURABLE PAVEMENT MARKINGS, part (h) Polyurea Paint, is hereby further modified by adding the following sentences:

Polyurea paint shall be applied at a rate to create a uniform wet film thickness of 558.8 μm (22 mils) with an allowable range of $\pm$50.8 μm ($\pm$2 mils) unless otherwise specified in the Contract Documents. Minimum application rates are 1.7 square meters per liter (70 square feet per gallon). Initial dry retroreflectivity minimums for surface-applied polyurea shall be 300 mcdl/lx/m^2 for yellow markings and 400 mcdl/lx/m^2 for white markings. Initial dry retroreflectivity minimums for recessed polyurea shall be 600 mcdl/lx/m^2 for yellow markings and 800 mcdl/lx/m^2 for white markings.

163. 646.07 DURABLE PAVEMENT MARKINGS, part (i) Methyl-methacrylate Paint, is hereby modified by deleting the second sentence in its entirety.

164. 646.07 DURABLE PAVEMENT MARKINGS, part (i) Methyl-methacrylate Paint, is hereby further modified by adding new subpart (1) as follows:

(1) Application Requirements.

a. Spray Applied Markings. All spray applied markings shall be applied at a rate to create a uniform wet film thickness of 762 μm (30 mils) with an allowable range of $\pm$50.8 μm ($\pm$2 mils) unless otherwise specified in the Contract Documents. Minimum application rates are 1.4 square meters per liter (55 square feet per gallon). Initial dry retroreflectivity minimums for surface spray applied methyl-methacrylate shall be 300 mcdl/lx/m^2 for yellow markings and 400 mcdl/lx/m^2 for white markings. Initial dry retroreflectivity minimums for recessed methyl-methacrylate shall be 300 mcdl/lx/m^2 for yellow markings and 400 mcdl/lx/m^2 for white markings.

b. Extruded Markings. All extruded markings shall be applied at a rate to create a uniform wet film thickness of 2286 μm (90 mils) with an allowable range of $\pm$127 μm ($\pm$5 mils) unless otherwise specified in the Contract Documents. Minimum application rates are 0.45 square meters per liter (18.3 square feet per gallon). Initial dry retroreflectivity minimums shall be 300 mcdl/lx/m^2 for yellow markings and 400 mcdl/lx/m^2 for white markings.

c. Structured Markings. All structured markings shall be applied at a rate to create a uniform wet film thickness as per the manufacturer's recommendations unless otherwise specified in the Contract Documents. Initial dry retroreflectivity minimums shall be 300 mcdl/lx/m^2 for yellow markings and 400 mcdl/lx/m^2 for white markings.

165. 646.08 TEMPORARY PAVEMENT MARKINGS, is hereby modified by deleting the phrase "Type II" (first entry) and replacing it with the phrase "Temporary Pavement Marking" in the first sentence.

166. 646.08 TEMPORARY PAVEMENT MARKINGS, part (a) Pavement Marking Tape, Type II, is hereby modified by being re-named Temporary Pavement Marking Tape.

167. 646.08 TEMPORARY PAVEMENT MARKINGS, part (a) Temporary Pavement Marking Tape, is hereby modified by deleting the first sentence in its entirety and replacing it as follows:

This tape for pavement markings is classified as temporary and is removable.

168. 646.08 TEMPORARY PAVEMENT MARKINGS, part (a) Temporary Pavement Marking Tape, second sentence, is hereby modified by deleting the phrase "Type II" and replacing it with the word "The" and by deleting the phrase "Subsection 708.12(b)" and replacing it with the phrase "Subsection 708.13(c)".

169. 646.08 TEMPORARY PAVEMENT MARKINGS, part (b) Pavement Marking Mask, is hereby modified by deleting the phrase "Subsection 708.12(c)" and replacing it with the phrase "Subsection 708.13(d)" in the second sentence.

170. 646.08 TEMPORARY PAVEMENT MARKINGS, part (c) Raised Pavement Markers, Type II, is hereby modified by adding the following sentence to the second (last) paragraph:

They shall conform to the requirements of Subsection 708.13(b) and shall be installed in accordance with the manufacturer's requirements.

171. 646.08 TEMPORARY PAVEMENT MARKINGS, part (d) Line Striping Targets, is hereby modified by adding the word "fluorescent" before the word "orange" and by deleting the number "III" and replacing it with the phrase "VIII or IX" in the first sentence of the fifth (last) paragraph.

172. 646.08 TEMPORARY PAVEMENT MARKINGS, part (d) Line Striping Targets, is hereby further modified by adding the following paragraph:

Line striping targets shall conform to the requirements of Subsection 708.13(a) and shall be installed in accordance with the manufacturer's requirements.

173. 646.09 OTHER RELATED MARKINGS, part (a) Pavement Marking Recess, is hereby modified by deleting the phrase "provided is 125% of the material marking thickness" and replacing it with the phrase "meets the requirements of Table 646.09A" in the first sentence.

174. 646.09 OTHER RELATED MARKINGS, part (a) Pavement Marking Recess, is hereby further modified by deleting the last sentence in its entirety.

175. 646.09 OTHER RELATED MARKINGS, part (a) Pavement Marking Recess, is hereby still further modified by adding the following paragraphs and Table:

The bottom of the recess shall have a smooth, flat finished surface. The use of gang stacked Diamond cutting blades is required for asphalt pavement surfaces. The spacers between blade cuts shall be such that there will be less than a 254 μm (10 mil) rise in the finished groove between the blades.

Recesses shall be clean, dry, and free of laitance, oil, dirt, grease, paint, or other foreign contaminants prior to application of the pavement markings. The Contractor shall re-clean grooves, as necessary, prior to application of any primer or permanent markings. Depth plates shall be provided by the Contractor to assure that desired groove depth is achieved.

TABLE 646.09A – PAVEMENT MARKING RECESS DEPTH

MARKING MATERIAL	STANDARD GLASS BEAD RECESS DEPTH μm (mils)	PREMIUM OPTIC RECESS DEPTH μm (mils)
Permanent Waterborne Paint	762-1016 (30-40)	762-1016 (30-40)
Spray Applied Methyl-methacrylate	1016-1270 (40-50)	1778-2286 (70-90)
Extruded Methyl-methacrylate	2540-2794 (100-110)	2540-2794 (100-110)*
Structured Methyl-methacrylate	As recommended by manufacturer	As recommended by manufacturer*
Thermoplastic	2540-2794 (100-110)	2540-2794 (100-110)*
Polyurea	762-1270 (30-50)	1778-2286 (70-90)
Epoxy	762-1270 (30-50)	1778-2286 (70-90)
Permanent Tape	As recommended by manufacturer	As recommended by manufacturer
*Thermoplastic and Methyl-methacrylate with wet recoverable or wet reflective elements shall have a recess depth of 3048-3302 μm (120-130 mils).		

176. 646.14 BASIS OF PAYMENT, part (a) Paint Pavement Markings, is hereby modified by adding the following pay item ranges:

646.200 to 646.209 100 mm (4 inch) White Line	Meter (Linear Foot)
646.2110 to 646.2119 100 mm (4 inch) Yellow Line	Meter (Linear Foot)
646.2140 to 646.2149 150 mm (6 inch) White Line	Meter (Linear Foot)
646.2150 to 646.2159 150 mm (6 inch) Yellow Line	Meter (Linear Foot)
646.221 to 646.229 200 mm (8 inch) White Line	Meter (Linear Foot)
646.231 to 646.239 200 mm (8 inch) Yellow Line	Meter (Linear Foot)
646.241 to 646.249 300 mm (12 inch) White Line	Meter (Linear Foot)
646.251 to 646.259 300 mm (12 inch) Yellow Line	Meter (Linear Foot)
646.261 to 646.269 600 mm (24 inch) Stop Bar	Meter (Linear Foot)
646.300 to 646.309 Letter or Symbol	Each
646.311 to 646.319 Crosswalk Marking	Meter (Linear Foot)
646.321 to 646.329 Railroad Crossing Symbol	Each

SECTION 653 - EROSION PREVENTION AND SEDIMENT CONTROL MEASURES

177. 653.15 BIOTECHNICAL SLOPE PROTECTION, part (a) Erosion Logs, is hereby modified by being deleted in its entirety and replaced with the following:

(a) Erosion Logs. Erosion logs shall be installed to intercept water flow and collect sediment and associated pollutants by settling and filtering. Erosion logs may be placed over bare or mulched soils or rolled erosion control products; around inlet and outlets; as check dams in unvegetated ditches, slope interrupters on steep slopes, and perimeter control; and along stream banks as a base for plantings. Some types of erosion logs (typically those with a heavier filtering medium such as compost) can be used in applications where underlying conditions are unsuitable (frozen ground, paved surfaces, sensitive plantings areas, etc.) for trenching.

Prior to placing erosion logs, the ground surface shall be properly graded and compacted and free of depressions or obstructions such as tree roots, protruding stones, or other foreign matter.

Erosion logs shall be installed in accordance with the manufacturer's installation guidelines, staking pattern guide, and details based upon the intended use on the construction site.

The Contractor shall remove accumulated sediment when it has reached 1/2 of the effective height of the log, or as directed by the Engineer. Alternatively, a new erosion log may be placed on top of and slightly behind the original one creating more sediment storage capacity. Erosion logs shall be maintained until disturbed area above the device has been permanently stabilized and construction activity has ceased.

When used as a temporary erosion prevention and sediment control measure, erosion logs may be cut open and left in place, but only if the fill material and netting are 100% biodegradable and the material is spread or graded flat so as to not cause concentration of future surface runoff.

SECTION 656 - PLANTING TREES, SHRUBS, AND VINES

178. 656.02 MATERIALS, is hereby modified by deleting the first entry in the Subsection listing (for "Barrier Fence") in its entirety.

179. 656.02 MATERIALS, is hereby further modified by adding the following as the second paragraph (directly below the Subsection listing):

Barrier Fence shall meet the requirements of Section 653.

SECTION 677 - OVERHEAD TRAFFIC SIGN SUPPORTS

180. 677.01 DESCRIPTION, is hereby modified by adding the phrase "and removing and disposing of existing overhead traffic sign supports," after the phrase "supports,".

181. 677.03 GENERAL, is hereby modified by adding the following paragraph:

Where existing overhead traffic sign supports are to be removed, the Contractor shall remove and dispose of the entire sign assembly, including concrete footings, to a depth of 450 mm (18 inches) below existing grade. Areas of ground disturbance shall be restored to the satisfaction of the Engineer.

182. 677.05 METHOD OF MEASUREMENT, is hereby modified by adding the following paragraph:

The quantity of Remove Existing Overhead Sign Assembly of the type specified to be measured for payment will be the number of each assembly removed in the complete and accepted work.

183. 677.06 BASIS OF PAYMENT, is hereby modified by adding the following paragraphs and pay items:

The accepted quantity of Remove Existing Overhead Sign Assembly of the type specified will be paid for at the Contract unit price per each. Payment will be full compensation for removing and disposing of assembly components, including concrete footings; for performing any excavation necessary; for restoring areas of ground disturbance; and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Costs associated with providing traffic control and/or flaggers for performing the work will be paid under the appropriate Contract item(s).

Payment will be made under:

Pay Item	Pay Unit
677.30 Remove Existing Overhead Sign Assembly, Cantilever	Each
677.35 Remove Existing Overhead Sign Assembly, Multi-Support	Each

SECTION 678 - TRAFFIC CONTROL SIGNALS

184. 678.01 DESCRIPTION, is hereby modified by adding the phrase ", and removing existing traffic control systems" after the word "system" in the first paragraph.

185. 678.02 MATERIALS, is hereby corrected by deleting "convers" and replacing it with the word "covers" in the second sentence of the last paragraph of the Subsection text.

186. 678.11 INSTALLATION, sixteenth paragraph, part (a), is hereby modified by adding the following as the third sentence:

The Contractor shall remove any equipment to be salvaged or reused in such a manner that the equipment is not damaged.

187. 678.13 METHOD OF MEASUREMENT, is hereby modified by adding the following paragraph:

The quantity of Removal of Existing Traffic Control Signal System to be measured for payment will be for each traffic control signal system removed in the complete and accepted work.

188. 678.14 BASIS OF PAYMENT, is hereby modified by adding the phrase "all removal, disposal, and salvage and/or reuse of existing system equipment and components," after the phrase "Electrical Wiring," in the second sentence of the first paragraph.

189. 678.14 BASIS OF PAYMENT, is hereby further modified by adding the following paragraph and pay item:

The accepted quantity of Removal of Existing Traffic Control Signal System will be paid for at the Contract unit price per each. Payment will be full compensation for removing and handling the existing traffic control signal system components as specified in the Contract Documents and for furnishing all labor, materials, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
678.45 Removal of Existing Traffic Control Signal System	Each

SECTION 700 GENERAL

190. 700.01 GENERAL STATEMENT, is hereby corrected by deleting punctuation ".," at the end of the first sentence of the fourth paragraph and replacing it with punctuation ".".

SECTION 708 - PAINTS, STAINS, AND TRAFFIC MARKING MATERIALS

191. 708.01 GENERAL REQUIREMENTS, part (c) Sampling, Testing, and Certification, subpart (2) Testing, is hereby modified by adding the following sentence:

All other materials may be required to be tested on a cold weather AASHTO National Transportation Product Evaluation Program (NTPEP) pavement marking test deck.

192. 708.08 PAINT FOR PAVEMENT MARKINGS, part (b) Low VOC Traffic Paint, is hereby modified by adding the following as the first paragraph:

Ready-mixed Low VOC Chlorinated Rubber Traffic Paint shall consist of 100% chlorinated rubber type, fast drying traffic paint that shall contain properly formulated pigment and vehicle to give the desired results.

193. 708.08 PAINT FOR PAVEMENT MARKINGS, part (b) Low VOC Traffic Paint, subpart (1) Materials, is hereby modified by adding the following new subpart d.:

d. The paint shall contain a maximum of 0.005% w/w (50 ppm w/w) lead. The EPA Method 1311 (TCLP) extract of the paint shall not contain amounts of cadmium, mercury, hexavalent chromium, or other toxic heavy metals in excess of the limits specified in SW-846.

194. 708.08 PAINT FOR PAVEMENT MARKINGS, part (b) Low VOC Traffic Paint, subpart (2) Composition, is hereby modified by deleting the phrase "and shall be a 100% acrylic binder" in the first sentence.

195. 708.08 PAINT FOR PAVEMENT MARKINGS, part (b) Low VOC Traffic Paint, subpart (2) Composition, is hereby further modified by deleting the phrase "Table 708.08A" and replacing it with the phrase "the following:" in the second sentence.

196. 708.08 PAINT FOR PAVEMENT MARKINGS, part (b) Low VOC Traffic Paint, subpart (2) Composition, is hereby still further modified by deleting TABLE 708.08A in its entirety and replacing it with the following:

TABLE 708.08A - LOW VOC CHLORINATED RUBBER TRAFFIC PAINT COMPOSITION

PERFORMANCE CHARACTERISTIC	WHITE	YELLOW/BLUE/ GREEN
Pigment Content, % by Mass (Weight) (ASTM D3723)	55% min. 59% max.	55% min 59% max.
Vehicle Content, % by Mass (Weight)	38% min. 42% max.	38% min. 42% max.
VOC Content, Mass (Weight) per Unit Volume (ASTM D3960)	150 g/L (1.25 lb/gal) max.	150 g/L (1.25 lb/gal) max.
Lead Content, %	0.005% max.	0.005% max.
Yellow Pigment	N/A	Yellow #65 or #75
Titanium Dioxide, Rutile Type II, (ASTM D1394)	120 g/L (1.00 lb/gal) max.	25 g/L (0.21 lb/gal) max.
Total Non-Volatile Content, % by Mass (Weight) (ASTM D2369)	70.0% min.	69.0% min.
Density, (ASTM D1475)	1.50 ± 0.04 kg/L (12.5 ± 0.33) lb/gal	1.46 ± 0.04 kg/L (12.2 +/- 0.33 lb/gal)
Close Cup Flash Point (ASTM D 3278)	4°C (39 °F) min.	4°C (39°F) min.

TABLE 708.08B - LOW VOC ACETONE BASED TRAFFIC PAINT COMPOSITION

PERFORMANCE CHARACTERISTIC	WHITE	YELLOW/BLUE/ GREEN
Pigment Content, % by Mass (Weight) (ASTM D3723)	53% min. 57% max.	51% min 56% max.
Vehicle Content, % by Mass (Weight)	37% min. 42% max.	37% min. 42% max.
VOC Content, Mass (Weight) per Unit Volume (ASTM D3960)	150 g/L (1.25 lb/gal) max.	150 g/L (1.25 lb/gal) max.
Lead Content, %	0.005% max.	0.005% max.
Yellow Pigment	N/A	Yellow #65 or #75
Titanium Dioxide, Rutile Type II, (ASTM D1394)	120 g/L (1.00 lb/gal) max.	25 g/L (0.21 lb/gal) max.
Total Non-Volatile Content, % by Mass (Weight) (ASTM D2369)	70.0% min.	69.0% min.
Density, (ASTM D1475)	1.415 ± 0.04 kg/L (11.8 ± 0.33) lb/gal	1.367 ± 0.04 kg/L (11.4 +/- 0.33 lb/gal)
Close Cup Flash Point (ASTM D 3278)	-20°C (-4°F) min.	-20°C (-4°F) min.

197. 708.08 PAINT FOR PAVEMENT MARKINGS, part (b) Low VOC Traffic Paint, subpart (3) Laboratory Tests, subpart a. Viscosity, is hereby modified by being deleted in its entirety and replaced as follows:

a. Viscosity.

1. Chlorinated Rubber Traffic Paint. The paint viscosity shall not be less than 74 nor more than 90 Krebs units at 25°C (77°F) when tested according to ASTM D562.

2. Acetone Based Traffic Paint. The paint viscosity shall not be less than 70 nor more than 88 Krebs units at 25°C (77°F) when tested according to ASTM D562.

198. 708.08 PAINT FOR PAVEMENT MARKINGS, part (b) Low VOC Traffic Paint, subpart (4) Sampling and Testing, subpart a. Sampling Size, is hereby modified by being deleted the phrase "per batch of each type and color of traffic paint" and replacing it with the phrase "of each traffic paint per batch," in the first sentence.

199. 708.08 PAINT FOR PAVEMENT MARKINGS, part (b) Low VOC Traffic Paint, subpart (4) Sampling and Testing, subpart c. Sample Delivery, is hereby modified by deleting the first paragraph in its entirety and replacing it as follows:

> All samples shall be delivered to the Research and Testing Engineer, Vermont Agency of Transportation, Materials and Research Section, Barre-Montpelier Road, Montpelier, VT 05633.

200. 708.08 PAINT FOR PAVEMENT MARKINGS, part (d) Waterborne Traffic Paint, subpart (3) Laboratory Tests, d. Drying Time (No Pick Up Time), is hereby modified by deleting the phrase "380 microns" and replacing it with the phrase "381 μm".

201. 708.08 PAINT FOR PAVEMENT MARKINGS, part (d) Waterborne Traffic Paint, subpart (3) Laboratory Tests, e. No Track Time (Field Test), is hereby modified by deleting the phrase "508 microns" and replacing it with the phrase "508 μm" in the second sentence.

202. 708.08 PAINT FOR PAVEMENT MARKINGS, part (d) Waterborne Traffic Paint, subpart (4) Sampling and Testing, c. Sample Delivery, is hereby corrected by deleting the phrase "1716 Barre-Montpelier Road, Berlin, VT 05602" and replacing it with the phrase "2178 Airport Road Unit B, Berlin, Vermont 05641" in the first paragraph.

203. 708.09 GLASS BEADS, is hereby modified by being re-named OPTICS.

204. 708.09 OPTICS, is hereby modified by adding new part (a) heading Glass Beads.

205. 708.09 OPTICS, part (a) Properties, is hereby modified by being re-designated as subpart (1) under part (a) heading Glass Beads.

206. 708.09 OPTICS, part (b) Certification, is hereby modified by being re-designated as subpart (2) under part (a) heading Glass Beads.

207. 708.09 OPTICS, is hereby further modified by adding the following new parts (b) and (c):

(b) Premium Optics. Approved premium optics shall be one of the premium optics listed on the Approved Products List on file with the Agency's Materials and Research Section.

(c) Wet Recoverable and Wet Reflective Optics. Approved wet recoverable and wet reflective optics shall be one of the wet recoverable and wet reflective optics listed on the Approved Products List on file with the Agency's Materials and Research Section.

208. 708.10 THERMOPLASTIC PAVEMENT MARKINGS, is hereby modified by being deleted in its entirety and replaced as follows:

708.10 THERMOPLASTIC PAVEMENT MARKINGS.

(a) Thermoplastic Pavement Markings, Type A. Type A Thermoplastic Pavement Markings shall be one of the Thermoplastic Pavement Markings on the Approved Products List on file with the Agency's Materials and Research Section. These markings shall be used in long line applications or as specified in the Contract Documents. Thermoplastic composition shall comply with Table 708.10A.

TABLE 708.10A - THERMOPLASTIC PAVEMENT MARKING COMPOSITION
(by mass (weight)

Binder	18% Minimum
Filler	40% Maximum
Glass Beads	30 ±5-40%

(b) Thermoplastic Pavement Markings, Type B. Type B Thermoplastic Pavement Markings shall be one of the Preformed Thermoplastic Pavement Markings on the Approved Products List on file with the Agency's Materials and Research Section. These markings shall be used in intersection applications for legends, stopbars, or symbols or as specified in the Contract Documents.

209. 708.11 RAISED PAVEMENT MARKERS, is hereby modified by being re-named RAISED PAVEMENT MARKERS, TYPE I.

210. 708.12 PAVEMENT MARKING TAPE, is hereby modified by deleting parts (a) Pavement Marking Tape, Type I, (b) Pavement Marking Tape, Type II, and (c) Pavement Marking Mask in their entirety and replacing them as follows:

(a) Pavement Marking Tape, Type A. Type A Pavement Marking Tape shall be one of the non-removable permanent pavement marking tapes on the Approved Products List on file with the Agency's Materials and Research Section that exhibit high adhesion, high durability, and high retroreflectivity. These markings shall be used in high AADT locations in long line applications as specified in the Contract Documents.

(b) Pavement Marking Tape, Type B. Type B Pavement Marking Tape shall be one of the non-removable pavement marking tapes on the Approved Products List on file with the Agency's Materials and Research Section. These markings shall be used in lower AADT locations in long line applications as specified in the Contract Documents.

(c) Pavement Marking Tape, Type C. Type C Pavement Marking Tape shall be one of the non-removable pavement marking tapes on the Approved Products List on file with the Agency's Materials and Research Section. These markings shall be used at intersection locations only as specified in the Contract Documents.

211. 708.12 PAVEMENT MARKING TAPE, is hereby further modified by adding the following new part (d):

(d) Pavement Marking Tape, Type D. Type D Pavement Marking Tape for legends and symbols shall be one of the non-removable pavement marking tapes on the Approved Products List on file with the Agency's Materials and Research Section. These markings shall be used for preformed traffic markings made of the same material as that of an approved permanent Type A, B, or C tape.

212. 708.13 PREFORMED TRAFFIC MARKINGS AND SYMBOLS, is hereby modified by being deleted in its entirety and replaced as follows:

708.13 TEMPORARY DELINEATION SYSTEMS.

(a) Line Striping Targets. Line Striping Targets shall be one of the Line Striping Targets on the Approved Products List on file with the Agency's Materials and Research Section.

(b) Raised Pavement Markers, Type II. Acceptable Raised Pavement Markers shall be one of the Raised Pavement Markers on the Approved Products List on file with the Agency's Materials and Research Section.

(c) Temporary Pavement Marking Tape. Pavement Marking Tape shall be one of the removable pavement marking tapes on the Approved Products List on file with the Agency's Materials and Research Section.

(d) Pavement Marking Mask. Pavement Marking Mask shall be one of the Masking Marking Tapes on the Approved Products List on file with the Agency's Materials and Research Section.

213. 708.14 LINE STRIPING TARGETS, is hereby modified by being deleted in its entirety.

SECTION 710 - CULVERTS, STROM DRAINS, AND SEWER PIPES, NONMETAL

214. 710.03 CORRUGATED POLYETHYLENE PIPE, is hereby modified by adding the following as the last sentence:

In order to maintain approval status, polyethylene pipe manufacturers must participate in, and maintain compliance with, the AASHTO National Transportation Product Evaluation Program (NTPEP), which audits producers of the pipe.

215. 710.07 CORRUGATED POLYPROPYLENE PIPE, is hereby made a new Subsection of the Standard Specifications as follows:

216. 710.07 CORRUGATED POLYPROPYLENE PIPE. Corrugated polypropylene pipe and fittings shall conform to the latest revisions of AASHTO M 330, Type S. Acceptable corrugated polypropylene pipe shall be one of the corrugated polypropylene pipe products on the Approved Products List on file with the Agency's Materials and Research Section. In order to maintain approval status, polypropylene pipe manufacturers must participate in, and maintain compliance with, the AASHTO National Transportation Product Evaluation Program (NTPEP), which audits producers of the pipe.

SECTION 713 - REINFORCING STEEL, WELDED WIRE REINFORCEMENT, AND REINFORCING STRAND

217. 713.01 BAR REINFORCEMENT, is hereby modified by deleting the phrase "conforming to AASHTO M 31M/M 31, including supplementary requirements" and replacing it with the phrase ", unless otherwise specified in the Contract Documents" in the first paragraph.

218. 713.01 BAR REINFORCEMENT, is hereby further modified by adding the following new parts (a)-(f) and associated paragraphs:

(a) Plain Reinforcing Steel. Plain reinforcing steel shall conform to AASHTO M 31M/M 31, including supplementary requirements.

(b) Low Alloy Reinforcing Steel. Low alloy reinforcing steel shall conform to ASTM A 706/A 706M.

(c) Epoxy Coated Reinforcing Steel. Epoxy coated reinforcing steel shall have an electrostatically applied organic epoxy protective coating, which has been prequalified, fabricated, tested, and installed in accordance with AASHTO M 284M/M 284.

(d) Stainless Clad Reinforcing Steel. Stainless clad reinforcing steel shall meet the requirements of AASHTO M 329M/M 329.

(e) Dual-Coated Reinforcing Steel. Dual-coated reinforcing steel shall meet the requirements of ASTM A 1055/A 1055M.

(f) Solid Stainless Reinforcing Steel. Solid stainless reinforcing steel shall meet the requirements of ASTM A 955/A 955M with one of the following UNS designations: S24100, S30400, S31603, S31653, S32101, S32201, S32205, or S32304. Different designations shall not be mixed within the same project.

Where no core steel requirements are specified in the above specifications, the steel core of the bar reinforcement shall meet the requirements of plain reinforcing steel.

Certification. A Type D Certification shall be furnished in accordance with Subsection 700.02. Certification for Epoxy Coated Reinforcing Steel shall include the coating and coating process.

219. 713.07 COATED BAR REINFORCEMENT, is hereby modified by being deleted in its entirety.

SECTION 714 - STRUCTURAL STEEL

220. 714.08 ANCHOR BOLTS, BEARING DEVICES, is hereby corrected by deleting ".F" and replacing it with "F" in the first sentence of the first paragraph.

221. 714.08 ANCHOR BOLTS, BEARING DEVICES, is hereby further corrected by deleting punctuation "." and replacing it with punctuation "." at the end of the second sentence of the first paragraph.

SECTION 726 - PROTECTIVE COATINGS AND WATERPROOFING MATERIALS

222. 726.10 CONCRETE STAINING AND SEALING SYSTEMS, is hereby made a new Subsection of the Standard Specifications as follows:

726.10 CONCRETE STAINING AND SEALING SYSTEMS. Approved Concrete Staining and Sealing Systems shall be one of the Concrete Staining and Sealing Systems on the Approved Products List on file with the Agency's Materials and Research Section.

223. 726.11 SHEET MEMBRANE WATERPROOFING, PREFORMED SHEET, is hereby made a new Subsection of the Standard Specifications as follows:

726.11 SHEET MEMBRANE WATERPROOFING, PREFORMED SHEET. Approved Preformed Sheet Membrane Waterproofing Systems shall be one of the Preformed Sheet Membrane Waterproofing Systems on the Approved Products List on file with the Agency's Materials and Research Section.

SECTION 731 - BEARING PADS FOR STRUCTURES

224. 731.03 ELASTOMERIC MATERIAL, is hereby modified by deleting the second and third paragraphs in their entirety and replacing them with the following:

Unless noted otherwise, elastomer shall have a design hardness of 50 points and a design shear modulus of 0.8 MPa (110 psi).

Testing of elastomeric material shall be waived for bearings that will be encased in concrete in the final work. All other bearings shall be tested in accordance with the following table:

TABLE 731.03A - REQUIRED TESTS

Material Property	Test Method	Required Result
Hardness	ASTM D 2240	design hardness +/- 5 points
	or	
Shear Modulus	ASTM D 412 with AASTHO M 251 Section 8.8.4	design shear modulus +/- 15%
Low Temperature Brittleness	ASTM D 746 Procedure B	Pass Grade 4 test
Shear Bond Strength	AASHTO M 251 Annex A2 or Appendix X2	Pass
Min Tensile Strength	ASTM D 412	15.6 MPa (2250 psi)
Min Ultimate Elongation	ASTM D 412	(650 - 5 X design hardness)%

SECTION 755 - LANDSCAPING MATERIALS

225. 755.17 EROSION LOGS, is hereby modified by being deleted in its entirety and replaced with the following:

Erosion logs are available in varying diameters. The Contractor shall follow the manufacturer's recommendations for the material type and size based on the intended use.

Erosion logs shall be composed of weed-seed-free coir, straw, excelsior, compost, or other biodegradable filtering medium encased in a photo-degradable and/or biodegradable netting or mesh.

Netting shall have openings of 13 to 25 mm (1/2 to 1 inch), with the exception of compost filled logs which should be 3 to 10 mm (1/8 to 3/8 inch) or as recommended by the manufacturer and accepted by the Engineer.

Anchors for erosion logs shall be wooden stakes, U-shaped wire or earth anchors, or rebar stakes; the size and length shall be as recommended by the manufacturer.

Compost shall meet the requirements of Table 755.05A, with the exception that particle size shall be 99% < 50 mm (2 inches) and maximum 30% < 10 mm (3/8 inch).

SECTION 780 - CONCRETE REPAIR MATERIALS

226. 780.05 POLYMER CONCRETE REPAIR MATERIAL, is hereby made a new Subsection of the Standard Specifications as follows:

780.05 POLYMER CONCRETE REPAIR MATERIAL. Approved Polymer Concrete Repair Materials shall be one of the Polymer Concrete Repair Materials on the Approved Products List on file with the Agency's Materials and Research Section.

ATTACHMENT C: STANDARD STATE PROVISIONS
FOR CONTRACTS AND GRANTS

1. **Entire Agreement:** This Agreement, whether in the form of a Contract, State Funded Grant, or Federally Funded Grant, represents the entire agreement between the parties on the subject matter. All prior agreements, representations, statements, negotiations, and understandings shall have no effect.

2. **Applicable Law:** This Agreement will be governed by the laws of the State of Vermont.

3. **Definitions:** For purposes of this Attachment, "Party" shall mean the Contractor, Grantee or Subrecipient, with whom the State of Vermont is executing this Agreement and consistent with the form of the Agreement.

4. **Appropriations:** If this Agreement extends into more than one fiscal year of the State (July 1 to June 30), and if appropriations are insufficient to support this Agreement, the State may cancel at the end of the fiscal year, or otherwise upon the expiration of existing appropriation authority. In the case that this Agreement is a Grant that is funded in whole or in part by federal funds, and in the event federal funds become unavailable or reduced, the State may suspend or cancel this Grant immediately, and the State shall have no obligation to pay Subrecipient from State revenues.

5. **No Employee Benefits For Party:** The Party understands that the State will not provide any individual retirement benefits, group life insurance, group health and dental insurance, vacation or sick leave, workers compensation or other benefits or services available to State employees, nor will the state withhold any state or federal taxes except as required under applicable tax laws, which shall be determined in advance of execution of the Agreement. The Party understands that all tax returns required by the Internal Revenue Code and the State of Vermont, including but not limited to income, withholding, sales and use, and rooms and meals, must be filed by the Party, and information as to Agreement income will be provided by the State of Vermont to the Internal Revenue Service and the Vermont Department of Taxes.

6. **Independence, Liability:** The Party will act in an independent capacity and not as officers or employees of the State.

   The Party shall defend the State and its officers and employees against all claims or suits arising in whole or in part from any act or omission of the Party or of any agent of the Party. The State shall notify the Party in the event of any such claim or suit, and the Party shall immediately retain counsel and otherwise provide a complete defense against the entire claim or suit.

   After a final judgment or settlement the Party may request recoupment of specific defense costs and may file suit in Washington Superior Court requesting recoupment. The Party shall be entitled to recoup costs only upon a showing that such costs were entirely unrelated to the defense of any claim arising from an act or omission of the Party.

   The Party shall indemnify the State and its officers and employees in the event that the State, its officers or employees become legally obligated to pay any damages or losses arising from any act or omission of the Party.

7. **Insurance**: Before commencing work on this Agreement the Party must provide certificates of insurance to show that the following minimum coverages are in effect. It is the responsibility of the Party to maintain current certificates of insurance on file with the state through the term of the Agreement. No warranty is made that the coverages and limits listed

herein are adequate to cover and protect the interests of the Party for the Party's operations. These are solely minimums that have been established to protect the interests of the State.

Workers Compensation: With respect to all operations performed, the Party shall carry workers' compensation insurance in accordance with the laws of the State of Vermont.

General Liability and Property Damage: With respect to all operations performed under the contract, the Party shall carry general liability insurance having all major divisions of coverage including, but not limited to:

Premises - Operations
Products and Completed Operations
Personal Injury Liability
Contractual Liability

The policy shall be on an occurrence form and limits shall not be less than:

$1,000,000 Per Occurrence
$1,000,000 General Aggregate
$1,000,000 Products/Completed Operations Aggregate
$ 50,000 Fire/ Legal/Liability

Party shall name the State of Vermont and its officers and employees as additional insureds for liability arising out of this Agreement.

Automotive Liability: The Party shall carry automotive liability insurance covering all motor vehicles, including hired and non-owned coverage, used in connection with the Agreement. Limits of coverage shall not be less than: $1,000,000 combined single limit.

Party shall name the State of Vermont and its officers and employees as additional insureds for liability arising out of this Agreement.

8. **Reliance by the State on Representations:** All payments by the State under this Agreement will be made in reliance upon the accuracy of all prior representations by the Party, including but not limited to bills, invoices, progress reports and other proofs of work.

9. **Requirement to Have a Single Audit:** In the case that this Agreement is a Grant that is funded in whole or in part by federal funds, the Subrecipient will complete the Subrecipient Annual Report annually within 45 days after its fiscal year end, informing the State of Vermont whether or not a single audit is required for the prior fiscal year. If a single audit is required, the Subrecipient will submit a copy of the audit report to the granting Party within 9 months. If a single audit is not required, only the Subrecipient Annual Report is required.

   A single audit is required if the subrecipient expends $500,000 or more in federal assistance during its fiscal year and must be conducted in accordance with OMB Circular A-133. The Subrecipient Annual Report is required to be submitted within 45 days, whether or not a single audit is required.

10. **Records Available for Audit:** The Party will maintain all books, documents, payroll papers, accounting records and other evidence pertaining to costs incurred under this agreement and make them available at reasonable times during the period of the Agreement and for three years thereafter for inspection by any authorized representatives of the State or Federal Government. If any litigation, claim, or audit is started before the expiration of the three year period, the records shall be retained until all litigation, claims or audit findings

involving the records have been resolved. The State, by any authorized representative, shall have the right at all reasonable times to inspect or otherwise evaluate the work performed or being performed under this Agreement.

11. **Fair Employment Practices and Americans with Disabilities Act**: Party agrees to comply with the requirement of Title 21V.S.A. Chapter 5, Subchapter 6, relating to fair employment practices, to the full extent applicable. Party shall also ensure, to the full extent required by the Americans with Disabilities Act of 1990, as amended, that qualified individuals with disabilities receive equitable access to the services, programs, and activities provided by the Party under this Agreement. Party further agrees to include this provision in all subcontracts.

12. **Set Off**: The State may set off any sums which the Party owes the State against any sums due the Party under this Agreement; provided, however, that any set off of amounts due the State of Vermont as taxes shall be in accordance with the procedures more specifically provided hereinafter.

13. **Taxes Due to the State**:

    a. Party understands and acknowledges responsibility, if applicable, for compliance with State tax laws, including income tax withholding for employees performing services within the State, payment of use tax on property used within the State, corporate and/or personal income tax on income earned within the State.

    b. Party certifies under the pains and penalties of perjury that, as of the date the Agreement is signed, the Party is in good standing with respect to, or in full compliance with, a plan to pay any and all taxes due the State of Vermont.

    c. Party understands that final payment under this Agreement may be withheld if the Commissioner of Taxes determines that the Party is not in good standing with respect to or in full compliance with a plan to pay any and all taxes due to the State of Vermont.

    d. Party also understands the State may set off taxes (and related penalties, interest and fees) due to the State of Vermont, but only if the Party has failed to make an appeal within the time allowed by law, or an appeal has been taken and finally determined and the Party has no further legal recourse to contest the amounts due.

14. **Child Support**: (Applicable if the Party is a natural person, not a corporation or partnership.) Party states that, as of the date the Agreement is signed, he/she:

    a. is not under any obligation to pay child support; or
    b. is under such an obligation and is in good standing with respect to that obligation; or
    c. has agreed to a payment plan with the Vermont Office of Child Support Services and is in full compliance with that plan.

    Party makes this statement with regard to support owed to any and all children residing in Vermont. In addition, if the Party is a resident of Vermont, Party makes this statement with regard to support owed to any and all children residing in any other state or territory of the United States.

15. **Sub-Agreements**: Party shall not assign, subcontract or subgrant the performance of his Agreement or any portion thereof to any other Party without the prior written approval of

the State. Party also agrees to include in all subcontract or subgrant agreements a tax certification in accordance with paragraph 13 above.

16. **No Gifts or Gratuities**: Party shall not give title or possession of any thing of substantial value (including property, currency, travel and/or education programs) to any officer or employee of the State during the term of this Agreement.

17. **Copies**: All written reports prepared under this Agreement will be printed using both sides of the paper.

18. **Certification Regarding Debarment:** Party certifies under pains and penalties of perjury that, as of the date that this Agreement is signed, neither Party nor Party's principals (officers, directors, owners, or partners) are presently debarred, suspended, proposed for debarment, declared ineligible or excluded from participation in federal programs, or programs supported in whole or in part by federal funds.

    Party further certifies under pains and penalties of perjury that, as of the date that this Agreement is signed, Party is not presently debarred, suspended, nor named on the State's debarment list at: http://bgs.vermont.gov/purchasing/debarment

19. **Certification Regarding Use of State Funds:** In the case that Party is an employer and this Agreement is a State Funded Grant in excess of $1,001, Party certifies that none of these State funds will be used to interfere with or restrain the exercise of Party's employee's rights with respect to unionization.

(End of Standard Provisions)

Special Provisions for: Wardsboro-Jamaica ER STP 013-1(17)
Wardsboro BF 013-1(21)
Wardsboro BF 013-1(22)

1. LABOR SUPPLY. Available workers for this Contract may be obtained from Manager, Employment & Training, Brattleboro, VT. The latest edition of the DBE Registry can be obtained from the Office of Civil Rights and Labor's Webpage at the following address: www.aot.state.vt.us/CivilRights/default.htm. Contractors that do not have access to the internet may obtain a copy from the Office of Contract Administration upon request.

2. CONTRACT COMPLETION DATE. This Contract shall be completed on or before October 16, 2015.

3. INTERIM COMPLETION DATE. All work for the BF 013-1(21) and BF 013-1(22) projects, and all work between VT Route 100 Sta. A 1+75.00 (Begin Project) and Sta. A 210+50.00 for the ER STP 013-1(17) project, including Begin Approach work, shall be completed on or before October 17, 2014.

   Liquidated damages in the amount of 40% of the applicable Contract Daily Charge Per Day of Delay in accordance with Subsection 108.12(c) will be assessed for each working day following October 17, 2014 that the specified work is not completed. These liquidated damages are separate from, and will be imposed in addition to, liquidated damages which may be imposed for failure to complete the Contract on time.

   The provisions for substantial completion and for an extension of time will not apply to the requirements listed above on or before October 17, 2014 unless authorized by the Vermont Agency of Transportation.

4. NOTICE TO BIDDERS. U.S. Department of Labor Davis-Bacon wage rates are applicable to this Contract. Copies of the applicable rates are included in this proposal.

5. CONTACT WITH THE AGENCY. From the time of advertising until the actual bid opening for this Contract, all prospective Contractors, subcontractors, and suppliers shall direct all inquiries related to this project solely to the Agency's Office of Contract Administration at (802) 828-2641. This number may also be accessed via the Agency's TTY/TDD Telecommunications Relay Service at 1-800-253-0191.

   The deadline for submitting inquiries related to this project to the Office of Contract Administration is 4:30 p.m. Eastern Standard Time on April 18, 2014. No exceptions will be made to this requirement.

6. NOTICE TO BIDDERS. The Contractor is hereby notified that in the absence of the Engineer, the Agency's Safety Officer and the Agency's Hazardous Materials and Waste Coordinator shall each have the authority to suspend work when they determine that a serious safety or environmental violation exists on the job site. The period of time work is suspended due to a serious safety or environmental violation will not be justification for an extension of time.

7. NOTICE TO BIDDERS. Prior to ordering any signs, the Contractor shall perform an inventory of the signs on the project in the presence of the Engineer.

Upon completion of the inventory, the Engineer will issue to the Contractor a written order detailing all signing changes, including decisions made by the Engineer in conformance with Agency policy, the Manual on Uniform Traffic Control Devices (MUTCD), and the Standard Highway Signs and Markings (SHSM) book. Upon receiving the written order, the Contractor shall then order signs.

8. STANDARD SPECIFICATIONS. The provisions of the 2011 STANDARD SPECIFICATIONS FOR CONSTRUCTION, as modified herein, shall apply to this Contract.

9. SUPPLEMENTAL SPECIFICATIONS AND CONTRACT REQUIREMENTS. The Contractor's attention is directed to the following specifications and contract requirements included in the Proposal form and effective for this Contract:

Required Contract Provisions for Federal-Aid Construction
Standard Federal EEO Specifications
VT Agency of Transportation Contractor Workforce Reporting Requirements
Workers' Compensation; State Contracts Compliance Requirement
General Special Provisions dated December 3, 2013
Bulletin 3.5 Attachment C: Standard State Provisions for Contracts and Grants
Vermont Minimum Labor & Truck Rates
Disadvantaged Business Enterprise (DBE) Policy Contract Requirements
U.S. Department of Labor Davis-Bacon Wage Rates
Asphalt Price Adjustment Provisions dated April 6, 2010
Stream Alteration Consultation BF 013-1(21) (e-mail) dated January 16, 2014
Stream Alteration Consultation BF 013-1(22) (e-mail) dated January 16, 2014
Army Corps of Engineers Category 1 Self-Verification Form for Culvert 70
Army Corps of Engineers Category 1 Self-Verification Form for Culvert 73
Army Corps of Engineers General Permit #NAE-2012-1167 dated December 6, 2012
Certification for Federal-Aid Contracts
Contractor's EEO Certification Form
Debarment & Non-Collusion Affidavit

10. NOTICE TO BIDDERS - CONTRACT INSURANCE REQUIREMENTS. The Contractor is hereby notified that in the event of a discrepancy between the stated insurance requirements of Bulletin 3.5 Attachment C: Standard State Provisions for Contracts and Grants and those of Subsection 103.04 of the Standard Specifications for Construction, the requirements of Subsection 103.04 of the Standard Specifications for Construction shall govern.

11. NOTICE TO BIDDERS - ADDITIONAL CONTRACT REQUIREMENT. For construction and transportation projects over $250,000.00, a payroll process by which during every pay period the Contractor collects from the subcontractors or independent contractors a list of all workers who were on the jobsite during the pay period, the work performed by those workers on the jobsite, and a daily census of the jobsite. This information, including confirmation that Contractors, subcontractors, and independent contractors have the appropriate workers' compensation coverage for all workers at the jobsite, and similar information for the subcontractors regarding their subcontractors shall also be provided to the Department of Labor and to the Department of Banking, Insurance, Securities, and Health Care Administration, upon request, and shall be available to the public.

12. NOTICE TO BIDDERS - INCENTIVE/DISINCENTIVE (I/D). The Agency's intent is to have the bridge closure periods (BCPs) for Culvert Nos. 70 and 73 be as short a duration as possible. To encourage the Contractor to provide a maximum effort to complete the Identified Work for I/D within the period as defined below, the Agency is willing to pay an incentive.

(a) Dates. The allowable BCP for each culvert will be one (1) weekend, herein defined for the purposes of this Contract as the period from 6:00 p.m. Friday to 6:00 a.m. on the following Monday. Approved closure dates (in calendar year 2014) are as follows:

July 18-21
August 1-4
August 8-11
August 15-18
August 22-25
September 5-8
September 12-15

The Contractor shall select a separate BCP for each culvert.

During the BCP, the Contractor will be allowed to work 24 hours per day. The Contractor shall schedule their work such that the bridge is not closed during a holiday period. See Special Provision Nos. 13 NOTICE TO BIDDERS - REQUIREMENTS FOR NIGHTTIME WORK and 14 NOTICE TO BIDDERS - NIGHTTIME WORK RESTRICTIONS for additional information and requirements.

Upon any Contractor's receipt of the VAOT Contract award letter, the Contractor shall submit to the VAOT Construction Section for review and approval a certified letter indicating the BEGIN CONSTRUCTION DATE for the BCP work for each culvert. This letter shall be received by the Construction Section a minimum of five (5) calendar days prior to the BEGIN CONSTRUCTION DATE indicated in the letter. The BEGIN CONSTRUCTION DATE shall be determined by the Contractor.

The I/D period as established above for this Contract is absolutely fixed and will not be changed for any Act of God, omission, improper action, direction of the Engineer, or any other reason unless done so by the Secretary and only under extreme conditions as determined by the Secretary.

There shall be a pre-closure coordination meeting held on site with all subcontractors, the Contractor's superintendent, the Engineer, the Project Manager, the Town of Wardsboro, the Vermont State Police, and the Windham County Sheriff to discuss durations of work, types of night work, work sequencing, etc. The Contractor shall be responsible for setting this meeting up and making appropriate contacts. In addition, weekly meetings between the Contractor, Engineer, and other pertinent parties as determined by the Engineer shall be held to discuss the project progress and future construction activities, and current CPM progress schedules and narratives.

(b) Identified Work.

(1) Culvert No. 70. All work required to open the project facility to two-way traffic including:

a. Box culvert installed and backfilled;

b. Subbase placed to grade; and

c. Temporary barrier installed.

Following opening of Culvert No. 70 to two-way traffic, temporary lane closure(s) will be allowed. The Contractor shall submit a temporary traffic control plan for the Engineer's approval prior to closing any lane. Wherever one-way traffic is maintained by the Contractor, the traveling public shall not be delayed more than 10 minutes unless otherwise directed by the Engineer.

(2) Culvert No. 73. All work required to open the project facility to two-way traffic including:

a. Box culvert installed and backfilled;

b. Subbase placed to grade; and

c. Temporary barrier installed.

A maximum of two (2) weeks following the end of the BCP, the temporary pavement shall be placed.

Following opening of Culvert No. 73 to two-way traffic, temporary lane closure(s) will be allowed. The Contractor shall submit a temporary traffic control plan for the Engineer's approval prior to closing any lane. Wherever one-way traffic is maintained by the Contractor, the traveling public shall not be delayed more than 10 minutes unless otherwise directed by the Engineer.

(c) Pay Schedule.

(1) Culvert No. 70. The Contractor will receive a lump sum compensation of ten thousand dollars ($10,000) for completing the Identified Work on or before the end of the I/D period (allowable BCP).

In addition, the Contractor will be compensated at a rate of five hundred dollars ($500) per hour for each hour, or part thereof, that the Identified Work is completed on or before the end of the I/D period (allowable BCP).

The maximum amount payable under the incentive clause shall be fifteen thousand dollars ($15,000) (including the lump sum payment).

For each hour, or part thereof, after the end of the I/D period (allowable BCP) that the Identified Work remains uncompleted, the Contractor will be assessed a disincentive at a rate of five hundred dollars ($500) per hour. There shall be no maximum on the disincentive amount.

This assessed disincentive is separate from, and will be imposed in addition to, liquidated damages which may be imposed for failure to complete the Contract on time.

(2) Culvert No. 73. The Contractor will receive a lump sum compensation of ten thousand dollars ($10,000) for completing the Identified Work on or before the end of the I/D period (allowable BCP).

In addition, the Contractor will be compensated at a rate of five hundred dollars ($500) per hour for each hour, or part thereof, that the Identified Work is completed on or before the end of the I/D period (allowable BCP).

The maximum amount payable under the incentive clause shall be fifteen thousand dollars ($15,000) (including the lump sum payment).

For each hour, or part thereof, after the end of the I/D period (allowable BCP) that the Identified Work remains uncompleted, the Contractor will be assessed a disincentive at a rate of five hundred dollars ($500) per hour. There shall be no maximum on the disincentive amount.

This assessed disincentive is separate from, and will be imposed in addition to, liquidated damages which may be imposed for failure to complete the Contract on time.

(d) Underruns and Overruns. The proposal indicates an estimated quantity for each Contract pay item. The fact that the actual amounts used in the construction of this project may vary from the estimate will not be a basis or cause for changing any of the conditions for I/D.

The Agency recognizes that additional work beyond the work indicated in the Plans is always possible in any construction contract. The Agency is willing to pay for necessary additional work in accordance with the terms and requirements of the Contract and the Standard Specifications for Construction, however, the Contractor shall absorb any resulting construction time within the original project and CPM Schedules, and there will be no adjustments or changes to the I/D dates or I/D conditions.

(e) Payment. Payment will be made as specified in Section 900.

13. NOTICE TO BIDDERS - REQUIREMENTS FOR NIGHTTIME WORK. The Contractor is hereby notified that night work will be allowed within the bridge closure periods. For the purposes of this Contract, "night" shall mean from the hours of 7:00 p.m. until 5:00 a.m. of the following day. The Engineer may abbreviate this time period as necessary for safety considerations.

Night work shall be performed in accordance with the National Cooperative Highway Research Program (NCHRP) Report 476 - "Guidelines for Design and Operation of Nighttime Traffic Control for Highway Maintenance and Construction". A copy of this guideline specification may be downloaded from the following website: http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_476.pdf.

Prior to beginning night work, the Contractor shall design a lighting system and present it to the Engineer for approval. The Contractor shall not perform any night work or activities within the project limits until the lighting system has been fully approved and is in place on the project.

The designed lighting system shall be mobile, shall be mounted separately from other construction equipment, shall illuminate the entire work area to daylight intensity with minimal glare, and shall be a surrounding design that minimizes shadows in the work area as much as possible.

All costs associated with the lighting system will be considered incidental to Contract item 900.645 Special Provision (Traffic Control, All-Inclusive).

14. NOTICE TO BIDDERS - NIGHTTIME WORK RESTRICTIONS. The Contractor is hereby notified that during the bridge closure periods, no work shall be performed between the hours of 9:00 p.m. and 5:00 a.m. that creates a noise level exceeding 75 decibels. The decibel level shall be measured from the point of activity to the nearest occupied residence.

Construction activities expected to reach this noise threshold include pneumatic hammers, hoe-ram, and similar impact type equipment.

The Contractor shall provide the Engineer, for the duration of the nighttime work, with a sound level meter capable of measuring this noise criteria during the bridge closure period.

Sound level meters shall be Rion NL-20, CESVA SC-160, Extech 407780 or an approved equal capable of meeting IEC60651: 1979 Type 2 and IEC60804: 1985 Type 2 Standards.

The cost for providing this equipment and meeting the specified noise level criteria will not be paid for separately, but will be considered incidental to all other Contract items.

15. NOTICE TO BIDDERS. All temporary construction signs shall meet the following requirements:

A. Where sign installations are not protected by guardrail or other approved traffic barriers, all sign stands and post installations shall meet National Cooperative Highway Research Program (NCHRP) Report 350 or the AASHTO Manual for Assessing Safety Hardware (MASH). The appropriate resource shall be determined as described in the MASH publication. No sign posts shall extend over the top of the sign installed on said post(s). When anchors are installed, stub shall not be greater than 100 mm (4 inches) above existing ground.

B. As a minimum, roll up sign material shall have ASTM D 4956 Type VI fluorescent orange retroreflective sheeting.

C. All post-mounted signs and solid substrate portable signs shall have ASTM D 4956 Type VII, Type VIII, or Type IX fluorescent orange retroreflective sheeting.

D. All retroreflective sheeting on traffic cones, barricades, and drums shall be at a minimum ASTM D 4956 Type III sheeting.

E. All stationary signs shall be mounted on two 4.5 kg/m (3 lb/ft) flanged channel posts or 51 mm (2 inch) square steel inserted in 57 mm (2 ¼") galvanized square steel anchors. No sign posts shall extend over the top edge of sign installed on said posts.

F. Prior to placing temporary work zone signs on the project, the Contractor must furnish for the Engineer's approval a detail for temporary work zone signs on steel posts showing stubs projecting a maximum of 100 mm (4 inches) above ground level and bolts for sign post.

G. Construction signs shall be installed so as to not interfere with nor obstruct the view of existing traffic control devices, stopping sight distance, and corner sight distance from drives and town highways.

H. Speed zones, if used, should be a maximum of 16 kph (10 mph) below existing posted speeds. Temporary speed limit certificates must be approved by the Director of Program Development.

16. NOTICE TO BIDDERS. All retroreflective sheeting on permanent signs (signs to remain after the project is completed) shall be at a minimum ASTM D 4956 Type III sheeting, unless otherwise shown on the Plans.

17. ENVIRONMENTAL.

Wardsboro-Jamaica ER STP 013-1(17)

Wetlands are located throughout the project corridor. Sensitive wetland areas have been identified in the Plans. Area identification does not represent boundary delineation but an indication of the length and side of the right-of-way affected by wetlands. Toe of Slope (TOS) within wetland areas should be marked off with project demarcation fencing so that it is clear that the Contractor will not expand beyond the existing TOS without coordination with the VT Army Corps of Engineers and the VT State Wetlands Office. As proposed, there appears to be no impacts to wetlands.

There are several perennial and intermittent watercourses throughout the project area, some immediately adjacent to the existing TOS. No impacts are anticipated within these watercourses. If there are proposed areas that need improvements, permitting may be required from the US Corps of Engineers and ANR.

To minimize environmental impacts to wetlands and watercourses during construction, the project should adhere to VTrans Standard Specifications Subsections 105.22-105.29 addressing environmental protection and applying best management practices for erosion and sediment control during construction activities.

Wardsboro BF 013-1(21) & BF 013-1(22)

See Stream Alteration Consultations included in the Contract Documents.

18. UTILITIES.

Wardsboro-Jamaica ER STP 013-1(17)

Existing aerial facilities owned by Green Mountain Power Corporation, FairPoint, Sovernet Communications, and Comcast will not require adjustment. The Contractor is cautioned to protect these facilities from damage.

Green Mountain Power Corporation: Scott Buysee - (802)747-5863
FairPoint: Bob Rondeau - (802)747-1077

Wardsboro BF 013-1(21)

Existing aerial facilities owned by Green Mountain Power Corporation will be relocated, as necessary, by employees or agents of the above company in accordance with the Plans.

Existing aerial facilities owned by FairPoint Communications will not require adjustment. The Contractor is cautioned to protect these facilities from damage.

Wardsboro BF 013-1(22)

Existing aerial facilities owned by Green Mountain Power Corporation and FairPoint Communications will not require adjustment. The Contractor is cautioned to protect these facilities from damage.

Wardsboro-Jamaica ER STP 013-1(17) & Wardsboro BF 013-1(21) & Wardsboro BF 013-1(22)

Contacts for the above listed utility companies are:

Green Mountain Power:	Scott Buysse	- (802)747-5863
FairPoint:	Bob Rondeau	- (802)747-1077
Sovernet Communications:	Susan Haskins	- (802)460-9190
Comcast:	Kevin Zaloudek	- (802)776-1623

The Contractor is advised that exploratory excavation to locate existing underground facilities may be necessary to protect these facilities from damage. Where approved by the Engineer, these utilities shall be located and/or exposed by methods such as air/vacuum excavation and/or hand digging to determine their exact location. This exploratory work shall be classified as Trench Excavation of Earth, Exploratory and payment will be made under Contract item 204.22.

Employees or agents of the above listed companies are to be allowed free and full access within the project limits with the tools, materials, and equipment necessary to install, operate, maintain, place, replace, relocate, and remove their facilities.

There will be no extra compensation paid to the Contractor for any inconvenience caused by working around and with the companies or their facilities.

Act No. 86 of 1987 (30 VSA Chapter 86)("Dig Safe") requires that notice be given prior to making an excavation. It is suggested that the Permit Holder or his/her contractor telephone 1-888-344-7233 at least 48 hours before, and not more than 30 days before, beginning any excavation at any location.

Should the Contractor desire additional adjustments of the utility facilities for his/her convenience, proper arrangements shall be made in conformance with Subsection 105.07 of the Standard Specifications for Construction.

19. HIGHWAY PARKING RESTRICTIONS. Only such trucks and equipment as are necessary for the construction of this project will be permitted to stop or park on the shoulders or right-of-way of the highway or intersecting highways. All trucks or equipment so stopped or parked shall be at least 1.2 m (4 feet) from the edge of the thru traffic lanes. Parking or stopping on the traveled portion of the roadway will not be permitted unless authorized by the Engineer to meet field conditions.

Private automobiles of workers will not be permitted to stop or park on the shoulders or right-of-way of the highway or intersecting highways.

Each of the Contractor's trucks or equipment used for the construction of this project and permitted to park or stop as provided above shall be equipped with flashing light signals on the front and rear and the signals shall be operating at all times when parked or stopped on the highway unless otherwise authorized by the Engineer.

The flashing light signals shall be visibly distinct from and physically separate from the hazard warning system required by Federal and State motor vehicle laws and regulations. At least one of these flashing light signals shall be visible to traffic approaching from any angle at all times.

Qualified traffic control personnel shall be employed whenever the Contractor's vehicles or equipment (including that which belongs to the individual workers) enter or leave the traffic flow. All movement, in or out of the traffic flow, shall be with the flow of traffic.

20. SPECIAL CONSTRUCTION REQUIREMENTS.

A. Unless otherwise permitted in writing by the Engineer, the Contractor shall not work during the holiday periods for Memorial Day, July Fourth, Labor Day, and Veterans Day. The Engineer shall give a written order designating the time of observance of these holidays and of any additional holidays required by the season, anticipated traffic, and local custom. As specified in Subsection 105.14, and except as otherwise allowed under Special Provision No. 12(a), construction operations shall not be performed on any Sunday without the specific authorization of the Engineer.

Designated holiday periods shall begin at 12:00 noon on the day before the weekend or holiday, whichever applies, and shall end at 7:00 a.m. on the day after the holiday or the weekend, as appropriate.

B. Except during holiday periods, the Contractor shall maintain a minimum of one-way traffic through the project at all times. During holiday periods, the Contractor shall maintain two-way traffic through the project at all times. Wherever one-way traffic is maintained by the Contractor, the traveling public shall not be delayed more than 10 minutes unless otherwise directed by the Engineer.

C. The Contractor shall maintain a safe access to all drives and intersecting side roads at all times during the construction of this project.

D. During construction it may be necessary for the Contractor to maintain one-lane traffic for extended periods of time. In no case shall the paved width for this one-lane traffic, including shoulders, be reduced to less than 3.65 meters (12 feet). This paved width shall remain free of obstructions and obstacles at all times.

E. All paving operations shall be conducted such that, to the extent possible, all travel lanes are covered full width in a single paver pass. Longitudinal construction joints within any travel lane will not be permitted. Screed extension to cover adjacent shoulders concurrent with any travel lane will be permitted considering the requirement for auger extensions.

F. All drives shall be paved with an apron extending a minimum of 1.2 meters (four feet) into the drive from the outside edge of the highway shoulder, whether the shoulder is paved or unpaved, or as designated in the Plans. All town highways shall have a paved apron extending a minimum of 7.60 meters (25 feet), or as designated in the Plans, into the town highway from the outside edge of shoulder.

G. Pavement drop-offs at the end of driveway aprons and side road approaches shall be backed up the same working day as the apron is placed using either the aggregate materials designated for shoulders and/or road surfaces or shall have additional bituminous concrete pavement placed to provide a smooth transition from the new pavement to the existing surface beyond the apron.

H. The Contractor shall position Portable Changeable Message Signs at locations determined by the Engineer properly warning motorists of the roadway conditions ahead. As directed by the Engineer, these locations may change during construction as needs arise based on daily work activities. The message to be displayed shall be submitted to the Engineer in advance for approval. The displayed message should accurately reflect what motorists can expect to encounter through the project area. The cost of providing the Portable Changeable Message Signs shall be paid for under Contract item 641.15. The Contractor shall also install and maintain appropriate construction signing warning the traveling public of the expected roadway conditions.

I. The Contractor shall remove and install guardrail and/or bridge railing in a manner that will present a minimal hazard to the traveling public. As part of the necessary procedures to accomplish this, the Contractor shall comply with the following requirements:

1. Existing guardrail and/or bridge railing shall only be removed to the extent that it can be replaced with new guardrail and/or new, or temporary as allowed, bridge railing during the same work day. Where it is not practical, as determined by the Engineer, to replace removed existing guardrail with new guardrail during the same workday, the Contractor shall provide a temporary traffic barrier meeting the requirements of Subsection 621.07 or other temporary delineation approved by the Engineer. Any proposed temporary barrier/delineation shall be included in the approved traffic control plan.

2. The Contractor shall eliminate unprotected guardrail and/or bridge railing ends facing traffic by installing the designed end treatments the same day the guardrail and/or bridge railing is installed or by installing temporary end treatments approved by the Engineer (i.e. buried, buried in sand, energy absorption attenuator, etc.). Such temporary end treatments will be installed and removed solely at the expense of the Contractor. Temporary end treatments shall be replaced with the designed end treatments within two (2) calendar days following the guardrail and/or bridge railing installation.

3. All guardrail and/or bridge railing installation shall have all bolts installed and tightened at the end of each work day.

J. Unless otherwise directed by the Engineer, the Contractor shall begin and end the wearing course of pavement for the project with a full depth butt joint constructed as directed by the Engineer. The costs of cutting the butt joint will not be paid for directly, but will be considered incidental to Contract item 490.30.

K. Grass growing adjacent to pavement or through cracks in the pavement which may hamper the placement of new bituminous concrete shall be removed by the Contractor as directed by the Engineer. Payment for this work will not be made directly, but will be considered incidental to Contract item 490.30.

L. Vegetation removal, leveling of shoulders, shoulder repairs, and compaction of the existing shoulders shall be performed prior to beginning the leveling course of pavement. The leveling course shall include the shoulder width.

A quantity of bituminous concrete pavement has been included in the project quantities to cover leveling of the shoulders.

M. Except as directed by the Engineer, all work outside the paved portion of the shoulders, including excavation, pipe extensions, grading, filling, sign installation, guardrail construction, topsoil, and turf establishment shall be completed prior to placing the wearing course of pavement.

N. Where possible, a 50 mm (2 inch) space should be maintained between all final pavement markings and parallel joints in bituminous concrete pavement. The Contractor shall conduct paving operations such that the paving joint between the travel lane and adjacent shoulder will be outside of the 100 mm (4 inch) or 100 mm (4 inch) white line.

O. At the end of each day's work, all excavated shoulder areas shall be backfilled up to and level with the existing edge of pavement with properly compacted shoulder materials as directed by the Engineer, or alternately protected as detailed on Standard Drawing T-36.

P. Prior to final acceptance of the project, all drop inlets and bridge joints within the project limits shall be cleaned and all material within the drop inlets and bridge joints shall be removed. All paved areas adjacent to curbs shall be swept and cleaned of all extraneous material. Costs for this work will not be paid for directly, but will be considered incidental to all Contract items.

Q. Two-way radios shall be provided by the Contractor when requested by the Engineer for use by traffic control personnel. All costs for furnishing and using two-way radios will not be paid for directly, but will be considered incidental to the traffic control Contract items.

R. The Contractor shall have available on the project the current editions of the Manual on Uniform Traffic Control Devices (MUTCD) and the Standard Highway Signs and Markings (SHSM) book. Information for obtaining these publications may be found at: http://mutcd.fhwa.dot.gov/index.htm.

S. For this project, the Contractor shall have on hand on the project at all times all necessary materials, equipment, and labor to place any and all necessary interim pavement markings, including temporary line striping targets, required by the Plans or as directed by the Engineer. The markings shall be paid for under the appropriate Contract items.

The costs of maintaining marking capability at all times will not be paid for directly, but will be considered incidental to the pavement marking items in the Contract.

ASPHALT PRICE ADJUSTMENT

21. SUPPLEMENTAL SPECIFICATION - ASPHALT PRICE ADJUSTMENT, dated April 6, 2010, is hereby made a new Subsection of the Specifications, superseding all previous editions and their modifications.

22. SUPPLEMENTAL SPECIFICATION - ASPHALT PRICE ADJUSTMENT, dated April 6, 2010, GENERAL REQUIREMENTS AND CONDITIONS, part (b) text, is hereby modified by being deleted in its entirety and replaced with text "NOT USED".

The index price for asphalt cement is $573.00 per ton.

In addition to materials produced under Contract pay item(s) as allowed in GENERAL REQUIREMENTS AND CONDITIONS, part (a) of the Supplemental Specification, asphalt cement and emulsified asphalt produced under Contract items 900.675 Special Provision (Hand-Placed Bituminous Concrete Material, Drives), 900.680 Special Provision (Bituminous Concrete Pavement Surface Preparation, Type I), 900.683 Special Provision (Emulsified Asphalt)(RS-1H or CRS-1H), 900.683 Special Provision (Emulsified Asphalt, Cold Mix with Cement), and 900.683 Special Provision (Fog Seal Surface Treatment) will be included for adjustment.

The tonnage of Special Provision (Hand-Placed Bituminous Concrete Material, Drives) placed will be utilized in the adjustment calculation.

If an emulsified asphaltic liquid is used in the Contract work under any Contract item subject to the Asphalt Price Adjustment provisions and that liquid is not included in the table under subpart (5) of PRICE ADJUSTMENT PROCEDURES of the Supplemental Specification, the ACEA as defined in subpart (5) for that liquid will be that as determined by averaging Contractor certified test results for the project.

SECTION 108 – PROSECUTION AND PROGRESS

23. 108.11 DETERMINATION OF EXTENSION OF CONTRACT TIME FOR COMPLETION, part (b) Determination of Contract Completion Date Extension, is hereby modified by adding new subpart (11) as follows:

(11) The days from April 15th to December 1st, inclusive, on which the weather or condition of the ground caused suspension of the work.

SECTION 310 – RECLAIMED STABILIZED BASE

24. 310.04 CONSTRUCTION, is hereby modified by deleting the phrase "or dust control" after the word "stabilizing" in the third paragraph.

25. 310.04 CONSTRUCTION, is hereby further modified by adding the following sentence to the third paragraph:

When a dust control agent is not exclusively specified on the Plans, water and/or Calcium Chloride shall be used as that agent to meet all requirements of this Section.

26. 310.10 BASIS OF PAYMENT, is hereby modified by adding the following as the fourth paragraph:

Calcium Chloride used for dust control after the reclamation will not be paid for directly, but will be considered incidental to the Reclaimed Stabilized Base item.

SECTION 490 – SUPERPAVE BITUMINOUS CONCRETE PAVEMENT

27. 490.03 COMPOSITION OF MIXTURE, part (b) Design Criteria, TABLE 490.03B – DESIGN CRITERIA is hereby modified by deleting the fourth row (for "Dust Proportion") in its entirety and replacing it with the following:

Dust Proportion (Filler/Asphalt Ratio)	0.60 – 1.20 (Wet Sieve) (Dry Sieve for Production – Types IS and IIS: 0.50 – 1.20 Types IIIS, IVS, and VS: 0.50 – 1.00)

28. 490.03 COMPOSITION OF MIXTURE, part (b) Design Criteria, TABLE 490.03B – DESIGN CRITERIA is hereby further modified by deleting the sixth row (for "Voids in Mineral Aggregate") in its entirety and replacing it with the following:

Voids in Mineral Aggregate (VMA)%	12.5 min.	13.5 min.	14.5 min	15.5 min.	16.5. min.	17.5 min.

29. 490.03 COMPOSITION OF MIXTURE, part (b) Design Criteria, TABLE 490.03B – DESIGN CRITERIA is hereby still further modified by deleting the ninth row (for "Voids Filled With Asphalt") in its entirety.

30. 490.03 COMPOSITION OF MIXTURE, part (b) Design Criteria, TABLE 490.03B – DESIGN CRITERIA is hereby still further modified by deleting footnotes (3), (4), and (5) in their entirety.

31. 490.03 COMPOSTION OF MIXTURE, part (b) Design Criteria, is hereby modified by deleting the heading "Voids Filled With Asphalt (VFA)" and the equation "VFA = 100 x ((VMA - V_a)/VMA)" in the second paragraph.

32. 490.03 COMPOSITION OF MIXTURE, part (c) Mix Design, is hereby modified by deleting the phrase ", and a single percentage for VFA" in the first sentence of the third paragraph.

33. 490.03 COMPOSITION OF MIXTURE, part (d) Control of Mixtures, TABLE 490.03C - PRODUCTION TESTING TOLERANCES is hereby modified by deleting the seventh (last) row (for "VFA") in its entirety.

34. 490.03 COMPOSITION OF MIXTURE, part (d) Control of Mixtures, TABLE 490.03C - PRODUCTION TESTING TOLERANCES is hereby further modified by deleting footnote 2 in its entirety.

SECTION 646 - RETROREFLECTIVE PAVEMENT MARKINGS

35. GENERAL SPECIAL PROVISIONS FOR ALL PROJECTS dated December 3, 2013, SECTION 646 - RETROREFLECTIVE PAVEMENT MARKINGS, Provision No. 140, TABLE 646.07A - EVALUATION SECTION CRITERIA, is hereby modified by deleting the fourth (beginning "Legends") thru ninth (last) rows in their entirety.

SECTION 652 - EROSION PREVENTION & SEDIMENT CONTROL PLAN

36. SECTION 652 - EROSION PREVENTION & SEDIMENT CONTROL PLAN, is hereby made a new Section of the Specifications as follows:

37. 652.01 DESCRIPTION. This work shall consist of designing, furnishing, and submitting for acceptance modifications to the Contract Erosion Prevention & Sediment Control Plan (hereinto known as the EPSC Plan), becoming a co-permittee with the Agency of Transportation, State of Vermont on associated permits, monitoring the EPSC Plan using an On-Site Plan Coordinator, and maintaining the erosion prevention and sediment control measures to ensure the effectiveness of the EPSC Plan.

38. 652.02 MATERIALS. Materials required for the field work maintenance of the EPSC Plan shall meet all requirements of the appropriate Section of the VAOT Standard Specifications for Construction.

Materials including manuals, checklists, forms, and other supporting documentation necessary to meet the requirements of these provisions and maintain compliance with associated permits shall be made available to the Engineer by the Contractor and maintained on site by the Contractor. Supporting documents associated with the requirements of General Permit 3-9020 are available upon request to ANR or from the ANR Stormwater web page. The *VTrans Erosion Prevention and Sediment Control Plan Contractor Checklist* and *Low Risk Site Inspection Form* are available from the VTrans Construction Environmental Engineer.

39. 652.03 QUALIFICATIONS. Modifications to the EPSC Plan shall be prepared and signed by a Licensed Professional Civil Engineer registered in the State of Vermont or a qualified professional in erosion prevention and sediment control, certified by CPESC, Inc. or equivalent, hereinafter called the "Preparer."

40. 652.04 EROSION PREVENTION & SEDIMENT CONTROL PLAN. The EPSC Plan, developed using a combination of structural, non-structural, and vegetative practices to adequately prevent erosion and control sedimentation, and meeting the requirements of the *VTrans Erosion Prevention & Sediment Control Plan Designer Checklist (Non-Jurisdictional and Low Risk)* or the *Vermont Standards & Specifications for Erosion Prevention & Sediment Control* based on area of disturbance and risk, has been included in the Contract Documents.

The Contractor shall use the EPSC Plan included in the Contract and, at the onset of construction as well as throughout the duration of the project, modify it to describe changing conditions and illustrate how the criteria of the determined risk will be upheld. For Non-Jurisdictional and Low Risk projects, the Contractor shall use the *VTrans Erosion Prevention and Sediment Control Plan Contractor Checklist*. For Moderate Risk projects, the Contractor shall modify the Contract EPSC Plan in accordance with the General Permit 3-9020 Parts 4 through 6. If a modification to the EPSC Plan at a Low or Moderate Risk project alters any criteria of the determined risk, an updated Risk Evaluation shall be prepared.

The Contractor may use the Agency's EPSC Plan sheet(s) as a basis for necessary modifications; however, if necessary to convey the sequential nature and phases of construction activities and associated erosion prevention and sediment control measures, several plan sheets showing successive site conditions are recommended.

All work shown in the EPSC Plan shall be included in the Contractor's CPM Progress Schedule, as required by Subsection 108.03.

41. 652.05 SUBMITTALS. Three sets of the modified EPSC Plan as well as the updated Risk Evaluation, stamped and signed by the Preparer, shall be submitted to the Construction Engineer as Construction Drawings in accordance with Section 105. Submittals shall occur after award of the Contract but not later than the Pre-Construction Conference to allow time for review by the Agency. An Acceptance Memo or comments will be provided to the Contractor within 10 working days.

The Contractor shall respond to comments as soon as possible, but not more than 10 days after the date of VTrans initial correspondence. Agency review time for response to comments will be completed within an additional 10 working days. Modifications or additions to the EPSC Plan will not be considered as an acceptable delay of the work under Subsection 108.11.

All subsequent modifications to the EPSC Plan and updates to the Risk Evaluation will be reviewed and forwarded to the ANR by the Agency as appropriate.

Construction activities for EPSC Plan modifications that do not require authorization from the ANR shall commence only after the EPSC Plan has been accepted by the Agency. Construction activities for EPSC Plan modifications that do require authorization from the ANR shall commence only after that authorization has been granted.

42. 652.06 MONITORING EROSION PREVENTION & SEDIMENT CONTROL PLAN. The Contractor shall designate a person (On-Site Plan Coordinator) who is directly responsible for the on-site implementation of the EPSC Plan. This person shall generally be on-site on a daily basis during active construction and have the authority to halt construction activities if necessary. The On-Site Plan Coordinator shall have demonstrated experience in construction practices as they relate to erosion prevention and sediment control as well as a general understanding of State and Federal environmental regulations and permits pertaining to the National Pollutant Discharge Elimination System Construction Program. The On-Site Plan Coordinator shall be proficient at reading and interpreting engineering and EPSC plans. Preference will be given to a Licensed Professional Civil Engineer registered in the State of Vermont or a qualified professional in erosion prevention and sediment control, certified by CPESC, Inc. or equivalent. The qualifications of the On-Site Plan Coordinator shall be included in the EPSC Plan. The Engineer, if not satisfied with the performance of this individual, may at any time request a replacement.

During active construction and periods of inactivity, the On-Site Plan Coordinator shall be responsible for inspections and reporting.

(a) Active Construction. Inspections shall occur once every seven calendar days and within 24 hours of the end of a storm event that results in a discharge of stormwater from the site. During the winter construction season (October 15th to April 15th, inclusive), inspections at all sites shall occur daily.

For Non-Jurisdictional and Low Risk projects, inspections shall be conducted using the Agency's *EPSC Plan Inspection Report (Non-Jurisdictional and Low Risk Projects)*.

For Moderate Risk projects, inspections shall be conducted using the *General Permit 3-9020 Inspection Report for Moderate Risk Projects* referenced in the Permit and available upon award of the Contract.

Immediate action shall be taken to correct the discharges of sediment, including halting or reducing construction activities as necessary, until the discharge and/or the condition is fully corrected. Corrective actions shall be recorded on the monitoring reports and shown on the EPSC Plan. Each report shall be signed by the On-Site Plan Coordinator.

(b) Inactive Construction. Periods such as shutdown during the winter season shall require inspection and reporting of erosion prevention and sediment control measures. The Contractor shall contact the Engineer prior to conducting any inspections. The inspections shall be conducted at least once every 30 days and within 24 hours of any storm or significant snow melt event that may cause stormwater runoff to leave the construction site. The Contractor shall provide, within 24 hours, the necessary personnel, equipment, and materials to repair or correct any deficiencies identified during inspection. All deficiencies and corrective measures taken shall be documented on the reports.

Copies of all reports shall be submitted to the Engineer within 24 hours of inspection or when corrective measures were taken. Copies of all reports shall be kept on site in the Contractor's project files.

43. 652.07 MAINTENANCE OF EROSION PREVENTION & SEDIMENT CONTROL PLAN. This work shall consist of providing all labor and equipment necessary for field maintenance of erosion prevention and sediment control items in the Contract, and providing materials and labor necessary for installing, monitoring, maintaining and, where necessary, removing additional measures needed to correct deficiencies that develop during construction that lessen the performance of the EPSC Plan. Erosion prevention and sediment control measures shall be maintained by the Contractor and removed when authorized by the Engineer. The Contractor shall establish vegetation in all areas disturbed during removal of the erosion prevention and sediment control measures.

Any maintenance required due to the failure of the Contractor to follow the EPSC Plan in its accepted form shall be performed at no additional cost to the Agency.

44. 652.08 METHOD OF MEASUREMENT. The quantity of EPSC Plan to be measured for payment will be on a lump sum basis in the complete and accepted work.

The quantity of Monitoring EPSC Plan will be measured to the nearest 1/4 hour for the actual number of authorized hours spent monitoring, reviewing, and reporting on the construction site(s), including waste, borrow and staging areas or other support activities, as it relates to the EPSC Plan. Travel time and other time not spent at the construction site(s) or time not authorized will not be measured for payment (i.e. travel expenses, clerical staff time, copying, miscellaneous expenses, overhead, etc.).

The quantity of Maintenance of EPSC Plan will be on a lump unit basis for all such field maintenance provided for in the Contract, excluding waste, borrow and staging areas or other support activities.

45. 652.09 BASIS OF PAYMENT. The accepted quantity of EPSC Plan will be paid for at the Contract lump sum price. Payment will be full compensation for the initial preparation of modifications, submittals, and all incidentals necessary to complete the work. Subsequent modifications to the EPSC Plan during Construction will be considered incidental to Contract item 652.10.

Partial payments will be made as follows:

(a) The first payment of 50 percent of the lump sum price for the EPSC Plan will be paid for upon acceptance of the EPSC Plan for the entire project.

(b) The second payment of 35 percent of the lump sum price for the EPSC Plan will be made on the first estimate following the completion of 50 percent of the project.

(c) The third payment of 15 percent of the lump sum price for the EPSC Plan will be made when the project is substantially complete.

The accepted quantity of Monitoring EPSC Plan will be paid for at the Contract unit price per hour. Payment will be full compensation for performing the work specified. Payment will not be made unless a report for the monitoring is submitted to and accepted by the Engineer.

The accepted quantity of Maintenance of EPSC Plan will be paid for as specified for force account work in Subsection 109.06. Payments will be drawn against the Contract Lump Unit amount. To provide a common proposal for all bidders, the Agency has entered an amount in the proposal to become part of the Contractor's total bid. Maintenance related to material supply and disposal areas shall be performed in accordance with Subsection 105.29.

Payment will be made under:

Pay Item	Pay Unit
652.10 EPSC Plan (BF 013-1(21))	Lump Sum
652.10 EPSC Plan (BF 013-1(22))	Lump Sum
652.20 Monitoring EPSC Plan	Hour
652.30 Maintenance of EPSC Plan (N.A.B.I.) (BF 013-1(21))	Lump Unit
652.30 Maintenance of EPSC Plan (N.A.B.I.) (BF 013-1(22))	Lump Unit

SECTION 690 – FUEL PRICE ADJUSTMENT

46. In addition to materials produced under Contract pay item(s) included in Table 1 Pay Item Fuel Usage Factors and Quantity Thresholds as allowed under this Section, fuel usage under Contract item 900.675 Special Provision (Reclaimed Stabilized Base, Portland Cement) will be included for adjustment, utilizing the Fuel Usage Factors for item 310.20 in Table 1.

Fuel usage under Contract item 900.675 Special Provision (Cold Mixed Recycled Bituminous Pavement, Portland Cement) will also be included for adjustment, utilizing the following Fuel Usage Factors:

FUFD = 0.96 GAL/TON; FUFG = 0.75 GAL/TON

Fuel usage under Contract items 900.680 Special Provision (Material Transfer Device) and 900.680 Special Provision (Material Transfer Vehicle, Cold Mix) will also be included for adjustment, utilizing the following Fuel Usage Factors:

FUFD = 0.10 GAL/TON; FUFG = 0 GAL/TON

47. SECTION 690 – FUEL PRICE ADJUSTMENT, is hereby made a new Section of the Specifications as follows:

48. 690.01 GENERAL REQUIREMENTS AND CONDITIONS

(a) This specification contains price adjustment provisions for fuel used on Vermont Agency of Transportation (Agency) construction projects. This price adjustment clause is being inserted in this Contract to provide for either additional compensation to the Contractor or a payment to the Agency, depending upon an increase or decrease in the average price of diesel fuel or gasoline during the construction of this project.

(b) These provisions apply to this Contract only as specified herein through the fuel usage factors set forth in Table 1. No further fuel price adjustments will be allowed under this Contract.

(c) It is understood by the Contractor that a price adjustment increase may cause the Agency to decrease the quantities of the Contract pay items subject to adjustment under these provisions. Provisions providing for decreased quantities and item cancellation in this paragraph are separate and take precedence, notwithstanding any other provisions of this Contract.

(d) No price adjustment will be paid for work performed after the Contract Completion Date, as modified by Change Order, if applicable.

(e) Price Adjustment, Fuel will be determined for a pay item if each of the following criteria is met:

(1) the pay item is included in the original awarded Contract;

(2) the original awarded Contract bid quantity for the pay item equals or exceeds the quantity threshold indicated in Table 1.

(f) Any increase in the total Contract amount due to fuel price adjustment will not be justification for an extension of time under Subsection 108.11.

In such cases that estimated quantities are used to determine estimated fuel price adjustments throughout the duration of the Contract, reconciliation of those estimated adjustments will be made upon the determination of actual final quantities and final adjustments to the total final quantity made by prorating those estimated adjustments over the applicable fuel price adjustment periods previously paid. Reconciliation of any fuel price adjustment will only be performed in those instances where the actual final quantity differs by more than five percent from the total estimated quantity. Payments owed to either the Contractor or VTrans will not be subject to any applicable interest claims.

49. 690.02 PRICE ADJUSTMENT PROCEDURES

(a) Prior to advertising for bids, Index Prices for both a gallon of diesel fuel and a gallon of gasoline will be established by the Agency using retail prices reported by the Energy Information Administration (EIA) for the New England Region. The Index Prices will be set monthly using the first EIA posting falling either on or after the 1st calendar day of that month. The Contract Index Prices will be the most recent Index Prices set by the Agency at the time of advertising for bids. These prices are included below and will be the base from which price adjustments are computed.

The index price (retail) for gasoline is $3.57 per gallon. The index price (retail) for diesel fuel is $4.39 per gallon.

(b) For the duration of the Contract, Posted Prices for both a gallon of diesel fuel and a gallon of gasoline will be established monthly by the Agency. The Posted Prices will be established in the same manner as the Index Prices.

(c) A Price Adjustment will be paid or credited for diesel fuel and/or gasoline only when the Posted Price of diesel fuel and/or gasoline increases or decreases 5 percent or more over its respective Index Price.

(d) Payment for Price Adjustment, Fuel will be based upon the quantity of fuel incorporated in the work as determined by the fuel usage factors in Table 1 of this specification for both diesel fuel and gasoline, multiplied by the algebraic difference between the Posted Price and the Index Price for either diesel fuel or gasoline, respectively.

(e) Payment for Price Adjustment, Fuel shall be computed as follows:

PA = Price Adjustment (LU in $)
IPD = Index Price, Diesel Fuel ($/gallon)
IPG = Index Price, Gasoline ($/gallon)
PPD = Posted Price, Diesel Fuel ($/gallon)
PPG = Posted Price, Gasoline ($/gallon)
FUFD = Fuel Usage Factor, Diesel Fuel (gallon/unit)
FUFG = Fuel Usage Factor, Gasoline (gallon/unit)

For PPD/IPD <= 0.95 or >= 1.05 and PPG/IPG > 0.95 and < 1.05:
PA = FUFD X Pay Item Quantity X (PPD - IPD)

For PPD/IPD > 0.95 and < 1.05 and PPG/IPG <= 0.95 or >= 1.05:
PA = FUFG X Pay Item Quantity X (PPG - IPG)

For PPD/IPD and PPG/IPG <= 0.95 or >= 1.05:
PA = [FUFD X (PPD - IPD) + FUFG X (PPG - IPG)] X Pay Item Quantity

(f) The Contract bid prices for the applicable pay items will be paid under the Contract. The price adjustment, when such adjustment is required as specified in part (c) of this Subsection, will be made subsequent to the month in which the applicable Contract work was performed and will be entered on the next bi-weekly estimate.

(g) Payment for Price Adjustment, Fuel shall be debited or credited against the Contract price (Lump Unit) bid for Price Adjustment, Fuel.

Payment will be made under:

Pay Item	Pay Unit
690.50 Price Adjustment, Fuel (N.A.B.I.)	Lump Unit

Table 1
Pay Item Fuel Usage Factors and Quantity Thresholds

Work Category	Pay Item No.	Usage Factor Units		Diesel Fuel (FUFD)		Gasoline (FUFG)		Quantity Threshold	
		Metric	English	Metric	English	Metric	English	Metric	English
Excavation	203.15	GAL/CM	GAL/CY	0.38	0.29	0.2	0.15	2,500	3;000
	203.16	GAL/CM	GAL/CY	0.51	0.39	0.24	0.18	2,000	2,500
	204.25	GAL/CM	GAL/CY	0.46	0.35	0.21	0.16	2,000	2,500
	208.30	GAL/CM	GAL/CY	0.46	0.35	0.21	0.16	1,500	2,000
	208.35	GAL/CM	GAL/CY	0.51	0.39	0.24	0.18	1,500	2,000
Borrow	203.30	GAL/CM	GAL/CY	0.38	0.29	0.20	0.15	2,500	3,000
	203.31	GAL/CM	GAL/CY	0.38	0.29	0.20	0.15	2,500	3,000
	203.32	GAL/CM	GAL/CY	0.38	0.29	0.20	0.15	2,500	3,000
Granular Backfill For Structures	204.30	GAL/CM	GAL/CY	1.31	1.00	0.21	0.16	1,200	1,500
Cold Planing, Bituminous Pavement	210.10	GAL/SM	GAL/SY	0.16	0.12	0	0	11,000	15,000
Subbase	301.25	GAL/CM	GAL/CY	1.11	0.85	0.73	0.56	750	1,000
	301.35	GAL/CM	GAL/CY	1.11	0.85	0.73	0.56	750	1,000
Reclaimed Stabilized Base	310.20	GAL/SM	GAL/SY	0.05	0.04	0	0	30,000	35,000
Pavement	406.25	GAL/T	GAL/TON	3.37	3.06	0.95	0.86	450	500
	406.27	GAL/T	GAL/TON	3.37	3.06	0.95	0.86	450	500
	490.30	GAL/T	GAL/TON	3.37	3.06	0.95	0.86	450	500
Concrete	501.32	GAL/CM	GAL/CY	0.98	0.75	0.33	0.25	750	1,000
	501.33	GAL/CM	GAL/CY	0.98	0.75	0.33	0.25	750	1,000
	501.34	GAL/CM	GAL/CY	0.98	0.75	0.33	0.25	750	1,000
Stone Fill	613.10	GAL/CM	GAL/CY	0.51	0.39	0.24	0.18	1,500	2,000
	613.11	GAL/CM	GAL/CY	0.51	0.39	0.24	0.18	1,500	2,000
	613.12	GAL/CM	GAL/CY	0.51	0.39	0.24	0.18	1,500	2,000
	613.13	GAL/CM	GAL/CY	0.51	0.39	0.24	0.18	1,500	2,000
Guardrail	621.20	GAL/M	GAL/LF	0.59	0.18	0.16	0.05	1,500	5,000
	621.205	GAL/M	GAL/LF	0.59	0.18	0.16	0.05	1,500	5,000
	621.21	GAL/M	GAL/LF	0.59	0.18	0.16	0.05	1,500	5,000
	621.215	GAL/M	GAL/LF	0.59	0.18	0.16	0.05	1,500	5,000

SECTION 900 - SPECIAL PROVISION ITEMS

STONE FILL, STREAM BED MATERIAL

50. DESCRIPTION. This work shall consist of furnishing and placing stone fill material inside of, as well as upstream and/or downstream of, a culvert or pipe to facilitate aquatic organism passage and mimic the native channel.

51. MATERIALS. Stone Fill, Stream Bed Material shall consist of Stone Fill, Type III meeting the requirements of Section 613 supplemented with material excavated from the channel and/or the tailings of a topsoil screening operation, with gradation adjusted to conform to the following table:

STONE/SIEVE SIZE	% FINER BY MASS (WEIGHT)
1200 mm (48 inches)	100
300 mm (12 inches)	30-75
4.75 mm (No. 4)	4-30
75 µm (No. 200)	4-6

Bed material shall be approved by the Engineer and the Agency of Natural Resources prior to use.

52. PLACING. Stone fill shall be placed at the bottom of the concrete box as shown in the Plans. Place the stone such that it does not cause segregation or damage to the concrete box.

Stone fill shall be placed upstream and downstream of the culvert or pipe as shown in the Plans.

Fill in voids in the stone with a mixture of fines from the existing stream bed material. Fill voids by hand tamping with metal tamping rods, plate compactors, and water pressure with a metal wand to reach between stones.

Once all material has been placed in the stream channel, the Contractor shall slowly wet the stream to minimize the effects of the initial sediment pulse. Every attempt shall be made to minimize the movement of sediment downstream of the site.

53. METHOD OF MEASUREMENT. The quantity of Special Provision (Stone Fill, Stream Bed Material) to be measured for payment will be the number of cubic meters (cubic yards) installed in the complete and accepted work, measured within the limits shown on the Plans or as directed by the Engineer.

54. BASIS OF PAYMENT. The accepted quantity of Special Provision (Stone Fill, Stream Bed Material) will be paid for at the Contract unit price per cubic meter (cubic yard). Payment will be full compensation for furnishing, transporting, and placing the material specified and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
900.608 Special Provision (Stone Fill, Stream Bed Material)	Cubic Yard

CPM SCHEDULE

55. DESCRIPTION. This work shall consist of developing and furnishing a CPM Schedule, including narratives, updates, and revisions for the duration of the Contract.

These provisions supersede Subsection 108.03(a) of the Standard Specifications.

56. SUBMISSION.

(a) The Contractor is responsible for the scheduling of all Contract work, which shall include, but is not limited to subcontracted work, complete and acceptable submissions, work component fabrications, and delivery of materials. The schedule shall include allowance for time for all aspects of the work including sufficient time for VTrans to perform its functions as indicated in the Contract, including but not limited to acceptance inspection and/or testing, and review and acceptance/approval of any required Working Drawings as defined in Section 105 or otherwise in the Contract Documents.

(b) Provide the following items with each schedule submission. The schedule shall be prepared with MS Project, or in a form that can be fully restored in MS Project without requiring conversion.

(1) One paper copy and one electronic copy in MS Project format with run date and version of the schedule;

(2) A CPM illustrated in color, depicting no more than 50 activities on each 280 by 430 mm (11 by 17 in.) sheet, and with each sheet including title, project name and number, match data for diagram correlation, and a key;

(3) A four-week look-ahead narrative to provide a more detailed plan of upcoming work highlighting the near term priorities;

(4) Narrative report indicating the workdays per week, number of shifts per day, and number of hours per shift.

(c) The CPM schedule shall include the following:

(1) Activities that describe the essential features of the work, activities that might delay Contract completion, and which activities are on the critical path;

(2) The planned start and completion dates for each activity and the duration of each activity stated in work days (field activities of more than 15 work days in duration shall be broken into two or more activities distinguished by location or some other logical feature); this estimated figure shall include considerations for permit limitations, seasonal limitations, and any other anticipated delays.

(3) Finish-to-start relationships among activities, without leads or lags unless otherwise approved by the Engineer;

(4) Project suspension or work inactivity that is three (3) days or longer;

(5) Dates related to the procurement of materials, equipment, and articles of special manufacture;

(6) Dates related to the submission of Working Drawings, plans, and other data specified for review or approval by the Agency;

(7) Interim, milestone, and project completion dates specified in the Contract as the only constraints in the schedule logic;

(8) Activities related to Agency inspections and activities related to specified activities by the Agency and third parties.

(d) For contracts with an original Contract amount in excess of $8,000,000.00 the following additional information shall be shown on the CPM schedule:

(1) Each Contract bid item identified with at least one activity, except:

Lump Sum items, Lump Unit items, Contract items paid by the "Hour", Contract items paid by the "Dollar", Section 641 pay items, and Section 653 pay items.

(2) Each compensable activity shall identify the applicable Contract item(s), along with the total quantity intended to be placed during that activity.

57. PROGRESS SCHEDULE. A schedule of work shall be submitted a minimum of seven (7) calendar days prior to the preconstruction meeting. The Engineer and Contractor will review the schedule at the preconstruction meeting. Any requested information and a revised schedule shall be submitted within five (5) working days after receiving the Engineer's request. The Engineer will review the schedule by assessing the schedule's compliance with these provisions and conformance with the Contract requirements. The Engineer shall be allowed 21 calendar days to review the schedule. By accepting the schedule, the Engineer does not modify the Contract in any way.

The schedule shall define and sequence activities so as to accurately describe the project and to meet Contract requirements for scope of work, phasing, accommodations for traffic, and interim, milestone, and project completion dates. Use work days to create the schedule, beginning with the date of the Notice to Proceed.

58. SCHEDULE UPDATES. The schedule shall be updated during active construction at the end of every other bi-weekly estimate period (update period) and when directed by the Engineer. The Engineer shall be allowed ten (10) calendar days to review the update for compliance with these provisions. Include the following with each update:

(1) Actual start dates of each activity started;

(2) Actual finish dates of each activity finished, or remaining durations of activities started but not yet completed;

(3) Narrative report describing progress during the update period, shifts in the critical activities from the previous update, sources of delay, potential problem areas, work planned for the next update period, and changes made to the schedule. Changes include additions, deletions, or revisions to activities due to the issuance of a Contract revision, changes to an activity duration, changes to relationships between activities, or changes to the planned sequence of work or the method and manner of its performance.

59. REVISIONS. Schedule revisions shall be submitted within ten (10) calendar days after any of the following:

(1) A written request from the Engineer;

(2) A delay (actual or projected) to scheduled milestones or project completion dates;

(3) When actual progress falls behind the schedule accepted by the Engineer, either by falling more than two (2) weeks behind schedule or by 5% of the total Contract time, the Contractor shall immediately inform the Engineer in writing. The Engineer may require the Contractor to submit a revised schedule. Neither the Engineer's acceptance of such revised schedule nor any Agency feedback regarding the revised schedule shall be construed as an approval of the revised schedule, nor should it be construed as the Agency's dictation of the Contractor's means and methods;

(4) Issuance of a Change Order/Supplemental Agreement(s) that by adding, deleting, or revising activities, changes the planned sequence of work or the method and manner of its performance;

(5) Issuance of a Change Order/Supplemental Agreement(s) that adds time to the Contract.

The Engineer shall be allowed ten (10) calendar days to review the revised schedule for compliance with these provisions.

60. FLOAT. It is understood by the Contractor that any float in the schedule is to be shared equally between the Agency and the Contractor. That is, when actual project progress or schedule updates result in changes to the critical path, the Contractor shall discuss these potential changes with the Engineer before submitting a revised schedule.

61. FAILURE TO SUBMIT SCHEDULE. Failure to submit a schedule (i.e. original baseline schedule, required updates, revisions, and when requested by the Engineer) in accordance with these provisions may be grounds for suspension of partial payments, as identified in Subsection 109.08, until a satisfactory schedule meeting the requirements of these provisions is received by the Engineer.

62. METHOD OF MEASUREMENT. The quantity of Special Provision (CPM Schedule) to be measured for payment will be the number of each CPM Schedule (i.e. original baseline schedule, required updates, revisions, and when requested by the Engineer), accepted by the Engineer through the duration of the Contract.

63. BASIS OF PAYMENT. The accepted quantity of Special Provision (CPM Schedule) will be paid for at the Contract unit price for each. Payment will be full compensation for preparing and submitting a schedule as specified, and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
900.620 Special Provision (CPM Schedule)(ER STP 013-1(17))	Each

GNSS CONSTRUCTION INSPECTION EQUIPMENT

64. DESCRIPTION. This work shall consist of furnishing, configuring, installing, maintaining, and removing Global Navigation Satellite System (GNSS) units as needed for use by the Engineer and their inspection staff, including building the required surface models and downloading them into the Contractor provided data collectors, and the training of the Engineer and their representatives on the use of the GPS units provided.

65. EQUIPMENT. Each GNSS Construction Inspection Unit shall include all necessary components, communication devices, integrated antennae and receiver and cables, data collectors, operating manuals, attachments, and fastening hardware to meet the minimum requirements described below.

(a) GNSS units provided for a single Contract shall be the same model and manufacturer; and shall include, and be licensed to operate, the same version of GNSS planning software, and data collection software to be utilized by the Engineer and their representatives for data collection. All software provided (including firmware) shall be the most current available from the manufacturer at the time of delivery of the GNSS units. GNSS units shall not be more than two (2) years old from the date of manufacturing to the time of delivery. To verify the age of the GNSS units, the Contractor shall provide a dated copy of the manufacturer's receipt(s) for the purchase, lease, or rental of the units.

(b) GNSS units shall include both standard USB cable and Bluetooth wireless technology for data transfer between the GNSS units and the data collectors.

(c) GNSS units shall be equipped, at a minimum, to receive Global Positioning System (GPS) and GLONASS data.

(d) GNSS units shall be equipped to receive, and be capable of utilizing, Real Time Kinematics (RTK) correctional data (current version of RTCM format) through internet protocol provided from the VT Continuously Operating Reference System (VT CORS) Network. This shall include all necessary communication devices, repeaters, and systems, data service plans, and communications to meet the minimum required accuracy and not exceed two (2) second latency at the rover. Whichever communication method is utilized by the Contractor to broadcast the VT CORS RTK correctional data, the Contractor shall ensure that the RTK data shall be available at all locations across the entire Contract site during all hours of construction and inspection operations.

(e) GNSS units shall include either an integrated or modular communication device capable of receiving RTK correctional data to satisfy the requirement of using VT CORS RTK corrections.

(f) GNSS Units shall be capable of collecting dual frequency GPS data.

(g) Minimum Required Kinematic Accuracy relative to primary project control (CORS):

(1) Horizontal: 10mm +1.0 ppm (0.033 ft +1.0 ppm)

(2) Vertical: 20mm + 1.0 ppm (0.065 ft + 1.0 ppm)

(h) Necessary hardware and software shall be included (including communication drivers) to connect the GNSS units to an Agency-provided PC and communicate/exchange positional data with that Agency PC.

(i) GNSS units shall have an internal, or modular, rechargeable battery system capable of operating through all active working hours (may include interchangeable batteries), including the battery charger.

(j) GNSS Units shall include a hard or soft shell carry case, and all appropriate operation manuals.

(k) GNSS rover units shall include one (1) fixed height rover rod of two (2) meters (6.56 feet) in length, one attachable bipod which is compatible with the rover rod, and one Topo shoe.

(l) A GNSS unit set up to operate as a base station shall include all necessary additional cables, hardware, fasteners, or accessories necessary to install it in a fixed semi-permanent location, will not be considered as a rover unit, and therefore will not require a rover, a bi-pod, or a Topo shoe.

66. CONSTRUCTION REQUIREMENTS. The Contractor shall furnish, configure, install, maintain, and remove the GNSS units, and provide the Engineer and/or their representatives with the training on the operation of the GNSS units. The Contractor shall ensure all GNSS units are fully operational and training has been provided before construction begins.

All projects shall utilize the VT CORS as the spatial reference network from which RTK corrections are derived. The Contractor shall choose which communication technique and devices will be used which will insure the consistent and reliable delivery of RTK correctional data from VT CORS to the GNSS units. When geographic locations or lack of reliable communications network prohibits the use of the VT CORS directly, the Engineer may approve the use of a Survey Grade GNSS Inspection unit as a base station in place of the VT CORS, which will be paid for separately. The Contractor shall semi-permanently mount the base station in a stable and secure location where it shall not be disturbed by construction activities nor be easily damaged by vandalism, and where it shall be capable of providing radio signal coverage over the entire Contract area. If the base station cannot broadcast a signal that covers the entire site, the Contractor shall provide adequate repeater radios or other communications at such frequency and locations such that a minimum 90% signal strength is maintained throughout the length of the project site. A GNSS unit installed as a base station for inspection operations shall only be moved with the approval of the Engineer.

The GNSS units shall be maintained and remain in service until either:

(a) a maximum of one week after the Engineer requests its removal in writing, or

(b) the State relinquishes the Engineer's Field Office.

The Contractor shall maintain all GNSS units and software in good working condition and shall provide replacement due to breakdown, damage, or theft within two (2) working days. The Contractor shall retain ownership of all supplied GNSS units at the end of the Contract.

The Contractor shall build the required surface models and download them into the provided data collectors to facilitate construction inspection by the Engineer.

Following the award of the Contract, the Agency will make available the following electronic data files. The files that will be made available were originally created with the computer software applications MicroStation® (CADD software) and InRoads® (civil engineering software). The data files will be in the native formats and other software formats as described below. The Contractor will perform any and all necessary conversion of the files for the selected grade control equipment.

(a) CAD Files.

(1) InRoads® DTM files representing the design surfaces.

(2) InRoads® ALG files containing horizontal and vertical geometry.

(3) MicroStation® alignment design file.

(4) MicroStation® cross section design files.

(5) MicroStation® ROW design file.

(6) MicroStation® Existing Ground topography design file.

(b) Machine Control Surface Model Files.

(1) LandXML (ASCII format).

(c) Alignment Data Files.

(1) Alignment Geometry Report (ASCII Report format).

(2) LandXML (ASCII format).

The Contractor is notified that VTrans utilizes the US Survey Foot as a basis for all engineering work. Particular care shall be taken to ensure that the US Survey Foot is utilized in any and all conversion/evaluation of the files provided. This includes any required conversion from MicroStation® DGN to AutoCAD® DWG; as well as from Bentley InRoads® to other engineering formats. The XML files shall also be checked to ensure that the US Survey Foot is utilized.

Information shown on the Plans governs over the provided electronic data. The electronic information is not to be considered a representation of actual conditions to be encountered during construction. Providing the Contractor this information does not relieve the Contractor from the responsibility of making an investigation of conditions to be encountered, including but not limited to site visits, and basing any bid on information obtained from these investigations and their professional interpretations and judgment.

The Contractor assumes all risk of error if the information is used for any purposes for which the information was not intended.

Any assumptions the Contractor makes from this electronic information is at their risk.

67. TRAINING REQUIREMENTS.

(a) For all Construction Grade GNSS units, the Engineer and/or their representatives shall be provided with a minimum of two separate 8 hour minimum training sessions on the use and operation of the GNSS units during the first month of the Contract. One of the two classes shall occur within one week of delivery of GNSS units to the site. The second of the two classes shall occur at the request of the Engineer. If a Contract has multiple years of work, an additional 8 hour minimum training shall be provided at the request of the Engineer.

(b) All training shall be performed by a manufacturer-verified trainer who is approved by the Engineer. The training shall occur at the Engineer's Field Office or at a location agreed to by the Engineer.

68. METHOD OF MEASUREMENT. The quantity of Special Provision (GNSS Construction Inspection Equipment) to be measured for payment will be the number of each GNSS Inspection unit provided and operational in the complete and accepted work.

69. BASIS OF PAYMENT. The accepted quantity of Special Provision (GNSS Construction Inspection Equipment) will be paid for at the Contract unit price per each. Payment will be full compensation for furnishing all equipment, support, and maintenance as specified and required, and for furnishing all materials, labor, tools, equipment, and incidentals necessary to complete the work.

The unit price bid shall include the costs of all labor, materials, and equipment necessary to satisfactorily complete the work, including required training and maintenance.

Partial payments will be made as follows:

(a) The first payment of 50 percent of the Contract unit price for Special Provision (GNSS Construction Inspection Equipment) or 5 percent of the adjusted Contract price, whichever is less, will be made with the first biweekly estimate as determined by the Engineer pending progress on other Contract items.

(b) The second payment of 40 percent of the Contract unit price for Special Provision (GNSS Construction Inspection Equipment) or 5 percent of the adjusted Contract price, whichever is less, will be made on the first estimate following the completion of 50 percent of the Contract.

(c) Payment of any remaining amount of the Contract unit price bid for Special Provision (GNSS Construction Inspection Equipment) will be made after the Contract Substantial Completion Date as determined by the Engineer.

Payment will be made under:

Pay Item	Pay Unit
900.620 Special Provisions (GNSS Construction Inspection Equipment)	Each

BARRIER FOR TEMPORARY TRAFFIC PROTECTION

70. DESCRIPTION. This work shall consist of establishing and maintaining temporary traffic protection during construction operations at the locations indicated in the Plans and as directed by the Engineer.

The work under this Section shall be performed in accordance with these provisions, the Plans, and Section 621 of the Standard Specifications.

71. GENERAL CONSTRUCTION REQUIREMENTS. Temporary traffic protection shall be placed to the configuration shown in the Plans.

As applicable as detailed in the Plans, existing guardrail shall be removed and reset, new guardrail shall be installed, or temporary traffic barrier or delineation devices shall be placed, in order that full-width construction may be accomplished.

Removing and resetting existing guardrail, placing new guardrail, and temporary traffic barrier shall meet the requirements of Section 621. Delineation devices shall meet the requirements of Section 641.

72. METHOD OF MEASUREMENT. The quantity of Special Provision (Barrier for Temporary Traffic Protection) to be measured for payment will be the number of meters (linear feet) of barrier placed as temporary protection for traffic in the complete and accepted work, measured from end to end of each installation, including terminals.

73. BASIS OF PAYMENT. The accepted quantity of Special Provision (Barrier for Temporary Traffic Protection) will be paid for at the Contract unit price per meter (linear foot). Payment will be full compensation for providing temporary traffic protection as specified in the Contract Documents, and for furnishing all materials, labor, tools, equipment, and incidentals necessary to complete the work.

The Contractor will be compensated at the unit price bid for Special Provision (Barrier for Temporary Traffic Protection) for either removing and resetting existing guardrail, placing new guardrail, or placing temporary traffic barrier for the purpose of providing temporary traffic protection. Only the initial removing and resetting of existing guardrail, temporary placement of new guardrail, or placement of temporary traffic barrier will be paid; any other interim such placements prior to installation of final guardrail, either for the convenience of the Contractor or as directed by the Engineer, will be included in the unit price bid for Special Provision (Barrier for Temporary Traffic Protection).

New guardrail installed permanently on the project will be paid separately under the appropriate item in the Contract.

Existing guardrail removed and not reset either temporarily or permanently on the project will be paid separately under Contract item 621.80.

Placement of barrels or other delineation devices for the purpose of providing temporary traffic protection will be paid separately under Contract item 641.10.

Payment will be made under:

Pay Item	Pay Unit
900.640 Special Provision (Barrier for Temporary Traffic Protection)	Linear Foot

CRITICAL PATH METHOD (CPM) SCHEDULE

74. DESCRIPTION. This work shall consist of preparing, submitting, and modifying Critical Path Method (CPM) construction schedule(s) for the Contract work as specified herein and as directed by the Engineer.

The Contractor is advised that its schedule and narrative, as specified herein, will be used by the Engineer to monitor project progress, plan the level-of-effort by its own work forces and consultants, and as a critical decision making tool. Accordingly, the Contractor shall ensure that it complies fully with the requirements specified herein and that its schedule(s) are both timely and accurate throughout the life of the project.

75. SUBMITTALS.

(a) Within ten (10) working days after the award of the Contract, the Contractor shall submit to the Engineer sufficient information that the CPM software it proposes to use on the Contract is fully capable of producing the specified schedules required by the Contract. The software used must be MS Project or be compatible with MS Project.

The Engineer shall notify the Contractor in writing, within seven (7) working days after the receipt of the Contractor's notification on the software, if there are any objections to the CPM software selected.

(b) No more than thirty (30) days after the award of the Contract, and no less than ten (10) calendar days prior to the start of work, the Contractor shall submit to the Engineer for acceptance a baseline construction schedule and narrative meeting the following requirements:

(1) Baseline Schedule Requirements.

a. Define a complete and logical plan that can realistically be accomplished for executing the work defined in the Contract.

b. Include sufficient activities for adequate project planning for subcontractor, third party, vendor, and supplier activities. These activities shall include Working Drawing submissions as well as provide for adequate review times.

c. Clearly show the critical path using the longest path definition and other critical elements of work.

d. Include a unique identification number for each schedule activity.

Clearly and uniquely define each activity description. Do not use descriptions referring to a percent complete of a multi-element task.

e. Define the duration of each activity.

1. Limit the maximum duration of any activity to fifteen (15) days unless otherwise accepted by the Engineer.

2. When the project contains a road closure period, the work within the closure period shall be broken down by hours instead of days. The maximum duration of each activity within the closure period shall be limited to twelve (12) hours.

f. Clearly identify the relationships tying activities together.

g. Do not have open-ended activities except for one start and one finish activity.

h. Do not have any constrained activities unless the Engineer accepts such constraints.

i. Include milestones to define significant contractual events such as Notice to Proceed, Interim Completion(s), road closures, road openings, Substantial Completion(s), and/or others as necessary.

(2) Baseline Narrative Requirements.

a. The construction philosophy supporting the approach to the work outlined in the baseline schedule. Address the reasons for the sequencing of work and describe any limited resources, potential conflicts, and/or other items that may affect the schedule and how they may be resolved.

b. Provide information on assumed resources, crew sizes, working hours, equipment, etc.

c. The justification for activities with durations exceeding fourteen (14) working days or exceeding twelve (12) hours for those activities falling within a road closure period.

d. The justification for constraints used.

e. The approach used to apply relationships between activities.

f. The project critical path and challenges that may arise associated with the critical path.

(c) The Contractor shall submit one hard copy and one electronic copy of an updated construction schedule each month during the life of the Contract up to Substantial Completion.

(1) Schedule Updates. Schedule updates shall include the following:

a. Actual start and finish dates for completed activities.

b. Actual start dates, percent complete, and remaining duration for activities in progress.

c. Projected sequences of activities for future work.

d. Revised relationships and durations for unfinished activities, if warranted.

e. A well defined critical path.

f. A narrative describing the following:

1. Work performed during the previous monthly period.

2. Problems or delays that have been experienced to date, the party responsible for the problems or delays, and the Contractor's plan to resolve the problems or bring the delayed activities back on schedule.

3. Differences between the work performed and the work planned for the period, including explanations for the deviations.

4. The current critical path of the project, explaining any changes since the last update and the impacts of these changes.

5. Potential problems that may be encountered during the next monthly period. Identify all potential problems the Agency may be party to and explain what action the Agency needs to take and the date by which time the action needs to be taken to avoid the problem.

(d) The Contractor shall participate in progress meetings at the request of the Engineer to review and discuss updated schedule information including any activity delay, remedies, coordination requirements, change orders, potential delays, and other relevant issues.

Projects with short duration road closures of fourteen (14) calendar days or less are of particular importance as the project float will be limited. The Contractor shall promptly inform the Engineer of any schedule delays or changes that occur during one of these periods.

When the Engineer requests a meeting the Contractor shall:

(1) Make available the project manager, scheduler, and appropriate field personnel.

(2) Make and record an action item list that describes who is responsible for resolving existing or pending issues and the date by which the issue needs to be resolved to avoid Contract delays.

(3) Submit a revised schedule update if necessary.

The Engineer will review the Contractor's schedule submittals and provide comments and disposition, either accepting the schedule or requiring revision and resubmittal of the schedule. The Engineer's comments may address work that has been omitted, unacceptable durations for items of work, or Contract violations. The planning, execution of the work, and the accuracy of their representation in the Contract Progress Schedule shall remain the sole responsibility of the Contractor.

The Contractor shall not be relieved of its responsibility for satisfactorily completing the work within the Contract time due to its failure to submit an acceptable project schedule. Additionally, the Contractor shall not withhold monthly or requested schedule submissions in the event that the Engineer does not provide formal review comments. The Contractor is to provide monthly updates regardless of any outstanding issues.

Failure to provide schedule updates as required under this Specification will result in a written notification from the Engineer. Upon receipt of this notification the Contractor has two (2) weeks to provide an updated schedule as required. Failure to provide an updated schedule will result in withholding of full Contract quantity payments until an updated schedule is received.

76. PROJECT FLOAT. Float belongs to the project and is a shared commodity between the Agency and the Contractor, and is not for the exclusive use or benefit of either party. The float may be claimed by whichever party first demonstrates a need for it.

77. METHOD OF MEASUREMENT. The quantity of Special Provision (CPM Schedule) to be measured for payment will be on a lump sum basis for providing project schedules and narratives in the complete and accepted work.

78. BASIS OF PAYMENT. The accepted quantity of Special Provision (CPM Schedule) will be paid for at the Contract lump sum price. Payment will be full compensation for initial preparation, submittals, modifications, resubmittals, and all incidentals necessary to complete the work. Subsequent modifications to the CPM Schedule during construction will be considered incidental to Special Provision (CPM Schedule).

Partial payments will be made as follows:

(a) The first 25% of the Contract lump sum price will be paid upon the approval of the baseline schedule and narrative.

(b) The remaining 75% of the Contract lump sum price will be pro-rated in equal amounts on a monthly basis. The time used for pro-rating will be equal to the number of months from approval of the baseline schedule to the anticipated Contract Completion Date.

Payment will be made under:

Pay Item	Pay Unit
900.645 Special Provision (CPM Schedule)(BF 013-1(21))	Lump Sum
900.645 Special Provision (CPM Schedule)(BF 013-1(22))	Lump Sum

GLOBAL POSITIONING SYSTEM MACHINE CONTROL GRADING

79. DESCRIPTION. This specification contains requirements for grading construction using Global Positioning System (GPS) machine control grading techniques.

The Contractor shall use grading equipment controlled with a GPS machine control system in the construction of the roadway design and build the required surface models to facilitate GPS machine control grading.

The Contractor may use any type of GPS machine control equipment and systems that results in achieving the existing grading requirements and shall convert the electronic data provided by the Agency into the format required by the machine control grading system.

80. EQUIPMENT. The Contractor shall provide all equipment required to accomplish GPS machine control grading and use that equipment to generate end results meeting all of the Contract requirements.

81. CONSTRUCTION REQUIREMENTS.

(a) Agency Responsibilities.

(1) The Engineer will set the initial horizontal and vertical control points in the field for the project as indicated in the Contract Documents.

(2) The Engineer will provide the project specific localized coordinate system. The control information utilized in establishing the localized coordinate system, specifically the rotation, scaling, and translation, can be obtained from the Engineer upon request.

(3) Following the award of the Contract, the Agency will make available the following electronic data files. The files that will be made available were originally created with the computer software applications MicroStation® (CADD software) and InRoads® (civil engineering software). The data files will be in the native formats and other software formats as described below. The Contractor will perform any and all necessary conversion of the files for the selected grade control equipment.

a. CAD Files.

1. InRoads® DTM files representing the design surfaces.

2. InRoads® ALG files containing horizontal and vertical geometry.

3. MicroStation® alignment design file.

4. MicroStation® cross section design files.

5. MicroStation® ROW design file.

6. MicroStation® Existing Ground topography design file.

b. Machine Control Surface Model Files.

1. LandXML (ASCII format).

c. Alignment Data Files.

1. Alignment Geometry Report (ASCII Report format).

2. LandXML (ASCII format).

The Contractor is notified that VTrans utilizes the US Survey Foot as a basis for all engineering work. Particular care shall be taken to ensure that the US Survey Foot is utilized in any and all conversion/evaluation of the files provided. This includes any required conversion from MicroStation® DGN to AutoCAD® DWG; as well as from Bentley InRoads® to other engineering formats. The XML files shall also be checked to ensure that the US Survey Foot is utilized.

Information shown on the Plans governs over the provided electronic data. The electronic information is not to be considered a representation of actual conditions to be encountered during construction. Providing the Contractor this information does not relieve the Contractor from the responsibility of making an investigation of conditions to be encountered, including but not limited to site visits, and basing any bid on information obtained from these investigations and their professional interpretations and judgment.

The Contractor assumes all risk of error if the information is used for any purposes for which the information was not intended.

Any assumptions the Contractor makes from this electronic information is at their risk.

(4) The Engineer will perform spot checks of the machine control grading results, surveying calculations, records, field procedures, and actual staking. If the Engineer determines the work is not being performed in a manner that will assure accurate results, the Engineer will order such work to be redone, to the requirements of the Contract Documents, at no additional cost to the Agency.

(b) Contractor's Responsibilities.

(1) Provide the Engineer with a GPS rover (with the same capabilities as units used by the Contractor) for use during the duration of the Contract. At the end of the Contract, the GPS rover unit will be returned. Provide the Engineer 8 hours of formal training on the Contractor's GPS machine control systems. The Contractor's attention is directed to the possible inclusion of separate pay items requiring Contractor supply of GPS rover units within this Contract rendering the above duplication unnecessary.

(2) Review and apply the data the Agency has provided to perform GPS machine control grading and build the 3D model to do the same.

(3) The Contractor bears all costs, including but not limited to the cost of actual reconstruction of work, that may be incurred due to errors in application of GPS machine control grading techniques. Grade elevation errors and associated quantity adjustments resulting from the Contractor's activities are at no cost to the Agency.

(4) Convert the Agency's electronic data into a format compatible with the machine control system.

(5) Manipulation of the Agency's electronic data is taken at the Contractor's own risk.

(6) Check and recalibrate, if necessary, the GPS machine control system at the beginning of each work day.

(7) Meet the same accuracy requirements as conventional grading construction as required by the Standard Specifications.

(8) Establish secondary control points at appropriate intervals and at locations along the length of the project and outside the project limits and/or where work is performed beyond the project limits as required at intervals not to exceed 300 m (1000 feet). Determine the horizontal position of these points using static GPS sessions or by traverse connection from the original baseline control points. Establish the elevation of these control points using differential leveling from the project benchmarks, forming closed loops. Provide a copy of all new control point information to the Engineer prior to construction activities. The Contractor is responsible for all errors resulting from their efforts and shall correct all deficiencies to the satisfaction of the Engineer at no additional cost to the Agency.

(9) Preserve all reference points and monuments that are established by the Engineer within the project limits. Reestablish reference points that have not been preserved at no additional cost to the Agency.

(10) Set hubs at the top of the finished subgrade at all hinge points on the cross section at 300 m (1000 foot) intervals on mainline and at least two cross sections on the side roads and ramps. Establish these hubs, using conventional survey methods, for use by the Engineer to check the accuracy of the construction.

(11) Provide controls points and conventional grade stakes at critical points such as, but not limited to, PC's, PT's, superelevation points, and other critical points required for the construction of drainage and roadway structures.

(12) At least one week prior to the preconstruction conference, submit to the Regional Construction Engineer for review a written machine control grading work plan which includes the equipment type, control software manufacture and version, and the proposed location of the local GPS base station used for broadcasting differential correction data to rover units.

82. METHOD OF MEASUREMENT. The quantity of Special Provision (GPS Machine Control Grading) to be measured for payment will be on a lump sum basis in the complete and accepted work.

83. BASIS OF PAYMENT. The accepted quantity of Special Provision (GPS Machine Control Grading) will be paid for at the Contract lump sum price. Payment will be full compensation for furnishing all labor, equipment, and material necessary in preparing the electronic data files for use in the Contractor's machine control system, the required system check and needed recalibration, training for the Engineer, machine control equipment, and for furnishing all materials, labor, tools, equipment, and incidentals necessary to complete the work.

The unit price bid shall include the costs of all labor, materials, and equipment necessary to satisfactorily complete the work, including required training and maintenance.

Delays due to satellite reception of signals to operate the GPS machine control system will not result in adjustment to the Contract unit price for any Contract items or be justification for granting Contract time extensions.

Partial payments will be made as follows:

(a) The first payment of 50 percent of the Contract lump sum price for Special Provision (GPS Machine Control Grading) or 5 percent of the adjusted Contract price, whichever is less, will be made with the first biweekly estimate as determined by the Engineer pending progress on other Contract Items.

(b) The second payment of 40 percent of the Contract lump sum price for Special Provision (GPS Machine Control Grading) or 5 percent of the adjusted Contract price, whichever is less, will be made on the first estimate following the completion of 50 percent of the Contract.

(c) Payment of any remaining amount of the Contract lump sum price bid for Special Provision (GPS Machine Control Grading) will be made after the Contract Substantial Completion Date as determined by the Engineer.

Payment will be made under:

Pay Item	Pay Unit
900.645 Special Provision (GPS Machine Control Grading)	Lump Sum

TEMPORARY RELOCATION OF STREAM

84. DESCRIPTION. This work shall consist of temporary stream relocation including erosion prevention and sediment control, channel maintenance, and debris removal in accordance with these specifications.

85. MATERIALS. Materials shall meet the requirements of the following Subsections:

Geotextile Fabrics.....649.02
Stone Fill, Type II.....706.04(b)

Other materials may be used. These shall be detailed on the EPSC Plan and are subject to approval.

86. GENERAL. Prior to their construction, the Contractor shall submit to the Engineer site-specific plans, including all construction, erosion prevention and sediment control, and maintenance details, for providing temporary stream relocations at stream crossings specified in the Plans. These details shall be developed in accordance with the requirements of Section 652 and will be considered a component of the overall project EPSC Plan.

All relocation plans must be approved by the Agency of Natural Resources prior to being submitted to the Engineer. These plans shall provide for the mean annual flood ($Q_{2.33}$), as a minimum, and shall be designed and stamped by a Professional Engineer registered in the State of Vermont. The plans shall address erosion prevention and sediment control, channel maintenance, debris removal, and the materials and methods of creating the upstream diversion from the existing stream channel. These plans shall conform to any permits, both State and Federal, which have been issued for this project.

The Contractor shall provide for crossing the relocated stream channel for the duration of its existence so as not to impact the free flow of the stream or to increase any flood levels or potential for property damage upstream or downstream of the project site.

It shall be incumbent upon the Contractor to determine the level of protection required to protect the work. However, the protection of existing facilities, structures, and property must also be undertaken and any damage thereto shall be repaired by the Contractor at no additional expense to the State. In addition, the temporary diversion shall not increase in any way flood levels or property damage upstream or downstream of the project site.

In-stream construction shall be undertaken during the period from June 1st through October 1st. Any changes to this period shall be approved in writing by the Vermont Agency of Natural Resources. It shall be the responsibility of the Contractor to obtain any variances to the in-stream construction period.

Excavation for the relocated stream channel shall be made in conformance with the requirements for channel excavation as specified in Subsection 203.06.

Furnishing and installing Geotextile Fabrics and Stone Fill shall be in conformance with the requirements of Sections 649 and 613, respectively.

Furnishing and installing pipes shall be in conformance with Section 601.

The upstream diversion shall be done in such a manner as to minimize erosion and sedimentation. Upstream diversion shall not be done when stream conditions are such that the possibility of excessive erosion and sedimentation will occur.

The relocation shall be maintained, throughout the time it is in place, free from debris, logs, stumps, and other obstructions which might impair the free-flow of water through the diversion.

After completion of the new permanent channel improvements and the rediversion of channel flow through the new permanent channel, the entire length of the temporary channel shall be excavated to remove all muck, sediment, debris, and foreign matter.

Any portion of the temporary channel which falls outside of the embankment limits shall be restored to match the existing ground and shall be included in the unit price bid for Temporary Relocation of Stream.
Any turf establishment required outside of the embankment limits shall be paid for under the appropriate Contract items.

87. METHOD OF MEASUREMENT. The quantity of Special Provision (Temporary Relocation of Stream) to be measured for payment shall be on a unit basis for each temporary stream location specified, installed, maintained, and removed in the complete and accepted work.

Where a temporary relocation of stream is constructed for the convenience of the Contractor and is not specified in the Plans or ordered by the Engineer, the costs for the temporary relocation shall be considered incidental to all other Contract items.

88. BASIS OF PAYMENT. The accepted quantity of Special Provision (Temporary Relocation of Stream) will be paid for at the Contract lump sum price for each temporary stream relocation. Payment will be full compensation for designing, as necessary, constructing, including all required materials, maintaining, and removing each temporary stream relocation.

Payment for the design and detailing of erosion prevention and sediment control measures for Temporary Relocation of Stream will be considered incidental to Contract item 652.10.

Payment for the monitoring and maintenance of erosion prevention and sediment control measures for Temporary Relocation of Stream will be considered incidental to Contract items 652.20 and 652.30, respectively.

Payment for erosion prevention and sediment control measures for Temporary Relocation of Stream will be made under the appropriate items in the Contract.

When the construction of the temporary stream relocation is completed, operational, and accepted, a payment of 75 percent of the Contract lump sum price will be allowed. The remaining 25 percent of the Contract lump sum price will be paid when the temporary stream relocation has been removed and the site restored and stabilized to the satisfaction of the Engineer.

Payment will be made under:

Pay Item	Pay Unit
900.645 Special Provision (Temporary Relocation of Stream)(BF 013-1(21))	Lump Sum
900.645 Special Provision (Temporary Relocation of Stream)(BF 013-1(22))	Lump Sum

TRAFFIC CONTROL

89. DESCRIPTION. This work shall consist of establishing and maintaining traffic control measures to protect the traveling public and construction operations as indicated in the Plans and as directed by the Engineer.

The work under this Section shall be performed in accordance with these provisions, the Plans, and Section 641 of the Standard Specifications.

90. SUBMITTALS. The Contractor shall submit to the Engineer for approval a site-specific traffic control plan in accordance with Subsection 105.03. The traffic control plan shall conform to the requirements of the MUTCD and all applicable Agency Standard Drawings. Where conflicts exist, the MUTCD will govern. Each phase of construction shall be included in the submitted traffic control plan. The Contractor shall allow the Agency 14 calendar days to review and respond to the proposed traffic control plan.

91. TRAFFIC CONTROL DEVICES. Temporary traffic barrier shall meet the requirements of Section 621. Traffic control devices shall meet the requirements of Section 641.

92. METHOD OF MEASUREMENT. The quantity of Special Provision (Traffic Control, All-Inclusive) to be measured for payment will be on a lump sum basis for providing traffic control in the complete and accepted work.

The quantity for Flaggers will be measured separately in accordance with Section 630.

93. BASIS OF PAYMENT. The accepted quantity of Special Provision Traffic Control, All-Inclusive) will be paid for at the Contract lump sum price.

Partial payments will be made as follows:

(a) The first 15% of the Contract lump sum price will be paid upon approval of the Contractor's traffic control plan.

(b) The remaining 85% of the Contract lump sum price will be paid on a prorated basis for the estimated duration of the Contract work remaining.

Payment will be full compensation for preparing, implementing, inspecting, maintaining, and removing the applicable traffic control plan and required traffic control devices, including but not limited to temporary traffic barrier and signing; and for furnishing all labor, tools, materials, equipment, and incidentals necessary to complete the work.

Flaggers will be paid for separately under Contract item 630.15.

Payment will be made under:

Pay Item	Pay Unit
900.645 Special Provision (Traffic Control, All-Inclusive) (BF 013-1(21))	Lump Sum
900.645 Special Provision (Traffic Control, All-Inclusive) (BF 013-1(22))	Lump Sum

INCENTIVE/DISINCENTIVE (I/D)

94. INCENTIVE/DISINCENTIVE (I/D), is hereby made a new Section of the Specifications as follows:

The payment of monies for performance under the Incentive/Disincentive (I/D) specifications contained in these Special Provisions shall be as follows:

1. For the incentive payment as described in part (c) of Special Provision No. 12, the Contractor will be paid in the next bi-weekly estimate in which the Contractor has satisfactorily met the requirements of I/D.

2. For the disincentive penalties as described in part (c) of Special Provision No. 12, the Engineer will deduct the amount due the Agency from the monies due the Contractor on the next bi-weekly estimate.

Payment will be made under:

Pay Item	Pay Unit
900.650 Special Provision (Incentive/Disincentive) (N.A.B.I.)(BF 013-1(21))	Lump Unit
900.650 Special Provision (Incentive/Disincentive) (N.A.B.I.)(BF 013-1(22))	Lump Unit

COLD MIXED RECYCLED BITUMINOUS PAVEMENT, PORTLAND CEMENT

95. DESCRIPTION. This work shall consist of cold planing and crushing and/or screening the existing bituminous pavement, adding additional asphalt emulsion and virgin aggregate, and mixing and repaving of the material to the depths, lines, and grades shown on the Plans.

Recycling of the existing pavement shall be performed in a manner that does not disturb the underlying materials.

96. MATERIALS. The emulsified asphalt for Cold Mixed Recycled Bituminous Pavement shall meet the requirements of Section 404 and/or be as recommended by the Contractor as a result of CONTROL SECTION of this specification and as approved by the Engineer. Portland cement shall meet the requirements of PORTLAND CEMENT FOR COLD MIXED RECYCLING of Section 900. Materials for any Fog Seal Surface Treatment shall meet the requirements of FOG SEAL SURFACE TREATMENT of Section 900.

The grade and initial application rate of emulsion, and rate of Portland cement additive, based on emulsion and Portland cement rate-density curves (AASHTO T 245 - Mod., 50 blows, Asphalt Institutes MS-14, Cold Mix Design Guide) developed from test section material, shall be recommended by the Contractor and accepted by the Engineer. The value for the emulsion and Portland cement rates shall be based on the optimum for achieving maximum density. The exact application rate may be varied by the Contractor as required by existing pavement conditions and approved by the Engineer.

(a) Gradation. The Cold Mixed Recycled Bituminous Pavement shall meet the following gradation requirements for extracted aggregate (AASHTO T-30) taken from the pulverized material:

Sieve Size	Percent Passing
37.5 mm (1½ inches)	100
25.0 mm (1 inch)	90-100
4.75 mm (No. 4)	30- 70
75 µm (No. 200)	0- 12

If the processed existing bituminous material does not meet the gradation requirements as specified, additional virgin aggregate shall be added at a rate and gradation sufficient such that the blended mixture conforms to those requirements.

(b) Design Criteria. The Cold Mixed Recycled Bituminous Pavement shall meet the following design criteria requirements:

Cement Content	1.0% min.
Emulsion Content	2.5% min.
Stability Value	6675 Newtons (1500 lbf) min.

Emulsion, water, processed bituminous pavement, virgin aggregate, and Portland cement shall be added in the proportions necessary to meet mix design requirements and verified by tank checks performed in accordance with the minimum quality control frequencies. Cement additive may be introduced in dry form or as a cement slurry.

97. EQUIPMENT. The Contractor may furnish a self-propelled machine capable of planing the existing bituminous pavement to the depth shown on the Plans in one pass. The machine shall be equipped with standard automatic depth controls and must maintain a constant cutting depth and width. The machine shall be capable of producing the proper size material required through additional crushing or screening, or allow the addition of virgin aggregate to meet the gradation requirements. Oversized RAP particles shall be reduced to proper size by crushing prior to any extraction process.

Alternately, portable mixing equipment may be provided which is capable of mixing, crushing, and/or screening the processed bituminous and any virgin material, liquid binder, and Portland cement into a homogeneous mixture. Oversized RAP particles shall be reduced to proper size by crushing prior to any extraction process for the purpose of mix design and production operations. The mixing equipment shall be equipped with belt scales to accurately proportion the additives, adjusted by moisture content of the processed recycled asphalt pavement as specified in MOISTURE of this specification. The belt scale will be verified for accuracy at each new location prior to mix production, and shall be checked for accuracy weekly. The belt scale operation shall be verified daily prior to mixing. The method of depositing the mixed material shall be such that segregation does not occur.

Placing of the Cold Mixed Recycled Bituminous Pavement shall be accomplished with a self-propelled bituminous paver. The Cold Mixed Recycled Bituminous material shall be spread without segregation to the lines and grades shown on the Plans or as directed by the Engineer. If a pick-up machine is used to feed a windrow of the bituminous material into the paver hopper, the pick-up machine shall be capable of picking up the entire windrow down to the underlying materials.

The number, mass, and type of rollers shall be sufficient to obtain the required uniform density, full depth, while the mixture is in a workable condition. A rubber tire roller shall perform the initial rolling after the emulsion initially "breaks" (indicated by color change from brown to black).

98. WEATHER AND SEASONAL LIMITATIONS. Recycling operations shall not be performed when the ambient air temperature is below 10°C (50°F), when the overnight temperatures are expected to be below 10°C (50°F), when the surface temperature of the pavement to be recycled is below 10°C (50°F), when the weather is foggy or rainy, or when weather conditions or predicted weather conditions are such that proper mixing, spreading, and compacting of the recycled material cannot be accomplished.

The placement of Cold Mixed Recycled Pavement shall not be performed prior to May 1st or after September 15th.

When it is in the public interest for servicing traffic, the Construction Engineer may adjust the ambient air and/or pavement temperature requirements or extend the dates of the recycling season.

99. MOISTURE. The moisture content of the stockpiled recycled material shall be checked using AASHTO T-217 prior to mixing each day to determine if increased or decreased water percentages are required. The Contractor may add, under positive control, a small amount of water to the processed material to facilitate uniform mixing with the emulsion and cement. The water may be added prior to the mixing phase of the operation. The water shall be added carefully so as not to cause any adverse affect.

100. COMPACTION. Compaction shall be performed while the emulsion is in a workable state. The Cold Mixed Recycled Bituminous Pavement material shall be finished within a grade tolerance of ± 12mm (½ inch), provided that this deviation is not maintained for a distance longer than 15 meters (50 feet), and provided that the required crown or superelevation is maintained.

The Cold Mixed Recycled Bituminous Pavement shall be compacted to meet a minimum of 96.0% of the lab established maximum density as approved by the Engineer in accordance with MATERIALS and CONTROL SECTION of this specification.

101. CURING AND STABILITY. The Cold Mixed Recycled Bituminous Pavement may be opened to traffic as approved by the Engineer.

Hot mixed bituminous concrete pavements shall not be placed until the Cold Mixed Recycled Bituminous Pavement material has been allowed to cure and the free moisture content is reduced according to AASHTO T-217 to a maximum of one and one-half percent (1½%) every 1000 ft per lane or as directed by the Engineer.

The Engineer may waive the 1½% free moisture content in such cases that the Cold Mixed Recycled Bituminous Pavement has been open to a cure period of 14 calendar days or more.

The required density shall be achieved and maintained until a hot mixed bituminous concrete pavement has been placed. Any additional compactive effort or repair of imperfections in the Cold Mixed Recycled Bituminous material shall be performed as directed by the Engineer at no additional compensation to the Contractor. As an alternate for the purpose of protecting the Cold Mixed Recycled Bituminous Pavement from damage due to traffic, the Engineer may approve the use of a Fog Seal surface treatment subsequent to the placement of the Cold Mix and prior to the placement of any hot mix bituminous pavement.

102. CONTROL SECTION. The Contractor shall be responsible for performing all Process Control and Quality Control sampling and testing.

Process Control sampling and testing shall involve taking a set of four representative samples from the test section. The samples may be taken either before or after the cold recycling process. The four samples shall be combined to represent a uniform sample for determining maximum density. The material used, including that used for the Marshall series to determine the optimum emulsion and Portland cement rates, shall be in a processed pulverized state replicating the state which the material will be in immediately prior to the point when the emulsified asphalt and Portland cement is introduced during the recycling process.

The Contractor shall perform the Marshall Design series tests to determine the maximum density. A maximum density shall be obtained by performing a series of tests using the 50 blow Marshall Design method (AASHTO T 245 - Mod.) as stated in the Asphalt Institutes MS-14, Cold Mix Design Guide. The series of Marshall tests shall be prepared using a minimum of five different percentages of emulsion, and a minimum of five different percentages of emulsion and Portland cement combined. The maximum density obtained from these tests shall be used as the recommended target density to be approved by the Engineer.

The Contractor shall perform all tests necessary to verify that the target density is achieved and maintained prior to placement of a hot bituminous overlay. The necessity for additional testing will be determined by the Engineer. The Contractor shall provide the Engineer with the original copies of all Marshall Design series, Process Control, and Quality Control test results.

The Contractor shall demonstrate to the Engineer, on the first day of Cold Mix production and placement, that the Contractor's equipment and procedure are suitable for the work specified and are capable in achieving the density specified. If the control section does not meet the requirements of this specification, or the density achieved does not appear suitable, the Contractor shall modify the procedure and either construct another control section or reconstruct the original until acceptable results are obtained. The suitability of results will be determined by the Engineer.

103. QUALITY CONTROL PLAN. The Contractor shall operate in accordance with an approved Quality Control Plan (QCP) to assure a final product meeting the Contract requirements. The QCP shall meet the requirements of this Subsection. The Contractor shall not begin cold mix production until the QCP is submitted for approval.

Prior to performing any cold mix production, the Engineer and/or the Contractor may request a Pre-recycle conference to discuss the recycling schedule.

The QCP shall address any items that affect the quality of the recycling process including, but not limited to, the following:

a. Methods to adhere JMF(s).
b. Mixing details, pugmill type, production rates, and material processing.
c. Make and type of paver(s).
d. Make and type of rollers.
e. Transportation, including process for ensuring that truck bodies are clean and free of debris or contamination that could adversely affect the finished product, and type of release agent used (if required).
f. Laydown operations, including procedures for mix design modification, avoiding recycling and curing in inclement weather, material yield monitoring, methods to ensure that segregation is minimized, longitudinal joint construction, procedures to determine the maximum rolling and placing speeds based on field quality control, and achieving the best possible smoothness.
g. Methods for Quality Control testing to assure the material is meeting the mix design.

h. Methods for protecting the finished product from damage and procedures for any necessary corrective action.
i. Examples of QCP and logbook forms.
j. Name, responsibilities, and qualifications of the responsible onsite Recycling Supervisor experienced and knowledgeable with the process.
k. Method for calibration/verification of density gauge.
l. Stockpile management procedures.

The Project Superintendent shall be named in the QCP, and the responsibilities for successful implementation of the QCP shall be outlined.

The Contractor shall sample, test, and evaluate the Cold Mix Recycled Bituminous Pavement process in accordance with the following procedures and minimum frequencies:

MINIMUM QUALITY CONTROL FREQUENCIES

Test or Action	Frequency	Test Method
Density	1 per 300 m (1000 ft)/lane	AASHTO T-310
Air Temperature	4 per day at even intervals	
Surface Temperature	At the beginning and end of each days operation	
Gradation and AC Content of Final Product	1 per day	AASHTO T-30

The Contractor shall submit QCP reports and summaries in writing, signed by the appropriate technician, and present them to the Agency's onsite representative by the completion of the project, except when otherwise noted in the QCP due to local restrictions. The Contractor shall make all test results, including randomly sampled densities, available to the Engineer onsite.

104. FIELD OPERATIONS. The Contractor shall cease recycling operations whenever one of the following occurs:

(1) The computed yield of each additive differs from the approved Job Mix Formula by 10% or more.

(2) The Contractor fails to follow the approved QCP.

(3) The Contractor fails to achieve 96% of the established field density after corrective action has been taken.

(4) The finished product is visually segregated, unstable, or otherwise defective, as determined by the Engineer.

Recycling operations shall not resume until the Contactor and the Agency agree on the corrective action to be taken.

105. METHOD OF MEASUREMENT. The quantity of Special Provision (Emulsified Asphalt, Cold Mix with Cement) to be measured for payment will be the number of kilograms [hundredweight (CWT)] used in the complete and accepted work.

The quantity of Special Provision (Cold Mixed Recycled Bituminous Pavement, Portland Cement) to be measured for payment will be the number of square meters (square yards) of existing pavement which has been recycled in an acceptable manner as determined by actual surface measurements of the lengths and widths of the recycled area as shown on the Plans or as directed by the Engineer. No additional compensation will be made for overlapping areas.

The quantity of Special Provision (Aggregate to Meet Cold Mixed Gradation) to be measured for payment will be the number of metric tons (tons) used in the complete and accepted work.

106. BASIS OF PAYMENT. The accepted quantity of Special Provision (Emulsified Asphalt, Cold Mix with Cement) will be paid for at the Contract unit price per kilogram [hundredweight (CWT)] for the specified material applied. Payment will be full compensation for furnishing, transporting, and placing the material and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

The accepted quantity of Special Provision (Cold Mixed Recycled Bituminous Pavement, Portland Cement) will be paid for at the Contract unit price per square meter (square yard). Payment will be full compensation for performing the work specified and for furnishing all labor, materials, tools, equipment, and incidentals necessary to complete the work. Any additional RAP material, not generated from the project, required to meet the project volume of Special Provision (Cold Mixed Recycled Bituminous Pavement, Portland Cement) will not be paid for separately but will be considered incidental to Special Provision (Cold Mixed Recycled Bituminous Pavement, Portland Cement).

The accepted quantity of Special Provision (Aggregate to Meet Cold Mixed Gradation) will be paid for at the Contract unit price per metric ton (ton). Payment will be full compensation for furnishing and placing the material specified and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment for the furnishing of Portland cement will be made under the Special Provision (Portland Cement for Cold Mixed Recycling) item in the Contract.

Payment for the furnishing of any Fog Seal Surface Treatment will be made under the Special Provision (Fog Seal Surface Treatment) item in the Contract.

Payment will be made under:

Pay Item		Pay Unit
900.675	Special Provision (Cold Mixed Recycled Pavement, Portland Cement)	Square Yard
900.680	Special Provision (Aggregate to Meet Cold Mixed Gradation)	Ton
900.683	Special Provision (Emulsified Asphalt, Cold Mix with Cement)	CWT

HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES

107. DESCRIPTION. This work shall consist of the placement of one or more courses of bituminous concrete material by hand (non-mechanical) methods on a prepared foundation in conformance with the Plans or as directed by the Engineer.

The work under this Section shall be performed in accordance with these provisions, the Plans and Section 406 or Section 490 of the Standard Specifications, as appropriate.

108. GENERAL. This work will include only that bituminous concrete material placed by hand methods as required at public and/or private drives and permitted drives (such as field drives for agriculture) measured from the outside edge of shoulder to outside limit of drive, within the project limits as identified on the Plans or as directed by the Engineer. Bituminous concrete material placed by mechanical methods at these locations is excluded.

All other bituminous materials placed within the project limits, whether by hand or mechanical methods, shall be paid under the appropriate Contract pay item for bituminous mix or as otherwise specified in the Contract Documents.

109. MATERIALS. Materials shall meet the requirements of the following Subsections:

Subbase, RAP	301.02
Aggregate Shoulders, RAP	402.02
Performance-Graded Asphalt Binder	702.02
Emulsified Asphalt	702.04
Crushed Gravel for Subbase	704.05
Aggregate for Surface Course and Shoulders	704.12

Bituminous concrete material of the type specified in the Contract or as specified by the Engineer shall meet the requirements of Section 406 or Section 490, as applicable. For the purpose of this Section, bituminous concrete material to be used shall be of the type specified in the Contract or, by default, of a matching material to that adjacent material placed by mechanical methods.

110. CONSTRUCTION REQUIREMENTS. The existing surface and/or bed (subbase) upon which the bituminous concrete material is to be placed shall be compacted to the line, grade, and shape shown on the Plans or as directed by the Engineer. All vegetation and soft, yielding, or unsuitable material shall be excavated and replaced with properly compacted material meeting the requirements of Section 301 for Subbase of Crushed Gravel, Fine Graded. Crushed RAP generated from the project may be substituted for Subbase of Crushed Gravel, Fine Graded.

The existing edge of pavement shall be saw cut to provide a vertical edge for placing the hand-placed bituminous concrete material.

Emulsified asphalt shall be applied uniformly and completely to all vertical and horizontal surfaces to be paved. All surfaces shall be free of moisture, dust, and debris prior to applying emulsified asphalt.

If cross slope allows, as determined by the Engineer, existing paved drives shall be cold planed the entire drive width to the depth of the wearing course, not to exceed 50 mm (2 inches). Unless the drive is to be paved that day, all cold planed vertical edges shall have temporary fillets placed the same day cold planning takes place.

All existing paved drives shall have all temporary fillets removed; any existing joints, cracks, and holes cleaned; all vertical and horizontal surfaces to be paved coated with emulsified asphalt; all holes filled with bituminous concrete material compacted to the level of the existing surface; and be thoroughly cleaned and dried prior to any hand-placed bituminous concrete material being placed.

Hand-Placed bituminous concrete material shall be rolled with a 1 metric ton (1 ton) mechanical roller with steel drums, or approved equal, until compacted to the satisfaction of the Engineer.

111. METHOD OF MEASUREMENT. The quantity of Special Provision (Hand-Placed Bituminous Concrete Material, Drives) to be measured for payment will be the number of square meters (square yards) complete in place in the accepted work.

Hand-placed bituminous concrete material placed less than 12.5 mm (½ inch) thick will not be measured for payment.

When any portion or all of Special Provision (Hand-Placed Bituminous Concrete Material, Drives) is removed from the project under any provisions of the Contract or as directed by the Engineer, no payment will be made for the removal, disposal, or replacement of said material.

112. BASIS OF PAYMENT. The measured quantity of Special Provision (Hand-Placed Bituminous Concrete Material, Drives) will be paid for at the Contract unit price per square meter (square yard). Payment shall be full compensation for furnishing, mixing, hauling, placing, compacting, and finishing the material specified and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Emulsified asphalt used as specified and backfill material meeting the requirements specified in the Plans will be considered incidental to Special Provision (Hand-Placed Bituminous Concrete Material, Drives).

When not specified for payment under separate Contract item(s), the costs of placing subbase material, cleaning existing paved surfaces, including power equipment, and for filling joints, cracks, and holes will not be paid for directly, but will be considered incidental to Special Provision (Hand-Placed Bituminous Concrete Material, Drives).

Payment will be made under:

Pay Item		Pay Unit
900.675	Special Provision (Hand-Placed Bituminous Concrete Material, Drives)	Square Yard

RECLAIMED STABILIZED BASE, PORTLAND CEMENT

113. DESCRIPTION. This work shall consist of preparing and constructing reclaimed stabilized base courses at the locations and to the grades and dimensions shown on the Plans.

The work under this Section shall be performed in accordance with these provisions and Section 310 of the Standard Specifications, except that the provisions of the second and third paragraphs of Subsection 310.05 and Subsection 310.08 shall not apply.

114. MATERIALS. The stabilizing agent shall meet the requirements of PORTLAND CEMENT FOR BASE STABILIZATION of Section 900.

For quantity calculation purposes a cement content of approximately 4.0% was used to estimate the required portland cement tonnage for this work. The actual cement content to be used within the process shall be determined by the Contractor consistent with the requirements provided in TESTING of this Section.

Emulsified asphalt shall meet the requirements of FOG SEAL SURFACE TREATMENT of Section 900.

115. CONSTRUCTION REQUIREMENTS.

(a) General. Any manholes, valve covers, or other buried structures shall be protected from damage prior to beginning work. Construction operations shall be sequenced such that after any cold planing activities, the entire roadway width is reclaimed to the depth specified during the first pass and compacted in accordance with Subsection 310.07. Aggregate material required to correct geometric deficiencies shall be added in 6 inch maximum lift thicknesses as directed by the Engineer.

The resultant base material shall be graded to the cross slope and profile as shown on the Plans or as directed by the Engineer. The length of reclaimed base pulverized shall not exceed the length that can be completely pulverized, mixed, and compacted in the same working day. The compacted material shall provide a stable surface for traffic as directed by the Engineer.

(b) Stabilization. The stabilizing agent shall be portland cement and shall be placed using a spreader truck designed to ensure a uniform distribution across the roadway and minimize fugitive dust. Pneumatic application, including through a slotted pipe, will not be permitted. Other systems such as slurry applications, fog systems, or vacuum systems may also be considered acceptable. The Contractor shall provide a method for verifying that the correct amount of cement is being applied.

Water shall only be added through the reclaiming pulverizer during a second pass of the pulverizer to uniformly achieve the specified moisture content. The period of time from placement of the cement to the second pass of the pulverizer shall not exceed 30 minutes. This second pass of reclamation shall uniformly blend all materials into a homogenous mass until an apparent uniform distribution has occurred.

(c) Compaction. The processed material shall be uniformly compacted to a minimum of 98% of the maximum dry density as determined in accordance with AASHTO T 310 based on a moving average of five (5) consecutive tests with no individual test result below 96%. The target maximum dry density shall be established by the Agency based on the results of the moisture density curves provided by the Contractor in accordance with the testing requirements of this Section and as approved by the Agency. Prior to field density testing and whenever a gradation sample is taken by the Engineer, the Contractor shall determine the asphalt content of the reclaimed material in accordance with AASHTO T 308.

After compaction, the roadway surface shall be treated with a light application of water and rolled with pneumatic-tired rollers to create a close-knit texture.

For production field operations, the moisture content shall be the optimum moisture content ±1%.

(d) Curing and Treatment of Stabilized Base. The Contractor shall protect and maintain the cement stabilized base in good condition until all work is accepted. Such maintenance shall be performed by the Contractor at the Contractor's expense. Maintenance shall include immediate repairs of any defects that may occur. If it is necessary to replace any processed material, the replacement shall be full depth, with vertical cuts, using either cement treated material or concrete. No skin patches will be permitted. Portions of the cement stabilized base damaged by rain shall be reconstructed at the Contractor's expense.

Following final finishing of the cement stabilized surface, the surface shall be cured by being kept continuously moist for a period of 2-3 days with a water spray that will not erode the surface of the cement stabilized base.

The cement stabilized based shall be protected from freezing for a period of 10 days after construction or as approved by the Engineer.

(e) Contractor Coring Activities. A minimum of three (3) cores per mile of project length shall be taken by the Contractor following the micro-crack process. The Contractor shall not perform the coring operation before the end of the fifth day following the addition of cement. The Contractor shall coordinate the coring, core extraction, and delivery of the cores so that the cores are delivered to the Materials and Research Section by the end of the sixth day following the addition of the cement.

These cores shall be delivered by the Contractor to the Materials and Research Section for compressive strength testing. The Contractor shall provide a minimum notice of 24 hours to the Materials and Research Section prior to delivery of the core samples. Compressive strength testing will be performed by the Agency. The results of the compressive strength testing are to be used for informational purposes only.

(f) Micro-cracking. Immediately following the 2 to 3 day wet cure period, a micro-crack process shall be performed over the entire stabilized base area. This is accomplished by three passes over the cement stabilized base surface with a 12 ton roller traveling at 2 to 3 miles per hour vibrating at maximum amplitude. Light watering shall again be performed to afford visual inspection of the micro-cracking.

(g) Emulsion Seal. Following the 2 to 3 day wet cure period and once the cement stabilized base surface has dried sufficiently to the satisfaction of the Engineer, the surface shall be swept and CSS-1h emulsified asphalt shall be applied at a rate of 0.15 gal/yd^2 (+/- 0.025 gal/yd^2). The bituminous base course shall be placed within 10 days of application of the emulsion seal or as directed by the Engineer. Alternatively, the wet cure period may be extended until placement of the base course at the discretion of the Engineer.

(h) Traffic Considerations. Completed portions of the cement stabilized base can be opened immediately to low speed local traffic and to construction equipment, provided that the curing operations are not impaired, and provided that the cement stabilized base is sufficiently stable to withstand marring or permanent deformation.

116. CONTRACTOR SAMPLING AND TESTING REQUIREMENTS. The Contractor shall conduct the following testing in a manner and in a timeframe that ensures that the sampled material is representative of the final stabilized base material. This may require sampling either before or after the first reclaiming pass or after the addition of material to correct any geometric roadway deficiencies.

A minimum of 5 days before any sampling is scheduled to begin, the Contractor shall provide a full test plan for approval by the Project Manager. The plan shall include locations of all test sections, schedule for sampling and testing, project specific means and methods for sampling and blending of any material prior to testing, source and properties of blending material, and sample data worksheets and reporting forms. Sampling and testing may begin following approval of the test plan.

(a) Sampling. Three 500 foot test sections within the overall project limits shall be established by the Engineer for testing purposes. The test sections shall be located within 1000 feet of the quarter points along the project. The Contractor shall obtain one sample (approximately 150 lbs of material) from each test section for moisture density testing and fabrication of soil-cement samples.

(b) Moisture-Density Curves. The Contractor shall conduct a minimum of one (1) moisture-density curve on reclaimed material sampled for each of the three test sections in accordance with AASHTO T 99, Method C. A minimum of five (5) different moisture contents shall be used to determine the maximum dry density and optimum moisture content for each moisture-density curve. At least one of the five points on each moisture-density curve must exceed the optimum moisture content.

(c) Soil-Cement Specimens. The actual cement content to be used for the cement stabilization process shall be determined by the Contractor utilizing qualified laboratory personnel and in accordance with ASTM D 1632-96 Standard Practice for Making and Curing Soil-Cement Compression and Flexure Test Specimens in the Laboratory, and ASTM D 1633-96 Standard Test Method for Compressive Strength of Molded Soil-Cement Cylinders. The maximum dry density and optimum moisture content determined above along with cement contents of 2%, 4%, and 6% shall be used for testing purposes. The Contractor's test data will be used to optimize the cement and moisture contents to achieve a 7-day unconfined compressive strength ranging between 250 to 400 psi.

(d) Agency Approval of Contractor's Test Data. All test results associated with determining the necessary cement content shall be submitted to the Project Manager for approval a minimum of three (3) days following completion of the testing. The Agency will have five (5) working days to review the Contractor's test data upon receipt. The Agency shall provide written notice to the Contractor documenting the required percentage of cement to be used for this project.

117. METHOD OF MEASUREMENT. The quantity of Special Provision (Reclaimed Stabilized Base, Portland Cement) to be measured for payment will be the number of square meters (square yards) constructed in the complete and accepted work.

118. BASIS OF PAYMENT. The accepted quantity of Special Provision (Reclaimed Stabilized Base, Portland Cement) will be paid for at the Contract unit price per square meter (square yard). Payment shall be full compensation for furnishing, handling, transporting, and placing the necessary materials; pulverizing and adding or removing moisture; shaping, placing, and compacting the designated materials; constructing test strips; conducting tests; maintaining the finished base until it is paved over and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Water used to adjust the moisture content prior to stabilization, for stabilization when water is used as the stabilizing agent, for compacting the pulverized material, and for dust control after the reclamation will not be paid for directly, but will be considered incidental to Special Provision (Reclaimed Stabilized Base, Portland Cement).

Payment for performing the first pass of full-depth reclamation will be made separately under the appropriate Section 310 item in the Contract.

Payment for the furnishing of the cement stabilizing agent will be made separately under Contract item 900.680 Special Provision (Portland Cement for Base Stabilization).

Payment for the furnishing, handling, and placing of the emulsified asphalt will be made separately under Contract item 900.683 Special Provision (Fog Seal Surface Treatment).

Payment will be made under:

Pay Item	Pay Unit
900.675 Special Provision (Reclaimed Stabilized Base, Portland Cement)	Square Yard

BITUMINOUS CONCRETE PAVEMENT SURFACE PREPARATION

119. DESCRIPTION. This work shall consist of performing all necessary bituminous concrete pavement surface preparation as shown in the Plans and as directed by the Engineer.

The work under this Section shall be performed in accordance with these provisions and Sections 406, 417, and 490 of the Standard Specifications, as applicable.

120. GENERAL REQUIREMENTS.

(a) Bituminous Concrete Pavement Surface Preparation, Type I. Type I bituminous concrete pavement surface preparation shall consist of performing all necessary surface preparation, including pothole repairs, raveling repairs, and other repairs directed by the Engineer prior to placing the final surface treatment.

(b) Bituminous Concrete Pavement Surface Preparation, Type II. Type II bituminous concrete pavement surface preparation shall consist of performing all necessary surface preparation, including pothole repairs, raveling repairs, crack sealing, and other repairs directed by the Engineer prior to placing the final surface treatment.

121. MATERIALS. Bituminous material shall meet the requirements of Subsection 406.03 for Bituminous Concrete Pavement (50 or 75 blow), Type IV or Type V or of Subsection 490.03 for Superpave Bituminous Concrete Pavement (50 gyration minimum), Type IVS or Type VS.

The grade of PG asphalt binder used to produce bituminous concrete pavement shall be PG 58-28.

Crack sealing material shall meet the requirements of Subsection 707.04(a).

122. METHOD OF MEASUREMENT. The quantity of Special Provision (Bituminous Concrete Pavement Surface Preparation) of the Type specified to be measured for payment will be the number of metric tons (tons) of material, including crack sealing material when required, complete in place in the accepted work as determined from the weigh tickets.

123. BASIS OF PAYMENT. The accepted quantity of Special Provision (Bituminous Concrete Pavement Surface Preparation) of the Type specified will be paid for at the Contract unit price per metric ton (ton). Payment shall be full compensation for furnishing, mixing, hauling, and placing the materials specified and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
900.680 Special Provision (Bituminous Concrete Pavement Surface Preparation, Type I)	Ton

MATERIAL TRANSFER VEHICLE (MTV)

124. DESCRIPTION. This work shall consist of furnishing and utilizing an approved Material Transfer Vehicle (MTV) in bituminous concrete paving operations.

The work under this Section shall be performed in accordance with these provisions, the Plans, and Section 406 or 490, as applicable, of the Standard Specifications.

125. CONSTRUCTION REQUIREMENTS. An approved Material Transfer Vehicle (MTV) shall be used to transfer the bituminous material from the hauling equipment to the paver. The MTV shall operate independently from the paver and shall be a commercially manufactured unit specifically designed for the transfer of mix from the hauling equipment to the paver without depositing the mix on the roadway surface.

The MTV and/or separate hopper shall be designed such that the deposited mix is remixed prior to placement on the roadway. The minimum storage capacity of the MTV, not including any separate hopper, shall be 10.7 T (12 tons). The MTV shall be capable of "swinging" or "offsetting" the material transfer delivery system to side discharge into the paver. If the MTV and associated actions do not effectively eliminate mat segregation as determined by the Engineer, the Engineer may require a hopper insert with remixing capabilities or other measures.

When the MTV traverses a bridge that is not a buried structure, it shall be as near to empty as possible and shall not exceed 8 kph (5 mph) while on any structure. If the Contractor proposes moving the MTV over a bridge with more than a minimal amount of bituminous material in it, a proposal shall be submitted to and approved by the Structures Engineer prior to any mix being placed. Any submittal shall detail all wheel and axle loadings that will be placed on the bridge deck.

126. METHOD OF MEASUREMENT. The quantities of Special Provision (Material Transfer Vehicle) and Special Provision (Material Transfer Vehicle, Cold Mix) to be measured for payment will be the number of metric tons (tons) of bituminous pavement transferred by the Vehicle to the paver in the completed and accepted work, as determined by the weigh slips.

127. BASIS OF PAYMENT. The accepted quantities of Special Provision (Material Transfer Vehicle) and Special Provision (Material Transfer Vehicle, Cold Mix) will be paid for at the Contract unit price per metric ton (ton). Payment will be full compensation for the equipment as specified and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
900.680 Special Provision (Material Transfer Vehicle)	Ton
900.680 Special Provision (Material Transfer Vehicle, Cold Mix)	Ton

PORTLAND CEMENT FOR BASE STABILIZATION

128. DESCRIPTION. This work shall consist of furnishing Portland cement for the purpose of performing reclaimed base stabilization in accordance with the Contract Documents.

129. MATERIALS. Portland cement for base stabilization shall conform to the requirements of Subsection 701.02.

130. METHOD OF MEASUREMENT. The quantity of Special Provision (Portland Cement for Base Stabilization) to be measured for payment will be the number of metric tons (tons) of material in place in the complete and accepted work, as determined from the load tickets or other method as approved by the Engineer.

131. BASIS OF PAYMENT. The accepted quantity of Special Provision (Portland Cement for Base Stabilization) will be paid for at the Contract unit price per metric ton (ton). Payment shall be full compensation for furnishing the material specified.

Payment for the handling and placing of Portland Cement for Base Stabilization in the complete and accepted work will be made under the Special Provision (Reclaimed Stabilized Base, Portland Cement) item in the Contract.

Payment will be made under:

Pay Item	Pay Unit
900.680 Special Provision (Portland Cement for Base Stabilization)	Ton

PORTLAND CEMENT FOR COLD MIXED RECYCLING

132. DESCRIPTION. This work shall consist of furnishing Portland cement for the purpose of performing cold mixed recycling of bituminous pavement in accordance with the Contract Documents.

133. MATERIALS. Portland cement for base stabilization shall conform to the requirements of Subsection 701.02.

134. METHOD OF MEASUREMENT. The quantity of Special Provision (Portland Cement for Cold Mixed Recycling) to be measured for payment will be the number of metric tons (tons) of material in place in the complete and accepted work, as determined from the load tickets or other method as approved by the Engineer.

135. BASIS OF PAYMENT. The accepted quantity of Special Provision (Portland Cement for Cold Mixed Recycling) will be paid for at the Contract unit price per metric ton (ton). Payment shall be full compensation for furnishing the material specified.

Payment for the handling and placing of Portland Cement for Cold Mixed Recycling in the complete and accepted work will be made under the Special Provision (Cold Mixed Recycled Bituminous Pavement, Portland Cement) item in the Contract.

Payment will be made under:

Pay Item		Pay Unit
900.680	Special Provision (Portland Cement for Cold Mixed Recycling)	Ton

EMULSIFIED ASPHALT

136. DESCRIPTION. This work shall consist of furnishing and applying bituminous treatment when required on an approved surface.

The work under this Section shall be performed in accordance with these provisions, the Plans, and Section 404 of the Standard Specifications.

137. MATERIALS. Emulsified asphalt shall be either a type RS-1h or CRS-1h meeting the following requirements:

TABLE 1

ANIONIC ASPHALT EMULSION FOR TACK COAT		
TYPE	RAPID SETTING	
GRADE	RS-1h	
Test Requirements	Min.	Max.
Emulsion: Viscosity, Saybolt Furol, 77°F (25°C), second	20	100
Viscosity, Saybolt Furol, 122°F (50°C), second	-	-
Storage Stability Test, 1 Day(Difference in % Residue)	-	1
Demulsibility, 35 ml, 0.02 N, $CaCl_2$, %	60	-
Cement Mixing Test, %	-	-
Sieve Test, %	-	0.10
Residue by Distillation, %	55	-
Oil Distillate, Volume Total Emulsion, %	-	2
Residue from Distillation Test: Penetration, 77°F (25°C), 100 g, 5 second	40	90
Ductility, 77°F (25°C), 5 cm/minute, cm	40	-
Solubility in trichloroethylene, %	97.5	-
Float Test,(1) 140°F (60°C), second	-	-
Suggested Temperature Range: Mixing, °F	-	-
Spraying, °F	75	150

Notes:
1. Float Test AASHTO T 50, except that the residue from distillation shall be poured immediately into the float collar at 500°F (260°C).

TABLE 2

CATIONIC ASPHALT EMULSION FOR TACK COAT		
TYPE	RAPID SETTING	
GRADE	CRS-1h	
Test Requirements	Min.	Max.
Emulsion: Viscosity, Saybolt Furol, 77°F (25°C), second	20	100
Viscosity, Saybolt Furol, 122°F (50°C), second	-	-
Storage Stability Test, 1 Day (Difference in % Residue)	-	1
Classification Test	Passes	
Particle Charge Test	Positive	
Sieve Test, %	-	0.10
Cement Mixing Test, %	-	-
Residue by Distillation, %	60	-
Oil Distillate, Volume Total Emulsion, %	-	3
Residue from Distillation Test: Penetration, 77°F (25°C), 100 g, 5 second	40	90
Ductility, 77°F (25°C), 5 cm/minute, cm	40	-
Solubility in trichloroethylene, %	97.5	-
Suggested Temperature Range: Mixing, °F	-	-
Spraying, °F	75	140

138. METHOD OF MEASUREMENT. The quantity of Special Provision (Emulsified Asphalt) to be measured for payment will be the number of kilograms [hundredweight (CWT)] used in the complete and accepted work.

139. BASIS OF PAYMENT. The accepted quantity of Special Provision (Emulsified Asphalt) will be paid for at the Contract unit price per kilogram [hundredweight (CWT)] for the specified material applied. Payment will be full compensation for furnishing, transporting, and placing the material and for furnishing all materials, signs, traffic control, labor, tools, equipment, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
900.683 Special Provision (Emulsified Asphalt) (RS-1H or CRS-1H)	CWT

FOG SEAL SURFACE TREATMENT

140. DESCRIPTION. This work shall consist of furnishing and applying a fog seal surface treatment on an approved surface in accordance with the Contract Documents and as directed by the Engineer.

141. MATERIALS. Materials shall meet the following requirements:

(a) Emulsified Asphalt.

(1) General. Emulsified asphalt shall be produced by diluting (1:1) a Cationic Asphalt Emulsion Grade CSS-1h with a suitable emulsifier solution and thoroughly mixing into a homogeneous liquid.

All additives for emulsified asphalts shall be approved prior to their use.

Water may be checked for compatibility with the emulsion by mixing a small amount of the emulsion in a can (approximately 1 liter). The materials are mixed for 2 to 3 minutes with a stirrer and the resulting mixture is poured through a pre-wetted 150 µm sieve. If more than 1% by weight of material is retained on the sieve, the water is not compatible and clogging in spray jets may result.

Incompatible water may be treated with 0.5 to 1.0% of a compatible emulsifier solution (the emulsion manufacturer can provide advice regarding compatible solutions). The emulsifier solution should be added to the water tanker and circulated for 10 to 15 minutes via pump before adding to the emulsion. If a water treatment is used, the compatibility test should be repeated using the treated water to ensure compatibility.

Emulsified asphalt shall be homogeneous. It shall show no separation of asphalt at the time of use and shall be used within 30 calendar days after delivery from the manufacturer/supplier.

Diluted asphalt emulsion shall not be stored longer than 24 hours.

Emulsified asphalt shall not be allowed to freeze.

(2) Properties. Emulsified asphalt shall conform to the requirements of Table 900-1 below, and/or AASHTO M 140 or AASHTO M 208, as appropriate. Emulsified asphalt shall be tested in accordance with AASHTO T 59.

TABLE 900-1
ASPHALT EMULSION FOR FOG SEAL

Material Designation Grade CSS-1h	900-1	
Test Requirements (for diluted material)	Minimum	Maximum
Sieve Test, %	-	0.10
Residue by Distillation, %	28	40
Oil Distillate, Volume of Total Emulsion, %	-	2
Test on residue from Distillation: Penetration, 25°C (77 °F), 100g, 5s	40	90
Spraying Temperature, °C (°F)	24-54 (75-130)	

(3) Certification. A Type D Certification shall be furnished in accordance with Subsection 700.02.

(4) Sampling of material from the distributor shall be random and as determined by the Engineer.

(5) Verification. For the purpose of verifying materials used on the project the Engineer may require that all deliveries made of the emulsion to be used as Fog Seal, be evidenced by fully completed delivery records that accurately reflect the quantity and material delivered.

142. WEATHER LIMITATIONS. Bituminous material shall be applied only when the following conditions prevail:

(a) The ambient air temperature is at least 10°C (50°F) in the shade and rising, and the pavement surface temperature is at least 15°C (59°F).

(b) The road surface is sufficiently dry.

(c) Weather conditions or other conditions are favorable and are expected to remain so for the performance of satisfactory work.

Bituminous material shall not be applied between September 1st and June 1st.

143. EQUIPMENT. The equipment used by the Contractor shall include transporting equipment, a bituminous distributor, and equipment for heating bituminous material.

(a) Distributor. The distributor shall be so designed, equipped, maintained, and operated that bituminous material at even heat may be applied uniformly on variable widths of surfaces up to 4.9 m (16 feet) at the specified rate for the item being placed. Distributor equipment shall include suitable hand spray nozzle and hose, a tachometer, pressure gauges, accurate volume measuring devices or a calibrated tank, and a thermometer for measuring temperatures of tank contents. Distributors shall be equipped with a power unit for the pump and full circulation spray bars adjustable laterally and vertically.

Distributors may be required to apply a 4.9 m (16 feet) wide strip at one time.

The mass (weight) of the loaded distributor shall not exceed the legal load limit.

Each pressure distributor shall be equipped with a squeegee and pouring pot, and labor shall be furnished to use the tools.

Each pressure distributor shall be equipped with a measuring stick.

Traveling or stationary plants or other equipment of proven performance may be used by the Contractor instead of the specified equipment if approved.

(b) Transporting Equipment. Tanks for motor transport trucks shall be made of either steel or aluminum with a minimum capacity of 5.5 m^3 (1500 gallons), insulated, equipped with baffle plates to prevent surging, and equipped with the necessary units in order to heat the bituminous content in accordance with these specifications. Heating of motor transport truck tanks by distributors to bring the material to the proper temperature will not be permitted. The Contractor shall furnish the necessary heating units for the motor transport trucks and the operators for the heating units.

144. PREPARATION OF SURFACES. All surfaces to be treated shall be patched, cleaned of loose or objectionable material, and free of irregularities to provide a reasonably smooth and uniform surface.

145. APPLICATION OF BITUMINOUS MATERIALS. The application rates of bituminous materials shall be as directed by the Engineer.

The application shall be made in accordance with the widths and dimensions detailed in the Plans and shall have a uniform appearance acceptable to the Engineer across the width of the treatment area.

(a) Emulsified Asphalt. Emulsified asphalt shall be applied between the temperature ranges specified in Table 900-1 by pressure distributors or other methods approved by the Engineer.

The emulsified asphalt shall be applied at the rate of 0.5 to 0.9 L/m^2 (0.1 to 0.2 gallons per square yard) as directed by the Engineer.

Application rates may be checked in accordance with the following:

CHECKING APPLICATION RATES

Binder - Method A (Recommended for Calibration)

- The weight of a 0.84 m^2 (1yd^2) carpet, pan or, non-woven geotextile material is recorded and placed on the road surface.
- The distributor applies emulsion over the carpet, pan, or geotextile material.
- The weight of the carpet and emulsion, pan and emulsion, or geotextile material and emulsion is recorded.
- The weight of the carpet, pan, or geotextile material without emulsion is subtracted from the weight of the carpet, pan, or geotextile material with emulsion.
- The weights applied to the area of carpet (i.e., kg/m^2 or lb/yd^2) must be converted to the units of the control mechanism, which is l/m^2 or gal/yd^2, through knowledge of the specific gravity of the emulsion. If the distributor is not spraying the binder at the correct application rate, adjustments must be made to the controls and the process described above repeated until the correct application rate is achieved. Although this is the responsibility of the contractor, the inspector should verify that the distributor is spraying the binder at the correct application rate.

BINDER CONSIDERATIONS

CHECKING APPLICATION RATES

Example – **Checking Fog Seal Application Rate (Method A)**

- Given:
  Applying a Fog Seal with a 1:1 diluted emulsion.
  Tight surface texture.
  Recommended application rate of 0.15 – 0.5 l/m^2 (0.03 – 0.11 gal/yd^2) (see Table 1).
  Specific gravity of Emulsion (G_E) = 1.010.
  Unit Weight of Water (γ_W) = 1 g/cm^3 or 1000 kg/ m^3 (62.4 lb/ft^3).
  Conversion Factor (C_f) = 1000 l/m^3 (7.5 gal/ft^3).

Find the actual application rate (W_A).

- Measure the weight of a 1 m^2 (1 yd^2) carpet (W_C).
  (W_C) = 1.8144 kg (4.0 lb)
- Measure the weight of 1 m^2 (1 yd^2) carpet and applied emulsion (W_{C+E}).
  (W_{C+E}) = 2.1944 kg (4.7 lb)
- Calculate the weight of emulsion covering the 1 m^2 (1 yd^2) carpet (W_E).
  (W_E) = (W_{C+E} - W_C)
  (W_E) = (2.1944 kg – 1.8144 kg) (4.7 lb - 4.0 lb)
  (W_E) = 0.38kg (0.7 lb)
- The application rate is the weight of emulsion applied per unit area (W_A).

$$(W_A)=\left(\frac{W_E}{1m^2}\right) \text{ or } \left(\frac{W_E}{1yd^2}\right)$$

$$(W_A)=\left(\frac{0.38kg}{1m^2}\right) \text{ or } \left(\frac{0.7lb}{1yd^2}\right)$$

$$(W_A)=0.38\frac{kg}{m^2} \text{ or } 0.7\frac{lb}{yd^2}$$

Convert this application rate to gal/yd^2.

- Calculate the unit weight of the emulsion (γ_E) by multiplying the specific gravity of the emulsion (G_E) by the unit weight of water (γ_W).

$$(\gamma_E)=(G_E\times\gamma_E)$$

$$(\gamma_E)=\left(1.010\times1000\frac{kg}{m^3}\right) \text{ or } \left(1.010\times62.4\frac{lb}{ft^3}\right)$$

$$(\gamma_E)=1010.0\frac{kg}{m^3} \text{ or } 63.024\frac{lb}{ft^3}$$

BINDER CONSIDERATIONS

CHECKING APPLICATION RATES

Example – **Checking Fog Seal Application Rate (Method A) (continued)**

- Convert the unit weight of the emulsion (γ_E) to kg/l (lb/gal) (γ_{Ekg}) by dividing (γ_E) by (C_{f1}).

$$(\gamma_{Ekg}) = \left(\frac{\gamma_E}{C_{f1}}\right)$$

$$(\gamma_{Ekg}) = \left(\frac{1010.0\frac{kg}{m^3}}{1000\frac{l}{m^3}}\right) \text{ or } \left(\frac{63.024\frac{lb}{ft^3}}{7.5\frac{gal}{ft^3}}\right)$$

$$(\gamma_{Ekg}) = 1.01\frac{kg}{l} \text{ or } 8.4\frac{lb}{gal}$$

- Convert (W_A) in kg/m^2 (lb/yd^2) to ($W_{A'}$) in l/ m^2(gal/yd^2) by dividing (W_A) by (γ_{Ekg}).

$$(W_{A'}) = \left(\frac{W_E}{\gamma_{Ekg}}\right)$$

$$(W_{A'}) = \left(\frac{0.38\frac{kg}{m^2}}{1.01\frac{kg}{l}}\right) \text{ or } \left(\frac{0.7\frac{lb}{yd^2}}{8.4\frac{lb}{gal}}\right)$$

$$(W_{A'}) = 0.3763\frac{l}{m^2} \text{ or } 0.08\frac{gal}{yd^2}$$

Check this value against the recommended application rates given in Table 1. For the given surface condition and dilution rate this application rate is acceptable.

146. TRAFFIC CONTROL. Flaggers shall be used in accordance with Section 630.

Signs informing the traveling public that bituminous surface treatment operations are underway shall be erected at each end of the section under construction that day. The signs shall be designed, worded, and erected in a manner approved by the Engineer. The signs shall be removed at the end of each day's work unless the condition of the road, as determined by the Engineer, requires otherwise.

All traffic shall be kept off the bituminous material for a minimum of two hours until the curing is complete and until the fog seal surface treatment will not "pick up" under traffic, or as directed by the Engineer.

On projects where it is necessary to maintain traffic, the traffic shall be controlled by using a pilot car traveling at a low speed.

147. MAINTENANCE. The Contractor shall maintain the treated surfaces until the Contract is completed and the work accepted. Holes or irregularities shall be repaired by filling with material acceptable to the Engineer.

148. PROTECTION OF STRUCTURES AND TREES. The Contractor shall use care in applying bituminous material. Surfaces of adjacent structures and trees shall be protected from being spattered with the material.

149. METHOD OF MEASUREMENT. The quantity of Special Provision (Fog Seal Surface Treatment) to be measured for payment will be the number of kilograms [hundredweight (CWT)] used in the complete and accepted work.

150. BASIS OF PAYMENT. The accepted quantity of Special Provision (Fog Seal Surface Treatment) will be paid for at the Contract unit price per kilogram [hundredweight (CWT)]. Payment shall be full compensation for furnishing, transporting, and placing the material specified and for furnishing all labor, tools, equipment, and incidentals necessary to complete the work.

Payment for all necessary traffic control will be made under Contract item 641.10.

Payment will be made under:

Pay Item	Pay Unit
900.683 Special Provision (Fog Seal Surface Treatment)	CWT

Minimum Labor and Truck Rates
Under Title 19, Vermont Statutes
Annotated Section 18, as amended

STATE OF VERMONT
AGENCY OF TRANSPORTATION
MONTPELIER

FOR OTHER THAN FEDERAL-AID. In accordance with the provisions of Title 19, VSA, Section 18, the following minimum rate for labor shall apply to this project:

The minimum wage for common labor will not be less than the State or Federal minimum wage, whichever is higher.

ON FEDERAL-AID PROJECTS ONLY.

The minimum rates for labor for Federal-Aid Projects shall be those set in the Wage Determination Decision of the U.S. Secretary of Labor for each project in accordance with the Federal-Aid Highway Act of 1956. When such wage rates are required they shall be included in the proposal. In the event these rates are lower than the Vermont rates, the Vermont rates shall prevail.

TRUCK RATES. In accordance with the provisions of Title 19, VSA, Section 18, the following minimum rates for trucks shall apply to this project:

Trucks, not Including Driver Water Level Body Capacity	Minimum Rates Per YD per Hr.
Trucks, Equipment Loaded	$1.65

State of Vermont
Agency of Transportation

March 2011
CA-110

DISADVANTAGED BUSINESS ENTERPRISE (DBE) POLICY CONTRACT REQUIREMENTS

Disadvantaged Business Enterprise (DBE) Policy. It shall be the policy of the Vermont Agency of Transportation (VTrans) to ensure nondiscriminatory opportunity for Disadvantaged Business Enterprises (DBEs) to participate in the performance of all contracts and subcontracts financed with Federal funds as specified by the regulations of the United States Department of Transportation (USDOT), Federal Highway Administration and as set forth below.

1. **Policy.** It is the policy of USDOT that DBEs as defined in 49 Code of Federal Regulation (CFR) Part 26 shall have the maximum opportunity to participate in the performance of contracts financed in whole or in part with Federal funds. Consequently, the DBE requirements of 49 CFR Part 26 and 23 CFR, Chapter 1, Part 230, Subpart b apply to this contract.

2. **DBE Obligation.** The State and its Contractors agree to ensure that DBEs as defined in 49 CFR Part 26, have the maximum opportunity to participate in the performance of contracts and subcontracts financed in whole or in part with Federal funds. **Each subcontract the prime contractor signs with a subcontractor must include this assurance:** *The contractor, sub recipient or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the award and performance of this contract. The contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of USDOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as VTrans deems appropriate.*

3. **Sanctions for Noncompliance.** The Contractor is hereby advised that failure of the Contractor, or any Subcontractor performing work under this contract, to carry out the requirements set forth in paragraphs 1 and 2 above shall constitute a breach of contract and after the notification of the Vermont Agency of Transportation, Secretary of Transportation, may result in termination of this contract by the State or such remedy as the State deems necessary.

4. **Inclusion in Subcontracts.** The Contractor shall insert in each of its subcontracts this Disadvantaged Business Enterprise (DBE) Policy and also a clause requiring its subcontractors to include this same Policy in any lower tier subcontracts which they may enter into, together with a clause requiring the inclusion of the Policy in any further subcontract that may in turn be made. This Policy shall not be incorporated by reference.

Disadvantaged Business Enterprise (DBE) Program Goals. The Vermont Agency of Transportation (VTrans) is required to set an overall DBE goal for participation in all transportation related Federal-aid projects. The goal is determined following guidelines set forth in 49 CFR 26.45, and based on the availability of ready, willing and able DBEs who submitted bids and quotes for transportation related projects, compared as a percentage of all available contractors who submitted bids and quotes for transportation related projects during the same time period. The DBE goal may be adjusted to take into account other factors impacting DBE utilization, in an effort to narrowly tailor the overall DBE goal. The detailed goal setting methodology and current overall DBE goal may be viewed on the VTrans website at: http://www.aot.state.vt.us/CivilRights/DBEGoals.htm .

VTrans currently utilizes a race/gender neutral policy to fulfill its overall DBE goals, and relies on the voluntary participation of contractors to utilize certified DBEs on every project sufficient to obtain the Agency's overall DBE goal. In order for this practice to continue, contractors must be proactive and solicit bids and quotes from certified DBEs for use when submitting their own bids, and employ certified DBEs when participating on transportation related projects. Otherwise, VTrans may have to implement specified contract goals on projects to ensure the overall DBE goals are met. VTrans may include specific DBE contract goals in certain cases to ensure DBE participation, if failure to obtain the project DBE goal would negatively impact the Agency's overall DBE goal because of the size of the contract.

Disadvantaged Business Enterprise (DBE) Definition. A DBE is defined as a business that is owned and controlled by one or more socially and economically disadvantaged person(s). For the purposes of this definition:

(1) "Socially and economically disadvantaged person" means an individual who is a citizen or lawful permanent resident of the United States and who is a Woman, Black, Hispanic, Portuguese, Native American, Asian American, or a member of another group, or an individual found to be disadvantaged by the Small Business Administration pursuant to Section 3 of the Small Business Act.

(2) "Owned and controlled" means a business which is:

a. A sole proprietorship legitimately owned and controlled by an individual who is a disadvantaged person.

b. A partnership, joint venture or limited liability company in which at least 51% of the beneficial ownership interests legitimately is held by a disadvantaged person(s).

c. A corporation or other entity in which at least 51% of the voting interest and 51% of the beneficial ownership interests legitimately are held by a disadvantaged person(s).

The disadvantaged group owner(s) or stockholder(s) must possess control over management, interest in capital, and interest in earnings commensurate with percentage of ownership. Disadvantaged participation in a joint venture must also be based on the sharing of real earnings, as above. If the disadvantaged group ownership interests are real, substantial and continuing and not created solely to meet the requirements of the program, a firm is considered a bona fide DBE.

Certified DBE Directory. The current Vermont Unified Disadvantaged Business Enterprise (DBE) Directory is available online at: http://www.aot.state.vt.us/CivilRights/DBEDirectory.htm . This directory contains all currently certified DBEs available for work in Vermont, and is updated continuously. Only firms listed in this directory are eligible for DBE credit on Vermont Federal-aid projects. If you have questions about DBE certification, or do not have access to the Internet, please call the DBE Program Manager at (802) 828-5858 for assistance.

Counting DBE Participation Towards Project Goals. In order for payments made to DBE contractors to be counted toward DBE goals, the DBE contractors must perform a commercially useful function (CUF). The DBE must be responsible for execution of the work of the contract and must carry out its responsibilities by actually performing, managing, and supervising the work involved, consistent with standard industry practices.

This means that:

- The DBE must also be responsible for ordering its own materials and supplies, determining quantity and quality, negotiating price, installing (where applicable) and paying for the material itself;

- The DBE must perform work commensurate with the amount of its contract;

- The DBE's contribution cannot be that of an extra participant or a conduit through which funds are passed in order to obtain the appearance of DBE participation;

- The DBE must exercise responsibility for at least fifty percent of the total cost of its contract with its own workforce;

- None of the DBE's work can be subcontracted back to the prime contractor, nor can the DBE employ the prime's or other subcontractor's supervisors currently working on the project;
- The DBE's labor force must be separate and apart from that of the prime contractor or other subcontractors on the project. Transferring crews between primes, subcontractors, and DBE contractors is not acceptable;

- The DBE owner must hold necessary professional or craft license(s) or certification(s) for the type of work he/she performs on the project;

- The DBE may rent or lease, at competitive rates, equipment needed on the project from customary leasing sources or from other subcontractors on the project.

Allowable credit for payments made to DBEs for work performed. A contractor may take credit for payments made to a certified DBE that satisfies CUF requirements at the following rate:

- A DBE Prime Contractor: Count 100% of the value of the work performed by own forces, equipment and materials towards the DBE goals.

- An approved DBE subcontractor: Count 100% of the value of work performed by the DBE's own forces, equipment and materials, excluding the following:

    - The cost of materials/supplies purchased from a non-DBE Prime Contractor.

    - The value of work provided by non-DBE lower tier subcontractors, including non-DBE trucking to deliver asphalt to a DBE contractor.

- A DBE owner-operator of construction equipment: Count 100% of expenditures committed.

- A DBE manufacturer: Count 100% of expenditures committed. The manufacturer must be a firm that operates or maintains a factory or establishment that produces on the premises the materials or supplies obtained by the Contractor.

- A regular DBE dealer/supplier: Count 60% of expenditures committed. A regular dealer/supplier is defined as a firm that owns, operates, or maintains a store, warehouse or other establishment, in which the materials or supplies required for the performance of the contract are bought, kept in stock, and regularly sold or leased to the public in the usual course of business. A person may be a dealer in such bulk items as petroleum products, steel, cement, gravel, stone or asphalt without owning, operating or maintaining a place of business, if the person both owns and operates distribution equipment for the products, by the means of a long term agreement, and not by a contract by contract basis.

- A DBE broker: Count for DBE credit only the fees or commissions charged for assistance in the procurement, and, fees and transportation charges for the delivery of materials or supplies required at the job site, but not the cost of materials procured. A broker is defined as any person(s) or firm who arranges or expedites transactions for materials or supplies, and does not take physical possession of the materials or supplies at their place of business for resale.

- A DBE renter of construction equipment to a contractor: Count 20% of expenditures committed, with or without operator.

- A bona fide DBE service provider: Count 100% of reasonable fees or commissions. Eligible services include professional, technical, consultant, or managerial, services and assistance in the procurement of essential personnel, facilities, equipment, materials or supplies required for the performance of the contract. Eligible services also include agencies providing bonding and insurance specifically required for the performance of the contract.

- A trucking, hauling or delivery operation: Count 100% of expenditures committed when trucks are owned, operated, licensed and insured by the DBE and used on the contract and, if applicable, includes the cost of the materials and supplies. 100% of expenditures committed when the DBE leases trucks from another DBE firm including an owner-operator. 100% of reasonable fees, or commissions, the DBE receives as a result of a lease arrangement for trucks from a non-DBE, including an owner-operator.

- Any combination of the above.

Removal of Approved DBE From Transportation Related Project. Contractors may not terminate for convenience, any approved DBE subcontractor and perform the work with their own forces, without prior written consent from the VTrans DBE Program Manager or VTrans Chief of Civil Rights.

Federal-aid projects which specify a DBE contract goal. The provisions of the Vermont Agency of Transportation Supplemental Specification – Disadvantaged Business Enterprise (DBE) Utilization (CA 160) shall apply to all VTrans Federal-aid projects which specify a DBE contract goal.

Compliance With Prompt Payment Statute. In accordance with Vermont's Prompt Payment Act and VTrans Standard Specifications for Construction, Section 107.01(g), the Contractor shall fully comply with the provisions of 9 V.S.A. Chapter 102, also referred to as Act No. 74 of 1991 or the Prompt Payment Act, as amended.

Subcontractor Payments. In accordance with VTrans Standard Specifications for Construction, Section 107.01(h), on all federal-aid and state funded contracts, the Contractor, during the life of the Contract and on a monthly basis, shall submit electronically, a listing of payments to subcontractors on the form specified by the State and made available at: http://apps.vtrans.vermont.gov/dbe/. Electronic reports shall be filed with the Agency Office of Civil Rights by an authorized representative and received in the Agency Office of Civil Rights on or before the tenth working day after month end. Contractors without access to the internet shall obtain and submit manual reports to the Agency Office of Civil Rights. Manual reports shall be signed by an authorized representative, sent to the Agency Office of Civil Rights, and postmarked on or before the tenth working day after month end. There shall be no direct compensation allowed the Contractor for this work, but the cost thereof shall be included in the general cost of the work. In accordance with 9 V.S.A. Section 4003, notwithstanding any contrary agreement, payments made to subcontractors after seven days from receipt of a corresponding progress payment by the State to the Contractor, or seven days after receipt of a subcontractor's invoice, whichever is later, violate this agreement. Violations shall be reported to the Agency Office of Civil Rights for review. Failure to resolve disputes in a timely manner may result in a complaint made to the Agency Pre-qualification Committee. In this Committee's judgment, appropriate penalties may be involved for failure to comply with this specification. Penalties may include suspension, reduction or revocation of the Contractor's pre-qualification rating. This clause shall be included in the prime Contractor's Contract made with all if its subcontractors.

General Decision Number: VT140043 01/03/2014 VT43

Superseded General Decision Number: VT20130043

State: Vermont

Construction Type: Highway

County: Windham County in Vermont.

HIGHWAY CONSTRUCTION PROJECTS (excluding tunnels; building structures in rest areas; railroad construction; bascule, suspension & spandrel arch bridges; bridges designed for commercial navigation; bridges involving marine construction; and other major bridges)

Modification Number	Publication Date
0	01/03/2014

* SUVT2011-028 09/14/2011

	Rates	Fringes
CARPENTER, Includes Form Work	$ 16.54	2.38
CEMENT MASON/CONCRETE FINISHER	$ 25.34	0.00
ELECTRICIAN, Includes Installation of Traffic Signals	$ 23.32	0.00
GUARDRAIL INSTALLER	$ 12.93	0.00
IRONWORKER, REINFORCING	$ 17.50	4.92
IRONWORKER, STRUCTURAL	$ 21.15	15.54
LABORER: Common or General Includes Asphalt Raker and Concrete Work	$ 14.40	2.31
LABORER: Flagger	$ 13.89	3.35
LABORER: Landscape	$ 12.31	1.03
LABORER: Screedman	$ 16.30	4.23
LABORER: Sign Erector/Installer	$ 14.31	4.70
OPERATOR: Asphalt Roller	$ 18.27	5.16
OPERATOR: Backhoe	$ 16.89	1.33
OPERATOR: Bobcat/Skid Steer/Skid Loader	$ 18.03	0.00
OPERATOR: Broom	$ 16.88	3.72

OPERATOR: Bulldozer	$ 19.10	2.29
OPERATOR: Cold Planer/Milling Machine	$ 18.66	0.00
OPERATOR: Crane	$ 18.50	3.09
OPERATOR: Excavator	$ 19.87	4.20
OPERATOR: Grader/Blade	$ 18.44	3.50
OPERATOR: Loader	$ 20.47	5.21
OPERATOR: Mechanic	$ 21.00	0.00
OPERATOR: Paver	$ 22.48	9.90
OPERATOR: Pounder	$ 18.11	0.00
OPERATOR: Roller excluding Asphalt	$ 18.89	9.90
OPERATOR: Screed	$ 17.52	3.99
OPERATOR: Sweeper	$ 24.44	12.24
PAINTER (Parking Lot and Highway Striping Only)	$ 16.39	3.56
TRUCK DRIVER, Includes 10 Yard Haul Away, A-Frame, Dump, Water Truck	$ 15.83	1.14
TRUCK DRIVER, Includes all axles including Dump Trucks	$ 17.13	4.72
TRUCK DRIVER: Distributor Truck	$ 18.10	3.71
TRUCK DRIVER: Semi/Trailer Truck	$ 17.58	4.74

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the

cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters , PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable , i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rates.

0000/9999: weighted union wage rates will be published annually each January.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union majority rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

==========

END OF GENERAL DECISION

SUPPLEMENTAL SPECIFICATION
ASPHALT PRICE ADJUSTMENT

GENERAL REQUIREMENTS AND CONDITIONS

(a) This specification contains price adjustment provisions for asphalt cement and emulsified asphalt used on Vermont Agency of Transportation (Agency) construction projects and produced under Sections 303, 404, 406, 415, and 490 of the Standard Specifications, or as otherwise designated in the Contract Documents. This price adjustment clause is being inserted in this Contract to provide for either additional compensation to the Contractor or a payment to the Agency, depending upon an increase or decrease in the average price of asphalt cement during the construction of this project.

(b) Emulsified asphalt shall be subjected to a correction factor of 0.45, applied to the quantity of material supplied. This corrected quantity shall be used for Asphalt Price Adjustment as specified and computed herein.

(c) These provisions apply to this Contract only as specified in the procedures provided herein. No further asphalt cement and/or emulsified asphalt price adjustments will be allowed under this Contract.

(d) It is understood by the Contractor that a price adjustment increase may cause the Agency to decrease the quantities of the Contract pay items subject to adjustment under these provisions. Provisions providing for decreased quantities and item cancellation in this paragraph are separate and take precedence, notwithstanding any other provisions of this Contract.

(e) No price adjustment will be allowed beyond the Contract Completion Date or any applicable interim completion dates.

(f) Any increase in the total Contract amount due to price adjustment under these provisions will not be justification for an extension of time under Subsection 108.11.

(g) The Contractor hereby agrees that its bid prices for this Contract include no allowances for any contingencies to cover increased costs for which adjustment is provided herein.

PRICE ADJUSTMENT PROCEDURES

(1) Prior to advertising for bids, an Index Price for asphalt cement will be established by the Agency upon consideration of the New York State DOT average monthly price for asphalt cement, or other monthly index deemed appropriate by the Director of Finance and Administration. The Index Price will be set monthly on or about the last day of the month. The Contract Index Price will be the most recent Index Price set by the Agency at the time of advertising for bids. This price will be as specified in the Special Provisions and will be the base from which price adjustments are computed.

(2) For the duration of the Contract, Posted Prices for a metric ton (ton) of asphalt cement will be established monthly by the Agency. The Posted Prices will be established in the same manner as the Index Price.

(3) A Price Adjustment will be paid or credited for asphalt cement only when the Posted Price of asphalt cement increases or decreases over its respective Index Price.

(4) The Price Adjustment will be based upon the quantity of asphalt cement (QAC) and quantity of emulsified asphalt (QEA) incorporated in the work, determined as follows:

a. Batch Plants. QAC is determined using the cumulative actual binder content for each applicable item as reported on the batch ticket, excluding any percent of asphalt cement from Recycled Asphalt Pavement (RAP).

b. Drum-Mix Plants. QAC is determined based upon the metric tons (tons) of mix placed, multiplied by the actual binder content reported on the demand tickets, as verified by Agency personnel. In the event of multiple binder contents, the accepted quantity of mix at each binder content shall be determined, and the total QAC used shall be calculated accordingly. The accumulated asphalt cement total on the plant automation may be checked and verified by Agency personnel for each mix.

c. Emulsified Asphalt. QEA is as determined in accordance with Subsection 404.11.

(5) The Price Adjustment to be paid shall be computed as follows:

PA = [(QAC + (ACEA X 0.001 X QEA)) X (PP - IP)] [Metric]

PA = [(QAC + (ACEA X 0.05 X QEA)) X (PP - IP)] [English]

where:

PA = Price Adjustment (LU in $)
IP = Index Price ($/metric ton) or ($/ton)
PP = Posted Price on date of work ($/metric ton) or ($/ton)
QAC = Quantity of Asphalt Cement (metric tons) or (tons)
QEA = Quantity of Emulsified Asphalt (kilograms) or (CWT)
ACEA = Asphalt Content of Emulsified Asphalt as follows:

Emulsified Asphalt Type	ACEA
CSS-1h	0.57
MS-1	0.55
RS-1	0.55
CRS-1p	0.63
CSS-1h Fog	0.28

(6) The Contract bid prices for the applicable pay items will be paid separately under the Contract. The price adjustment will be calculated and paid in the same bi-weekly estimate as the applicable Contract work.

(7) Payments for Price Adjustment, Asphalt Cement shall be debited or credited against the Contract price (Lump Unit) bid for Price Adjustment, Asphalt Cement.

Payment will be made under:

Pay Item	Pay Unit
406.50 Price Adjustment, Asphalt Cement (N.A.B.I.)	Lump Unit

Goldstein, Lee

From: Title 19 [DII-SharePointAdmins@state.vt.us]
Sent: Thursday, January 16, 2014 5:03 PM
To: Slesar, Chris; Goldstein, Lee; Ramsey, Jeff; Brady, James
Cc: Cox, Ken; Menees, Todd
Subject: Wardsboro BF 013-1(21) - Title 19 Review

Do not reply to this email.

Project Wardsboro BF 013-1(21) had been approved by, Todd Menees 802-345-3510. The following Standard Conditions apply:

Title-19 Standard Conditions:

1. A) The project shall be constructed as defined in the documents linked to the Wardsboro BF 013-1(21) project in this Title 19 Share Point site. B) Any amendment to the plans which in any way affects surface waters and/or riparian corridors shall be reviewed by this office and approval received by VTrans prior to construction. C) Any construction modifications that deviate from the approved plans which in any way affects surface waters and/or riparian corridors shall be reviewed by this office and approval received by VTrans prior to the construction activity.
2. That the contractor's schedule of accomplishment of water quality related work to be submitted prior to the start of construction, and as required under general specification #105.23(a) shall include site-specific methods of operation. Temporary construction fills, check dams, silt barriers and other erosion control works shall be described and shown on pertinent plans.
3. That the Vermont Agency of Transportation general specification #105.23 addressing the control of erosion and siltation be carefully adhered to in order to minimize turbidity and other adverse impacts.
4. That the Vermont Agency of Transportation general specification #105.24 addressing pollution control be carefully followed in order to limit, if not prevent altogether, the discharge of fuel, grease, oil, raw concrete, paint, chemicals, and debris to any waters of the state.
5. An on-site pre-construction conference between the contractor, VTrans Resident Engineer and the River Management Engineer (Todd Menees) shall be held prior to commencement of any in-stream construction. Please contact the ANR River Management Engineer listed at the top of this email to schedule the conference.
6. Approved in-stream working dates on this project are from July 1st to October 1st. Contractor proposals for construction activities in or adjacent to flowing water during the restricted period must be isolated from stream flow and must receive prior approval from the River Management Engineer.
7. The provisions of this approval shall be made a part of the construction contract.

Goldstein, Lee

From: Title 19 [DII-SharePointAdmins@state.vt.us]
Sent: Thursday, January 16, 2014 5:01 PM
To: Slesar, Chris; Goldstein, Lee; Ramsey, Jeff; Brady, James
Cc: Cox, Ken; Menees, Todd
Subject: Wardsboro BF 013-1(22) - Title 19 Review

Do not reply to this email.

Project Wardsboro BF 013-1(22) had been approved by, Todd Menees 802-345-3510. The following Standard Conditions apply:

Title-19 Standard Conditions:

1. A) The project shall be constructed as defined in the documents linked to the Wardsboro BF 013-1(22) project in this Title 19 Share Point site. B) Any amendment to the plans which in any way affects surface waters and/or riparian corridors shall be reviewed by this office and approval received by VTrans prior to construction. C) Any construction modifications that deviate from the approved plans which in any way affects surface waters and/or riparian corridors shall be reviewed by this office and approval received by VTrans prior to the construction activity.
2. That the contractor's schedule of accomplishment of water quality related work to be submitted prior to the start of construction, and as required under general specification #105.23(a) shall include site-specific methods of operation. Temporary construction fills, check dams, silt barriers and other erosion control works shall be described and shown on pertinent plans.
3. That the Vermont Agency of Transportation general specification #105.23 addressing the control of erosion and siltation be carefully adhered to in order to minimize turbidity and other adverse impacts.
4. That the Vermont Agency of Transportation general specification #105.24 addressing pollution control be carefully followed in order to limit, if not prevent altogether, the discharge of fuel, grease, oil, raw concrete, paint, chemicals, and debris to any waters of the state.
5. An on-site pre-construction conference between the contractor, VTrans Resident Engineer and the River Management Engineer (Todd Menees) shall be held prior to commencement of any in-stream construction. Please contact the ANR River Management Engineer listed at the top of this email to schedule the conference.
6. Approved in-stream working dates on this project are from July 1st to October 1st. Contractor proposals for construction activities in or adjacent to flowing water during the restricted period must be isolated from stream flow and must receive prior approval from the River Management Engineer.
7. The provisions of this approval shall be made a part of the construction contract.

US Army Corps of Engineers®
New England District

Appendix B: Category 1 Self-Verification Form

Submit this form **a minimum of two weeks before** work commences to the following address. Call (802) 872-2893 with any questions.

U.S. Army Corps of Engineers
New England District, Regulatory Division
Vermont Project Office
8 Carmichael Street, Suite 205
Essex Junction, Vermont 05452
Fax: 802 879-7638
Katrina.l.sedney@usace.army.mil

Permittee: VTrans (VT Agency of Transportation)

Permittee Address: One National Life Drive

City, State & Zip Code: Monpelier, VT 05633

Phone(s) and Email: 802-828-3979

Work Locations/Address: VT 100, Culvert 70

City, State & Zip Code: Wardsboro, VT

Latitude/Longitude coordinates: 72 50' 9.01"W 43 1' 47.43N

Waterway name: unnamed tributary to Wardsboro Brook

Description of work:

Work will be done under the following Appendix A categories (circle all that apply):

I. Inland Waters and wetlands: a ☑ b ☐ c ☐ d ☐ e ☐ f ☐

II. Navigable Waters: a ☐ b ☐ c ☐ d ☐ e ☐ f ☐ g ☐

Area of wetland impact: _____ square feet (SF)

Area of waterway impact: 805 SF

Length of stream impact: 174 linear feet (LF)

Will American Recovery and Reinvestment Act (ARRA) funds be used for any of this project? NO

Contractor: TBD

Contractor Address: _____

City, State & Zip Code: _____

Phone(s) and Email: _____

Proposed Work Dates: Start: _____ Finish: _____

Your signature below, as permittee, indicates that you accept and agree to comply with the terms, eligibility criteria, and conditions of Category 1 of this Vermont General Permit.

Permittee Signature: _____ Date: _____

US Army Corps of Engineers®
New England District

Appendix B: Category 1 Self-Verification Form

Submit this form a **minimum of two weeks before** work commences to the following address. Call (802) 872-2893 with any questions.

U.S. Army Corps of Engineers
New England District, Regulatory Division
Vermont Project Office
8 Carmichael Street, Suite 205
Essex Junction, Vermont 05452
Fax: 802 879-7638
Katrina.l.sedney@usace.army.mil

Permittee: VTrans (VT Agency of Transportation)

Permittee Address: One National Life Drive

City, State & Zip Code: Monpelier, VT 05633

Phone(s) and Email: 802-828-3979

Work Locations/Address: VT 100, Culvert 73

City, State & Zip Code: Wardsboro, VT

Latitude/Longitude coordinates: 72 48' 22.15"W 43 2' 4.41N

Waterway name: unnamed tributary to Wardsboro Brook

Description of work:

Work will be done under the following Appendix A categories (circle all that apply):

I. Inland Waters and wetlands: a ☑ b ☐ c ☐ d ☐ e ☐ f ☐

II. Navigable Waters: a ☐ b ☐ c ☐ d ☐ e ☐ f ☐ g ☐

Area of wetland impact: _____ square feet (SF)

Area of waterway impact: 681 SF

Length of stream impact: _____ linear feet (LF)

Will American Recovery and Reinvestment Act (ARRA) funds be used for any of this project? NO

Contractor: TBD

Contractor Address: _____

City, State & Zip Code: _____

Phone(s) and Email: _____

Proposed Work Dates: Start: _____ Finish: _____

Your signature below, as permittee, indicates that you accept and agree to comply with the terms, eligibility criteria, and conditions of Category 1 of this Vermont General Permit.

Permittee Signature: _____ Date: _____

PUBLIC NOTICE

US Army Corps
of Engineers ®
New England District
696 Virginia Road
Concord, MA 01742-2751

Date: December 11, 2012
Contact: Marty Abair
E-mail: Martha.a.abair@usace.army.mil

REISSUANCE OF THE DEPARTMENT OF THE ARMY VERMONT GENERAL PERMIT (GP)

The New England District, U.S. Army Corps of Engineers, 696 Virginia Road, Concord, Massachusetts 01742-2751 hereby announces the reissuance of the statewide Vermont General Permit (GP), pursuant to 33 CFR 325.5(c)(3), for minimal-impact activities within the State of Vermont. The prior PGP expired on December 5, 2012. The Vermont GP continues the expedited review process for activities in Corps jurisdiction under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act of 1899. This public notice is issued in accordance with 33 CFR 325.10 to ensure potential applicants for permits are informed of the requirements of 33 CFR 320-330 and of the steps required to obtain permits for activities in waters of the U.S.

General permits are encouraged under the President's plan to streamline state and Federal regulatory programs. This GP is designed to authorize activities formerly covered under the previous GP program and the prior GP that expired on December 5, 2012. This reissued GP became effective on December 6, 2012. Continued utilization of the general permit process in place of the NWPs will provide important benefits to the public, including simplifying the process, expediting decisions, and providing necessary environmental protection.

Projects with minimal individual and cumulative effects on the aquatic environment will be approved administratively under this GP. Projects not meeting the GP's terms and general conditions, of which General Condition 3 requires projects authorized by the GP to have minimal effects and secondary (indirect) and cumulative adverse environmental impacts, are subjected to an Individual Permit review. Federal exemptions, which are not necessarily the same as the State of Vermont's exemptions, are also not altered by the GP. In addition, for projects authorized pursuant to this GP, project proponents must obtain the appropriate or State approvals when required in order for this GP authorization to be valid.

Projects that the Corps authorized under the previous VT GP prior to issuance of this GP shall remain authorized as specified in each authorization. Activities authorized pursuant to 33 CFR 330.3 (activities occurring before certain dates) are not affected by this GP.

You may view the Vermont GP on our web site at www.nae.usace.army.mil. Select "Regulatory/Permitting," "Permits", "State General Permits" and then "Vermont." Please contact Marty Abair at (978) 318-8484 or martha.a.abair@usace.army.mil for more information.

Frank J. Delgiudice
Chief, Permits & Enforcement Branch

Enclosure

DEPARTMENT OF THE ARMY
GENERAL PERMIT
STATE OF VERMONT

The New England Division of the U.S. Army Corps of Engineers (Corps) hereby issues this General Permit (GP) that expedites review of minimal environmental impact work associated with the aquatic environment of navigable and inland waters and wetlands within the State of Vermont. This general permit for Vermont is known as the Vermont General Permit.

I. GENERAL CRITERIA:

Activities with **minimal impacts**, as specified by this GP's terms (Pages 1-6), general conditions (GC) (Pages 7-16) and Appendix A - Definition of Categories, qualify for authorization under the GP in either Category 1 or Category 2.

Proponents should first review Appendix A - Definition of Categories to see if a project meets either:

- Category 1: Self-Verification, Category 1 Notification Form required
  Projects meeting Category 1 criteria and which are in full compliance with the general conditions may be authorized under this GP after submission of the Category 1 Notification Form.
- Category 2: Reporting.
  An application to and written verification from the Corps is required for these projects.

If you determine that your project is eligible for Category 1 as defined in Appendix A, you must then ensure that your project is in full compliance with this GP's terms and general conditions. If any of these terms and conditions are not met, your project must be reviewed in the Category 2 or the Individual Permit category. The Individual Permit thresholds are defined in Appendix A and the Individual Permit procedures are briefly described on Page 6. This GP does not affect the Corps Individual Permit review process or activities exempt from Corps regulation.

II. ACTIVITIES COVERED:

- Work and structures that are located in, under, or over any navigable water of the United States[1], the excavating from or depositing of material in such waters, or the accomplishment of any other work affecting the course, location, condition, or capacity of such waters (regulated by the Corps under Section 10 of the Rivers and Harbors Act of 1899); and

- The discharge of dredged or fill material into waters of the U.S. [regulated by the Corps under Section 404 of the Clean Water Act (CWA)]. This GP also covers secondary impacts[2], which are effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. The Corps does not regulate secondary impacts unless there is an actual placement of dredged or fill material.

[1] Waters of the U.S., inland waters and wetlands, and navigable waters of the U.S. are defined at Appendix A, Endnotes/Definitions.
[2] See GC 3 on Page 7 and Appendix A, Endnote 4 for more information on secondary impacts.

III. PROCEDURES:

A. State Approvals

Applicants are responsible for applying for and obtaining any required State approvals (see GC 1). Federal and State jurisdictions may differ in some instances. State permits may be required for specific projects regardless of the general permit category.

In order for authorizations under this GP to be valid, a Water Quality Certification (WQC) under Section 401 of the CWA (33 USC 1341) or waiver thereof must be obtained from the VT ANR, Water Quality Division prior to the commencement of work in Corps jurisdiction. The VT ANR has granted WQC for GP Category 1 activities provided the Corps exercises its discretionary authority to review any project covered under Category 1 when notified by the VT ANR that such project represents a threat to water quality. Therefore, a separate 401 WQC application is not required for activities involving fill in waters of the U.S. authorized under Category 1 of this GP.

The VT ANR conditionally granted WQC for GP Category 2 activities listed in Appendix A of this GP provided the Corps notifies the VT ANR and the interagency review team (USFWS, USEPA, VT ANR and the Corps) finds that the activity is reasonably likely to have minimal or no impact on water quality. The VT ANR retains the right to require an Individual WQC for any Category 2 activity. The VT ANR will respond within the same response times required of the Federal resource agencies.

B. Corps Authorizations

General permit authorizations consist of both Category 1 and 2 activities (see Appendix A). The thresholds outlined in this document are intended to ensure that the GP results in no more than a minimal impact to the aquatic environment. The Corps will coordinate review of all Category 2 activities with Federal and State agencies, as appropriate, and may require project modifications or mitigation to minimize impacts.

- **Category 1 – (Self-Verification, Category 1 Notification Form required)**
  - If you self-verify that your project qualifies for Category 1, your project is authorized under this GP and you are required to submit the Category 1 Notification Form at Appendix B to the Corps
  - Prospective permittees should carefully review this GP to determine whether applying to the Corps under Category 2 prior to commencing the authorized activity is required. Consultation with the Corps and/or outside experts may be necessary to ensure compliance with this GP's GCs and related Federal laws such as the Nationa Historic Preservation Act (see GC 7), the Endangered Species Act (ESA) (see GC 9) and the Wild and Scenic Rivers Act (see GC 11). Project proponents are encouraged to contact the Corps with Category 1 eligibility questions.
  - Secondary impacts must be included when determining if a project qualified for Category 1 (see GC 3).
  - Fill area includes all temporary and permanent fill.
  - Projects not meeting the Category 1 eligibility criteria are reviewed under Category 2 or Individual Permit procedures.

Enforcement cases. This GP does not apply to any existing or proposed activity in Corps jurisdiction associated with an on-going Corps or EPA enforcement action until such time as the enforcement action is resolved or the Corps determines that the activity may proceed independently without compromising the enforcement action. The Corps may choose not to accept applications or issue permits to any applicant with outstanding violations.

Category 2 (Corps Verification, Application and Written Approval Required)

Eligibility

Activities in Vermont that are:

- Subject to Corps jurisdiction;
- Meet the definition of Category 2 in Appendix A; and
- Meet the general conditions of this GP (Pages 7-16)

require **written approval from the Corps**. These projects will be reviewed through interagency screening to determine whether such activities may be authorized under this GP. **To be eligible and subsequently authorized, an activity must result in no more than a minimal impact to the aquatic environment as determined by the Corps in coordination with the interagency review team, in addition to meeting the criteria listed above.**

This may require project modifications involving avoidance, minimization or compensatory mitigation[3] for unavoidable impacts to ensure the net effects of a project are minimal.

To ensure compliance with this GP's general conditions, consultation with the Corps, other Federal or State resource agencies, or independent consultants, may be necessary. This includes consultation with the VT State Historic Preservation Officer (VT SHPO) (Page 16) and, when projects are proposed in Addison, Rutland or Bennington counties, the Stockbridge-Munsee Tribal Historic Preservation Officer (THPO) to ensure compliance with GC 7 and the VT ANR to comply with applicable general conditions. Also, note the review thresholds under Category 2 apply to single and complete projects only (see GC 5).

Application Procedures

Applicants must apply directly to the Corps at the Vermont Project Office (VPO), and are encouraged to simultaneously apply to the VT ANR for any related permits. Upon receipt of an application for a Category 2 activity, the Corps will determine if it:

(1) Requires additional information;
(2) Is appropriate for screening with the Federal resource agencies and State agencies (see Screening Procedures);
(3) Is ineligible under the terms and/or conditions of this GP;
(4) Requires project modification, mitigation or other special conditions to minimize impacts and protect the aquatic environment to be eligible for this GP; or
(5) Requires Individual Permit review regardless of whether the terms and conditions of this GP are met, based on concerns for the aquatic environment or any other factor of the public interest (GC 4).

Information Typically Required

In order to consider an application complete and review it with the interagency review team, the applicant must submit complete information. Please see www.nae.usace.army.mil for a more comprehensive checklist. Select "Regulatory", "Permits" "Forms" and then "Application and Plan Guideline Checklist." This information includes, but is not limited to:

- A completed Corps application form (ENG Form 4345[4])
- Plans that illustrate the proposed work in reference to the limits of Corps jurisdiction as applicable. Plans should be on 8.5" x 11" paper and contain all other appropriate information.
- A description of the proposed work, project purpose and location, including a locus map and photographs,

[3] Compensatory mitigation for waterway/wetland impacts may take the form of payment into the Ducks Unlimited In-Lieu Fee Program, wetland restoration, enhancement, creation, and/or preservation. See www.nae.usace.army.mil/regulatory, "Mitigation" and then "Vermont" for more information.

[4] Located at www.nae.usace.army.mil/regulatory under "Forms."

if applicable.

- Data sheets to support wetland delineations. (See GC 2.)
- A narrative description of the habitat(s) including dominant plant community(ies) present, soil type and relevant existing and adjacent land uses.
- A demonstration that there will be no more than minimal direct and indirect impacts to the aquatic resource(s) resulting from the project. Consideration should be given to impacts associated with expected hydrologic changes, effects on riparian habitat, forest fragmentation, impacts to headwater and ephemeral streams (Endnote 17), stormwater discharges and other potential water quality and wetland habitat impacts. (See GC 3.)
- Information on Federal endangered and threatened species and critical habitat, and State endangered and threatened species that occur or may occur in the project area. (See GC 9.)
  VT ANR, Department of Fish & Wildlife, Nongame and Natural Heritage program contact information is provided on Pages 16-17. Refer to Additional References on Pages 18-19 for additional information.
- Identification and description of potential impacts to essential fish habitat. (See GC 10.)
- Identification of potential discharges of pollutants to waters, including potential impacts to impaired waters, in the project area. (See GC 22.) Refer to Additional References on Pages 18-19.
- Identification, quantification, and description of potential impacts to aquatic resources, including delineation of wetlands, special aquatic sites, special wetlands and vernal pools. (See GC 27.)

Federal/State Screening Procedures

The Corps, Federal resource agencies [U.S. Fish and Wildlife Service (USFWS), U.S. Environmental Protection Agency (EPA), and National Marine Fisheries Service (NMFS)] and VT ANR will comprise the interagency review team. The Corps will also coordinate with the VT SHPO and, as appropriate, the THPO as to potential impacts of a project on historic properties.

Screening of Category 2 projects will be either through email, fax, mail or at interagency screening meetings at the Corps VPO. Projects are coordinated on a regular basis or as necessary to facilitate prompt decision making. The Corps and the Federal resource agencies, at the branch chief or equivalent level, may agree on certain activities that do not need to be coordinated at these meetings. The Corps, VT ANR, VT SHPO and, as appropriate, the THPO will review/screen complete applications for Category 2 activities with impacts between 3,000 square feet (SF) and 5,000 SF. The Corps will review/screen all complete applications for Category 2 projects with impacts greater than 5,000 SF with the interagency review team, VT SHPO and, as appropriate, the THPO.

The Corps may determine on its own or in consultation with the interagency review team, if applications for Category 2 work:

- Are eligible under the GP as proposed;
- Are ineligible under the terms and/or conditions of this GP;
- Require additional information;
- Will require project modification, mitigation or other special conditions to avoid or minimize adverse environmental impacts and protect the aquatic environment to be eligible for authorization under this GP; or
- Require Individual Permit review irrespective of whether the terms and general conditions of this GP are met, based on concerns for the aquatic environment or any other factor of the public interest (see GC 4).

The Federal resource agencies, the VT ANR, VT SHPO and, as appropriate, the THPO must provide verbal comments to the appropriate Corps project manager in the VPO within 10 business days of receiving the Determination of Eligibility (DOE) from the Corps. These verbal comments may consist of a request for additional information, recommendations for modification, mitigation, or special conditions to avoid or minimize adverse environmental impacts associated with the aquatic environment, and to ensure the terms and

general conditions of the GP are met, or a request for a site visit.

Federal resource agency additional information requests shall be within their area of expertise, commensurate to the level of impact, and agreed upon by the Corps. If additional information is requested, the agencies are allowed an additional 10 business days after receipt of this information to provide recommendations for modifications, mitigation or special conditions. Unless additional information is requested, the verbal notice must be confirmed with a written response to the appropriate Corps project manager at the VPO within an additional 10 working days from the date of the verbal comment.

The Corps may contact the applicant either by phone or in writing if there are concerns. If the applicant is unable to resolve the concerns or modify the project, the Corps may determine that a project is ineligible under this GP, "kickout" the project to the Individual Permit review category, and begin its Individual Permit review procedures. The Corps will send a "Kickout Letter" to the applicant and copy the VT ANR and the commenting Federal resource agency on any written correspondence to the applicant. The Corps may reinstate a project's eligibility under the GP provided concerns are satisfied.

The VT ANR within 10 business days of the date the project information is received from the Corps may require an Individual 401 WQC review for any Category 2 project. This 10-day notice to the Corps of the requirement for an individual 401 WQC review may be verbal and is not required to be fully documented, but must be directed to the appropriate Corps Project Manager at the VPO. The VT ANR must confirm the requirement for an individual 401 WQC review with a written response to the appropriate Corps project manager within an additional 10 working days from the date of the verbal comment. If the VT ANR does not notify the Corps as outlined herein, WQC is conditionally granted for the project. In order for the Corps GP authorization to be valid, the WQC must be obtained or waived prior to the commencement of work.

If the Corps and Federal resource agencies determine that the activity is eligible for the GP, the Corps will send an authorization letter directly to the applicant. The Corps will generally issue an eligibility determination within 60 days from the date of a complete application. If the Corps determines that the activity is not eligible under the GP or that additional information is required, the Corps will notify the applicant in writing and will send a copy of this notification to VT ANR.

Emergency Situation Procedures

Emergency situations are limited to sudden, unexpected occurrences that could potentially result in an unacceptable hazard to life, a significant loss of property, or an immediate, unforeseen, and significant economic hardship if corrective action requiring a permit is not undertaken within a time period less than the normal time needed to process an application under standard procedures. If an emergency situation requires action in less than 30 days after the occurrence, it qualifies for the amended notification procedures described below.

Notification Procedures for Emergency Situations: The Federal resource agencies, VT ANR and the VT SHPO will each designate an alternate to be contacted in the event the regular contact is unavailable. The VT ANR, VT Emergency Management (VTEM) or FEMA will notify the Corps within 24 hours of the occurrence of a disaster and advise the Corps of the nature of the occurrence and any known remedial and/or protective measures. The Corps will notify agency representatives that a disaster has occurred within one working day of being notified by the VT ANR, VTEM or FEMA.

When an application for Category 2 work is received that the Corps VPO determines is an "emergency" as defined above, the Corps will e-mail or fax a copy of the plans and DOE to the agency representatives and their alternates. The resource agencies would then have 16 working hours to notify the Corps if they have any comments on authorization of the project under the GP. Objections to the Corps determination of an "emergency" situation will not be accepted. If no response is received at the VPO within 16 working hours, the Corps will proceed with a decision on the application. If the resource agencies have comments on the proposal,

they will have 16 working hours to put their comments in writing. If written comments from the Federal agencies are not received at the VPO within 16 working hours, the Corps will proceed with a decision on the application.

If a Federal agency requests that an Individual Permit be required for a project or requests modifications to the project based on concerns within their area(s) of expertise, the Corps will notify the applicant within 8 working hours of receipt of that request that the project as proposed does not qualify for authorization under the GP and that an Individual Permit will be required. In any event, the Corps will notify the applicant within 48 working hours of commencement of the screening process as to whether the project may proceed under the GP.

IV. INDIVIDUAL PERMIT

Work that is in the Individual Permit category as listed in Appendix A, or that does not meet the terms and conditions of this GP, will require an application for an individual permit from the Corps of Engineers (see 33 CFR 325.1). The applicant should submit the appropriate application materials {including the Corps application form (ENG 4345)] at the earliest possible date to expedite the permit review process. General information and application forms can be obtained at our web site or by calling us (see Page 16). An Individual 401 WQC will be required from the appropriate VT resource agency(ies). Filing an Individual Permit application does not relieve the applicant from their obligation to obtain all necessary State approvals from the appropriate Vermont resource agency(ies) or any applicable local approvals.

V. GENERAL CONDITIONS (and supporting general information):

The following conditions apply to activities authorized under this GP, including all Category 1 (self-verification) and Category 2 (screening) activities:

General Requirements:

1. **Other Permits.** Authorization under this general permit does not obviate (i.e., to make unnecessary) the need to obtain other Federal, state, or local authorizations required by law.

2. **Federal Jurisdictional Boundaries.** Applicability of this GP shall be evaluated with reference to Federal jurisdictional boundaries. Applicants are responsible for ensuring that the boundaries depicted on permit drawings satisfy the Federal criteria defined at 33 CFR 328-329. See www.nae.usace.army.mil/regulatory>> Jurisdictional Limits and Wetlands for more information.

3. **Minimal Effects, Secondary (Indirect) and Cumulative Impacts.** (a) Projects authorized by this GP shall have no more than minimal individual and cumulative environmental impacts as determined by the Corps. Applicants must demonstrate that there will be no more than minimal direct and indirect impacts to the aquatic resource(s) resulting from the project. Mitigation may be required to offset unavoidable impacts. (b) Secondary impacts to waterway and/or wetland areas, (e.g., areas drained, flooded, cleared, excavated or fragmented) shall be added to the total fill area when determining the project review category (Category 1, 2 or Individual Permit review). Secondary and cumulative impacts are defined at Appendix A, Endnote 4.

4. **Discretionary Authority.** Notwithstanding compliance with the terms and general conditions of this GP, the Corps retains discretionary authority to require either a Category 2 or an Individual Permit review based on concerns for the aquatic environment or for any other factor of the public interest (33 CFR 320.4(a)). This authority is invoked on a case-by-case basis whenever the Corps determines that the potential impacts of the proposal warrant either a Category 2 or an Individual Permit review based on the concerns stated above. This authority may be invoked for projects with cumulative environmental impacts that are more than minimal or if there is a special resource or concern associated with a particular project that is not already covered by the remaining conditions of the GP and that warrants greater review. Whenever the Corps notifies an applicant that either a Category 2 or Individual Permit review is required, authorization under this GP is void and no work may be conducted until the Corps issues the required authorization or until the Corps notifies the applicant that further review has demonstrated that the work may proceed under this GP.

5. **Single and Complete Projects.** This GP shall not be used for piecemeal work and shall be applied to single and complete projects. All components of a single project and/or all planned phases of a multi-phased project shall be treated together as constituting one single and complete project, unless the Corps determines that a component has independent utility. For linear projects, such as power lines or pipelines with multiple crossings, the "single and complete project" (i.e., single and complete crossing) will apply to each crossing of a separate water of the U.S. (i.e., single waterbody) at that location; except that for linear projects crossing a single waterbody several times at separate and distant locations, each crossing is considered a single and complete project, and may be reviewed for Category 1 eligibility. However, individual channels in a braided stream or river, or individual arms of a large, irregularly-shaped wetland or lake, etc., are not separate waterbodies. If any crossing requires a Category 2 activity, then the entire linear project shall be reviewed as one project under Category 2 provided that the impact thresholds in Appendix A are met. Also, this GP shall not be used for any activity that is part of an overall project for which an Individual Permit is required, unless the Corps determines the activity has independent utility. Note that modifications to State permits do not constitute a separate project. Modifications which involve Corps jurisdiction will be screened at the regular screening in order to ascertain compliance with the GP. Keep in mind that a linear project normally qualifying as a Category 1 project will trigger a Corps review if the impacts exceed this GP's general conditions.

6. **Permit On-Site.** For Category 2 projects, the permittee shall ensure that a copy of this GP and any accompanying authorization letter with attached plans are at the site of the work authorized by this GP whenever work is being performed and that all construction personnel are aware of its terms and conditions. The entire permit authorization shall be made a part of any and all contracts and sub-contracts for work that affects areas of Corps jurisdiction at the site of the work authorized by this GP. This shall be achieved by including the entire permit authorization in the specifications for work. The term "entire permit authorization" means this GP and the authorization letter (including its drawings, plans, appendices and other attachments) and also includes permit modifications. If the authorization letter is issued after the construction specifications, but before receipt of bids or quotes, the entire permit authorization shall be included as an addendum to the specifications. If the authorization letter is issued after receipt of bids or quotes, the entire permit authorization shall be included in the contract or sub-contract. Although the permittee may assign various aspects of the work to different contractors or sub-contractors, all contractors and sub-contractors shall be obligated by contract to comply with all environmental protection provisions contained within the entire GP authorization, and no contract or sub-contract shall require or allow unauthorized work in areas of Corps jurisdiction.

General Conditions Related to National Concerns:

7. **Historic Properties.** Any activity authorized by this GP shall comply with Section 106 of the National Historic Preservation Act. Information on the location and existence of historic resources can be obtained from the VT SHPO (See page 16) and the National Register of Historic Places. Project proponents shall apply to the Corps for all projects that would otherwise qualify for Category 1 if there is the potential for an effect on a historic property within the permit area or any known historic property that may occur outside the permit area. Historic properties include those that are eligible for inclusion, but not necessarily listed on the National Register. If the permittee, during construction of work authorized herein, encounters a previously unidentified archaeological or other cultural resource within the area subject to Corps jurisdiction that might be eligible for listing in the National Register of Historic Places, he/she shall stop work and immediately notify the Corps, the VT SHPO and, when work is proposed in Addison, Rutland or Bennington counties, the Stockbridge-Munsee Native American tribe.

8. **National and Corps Lands.** Activities authorized by this GP shall not impinge upon the value of any National Wildlife Refuge, National Forest, National Park or any other area administered by the U.S. FWS, U.S. Forest Service, or National Park Service. No Category 1 work is allowed on Corps properties and Corps-controlled easements (see Appendix A, Endnote 9).

9. **Federal and State Endangered Species.**

a. No activity may be authorized under this GP which:

- May affect a threatened or endangered species, a proposed species, designated critical habitat, or proposed critical habitat as identified under the Federal Endangered Species Act (ESA),
- Would result in a "take" of any Federally listed threatened or endangered species of fish or wildlife, or
- Would result in any other violation of Section 9 of the ESA protecting threatened or endangered species of plants.

b. Proponents for Category 1 and 2 projects shall ensure there are no impacts to Federally-listed threatened or endangered species or critical habitat and should ensure that there are no impacts to State threatened or endangered species.

c. Proponents for Category 1 and 2 projects shall notify the Corps if any of the actions in 9a may occur and if any Federally listed threatened or endangered species or critical habitat, or proposed species or critical habitat, is in the project area or may be impacted by the project. For Category 1 projects, the Corps may then notify the proponent that the project will be reviewed under the Category 2 or Individual Permit procedures and if so the proponents shall not begin work until the Corps issues a written authorization.

d. Applicants should also provide information on state threatened and endangered species. The Information Typically Required section on Page 3 provides guidance. Contact information for the VT ANR, Department of Fish & Wildlife, Nongame and Natural Heritage program is provided on Pages 16-17, and more information is provided at Additional References, Pages 18-19.

10. Essential Fish Habitat (EFH). As part of the GP screening process, the Corps will coordinate with the NMFS in accordance with the 1996 amendments to the Magnuson-Stevens Fishery, Conservation and Management Act (MSFCMA) to protect and conserve the habitat of marine, estuarine and anadromous finfish, mollusks, and crustaceans. This habitat is termed EFH and is broadly defined to include "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." Any work in the following streams in the Connecticut River watershed that are stocked with Atlantic salmon shall not be authorized under Category 1 of this GP and must be screened for potential impacts to EFH. For additional EFH information and/or locations, see 50 CFR 600 (www.nmfs.noaa.gov), www.nero.nmfs.gov/RO/DOC/appguide1.html or contact NMFS (see Page 16).

- Black River (from its mouth in Springfield to its headwaters)
- Connecticut River
- Deerfield River
- Nulhegan River
- Ompompanoosuc River
- Ottauquechee River
- Passumpsic River
- Paul Stream
- Saxtons River
- Stevens River
- Wells River
- West River
- White River
- Williams River

11. Wild and Scenic Rivers. Any activity that occurs in the designated main stem of, within 0.25 mile up or downstream of the designated main stem of, or in tributaries within .25 miles of the designated main stem of a National Wild and Scenic River, or in "bordering and contiguous wetlands" (see Appendix A, Endnote 1) that are adjacent to the designated main stem of a National Wild and Scenic River, or that has the potential to alter flows within a river within the National Wild and Scenic River System, is not eligible for Category 1 regardless of size of the impacts. This condition applies to both designated Wild and Scenic Rivers and rivers officially designated by Congress as study rivers for possible inclusion while such rivers are in an official study status. Currently there are no designated National Wild and Scenic Rivers in Vermont. The Missisquoi River, from its' headwaters in Lowell to the Canadian border in Troy (25 miles) and from the Canadian border in East Richford to Enosburg Falls (25 miles) and the Trout River have been officially designated by Congress as study rivers.

12. Federal Navigation Project. Any structure or work that extends closer to the horizontal limits of any Corps navigation project than a distance of three times the project's authorized depth shall be subject to removal at the owner's expense prior to any future Corps dredging or the performance of periodic hydrographic surveys.

13. Navigation. (a) There shall be no unreasonable interference with navigation by the existence or use of the activity authorized herein, and no attempt shall be made by the permittee to prevent the full and free use by the public of all navigable waters at or adjacent to the activity authorized herein. (b) The permittee understands and agrees that if future operations by the U.S. require the removal, relocation or other alteration of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps, to remove, relocate or alter the structural work or obstructions caused thereby, without expense to the U.S. No claim shall be made against the U.S. on account of any such removal or alteration.

14. Federal Liability. In issuing this GP, the Federal Government does not assume any liability for the following: (a) damages to the permitted project or uses thereof as a result of other permitted or unpermitted activities or from natural causes; (b) damages to the permitted project or uses thereof as a result of current or future activities undertaken by or on behalf of the U.S. in the public interest; (c) damages to persons, property or to other permitted or unpermitted activities or structures caused by the activity authorized by the GP; (d) design or construction deficiencies associated with the permitted work; (e) damage claims associated with any future

modification, suspension or revocation of this permit.

Minimization of Environmental Impacts:

15. Avoidance, Minimization and Mitigation. Discharges of dredged or fill material into waters of the U.S. and any secondary impacts shall be avoided and minimized to the maximum extent practicable. Mitigation of unavoidable direct and indirect impacts may be required on a case-by-case basis.

16. Heavy Equipment in Wetlands. Heavy equipment other than fixed equipment (drill rigs, fixed cranes, etc.) working in wetlands shall not be stored, maintained or repaired in wetlands, unless it is less environmentally damaging otherwise, and as much as possible shall not be operated there. Where construction requires heavy equipment operation in wetlands, the equipment shall either have low ground pressure (typically <3 psi), or shall not be located directly on wetland soils and vegetation; it shall be placed on construction mats or corduroy roads (defined at Appendix A, Endnote 16) that are adequate to support the equipment in such a way as to minimize disturbance of wetland soil and vegetation. Construction mats are to be placed in the wetland from the upland or from equipment positioned on swamp mats if working within a wetland. Dragging construction mats into position is prohibited. Construction mats shall be managed in accordance with the Construction Mat Best Management Practices (BMPs) (Appendix A, Endnote 20). Other support structures that are less impacting and are capable of safely supporting equipment may be used with written Corps authorization. Similarly, not using mats during frozen, dry or other conditions may be allowed with written Corps authorization. (See GC 17 below.) An adequate supply of spill containment equipment shall be maintained on site. Corduroy roads and construction mats are considered as fill whether they're installed temporarily or permanently.

17. Temporary Fill. No temporary fill shall be placed in waters of the U.S., including wetlands, unless a) it is specifically authorized in writing by the Corps, or b) the project qualifies for the non-reporting Category 1 (the combined temporary and permanent fill totals less than 3,000 SF, it meets the Appendix A Category 1 definition, and it is in compliance with this GP's terms and general conditions).

- All temporary fill shall be stabilized to prevent its eroding into portions of waters of the U.S. where it is not authorized.
- Waters of the U.S. where temporary fill was discharged shall be restored (see GC 18).
- Unconfined temporary fill authorized for discharge into waters of the U.S. shall consist of material that minimizes impacts to water quality (e.g. sandbags or clean gravel and/or stone).
- Temporary fill authorized for discharge into wetlands shall be placed on geotextile fabric laid on the pre-construction wetland grade. Construction mats are excluded from this requirement.
- Temporary fill shall be removed as soon as it is no longer needed, and it shall be disposed of at an upland site and suitably contained to prevent its subsequent erosion into waters of the U.S.
- Construction mats and corduroy roads (see GC 16) are considered as temporary fill when they are removed immediately upon work completion. The areas must be restored in accordance with GC 18.
- If temporary fill is staged and then returned to its original location, e.g., sewer projects through wetlands, the original location shall be restored.

18. Work Site Restoration.

- Upon completion of construction, all disturbed wetland areas (the disturbance of these areas must be authorized) shall be properly stabilized. Any seed mix shall contain only plant species native to New England and shall not contain any of the plant species listed in Appendix B - "Invasive Species and Other Unacceptable Plant Species" in the "Mitigation Guidance for New England District Mitigation Plan Checklist," provided at http://www.nae.usace.army.mil/Regulatory/Mitigation/CompensatoryMitigationGuidance.pdf and referenced in the Planting Plan section. This list may be updated periodically.

- The introduction of non-native invasive and noxious species in disturbed areas is prohibited and any spread of such invasive plant species shall be controlled. See Additional References on Pages 18-19. The Corps lists these species in the above mentioned checklist in the Invasive and Noxious Species section.
- In areas of authorized temporary disturbance, if trees are cut they shall be cut at ground level and not uprooted in order to prevent disruption to the wetland soil structure and to allow stump sprouts to revegetate the work area, unless otherwise authorized.
- Wetland areas where permanent disturbance is not authorized shall be restored to their original condition and elevation, which under no circumstances shall be higher than the pre-construction elevation. Original condition means careful protection and/or removal of existing soil and vegetation, and replacement back to the original location such that the original soil layering and vegetation schemes are approximately the same, unless otherwise authorized.

19. Bank Stabilization. Projects involving construction or reconstruction/maintenance of bank stabilization structures within Corps jurisdiction should be designed to minimize environmental effects, effects to neighboring properties, etc. to the maximum extent practicable. Applicants must use the least intrusive method to stabilize the bank, following this sequential minimization process: avoidance, diversion of overland flow, vegetative stabilization, stone-sloped surfaces, and walls. Vertical walls/bulkheads must only be used in situations where reflected wave energy can be tolerated. This generally eliminates bodies of water where the reflected wave energy may interfere with or impact on harbors, marinas, or other developed shore areas. Refer to Additional References on Pages 18-19.

20. Sedimentation and Erosion Control. Adequate sedimentation and erosion control management measures, practices and devices, such as phased construction, vegetated filter strips, geotextile silt fences or other devices, shall be installed and properly maintained to reduce erosion and retain sediment on-site during and after construction. Such measures shall be capable of preventing erosion, of collecting sediment, suspended and floating materials, and of filtering fine sediment. The temporary devices shall be removed upon completion of work and the disturbed areas shall be stabilized. The sediment collected by these devices shall be removed and placed at an upland location, in a manner that will prevent its later erosion into a waterway or wetland. All exposed soil and other fills shall be permanently stabilized at the earliest practicable date.

21. Waterway/Wetland Work and Crossings

(a) All temporary and permanent crossings of waterbodies shall be suitably culverted, bridged, or otherwise designed to withstand and to prevent the restriction of high flows, to maintain existing low flows, and to not obstruct the movement of aquatic life indigenous to the waterbody beyond the actual duration of construction.

(b) No activity may 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, unless the activity's primary purpose is to impound water.

(c) To meet the objective of aquatic organism passage in (a) and (b) above, all temporary and permanent crossings of rivers, streams, brooks, etc. (hereon referred to as "streams") shall meet the following performance standards in order to qualify for Category 1 (refer to Additional References on Pages 18-19):

i. Design the structure to maintain a streambed composition and form throughout the culvert similar to and continuous with the adjacent reaches. To do this:

o Design and install streambed material and bedforms if not adequately supplied and developed naturally,

o Design profile and alignment through structure similar to those of adjacent stream reaches,

o Design culvert elevation to remain embedded for the life of the structure and in consideration of future channel conditions.

ii. Maintain velocities, turbulence and depths within the structure similar to those found in adjacent stream reaches across a range of desired flows.

(d) The requirements to comply with the performance standards in (c) above in order to proceed as a Category 1 project do not apply to the following:

i. Temporary crossings in place for less than 90 days (the requirements in (a) do apply). Temporary culverts must be embedded unless they're installed during low flow (Jul. 15 – Oct. 1) and it's placed on geotextile fabric laid on the stream bed to ensure restoration to the original grade;

ii. Constructed drainage systems designed primarily for the conveyance of storm water or irrigation. Also, non-tidal drainage and irrigation ditches excavated on dry land are not Federally-regulated.

(e) Applicants proposing new crossings, or maintenance or replacement of serviceable crossings should refer to the Guidelines for the Design of Stream/Road Crossings for Passage of Aquatic Organisms in Vermont. Refer to Additional References on Pages 18-19.

(f) Applicants shall use the least intrusive and environmentally damaging method to construct the stream crossing, following this sequential minimization process: bridge spans, open bottom arches or embedded culverts. Refer to Additional References, Pages 18-19.

(g) Culverts at waterbody crossings shall be installed in such a manner as to preserve hydraulic connectivity, at its present level, between the wetlands on either side of the road. The permittee shall take necessary measures to correct wetland damage due to lack of hydraulic connectivity.

(h) Projects using retrofit methods increasing flow velocity or slip lining (retrofitting an existing culvert by inserting a smaller diameter pipe) are not allowed in Category 1, either as new or maintenance activities.

(i) No projects involving open trench excavation in flowing waters, except riprap installation, are allowed under Category 1. Open trench excavation projects may qualify for Category 1 provided (1) the work doesn't occur in flowing waters (requires using management techniques such as temporary flume pipes, culverts, cofferdams, etc.) and (2) normal flows are maintained within the stream boundary's confines (see Appendix A, Endnote 6). Projects utilizing these management techniques must meet the other Category 1 requirements (see Appendix A, Page 1) and all of this GP's terms and general conditions.

(j) For projects that otherwise meet the terms of Category 1, in-stream (e.g., rivers, streams, brooks, etc.) construction work shall be conducted only during the low flow period of July 15 to October 1 in any year. Projects that are conducted outside that time period are ineligible for Category 1 and shall be reviewed under Category 2, regardless of the waterway and wetland fill and/or impact area.

(k) Work impacting upstream or downstream flood profiles must be reviewed under Category 2.

22. Discharge of Pollutants.

(a) All activities involving a discharge into waters of the U.S. authorized under this GP shall be consistent with applicable water quality standards, effluent limitations, standards of performance, prohibitions, and pretreatment standards and management practices established pursuant to the CWA (33 USC 1251) and applicable State and local laws. If applicable water quality standards, limitations, etc., are revised or modified during the term of this GP, the authorized work shall be modified to conform to these standards within six months of the effective date of such revision or modification, or within a longer period of time deemed reasonable by the Corps in consultation with the EPA.

(b) All projects authorized by this GP shall be designed, constructed and operated to minimize or eliminate the discharge of pollutants. Category 2 projects will be reviewed to determine if a project may result in a discharge of relevant pollutants to an impaired water. See the Additional Information Required section on Page 4.

(c) Unless otherwise notified by the VT ANR, applicants may presume that the Section 401 WQC for this GP constitutes the Section 401 WQC for their Section 404 activity, provided the terms and conditions of this GP are met.

23. Floodplain Work.

(a) In order to qualify for authorization under Category 1 of this GP, projects shall result in no more than a minimal decrease in natural valley storage, and shall not result in an increase in the base flood elevation (where hydraulic information necessary to make this determination is available).

(b) There shall be no Category 1 projects located within a FEMA designated Special Flood Hazard Area as shown on the most current flood insurance studies and maps published by FEMA and adopted by the municipality within which the proposed project is located.

(c) Any project located within a FEMA designated Special Flood Hazard Area shall comply with minimum NFIP regulations, or local Flood Hazard Area regulations if more restrictive.
Note: Refer to Additional References, Pages 18-19.

24. Spawning and Breeding Areas. Discharges of dredged or fill material, and/or suspended sediment producing activities in fish and shellfish spawning or nursery areas, or amphibian and migratory bird breeding areas, during spawning or breeding seasons shall be avoided. Impacts on these areas shall be minimized to the maximum extent practicable during all times of year.

25. Storage of Seasonal Structures. Seasonal or recreational structures such as pier sections, floats, etc., that are removed from the waterway for a portion of the year shall be stored in an upland location, located above ordinary high water and not in a wetland.

26. Environmental Functions and Values. (a) The permittee shall make every reasonable effort to carry out the construction or operation of the work authorized herein in a manner that minimizes adverse impacts on fish, wildlife and natural environmental values. (b) The introduction of invasive plant species identified by any Federal agency in disturbed areas is prohibited and any spread of such invasive plant species shall be controlled. Refer to GC 18 and Additional References on Pages 18-19.

27. Protection of Special Aquatic Sites and Special Wetlands, including Vernal Pools.
Special Aquatic Sites (SAS): Projects with any temporary or permanent fill in SAS (Endnote 7), or that could adversely affect SAS, whether directly or indirectly, do not qualify for Category 1. This does not apply to "inland wetlands," but does apply to the other SAS types listed at Endnote 7.
Special Wetlands: When jurisdiction is triggered (see Activities Covered, Page 1), projects in or that could adversely affect Special Wetlands (Endnote 8), whether directly or indirectly, do not qualify for Category 1. Special wetlands are vernal pools, bogs, fens, and wetlands which provide habitat for threatened or endangered species as designated by the State of Vermont Natural Heritage Program. See Additional References on Pages 18-19 for additional references.
Vernal Pools (VP): These are a type of special wetland (Endnote 8). Category 1 excludes projects in or within 200' of a VP on the property when jurisdiction is triggered. This does not apply to temporary impacts associated with construction mats in previously disturbed areas of existing utility project right-of-ways (e.g., transmission lines, gas pipelines) or linear transportation projects (e.g., roads, highways, railways, trails, airport runways and taxiways) provided there is a Vegetation Management Plan or equivalent BMPs that avoid, minimize and mitigate impacts to aquatic resources. The applicant must minimize surrounding upland impacts to the greatest extent practicable, with the effort to minimize impacts being commensurate with the value of the pool. Impact minimization should be in accordance with *Best Development Practices: Conserving pool-breeding amphibians in residential and commercial development in the northeastern U.S.*, Calhoun and Klemens, 2002, and *Science and Conservation of Vernal Pools in Northeastern North America*, Calhoun and deMaynadier, 2008, specifically Chapter 12, Conservation Recommendations section, Page 241. (See Additional References, Pages 18-19). For example, site clearing, grading and construction activities should be limited to <25% of the VP terrestrial habitat, and roads and driveways should be excluded from the VP envelope. For Category 2 projects, the applicant shall delineate all VPs on the property (see GC 2). The Corps may waive this requirement on a case-by-case basis.

28. Fluvial Geomorphic Processes. (a) Wherever practicable, projects should be designed to accommodate the natural tendencies of the fluvial system. This should greatly enhance the likelihood of long-term success of the project and minimize the chance of exacerbating an otherwise undesirable physical adjustment process. Recognition of these processes requires assessment of physical parameters and characteristics of the watershed, the water and sediment regimes, the channel and floodplain, the anthropogenic influences and constraints on the reach concerned and to what extent sediment transport continuity in the reach can be attained. (b) Applicants should consult with the VT River Management Program Stream Alteration Engineer for assistance in compliance with this condition.

Note: Refer to Additional References on Pages 18-19 for additional information.

Procedural Conditions:

29. Inspections. The permittee shall allow the Corps to make periodic inspections at any time deemed necessary in order to ensure that the work is being or has been performed in accordance with the terms and conditions of this permit. The Corps may also require post-construction engineering drawings for completed work, and post-dredging survey drawings for any dredging work.

30. Maintenance. (a) The permittee shall maintain the work authorized herein in good condition and in conformance with the terms and general conditions of this permit. Permittees must contact the Corps if maintenance will not take place or if they want to modify the existing project design. (b) The requirement to maintain the authorized work does not include maintenance of dredging projects. Maintenance dredging is subject to the review thresholds in Appendix A and/or any special conditions included in a written Corps authorization. Note: Refer to Additional References on Pages 18-19 for information on maintaining stream restoration projects.

31. Property Rights. This GP does not convey any property rights, either in real estate or material, or any exclusive privileges, nor does it authorize any injury to property or invasion of rights or any infringement of federal, state, or local laws or regulations.

32. Modification, Suspension, and Revocation. This GP may be either modified, suspended, or revoked in whole or in part pursuant to the policies and procedures of 33 CFR 325.7. Any such action shall not be the basis for any claim for damages against the U.S.

33. Restoration. The permittee, upon receipt of a notice of revocation of authorization under this GP, shall restore the wetland or waterway to its former conditions without expense to the U.S., and as directed by the Secretary of the Army or his authorized representative. If the permittee fails to comply with such a directive, the Secretary or his designee may restore the wetland or waterway to its former condition, by contract or otherwise, and recover the cost from the permittee.

34. Special Conditions. The Corps may impose other special conditions on a project authorized pursuant to this GP that are determined necessary to minimize adverse navigational and/or environmental effects or based on any other factor of the public interest. Failure to comply with all conditions of the authorization, including special conditions, constitutes a permit violation and may subject the permittee to criminal, civil or administrative penalties and/or restoration.

35. False or Incomplete Information. If the Corps makes a determination regarding the eligibility of a project under this GP, and subsequently discovers that it has relied on false, incomplete, or inaccurate information provided by the permittee, the GP authorization shall not be valid and the U.S. Government may institute legal proceedings.

36. Abandonment. If the permittee decides to abandon the activity authorized under this GP, unless such abandonment is merely the transfer of property to a third party, he/she may be required to restore the area to the satisfaction of the Corps.

37. Transfer of GP Verifications. If the permittee sells the property associated with a GP verification, the permittee may transfer the GP verification to the new owner by submitting a letter to the Corps (see Page 16 for address) to validate the transfer. A copy of the GP verification must be attached to the letter and the letter must contain the following statement and signature: "When the structures or work authorized by this GP are still in existence at the time the property is transferred, the terms and conditions of this GP, including any special conditions, will continue to be binding on the new owner(s) of the property. To validate the transfer of this GP

and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below."

38. Enforcement cases. This GP does not apply to any existing or proposed activity in Corps jurisdiction associated with a Corps or EPA enforcement action, until such time as the enforcement action is resolved or the Corps or EPA as appropriate determines that the activity may proceed independently without compromising the enforcement action.

Duration of Authorization/Grandfathering:

39. Duration of Authorization. Activities authorized under this GP that have commenced (i.e., are under construction) or are under contract to begin construction in reliance upon this authorization, will remain authorized provided the activity is completed within twelve months of the expiration date on this permit, unless:

a) the GP is either modified or revoked; or
b) discretionary authority has been exercised in accordance with 33 CFR 325.2(e) (2).

Activities authorized and completed under Category 1 or 2 of this GP will continue to remain authorized after this GP's expiration date.

40. Previously Authorized Activities.
(a) Projects that received written authorization from the Corps and that were completed under the previous GP's, nationwide permits, regional general permits or letters of permission, shall remain authorized as specified in each authorization letter.
(b) Activities authorized pursuant to 33 CFR 330.3 ("Activities occurring before certain dates") are not affected by this GP.

/s/ J DelGiudice 12-6-2012

Frank J. DelGiudice DATE
Chief, Permits and Enforcement Branch

VI. CONTACTS FOR VERMONT GENERAL PERMIT:

U.S. Army Corps of Engineers
New England District, Regulatory Division
Vermont Project Office
8 Carmichael Street, Suite 205
Essex Junction, Vermont 05452
(802) 872-2893, (802) 879-7638 fax
www.nae.usace.army.mil/reg/index.htm

U.S. Environmental Protection Agency
New England Region
Wetland Protection Program Unit – OEP/CWP
JFK Federal Building 1 Congress Street, Suite 1100
Boston, MA 02114-2023
(617) 918-1399

Federal Endangered Species:
U.S. Fish and Wildlife Service
Federal Activities/Endangered Species
70 Commercial Street, Suite 300
Concord, New Hampshire 03301-5087
(603) 223-2541
www.fws.gov/northeast/newenglandfieldoffice.htm

Essential Fish Habitat:
National Marine Fisheries Service
Habitat Conservation Division (HCD)
One Blackburn Drive
Gloucester, Massachusetts 01930
(978) 281-9300

National Park Service
National Park Service
North Atlantic Region
15 State Street
Boston, Massachusetts 02109
(617) 223-5191

Historic Resources
State Historic Preservation Officer
Division for Historic Preservation
National Life Building
Drawer 20
Montpelier, Vermont 05620-0501
(802) 828-3211

Tribal Historic Preservation Officer
c/o Stockbridge-Munsee Community
P.O. Box 70
Bowler, Wisconsin 54416
(715) 793-3970
Area of concern: Addison, Rutland and Bennington Counties

Vermont Agency of Natural Resources

Department of Environmental Conservation
Wetlands Program
Watershed Management Division
1 National Life Drive, Main 2
Montpelier, VT 05620-3522
Alan.quackenbush@state.vt.us

Department of Environmental Conservation
River Management Program
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Vermont Department of Fish and Wildlife
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Rich.kirn@state.vt.us

State endangered species
Vermont Department of Fish and Wildlife
Nongame and Natural Heritage Program
1 National Life Drive, Main 2
Montpelier, VT 05620-3522
www.vtfishandwildlife.com/wildlife_nongame.cfm.

VII. ADDITIONAL REFERENCES:

Page 4: Application. Refer to www.nae.usace.army.mil for a more comprehensive checklist. Select "Regulatory" "Permits" "Forms" and then "Application and Plan Guideline Checklist."

Page 4 & GC 9: Threatened and Endangered Species.
The VT F&W provides information on Federal and State species:
www.vtfishandwildlife.com/wildlife_nongame.cfm.
The VT ANR Environmental Interest Locator provides an interactive web based GIS map with documented locations:
http://maps.vermont.gov/imf/sites/ANR_NATRESViewer/jsp/launch.jsp.
The U.S. Fish and Wildlife Service (U.S. FWS) provides information on Federal endangered species:
www.fws.gov/ northeast/newenglandfieldoffice/EndangeredSpec-Consultation_Project_Review.htm.

Page 4 and GC 22: Discharge of Pollutants - Impaired Waters and Stormwater Impaired Waters: The VT ANR lists and shows impaired waters and stormwater impaired waters at:
www.vtwaterquality.org/planning.htm.

GC 2: Federal Jurisdictional Boundaries.
(a) Corps Wetlands Delineation Manual, regional supplements, and Corps Wetland Delineation Data Sheets: www.nae.usace.army.mil/regulatory and then "Wetlands and Jurisdictional Limits.
(b) The National List of Plant Species that Occur in Wetlands (http://wetland_plants.usace.army.mil).
(c) The Natural Resources Conservation Service (NRCS) publishes the current hydric soil definition, criteria and lists: http://soils.usda.gov/use/hydric. For the Field Indicators for Identifying Hydric Soils in N.E., see www.neiwpcc.org/hydricsoils.asp.

GCs 18 and 26: Invasive Species.
(a) Information on what are considered "invasive species" is provided in our "Compensatory Mitigation Guidance" document at www.nae.usace.army.mil/regulatory under "Mitigation." The "Invasive Species" section has a reference to our "Invasive Species Control Plan (ISCP) Guidance" document, located at www.nae.usace.army.mil/regulatory under "Invasive Species," which provides information on preparing an ISCP.
(b) The June 2009 "Corps of Engineers Invasive Species Policy" is at www.nae.usace.army.mil/regulatory under "Invasive Species" and provides policy, goals and objectives.

GC 19: Bank Stabilization.
Corps Coastal Engineering Manual: Select "Products/Services" and then "Publications." Part 5, Chapter 7-8, a(2)c is particularly relevant. http://chl.erdc.usace.army.mil.

GC 21: Waterway/Wetland Work and Crossings
21(c): Performance standards in GC 21 are taken from Section 8 - Alternative Designs, in the document "Guidelines for the Design of Stream/Road Crossings for Passage of Aquatic Organisms in Vermont." These Guidelines are located at www.vtfishandwildlife.com/library.cfm, "Reports and Documents." This document should be referenced when designing and constructing stream crossing projects to help ensure compliance with GC 21 (a) - (c).

GC 23: Flood Hazard Management. www.anr.state.vt.us/dec/waterq/rivers/htm/rv_floodhazard.htm.

GC 27: Special Wetlands.
Refer to the VT ANR Environmental Interest Locator, which provides an interactive web based GIS map with locations of significant (wetland) natural communities. At the Locator select map layers, fish and wildlife, and

then significant natural communities:

http://maps.vermont.gov/imf/sites/ANR_NATRESViewer/jsp/launch.jsp. Some wetlands are more valuable and sensitive to fragmentation, non-point source runoff, and other secondary impacts. Upland buffers are especially essential to protect their functions.
The following documents provide conservation recommendations for vernal pools:
Best Development Practices: Conserving pool-breeding amphibians in residential and commercial development in the northeastern U.S., Calhoun and Klemens, 2002. Chapter III, Management Goals and Recommendations, Pages 15 – 26, is particularly relevant. (Available for purchase at www.maineaudubon.org/resource/index.shtml and on Corps website*.)
Science and Conservation of Vernal Pools in Northeastern North America, Calhoun and deMaynadier, 2008. Chapter 12, Conservation Recommendations section, Page 241, is particularly relevant. (Available for purchase via the internet. Chapter 12 is available on Corps website*.)

* www.nae.usace.army.mil/regulatory under "Vernal Pools."

Cape Cod Curbing. For smaller roads and driveways, the most important design feature to consider is curbing. Granite curbs and some traditional curbing can act as a barrier to amphibian and hatchling turtle movements. Large numbers of salamanders have been intercepted in their migrations by curbs and catch basins. Use of Cape Cod curbs rather than traditional curbing may be one solution. Alternatively, where storm water management systems require more traditional curbing, it may be possible to design in escape ramps on either side of each catch basin.

The Vernal Pool Directional Buffer Guidance document is located at www.nae.usace.army.mil/regulatory under: 1) "State General Permits" and then "Maine," and 2) "Vernal Pools."

GC 28: Fluvial Geomorphic Processes. Consult with the VT River Management Program Stream Alteration Engineer for assistance in compliance with GC 28. Refer to information provided at: www.anr.state.vt.us/dec/waterq/rivers/htm/rv_management.htm.

GC 30: Maintenance. River restoration projects that are designed to accommodate the natural dynamic tendencies of the fluvial system are maintained in accordance with the project's design objectives (Category 1) or the Corps authorization letter (Category 2). These projects are generally designed to support and implement channel assessment and management practices that recognize a stream's natural dynamic tendencies.

APPENDIX A: DEFINITION OF CATEGORIES

I. WATERS OF THE U.S. (INCLUDES WETLANDS) (other than Lake Champlain, Lake Memphremagog, Wallace Pond and adjacent wetlands)	**Waters of the U.S.[1] are comprised of Inland Waters and Wetlands[2] & Navigable Waters of the U.S.[3].** Navigable waters in Vermont are those designated as navigable by Congress (33 CFR 329). This section excludes the following navigable waters: Lake Champlain, Lake Memphremagog, Wallace Pond & wetlands adjacent to these waterbodies (See II. Navigable Waters below). Projects not meeting Category 1 must apply to the Corps as either a Category 2 or Individual Permit project. All Category 1 and 2 projects must comply with all of this GP's applicable terms (Pages 1 – 6) and general conditions (GC) (Pages 7 – 16).		
	CATEGORY 1	**CATEGORY 2**	**INDIVIDUAL PERMIT**
(a) NEW FILL/ EXCAVATION DISCHARGES	<3,000 SF of waterway and/or wetland fill and secondary impacts[4], (e.g., areas drained, flooded, fragmented, mechanically cleared or excavated). Fill area includes all temporary and permanent fill, and certain excavation discharges (except for incidental fallback[5]). Construction mats[16] and corduroy roads are considered as fill (see GC 16). Construction mats of any area necessary to conduct activities that were previously authorized, authorized under Category 1, or not subject to regulation. Authorized construction mats must be in place for no more than 3 months, removed immediately upon work completion, and the wetlands must be restored (see GC 18). <u>Provided</u>: • In-stream (e.g., rivers, streams, brooks, etc.) work limited to Jul 15-Oct 1 (see GC 21). <u>This category excludes</u>: • Fills in Athens, Brookline, Chester, Dummerston, Grafton, Newfane, Putney, Rockingham, Springfield, Townshend, or Westminster, VT. • Fills below OHW in EFH waters (see GC 10). • Activities excluded in GC 21, i.e., dams, dikes, or activities involving water diversions[6] (other than dry hydrants used exclusively for firefighting activities with no stream impoundments); and sliplining. • Work in special aquatic sites (SAS)[7] other than wetlands. • Work in special wetlands[8] including work in vernal pools (VP) or within 200' of the VP's edge when jurisdiction is triggered. (This does not apply to temporary impacts associated with construction mats in previously disturbed areas of existing utility project right-of-ways (e.g.,	3,000 SF to 1 acre waterway and/or wetland fill and secondary impacts[4], (e.g., areas drained, flooded, fragmented, mechanically cleared or excavated). Fill area includes all temporary and permanent fill & certain excavation discharges (except for incidental fallback[5]). Construction mats and corduroy roads are considered as fill (see GC 16). Construction mats used for new construction activities with impacts of any size ≥3,000 SF (see GCs 16 & 17). Projects sponsored by a Federal or State agency with proactive restoration[10] as a primary purpose and impacts of any size ≥3,000 SF. Net impacts must not be greater than minimal. Restoration and/or enhancement approved for use by a Corps-approved In-Lieu Fee program or Corps-approved mitigation bank, with impacts of any size ≥3,000 SF. Specific activities with impacts ≥3,000 SF required to affect the containment, stabilization, or removal of hazardous or toxic waste materials performed, ordered or sponsored by a government agency with established legal or regulatory authority. Wetlands must be restored in place. Work in special wetlands[8], including work in VPs or within 200' of the VP's edge when jurisdiction is triggered on the property. The applicant shall delineate all special wetlands[8] including VPs on the property using Federal delineation methods (see GC 2). The Corps may waive these	≥1 acre waterway and/or wetland fill & secondary impacts[4] (e.g., area drained, flooded, fragmented, mechanically cleared or excavated). Fill area includes all temporary and permanent fill (except construction mats meeting Category 1 or Category 2 requirements) and certain excavation discharges (except for incidental fallback[5]).

	transmission lines, gas pipelines) or linear transportation projects (e.g., roads, highways, railways, trails, airport runways and taxiways) provided there is a Vegetation Management Plan or equivalent BMPs that avoid, minimize and mitigate impacts to aquatic resources.) • Work on Corps properties & Corps-controlled easements[9]. • Structures, fill or work below OHW in the National Wild and Scenic River designated study segments of the Missisquoi River. • Fills below OHW of the Trout River.	delineation requirements on a case-by-case basis. Wetland fill and/or secondary impacts (e.g., site clearing, grading and construction activities) should be limited to <25% of the VP habitat. Where practicable, roads & driveways should be excluded from the VP envelope[8].	
(b) BANK STABILIZATION PROJECTS	Inland bank stabilization <100 linear FT and an average of <1 CY of fill per linear FT below ordinary high water (OHW). • In-stream work limited to Jul 15-Oct 1. • No work in VPs or within 200' of the VP's edge. • No work in SAS[7]. • No work in EFH waters (see GC 10). • No work in Rivers of Concern[11]. • No work on Corps properties and Corps-controlled easements[9]. • No work below OHW in the National Wild and Scenic River designated study segments of the Missisquoi River. • No work below OHW of the Trout River.	Inland bank stabilization ≥100 linear FT, and/or an average of ≥1 CY of fill per linear foot below OHW.	
(c) RIVER/ STREAM/ BROOK WORK & CROSSINGS *and* WATERWAY/ WETLAND CROSSINGS	• In-stream (e.g., rivers, streams, brooks, etc.) work limited to Jul 15 - Oct 1 (see GC 21). • All stream crossings conform with the performance standards in GC 21. • Bridge spans, open bottom arches or embedded culverts are required. • Culverts at waterbody crossings shall preserve hydraulic connectivity, at its present level, between any wetlands on either side of the road. Work in this category excludes: • Projects using retrofit methods increasing flow velocity or slip lining (only for 1 – 3 above). • Work in SAS[7]. • Open trench excavation in flowing waters except for riprap projects (See GC 21). • Structures, fill or work below OHW in the National Wild and Scenic River designated study segments of the Missisquoi River.	Projects sponsored by a Federal or State agency with proactive restoration[10] as a primary purpose with impacts of any area exceeding Category 1. Net impacts must not be greater than minimal.	

	• Fills below OHW of the Trout River		
(d) REPAIR, REPLACEMENT IN KIND & MAINTENANCE OF AUTHORIZED FILLS	Repair/maintenance/replacement in kind of existing, currently serviceable, authorized fills with no expansion or change in use. • Conditions of the original authorization apply. • Minor deviations in fill design allowed[12], except for stream crossings or dams. • No fills in special wetlands[8]. • No fills in SAS[7] & EFH waters (see GC 10). • No structures, fill or work below OHW in the National Wild and Scenic River designated study segments of the Missisquoi River. • No fills below OHW of the Trout River.	Repair/maintenance/replacement in kind of existing, currently serviceable, authorized fills with expansion or a change in use <1 acre. Replacement of non-serviceable authorized fills, including expansion or a change in use, totaling <1 acre.	Repair/maintenance of existing, currently serviceable, authorized fills with expansion or a change in use >1 acre. Replacement of non-serviceable authorized fills, including expansion or a change in use, totaling ≥ 1 acre.
(e) MISC.	Activities required for the containment and cleanup of oil and hazardous substances. Fish and wildlife harvesting such as duck blinds. Temporary scientific measurement devices and survey activities, e.g., exploratory drilling, surveying, and sampling. Monitoring wells. Recreational gold mining. Does not include oil/gas exploration and fills for roads or construction mats.	Zebra Mussel Control Projects. Fishery habitat enhancement structures. Utility line crossings, water intakes and outfalls, and sea lamprey control projects.	Project where an EIS is required by the Corps.
(f) MISC. (applies only to NAVIGABLE WATERS OF THE U.S.[2] excluding Lake Champlain, Lake Memphremagog, Wallace Pond)	Repair, replacement in kind or maintenance of existing, currently serviceable, authorized structures. <u>Provided:</u> • No expansion or change in use. • Must be rebuilt in same footprint, however minor deviations[12] in structure design allowed. • No structures, fill or work below OHW in the National Wild and Scenic River designated study segments of the Missisquoi River.	New and maintenance dredging[13] up to 5,000 CY with upland disposal or beach nourishment. No impacts to SAS[7]. Aerial transmission lines. Floating or post supported docks or decks. Private, non-commercial, single-boat moorings. Utility lines installed by directional bores.	Maintenance dredging[13] of any amount affecting a SAS[7]. New and maintenance dredging greater than 5,000 CY or in or affecting a SAS. Dredging with open water disposal.

II. NAVIGABLE WATERS OF THE U.S.[3] – LAKE CHAMPLAIN, LAKE MEMPHREMAGOG, WALLACE POND and ADJACENT WETLANDS	**Navigable Waters of the U.S.[3]:** These waters were designated as navigable by Congress (33 CFR 329). Projects not meeting Category 1 must apply/report to the Corps as either a Category 2 or Individual Permit project. All Category 1 and 2 projects must comply with all of this GP's applicable terms (Pages 1 – 6) and general conditions (Pages 7 – 16).		
	CATEGORY 1	**CATEGORY 2**	**INDIVIDUAL PERMIT (IP)**
(a) FILL	No provisions for new or previously unauthorized fills in Category 1.	<5,000 SF waterway/wetland fill and secondary impacts[4] (e.g. areas drained, flooded, fragmented, mechanically cleared or excavated). Includes boat ramps & bridge fills. Projects sponsored by a Federal or State agency with proactive restoration[10] as a primary purpose and impacts of any size. Net impacts must not be greater than minimal.	≥5,000 SF waterway/wetland fill and secondary impacts[4] (e.g. areas drained, flooded, fragmented, mechanically cleared or excavated). Fill area includes all temporary and permanent waterway fills. EIS required by the Corps.
(b) REPAIR, REPLACEMENT IN KIND AND MAINTENANCE WORK	Repair, replacement in kind or maintenance of existing, currently serviceable, authorized structures and fills. Provided: • No expansion or change in use. • Must be rebuilt in same footprint, however minor deviations[12] in structure design allowed.	Repair/replacement in kind/maintenance of currently serviceable authorized fills with expansion or a change in use <5000 SF. Replacement of non-serviceable authorized fills, including expansion or a change in use, totaling <5000 SF. Construction mats of any area necessary to conduct activities that were previously authorized, authorized under Category 1, or not subject to regulation. Authorized construction mats must be in place for no more than 3 months, removed immediately upon work completion, and the wetlands must be restored (see GC 18).	Repair/maintenance/replacement in kind of currently serviceable authorized fills with expansion or a change in use >5000 SF.
(c) DREDGING	No provisions for dredging in Category 1.	New and maintenance dredging[13] up to 5,000 CY with upland disposal or beach nourishment. Provided: • No impacts to SAS[7] • Specific activities with impacts of any area or cubic yardage required to affect the containment, stabilization, or removal of hazardous or toxic waste materials that are performed, ordered, or sponsored by a government agency with established legal or regulatory authority may be reviewed as a Category 2 project. Wetlands	New or maintenance dredging[13] ≥5,000 CY. Dredging affecting an SAS[7]. All dredging with open water disposal.

		must be restored in place.	
(d) MOORINGS	Private, non-commercial, non-rental, single-boat moorings. Provided: • Chains or other connections may not rest on the bottom in SAS[7] (eco-friendly mooring technology is required). • Not associated with a boating facility[14]. • No interference with navigation. • Moorings in a Federal Navigation Project (FNP)[15] not associated with a boating facility. • Not located within the buffer zone of the horizontal limits of a FNP.	Moorings that do not meet the terms of Category 1. Moorings located such that they, and/or vessels docked or moored at them, are within the buffer zone of the horizontal limits of a FNP[15].	Moorings and/or their moored vessels within the horizontal limits of a FNP[15].
(e) PILE-SUPPORTED STRUCTURES AND FLOATS	• Reconfiguration of existing authorized docks with no additional slips and no expansion. Seasonal private, residential pile-supported structures for navigational access extending no further waterward than 50 FT MHW, not >4 FT wide, & a dock deck area <500 SF. • Private, bottom-anchored floats and seasonal swim floats ≤400 SF. • Private boat & float lifts to authorized residential docks. Provided for 1 - 4 above: • No structure extends across >25% of the waterway width at MLW. • Not located over SAS[7]. • Not located within the buffer zone of the horizontal limits of an FNP[15].	Private structures and floats for navigational access to the waterway that do not meet the terms of Category 1. Piers, docks, decks, floats, and similar structures that provide public recreational uses such as fishing, swimming, access, etc. Non-fill structures to provide recreational access to the waterbody (e.g. stairways, etc.). Minor modifications to existing, permitted boating facilities. Structures or floats and/or vessels docked or moored at them within the buffer zone of the horizontal limits of a FNP[15].	Structures or floats and/or vessels docked or moored at them within the horizontal limits of a FNP[15]. Structures or floats associated with a new or previously unauthorized boating facility.[14]
(f) BANK STABILIZATION PROJECTS		Bank stabilization <500 linear feet and an average of 1 CY per linear ft. of fill below OHW or less provided no wetland fill.	Bank stabilization ≥500 linear ft. and/or involving more than an average of 1 CY per linear FT of fill below OHW.
(g) MISCELLANEOUS	Temporary buoys, markers, floats, etc. for recreational use during specific events, provided they are in place for no more than 30 days and are removed within 15 days after use is discontinued. The placement of aids to navigation and regulatory markers which are approved by and installed in accordance with the requirements of the U.S. Coast Guard. (See 33 CFR 66, Chapter I, subchapter C).	Structures/work in or affecting navigable waters and/or adjacent wetlands that are not defined under any previous headings. Includes but is not limited to utility lines, aerial transmission lines, pipelines, outfalls, intakes, and horizontal directional drilling. Zebra Mussel control projects. Fishery habitat enhancement structures.	Projects where an EIS is required by the Corps. Activities or activities with docked or moored vessels extending within the horizontal limits of a Corps FNP[15] (does not include utility lines, aerial lines and subsurface crossings in Cat

	Activities required for the containment and cleanup of oil and hazardous substances that are subject to the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 300) provided that the work is done in accordance with the Spill Control and Countermeasure Plan required by 40 CFR 112.3 and any existing state contingency plan and provided that the Regional Response Team (if one exists in the area) concurs with the proposed containment and cleanup action. SAS[7] must typically be restored in place at the same elevation. Scientific measurement devices & survey activities such as exploratory drilling, surveying and sampling, provided that such structures do not restrict movement of aquatic organisms. Does not include oil and gas exploration or seismic testing, or fills for roads or construction mats. Fish and wildlife harvesting devices and activities such as pound nets, duck blinds, and small fish attraction devices such as open-water fish concentrators (sea kites, etc.). Provided: no hazard to navigation and activity is not in wetlands (except Sea Lamprey control projects). Debris removal.	Sea Lamprey control projects. Nuisance aquatic plant control projects. Utility lines installed by directional bore.	2).

End Notes/Definitions

[1] **Waters of the United States (U.S.):**

a. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

b. All interstate waters including interstate wetlands;

c. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:

i. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or

ii. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

iii. Which are used or could be used for industrial purpose by industries in interstate commerce;

d. All impoundments of waters otherwise defined as waters of the U.S. under the definition;

e. Tributaries of waters identified in paragraphs (a)-(d) above;

f. The territorial seas;

g. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in (a)-(f) above. Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 123.11(m) which also meet this definition's criteria) are not waters of the U.S.

h. Waters of the U.S. do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the EPA.

[2] **Inland Waters and Wetlands:** These are a subset of waters of the U.S., are regulated under Section 404 of the CWA, and include rivers, streams, lakes, ponds and wetlands, excluding Section 10 Navigable Waters of the U.S. The jurisdictional limits [33 CFR 328.4)(c)] are the ordinary high water (OHW) mark in the absence of adjacent wetlands, beyond the OHW mark to the limit of adjacent wetlands when adjacent wetlands are present, and the wetland limit when only wetlands are present.

[3] **Navigable Waters of the U.S.:** These are a subset of waters of the U.S., and are defined at 33 CFR 329. The jurisdictional limits [33 CFR 329.11] extend laterally to the entire water surface and bed of a navigable waterbody, which includes all the land and waters below the ordinary high water mark. Jurisdiction thus extends to the edge (as determined above) of all such waterbodies, even though portions of the waterbody may be extremely shallow, or obstructed by shoals, vegetation or other barriers. Marshlands and similar areas are thus considered navigable in law, but only so far as the area is subject to inundation by the ordinary high waters. In Vermont these waters are: the Connecticut River, Lake Champlain, Lake Memphremagog, Wallace Pond, Ompompanoosuc River (to mile 3.8), Waits River (to mile 0.9), the Black River (mouth to mile 25 in Craftsbury), the Battenkill River (to mile 50 in Manchester), the Lamoille River (mouth to mile 79 in Greensboro), the Missisquoi River (including the North Branch, from the mouth to mile 88.5 in Lowell), Otter Creek (mouth to mile 63.8 in Procter), Winooski River (mouth to Marshfield), Moose River (from Passumpsic River to the Victory Town Line), Nulhegan River (mouth to its source including the East Branch, the Black Branch and the Yellow Branch), Paul Stream (mouth to the source), East Branch of the Passumpsic River (from the confluence with the Passumpsic River to East Haven), Passumpsic River (mouth to confluence with the East Branch), White River (mouth to its source), Wells River (mouth to Groton Pond).

[4] **Direct, Secondary (Indirect), and Cumulative Impacts:**

Direct Impacts: The immediate loss of aquatic ecosystem within the footprint of the fill.

Secondary (Indirect) Impacts: These are effects on an aquatic ecosystem that are associated with a discharge of dredged or fill materials, but do not result from the actual placement of the dredged or fill material. (40 CFR 230.11 (h)). Secondary impacts are those impacts outside the footprint of the fill (e.g., beyond the bounds of the disposal site) that arise from and are associated with the direct discharge of dredged or fill material. Some examples are: I) Habitat Fragmentation. This occurs when a relatively undisturbed habitat block is interrupted or broken apart by roads, ditches, disturbance of vegetation, or development of structures. II) Interruption of Travel Corridors. Travel corridors are routes that many species travel on to find food, mates, shelter, and cover. Many aquatic species follow stream channels and wetlands, and follow established routes season after season. III) Vernal Pools. These are critically important breeding habitats for amphibians. Many amphibians disperse several hundred feet from their breeding ponds into the adjacent upland habitat after the breeding season has ended. IV) Hydrology, hydrological functions and non-point source impacts: A) Interference with the migration or movement of fish and shellfish from one area to another, such as placement of a dam eliminating access to spawning grounds for anadromous fish. B) Greater amounts of sediment, nutrients, and other pollutants such as lead, oil, gas, and salt that could impact wetlands and streams. Sediment causes turbidity, which reduces aquatic life and usually transports pesticides, heavy metals and other toxins into streams. This is especially a concern in watersheds where the streams are already listed as impaired by the VT ANR. C) Submerged aquatic vegetation is very dependent on light transmission and small changes in ambient turbidity can preclude it from growing in certain areas. D) Trout spawning areas are selected in areas that are well flushed and aerated, and new amounts of deposition may result in a spawning area being eliminated due to siltation of fish eggs. E) Physical effects such as erosion, accretion, entrenchment, sedimentation, embedment, channel or shoreline migration and failure to pass bedload material, organic matter and large woody debris.

Cumulative Impacts: The extent of past, present, and foreseeable developments in the area may be an important consideration in evaluating the significance of a particular project's impacts. Although the impacts associated with a particular discharge may be minor, the cumulative effect of numerous similar discharges can result in a large impact. Cumulative impacts should be estimated only to the extent that they are reasonable and practical.

[5] **Incidental Fallback:** The term "discharge of dredged or fill material" also includes certain discharges resulting from excavation.

[6] **Water Diversions:** Water diversions are activities such as bypass pumping or water withdrawals. Temporary flume pipes, culverts or cofferdams where normal flows are maintained within the stream boundary's confines aren't water diversions. "Normal flows" are defined as no change in flow from pre-project conditions. See GC 21.

[7] **Special Aquatic Sites:** Include inland wetlands, mudflats, vegetated shallows (permanently inundated areas that support rooted aquatic vegetation), and riffle and pool complexes. (40 CFR 230)

[8] **Special Wetlands:** Jurisdictional vernal pools, bogs, fens, and wetlands which provide habitat for threatened or endangered species or species as designated by the State of VT Natural Heritage Program. See GC 27 for website. The following definitions for bogs, fens and vernal pools apply for the purposes of this GP:

Bog - A peat accumulating wetland with hydric, organic soils, a complete, or nearly complete, Sphagnum cover and a pH value ranging from 3.5 to 5.6 that receives water primarily from precipitation. Typical species include Sphagnum, leatherleaf and pitcher plant.

Fen - A peat accumulating wetland with hydric organic soils and a pH value ranging from 4.0 to 8.0. Sphagnum moss may be present, however, not as a complete cover. It generally receives water and minerals from runoff flowing through it. Typical species include low sedges, Sphagnum, other mosses and heath shrubs.

Vernal Pools and Habitat: A vernal pool, also referred to as a seasonal forest pool, is a temporary to semi-permanent body of water occurring in a shallow depression that typically fills during the spring or fall and may dry during the summer. Vernal pools have no permanent inlet or outlet and no viable populations of predatory fish. A vernal pool may provide the primary breeding habitat for wood frogs (*Rana sylvatica*), spotted salamanders (*Ambystoma maculatum*), blue-spotted salamanders (*Ambystoma laterale*), Jefferson salamander (*Ambystoma jeffersonianum*), and fairy shrimp (*Eubranchipus* sp.), as well as valuable habitat for other plants and wildlife, including several rare, threatened, and endangered species. A vernal pool intentionally created for the purposes of compensatory mitigation is included in this definition. For the purposes of this GP, the presence of any of the following species in any life stage in any abundance level/quantity would designate the waterbody as a vernal pool: fairy shrimp, blue spotted salamanders, spotted salamanders or wood frogs. The Corps may determine during a Category 2 review that a waterbody should not be regulated as a VP based on available evidence. For the purposes of this GP, the VP Management Areas are the: Vernal Pool Depression (includes the vernal pool depression up to the spring or fall high water mark, and includes any vegetation growing within the depression), Vernal Pool Envelope (area within 100 FT of the VP Depression's edge) and Critical Terrestrial Habitat (area within 100-750 FT of the Vernal Pool Depression's edge). [*Note: Critical Terrestrial Habitat is defined as 100 - 750 FT on page 243 of the document "Science and Conservation of Vernal Pools in Northeastern North America," Calhoun and deMaynadier, 2008, which is referenced in Appendix E, page 3, Paragraph 10(b).

[9] **Corps Properties & Easements:** Contact the Corps, Real Estate Division (978) 318-8580 to initiate reviews about both Corps holdings and permit requirements.

[10] **Proactive Restoration:** The manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former wetland or other aquatic resource (called re-establishment) or a degraded wetland or other aquatic resource (called rehabilitation). Restoration means the result of actions which, in the opinion of the Federal and state resource agencies, reinstates, or will reinstate, insofar as possible, the functions and values of a wetland or aquatic resource which has been altered. Restoration is the re-creation or rehabilitation of wetland or other aquatic resource ecosystems whose natural functions have been destroyed or impaired. The Corps will decide if a project qualifies as proactive restoration and must determine along with Federal & state agencies that the net effects would be no more than minimal.

[11] **Rivers of Concern:** The following are rivers of concern due to either endangered species or cumulative impacts. There are no non-reporting bank stabilization activities in these rivers: Batten Kill River (to the headwaters), Black River (from its mouth in Springfield to its headwaters), Connecticut River, Lamoille River (from Hardwick to the confluence with Lake Champlain), Lewis Creek (from the Rte 116 crossing to the confluence with Lake Champlain), Missisquoi River (from the International Boundary in Richford, VT to the confluence with Lake Champlain), Ompompanoosuc River (to the headwaters), Otter Creek (from Rutland to the confluence with Lake Champlain), North Branch of Ball Mountain Brook (from Pikes Falls to the headwaters), Poultney River (to the headwaters), West River (from Jamaica to the confluence with the Connecticut River), White River (to the headwaters), Winooski River (from Montpelier to Lake Champlain).

[12] **Minor deviations.** Changes to the structure's configuration or filled area, including those due to changes in materials, construction techniques, or current construction codes or safety standards, which are necessary to make repair, rehabilitation, or replacement are permitted, provided the adverse environmental effects resulting from such repair, rehabilitation, or replacement are minimal. Currently serviceable means useable as-is or with some maintenance, but not so degraded as to essentially require reconstruction.

[13] **Maintenance Dredging.** Includes areas and depths previously authorized by the Corps and dredged. **New Dredging:** Includes dredging proposed in previously un-dredged areas and/or in areas exceeding previously authorized dimensions (deeper or wider than previously authorized) excluding normal overdredge.

[14] **Boating Facilities:** Facilities that provide, rent or sell mooring space, e.g., marinas, yacht clubs, boat yards, dockominiums.

[15] **Federal Navigation Projects (FNPs):** FNPs are comprised of Federal channels and Federal anchorages. Contact the Corps for their location and information. **Horizontal Limits:** The outer edge of an FNP. **Buffer zone:** Equal to three times the authorized depth of that channel.

[16] Construction Mats: Construction, swamp and timber mats (herein referred to as "construction mats") are generic terms used to describe structures that distribute equipment weight to prevent wetland damage while facilitating passage and providing work platforms for workers and equipment. They are comprised of sheets or mats made from a variety of materials in various sizes. A timber mat consists of large timbers bolted or cabled together. Corduroy roads, which are not considered to be construction mats, are cut trees and/or saplings with the crowns and branches removed, and the trunks lined up next to one another. Corduroy roads are typically installed as permanent structures. Like construction mats, they are considered as fill whether they are installed temporarily or permanently.

[17] **Headwater and Ephemeral Streams:** Forested upland and wetland clearing can lead to additional direct and indirect impacts to the headwater streams and ephemeral streams on individual sites. Headwater streams and wetlands provide a rich resource base that contributes to the productivity of both local food webs and those farther downstream. Land use changes in the vicinity of small streams and wetlands can impair the natural functions of headwater systems. These systems are vitally important to maintaining the quality and quantity of water and aquatic health of streams lower in the watershed.

[18] **Maintenance:** **a)** In accordance with 33 CFR 323.4(a)(2), any discharge of dredged or fill material that may result from any of the following activities is not prohibited by or otherwise subject to regulation under Section 404 of the CWA: "Maintenance, including emergency reconstruction of recently damaged parts, of currently serviceable structures such as dikes, dams, levees, groins, riprap, breakwaters, causeways, bridge abutments or approaches, and transportation structures. Maintenance does not include any modification that changes the character, scope, or size of the original fill design." Otherwise, the following work is regulated and subject to the Category 1 or 2 thresholds in Appendix A above: The repair, rehabilitation, or replacement of any previously authorized, currently serviceable structure or fill, or of any currently serviceable structure or fill authorized by 33 CFR 330.3 – "Activities occurring before certain dates," provided that the structure or fill is not to be put to uses differing from those uses specified or contemplated for it in the original permit or the most recently authorized modification. **b)** Minor deviations in the structure's configuration or filled area, including those due to changes in materials, construction techniques, or current construction codes or safety standards that are necessary to make repair, rehabilitation, or replacement are authorized. **c)** Currently serviceable means useable as is or with some maintenance, but not so degraded as to essentially require reconstruction. **d)** No seaward expansion for bulkheads or any other fill activity is considered Category 1 maintenance. **e)** Only structures or fills that were previously authorized and are in compliance with the terms and condition of the original authorization can be maintained as a non-regulated activity under 33 CFR 323.4(a)(2), or in accordance with the Category 1 or 2 thresholds in Appendix A. **f)** The state's maintenance provisions may differ from the Corps and may require reporting and written authorization from the state. **g)** Contact the Corps to determine whether stream crossing replacements require a written application to the Corps for at least a Category 2 review.

[19] **Wild and Scenic River Designated Study Rivers:** The Missisquoi River, from its' headwaters in Lowell to the Canadian border in Troy (25 miles) and from the Canadian border in East Richford to Enosburg Falls (25 miles) and the Trout River have been officially designated by Congress as a study river.

[20] **Best Management Practices for Utility Construction Mats:**

Installation

- Mats should be in good condition to ensure proper installation, use and removal.
- Where feasible, mats should be carried and not dragged unless they are being used as a grading implement.
- Where feasible, place mats in a location that would minimize the amount needed for the wetlands crossing.
- Minimize impacts to wetland areas during installation, use, and removal.
- Install adequate erosion & sediment controls at approaches to mats to promote a smooth transition to, and minimize sediment tracking onto, swamp mats.
- In most cases, construction mats should be placed along the travel area so that the individual boards are resting perpendicular to the direction of traffic. No gaps should exist between mats. Place mats far enough on either side of the resource area to rest on firm ground.
- Provide standard construction mat BMP details to work crews.

Wetland/Stream Channel Crossing

- At "dry" crossings where no flow is present or anticipated during project construction, the mats may be placed directly onto the ground in order to prevent excessive rutting, provided stream banks & bottoms are not adversely altered.
- Construction mats may be used as a temporary bridge over a stream to allow vehicles access to the work site. Small sections of mat are placed within and along the stream parallel to the flow of water. Mats may then be placed perpendicular to the stream, resting on top of the initial construction mat supports. It may be necessary to place additional reinforcement for extra stability & to minimize the amount of sediment that could fall between the spaces of each timber.
- Mats should not be placed so that they restrict the natural flow of the stream.
- Minimize number of stream/wetland crossings. Where feasible, locate crossing site where stream channel is narrow for the shortest possible clear span & where stream banks are stable & well defined. For large wetland complexes, consider accessing structures from opposite sides where possible to avoid crossing the entire wetland.
- More than one layer of mats may be necessary in areas which are inundated or have deep organic wetland soils.

Maintenance

- Matted wetland crossings should be monitored to assure correct functioning of the mats. Inspect mats after use. Look for any defects or structural problems. Mats which become covered with soils or construction debris should be cleaned and the materials removed & disposed of in an upland location. The material should not be scraped & shoveled into the resource area. Mats which become imbedded must be reset or layered to prevent mud from covering them or water passing over them.

Removal
• Matting should be removed by "backing" out of the site, removing mats one at a time. Any rutting or significant indentations identified during mat removal should be regraded immediately, taking care not to compact soils. • Mats should be cleaned before transport to another wetland location to remove soil & any invasive plant species, seed stock or plant material. • Cleaning methods may include but are not limited to shaking or dropping mats in a controlled manner with a piece of machinery to knock off attached soil & debris, spraying with water or air, & sweeping. • Crossings should be inspected following mat removal to determine the level of restoration required.
Restoration
• Special precautions should be taken to promptly stabilize areas of disturbed soil located near wetlands & streams. Matted areas within wetlands will be allowed to naturally revegetate from existing root & seed stock of native plant species. If conditions warrant, wetland seed mix may be broadcasted over the matted area to supplement the existing seed & rootstock. The use of mulch in wetlands shall consist of weed-free mulch to mitigate the risk of the spread of invasive plant species.

CERTIFICATION FOR FEDERAL-AID CONTRACTS

The prospective bidder, by signing and submitting this bid proposal, certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person or influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered to. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed $100,000 and that all such sub-recipients shall certify and disclose accordingly.

VERMONT AGENCY OF TRANSPORTATION
SCHEDULE OF ITEMS

LETTING DATE : 04/25/14 11:00 A.M.

CONTRACT ID : 12B236
PROJECT(S) : WARDSBORO-JAM ER STP 013-1(17)
WARDSBORO BF 013-1(21)
WARDSBORO BF 013-1(22)

ITEM NO.	LINE NO.	DESCRIPTION	QUANTITY	UNITS
SECTION NO. 0001				
201.10	0005	CLEARING AND GRUBBING, INCLUDING INDIVIDUAL TREES AND STUMPS	1.000	LUMP
203.15	0010	COMMON EXCAVATION	21,850.000	CY
203.27	0015	UNCLASSIFIED CHANNEL EXCAVATION	230.000	CY
203.30	0020	EARTH BORROW	2,500.000	CY
204.20	0025	TRENCH EXCAVATION OF EARTH	4,100.000	CY
204.21	0030	TRENCH EXCAVATION OF ROCK	550.000	CY
204.22	0035	TRENCH EXCAVATION OF EARTH, EXPLORATORY (N.A.B.I.)	1.000	CY
204.25	0040	STRUCTURE EXCAVATION	1,075.000	CY
204.30	0045	GRANULAR BACKFILL FOR STRUCTURES	840.000	CY
210.10	0050	COLD PLANING, BITUMINOUS PAVEMENT	163,900.000	SY
301.28	0055	SUBBASE OF CRUSHED GRAVEL, FINE GRADED	96,250.000	TON
301.35	0060	SUBBASE OF DENSE GRADED CRUSHED STONE	14,400.000	CY
310.20	0065	RECLAIMED STABILIZED BASE	144,100.000	SY
402.12	0070	AGGREGATE SHOULDERS	2,650.000	TON
406.50	0075	PRICE ADJUSTMENT, ASPHALT CEMENT (N.A.B.I.)	1.000	LU
490.30	0080	SUPERPAVE BITUMINOUS CONCRETE PAVEMENT	33,800.000	TON
490.31	0085	AIR VOIDS PAY ADJUSTMENT (N.A.B.I.)	1.000	LU
490.32	0090	MAT DENSITY PAY ADJUSTMENT (N.A.B.I.)	1.000	LU
490.33	0095	SURFACE TOLERANCE PAY ADJUSTMENT (N.A.B.I.)	1.000	LU
490.34	0100	LONGITUDINAL JOINT COMPACTION PAY ADJUSTMENT (N.A.B.I.)	1.000	LU
516.10	0105	BRIDGE EXPANSION JOINT, ASPHALTIC PLUG	70.000	LF
529.15	0110	REMOVAL OF STRUCTURE (5'-9" X 8'-2" CGMPPA)	1.000	EACH
529.15	0115	REMOVAL OF STRUCTURE (6'-1" X 8'-10" CGMPPA)	1.000	EACH
540.10	0120	PRECAST CONCRETE STRUCTURE (14'-0" X 8'-0" X 52'-6" BOX)	1.000	LUMP
540.10	0125	PRECAST CONCRETE STRUCTURE (14'-0" X 8'-0" X 60'-0" BOX)	1.000	LUMP
601.0011	0130	15" CSP .079 (2-2/3 X 1/2)	5.000	LF
601.0016	0135	18" CSP .079 (2-2/3 X 1/2)	5.000	LF
601.0915	0140	18" CPEP	95.000	LF
604.415	0145	REHAB. DROP INLETS, CATCH BASINS, OR MANHOLES, CLASS II	14.000	EACH
605.10	0150	6 INCH UNDERDRAIN PIPE	9,800.000	LF
608.15	0155	POWER GRADER RENTAL	100.000	HR
608.25	0160	ALL PURPOSE EXCAVATOR RENTAL, TYPE I	1,150.000	HR
608.30	0165	POWER BROOM RENTAL, TYPE I	100.000	HR
608.37	0170	TRUCK RENTAL	2,300.000	HR
608.40	0175	LOADER RENTAL, TYPE I	50.000	HR
609.10	0180	DUST CONTROL WITH WATER	2.000	MGAL
613.10	0185	STONE FILL, TYPE I	3,150.000	CY
613.11	0190	STONE FILL, TYPE II	50.000	CY
613.12	0195	STONE FILL, TYPE III	145.000	CY
617.10	0200	RELOCATE MAILBOX, SINGLE SUPPORT	13.000	EACH
617.12	0205	RELOCATE MAILBOX, MULTIPLE SUPPORT	3.000	EACH
619.17	0210	YIELDING MARKER POSTS	274.000	EACH

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WARDSBORO BF 013-1(22)

ITEM NO.	LINE NO.	DESCRIPTION	QUANTITY	UNITS
SECTION NO. 0001				
621.20	0215	STEEL BEAM GUARDRAIL, GALVANIZED	1,363.000	LF
621.205	0220	STEEL BEAM GUARDRAIL, GALVANIZED W/8 FEET POSTS	28,825.000	LF
621.21	0225	HD STEEL BEAM GUARDRAIL, GALVANIZED	14.500	LF
621.216	0230	HD STEEL BEAM GUARDRAIL, GALVANIZED/NESTED	187.500	LF
621.51	0235	MANUFACTURED TERMINAL SECTION, TANGENT	3.000	EACH
621.60	0240	ANCHOR FOR STEEL BEAM RAIL	95.000	EACH
621.80	0245	REMOVAL AND DISPOSAL OF GUARDRAIL	27,625.000	LF
630.10	0250	UNIFORMED TRAFFIC OFFICERS	1,950.000	HR
630.15	0255	FLAGGERS	9,500.000	HR
631.10	0260	FIELD OFFICE, ENGINEERS	1.000	LUMP
631.17	0265	TESTING EQUIPMENT, BITUMINOUS	1.000	LUMP
631.26	0270	FIELD OFFICE TELEPHONE (N.A.B.I.)	3,000.000	DL
634.10	0275	EMPLOYEE TRAINEESHIP	520.000	HR
635.11	0280	MOBILIZATION/DEMOBILIZATION	1.000	LUMP
641.10	0285	TRAFFIC CONTROL (ER STP 013-1(17))	1.000	LUMP
641.15	0290	PORTABLE CHANGEABLE MESSAGE SIGN	2.000	EACH
646.600	0295	TEMPORARY 4 INCH WHITE LINE	115,400.000	LF
646.610	0300	TEMPORARY 4 INCH YELLOW LINE	113,700.000	LF
646.682	0305	TEMPORARY 24 INCH STOP BAR, PAINT	300.000	LF
646.690	0310	TEMPORARY LETTER OR SYMBOL	60.000	EACH
646.76	0315	LINE STRIPING TARGETS	5,750.000	EACH
649.11	0320	GEOTEXTILE FOR ROADBED SEPARATOR	28,550.000	SY
649.31	0325	GEOTEXTILE UNDER STONE FILL	14,700.000	SY
649.51	0330	GEOTEXTILE FOR SILT FENCE	3,350.000	SY
649.61	0335	GEOTEXTILE FOR FILTER CURTAIN	85.000	SY
651.15	0340	SEED	562.000	LB
651.17	0345	SEED, WINTER RYE	12.000	LB
651.18	0350	FERTILIZER	3,465.000	LB
651.20	0355	AGRICULTURAL LIMESTONE	16.000	TON
651.25	0360	HAY MULCH	16.000	TON
651.35	0365	TOPSOIL	815.000	CY
651.40	0370	GRUBBING MATERIAL	6,065.000	SY
652.10	0375	EPSC PLAN (BF 013-1(21))	1.000	LUMP
652.10	0380	EPSC PLAN (BF 013-1(22))	1.000	LUMP
652.20	0385	MONITORING EPSC PLAN	80.000	HR
652.30	0390	MAINTENANCE OF EPSC PLAN (N.A.B.I.) (BF 013-1(21))	1.000	LU
652.30	0395	MAINTENANCE OF EPSC PLAN (N.A.B.I.) (BF 013-1(22))	1.000	LU
653.20	0400	TEMPORARY EROSION MATTING	36,320.000	SY
653.35	0405	VEHICLE TRACKING PAD	120.000	CY
653.45	0410	FILTER BAG	2.000	EACH
653.50	0415	BARRIER FENCE	5,330.000	LF
653.55	0420	PROJECT DEMARCATION FENCE	380.000	LF
653.60	0425	EROSION LOG	5,100.000	LF
675.20	0430	TRAFFIC SIGNS, TYPE A	258.000	SF

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WARDSBORO BF 013-1(22)

ITEM NO.	LINE NO.	DESCRIPTION	QUANTITY	UNITS
SECTION NO. 0001				
675.341	0435	SQUARE TUBE SIGN POST AND ANCHOR	2,730.000	LF
675.50	0440	REMOVING SIGNS	174.000	EACH
675.60	0445	ERECTING SALVAGED SIGNS	87.000	EACH
676.10	0450	DELINEATOR WITH STEEL POST	98.000	EACH
676.12	0455	REMOVAL OF EXISTING DELINEATOR	77.000	EACH
690.50	0460	PRICE ADJUSTMENT, FUEL (N.A.B.I.)	1.000	LU
900.608	0465	SPECIAL PROVISION (STONE FILL, STREAM BED MATERIAL)	195.000	CY
900.620	0470	SPECIAL PROVISION (CPM SCHEDULE)(ER STP 013-1(17))	11.000	EACH
900.620	0475	SPECIAL PROVISION (GNSS CONSTRUCTION INSPECTION EQUIPMENT)	1.000	EACH
900.640	0480	SPECIAL PROVISION (BARRIER FOR TEMPORARY TRAFFIC PROTECTION)	6,150.000	LF
900.645	0485	SPECIAL PROVISION (CPM SCHEDULE)(BF 013-1(21))	1.000	LUMP
900.645	0490	SPECIAL PROVISION (CPM SCHEDULE)(BF 013-1(22))	1.000	LUMP
900.645	0495	SPECIAL PROVISION (GPS MACHINE CONTROL GRADING)	1.000	LUMP
900.645	0500	SPECIAL PROVISION (TEMPORARY RELOCATION OF STREAM)(BF 013-1(21))	1.000	LUMP
900.645	0505	SPECIAL PROVISION (TEMPORARY RELOCATION OF STREAM)(BF 013-1(22))	1.000	LUMP
900.645	0510	SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)(BF 013-1(21))	1.000	LUMP
900.645	0515	SPECIAL PROVISION (TRAFFIC CONTROL, ALL-INCLUSIVE)(BF 013-1(22))	1.000	LUMP
900.650	0520	SPECIAL PROVISION (INCENTIVE/DISINCENTIVE)(N.A.B.I.)(BF 013-1(21))	1.000	LU
900.650	0525	SPECIAL PROVISION (INCENTIVE/DISINCENTIVE)(N.A.B.I.)(BF 013-1(22))	1.000	LU
900.675	0530	SPECIAL PROVISION (COLD MIXED RECYCLED BITUMINOUS PAVEMENT, PORTLAND CEMENT)	172,550.000	SY
900.675	0535	SPECIAL PROVISION (HAND-PLACED BITUMINOUS CONCRETE MATERIAL, DRIVES)	3,510.000	SY
900.675	0540	SPECIAL PROVISION (RECLAIMED STABILIZED BASE, PORTLAND CEMENT)	172,550.000	SY
900.680	0545	SPECIAL PROVISION (AGGREGATE TO MEET COLD MIXED GRADATION)	4,575.000	TON
900.680	0550	SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT SURFACE PREPARATION, TYPE I)	10.000	TON
900.680	0555	SPECIAL PROVISION (MATERIAL TRANSFER VEHICLE)	33,800.000	TON
900.680	0560	SPECIAL PROVISION (MATERIAL TRANSFER VEHICLE, COLD MIX)	30,500.000	TON
900.680	0565	SPECIAL PROVISION (PORTLAND CEMENT FOR BASE STABILIZATION)	2,600.000	TON
900.680	0570	SPECIAL PROVISION (PORTLAND CEMENT FOR COLD MIXED RECYCLING)	300.000	TON
900.683	0575	SPECIAL PROVISION (EMULSIFIED ASPHALT)(RS-IH OR CRS-IH)	1,525.000	CWT
900.683	0580	SPECIAL PROVISION (EMULSIFIED ASPHALT, COLD MIX WITH CEMENT)	22,700.000	CWT
900.683	0585	SPECIAL PROVISION (FOG SEAL SURFACE TREATMENT)	2,170.000	CWT
601.0025 AA1	0590	24" CSP .064 (2-2/3 X 1/2)	250.000	LF
601.0826 AA2	0595	24" RCP CLASS IV	250.000	LF
601.0920 AA3	0600	24" CPEP	250.000	LF
646.402 BB1	0605	DURABLE 4 INCH WHITE LINE, THERMOPLASTIC	115,400.000	LF
646.403 BB2	0610	DURABLE 4 INCH WHITE LINE, EPOXY PAINT	115,400.000	LF
646.404 BB3	0615	DURABLE 4 INCH WHITE LINE, POLYUREA	115,400.000	LF
646.412 CC1	0620	DURABLE 4 INCH YELLOW LINE, THERMOPLASTIC	113,700.000	LF
646.413 CC2	0625	DURABLE 4 INCH YELLOW LINE, EPOXY PAINT	113,700.000	LF

LETTING DATE : 04/25/14 11:00 A.M.

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WARDSBORO BF 013-1(22)

ITEM NO.	LINE NO.	DESCRIPTION	QUANTITY	UNITS
SECTION NO. 0001				
646.414 CC3	0630	DURABLE 4 INCH YELLOW LINE, POLYUREA	113,700.000	LF
646.482 DD1	0635	DURABLE 24 INCH STOP BAR, THERMOPLASTIC	300.000	LF
646.483 DD2	0640	DURABLE 24 INCH STOP BAR, EPOXY PAINT	300.000	LF
646.484 DD3	0645	DURABLE 24 INCH STOP BAR, POLYUREA	300.000	LF
646.492 EE1	0650	DURABLE LETTER OR SYMBOL, THERMOPLASTIC	60.000	EACH
646.493 EE2	0655	DURABLE LETTER OR SYMBOL, EPOXY PAINT	60.000	EACH
646.494 EE3	0660	DURABLE LETTER OR SYMBOL, POLYUREA	60.000	EACH

STATE OF VERMONT
AGENCY OF TRANSPORTATION

November, 1985
CA-109

CONTRACTOR'S EEO CERTIFICATION FORM

Certification with regard to the Performance of Previous Contracts of Subcontracts subject to the Equal Opportunity Clause and the filing of Required Reports.

The bidder ____, proposed subcontractor _____, hereby certifies that he/she has _____, has not _____, participated in a previous contract or subcontract subject to the equal opportunity clause, as required by Executive Orders 10925, 11114, or 11246 as amended, and that he/she has _____, has not _____, filed with the Joint Reporting Committee, the Director of the Office of Federal Contract Compliance, a Federal Government contracting or administering agency, or the President's Committee on Equal Employment Opportunity, all reports due under the applicable filing requirements.

Company	By	Title

NOTE: The above certification is required by the Equal Employment Opportunity regulations of the Secretary of Labor (41 CFR 60-1.7(b) (1)), and must be submitted by bidders and proposed subcontractors only in connection with contracts and subcontracts which are subject to the equal opportunity clause. Contracts and subcontracts which are exempt from the equal opportunity clause are set forth in 41 CFR 60-1.5 (Generally only contracts or subcontracts of $10,000 or under are exempt.) Currently, Standard Form 100 (EEO-1) is the only report required by the Executive Orders or their implementing regulations.

Proposed prime contractors and subcontractors who have participated in a previous contract or subcontract subject to the Executive Orders and have not filed the required reports should note that 41 CFR 60-1.7 (b) (1) prevents the award of contracts and subcontracts unless such contractor submits a report covering the delinquent period or such other period specified by the Federal Highway Administration, or by the Director, Office of Federal Contract Compliance, U.S. Department of Labor.

STATE OF VERMONT
AGENCY OF TRANSPORTATION
DEBARMENT AND NON-COLLUSION AFFIDAVIT

I, _____, representing
(Official Authorized to Sign Contracts)

_____ of _____,
(Individual, Partnership or Corporation) (City or State)

being duly sworn, depose and certify under the penalties of perjury under the laws of the State of Vermont and the United States that on behalf of the person, firm, association, or corporation submitting the bid certifying that such person, firm, association, or corporation has not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action, in restraint of free competitive bidding in connection with the submitted bid for the Vermont project:

_____,
(Project Name)

_____ project located on _____,
(Project Number) (Route or Highway)

bids opened at _____,
(Town or City)

Vermont on _____, 20__.
(Date)

I further depose and certify under the penalties of perjury under the laws of the State of Vermont and the United States that except as noted below said individual, partnership or corporation or any person associated therewith in any capacity is not currently, and has not been within the past three (3) years, suspended, debarred, voluntarily excluded or determined ineligible by any Federal or State Agency; does not have a proposed suspension, debarment, voluntary exclusion or ineligibility determination pending; and has not been indicted, convicted, or had a civil judgement rendered against (it, him, her, them) by a court having jurisdiction in any matter involving fraud or official misconduct within the past three (3) years.

Exceptions: _____No _____Yes. (If yes complete back of this form.)

Sworn to before me this

_____ day of _____, 20___

_____L.S.
(Name of Individual, Partnership or Corporation)

_____L.S.
(Signature of Official Authorized to Sign Contracts)

_____
(Notary Public)

_____L.S
(Name of Individual Signing Affidavit)

(My commission expires _____)

_____L.S
(Title of Individual Signing Affidavit)

Exceptions will not necessarily result in denial of award, but will be considered in determining bidder responsibility. For any exception noted, indicate below to whom it applies, initiating agency, and dates of action. Providing false information may result in criminal prosecution or administration sanctions.

EXCEPTIONS: