

WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS
AND RECLAMATION

COUNTY
OF
KANAWHA

NAME OF PROJECT

BROAD RUN PORTALS

NOTICE

ALL PAPERS BOUND WITH OR ATTACHED TO
THE BID FORM ARE A NECESSARY PART
THEREOF AND MUST NOT BE DETACHED

PROJECT SPECIFICATION BOOK

INDEX

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ARTICLE I - DEFINITIONS

ARTICLE I - DEFINITIONS

- 1.0 "Bidder" refers to the person, firm, or company offering to furnish the work called for by the specifications herein.
- 2.0 "Chief" shall mean the Chief of the West Virginia Department of Environmental Protection's, Office of Abandoned Mine Lands & Reclamation.
- 3.0 "Regional Engineer or Engineer" refers to the head of the Construction Group of the Office of Abandoned Mine Lands & Reclamation of the West Virginia Department of Environmental Protection in each regional office.
- 4.0 "Construction Supervisor" refers to the regional supervisor of the West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands & Reclamation Construction Inspectors.
- 5.0 "Contract" refers to a purchase order placed by the West Virginia Department of Administration on behalf of the Department of Environmental Protection and accepted by the Contractor together with these specifications and all other documents incorporated therein by reference.
- 6.0 "Contract Documents" consist of all of the articles, sections, and attachments to the contract, including Information for Bidders, General Conditions, General Requirements, Special Conditions, drawings, specifications, all addenda issued prior to execution of the contract, and change orders and other written modifications issued after execution of the contract and executed by both parties to the contract.
- 7.0 "Contractor" refers to the person, firm or company contracting with the West Virginia Department of Environmental Protection to furnish the work called for in the contract.
- 8.0 "Cabinet Secretary" refers to the Cabinet Secretary of the West Virginia Department of Environmental Protection.
- 9.0 "DEP" means the West Virginia Department of Environmental Protection.
- 10.0 "Design Engineer" shall mean the representative of the Office of Abandoned Mine Lands & Reclamation's Engineering Section or the Architect/Engineering consulting firm, whichever designed the project.
- 11.0 "Inspector" shall refer to DEP's Inspector, who monitors all construction operations at the project site.
- 12.0 "Project" shall mean the Abandoned Mine Lands Project described and referred to by the specifications herein.
- 13.0 "Sub-contractor" refers to the person, firm or company contracting directly with the Contractor and not with DEP to furnish the Contractor with any portion of the work called for by the contract.

ARTICLE I - DEFINITIONS

- 14.0 "Work" shall be understood to mean and include any and all of the labor, supervision, services, materials, machinery, equipment, tools, supplies and facilities called for by and required to complete the contract.
- 15.0 "Stabilization Measures" as noted in Section 5 Vegetative Practices shall be understood to mean and include any/all measures necessary for preventing erosion & sediment to the project site. This may include seeding and mulching, mulching without seed, silt fence, wattles. Check dikes, sumps or any other method required to stabilize a site that work has stopped for a time exceeding fourteen (14) days.

ARTICLE II - GENERAL CONDITIONS

ARTICLE II – GENERAL CONDITIONS

Sections Included:

- 1.0 Enumeration of Contract Documents
- 2.0 Correlation of Documents
- 3.0 Examination of Premises
- 4.0 Materials & Workmanship
- 5.0 Guarantee & Maintenance
- 6.0 Supervision & Construction Procedures
- 7.0 Permits, Laws, Regulations, & Rights of Entry
- 8.0 Safety Requirements
- 9.0 Protection of Persons & Property
- 10.0 Insurance & Worker's Compensation
- 11.0 Labor Laws, Ordinances, Wages & Other Conditions
- 12.0 Subcontractors
- 13.0 Time
- 14.0 Payments & Completion
- 15.0 Surety Bonds
- 16.0 Changes in the Work
- 17.0 Uncovering & Correction of Work
- 18.0 Assignment of Contract

ARTICLE II - GENERAL CONDITIONS

1.0 ENUMERATION OF CONTRACT DOCUMENTS

1.1 Drawings

Construction drawings (13 sheets) for the reclamation of the project as prepared by for the West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands and Reclamation, 601 57th Street, SE, Charleston, West Virginia 25304-2345, Telephone (304) 926-0485.

1.2 Specifications

See Index

1.3 Addenda

No. _____	Date _____

2.0 CORRELATION OF DOCUMENTS

- 2.1 The intent of the contract documents is to include all labor, materials, equipment, operations and transportation necessary for the proper execution and completion of the work. The contract documents are complementary and what is required by one is required by all.
- 2.2 The Contractor shall carefully study and compare the contract documents and shall at once report to DEP any error, inconsistency or omission it may discover. Contractor shall not proceed with the work affected by such error, inconsistency, or omission until resolved to the satisfaction of itself and DEP.
- 2.3 The drawings and specifications are correlative and shall be accepted and used as a whole and not separately. Should any item be omitted from the drawings and be included in the specifications, and be required to complete the work under the contract, it shall be executed as if shown on both and contained in both; except that it is not intended that items or work not applicable or required be provided unless it is consistent therewith and reasonably inferable therefrom as being necessary to produce the intended results.
- 2.4 In case of disagreement or conflict between drawings and specifications, or inconsistencies, errors, or if omissions be discovered in the drawings and specifications, or if in any part the meaning of either or both shall be considered obscure or uncertain, the Chief or his/her authorized

ARTICLE II - GENERAL CONDITIONS

representative shall be immediately notified thereof. No work so affected by such circumstances shall proceed until the Chief or his/her authorized representative renders a decision and/or interpretation thereon. Large scale drawing details shall take precedence over drawings of lesser scale. Words and abbreviations which have well known technical or trade meanings are used in the contract documents in accordance with such recognized meanings.

3.0 EXAMINATION OF PREMISES

- 3.1 Before submitting proposals for the work, each bidder will be held to have examined the premises and satisfied itself as to the existing conditions under which it will be obliged to operate, or that will in any manner affect the work under the contract. Bidders shall have become familiar with the drawings and specifications and have compared them with existent conditions.
- 3.2 By executing the contract, Contractor represents that it has visited the site, familiarized itself with the local conditions under which the work is to be performed, and correlated its observations with the contract documents. No allowance will subsequently be made by reason of neglect or error on the part of the Contractor for failing to inform itself of the requirements and conditions contained herein.

4.0 MATERIALS & WORKMANSHIP

- 4.1 All installed materials and equipment shall be new, and all materials, equipment, and workmanship shall be of kind and type specified, and in all cases, be of good quality. Contractor shall, if required, furnish satisfactory evidence as to kind and quality of its materials, equipment and workmanship.
- 4.2 The Contractor shall provide and pay for all labor, materials, equipment operations, tools, construction equipment, and machinery, transportation, water, heat, utilities, and other facilities and services necessary for the proper execution and completion of the work. The Contractor at all times shall supply sufficient skilled and other labor necessary to adequately fulfill the requirements of the drawings and specifications, and provide for expeditious and practicable execution of the work to its completion.
- 4.3 The installation or application of all devices and materials shall be in accordance with the manufacturer's installation application data, shop drawings and instructions, unless otherwise provided herein.

5.0 GUARANTEE & MAINTENANCE

- 5.1 The materials and workmanship affected by the Contractor are subject to the guarantee established by custom of the respective trades. In the absence

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of a trade guarantee custom or a special guarantee provision, the work, both as to the materials and workmanship, shall upon acceptance of final inspection by the Contractor be considered guaranteed by the Contractor for one (1) year from the date of the acceptance of the work. Neither the final acceptance nor the final payment shall relieve the Contractor of responsibility for negligence or faulty materials, and for defects appearing within the guarantee period shall be remedied at the expense of the Contractor upon written notice.

- 5.2 During the one-year guarantee period, the Contractor will maintain the project to the conditions existing at the date of the acceptance of the work. Any failures due to the negligence or workmanship of the Contractor in any of the work which develop during the guarantee period shall be corrected by the Contractor at its expense.
- 5.3 The one-year guarantee period shall not be construed as being an extension of the performance time allotted for work under the contract. Failure to perform warranty work shall extend performance time until work is completed and accepted.
- 5.4 Guarantees concerning revegetation may be further defined in the technical specifications contained herein.

6.0 SUPERVISION & CONSTRUCTION PROCEDURES

- 6.1 The Contractor shall supervise and direct the work, using its best skill and attention. It shall be responsible for all construction means, methods, techniques, and procedures, coordinating all portions of the work, and for cooperating with appropriate DEP personnel and with other contractors in every way possible.
- 6.2 The Contractor shall be responsible to DEP for the acts and omissions of its employees, its subcontractors and their agents or employees, and other persons performing any of the work under a contract with the Contractor.
- 6.3 The Contractor will be supplied with three (3) copies of the plans and specifications. It shall have available on the work site at all times one (1) copy of said plans and specifications. Additional copies of plans and specifications may be obtained by the Contractor for the cost of reproduction.

7.0 PERMITS, LAWS, REGULATIONS, & RIGHTS OF ENTRY

- 7.1 The WVDEP-AML has obtained a Construction Storm Water General Permit for this project from WVDEP Division of Water and Waste Management (WVDEP DWWM). The registration for this reclamation project will be modified to include the Contractor as Co-Applicant #1, with the WVDEP-AML being Co-Applicant #2. As such, the Contractor shall assume responsibility for compliance with the terms and conditions of the permit including modifications and any future correspondence such as registration renewal invoices, inspection reports, and notices of violation shall be forwarded to the Contractor. Upon award of the contract, the Contractor shall complete a Co-Applicant #1 signature page and submit the completed form to WVDEP-AML prior to scheduling a Pre-Construction Conference.

Upon receipt of the completed form, WVDEP-AML will request the WVDEP DWWM to modify the existing NPDES registration for this project to make the Contractor the Co-Applicant #1 to the permit.

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The WVDEP DWWM will notify the Contractor and WVDEP-AML when the successful transfer of registration under WV/NPDES Storm Water Construction General Permit (No.WV0115924) is completed. A Notice to Proceed will not be issued until the contractor signs the co-applicant form and submits to the Office of Abandoned Mine Lands.. Once the transfer has been completed, the WVDEP will continue to be responsible for any modification fees and annual renewal fees incurred up until the date of the final inspection of the project that occurs after completion of construction activities at the site. The Contractor shall be responsible for any and all costs associated with violations and fines assessed against the project that are a result of the Contractor's negligence, carelessness, or failure to install permanent controls as part of the work as scheduled.

The Contractor shall apply for a Notice of Termination (NOT) from WVDEP DWWM via the Construction Storm Water website <http://www.dep.wv.gov/Programs/stormwater/csw/Documents/Construction> upon completion of construction activities at the site. The NOT shall be issued by WVDEP DWWM upon completion of the project. The Contractor will continue to be bound by the terms and conditions of the permit until the NOT has been approved by WVDEP DWWM. Once the project is complete, the Contractor will still bear responsibility for the NPDES registration until a NOT is received from the WVDEP DWWM.

- 7.2 The Contractor shall comply with all laws, ordinances, rules, orders and regulations relating to the performance of the work, the protection of adjacent property, the maintaining of passageways, guard fences, or other protective facilities.
- 7.3 All applicable Federal and State laws and regulations, municipal ordinances, and the rules and regulations of all public authorities having jurisdiction over construction of the project shall apply to the contract throughout, and are incorporated herein by reference.
- 7.4 DEP shall be responsible for obtaining all construction rights of entry for the project unless otherwise provided for in the Construction Specifications.
- 7.5 The Contractor agrees to indemnify and hold harmless the DEP from all liability and/or damages resulting from the Contractor's use of property for which the Contractor was to obtain rights of entry for borrow, disposal, access or other purposes. Said indemnification shall include, but is not limited to, liability and damages resulting from the Contractor's failure to obtain any or not all the right of entry; failure to utilize appropriate language in the right of entry agreements; or failure to obtain the permission and signatures of all persons or entities holding a legal interest in the subject property(ies) covered by the rights of entry.
- 7.6 All right of entry agreements the Contractor obtains for borrow, disposal, access or other purposes for this project shall include a provision requiring the property owner to indemnify and hold harmless the DEP for the Contractor's actions and any injury or damages whatsoever resulting from the Contractor's use of the property.

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8.0 SAFETY REQUIREMENTS

- 8.1 Particular attention is directed to the "West Virginia Safety Code for Building Construction" as published by the West Virginia Department of Labor. Observance of and compliance with said laws, regulations and codes shall be solely with and without qualification the responsibility of the Contractor.
- 8.2 The Contractor, subcontractors, other contractors and all employees and workers shall comply with the provisions of the Occupational Safety and Health Act 29 CFR 1926. The Contractor shall be held liable to DEP for any health and safety infractions, on the Contractor's part, which cause DEP to receive a citation and/or fine from any local, State or Federal agency. Actual costs involved will be paid by the Contractor to the satisfaction of DEP.

9.0 PROTECTION OF PERSONS & PROPERTY

- 9.1 The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the work.
- 9.2 Safety of Persons and Property: The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection, preventing damage, injury, or loss to:
- (a) All employees on the work, and all other persons who may be affected thereby;
 - (b) All the work and all materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody or control of the Contractor, or any of its subcontractors or their employees or subcontractors; and
 - (c) Other property on the site or adjacent thereto, including, but not limited to, paving, roadways, structures, utilities and permanent property boundaries, monuments or markers not designated for removal, or relocation, or replacement in the course of construction. Any damage to these items shall be repaired or replaced at the expense of the Contractor and to the satisfaction of DEP.

ARTICLE II - GENERAL CONDITIONS.

- 9.3 The Contractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations, and lawful orders of any public authority, bearing on the safety of persons or property, or their protection from damage, injury, or loss.
- 9.4 The Contractor shall erect and maintain, as required by existing conditions and progress of the work, all reasonable and adequate safeguards for safety and protection. It shall post danger signs and provide other warnings as required against hazards and dangers to persons and property.
- 9.5 In case of an emergency which threatens injury, loss of life and/or damage to property, the Contractor will be permitted to act, without prior instruction from the Regional Engineer, in a diligent manner. It shall notify the Construction Supervisor immediately thereafter. Any claim for compensation by the Contractor due to such extra work shall be promptly submitted to the Construction Supervisor for verification and approval by the Regional Engineer.

The amount of reimbursement claimed by the Contractor for work arising out of any emergency situation shall be determined by the Chief or his/her authorized representative.

- 9.6 The Contractor shall be responsible for the verification of existing utilities that may be affected by its work in the project area. It shall be held responsible for any damage to and for maintenance and protection of existing utilities and structures during the performance of the work.

10.0 INSURANCE & WORKER'S COMPENSATION

10.1 Contractor's and Subcontractor's Public Liability, Vehicle Liability and Property Damage Insurance.

The Contractor shall maintain insurance as follows:

- (a) Contractor's Public Liability Insurance and Comprehensive Vehicle Liability Insurance shall be in an amount not less than \$2,000,000.00 for bodily injury and property damage for each occurrence and not less than \$2,000,000.00 aggregate. Additional named insured: University of Charleston Trustees, 2300 MacCorkle Avenue, Charleston, WV 25304; Terry and Lisa Shamblin, 11517 Elk River Road, Clendenin, WV 25045; Tracy Brawley, 815 Quarrier Street, Ste 318, Charleston, WV 25301.

The required insurance must be written by a company or companies licensed to do business in West Virginia at the time the policy is issued and the policy must be countersigned by a licensed resident agent. Any property owner requiring additional insured shall be added to this policy.

- (b) Contractor shall either (1) require each of the subcontractors to procure and to maintain, during the life of its subcontract, subcontractor's Public Liability and Property Damage Insurance of the type and in the same amounts as specified in paragraph (a) above, or (2) insure the activities of its subcontractors in its own policy.

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Contractor agrees to indemnify and hold harmless DEP from all liability for personal injury, including death resulting therefrom, and against all liability for property damage sustained by any person or persons, including persons employed by Contractor or subcontractors, which is caused in whole or in part by an act or omission, negligent or otherwise, of the Contractor, its agents, servants, or employees, and to assume the defense of any action brought by such persons to recover damages, and to pay all costs and expenses, including attorney's fees, incurred by DEP as result thereof.

Each party to the contract shall promptly notify the other of the assertion of any claim against which such party is held harmless pursuant to this Section, shall give such other party the opportunity to defend any such claim, and shall not settle any such claim without approval of the indemnifying party.

10.2 Proof of Carriage of Insurance.

The Contractor shall provide DEP, before work commences, with certificates issued by the insurance company or companies issuing the insurance policies required by this Section. The certificates shall show the type, amount, class of operations covered, effective dates, and dates of expiration of such policies. Such certificates shall provide that written notice shall be given to DEP prior to expiration, cancellation, or modification of any such policy, and shall contain substantially the following representation: "The insurance covered by this certificate will not be canceled, or materially modified or altered, except after ten (10) days written notice has been verified as received by the West Virginia Department of Environmental Protection".

10.3 Worker's Compensation Insurance.

All employees of the Contractor, and of subcontractors engaged in the work of this contract, shall be covered by West Virginia Worker's Compensation Insurance. Certificates shall be provided to DEP by the Contractor and subcontractors showing compliance with the Worker's Compensation Laws of West Virginia.

11.0 LABOR LAWS, ORDINANCES, WAGES, AND OTHER CONDITIONS

11.1 The Contractor shall obey and abide by all laws of the State of West Virginia, particularly with respect to the carrying out of public improvements.

The Contractor shall not pay less than the established prevailing minimum wage rate for each particular class of employment in the county in which the work is being performed. This rate shall include and and all time an employee is on the project.

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11.2 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, creed, color, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, creed, color, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship.
Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notice, to be provided by the contracting officer, setting forth the provisions of this nondiscrimination clause.
- (b) Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, creed, color or national origin.
- (c) Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract understanding, a notice, to be provided by the agency contracting officer, advising the labor union or worker's representative of the Contractor's commitments under Section 202 of Presidential Executive Order #11246 of September 24, 1965 (hereinafter "Executive Order #11246"), as amended by Presidential Executive Order #11375 and supplemented by U.S. Department of Labor regulations 41 CFR Part 60 and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
- (d) Contractor will comply with all provisions of Executive Order #11246, and with all of the applicable rules, regulations, and relevant orders of the U.S. Secretary of Labor (hereinafter "Secretary of Labor").
- (e) Contractor will furnish all information and reports required by Executive Order #11246, and by the applicable rules, regulations and orders of the Secretary of Labor, or pursuant thereto, and will permit access to its books, records, and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders. These provisions shall also apply to DEP or employees of the Federal Government or their designated representatives for the purpose of making audits, examinations, excerpts, or transcriptions.
- (f) In the event of the Contractor's noncompliance with these nondiscrimination clauses, this contract may be canceled, terminated, or suspended, in whole or in part, and the Contractor may be declared ineligible for further government contracts in accordance with procedures authorized in Executive Order #11246, and such other sanctions may be imposed and remedies invoked as provided in Executive Order #11246, or by rules, regulations, or orders of the Secretary of Labor, or as otherwise provided by law.

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- (g) The Contractor will include the provisions of these paragraphs (a) through (g) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order #11246, so that such provisions will be binding upon each subcontractor or vendor. The Contractor will take such action with respect to any subcontractor or purchase order as the contracting agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event the Contractor becomes involved in, or is threatened with litigation with a subcontractor or vendor as a result of such direction by the contracting agency, the Contractor may request DEP to enter into such litigation to protect the interests of DEP.
- (h) Copeland "Anti-Kickback" Act. Contractor or Subcontractor shall comply with the Copeland "Anti-Kickback" Act (18 USC 874) as supplemented in U.S. Department of Labor regulations (29 CFR Part 3). Said Act provides that each Contractor or subcontractor shall be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public works, to give up any part of the compensation to which it is otherwise entitled. The Contractor shall report all suspected or reported violations to DEP.
- (i) Clean Air & Water Acts. Should the amount of this contract exceed one-hundred thousand dollars (\$100,000.00), compliance will be required with all applicable standards, orders, or requirements issued under Section 306 of the Clean Air Act (42 USC 1857[h]), Section 508 of the Clean Water Act (33 USC 1368), Presidential Executive Order #11738, and Federal Environmental Protection Agency regulations (40 CFR Part 15), which prohibit the use under non-exempt Federal contracts, grants or loans of facilities included on the EPA List of Violating Facilities. Contractor shall report violations to DEP and to the U.S. EPA Assistant Administrator for Enforcement (EN-329).
- (j) Energy Policy & Conservation Act. The Contractor shall comply with mandatory standards and policies relating to energy efficiency which are contained in the State energy conservation plan issued in compliance with the Energy Policy and Conservation Act, Public Law 94-163.
- (k) Access to Records. DEP, the U.S. Department of Interior's Office of Surface Mining Reclamation & Enforcement, and the U.S. Comptroller General or their duly authorized representatives shall have access to any books, papers, and records of the Contractor which are directly pertinent to that specific contract, for the purpose of making audits, examinations, excerpts, and transcriptions.
- (l) Maintenance of Records. The Contractor shall maintain all required records for three (3) years after DEP processes final payments and all other pending matters are closed.
- (m) Termination of Contract by DEP. This contract may be cancelled in whole or in part in writing by the Director of Purchasing, without prejudice to any other right or remedy it may have, provided that the contractor is given not less than thirty (30) calendar days written notice, (delivered by certified mail, return receipt requested) of intent to terminate.

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- (n) **Legal Remedies** Unless otherwise provided by law or elsewhere in this contract, all claims, counter-claims, disputes and other matters in question between DEP and the Contractor arising out of, or relating to, this contract or the breach of it will be decided by arbitration if the parties mutually agree, or in a court of competent jurisdiction within the State of West Virginia.

11.3 **Wages**

Attention is called to the prevailing rates of wages to be paid for labor on public improvements in Kanawha County, West Virginia, as determined by the West Virginia Department of Labor. A copy of wage rates shall be posted in a conspicuous location on the job site. Copies of the wage rates are included herein, however, it is the responsibility of the Contractor to pay the wage rate in effect when the project was bid. The Contractor is to maintain and have available for inspection by DEP, upon request, certified copies of its payrolls.

The contractor/subcontractors shall pay the higher of the U.S. Department of Labor Davis-Bacon Act or the WV Prevailing wage rate as established for various county, pursuant to West Virginia Code 21-5A, Et, Seq. and 42CSR7 Rules & Regulations for the WV Prevailing Wage Act. For prevailing wage rates, please refer to <http://www.sos.wv.gov>

12.0 **SUBCONTRACTORS**

- 12.1 Unless otherwise required by the contract documents, the Contractor, as soon as practicable after award of the contract, shall furnish DEP in writing the names of subcontractors (including those who are to furnish materials or equipment fabricated to special design) proposed for performing portions of the work.
- 12.2 DEP reserves the right to disapprove any proposed subcontractor whose record of performance does not establish its experience, competence, and financial ability to perform the work for which it is proposed. Nothing contained in the contract documents shall create any contractual relation between any subcontractor and DEP.

13.0 **TIME**

- 13.1 The date of commencement of work is the date established in a written "Notice to Proceed" issued by DEP to the Contractor. The date of completion shall be the date that DEP finds the work acceptable under the contract documents and the contract fully performed.

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13.2 Delays & Extensions of Time.

- (d) It is agreed that if the Contractor should be unavoidably delayed in fulfilling its obligations under this contract by acts of Providence or general strikes, or by Court injunctions, or by stopping of the work by DEP because of any Contractor toward final completion of the work hereunder, DEP may require the Contractor to prepare an itemized estimate of the amount of work performed, and material and equipment stored under the contract since the date of the last preceding estimate and Application for Payment. DEP may request that the Contractor submit such estimate along with supporting documentation in the form of certified payrolls, material invoices, weight slips, and Applications for Payment. Contractor is to maintain and have available such records for inspection by DEP upon request.

13.3 Progress Schedule.

The Contractor, immediately after being awarded the contract, shall prepare and submit, for DEP's information, an estimated progress schedule for the work. Such progress schedule shall be related to the entire project to the extent required by the contract documents, and shall provide for expeditious and practicable execution dates of the various stages of construction and may be revised as required by conditions of work, subject to DEP's approval.

14.0 PAYMENTS & COMPLETION

14.1 Contract Sum.

The contract sum as stated in the Contractor's executed Contract Acceptance Form, including any authorized adjustment(s) thereto, is the total amount payable by DEP to the Contractor for the performance of the work under the contract documents.

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14.2 Schedule of Values.

Before submitting its first Application for Payment, the Contractor shall submit to DEP a schedule of values allocated to the various portions of the work, prepared in such form and supported by such data to substantiate its accuracy, as DEP may require. This schedule shall be used only as a basis for the Contractor's Applications for Payment.

14.3 Progress Estimates, Applications for Payment.

- (d) On the fifteenth (15th) and thirtieth (30th) day of each month during which progress has been made on the work under the contract by the Contractor toward final completion of the work hereunder, DEP may require the Contractor to prepare an itemized estimate of the amount of work performed since the date of the last preceding estimate and Application for Payment. DEP may request that the Contractor submit such estimate along with supporting documentation in the form of certified payrolls (not to include social security numbers), material invoices, weight slips, and Applications for Payment. Contractor is to maintain and have available such records for inspection by DEP upon request.
- (b) Upon approval by DEP of the Application and Certificate for Payment, DEP shall, as soon thereafter as practicable, process for the Contractor as a progress payment a sum equal to the contract value of the work performed since the last preceding estimate and Application for Payment, in accordance with Paragraphs 14.4 and 14.5 of this Section, less the aggregate of previous payments.
- © No Certificate for a progress payment, nor any progress payment, shall constitute acceptance or be deemed or construed as acceptance of any part of the work not in accordance with the contract documents.
- (d) The Contractor warrants and guarantees that title to all work, materials, and equipment covered by an Application for Payment, whether incorporated in the project or not, will pass to DEP upon the receipt of such payment by the Contractor, free and clear of all liens, claims, security interests or encumbrances, and that no work, materials, or equipment covered by an Application for Payment will have been acquired by the Contractor or by any other person performing the work at the site or furnishing materials and equipment for the project, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the Contractor or otherwise imposed by the Contractor or such other person.

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14.4 Payments Withheld.

The Regional Engineer or his representative may decline to approve an estimate or Application for Payment, to the extent necessary to protect DEP from loss because of:

- (b) Unsatisfactory, unrepresentative, and unverified amounts and items included in progress estimates of Paragraph 14.3(a) above.
- (ii) Unfulfilled provisions of Paragraphs 14.3(d) above.
- (iii) Defective work not remedied.
- (iv) Unsatisfactory performance of the work by the Contractor.
- (v) Failure of the Contractor to make payments properly to subcontractors, or for labor, materials, or equipment.
- (vi) Reasonable doubt that the remaining work can be completed for the unpaid balance of the contract sum.
- (vii) Reasonable indication that the work will not be completed within the contract time for completion.
- (viii) Third party claims filed, or reasonable evidence indicating probable filing of such claims.
- (ix) Damage to another contractor.

When the above grounds under 14.4 (i)-(ix) are removed, payment shall be approved for the amounts that were withheld because of them.

14.5 Final Completion & Final Payment.

- (b) Upon notice from the Contractor that the work is ready for final inspection, the Construction Supervisor will promptly make such inspection. If the Construction Supervisor upon his/her inspection finds the work acceptable under the contract documents and the contract fully performed, the Contractor shall submit a Final Estimate Application and Certificate for Payment to DEP for processing. Also, final quantity calculations shall be submitted to DEP by the Contractor prior to final inspection conference.
- (b) Final payment to the Contractor will be processed by DEP upon fulfillment of the provisions of the contract documents and the conditions thereof.

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- (c) **The processing of final payment and the processing of payment of retained percentage shall constitute a waiver of all claims by DEP except those arising from:**
 - (i) **Unsettled liens.**
 - (ii) **Faulty or defective work appearing after final completion.**
 - (iii) **Failure of the work to comply with requirements of the contract documents.**
 - (iv) **Terms of any special warranties required by the contract documents.**
 - (v) **Affidavate of Payment**
- (d) **The acceptance of final payment shall constitute a waiver of all claims by the Contractor except those previously made in writing and identified by the Contractor as unsettled at the time of the final Application for Payment. No payment, however, final or otherwise, shall operate to release the Contractor or its sureties from any obligation under the contract documents, or the Performance Bond, and the Labor and Material Payment Bond. (See 15.1 below.)**

14.6 Application for Payment Forms.

Bound herewith on the preceeding pages are sample Application and Certificate for Payment forms which the Contractor shall use in the submittal of progress estimate Applications for Payment to DEP.

CONTINUATION SHEET OF APPLICATION AND CERTIFICATE FOR PAYMENT

Project Name: _____ Application No: _____

Page ____ of ____ pages

BID SCHEDULE PER CONTRACT				UNITS THIS APPLICATION	TOTAL COMPLETED AND STORED TO DATE	
ITEM # A	DESCRIPTION B	UNITS C	UNIT BID PRICE D	UNITS E	UNITS F	COST G=(DxF)
SUBTOTAL OR TOTAL						

ARTICLE II - GENERAL CONDITIONS

15.0 SURETY BONDS

15.1 The Contractor shall provide and deliver to DEP's Buyer at the Purchasing Division of the Department of Administration at the time of execution of the contract, and prior to the performance of the work, satisfactory surety bonds in an amount of not less than one hundred percent (100%) of the contract sum which shall include a Performance Bond and Labor and Material Payment. An increase in the Surety Bond will be required to equal any increases to the contract amount created by a change order.

Bond, with sureties acceptable to DEP's Buyer, for the faithful fulfillment of the contract within the time specified. Said bonds shall also save and hold harmless DEP from all liens and claims arising out of the work. The Contractor shall pay for the bonds.

15.2 In the event that the surety on any contract or payment bond given by the Contractor becomes insolvent, or is placed in the hands of a receiver, or has its right to do business in this State revoked as provided by law, the Cabinet Secretary may at his/her election, withhold payment or any estimate until the Contractor shall give a good and sufficient bond in lieu of the bond so executed by such surety.

15.3 Attorneys-in-Fact who execute surety bonds issued pursuant to this Section must provide with each such bond a certified and properly executed Power of Attorney.

15.4 All performance bonds shall be in effect throughout the one-year guarantee period set out in Section 5.0. Bonds will be released upon completion of the guarantee period and acceptance of the project by DEP.

16.0 CHANGES IN THE WORK

16.1 Change Orders

(a) DEP, without invalidating the contract, may order or the Contractor may request changes in the work within the general scope of the contract consisting of additions, deletions, or other revisions, the contract sum and the contract time being adjusted accordingly. All such changes in the work shall be authorized by change order, and shall be executed under the applicable conditions of the contract documents.

(b) A change order is a written order to the Contractor, properly executed as to form, issued after the execution of the contract, authorizing a change in the work or an adjustment in the contract sum or contract time. The contract sum or contract time may be changed only by a change order. A change order issued to the Contractor indicates its agreement therewith, including the adjustment in the contract sum or contract time set forth therein.

ARTICLE II - GENERAL CONDITIONS

- (c) The cost or credit to DEP resulting from a change in the work shall be determined in one or both of the following ways:
 - (i) By mutual acceptance of a lump sum properly itemized.
 - (ii) By unit prices stated in the contract documents or subsequently agreed upon.
- (d) If none of the methods set forth in 16.1(c) above is agreed upon, or the work to be performed is agreed by DEP and Contractor to be of such nature that it cannot be estimated in advance with sufficient exactness for mutual agreement, then DEP may direct the Contractor to perform the work by change order in accordance with the following provisions, and the Contractor shall promptly proceed with the work:
 - (i) The work shall then be performed for an amount equal to the actual and necessary net cost to the Contractor for material and labor cost necessarily used therein, including all taxes and delivery costs for materials, all required extra costs on labor, plus cost for superintendents, power, use of tools, equipment, plant, plus the Contractor's normal charge under the contract for overhead and profit. The Contractor shall keep and present to DEP for inclusion in the change order complete itemized accounting for all materials, complete identified time and payment records for all employees, and workmen actually performing the work covered by the change order, the cost accounting of work performed by subcontractors for work covered by the change order. DEP reserves the right to require verifications of all costs covered under the change order.
 - (ii) The amount of credit to be allowed by the Contractor to DEP for any deletion or change which results in a net decrease in the contract sum will be the actual net cost. When both additions and credits covering related work or substitutions are involved in one change, the allowance for overhead and profit shall be figured only on the basis of the increase, if any, with respect to that change.

16.2 The Chief is the only individual who can execute a change order committing DEP to the expenditure of public funds. No person other than the Chief or his/her authorized representative can make any changes to the terms, conditions, contract clauses, or other stipulations of this contract.

The Contractor shall not accept any instructions issued by any person other than the Chief or his/her authorized representative regarding changes in the work under the contract which affect the contract sum and/or contract time. No information, other than that which may be contained in an authorized modification to this contract, duly issued by the Chief or his/her authorized representative, which may be received from any person employed by DEP or otherwise, shall be considered grounds for deviation from any stipulation of the contract.

ARTICLE II - GENERAL CONDITIONS

16.3 Minor Changes in the Work.

Notwithstanding the requirements of Section 16.2 above, the Regional Engineer or his/her authorized representative shall have authority to order minor changes in the work not involving an adjustment in the contract sum or an extension of the contract time and not inconsistent with the intent of the contract documents. Such changes may be affected by field order or by other written order. Such changes shall be binding on DEP and the Contractor. The Contractor shall carry out such written orders promptly.

16.4 Omissions.

DEP may omit any item or items in the contract, provided that the notice of intent to omit such item or items is given to the Contractor before any material has been purchased or labor involved has been performed, and such omission shall not constitute grounds of any claim for damages or loss of anticipated profits. DEP may omit any item or items shown the estimate, at any time, by agreeing to compensate the Contractor for the reasonable expense already incurred and to take over at actual cost any unused material purchased in good faith for use for the item or items omitted.

17.0 UNCOVERING & CORRECTION OF WORK

17.1 Uncovering of Work.

- (a) If any work should be covered contrary to the request of DEP, it must, if required by DEP, be uncovered for its observation and be replaced at the Contractor's expense.
- (b) If any other work has been covered which DEP has not specifically requested to observe prior to being covered, DEP may request to see such work and it shall be uncovered by the Contractor. If such work is found to be in accordance with the contract documents, the cost of uncovering and replacement shall, by appropriate change order, be charged to DEP. If such work is found not to be in accordance with the contract documents, the Contractor shall pay such costs unless it is found that such condition was caused by a separate contractor employed by DEP and in that event DEP shall be responsible for the payment of such costs.

17.2 Correction of Work.

The Contractor shall promptly correct all work rejected by DEP as defective or as failing to conform to the contract documents whether observed before or after final completion and whether or not fabricated, installed or completed. The Contractor shall bear all cost of correcting such rejected work. All such defective or

ARTICLE II - GENERAL CONDITIONS

non-conforming work shall be removed from the site if necessary, and the work shall be corrected to comply with the contract documents at no cost to DEP. If the Contractor fails to correct such defective or non-conforming work, DEP may correct it in accordance with Section 17.3 below or Section 11.2(m) of these General Conditions.

17.3 Acceptance of Non-Conforming Work.

If DEP prefers to accept non-conforming work, it may do so instead of requiring its removal and correction, in which case a change order will be issued to reflect an appropriate reduction in the contract sum, or, if the amount is determined after final payment, it shall be paid by the Contractor.

18.0 ASSIGNMENT OF CONTRACT

Contractor shall not assign or transfer this contract or sublet it as a whole without having first obtained the written consent of DEP to do so; and it is likewise agreed that the Contractor shall not assign legally or equitably any of the moneys payable to it under the contract, or its claim thereto, without having first obtained the written consent of DEP to do so.

Part D.

Contractor's Business Name: _____

If the current Entity OFT information for your business is incomplete or incorrect in AVS, or if there is no information in AVS for your business, you must provide all of the following information as it applies to your business. Please make as many copies of this page as you require.

- Every officer (President, Vice President, Secretary, Treasurer, etc.);
- All Directors;
- All persons performing a function similar to a Director;
- Every person or business that owns 10% or more of the voting stock in your business;
- Every partner, if your business is a partnership;
- Every member and manager, if your business is a limited liability company; and
- Any other person(s) who has the ability to determine the manner in which the AML reclamation project is being conducted.

Name	_____	Position/Title	_____
Address	_____	Telephone #	_____
	_____	% of Ownership	_____
Begin Date:	_____	Ending Date:	_____

Name	_____	Position/Title	_____
Address	_____	Telephone #	_____
	_____	% of Ownership	_____
Begin Date:	_____	Ending Date:	_____

Name	_____	Position/Title	_____
Address	_____	Telephone #	_____
	_____	% of Ownership	_____
Begin Date:	_____	Ending Date:	_____

Name	_____	Position/Title	_____
Address	_____	Telephone #	_____
	_____	% of Ownership	_____
Begin Date:	_____	Ending Date:	_____

PAPERWORK REDUCTION STATEMENT

The Paperwork Reduction Act of 1995 (44 U.S.C. 3501) requires us to inform you that: Federal Agencies may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. This information is necessary for all successful bidders prior to the distribution of AML funds, and is required to obtain a benefit.

Public reporting burden for this form is estimated to range from 15 minutes to 1 hour, with an average of 22 minutes per response, including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. You may direct comments regarding the burden estimate or any other aspect of this form to the Information Collection Clearance Officer, Office of Surface Mining Reclamation and Enforcement, Room 202 SIB, Constitution Ave., NW, Washington, D.C. 20240.

ARTICLE III - GENERAL REQUIREMENTS

ARTICLE III - GENERAL REQUIREMENTS

Sections Included:

- 1.0 Summary of the Work
- 2.0 Quality Standards, Approvals
- 3.0 Superintendents, Coordination
- 4.0 Project Meetings
- 5.0 Authority & Duties of Inspectors
- 6.0 Shop Drawings, Product Data, Samples
- 7.0 Measurements, Manufacturer's Directions
- 8.0 Lines, Levels, Grades, Layout
- 9.0 Documents, Shop Drawings, Etc., at Site
- 10.0 Storage of Materials
- 11.0 Protection of Work, Damages
- 12.0 Temporary Facilities
- 13.0 Construction Sign
- 14.0 Cleaning and Final Clean-Up
- 15.0 Testing
- 16.0 Project Completion - Certificates

ARTICLE III - GENERAL REQUIREMENTS

1.0 SUMMARY OF THE WORK

This Article briefly outlines and describes the work to be performed and is not intended to limit the faithful execution of the contract documents.

- 1.1 The scope of the work for this project, without attempting to restrict or limit the contractor's responsibility, consists of furnishing all plant, labor, materials, and equipment to construct abandoned mine drainage control structures described in the drawings and these specifications. The work shall include, but not be limited to, the following:**

Clearing and grubbing, removal and disposal of abandoned mine structures, installation of drainage control structures, installation of wet, dry and bat gate mine seals, placement of soil cover, and revegetation.

ARTICLE III - GENERAL REQUIREMENTS

2.0 QUALITY STANDARDS, APPROVALS

- 2.1 Notwithstanding reference in the specifications or on the drawings to any article, item, product, material, equipment, or system by name, brand, make, or manufacturer, such reference shall be intended and interpreted as establishing a standard of quality, and shall not be taken, regarded, or construed as limiting competition.
- 2.2 Any article, item, product, material, equipment, or system which will perform adequately and satisfactorily the duties imposed by the general design will be considered equally acceptable to that specified or referenced, providing the article, item, product, material, equipment, or system so proposed is equal in quality, substance, design, manufacture, function and performance as that specified or referenced, and adjudged and determined to be so in the opinion of the Construction Supervisor and is approved by him/her. The approval of the Regional Engineer is required before purchase and installation.

2.3 Approvals.

Where the term "of approved manufacture" appears in the specifications, or an "approved" or "approved as equal" article or item is referred to, it shall mean that the article, item, workmanship, or material must meet the approval of the Construction Supervisor.

3.0 SUPERINTENDENTS, COORDINATION

3.1 Superintendents.

The Contractor shall employ and keep a competent superintendent and assistants who shall be capable of effective communication as required on the job at all times and who shall give efficient supervision to the work, using his/her best skill and attention, and shall have knowledge and control of all trades. The superintendent shall be acceptable to the Construction Supervisor and shall not be changed without the Construction Supervisor's knowledge and consent. The Contractor also shall see that each respective sub-contractor provides a competent foreman for each trade.

3.2 Coordination.

The Contractor and each sub-contractor shall coordinate the work and operations and shall cooperate with and assist each other on the job for the successful execution of the work within trade jurisdictional rulings. Each shall study all drawings and specifications and shall perform all work which properly comes under jurisdiction of the trade he/she represents.

4.0 PROJECT MEETINGS AND CONFERENCES

- 4.1 The following meetings shall be scheduled and held prior to commencement of the project and during execution of the work. DEP will schedule such

ARTICLE III - GENERAL REQUIREMENTS

meetings and advise all parties concerned by written notice of the date, time, and location of such meetings.

- (a) **Pre-Bid Conference.** Conference with Engineer, bidders and appropriate DEP personnel as necessary, and others directly concerned for explanation of bidding and contract documents, project site familiarization as required, and for answering questions pertinent to the project. **Attendance by bidders is mandatory in order to be eligible to bid on the project.**

A date and time will be set for the on-site **mandatory** Prebid Conference. All interested parties are required to attend this meeting. Failure to attend the mandatory pre-bid shall result in disqualification of the bid. No one person may represent more than one bidder.

An attendance sheet will be made available for all potential bidders to complete. This will serve as the official document verifying attendance at the mandatory pre-bid. Failure to provide your company and representative name on the attendance sheet will result in disqualification of the bid. The State will not accept any other documentation to verify attendance. The bidder is responsible for ensuring they have completed the information required on the attendance sheet. The Purchasing Division and the state agency will not assume any responsibility for a bidder's failure to complete the pre-bid attendance sheet. In addition, we request that all potential bidders include their e-mail address and fax number.

All potential bidders are requested to arrive prior to the starting time for the pre-bid. Bidders who arrive after the pre-bid conference has ended will not be permitted to sign the attendance sheet or bid on the project work.

- (b) **Pre-Construction Conference.** Conference with Engineer, appropriate DEP personnel, Contractor, Sub-Contractors, and others directly concerned, after award of the contract and prior to commencement of construction, for discussion of the project, contract documents, scheduling, and for resolving questions concerning project execution and administration as required.

- (c) **Project Meetings.** Meetings shall be held at periodic intervals throughout the construction contract period for discussion of matters pertinent to the execution and administration of the project. The Regional Engineer, Construction Engineer, Construction Supervisor, Inspector, Contractor and/or its Superintendent, Subcontractors, Project Foremen, as required, and others directly concerned, as necessary, shall attend the meetings.

5.0 AUTHORITY & DUTIES OF INSPECTORS

- 5.1** The Inspector, as the Regional Engineer's authorized representative, is authorized to make minor field changes to the plans and specifications that do not involve an increase or decrease in the contract sum or an increase or decrease in the contract time. The Inspector shall be authorized to inspect all work done, all material furnished, payroll records of personnel, material invoices and relevant data and records of the work, and the preparation, fabrication, or manufacture of the materials to be used. The Inspector is not authorized to revoke, alter, or waive any requirements of the plans and specifications that result in an increase or decrease in the amount of compensation due the Contractor or an increase or decrease in the contract time. The Inspector is authorized to call to the attention of the Contractor any failure of the work or materials to conform to the plans and specifications. The Inspector shall have the authority to reject materials or suspend the work until any questions at issue can be referred to and decided by the Regional Engineer.
- 5.2** The Inspector shall in no case act as foreman or perform other duties for the Contractor, nor interfere with the management of the work by the Contractor. Any advice which the Inspector may give the Contractor shall in no way be construed as binding the Regional Engineer in any way, or releasing the Contractor from fulfilling all of the terms of the contract.
- 5.3** If a problem arises that that the contractor will not correct and the Contractor refuses to suspend operations on verbal order, the Inspector shall issue a written order giving the reason for ordering the work to stop. After placing the order in the hands of the person in charge, the Inspector shall immediately leave the job, and the Contractor shall cease all operations.

ARTICLE III - GENERAL REQUIREMENTS

6.0 SHOP DRAWINGS, PRODUCT DATA, SAMPLES

6.1 Definitions.

- (a) "Shop drawings" are drawings, diagrams, schedules, and other data, prepared for the project by the Contractor, Sub-contractor, manufacturer, or supplier, to illustrate and/or install some portion of the work.
- (b) "Product data" are illustrative data, brochures, schedules, catalog cuts, charts, informative material and specifications to illustrate materials, articles, items, or products for use in some portion of the work.
- (c) "Samples" are physical examples which show and illustrate materials, finishes, equipment or workmanship of products proposed for use in some portion of the work.

6.2 Submittals.

- (a) The Contractor shall review, approve, and submit to the Regional Engineer with reasonable promptness, and in such sequence to cause no delay in the work, all shop drawings, product data, and samples required by the contract documents.
- (b) No shop drawings, product data, or samples shall be submitted to the Regional Engineer except by the Contractor, who shall, before submission, verify all materials, check all details, measurements, verify all field measurements and field construction conditions, and other job coordination requirements. Upon review, check, and approval by the Contractor, the Contractor shall place its stamp of approval thereon before submitting to the Regional Engineer.
- (c) The Contractor shall not be relieved of responsibility for any deviation from the requirements of the contract documents by the Regional Engineer's approval of shop drawings, product data, or samples, nor shall it be relieved of responsibility for errors or omissions therein.
- (d) Shop drawings, product data, and samples shall be submitted in sufficient number for all approvals, with a minimum of two (2) copies or samples being retained by the Regional Engineer, and a number of copies and samples being retained by the Contractor as required for the execution of its work.

ARTICLE III - GENERAL REQUIREMENTS

- (e) No portion of the work requiring submission of a shop drawing, product data, or sample shall be commenced until the submittal has been approved by the Regional Engineer. All such portions of the work shall be in accordance with approved submittals.
- (f) Shop drawings, product data, and samples shall be submitted for work, systems, articles, items, and equipment as specified. Other additional shop drawings, product data, and samples as may be requested for the work by the Regional Engineer shall be submitted to him/her for approval.

7.0 MEASUREMENTS, MANUFACTURER'S DIRECTIONS

7.1 Measurements.

Before ordering any material, product, article, or doing any work, the Contractor shall take all necessary measurements at the project and shall be responsible for the correctness of same. No extra charge or compensation will be allowed on account of differences between actual dimensions and the dimensions indicated on the drawings. The Regional Engineer shall be notified of any differences found and work shall not proceed thereon until the Regional Engineer has rendered a decision.

7.2 Manufacturers' Directions.

All manufactured articles, items, products, material, and equipment shall be applied, installed, connected, erected, used, cleaned, conditioned and put into operation or use as directed by the manufacturer's printed instructions, unless specified otherwise herein. The Contractor shall be responsible for obtaining all such instructions.

7.3 Measurement of Quantities.

The Contractor shall be responsible for providing all necessary volumetric and weight measurement equipment necessary to measure quantities accurately for payment of contract unit items, and said equipment shall be subject to the Regional Engineer's approval. Volume and weight measurements shall be submitted to the Regional Engineer for approval.

8.0 LINES, LEVELS, GRADES, LAYOUT

8.1 Lines, Levels, Grades.

- (a) Control points have been established in the field and are shown on the plans whereby the Contractor can properly control the work contracted for under these specifications. Such stakes and markings which the Engineer may have set for either his/her own guidance shall be scrupulously preserved by the Contractor, or its employees.

ARTICLE III - GENERAL REQUIREMENTS

If any action by the Contractor should result in the destruction of such stakes or markings, an amount equal to the cost of replacing same may be deducted from subsequent estimates due the Contractor at the discretion of the Construction Supervisor. The Contractor shall satisfy itself as to the accuracy of all measurements before constructing any permanent structure and shall not take advantage of any errors which may have been made in laying out the work. Should any discrepancies become evident between the plans and the Contractor's field survey, the Contractor shall immediately notify the Inspector. If these discrepancies will create a change in any item in the Contractor's accepted final bid, the DEP reserves the right to re-design or negotiate. Should the Contractor fail to make notification of these discrepancies, DEP will not be held liable for any changes in the original quantities.

- (b) The Contractor shall make all field measurements necessary for its work and shall be responsible for the accuracy of all dimensions, lines, levels, and grades. If a survey is required, it shall be performed at the expense of the Contractor. All survey work shall be performed by a West Virginia Licensed Land Surveyor who shall certify as to the accuracy of the survey to DEP.

9.0 DOCUMENTS, SHOP DRAWINGS, ETC., AT THE SITE

- 9.1 The Contractor shall maintain at the project site for DEP one (1) record copy of all drawings, specifications, addenda, change orders, and other modifications, in good order, marked currently to record all changes made during construction, and all approved shop drawings, product data, and samples, properly filed and referenced. All such documents and samples shall be delivered to the Construction Supervisor upon completion of the work.
- 9.2 The Contractor shall furnish the Inspector in writing two (2) sets of daily reports showing all personnel (by classification), equipment, and tools engaged in the work, for use in accounting records.
- 9.3 The Contractor shall be responsible for submitting a daily activity summary which shall be used to report progress of the various construction activities performed at the subject site. The summary report shall be submitted to the Inspector on a weekly basis on the prescribed forms. Processing invoices may be delayed if summary reports are not submitted.

10.0 STORAGE OF MATERIALS

- 10.1 The Contractor, under and with the approval, supervision, and direction of DEP, shall assume full charge of the area or areas of the project premises allocated for the storage of materials and equipment as required, allocating the necessary site space to any sub-contractor(s) for storage sheds and space for the storage of materials and equipment. Such arrangement of storage facilities

ARTICLE III - GENERAL REQUIREMENTS

shall be orderly, convenient, shall not obstruct movement on the site, the work of others, or construction operations. All storage sheds, enclosures, and facilities shall fully protect the stored materials. The Contractor shall arrange with appropriate landowner(s) for any storage areas located outside of the project limits and such storage areas shall also be subject to DEP's approval.

- 10.2 All materials subject to damage by moisture, water, or weather shall be fully protected. All flammable, toxic, and explosive materials shall be safely stored in conformity with applicable safety requirements of State and Federal regulations and safety standards of the National Fire Protection Association.

11.0 PROTECTION OF WORK; DAMAGES

11.1 Protection and Replacement of Work.

- (a) The Contractor shall protect its work from damage of any kind until completion of construction. Each contractor or sub-contractor shall adequately protect all preceding work from damage caused by it or its work. Should any part of the construction be subject to freezing or exposure to the elements, the same shall be fully protected to prevent damage.
- (b) The Contractor and each sub-contractor shall provide protection against weather, frost, freezing, storms, and heat, to maintain all work, materials, installations, and equipment safe from injury and damage. The Contractor shall provide temporary covering and closures in the construction as required to protect it from damage by weather, until permanent construction provides such protection.
- (c) Damaged or defective work must be replaced; all other work injured or damaged in the replacing of such work or in any way incidental thereto must be brought back to its original condition or replaced by the Contractor performing the work, without additional cost to DEP.

11.2 Damages to Existing Work.

All masonry damage, glass breakage, and other damage caused to existing buildings and appurtenances by the Contractor or by other contractors in the performance of work shall be properly replaced or repaired at the option of DEP, without additional cost to DEP.

12.0 TEMPORARY FACILITIES

12.1 Utilities

- (a) General. All concerned with providing temporary utilities for use on the project are advised to determine locations of sources of supply and the conditions under which services can be brought to points of use on the site.

ARTICLE III - GENERAL REQUIREMENTS

- (b) **Drinking Water.** The Contractor shall arrange for drinking water and containers to be provided on the site.
- (c) **Utility Connections.** The Contractor is to furnish power, gas, compressed air and any other utilities required for its own use during construction. The Contractor shall remove all temporary wiring, switches, lights, piping and connections to service facilities used during construction. Such connections shall not be made without approval of the Inspector.
- (d) **Temporary Supports.** The Contractor shall provide such temporary supports as may be required during construction, including those necessary to ensure the stability of the proposed excavation.
- (e) **Equipment.** The Contractor shall furnish all special apparatuses, welding machines, air compressors, hoisting equipment, tools, implements, cartage, scaffolding, ladders, planks, acetylene gas, oxygen gas, expendable materials, temporary light and heat, construction materials, shims and all other materials that may be required for the proper execution of the work.
- (f) **Temporary Buildings.** The Contractor will furnish, place, and equip, at its own expense, and as it deems necessary, any portable construction building(s) such as a trailer, storage sheds or chemical sanitary facilities. These portable facilities must be within the designated project limits; otherwise, the Contractor is solely responsible for making necessary arrangements with the proper landowner when the buildings are set up outside of the project limits. The type and number of buildings are subject to the approval of the Inspector. All written instructions, orders, and other communication delivered to the temporary construction office set up on the site shall be considered as having been delivered to the Contractor itself. The Contractor shall provide and pay for its own fire protection, watchman, temporary utility hookups, etc. The Contractor will promptly remove from the project any office facilities, equipment or materials when so instructed by the Inspector.
- (g) **Sanitation Facilities.** The Contractor shall provide and pay for adequate temporary toilet facilities for personnel during the project construction period. Toilets shall be of types approved by DEP and the State Division of Health, and situated only in approved locations. The Contractor shall be responsible for operation and sanitary maintenance of the temporary toilets and shall have them removed upon completion of construction.

ARTICLE III - GENERAL REQUIREMENTS

13.0 CONSTRUCTION SIGN

13.1 Work Required.

The work to be performed under this Section consists of providing all labor, material and equipment necessary to install a project sign as indicated on the detail included herein and as specified herein.

13.2 Materials.

- (a) Sign face shall be 3/4" Marine Exterior plywood or aluminum composite material. Posts and cross-brace shall be No. 2 Grade Pine or Fir, kiln dried and pressure treated.
- (b) Hardware:
 - (1) All hardware shall be manufactured from good, commercial-quality material and meet all applicable ASTM standards.
 - (2) Spikes and nails shall be common wire-type and shall meet AISI steel specifications 1010 or 1020.
 - (3) All hardware shall be hot-dip galvanized in accordance with ASTM A-153.

13.3 Execution.

- (a) Project Sign. The sign board shall be cut to the dimensions shown on the detail herein. The sign shall be painted with one (1) coat of primer and two (2) coats of white enamel. All exterior cut edges shall be smooth sanded prior to painting. All edges shall be double primed. The letters, border and strips shall be painted as shown on the detail drawing. Posts and cross-brace shall be painted with two (2) finished coats of brown enamel.

The Contractor shall bolt the sign to posts and provide required cross-bracing. The posts and sign shall be erected and posts set in gravel base, as shown on the drawings. One (1) sign is required and is to be located at the discretion of the Inspector.

- (b) Payment. Payment for the work which shall include installation of the project sign shall be part of the lump-sum bid for "Mobilization".



Earl Ray Tomblin
Governor



Randy C. Huffman
Cabinet Secretary

AML

Robert Rice
Chief

STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Office of Abandoned Mine Lands & Reclamation

Project Cost: \$XXX,XXX.00

Funding: US Department of the Interior – OSM with fees paid by the Coal Industry

<p>Project Name: DEP#</p>
<p>Contractor: Joe Smith Contracting</p>
<p>Project Start Date: 01/01/01</p>



77 1/4"

1 1/2"

17 1/4"

1 1/8"

15 3/4"



STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION Office of Abandoned Mine Lands & Reclamation

27 3/4"

7 7/8"

Earl Ray Tomblin
Governor

Project Cost: \$XXX,XXX.00

Funding: US Department of the Interior – OSM with fees paid by the Coal Industry

3 3/4"



7 7/8"

Randy C. Huffman
Cabinet Secretary

Project Name:
DEP#

18"

3"



8 5/8"

Robert Rice
Chief

Contractor: Joe Smith Contracting

Project Start Date: 01/01/01

2 1/4"

73 7/8"

48"

6"

36"

36"

6"

96"



STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Office of Abandoned Mine Lands & Reclamation

Earl Ray Tomblin
Governor

Project Cost: \$XXX,XXX.00

Funding: US Department of the Interior – OSM with fees paid by the Coal Industry



Randy C. Huffman
Cabinet Secretary

AML

Robert Ride
Chief

Project Name:
DEP#
Contractor: Joe Smith Contracting
Project Start Date: 01/01/01

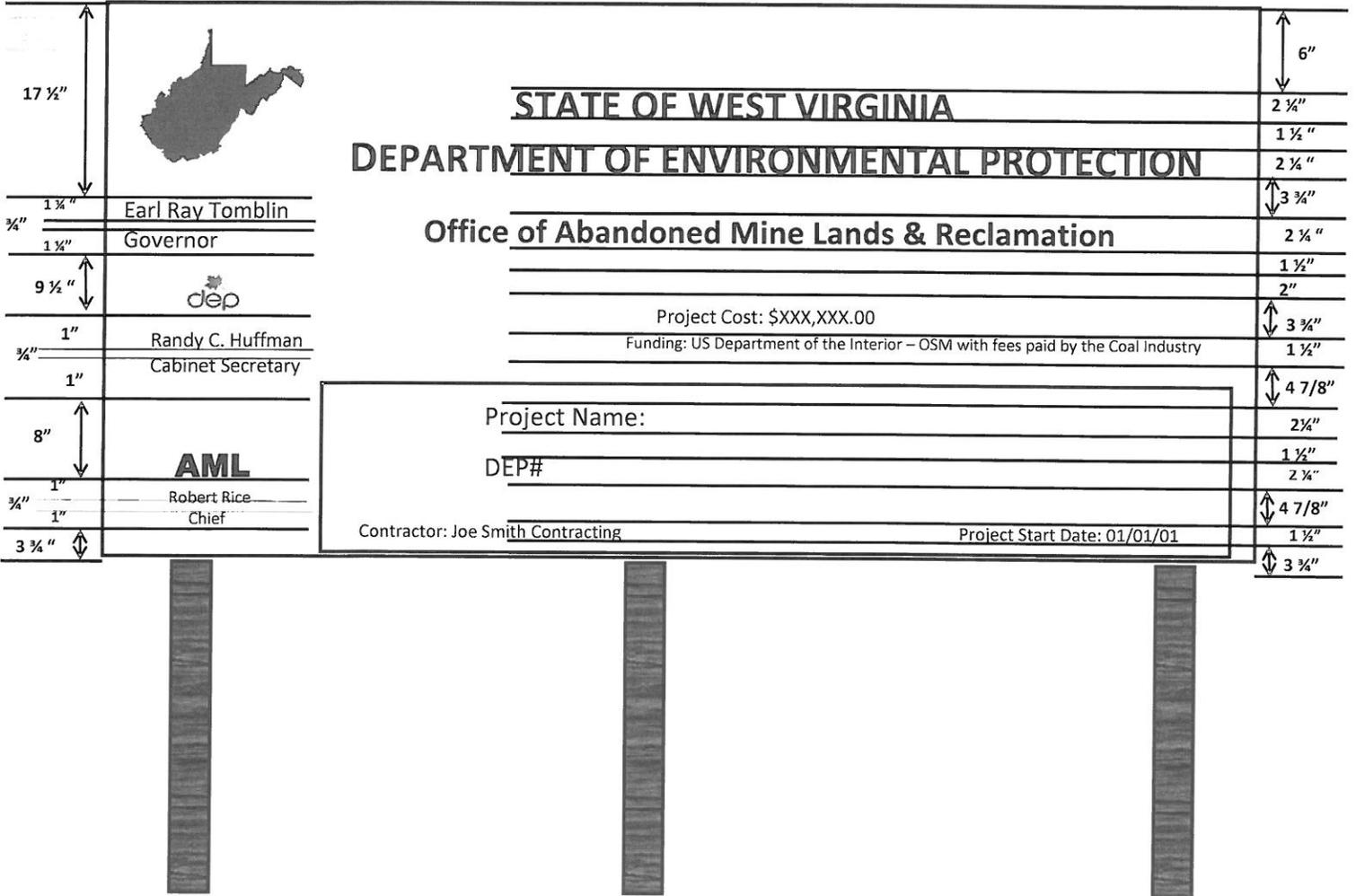
48"

5 1/4"

7 7/8"

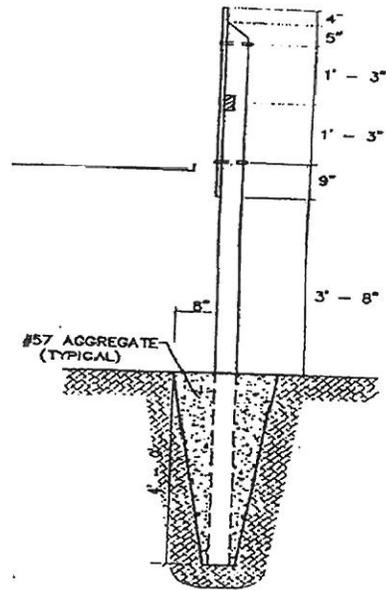
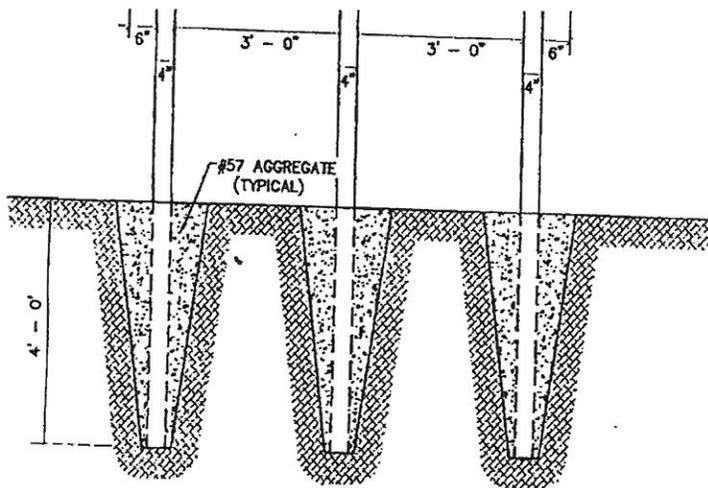
9 3/8"

81 3/8"



Notes:

1. Sign board to be $\frac{3}{4}$ " by 4'X 8' marine plywood.
2. Sign board color is to be white and letter colors are to be dark green and sized as shown on the detail.
3. 2"X 4" treated cross brace let into posts.
4. Mount sign to posts using $\frac{3}{8}$ "X 5" galvanized carriage bolt.
5. Posts are to be treated 4"X 4"X 12' and panted brown.
6. Location determined by WVDEP.



ARTICLE III - GENERAL REQUIREMENTS

14.0 CLEANING & FINAL CLEAN-UP

14.1 Housekeeping - Periodic Cleaning.

The Contractor shall at all times keep the construction site free of accumulations of waste materials and rubbish caused by its operations. Periodically during the progress of the work, and also when directed to do so by DEP, the Contractor shall remove, or cause to be removed by sub-contractors responsible, accumulated waste materials, rubbish, and debris, and leave the construction area in good order.

14.2 Final Clean-Up.

The Contractor at all times shall dispose of all debris and waste resulting from work at the Contractor's dump site. The Contractor shall not put or spill any materials into any drainage system which would pollute area streams or waterways. The Contractor shall be liable for any stream pollution caused directly or indirectly by its own employees or those of its sub-contractors.

14.3 Final.

Should disputes arise between Contractor and separate contractors, or sub-contractors as to responsibilities for cleaning-up, and refusals to do so result therefrom, DEP may hold final payment until the cleanup work is completed.

15.0 TESTING.

15.1 When Testing Required.

Testing shall be performed as required by the specifications or ordered by the Regional Engineer. The Regional Engineer will determine the need, location, extent, and time of any testing herein specified, or in addition to that which is herein specified.

15.2 Payment for Testing.

The Contractor shall select an independent testing laboratory or utilize a laboratory run by the Contractor, to perform all testing for compaction, concrete, and soils as specified herein. All laboratory reports must be signed by a registered civil professional engineer. The Contractor shall be responsible for testing payments as an incidental to the various items of the bid schedule. If the Contractor allows work to proceed beyond a testing point resulting in the disassembly of structures or the uncovering of work for testing, payment for such will be the responsibility of the Contractor at no extra cost to DEP.

ARTICLE III - GENERAL REQUIREMENTS

16.0 PROJECT COMPLETION - CERTIFICATES

- 16.1 All certificates of testing, quality, compliance, and performance, as required, requested, and/or specified, shall be delivered to DEP upon delivery or completion of the work covered by the certificates.
- 16.2 All certificates of approval, compliance, and completion as required by codes, inspection and regulatory agencies, and local, State and Federal governmental authorities, shall be delivered to DEP upon completion of the work and inspections covered by such certificates.
- 16.3 The contractor shall submit to the WVDEP as built drawings certified by a Licensed Land Surveyor identifying all changes occurring on the project. The drawings shall be of professional quality. Unsuitable drawings will be returned for revisions. These drawings shall be approved by WVDEP prior to scheduling a Final Inspection.

**DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS & RECLAMATION**

Report for Week Ending: _____ Project Name: _____

By: _____ Location: _____

Title: _____ Contractor: _____

DATE

Daily Activity Summary

Sunday	NO WORK
Monday	Weather: _____ *F Conditions: _____
Tuesday	Weather: _____ *F Conditions: _____
Wednesday	Weather: _____ *F Conditions: _____
Thursday	Weather: _____ *F Conditions: _____
Friday	Weather: _____ *F Conditions: _____
Saturday	Weather: _____ *F Conditions: _____

ARTICLE IV – SPECIAL CONDITIONS

ARTICLE IV - SPECIAL CONDITIONS

Sections Included:

- 1.0 Use of Minority, Women's, & Small Business Enterprises
- 2.0 Erosion & Sediment Control
- 3.0 Debarment and Suspension Requirements
- 4.0 Certification Regarding Lobbying

ARTICLE IV - SPECIAL CONDITIONS

1.0 USE OF MINORITY, WOMEN'S, & SMALL BUSINESS ENTERPRISES

- 1.1 Should the Contractor intend to sublet a portion of the work on this project, it shall seek out and consider minority, women's, and small business enterprises as potential sub-contractors. The Contractor shall contact minority, women's, and small businesses to solicit their interest, capability, and prices, and shall retain proper documentation to substantiate such contacts.
- 1.2 The Contractor will sign and provide the enclosed Minority, Women's and Small Business Affirmative Action Certification to DEP along with the name(s) of any subcontractor(s) it submits for approval.

**WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
CONSTRUCTION CONTRACTOR'S
MINORITY, WOMEN'S AND SMALL BUSINESS
AFFIRMATIVE ACTION CERTIFICATION**

We, _____, the undersigned, Construction Contractor on the Abandoned Mine Lands & Reclamation construction contract herein, intending to sub-contract a part of our contract work under Requisition No. _____, hereby certify as follows:

- 1) We will include qualified small, minority and women's businesses on solicitation lists;
- 2) We will assure that small, minority and women's businesses are solicited whenever they are potential sources;
- 3) We will, when economically feasible, divide total requirements into smaller tasks or quantities so as to permit maximum small, minority and women's business participation.
- 4) Where our requirements permit, we will establish delivery schedules which will encourage participation by small, minority and women's businesses.
- 5) We will utilize the services and assistance of the Small Business Administration, the Office of Minority Business Enterprise of the Department of Commerce and the Community Services Administration as required.

We understand that we may obtain the information required under the foregoing provisions from the Governor's Office of Community & Industrial Development's Small Business Development Center, 1115 Virginia Street, East, Charleston, West Virginia 25301, Phone 304/348-2960.

- 6) We will submit this certification to the Construction Supervisor when we submit proposed subcontractors for approval.
- 7) We agree that all documentation relative to affirmative action taken by us to seek out and consider the use of minority, women's and small business enterprises as sub-contractors shall be made available for inspection by representatives of the West Virginia Department of Environmental Protection and the U.S. Office of Surface Mining Reclamation and Enforcement;
- 8) This certification is an integral part of our proposal for the construction contract.

Signed this ____ day of _____, 20__ .

Signature of Authorized Representative

Title

ARTICLE IV - SPECIAL CONDITIONS

2.0 EROSION & SEDIMENT CONTROL

The manual entitled "West Virginia Department of Environmental Sediment Control Design Manual BMP", 2006, is incorporated herein by reference as a guide for erosion and sediment control, except that where any provision of said manual is in conflict with any special erosion and sediment control provision set out and contained in this specification book and/or in the plans for this project, the plans and/or specification book shall prevail and be followed.

DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C. 1352

Approved by OMB

0348-0046

(See reverse for public burden disclosure.)

1. Type of Federal Action: <input type="checkbox"/> a. contract <input type="checkbox"/> b. grant <input type="checkbox"/> c. cooperative agreement <input type="checkbox"/> d. loan <input type="checkbox"/> e. loan guarantee <input type="checkbox"/> f. loan insurance	2. Status of Federal Action: <input type="checkbox"/> a. bid/offer/application <input type="checkbox"/> b. initial award <input type="checkbox"/> c. post-award	3. Report Type: <input type="checkbox"/> a. initial filing <input type="checkbox"/> b. material change For Material Change Only: year _____ quarter _____ date of last report _____
4. Name and Address of Reporting Entity: <input type="checkbox"/> Prime <input type="checkbox"/> Subawardee Tier _____, <i>if known</i> : Congressional District, <i>if known</i> : 4c		5. If Reporting Entity in No. 4 is a Subawardee, Enter Name and Address of Prime: Congressional District, <i>if known</i> :
6. Federal Department/Agency:	7. Federal Program Name/Description: CFDA Number, <i>if applicable</i> : _____	
8. Federal Action Number, if known:	9. Award Amount, if known: \$ _____	
10. a. Name and Address of Lobbying Registrant <i>(if individual, last name, first name, MI):</i>	b. Individuals Performing Services <i>(including address if different from No. 10a)</i> <i>(last name, first name, MI):</i>	
11. Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when this transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.	Signature: _____ Print Name: _____ Title: _____ Telephone No.: _____ Date: _____	
Federal Use Only:		Authorized for Local Reproduction Standard Form LLL (Rev. 7-97)

INSTRUCTIONS FOR COMPLETION OF SF-LLL, DISCLOSURE OF LOBBYING ACTIVITIES

This disclosure form shall be completed by the reporting entity, whether subawardee or prime Federal recipient, at the initiation or receipt of a covered Federal action, or a material change to a previous filing, pursuant to title 31 U.S.C. section 1352. The filing of a form is required for each payment or agreement to make payment to any lobbying entity for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a covered Federal action. Complete all items that apply for both the initial filing and material change report. Refer to the implementing guidance published by the Office of Management and Budget for additional information.

1. Identify the type of covered Federal action for which lobbying activity is and/or has been secured to influence the outcome of a covered Federal action.
2. Identify the status of the covered Federal action.
3. Identify the appropriate classification of this report. If this is a followup report caused by a material change to the information previously reported, enter the year and quarter in which the change occurred. Enter the date of the last previously submitted report by this reporting entity for this covered Federal action.
4. Enter the full name, address, city, State and zip code of the reporting entity. Include Congressional District, if known. Check the appropriate classification of the reporting entity that designates if it is, or expects to be, a prime or subaward recipient. Identify the tier of the subawardee, e.g., the first subawardee of the prime is the 1st tier. Subawards include but are not limited to subcontracts, subgrants and contract awards under grants.
5. If the organization filing the report in item 4 checks "Subawardee," then enter the full name, address, city, State and zip code of the prime Federal recipient. Include Congressional District, if known.
6. Enter the name of the Federal agency making the award or loan commitment. Include at least one organizational level below agency name, if known. For example, Department of Transportation, United States Coast Guard.
7. Enter the Federal program name or description for the covered Federal action (item 1). If known, enter the full Catalog of Federal Domestic Assistance (CFDA) number for grants, cooperative agreements, loans, and loan commitments.
8. Enter the most appropriate Federal identifying number available for the Federal action identified in item 1 (e.g., Request for Proposal (RFP) number; Invitation for Bid (IFB) number; grant announcement number; the contract, grant, or loan award number; the application/proposal control number assigned by the Federal agency). Include prefixes, e.g., "RFP-DE-90-001."
9. For a covered Federal action where there has been an award or loan commitment by the Federal agency, enter the Federal amount of the award/loan commitment for the prime entity identified in item 4 or 5.
10. (a) Enter the full name, address, city, State and zip code of the lobbying registrant under the Lobbying Disclosure Act of 1995 engaged by the reporting entity identified in item 4 to influence the covered Federal action.

(b) Enter the full names of the individual(s) performing services, and include full address if different from 10 (a). Enter Last Name, First Name, and Middle Initial (MI).
11. The certifying official shall sign and date the form, print his/her name, title, and telephone number.

According to the Paperwork Reduction Act, as amended, no persons are required to respond to a collection of information unless it displays a valid OMB Control Number. The valid OMB control number for this information collection is OMB No. 0348-0046. Public reporting burden for this collection of information is estimated to average 10 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0046), Washington, DC 20503.

**ASSURANCE REQUIREMENT REGARDING EQUAL EMPLOYMENT OPPORTUNITY
FOR VENDORS, SUPPLIERS AND CONTRACTORS ENGAGED IN
COMMERCIAL TRANSACTIONS WITH
THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION**

We, _____, the undersigned, desiring to avail ourselves of the benefits of engaging in commercial transactions with the West Virginia Department of Environmental Protection, hereby agree that:

- 1) All employment and personnel practices under this contract, Requisition No. _____, will be conducted without regard to race, sex, religion or national origin;
- 2) We will include in all recruitment advertisements the following wording:
"An Equal Opportunity Employer"; and
- 3) We will provide the Chief of the Abandoned Mine Lands and Reclamation Division or his/her authorized representative, upon request, documentation that will enable him/her to judge the extent of our compliance with the requirements of Governor's Executive Order No. 4-65, of December 15, 1965.

Signed this ____ day of _____, 20__.

Signature of Authorized Representative

Title

ARTICLE IV - SPECIAL CONDITIONS

3.0 GOVERNMENT-WIDE DEBARMENT & SUSPENSION REQUIREMENTS

U. S. Department of the Interior

Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion

Lower Tier Covered Transactions

- 1.** By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.
- 2.** The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
- 3.** The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- 4.** The terms "covered transaction," "debarred", "suspended", "ineligible", "lower tier covered transaction", "participant", "person", "primary covered transaction", "principal", "proposal", and "voluntarily excluded", as used in this clause, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
- 5.** The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction originated.
- 6.** The prospective lower tier participant further agrees by submitting this proposal, that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
- 7.** A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Non procurement List (Tel.#).
- 8.** Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- 9.** Except for transactions authorized under paragraph 6 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

U. S. Department of the Interior
Certification Regarding
Debarment, Suspension, Ineligibility and
Voluntary Exclusion

Lower Tier Covered Transactions

This certification is required by the regulations implementing Executive Order 12549, Debarment and Suspension, 43 CFR Part 12, Section 12.510, Participants' responsibilities. The regulations were published as Part VII of the May 26, 1988 Federal Register (pages 19160-19211). For assistance in obtaining a copy of the regulations, contact the U.S. Department of the Interior, Acquisition and Assistance Division, Office of Acquisition and Property Management, 18th and C Streets, N.W., Washington D.C. 20240.

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

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

Name and Title of Authorized Representative

Signature

Date

ARTICLE IV - SPECIAL CONDITIONS

Instructions for Certification Regarding Lobbying

1. This certification and a disclosure form should be filed by each person as required, with each submission that initiates agency consideration of such person for: (1) award of a Federal contract, grant, or cooperative agreement exceeding \$100,000 or (2) an award of a Federal loan or a commitment providing for the United States to insure or guarantee a loan exceeding \$150,000.
2. This certification and a disclosure form should be filed by each person as required, upon receipt by such person of (1) a Federal contract, grant, or cooperative agreement exceeding \$100,000, or (2) a Federal loan or a commitment providing for the United States to insure or guarantee a loan exceeding \$150,000, unless such person previously filed a certification, and a disclosure form, if required, at the time agency consideration was initiated.
3. Any person who requests or receives from a person referred to in paragraphs (1) and (2) above: (1) a subcontract exceeding \$100,000 at any tier under a Federal contract; (2) a subgrant, contract, or subcontract exceeding \$100,000 at any tier under a Federal grant; (3) a contract or subcontract exceeding \$100,000 at any tier under a Federal loan exceeding \$150,000; or (4) a contract or subcontract exceeding \$100,000 at any tier under a Federal cooperative agreement, shall file a certification, and a disclosure form, as required, to the next tier above.
4. All disclosure forms, but not certifications, shall be forwarded from tier to tier until received by the person referred to in paragraphs(1) or (2) above. That person shall forward all disclosure forms to the appropriate Bureau/Office within the Department of the Interior.
5. Any certification or disclosure form filed under paragraph (4) above shall be treated as a material representation of fact upon which all receiving tiers shall rely. All liability arising from an erroneous representation shall be borne solely by the tier filing that representation and shall not be shared by any tier to which the erroneous representation is forwarded. Submitting an erroneous certification or disclosure constitutes a failure to file the required certification or disclosure, respectively. If a person fails to file a required certification or disclosure, the United States may pursue all available remedies, including those authorized by Section 1352, title 31, U.S. Code.

**U. S. Department of the Interior
CERTIFICATION REGARDING LOBBYING**

This certification is required by Section 1352, title 31, U. S. Code, entitled "Limitation on use of appropriated funds to influence certain Federal contracting and financial transactions."

(BEFORE COMPLETING CERTIFICATION, READ INSTRUCTIONS ON REVERSE)

Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

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

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions. To obtain a Standard Form LLL, contact DEP or the U.S. Office of Surface Mining, 603 Morris Street, Charleston, WV 25301, phone number 347-7158.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify accordingly.

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

Signature _____ Date _____

ARTICLE V - WAGE AND HOUR INFORMATION

PREVAILING WAGE RATES

can be obtained by contacting:

**WV Division of Labor
Capitol Complex
Bldg. 6, Room 749B
Charleston, WV 25305**

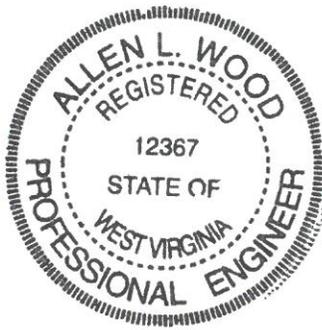
Phone: (304) 558-7890

Website: www.sos.wv.gov

ARTICLE VI - CONSTRUCTION SPECIFICATIONS

CONSTRUCTION SPECIFICATIONS
BROAD RUN PORTALS
KANAWHA COUNTY, WEST VIRGINIA

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ABANDONED MINE LANDS AND RECLAMATION



Allen L. Wood

AUGUST 2015

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I. SPECIAL PROVISIONS

I LOCATION AND SITE DESCRIPTION

Site Descriptions

The Broad Run Portals project is located near the town of Clendenin in Kanawha County, West Virginia. There are three (3) sites associated with this project, Site 1, Site 2, and Site 3.

Site 1 consists of mine portals, impoundments and debris left from past mining.

Site 2 consists of open mine portals and collapsed mine portals.

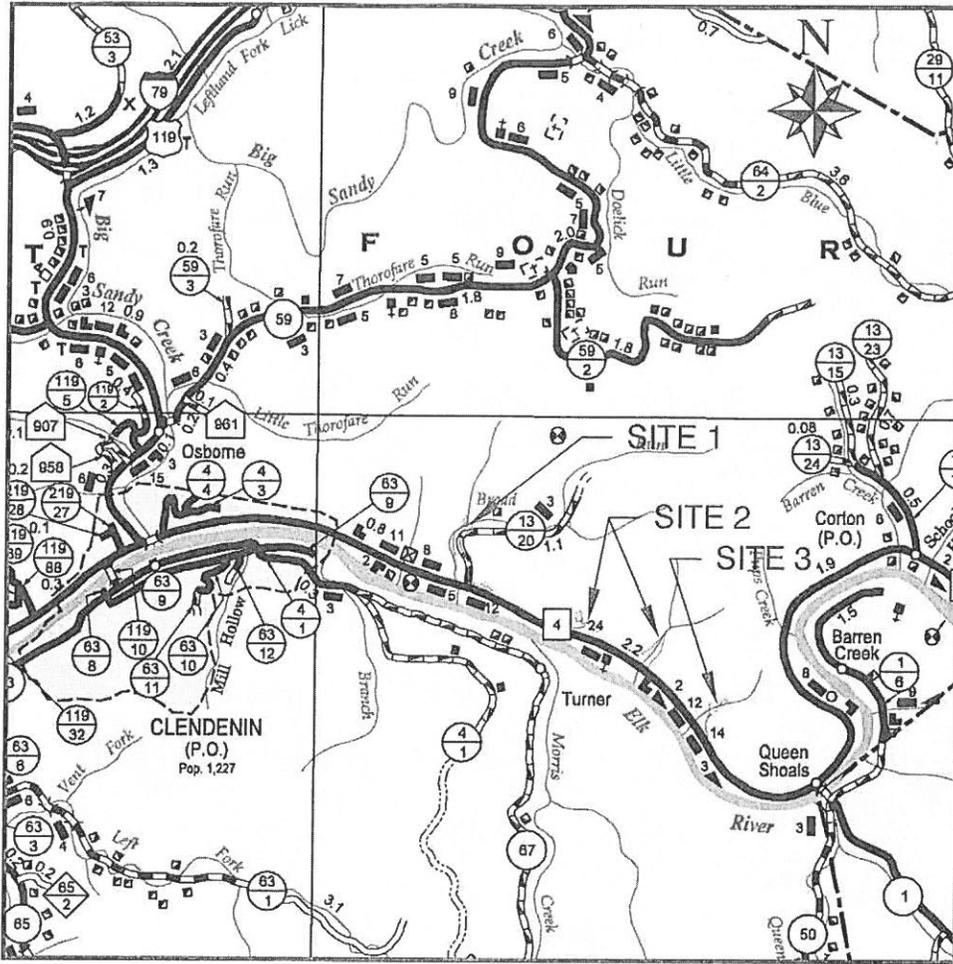
Site 3 consists of collapsed mine portals and ponds.

Directions to Sites

Site 1: From Charleston take I-79N to Clendenin Exit (#19); Turn Right onto 119S and drive 3.9 miles; Turn Left onto Rt. 4E and drive 1.9 miles; Turn Left (hard left) onto Broad Run Road and go up hill 0.1 mile; Turn Right, and take the access road below the hard-top/gate; Site 1 is located around bench. Site 1(cont.): Turn Right onto Broad Run and continue approximately 0.3 miles.

Site 2: Continue on Rt. 4E from Broad Run Road 0.6 miles. Park and walk up access road @ red gate. Additionally, access to the other part of the site is approximately 0.2 miles down Rt. 4E from the access road @ red gate.

Site 3: Continue on Rt. 4E another 0.7 miles. Take a hard-left @ red gate. Follow access road to HEF & Portals.



SCALE: 0 0.5 1.0 1.5
(IN MILES) KANAWHA COUNTY, WV.

COUNTY LOCATION MAP

II REFERENCE SPECIFICATIONS/DEFINITIONS

All reference to the “**Owner**” or “**WVDEP**” shall mean the West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands & Reclamation.

All reference to “**Engineer**” in these specifications shall mean the Owner’s Engineer or authorized representative.

All references to “**ASTM**” shall mean the American Society of Testing and Material Specifications, Latest Edition.

All references to “**AASHTO**” shall mean the Standard Specifications for Transportation Materials and Methods of Sampling and Testing by the American Association of State

Highway and Transportation Officials, latest addition, and all subsequent addenda thereto.

All references to “**ACI**” shall mean the American Concrete Institute Publications, Latest Edition.

All references to “**WVDOH**” shall mean the West Virginia Department of Transportation, Division of Highways Standard Specifications for Roads and Bridges, Adopted 2000, and all subsequent addenda thereto.

All references to “**WVDOH MP**” shall mean the West Virginia Department of Transportation, Division of Highways, Materials Control, Soils and Testing Division, Materials Procedures.

All references to “**Contractor**” shall mean the successful bidder and/or firm or corporation undertaking the execution of the work under the terms of these plans and specifications.

All references to “**EPA**” shall mean the United States Environmental Protection Agency Publication EPA-600/2-76-184.

All references to “**OSMRE**” shall mean the United States Department of Interior, Office of Surface Mining.

III SCOPE OF WORK

The scope of work covered by the Special Provisions, Technical Specifications and Construction Plans consists of furnishing all labor, power, equipment and supplies and performing all necessary operations safely for the completion of the project.

The **Contractor** shall perform all operations necessary for:

- Clearing and grubbing within the contractors work limits
- Excavation, backfilling and regrading the designated areas to the lines and grades shown on the Drawings
- Dispose of trash and debris
- Removal and disposal of abandoned structures, foundations, and existing tipple;
- Installation of drainage control structures
- Installation of dry mine seals
- Installation of wet mine seals
- Dry mine seals with bat gates, and wet mine seals with bat gates
- Placement of soil cover material on all regraded areas and areas designated by **WVDEP** and/or areas disturbed by the **Contractor**
- Placement of lime, fertilizer, seed and mulch to establish vegetative cover on all areas disturbed by the **Contractor**
- Existing mine drainage ponds will be filled as indicated on the drawings to eliminate impounding potential.

- Maintaining existing site access roads to provide safe, all-weather access to the site.

The **Contractor** shall submit an erosion and sediment control plan, and sequence of operations to the Owner at the pre-construction meeting for approval. This plan shall include measures to be utilized for temporary and permanent erosion and sediment control. The Owner's approval of this plan does not relieve the Contractor of his responsibility to be in compliance with any and all permits.

IV BIDDERS TO EXAMINE LOCATION

Prospective bidders are required to examine the locations of the proposed work and to determine, each in their own way, the difficulties which may be encountered in the prosecution of the same. The submission of a bid shall be prima facie evidence that such examination and determination has been made by the Bidder. No claims for additional compensation will be considered by the **Owner** based on obstruction or conditions at the location of the work, which may add to the difficulties or costs of construction, even though such obstructions or conditions are not shown on the contract plans or indicated in the other construction documents. Prospective bidders are advised that should they deem it necessary to obtain any subsurface samples or test borings etc., at the site, they should obtain their own permission from the landowners.

V SCHEDULE OF WORK

Before commencing work on this project, the **Contractor** shall prepare and submit a schedule of construction activities for approval by the **Owner**.

Work hours will be between 7:00 A.M. and 7:00 P.M., Monday through Saturday. Work on Sunday and major holidays, as defined by the Engineer, will not be allowed.

The **Contractor** shall provide adequate supervision, labor, tools, equipment, and materials to execute the work energetically and complete the work within the time specified.

It is the intention not to delay the work for the checking of lines or grades, but if necessary, working operations shall be suspended for such reasonable time as the **Engineer** may require for the purpose. No special compensation shall be paid for the cost to the **Contractor** for any of the work or delay occasioned by checking lines and grades, by making other necessary measurements, or by inspection.

VI MEASUREMENT OF QUANTITIES

The **Contractor** shall be responsible for providing all necessary volumetric, dimension, and weight measurement equipment necessary to prosecute the work as shown on the

Construction Drawings and to accurately determine quantities for payment of Contract Bid Items as approved by the **Engineer**. Such measurements and equipment shall be subject to the approval of the **Engineer** for use on this project.

VII BORROW (DISPOSAL) AREAS

All borrow (disposal) areas must be approved by **WVDEP**.

Should the **Contractor** decide to obtain and utilize any borrow areas outside of construction limits, the **Contractor** shall be responsible to obtain from the property owner(s) of the borrow areas, all necessary rights of entry, including rights of entry for **WVDEP** and **OSMRE** for inspection purposes. The said rights of entry agreement must state that the property owner(s) indemnify and hold harmless the **WVDEP** for **Contractor**'s action for any injury or damages whatsoever resulting from the use of the property. The **Contractor** shall also be responsible for obtaining similar rights of entry agreements and the property owner(s) indemnification of the **WVDEP** for inside the construction limits if using borrow areas either designated or undesignated in the plans and material is moved from one property owner to another.

The **Contractor** also shall submit a borrow area reclamation plan for prior approval by **WVDEP**. The **Contractor** shall observe the following NEPA compliance schedule relative to selecting and utilizing any off site borrow areas and or any waste disposal areas.

- a. No borrow (disposal) site operations will affect a site listed in, eligible or proposed to be listed in the National Register of Historic Places.
- b. No borrow (disposal) operations will be located within one-quarter mile of any Federally listed established or prospective component of the National Wild and Scenic River System under 16 USC 1274 and 1276.
- c. Borrow (disposal) site operations will not cause a significant encroachment within the base floodplain (E.O. 11988: Floodplain Management).
- d. Borrow (disposal) site operations will not be located in or affect a critical habitat of a Federally listed endangered or threatened species under 16 USC 1531, et. seq.
- e. No borrow (disposal) operations will occur in wetland areas which are designated by appropriate agencies.
- f. Borrow (disposal) site operations will be consistent with any approved plans governing ambient air quality.

- g. Adherence to these mitigation measures does not relieve the **Contractor** of the obligation or responsibility to obtain any other Federal, State, or local approvals required to use borrow (disposal) areas and conduct such activities.
- h. Documentation: Copies of borrow (disposal) site approvals and concurrences will be submitted to the **Owner** prior to the commencement of reclamation activities.
- i. Site Monitoring: Borrow (disposal) activities will be monitored by the **Owner** to ensure compliance with contractual requirements, applicable Federal, State, and local laws, and any permit conditions.

VIII DISPOSAL OF UNSUITABLE MATERIAL

All waste areas shall be obtained in accordance with Special Provisions Section VII of these specifications.

All unsuitable materials (wood, trash, debris, and garbage) as determined by the **Engineer** shall be wasted by the **Contractor**, at his/her expense, outside the limits of work conforming to the requirements of Sections 4.2.10 of these Specifications. Wood may be burned in conformity with Sections 4.2.9 of these Specifications.

The **Contractor** shall observe the NEPA compliance schedule relative to selecting and utilizing any off-site disposal areas in accordance with Special Provisions Section VII of these Specifications.

IX INTERPRETATION OF APPROXIMATE ESTIMATE OF QUANTITIES

The estimate of quantities of work to be done and/or materials to be furnished under the Special Provisions and Technical Specifications, as shown on the Contract Bid Schedule, is approximate and is given only as a basis of calculation upon which the award of the Contract is to be made. The **Owner** reserves the right to increase or decrease any or all of the quantities of work or to omit any of them, as it may deem necessary.

X SAFETY

All regulations of the Occupational Safety and Health Act of 1970 (OSHA) are in effect for this Contract. The **Owner** shall not be liable for any citations received by the **Contractor** as a result of failure to comply with applicable OSHA standards. Compensation is to be included in the various items of the Contract for the expense involved in complying with these standards. In addition, the **Contractor** shall comply with Section 107.7 of the **WVDOH** Standard Specifications regarding public convenience and safety.

XI REGULATIONS

All appropriate Township, County, State, and Federal Regulations shall apply to this Contract. It shall be the **Contractor's** sole responsibility to be aware of these regulations and to comply with them. The **Owner** shall not be liable for any citations received by the **Contractor**. The **Contractor** shall keep the existing roads open and safe to public vehicular traffic at all times and shall provide appropriate barriers and warning devices as directed by the **Engineer**.

XII LAWS TO BE OBSERVED

The **Contractor** shall at all times, observe, comply with, and post as required all Federal, State, and local laws, ordinances, and regulations in any manner affecting the conduct of the work or applying to employees on the project as well as all orders or decrees which have been or may be promulgated or enacted by any legal bodies or tribunals having authority or jurisdiction over the work, materials, employees, or Contract. The **Contractor** shall protect and indemnify the **Owner** and its representatives against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree whether by the **Contractor** or by the **Contractor's** employees.

XIII PERMITS, LICENSES AND FEES

The WVDEP shall provide the NPDES Stormwater permit from the Division of Water and Waste Management, a WVDOH Encroachment permit if required, the Water Quality Certification from the Division of Water and Waste Management and an ACOE Regional permit if required. The Contractor shall procure all other permits and licenses, pay all charges and fees, and give all notices necessary and incidental to the due and lawful prosecution of the work. Permits required for this project may include but are not limited to: a Stream Activity permit from the WV Division of Natural Resources and burning permits from the WV Division of Forestry and WVDEP, Division of Air Quality. A copy of the permits as procured shall be furnished to the Owner prior to initiation of the work under this Contract.

XIV ELECTRICITY, WATER SUPPLY AND SANITARY FACILITIES

There are no available supplies at the site of electricity and water and, additionally, there are no sanitary facilities. Arrangements for electric service, water supply and sanitary facilities shall be made by the Contractor, and all costs for such arrangements shall be borne by the Contractor at no additional cost to the Department.

XV UTILITIES AND OTHER OBSTRUCTIONS

The **Contractor** shall be solely responsible to correctly locate all existing active underground and overhead utilities at the project sites and take precautions to avoid damage to them. Any existing utility lines damaged by the **Contractor** shall be replaced by the **Contractor** or repaired at no cost to the **Owner**. The **Contractor** shall notify the utility companies likely to be affected well in advance and before beginning any work within the project sites. In the event of damage to the existing utilities or other facilities, the **Contractor** shall notify the affected utility **Owner(s)** and the **Engineer** immediately and make, or have made, all necessary repairs and bear the expense thereof and resulting damaged caused thereby. It shall be the responsibility of the **Contractor** to arrange for relocating the utility lines, where required and as directed by the **Engineer**, in accordance with the guidelines set forth by the utility company, prior to beginning construction. The **Contractor** will be reimbursed for actual charges invoiced by the Utility Company. The utility companies (and WVMIS) must be contacted by the **Contractor** at least one week prior to commencement of construction activities for the purpose of field locating and marking utility owned facilities within the project area. The phone number of the WVMIS Utility location service is as follows: **1-800-245-4848**

XVI SITE CLEANUP

Before the project shall be considered as having been satisfactorily completed, the **Contractor** shall clean and remove, from the project site, all surplus and discarded materials, and equipment and shall further remove all debris and objectionable materials of any kind from areas used or disturbed by the construction operations within or within sight of the project area.

XVII ROCK BLASTING

All blasting operations shall be conducted in strict accordance with applicable State and Federal laws relating to rock blasting and the storage and use of explosives. The **Contractor** shall maintain and keep in full force and effect blasting insurance to protect and indemnify the **Owner** and/or his agents or representative from claims for damages and shall defend all suits at law. The **Contractor** shall submit to the **Owner** a request for permission to blast rock, a reclamation plan for the area to be disturbed, and proof of blasting insurance coverage prior to initiating blasting operations. Failure to obtain approval for blasting prior to initiating the work will result in no payment for items utilizing this rock.

XVIII TEMPORARY ACCESS ROADS

The **Contractor** shall construct and maintain temporary access roads for convenient access to the various parts of the work, and for other necessary purposes incidental to the performance of this Contract. The location of access roads shall be approved by the **Engineer** prior to construction. No separate payment for construction and maintenance

of such roads shall be made. The **Contractor** shall erect such temporary fences or guards as may be necessary to keep unauthorized persons away from the work. Grading and surfacing of temporary access roads, excavations, fills and embankments for purposes of construction, or for convenience, beyond the limits of ordered excavations and all temporary fences and guards, shall be provided by the **Contractor** and shall be maintained in good condition. The **Contractor** shall be required to maintain all roads used by his hauling equipment in a dust-controlled condition. Upon completion, the **Contractor** shall return the disturbed areas to the approximate original condition as approved by the **Engineer**.

XIX TRAFFIC CONTROL

The **Contractor** shall maintain and protect traffic, protect the work in progress, protect adjacent property from excess dust resulting from the construction, and maintain traffic through, around, or adjacent to the construction area. All cost for traffic control will be considered incidental to the work being done. All materials used for traffic control shall be in accordance with the current **WVDOH** manual: Traffic Control for Streets and Highway Construction and Maintenance Operations". A copy of the operational plan accepted by the **WVDOT** shall be submitted to the **WVDEP** for approval prior to its implementation.

XX SITE CONDITIONS AND ENVIRONMENTAL PROTECTION

Conditions at the site shall be examined by the **Contractor**, and shall assume responsibility as to the contours and the character of the earth, rock, water and other items that may be encountered during the excavation and filling operations. Ground water may be encountered at various locations within the proposed work areas and pumping or diversion may be required to remove ground water from these locations prior to performing the work.

The **Contractor** shall be responsible for the operation and maintenance of any required diversion or pumping facilities for removing ground water from work areas during progress of the work under this contract.

The **Contractor** shall take any necessary steps to prevent erosion or silting problems from occurring and to minimize pollution or sedimentation of the stream. If any such problems develop, the **Contractor** shall be responsible to take immediate corrective action.

The **Contractor** shall be responsible for the repair or replacement of streets or driveways (blacktop, gravel, and concrete), trees, shrubs, fences, or any other physical features disturbed by construction under this contract to original condition or better.

The **Contractor** shall be responsible for the replacement of any existing boundary or corner markers disturbed by construction activities.

XXI CONTROL AND REVIEW OF WORK BY THE ENGINEER

All services rendered by the **Engineer** consist of professional opinions and recommendations made in accordance with generally accepted engineering practice. Under no circumstances is it the intent of the **Engineer** to directly control the physical activities of the **Contractor** or the **Contractor's** workmen's accomplishment of work on this project.

The presence of the **WVDEP's** Field Representative and/or **Engineer** at the site is to provide the Department a continuing source of professional advice, opinions and recommendations based upon the Field Representative's and/or **Engineer's** observations of the **Contractor's** work and does not include any superintending, supervision or direction of the actual work of the **Contractor** or the **Contractor's** workmen.

Any construction review of the **Contractor's** performance conducted by the **WVDEP's** Field Representative and/or **Engineer** is not intended to include review of the adequacy of the **Contractor's** safety measures, in, or near the construction site.

XXII CITATION OF OTHER SPECIFICATIONS

Whenever the Specifications for this contract refer to the specifications of any society, institute, association or government organization, then such specifications cited shall become a part of this contract as if written in full. Commonly used abbreviations have the following meanings:

ASTM- American Society for Testing Materials

ASA- American Standards Association

AWWA- American Water Works Association

AASHTO- American Association of State Highway and Transportation Officials

ACI- American Concrete Institute

WVDOT - West Virginia Department of Transportation

WVDOH - West Virginia Division of Highways

Where reference is made to a specification, it shall be the latest revision at the time called for bids, except as noted on the Plans or elsewhere herein.

XXIII NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

VEGETATIVE PRACTICES

Except as noted below, stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than seven days after the construction activity in that portion of the site has permanently ceased.

- Where the initiation of stabilization measures by the fourth day after construction activity temporarily or permanently ceases is precluded by snow cover, stabilization measures shall be initiated as soon as conditions allow.
- Where construction activity will resume on a portion of the site within 14 days from when activities ceased, (e.g., the total time period that construction activity is temporarily halted is less than 14 days) then stabilization measures do not have to be initiated on that portion of the site by the seventh day after construction activities have temporarily ceased.

Areas where the seed has failed to germinate adequately (uniform perennial vegetative cover with a density of 70%) within 30 days after seeding and mulching must be reseeded immediately, or as soon as weather conditions allow.

Diversions must be stabilized prior to becoming functional.

MAINTENANCE & INSPECTION

At a minimum, all erosion and sediment controls on the site will be inspected at least once every seven calendar days and within 24 hours after any storm event of greater than 0.5 inches of rain per 24-hour period.

All controls should be cleaned out when sediment reaches one half the sediment capacity of that control.

Inspection and maintenance records must be kept onsite.

EROSION & SEDIMENT CONTROL CONSTRUCTION SEQUENCE

1. Install stabilized construction entrance as shown on site plans.
2. Install perimeter sediment control devices as shown on site plans.
3. Clear and grub site.
4. Provide sediment control for any topsoil stockpiles.
5. Commence rough grading of site. Continue to maintain and inspect all erosion and sediment controls.
6. Install additional erosion and sediment controls as shown on site plans.
7. Fine grade site.
8. Permanently seed and mulch all disturbed areas within 7 days of reaching final grade.

9. Upon completion of project including adequate stabilization, remove all remaining erosion and sediment controls.

I. TECHNICAL SPECIFICATIONS

1.0 MOBILIZATION AND DEMOBILIZATION

1.1 Description

This work shall consist of the performance of construction preparatory operations, including the movement of personnel and equipment to the project site and for the establishment of the **Contractor's** offices, buildings and other facilities necessary to begin work on a substantial phase of the contract. All equipment and material storage areas are to be pre-approved by **WVDEP**. It shall also include all demobilization activities. This work shall include the installation of the project sign.

1.2 Method of Measurement

There shall be no measurement of this item as it is a lump sum. Partial payments will be made as listed below.

1.3 Basis of Payment

The bid for Mobilization and Demobilization shall be a lump sum and cannot be more than 10% of the "**TOTAL AMOUNT BID**" for the project. Partial payments will be as follows:

1.3.1 One-half of the amount bid will be released to the **Contractor** with the first estimate payable, not less than 15 days after the start of work at the project site.

1.3.2 The final one-half of the amount bid shall be released after final inspection with the estimate payable, after all work is completed at the project site and accepted by the **Owner**.

Nothing herein shall be construed to limit or preclude partial payments otherwise provided for by the Contract.

No deduction will be made, nor will any increase be made, in the lump sum mobilization and demobilization item amount regardless of decreases or increases in the final total contract amount or for any other cause.

The final one-half payment of the amount bid for **Mobilization and Demobilization** will not be paid until pre-construction and post-construction cross sections, area surveys, "as-built" drawings, and any other drawings requested by the **Owner** are submitted to and accepted by the **Owner**.

1.4 Pay Item

Item 1.0, "Mobilization", per lump sum. Cannot be more than 10% of the "TOTAL AMOUNT BID" for the project.

2.0 CONSTRUCTION LAYOUT

2.1 Description

This item consists of furnishing, placing, replacing and maintaining construction layout stakes, baseline stations, primary control points and any disturbed property location monuments as necessary for the proper performance of the work under this contract. It further consists of determining the exact units of measure for payment. It also consists of checking and making any field adjustments to the plan grades and elevations as considered necessary by the **Engineer**.

Additionally, this item shall also include the generation of cross-sections of the site indicating pre and post-construction lines and area surveys of the sites that have been regraded, soil covered and/or revegetated.

“As-Built” Drawings, including the Reclamation Plan and any others specifically requested by the **Owner**, shall be provided to the **Owner** prior to the Final Inspection Meeting.

2.2 Materials

Conventional survey stakes, hubs, batter boards, flagging, templates, straightedges, drafting media, etc., and other devices necessary for laying out all parts of the work.

2.3 Construction Methods

2.3.1 The **Contractor** shall be responsible for the proper layout of the work. The **Owner** will provide the **Contractor** with survey information regarding the baselines and existing surface features shown on the construction drawings. The **Contractor** shall make all calculations involved and shall furnish and place all layout stakes.

2.3.2 The **Contractor** shall provide a field work force and shall set all additional stakes needed, such as offset stakes, reference point stakes, slope stakes, grade stakes, stakes for drainage, or other structures, supplementary bench marks, and any other horizontal or vertical controls necessary to secure a correct layout of the work. The **Contractor** shall be responsible for having the layout staking work conform to the lines, grades, elevations, and dimensions called for on the Plans. The **Contractor** shall furnish a copy of his survey records for checking by the **WVDEP** and for the **Owner**'s permanent file. These records shall be furnished as they are completed during the progress of the work. Any inspection or checking of the **Contractor**'s layout by the **Owner** and the acceptance of all or any part of it shall not relieve the **Contractor** of his responsibility to secure the proper dimensions, grades and elevations.

- 2.3.3 The **Contractor** shall exercise care in the preservation of existing stakes and bench marks including property line markers and shall have them reset at his expense when any are damaged, lost, displaced, or removed. The **Contractor** shall use primary control points for re-establishing baseline stations wherever previously surveyed stations have been destroyed or removed. The **Contractor** shall use primary control points for re-establishing baseline stations wherever previously surveyed stations have been destroyed or removed. At a minimum, the **Contractor** shall confirm the location of existing baseline stations by field survey of each station's relationship to a suitable primary control point. Should any discrepancies be found, primary control points shall supersede any existing baseline stations.
- 2.3.4 The **Contractor** shall use competent personnel and suitable equipment for the layout work required and shall provide that it be done under the supervision of, or directed by, a WV Licensed Land Surveyor.
- 2.3.5 Acceptable cross-sections shall be drawn or reproduced on bond paper and at the same scale provided in the design Drawings so they may be directly overlaid on the cross-sections contained in the Drawings. Each 24"x36" sheet shall be lightly gridded to match the cross sections in the design Drawings. Station numbers, elevations, baseline offset distances, cross-section lines and types, date, responsible parties and a legend shall be clearly illustrated. Cross-sections, which do not encompass all areas of both earthwork excavation and fill placement, shall be considered incomplete without exception. Existing ground cross sections, design cross sections, and as-built cross sections shall also be provided on CD.
- 2.3.6 All survey notes, calculations, sections, plans, or other documents produced pursuant hereto shall be certified as correct by a Licensed Land Surveyor.
- 2.3.7 The **Owner** shall be allotted sufficient time to reasonably review submitted cross-sections, area surveys and investigate any and all discrepancies, throughout the course of construction. Unacceptable and/or incomplete cross-sections and/or area surveys shall be returned to the **Contractor** for necessary revision. No earthwork, nor any other directly related work item, shall be initiated prior to the **Owner's** acceptance of a complete set of pre-construction cross-sections. Costs incurred by the **Contractor** from the delay of any construction activities required by the **Owner** to recover, review and investigate project cross-sections as described herein shall be the sole responsibility of the **Contractor**.
- 2.3.8 As-Built drawings, including the Reclamation Plan, cross-sections, area surveys of soil cover and/or revegetated sites and any others specifically

requested by the **Owner**, shall be provided to the **Owner** prior to the Final Inspection Meeting.

2.4 Method of Measurement

There shall be no measurement of this item as it is a lump sum. Partial payments will be made as listed below.

2.5 Basis of Payment

This item shall be paid at the bid lump sum price. The amount shall not exceed five percent (5%) of the "**TOTAL BID AMOUNT**" for the project.

Payment will be for furnishing, setting, maintaining, and resetting the stakes, when necessary; for furnishing all engineering personnel, equipment, materials, and all incidentals thereto; and for providing the **Owner** pre and post-construction ground line cross-sections and "as-built" drawings as described herein.

2.5.1 One-half of the amount bid will be released to the **Contractor** with the first estimate payable, after submittal and acceptance of the pre-construction drawings.

2.5.2 The final one-half of the amount bid will be released to the **Contractor** with the estimate payable, after submittal and acceptance of the As-Built drawings.

No deduction will be made, nor will any increase be made in the lump sum construction layout item amount regardless of decreases or increases in the final total contract amount or for any other cause.

2.6 Pay Item

Item 2.0, "Construction Layout", per lump sum. Cannot be more than 5% of the "**TOTAL AMOUNT BID**" for the project.

3.0 QUALITY CONTROL

3.1 Description

This work shall consist of assuring the materials supplied and the work performed is in conformance with these specifications. Spill containment measures must be installed and maintained for all fuel and lubricant storage areas.

3.2 Applicable Publications

Work shall comply with, but not be limited to, the provisions of the following codes, standards and specifications:

ACI 301	“Specifications for Structural Concrete For Buildings.
ASTM C-31	“Standard Method of Making and Curing Concrete Test Specimens in the Field”.
ASTM C-39	“Standard Test Method For Compressive Strength of Cylindrical Concrete Specimens”.
ASTM C-172	“Standard Method of Sampling Fresh Concrete.”
ASTM C-88	“Standard Test Method for Soundness of Aggregates by use of Sodium Sulfate or Magnesium Sulfate”.
AASHTO T-104	“Soundness of Aggregate by Use of Sodium Sulfate or Magnesium Sulfate”. Method of Testing For Ledge Rock.
ASTM D-698	“Standard Test Method for Moisture- Density Relations of Soils and Soil-Aggregate Mixtures, Using 5.5 lb. Hammer and 12 in. Drop”
ASTM D-1556	“Standard Test Method for Density of Soil in-place by the Sand-Cone Method”.
ASTM D-2922	“Standard Test Method for Moisture Content of Soil and Soil-Aggregate in-place by Nuclear Methods”.
WV DOT MP700.00.24	“Nuclear Density Test By The Roller Pass Method”.
ASTM D-3017	“Test for Moisture Content of Soil & Soil Aggregate in-place by Nuclear Methods”.
EPA-600/2-76-184	“Handbook for Soil and Water Analysis.”

3.3 Submittals

- 3.3.1 The **Contractor** shall submit a minimum of two (2) copies of shop drawings, catalog cuts and material certifications as applicable to the **WVDEP** of all off-site materials to be incorporated into the work. Written approval from the **WVDEP** will be required prior to incorporation of these items into the work.
- 3.3.2 The **Contractor** shall submit at least two (2) copies of the results of the tests conducted on in-place material. As a minimum, these tests will include moisture content and density tests in accordance with the provisions of ASTM D698 (Standard Proctor), field moisture/density tests following compaction, soundness tests for rock riprap, compressive strength tests for the grout and concrete, soil tests to determine the lime and nutrient requirements of the areas to be revegetated, and any other tests as requested by the **Engineer**.
- 3.3.3 Failure to perform and submit the required tests to the **WVDEP** will result in non-payment of those items requiring tests.

3.4 Construction Methods

- 3.4.1 The **Contractor** shall furnish the services of his own testing laboratory or select an independent testing laboratory, as long as the laboratory is under the direct supervision of a Registered Professional Civil Engineer. The laboratory must be approved by the **WVDEP**.
- 3.4.2 Testing for compaction, aggregate, rock, grout, soil nutrient and lime requirements, etc., shall be performed as required by these specifications or as otherwise requested by the **Engineer** in writing. The **Engineer** will determine the locations, time, the need, and extent of any additional testing in addition to that which is herein specified.
- 3.4.3 The **Contractor** shall be responsible to perform laboratory tests of the various fill materials (soil, rock aggregate, coal refuse, and mine spoil) to identify the compaction requirements, the standard proctor density and to determine their use as cover and fill materials. In addition, field density tests shall be performed in accordance with these construction specifications. All test results shall be submitted to the **Engineer** for approval of compaction criteria prior to compacting the fill and after fill compaction to verify that the required compaction is obtained.
- 3.4.4 Only new and first class materials which conform to the requirements of these Specifications shall be used unless specified otherwise. When requested by the **Owner**, the **Contractor** shall furnish a written statement of the origin, composition, and manufacturer of any or all materials

(manufactured, produced, or grown) that are to be used in the work. The sources of supply of each material used shall be approved by the **Engineer** before delivery is started. If, at any time, sources previously approved fail to produce materials acceptable to the **Owner**, the **Contractor** shall furnish materials from other approved sources.

- 3.4.5** Spill containment measures must be installed and maintained for fuel and lubricant storage areas. The spill containment area shall be in-place before fuel is delivered. All containers, barrels, buckets, cans, etc., are to be legally disposed of offsite. Used lubricants are to be disposed of according to state law to minimize pollution to the local surface and ground water supplies. Spills are the responsibility of the **Contractor** and need immediate clean up and maintained at no expense to the **Owner**. Fuel tanks manufactured with secondary containment are acceptable. Alternate containment measures will be considered for approval by the **Owner** if acceptable results can be shown. Minimum secondary containment is 110 percent.

3.5 Method of Measurement

There shall be no measurement of this item as it is a lump sum. Partial payments will be made as listed below.

3.6 Basis of Payment

This item shall be paid at the bid lump sum price. The amount shall not exceed 3% of the “**TOTAL AMOUNT BID**” for the project. Payment shall be full compensation for doing all the work herein prescribed in a workmanlike and acceptable manner; including the furnishing of all labor, materials, tools, equipment, supplies and incidentals necessary to complete the work.

3.6.1 One-half of the amount bid will be released to the **Contractor** with the first estimate payable, after spill containment has been installed for all fuel and lubricant storage areas.

3.6.2 The final one-half of the amount bid will be released to the **Contractor** with the estimate payable, after completing the placement of the top soil cover material and all spill containment measures have been removed from the project site.

No deduction will be made, nor will any increase be made, in the lump sum quality control amount regardless of decreases or increases in the final total contract amount or for any other cause.

3.7 Pay Item

Item 3.0, “Quality Control”, per lump sum. Cannot be more than 3% of the “**TOTAL AMOUNT BID**” for the project.

4.0 SITE PREPARATION

4.1 Description

Work performed under this section shall include the removal and disposal of all trees, stumps, shrubs and any other vegetation, wood, debris, garbage of any nature from those areas specified below and/or shown on the plans and/or any other areas as designated by **WVDEP**.

This work shall also include the preservation from injury to all vegetation, utilities or other objects to remain.

4.2 Construction Methods

- 4.2.1 The specific areas to be cleared and grubbed are as shown on the Contract Drawings and are generally described as, but not limited to, those specific areas of excavation, backfill, soil borrow or drainage structure installation.
- 4.2.2 The **Contractor** shall clear the site within the limits of the areas to be regraded. The **WVDEP** shall exercise control over clearing and shall designate all trees, plants and other objects to be removed or to remain.
- 4.2.3 Site preparation shall be completed prior to initiation of earthwork operations. The **Contractor** shall confine his operations strictly to required areas. If he clears and grubs beyond the required areas, whether knowingly or accidentally, he shall, at his expense, replant and otherwise restore all areas outside the limit lines to a condition equal to that existing prior to start of work.
- 4.2.4 Existing site access roads shall provide safe, all-weather access to the site. These existing roads, including paved roads, shall be maintained during construction and left in an equal or improved state of repair after construction. The **Contractor** is responsible for locating and avoiding all underground and overhead utilities and constructions during access road grading and maintenance.
- 4.2.5 All timber eight (8) inches in diameter and larger at stump height shall be saw cut prior to grubbing operations. Timber shall be topped with the branches removed and stacked and stockpiled in an appropriate manner in an accessible location approved by the **WVDEP** on the property from which it was cut. Timber to be stockpiled shall not be pushed down by equipment prior to being cut nor can it be indiscriminately shoved into a stockpile.
- 4.2.6 The **Contractor** shall utilize timber tops and branches to create ATV barriers. Timber tops and branches shall be stacked in existing or

constructed access roads at locations approved by the **WVDEP** to prevent ATV's from accessing the regraded site.

- 4.2.7** All stumps, roots, buried logs and brush shall be removed. Grass, however, may be incorporated into the resoiling material. Taproots and other projections over 1-½ inches in diameter shall be grubbed out to a depth of at least ten (10) inches below the planned sub grade or slope elevation. All holes remaining after the grubbing operation shall have the sides broken down to flatten out the slopes, and shall be filled with suitable materials, moistened and properly compacted.
- 4.2.8** Cleared and grubbed areas shall be worked such that positive drainage is provided to prevent ponding of water.
- 4.2.9** All organic material shall be burned completely to ash at approved onsite locations or otherwise removed from the site and disposed of in a manner approved by the **Engineer**. Burning of the combustible material will not be permitted on or near a coal refuse pile or within close proximity to coal seams. The **Contractor** shall obtain all permits and licenses required prior to burning the material. A plan showing the location of material to be burned and all fire control measures to be implemented, including copies of permits and licenses shall be submitted to the **Owner's** representative at the site for approval.
- 4.2.10** All other materials generated from required clearing and grubbing operations shall be removed and disposed of by the **Contractor**. Concrete slabs and concrete structures to be eliminated shall be broken up to a maximum size of twelve (12) inch and disposed of in fill areas as approved by the **Engineer**. All garbage, construction debris, mining debris, etc., shall be disposed of in approved waste areas or landfills. It shall be the responsibility of the **Contractor** to obtain, at no expense to the **Owner**, all necessary waste and borrow areas or landfills for the disposal of waste materials in accordance with any applicable local, state, and/or federal regulations including compliance with NEPA requirements (See Section 4.2.12 for NEPA Compliance Schedule). All waste and borrow areas must be approved by the **Owner** and, the **Contractor** must provide a reclamation plan for approval. In addition, for all waste and borrow areas outside the construction limits, the **Contractor** must obtain from the property owner a right-of-entry agreement in which the property owner indemnifies and holds the **Owner** harmless from any injury or damages whatsoever resulting from the use of property.
- 4.2.11** It shall be the sole responsibility of the **Contractor** to correctly located and avoid all underground, on-ground, and overhead utilities, facilities and other structures and constructions, and for that purpose, shall employ all necessary precautions and methods to insure avoidance of and damage to such constructions. In the event damage does occur, the **Contractor** shall

notify the affected utility owner and the **WVDEP** immediately and make or have made all necessary repairs and bear the expense thereof and resulting damage caused thereby. See “SPECIAL PROVISIONS” Section XIV, “Utilities”, of these specifications for more information on utilities.

4.2.12 NEPA Compliance Schedule

Should offsite disposal or borrow be necessary, the following procedures will be observed relative to selection and utilizing any disposal (or borrow location).

- 4.2.12.1** No disposal (or borrow) site operations will affect a site listed in, eligible or proposed to be listed in the National Register of Historic Places.
- 4.2.12.2** No disposal (or borrow) operations will be located within one-quarter mile of any Federally listed, established or prospective component of the National Wild and Scenic River System under 16 USC 1274 and 1276.
- 4.2.12.3** Disposal (or borrow) site operations will not cause a significant encroachment within the base floodplain (E.O. 11988: Floodplain Management).
- 4.2.12.4** Disposal (or borrow) site operations will not be located in or affect a critical habitat of a Federally listed endangered or threatened species in 16 USC 1531, et. Seq.
- 4.2.12.5** No disposal (or borrow) operations will occur in wetland areas, which are designated by appropriate agencies.
- 4.2.12.6** Disposal (or borrow) site operations will be consistent with any approved plans governing ambient air quality.
- 4.2.12.7** Adherence to these mitigation measures does not relieve the grantee or recipient of the obligation or responsibility to obtain any other Federal, State, or local approvals required to use disposal (borrow) and conduct such activities.
- 4.2.12.8** Documentation: Copies of disposal (borrow) site approvals, and concurrence will be submitted to the Division of Environmental Protection prior to the commencement of reclamation activities.
- 4.2.12.9** Site Monitoring: Disposal (borrow) activities will be monitored by the State to ensure compliance with

contractual requirements, applicable Federal, State, and local laws, and any permit conditions.

4.3 Method of Measurement

There shall be no measurement of this item as it is a lump sum.

4.4 Basis of Payment

This item shall be paid at the bid lump sum price. The amount shall not exceed 10% of the “**TOTAL AMOUNT BID**” for the project. Payment shall be full compensation for doing all the work herein prescribed in a workmanlike and acceptable manner; including the furnishing of all labor, materials, tools, equipment, supplies, and incidental necessary to complete the work.

No deduction will be made, nor will any increase be made, in the lump sum site preparation amount regardless of decreases or increases in the final total contract amount or for any other cause.

4.5 Pay Item

Item 4.0, “Site Preparation”, per lump sum. Cannot be more than 10% of the “**TOTAL AMOUNT BID**” for the project.

5.0 EROSION AND SEDIMENT CONTROL

5.1 Description

This item shall consist of furnishing all materials, equipment, labor and incidentals necessary for the installation of a stabilized construction entrance and sediment control barriers such as silt fence, stabilized construction entrances and rock check dams designated in the Drawings. Sediment control shall be placed on regraded outslope areas concurrent with construction and prior to revegetation. A stabilized construction entrance will be located at the site's access to reduce mud that can be tracked onto roads. Additional locations and quantities may be added at the discretion of the **Engineer**.

The Contractor shall submit an erosion and sediment control plan to the Owner at the pre-construction meeting for approval. The plan shall include a plan view drawing of the project limits showing all Best Management Practices (BMP's) erosion control features to be installed/placed prior to clearing and grubbing operations. This plan shall include measures to be utilized for temporary and permanent erosion and sediment control. This plan shall also include the measures as outlined herein. The Owner's approval of this plan does not relieve the Contractor of his responsibility to be in compliance with any and all permits.

5.2 Materials

5.2.1 Silt Fence

- 5.2.1.1 Synthetic filter fabric shall be a pervious sheet of propylene, nylon, and polyester or ethylene yarn that shall be certified by the manufacturer or supplier as conforming to the requirements noted in **WV DOH** Specifications or the **WV BMP's** Geotextile section.
- 5.2.1.2 Synthetic filter fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of 6 months expected usable construction life at a temperature range of 0 to 120 degrees Fahrenheit.
- 5.2.1.3 If wooden stakes are utilized for silt fence construction, they must be a minimum of 1" x 1" hardwood. Wooden stakes should have a minimum length of 30 inches.
- 5.2.1.4 If steel posts (standard "U" or "T" section) are utilized for silt fence construction, they must have a minimum weight of 1.33 pounds per linear foot and should have a minimum length of 30 inches.

5.2.2 Stabilized Construction Entrance

Stone shall be 3" x 6" rock. A geotextile fabric under the pad will be required and a culvert or mountable berm will be needed to divert surface water from flowing onto the construction entrance. Pipe for the construction entrance shall consist of 18" diameter HDPE pipe.

5.3 Installation

5.3.1 Silt Fence

- 5.3.1.1** Silt fence should only be used if the maximum gradient above the barrier is less than 2H:1V.
- 5.3.1.2** The height of a silt fence shall be a minimum of 16 inches above the original ground surface and shall not exceed 34 inches above ground elevation.
- 5.3.1.3** The filter fabric shall be purchased in a continuous roll cut to the length of the barrier to avoid the use of joints. When joints are unavoidable, the silt fence shall be spliced together only at a support post, by twisting the last post of each run around the other, and securely sealed.
- 5.3.1.4** A trench shall be excavated approximately four (4) inches wide and four (4) inches deep on the upslope side of the proposed location of the measure.
- 5.3.1.5** The filter fabric shall be fastened securely to the upslope side of the posts using one inch long (minimum) heavy-duty wire staples, nails, wire, cord, or pockets and eight inches of the fabric shall be extended into the trench. The fabric shall not be stapled to existing trees. The most common type of silt fence has the stakes attached to the fabric at the factory.
- 5.3.1.6** The four (4) inch by four (4) inch trench shall be backfilled and the soil compacted over the filter fabric.
- 5.3.1.7** Silt fence shall be removed when it has served its useful purpose, but not before the upslope area has been permanently stabilized.
- 5.3.1.8** Turn the end of a run of Silt Fence slightly uphill to prevent runoff from going around the end.

5.3.2 Stabilized Construction Entrance

At the beginning of construction, the stabilized construction entrance will be installed to minimize tracking of large quantities of mud onto the roads. The area will be cleared and grubbed, covered with the filter fabric, stone placed over the fabric, and a culvert or mountable berm will be established.

5.3.3 Temporary Stone Check Dams

Temporary Stone check dams shall be installed in the stream channel at the locations shown on the Drawings or as approved by WVDEP. The temporary stone check dam shall be keyed into the bottom and side slopes of the stream channel. Temporary stone check dams shall be constructed to conform to the typical details and wrapped in filter cloth as shown on the Drawings. The temporary stone check dam shall be left in-place or removed as approved by the **Engineer**.

5.4 Maintenance

During the course of the project, sediment control structures shall be maintained in sound condition and accumulations of silt, which may threaten their effectiveness, shall be removed. Silt removed from the sediment control structures shall be taken to an approved disposal area. Upon the completion of the project, or as approved by the **Engineer** or **WV DEP**; the **Contractor** shall clean, replace, or remove sediment control structures and revegetate such disturbances when applicable in accordance with the appropriate Section of these Specifications.

5.5 Method of Measurement

5.5.1 The method of measurement for Sediment Control Barrier installation and maintenance that will be in conformance with the specifications and accepted by the **Engineer** or **WV DEP** shall be on a per lineal foot basis to include silt fence, stakes, all necessary materials, supplies, labor and equipment for installation and maintenance including sediment removal and disposal.

5.5.2 Any additional sediment control installed by the **Contractor** to meet any applicable State or Federal Law or Regulation shall be the **Contractor's** sole responsibility and all costs pursuant thereto shall be born fully by the **Contractor**. Any sediment control which is not illustrated in the Drawings that the **Contractor** may install to protect streams or for other purposes shall not be included for measurement and shall be the sole responsibility of the **Contractor**. However, any sediment control approved by the **WVDEP** prior to placement shall be included for measurement.

5.5.3 The method of measurement for construction of the stabilized construction entrance will be on a per ton basis installed. This will include all materials, labor, maintenance, etc. required for the entrance.

5.5.4 The method of measurement for temporary stone check dams will be per each, properly installed according to the drawings, or as directed by the **Engineer**.

5.6 Basis of Payment

The quantity of work completed by the **Contractor** and accepted by the **Owner** will be paid at the contract unit or lump sum price bid for the following items, which price and payment shall be full compensation for doing all the work herein prescribed in a workmanlike and acceptable manner, including the furnishing of all labor, materials, supplies, tools, equipment, and incidentals necessary to complete the work. Additionally, payments shall constitute full compensation for any required maintenance, sediment removal and disposal. The contract unit price bid shall include removal of Sediment Control Barriers at the completion of work on the project or as approved by the **Engineer**.

5.7 Pay Items

Item 5.1, "Silt Fence", per linear foot.

Item 5.2, "Stabilized Construction Entrances", per ton installed.

Item 5.3, "Temporary Stone Check Dam", per each.

6.0 REVEGETATION

6.1 Description

This work shall cover all operations incidental to the establishment of vegetation within the limits of construction as shown on the Drawings and any other areas as approved by the **WVDEP**. This work also includes the furnishing and the application of fertilizer, agricultural limestone and mulch and the furnishing and sowing of seed, all in accordance with these Specifications and as designated herein.

No areas outside the limits of construction shall be disturbed without prior approval from the **Engineer** in order to ensure that Right-of-Entry has been obtained.

Any areas outside the limits of construction, disturbed by the **Contractor** shall be revegetated by the **Contractor** at no expense to the **Owner**.

6.2 Materials

6.2.1 Fertilizer

The commercial fertilizer to be used shall consist of 5-20-5 grade of uniform composition and furnished in standard containers. These containers, in accordance with applicable state and federal laws, must be clearly marked with the following information:

- a. Weight
- b. Name of Plant Nutrients
- c. Guaranteed Nutrients Percentages

Fertilizer shall be applied at a minimum rate of 1,000 lbs./acre. Fertilizer shall be applied immediately to all areas reaching final grade by one of the two following methods:

- a. Apply and incorporate fertilizer during seedbed preparation.
- b. Apply fertilizer in hydro seeding mixture following seedbed preparation.

6.2.2 Limestone

The lime to be used will be an agricultural grade pulverized limestone containing a minimum of 10% MgCO₃ and not less than 75% total carbonates. Fineness will be such that not less than 75% will pass through a #100 sieve and 100% will pass through a #10 sieve.

Lime rate shall be formulated from soil test results. In the absence of soil testing, lime shall be applied at a minimum rate of 4.0 tons/acre.

Lime shall be applied immediately to all areas requiring seeding reaching final grade by 1 of the 2 methods listed in Section 6.2.1, "Fertilizer".

6.2.3 Seed Mixtures

The variety of grass and legume seed furnished for the project shall bear a tag, in accordance with applicable state and federal laws, with the following information listed:

1. Lot Number
2. Seed Producers Name
3. Percent Purity
4. Percent Germination
5. Date of Germination Testing
6. Weed Seed Content (should be <0.25% by weight)

All leguminous seed shall be inoculated with the specified strain of rhizobia which shall be a pure culture of bacteria selected for maximum vitality. No rhizobia shall be used which has passed the expiration date on each package. The inoculant shall be applied at five times the recommended rate except when used in a hydro seeding mixture when the rate will be ten times the recommended rate.

6.2.3.1 Temporary Seed Mixtures

All stockpiles and other disturbed areas which will require further disturbance in which the additional disturbance will be delayed for a period of three (3) weeks or longer shall be vegetated according to the following guidelines:

<u>Variety of Seed</u>	Spring 3/15-5/15	Summer 5/31-8/15	Fall 8/15- 10/15	Winter 10/15- 11/15
Annual Ryegrass (Lolium Multiflorum)	20 lbs/ac.		20 lbs/ac.	
German Millet* (Setaria Italica)		50 lbs/ac.		
Cereal Rye (Secale Cereale)				90 lbs/ac.

***Do Not Use Japanese Millet**

All areas to be temporarily seeded which are to be disturbed again shall be fertilized with 500 lbs./acre of 5-

20-5. All areas reaching final grade to be temporarily seeded shall be fertilized according to Section 6.2.1. Lime shall be applied according to Section 6.2.2 and mulch according to Section 6.2.4.

6.2.3.2 Permanent Seed Mixtures

Permanent vegetation shall be established on all areas reaching final grade or other areas not likely to be destroyed by further construction activities. Any areas which reach final grade between May 31-August 15 or October 15-November 15 shall be seeded with the appropriate temporary seed mixture according to Section 6.2.3.1. The areas shall then be reseeded with a permanent seed mixture, without Annual Ryegrass, during the next defined seeding period according to this section. The actual date of permanent seeding will require the **Owner's** approval.

Variety of Seed	Spring 3/15 – 5/15	Fall 8/15 – 10/15
Orchard grass (Dactylis glomerata)	15 lbs./ac.	15 lbs./ac.
Birdsfoot Trefoil (2) (Lotus corniculatus)	15 lbs./ac.	15 lbs./ac.
Red Clover (Trifolium pratense)	10 lbs./ac.	10 lbs./ac.
Annual Ryegrass (Lolium multiflorum)	15 lbs./ac.	15 lbs./ac.
Black Locust (Robinia Pseudoacacia)	5 lbs./ac.	5 lbs./ac.
Foxtail Millet Or Hairy Vetch (3) (Vicia Villosa) Or Winter Wheat	12 lbs./ac. 5 lbs./ac. 20 lbs./ac.	12 lbs./ac. 5 lbs./ac. 20 lbs./ac.

1. Seed-rate suggested is for Pure Live Seed (PLS) in lbs./acre.
2. Herbaceous legumes must be treated with the appropriate bacterium before seeding. On areas which are steeply sloping (Steeper than 1.7:1) or slide prone substitute Crownvetch (Coronilla varia) at 20 lbs./acre for Birdsfoot Trefoil.
3. Used only if the area is shaded.

6.2.3.3 Lawn Seed Mixture

Existing lawn areas disturbed by construction shall be reseeded using the following mix.

Rate Lb/1000 sq. ft.	Seed Variety	Minimum Specifications	
		% Purity	% Total Germination
0.45	Red Fescue (Pennlawn)	98	85
0.90	Kentucky Bluegrass	85	75
0.70	Merion Bluegrass	90	75
0.20	Annual Ryegrass*	95	85

* Use Annual Ryegrass only in mixtures seeded after August 15 and before May 15.

6.2.4 Mulch Material

Mulching procedures shall take place immediately following seeding. Mulch material shall consist of erosion matting, straw, or wood cellulose fiber.

6.2.4.1 Straw

Straw mulch shall include baled wheat or oats straw or baled grass hay. Straw mulch shall be dry and reasonably free of weed, seeds, sticks or other foreign material. Straw mulch shall be applied at a rate of 2 tons/acre. The straw mulch shall be anchored with 100 gallons/acre asphalt emulsion or 750 lbs./acre wood cellulose fiber.

6.2.4.2 Wood Cellulose Fiber

Wood cellulose fiber may be used only on slopes steeper than 2H:1V at a rate of 1,500 lbs./acre. A mulch for use with the hydraulic application of seed, fertilizer and lime shall consist of wood cellulose fiber. It shall be processed in such a manner that it will contain no growth or germination inhibiting factors and shall be dyed green. It shall be manufactured in such a manner the (1) after addition and agitation in slurry tanks with fertilizers, lime seeds, and water, the fibers in the material will become uniformly suspended to form a homogeneous slurry and (2)

the material, when hydraulically sprayed on the ground, will form a blotter-like ground cover impregnated uniformly with seed, will allow rainfall to percolate to the underlying soil.

The wood cellulose fiber shall be supplied in packages and have a gross weight not to exceed 100 pounds. Weight specifications of this material from suppliers, and for all applications, shall refer only to air dry weight of the fiber material. Air dry weight is based on the normal weight standard of the Technical Association of the Pulp and Paper Industry for Wood Cellulose and is considered equivalent to 10 percent moisture. Each package of the cellulose fiber shall be marked by the manufacturer to show the air dry weight content.

6.2.5 Water

Water shall be reasonable free of injurious and other toxic substances harmful to plant life. The source of water is subject to the approval of the **Engineer**.

6.3 Direct Seeding

Direct seeding on coal refuse will not be allowed.

6.4 Construction Methods

6.4.1 All revegetation activities shall be conducted immediately following completion of final grading so as to utilize the fine soil material as a seedbed before this material is lost via subsequent rainfall.

6.4.2 On sites where appropriate equipment can operate the seedbed shall be prepared by breaking up surface crusts and loosening the soil material to a minimum of three (3) inches. Discing, harrowing, cultipacking or other acceptable tillage operations may be used to prepare the seedbed. On sites where appropriate equipment cannot operate, the seedbed shall be prepared by "tracking in" with a dozer or scarifying by other approved methods. Rocks larger than six (6) inches in diameter, or two (2) inches in diameter in lawn areas, trash, weeds and other debris that will interfere with seeding or maintenance shall be removed or disposed of as approved by the **Engineer**. Seedbed preparation shall be suspended when soil moisture conditions are not suitable for the preparation of a satisfactory seedbed as determined by **Engineer**.

Yard areas shall be hand raked; rocks larger than two (2) inches in diameter shall be removed and disposed of as approved by the **Engineer**.

- 6.4.3 Seedbed preparation and seeding shall take place progressively as various regraded areas are brought to final grade.
- 6.4.4 All seeding operations shall be performed immediately following seedbed preparation in such a manner that the seed is applied in the specified quantities uniformly on the designated areas.
- 6.4.5 Seed application shall consist of approved hydroseeding methods where feasible. Any seed left in hydroseeder overnight shall be reinoculated before that seed shall be applied. Other methods of seed application may be utilized for site-specific reasons when approved by the **Engineer**.
- 6.4.6 Any area failing to establish a vegetative stand due to weather or adverse soil conditions shall be reseeded, relimed, refertilized and remulched as approved by the **Engineer**.
- 6.4.7 The **Contractor** shall maintain all seeded areas until final acceptance of the project. All areas shall be protected from any further equipment traffic and any damaged areas shall be repaired and reseeded. Maintaining seeded areas shall consist of watering, refilling, refertilizing, reliming, reseeding and remulching erosion gullies and all bare areas.
- 6.4.8 A second and third seeding will be applied as needed, or as approved by the **Engineer**.

6.4.8.1 Second Step Seeding

The second step seeding will take place during the first defined seeding period following the initial seeding. No payment shall be made for second step seeding, this work is part of the contract if completed before the final inspection or shall be considered warranty if completed after the final inspection. The following shall be used as a guide for second step application.

- a. For areas with less than a 50 percent stand or subject to severe erosion, apply the complete amount of seed, fertilizer, and lime mulch as specified.
- b. For areas with over 50 percent stand apply one half the original fertilizer, lime and seed. If erosion is a problem, apply one-half the original mulch specified in Section 6.2.4.

6.4.8.2 Third Step Seeding

The third step seeding shall consist of spot applications on areas not showing a satisfactory stand. The seeding shall take place at the next defined seeding period following the second step application. The quantity of material to be used shall be determined on the same basis as for the second step application in Section 6.4.8.1

6.4.8.3 Second and third step seeding shall be considered part of the contract if completed before the final inspection or considered warranty if completed after the final inspection.

6.5 Method of Measurement

6.5.1 The method of measurement for revegetation will be lump sum. Payment to include all temporary seeding, lime, fertilizer, seed and mulch for the first seeding only. Subsequent seeding will not be measured or paid for but will be considered incidental to initial seeding.

6.5.2 The **Contractor** shall be paid only for those areas disturbed and revegetated during operations necessary for completion of the work. The quantity shall not include areas disturbed for storage facilities and staging areas unless prior approval was obtained from the **Engineer**. No payment shall be made for any seeding conducted after the final inspection; this work is considered warranty.

6.6 Basis of Payment

6.6.1 The quantities of work done will be paid at the contract unit price bid as listed below, which price and payment shall be full compensation for doing all the work herein prescribed in workmanlike and acceptable manner including the furnishing of all labor, materials, tools, equipment, supplies, and incidentals necessary to complete the work.

6.6.2 No payment will be made for temporary seeding or seeding after the initial seeding. All work done after initial seeding will be done as maintenance of a completed phase of work or as warranty work after the final inspection.

6.7 Pay Items

Item 6.0, "Revegetation", lump sum.

7.0 DRAINAGE STRUCTURES

7.1 Description

Work performed under this section shall consist of furnishing all labor, equipment and materials necessary to construct drainage structures as shown on the Drawings. Drainage structures and drainage controls include but are not limited to vegetated, rock riprap lined ditches, culverts, bench drains, and underdrains.

7.2 Materials

7.2.1 Excavated Material

Materials shall consist of in-place refuse, reddog, mine spoil, natural soil, bedrock and/or any other material requiring excavation for installation of drainage control structures. All excavation shall be considered incidental to installation of drainage control structures and the cost of this excavation shall be included in the unit bid price for each drainage control structure.

7.2.2 Rock

7.2.2.1 Rock used for riprap lining for ditches and temporary culvert crossings shall consist of crushed stone or rough shot rock. In-placed rammed or hammered rock shall be acceptable. The rock shall be hard durable sandstone or limestone. The rock shall have a maximum weighted loss of thirty (30) percent when subjected to five (5) cycles of the Sodium Sulfate Soundness Test; ASTM C-88 as modified by AASHTO T-104 (Modified for testing of Ledge Rock). Shale or other rock with high weathering potential shall not be used.

7.2.2.2 Rock used for riprap lining for ditches shall be well-graded rock ranging in size from six (6) to eighteen (18) inches with a median diameter (D50) of twelve (12) inches. Twenty-five (25) percent by weight of the rock will be one and one-half (1 ½) time the median diameter. The remaining seventy-five (75) percent of the rock will be well-graded between six (6) and eighteen (18) inches with no more than ten (10) percent by weight less than six (6) inches.

7.2.3 Culverts

7.2.3.1 Culvert for the temporary stream crossing shall be 36" diameter steel pipe with 0.375 inch wall thickness, or as approved by the Engineer.

7.2.3.2 HDPE Pipes: The HDPE pipes shall consist of 24" diameter corrugated high density polyethylene pipe, such as ADS's Hi-Q pipe, or approved equal unless otherwise noted on the plans.

7.2.3.3 The 24" HDPE pipe bedding shall consist of fine aggregate meeting the requirements of Section 704.6 of the WVDOH Standard Specifications for Roads and Bridges, Adopted 2010, except that the gradation shall meet the requirements of Section 702.6 of the WVDOH Standard Specifications for Roads and Bridges, Adopted 2010. Select aggregate bedding and backfill for HDPE culverts beneath gravel road shall consist of Class I crusher run.

7.2.4 Aggregate

Aggregate used for pipe bedding and backfill shall be 1 1/2 inch crusher run stone.

7.2.5 Filter Fabric

Filter fabric shall be Mirafi 140N or approved equivalent and shall meet all applicable requirements of Section 7.15.11, "**Engineering Fabric**", of the West Virginia Department of Highways, **Standard Specifications Roads and Bridges, Adopted 1993.**

7.3 Construction Methods

7.3.1 Ditches

7.3.1.1 All drainage structures shall be constructed as shown on the Drawings or as approved by the **Engineer**. Drainage structures shall be excavated and/or constructed to the lines and grades shown on the drawings. Final grading shall be performed to eliminate any irregularities in the grade which might impound water.

7.3.1.2 The excavation shall be done in a safe and careful manner. Excavation should begin at the outlet end so that ponding and wet excavation conditions can be held to a minimum.

- 7.3.1.3 The final location of the drainage structures may be adjusted by the **Engineer** in the field to minimize the disturbed area or as field conditions require.
- 7.3.1.4 The areas to receive drainage structures shall be cleared and grubbed in accordance with Section 4.0 of these Specifications.
- 7.3.1.5 Excavation for all drainage structures is unclassified and considered incidental to construction of the drainage structures; no additional compensation will be considered for excavation, including rock excavation. All areas disturbed during construction of the drainage structures will be revegetated in accordance with Section 6.0 of these specifications. Excess material may be used as cover material, if acceptable.
- 7.3.1.6 Vegetated ditches shall be seeded, limed, fertilized and mulched in accordance with Section 6.0 of these Specifications.
- 7.3.1.7 Riprap shall be placed to its required thickness in one operation without damaging or displacing the underlying material. Riprap shall be placed in accordance with Section 218.3.2 of the West Virginia Division of Highways, **Standard Specifications for Roads and Bridges**. Stone shall be delivered, stockpiled and placed in such a manner as to keep the material from being segregated. It is anticipated that some placement by hand will be required.

7.3.2 Culverts

- 7.3.2.1 The 24" diameter HDPE culvert shall be installed at the location shown on the plans. The trench for the culvert shall be excavated in accordance with the detail provided in the plans. Pipe bedding shall conform to the details. Fine aggregate shall be placed in the bottom of the trench to the dimensions indicated by the details for leveling purposes.
- 7.3.2.2 Trench width for the pipe shall not be less than the outside diameter of the pipe plus one half of the diameter (with a minimum of one foot) on each side of the pipe measured to the face of the trench or to the sheeting when used, and shall be excavated to depth, line and grade, as shown on the Construction Drawings. Trenching will involve excavation of in place material including soil. Trench bottom shall be

thoroughly cleaned of any rock debris prior to the placement of the pipe.

7.3.2.3 Trench excavation exceeding 5 feet in depth shall be supported with suitable shoring or sides of the excavation shall be cut to stable slopes as recommended in the OSHA Publication "Excavating and Trenching Operations", OSHA 1926 and approved by the Engineer to prevent caving, slipping or cracking of the sides to protect workmen from any injury. Any shoring installed shall be removed following backfilling the trench.

7.3.2.4 Culvert bedding and trench backfilling for at least one foot above the top of the culvert shall be 1 ½" Crusher Run aggregate. The bedding shall be placed at the bottom of the trench and shall be properly shaped to receive the culvert providing a minimum of four (4) inches of bedding for the culvert. The trench shall be kept dry during installation of the culvert.

7.3.2.5 When the bedding is in place, the culvert shall be positioned in the trench, as shown on the Construction Drawings, and all joints (if any) sealed as per manufacturer's recommendations.

7.3.2.6 After the culvert is placed, the trench shall be backfilled as shown on the Construction Drawings. The backfill material shall be placed in maximum six (6) inch lifts and shall be compacted using a tamper. The aggregate backfill shall extend to at least one (1) foot above the top of the culvert as shown on the Construction Drawings. The remainder of the trench may be backfilled with in place material as approved by the Engineer. Compaction of the backfill material shall be at least 95 percent of the maximum dry density obtained by ASTM Method D698 (Standard Proctor). Field density testing and testing frequency shall be as directed by the WVDEP.

7.3.3 Temporary Culvert Crossing

7.3.3.1 Temporary culvert crossings shall be excavated and/or constructed to the lines and grades shown on the drawings. Final grading shall be performed to eliminate any irregularities in the grade which might impound water.

- 7.3.3.2 The final location and elevation of the temporary culvert crossing may be adjusted by the Engineer in the field to minimize the disturbed area or as field conditions require.
- 7.3.3.3 Excavation for all temporary culvert crossings is unclassified and considered incidental to construction of the drainage structures; no additional compensation will be considered for excavation, including rock excavation. All areas disturbed during construction of the drainage structures will be revegetated in accordance with Section 6.0 of these specifications. Excess material may be used as cover material, if acceptable.
- 7.3.3.4 The **Contractor** shall maintain all temporary culvert crossings through completion of the required work.
- 7.3.3.5 The temporary culvert crossings shall be removed at the completion of work and the area shall be restored to a condition equal to or better than its existing condition as directed by the **WVDEP**.

7.4 Maintenance

During the course of the project, drainage control structures shall be maintained in sound condition and accumulations of silt, which may threaten their effectiveness, shall be removed. Silt removed from the drainage control structures shall be taken to an approved disposal area. Upon the completion of the project, or as approved by the **Engineer** or **WVDEP**; the **Contractor** shall clean, replace, or remove drainage control structures and revegetate such disturbances when applicable in accordance with the appropriate Section of these Specifications.

7.5 Method of Measurement

- 7.5.1 The method of measurement for excavation of all drainage structures shall be considered incidental to construction of drainage structures and the cost of this excavation shall be included in the unit bid price for each drainage structure.
- 7.5.2 The method of measurement for construction and/or installation of ditches shall be on a per linear foot basis to include excavation, backfill, rock riprap, outlet protection, all necessary materials, supplies, labor and equipment. Ditch outlet or outlet protection will be paid incidental to the construction of the ditch.
- 7.5.3 The method of measurement for the installation of new culverts shall be on a per linear foot basis to include excavation, backfill, disposal, all necessary materials, supplies, labor and equipment.

7.5.4 The method of measurement for installation of the HDPE Culvert shall be on a linear foot basis measured to the top of the pipe. This unit price shall include the cost of trench excavation and backfilling, waste disposal, furnishing and placement of select aggregate bedding, HDPE pipe, culvert outlet riprapped where required, and all other items necessary for construction.

7.5.5 Surveying shall be incidental to work performed in the section. Payment for surveying shall be as indicated in Item 2.0 "Construction Layout".

7.6 Basis of Payment

7.6.1 The quantity of work completed by the **Contractor** and accepted by the **Owner** will be paid at the contract unit or lump sum price bid for the following items, which price and payment shall be full compensation for doing all the work herein prescribed in a workmanlike and acceptable manner, including the furnishing of all labor, materials, supplies, tools, equipment, and incidentals necessary to complete the work.

7.6.2 The unit price for "24" HDPE Culvert" shall include the cost of trench excavation and backfilling, including waste disposal, furnishing and placement of select aggregate bedding, HDPE pipe, and all other items necessary for construction.

7.7 Pay Items

Item 7.1, "1.5' Vee Ditch, Rock Riprap", per linear foot.

Item 7.2, "4' Flat Bottom Ditch, Vegetated", per linear foot.

Item 7.3, "4' Flat Bottom Ditch, Rock Riprap", per linear foot.

Item 7.4, "5' Flat Bottom Ditch, Rock Riprap", per linear foot.

Item 7.5, "Temporary 36" Culvert Crossing", per each.

Item 7.6, "24" HDPE Culvert", per linear foot.

8.0 UNCLASSIFIED EXCAVATION

8.1 Description

Work performed under this section shall consist of furnishing all labor and equipment necessary to excavate, transport, stockpile, place and compact coarse coal refuse, red dog, coal, mine spoil, soil, rock, or other materials encountered in the project sites and the installation of the sediment and erosion controls as shown on the Drawings and any other indicated incidental work.

8.2 General

8.2.1 Material Removal

Material removal (excavation) shall consist of the required removal of materials from the areas shown and the sloping and finishing of the areas to the required lines, grades and cross-sections.

The **Contractor** shall not excavate below the design grade except to allow for the placement of the minimum soil cover without the permission of the **Engineer**.

The **Contractor** is required to exercise care to avoid intermediate site conditions which may result in unstable situations during the construction process.

The **Contractor** must utilize material removal techniques which are generally considered to be conducive to retaining slope stability, installation of safety benches as necessary, and maintaining the work areas in a fashion which will not induce instability. Additionally, slopes once disturbed, shall be brought to the design templates as soon as practicable and shall be protected against erosion. The **Owner** may not accept any area as to being satisfactorily complete if an adjacent work area remains in a condition, which may cause damage to the subject area.

8.2.2 Material Placement

Material placement shall consist of performing all operations in connection with the placing of all materials in fill areas (to include preparation of surface, spreading, extinguishing, and compaction).

All areas where material is to be placed shall be constructed to blend in with existing conditions and materials, unless otherwise approved by the **Engineer**.

The **Contractor** shall maintain and protect areas where material is to be placed in a satisfactory condition at all times until final completion and acceptance of all work under the Contract. During material placement the **Contractor** shall remove from the areas of fill any material which the **Engineer** considers objectionable and shall also dispose of such material and refill the areas as approved, all at no additional cost to the **Owner**.

8.2.3 Borrow/Disposal Area

An off-site borrow/disposal area may be required to provide for material shortages or excess material disposal. The **Contractor** is responsible for locating this area and obtaining right-of-entry agreements in which the property owner indemnifies and holds **WVDEP/OSMRE** harmless from any injury or damage whatsoever resulting from the **Contractor's** use of the property. All prospective Contractors and Bidders must obtain their own permission from the landowner for any subsurface tests, borings, or pits. The **Contractor** shall be held responsible for compliance with all NEPA requirements and shall provide proof of such compliance to the **Owner**. The **Contractor** shall submit a reclamation plan to the **Owner** and must obtain approval for the said plan prior to any disturbance to the disposal site.

8.2.4 Subsurface Investigation

Soil borings shown on the plans or attached to these specifications, depicting subsurface conditions are thought to be representative but cannot be guaranteed accurate. In the event conclusions or recommendations based on the test boring data shown are made by others, such conclusions or recommendations are the responsibility of the others. The **Contractor** shall have satisfied himself by personal examination of subsurface samples from test borings, by a visit to the site and by such other means as he may have chosen, as to the actual conditions and requirements of the work. No allowance will be made for any claim that the bid was based upon incomplete information as to the nature and character of the site, the work involved, or for materials of an unexpected character found in excavations.

All contractors and perspective bidders must receive permission from the Landowner before obtaining any subsurface samples and/or test borings. The **Contractor** shall hold the **Owner** harmless against any injury or damage whatsoever resulting from this use of the property.

8.3 Construction Methods

- 8.3.1 Topsoil and suitable soil cover material present in the areas of the sites to be regraded shall be stripped and stockpiled on site for use as final soil cover.

- 8.3.2 No material shall be excavated or placed in any area until the area has been dewatered, cleared, grubbed, and stripped as specified; and the surface has been approved by the **Engineer**. The **Contractor** shall keep the area free from water or unacceptable materials after placement operations have started. All slopes shall be benched before fill material is placed.
- 8.3.3 Coal refuse, reddog, coal, mine spoil or rock fill material is to be placed in two (2) foot lifts maximum and compacted. Soil fill material shall be placed in eight (8) inch lifts maximum and compacted. Compaction of the fill material shall be to 90% of the materials Maximum Dry Density as determined by ASTM D-698. The moisture content of the fill material at the time of placement shall be within a range of ± 3 percent of the materials optimum moisture content as determined by ASTM D-968
- 8.3.4 Compaction shall be obtained utilizing spreading and hauling equipment or compacting equipment. Field density testing shall be by the nuclear gauge method in accordance with ASTM D-2922. At a minimum 1 test per 5000 cubic yards or portion of or as approved by the **Engineer**. Testing shall be performed by an independent testing company. The cost shall be borne by the **Contractor** as part of the Quality Control Item.
- 8.3.5 Drainage structures shall be constructed to the lines and grades as shown on the plan sheets and/or cross-sections. All excavation necessary for construction of these structures shall be incidental to construction of drainage structures and included in the unit bid cost item for each drainage structure.
- 8.3.6 The **Contractor** shall make every reasonable effort to construct the project sites uniformly. No payment will be made for any earthwork performed outside the construction limits unless approved by the **Owner**. No extra material shall be removed or placed outside of these limits without permission.
- 8.3.7 Material removal carried below the indicated depths, except when approved by the **Engineer**, shall be replaced with material satisfactory to the **Engineer**. Additional payment will not be made for unauthorized material removal nor for any backfilling necessitated thereby.
- 8.3.8 The **Contractor** shall select equipment of such type, size, and quantity to perform the work efficiently and within the requirements set forth in these Specifications. If it is determined that these Specifications are not being met to inappropriate equipment, the **Contractor** shall change his equipment to bring the work into compliance with the Specifications.

8.3.9 The **Contractor** shall select compaction equipment that will produce the specified density. All compaction equipment must be approved by the Engineer prior to use. If a sealed, slick surface develops during compaction of the fill, the surface shall be scarified to a minimum depth of four (4) inches prior to placement of the next lift.

8.4 Method of Measurement

8.4.1 Unclassified excavation will not be a separate item, but will be considered incidental to the cost of “Drainage Structures”, “Structure Demolition”, and “Mine Seals” included in these specifications.

9.0 MINE SEALS

9.1 Description

This work shall consist of dewatering the existing mine pool, excavating the mine opening, installing the gravel bulkhead wet mine seal, modified wet seal and bat gate seal, and backfilling the opening to near original grade. It shall be constructed in accordance with the typical details at the locations shown on the plans. Materials shall conform to those listed below. The length of the conveyance pipes and associated clean-outs may vary based on the conditions revealed at the time of construction and the final grades that are achieved. The maximum run allowable of conveyance pipe without installation of cleanouts shall be 150 feet. Dry mine seal will constructed at the location shown on the plans. Bat Gate Seals can only be excavated and installed between the dates of May 1 and August 31.

9.2 Materials

9.2.1 Stone

The bulkhead stone shall consist of sound, durable 3” to 6” non-calcareous crushed sandstone. Crushed stone shall consist of particles of clean, hard, tough, durable rock, free from adherent coating. Stone shall have a maximum weighted loss of thirty (30) percent when subjected to five (5) cycles of the Sodium Sulfate Soundness Test – **ASTM C88** (ASTM C88-05 Standard Test Method for Soundness of Aggregates by Use of Sodium Sulfate or Magnesium Sulfate), as modified by the American Association of State Highway and Transportation Officials (**AASHTO**) **T-104**. Non-calcareous stone shall have an acid base accounting test to show the potential for acid producing material in the stone. A laboratory certification of soundness and acid base shall be submitted to the WVDEP prior to delivery. **Filter Fabric**

Filter Fabric shall be Mirafi 140N or an approved equal.

9.2.3 Pipe

Wet Mine Seal outlet pipes shall consist of custom perforated 12 inch diameter PVC SDR 35 grade extending a minimum of two (2) joints into the mine and through the stone bulkhead as shown on the Plans. The riser component for two (2) of the seal components (with 18 inch diameter custom perforated end cap) and perforated stub (with 12” diameter custom perforated end cap) and for the other component shall also be custom perforated 12 inch diameter PVC SDR 35. Wet Mine Seal Outlet pipes shall extend from one foot (1.0’) inside the downstream edge of the stone bulkhead to the receiving outlet ditches surrounded by the “best on site clayey material” from subgrade to the bottom of the mine seal. A bat gate shall be installed at the end of the bat gate pipe as detailed on the Plans. Animal

guards shall be constructed and installed on the downstream end of each of the outlet pipes as detailed on the Plans. Clean outs, if required, shall be installed along the two (2) outlet pipe alignments and shall consist of necessary wye fittings and connections compatible with SDR 35 PVC pipe and extending from the outlet pipe to final grades shown on the Plans.

9.2.4 Bat Gate

9.2.4.1 The bat gates shall conform to the detail drawings as shown on the plans. The bat gates can be made of structural steel or HDPE hot welded material. Contactor will submit shop drawings for approval by WVDEP prior to installation. There are several suppliers that can supply either steel or the HDPE gates. The use of steel or HDPE for the bat gate will be determined by the plan requirements. If steel material is used for the bat gate, a marine grade paint shall be used on all of the steel gate.

9.2.4.2 The bat gate pipes shall be HDPE corrugated, smooth wall interior high density polyethylene pipe, such as ADS's Hi-Q pipe, or approved equal.

9.2.4.3 All steel used for bat gate components shall be Grade 50 with Grade 46 steel for all structural tubing. All welds shall be 1/4" fillet welds, minimum. Steel components include: 4" x 4" x 3/8" structural steel tubing; 6" x 6" x 3/8" angle steel; 4" x 4" x 3/8" angle steel; 6" x 3/8" steel plate; and 5/8" high strength A325 bolts, nuts, and washers.

9.2.4.4 Concrete for standard bat gates shall meet the following requirements:

28 day compressive strength	3000 psi minimum
Coarse aggregate (AASHTO M43)	No. 57 or No. 67
Slump	3 1/2 in. ±
Concrete shall be air entrained	5 to 7 percent

After placement, all concrete shall be rodded and tamped to reduce the risk of honeycombing and to insure proper placement. Four concrete test cylinders shall be made and tested in general accordance with ASTM C-31 and C-39 respectively. One set of cylinders shall be made for each day's concrete placement. One test cylinder shall be tested at 7 days age, two test cylinders shall be tested at 28 days age, and one cylinder shall be held as a spare.

Reinforcement for the concrete shall consist of polypropylene fibers in accordance with ASTM C-116.

9.3 Construction Methods

9.3.1 Excavation of the mine opening shall proceed in a manner which will control the release of the mine pool. The opening shall be cleaned of debris to the

satisfaction of the Engineer. Once the opening has been cleaned, a 6" layer of stone shall be placed as pipe bedding. The pipes with risers shall be attached to steel plates and placed in the openings as shown on the attached Plans. The Gravel Bulkhead will be constructed and covered with one layer of Filter Fabric and compacted clay and soil cover as shown on the Plans. Solid pipe shall extend from the mine seal to a riprap channel discharging one foot above the invert of the channel. All pipes shall have a minimum grade of 2 percent.

The Contractor shall be solely responsible for any damages caused by dewatering activities.

- 9.3.2** A Dewatering Plan shall be submitted and approved by the engineer prior to any work taking place. The Contractor shall install and operate a water treatment system utilizing soda ash briquettes in a manner approved by the engineer to maintain a pH between 6.0 and 9.0 in all water above base flow while dewatering mine. Anytime a mine portal is being dewatered a call must be made to the spill hotline at 1-800-642-3074 to advise of the work being performed. Contractor must get either a confirmation number or a name of the person taking the call.

The contractor is also advised that abandoned mine workings could contain dangerous gases such as methane and blackdamp. The contractor shall be responsible for worker safety when working around mine openings.

- 9.3.3** The wet mine seals, modified mine seals and bat gate seals will require excavation into the mine entries/collapsed portals for proper installation. The Contractor shall perform this work after taking all necessary precautions with regard to control and treatment of the impounded water, with all work being performed at the risk of the Contractor. The WVDEP accepts no responsibility or liability for any related construction activities. A dewatering plan shall be submitted to the WVDEP for approval prior to seal construction, with pool reduction possibly being provided from above with a well-point system or a similar dewatering scheme.

Construction of wet mine seals, modified mine seals and bat gate seals shall be in accordance with the plan details. Filter fabric shall separate all aggregate/soil interfaces. The clay seal and pipe outlet trenches shall be compacted in accordance with Section 12 of these specifications. The Contractor shall adhere to OSHA Regulation 29 CFR Part 1926 during all excavation and trenching activities.

- 9.3.4** Dry mine seals shall be excavated to solid material and then backfilled according to plan detail with compacted material to conform to the surrounding contours.

9.4 Method of Measurement

- 9.4.1** Wet Mine Seals shall be measured per mine seal installed and shall include all excavation, dewatering, stone, filter fabric, and pipe necessary to complete the seal. The end of the mine seal shall be considered to be at the end of the outlet pipe where it outlets from the clay seal barrier. If solid pipe is required to convey the mine discharge to the collection channel, then it shall begin at the end of the mine seal and shall be considered to be conveyance pipe.
- 9.4.2** Modified Mine Seals shall be measured per modified seal installed and shall include excavation, dewatering, stone, filter fabric, and pipe necessary to complete the seal. The mine seal shall be considered to end at a point extending for a length of two (2) pipe joints from where the SDR 35 pipe that lies within the mine seal connects to the 90 degree elbow. Solid pipe extending from the end of the mine seal to the drainage channel shall be considered to be conveyance pipe and shall begin where identified on the plan drawings or as approved by the engineer in the field if field adjustments are necessary.
- 9.4.3** Bat Gate Mine Seals shall be measured per each installed and approved at the unit price bid per each and shall include all excavation, stone, filter fabric necessary to complete the seal as shown on the Plans and detailed in these Specifications.
- 9.4.5** Bat Gate Pipe and Bat Gate shall be measured as linear feet of HDPE Pipe installed at each seal. Bat Gate will be incidental to the HDPE Pipe.
- 9.4.6** Dry Mine Seals shall be measured per each installed and approved at the unit price bid per each and shall include all excavation, (stone and filter fabric if needed) necessary to complete the seal as shown on the Plans and detailed in these Specifications.
- 9.4.7** The method of measurement for the construction of the PVC SDR-35 drainage conveyance pipe shall be on a linear foot basis of the un-perforated pipe as measured from clay cut-off to the downstream pipe outlet acceptably installed and measured in place per single run of pipe. Trench excavation, furnishing and placement of the pipe and fittings, any necessary cleanouts, compacted on-site backfill, riprap apron where required at pipe outlet or ultimate drainage discharge, and minor grading, including all ancillary materials and operations required to construct the drainage conveyance pipes, will not be measured, but shall be considered incidental to this construction.
- 9.4.8** The standard bat gate mine seals shall be measured as a unit and be paid at the contract price bid for each mine seal. All excavation, demolition, or other site preparation shall be considered incidental to the construction of the standard bat gate mine seal. The unit price includes all concrete, bat gates, steel, reinforcement and all incidentals necessary to install each seal.

9.4.9 Soda Ash Briquettes shall be measured per 50 pound bag used.

9.5 Basis of Payment

- 9.5.1 The unit price for Dry Mine Seal shall include the excavation, filter fabric, stone, and all equipment, material, and labor necessary for their installation.
- 9.5.2 The unit price for Wet/Modified Mine Seal shall include the excavation, stone, filter fabric and all equipment, material, and labor necessary for their installation.
- 9.5.3 The unit price for Dry Mine Seal with Bat Gate, Type I (using commercial stone) shall include the excavation, stone, filter fabric, HDPE pipe, bat gate, and all equipment, material, and labor necessary for their installation.
- 9.5.4 The unit price for Dry Mine Seal with Bat Gate, Type II (using on-site material) shall include the excavation, stone, filter fabric, HDPE pipe, bat gate, and all equipment, material, and labor necessary for their installation.
- 9.5.5 The unit price for Wet Mine Seal with Bat Gate shall include the excavation, stone, filter fabric, HDPE pipe, bat gate, and all equipment, material, and labor necessary for their installation.
- 9.5.6 The quantity of work done will be paid at the Contract unit price bid for the Standard Bat Gate Mine Seal constructed, which price and payment shall be full compensation for doing all the work herein described in a workmanlike and acceptable manner; including the furnishing of all labor, materials, tools, equipment, supplies and incidentals as necessary to complete the work.
- 9.5.7 The unit price for the Mine Water Outlet Drain Gate shall include the excavation, stone, filter fabric, HDPE pipe, bat gate, and all equipment, material, and labor necessary for their installation
- 9.5.8 The unit price for Soda Ash Briquettes shall be for each 50 pound bag used.

9.6 Pay Items

Item 9.1 Dry Mine Seal, per each.

Item 9.2 "Wet/Modified Mine Seal", per each.

Item 9.3, "Dry Mine Seal with Bat Gate, Type I", per each.

Item 9.4, "Dry Mine Seal with Bat Gate, Type II", per each

Item 9.5, "Wet Mine Seal with Bat Gate", per each.

Item 9.6 "Standard Bat Gate", per each.

Item 9.7, "Mine Water Outlet Drain", per each.

Item 9.8, "Soda Ash Briquettes", per 50 pound bag.

10.0 UTILITIES

10.1 Description

This work shall consist of all necessary measures to relocate, maintain and protect all utilities within the limits of work specified herein and on the construction Drawings.

The **Contractor** shall notify the utility in writing at least fifteen (15) but preferably thirty (30) days prior to the time work within the area will begin.

The **Contractor** shall be responsible for making all necessary arrangements and/or performing all necessary work to the satisfaction of the affected utility company and/or the West Virginia Department of Highways in connection with any disturbances within their right-of-way or services.

The **Contractor** shall be solely responsible for locating all utilities within the limits of work. All damage made to existing utilities by the **Contractor** shall be the sole responsibility of the **Contractor**. In the event damage does occur, the **Contractor** shall notify the affected utility and the **Owner** immediately and make or have made all necessary repairs and bear the expenses thereof and resulting damage caused thereby.

The **Contractor** shall obtain rights-of-entry and/or any necessary permits for repairs or relocation.

10.2 Materials

All materials used for utility related disturbance shall be in accordance with these specifications or as indicated by the affected utility.

10.3 Construction Methods

All work shall be in accordance with these specifications or in accordance with those methods as indicated by the affected utility.

10.4 Method of Measurement

There are no known utilities located on the site or adjacent to the site that may be effected and/or require relocation. If any utility requires relocation it will be on a lump sum basis per a submitted and approved invoice. The **Contractor** shall submit a utility cost estimate for approval prior to any work taking place.

10.5 Pay Item

The **Contractor** will not bid on utility work but will be reimbursed the actual **Owner** approved invoice cost.

11.0 TRAFFIC CONTROL

11.1 Description

This work shall consist of all necessary measures to maintain and to protect traffic, to protect the work in progress, to protect adjacent property from excess dust resulting from the construction area and to maintain traffic through, around or adjacent to the construction area, in accordance with these specifications or as approved by the **Engineer**.

11.2 Materials

All materials used for traffic control shall be in accordance with the current WV Department of Highways Manual, "**Traffic Control for Streets and Highway Construction and Maintenance Operations**".

11.3 Construction Methods

Control and protection of traffic through work areas shall comply with the current WV Department of Highways Manual, "**Traffic Control for Streets and Highway Construction and Maintenance Operation**". A copy of the operational plan shall be submitted to the **Owner** for his approval prior to its implementation.

11.4 Method of Measurement

Traffic control will not be a separate item, but will be considered to be incidental to the cost of the project. No separate payment will be allowed.

12.0 SOIL COVER

12.1 Description

This work consists of covering the regraded refuse area, mine seals, and/or any other area required by the **Engineer** with a minimum twelve (12) inch thick layer of soil cover material.

Sufficient soil borrow material is anticipated to be available from the soil borrow area identified in the design drawings and from the cut above the area identifies as refuse on the **WVDEP** provided aerial mapping. The area around the mine seals is anticipated to yield enough soil to use as soil cover material.

12.2 Materials

Soil cover material shall be natural occurring earthen material from potential borrow areas. This material shall be capable of supporting vegetation.

The **Contractor** shall obtain soil cover material from borrow areas within the project work limits or from additional offsite soil borrow areas as necessary.

The **Contractor** shall obtain a borrow right of entry agreement for the movement of soil from one property owner to another inside of the construction limits.

If offsite borrow areas are used it shall be the responsibility of the **Contractor** to obtain such areas at no expense to the **Owner**, and in accordance with any applicable local, state, and/or federal regulations including compliance with NEPA requirements (See Section 4.2.11 for NEPA Compliance Schedule). All offsite borrow areas must be approved by the **Owner** and the **Contractor** must provide an **erosion and sediment control plan, and reclamation plan for approval**. In addition, for all offsite borrow areas outside the project work limits, the **Contractor** must obtain from the property owner a right-of-entry agreement in which the property owner indemnifies and holds the **Owner** harmless from any injury or damages whatsoever resulting from the use of property.

12.3 Construction Methods

Prior to placement of soil cover material the areas to receive the soil cover shall be graded to remove all surface irregularities.

12.3.1 All areas cut to grade in topsoil or soil material do not require soil cover. All areas cut to grade otherwise shall be undercut a maximum depth of twelve (12) inches and covered with a minimum of twelve (12) inches of soil cover material.

- 12.3.2 Soil cover material shall neither be frozen nor shall it be placed on frozen ground or under moisture conditions that prevent grading equipment from producing a uniform surface.
- 12.3.3 After placement, the soil cover material shall be tracked-in to ensure proper bonding of the soil cover material to the regraded area. Equipment shall be capable of operating on the slopes shown on the Drawings and shall produce a uniform surface free of ruts and loose soil. No minimum density shall be required for compaction, but soil cover material shall be “tracked-in” with on-site equipment. “Tracking-in” shall take place by operating the equipment up and down the soil covered slope such that the cleat marks are parallel to the final contours.
- 12.3.4 The final grade of the soil cover shall be free of surface irregularities and shall be built to the lines and grades shown on the Drawings.
- 12.3.5 As the soil cover material is placed and compacted, it shall be protected from erosion by installation of silt barriers and shall be fertilized, limed, seeded and mulched in accordance with Section 6.0 “**Revegetation**” of these specifications.
- 12.3.6 Upon completion of the work, the borrow area and related disturbance shall be neatly trimmed and all debris and soil disposed of in an acceptable manner. All highwalls created are to be eliminated and final graded soil slopes shall not be steeper than 2H:1V unless otherwise proven to be stable or compatible to the reclamation project. All borrow areas outside the project limits shall require that a reclamation plan be submitted to the **Owner** for approval. The borrow areas and related disturbance shall be graded, fertilized, limed, seeded, and mulched in accordance with Section 6.0 “**Revegetation**” of these specifications.
- 12.3.7 It shall be the responsibility of the **Contractor** to obtain, at no expense to the **Owner**, all necessary offsite borrow areas or waste areas in accordance with any applicable local, state, and/or federal regulations including compliance with NEPA requirements. Any borrow or waste areas shall be obtained in accordance with Section 4.2.12 of these specifications. The **Contractor** shall maintain and keep in full force and effect insurance to protect and indemnify the **Owner** and/or its agents or representative, from claims for damages and shall defend all suits at law.

12.4 Method of Measurement

12.4.1 There will be no method of measurement for placement of soil cover. Soil cover placement will be incidental to all items requiring soil cover.

12.5 Basis of Payment

12.5.1 There will be no separate basis of payment for soil cover.

13.0 UPGRADED ACCESS ROAD

13.1 Description

This work shall consist of upgrading sections of the existing access roads on Site No. 2. The length of access roads to be upgraded on Site No. 2 is approximately six hundred (600) feet.

13.2 Materials

13.2.1 Stone used shall be **WVDOH** approved No. 1 stone aggregate and/or crusher run stone.

13.3 Construction Methods

13.3.1 The upgraded access roads shall be constructed to the line as shown on the Drawings field adjusted as necessary to provide for proper drainage relief and safety and/or as directed by the **Engineer**.

13.4 Method of Measurement

13.4.1 The method of measurement for the reconstructed access road shall be on a per ton basis, which is to include grading, stone, all necessary materials and supplies, and labor.

13.5 Basis of Payment

13.5.1 The upgraded access roads shall be constructed to the line as shown on the Drawings, and field adjusted as necessary to provide for proper drainage.

13.6 Pay Items

Item 13.1, "No. 1 Stone", per ton.
Item 13.2, "Crusher Run Stone", per ton.

14.0 STRUCTURE DEMOLITION

14.1 Description

This work shall consist of complete demolition and removal of building ruins, mine ruins, structures, foundations, walls, stone walls, pipes, utility poles, wires, scrap metal, timbers, railroad ties and machinery parts, etc., per these specifications and designated on the Drawings for removal and or as designated by **WVDEP**. It shall include salvaging and disposing of the resulting materials in a manner hereinafter prescribed and in accordance with all applicable state and federal regulations.

14.2 Construction Methods

14.2.1 Demolition and Extent of Removal

Masonry buildings and structure remains shall be completely dismantled. Concrete foundations, concrete piers, walls or similar structures encountered shall be removed below the existing or regraded ground surface. Utility poles that are broken or laying on the ground, wires, scrap metal, machinery parts, timbers railroad ties and other debris shall be removed from the site in their entirety or as approved by **WVDEP**. Utility poles that are standing shall not be removed.

14.2.2 Disposal of Materials

Masonry and concrete rubble material may be buried on site or used as erosion protection if approved by **WVDEP**. All material designated by **WVDEP** for removal from the site shall be disposed of by the **Contractor** in a legal manner at his own expense outside the work limits in an approved landfill, as approved by the **WVDEP**.

14.2.3 Regrading

The area where structures are demolished and removed are to be regraded as necessary to blend into existing grades or designed regrade. Regrading shall be such that all areas are free draining and surface runoff will not pool or impound as approved by the **WVDEP**.

14.3 Method of Measurement

14.3.1 There shall be no measurement of this item as it is a lump sum.

14.3.2 There shall be no measurement for removal and disposal of any and all materials and debris from the project sites as designated by **WVDEP**; it is incidental to "STRUCTURE DEMOLITION".

14.3.3 There shall be no measurement for regrading in the areas where buildings and structures are demolished and removed; it is incidental to “STRUCTURE DEMOLITION”.

14.4 Basis of Payment

14.4.1 This shall be paid at the bid lump sum price. Payment shall constitute full compensation for performing all of the requirements of this item, including furnishing all material, labor, tools, equipment, supplies, disposal fees and incidentals thereof. Salvageable material resulting from the demolition shall be the property of the **Contractor**. No deduction will be made, or will any increase be made, in the lump sum structure demolition item amount regardless of decreases or increase in the final total contract amount for any other cause.

14.5 Pay Items

Item 14.0, “Structure Demolition”, per lump sum.



TRIAD ENGINEERING, INC.
ST. ALBANS & MORGANTOWN, WEST VIRGINIA
OFFICES IN VIRGINIA, MARYLAND & PENNSYLVANIA

TEST BORING LOG

Project Name BROAD R/W PORTALS Boring No. B-1
Project Location _____ Job No. 01-13-0603
Project Manager _____ Ground Surface Elevation _____

SOIL / ROCK DESCRIPTION	Strata Depth	Depth Scale	SAMPLE				
			Blows /6"	No.	Type	Rec.	RQD
SURFACE Brown clay with rock frags. AR →	0.0	0.0					
GRAY SANDSTONE u c2 GRAY SHALE AT 41.8 COAL 58.8 TO 62.2 GRAY SHALE INTO SANDSTONE AT 67.8 BITS - 77.0		10.0	/	1	RC	2.0	1.8
		12.0	/	2	RC	10.0	9.9
		22.0	/	3	RC	10.0	9.8
		32.0	/	4	RC	10.0	10.0
		42.0	/	5	RC	10.0	10.0
		52.0	/	6	RC	10.0	9.9
		62.0	/	7	RC	5.0	4.9
		67.0	/	8	RC	10.0	9.8
	77.0						

Start Date 9-5-13 Hammer Wt. _____ Lbs. Rock Core Dia. _____ Driller TRAC
Finish Date 9-5-13 Hammer Drop _____ Inches Boring Method HSA Helper JB
Drill Rig TRAC

Ground Water Depth
FIRST NOTED 20Y Ft.
AT COMPLETION 22.0 Ft.
AFTER _____ HRS. _____ Ft.
BACKFILLED _____ Hrs.

Sampler Type
SS - DRIVEN SPLIT SPOON
ST - PRESSED SHELBY TUBE
B - BAG SAMPLE
RC - ROCK CORE

Boring Method
HSA - HOLLOW STEM AUGERS
CFA - CONTINUOUS FLIGHT AUGERS
DC - DRIVING CASING
MD - MUD DRILLING



TRIAD ENGINEERING, INC.
ST. ALBANS & MORGANTOWN, WEST VIRGINIA
OFFICES IN VIRGINIA, MARYLAND & PENNSYLVANIA

TEST BORING LOG

Project Name BROAD RUN PORTALS Boring No. B-1A
Project Location _____ Job No. 01-13-0603
Project Manager _____ Ground Surface Elevation _____

SOIL / ROCK DESCRIPTION	Strata Depth	Depth Scale	SAMPLE				
			Blows /6"	No.	Type	Rec.	RQD
SURFACE	0.0	0.0					
Brown clay with Rock frags AR →		10.0					
GRAY SANDSTONE		12.3	/	1	RC	2.3	2.3
		22.3	/	2	RC	10.0	9.9
		32.3	/	3	RC	10.0	10.0
		42.3	/	4	RC	10.0	9.10
		52.3	/	5	RC	10.0	9.9
		62.3	/	6	RC	10.0	7.5
		67.3	/	7	RC	5.0	3.4
GRAY shale at 42.0							
COAL 58.5 to 62.4							
Shale into SANDSTONE at 63.0							
BTB-67.3							

Start Date 9-5-13 Hammer Wt. _____ Lbs. Rock Core Dia. _____ Driller RAL
Finish Date 9-5-13 Hammer Drop _____ Inches Boring Method HSA Helper SE
Drill Rig TRACK

Ground Water Depth _____ Sampler Type _____ Boring Method _____
FIRST NOTED dry Ft. SS - DRIVEN SPLIT SPOON HSA - HOLLOW STEM AUGERS
AT COMPLETION 20.0 Ft. ST - PRESSED SHELBY TUBE CFA - CONTINUOUS FLIGHT AUGERS
AFTER _____ HRS. _____ Ft. B - BAG SAMPLE DC - DRIVING CASING
BACKFILLED _____ Hrs. RC ROCK CORE MD - MUD DRILLING



TRIAD ENGINEERING, INC.
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TEST BORING LOG

Project Name Claudevin AML Boring No. TB-2
 Project Location _____ Job No. 01-13-0603
 Project Manager _____ Ground Surface Elevation _____

SOIL / ROCK DESCRIPTION	Strata Depth	Depth Scale	SAMPLE				
			Blows /6"	No.	Type	Rec.	RQD
SURFACE	0.0	0.0					
AR AT 12.5		12.5					
BROWN & GRAY SANDSTONE CLAY SEAM 41.0 TO 41.5 INTO GRAY SHALE. COAL 52.7 TO 55.9 GRAY SHALE		13.0	/	1	RC	0.6	0.0
		23.0	/	2	RC	10.0	9.8
		33.0	/	3	RC	9.8	8.7
		43.0	/	4	RC	10.0	9.9
		53.0	/	5	RC	9.8	7.1
		63.0	/	6	RC	5.0	0.9
		68.0	/	7	RC	9.8	7.9
BFB-68.0		68.0					

Start Date 8-29-13 Hammer Wt. 140 Lbs. Rock Core Dia. _____ Driller RAL
 Finish Date 8-29-13 Hammer Drops 30 Inches Boring Method HSA Helper JE
 Drill Rig TRACK

Ground Water Depth _____ Sampler Type _____ Boring Method _____
 FIRST NOTED RY Ft. SS - DRIVEN SPLIT SPOON HSA HOLLOW STEM AUGERS
 AT COMPLETION RY Ft. ST - PRESSED SHELBY TUBE CFA - CONTINUOUS FLIGHT AUGERS
 AFTER _____ HRS. Ft. B - BAG SAMPLE DC - DRIVING CASING
 BACKFILLED _____ Hrs. RC ROCK CORE MD - MUD DRILLING



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TEST BORING LOG

Project Name Claydenin AML Boring No. TRB-2A
 Project Location _____ Job No. 01-13-0603
 Project Manager _____ Ground Surface Elevation _____

SOIL / ROCK DESCRIPTION	Strata Depth	Depth Scale	SAMPLE				
			Blows /6"	No.	Type	Rec.	RQD
SURFACE	0.0	0.0					
AR AT 13.0		13.0					
BROWN & GRAY SANDSTONE		23.0	/	1	RC	10.0	9.9
		33.0	/	2	RC	10.0	9.8
GRAY SHALE AT 37.9		43.0	/	3	RC	10.0	8.8
COOL 54.7 TO 58.0		53.0	/	4	RC	10.0	9.9
GRAY SHALE		63.0	/	5	RC	10.0	5.6
BTB-63.0							

Start Date 8/27 Hammer Wt. _____ Lbs. Rock Core Dia. _____ Driller _____
 Finish Date _____ Hammer Drop _____ Inches Boring Method _____ Helper _____
 Drill Rig _____

Ground Water Depth _____
 FIRST NOTED _____ Ft.
 AT COMPLETION _____ Ft.
 AFTER _____ HRS. _____ Ft.
 BACKFILLED _____ Hrs.

Sampler Type
 SS - DRIVEN SPLIT SPOON
 ST - PRESSED SHELBY TUBE
 B - BAG SAMPLE
 RC - ROCK CORE

Boring Method
 HSA - HOLLOW STEM AUGERS
 CFA - CONTINUOUS FLIGHT AUGERS
 DC - DRIVING CASING
 MD - MUD DRILLING