

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

COUNTY

OF

Monongalia

NAME OF PROJECT

Tyrone (Stimmell) Portals

N O T I C E

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

PROJECT SPECIFICATION BOOK

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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 (11) 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 _____

No. _____ Date _____

No. _____ Date _____

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

ARTICLE II - GENERAL CONDITIONS

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.

ARTICLE II - GENERAL CONDITIONS

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.



Co-Applicant #1 Signature Page

Co-Applicant#1: _____

New and/or Modification of NPDES Storm Water of Construction Project
Name: _____

BY COMPLETING AND SUBMITTING THIS APPLICATION, I HAVE REVIEWED AND UNDERSTAND AND AGREE TO THE TERMS AND CONDITIONS OF THE GENERAL PERMIT ISSUED ON DECEMBER 05, 2012. I UNDERSTAND THAT PROVISIONS OF THE PERMIT ARE ENFORCEABLE BY LAW, VIOLATION OF ANY TERM AND CONDITION OF THE GENERAL PERMIT AND /OR OTHER APPLICABLE LAW OR REGULATIONS CAN LEAD TO ENFORCEMENT ACTION.

I CERTIFY UNDER PENALTY OF LAW THAT I HAVE PERSONALLY EXAMINED AND AM FAMILIAR WITH THE INFORMATION SUBMITTED ON THIS FORM AND ALL ATTACHMENTS AND THAT, BASED ON MY INQUIRING OF THOSE INDIVIDUALS IMMEDIATELY RESPONSIBLE FOR OBTAINING THE INFORMATION. THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT.

(CO- APPLICANT #1 SIGNATURE)

DATE

Print Name: _____

Print Title: _____

Address: _____

City: _____ State: _____ Zip: _____

Telephone Number: (____) _____ - _____

Email: _____

FEIN: _____

ARTICLE II - GENERAL CONDITIONS

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: Meadowland Development Corp., P.O. Box 842, Morgantown, WV 26507; Elysium Development Co., LLC, 2013 Ices Ferry Drive, Morgantown, WV 26508

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.

ARTICLE II - GENERAL CONDITIONS

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.

ARTICLE II - GENERAL CONDITIONS

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.

ARTICLE II - GENERAL CONDITIONS

- (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.

ARTICLE II - GENERAL CONDITIONS

- (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 Monongalia 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. 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.

ARTICLE II – GENERAL CONDITIONS

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.

ARTICLE II - GENERAL CONDITIONS

- (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.

Revised 5/09

Page 1 of pages

Application No: _____

Application Date: _____

Performance Period From: _____ To: _____

Application is made for payment, as shown below, in connection with contract. Continuation

Sheet is attached. The present status of the account for this contract is as follows:

ORIGINAL CONTRACT SUM	\$ _____
Net Change by Change Orders	\$ _____
CONTRACT SUM TO DATE	\$ _____

TOTAL COMPLETED & STORED TO DATE \$ _____
(Column "G" on Continuation Sheet)

LESS PREVIOUS CERTIFICATES
FOR PAYMENT

CURRENT PAYMENT DUE \$

Date: _____
Signed: _____, Inspector

PO#:

P#:

FEIN/SS#:

Office/App
Date

FIMS Vendor #

Contractor: _____

Original Signature (Blue Ink)

CONTINUATION SHEET OF APPLICATION AND CERTIFICATE FOR PAYMENT

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 A: General Information

Business Name: _____ Tax Payer ID No.: _____
Address: _____
City: _____ State: _____ Zip Code: _____ Phone: _____
Fax No.: _____ E-mail address: _____

Part B: Legal Structure

() Corporation () Sole Proprietorship () Partnership () LLC
() Other (please specify) _____

Part C: Certifying and updating information in the Applicant/Violator System (AVS). Select only one of the following options, follow the instructions for that option, and sign below.

I, _____, have the express authority to certify that:
(print name)

1. _____ Information on the **attached** Entity Organizational Family Tree (OFT) from AVS is accurate, complete, and up-to-date. If you select this option, you **must** attach an Entity OFT from AVS to this form. Sign and date below and do not complete Part D.
2. _____ Part of the information on the **attached** Entity OFT from AVS is missing or incorrect and must be updated. If you select this option, you **must** attach an Entity OFT from AVS to this form. Use Part D to provide the missing or corrected information. Sign and date below and complete Part D.
3. _____ Our business currently is not listed in AVS. If you select this option, you must provide all information required in Part D. Sign and date below and complete Part D.

Date	Signature	Title
IMPORTANT! In order to certify in Part C to the accuracy of existing information in AVS, you must obtain a copy of your business' Entity OFT. To obtain an Entity OFT, contact the AVS Office, toll-free, at 800-643-9748 or from the AVS website at https://avss.osmre.gov.		

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:**

SCOPE / DESCRIPTION OF WORK

Fabrication and installation of wet mine seals and dry mine seals; installation of blanket drain; reclamation of subsidence features; re-grading site to the lines and grades shown on the plans; covering of the re-graded area with available on-site soil material from excavation operations; construction of riprap and grouted riprap drainage control channels; re-vegetation of the disturbed area and other areas identified on the plans; access road rehabilitation; erosion and sediment control; and completion of other remedial measures necessary for reclamation of the project area.

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

Project Name:
DEP#

Contractor: Joe Smith Contracting

Project Start Date: 01/01/01

77 1/4"

1 1/2"

17 1/4"

1 1/8"

15 3/4"



7 7/8"

Earl Ray Tomblin
Governor

3 3/4"



7 7/8"

Randy C. Huffman
Cabinet Secretary

3"

AML

8 5/8"

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

Project Name:
DEP#

Contractor: Joe Smith Contracting

Project Start Date: 01/01/01

27 3/4"

18"

2 1/4"

73 7/8"

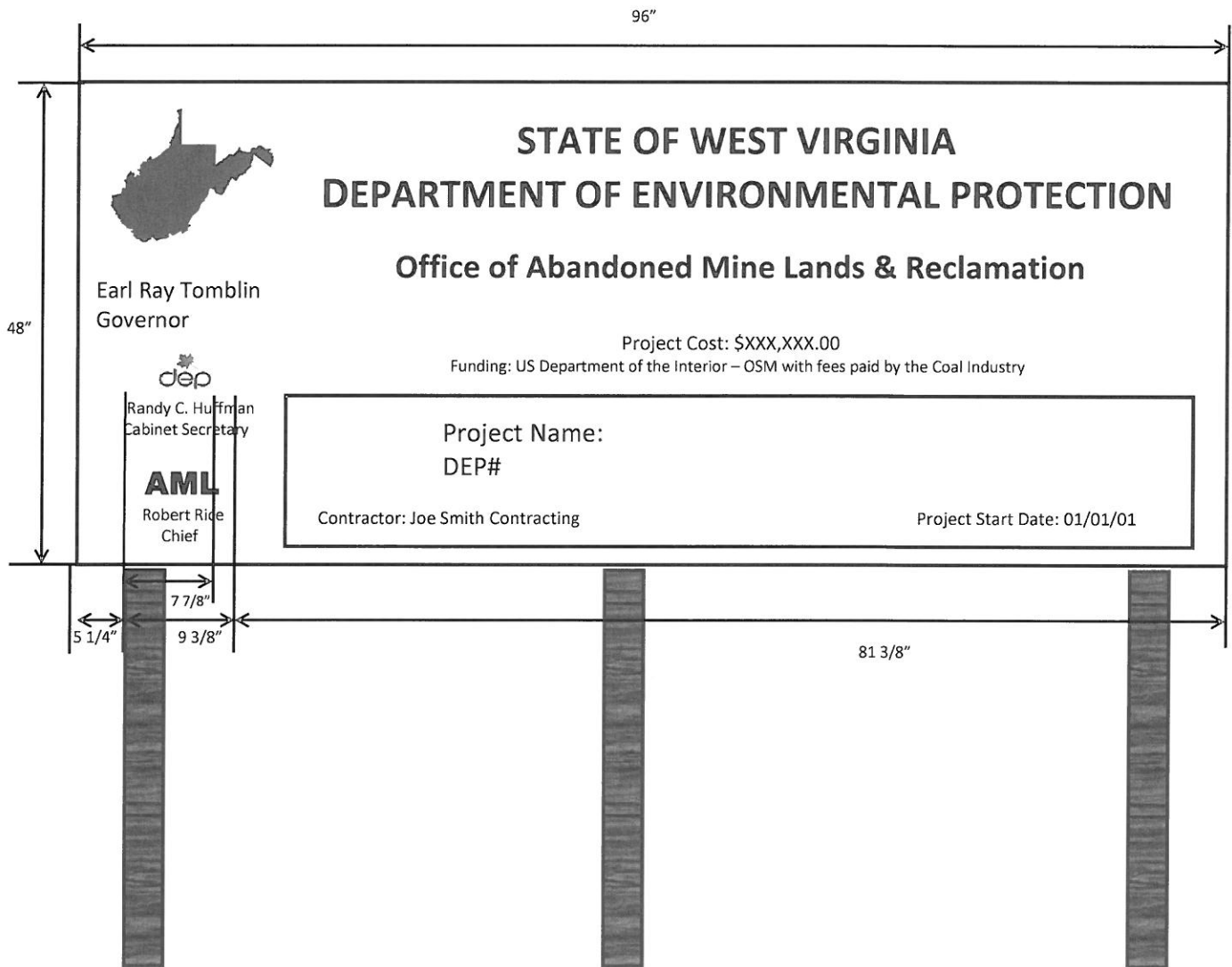
48"

6"

36"

36"

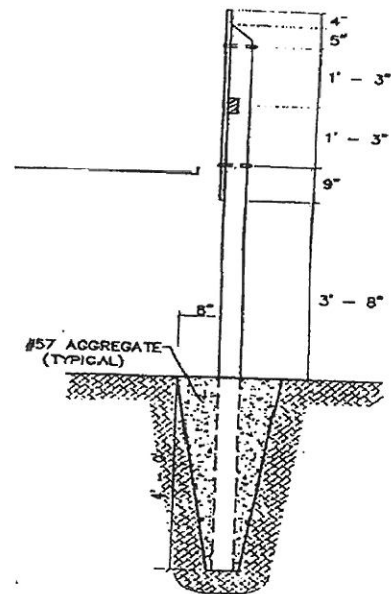
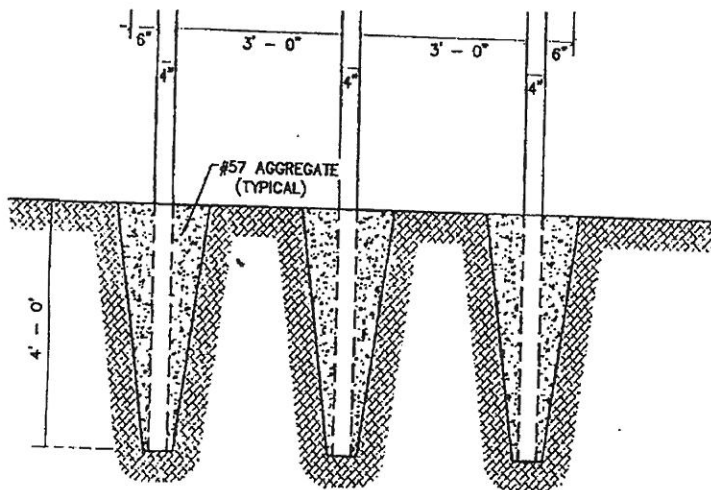
6"



17 1/2" 1 3/4" 3/4" 1 1/4" 9 1/2" 1" 3/4" 1" 8" 1" 3/4" 1" 3 3/4"		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 Project Name: DEP# Contractor: Joe Smith Contracting Project Start Date: 01/01/01		6" 2 3/4" 1 1/2" 2 3/4" 3 3/4" 2 3/4" 1 1/2" 2" 3 3/4" 1 1/2" 4 7/8" 2 3/4" 1 1/2" 2 3/4" 4 7/8" 1 1/2" 3 3/4"
		Earl Ray Tomblin Governor		
		dep		
		Randy C. Huffman Cabinet Secretary		
		AML Robert Rice Chief		

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 painted 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: _____

WEEKLY QUANTITY SUMMARY

FOR WEEK ENDING:_____

[illegible]

11/11/2019

Date: / /

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: ☐ a. contract ☐ b. grant ☐ c. cooperative agreement ☐ d. loan ☐ e. loan guarantee ☐ f. loan insurance	2. Status of Federal Action: ☐ a. bid/offer/application ☐ b. initial award ☐ c. post-award	3. Report Type: ☐ a. initial filing ☐ b. material change For Material Change Only: year _____ quarter _____ date of last report _____
4. Name and Address of Reporting Entity: ☐ Prime ☐ Subawardee Tier _____, if known: Congressional District, if known: 4c		5. If Reporting Entity in No. 4 is a Subawardee, Enter Name and Address of Prime: Congressional District, if known:
6. Federal Department/Agency:	7. Federal Program Name/Description: CFDA Number, if applicable: _____	
8. Federal Action Number, if known:	9. Award Amount, if known: \$ _____	
10. a. Name and Address of Lobbying Registrant (if individual, last name, first name, MI):	b. Individuals Performing Services (including address if different from No. 10a) (last name, first name, MI):	
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

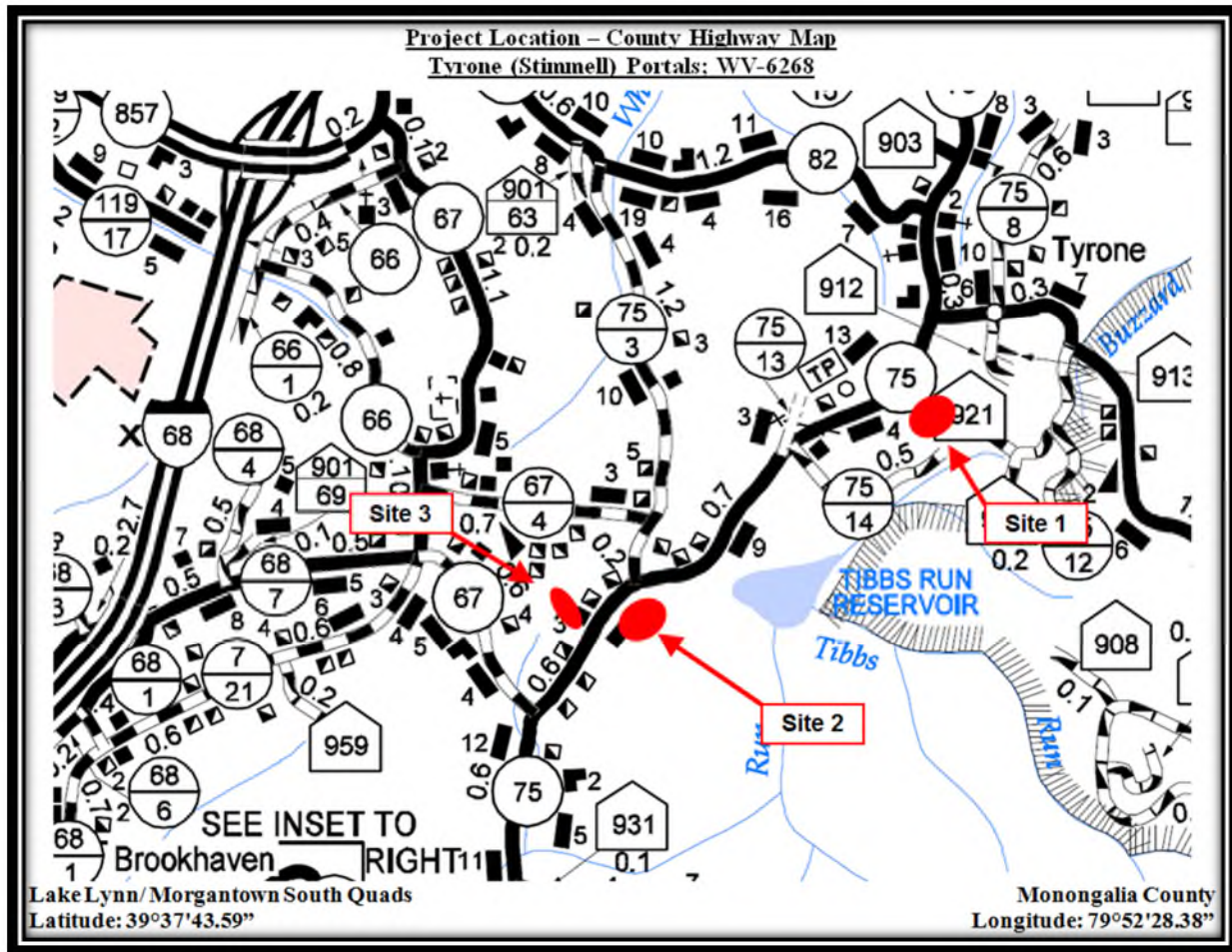
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SPECIAL PROVISIONS

I. LOCATION / SITE DESCRIPTION

This site consists of nine portals, mine drainage, mine subsidence, garbage, and un-vegetated coal refuse. Two of the portals are open and have mine roofs which appear to be in an imminent state of collapse. Water quality is poor and volume moderate. Access will need to remain in perpetuity so wet mine seals can be regularly serviced.



Directions to site:

Directions to Site 1:

Take I-68 to Exit 4, take WV Rt. 7 east. Continue for 2.3 miles, turn left onto Tyrone Road (CR 75), continue for 2.5 miles to a white house with a white detached garage on right, behind a row of evergreen trees.

The GPS location is as follows: 39°38'11.29" N 79°51'35.35" W

Directions to Site 2:

From Site 1, return south on Tyrone Road and travel 1.6 miles to driveway on left. Address is 1484 Tyrone Road

The GPS location is as follows: 39°37'14.62" N 79°52'55.22" W

Directions to Site 3:

From Site 2, continue 0.2 miles, turn right onto Meadowland Drive (private road for housing development), and travel 300' to site on right in wooded area behind field.

The GPS location is as follows: 39°37'10.59" N 79°53'5.84" W

II. REFERENCE SPECIFICATIONS / DEFINITIONS

All references to “Owner” in these Specifications shall mean West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands and Reclamation (WVDEP).

All references to “Engineer” in these Specifications shall mean the Regional Engineer or authorized representative.

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

All references to “AASHTO Specifications” 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 edition, and all subsequent addenda thereto.

All references to “WVDOH Standard Specifications” shall mean State of West Virginia Department of Transportation, Division of Highways Standard Specifications for Roads and Bridges, adopted 2010, and all-subsequent addenda thereto.

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

All references to “OSHA” shall be understood to mean The Occupational Safety and Health Administration and the standards set in the Occupational Safety and Health Act of 1970.

All references to “refuse” and/or “mine spoil” shall be understood to mean all coal refuse, shale, sandstone and other rock fragments that were generated and disposed of as such within the project area during mining and processing of coal.

All references to “AMD” shall be understood to mean all acid mine drainage discharges from the project site.

All references to “OSMRE” shall be understood to mean Office of Surface Mining Reclamation and Enforcement.

All references to “NEPA” shall be understood to mean National Environmental Policy Act.

All reference to “NPDES” shall be understood to mean National Pollutant Discharge Elimination System

III. SCOPE OF WORK

The work covered by the Special Provisions and Technical Specifications consists of furnishing all labor, plant, power, equipment and supplies, and performing all operations necessary for the completion of the project. The Contractor shall perform all operations necessary for:

- *E&S Controls*
- *Temporary Access Roads*
- *Drainage Channels*
- *Unclassified Excavation*
- *Mine Refuse Grading*
- *Subsidence Feature Elimination*
- *Mine Seals*
- *Revegetaion*

The Contractor shall also be responsible for surveying, including establishing construction baseline, measuring and developing all completed quantities on the job, and the ordering, purchase and delivery of any and all materials required for construction or required for development of support areas. The Contractor shall perform all other operations as incidental to the program as specified herein.

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 determinations have 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 of 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.

The Contractor shall provide adequate supervision, labor, tools, equipment, and materials to prosecute 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.

The work hours on this project shall be between 7:00 am and 7:00 pm Monday through Saturday. Work on Sundays and major holidays will not be allowed on this project. Major holidays are as follows: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving and Christmas.

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 in 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, or move material from one property owner to another, unless designated on the plans, 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 also shall submit a borrow/disposal 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 for 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 (CE.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 WVDEP prior to the commencement of reclamation activities.
- i. Site Monitoring: Borrow (disposal) activities will be monitored by the state 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 (Borrow/Disposal Areas) 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 4.3.8 of these Specifications. Wood may be burned in conformity with Sections 4.3.7 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. 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 on 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.

X. SAFETY

All regulations of the Occupational Safety and Health Act of 1970 (OSHA) are in effect for this Contract. WVDEP 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 townships, 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. WVDEP 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 as shown on the DOH approved Traffic Control Plan and Permit. The contractor 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 WVDEP 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 Contractor shall procure all 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 not be limited to: Water Quality Certification from WVDEP and burning permits from WVDNR and WVDEP Office of Air Quality. A copy of the permit/permits as procured shall be furnished to the Owner prior to initiation of the work under this Contract. The WVDEP will obtain the Permits (MM 109 Form) from WVDOH and NPDES from WVDEP. Contractor shall be responsible for any Stream Activity Permits necessary to complete the project work.

XIV. ELECTRICITY, WATER SUPPLY AND SANITARY FACILITIES

Arrangements for connecting to 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 damages 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 name and phone number of the WV811 Utility location service and of the utility companies are as follows: WV811 1-800-245-4848 (811)

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 will 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. SITE CONDITIONS AND ENVIRONMENTAL PROTECTION

Conditions at the site shall be examined by the Contractor, and he 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.

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 for taking immediate corrective action.

The Contractor shall be responsible for the repair or replacement of streets or driveways (blacktop, gravel & 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 survey corner markers disturbed by construction activities.

XX. CONTROL AND REVIEW OF WORK BY THE REGIONAL ENGINEER

All services rendered by the Regional Engineer consist of professional opinions and recommendations made in accordance with generally accepted engineering practice. Under no circumstances is it the intent of the Regional 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 Department's Field Representative and/or Regional 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 Regional 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 Regional Engineer is not intended to include review of the adequacy of the Contractor's safety measures in or near the construction site.

XXI. 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

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.

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 sites and for the establishment of the Contractor's offices, buildings and other facilities including the construction of all temporary access roads as necessary to begin work on a substantial phase of the contract. The location of the Contractor's office to be established shall be approved by WVDEP. It also shall include all demobilization activities involving the removal from the sites of all plant, equipment, supplies and personnel after completion of the work including cleanup of all rubbish and waste materials generated during the construction of this project and restoration of any damage to existing site improvements resulting from the Contractor's activities at the site. This item shall also include the installation of the project sign at the beginning of the project and the removal of the sign prior to the Final Inspection. All equipment and material storage areas shall be approved by WVDEP.

Upon receipt of a notice to proceed, the Contractor shall initiate and complete measures necessary to commence the work. Mobilization shall also consist of delivering to the site and assembling in working order all necessary equipment, materials, and supplies to be furnished by the Contractor to complete the work.

Demobilization shall consist of the removal from the site of all the Contractor's equipment and materials after completion of the work and cleanup of the site. Work shall be done to the satisfaction of the Regional Engineer.

1.2. Method of Measurement

The method of measurement will be per lump sum.

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:

- 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.
- The final one-half of the amount bid shall be released with the last estimate payable after the work is accepted by the WVDEP and after all Final Inspection submittals are received and approved by WVDEP.

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.

1.4. Pay Item

Item 1.0 “Mobilization and Demobilization”, 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, and maintaining construction layout stakes, (based on the original baselines and/or control points in the plans), necessary for the proper performance of the work under this contract including borrow/waste areas. It shall further consist of determining the exact units of measure for payment. It also consists of checking and making any field adjustment to the plan alignment, grades and elevations as considered necessary by the Engineer. Additionally, this item shall also include the preparation of “As-Built” Plans including the Reclamation Plan and any others specifically requested by the WVDEP. All of these “As-Built” Plans shall be provided prior to the Final Inspection Meeting. This item will be paid according to the following schedule: up to fifty percent of the total bid amount of this item will be released for payment when all required layout work is completed. The remaining 50% will be paid on the final invoice once the As-Built are submitted and approved.

2.2 Materials

Conventional survey stakes, hubs, batter boards, flagging, templates, straightedges 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 the 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 field forces and shall set all additional stakes as 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 including the re-establishment of the survey and construction baselines (as necessary), as shown on the Construction Drawings.
- 2.3.3 The Contractor shall be responsible for assuring the layout staking work is in conformance to the lines, grades, elevations, dimensions, and locations shown on the Construction Drawings or as required by the Engineer. The Contractor shall furnish a copy of his/her survey records for review by the Engineer and for the Owner's permanent file. These records shall be furnished as they are completed during the progress of the work.
- 2.3.4 Any inspection or review of the Contractor's layout by the Engineer and the acceptance of all or any part of it shall not relieve the Contractor of his/her responsibility to secure the proper dimensions, grades, and elevations of the several parts of the work.

- 2.3.5 The Contractor shall exercise care in the preservation of stakes and benchmarks, including existing property line markers, and shall have them reset at his/her expense when any are damaged, lost, displaced or removed. 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 Licensed Land Surveyor registered in the State of West Virginia. As the survey progresses to completion, the Licensed Land Surveyor shall certify that the site layout is complete for all necessary grades (both cut and fill), location and grades of all ditches, all cross-sections related to cut-fill where grade lines are necessary for construction and or billing. This layout shall include location stakes and cut-fill lines marked on the stakes for each pre-manufactured or formed on site structures (manholes, drop inlets, headwalls, etc.). The layout shall also include centerline stake with cut-fill lines for each channel and any areas of excavation and re-grade. The certified layout and cross-sections surveyed must be submitted to the WVDEP for approval prior to beginning construction for each item.
- 2.3.6 As-Built plans shall be provided to the WVDEP prior to the Final Inspection Meeting. The As-Built plans shall include two discs each of the plans in PDF and AutoCAD 2007+ format on CD-ROM or DVD and one paper copy of the plans with the same size and scale as contained on the original plans. The As-Built plans shall include the following:
- The As-Built plans shall show all pay items remaining on site post construction.
 - The As-Built plans shall show all horizontal and vertical dimensions of all installed components (i.e. pipes, drop inlets, manholes, drainage channels, splash pads and manholes) as well as surveyed locations of the installed structures.
 - Cut-fill sections shall have the area of the section marked by the section for easier calculation.
 - The As-Built plans shall have the lines on the plans shown in either color or line type to distinguish between our original plan lines, the contractor's original survey lines and the final grade lines. This will apply for all cross-sections on the project.
 - All waste and borrow areas shown on the As-Built plans.
 - As-built plans must show total quantities for all items on the project. The format shall be in a tabular form.
 - All work completed by the Licensed Land Surveyor on the As-Built plans must be certified by the Licensed Land Surveyor as to completeness and accuracy of the plan submittal.

2.4. Method of Measurement

Measurement and payment for furnishing, setting, maintaining, and resetting the stakes when necessary, and for furnishing all engineering personnel, equipment, materials, and all incidentals thereto, shall be by the lump sum bid for "Construction Layout". The lump sum payment also shall include the cost for providing the Engineer pre- and post- construction ground line cross-sections for all disturbed or re-graded areas including borrow areas and "As-Built" Plans as described herein. Said lump sum bid cannot be more than 5% of the TOTAL AMOUNT BID for the project. Neither deduction nor increase will 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.

2.5. Basis of Payment

This item will be paid according to the following schedule: up to fifty percent of the total bid amount of this item will be released for payment when all required layout work is completed. The remaining fifty percent will be paid on the final invoice once the As-Builts are submitted and approved.

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 testing for verification that the materials supplied and the work performed are in accordance with these specifications.

3.2 Materials

- 3.2.1 The Contractor shall submit a minimum of two (2) copies of shop drawings, catalog cuts and material certifications (as applicable) to the Engineer for all offsite materials to be incorporated into the work. Written approval from the Engineer will be required prior to incorporation of these items into the work.
- 3.2.2 The Contractor shall submit at least two (2) copies of the results of all tests conducted on in-situ material, stone, steel, concrete and grout to be used in this project.
- 3.2.3 As a minimum, the compaction tests will include moisture content & density tests of the soil in accordance with the provisions of ASTM D698 (Standard Proctor) field density tests following compaction. A new Standard Proctor will be run when soil type changes occur on site and/or at the direction of the Engineer or his representative.
- 3.2.4 Soil tests to determine the lime and nutrient requirements of the areas to be re-vegetated. (Or the 3 tons per acre preferred minimum)
- 3.2.5 Compressive strength test for grout in accordance with ASTM C109, and for concrete in accordance with ASTM C31 & C39.
- 3.2.6 Tests Required:

Concrete	Testing for compressive strength
Grouted Ditch	Testing for compressive strength
Pipe line Compaction	Testing for backfill material density
Slope fill Compaction	Testing for backfill material density
Soil Test	As needed to determine Nutrient tests NPK
Material Certification	Manufacture certification on all materials on project
Limestone	Sodium sulfate test
Sandstone Riprap Stone	Certification that rock is non-acid producing and Sodium sulfate test

3.3 Construction Methods

- 3.3.1 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 Owner.
- 3.3.2 The Contractor shall furnish a certified technician to perform the required testing at the project site. The technician shall submit a copy of his certification and a copy of that certification shall be submitted WVDEP at the Pre-Construction Conference. The technician shall be responsible for chain of custody of any samples that must leave the site.
- 3.3.3 Testing for compaction, soil nutrient and lime requirements for soil, compressive strength tests for concrete and grout, shall be performed as required by these specifications and/or ordered by the Engineer or his representative in writing. The Engineer will determine the locations and time of any testing herein specified and the need and extent of any testing in addition to that which is herein specified.
- 3.3.4 The contractor shall be responsible for performing laboratory tests of the coal, mine spoil, and any natural soil to identify the compaction requirements for their use as fill and cover material, respectively. In addition, field density tests shall be performed in accordance with the Construction Specifications. All test results shall be submitted to the Engineer for approval of compaction criteria prior to compacting the fill material and after fill material is placed to verify that the required compaction is obtained.
- 3.3.5 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 or produced) 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 Method of Measurement

The method of measurement for quality control work done as described above will be on a lump sum basis.

3.5 Basis of Payment

The quantity of quality control work done will be paid at the contract lump sum price bid for this item. Said lump sum bid cannot be more than 3% of the TOTAL AMOUNT BID for the project. Nothing herein shall be construed to limit or preclude partial payments on this item up to 100% of the bid amount. No deduction or increase shall be made in the lump sum "Quality Control"

item amount regardless of decreases or increases in the final total contract amount or for any other cause.

3.6 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

4.1.1 Clearing & Grubbing

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 approved by WVDEP. This work shall also include the preservation from injury to all vegetation, utilities or other objects to remain as well as all other ancillary work as described.

4.1.2 Demolition of Structures

This work shall consist of complete demolition and removal of such buildings, mining related structures, equipment and materials, existing ruins and foundation structures, as are specifically designated on the Plans for removal. Demolished concrete and cinder block structures and foundation ruins (all steel residue and wood (burned) must be removed from the site) can be disposed of on-site. Any demolished rubble must be thoroughly compacted in fill areas and not to be used as a replacement for structural materials.

4.1.3 Asbestos Material

This work shall consist of doing a thorough search of all existing structures on the are suspected then an inspection by a certified asbestos removal company will be required. If asbestos is found, the contractor will be responsible for removal and disposal at no cost to the WVDEP. No work shall be allowed at the location of the asbestos until the removal process is completed.

4.1.4 Access Road Stone

Access Road Stone shall be used to construct access roads and ramps/abutments for the Timber Mat Temporary Stream Crossings as shown on the plans. If unstable base conditions are encountered on the access road, this item may be approved for use at the discretion of WVDEP.

4.1.5 Stabilization Fabric

Stabilization fabric shall be woven fabric that is used to stabilize any soft areas on an access road surface prior to stone application.

4.1.6 Gravel Drive Rehabilitation

Any regrading or resurfacing necessary to restore existing roads or driveways used during construction to a condition that is equal to or better than the condition encountered before construction activities.

4.1.7 Spill Containment Area

Spill containment measures shall be used for fuel and lubricant storage areas. 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 State. Fuel tanks manufactured with secondary containment are desirable; the minimum secondary containment shall be 110 percent.

4.1.8 Temporary Stream Crossing

The Contractor will be required to construct and maintain one (1) Temporary Stream Crossing (of timber mats) to access Site 3

4.2 Materials

- 4.2.1 Any equipment and construction materials required for clearing, grubbing, structure demolition, grading, and stone placement.
- 4.2.2 Access Road Stone shall conform to the requirements of 1 ½" crusher run limestone. Limestone shall meet the requirements of AASHTO #1 and be free from foreign materials.
- 4.2.3 Gravel Drive Rehabilitation shall consist of 1 ½" crusher run limestone aggregate. Limestone shall meet the requirements of AASHTO #1 and be free from foreign materials.
- 4.2.4 Stabilization fabric shall be Mirafi 600X or equal.
- 4.2.5 Timber Mats shall be constructed of one foot (minimum) thick hardwood timbers and adequately bound together.

4.3 Construction Methods

- 4.3.1 **Clearing and Grubbing:** 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.
- 4.3.2 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.
- 4.3.3 Clearing and grubbing shall be completed prior to initiation of earthwork operations only to the extent necessary to complete the work. 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.

- 4.3.4 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.
- 4.3.5 All stumps, roots, buried logs and brush shall be removed. Grass, however, may be incorporated into the re-soiling material. Taproots and other projections over 1½ inches in diameter shall be grubbed out to a depth of at least ten (10) inches below the planned subgrade 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.
- 4.3.6 Cleared and grubbed areas shall be worked such that positive drainage is provided to prevent ponding of water except for the purpose of sediment control sumps as approved by the WVDEP.
- 4.3.7 All organic material shall be burned completely to ash or otherwise removed from the site and disposed of in a manner approved by the WVDEP. Burning of the combustible material will not be permitted on or near refuse, mine portals or within close proximity to coal seams, residence, structures or utilities. 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 WVDEP's representative at the site for approval. If a permit cannot be obtained because of the conditions stated above the tree top and stumps can be chipped or disposed of offsite to an approved location.
- 4.3.8 All other materials generated from required clearing and grubbing operations shall be removed and disposed of by the Contractor. All garbage, construction debris, mining debris, etc., shall be disposed of in approved waste areas or landfills (disposal tickets must be furnished to WVDEP). It shall be the responsibility of the Contractor to obtain, at no expense to the WVDEP, 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 VII for NEPA Compliance Schedule). All waste and borrow areas must be approved by the WVDEP 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 WVDEP harmless from any injury or damages whatsoever resulting from the use of the property.
- 4.3.9 It shall be the sole responsibility of the Contractor to correctly locate 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 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 XV “Utilities and Other Obstructions”, of these specifications for more information on utilities.

- 4.3.10 **Demolition of Structures:** Buildings, mining related structures, existing ruins and foundation structures, shall be removed to the existing ground level, which operation shall include removal of concrete slabs or any other type of floors and/or walls resting upon the ground. Basement floors shall be shattered. Pits, trenches, holes or basements shall be backfilled. Coal and/or refuse spillage, concrete, cinder blocks, and foundation ruins shall be excavated and/or removed and incorporated into the fill material. Demolished concrete, cinder blocks and foundation ruins to be incorporated into the fill shall be of size less than 2 feet in any dimension. Boulders, structures, concrete pads and foundations shall be broken and buried in the deepest portion of the fill areas. Broken pieces shall not be consolidated in one area, but shall be dispersed throughout the fill areas to ensure that compaction requirements are achieved.
- 4.3.11 Trash, garbage, railroad ties, roofing shingles, tires, plastic, metal and other unsuitable material resulting from demolition shall be disposed of by the Contractor at his/her own responsibility and expense outside the work limits in an approved landfill, as approved by the Engineer, unless otherwise directed (disposal tickets must be furnished to WVDEP). Bricks and stone blocks shall be disposed as per these specifications.
- 4.3.12 In the area where structures and buildings are demolished and removed, the removal operation shall extend to 1 foot below finished grade. The area shall then be regraded as necessary to blend into adjacent finished grades. Regrading shall be such that all areas are free draining and surface runoff will not pool or impound as directed by the Engineer.
- 4.3.13 **Offsite Disposal or Borrow:** Should offsite disposal or borrow be necessary, the Contractor shall observe the NEPA Compliance Schedule as per Section VII of the Special Provisions.
- 4.3.14 **Access Roads:** Existing site access roads shall provide safe, all-weather access to the site. These existing roads, including stoned and paved roads, shall be maintained during construction and left in a better than or equal to condition. The Contractor is responsible for locating and avoiding all underground and overhead utilities and constructions during access road grading and maintenance. Care should be taken to minimize any additional disturbance along the Access Road. The Contractor will be responsible for any damage to paved driveways and roads used to complete this work.
- 4.3.15 **Gravel Drive Rehabilitation:** Stone to be placed for “Gravel Drive Rehabilitation” shall conform to the detail as shown on the plans. The rehabilitation stone location is shown on the plans.
- 4.3.16 **Stabilization Fabric:** Stabilization Fabric shall be placed on a prepared subgrade prior to placement of surfacing and resurfacing stone. In areas that will not support the stone due to soft conditions, stabilization fabric will be required as directed by the Engineer.

- 4.3.17 **Fence:** When existing fences are encountered within or near work limits, which by necessity of the construction activities require their dismantling, the Owner shall be consulted to secure their approval for the need of fencing, as well as determination as to whether temporary and/or permanent fencing will be utilized. The Contractor will be required to re-construct fence lines of any type located within the project area. Temporary fencing shall be installed along the alignment selected by the Owner, with sufficient material included to alter said alignment as may be required to accommodate the construction activity. Similarly, approval for the use and location of permanent fencing shall be obtained from the Owner well in advance of construction. Typically, permanent fencing shall be compatible with that which existed and installed in the location of the existing fence. Existing fences outside the construction limits and near or adjacent to the project area are to remain undisturbed in place. Any fencing damaged outside the work limits shall be repaired or replaced at the expense of the Contractor, to a condition equal to, or better than, its original condition. Wire for permanent or temporary fencing shall be 15 ½ gauge 4 pronged barbed wire unless otherwise required.
- 4.3.18 **Property Markers:** Any existing property markers disturbed or removed during construction activities shall be replaced accurately and to an “as good as” or “better than” condition and as approved by the WVDEP. This work will be paid under Section 2.0 Construction Layout of these Specifications.
- 4.3.19 **Temporary Stream Crossing:** shall be installed at the locations on the plans. The timber mats shall be installed in a way to prevent any sediments entering into the stream. Timber mats shall be constructed to sufficient size and bearing capacities to allow hauling of the borrow material to the back-fill area. The temporary crossings shall be inspected daily to ensure that the mats are handling the crossing loads, no sediment is infiltrating the stream and that the timber mats have not been damaged. See typical detail.

4.4 Method of Measurement

- 4.4.1 **Site Preparation:** There shall be no measurement of the “Site Preparation” item as it is a lump sum.
- 4.4.2 **Access Road Stone:** The method of measurement shall be per ton, based upon weigh tickets from the commercial supplier of the stone that is delivered and placed in the locations identified on the Plan drawings.
- 4.4.3 **Stabilization Fabric:** Stabilization Fabric shall be paid by the square yard.
- 4.4.4 **Gravel Drive Rehabilitation** shall be by ton based upon weigh tickets from the commercial supplier of the stone that is delivered and placed at the locations identified on the plan drawings.
- 4.4.5 **Temporary Stream Crossing:** The method of measurement shall be lump sum. All costs associated with this work, including but not limited to: labor, placing, removing, timber

mats, inspection, maintenance, repair of damaged or displaced components, sediment removal and reclamation of the crossing footprint; all to the satisfaction of the Engineer shall be incidental and included in the lump sum bid price. Up to 50% may be paid once temporary stream crossing is installed for use and the remaining 50% paid once it is removed and reclaimed to an acceptable condition.

4.5 Basis of Payment

- 4.5.1 The "Site Preparation" item shall be paid at the bid lump sum price. The amount shall not exceed 10% of the TOTAL AMOUNT BID for each bid. 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. This includes all clearing grubbing and demolition required on the project site. 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.
- 4.5.2 The basis of payment for "Access Road Stone" shall be the unit price bid and shall be full compensation for all materials, labor, equipment and incidentals necessary to perform the work.
- 4.5.3 The "Stabilization Fabric" item shall be paid per unit bid and shall include the following items, which price and payment shall be full compensation for all materials, labor, equipment and incidentals necessary to perform the work.
- 4.5.4 The "Gravel Road Rehabilitation" item shall be paid per unit bid and shall include the following items, which price and payment shall be full compensation for all materials, labor, equipment and incidentals necessary to perform the work.
- 4.5.5 The basis of payment for "Temporary Stream Crossing" shall be the unit price bid and shall be full compensation for all the work herein prescribed in a workmanlike and acceptable manner, including furnishing all labor, materials, tools, equipment, supplies and incidentals necessary to complete the work as specified and show in the plans. All costs associated with constructing, moving, maintaining and removal of the temporary stream crossing shall be included in the lump sum bid price. Up to 50% may be paid once temporary stream crossing is installed for use and the remaining 50% paid once it is removed and reclaimed to an acceptable condition.

4.6 Pay Items

Item 4.1, “Site Preparation”, per lump sum. Cannot be more than 10% of the “Total Amount Bid” for the project.

Item 4.2, “Access Road Stone”, per ton.

Item 4.3, “Stabilization Fabric”, per square yard.

Item 4.4, “Gravel Drive Rehabilitation”, per ton.

Item 4.5, “Temporary Stream Crossing”, per each.

5.0 EROSION & SEDIMENT CONTROL

5.1. Description

This item shall consist of furnishing all materials, equipment, labor and incidentals necessary for the installation of Straw Wattles, Sediment Control Barrier (e.g. silt fence or super silt fence) structures, and Stabilized Construction Entrances as designated in the Drawings. Sediment control shall be placed on regraded outslope areas concurrent with construction and prior to revegetation. Additional quantities may be added at the discretion of the WVDEP.

The CONTRACTOR shall be given a NPDES Permit with an approved erosion and sediment control plan at the pre-construction meeting. This plan shall include measures to be utilized for temporary and permanent sediment and erosion control. This plan shall also include the measures as outlined herein. The NPDES approved plan **does not** relieve the CONTRACTOR of his/her responsibility to be in compliance with any and all permits. All costs associated with meeting the federal and/or state regulations shall be the sole responsibility of the Contractor.

NOTE: Sediment Control Measures shall be required on the perimeter of the project site for sediment control in accordance with the NPDES requirements. The silt fence for sediment control shall be placed before any construction work begins. This fence shall remain and be maintained during the entire construction process.

The following are the minimum requirements of the NPDES Permit and/or the NPDES BMP Manual.

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 fourteen 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.

EROSION & SEDIMENT CONTROL CONSTRUCTION SEQUENCE

- Install stabilized construction entrance as shown on site plans.
- Install perimeter sediment control devices as shown on site plans.
- Clear and grub site.
- Provide sediment control for any topsoil stockpiles.
- Commence rough grading of site. Continue to maintain and inspect all erosion and sediment controls.
- Install additional erosion and sediment controls as shown on site plans.
- Fine grade site.
- Permanently seed and mulch all disturbed areas within 7 days of reaching final grade and install erosion control wattles.
- Upon completion of project including adequate stabilization, remove all remaining erosion and sediment controls.

5.2. Materials

- 5.2.1 Sediment Control Barriers: silt fencing materials and installation shall meet all applicable requirements of the manufacturer's specifications and the typical details.
- 5.2.2 Stabilized Construction Entrances shall consist of coarse 3-6 inch stone over a geotextile fabric.
- 5.2.3 Erosion Control Wattles: Straw wattles or approved equals, shall be installed at locations shown on the plans. Straw wattles shall be 12 inches in diameter and 25 feet in length. Straw wattles shall consist of an internal fill material of straw and an exterior encasement of a heavy duty biodegradable knitted cylindrical tube.
- 5.2.4 Rock Check Dams: Rock check dams shall be required, as needed, at the locations directed by the Engineer. The rock check dams shall be constructed with 3"-6" stone.

5.3. Maintenance

- 5.3.1 During the course of the project, sediment control barriers 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.

- 5.3.2 The Stabilized Construction Entrance shall be maintained in a condition that will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
- 5.3.3 Wheels on all vehicles shall be cleaned to remove sediment prior to entrance onto public rights-of-way. If washing is required, it shall be done on an area stabilized with stone and which drains into approved sediment trapping device. If the street is washed, precautions must be taken to prevent muddy water from running into waterways or storm sewers.
- 5.3.4 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.
- 5.3.5 All controls should be cleaned out when sediment reaches one half the sediment capacity of that control.
- 5.3.6 Inspection and maintenance records must be kept onsite.

5.4. Installation

- 5.4.1 **Silt Fence:** Fence posts shall be a minimum of 48" long driven 16" minimum into the ground. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.
- 5.4.2 **Stabilized Construction Entrance:** A stabilized construction entrance shall be required at the access point of the construction site. The stabilized construction entrance shall consist of filter fabric and a minimum of six (6) inches of 3" to 6" stone. The stone entrance shall be a minimum of seventy (70) foot long and twelve (12) foot in width. This stone construction access must conform to the detail drawings shown in the plans.
- 5.4.3 **Straw Wattles:** A trench shall be excavated to a depth of 1/3 of the diameter of the wattle. Lay the first Straw Wattle snugly in the excavated trench. **No daylight should be seen under the Wattle.** Pack soil from trenching against the Wattle on the uphill side. When installing running lengths of Straw Wattles, butt the second Wattle tightly against the first. **DO NOT overlap the ends.** Stake the Straw Wattles at each end and four foot on center. For example:
- A 25 foot Wattle uses 6 stakes
 - A 20 foot Wattle uses 5 stakes
 - A 12 foot Wattle uses 4 stakes
- 5.4.4 Stakes should be driven through the middle of the Wattle, leaving 2 - 3 inches of the stake protruding above the Wattle. A heavy sediment load will tend to pick the Wattle up

and could pull it off the stakes if they are driven down too low. It may be necessary to make a hole in the Wattle with the pick end of your mattock in order to get the stake through the straw. When Straw Wattles are used for flat ground applications, drive the stakes straight down; when installing Wattles on slopes, drive the stakes perpendicular to the slope.

- 5.4.5 Drive the first end stake of the second Wattle at an angle toward the first Wattle in order to help abut them tightly together. If you have difficulty driving the stake into extremely hard or rocky slopes, a pilot bar may be needed to begin the stake hole.

- 5.4.6 **Rock Check Dams w/Optional Sediment Trap:** Shall be installed in constructed channel per the sequence of construction. The top of dam shall have a low center section and with the same width as the channel bottom and 6” lower than the outer edges. Rock Check Dams w/ Sediment Traps consist of over excavating the channel behind (up-slope) from the rock check dam and shall be constructed per the typical section on Plans. The rock check dams with sediment traps shall have the upstream side of the rock covered in filter fabric. The filter fabric shall be Mirafi 140 N or equal. Standard rock check dams and rock check dam w/sediment traps shall be removed after the first growing season and the channel brought up to the lines and grades as depicted in the channel profile and stabilized with erosion control matting per the typical detail for vegetated channels.

5.5. Removal

Upon completion of the project (as determined by the Regional Engineer) including adequate stabilization, all temporary erosion and sediment controls shall be removed from the site, including but not limited to water breaks, water break outlet protection, check dams and silt fencing. The site should be left with a clean/neat appearance and any disturbed areas shall be revegetated. Rock outlet protection for permanent drainage structures shall not be removed once the project is complete.

5.6. Method of Measurement

- 5.6.1 **Silt Fence:** The method of measurement for “Silt Fence” installation and maintenance in conformance with the specifications and accepted by the WVDEP shall be on a per linear foot basis to include stakes, all necessary materials, supplies, labor and equipment for installation and maintenance including sediment removal and disposal.
- 5.6.2 **Straw Wattles:** The method of measurement for “Straw Wattles” installation and maintenance in conformance with the specifications and accepted by the WVDEP shall be on a per linear foot basis to include all stakes/staples, all necessary materials, supplies, labor and equipment for installation and maintenance including repairing any damaged slopes as described under the maintenance section.
- 5.6.3 **Stabilized Construction Entrance:** The method of measurement for “Stabilized Construction Entrance” installation and maintenance in conformance with the specifications and accepted by the WVDEP shall be on per ton and shall be based upon

weigh tickets from the commercial supplier of the stone that is delivered and placed at the locations identified on the plan drawings. This item shall include all necessary materials, stabilized fabric, supplies, labor and equipment for installation and maintenance including periodic top dressing with additional stone and removal at completion of the project work.

- 5.6.4 **Rock Check Dams:** The method of measurement for “Rock Check Dam” (w/optional sediment trap) installation and maintenance in conformance with the specifications and accepted by the WVDEP shall be on per each and shall include all necessary materials, supplies, labor and equipment for installation and maintenance including sediment removal/disposal and removal of rock check dams and rock check dams with sediment traps after the first growing season.
- 5.6.5 **Additional Sediment Control:** Any additional sediment control, i.e. sumps etc., 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. This also includes the removal and disposal of sediment from the existing Sediment Basins. However, any additional sediment control approved by the WVDEP prior to placement shall be included for measurement.

5.7. Basis of Payment

- 5.7.1 **Silt Fence:** Silt Fence payment shall be based on the contract unit price bid for the following items, which price and payment shall be full compensation for all materials, labor, equipment and incidentals necessary to perform the work. Additionally, payments shall constitute full compensation for any required maintenance, sediment removal and disposal.
- 5.7.2 **Straw Wattles:** Straw Wattles payment shall be based on the contract unit price bid for the following items, which price and payment shall be full compensation for all materials, labor, equipment and incidentals necessary to perform the work. Additionally, payments shall constitute full compensation for any required maintenance, slope repair and disposal.
- 5.7.3 **Stabilized Construction Entrance:** Stabilized Construction Entrances payment shall be based on the contract unit price bid for the following items, which price and payment shall be full compensation for all materials, labor, equipment and incidentals necessary to perform the work. Additionally, payments shall constitute full compensation for any required maintenance including periodic top dressing with additional stone and removal at completion of the project work.
- 5.7.4 **Rock Check Dams:** (w/optional sediment trap) shall be based on the contract unit price bid for the following items, which price and payment shall be full compensation for all materials, labor, equipment and incidentals necessary to perform the work. Additionally, payments shall constitute full compensation for any required maintenance, sediment

removal/disposal and removal of rock check dams and rock check dams with sediment traps after the first growing season.

5.8. Pay Item

Item 5.1, “Silt Fence”, per linear foot.

Item 5.2, “Straw Wattles”, per linear foot.

Item 5.3, “Stabilized Construction Entrance”, per ton.

Item 5.4, “Rock 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 WVDEP in order to ensure that Right-of-Entry has been obtained.

Any areas outside the limits of construction, disturbed by the Contractor shall be re-vegetated by the Contractor at no expense to the WVDEP.

6.2 Materials

6.2.1 Fertilizer

The commercial fertilizer to be used shall consist of 10-20-20 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 Lime

The lime to be used will be an agricultural grade pulverized limestone containing a minimum of 75% total carbonates or calcium carbonate equivalent. Fineness will be such that no less than 70% will pass through a #100 sieve and 100% will pass through a #20 sieve. Lime rate shall be formulated from soil test results. In the absence of soil testing, a rate of three (3) tons per acre will serve as a preferred minimum.

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 Mixture

All stockpiles or other disturbed areas which will require further disturbance in which the additional disturbance will be delayed for a period of two (2) weeks or longer shall be vegetated according to the following guidelines.

Variety of Seed	Spring 3/15-5/15	Summer 5/15-8/15	Fall 8/15-10/15	Winter 10/15-11/15
	Lbs./Acre			
Annual Ryegrass (<i>Lolium multiflorum</i>)	40	40		
German Millet* (<i>Setaria italica</i>)	40			
Cereal Rye (<i>Secale cereale</i>)			170	
*Do not use Japanese Millet				
All areas to be temporarily seeded which are to be re-disturbed shall be fertilized with 500 lbs/acre of 10-20-20. 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 mulched according to Section 6.3.				

6.2.3.2 Lawn Seed Mixture

Existing lawn areas disturbed by construction shall be reseeded using the following mixture:

Variety of Seed	Rate Lbs./1,000SQFT	Minimum Specifications	
		% Purity	% Total Germination
Red Fescue	0.45	98	85
<i>(Festuca rubra)</i>			
Kentucky Bluegrass	0.9	85	75
<i>(Poa pratensis)</i>			
Merion Bluegrass	0.7	90	75
Annual Ryegrass*	0.2	95	85
<i>(Lolium multiflorum)</i>			
*Use Annual Ryegrass only in mixtures seeded after August 1 and prior to May			
<u>For shaded areas add the following quantity of seed to the standard mix:</u>			
Add 4 lbs/1000ft ² of Red Fescue.			

6.2.3.3 Permanent Seed Mixture

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 March 15 - May 15 or August 15 - October 15 shall be seeded with the appropriate temporary seed mixture according to **Section 6.2.3.1**. These 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 Engineer's approval.

Variety of Seed	Spring 3/15-5/15	Fall 8/15-10/15
	Lbs./Acre	
Orchardgrass (<i>Dactylis glomerata</i>)	30	30
Birdsfoot Trefoil (1) (<i>Lotus corniculatus</i>)	15	15
Red Clover (<i>Trifolium pratense</i>)	10	10
Annual Ryegrass (2) (<i>Lolium multiflorum</i>)	25	25
Spring Oats	35	0
Winter Wheat	0	90
(1) 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 (<i>Coronilla varia</i>) at 20 lbs./acre for Birdsfoot Trefoil.		
(2) Use Annual Ryegrass only in mixtures seeded after August 1 and before May 1.		
*Use only certified "blue tag" seed. Seed-rate suggested is for pure live seed (PLS) in lbs/acre.		
<u>For shaded areas add the following quantity of seed to the standard mix:</u>		
Add 3 lbs/acre of White Clover		
Add 10 lbs/acre of Perennial Rye		
Add 10 lbs/acre of Bluegrass		
Add 50 lbs/acre Cover Grain (Wheat or Rye)		

6.3 Mulch Material

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

6.3.1 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. **(No baled grass hay shall be used in yard areas.)** The straw mulch shall be anchored with 100 gallons/acre asphalt emulsion or 750 lbs/acre wood cellulose fiber.

6.3.2 Wood Cellulose Fiber

Wood cellulose fiber may be used only on slopes steeper than 2H:1V at a rate of 1,500 lbs/acre. 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. Wood cellulose shall only be used on areas that have been approved by WVDEP.

The wood cellulose fiber shall be supplied in packages having 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.

6.4 Water

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

6.5 Construction Methods

Seeding

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.

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. Disking, 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 with a minimum of 1 ½” grouser depth or scarifying by other approved methods.

Lawn areas or areas being mowed shall be hand raked. Rocks larger than two inches (2") in diameter, trash, weeds, and other debris that will interfere with seeding or maintenance shall be removed or disposed of as directed and approved by the Owner. After broadcasting or otherwise applying the seed mixture, the surface of the seedbed shall be raked, culti-packed, or very lightly brush dragged to insure seed contact with soil. Seedbed preparation shall be suspended when soil moisture conditions are not suitable for the preparation of a satisfactory seedbed as determined by Owner.

Seedbed preparation and seeding shall take place progressively as various re-graded areas are brought to final grade.

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.

Seed Application shall consist of approved hydro seeding methods where feasible. Any seed left in hydro seeder overnight shall be re-inoculated before that seed shall be applied. Other methods of seed application may be utilized for site-specific reasons when approved by the WVDEP.

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

Any area failing to establish a vegetative stand due to weather or adverse soil conditions shall be reseeded, re-limed, re-fertilized and re-mulched as approved by the WVDEP.

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, re-fertilizing, re-liming, re-seeding, and re-mulching erosion gullies and all bare areas.

Lime rate shall be formulated from soil test results. In the absence of soil testing, a rate of three (3) tons per acre will serve as a preferred minimum.

Satisfactory soil is considered to be reasonably free of subsoil, clay clumps, stones and other objects over four (4) inches in any dimension, and shall be free of objectionable material.

A second and third seeding will be applied as needed, or as approved by the WVDEP.

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.

For areas with less than a 50 percent stand or subject to severe erosion, apply the complete amount of seed, fertilizer, lime much as specified.

For areas with over 50 percent stand apply one half the original fertilizer, lime and seed. If erosion is a problem, apply one half of the original mulch specified.

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 the second step application.

6.6 Method of Measurement

- 6.6.1 There shall be no distinction made for measurement or payment between lawn seed mixture application areas and permanent seed mixture application. The method of measurement for re-vegetation will be per plan view acre. Payment shall 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.
- 6.6.2 The Contractor shall be paid only for those areas disturbed and re-vegetated 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 WVDEP. No payment shall be made for any seeding conducted after the final inspection; this work is considered warranty.

6.7 Basis of Payment

- 6.7.1 Payment will be made at the contract per acre bid for these items, 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. Payment for seeding includes all seeding (i.e. – temporary, first and second seeding). No additional payment will be made for second or third seeding.
- 6.7.2 Temporary seeding will be incidental to the seeding item and no separate measurement or payment will be made for temporary seeding. There will be no separate payment for maintaining seeded areas. No payment will be made for seeding after the final inspection. All work performed after the final inspection will be done under warranty.

6.8 Pay Items

Item 6.0 “Revegetation”, per plan view acre.

7.0 DRAINAGE STRUCTURES

7.1 Description

This work shall consist of furnishing all labor, equipment and materials necessary to construct the drainage structures shown on the drawings and as specified herein. The work shall include, but not be limited to, riprap channels, grouted riprap channels, anchors and/or keys and associated appurtenances.

7.2 Materials

- 7.2.1 Excavated Materials shall consist of in place natural ground and rock. All excavation shall be considered incidental to placement of drainage structures.
- 7.2.2 D50 of 12-inch Riprap for ditches shall consist of sound, non-acid producing, durable limestone or sandstone from a WVDEP approved source. Shale is not acceptable. All rock riprap used throughout the project site shall consist of commercially purchased calcareous stone (except as noted otherwise) meeting the following requirements. The rock riprap shall have a maximum weighted loss of thirty 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. The use of on-site rock materials for riprap, must have approval from the WVDEP and meet all standard for the riprap installation. The use of on-site stone shall be determined by the Engineer.
- 7.2.3 Limestone riprap stone required for the drainage channels shall be commercially supplied and have a calcium carbonate equivalency of 70% or greater. A certification on calcium carbonate equivalency shall be submitted to the WVDEP prior to delivery.
- 7.2.4 The bottom layer of stone for Blanket Drain shall consist of sound, durable 3” to 6” non-calcareous sandstone or River Gravel. The stone shall consist of particles of clean, hard, tough, durable rock, free from adherent coating. Stone shall have a maximum weighted loss of twelve (12) 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 51 stone. A laboratory certification of soundness and acid base shall be submitted to the WVDEP prior to delivery. Filter fabric for the Blanket Drain shall be non-woven type, meeting the requirements of Section 9.2.2 of these specifications.

The top layer of stone for Blanket Drain shall consist of 1 ½” crusher run limestone aggregate. Limestone shall meet the requirements of AASHTO #1 and be free from foreign materials.

Pipe shall consist of perforated 8-inch diameter PVC SDR 35 grade within the Blanket Drain and un-perforated 8-inch diameter PVC SDR 35 grade outside of the Blanket Drain for conveyance. Cleanouts shall be required at the locations as shown on the plans.

- 7.2.5 HDPE Pipes: The HDPE pipes shall consist of corrugated high density polyethylene pipe, such as ADS’s Hi-Q pipe, or approved equal unless otherwise noted on the plans.
- 7.2.6 Backfill for the pipes extending beneath the paved roads shall be Controlled Low Strength Material (Flowable Fill) in accordance with Section 219 of the WVDOT Standard Specifications for Roads and Bridges, Adopted 2010. The Controlled Low Strength Material composition and mixture shall also comply with Section 219 of the WVDOT Specifications. The Controlled Low Strength Material shall have a minimum 28 day compressive strength as specified in the MM-109.
- 7.2.7 Pipe bedding shall consist of fine aggregate meeting the requirements of Section 704.6 of the WVDOT Standard Specifications for Roads and Bridges, Adopted 2010, except that the gradation shall meet the requirements of Section 702.6 of the WVDOT 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.
- 7.2.8 The stone for Seep Collector shall consist of sound, durable AASHTO #1 non calcareous sandstone or graded river gravel. The stone shall consist of particles of clean, hard, tough, durable rock, free from adherent coating. Stone shall have a maximum weighted loss of twelve (12) 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 shall be non-woven as specified in the table below and approved by the Regional Engineer:

PROPERTY	TEST METHOD	ENGLISH	METRIC
Weight – Typical	ASTM D-5261	NA	NA

Tensile Strength	ASTM D-4632	120 lbs	500 N
Elongation @ Break	ASTM D-4632	50%	50%
CBR Puncture	ASTM D-6241	310 lbs	1,380 N
Trapezoidal Tear	ASTM D-4533	50 lbs	200 N
Apparent Opening Size	ASTM D-4751	70 US Sieve	.212 mm
Permittivity	ASTM D-4491	1.7 Sec-1	1.7 Sec-1
Water Flow Rate	ASTM D-4491	135 g/min/sf	5,550 l/min/sm
UV Resistance @ 500 Hours	ASTM D-4355	70%	70%

Pipe shall consist of perforated 8-inch diameter PVC SDR 35 grade within the Seep Collector and un-perforated 8-inch diameter PVC SDR 35 grade outside the Seep Collector for conveyance. Cleanouts (if required) shall be at the locations as shown on the plans.

7.3 Construction Methods

- 7.3.1 The Riprap and vegetated channels shall be constructed to the lines, grades, and templates as shown on the plans or as directed by the WVDEP. Excess material from channel and pipe trench excavation that is suitable for soil cover may be segregated, stockpiled and utilized to supplement “Revegetation” operations. Otherwise, excess material from ditch and pipe trench excavation will be required to be disposed of by the Contractor in an offsite disposal area obtained by the Contractor in accordance with Section VIII of the Special Provisions for these specifications. Sections of channels that are cut to rock shall not require lining but shall be paid the appropriate size channel. The rock placement in the backfilled channel shall be uniformly graded and placed in the depths that are shown on the plans. It is not the intent of the rock placement to fill all voids in the riprap fill with small stone but to leave the rock face irregular to provide splash points to slow the water down as it flows through the channel.
- 7.3.2 The Blanket Drain shall be constructed at the location and to the lines, grades, and cross-section or as directed by the Engineer based on the field conditions encountered. Cleanouts shall be incidental to the cost of the Blanket Drain. Cleanouts must be installed on mine drainage pipe and conveyance pipes every 150 LF. This will be required on all pipe systems. Trench width for the Blanket Drain shall be not less than ten (10) feet, measured at the bottom of the trench for the Blanket Drain. Trenching will involve excavation of in-place material including soil and rock. The stone for the Blanket Drain will be filled to as indicated in the detail. Trench exceeding 5 feet in depth shall be supported in compliance with the OSHA requirements. Trench bottom shall be cleared of any loose debris and any standing water.

- 7.3.3 The 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.
- 7.3.3.1 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.
- 7.3.3.2 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.
- 7.3.3.3 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.
- 7.3.3.4 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.
- 7.3.3.5 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 57 Proctor). Field density testing and testing frequency shall be as directed by the WVDEP.
- 7.3.4 Seep Collector shall be placed, as needed, as determined by the Engineer. The seep collector shall be installed with stone to the surface. The stone will allow surface drainage to collect into the drainage system as well as subsurface drainage.

7.4 Method of Measurement

- 7.4.1 The method of measurement for the grass lined channels shall be on a linear foot basis measured along the flowline of the channel. The unit price shall include excavation, seed, lime, fertilizer, purchase and placement of matting if required and all equipment and labor necessary for their installation.
- 7.4.2 The method of measurement for the riprap channels shall be on a linear foot basis measured along the flowline of the channel. The unit price shall include excavation, purchase and placement of rock and all equipment and labor necessary for their installation.
- 7.4.3 The method of measurement for constructing the Blanket Drain shall be on a per each basis. Excavation necessary to construct the Blanket Drain; furnishing and placement of the 3" to 6" non-calcareous sandstone, furnishing and placement of the 1 ½" Crusher Run Limestone, filter fabric, perforated and un-perforated 8" PVC SDR-35 pipe and all other work necessary for the acceptable installation of the Blanket Drain will not be measured but shall be considered incidental to the construction of the respective Blanket Drain. The cost of these incidental items shall be included in the unit price bid for the Blanket Drain.
- 7.4.4 The method of measurement for installation of the HDPE Culvert shall be on linear foot basis measured on the top of the pipe. This unit price shall include the cost of trench excavation and backfilling, including Controlled Low Strength Material (where required), asphalt repair, waste disposal, furnishing and placement of select aggregate bedding, HDPE pipe, culvert outlet rippapped where required and all other items necessary for construction.
- 7.4.5 The method of measurement for constructing Seep Collector shall be on a linear foot basis measured along the centerline of the Seep Collector. Excavation necessary to construct the Seep Collector; furnishing and placement of the AASTO #1 non calcareous sandstone, 8" PVC SDR-35 pipe, filter fabric and all other work necessary for the acceptable installation of the Seep Collector will not be measured but shall be considered incidental to the construction of the respective Seep Collector. The cost of these incidental items shall be included in the unit price bid for the Seep Collector.

7.5 Basis of Payment

- 7.5.1 The unit price for the "4' Grass Lined Channel" shall include excavation, purchase and placement of control matting, and all equipment, material and labor necessary for their installation.
- 7.5.2 The unit price for the "6' Riprap Lined Channel" shall include excavation, purchase and placement of rock and all equipment, material and labor necessary for their installation.

- 7.5.3 The unit price for the “Blanket Drain” shall include the excavation of the trench, the pipe, stone and filter fabric required to install the Blanket Drain and all the material and equipment necessary to complete the installation.
- 7.5.4 The unit price for the “18” HDPE Culvert Pipe” 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.
- 7.5.5 The unit price for the “Seep Collector” shall include the excavation of the trench, the pipe, stone and filter fabric required to install the underdrain and all the material and equipment necessary to complete the installation.

7.6 Pay Items

Item 7.1, “4’ Grass Lined Channel (Channel “B”)”, per linear foot.

Item 7.2, “6’ Riprap Lined Channel (Channel “A”)”, per linear foot.

Item 7.3, “Blanket Drain”, per each.

Item 7.4, “18” HDPE Culvert Pipe”, per linear foot.

Item 7.5, “Seep Collector”, per linear foot.

8.0 UNCLASSIFIED EXCAVATION

8.1. Description

- 8.1.1 This work shall consist of excavating, transporting, stockpiling, placing and compacting mine spoil, soil, rock, coal refuse or other materials encountered in the re-grading, backfill and any other indicated incidental work. Rock and soil shall be classified as unclassified excavation.

8.2. Materials

- 8.2.1 On-site soil encountered in areas of proposed disturbance should be utilized for later revegetation whenever possible. The soil materials present in all areas to be excavated or filled shall be gathered and stockpiled in a suitable location, at the discretion of the WVDEP. Where required, strip soil to whatever depths encountered in a manner to prevent intermixing with underlying subsoil. Disturbance of the subsoils is to be minimized whenever possible. Remove heavy growths of grass from areas before stripping. Stockpile soil in storage piles in an area that will not create slope instability to provide free drainage of surface water. Cover stockpiles or use temporary seeding if necessary, to prevent erosion
- 8.2.2 The regrading plan shall be conducted in a manner such that a 12- inch thick layer of soil material is uniformly spread over any areas of exposed refuse or unsuitable material resulting from the regrading operation. The soil cover shall not be compacted to the specifications stated for fill compaction, but shall be placed in a manner to allow for proper establishment of vegetation as described in the seedbed preparation portion of the Revegetation specifications. The required soil amendments are to be incorporated into this top-dressing material while it is in a loose state, to facilitate proper mixing of these materials within the soil matrix. The soil cover shall then be prepared by tracking-in with a dozer perpendicular to the slope. The WVDEP may require that the soil cover be scarified prior to seeding if compaction is considered excessive or if rills develop.

8.3 Borrow/Disposal Area

It is anticipated that the excavating and/or regrading operations for the coal refuse material will require use of the potential soil borrow areas as per Section 8.4 of these specifications. However, if off site borrow/disposal areas should be necessary to provide for material shortages or excess material disposal, then the Contractor is responsible for locating these areas, providing proof the material is acceptable for its intended use 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 and NPDES requirements and shall provide proof of such compliance to the WVDEP. The Contractor

shall submit a reclamation plan to the WVDEP and must obtain approval for said plan prior to any disturbance to the borrow/disposal site.

8.4 Soil Cover

This work consists of covering all areas having exposed spoil at the final grades with a 1-foot thick layer of suitable soil material. Suitable material shall be best soil available and approved by the Regional Engineer. The soil shall be obtained in conjunction with clearing and grubbing operations, regrading, drainage feature excavation, and/or from designated or determined soil borrow areas, both on or off-site. A minimum of 12 inches of soil material shall be placed over all refuse encountered during construction. It is anticipated an adequate amount of soil cover will be available on-site. However, the Contractor is responsible for securing an off-site borrow area in the event that adequate soil is not available on site at no additional cost to WVDEP. If, during the course of construction, the need for off-site borrow areas becomes evident, the Contractor shall obtain prior approval from the WVDEP for such borrowing and the borrow area must comply with the attached NEPA regulations. The Contractor shall obtain Right-of-Entry Agreements for any soil or rock borrow areas outside the construction limits which provide for entry by the WVDEP and OSM for inspection purposes, with such agreements stating that the property owner(s) indemnifies and holds the WVDEP and OSM harmless from injury or damage whatsoever resulting from the use of the property.

8.5 Construction Methods

- 8.5.1 Material 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 and grades as shown on the drawings. The slopes may be varied only by permission of the WVDEP. Any excavation beyond planned grades will not be paid for unless prior authorization is obtained from the Engineer. Slopes shall be trimmed neatly to present a uniform surface, free from hollows and protrusions and loose or overhanging rocks. The tops of all slopes shall be rounded to form a smooth, uniform transition to the existing ground. Areas cut to grade in refuse are to be undercut one foot below the final grades shown on the reclamation plan with final grades achieved by placing one foot of soil cover material atop the undercut areas.
- 8.5.2 The reclamation approach described in these construction specifications is intended to provide a lasting, stable configuration. The Contractor is required to exercise care to avoid conditions which may result in unstable conditions during the construction process. The Contractor shall be responsible for protecting residences from damage.
- 8.5.3 The Contractor must utilize material removal techniques, which are generally considered to be conducive to retaining slope stability. Additionally, disturbed slopes shall be brought to the design template as soon as practical and shall be protected in accordance with **Section 6, "Revegetation"**.

- 8.5.4 Material Placement: Excavated rock, concrete, cinder blocks, and foundation ruins shall be excavated and/or removed and incorporated into the fill material. Demolished concrete, rock, cinder blocks and foundation ruins to be incorporated into the fill shall be of size less than 2 feet in any dimension. Boulders, structures, concrete pads and foundations shall be broken and buried in the deepest portion of the fill areas. Broken pieces shall not be consolidated in one area, but shall be dispersed throughout the fill areas to ensure that compaction requirements are achieved.
- 8.5.5 Excavated material shall be placed in embankments in successive layers not to exceed one (1) foot in thickness before compaction. The layers shall be constructed approximately horizontal. Each layer, before starting the next, shall be leveled and smoothed by means of power driven graders, dozers, or other suitable equipment with adequate weight, capacity, and power to do the work. Layers shall be extended across the entire fill at the level of deposition unless otherwise authorized by the WVDEP. Each layer, before starting the next, shall be thoroughly compacted.
- 8.5.6 Fill materials to be used in any area of an embankment shall be free from trash, debris, frozen soil, organic material or other foreign material.
- 8.5.7 Embankment fill and embankment subgrade materials shall be compacted to at least 90% of Standard Proctor maximum dry density at a moisture content of not less than 2% below nor greater than 3% above optimum unless otherwise shown on the plans. Testing shall be at a frequency approved by the engineer. One lot (5 tests) per day during fill placement of up to 5000 cubic yards shall serve as a minimum. When material on the project has changed and compaction is no longer at 90% a new standard proctor shall be required before using the new material.
- 8.5.8 Embankment fill material which does not contain sufficient moisture to be compacted to the requirements specified herein shall receive applications of water necessary for compaction. Water shall be applied with suitable sprinkling devices and shall be thoroughly incorporated into the material which is to be compacted. Embankment fill material which contains excess moisture shall be dried prior to compaction. Sufficient disking equipment shall be continuously available at the site and shall be used to add water or remove excess moisture from fill materials.
- 8.5.9 At the close of each day's work, or when work is to be stopped for a period of time, the entire surface of the compacted fill shall be sealed by a method approved by the engineer. If, after a prolonged rainfall, the top surface of the embankments are too wet and plastic to work properly, the top material shall be removed to expose firm material. Ruts in the surface of any layer shall be suitably filled or eliminated by grading before compaction.

8.6 Method of Measurement

- 8.6.1 The method of measurement for unclassified excavation shall be per cubic yard of excavation (cut) defined by proposed final grades and cross sections shown on the plans and herein specified. The unit price bid for **Item 8.1 "Unclassified Excavation"** shall

include excavating, placing excavated material, stockpiling, and placement of all topsoil, soil, and soil covering operations (unless specified otherwise) and excavated materials as shown on the plans, breaking of boulders and placing boulders in fill areas, and special handling, undercutting at final grades and soil covering, burying, and entombing of coal, coal refuse, and black or dark gray shale.

- 8.6.2 Soil cover shall be obtained as detailed in **Specification 8.4**. No measurement shall be required unless off-site borrow areas become necessary (as approved by the Engineer), in which case payment shall be included in **Item 8.1 “Unclassified Excavation”**, otherwise, soil cover shall be considered incidental. It is anticipated that material encountered during excavation operations shall produce sufficient suitable soil material for use as soil cover.
- 8.6.3 There is no method of measurement for finding and developing an Owner approved off-site soil borrow area (if required) as all costs associated with this task including necessary reclamation plans, all permits and any delays occasioned by permit work and approvals, sediment and erosion control, backfilling, and revegetation shall be included in and considered incidental to **Item 8.1, “Unclassified Excavation”**.
- 8.6.4 The method of measurement for liming, fertilizing, seeding and mulching soil borrow areas located within the construction limits as addressed in this item is to be included under **Section 6.0, “Revegetation”**, as contained elsewhere in these specifications.
- 8.6.5 Excavation and placement of materials to upgrade, repair, and maintain access roads and driveways shall not be included for payment, but shall be considered incidental to **Item 4.1 “Site Preparation”**.

8.7 Basis of Payment

- 8.5.1 Basis of payment includes material excavated, transporting, backfilling and regading or disposal and special handling of material excavated to achieve the final grades will be by the unit price bid for “Unclassified Excavation”.
- 8.5.2 Basis of payment for soil cover taken from an off-site borrow area (if required) shall be paid at the unit price for “Unclassified Excavation”.

8.8 Pay Items

Item 8.1, “Unclassified Excavation”, per cubic yard.

9.0 MINE SEALS

9.1. Description

This work shall consist of excavating the mine opening, bedding, installing the gravel bulkhead wet mine seals and dry mine seals 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 may vary based on the conditions revealed at the time of construction and the final grades that are achieved.

9.2. Materials

- 9.2.1. **Stone:** The 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 twelve (12) 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.
- 9.2.2. **Filter Fabric:** Filter Fabric shall be non-woven as specified in the table below and approved by the Regional Engineer:

9.2.3.

PROPERTY	TEST METHOD	ENGLISH	METRIC
Weight – Typical	ASTM D-5261	NA	NA
Tensile Strength	ASTM D-4632	120 lbs	500 N
Elongation @ Break	ASTM D-4632	50%	50%
CBR Puncture	ASTM D-6241	310 lbs	1,380 N
Trapezoidal Tear	ASTM D-4533	50 lbs	200 N
Apparent Opening Size	ASTM D-4751	70 US Sieve	.212 mm

Permittivity	ASTM D-4491	1.7 Sec-1	1.7 Sec-1
Water Flow Rate	ASTM D-4491	135 g/min/sf	5,550 l/min/sm
UV Resistance @ 500 Hours	ASTM D-4355	70%	70%

9.2.4. **Pipe:** Wet Mine Seal outlet pipes shall consist of custom perforated 12 inch diameter PVC SDR 35 pipe, unless otherwise shown on the plans, 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.

9.2.5. **Soda Ash Briquettes:** Soda Ash Briquettes commonly used in the treatment of acid mine drainage and purchased by the skid in 50 pound bags.

9.3. Construction Methods

9.3.1. The Contractor will be required to excavate and install Subsidence Socks as shown on the plans and as directed by the Engineer.

9.3.1.1 The Contractor shall over-excavate subsidence depressions at the installed riprap level 3.0 feet, minimum, laterally in all directions and 3.0 feet, minimum, vertically or until solid footing is reached and approved by the Engineer. Any voids encountered below excavation limits shall be completely filled with 12" diameter riprap meeting the requirements of **Specifications 7.2.2 and 7.2.3**.

9.3.1.2 Line the entire excavation with stabilization filter fabric, maintaining a 12", minimum, overlap at all joints. Filter fabric shall be laid along the neat vertical excavation walls and adjacent areas far enough to completely cover the riprap layer and comply with the 12" minimum overlap requirement.

9.3.1.3 The Contractor shall carefully place 3.0 feet, minimum, of 12" diameter riprap, meeting the requirements of **Specifications 7.2.2 and 7.2.3**, atop the filter fabric. If in the opinion of the Engineer, riprap placement has caused displacement or damage to the underlying filter fabric or riprap used to fill voids, the Contractor

shall remove the riprap and repair the displacement or damage and/or replace the fabric and riprap to the satisfaction of the Engineer. All costs associated with the removal of riprap and necessary repair work shall be borne by the Contractor and at no cost to the Owner,

9.3.1.4 After riprap thickness has been achieved, the Contractor shall wrap the filter fabric completely around the riprap support layer with overlaps of 12", minimum, at every joint.

9.3.1.5 The Contractor will then place sufficient compacted fill material on top of the Subsidence Sock to elevations and grades shown on the plans or as directed by the Engineer. At a minimum, a 2.0 feet clearance shall be maintained between final grades and the top of the Subsidence Sock riprap.

9.3.2. 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 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 drainage system as shown on plans with pipe discharging water placed one foot above the invert of the invert of the drainage system. All pipes shall have a minimum grade of 2 percent.

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

9.3.3. 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.

9.3.4. 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 to 90%. The Contractor shall adhere to OSHA Regulation 29 CFR Part 1926 during all excavation and trenching activities.

- 9.3.5. Dry mine seals shall be excavated to solid material and then backfilled with compacted material to conform to the surrounding contours.
- 9.3.6. Mine Seal Regrade areas shall be excavated and graded to the approximate original ground contours as shown on the Plans. Mine spoil material may be incorporated into the adjacent dry mine seals. Mine spoil shall be soil covered.

Mine Seal Regrade areas shall meet all requirements of Section 8.4 and Section 8.5 of these Specifications.

- 9.3.7. Piezometer Abandonment: Temporary piezometers which have been installed for Contractor use, must be removed and abandoned by a person who has been certified by the State of West Virginia in accordance with 47CSR59 "Monitoring Well Regulations". This certification is necessary for any person to operate in the State of West Virginia and includes construction, installation, alteration and/or 62 abandonment of any monitoring wells and select boreholes.

9.4. Method of Measurement

- 9.4.1. The method of measurement for installation of Subsidence Socks shall be per each. The per each price shall include placement of 12" riprap to fill the voids discovered beneath the sock installation sub-base, excavation and backfilling, filter fabric, and all 12" riprap placed. The per each price shall also include constructing all necessary access to the installation sites and all equipment and labor necessary for satisfactory installation as shown on the plans and detailed in these specifications.
- 9.4.2. 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.
- 9.4.3. 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.

- 9.4.4. The method of measurement for the construction of the PVC SDR-35 Mine Seal 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.
- 9.4.5. 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.
- 9.4.6. The method of measurement for Mine Seal Regrade Area shall be measured per lump sum.
- 9.4.7. The method of measurement for the Piezometer Abandonment shall be per each. This shall include all labor, equipment and materials necessary to abandon the piezometer.
- 9.4.8. Soda Ash Briquettes shall be measured per 50# bag used.

9.5. Basis of Payment

- 9.5.1. The unit price for Subsidence Sock shall include the excavation, stone, filter fabric and all equipment, material and labor necessary for their installation.
- 9.5.2. The unit price for Wet Mine seal with stone backfill shall include the excavation, stone, filter fabric and all equipment, material and labor necessary for their installation.
- 9.5.3. The unit price for Mine Seal Conveyance Pipe shall include the excavation of the trench, the pipe and all the material and equipment and labor necessary to complete the installation.
- 9.5.4. The unit price for Dry Mine Seal shall include filter fabric and all equipment, material and labor necessary for their installation.
- 9.5.5. The unit price for Mine Seal Regrade Area shall include all equipment, material and labor necessary to complete the work.
- 9.5.6. The unit price for Piezometer Abandonment shall include all labor, equipment and materials necessary to abandon the piezometer.
- 9.5.7. The unit price for Soda Ash Briquettes shall be for each 50 pound bag used.

9.6. Pay Items

Item 9.1, “Subsidence Sock”, per each.

Item 9.2, “Wet/Modified Mine Seal (P-7)”, per each.

Item 9.3, “Mine Seal Conveyance Pipe (P-7)”, per linear foot.

Item 9.4, “Dry Mine Seal (P-1, P-2, P-3, P-4, P-5, P-6, P-8 and P-9)”, per each.

Item 9.5, “Mine Seal Regrade Area (P-1, P-2 and P-3)”, per lump sum.

Item 9.6, “Piezometer Abandonment”, per each.

Item 9.7, “Soda Ash Briquettes (50 lb bag)”, per each.

10.0 UTILITIES

10.1 Description

- 10.1.1 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.
- 10.1.2 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 be done.
- 10.1.3 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.
- 10.1.4 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 WVDEP immediately and make or have made all necessary repairs and bear the expenses thereof and resulting damage caused thereby.
- 10.1.5 The Contractor shall obtain right-of-entry and/or any necessary permits for repairs or relocation.
- 10.1.6 Utility Companies Contacts
Miss Utility of West Virginia 1-800-245-4848 or 811

10.1. Materials

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

10.2. Construction Methods

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

10.3. Method of Measurement

The Contractor will not bid on utility work but will be reimbursed the actual approved paid invoice cost. The Contractor shall submit an estimate for utility relocation to the WVDEP for approval from the utilities affected by the proposed reclamation will be reimbursed.

11 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 directed by WVDEP.

11.2 Materials

All materials used for traffic control shall be in accordance with the current WV Division 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 Division of Highways Manual **“Traffic Control for Streets and Highway Construction and Maintenance Operations”**. All traffic plans must be coordinated through the WVDOH.

The Contractor shall be responsible for developing a traffic control plan that complies with the WVDOH requirements. A copy of the traffic control operational plan and WVDOH’s approval of said plan shall be submitted to the WVDEP Representative for approval prior to its implementation. Access to residences shall be maintained during construction. The Contractor shall give the WVDOH seven (7) working days notice prior to the beginning of work so the public can be made aware of forthcoming construction activities.

11.4 Method of Measurement

The method of measurement for determining the quantity of work done as described above for Traffic Control work will not be a separate pay item, but will be considered incidental to all other work associated with the construction of this Project as described in these Specifications, and as shown on the Plans.

Permit fees and other miscellaneous associated costs associated with and required for any Traffic Control work shall also be considered incidental to all other work associated with the construction of this Project as described in these Specifications, and as shown on the Plans. No separate pay item exists for Traffic Control work.

Appendix

Mr. Darren J. Bennett, P.E
West Virginia Department of Environmental Protection
Office of Abandoned Mine Lands
101 Cambridge Place
Bridgeport, West Virginia 26330

Dear Mr. Bennett:

Triad used a CME 550X ATV buggy mounted drilling rig equipped with 3-1/4 inch I.D. hollow stem augers and an NQ2 double tube core barrel with a diamond bit to advance the test borings to the desired termination depths pre-determined by the Office of Abandon Mine Lands. The subsurface exploration began June 14, 2015 and was completed on June 19, 2015. Termination depths ranged from 69.5 to 75.0 feet below the existing ground surface. Auger advancement was generally performed in each test boring to a depth of 10.0ft., at which bedrock was encountered. No samples were collected during this process however; auger cuttings were recorded by Triad personnel. The overburden generally consisted of brown silty to sandy clay with rock fragments.

Voids were encountered in five of the six test borings completed (B-1, B2A, B-3, B-3A and B-4). Void depths were generally encountered at approximately 58.0ft. to 69.0ft.

We appreciate the opportunity to assist you on this project and trust this letter satisfies your needs at this time. Please feel free to contact us if you have questions concerning this letter, or if we can provide further assistance.

Sincerely,

TRIAD ENGINEERING, INC.



Brent A. Foster
Drilling Coordinator/ Geologist



John J. Haynes, P.E.
Drilling Department Manager

FIGURE 1 Site Vicinity Plan
Test Boring Logs B1 through B4



SOURCE: Google Earth		TYRONE (STIMMELL) PORTALS MONONGALIA COUNTY, WEST VIRGINIA	 TRIAD ENGINEERING, INC. www.triadeng.com	
DRAWN BY: BAF	CHECKED BY: JJH			SITE VICINITY PLAN
DATE: 07-06-2015	SCALE: No Scale			TRIAD PROJECT NO: 04-14-0170
			FIGURE NO: 1	

TEST BORING LOG

Sheet 1 of 3

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals**

Boring No.: **B-1**

Logger:

Boring Location: As Requested

Date Started: 6/16/15

Drill/Method: CME-550X/HSA

Date Completed: 6/17/15

Driller: TRIAD/KJW

Ground Elev.: _____

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
MATERIAL DESCRIPTION											
5.0							Brown <u>SILTY TO SANDY CLAY</u>				
10.0						10.0					
15.0	1			100%	64%	16.0	Brown <u>SANDSTONE</u>				
20.0				100%	97%		Gray <u>SANDSTONE</u>				
25.0											

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Remarks:

TEST BORING LOG

Sheet 2 of 3

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals**

Boring No.: **B-1**

Logger:

Boring Location: As Requested

Date Started: 6/16/15

Drill/Method: CME-550X/HSA

Date Completed: 6/17/15

Driller: TRIAD/KJW

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
2								Gray SANDSTONE (continued)				
30.0				100%	97%							
35.0	3			100%	100%							
40.0						40.0		Gray SHALE				
45.0	4			100%	68%							
50.0												

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TEST BORING LOG

Sheet 3 of 3

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals**

Boring No.: **B-1**

Logger:

Boring Location: As Requested

Date Started: 6/16/15

Drill/Method: CME-550X/HSA

Date Completed: 6/17/15

Driller: TRIAD/KJW

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
55.0	5			100%	60%			Gray SHALE (continued)				
60.0	6			100%	32%	60.5						
65.0	7			50%	0%			VOID				
70.0	8			20%	20%	69.0		Gray CLAYSTONE				
75.0						70.0		Bottom of Test Boring at 70.0 ft.				

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TEST BORING LOG

Sheet 1 of 3

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals**

Boring No.: **B-2**

Logger:

Boring Location: As Requested

Date Started: 6/17/15

Drill/Method: CME-550X/HSA

Date Completed: 6/18/15

Driller: TRIAD/KJW

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
MATERIAL DESCRIPTION											
5.0							Brown <u>SILTY TO SANDY CLAY</u>				
10.0						10.0					
15.0	1			100%	90%		Brown <u>SANDSTONE</u>				
20.0				100%	100%						
25.0	2										

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TEST BORING LOG

Sheet 2 of 3

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals**

Boring No.: **B-2**

Logger:

Boring Location: As Requested

Date Started: 6/17/15

Drill/Method: CME-550X/HSA

Date Completed: 6/18/15

Driller: TRIAD/KJW

Ground Elev.: _____

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
30.0				100%	100%			Brown SANDSTONE (continued)			✓	
35.0	3			100%	100%						✓	
40.0				100%	100%	39.5		Gray SANDSTONE			✓	
45.0	4			100%	42%						✓	
50.0				100%	40%						✓	

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TEST BORING LOG

Sheet 3 of 3

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals**

Boring No.: **B-2**

Logger:

Boring Location: As Requested

Date Started: 6/17/15

Drill/Method: CME-550X/HSA

Date Completed: 6/18/15

Driller: TRIAD/KJW

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
							MATERIAL DESCRIPTION				
50.5							Gray <u>SHALE</u>				
55.0	5			100%	40%						
60.0											
62.3	6			100%	40%		<u>COAL</u>				
65.0											
70.0	7			60%	17%						
72.5							Gray <u>CLAYSTONE</u>				
74.5							Bottom of Test Boring at 74.5 ft.				
75.0											

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Sheet 1 of 3

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals**

Boring No.: **B2A**

Logger:

Boring Location: See Boring Location Plan

Date Started: 6/18/15

Drill/Method: CME-550X/HSA

Date Completed: 6/18/15

Driller: TRIAD/KJW

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
MATERIAL DESCRIPTION											
5.0							Brown <u>SILTY TO SANDY CLAY</u>				
10.0						10.0					
15.0	1			100%	95%		Brown <u>SANDSTONE</u>				
20.0				100%	100%						
25.0	2										

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TEST BORING LOG

Sheet 2 of 3

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals**

Boring No.: **B2A**

Logger:

Boring Location: See Boring Location Plan

Date Started: 6/18/15

Drill/Method: CME-550X/HSA

Date Completed: 6/18/15

Driller: TRIAD/KJW

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
							MATERIAL DESCRIPTION				
30.0	3			100%	100%		Brown <u>SANDSTONE</u> (continued)				
35.0	4			100%	45%	39.0	Gray <u>SHALE</u>				
45.0	5			90%	28%	46.6	Gray <u>SANDSTONE</u>				
50.0				100%	22%	49.5	Gray <u>SHALE</u>				

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TEST BORING LOG

Sheet 3 of 3

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals**

Boring No.: **B2A**

Logger:

Boring Location: See Boring Location Plan

Date Started: 6/18/15

Drill/Method: CME-550X/HSA

Date Completed: 6/18/15

Driller: TRIAD/KJW

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
								Gray SHALE (continued)				
55.0	6			100%	22%	54.2		Gray SANDSTONE				
60.0						60.5		VOID				
65.0	7			20%	0%	68.5		Gray CLAYSTONE				
70.0						69.5		Bottom of Test Boring at 69.5 ft.				
75.0												

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Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals**

Boring No.: **B-3**

Logger:

Boring Location: As Requested

Date Started: 6/14/15

Drill/Method: CME-550X/HSA

Date Completed: 6/15/15

Driller: TRIAD/KJW

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
MATERIAL DESCRIPTION											
5.0							Brown <u>SILTY TO SANDY CLAY</u>				
10.0						10.0	Brown <u>SANDSTONE</u>				
15.0	1			100%	96%						
20.0	2			100%	100%						
25.0				100%	100%						

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TEST BORING LOG

Sheet 2 of 3

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals**

Boring No.: **B-3**

Logger:

Boring Location: As Requested

Date Started: 6/14/15

Drill/Method: CME-550X/HSA

Date Completed: 6/15/15

Driller: TRIAD/KJW

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
30.0	3			100%	100%			Brown SANDSTONE (continued)				
35.0	4			88%	79%	37.9		Gray SHALE				
45.0	5			100%	80%							
50.0	6			66%	18%							

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Sheet 3 of 3

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals**

Boring No.: **B-3**

Logger:

Boring Location: As Requested

Date Started: 6/14/15

Drill/Method: CME-550X/HSA

Date Completed: 6/15/15

Driller: TRIAD/KJW

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
55.0	7			60%	0%			Gray <u>SANDSTONE</u>				
60.0	8			47%	0%	60.0		<u>VOID</u>				
65.0	9			44%	0%	62.0		<u>SHALE</u>				
						64.3		<u>COAL</u>				
70.0	10			100%	38%	65.0		Gray <u>SHALE</u>				
						68.2		<u>COAL</u>				
75.0	11			100%	48%	70.5		Gray <u>SHALE</u>				
								Bottom of Test Boring at 75.0 ft.				

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TEST BORING LOG

Sheet 1 of 3

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals**

Boring No.: **B-3A**

Logger:

Boring Location: See Boring Location Plan

Date Started: 6/15/15

Drill/Method: CME-550X/HSA

Date Completed: 6/16/15

Driller: TRIAD/KJW

Ground Elev.: _____

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
MATERIAL DESCRIPTION											
5.0							Brown <u>SILTY TO SANDY CLAY</u>				
9.0											
10.0	1			100%	90%		Brown <u>SANDSTONE</u>				
15.0											
20.0	2			100%	100%						
25.0				55%	48%						

TRIAD_C 04-14-0171 KDC BOOMER WV.GPJ TRIAD 3.GDT 7/9/15

TEST BORING LOG

Sheet 2 of 3

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals**

Boring No.: **B-3A**

Logger:

Boring Location: See Boring Location Plan

Date Started: 6/15/15

Drill/Method: CME-550X/HSA

Date Completed: 6/16/15

Driller: TRIAD/KJW

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
MATERIAL DESCRIPTION											
30.0	3			55%	48%		Brown SANDSTONE (continued)				
35.0	4			27%	26%						
40.0						39.0	Gray SHALE				
45.0	5			85%	16%						
50.0											

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Remarks:

TEST BORING LOG

Sheet 3 of 3

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals**

Boring No.: **B-3A**

Logger:

Boring Location: See Boring Location Plan

Date Started: 6/15/15

Drill/Method: CME-550X/HSA

Date Completed: 6/16/15

Driller: TRIAD/KJW

Ground Elev.: _____

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
55.0	6			93%	19%			Gray SHALE (continued)				
60.0						61.7		VOID				
65.0	7			58%	11%	66.4		Gray SHALE				
70.0						68.4		COAL				
75.0	8			100%	60%	75.0		Gray SHALE				
								Bottom of Test Boring at 75.0 ft.				

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TEST BORING LOG

Sheet 1 of 3

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals**

Boring No.: **B-4**

Logger:

Boring Location: As Requested

Date Started: 6/18/15

Drill/Method: CME-550X/HSA

Date Completed: 6/19/15

Driller: TRIAD/KJW

Ground Elev.: _____

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
MATERIAL DESCRIPTION											
5.0							Brown <u>SILTY TO SANDY CLAY</u>				
10.0						10.0	Brown <u>SANDSTONE</u>				
15.0	1			100%	100%						
20.0	2			100%	100%						
25.0				100%	86%						

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TEST BORING LOG

Sheet 2 of 3

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals**

Boring No.: **B-4**

Logger:

Boring Location: As Requested

Date Started: 6/18/15

Drill/Method: CME-550X/HSA

Date Completed: 6/19/15

Driller: TRIAD/KJW

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Standard Split Spoon Core Sample Auger Probe	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
30.0	3			100%	86%			Brown <u>SANDSTONE</u> (continued)				
35.0	4			100%	100%							
40.0	5			100%	100%	40.0		Gray <u>SHALE</u>				
45.0	6			100%	82%							
50.0												

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TEST BORING LOG

Sheet 3 of 3

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals**

Boring No.: **B-4**

Logger:

Boring Location: As Requested

Date Started: 6/18/15

Drill/Method: CME-550X/HSA

Date Completed: 6/19/15

Driller: TRIAD/KJW

Ground Elev.: _____

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
55.0	7			80%	0%	58.0		Gray SHALE (continued)				
60.0						60.0		VOID				
65.0	8			60%	0%	65.5		Gray SILTSTONE				
70.0	9					70.0		Gray SHALE				
75.0								Bottom of Test Boring at 70.0 ft.				

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December 1, 2015

Mr. Darren J. Bennett, P.E.
West Virginia Department of Environmental Protection
Office of Abandoned Mine Lands and Reclamation
101 Cambridge Place
Bridgeport, West Virginia 26330

SUBJECT: Subsurface Investigation

Tyrone (Stimmell) Portals - Phase II
Work Directive #11
PO# DEP16349
Monongalia County, West Virginia
Triad Project No. 04-14-0170

Dear Mr. Bennett:

Triad Engineering, Inc. has prepared this letter report in accordance with your request to complete a second subsurface investigation at the Tyrone (Stimmell) Portals site located in Monongalia County, West Virginia. Triad performed an earlier subsurface investigation at this site back in June 2015. A general site vicinity map is provided as Figure No. 1 in the appendix of this report. The boring locations were selected and staked in the field by others. We were not provided with a boring location plan at the time of this investigation.

Triad drilled a total of 16 additional test borings (B-5 through B-17, B-6A, B-10A, and B-14B) at the subject project site using a CME 55 rubber track mounted drilling rig. The drilling activities for this investigation began on October 28, 2015 and were completed on November 3, 2015. Typed field logs are provided as Figure No. 2 in the appendix of this letter report. In general, the borings were extended to auger refusal on possible bedrock at depths ranging from 10.0 to 35.2 ft. below the existing ground surface via hollow stem augering without sampling. Rock core samples were obtained in many of the test borings using an NQ2 double tube core barrel sampler with a diamond cutting bit. All rock core samples were placed in partitioned wooden boxes and delivered to our St. Albans office. A 1½ inch Schedule 40 PVC pipe was placed in many of the borings for the purpose of others to monitor groundwater levels.

The overburden at the site was visually classified based on auger cuttings. The overburden present at the site generally consists of silty to sandy clay with shale fragments. A discontinuous layer of coal refuse was also encountered in some of the test borings. Auger refusal on possible bedrock was encountered at depths ranging from 10.0 to 35.2 ft. below the existing ground surface. It should be noted and

emphasized that there was no soil sampling performed in any of these test borings. As such, the overburden descriptions provided on the boring logs are based only on auger cuttings. Rock core samples were obtained from many of the test borings. In general, the bedrock encountered at the site consists of very soft to soft shale and claystone with occasional discontinuous layers of hard to very hard sandstone. A coal seam was also encountered in a few of the test borings. An approximate 3.8 to 5.1 ft. void was encountered in Borings B-12, B-13 and B-14B. All 16 test borings were noted to be dry during drilling operations. A standpipe piezometer pipe was placed in many of the open boreholes immediately following drilling completion for the purpose of monitoring groundwater levels to be performed by others. The test borings without a standpipe piezometer were immediately backfilled with auger cuttings.

We appreciate the opportunity to have assisted you with this project and trust that this letter report satisfies your needs at this time. Please feel free to call if you have any questions or require additional information.

Sincerely,

TRIAD ENGINEERING, INC.

John J. Haynes, P.E.
Drilling Department Manager



Dave Meadows, P.E.
Regional Manager

APPENDIX



SOURCE: Google Earth		TYRONE (STIMMELL) PORTALS PHASE II MONONGALIA COUNTY, WEST VIRGINIA	 TRIAD ENGINEERING, INC. www.triadeng.com	
DRAWN BY: BAF	CHECKED BY: JJH			SITE VICINITY PLAN
DATE: 11-25-2015	SCALE: No Scale			TRIAD PROJECT NO: 04-14-0170

TEST BORING LOG

Sheet 1 of 1

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals Phase II**

Boring No.: **B-5**

Logger: **TRIAD/AW**

Boring Location: **As Requested**

Date Started: **11/3/15**

Drill/Method: **CME-55/HSA**

Date Completed: **11/3/15**

Driller: **TRIAD/AW**

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
								Brown <u>SILTY TO SANDY CLAY</u> with rock fragments				
3.4								<u>COAL REFUSE</u>				
6.3								Gray <u>SHALE FRAGMENTS</u> with coal spoil, weathered				
11.2								Bottom of Test Boring at 11.2 ft.				
15.0												
20.0												
25.0												

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TEST BORING LOG

Sheet 1 of 1

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals Phase II**

Boring No.: **B-6**

Logger: **TRIAD/AW**

Boring Location: **As Requested**

Date Started: **10/28/15**

Drill/Method: **CME-55/HSA**

Date Completed: **10/28/15**

Driller: **TRIAD/AW**

Ground Elev.: _____

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
							MATERIAL DESCRIPTION				
5.0							Brown <u>SILTY TO SANDY CLAY</u> with shale fragments				
8.0							Gray <u>SHALE</u> , soft				
12.0							<u>COAL</u>				
14.1							Gray <u>CLAYSTONE</u> , soft				
15.0	1			82%	0%						
18.6							Bottom of Test Boring at 18.6 ft.				
20.0											
25.0											

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TEST BORING LOG

Sheet 1 of 1

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals Phase II**

Boring No.: **B-6A**

Logger: **TRIAD/AW**

Boring Location: **As Requested**

Date Started: **10/28/15**

Drill/Method: **CME-55/HSA**

Date Completed: **10/28/15**

Driller: **TRIAD/AW**

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
MATERIAL DESCRIPTION											
5.0							Gray <u>SHALE FRAGMENTS</u> with coal spoil				
10.0											
15.0						15.0					
Bottom of Test Boring at 15.0 ft.											
20.0											
25.0											

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Remarks:

TEST BORING LOG

Sheet 1 of 2

Project Number: **04-14-0170**
 Logger: TRIAD/AW
 Date Started: 10/28/15
 Date Completed: 10/28/15

Project Name: **Tyrone (Stimmell) Portals Phase II**
 Boring Location: As Requested
 Drill/Method: CME-55/HSA
 Driller: TRIAD/AW

Boring No.: **B-7**

Ground Elev.: _____

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
							MATERIAL DESCRIPTION				
5.0							Gray <u>SILTY TO SANDY CLAY</u> with shale fragments				
10.0											
15.0											
20.0											
22.4							Gray <u>SHALE</u> , soft				
25.0											

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TEST BORING LOG

Sheet 2 of 2

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals Phase II**

Boring No.: **B-7**

Logger: **TRIAD/AW**

Boring Location: **As Requested**

Date Started: **10/28/15**

Drill/Method: **CME-55/HSA**

Date Completed: **10/28/15**

Driller: **TRIAD/AW**

Ground Elev.: _____

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
28.4	1			100%	0%	28.4		Gray <u>CLAYSTONE</u> , very soft				
30.0	2			92%	22%	33.4		Gray <u>SILTSTONE</u> , hard				
35.0	3			100%	40%	38.4		Gray <u>CLAYSTONE</u> , soft				
40.0								Bottom of Test Boring at 38.4 ft.				
45.0												
50.0												

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Remarks:

TEST BORING LOG

Sheet 1 of 2

Project Number: **04-14-0170**
 Logger: TRIAD/AW
 Date Started: 10/28/15
 Date Completed: 10/28/15

Project Name: **Tyrone (Stimmell) Portals Phase II**
 Boring Location: As Requested
 Drill/Method: CME-55/HSA
 Driller: TRIAD/AW

Boring No.: **B-8**

Ground Elev.: _____

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
5.0								Gray <u>SILTY TO SANDY CLAY</u> with shale fragments				
6.0								Gray <u>SHALE</u> , soft				
9.0								<u>COAL</u>				
10.0												
10.8								Gray <u>SHALE</u> , weathered, soft				
15.0	1			84%	0%							
20.0												
25.0												

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TEST BORING LOG

Sheet 2 of 2

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals Phase II**

Boring No.: **B-8**

Logger: **TRIAD/AW**

Boring Location: **As Requested**

Date Started: **10/28/15**

Drill/Method: **CME-55/HSA**

Date Completed: **10/28/15**

Driller: **TRIAD/AW**

Ground Elev.: _____

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
							MATERIAL DESCRIPTION				
						26.5	Gray SHALE , weathered, soft (continued)				
							Bottom of Test Boring at 26.5 ft.				
30.0											
35.0											
40.0											
45.0											
50.0											

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TEST BORING LOG

Sheet 1 of 1

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals Phase II**

Boring No.: **B-9**

Logger: **TRIAD/AW**

Boring Location: **As Requested**

Date Started: **10/29/15**

Drill/Method: **CME-55/HSA**

Date Completed: **10/29/15**

Driller: **TRIAD/AW**

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
5.0								Gray <u>SILTY TO SANDY CLAY</u> with shale fragments				
10.0						10.7						
15.0	1			100%	0%			<u>COAL</u>				
	2			100%	0%	16.3		Gray <u>SHALE</u> , hard				
20.0						18.0		Bottom of Test Boring at 18.0 ft.				
25.0												

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TEST BORING LOG

Sheet 1 of 2

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals Phase II**

Boring No.: **B-10**

Logger: **TRIAD/AW**

Boring Location: **As Requested**

Date Started: **10/30/15**

Drill/Method: **CME-55/HSA**

Date Completed: **11/2/15**

Driller: **TRIAD/AW**

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
							MATERIAL DESCRIPTION				
5.0							Gray <u>SILTY TO SANDY CLAY</u> with shale fragments				
10.0											
12.6											
15.0	1			100%	0%		Gray <u>SHALE</u> with numerous small voids, very soft to soft				
20.0	2			92%	37%						
25.0				28%	0%						

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Remarks:

TEST BORING LOG

Sheet 2 of 2

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals Phase II**

Boring No.: **B-10**

Logger: **TRIAD/AW**

Boring Location: **As Requested**

Date Started: **10/30/15**

Drill/Method: **CME-55/HSA**

Date Completed: **11/2/15**

Driller: **TRIAD/AW**

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Standard Split Spoon Core Sample Auger Probe	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
30.0	3			28%	0%			Gray SHALE with numerous small voids, very soft to soft (continued)				
35.0	4			54%	19%							
35.8	5			31%	0%	35.8		Bottom of Test Boring at 35.8 ft.				
40.0												
45.0												
50.0												

TEST BORING LOG

Sheet 1 of 2

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals Phase II**

Boring No.: **B-10A**

Logger: **TRIAD/AW**

Boring Location: **As Requested**

Date Started: **11/2/15**

Drill/Method: **CME-55/HSA**

Date Completed: **11/2/15**

Driller: **TRIAD/AW**

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
MATERIAL DESCRIPTION											
5.0							Gray <u>SILTY TO SANDY CLAY</u> with shale fragments				
10.0											
15.0											
20.0											
25.0											

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Sheet 2 of 2

Project Number: **04-14-0170**
 Logger: **TRIAD/AW**
 Date Started: **11/2/15**
 Date Completed: **11/2/15**

Project Name: **Tyrone (Stimmell) Portals Phase II**
 Boring Location: **As Requested**
 Drill/Method: **CME-55/HSA**
 Driller: **TRIAD/AW**

Boring No.: **B-10A**

Ground Elev.: _____

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
							MATERIAL DESCRIPTION				
30.0							Gray <u>SILTY TO SANDY CLAY</u> with shale fragments (continued)				
35.0						35.2	Gray <u>SHALE</u> soft				
40.0	1			100%	0%						
	2			100%	0%						
45.0						42.8	Bottom of Test Boring at 42.8 ft.				
50.0											

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TEST BORING LOG

Sheet 1 of 1

Project Number: **04-14-0170**
 Logger: TRIAD/AW
 Date Started: 11/3/15
 Date Completed: 11/3/15

Project Name: **Tyrone (Stimmell) Portals Phase II**
 Boring Location: As Requested
 Drill/Method: CME-55/HSA
 Driller: TRIAD/AW

Boring No.: **B-11**

Ground Elev.: _____

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
MATERIAL DESCRIPTION											
5.0							Gray <u>SILTY TO SANDY CLAY</u> with shale fragments				
7.0							Gray <u>SHALE</u> with coal, soft				
10.0											
15.0											
20.0						20.0	Bottom of Test Boring at 20.0 ft.				
25.0											

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TEST BORING LOG

Sheet 1 of 2

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals Phase II**

Boring No.: **B-12**

Logger: TRIAD/AW

Boring Location: As Requested

Date Started: 10/30/15

Drill/Method: CME-55/HSA

Date Completed: 10/30/15

Driller: TRIAD/AW

Ground Elev.: _____

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
MATERIAL DESCRIPTION											
5.0							Gray <u>SILTY TO SANDY CLAY</u> with shale fragments				
10.0											
15.0											
20.0											
25.0						25.0					

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Remarks:

TEST BORING LOG

Sheet 2 of 2

Project Number: **04-14-0170**
 Logger: TRIAD/AW
 Date Started: 10/30/15
 Date Completed: 10/30/15

Project Name: **Tyrone (Stimmell) Portals Phase II**
 Boring Location: As Requested
 Drill/Method: CME-55/HSA
 Driller: TRIAD/AW

Boring No.: **B-12**

Ground Elev.: _____

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
	1			100%	27%			Gray <u>SHALE</u> , soft				
30.0	2			34%	0%	28.9		VOID				
35.0	3			60%	0%	34.0		Gray <u>CLAYSTONE</u> , soft				
40.0	4			100%	0%	37.7		COAL				
						39.4		Gray <u>CLAYSTONE</u> , soft				
45.0						42.7		Bottom of Test Boring at 42.7 ft.				
50.0												

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TEST BORING LOG

Sheet 1 of 3

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals Phase II**

Boring No.: **B-13**

Logger: **TRIAD/AW**

Boring Location: **As Requested**

Date Started: **11/3/15**

Drill/Method: **CME-55/HSA**

Date Completed: **11/3/15**

Driller: **TRIAD/AW**

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
5.0								Brown <u>SILTY TO SANDY CLAY</u> with shale fragments				
10.0												
14.2												
15.0	1			100%	65%			Gray <u>SANDSTONE</u> , medium to coarse grain, hard to very hard				
20.0	2			94%	96%							
23.5				100%	0%			Gray <u>CLAYSTONE</u> , soft				
25.0												

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TEST BORING LOG

Sheet 2 of 3

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals Phase II**

Boring No.: **B-13**

Logger: **TRIAD/AW**

Boring Location: **As Requested**

Date Started: **11/3/15**

Drill/Method: **CME-55/HSA**

Date Completed: **11/3/15**

Driller: **TRIAD/AW**

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Standard Split Spoon Core Sample Auger Probe	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
3				100%	0%			Gray <u>CLAYSTONE</u> , soft (continued)				
30.0												
4				100%	72%							
35.0												
5				100%	40%							
40.0												
6				100%	20%							
45.0						44.7		VOID				
7				32%	0%							
50.0				100%	0%	49.5						

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Remarks:

TEST BORING LOG

Sheet 3 of 3

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals Phase II**

Boring No.: **B-13**

Logger: TRIAD/AW

Boring Location: As Requested

Date Started: 11/3/15

Drill/Method: CME-55/HSA

Date Completed: 11/3/15

Driller: TRIAD/AW

Ground Elev.: _____

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
							MATERIAL DESCRIPTION				
	8			100% ▼	0% ▼	51.5	Gray <u>CLAYSTONE</u> , soft (continued)				
							Bottom of Test Boring at 51.5 ft.				
55.0											
60.0											
65.0											
70.0											
75.0											

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TEST BORING LOG

Sheet 1 of 2

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals Phase II**

Boring No.: **B-14**

Logger: TRIAD/AW

Boring Location: As Requested

Date Started: 10/29/15

Drill/Method: CME-55/HSA

Date Completed: 10/29/15

Driller: TRIAD/AW

Ground Elev.: _____

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
MATERIAL DESCRIPTION											
5.0							Brown <u>SILTY TO SANDY CLAY</u> with shale fragments				
10.0											
15.0											
20.0						19.5	Gray <u>SHALE</u> with coal, soft, weathered				
25.0	1			100% 56%	20% 0%						

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TEST BORING LOG

Sheet 2 of 2

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals Phase II**

Boring No.: **B-14**

Logger: **TRIAD/AW**

Boring Location: **As Requested**

Date Started: **10/29/15**

Drill/Method: **CME-55/HSA**

Date Completed: **10/29/15**

Driller: **TRIAD/AW**

Ground Elev.: _____

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
29.4	2			56%	0%			Gray <u>SHALE</u> with coal, soft, weathered (continued)				
30.0						29.4						
33.2	3			92%	26%			COAL				
35.0						33.2						
36.0	4			100%	0%			Gray <u>CLAYSTONE</u> , soft				
						36.0						
								Bottom of Test Boring at 36.0 ft.				
40.0												
45.0												
50.0												

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TEST BORING LOG

Sheet 1 of 2

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals Phase II**

Boring No.: **B-14B**

Logger: **TRIAD/AW**

Boring Location: **As Requested**

Date Started: **10/29/15**

Drill/Method: **CME-55/HSA**

Date Completed: **10/30/15**

Driller: **TRIAD/AW**

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
MATERIAL DESCRIPTION											
5.0							Brown <u>SILTY TO SANDY CLAY</u> with rock fragments				
10.0											
15.0											
19.2							Gray <u>SILTSTONE</u> , hard				
20.0	1			86%	11%						
23.8				24%	0%		VOID				
25.0											

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TEST BORING LOG

Sheet 2 of 2

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals Phase II**

Boring No.: **B-14B**

Logger: **TRIAD/AW**

Boring Location: **As Requested**

Date Started: **10/29/15**

Drill/Method: **CME-55/HSA**

Date Completed: **10/30/15**

Driller: **TRIAD/AW**

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
	2			24%	0%	27.6		VOID (continued)			△△△△△△△△	
								Gray <u>CLAYSTONE</u> , soft				
30.0	3			100%	0%	31.5		COAL				
						33.5		Gray <u>CLAYSTONE</u> , soft				
35.0	4			100%	0%	36.1		Bottom of Test Boring at 36.1 ft.				
40.0												
45.0												
50.0												

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TEST BORING LOG

Sheet 1 of 2

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals Phase II**

Boring No.: **B-15**

Logger: **TRIAD/AW**

Boring Location: **As Requested**

Date Started: **10/29/15**

Drill/Method: **CME-55/HSA**

Date Completed: **10/29/15**

Driller: **TRIAD/AW**

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
MATERIAL DESCRIPTION											
							Brown <u>SILTY TO SANDY CLAY</u> with shale fragments				
						3.0	- coal refuse (2.0 - 3.0 ft.)				
							Brown <u>SILTY TO SANDY CLAY</u> with shale fragments				
5.0											
10.0											
15.0											
20.0											
25.0											

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TEST BORING LOG

Sheet 2 of 2

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals Phase II**

Boring No.: **B-15**

Logger: **TRIAD/AW**

Boring Location: **As Requested**

Date Started: **10/29/15**

Drill/Method: **CME-55/HSA**

Date Completed: **10/29/15**

Driller: **TRIAD/AW**

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
MATERIAL DESCRIPTION											
30.0						30.0	Brown <u>SILTY TO SANDY CLAY</u> with shale fragments (continued)				
Bottom of Test Boring at 30.0 ft.											
35.0											
40.0											
45.0											
50.0											

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TEST BORING LOG

Sheet 1 of 2

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals Phase II**

Boring No.: **B-16**

Logger: **TRIAD/AW**

Boring Location: **As Requested**

Date Started: **11/3/15**

Drill/Method: **CME-55/HSA**

Date Completed: **11/3/15**

Driller: **TRIAD/AW**

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
5.0								Brown <u>SILTY TO SANDY CLAY</u> with shale fragments				
10.0												
15.0												
17.2	1			90%	0%	17.2		Gray <u>SANDSTONE</u> , medium grain, hard to very hard				
19.1						19.1		COAL				
20.0	2			100%	0%							
25.0				92%	0%							

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TEST BORING LOG

Sheet 2 of 2

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals Phase II**

Boring No.: **B-16**

Logger: **TRIAD/AW**

Boring Location: **As Requested**

Date Started: **11/3/15**

Drill/Method: **CME-55/HSA**

Date Completed: **11/3/15**

Driller: **TRIAD/AW**

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Standard Split Spoon Core Sample Auger Probe	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
	3			92%	0%	27.6		COAL (continued)				
						28.2		Gray CLAYSTONE, soft				
								Bottom of Test Boring at 28.2 ft.				
30.0												
35.0												
40.0												
45.0												
50.0												

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TEST BORING LOG

Sheet 1 of 1

Project Number: **04-14-0170**

Project Name: **Tyrone (Stimmell) Portals Phase II**

Boring No.: **B-17**

Logger: **TRIAD/AW**

Boring Location: **As Requested**

Date Started: **11/3/15**

Drill/Method: **CME-55/HSA**

Date Completed: **11/3/15**

Driller: **TRIAD/AW**

Ground Elev.:

Depth (feet)	Sample No.	Sample Type	Blow Counts	Recovery (%)	RQD (RUN)	Strata Depth (ft)	Shelby Tube Core Sample Standard Split Spoon Auger Probe	MATERIAL DESCRIPTION	RQD (Strata)	Water Level	Graphic Log	Strata Elevation
5.0								Brown <u>SILTY TO SANDY CLAY</u> with shale fragments				
6.8								COAL REFUSE				
10.0												
15.0								Gray <u>SHALE</u> with coal, weathered, very soft				
16.8								COAL				
18.8								Gray <u>SHALE</u> with coal, soft				
20.0								Bottom of Test Boring at 20.0 ft.				
25.0												

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Contractor's Bid Sheet

Address: _____

ITEM NO.	Qty	Unit	DESCRIPTION	UNIT PRICE	AMOUNT
1.0	1	LS	Mobilization and Demobilization (Limited to 10% of Total Bid)	LS	
2.0	1	LS	Construction Layout (Limited to 5% of Total Bid)	LS	
3.0	1	LS	Quality Control (Limited to 3% of Total Bid)	LS	
4.1	1	LS	Site Preparation (Limited to 10% of Total Bid)	LS	
4.2	305	TONS	Access Road Stone		
4.3	1,235	SY	Stabilization Fabric		
4.4	225	TONS	Gravel Drive Rehabilitation		
4.5	2	EA	Temporary Stream Crossing		
5.1	1,275	LF	Silt Fence		
5.2	1,025	LF	12" Straw Wattles		
5.3	75	TONS	Stabilized Construction Entrance - (3)		
5.4	1	EA	Rock Check Dam		
6.0	3	AC	Revegetation		
7.1	118	LF	4' Grass Lined Channel (Channel "B")		
7.2	158	LF	6' Riprap Channel (Channel "A")		
7.3	1	EA	Blanket Drain		
7.4	30	LF	18" HDPE Culvert Pipe		
7.5	100	LF	Seep Collector		
8.1	1,550	CUYD	Unclassified Excavation		
9.1	2	EA	Subsidence Sock		
9.2	1	EA	Wet/Modified Mine Seal (P-7)		
9.3	84	LF	Mine Seal Conveyance Pipe (P-7)		
9.4	8	EA	Dry Mine Seal (P-1, P-2, P-3, P-4, P-5, P-6, P-8, P-9)		
9.5	1	LS	Mine Seal Regrade Area (P-1, P-2 and P-3)	LS	
9.6	13	EA	Piezometer Abandonment		
9.7	20	EA	Soda Ash Briquettes (50lb Bag)		
			TOTAL		\$0.00