

FOR BIDS

IFB # 999 12 GR

Issue Date: March 19, 2012

Title: SET ASIDE FOR SMALL BUSINESSES Tree Removal

Commodity Code: 96888, 98802, 98889

Issuing Agency: Commonwealth of Virginia
Northern Virginia Community College
Facilities Planning and Support Services
CW Building Room 310
8333 Little River Turnpike
Annandale VA 22003

Using Agency and/or Location
Where Work Will Be Performed: Commonwealth of Virginia
Northern Virginia Community College
Woodbridge Campus

Bids Will be Received No Later Than March 30, 2012 (Local Time) 2:00 PM for Providing the Services Described Herein

All Inquiries For Information Should Be Directed To: Gary Robinette, Sr. Contract Officer
Phone (703) 323 3752
Fax (703) 323 3121
Email grobinette@nvcc.edu

Site visits – reference page 4 paragraph 16.

If Bids Are Mailed, Send Directly To The Issuing Agency Shown Above. If Bids are hand delivered deliver directly to:
Facilities Planning and Support Services 8333 Little River Turnpike, CW Building, Room 310, Annandale VA 22003

In compliance with this Invitation for Bids and to all the conditions imposed therein and hereby incorporated by reference, the undersigned offers and agrees to furnish the services described at the price(s) indicated in Section VII – Pricing Schedule.

Virginia Contractors License No. _____

Class _____ Specialty Codes: _____

Name and Address of Firm:

Date: _____

By: _____
Signature in Ink

Title: _____

Print Name: _____

eVA Vendor ID or DUNS#

Telephone No. (____) _____

FAX No. (____) _____

Email _____

Note: This public body does not discriminate against faith based organizations in accordance with the *Code of Virginia, § 2.2-4343.1* or against a bidder or offeror because of race, religion, color, sex, national origin, age, disability, or any other basis prohibited by state law relating to discrimination in employment.

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- I. **PURPOSE:** The purpose of this Invitation for Bids is to establish a contract with one qualified Contractor for the Removal of Trees at the Woodbridge Campus of Northern Virginia Community College, an agency of the Commonwealth of Virginia. Campus driving directions can be found at <http://www.nvcc.edu/campuses-and-centers/annandale/index.html>
- II. **SCOPE OF WORK/GENERAL REQUIREMENTS:** The Contractor shall provide all labor, equipment, materials and supervision to perform all work in accordance with the attached work description prepared by Schnabel Engineering and the following general requirements:
- A. **PROJECT DESCRIPTION:** The project consists of removal of trees on an existing dam at the Woodbridge campus in accordance with the attached specifications.
- B. **GENERAL REQUIREMENTS:**
1. The Contractor shall plan and coordinate the complete installation with the College's authorized representative in order to cause minimal disturbance of the facilities operation. The Contractor shall notify the College's authorized representative no less than **ten (10) business days** prior to beginning any work. Once begun, the Contractor shall work consecutive days, Monday through Friday, and shall complete the project without interruptions, delays or stoppages. All work shall be performed in accordance with the Virginia Statewide Building Codes and all applicable Federal, State and local codes.
 2. **WORKMANSHIP:** All services provided under this contract shall be performed by competent, adequately trained mechanics or technicians in a good workman like manner and in accordance with the manufacturers recommended procedures as well as all applicable codes, rules and regulations incorporated into this agreement.
 3. The Contractor's mechanics or technicians shall have a minimum of three (3) years experience with the installation of the equipment requested and shall be responsible at all times for the actions and work of assistants and helpers. Evidence of such experience shall be made available to the College upon request. The College reserves the right to reject any of the Contractor's personnel who, in the Colleges judgment, are not adequately qualified to perform the work required. Rejection of the Contractor's personnel shall in no way relieve the Contractor of any performance obligations.
 4. The Contractor shall be fully responsible for the means, method, technique, scheduling and sequencing and procedure of performing the work.
 5. The Contractor shall perform the work in such a manner so as to cause minimal disturbance to the daily operation of the existing activities on the premises.
 6. The Contractor shall insure that all safety precautions are maintained and shall protect the adjacent areas from dust, debris and flying particles throughout the work.
 7. The Contractor shall be responsible to ensure that all materials used comply with all applicable laws, ordinances, rules, regulations and codes and are compatible with pre-existing materials and equipment. In addition the Contractor shall comply but not be limited to the following current OSHA and EPA regulations:
 - a. Hazard Communication Program (OSHA 29CFR 1910-120)
 - b. Personnel Protective Equipment Program (OSHA 29CFR 1910 132-140)
 - c. Confined Space Procedures (OSHA 29CFR 1910-146)
 8. The Contractor shall provide equipment and medical facilities as necessary to provide on-site first aid.
 9. **BUILDING ACCESS:** The Contractor will be permitted to use present roads for hauling materials and supplies. The Contractor shall ensure that all work is accomplished without blocking access to the building(s).
 10. **WORK HOURS:** Normal work hours for the College are 7:00 AM through 5:00 PM, Monday through Friday, except College observed holidays. All services, whenever possible shall be

performed during normal work hours. Any deviation from normal working hours shall require prior written approval from the College.

11. CONSTRUCTION SCHEDULE: The Contractor shall provide two (2) copies of a construction schedule, for approval, to the College's authorized representative.
12. SUBMITTALS: The Contractor shall provide submittals as required and agreed upon by the CORA.
13. STORAGE OF EQUIPMENT: The Contractor shall store all equipment, materials, supplies and apparatus utilized to perform the work, in an orderly fashion at the work site so as to not interfere with the daily operation and activities of the College personnel in the work area.
14. REMOVAL OF DEBRIS: The Contractor shall remove all debris from the College property on a daily basis and dispose of such debris in accordance with all state and local laws.
15. WORKSITE DAMAGES: The Contractor shall repair damage of existing surfaces due to renovation activities with materials to match adjacent surfaces.
16. SITE VISITS: The Contractor shall arrange for site visits with Alison Stilwell, 703 323 3547. **Site visits will be arranged by appointment only.**
17. FIELD VERIFICATION: Bidders shall field verify all conditions and measurements.
18. CONTRACT ADMINISTRATION AND INSPECTION: The Contractor shall commence work as mutually agreed with the designated College representative, upon receipt of a written Purchase Order or Notice of Award. Contract Officer representatives for administration and inspection will be assigned to each project and all work shall be coordinated with the designated representatives as identified on each Purchase Order.
 - a. Contract Officer Representative for Administration (CORA)
 - (1) The Contract Administrator (CORA) has the authority to monitor Contractor performance in accordance with the provisions of the assigned contract. The Contract Administrator shall report any problems or deviations observed which may violate the provisions of the contract immediately by telephone to the Purchasing Officer and followed up in writing.
 - b. Contract Officer Representative for Inspection (CORI)
 - (1) The Contract Inspector (CORI) schedules and inspects all work to insure compliance of the provisions of the assigned contract. The Contract Inspector shall report any problems or deviations observed which may be a violation of the contract provisions to the CORA.
 - c. Neither the CORI nor the CORA are authorized to approve any increase or decrease in the Scope of Work/Specifications or make any changes to the provisions of the contract.
 - (1) All changes or modifications to any contract shall be accomplished by the issuance of a written Change Order signed by the appropriate Purchasing Officer.
19. SMALL BUSINESS SUBCONTRACTING PLAN: In accordance with the Commonwealth's policy of facilitating and maximizing the participation of small businesses and businesses owned by women and minorities in its purchasing programs, in order for the bid to be considered responsive for any prime contract in excess of \$100,000 bidders shall include, as part of their bid, a Small Business Subcontracting Plan, that ensures DMBE certified small business participation as part of its efforts toward achieving the statewide goal of 40% of the Commonwealth's discretionary spending in combined prime and subcontracts for small business.

If the bidder on the contract is a DMBE-certified small business, the bidder shall indicate such in Section A of Annex 7-G. This shall include DMBE-certified women-owned and minority-owned businesses that meet the small business definition and have received the DMBE small-business

certification. If the bidder is not a DMBE-certified small business, the bidder is required to identify the portions of the contract the bidder plans to subcontract to DMBE-certified small business by completing and returning Section B of Annex 7-G. Failure to meet the planned small business participation levels as documented in Section B of Annex 7-G, however, will not alone be the basis for determination of responsiveness. If the bidder is not a DMBE-certified small business and cannot practicably subcontract any portion of the requirements being solicited, in order to be considered responsive to the solicitation, the non DMBE-certified bidder must document on Annex 7-G, section C, past efforts made to provide subcontracting opportunities to DMBE-certified small businesses for other contracts within the past 24 months.

III. GENERAL TERMS AND CONDITIONS:

- A. VENDORS MANUAL: This solicitation is subject to the provisions of the Commonwealth of Virginia Vendor's Manual and any revisions thereto, which are hereby incorporated into this contract in their entirety. The procedure for filing contractual claims is in section 7.19 of the Vendors Manual. A copy of the manual is normally available for review at the purchasing office and is accessible on the Internet at www.dgs.state.va.us/dps under "Manuals".
- B. APPLICABLE LAWS AND COURTS: This solicitation and any resulting contract shall be governed in all respects by the laws of the Commonwealth of Virginia and any litigation with respect thereto shall be brought in the courts of the Commonwealth. The Agency and the Contractor are encouraged to resolve any issues in controversy arising from the award of the contract or any contractual dispute using Alternative Dispute Resolution (ADR) procedures (*Code of Virginia, § 2.2-4366*). ADR Procedures are described in Chapter 9 of the *Vendors Manual*. The Contractor shall comply with applicable federal, state and local laws and regulations.
- C. ANTI-DISCRIMINATION: By submitting their bids, Bidders certify to the Commonwealth that they will conform to the provisions of the Federal Civil Rights Act of 1964, as amended, as well as the Virginia Fair Employment Contracting Act of 1975, as amended, where applicable, the Virginians With Disabilities Act, the Americans With Disabilities Act, and § 2.2-4311 of the Virginia Public Procurement Act. If the award is made to a faith based organization, the organization shall not discriminate against any recipient of goods, services, or disbursements made pursuant to the contract on the basis of the recipient's religion, religious belief, refusal to participate in a religious practice, or on the basis of race, age, color, gender or national origin and shall be subject to the same rules as other organizations that contract with public bodies to account for the use of the funds provided; however, if the faith based organization segregates public funds into separate accounts, only the accounts and programs funded with public funds shall be subject to audit by the public body. (*Code of Virginia § 11-35.1E*).

In every contract over \$10,000 the provisions in 1. and 2. below apply:

1. During the performance of this contract, the Contractor agrees as follows:
 - a. The Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, age, disability or any other basis prohibited by state law relating to discrimination in employment, except where there is a bona fide occupational qualification reasonably necessary to the normal operation of the Contractor. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices setting forth the provisions of this nondiscrimination clause.
 - b. The Contractor, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, will state that such Contractor is an equal opportunity employer.
 - c. Notices, advertisements and solicitations placed in accordance with federal law, rule or regulation shall be deemed sufficient for the purpose of meeting the requirements of this section.
 2. The Contractor will include the provisions of 1. above in every subcontract or purchase order over \$10,000, so that the provisions will be binding upon each subcontractor or vendor.
- D. ETHICS IN PUBLIC CONTRACTING: By submitting their bids, Bidders certify that their bids are made without collusion or fraud and that they have not offered or received any kickbacks or inducements from any other Bidder, supplier, manufacturer or subcontractor in connection with their bid, and that they have not conferred on any public employee having official responsibility for this procurement transaction any payment, loan, subscription, advance, deposit of money, services or anything of more than nominal value, present or promised unless consideration of substantially equal or greater value was exchanged.

- E. IMMIGRATION REFORM AND CONTROL ACT OF 1986: By entering into a written contract with the Commonwealth of Virginia, the Contractor certifies that the Contractor does not, and shall not during the performance of the contract for goods and services in the Commonwealth, knowingly employ an unauthorized alien as defined in the Federal Immigration Reform and Control Act of 1986.
- F. DEBARMENT STATUS: By submitting their bids, Bidders certify that they are not currently debarred by the Commonwealth of Virginia from submitting bids or proposals on contracts for the type of goods and/or services covered by this solicitation, nor are they an agent of any person or entity that is currently so debarred.
- G. ANTITRUST: By entering into a contract, the Contractor conveys, sells, assigns, and transfers to the Commonwealth of Virginia all rights, title and interest in and to all causes of the action it may now have or hereafter acquire under the antitrust laws of the United States and the Commonwealth of Virginia, relating to the particular goods or services purchased or acquired by the Commonwealth of Virginia under said contract.
- H. MANDATORY USE OF STATE FORM AND TERMS OF CONDITIONS: Failure to submit a bid on the official state form provided for that purpose shall be a cause for rejection of the bid. Modification of or additions to any portion of the Invitation for Bids may be cause for rejection of the bid; however, the Commonwealth reserves the right to decide, on a case by case basis, in its sole discretion, whether to reject such a bid as nonresponsive. As a precondition to its acceptance, the Commonwealth may, in its sole discretion, request that the Bidder withdraw or modify nonresponsive portions of a bid, which do not affect quality, quantity, price, or delivery. No modification of or addition to the provisions of the contract shall be effective unless reduced to writing and signed by the parties.
- I. CLARIFICATION OF TERMS: If any prospective Bidder has questions about the specifications or other solicitation documents, the prospective Bidder should contact the buyer whose name appears on the face of the solicitation no later than five working days before the due date. Any revisions to the solicitation will be made only by addendum issued by the buyer.
- J. PAYMENT:
1. To Prime Contractor:
 - a. Invoices for services ordered, delivered and accepted shall be submitted by the Contractor directly to the payment address shown on the purchase order/contract. All invoices shall show the contract number and/or the purchase order number; social security number (for individual contractors) or the federal employer identification number (for proprietorships, partnerships, and corporations).
 - b. Any payment terms requiring payment in less than 30 days will be regarded as requiring payment 30 days after invoice or delivery, whichever occurs last. This shall not affect offers of discounts for payment in less than 30 days, however.
 - c. All services provided under this contract or purchase order, that are to be paid for with public funds, shall be billed by the Contractor at the contract price, regardless of which public agency is being billed.
 - d. The following shall be deemed to be the date of payment: the date of postmark in all cases where payment is made by mail, or the date of offset when offset proceedings have been instituted as authorized under the Virginia Debt Collection Act.
 - e. Unreasonable Charges: Under certain emergency procurements and for most time and material purchases, final job costs cannot be accurately determined at the time orders are placed. In such cases, contractors should be put on notice that final payment in full is contingent on a determination of reasonableness with respect to all invoiced charges. Charges which appear to be unreasonable will be researched and challenged, and that portion of the invoice held in abeyance until a settlement can be reached. Upon determining that invoiced charges are not reasonable, the Commonwealth shall promptly notify the Contractor, in writing, as to those charges which it considers unreasonable and the basis for the determination. A Contractor may not institute legal action unless a settlement cannot be reached within thirty (30) days of notification. The provisions of this

section do not relieve an agency of its prompt payment obligations with respect to those charges which are not in dispute (Code of Virginia, § 2.2-4363).

2. To Subcontractors:

a. A Contractor awarded a contract under this solicitation is hereby obligated:

- (1) To pay the subcontractor(s) within seven (7) days of the Contractor's receipt of payment from the Commonwealth for the proportionate share of the payment received for work performed by the subcontractor(s) under the contract; or
- (2) To notify the agency and the subcontractor(s), in writing, of the Contractor's intention to withhold payment and the reason.

b. The Contractor is obligated to pay the subcontractor(s) interest at the rate of one percent per month (unless otherwise provided under the terms of the contract) on all amounts owed by the Contractor that remain unpaid seven (7) days following receipt of payment from the Commonwealth, except for amounts withheld as stated in (2) above. The date of mailing of any payment by U. S. Mail is deemed to be payment to the addressee. These provisions apply to each sub-tier contractor performing under the primary contract. A Contractor's obligation to pay an interest charge to a subcontractor may not be construed to be an obligation of the Commonwealth.

3. Each prime contractor who wins an award in which provision of a SWAM procurement plan is a condition to the award, shall deliver to the contracting agency or institution, on or before request for final payment, evidence and certification of compliance (subject only to insubstantial shortfalls and to shortfalls arising from subcontractor default) with the SWAM procurement plan. Final payment under the contract in question may be withheld until such certification is delivered and, if necessary, confirmed by the agency or institution, or other appropriate penalties may be assessed in lieu of withholding such payment.

4. The Commonwealth of Virginia encourages contractors and subcontractors to accept electronic and credit card payments.

K. PRECEDENCE OF TERMS: The following General Terms and Conditions – *Vendors Manual*, Applicable Laws and Courts, Anti-Discrimination, Ethics in Public Contracting, Immigration Reform and Control Act of 1986, Debarment Status, Antitrust, Mandatory Use of State Form and Terms and Conditions, Clarification of Terms, Payment shall apply in all instances. In the event there is a conflict between any of the other General Terms and Conditions and any Special Terms and Conditions in this solicitation, the Special Terms and Conditions shall apply.

L. QUALIFICATIONS OF BIDDERS: The Commonwealth may make such reasonable investigations as deemed proper and necessary to determine the ability of the Bidder to perform the work/furnish the goods and the Bidder shall furnish to the Commonwealth all such information and data for this purpose as may be requested. The Commonwealth reserves the right to inspect Bidder's physical facilities prior to award to satisfy questions regarding the Bidder's capabilities. The Commonwealth further reserves the right to reject any bid if the evidence submitted by, or investigations of, such Bidder fails to satisfy the Commonwealth that such Bidder is properly qualified to carry out the obligations of the contract and to provide the services and/or furnish the goods contemplated therein.

M. TESTING AND INSPECTION: The Commonwealth reserves the right to conduct any test/inspection it may deem advisable to assure supplies and services conform to the specification.

N. ASSIGNMENT OF CONTRACT: A contract shall not be assignable by the Contractor in whole or in part without the written consent of the Commonwealth.

O. CHANGES TO THE CONTRACT: Changes can be made to the Contract in any one of the following ways:

1. The parties may agree in writing to modify the scope of the contract. An increase or decrease in the price of the contract resulting from such modification shall be agreed to by the parties as a part of their written agreement to modify the scope of the contract.

2. The Purchasing Agency may order changes within the general scope of the contract at any time by written notice to the Contractor. Changes within the scope of the contract include, but are not limited to things such as the method of packing or shipment and the place of delivery or installation. The Contractor shall comply with the notice upon receipt. The Contractor shall be compensated for any additional costs incurred as the result of such order and shall give the Purchasing Agency a credit for any savings. Said compensation shall be determined by one of the following methods:
- a. By mutual agreement between the parties in writing; or
 - b. By agreeing upon a unit price or using a unit price set forth in the contract, if the work to be done can be expressed in units, and the Contractor accounting for the number of units of work performed, subject to the Purchasing Agency's right to audit the Contractor's records and/or to determine the correct number of units independently; or
 - c. By ordering the Contractor to proceed with the work and to keep a record of all costs incurred and savings realized. A markup for overhead and profit may be allowed if provided by the contract. The same markup shall be used for determining a decrease in price as the result of savings realized. The Contractor shall present the Purchasing Agency with all vouchers and record of expenses incurred and savings realized. The Purchasing Agency shall have the right to audit the records of the Contractor, as it deems necessary to determine costs or savings. Any claim for an adjustment in price under this provision must be asserted by written notice to the Purchasing Agency within thirty (30) days from the date of receipt of the written order from the Purchasing Agency. If the parties fail to agree on an amount of adjustment, the question of an increase or decrease in the contract price or time for performance shall be resolved in accordance with the procedures for resolving disputes provided by the Disputes Clause of this contract or, if there is none, in accordance with the disputes provisions of the Commonwealth of Virginia's Vendor's Manual. Neither the existence of a claim or a dispute resolution process, litigation or any other provision of this contract shall excuse the Contractor from promptly complying with the changes ordered by the Purchasing Agency or with the performance of the contract generally.

P. **DEFAULT:** In case of failure to deliver goods or services in accordance with the contract terms and conditions, the Commonwealth, after due oral or written notice, may procure them from other sources and hold the Contractor responsible for any resulting additional purchase and administrative costs. This remedy shall be in addition to any other remedies which the Commonwealth may have.

Q. **INSURANCE:** By signing and submitting a bid under this solicitation, the Bidder certifies that if awarded the contract, it will have the following insurance coverage at the time the contract is awarded. For construction contracts, if any subcontractors are involved, the subcontractor will have worker's compensation insurance in accordance with § 2.2-4332 and 65.2-800 et seq. of the *Code of Virginia*.

The Bidder further certifies that the contractor and any subcontractors will maintain these insurance coverages during the entire term of the contract and that all insurance coverages will be provided by insurance companies authorized to sell insurance in Virginia by the Virginia State Corporation Commission.

1. **MINIMUM INSURANCE COVERAGES AND LIMITS REQUIRED:**

- a. Workers Compensation - Statutory requirements and benefits. Coverage is compulsory for employers of three or more employees, to include the employer. Contractors who fail to notify the Commonwealth of increases in the number of employees that change their workers' compensation requirements under the *Code of Virginia* during the course of the contract shall be in noncompliance with the contract.
- b. Employers Liability - \$100,000
- c. Commercial General Liability - \$1,000,000 per occurrence. Commercial General Liability is to include Bodily Injury and Property Damage, Personal Injury and Advertising Injury, Products and Completed Operations Coverage, and Independent Contractor's Liability or Owner's and Contractor's Protective Liability. The Commonwealth of Virginia must be named as an additional insured and so endorsed on the policy.
- d. Automobile Liability - \$1,000,000

- R. **ANNOUNCEMENT OF AWARD:** Upon the award or the announcement of the decision to award a contract over \$50,000, as a result of this solicitation, the purchasing agency will publicly post such notice on the DGS/DPS eVA web site (www.eva.state.va.us) for a minimum of ten days.
- S. **DRUG FREE WORKPLACE:** During the performance of this contract, the Contractor agrees to (i) provide a drug-free workplace for the Contractor's employees; (ii) post in conspicuous places, available to employees and applicants for employment, a statement notifying employees that the unlawful manufacture, sale, distribution, dispensation, possession, or use of a controlled substance or marijuana is prohibited in the Contractor's workplace and specifying the actions that will be taken against employees for violations of such prohibition; (iii) state in all solicitations or advertisements for employees placed by or on behalf of the Contractor, that the Contractor maintains a drug-free workplace; and (iv) include the provisions of the foregoing clauses in every subcontract or purchase order of over \$10,000, so that the provisions are binding upon each subcontractor or vendor.
For the purposes of this section, "*drug-free workplace*" means a site for the performance of work done in connection with a specific contract awarded to a Contractor, the employees of whom are prohibited from engaging in the unlawful manufacture, sale, distribution, dispensation, possession or use of any controlled substance or marijuana during the performance of the contract.
- T. **NON-DISCRIMINATION OF CONTRACTORS:** A Bidder, or Contractor shall not be discriminated against in the solicitation or award of this contract because of race, religion, color, sex, national origin, age, or disability, faith based organizational status, any other basis prohibited by state law relating to discrimination in employment or because the bidder employs ex-offenders unless the state agency, department or institution has made a written determination that employing ex-offenders on the specific contract is not in its best interest. If the award of this contract is made to a faith based organization and an individual, who applies for or receives goods, services, or disbursements provided pursuant to this contract objects to the religious character of the faith based organization from which the individual receives or would receive the goods, services, or disbursements, the public body shall offer the individual, within a reasonable period of time after the date of his objection, access to equivalent goods, services, or disbursements from an alternative provider.
- U. **eVA BUSINESS-TO-GOVERNMENT VENDOR REGISTRATION:** The eVA Internet electronic procurement solution, website portal www.eVA.virginia.gov, streamlines and automates government purchasing activities in the Commonwealth. The eVA portal is the gateway for vendors to conduct business with state agencies and public bodies. All vendors desiring to provide goods and/or services to the Commonwealth shall participate in the eVA Internet e procurement solution either through the eVA Basic Vendor Registration Service or eVA Premium Vendor Registration Service. All bidders or offerors must register in eVA and pay the Vendor Transaction Fees specified below; failure to register will result in the bid/proposal being rejected.

Effective July 1, 2011, vendor registration and registration-renewal fees have been discontinued. Registration options are as follows:

- a. **eVA Basic Vendor Registration Service:** eVA Basic Vendor Registration Service includes electronic order receipt, vendor catalog posting, on-line registration, electronic bidding, and the ability to research historical procurement data available in the eVA purchase transaction data warehouse.
- b. **eVA Premium Vendor Registration Service:** eVA Premium Vendor Registration Service includes all benefits of the eVA Basic Vendor Registration Service plus automatic email or fax notification of solicitations and amendments.

Vendor transaction fees are determined by the date the original purchase order is issued and are as follows:

- a. For orders issued prior to August 16, 2006, the Vendor Transaction Fee is 1%, capped at a maximum of \$500 per order.
- b. For orders issued August 16, 2006 thru June 30, 2011, the Vendor Transaction Fee is:
 - (i) DMBE-certified Small Businesses: 1%, capped at \$500 per order.
 - (ii) Businesses that are not DMBE-certified Small Businesses: 1%, capped at \$1,500 per order.

- c. For orders issued July 1, 2011 thru June 30, 2012, the Vendor Transaction Fee is:
 - (i) DMBE-certified Small Businesses: 0.75%, capped at \$500 per order.
 - (ii) Businesses that are not DMBE-certified Small Businesses: 0.75%, capped at \$1,500 per order.
- d. For orders issued July 1, 2012 and after, the Vendor Transaction Fee is:
 - (i) DMBE-certified Small Businesses: 1%, capped at \$500 per order.
 - (ii) Businesses that are not DMBE-certified Small Businesses: 1%, capped at \$1,500 per order.

The specified vendor transaction fee will be invoiced, by the Commonwealth of Virginia Department of General Services, approximately 30 days after the corresponding purchase order is issued and payable 30 days after the invoice date. Any adjustments (increases/decreases) will be handled through purchase order changes.

- V. AVAILABILITY OF FUNDS: It is understood and agreed between the parties herein that the agency shall be bound hereunder only to the extent of the funds available or which may hereafter become available for the purpose of this agreement.
- W. SET-ASIDES: This solicitation is set-aside for DMBE-certified small business participation only when designated "SET-ASIDE FOR SMALL BUSINESSES" in the solicitation. DMBE-certified small businesses are those businesses that hold current small business certification from the Virginia Department of Minority Business Enterprise. This shall not exclude DMBE-certified women-owned and minority-owned businesses when they have received the DMBE small business certification. For purposes of award, bidders shall be deemed small businesses if and only if they are certified as such by DMBE on the due date for receipt of bids/proposals.
- X. BID PRICE CURRENCY: Unless stated otherwise in the solicitation, bidders shall state bid prices in US dollars.
- Y. AUTHORIZATION TO CONDUCT BUSINESS IN THE COMMONWEALTH: A Contractor organized as a stock or non stock corporation, limited liability company, business trust, or limited partnership or registered as a limited liability partnership shall be authorized to transact business in the Commonwealth as a domestic or foreign business entity if so required by Title 13.1 or Title 50 of the *Code of Virginia* or as otherwise required by law. Any business entity described above that enters into a contract with a public body pursuant to the *Virginia Public Procurement Act* shall not allow its existence to lapse or its certificate of authority or registration to transact business in the Commonwealth, if so required under Title 13.1 or Title 50, to be revoked or cancelled at any time during the term of the contract. A public body may void any contract with a business entity if the business entity fails to remain in compliance with the provisions of this section.

IV. SPECIAL TERMS AND CONDITIONS:

- A. AWARD: The Commonwealth will make the award on a total sum basis to the lowest responsive and responsible Bidder. Due consideration will be given to price, quality as judged by tests and previous experience, and the ability of the Bidder to render required goods or services. The purchasing office reserves the right to conduct any test it may deem advisable and to make all evaluations. The Commonwealth also reserves the right to reject any and all bids, in whole or in part, to waive informalities and to delete items prior to making the award, whenever it is deemed in the sole opinion of the procuring public body to be in its best interest.
- B. BID ACCEPTANCE PERIOD: Any bid resulting from this solicitation shall be valid for thirty (30) days. At the end of the thirty (30) days the bid may be withdrawn at the written request of the Bidder. If the bid is not withdrawn at that time it remains in effect until an award is made or the solicitation is canceled.
- C. BID PRICES: Bids shall be in the form of a firm fixed price for all materials and work and shall include all charges that may be imposed in fulfilling the terms of the Contract.
- D. CONTRACTOR REGISTRATION: If a contract for construction, removal, repair or improvement of a building or other real property is for one hundred and twenty thousand dollars (\$120,000) or more, or if the total value of all such contracts undertaken by bidder within any 12-month period is seven hundred and fifty thousand dollars (\$750,000) or more, the bidder is required under Title 54.1-1100, *Code of Virginia* (1950), as amended, to be licensed by the State Board of Contractors a "CLASS A CONTRACTOR." If such a contract is for seventy-five hundred dollars (\$7,500) or more but less than one hundred and twenty thousand dollars (\$120,000), or if the total value of all such contracts undertaken by bidder within any 12-month period is between one hundred and fifty thousand dollars (\$150,000) and seven hundred and fifty thousand dollars (\$750,000) or more, the bidder is required to be licensed as a "CLASS B CONTRACTOR." If such a contract is for one-thousand dollars (\$1,000) or more but less than seventy-five hundred dollars (\$7,500), or if the contractor does less than \$150,000 in business in a 12-month period, the bidder is required to be licensed as a "CLASS C CONTRACTOR." The board shall require a master tradesmen license as a condition of licensure for electrical, plumbing and heating, ventilation and air conditioning contractors. The bidder shall place on the outside of the envelope containing the bid/proposal and shall place in the bid/proposal over his signature whichever of the following notations is appropriate, inserting his contractor license number:

Licensed Class A Virginia Contractor No. _____ Specialty _____

Licensed Class B Virginia Contractor No. _____ Specialty _____

Licensed Class C Virginia Contractor No. _____ Specialty _____

If the bidder shall fail to provide this information on his bid/proposal or on the envelope containing the bid and shall fail to promptly provide said contractor license number to the Commonwealth in writing when requested to do so before or after the opening of bids/proposals, he shall be deemed to be in violation of § 54.1-1115 of the *Code of Virginia* (1950), as amended, and his bid/proposal will not be considered.

If a bidder shall fail to obtain the required license prior to submission of his bid/proposal, the bid/proposal shall not be considered.

- E. CONTRACTOR'S TITLE TO MATERIALS: No materials or supplies for the work shall be purchased by the Contractor or by any Subcontractor subject to any chattel mortgage or under a conditional sales or other agreement by which an interest is retained by the seller. The Contractor warrants that he has clear title to all materials and supplies for which he invoices for payment.
- F. DELIVERY: State your earliest firm delivery or performance date: _____ 20___. This date may be a factor in making the award.
- G. DELIVERY AND STORAGE: It shall be the responsibility of the contractor to make all arrangements for delivery, unloading, receiving and storing materials in the building during installation. The owner will not assume any responsibility for receiving these shipments. Contractor shall check with the owner and make necessary arrangements for security and storage space in the building during installation.

- H. **EXTRA CHARGES NOT ALLOWED:** The bid price for parts shall be for complete installation ready for the Commonwealth's use, and shall include all applicable freight and installation charges; extra charges will not be allowed.
- I. **INSPECTION OF JOB SITE:** My signature on this solicitation constitutes certification that I have inspected the job site and am aware of the conditions under which the work must be accomplished. Claims, as a result of failure to inspect the job site, will not be considered by the Commonwealth.
- J. **MAINTENANCE MANUALS:** The Contractor shall provide with each piece of equipment an operations and maintenance manual with wiring diagrams, parts list, and a copy of all warranties.
- K. **PRIME CONTRACTOR RESPONSIBILITIES:** The Contractor shall be responsible for completely supervising and directing the work under this contract and all subcontractors that he may utilize, using his best skill and attention. Subcontractors who perform work under this contract shall be responsible to the prime Contractor. The Contractor agrees that he is as fully responsible for the acts and omissions of his subcontractors and of persons employed by them as he is for the acts and omissions of his own employees.
- L. **SUBCONTRACTS:** No portion of the work shall be subcontracted without prior written consent of the purchasing agency. In the event that the Contractor desires to subcontract some part of the work specified herein, the Contractor shall furnish the purchasing agency the names, qualifications and experience of their proposed subcontractors. The Contractor shall, however, remain fully liable and responsible for the work to be done by his subcontractor(s) and shall assure compliance with all requirements of the contract.
- M. **WARRANTY:** The Contractor agrees that the goods or services furnished under any award resulting from this solicitation shall be covered by the most favorable commercial warranties the Contractor gives any customer for such supplies or services and that the rights and remedies provided therein are in addition to and do not limit those available to the Commonwealth by any other clause of this solicitation. A copy of this warranty must be furnished with the bid.
- N. **WORK SITE DAMAGES:** Any damage to existing utilities, equipment or finished surfaces, resulting from the performance of this contract shall be repaired to the Commonwealth's satisfaction at the Contractor's expense.
- O. **AUDIT:** The Contractor hereby agrees to retain all books, records and other documents relative to this contract for five (5) years after final payment, or until audited by the Commonwealth of Virginia, whichever is sooner. The purchasing agency, its authorized agents, and/or state auditors shall have full access to and the right to examine any of said materials during the said period.
- P. **TIME OF PERFORMANCE:** This Invitation for Bids requires all work to be performed during a specific time period. All work shall be completed on or before May 1, 2012. This time limit is critical to the College and is not negotiable. By signing and submitting a bid under this solicitation, the Bidder certifies that he/she shall comply with the time frame stipulated.

V. ADDITIONAL TERMS AND CONDITIONS FOR NON-CAPITOL OUTLAY CONSTRUCTION PROJECTS:

- A. DEFINITIONS: Whenever used in this solicitation or in the Contract Documents, the following terms have the meanings indicated, which are applicable to both the singular and plural and the male and female gender thereof:
1. Agency: The term, Agency, unless otherwise indicated, shall mean the Owner.
 2. Commonwealth: The term "Commonwealth" shall mean the Owner which is the Commonwealth of Virginia through the governing Body, the Board, the Building Committee or other agent with authority to execute the contract for the institution or agency involved. The Commonwealth's Agent is the official with the authority to sign the contract on behalf of the Commonwealth.
 3. Construction: As used in these documents shall include new construction, reconstruction, renovation, restoration, minor repair, demolition and all similar work upon buildings and ancillary facilities owned or to be acquired by the Commonwealth and any draining, dredging, excavation, grading or similar work upon real property.
 4. Contractor: The person, firm or corporation with whom the Owner has entered into a contractual agreement and includes the plural number and the feminine gender when such are named in the contract as the Contractor.
 5. Defective: An adjective which when modifying the word Work refers to Work that is unsatisfactory, faulty or deficient, or does not conform to the Contract Documents, or does not meet the requirements of any inspections, standard, test or approval referred to in the Contract Documents, or has been damaged prior to final payment.
 6. Emergency: Any unforeseen combination of circumstances or a resulting state that poses imminent danger to health, life or property.
 7. Final Acceptance: The Agency's acceptance of the Project from the Contractor upon confirmation from the Project Inspector and the Contractor that the project is totally complete in accordance with the contract requirements and that all defects have been eliminated. Final acceptance is confirmed by the making of final payment of the contract amount including any change orders or adjustment thereto.
 8. Notice: All written notices, demands, instructions, claims, approvals and disapproval's required to obtain compliance with the Contract requirements. Any written notice by either party to the Contract shall be sufficiently given if delivered to or at the last known business address of the person, firm or corporation constituting the party to the Contract, or to his, their, or its authorized agent, representative or officer, or when enclosed in a postage prepaid envelope addressed to such last known business address and deposited in a United States mailbox.
 9. Notice to Proceed: A written notice given by the Owner to the Contractor fixing the date on which the Contract time will commence for the Contractor to begin the prosecution of the work in accordance with the requirements of the Contract Documents.
 10. Owner: The Commonwealth of Virginia, i.e., an agency, institution, or department, with whom the Contractor has entered into a contract and for whom the Work or services is to be provided.
 11. Project Inspector: One or more individuals employed by the Owner to inspect the work and/or to act as clerk of the works to the extent required by the Owner. The Owner shall notify the Contractor in writing of the appointment of such Project Inspector(s).
 12. Provide: Shall mean furnish and install ready for its intended use.
 13. Submittal: All drawings, diagrams, illustrations, schedules and other data required by the Contract Documents which are specifically prepared by or for the Contractor to illustrate some portion of the Work and all illustrations, brochures, standard schedules, performance charts, instructions, diagrams and other information prepared by a Supplier and submitted by the Contractor to illustrate material or equipment for some portion of the Work.

14. Subcontractor: An individual, partnership or corporation having a direct contact with the Contractor or with any other Subcontractor for the performance of the Work. It includes one who provides on-site labor but does not include one who only furnishes or supplies materials for the project.
15. Substantial Completion: The Work which is sufficiently complete, in accordance with the Contract Documents, so that the project can be utilized by the Owner for the purposes for which it is intended.
16. Supplier: A manufacturer, fabricator, distributor, materialman or vendor who provides material for the project but does not provide on-site labor.
17. Underground Facilities: All pipelines, conduits, ducts, cable, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasement containing such facilities which are or have been installed underground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.
18. Work: The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work is the result of performing services. Furnishing labor, and furnishing and incorporating materials and equipment into the construction, all as required by the Contract Documents.

B. CONTRACT DOCUMENTS:

1. The Contract entered into by the Parties shall consist of the Invitation for Bids: the bid submitted by the Contractor; General Terms and Conditions, the Special Terms and Conditions, these Additional Terms and Conditions; the drawings, if any; the specifications; and all modifications and addenda to the foregoing documents, all of which shall be referred to collectively as the Contract Documents.
2. All time limits stated in the Contract Documents, including but not limited to the time for completion of the Work, are of the essence of the Contract.
3. Anything called for by one of the Contract Documents and not called for by the others shall be of like effect as if required or called for by all, except that a provision clearly designed to negate or alter a provision contained in one or more of the other Contract Documents shall have the intended effect.

C. LAWS AND REGULATIONS:

1. The Contractor shall comply with all laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the performance of the Work and shall give all notices required thereby.
2. This contract and all other contracts and subcontracts are subject to the provisions of Articles 3 and 5, Chapter 4, Title 40.1. Code of Virginia, relating to labor unions and the "right to work." The Contractor and its Subcontractors, whether residents or nonresidents of the Commonwealth, who perform any work related to the project shall comply with all of the said provisions.
3. The provisions of all rules and regulations governing safety as adopted by the Safety Codes Commission of the Commonwealth of Virginia and as issued by the Department of Labor and Industry under Title 40.1 of the Code of Virginia shall apply to all work under this Contract. Inspectors from the Department of Labor and Industry shall be granted access to the Work for inspection without first obtaining a search warrant from the courts.
4. Building Permit: Because this is a Project of the Commonwealth of Virginia, codes or zoning ordinances of local political subdivisions do not apply. Building Permits where required will be obtained and paid for by the Owner. This does not include any local license fees, business fees or similar assessments, which may be imposed by the appropriate political subdivision.
5. The Contractor, if not licensed as an asbestos abatement contractor or an RFS contractor in accordance with Section 54.1-514, Code of Virginia, shall have all asbestos related Work

performed by subcontractors who are duly licensed as asbestos contractors or RFS contractors as appropriate for the Work required.

D. PREPARATION AND SUBMISSION OF BIDS:

1. Bids must give the full business address of the Bidder and be signed by him/her with his/her usual signature. Bids by partnerships must furnish the full name of all partners and must be signed in the partnership name by one of the members of the partnership or any authorized representative, followed by the designation of the person signing. Bids by corporations must be signed with the legal name of the corporation followed by the name of the state in which it is incorporated and by the signature and designation of the president, secretary or other person authorized to bind it in the matter. The name of each person signing shall also be typed or printed below the signature. A bid by a person who affixes to the signature the word "President", "Secretary", "Agent" or other designation without disclosing the principal, may be held to be the bid of the individual signing. When requested by the Commonwealth, satisfactory evidence of the authority of the officer signing in behalf of the corporation shall be furnished.

E. WITHDRAWAL OR MODIFICATION OF BIDS:

1. Bids may be withdrawn or modified by written notice received from Bidders prior to the deadline fixed for bid receipt. The withdrawal or modification may be made by the person signing the bid or by an individual(s) who is authorized by him on the face of the bid. Written modifications may be made on the bid form itself, on the envelope in which the bid is enclosed, or on a separate document. Written modifications, whether the original is delivered or transmitted by facsimile, must be signed by the person making the modification or withdrawal.

F. RECEIPT AND OPENING OF BIDS:

1. It is the responsibility of the Bidder to assure that his bid is delivered to the place designated for receipt of bids and prior to the time set for receipt of bids. Bids received after the time designated for receipt of bids will not be considered.
2. Bids will be opened at the time and place stated in the advertisement, and their contents made public for the information of bidders and others interested who may be present either in person or by representative. The officer or agent of the Owner, whose duty it is to open them, will decide when the specified time has arrived. No responsibility will be attached to any officer or agent for the premature opening of a bid not properly addressed and identified.
3. The provisions of § 2.2-4342 of the Code of Virginia, as amended, shall be applicable to the inspections of bids received.

G. ERRORS IN BIDS: Errors in bids will be handled in accordance with the section 5.13 of the vendor's manual.

H. SUBCONTRACTS:

1. The Contractor shall, as soon as practicable after the signing of the contract, notify the Owner in writing, of the names of Subcontractors proposed for the principal parts of the Work. The Contractor shall not employ any Subcontractor that the Owner may, within a reasonable time, object to as unsuitable. The Owner will not direct the Contractor to contract with any particular Subcontractor unless provided in the specifications or bid form.
2. The Owner shall, on request, furnish to any Subcontractor, if practicable, the amounts of payments made to the Contractor, the Schedule of Values and Requests for Payment submitted by the Contractor and any other documentation submitted by the Contractor which would tend to show what amounts are due and payable by the Contractor to the Subcontractor.
3. The Contractor agrees that he is as fully responsible to the Owner for the acts and omissions of his Subcontractors, Suppliers, and invitees upon the site of the project and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.

I. SEPARATE CONTRACTS:

1. The Owner reserves the right to let other contracts in connection with the project, the work under which may proceed simultaneously with the execution of this contract. The Contractor shall afford other separate contractors reasonable opportunity for the introduction and storage of their materials and the execution of their Work. The Contractor shall cooperate with them and shall take all reasonable action to coordinate his work with theirs. If the Owner has listed other separate contracts in the Invitation for Bids which it expects to proceed simultaneously with the Work of the Contractor, and has included the estimated timing of such other Contracts in the Invitation for Bids, the Contractor shall integrate the schedule of those separate contracts into his scheduling. The Contractor shall make every reasonable effort to assist the Owner in maintaining the schedule for all separate contracts. If the work performed by the separate contractor is defective, or performed so as to prevent this Contractor from carrying out his Work according to the drawings and specifications of this contract, this Contractor shall immediately notify the Owner upon discovering such conditions.
2. If a dispute arises between the Contractor and separate contractors as to their responsibility for cleaning up as required by Sections R. 3. and R. 4. of these Additional Terms and Conditions, the Owner may clean up and charge the cost thereof to the respective Contractors in proportion to their responsibility. If a Contractor disputes the Owner's apportionment of clean-up costs, it shall be that Contractor's burden to demonstrate and prove the correct apportionment.

J. TAXES:

1. The Contractor shall, without additional expense to the Owner, pay all applicable federal, state, and local taxes, fees, and assessments except the taxes, fees and assessments on the real property comprising the site of the project. If the State Building Official elects to have the local building official inspect the Work as provided by § 36-98.1 of the Code of Virginia, the Owner will pay the resulting fees to the local building official.

K. PATENTS:

1. The Contractor shall obtain all licenses necessary to use any invention, article, appliance, process or technique of whatever kind and shall pay all royalties and license fees. The Contractor shall hold and save the Owner, its officers, agents and employees, harmless from any loss or liability for or on account of the infringement of any patent rights in connection with any invention, process, technique, article or appliance manufactured or used in the performance of the Contract, including its use by the Owner, unless such invention, process, technique, article or appliance is specifically named in the specifications or drawings as acceptable for use in carrying out the Work. If, before using any invention, process, technique, article or appliance specifically named in the specifications or drawings as acceptable for use in carrying out the Work, the Contractor has or acquires information that the same is covered by letters of patent making it necessary to secure the permission of the patentee, or other, for the use of the same, he shall promptly advise the Owner. The Owner may direct that some other invention, process, technique, article or appliance be used. Should the Contractor have reason to believe that the invention, process, technique, article or appliance so specified is an infringement of a patent, and fail to inform the Owner, he shall be responsible for any loss due to the infringement.

L. INSPECTION:

1. All material and workmanship shall be subject to inspection, examination and test by the Owner and its Project Inspector at any and all times during construction. The Project Inspector shall have authority to reject defective material and workmanship and require its correction. Rejected workmanship shall be satisfactorily corrected and rejected material shall be satisfactorily replaced with proper material without charge therefore, and the Contractor shall promptly segregate and remove the rejected material from the Premises. If the Contractor fails to proceed at once with replacement of rejected material and/or the correction of defective workmanship, the Owner may, by contract or otherwise, replace such material and/or correct such workmanship and charge the cost to the Contractor or may terminate the right of the Contractor to proceed, the Contractor and surety being liable for any damages.

2. Job-site inspections, tests conducted on site or tests of materials gathered on site, which the Contract requires to be performed by independent testing entities, shall be contracted and paid for by the Owner. Examples of such tests are the testing of cast in-place concrete, foundation materials, soil compaction, pile installations, caisson bearings and steel framing connections. Although conducted by independent testing entities, the Owner will not contract and pay for tests or certifications of materials, manufactured products or assemblies which the Contract, codes, standards, etc., require to be tested and/or certified for compliance with industry standards such as Underwriters Laboratories, Factory Mutual or ASTM. If there are any fees to be paid for such tests and certifications, they will be paid by the Contractor. The Contractor shall also pay for all inspections, tests, and certifications which the Contract specifically requires him to perform or pay, together with any inspections and tests which he chooses to perform for his own quality control purposes. The Contractor shall promptly furnish, without additional charge, all reasonable facilities, labor and materials necessary and convenient for making such tests. Except as provided in (3) below, whenever such examination and testing finds defective materials, equipment or workmanship, the Contractor shall reimburse the Owner for the cost of reexamination and retesting.
3. Should it be considered necessary or advisable by the Owner at any time before final acceptance of the entire Work to make an examination of any part of the Work already completed, by removing or tearing out portions of the Work, the Contractor shall on request, promptly furnish all necessary facilities, labor and material to expose the Work to be tested to the extent required. If such Work is found to be defective in any respect, due to the fault of the Contractor or his Subcontractors, he shall defray all the expenses of uncovering the Work, of examination and testing, and of satisfactory reconstruction. If however, such Work is found to meet the requirements of the Contract, the actual cost of the Contractor's labor and material necessarily involved in uncovering the Work, the cost of examination and testing and Contractor's cost of material and labor necessary for replacement shall be paid to the Contractor and he shall, in addition, if completion of the Work has been delayed thereby be granted a suitable extension of time.
4. The Project Inspector will recommend to the Owner that the Work be suspended when in his judgment the drawings and specifications are not being followed. Any such suspension shall be continued only until the matter in question is resolved to the satisfaction of the Owner. The cost of any such Work stoppage shall be borne by the Contractor unless it is later determined that no fault existed in the Contractor's Work.
5. The Project Inspector has no authority and shall not:
 - a. Authorize deviations from the Contract Documents;
 - b. Enter into the area of responsibility of the Contractor's superintendent;
 - c. Issue directions relative to any aspect of construction means, methods, techniques, sequences or procedures, or in regard to safety precautions and programs in connection with the Work;
 - d. Authorize or suggest that the Owner occupy the project, in whole or in part;
 - e. Issue a certificate for payment.

M. SUPERINTENDENCE BY CONTRACTOR:

1. The Contractor shall have a competent foreman or superintendent, satisfactory to the Owner, on the job site at all times during the progress of the Work. The Contractor shall be responsible for all construction means, methods, techniques, sequences and procedures, for coordinating all portions of the Work under the Contract except where otherwise specified in the Contract Documents, and for all safety and worker health programs and practices. The Contractor shall notify the Owner, in writing, of any proposed change in superintendent including the reason therefore prior to making such change.
2. The Contractor shall, at all times, enforce strict discipline and good order among the workers on the project, and shall not employ on the Work any unfit person, anyone not skilled in the work

assigned to him, or anyone who will not work in harmony with those employed by the Contractor, the Subcontractors, the Owner or the Owner's separate contractors and their subcontractors.

3. The Owner may, in writing, require the Contractor to remove from the Work any employee the Owner deems to be incompetent, careless, not working in harmony with others on the site, or otherwise objectionable.

N. ACCESS TO WORK:

1. The Owner, the Owner's inspectors and other testing personnel, and inspectors from the Department of Labor and Industry shall have access to the Work at all times. The Contractor shall provide proper facilities for access and inspection.

O. AVAILABILITY OF MATERIALS:

1. If material specified in the Contract Documents is not available on the present market, alternate materials may be proposed by the Contractor for approval of the Owner.

P. CONTRACTOR'S TITLE TO MATERIALS:

1. No materials or supplies for the work shall be purchased by the Contractor or by any Subcontractor subject to any security interest, installment or sales contract or any other agreement or lien by which an interest is retained by the seller or is given to a secured party. The Contractor warrants that he has good title to all materials and supplies which he uses in the work or for which he accepts payment in whole or in part.

Q. WARRANTY OF MATERIALS AND WORKMANSHIP:

1. The Contractor warrants that, unless otherwise specified, all materials and equipment incorporated in the Work under the Contract shall be new, in first class condition, and in accordance with the Contract Documents. The Contractor further warrants that all workmanship shall be of the highest quality and in accordance with the Contract Documents and shall be performed by persons qualified at their respective trades.
2. Work not conforming to these warranties shall be considered defective.
3. This warranty of materials and workmanship is separate and independent from and in addition to any of the Contractor's other guarantees or obligations in this Contract.

R. USE OF PREMISES AND REMOVAL OF DEBRIS:

1. The Contractor shall:
 - a. Perform his contract in such a manner as not to interrupt or interfere with the operation of any existing activity on the premises or with the Work of any other Contractor;
 - b. Store his apparatus, materials, supplies and equipment in such orderly fashion at the site of the Work as will not unduly interfere with the progress of his Work or the Work of any other Contractor; and
 - c. Place upon the Work or any part thereof only such loads as are consistent with the safety of that portion of the Work.
2. The Contractor expressly undertakes, either directly or through his Subcontractor(s), to effect all cutting, filling or patching of his work required to make the same conform to the drawings and specifications, and except with the consent of the Owner, not to cut or otherwise alter the work of any other Contractor. The Contractor shall not damage or endanger any portion of the Work or premises, including existing improvements, unless called for by the Contract.
3. The Contractor expressly undertakes, either directly or through his Subcontractor(s), to clean up frequently all refuse, rubbish, scrap materials and debris caused by his operations, to the end that at all times the site of the Work shall present a neat, orderly and workmanlike appearance. No

such refuse, rubbish, scrap material and debris shall be left within the completed Work nor buried on the building site, but shall be removed from the site and properly disposed of in a licensed landfill or otherwise as required by law.

4. The Contractor expressly undertakes, either directly or through his Subcontractor(s), before final payment, to remove all surplus material, false work, temporary structures, including foundations thereof, plants of any description and debris of every nature resulting from his operations and to put the site in a neat, orderly condition; to thoroughly clean and leave reasonably dust free all finished surfaces including all equipment, piping, etc., on the interior of all buildings included in the Contract; and to thoroughly clean all glass installed under the Contract including the removal of all paint and mortar splatters and other defacements. If a Contractor fails to clean up at the completion of the Work, the Owner may do so and charge for costs thereof to the Contractor.
5. During and at completion of the Work, the Contractor shall prevent site soil erosion, the runoff of silt and/or debris carrying water from the site, and the blowing of debris off the site in accordance with the applicable requirements and standards of the Virginia Erosion and Sediment Control Handbook, latest edition, and of the Contract Documents.
6. The Contractor shall not operate or disturb the setting of any valves, switches or electrical equipment on the service lines to the building except by proper previous arrangement with the Owner. The Contractor shall give ample advance notice of the need for cut-offs which will be scheduled at the convenience of the Owner.

S. PROTECTION OF PERSONS AND PROPERTY:

1. The Contractor expressly undertakes, both directly and through his Subcontractor(s), to take every reasonable precaution at all times for the protection of all persons and property which may come on the building site or be affected by the Contractor's operation in connection with the Work.
2. The Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work.
3. The provisions of all rules and regulations governing safety as adopted by the Safety Codes Commission of the Commonwealth of Virginia, issued by the Department of Labor and Industry under Title 40.1 of the Code of Virginia shall apply to all work under this Contract.
4. The Contractor shall continuously maintain adequate protection of all his work from damage and shall protect the Owner's property from injury or loss arising in connection with this Contract. He shall make good any such damage, injury or loss, except such as may be directly due to errors in the Contract Documents or caused by agents or employees of the Owner. He shall adequately protect adjacent property to prevent any damage to it or loss of use and enjoyment by its owners. He shall provide and maintain all passageways, guard fences, lights and other facilities for protection required by public authority, local conditions, any of the Contract Documents or erected for the fulfillment of his obligations for the protection of persons and property.
5. In an emergency affecting the safety or life of persons or of the Work, or of the adjoining property the Contractor, without special instruction or authorization from the Owner, shall act, at his discretion, to prevent such threatened loss or injury. Also, should he, to prevent threatened loss or injury be instructed or authorized to act by the Owner, he shall so act immediately without appeal. Any additional compensation or extension of time claimed by the Contractor on account of any emergency work shall be determined as provided by paragraph O. of the General Terms and Conditions.

T. CONTRACTORS RIGHT TO STOP WORK OR TERMINATE THE CONTRACT:

1. If the Work should be stopped under an order of any court or other public authority for a period of ninety (90) days through no fault of the Contractor or of anyone employed by him, or if the Owner should fail to pay to the Contractor within thirty (30) days when no dispute exists as to the sum, then the Contractor may, upon ten (10) calendar days written notice to the Owner, stop work or terminate the Contract and recover from the Owner payment for the cost of the Work actually performed, together with overhead and profit thereon, but profit shall be recovered only to the extent that the Contractor can demonstrate that he would have had profit on the entire Contract if

he had completed the Work. The Contractor may not receive profit or any other type of compensation for parts of the Work not performed. The Contractor may recover the cost of physically closing down the job site, but no other costs of termination. The Owner may offset any claims it may have against the Contractor against the amounts due to the Contractor. In no event shall termination of the Contract by the Contractor terminate the obligations of the Contractor's surety on its payment and performance bonds.

U. OWNERS RIGHT TO TERMINATE THE CONTRACT FOR CAUSE:

1. If the Contractor should be adjudged as bankrupt, or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of his insolvency, the Owner may terminate the Contract. If the Contractor should persistently or repeatedly refuse or should fail, except in cases for which extension of time is provided, to supply enough properly skilled workmen or proper materials, or if he should fail to make prompt payment to subcontractors or suppliers of material or labor, or persistently disregard laws, ordinances or the written instructions of the Owner, or otherwise be guilty of a substantial violation of any provision of the Contract, then the Owner, may terminate the Contract.
2. Prior to termination of the Contract, the Owner shall give the Contractor and his surety ten (10) calendar days written notice, during which the Contractor and/or his surety may rectify the cause of the termination. If rectified to the satisfaction of the Owner within said ten (10) days; the Owner may rescind its notice of termination. If it does not, the termination for cause shall become effective at the end of the ten day (10) notice period. In the alternative, the Owner may postpone the effective date of the termination notice, at its sole discretion, if it should receive reassurances from the Contractor and/or its surety that the causes of termination will be remedied in a time and manner which the Owner finds acceptable. If at any time more than ten (10) days after the notice of termination, the Owner determines that the Contractor and/or its surety has not or is not likely to rectify the causes of termination in an acceptable manner or within the time allowed, then the Owner may immediately terminate the Contract for cause by giving written notice to the Contractor and its surety. In no event shall termination for cause terminate the obligations of the Contractor's surety on its payment and performance bonds.
3. Notice of terminations, whether initial or given after a period of postponement, may be served upon the Contractor and the surety by mail or any other means at their last known places of business in Virginia or elsewhere, by delivery to any officer or management/supervisory employee of either wherever they may be found, or, if no such officer, employee or place of business is known or can be found by reasonable inquiry within three (3) days, by posting the notice at the job site. Failure to accept or pick up registered or certified mail addressed to the last known address shall be deemed to be delivery.
4. Upon termination of the Contract, the Owner shall take possession of the premises and of all materials, tools and appliances thereon and finish the work by whatever method he may deem expedient. In such case the Contractor shall not be entitled to receive any further payment. If the expense of finishing the Work, including compensation for additional managerial and administrative services shall exceed the unpaid balance of the Contract price, the Contractor shall pay the difference to the Owner, together with any other expenses of terminating the Contract and having it completed by others.
5. If it should be judicially determined that the Owner improperly terminated this Contract for cause, then the termination shall be deemed to be a termination for the convenience of the Owner.
6. Termination of the Contract under this section is without prejudice to any other right or remedy of the Owner.

V. TERMINATION BY OWNER FOR CONVENIENCE:

1. The Owner may terminate this Contract at any time without cause, in whole or in part, upon giving the Contractor notice of such termination. Upon such termination, the Contractor shall immediately cease Work and remove from the project site all of its labor forces and such of its materials as the Owner elects not to purchase or to assume in the manner hereinafter provided. Upon such termination, the Contractor shall take such steps as the Owner may require to assign to the Owner the Contractor's interest in all Subcontracts and purchase orders designated by the

Owner. After all such steps have been taken to the Owner's satisfaction, the Contractor shall receive as full compensation for termination and assignment the following:

- a. All amounts then otherwise due under the terms of this Contract,
 - b. Amounts due for work performed subsequent to the latest Request for Payment through the date of termination,
 - c. Reasonable compensation for the actual cost of demobilization incurred by the Contractor as a direct result of such termination. The Contractor shall not be entitled to any compensation for lost profits or for any other type of contractual compensation or damage other than those provided by the preceding sentence. Upon payment of the foregoing, the Owner shall have no further obligations to the Contractor of any nature.
2. In no event shall termination for the convenience of the Owner terminate the obligations of the Contractor's surety on its payment and performance bonds.

W. GUARANTEE OF WORK:

1. Except as otherwise specified, all work shall be guaranteed by the Contractor against defects resulting from the use of inferior materials, equipment or workmanship for one (1) year from the date of final acceptance of the entire project by the Owner in writing. Equipment and facilities, which have seasonal limitations on their operation, shall be guaranteed for one (1) full year from the date of seasonally appropriate tests and acceptance, in writing, by the Owner.
2. If, within any guarantee period, defects are noticed by the Owner which require repairs or changes in connection with the guaranteed work, those repairs or changes being in the opinion of the Owner rendered necessary as the result of the use of materials, equipment or workmanship which are defective, or inferior, or not in accordance with the terms of the contract, then the Contractor shall, promptly upon receipt of notice from the Owner, such notice being given not more than two weeks after the guarantee period expires, and without expense to the Owner:
 - a. Place in satisfactory condition in every particular all of such guaranteed work and correct all defects therein;
 - b. Make good all damage to the structure or site or equipment or contents thereof, which is the result of the use of materials, equipment or workmanship which are inferior, defective or not in accordance with the terms of the contracts; and
 - c. Make good any work or materials or the equipment and contents of structures or the site disturbed in fulfilling any such guarantee.
3. In any case, where in fulfilling the requirements of the Contract or any guarantee embraced in or required thereby, the Contractor disturbs any work guaranteed under contract, he shall restore such work to a condition satisfactory to the Owner and guarantee such restored work to the same extent as it was guaranteed under such other Contract.
4. If the Contractor, after notice, fails to proceed promptly to comply with the terms of the guarantee, the Owner may have the defects corrected and the Contractor and his surety shall be liable for all expenses incurred.
5. All special guarantees applicable to definite parts of the work that may be stipulated in the specifications or other papers forming a part of the Contract shall be subject to the term of this section during the first year of the life of such special guarantee.
6. Nothing contained in this section shall be construed to establish a period of limitation with respect to any other obligation, which the Contractor might have under the Contract Documents, including liability for defective work under Paragraph Q of these Additional Terms and Conditions. This paragraph relates only to the special obligation of the Contractor contained in this section to correct the Work and does not limit the time within which his obligation to comply with the Contract Documents may be sought to be enforced, nor of the time within which proceedings may be commenced to establish the Contractor's liability with respect to his other obligations under this Contract.

7. In the event the work of the Contractor is to be modified by another Contractor, either before or after the Final Inspection, the first Contractor shall remain responsible in all respects under the Guarantee of Work and under any other warranties provided in the contract or by law. However, the Contractor shall not be responsible for any defects in material or workmanship introduced by the Contractor modifying its work. Both the first Contractor and the Contractor making the modifications shall each be responsible solely for the work done by each. The Contractor modifying the earlier work shall be responsible for any damage to or defect introduced into the work, which it is modifying. If any Contractor shall claim that another Contractor has introduced defects of materials and/or workmanship into the work of the first, it shall be the burden of the Contractor making the claim to clearly demonstrate the nature and extent of such introduced defects and the responsibility of the other Contractor. Any Contractor modifying the work of another shall have the same burden if he asserts defects to have been caused by the Contractor whose work he is modifying.

X. ASBESTOS:

1. This subsection applies to projects involving existing buildings where asbestos abatement is not a part of the Work. If the Contractor discovers or inadvertently disturbs any material that may contain asbestos that has not been previously identified, that was overlooked during the removal, or which was deemed not to be friable or which was encapsulated, the Contractor shall stop work in the area containing the asbestos, secure the area, and notify the Owner immediately by telephone or in person with written notice as soon as possible. The Owner will have the suspect material sampled. If the sample is positive and must be disturbed in the course of the Work, the Owner will have the material repaired or removed and will pay for the bulk sample analysis. If the material disturbed is not within the Contractor's authorized Work and/or Work area or under this Contract, the Contractor will pay for all associated sampling and abatement costs.
2. If asbestos abatement is included as a part of the Work, the Contractor shall assure that the asbestos abatement work is accomplished by those duly licensed in accordance with the specific requirements of the Contract Documents.
3. If asbestos abatement is included as part of the Work, the licensed asbestos Subcontractor shall, in the insurance required, name the Commonwealth of Virginia and the Contractor as additional insureds.

Y. TRAINING OPERATION AND MAINTENANCE OF EQUIPMENT:

1. The Contractor in conjunction with his Subcontractors and Suppliers, shall provide the Owner's operations and maintenance personnel with instruction and training in the proper operation and maintenance of the equipment and related controls provided or altered in the Work.
2. The Contractor shall provide the Owner with a minimum of two (2) copies of operating, maintenance and parts manuals for all equipment provided in the project. Further specific requirements may be indicated in the specifications.

- VI. METHOD OF PAYMENT: The Contractor will be paid on the basis of proper invoices submitted. Invoices may be submitted upon completion of the work. All copies of the invoices shall be sent directly to the following address:

Northern Virginia Community College
Controller's Office
4001 Wakefield Chapel Road
Annandale VA 22003

- VII. PRICING SCHEDULE: The Bidder agrees to furnish all labor, materials, equipment, parts and supplies to perform the services as described and in accordance with the per the Scope of Work/General Requirements and all Terms and Conditions of this Invitation for Bids for the amount shown below.

\$ _____

Annex 7-G
Small Business Subcontracting Plan

Definitions

Small Business: "Small business " means an independently owned and operated business which, together with affiliates, has 250 or fewer employees, or average annual gross receipts of \$10 million or less averaged over the previous three years. Note: DMBE-certified women- and minority-owned businesses shall also be considered small businesses when they have received DMBE small business certification.

Women-Owned Business: Women-owned business means a business concern that is at least 51% owned by one or more women who are citizens of the United States or non-citizens who are in full compliance with United States immigration law, or in the case of a corporation, partnership or limited liability company or other entity, at least 51% of the equity ownership interest is owned by one or more women who are citizens of the United States or non-citizens who are in full compliance with United States immigration law, and both the management and daily business operations are controlled by one or more women who are citizens of the United States or non-citizens who are in full compliance with the United States immigration law.

Minority-Owned Business: Minority-owned business means a business concern that is at least 51% owned by one or more minority individuals or in the case of a corporation, partnership or limited liability company or other entity, at least 51% of the equity ownership interest in the corporation, partnership, or limited liability company or other entity is owned by one or more minority individuals and both the management and daily business operations are controlled by one or more minority individuals.

All small businesses must be certified by the Commonwealth of Virginia, Department of Minority Business Enterprise (DMBE) to participate in the SWAM program. Certification applications are available through DMBE online at www.dmbv.virginia.gov (Customer Service).

Bidder/Offeror Name: _____

Preparer Name: _____

Date: _____

Instructions

- A. If you are certified by the Department of Minority Business Enterprise (DMBE) as a small business, complete only Section A of this form. This shall include DMBE-certified women-owned and minority-owned businesses when they have received DMBE small business certification.

Section A

If your firm is certified by the Department of Minority Business Enterprise (DMBE), are you certified as a (**check only one below**):

- _____ Small Business
- _____ Small and Women-owned Business
- _____ Small and Minority-owned Business

Certification number: _____

Certification date: _____

TREE REMOVAL GUIDANCE DOCUMENT

**Woodbridge Campus Dam (#15324)
Northern Virginia Community College
Woodbridge, Virginia**

Schnabel Reference 09150015
August 22, 2011





August 22, 2011

Mr. Jeff Manuszak
Malcolm Pirnie, Inc.
3101 Wilson Boulevard
Suite 550
Arlington, VA 22201

**Subject: Project 09150015, Woodbridge Campus Dam (#15324) Tree Removal Guidance,
Northern Virginia Community College (NVCC), Woodbridge, Virginia**

Dear Mr. Manuszak:

SCHNABEL ENGINEERING, LLC (Schnabel) is pleased to submit this guidance document for tree removal. This document was prepared in accordance with Task Order No. 2011-02 dated July 20, 2011.

The principal reference concerning trees on dams is FEMA 534 "Technical Manual for Dam Owners – Impacts of Plants on Earthen Dams" compiled by a group of dam safety professionals from Federal agencies, State agencies, universities, dam owners, and private engineering firms and published in September 2005. FEMA 534 was updated in October 2007. According to FEMA 534, "...all state and federal agency dam safety officials and experts agree that trees have no place on dams and need to be managed and controlled on both existing and new dams for three important reasons: (1) trees and dense vegetation hinder effective dam inspections; (2) tree roots can cause serious structural instability or hydraulic problems, which could lead to dam failure and loss of life; and (3) trees and brush attract burrowing animals, which in turn can cause serious structural or hydraulic problems."
(<http://www.fema.gov/library/viewRecord.do?id=1451>)

The VA Department of Conservation and Recreation (DCR) Dam Safety webpage contains guidance on "vegetation, erosion, and dams" and adds that "a dense cover of low-growing grassy vegetation is recommended because it will provide protection from surface erosion..." This guidance, from http://www.dcr.virginia.gov/dam_safety_and_floodplains/index.shtml, is attached as Appendix C.

On the Woodbridge Campus Dam, all trees within 25 ft of the embankment were marked with pink flags, while all trees within 25 ft of the principal spillway, emergency spillways, or outlets were marked with orange flags. There are 18 trees with a diameter less than 6 inches (10 pink and 8 orange), 10 trees with a diameter of 6-12 inches (5 pink and 5 orange), and 15 trees with a diameter greater than 12 inches (10 pink and 5 orange), for a total of 43 trees. Photos of the abutments and several marked trees are included as Appendix A.

The trees are a dam safety concern because:

- The tree roots may penetrate deep into a lightly compacted embankment loosening the earthfill and providing potential seepage paths.
- The tree roots may not penetrate deep into a highly compacted embankment and the tree can be uprooted or blown over providing a seepage path and slope instability.
- The trees have shaded out the embankment face hindering establishment of grassy vegetation to provide surface erosion protection.

Current VA Code 10.1-609.2 explicitly requires removal of trees and woody vegetation "...from slopes and crests of embankments...and within a distance of 25 feet from the toe of the embankment and abutments of the dam." This section of the code is located in Attachment B.

The VA DCR Dam Safety Webpage Guidance mentioned above also states:

- Deviation from this standard must be based on a critical assessment by a professional engineer who specializes in dams.
- Grub out all roots larger than 1 inch in diameter.
- Removal of trees and roots on hazard-potential Class I and II dams must be done under the direction of a professional engineer.

The FEMA 534 Technical Manual also recommends the following procedure for removing mature trees on the downstream face of the dam:

- **Cut** the tree approximately two feet above ground leaving a well-defined stump that can be used in the rootball removal process.
- **Remove** the stump and rootball by pulling the stump, or by using a track-mounted backhoe to first loosen the rootball by pulling on the stump and then extracting the stump and rootball all together (this is much the same procedure a dentist would use in extracting a tooth).
- **Remove** the remaining root system and loose soil from the rootball cavity by excavating the sides of the cavity to slopes no steeper than 1:1 (horizontal to vertical) and the bottom of the cavity approximately horizontal.
- **Backfill** the excavation with well-compacted soil placed in relatively thin lifts not greater than about eight inches in loose lift thickness. Compaction of backfilled soils in these tree stump and rootball excavations typically requires the use of manually operated compaction equipment or compaction equipment attached to a backhoe.

The Woodbridge Campus Dam is located across an unnamed tributary of Neabsco Creek. The Woodbridge Campus Dam has a maximum height of about 48 ft, a length of 350 ft, and a top width of about 20 ft.

Our assessment of the Woodbridge Campus Dam is that several trees growing downstream of the left and right abutments within 25 ft of the existing toe do not appear to represent a dam safety threat due to their location, on either the abutments or the downstream toe. However, the current Virginia Code explicitly requires removal of all trees and other woody vegetation within a 25-ft distance of the embankment, and should be interpreted to supersede the DCR Dam Safety Webpage Guidance document which suggests possible deviation from the 25-ft standard. Discussions with VA Dam Safety

staff confirmed that the Virginia Code supersedes the Webpage Guidance and needs to be applied and enforced.

Our Tree Removal Guidance for the Woodbridge Campus Dam is to:

- Remove all trees (as marked with orange flags and as directed by the engineer/technician on site), stumps, woody vegetation and roots down to 1 inch diameter from the slopes and crest of embankment and the emergency spillway area, and within a distance of 25 ft of the principal spillway, emergency spillway or their outlets as required by VA Code.
- Perform the work exactly as recommended in the FEMA 534 Technical Manual and bulleted on previous page.
- All trees marked with pink flags (or as directed by the engineer/technician) shall be cut at ground level and removed from the site. These trees shall be within a distance of 25 ft of the embankment, but more than 25 ft from the spillways or their outlets.
- Perform the work in accordance with OSHA requirements particularly regarding excavation equipment operating on a steep slope.
- Obtain earth material to backfill the excavations and stockpile on site in advance. Earth material should be similar to the material in the existing embankment. It should be fine-grained soils, high in clay and/or silt content, which will form a firm, solid mass, free from voids, when worked with compaction equipment. It should be free from vegetation, organic material, trash, and large rocks.
- Coordinate the work with any local authorities that may require permits, approvals, or oversight for cutting existing trees, sediment and erosion control, or other activities.
- Steep slopes may be encountered during tree and root removal on the abutments. Additional permanent turf establishment methods, such as turf mats, may be required to stabilize the slope.
- Perform and document the work under the direction of a professional engineer as stated in the VA DCR Dam Safety Webpage Guidance.
- Grade and seed all disturbed areas and the downstream face of the embankment to assure a dense, low-growing grassy vegetation to provide protection from surface erosion.

We have endeavored to prepare this guidance document in accordance with generally accepted engineering practice and make no warranties, either express or implied, as to the professional advice provided under the terms of our agreement and included in this document.

We appreciate the opportunity to be of service for this project. Please contact either of the undersigned if clarification is needed for any aspect of this document.

Malcolm Pirnie, Inc.
Woodbridge Campus Dam (#15324)

Sincerely,

SCHNABEL ENGINEERING, LLC



Lisa M. Ciampitti, PE
Senior Engineer



Paul I. Welle, PE
Senior Consultant

MLD:LMC:PIW:jlh

- Appendix A: Photographs
Appendix B: Code of Virginia, Title 10.1-609.2 "Prohibited Vegetation" and Title 10.1-613
"Enforcement"
Appendix C: DCR Dam Safety Webpage Guidance, DCR-DS-002, "Vegetation, erosion and dams"

Distribution:

Malcolm Pirnie, Inc. (4)
Attn: Mr. Jeff Manuzak

APPENDIX A

PHOTOGRAPHS



PHOTOGRAPH 1

LOCATION:

Right abutment

COMMENTS:

Overview



PHOTOGRAPH 2

LOCATION:

Right abutment

COMMENTS:

Note the trees marked with pink flags



**WOODBIDGE CAMPUS DAM (#15324)
NORTHERN VIRGINIA COMMUNITY COLLEGE
WOODBIDGE, VIRGINIA**

PROJECT NO. 09150015

SITE PHOTOGRAPHS



PHOTOGRAPH 3

LOCATION:

Left abutment

COMMENTS:

Overview



PHOTOGRAPH 4

LOCATION:

Left abutment

COMMENTS:

Note the trees marked with orange flags

APPENDIX B

CODE OF VIRGINIA

Title 10.1.609.2. "Prohibited Vegetation"
Title 10.1.613. "Enforcement"

Code of Virginia

Title 10.1 – CONSERVATION.

Chapter 6 – Flood Protection and Dam Safety

§ [10.1-609.2](#). Prohibited vegetation.

Dam owners shall not permit the growth of trees and other woody vegetation and shall remove any such vegetation from the slopes and crest of embankments and the emergency spillway area, and within a distance of 25 feet from the toe of the embankment and abutments of the dam. Owners failing to maintain their dam in accordance with this section shall be subject to enforcement pursuant to § [10.1-613](#).

(2006, c. 30.)

<http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+10.1-609.2>

§ [10.1-613](#). Enforcement.

Any person or legal entity failing or refusing to comply with an order issued pursuant to this article may be compelled to comply with the order in a proceeding instituted in any appropriate court by the Board. The Board shall bring suit in the name of the Commonwealth in any court of competent jurisdiction to enjoin the unlawful construction, modification, operation, or maintenance of any dam regulated under this article. Such court may require the removal or modification of any such dam by mandatory injunction. If the court orders the removal of the dam, the owner shall be required to bear the expenses of such removal.

Should the Board be required to implement and carry out the action, the Board shall charge the owner for any expenses associated with the action, and if the repayment is not made within 90 days after written demand, the Board may bring an action in the proper court to recover this expense. The Board shall file an action in the court having jurisdiction over any owner or the owner's property for the recovery of such costs. A lien in the amount of such costs shall be automatically created on all property owned by any such owner at or proximate to such dam or reservoir.

(1982, c. 583, § 62.1-115.10; 1988, c. 891; 2006, c. 30.)

<http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+10.1-613>

APPENDIX C

DCR DAM SAFETY WEBPAGE GUIDANCE, DCR-DS-002, “VEGETATION, EROSION AND DAMS”

DAM SAFETY, FLOODPLAIN MANAGEMENT

Vegetation, erosion and dams

Introduction



Dams and roads can suffer without proper control and maintenance of vegetation.

With proper care, earthfill embankment dams have proven to be very effective for many years. Most embankment dams are composed of non-organic material and do not deteriorate appreciably with time. An embankment may even continue to undergo additional consolidation and strengthen with age, once the critical points of initial settlement and initial reservoir fill have passed. Nevertheless, the continuing safety of any embankment dam depends on the integrity of its earthen fill to withstand pressure from the volume of water in the reservoir.

The biggest enemy of any earthfill dam is erosion, either external (water overflow creating ruts or rills on the surface of the fill) or internal (sometimes called "piping"). External, or surface, erosion is generally obvious if one takes the time and effort to look over the dam carefully. Internal erosion is not readily visible and may not be detected until it is too late for corrective action. This can result in an emergency situation and even lead to a catastrophic failure.

Need to control vegetation

A dense cover of low-growing grassy vegetation is recommended because it will provide protection from surface erosion, but its root structure does not penetrate the embankment so deeply as to create a potential path for internal erosion.

The type of grass and its fertilization should be appropriate for local conditions. The proper vegetation should be established and maintained over the entire embankment, outlet, plunge pool and spillway area. Coverage should extend at least 25 feet beyond the abutment contacts and toe of the fill. Regular mowing throughout the year is essential so that the surface can be readily traversed by foot. Potential dam safety problems, such as misalignment, cracks, animal burrows, surface erosion, seepage, sloughing, etc. can be spotted early enough to take corrective action. Therefore, mowing should precede each dam inspection.

The trouble with trees



Grass on dams requires regular mowing.

Although woody vegetation such as trees and brush may protect against surface erosion, such growth can cause other, serious problems. These problems develop over years and may go undetected until it's too late. In addition, trees or brush can hide an embankment surface, making inspection difficult.

When trees die, it causes the roots to decay, leaving a cavity within the dam. Water leaking through such a cavity can produce a piping failure. In addition, a tree can be blown over during a severe storm, leaving a large hole in the dam in place of the uprooted root ball.

Because tree root problems occur over a long time, even decades, they often go undetected. Many times, dam failure is described as a sudden event when in fact conditions leading to the failure went undetected or ignored for years.

Control of trees on dams

Trees should **never** be allowed to grow on the embankment fill, at the outlet, plunge pool or spillway area, or within 25 ft beyond the abutment contacts and toe of fill. Any tree on a dam should be removed, its roots grubbed out and dense grass cover established in its place. Deviation from this standard must be based on a critical assessment by a professional engineer who specializes in dams.

Follow the general guidance below:

Condition	Action needed
Existing dam with trees	Cut and remove all trees. Grub out all roots larger than 1 inch in diameter. Grade to adjacent contour and establish cover as described below.
New dam or existing dam without trees	Establish and maintain dense cover of grass. Maintain a height of 4 to 8 inches with regular mowing to discourage growth of woody vegetation and to facilitate visual inspection for seepage, sloughs or other signs of stress. New dams should have no trees on them.

Removal of trees from existing embankments

A question dam owners often ask is, "Why can't I just cut down the trees at the surface, and then keep the vegetation properly controlled in the future?" This may be acceptable for Class III and Class IV dams if and only if accompanied by a commitment to very carefully monitor the dam and to be prepared for immediate emergency action. Eventually, however, it will be necessary to deal with the decaying roots. In other words, a decision to just "cut and watch" simply postpones the dealing with the underlying problem and may result in an emergency situation or even failure of the dam.

Removal of trees and roots on hazard-potential Class I and Class II dams must be done under the direction of a professional engineer. After cutting and removing all trees and brush, all roots should be grubbed out to assure that no roots larger than 1 inch in diameter remain. Generally, the reservoir needs to be lowered prior to grubbing the roots. The rate of decrease in the reservoir level should not exceed 6 inches per day unless otherwise directed by a professional engineer. Holes resulting from the grubbing operation should be backfilled with well-compacted soil. Upstream slopes should be backfilled with impervious soil, while more pervious soil may be used on the downstream slope. The backfill should then be graded to blend with the surrounding contour, and appropriate grasses should be established on all disturbed areas.

Trees on dams are a serious safety hazard. There is no single "cookbook" solution on the proper way to remove them ... each case is unique. The advice of professional engineer needs to be sought and followed.

Contact DCR's Dam Safety Program staff at (804) 371-6095

or email dam@dcr.virginia.gov.

DCR-DS-002

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Department of Conservation and Recreation
Dam Safety and Floodplain Management
203 Governor Street, Suite 210
Richmond, VA 23219-2094