

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

COUNTY
OF
LEWIS

NAME OF PROJECT
CAMDEN (HARTLEY) DANGEROUS SLIDE

NOTICE

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

PROJECT SPECIFICATION BOOK

INDEX

<u>ARTICLE</u>	<u>PAGES</u>
I. DEFINITIONS	1 - 2
II. GENERAL CONDITIONS	1 - 18
III. GENERAL REQUIREMENTS	1 - 12
IV. SPECIAL CONDITIONS	1 - 3
V. WAGE & HOUR INFORMATION	1 - 44
VI. CONSTRUCTION SPECIFICATIONS	1 - 126+ 8 borelogs
VII. BID FORM	1 - 2

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" 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 5.1 Vegative 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 (24 sheets) for the reclamation of the project as prepared by for the West Virginia Department of Environmental Protection, Office of Abandoned Mine Lands and Reclamation, 601 57th Street, SE, Charleston, West Virginia 25304-2345, Telephone (304) 926-0485.

1.2 Specifications

See Index

1.3 Addenda

No. _____	Date _____
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** As indicated in Section 13 of the Special Provisions, 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 successful submittal of registration has been completed. 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.

Where the Contractor has not taken action, but has notified the Regional Engineer of an emergency threatening injury to persons or damage to the work or any adjoining property, it shall act as instructed or authorized 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: Charles Miller, 65 Left Freemans Creek Road, Camden, WV 26338.

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

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

12.0 **SUBCONTRACTORS**

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

13.0 **TIME**

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

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

- (a) 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.**
- (c) 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.**

ARTICLE II - GENERAL CONDITIONS

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:

- (i) 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

- (a) 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 following 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.

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

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 above. 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.

AML CONTRACTOR INFORMATION FORM

You must complete this form for your AML contracting officer to request an eligibility evaluation from the Office of Surface Mining to determine if you are eligible to receive an AML contract. This requirement applies to contractors and their sub-contractors and is found under OSM's regulations at 30 CFR 874.16. When possible, please type your information onto this form to reduce errors on our end. NOTE: Signature and date this form is signed must be recent (within the last month) to be considered for a current bid

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
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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:**

Clearing and grubbing of the work area; construction of a permanent access road for the site; excavation of unstable spoil material and backfilling of exiting highwall to eliminate the landslide; installation of vegetated erosion control blanket and grouted riprap lined drainage control channels including splash pad, HDPE culverts, and PVC pipe with drop inlet; disconnecting and temporarily relocating and reconnecting a gas service line within the work area during construction of the project and then permanently relocating the gas service line upon completion of the work; and re-vegetation of the disturbed 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 late, but prior to the dismissal of the technical portion of the pre-bid will be permitted to sign in. 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.

ARTICLE III - GENERAL REQUIREMENTS

- 5.3** If a problem arises 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.

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. If any

ARTICLE III - GENERAL REQUIREMENTS

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) Paint Paint for the project sign shall be one (1) coat Exterior-Grade Wood Primer-Sealer, and two (2) coats Exterior Grade Low-Sheen Enamel by Glidden or another approved manufacturer.
- (b) Sign face shall be 3/4" Marine Exterior plywood, aluminum composite material and posts and cross-brace shall be No. 2 Grade Pine or Fir, kiln dried and treated.
- (c) 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



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

1 1/2" 17 1/4" 1 1/8"

77 1/4"

15 3/4"



7 7/8" Earl Ray Tomblin Governor

3 3/4" dep

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

73 7/8"

48"

6"

36"

36"

6"

18"

2 1/4"

27 3/4"

96"



STATE OF WEST VIRGINIA

DEPARTMENT OF ENVIRONMENTAL PROTECTION

Office of Abandoned Mine Lands & Reclamation

Earl Ray Tomblin
Governor



Randy C. Hurlbrian
Cabinet Secretary



Robert Rice
Chief

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

48"

5 1/4"

7 7/8"

9 3/8"

81 3/8"

17 1/2"



1 1/4" Earl Ray Tomblin

3/4" Governor

9 1/2" dep

1" Randy C. Huffman
Cabinet Secretary

8" AML

1" Robert Rice
Chief

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 1/4"

1 1/2"

2 1/4"

3 3/4"

2 1/4"

1 1/2"

2"

3 3/4"

1 1/2"

4 7/8"

2 1/4"

1 1/2"

2 1/4"

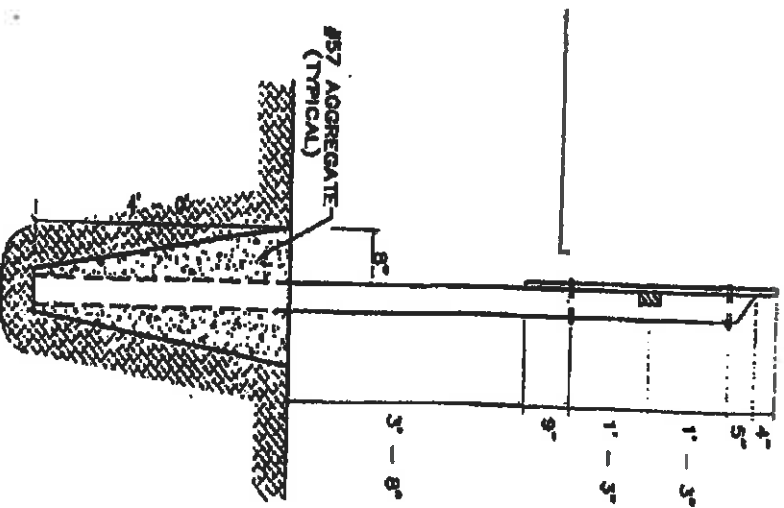
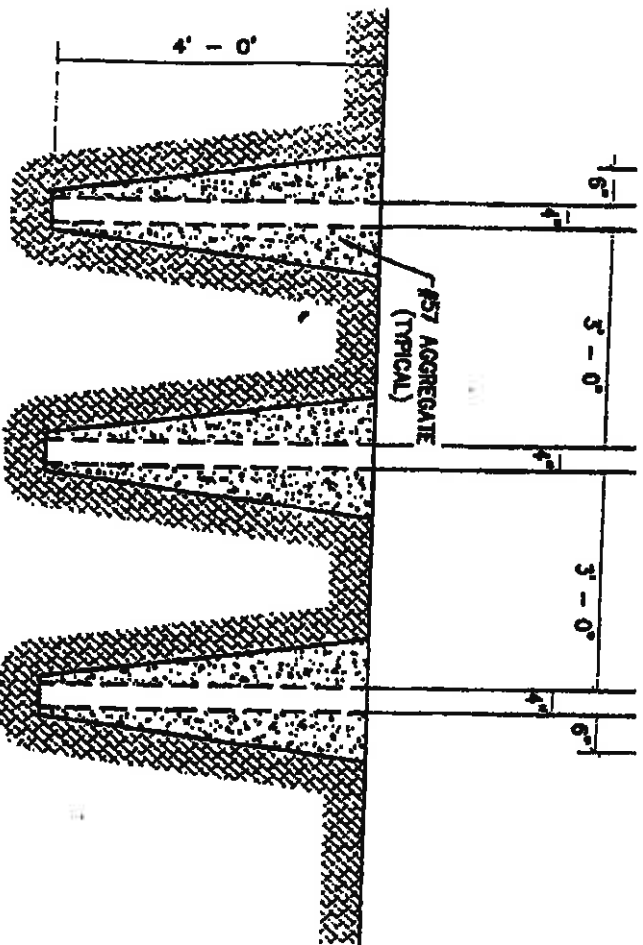
4 7/8"

1 1/2"

3 3/4"

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 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 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 MILE LANDS & RECLAMATION**

Report for Week Ending: _____ Project Name: _____
By: _____ Location: _____
Title: _____ Contractor: _____

Daily Activity Summary

Sunday	
Monday	
Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	

DEPARTMENT OF ENVIRONMENTAL PROTECTION OFFICE OF ABANDONED MILE LANDS & RECLAMATION Weekly Quantity Summary Report By: _____ For Week Ending: _____	
--	--

For Week Ending: _____

[illegible]

Attach any sheets applicable to this weeks work and check appropriate box.

Change Orders	<input type="checkbox"/>	Field Changes	<input type="checkbox"/>
Test Results	<input type="checkbox"/>	Explanation of work stoppages not due to weather	<input type="checkbox"/>
Other (explain)	<input type="checkbox"/>		

Field Changes ☐

Explanation of work stoppages not due to weather ☐

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 Enviromental Sediment Contol 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.

**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 _____

DISCLOSURE OF LOBBYING ACTIVITIES

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

Approved by OMB

0348-0046

(See reverse for public burden disclosure.)

1. Type of Federal Action: <input type="checkbox"/> a. contract <input type="checkbox"/> b. grant <input type="checkbox"/> c. cooperative agreement <input type="checkbox"/> d. loan <input type="checkbox"/> e. loan guarantee <input type="checkbox"/> f. loan insurance		2. Status of Federal Action: <input type="checkbox"/> a. bid/offer/application <input type="checkbox"/> b. initial award <input type="checkbox"/> c. post-award		3. Report Type: <input type="checkbox"/> a. initial filing <input type="checkbox"/> b. material change For Material Change Only: year _____ quarter _____ date of last report _____	
4. Name and Address of Reporting Entity: <input type="checkbox"/> Prime <input type="checkbox"/> Subawardee Tier _____, 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.

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

CONSTRUCTION SPECIFICATIONS



CIVIL & ENVIRONMENTAL CONSULTANTS, INC.

99 Cambridge Place

Bridgeport, WV 26330

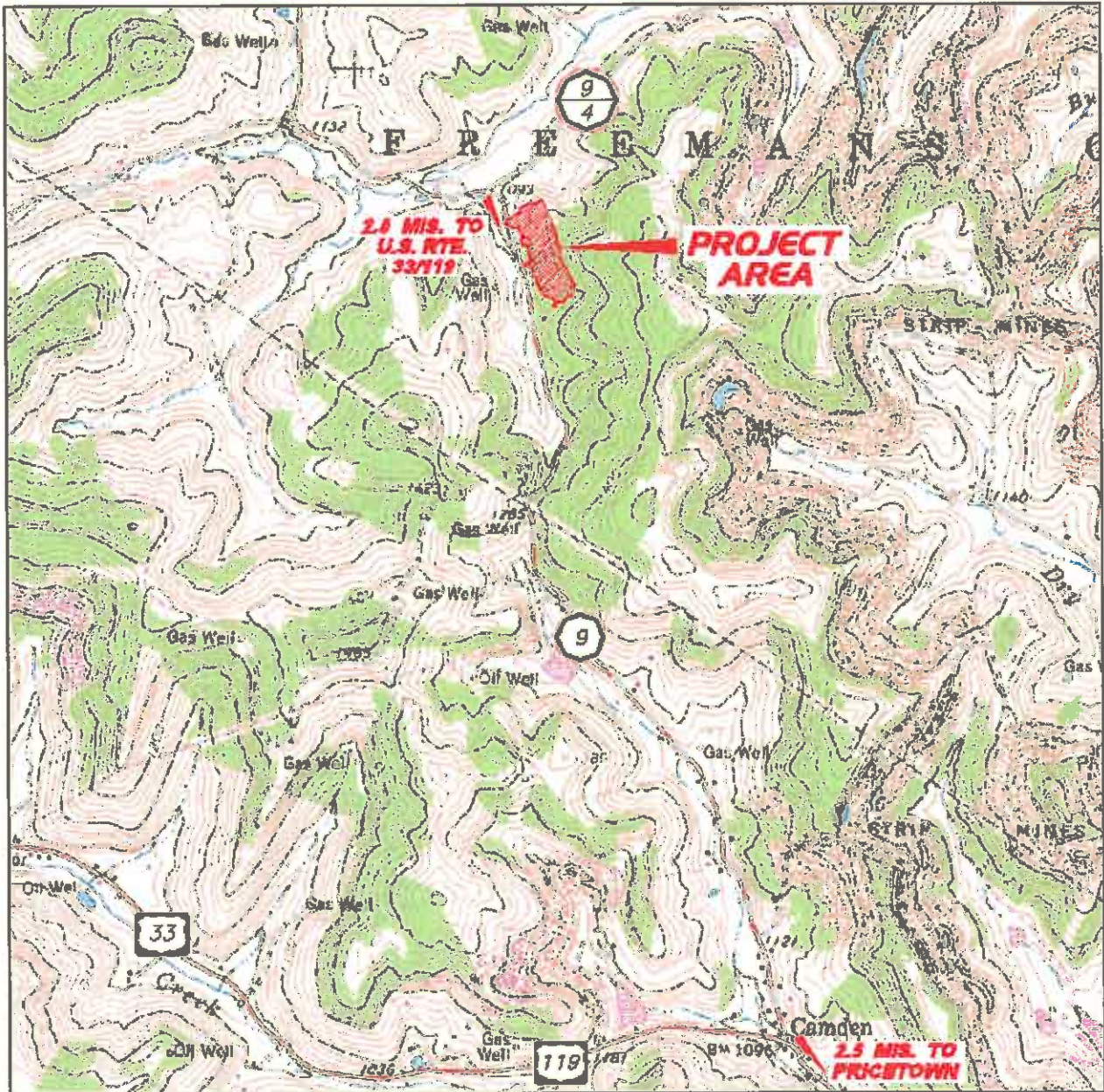
Ph. (304) 933-3119 Fax (304) 933-3327

www.cecinc.com

SPECIFICATIONS FOR CAMDEN (HARTLEY) DANGEROUS LANDSLIDE

Near Camden, Freemans Creek District,

Lewis County, West Virginia



Submitted To:
WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF ABANDONED MINE LANDS
101 Cambridge Place
Bridgeport, West Virginia 26330

October 15, 2013
Rev. 4/28/2014
Rev. 8/11/2014

CAMDEN (HARTLEY) DANGEROUS LANDSLIDE

P.O. Number DEP16160

I. SPECIAL PROVISIONS

1. LOCATION / SITE DESCRIPTION

Camden (Hartley) Dangerous Landslide abandoned mine lands reclamation project extends south-southeast along the east side of Lewis County Route 9 from the intersection with Lewis County Route 9/4 for approximately 0.3 miles south. The problem area may be found on the Camden 7.5 minute USGS Quadrangle and drains to the Left Fork of Freemans Creek of the West Fork River of the Monongalia River Basin. The problem area consists of cast-over-the-hill mine spoil from an abandoned Redstone coal seam surface mine operation that extends approximately 1,100 feet directly behind four (4) homes. An active landslide approximately 200 feet long and 55 feet in elevation is located near the center of the cast-over-the-hill mine spoil mass and directly behind the home of Mrs. Jane Hartley. The face of the active landslide area projects at a 1.5 horizontal to 1 vertical slope. The active landslide toes-out approximately four feet (4') from the Hartley garage and approximately 20 feet from the Hartley house. In this area the Hartley 20-foot wide backyard is continuously saturated by seepage from the landslide area. The cast-over-the-hill mine spoil located north and south of the active landslide consists of unconsolidated, un-compacted material with very steep outcrops and the potential exists for the entire cast-over-the-hill spoil mass to become unstable and impact another three (3) homes.

Ms. Peggy Cawthon lives 250 feet south of the Hartley residence near the southernmost project limits. The cast-over-the-hill coal overburden toes-out approximately five feet (5') from the northeast corner of the Cawthon residence. From the toe-out point the overburden mass extends at a very steep slope of 1.4 horizontal to 1 vertical slope for 55 feet in elevation. Ms. Cawthon stated the overburden mass is creeping closer to her home and is saturating her yard. She is concerned the overburden mass may eventually impact her footers/basement wall/ home.

Mr. Denzil Wyatt lives 170 feet north of the Hartley residence. The cast-over-the-hill overburden toes-out approximately 15 feet from the back of his home. From the toe-out point the overburden mass extends at a slope of 1.6 horizontal to 1 vertical for 46 feet in elevation. Mr. Wyatt also testifies the overburden mass has moved closer to his home over the years and is concerned it may eventually damage his house.

Mr. Garrison Grogg lives 360 feet north of the Hartley residence and near the northernmost project limits. The cast-over-the-hill overburden toes-out approximately 25 feet from the back of his home. From the toe-out point the overburden mass extends at a slope of 1.6 horizontal to 1 vertical for 46 feet in elevation. Mr. Grogg is also concerned that the overburden mass is moving and may eventually damage his home.

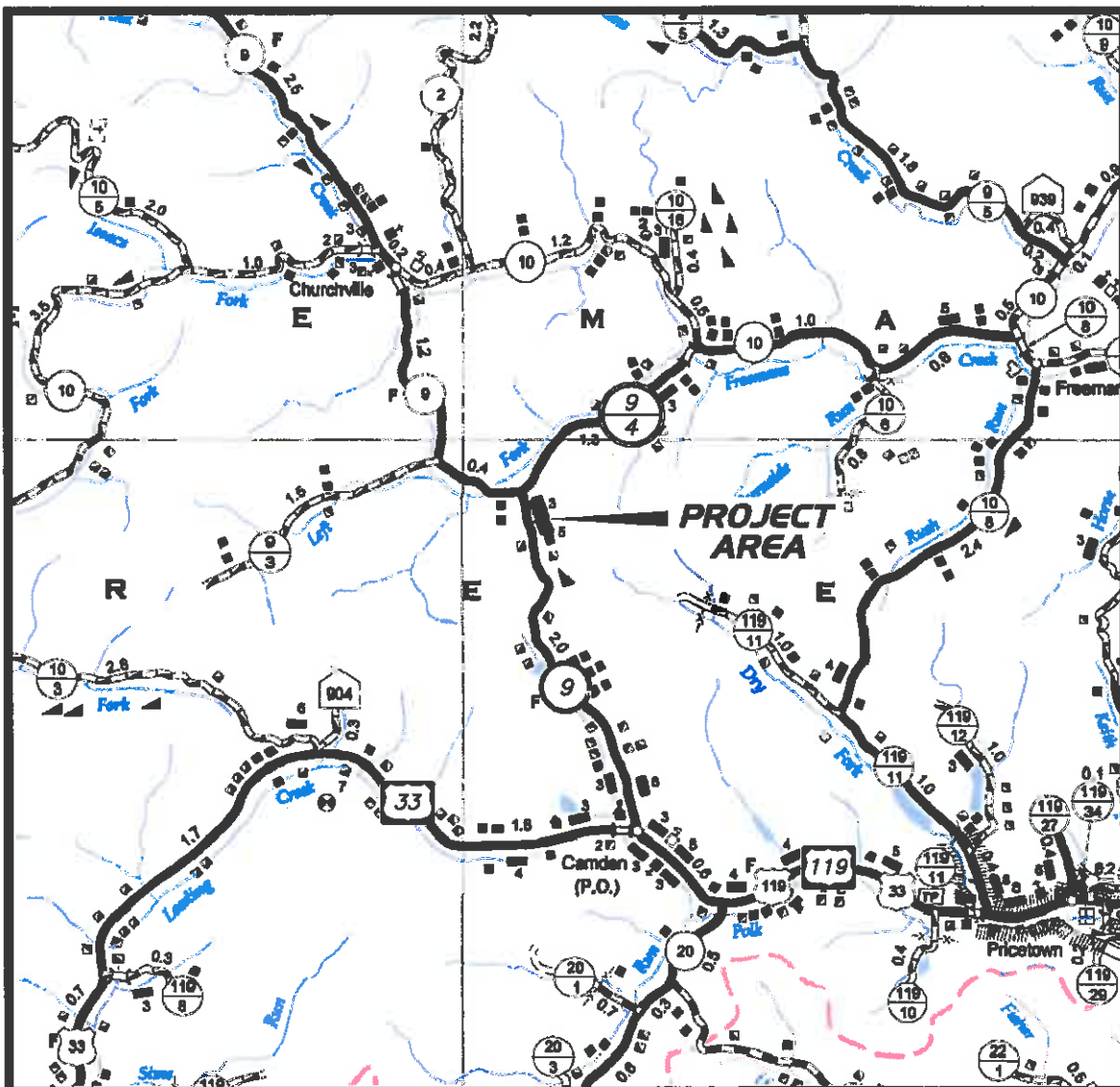
The scope of work will be to install sediment and erosion control measures prior to any disturbance; construct an access road; remove unstable material from the cast-over-the-hill mine spoil to a stable configuration and place the removed material against the Redstone coal seam high wall and associated bench; construct necessary drainage controls; and re-establish vegetation on all disturbed areas all in accordance with the plans and specifications. Site drainage conveyances consist of approximately 1,250 linear feet of vegetated erosion control blanket lined bench ditches; 1,600 linear feet of “vee” shaped grouted riprap ditches; 40 linear foot grouted riprap Splash Pads; a drop inlet and associated grate; a 15” diameter SDR35 PVC Pipe; and 12” and 18” diameter HDPE pipes. The 18” HDPE pipe installation will require open-cutting of Lewis County Route 9. The Contractor will also be required to temporarily and then permanently relocate a service drop gas line that exists within the project area. Subsurface drains and associated inline clean-outs may be constructed as excavation conditions warrant and with the approval of the Engineer. Approximately 65,000 cubic yards of material will be moved to grade the cast-over-the-hill mine spoil to stable configurations, backfill the existing highwall, cover on-site coal refuse, and grade the project area to the lines and elevations depicted on the Plans.

The Contractor will be required to provide smooth, aesthetically pleasing final grade slopes and place 12”, minimum, of material capable of supporting vegetation on all final regrade slopes. All coal or coal refuse exposed at final plan elevations shall be undercut 12”, minimum, and 12”, minimum, of material capable of supporting vegetation shall be placed on top of the undercut bringing the site to final grades shown on the plans. The Contractor will also be required to clear, grub, and burn organic materials on the 10 acre site. The Contractor will be required to construct temporary and permanent access roads into the project area, and leave all roads in a condition better than or equal to that existing upon mobilization operations. The proposed temporary access road to be constructed will require installation of two (2) temporary pipes and a buried PVC pipe and gas line will require protection measures prior to crossing. Protection measures include placing steel plates, separation fabric, and crushed stone. An existing access road will be topped with crushed stone prior to demobilization operations. In addition, the Contractor will be required to leave public roads utilized to gain access during the construction phase in a condition equal to or better than existed at the time of mobilization operations. The proposed temporary access road and all Contractor constructed access roads shall be regraded to approximate original contours and revegetated.

Directions to the Site:

The Camden (Hartley) Dangerous Landslide abandoned mine lands reclamation project may be accessed by exiting Interstate Number 79 at the Weston/Buckhannon Exit 99 and travel west on U.S. Route 33/119 for approximately 9.1 miles to Camden West Virginia and the intersection with Lewis County Route 9. Turn north (right) onto Lewis County Route 9 and go approximately 1.5 miles to the southernmost portion of the problem area located on the east (right) side of the road. From here the problem area extends

approximately 0.3 miles north along the eastern side of said Lewis County Route 9 to a point approximately 350 south of the intersection with Lewis County Route 9/4.



VICINITY MAP

LEWIS COUNTY ROAD MAP

0 1 MI. 2 MI. 3 MI.



SCALE: 1 INCH = 1 MILE



2. REFERENCE SPECIFICATIONS / DEFINITIONS

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

All reference to “Engineer” in these Specifications shall mean the Owner's Engineer or authorized representative.

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

All reference 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 reference 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 “WVDOT “Manual on Traffic Control for Streets and Highway” shall be the West Virginia Department of Transportation, Division of Highways latest addition (2006 edition, dated March 2006) 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 reference 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 reference 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 within the project area during mining and processing of coal.

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

All reference to “OSM” and/or “OSMRE” shall be understood to mean Office of Surface Mining Reclamation and Enforcement.

3. 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:

- mobilization and demobilization of necessary and sufficient sized equipment to the project area to complete the construction project within stated timeframes;
- survey and construction layout of grading, facilities, constructions, and appurtenances shown on the Plans;
- construction and maintenance of sediment and erosion control measures including installation of a stone construction entrance and installation of silt fence prior to any disturbance in the project area as detailed on the plans and herein specified;
- construct temporary and permanent access roads off Lewis County Route 9 as shown on the plans and detailed in these specifications. Installing temporary pipes to direct surface runoff and temporary buried line crossing protection;
- site preparation including clearing and grubbing at the site and burning cleared and grubbed material to ash and removing all and any type debris, trash, and garbage;
- temporarily and then permanently relocate a service drop gas line that runs through the project area;
- regrading of the site to lines and grades shown on the Plans, including breaking and burying surface and buried boulders and installation of straw wattles in constructed ditches and on regraded areas at locations shown on the plans to prevent rills and gullies;
- installation of vegetated erosion control blanket lined benches; construction of grouted riprap lined drainage ditches and two (2) grouted riprap splash pads; and installation of three (3) pipes and associated drop inlet and grate to control and direct surface and ground water runoff. Installation of the 18" Ø HDPE Pipe Number One will require open-cutting of Lewis County Route 9. Installation of subsurface drains as excavation operations warrant to divert encountered ground water to constructed or existing drainage features;
- placement of soil cover material over regraded slope and exposed coal and/or coal refuse areas;
- construction of other incidentals shown on the plans and herein specified;

- revegetation of project disturbed areas.

The Contractor shall be responsible for surveying, including establishing construction baselines, measuring and developing all completed quantities on the job, and for 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 specified herein.

4. 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 obstructions or conditions at the location of the work, which may add to the difficulties or costs of construction, even though such obstructions or conditions are not shown on the contract plans or indicated in the other construction documents. Prospective bidders are advised that should they deem it necessary to obtain any subsurface samples or test borings etc., at the site, they should obtain their own permission from the landowners.

5. 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 that 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 Contractor's work hours for this project shall be from 7:00 a.m. to 7:00 p.m. Monday through Saturday. Work on Sunday and major holidays, as defined by the Engineer, will not be allowed on this project.

6. 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 or herein specified 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.

7. 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), 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) agree to indemnify and hold harmless the WVDEP from all liability and/or damages resulting from the contractor's use of the 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 rights of entry; failure to obtain the proper rights of entry; failure to utilize appropriate language in the rights of entry agreements; or failure to obtain permission and signature of all persons or entities holding a legal interest in the subject property(ies) covered by the rights of entry.

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

- a. No borrow (disposal) site operations will affect a site listed in, eligible or proposed to be listed in the National Register of Historic Places.
- b. No borrow (disposal) operations will be located within one-quarter mile of any Federally listed established or prospective component of the National Wild and Scenic River System under 16 USC 1274 and 1276.
- c. Borrow (disposal) site operations will not cause a significant encroachment within the base floodplain (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.

8. DISPOSAL OF UNSUITABLE MATERIAL

All disposal areas shall be obtained in accordance with **Special Provisions 7** 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 the applicable sub-sections of **Section 4.0** of these Specifications. Wood may be burned in designated areas in conformity with the applicable sub-sections of **Sections 4.0** of these Specifications. Coal, coal refuse, black or dark gray shales, and exposed coal seams and other similar potentially toxic (acidic) materials shall be soil covered on-site and handled in accordance with 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 7** of these Specifications.

9. 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. WVDEP reserves the right to increase or decrease any or all of the quantities of work or to omit any of them, as it may deem necessary.

10. 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. The Contractor shall comply with **OSHA Regulation 29CFR1926 Subpart P** for excavation of trenches associated with pipe, culvert, subsurface drains, toe drains, wet mine seal

constructions, and similar constructions. The Contractor shall also protect pedestrian and vehicular traffic around excavations and trenches in compliance with the U.S. Federal Highway Administration Manual of Uniform Traffic Control Devices and the WVDOT "Manual on Traffic Control for Streets and Highway" 2006 edition, dated March 2006. In addition, the Contractor will be required to comply with all WVDOT rules, regulations, weight limits, and speed limits associated with and posted on Lewis County Routes 9 and 9/4, as well as other public roads used by the Contractor to access the project. The Contractor will be required to coordinate his operations with landowners and provide unrestricted access to them at all times. At the discretion of the Engineer, the Contractor will be required to employ flag persons along Lewis County Routes 9 and 9/4 to direct traffic while hauling materials on and off site and other constructions. The Contractor will be required to adhere to the approved MM109 traffic control permit while installing Pipe Number One beneath Lewis County Route 9, constructing Access Road Number One, and the Proposed Temporary Access Road. The Contractor will also be required to keep Lewis County Routes 9 and 9/4 as well as other existing access roads used during construction of the project free of fugitive dust and clean of mud and other debris from the job site deposited by construction and other vehicles entering or leaving the project area.

The construction areas are located in very close proximity to project area homes, garages, and other landowner constructions. It shall be the sole responsibility of the Contractor to protect these structures/constructions and ensure the safety of residents during clearing and grubbing and burning operations and particularly when excavating unconsolidated cast-over-the-hill material.

11. REGULATIONS

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

12. 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.

13. PERMITS, LICENSES AND FEES

The WVDEP shall provide the NPDES Stormwater Permit from the Division of Water and Waste Management, WVDOH Encroachment permits (if required), and a Water Quality Certification from the Division of Water and Waste. The Contractor shall procure all other permits and licenses, pay all charges and fees, and give all notices necessary and incidental to the due and lawful prosecution of the work. Permits required for this project may include but are not limited to: Stream Activity Permit from the State of West Virginia, Department of Commerce, Division of Natural Resources, Office of Lands and Streams, Building 3, Room 643, 1900 Kanawha Boulevard East, Charleston, West Virginia 25305-0665; and burning permits from local and state governmental agencies including the West Virginia Division of Air Quality (North Central Regional Office, 2031 Pleasant Valley Road, Suite #1, Fairmont, WV 26554-9295, (304-368-3910) and West Virginia Division of Forestry (required during forest fire season – March 1 to May 31 and October 1 to December 31) contact Jason Jones, West Virginia Division of Forestry, Regional Forester, 61 Fifth Street, Suite 201, Buckhannon, WV 26201 – 304 380-2227 (Cell). A copy of the permits as procured shall be furnished to the Owner prior to initiation of the work under this Contract.

14. ELECTRICITY, WATER SUPPLY AND SANITARY FACILITIES

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

15. UTILITIES AND OTHER OBSTRUCTIONS

The Contractor shall be solely responsible to correctly locate all existing active underground and overhead utilities at the project sites and take precautions to avoid damage to them. Any existing utility lines damaged by the Contractor shall be replaced by the Contractor or repaired at no cost to the Owner. The Contractor shall notify the utility companies likely to be affected well in advance and before beginning any work within the project sites. In the event of damage to the existing utilities or other facilities, the Contractor shall notify the affected utility Owner(s) and the Engineer immediately and make, or have made, all necessary repairs and bear the expense thereof and resulting damaged caused thereby. It shall be the responsibility of the Contractor to arrange for relocating the utility lines, where required and as directed by the Engineer, in accordance with the guidelines set forth by the utility company, prior to beginning construction. The Contractor will be reimbursed for actual charges invoiced by the Utility Company, except for utilities that are subject to regulation by the Public Service Commission, in which case, payment will be made directly to the affected utility by the WVDEP. Prior to any utility relocation work, the Contractor shall submit a cost estimate of work to be accomplished to WVDEP for approval. 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, address, and phone number of the WVMIS Utility location service and of the utility companies are as follows:

WVMIS
1-800-245-4848

UTILITY LISTING	
Name / Address	Telephone Number
Dominion Transmission Corporation (Gas) 445 West main Street Clarksburg, WV 26301	(304) 627-3000
Chesapeake Energy Corporation (Gas) 179 Chesapeake Drive, Jane Lew, WV 26378	(304) 517-1416
Consol Energy (Gas) 1 Dominion Drive, Jane Lew, WV 26378	(304) 884-7881
First Energy Corporation (Gas) 1310 Fairmont Avenue Fairmont, WV 26554	(304) 366-3000
Frontier Communications (Phone and TV) 300 Bland Street Bluefield, WV 24701	(888) 535-4421
West Virginia American Water (Water) 1600 Pennsylvania Avenue Charleston, WV 25302	(304) 353-6300

The Contractor is advised there are numerous public and private utilities located within and near the project area. A service drop gas line runs through the project area to the Grogg home (the northernmost home in the project area) that will require temporary and then permanent relocation. In addition, the Contractor may be required to install buried line protection prior to crossing the buried gas line leading to the log lay-down yard and a landowner buried line crossed while constructing the temporary access road shown on the plans. Please refer to **Specification Section 4.0** and **Specification Section 11.0** for further details.

16. 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.

17. 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. No blasting is anticipated on this project.

18. 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 as shown on the plans or as approved by the Engineer prior to construction. Payment for construction of the permanent access road shown on the plans shall be per **Item 4.2 "Access Road Number One"**. No separate payment for construction and maintenance of other temporary access roads, shown or not shown on the plans or herein specified, but constructed by the Contractor 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 the 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, and reestablish vegetation in accordance with **Section 6.0** of these specifications.

The contractor shall be required to obtain a right of entry agreement from any property owner(s) prior to the utilization or construction of any access outside of the construction limits shown on the plans. Such agreement shall require the property owner(s) to indemnify and hold WVDEP and OSMRE harmless from any and all injuries or damages, whatsoever, resulting from the Contractor's use of the property.

Should the Contractor decide to utilize any access off county roads other than those shown on the plans, he shall obtain necessary permits from the West Virginia Department of Highways to work in their right-of-way all at his own expense.

19. TRAFFIC CONTROL

The Contractor shall maintain and protect traffic, protect the work in progress, protect adjacent property from excess dust resulting from the construction and maintain traffic through, around, or adjacent to the construction area. All materials used for traffic control shall be in accordance with the **WVDOT "Manual on Traffic Control for Streets and Highway"** 2006 edition, dated March 2006. Traffic control will be required during installation of Pipe Number One and construction of Access Road Number One and accompanying temporary access road. The traffic control plan shall comply with **CASE A-6 of the WVDOT "Manual on Traffic Control for Streets and Highway"** 2006 edition, dated March 2006, which shall govern over the plans and is included as a part of these specifications. Any other traffic control plans necessary for construction of the project as planned shall be the responsibility of the Contractor and submitted to the West Virginia Division of Highways District Seven Permit Supervisor (Mr. Gary Weaver), 255 Depot Street, Weston, West Virginia 26452-1228, (304) 269-8948, for approval prior to submitting a copy of the operational plan to the WVDEP for approval prior to its implementation. All traffic control required during the work shall be considered incidental to the project. At the discretion of the Engineer, the Contractor will be required to employ flag persons along Lewis County Routes 9 and 9/4 to direct traffic while hauling materials on and off site and other constructions.

20. SITE CONDITIONS AND ENVIRONMENTAL PROTECTION

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

The Contractor shall be responsible for controlling and handling water encountered during construction, including dewatering of mine pools for mine seal installations, by providing equipment and labor to insure safe and proper construction. The Contractor shall submit a plan to the WVDEP at the pre-construction meeting for approval. The WVDEP's approval of this plan does not relieve the Contractor of his responsibility for controlling water.

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 the progress of the work under this Contract.

The Contractor shall be responsible for furnishing all materials, equipment, labor and incidentals necessary for the installation of silt barriers and check dams as designated in the drawings. Sediment control shall be placed on regraded areas concurrent with construction and prior to revegetation.

The Contractor shall be responsible for implementing the measures called for in the NPDES Stormwater permit provided by the WVDEP for erosion and sediment control, including construction and installation of a stone construction entrance, installing silt fence, and installing straw wattles in locations shown on the plans. Sediment control measures shall be in-place and operational prior to any disturbance occurring in the project area. The WVDEP's approval of this plan does not relieve the Contractor of his responsibility to be in compliance with any laws and/or permits.

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

The Contractor shall be responsible for the repair or replacement of streets or driveways (blacktop, gravel & concrete), trees, shrubs, fences, and any other physical features that are disturbed by construction which were not included in the proposed scope of work for the project to original condition or better at his own expense. The Contractor will be required to regrade, maintain, and repair access roads in and near the project area to the satisfaction of the Engineer. All existing access roads shall be maintained with materials compatible with those existing, repaired with compatible material as exists, and left in a condition equal to or better than existed at the time of mobilization activities. At a minimum, constructed access roads and existing access roads used for construction shall be upgraded and maintained to provide all-weather access to construct the project as specified and shown on the plans.

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

21. CONTROL AND REVIEW OF WORK BY THE ENGINEER

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

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

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

22. CITATION OF OTHER SPECIFICATIONS

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

ASTM - American Society for Testing Materials

ASA - American Standards Association

AWWA - American Water Works Association

AASHTO - American Association of State Highway and Transportation Officials

ACI - American Concrete Institute

WVDOT - West Virginia Department of Transportation

WVDOH - West Virginia Division of Highways

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

23. EROSION AND SEDIMENT CONTROL GUIDELINES

VEGETATIVE PRACTICES

Except as noted below, stabilization measures shall be initiated as soon as practicable in portions of the site where construction activities have temporarily or permanently ceased, but in no case more than seven (7) 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 or 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 21 days from when activities ceased, (e.g., the total time period that construction activity is temporarily halted is less than 21 days) then stabilization measures do not have to be initiated on that portion of the site by the seventh day after construction activities have temporarily ceased.

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

Diversions must be stabilized prior to becoming functional.

MAINTENANCE & INSPECTION

At a minimum, all erosion and sediment controls on the site will be inspected at least once every seven (7) calendar days and within 24 hours after any storm event of greater than 0.5 inches of rain per 24-hour period.

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

Inspection and maintenance records must be kept onsite.

EROSION & SEDIMENT CONTROL CONSTRUCTION SEQUENCE

1. Install stabilized construction entrance as shown on the project plans.
2. Install perimeter sediment control devices as shown on the project plans.
3. Clear and grub site.
4. Provide sediment control for any topsoil stockpiles.
5. Install additional erosion and sediment controls as shown on project plans.
6. Commence rough grading of site. Continue to maintain and inspect all erosion and sediment controls. Install straw wattles in constructed ditches as shown on the plans.
7. Fine grade site.
8. Install additional erosion and sediment controls (straw wattles) as shown on site plans.
9. Permanently seed and mulch all disturbed areas within seven (7) days of reaching final grade.
10. Upon completion of the project, including adequate stabilization, remove all erosion and sediment controls as shown on the plans and designated for removal by the Engineer.

II. TECHNICAL SPECIFICATIONS

1.0 MOBILIZATION AND DEMOBILIZATION

1.1 DESCRIPTION

This work shall consist of the performance of preparatory operations for construction 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 Contractor's office (if established) shall be approved by the Owner. It shall also 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; and installation of the project sign.

1.2 METHOD OF CONSTRUCTION

The Contractor shall comply with **Special Provision 5, Schedule of Work**. The Contractor shall provide adequate supervision, labor, tools, equipment, and materials to prosecute the work energetically and complete the work within the time specified.

The Contractor's work hours for this project shall be from 7:00 a.m. to 7:00 p.m. Monday through Saturday. Work on Sunday and major holidays, as defined by the Engineer, will not be allowed on this project.

The Contractor shall maintain and protect traffic, protect the work in progress, protect adjacent property from excess dust resulting from the construction and maintain traffic through, around, or adjacent to the construction area. The Contractor shall comply with **OSHA Regulation 29CFR1926 Subpart P** for excavation of trenches associated with pipe, culvert, subsurface drains, toe drains, wet mine seal constructions, and similar constructions. The Contractor shall also protect pedestrian and vehicular traffic around excavations and trenches in compliance with the **U.S. Federal Highway Administration Manual of Uniform Traffic Control Devices** and the **WVDOT "Manual on Traffic Control for Streets and Highway"** 2006 edition, dated March 2006. In addition, the Contractor will be required to comply with all WVDOT rules, regulations, weight limits, and speed limits associated with and posted on Lewis County Routes 9 and 9/4 as well as other public roads used by the Contractor to access the project. The Contractor will be required to adhere to the approved MM109 traffic control permit while installing Pipe Number One beneath Lewis County Route 9 constructing Access Road Number One, and the Proposed Temporary Access Road. The Contractor will be required to coordinate his operations with landowners and provide unrestricted access to them at all times. At the discretion of the Engineer, the Contractor will be required to employ flag persons along Lewis County Routes 9 and 9/4 to direct traffic while hauling materials on and off site.

and other constructions. The Contractor will also be required to keep Lewis County Routes 9, 9/4, Access Road Number One and accompanying temporary access road (as shown on the plans), and other existing access roads used during construction of the project free of fugitive dust and clean of mud and other debris from the job site deposited by construction and other vehicles entering or leaving the project area.

1.3 METHOD OF MEASUREMENT

The method of measurement for Mobilization and Demobilization shall include all costs associated with mobilization and demobilization to perform tasks shown on the plans and herein specified.

1.4 BASIS OF PAYMENT

The bid for Mobilization and Demobilization shall be a lump sum, and cannot be more than 5% of the "TOTAL AMOUNT BID" for the project. After completion of the project, the Contractor will not be paid until he has submitted and received approval for paper (hard copies) and two (2) copies of a cd-rom with all "as-built" plans, in accordance with **Specification Section 2.3.6**.

Partial payments for Mobilization and Demobilization will be as follows:

- (a) 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.
- (b) The Contractor will not be paid the final one-half of the amount bid until all work is accepted by the WVDEP and the Contractor has submitted and received approval for paper (hard copies) and two (2) copies of a cd-rom with all "as-built" plans, in accordance with **Specification Section 2.3.6**.

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.

1.5 PAY ITEM

Item 1.0, "Mobilization and Demobilization" per lump sum. Cannot be more than 5% of the TOTAL AMOUNT BID for the project

2.0 CONSTRUCTION LAYOUT STAKES

2.1 DESCRIPTION

This item consists of furnishing, placing, and maintaining construction layout stakes necessary for the proper performance of the work under this contract, including borrow 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 Owner or dictated by planned excavations. Additionally, this item shall also include the preparation of “**As-Built**” Plans, Borrow/Disposal Area Reclamation Plans, and any others specifically requested by the Owner. All “**As-Built**” Plans shall be provided prior to the Final Inspection Meeting. Upon receipt and approval of the “**As-Built**” Plans by the Owner, the final one-half of the amount bid for Item 1.0, “**Mobilization and Demobilization**” will be released.

2.2 MATERIALS

Conventional survey stakes, hubs, batter boards, flagging, templates, straightedges and other devices necessary for laying out all parts of the work. Paper and computer media required for various submittals.

2.3 METHOD OF CONSTRUCTION

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), and shown on the construction drawings. The Contractor shall also perform any necessary cross-section surveying of the existing ground surface at the intervals shown within the construction drawings, provide an overlay of the surveyed cross-sections plotted atop the cross-sections shown on the construction drawings, and submit the same to the Owner for comparison prior to initiating earthwork operations. The original grade line and proposed final grade line shall be included on all sections. Incomplete cross-sections will be returned to the Contractor for necessary additions. Cross-sections, which do not encompass all areas of both earthwork excavation (including borrow excavation) and fill placement shall be considered incomplete without exception.

2.3.3 The Contractor shall be responsible for assuring the layout staking work is in

conformance with the lines, grades, elevations, dimensions, and locations shown on the construction drawings or as required by the Owner. The Contractor shall furnish a copy of his/her survey records for checking by the Owner 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 checking of the Contractor's layout by the Owner and the acceptance of all or any part of it shall not relieve the Contractor of his/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 corners and 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 direct supervision of, or by a Registered Professional Civil Engineer or Registered Professional Surveyor licensed in the State of West Virginia.

2.3.5.1 The Contractor will be required to field survey the exact location of the service drop gas line scheduled for relocation as it is exposed during initial excavation operations. The existing service drop gas line shall be referenced to project baselines and control points to ensure the service drop gas line is re-installed along the original right-of-way alignment.

2.3.5.2 During initial field investigations, property corners were found at the following locations:

Found Property Corners		
Description	Northing	Easting
5/8" Rebar	212,871.98	1,662,921.83
1" Galvanized Pipe	212,619.58	1,662,907.03
1" Galvanized Pipe	212,589.66	1,662,715.79
1" Galvanized Pipe	212,420.08	1,662,968.97
1 ½ " Pipe	212,190.65	1,662,839.64
1" Galvanized Pipe	212,222.56	1,663,030.08
1" Galvanized Pipe	212,012.79	1,663,036.02
Roof Bolt	212,019.89	1,663,088.67
Roof Bolt	211,788.08	1,663,128.83

2.3.5.3 The Contractor will be required to verify the coordinates and type of marker at each location listed above. These found corners and markers represent initial investigation efforts and in no way include all corners or

markers that may be present within the project area. The Contractor will be required to establish references to these corners and markers as well as others present on-site and reset each corner or marker in its original location prior to demobilization operations. If the property corner or marker cannot be re-established in its original location (falls in a ditch, road, etc.), then surveyed offsets shall be set to that property corner or marker. The surveyed offsets shall be set along each property line going into and out of the subject corner or marker and at an even distance from the subject corner or marker. The Contractor shall supply the landowner with a plat developed and signed by a West Virginia Licensed Professional Land Surveyor and suitable for recording in the Courthouse and meeting the requirements of **Article 30-13A** of the **West Virginia Code**.

2.3.6 “As-Built” Plans shall be provided to the Owner at the Final Inspection Meeting.

2.3.6.1 Hard (paper) copies of all **“As-Built”** Plans shall be submitted to the Owner at this meeting. Hard copies shall be the same size, scale, and clarity as the sections contained in the Plans.

2.3.6.2 Two (2) copies of a cd-rom with all **“As-Built”** Plans shall also be submitted to the Owner at this meeting. The electronic versions of all **“As-Built”** Plans shall be in AutoCad Release 2010 format as well as “PDF” format.

2.3.6.3 The final one-half of the amount bid for **Item 1.0 Mobilization and Demobilization** will not be made until all **“As-Built”** plans, as specified, have been submitted and approved.

2.3.6.4 “As-Built” plans shall include the horizontal and vertical location of all buried components depicted on the plans and herein specified.

2.3.6.4.1 “As-Built” plans shall include the vertical and horizontal locations of all installed pipes and appurtenances.

2.3.6.4.2 In addition, **“As-Built”** plans shall show the vertical and horizontal location of drains, including bottom of subsurface drains, pipe inverts, and top of buried drains installed for this project.

2.3.6.5 The contractor will be responsible for field surveying the areal extent of revegetation efforts to determine the “plan view” acreage. The revegetation boundary shall be reviewed in the field and approved by the Engineer prior to survey operations. The surveyed boundary shall be plotted onto the construction plan

view sheet with an area calculation provided and submitted to the Engineer for approval and payment.

- 2.3.6.6** The Contractor will also be responsible for field surveying the outer boundary of the mowed hillside area located behind house located at Baseline Station 9+56 offset 184 feet right. The outline of the mowed area shall be established in conjunction with and approved by the Engineer. The area outline shall be re-established just prior to revegetation efforts to delineate Permanent Seed Mixture areas from Lawn Seed Mixture areas.

2.4 METHOD OF MEASUREMENT

The Method of Measurement for furnishing, setting, maintaining, and resetting stakes when necessary, and for furnishing all engineering personnel, equipment, materials, and all incidentals thereto, shall be by the lump sum bid for "**Item 2.0, Construction Layout Stakes**". The lump sum payment also shall include the cost for providing the Owner with the areal extent of revegetation and delineation between Permanent Seed Mixture application areas and Lawn Seed Mixture application areas, pre-, post-, and during-construction ground line cross-sections for all disturbed or regraded areas, as detailed in these specifications, including borrow areas, and "**As-Built**" Plans as described herein. The lump sum price shall also include surveying the existing service gas line and re-establishing the alignment for the permanent relocation of that service gas line; and surveying and resetting property corners, property line markers, and existing fence lines and fence corners. Said lump sum bid cannot be more than 3% of the "TOTAL AMOUNT BID" for the project.

2.5 BASIS OF PAYMENT

The quantity of surveying, sectioning, and layout 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. No deduction will be made nor will any increase be made in the lump sum "**Item 2.0, Construction Layout Stakes**" amount regardless of decreases or increases in the final total contract amount or for any other cause.

2.6 PAY ITEM

Item 2.0, "Construction Layout Stakes", per lump sum. Cannot be more than 3% 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 Owner of all off-site materials to be incorporated into the work. Written approval from the Owner 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, on-site materials used in construction, as well as commercially purchased materials including concrete and grout. At a minimum, these 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; soil tests to determine the lime and nutrient requirements of the areas to be revegetated; gradation (size), durability (soundness), fizz, and acid base (calcium carbonate equivalency) requirements for offsite or onsite borrowed and commercially purchased riprap and aggregate; compressive strength test for grout in accordance with **ASTM C109**; and compressive strength test for concrete in accordance with **ASTM C31 & C39**. Three (3) specimens are required for each concrete or grout test. Five (5) in-field compaction tests comprise a "Lot".

3.3 METHOD OF CONSTRUCTION

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 AASHTO accredited (AAP) for physical properties testing of supplied materials. The laboratory for chemical testing of soils shall be a State approved laboratory. The Owner must approve all laboratories used.

3.3.2 Testing for compaction and soil classification; soil nutrient and lime requirements for soil; and compressive strength tests for concrete and grout; shall be performed as required by these specifications and/or ordered by the Owner in writing. The Owner will determine the locations and time of any testing herein specified and the need and extent of any testing in addition to that herein specified.

3.3.3 The contractor shall be responsible for performing laboratory tests of the coal refuse, mine spoil, and any natural soil to identify the compaction requirements for use as fill and cover material, respectively. In addition, field density tests

shall be performed in accordance with the construction specifications. Five (5) in-field compaction tests comprise a "Lot", which constitutes minimum test requirements. All test results shall be submitted to the Owner for approval of compaction criteria prior to fill compacting, as well as after fill compaction to verify that the required compaction is obtained.

- 3.3.4** 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 (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 riprap shall exhibit a fizz of 0 when subjected to dilute hydrochloric acid. A laboratory certification of soundness and fizz shall be submitted to the Owner prior to delivery of the stone to the project site.
- 3.3.5** Stone or aggregate shall have a maximum weighted loss of twelve percent (12%) when subjected to five (5) cycles of the Sodium Sulfate Soundness Test – **ASTM C88 (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 exhibit a fizz of 0 when subjected to dilute hydrochloric acid. A laboratory certification of soundness and fizz shall be submitted to the Owner prior to delivery of the stone to the project site.
- 3.3.6** Calcareous stone and riprap (limestone) used on this project shall be laboratory tested for calcium carbonate equivalency (acid-base accounting) by a State approved laboratory. Laboratory results from a commercial supplier will suffice; otherwise the Contractor will be required to perform the test prior to delivery of the stone or riprap to the project site. All calcareous stone or riprap (limestone) to be used on this project must exhibit a calcium carbonate equivalency of 70% or greater. The Contractor shall submit test results to the Engineer for approval prior to delivery of the stone or riprap to the site.
- 3.3.7** Grout to be used in the grouted riprap ditches shall consist of a mixture of one part Type II sulfate resistant Portland cement and three parts sand, using water to produce a workable consistency. The amount of water shall be as approved or as designated by the WVDEP. Admixtures and/or pozzolan may be used with the approval of the WVDEP. The grout shall exhibit a compressive strength of 2,000 pounds per square inch at 28 days with specimens made and tested according to the provisions of **ASTM C 31 and C 39**. Three (3) specimens are required for each concrete or grout test in accordance with **Section 601.4.4 of the WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010. Grout mix designs to be used by the Contractor shall be submitted to the Owner for review and approval. The proposed design mix and sufficient test data using proposed sources of the mix components to verify strength parameters shall be supplied to

the Owner for approval prior to use in the Project. All testing shall be the responsibility of the Contractor.

- 3.3.8** The Contractor must submit two (2) copies of shop drawings and necessary engineering calculations for all cast-in-place concrete structures for approval prior to placing any forms or pouring concrete. At a minimum, engineering calculations shall show load calculations, reinforcing calculations, and drawings sufficient to show calculation and construction details. Concrete used for all cast-in-place structures shall be 4,000 psi concrete formed, placed, and cured in accordance with the requirements of **Section 601 of the WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010 and **Supplemental Specifications** Dated January 1, 2003. Cement used in the mixture shall be Type II sulfate resistant Portland cement meeting the requirements of **ASTM C150** (Type II cement not Type I cement). The concrete shall exhibit a compressive strength of 4,000 pounds per square inch at 28 days with specimens made and tested according to the provisions of **ASTM C 31 and C 39**. Three (3) specimens are required for each concrete or grout test in accordance with **Section 601.4.4 of the WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010. Deformed bars used for reinforcing concrete shall be epoxy coated meeting the requirements of **Section 709 of the WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010 and **Supplemental Specifications** Dated January 1, 2012.
- 3.3.9** Backfill for Pipe Number One extending beneath Lewis County Route 9 shall be Controlled Low Strength Material (Flowable Fill) in accordance with **Section 219 of the WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010. The Contractor will be required to supply a mix design to the Engineer for approval prior to use. The mix design shall include a listing of all components as well as unconfined compressive strength tests, pH, and flow. Cement used in the mixture shall be Type II sulfate resistant Portland cement meeting the requirements of **ASTM C150** (Type II cement not Type I cement). The CLSM shall exhibit a compressive strength of 50 pounds per square inch at 28 days with specimens made and tested according to the provisions of **ASTM C 31 and C 39**. Three (3) specimens are required for each concrete or grout test in accordance with **Section 601.4.4 of the WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010.
- 3.3.10** Drainage structures listed as “pre-cast or pre-manufactured” shall be obtained from an approved source provider certified by the West Virginia Department of Transportation. The State Department of Transportation has a web site listing all approved sources and products at: www.transportation.wv.gov/highways/pages/listings.
- 3.3.11** New and first class materials only, 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 Owner shall approve the sources of supply of each material used 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. The State Department of Transportation has a web site listing all approved sources and products at: www.transportation.wv.gov/highways/pages/listings.

3.3.12 Failure to submit required tests will result in non-payment of the items requiring testing.

3.4 METHOD OF MEASUREMENT

The method of measurement for determining the quantity of 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 2% of the "TOTAL AMOUNT BID" for the project. No deduction will be made nor will any increase 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 2% 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 and root balls, shrubs and any other vegetation, wood, debris, and garbage of any nature from those areas specified below and/or shown on the plans and/or any other areas as approved or directed by the Owner.

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 and equipment, existing ruins and foundation structures, concrete pads, and existing drainage conveyances and facilities as are specifically designated on the Plans for removal. Boulders, structures, concrete pads, and foundation ruins shall be broken in accordance with **Specification 4.2.13 and 4.2.14** and buried in the deepest portion of fill areas. Broken pieces shall not be consolidated in one area, but shall be dispersed throughout fill areas to ensure compaction requirements are achieved. No buildings, foundations or mining related equipment was observed during initial investigations. However, buried ruins, other structures, or debris, including abandoned mining equipment, may exist and be encountered during excavation operations. All on-site garbage (as well as all other debris of any type and quantity), mining equipment, and metal structures encountered shall be removed from the site to an off-site disposal area in accordance with **Special Provision 7** or to a Landfill approved by the State to accept this type debris. The Contractor is advised to perform a thorough site reconnaissance to quantify all garbage designated for removal prior to submitting his bid.

4.1.3 Access Road Construction/Rehabilitation

4.1.3.1 A proposed temporary construction access road is shown on Sheet 2 "Existing Conditions" of the construction plans. The proposed temporary access will allow the Contractor to access the uphill portions of the project prior to constructing permanent Access Road Number One. The proposed temporary access road construction alignment crosses over a buried 4" diameter PCV line under low cover that was installed by the landowner. The Contractor shall not damage or displace this line.

- 4.1.3.1.1** Materials required for protection of the existing buried 4" diameter include two (2) 4-foot by 8-foot by 1" thick Grade 50 steel plates, crushed stone meeting the requirements of **Specification 4.1.3.5**, and separation fabric meeting the requirements of **Specification 4.1.3.7**.
- 4.1.3.1.2** In addition, construction of the temporary access road will require installation of two (2) temporary 15" diameter pipes. Steel pipes are preferred but the type of pipe used is left to the discretion of the Contractor with the Engineer's approval. One pipe will be installed in Lewis County Route 9 road ditch and the other will convey up-gradient hollow drainage beneath the temporary access road.
- 4.1.3.1.3** Select backfill material shall be free of particles greater than 3" in any direction, readily compactable, and free from coal, coal refuse, organic debris, and approved by the Engineer prior to use.
- 4.1.3.2** The Contractor will be required to construct Access Road Number One to the lines and grades shown on the plans. An existing access road shall be used to gain access to the log lay-down yard shown on the sheet 24 of the construction plans. Access roads shall be maintained in sound condition for the duration of the project. After all reclamation operations are complete using Access Road Number One and the existing access road, the Contractor will be required to grade the roads to a smooth surface and top the road with crusher run stone to the satisfaction of the Engineer. Existing access road up-grading during reclamation operations, including Access Road Number One and the existing access road shall consist of minor regrading and capping the roadway surface with crushed stone and separation fabric (as directed by the Owner). All existing access roads shall be left in a condition equal to or better than existed at the time of mobilization, and shall be repaired and maintained during construction (except when culvert, ditch and road construction are being performed) to the satisfaction of the Owner. Resurfacing and/or stabilization stone will be incidental to the cost of the work described herein for any road upgrading required for construction entry or maintenance as deemed necessary by the Owner to facilitate site travel. All travel and upgrading operations performed on existing access roads shall be confined to the width of the existing road. Final grading, revegetation, stabilization (resurfacing with stone), and providing final drainage control for existing access roads shall be performed as directed and approved by the Owner after reclamation operations for the project have been completed.

- 4.1.3.3** Several driveways and landowner constructed access roads exist near the project area work limits. In the event of damage to these driveways or access roads, the Contractor shall notify the owner and Engineer immediately and make, or have made all necessary repairs and bear the expense thereof and resulting damage caused thereby. Driveway and access road repairs shall be made with compatible material as exists to the satisfaction of the Engineer and the landowner.
- 4.1.3.4** Other access roads not shown on the construction plans built to gain access to, travel between, or otherwise required for equipment /vehicular site access shall be kept to a minimum and only constructed where necessary upon approval from the Owner. Contractor constructed travel routes not designated on the Plans, shall be reclaimed to approximate original contours and revegetated according to **Specification 6** and upon completion of the construction activities or as directed by the WVDEP, with associated costs being considered incidental to this project. Any additional access shall require the Contractor to obtain written permission from the respective landowner.
- 4.1.3.5** Crushed stone for access road construction and existing access road and driveway maintenance, upgrading, and repair during construction activities shall be 1 ½" crusher run limestone. Crusher run stone shall be that commonly purchased from suppliers, calcareous, and shall meet the gradation and quality requirements in **Table 704.6.2A for Class 1 Aggregate in Section 704 of the WVDOH Standard Specifications Roads and Bridges**, Adopted 2010. Aggregate shall have a maximum weighted loss of twelve percent when subjected to five (5) cycles of the Sodium Sulfate Soundness Test – **ASTM C88 (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**.
- 4.1.3.6** Stone for construction entrances shall consist of sound, durable 3" to 6" crushed limestone ranging in size from 3-inches minimum to 6-inches maximum diameter with no more than 10% by weight less than 3 inches and no more than 50% by weight greater than 4 inches. All stone shall consist of particles of clean, hard, tough, durable rock and free from adherent coating and meet the requirements of **Section 703.1 of the WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010. Stone shall have a maximum weighted loss of twelve percent (12%) when subjected to five (5) cycles of the Sodium Sulfate Soundness Test – **ASTM C88 (ASTM C88-99a 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**. 3" to 6" stone will be required in the

construction of the Stone Construction Entrance.

- 4.1.3.7 Separation fabric shall be placed on a prepared subgrade prior to placement of surfacing and resurfacing stone. Separation fabric shall be woven and meet the requirements of **Section 715.11.8** of the **WVDOH Standard Specifications Roads and Bridges**, Adopted 2010, such as Geotex® 200ST manufactured by Advanced Drainage Systems, Inc. or approved equal.
- 4.1.3.8 **Class “B” Concrete.** Concrete used for existing access road, driveway maintenance and repair shall be 4,000 psi Class “B” concrete placed and cured in accordance with the requirements of **Section 601** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010 and **Supplemental Specifications** Dated January 1, 2012. Cement used in the mixture shall be Type II sulfate resistant Portland cement meeting the requirements of ASTM C150 (Type II cement not Type I cement). **Reinforcing Bars.** Deformed bars used for reinforcing concrete shall be epoxy coated and meet the requirements of **Section 709** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010 and **Supplemental Specifications** Dated January 1, 2012.
- 4.1.3.9 A minimum of six inches (6”) of Hot Mix Asphalt (HMA) shall be used for asphalt repair sections of existing access roads and driveways. Four inches (4 ½”) of HMA Base 1 Coarse and one and one-half inches (1½”) of Wearing 1 Coarse will be required. The HMA shall comply with **Specification Section 401** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010. The HMA shall be placed in two inch (2”) lifts, compacted, and placed to blend into existing asphalt grades surrounding the repair area.
- 4.1.3.10 Traffic control will be required during installation of Pipe Number One and construction of Access Road Number One. The traffic control plan shall comply with **CASE A-6** of the **WVDOT “Manual on Traffic Control for Streets and Highway”** 2006 edition, dated March 2006, which shall govern over the plans and is included as a part of these specifications. All materials (signs, supports, flagger essentials, etc.) used for traffic control shall be in accordance with the **WVDOT “Manual on Traffic Control for Streets and Highway”** 2006 edition, dated March 2006.
- 4.1.3.11 The amount and effectiveness of final grading of constructed access roads, designated to remain, will require the approval of the Owner. Water bars or earth dams may be required along final graded access roads to prevent erosion. The Owner shall determine the need for and amount of water bars or earthen dams that shall be installed (at a minimum) as follows:

TEMPORARY ACCESS ROAD WATER BAR SPACING	
Percentage of Road Grade	Water Bar Spacing (Ft.)
2	250
5	135
10	80
15	60
20	45
Above 20	25

4.1.4 Gate Installation, Fence Replacement & Temporary Fencing

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. The Contractor will be required to remove portions of a landowner constructed split rail fence line to allow construction of the proposed temporary access road specified in **Specification 4.1.3.1**. The Contractor will be required to construct a gate near the intersection of Access Road Number One and Lewis County Route 9 as shown on the plans.

4.1.4.1 Posts for fence line construction, replacement, or gate supports shall be pressure treated 8-foot long by 6-inches in diameter.

4.1.4.2 Posts for split rail fence replacement shall be pressure treated oak lumber 6" wide by 2" thick by 6.0 feet long with two (2) holes drilled through to accept the split fence rails, or approved equal.

4.1.4.3 Wire for fence line construction, replacement or gate installations shall be 15-1/2 gage, 4 prong barbed wire.

4.1.4.4 The rails for split rail fence replacement shall be pressure treated split poplar rails 10.0 feet long with ends tapered to be inserted into receiving split rail posts, or approved equal.

4.1.4.5 The cable for the gate installation shall consist of 3/8" diameter galvanized twisted wire cable, 1/2" stainless steel chain, cable clamps, locking mechanism, and 1/2" hex head by 3" galvanized lag bolt with washer.

4.1.4.6 Accessories include 1-1/2" number 9 staples; 16 penny galvanized nails for connecting horizontal post members; and other materials necessary for proper installation as shown on the plans.

4.1.5 **Materials and Equipment Storage**

Material storage areas within the Contractor's Work Limits shown on the plans shall require the approval of the Owner. Material storage areas outside the Contractor's Work Limits will require permission from the respective landowner in accordance with **Special Provision 7**.

4.2 **METHOD OF CONSTRUCTION**

4.2.1 The Contractor shall comply with all Special Provisions, with particular attention to **Special Provision 5 "Schedule of Work"** and **Special Provision 10 "Safety"**.

4.2.2 The Contractor shall maintain and protect traffic, protect the work in progress, protect adjacent property from excess dust resulting from the construction and maintain traffic through, around, or adjacent to the construction area. The Contractor shall comply with **OSHA Regulation 29CFR1926 Subpart P** for excavation of trenches associated with pipe, culvert, subsurface drains, toe drains, wet mine seal constructions, and similar constructions. The Contractor shall also protect pedestrian and vehicular traffic around excavations and trenches in compliance with the **U.S. Federal Highway Administration Manual of Uniform Traffic Control Devices** and the **WVDOT "Manual on Traffic Control for Streets and Highway"** 2006 edition, dated March 2006. In addition, the Contractor will be required to comply with all WVDOT rules, regulations, weight limits, and speed limits associated with and posted on Lewis County Routes 9 and 9/4 as well as other public roads used by the Contractor to access the project. The Contractor will be required to adhere to the approved MM109 traffic control permit while installing Pipe Number One beneath Lewis County Route 9 constructing Access Road Number One, and the Proposed Temporary Access Road. The Contractor will be required to coordinate his operations with landowners and provide unrestricted access to them at all times. The Contractor will also be required to keep Lewis County Routes 9, 9/4, Access Road Number One, and accompanying temporary access road (as shown on the plans), and other existing access roads used during construction of the project free of fugitive dust

and clean of mud and other debris from the job site deposited by construction and other vehicles entering or leaving the project area.

4.2.2.1 Traffic control will be required during installation of Pipe Number One and construction of Access Road Number One. The traffic control plan shall comply with **CASE A-6** of the **WVDOT “Manual on Traffic Control for Streets and Highway”** 2006 edition, dated March 2006, which shall govern over the plans and is included as a part of these specifications. All materials (signs, supports, traffic cones, flaggers, flagger essentials, etc.) used for traffic control shall be in accordance with the **WVDOT “Manual on Traffic Control for Streets and Highway”** 2006 edition, dated March 2006.

4.2.2.2 At the discretion of the Engineer, the Contractor will be required to employ flag persons along Lewis County Routes 9 and 9/4 to direct traffic while hauling materials, including timber resulting from clearing and grubbing operations, on and off site and other constructions.

4.2.2.3 In addition, at the discretion of the Engineer, the Contractor may be required to employ flag persons along Lewis County Route 9 while installing Pipe Number Three Splash Pad and accessing the log lay-down yard as shown on the plans and herein specified.

4.2.3 The Contractor’s work hours for this project shall be from 7:00 a.m. to 7:00 p.m. Monday through Saturday. Work on Sunday and major holidays, as defined by the Engineer, will not be allowed on this project.

4.2.4 The specific areas to be cleared and grubbed are as shown on the contract drawings and are generally described as, but not limited to, those specific areas of excavation, backfill, soil borrow or drainage structure installation.

4.2.5 The Contractor shall clear the site within the limits of the areas to be regraded. The Owner shall exercise control over clearing and shall designate all trees, plants and other objects to be removed or to remain.

4.2.6 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 work limit lines to a condition equal to that existing prior to start of work.

4.2.7 Except as noted below, all timber eight (8) inches in diameter and larger at stump height shall be saw cut prior to grubbing operations. Timber shall be topped with the branches removed and stacked and stockpiled in an appropriate manner in an

accessible location approved by the WVDEP on the property from which it was cut. Timber to be stockpiled shall not be pushed down by equipment prior to being cut nor can it be indiscriminately shoved into a stockpile.

4.2.7.1 On Tax Map 4E, Parcel 19 (see sheet 5 of the construction plans) all timber 6" in diameter and larger at stump height shall be saw cut prior to grubbing operations, delimbed, topped, and stockpiled in an appropriate manner in the log lay-down yard shown on sheet 24 of the construction plans.

4.2.7.2 At the discretion of the Engineer, the Contractor may be required to employ flagmen along Lewis County Route 9 while slow moving, loaded construction vehicles are entering and/or exiting the temporary access road, Access Road Number One, or the log lay-down access road.

4.2.7.3 The Contractor will be required to upgrade and maintain the existing access road leading to the log lay-down yard from Lewis County Route 9 prior to and during construction operations to the satisfaction of the Engineer. Access road upgrading and maintenance work shall be confined to the width of the existing roadway.

4.2.7.3.1 Three (3) buried drainage pipes and a pipe gate exist along the access road to the log lay-down yard. The Contractor shall not disturb, displace, or damage any of these constructions.

4.2.7.3.2 Should the Contractor damage any of these constructions, he shall notify the Engineer immediately and make or have made all necessary repairs and resultant damage caused thereby all at his own expense. Damaged constructions shall be replaced with newly purchased compatible materials as exists installed to existing lines and grades with all disturbed areas revegetated in accordance with **Specification 6.0** also at the Contractor's expense.

4.2.7.3.3 In addition, there are overhead and buried utilities in and nearby the work limits for the log lay-down yard. The Contractor shall adhere to **Special Provision 15 Utilities and Other Obstructions** and be solely responsible to correctly locate these utilities and take precautions to avoid damage to them.

4.2.7.3.4 The Contractor shall not damage or displace overhead or buried utilities. To that goal, the Contractor may be required to protect the buried lines from damage by laying 4-foot by 8-foot by 1" thick steel plates with the 8-foot dimension centered

upon the buried utility alignment. A minimum of two (2) steel plates meeting the requirements of **Specification 4.1.3.1** placed side-by-side will be required.

4.2.7.3.5 In addition, prior to laying the steel plates, the Contractor will be required to provide a level, compacted subgrade and place separation fabric meeting the requirements of **Specification 4.1.3.7** along the width and length of the steel plate footprints all to the satisfaction of the Engineer.

4.2.7.3.6 The steel plates shall be topped with crushed stone meeting the requirements of **Specification 4.1.3.5**. A sufficient thickness of crushed stone shall be placed to provide adequate protection for the line buried beneath. The thickness of stone placement will require the approval of the Engineer.

4.2.7.4 Upgrading and maintaining the existing access road to the log lay-down yard may involve minor grading to remove soft spots, refilling and compacting soft spot excavations with onsite suitable material, placing separation fabric, and 1 ½" crusher run stone all meeting the requirements of **Specification 4.1.3** and all to the satisfaction of the Engineer.

4.2.7.5 After all operations are complete using the log lay-down road, the Contractor will be required to top the existing access road with a three inch (3") layer of 1 ½" crusher run stone. Prior to crushed stone placement, the roadway shall be regraded; soft spots removed, re-filled, and compacted; and separation fabric placed as directed by the Engineer. Final grading and crushed stone placement shall require the approval of the Engineer.

4.2.7.6 In addition, the Contractor will be required to remove and discard the crushed stone, steel plates, and separation fabric providing buried line protection in accordance with **Specification 4.2.11**. All disturbed areas shall be regraded to blend into surrounding grades and revegetated in accordance with **Specification 6.0**.

4.2.7.7 Any vegetated areas outside the limits of road upgrading and maintenance disturbed by the Contractor shall be regraded to approximate original contours; blended into surrounding grades; revegetated in accordance with **Specification 6.0**; with all work approved by the Engineer. Compacted areas shall be scarified and smoothed prior to revegetation.

4.2.8 All stumps, roots, buried logs and brush shall be removed. Grass, however, may be incorporated into the resoiling material. Taproots and other projections over 1-½ inches in diameter shall be grubbed out to a depth of at least ten (10) inches

below the planned 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.

- 4.2.9** 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 Owner.
- 4.2.10** All organic material resulting from clearing and grubbing operations shall be burned to ash in designated areas in accordance with **Special Provision 8 “Disposal of Unsuitable Material”** and **Special Provision 13 “Permits, Licenses and Fees”** or otherwise removed from the site and disposed of in a manner approved by the Owner. The Contractor shall obtain all permits and licenses required prior to burning the material. Plans that show the location of materials to be burned and all fire control measures to be implemented, including copies of permits and licenses, shall be submitted to the Owner’s representative at the site for approval. The Contractor’s burning plan shall include measures to protect nearby landowner’s, their homes and other constructions and facilities, gas wells and gas lines, and nearby trees, nearby utilities, and other vegetation from smoke, heat, and airborne residue. Cleared and grubbed organic materials shall be burned completely to ash or otherwise removed from the site in accordance with **Section 4.2.11** of these specifications. Other debris, including stumps and tree root balls, shall also be removed from the site in accordance with **Section 4.2.11** of these Specifications. No burning will be allowed on or near exposed coal refuse or near coal seams. Burning operations should be confined to areas as distant from houses, gas wells and gas lines, other utilities, and constructions, and standing timber and other vegetation designated to remain as possible.
- 4.2.11** All other materials generated from required clearing and grubbing operations or designated for removal on the plans shall be removed and disposed of by the Contractor. All garbage, construction debris, mining debris, existing drainage structures designated for removal, etc., shall be disposed of in approved waste areas or landfills approved by the State to accept the type of waste or debris to be deposited. It shall be the responsibility of the Contractor to obtain, at no expense to the Owner, all necessary waste and borrow areas or landfills for the disposal of waste materials in accordance with any applicable local, state, and/or federal regulations including compliance with NEPA requirements (See **Special Provision 7** for NEPA Compliance Schedule). All waste and borrow areas must be approved by the Owner and the Contractor must provide a reclamation plan for approval. In addition, for all waste and borrow areas outside the construction limits, the Contractor must obtain from the property owner a right-of-entry agreement in which the property owner indemnifies and holds the WVDEP harmless from any injury or damages whatsoever resulting from the use of the property. The Contractor may be required to submit proof the landfill is indeed permitted to accept the type of debris or waste to be deposited and that the debris

or waste was indeed delivered to the site and properly disposed. Burning of tires, treated lumber, mine belt, or anything that might create black smoke is prohibited. The Contractor is required to visit the site and decide for their self the nature and quantity of garbage to be removed prior to submitting his bid.

- 4.2.12** 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. The Contractor shall be required to work in close proximity to overhead and underground private and public utilities and constructions and facilities. See **Special Provision 15 “Utilities and Other Obstructions”** and **Specification Section 11.0 “Utilities”** of these specifications for additional information.
- 4.2.13** Buildings, mining related structures, existing ruins and foundations, shall be removed. The removal operation shall extend 1-foot below finished grade, 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. No buildings, foundations or mining related equipment was observed during initial investigations. However, buried ruins or other structures or debris, including abandoned mining equipment, may exist and be encountered during excavation operations. Abandoned mining equipment and all metal encountered shall be removed from the site to an off-site disposal area in accordance with **Special Provision 7** or to a landfill approved by the Owner to accept this type debris. The Owner shall be the sole judge as to what is to be buried and what is to be removed from the site. Areas where structures and buildings are removed shall be graded to provide positive drainage so surface runoff will not pool or impound as directed by the Owner.
- 4.2.14** Coal and/or refuse spillage, concrete, cinder blocks, and foundation ruins shall be excavated, specially handled in accordance with these Specifications, and/or removed from the site. Boulders, cut stone structures, concrete pads and blocks, and foundation ruins shall be broken and buried in the deepest portion of fill areas. Broken pieces shall be of size less than 2 feet in any dimension and not be consolidated in one area, but shall be dispersed throughout fill areas to ensure compaction requirements are achieved. Coal and/or refuse shall be buried beneath 12”, minimum, of soil capable of supporting vegetation. The Contractor is advised the Pittsburgh coal seam may be encountered during construction of Access Road Number One.
- 4.2.15** Trash, garbage, tires, plastic, metal, automobile parts or debris, household appliances, treated lumber, and other unsuitable material resulting from demolition or existing on-site shall be disposed of by the Contractor at his/her own responsibility and expense outside the work limits in a landfill, as approved by the Owner, unless otherwise directed. Bricks, concrete blocks, cut stone, and

concrete foundations shall be disposed as per **Section 4.2.14** of these specifications.

4.2.16 Offsite disposal will be necessary and should offsite borrow be necessary, the Contractor shall observe the NEPA Compliance Schedule as per **Section 7** of the **Special Provisions**.

4.2.17 A proposed temporary access road is shown on Sheet 2 of the construction plans that will allow access to the uphill portions of the project area prior to Access Road Number One construction. Construction of the temporary access road crosses over a landowner buried 4" diameter PVC pipe under low cover and will require removing portions of an existing landowner constructed split rail fence line.

4.2.17.1 Prior to construction of the proposed temporary access road, the Contractor will be required insert a plumber's snake into the buried 4" diameter PVC pipe to verify flow capacity and measure the length of the buried pipe. The flow capacity and measurement of the buried 4" diameter PVC pipe shall be performed in the presence of the Engineer. It appears the buried 4" diameter PVC pipe may take a 90° bend approximately 25 feet from the outlet end. The Contractor shall coax the plumber's snake around this bend (if present) and into the pipe until a sufficient distance has been penetrated that extends beyond the uphill disturbance limits of the temporary access road construction. This process will be repeated in the presence of the Engineer after temporary access road removal to ensure the pipe has not been damaged.

4.2.17.2 Should the existing buried 4" diameter PVC pipe be damaged, the contractor shall excavate the pipe, cut-off and replace the damaged pipe with compatible newly purchased pipe, connect the pipes watertight in accordance with manufacturer's recommendations, place the newly installed pipe along original alignments and profile grades, backfill and grade the excavation to blend into surrounding grades, revegetate the disturbance in accordance with **Specification 6.0** and make, or have made, any other necessary repairs and bear the expense thereof and resulting damaged caused thereby.

4.2.17.3 The Contractor shall not damage or displace the buried 4" diameter PVC pipe. To that goal, the Contractor may be required to protect the line from damage by laying 4-foot by 8-foot by 1" thick steel plates with the 8-foot dimension centered upon the pipe alignment. A minimum of two (2) or three (3) steel plates meeting the requirements of **Specification 4.1.3.1** placed side-by-side will be required.

- 4.2.17.4** Prior to laying the steel plates, the Contractor will be required to excavate a level base to ensure complete contact between the steel plates and the leveled sub-base to the satisfaction of the Engineer. The Contractor shall proof roll the sub-base to ensure compaction efforts have been attained to the satisfaction of the Engineer.
- 4.2.17.5** In addition, prior to laying the steel plates, the Contractor will be required to place separation fabric meeting the requirements of **Specification 4.1.3.7** along the width and length of the steel plate footprints.
- 4.2.17.6** The steel plates shall be topped with crushed stone meeting the requirements of **Specification 4.1.3.5**. A sufficient thickness of crushed stone shall be placed to provide protection for the line buried beneath. The thickness of stone placement will require the approval of the Engineer.
- 4.2.17.7** In addition, an NPDES Sign is located in close proximity to the proposed temporary access road alignment. The sign may need to be removed and reinstalled in its original location all to the satisfaction of the Engineer.
- 4.2.17.8** The proposed temporary access road construction is not intended to be used for the duration of the project. Rather the temporary road will allow equipment access to the uphill portions of the project area to build permanent Access Road Number One.
- 4.2.17.9** Upon completion of sufficient portions of permanent Access Road Number One to allow construction access, the temporary access road stone, separation fabric, steel plates, and pipes shall be removed with the area regraded to approximate contours, blended into surrounding grades, and revegetated in accordance with **Specification 6** all to the satisfaction of the Engineer. The NPDES Sign (if removed) shall be reinstalled in its original location.
- 4.2.17.10** Should mud, rocks, and other debris be carried onto Lewis County Route 9 by construction vehicles using the temporary access road, the Engineer may require the Contractor to halt operations and top the temporary access road with crushed stone and separation fabric to keep all mud, rocks, and other debris off Lewis County Route 9. Continued use of the temporary access road after initial crushed stone placement may require periodic top dressing with additional stone as conditions warrant and as directed by the Engineer. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.

- 4.2.17.11** The temporary access road shall be maintained in dust-free condition at all times to the satisfaction of the Engineer.
- 4.2.17.12** Construction of the proposed temporary access road will require installation of two (2) 15 inch diameter pipes to convey drainage beneath the construction access road. Steel pipes are preferred, but the type of pipe material is at the discretion of the Contractor.
- 4.2.17.12.1** One (1) 15 inch diameter pipe shall be laid in Lewis County Route 9 road ditch and the other 15" diameter pipe shall be placed to capture hollow drainage as shown on the plans.
- 4.2.17.12.2** Prior to placement of the pipes, the potential subgrade shall be prepared to ensure complete contact between the placed pipe and the prepared profile grade. The subgrade shall be proof rolled to ensure compaction efforts have been attained. The prepared subgrade will require the approval of the Engineer prior to pipe placement.
- 4.2.17.12.3** The temporary pipes shall be backfilled with compacted select onsite material meeting the requirements of **Specification 4.1.3.1** and as approved by the Engineer.
- 4.2.17.13** Construction of the proposed temporary access road will require removal and reconstruction of a landowner constructed split rail fence line.
- 4.2.17.13.1** The Contractor shall remove only portions of the split rail fence necessary for construction of the temporary access road.
- 4.2.17.13.2** The Contractor shall quiz the landowner concerning replacement options for the existing split rail fence. The landowner may wish to have the existing posts and rails placed back in their original position to better match existing fence conditions. If so, the Contractor shall do everything in his power to reclaim removed posts and rails without damage for fence line replacement. Should the landowner wish to have newly purchased compatible split rail posts and rails, removed fence materials shall be discarded in

accordance with **Specification 4.2.10 or 4.2.11.**

- 4.2.17.13.3** Removed split rail posts meeting the requirements of **Specification 4.1.4** shall extend 24-inches into undisturbed material. The post hole may be hand or equipment excavated. All posts set in holes shall project vertically, aligned with existing posts and rails, and project from the ground at a horizontal and vertical distance compatible with other existing posts.
- 4.2.17.13.4** Prior to post backfilling and compaction, rails shall be inserted from the previous post through the post being set. The distance between posts shall be adjusted to ensure rails to the next post can also be inserted into the same hole drilled through the post as the rails being set. The posts shall be tamped (compacted) in-place to the satisfaction of the Owner. Each fence post shall be sound and secure and installed to the satisfaction of the Owner.
- 4.2.17.13.5** The reconstructed split rail fence shall end where the original split rail fence ended. In addition, the last set of rails shall be constructed in a manner similar to that existing, which is the last set of rails shall project from the last split rail post holes to the ground at the end point of construction. Split rail fence construction will require the approval of the Engineer and the Landowner.
- 4.2.17.14** All costs associated with temporary access road construction, including buried line protection, temporary pipe installations, split rail fence removal and reconstruction, sign removal and reinstallation, separation fabric, crushed stone, maintaining dust-free conditions, and temporary access road removal including line protection and pipe removal, and regrading and revegetation shall be included in and considered incidental to **Item 4.1 "Site Preparation"**.
- 4.2.18** The Contractor will be required to construct Access Road Number One to the lines and grades shown on the plans.

 - 4.2.18.1** Prior to placing components of Access Road Number One as shown on the plans and herein specified, the Contractor will be required to proof roll the constructed subgrade to ensure compaction has been attained to the satisfaction of the Engineer. Minor cutting and filling may be required to address soft areas and bring those areas to grade and into

compaction requirements.

- 4.2.18.1.1** If in the opinion of the Engineer the subgrade is unsuitable, the Contractor will be required to excavate the objectionable material and fill the excavation with suitable on-site borrowed material to the satisfaction of the Engineer.
- 4.2.18.1.2** Subgrade fill material shall be placed in six inch (6") compacted lifts and compacted to at least 95% of Standard Proctor maximum dry density at a moisture content of not less than 2% below nor greater than 3% above optimum. Testing frequency and locations shall be directed and approved by the Owner.
- 4.2.18.1.3** The Contractor is advised that the Pittsburgh coal seam may be encountered during excavation operations for Access Road Number One. Should the Pittsburgh coal be encountered, excavated coal shall be placed in the deepest portions of the fill areas located on the Redstone coal seam bench as shown on the plans in an area approved by the Engineer. At a minimum, **excavated** coal shall be placed beneath a minimum of 12" of onsite soil material capable of supporting vegetation. And **encountered** coal shall be undercut a minimum of 12" with onsite soil material capable of supporting vegetation placed in the excavation to bring the area to the lines and grades shown on the plans. Likewise, coal encountered at the subgrade (bottom of ditch lining elevation) of Ditch Number One and Ditch Number Two shall be undercut a minimum of 12" with onsite soil material approved by the Engineer placed in the excavation to bring the area to the subgrade of the ditches shown on the plans.
- 4.2.18.1.4** The Contractor shall exercise care to avoid pushing graded road materials into Ditch Number One and Ditch Number Two. If in the opinion of the Engineer, the Contractor has pushed unwanted material into the ditches, he shall remove the material to the satisfaction of the Engineer, dispose of the material on-site in an area approved by the Engineer, and repair any damage to the ditch linings to the satisfaction of the Engineer. All costs associated with this task shall be borne by the Contractor and at no cost to the State.

- 4.2.18.2** The first 70.0 feet of Access Road Number One off Lewis County Route 9 shall be installed as a Stone Construction Entrance meeting the requirements of **Specification 5.3.5**. The Stone Construction Entrance shall be built to the lines and grades shown on the plans with separation fabric and 3" to 6" diameter stone all meeting the requirements of **Specification 4.3.1**.
- 4.2.18.3** During construction operations Access Road Number One shall be graded to a smooth surface, maintained in a dust free condition, and upgraded as required or directed by the Owner with crusher run stone and separation fabric all meeting the requirements of **Specification Section 4.1.3**. All costs associated with maintaining Access Road Number One during construction operations shall be considered incidental to and included in bid **Item 4.1, "Site Preparation"**.
- 4.2.18.4** Just prior to demobilization operations and after all reclamation operations using Access Road Number One are complete, the Contractor shall place separation fabric and a three inch (3") layer of crusher run stone along the entire length and width of Access Road Number One as shown on the plans and to the satisfaction of the Engineer.
- 4.2.18.4.1** Prior to fabric and stone placement the subgrade shall be prepared in accordance with **Specification 4.2.17.1**.
- 4.2.18.4.2** The Contractor shall place separation fabric meeting the requirements of **Specification 4.1.3** along the entire length and width of Access Road Number One footprint. Separation fabric will not be required beneath final grade slopes exceeding 10%.
- 4.2.18.4.3** A 3 inch (3") layer of crusher run stone meeting the requirements of **Specification 4.3.1** shall be placed along the entire length and width of Access Road Number One footprint. Any areas found deficient in stone thickness shall have additional stone placed to achieve the desired thickness to the satisfaction of the Engineer.
- 4.2.18.4.4** If in the opinion of the Engineer, stone placement has displaced or damaged the separation fabric or subgrade, the Contractor shall remove the stone, fabric, and subgrade and prepare the subgrade and repair the displacement or damage and/or replace the fabric and stone to the satisfaction of the Engineer. All costs associated with the removal of the stone, fabric, and subgrade and repair work

shall be borne by the Contractor and at no cost to the Owner.

4.2.19 Any existing fence lines damaged during construction activities and not scheduled for removal shall be removed, repaired or replaced to an "as good as" or "better than" its existing condition and shall be approved by the Owner. Where fencing is used to control or contain cattle or other livestock, the Contractor shall also be responsible for temporary fencing required to assure the safety and containment of the livestock.

4.2.20 The Contractor will be required to construct a cable gate across Access Road Number One in the location and to the dimensions shown on the plans or as designated by the Engineer.

4.2.20.1 Four (4) gate support fence posts, meeting the requirements of **Specification 4.1.4**, shall extend 24-inches to 36-inches into undisturbed material. The post hole may be hand or equipment excavated. All posts set in holes shall project vertically and shall be tamped (compacted) in-place to the satisfaction of the Owner. Each fence post shall be sound and secure and installed to the satisfaction of the Owner.

4.2.20.2 Gate posts shall be braced in one direction as shown on the plans. Gate support posts shall be spaced 8.0-feet apart to allow installation of a horizontal post at the mid-points of the gate support post stick-ups. The vertical post members shall be notched to receive the horizontal post member. The horizontal post member shall be set in the notch and attached to the vertical gate support posts with 16 penny nails to the satisfaction of the Engineer.

4.2.20.2.1 A continuous loop of 15 ½ gage barb wire will be wrapped around gate support posts in an "X" configuration as directed by the Owner. One end of the looped barb wire shall be secured to the post with staples. The other end of the loop shall be pulled taut and stapled. The loose end protruding from each staple shall be bent backwards, aligned with the looped fence, and stapled again to the post capturing both barb wires. A bar shall be placed along the intersection of the "X" and the gate support posts and brought into tension by twisting the barb wire causing the gate support post structure to become taut. Two (2) 1½" staples shall be installed at the intersection of the "X" to ensure twisted barb wire does not release. The staples shall be installed in the horizontal post prior to removing the twisting bar. The

horizontal post will keep the structure in a vertical position while tensioning adjacent wires for stapling.

4.2.20.2.2 Barbed wire fence shall be installed between the two (2) gate support posts located on each side of the gate installation as shown on the plans. Barbed wire shall consist of five (5) stands of 15 ½ gauge barb wire spaced 6" from the ground surface to the lowest wire, then spaced: 8" to the second wire, 12" from the second to the third wire, 14" from the third wire to the fourth wire, and 16" from the fourth wire to the top (fifth) wire.

4.2.20.2.3 Barb wire shall be pulled taut and securely fastened to each post with a minimum of two (2) 1 ½ inch staples per strand per post.

4.2.20.2.4 A looped wire cable sized as shown on the plans and meeting the requirements of **Specification 4.1.4** shall span the gate support posts as shown on the plans. The cable may be purchased with looped ends or the Contractor may construct the loops with cable clamps. One end with a cable loop shall be placed around a gate support post and positioned between fastened barbed wire so the cable cannot be lifted off the post and plan road clearances are achieved. The other looped end of the cable shall have a chain inserted through the loop with a suitable lock inserted into opposing eyelets to construct an impenetrable barrier to prevent unwanted access. The cable shall be positioned and of sufficient length to provide clearance requirements shown on the plans.

4.2.20.2.5 The Contractor shall supply a chain long enough to wrap completely around the gate support post and through the cable loop as described above. The chain shall be attached to the outby edge of the gate support post by inserting a lag bolt with washer through the center link of the chain. The lag bolt shall then be screwed into the gate post as shown on the plans. The Contractor shall supply a lock to secure the gate and prevent unwanted access. The lock key shall be given to the Engineer. The chain, locking mechanism, and cable shall require the approval of the Engineer prior to placement.

4.2.21 The Contractor will be responsible for repairing all Contractor associated damages to driveways, with compatible topping that exists, and to the satisfaction

of the Owner and affected resident. Driveway repair materials shall conform to **Specification 4.1.3.**

4.2.21.1 All of the driveways to the homes located directly adjacent to the lower project work limits are outside the Contractor's Work Limits. Should the Contractor decide to utilize these driveways for any purpose he shall obtain his own agreement with the landowner in accordance with **Special Provision 18.**

4.2.21.2 However, any damage to any driveway caused by the Contractor shall be repaired in accordance with these specifications and to the satisfaction and approval of the Engineer and the landowner.

4.2.22 Landowner planted shrubs, flowers, trees, and other landscape improvements and constructions exist within and in close proximity to the project work limits and traveled ways to the project site. The Contractor is advised to walk the project area and become familiar with all obstructions located within and near excavation operations and Contractor's Work Limits prior to submitting his bid. Several landowner constructions, including garages, outbuildings, homes and appurtenances, water wells, sewer systems, and above ground storage tanks are located directly adjacent to proposed excavation operations. Unless designated for removal/replacement on the plans, these constructions shall not be disturbed.

4.2.22.1 The Contractor shall notify the Engineer and affected property owner immediately should he disturb or damage garages, outbuildings, homes and appurtenances, water wells, sewer systems, or above ground storage tanks or any other landowner constructions and make or have made all necessary repairs and bear the expense thereof and resulting damage caused thereby. All such repairs shall be made to the satisfaction and approval of the Engineer and the landowner.

4.2.22.2 Should the Contractor decide to temporarily or permanently move obstructions, he shall enter into an agreement with the affected landowner and have said agreement approved by the Engineer prior to its implementation.

4.2.22.3 The Contractor shall avoid damage to plants, shrubs, trees, and landscape constructions. In the event of damage the Contractor shall notify the affected Owner(s) and the Engineer immediately and make, or have made, all necessary repairs and bear the expense thereof and resulting damaged caused thereby to the satisfaction of the resident and Engineer. All shrubs, flowers, trees, and other landscaping plants and constructions damaged, disturbed, displaced, or removed by the Contractor in performing this work as planned and specified shall be replaced with compatible nursery stock plantings and constructions and

approved by the landowner and the Owner prior to replacement.

4.2.22.4 Should the Contractor excavate or impede upon the drip edge of any landscape tree or plant, that tree or plant shall be replaced with compatible nursery stock trees or plants. Drip edge is defined as the outer boundary of the area where rain falls to the ground from the tree or plant.

4.2.22.5 Several buried pipes, septic system field lines, a concrete pad, and a concrete headwall are shown on the plans near and within the excavation limits of Pipe Number Three and associated Splash Pad. The exact bounds of the septic system field lines and the origins of the buried pipes are not known.

4.2.22.5.1 The Contractor shall use extreme caution while performing excavation operations for the installation of Pipe Number Three. Buried steel and flexible HDPE pipes encountered shall be left in-place and supported, set aside, or cut-off and re-connected during installation of Pipe Three.

4.2.22.5.2 The Contractor will be required to obtain the approval of the Engineer for how he intends to handle these pipes prior to excavation operations.

4.2.22.5.3 All encountered pipes shall be replaced in their original locations and at their original alignments and profile grades. Cut-off pipes shall be re-connected with compatible piping as exists and extended to their original location and profile grade all to the satisfaction and approval of the Engineer.

4.2.22.5.4 Should the Contractor impede upon the septic system field lines, he shall reconstruct the field lines to the lines, stone thickness and size, and grades with compatible materials that existed prior to excavation, and replace/ reconnect, repair any piping encountered and damaged or removed all to the satisfaction and approval of the Engineer and the landowner.

4.2.22.5.5 The Contractor is advised there is an existing concrete pad located near the end of the Splash Pad for Pipe Number Three. Any damage to the existing concrete pad caused by the installation and construction of the Splash Pad shall be repaired with materials meeting the requirements of **Specification 4.1.3** to the satisfaction and approval of the

Engineer and the landowner.

- 4.2.22.5.6** The Contractor is advised there is a concrete headwall and a 15" Ø RCP pipe located near the end of Pipe Number Three Splash Pad that conveys drainage under Lewis County Route 9. The Contractor shall avoid damaging or displacing the concrete headwall and pipe. Should the Contractor damage or displace the concrete headwall or pipe he shall notify the Engineer immediately and make or have made all necessary repairs and bear the expense thereof and resulting damage caused thereby all to the satisfaction and approval of the Engineer.
- 4.2.22.5.7** The Contractor is advised there is a 6" Ø water line and a landowner reported 2" Ø gas line buried near the upstream end of Pipe Number One and the downstream end of Pipe Number Three and associated Splash Pad. The exact location of these lines is unknown. It shall be the responsibility of the Contractor to correctly locate these utilities and avoid damaging or displacing them. Should the Contractor damage or displace the buried utilities he shall notify the Engineer immediately and make or have made all necessary repairs and bear the expense thereof and resulting damage caused thereby all to the satisfaction and approval of the Engineer. The Contractor shall notify the water company one week in advance prior to excavation operations near their water line.
- 4.2.22.5.8** The Contractor is also advised excavation operations for installation of Pipe Number Three may impede on the drip edge of an existing 24" diameter tree. If so, this tree may need to be removed and replaced with compatible nursery stock.
- 4.2.22.6** A bird house located at Baseline Station 2+59 offset 161 feet right and an antenna located at Baseline Station 5+08 offset 140 feet right are within the excavation limits of the project.

 - 4.2.22.6.1** The Contractor will be required to move these constructions to a location approved by the Engineer and the landowner or reset these constructions in the original locations after all reclamation operations are complete.
 - 4.2.22.6.2** Removal and replacement of the antenna shall include moving and restoring the antenna, any associated wiring,

all to a working condition to send and receive radio signals including polarization. Antenna restoration may require installation of a concrete foundation capable of supporting the antenna and weather induced forces. The foundation shall be designed by the Contractor and approved by the Landowner and Engineer prior to construction.

4.3 METHOD OF MEASUREMENT

- 4.3.1** There is no method of measurement for Site Preparation as it is a lump sum bid limited to less than 8% of the total amount bid. All costs associated with Site Preparation operations, including; timber cutting and stockpiling; burning of organic materials; off-site disposal of garbage and items designated by the Owner to be removed from the site; constructing, upgrading, and maintaining access roads including the proposed temporary access road and associated pipes; buried line protection installation and removal; and removing fences, including split rail fences, and constructing split rail or temporary fence lines as required or directed by the Engineer shall be included in and considered incidental to the lump sum bid for **Item 4.1 "Site Preparation"**.
- 4.3.2** There is no method of measurement for repair of public roads and leaving said roads in equal to or better than condition than existed upon mobilization operations. All costs associated with this work, including all regrading, crushed stone, concrete, asphalt, filling and compacting, and separation fabric, as directed and approved by the Owner shall be borne by the Contractor.
- 4.3.3** There is no method of measurement for providing traffic control for the project; including traffic control requested/directed by the Engineer and traffic control required during construction of the proposed temporary access road, Access Road Number One, Pipe Number One, Pipe Number Three Splash Pad, and during log hauling operations to the log lay-down yard. All costs associated with this work including necessary signage, supports, traffic cones, flaggers, flagger essentials, etc. used for traffic control shall be included in and considered incidental to the lump sum bid for **Item 4.1 "Site Preparation"**.
- 4.3.4** There is no method of measurement for maintaining and upgrading the proposed access road, Access Road Number One, and the existing access road to the log lay-down yard into all-weather construction roads during project reclamation operations. All costs associated with this work, including minor cutting, filling, and compacting; crushed stone; separation fabric; and maintaining the roads in a dust free condition as directed and approved by the Owner shall be considered incidental to and included in the lump sum price bid for **Item 4.1, "Site Preparation"**.
- 4.3.5** There is no method of measurement for repairing landowner driveways damaged

by the Contractor with compatible material as exists as all costs associated with this work shall be borne by the Contractor and at no cost to the State.

- 4.3.6** The method of measurement for topping the existing access road from Lewis County Route 9 to the log lay-down yard after all operations are complete using the road and prior to demobilization operations shall be per ton for **Item 4.3 "Incidental Stone"** from certified weigh tickets accepted and approved by the Engineer. All costs associated with this work including proof rolling, 1 ½" crusher run stone, separation fabric, minor excavation, refilling of soft areas and compaction, and placing separation fabric prior to final crusher run stone topping before demobilization operations shall be considered incidental to and included in the unit price bid per ton for **Item 4.3 "Incidental Stone"**. Crushed stone used for upgrading and maintaining existing or constructed access roads prior to and during construction operations shall not be submitted for payment under this item as all costs associated with this work shall be included in and considered incidental to **Item 4.1 "Site Preparation"**.
- 4.3.7** There is no method of measurement for constructing and reclaiming temporary access roads not shown on the plans. All costs associated with this work, including all regrading and backfilling constructed roads to approximate original contours, crushed stone, filling and compacting, and separation fabric, as directed and approved by the Owner shall be considered incidental to and included in the unit price bid for **Item 8.0 "Unclassified Excavation"**.
- 4.3.8** The method of measurement for constructing Access Road Number One to the lines and grades shown on the plans and herein specified shall be per linear foot bid for **Item 4.2 "Access Road Number One"**. All costs associated with this work, including proof rolling, 1 ½" crusher run stone, separation fabric, minor excavation, refilling of soft areas and compaction, and placing separation fabric prior to final crusher run stone topping before demobilization operations shall be considered incidental to and included in the unit price bid for construction of **Item 4.2 "Access Road Number One"**. Access Road Number One shall be measured one-time along its centerline and that quantity submitted for payment. Regrading the Stone Construction Entrance located near the intersection of Access Road Number One and Lewis County Route 9 and placing crusher run stone prior to demobilization operations to provide a smooth traveled surface for the landowner shall be included in the one-time measurement submitted for payment under **Item 4.2 "Access Road Number One"**. The lower portion of Access Road Number One constructed as a Stone Construction Entrance shall be paid at the lump sum price bid for **Item 5.1 "Stone Construction Entrance"**.
- 4.3.9** There shall be no measurement for temporary fence replacement and fence line removal and replacement outside of the work limits or not shown on the Plans. All materials and labor required for non-planned and temporary fence line removal and replacement shall be borne by the Contractor and at no cost to the

State.

- 4.3.10** The method of measurement for installing the Cable Gate and support posts in the location shown on the plans and herein specified shall be per each for **Item 4.3 “Cable Gate”**. All costs associated with this task including hole excavation, filling, and compaction; fence; posts; bracing and tensioning; staples; wire cable and cable clamps; locking mechanism, chain, lag bolts and washers; and other incidentals including material, labor, and equipment costs necessary for proper Cable Gate installation as shown on the plans and herein specified shall be included in and considered incidental to the per each bid for **Item 4.4 “Cable Gate”**. Any other gates not scheduled for replacement and disturbed, damaged or destroyed by the Contractor, as well as any collateral damage caused thereby, shall be replaced or repaired with compatible materials as exists and in an existing or better than condition than exists by the Contractor all at his expense and to the satisfaction of the landowner and the Engineer.
- 4.3.11** There is no method of measurement for the Burning Plan or Contractor developed Traffic Control Plan as all costs associated with these items shall be considered incidental to all items bid for this project.
- 4.3.12** There is no method of measurement for replacing landowner plants, shrubs, trees, landscape constructions, or other landowner constructions/facilities damaged during construction operations as all costs associated with these tasks shall be included in and considered incidental to **Item 4.1 “Site Preparation”**.
- 4.3.13** There is no method of measurement for removing and reinstalling the split rail fence line, dealing with buried pipes, septic system field line reconnection/reconstruction, or locating, avoiding, and protecting buried utilities with steel plates, separation fabric and stone and other constructions in the work area associated with the construction of the proposed temporary access road and installation of Pipe Number One and Pipe Number Three and associated Splash Pad; removal/relocation or replacement in its original location of the bird house; and antenna removal/relocation or replacement in its original location and restoration of its operation as all costs associated with this work shall be considered incidental to and included in the lump sum bid for **Item 4.1 “Site Preparation”**.

4.4 BASIS OF PAYMENT

- 4.4.1** All costs associated with Site Preparation operations, including; Access Road Number One and existing lay-down yard access road maintenance and upgrading; temporary road construction and removal; traffic control, burning plan, or additional traffic control plan (if required); timber cutting and stockpiling; burning of organic materials; off-site disposal of garbage and items designated by the Owner to be removed from the site; removing and replacing temporary fences;

removing and replacing landowner fence lines, or gates (not scheduled for removal); replacing landowner plants, shrubs, trees, and landscape constructions; removal/replacement/protection of buried pipes; reconstruction of septic system field lines (if required); driveway repair; and bird house and antenna removal/relocation as required; shall be included in and considered incidental to the lump sum bid for **Item 4.1 "Site Preparation"**.

- 4.4.2 Item 4.1 "Site Preparation"** shall be paid at the lump sum price bid. The amount shall not exceed 8% of the "TOTAL AMOUNT 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 incidentals necessary to complete the work as specified and shown on the plans.

No deduction will be made, nor will any increase be made, in the lump sum bid for **Item 4.1 "Site Preparation"** amount regardless of decreases or increases in the final total contract amount or for any other cause.

- 4.4.3** All costs associated with constructing Access Road Number One as shown on the plans and herein specified shall be paid at the unit price bid per linear foot for **Item 4.2 "Access Road Number One"**. Payment shall be full compensation for doing all the work herein prescribed in a workmanlike and acceptable manner, including the furnishing of all labor, materials, tools, equipment, supplies, and incidentals necessary to complete the work as specified and shown on the plans.

- 4.4.4** All costs associated with topping the access road from Lewis County Route 9 to the log lay-down yard prior to demobilization operations as shown on the plans and herein specified shall be paid at the unit price bid per ton for **Item 4.3 "Incidental Stone"** from certified weigh tickets accepted and approved by the Engineer. Payment shall be full compensation for doing all the work herein prescribed in a workmanlike and acceptable manner, including the furnishing of all labor, materials, tools, equipment, supplies, and incidentals necessary to complete the work as specified and shown on the plans

- 4.4.5** All costs associated with installing the Cable Gate across Access Road Number One as shown on the plans and herein specified shall be paid at the lump sum bid per each for **Item 4.4 "Cable Gate"**. Payment shall be full compensation for doing all the work herein prescribed in a workmanlike and acceptable manner, including the furnishing of all labor, materials, tools, equipment, supplies, and incidentals necessary to complete the work as specified and shown on the plans.

4.4 PAY ITEMS

Item 4.1, “Site Preparation”, per lump sum. Cannot be more than 8% of the “Total Amount Bid” for the project

Item 4.2, “Access Road Number One”, per linear foot

Item 4.3, “Incidental Stone”, per ton

Item 4.4, “Cable Gate”, per each

5.0 EROSION AND SEDIMENT CONTROL

5.1 DESCRIPTION

This item shall consist of furnishing all materials, equipment, labor and incidentals necessary for the installation of Silt Fence and a Stone Construction Entrance for sediment and erosion control as shown on the Plans and as approved in the NPDES permit. Straw wattles shall also be placed in constructed ditches and on regraded outslope areas concurrent with construction and prior to revegetation in locations shown on the plans. Additional quantities may be added at the discretion of the Owner.

The Contractor shall submit an erosion and sediment control plan to the owner at the pre-construction meeting for approval. This plan shall include measures to be utilized for temporary and permanent erosion and sediment control. This plan shall also include the measures contained in the approved NPDES permit, measures herein specified, and measures shown on the plans. The Owner's approval of this plan does not relieve the Contractor of his 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. The Contractor shall comply with the approved NPDES permit; train his personnel to be familiar with all permit requirements; and keep a copy at the job site at all times.

5.2 MATERIALS

5.2.1 Silt Fence: Silt fence materials and installation shall meet all applicable requirements of **Section 715.11.5** and **Section 642.6** of the West Virginia Division of Highways **Standard Specifications for Roads and Bridges**, Adopted 2010.

5.2.1.1 Non-woven filter fabric shall be purchased in a continuous roll. Fabric shall contain ultraviolet ray inhibitors and stabilizers to provide a minimum of 6-months construction life at temperatures ranging from 0 to 120 degrees Fahrenheit. Preferred fabrics are Mirafi 100X, Exxon GTF, or approved equal.

5.2.1.2 Stakes shall consist of 2" by 2" oak or 2" by 4" pine and a minimum length of five feet (5'). Fasteners shall be heavy duty one-inch (1") staples or tie wires.

5.2.1.3 If steel posts (standard "U" or "T" section) are used for silt fence construction they shall have a minimum weight of 1.25 pounds per linear foot and a minimum length of five feet (5').

5.2.1.4 "Geofab", "Envirofence", or approved equal are preferred prefabricated units.

5.2.2 Super Silt Fence shall consist of fabric mounted against 48-inch high chain link fence meeting the requirements of **Section 712** of the West Virginia Division of Highways **Standard Specifications for Roads and Bridges**, Adopted 2010.

5.2.2.1 The fabric shall meet the requirements of **Specification 5.2.1**.

5.2.2.2 The posts shall be 2½" diameter by 72" long and meet the requirements of **Section 709.46** of the West Virginia Division of Highways **Standard Specifications for Roads and Bridges**, Adopted 2010. 4" by 4" by 72" treated posts may be substituted for steel posts with the approval of the Engineer.

5.2.2.3 Wire ties or staples to connect the chain link fence to the posts and the fabric to the chain link fence shall be approved by the Engineer.

5.2.3 Straw Wattles shall be installed at locations shown on the plans. Straw Wattles, available from ACF Environmental (acfenvironmental.com) or approved equal, shall be a standard size of 9 inches diameter by 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 Crushed stone used for Stone Construction Entrances shall be 3" to 6" limestone. 3" to 6" stone shall be that commonly purchased from suppliers and shall range in size from 3-inches minimum to 6-inches maximum diameter with no more than 10% by weight less than 3 inches and no more than 50% by weight greater than 4". Aggregate shall have a maximum weighted loss of twelve percent when subjected to five (5) cycles of the Sodium Sulfate Soundness Test – **ASTM C88 (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.

5.2.5 Separation fabric used for Stone Construction Entrances shall be placed on a prepared subgrade prior to placement of stone. Separation fabric shall be woven and meet the requirements of **Section 715.11.8** of the **WVDOH Standard Specifications Roads and Bridges**, Adopted 2010, such as Mirafi 600X or approved equal. The State Department of Transportation has a web site listing all approved sources and products at: www.transportation.wv.gov/highways/pages/listings.

5.2.6 Pipes (not shown on the plans) used for Stone Construction Entrances shall be 15" in diameter highway grade high-density polyethylene pipes (HDPE) with corrugated exterior and smooth interior walls such as N12 pipes manufactured by Advanced Drainage Systems, Inc., or approved equal. Pipe installations and backfilling shall comply with **Section 604** of the **WVDOH Standard**

Specifications Roads and Bridges, Adopted 2010.

- 5.2.7** Rock Check Dams may be installed to assist in erosion control; however these dams may not replace any of the controls shown on the plans or herein specified. Stone for Rock Check Dams shall have a d_{50} of 4-inches. The d_{50} stone shall range in size from 3-inches minimum to 6-inches maximum diameter with no more than 10% by weight less than 3 inches and no more than 50% by weight greater than 4 inches. Stone shall have a maximum weighted loss of twelve percent when subjected to five (5) cycles of the Sodium Sulfate Soundness Test – ASTM C88 (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.
- 5.2.8** Straw or hay bales may be used to assist in erosion control, but shall not replace any of the sediment controls shown on the plans. Straw or hay bale dikes shall be placed on contour. The bales shall be standard size square bales consisting of hay or straw bound with a natural fiber twine. The bales shall meet all applicable requirements of **Section 715.27.1** of the West Virginia Division of Highways Standard Specifications for Roads and Bridges, Adopted 2010 pertaining to ingredients. Each bale shall weigh minimum of 50 pounds. Stakes: The stakes shall consist of 1" X 2" stakes, 36 inches in length made from suitable hardwoods. Other methods of anchoring may be used if specifically approved by the Owner.

5.3 INSTALLATION

- 5.3.1** The Contractor shall comply with **Special Provisions Section 23 “Erosion and Sediment Control Guidelines”** for this project.
- 5.3.2** The height of silt fence above original ground shall be 16”, minimum, and shall not exceed 36”. Filter fabric shall be purchased in a continuous roll and cut to length to minimize joints. When joints are unavoidable, the silt fence shall be joined together at a support post by twisting the fence ends or last post of each run around each other and securely sealed. A trench 4” by 4” shall be excavated on the uphill side of the posts. The fabric shall be fastened securely to the uphill side of the posts and extend into the trench. Do not staple fabric to trees. The 4” by 4” trench shall be backfilled and compacted atop the fabric to eliminate under-piping. The end of fabric runs shall be turned slightly uphill to prevent runoff from going around. Silt fence shall be installed along the contour of the land with no section exceeding 5% slope in twenty feet (20’).
- 5.3.3** Super Silt Fence shall be installed in a manner similar to Silt Fence. Chain link fence shall be installed securely to the posts with wire ties or staples. The fabric shall be attached to the chain link fence with ties spaced every 24” at the top and mid-section of the fence. A trench 12” by 12” shall be excavated on the uphill side of the posts. The fabric and fence shall be fastened securely to the uphill side

of the posts and extend 12", minimum, into the trench. The 12" by 12" trench shall be backfilled and compacted against the fabric and fence to eliminate under-piping. Where two sections of fence join, they shall overlap 6", minimum, and the fabric folded.

- 5.3.4** Straw wattles shall be installed according to manufacturer's recommendations and placed end to end along the contour at the locations shown on the Plans or as directed and approved by Owner.

5.3.4.1 Lines of straw wattles shall be overlapped a minimum of 10 feet (as measured from a line perpendicular to the land contour at each end of the line of wattles as shown on the Plans) where wattles are stepped up or down hill to better follow the contour of the land or provide coverage for regrade areas.

5.3.4.2 Straw wattles shall be embedded into the soil 2" to 3", as shown on the plans, to prevent under-piping. Excavated soil shall be placed on the uphill side of the installation from the anchor trench and foot tamp-compacted against the wattle. Adjacent wattles should be tightly abutted.

5.3.4.3 Straw wattles shall be anchored with 36" stakes spaced every 3 to 4 feet driven through the middle of the wattle. In addition, a stake shall be placed within 12" of each end of the wattle. The stakes shall be driven perpendicular to the ground line, and with a minimum of 18 inches of ground penetration. In areas where sediment control barriers cross existing drains, more than one row of wattles or installation of straw/hay bales may be required to adequately prevent downstream sediment pollution. Also, additional staking may be required to anchor the straw wattles against concentrated storm runoff. The number of straw wattles and anchoring required in concentrated flow areas shall be at the discretion and direction of the Owner.

5.3.4.4 Straw wattles shall not be removed but shall remain in place after all construction activities are complete.

5.3.4.5 Straw wattles shall be placed on regraded outslope areas concurrent with construction and prior to revegetation in locations shown on the plans. Straw wattles shall also be installed perpendicular to and along constructed ditch lines in areas shown on the plans as a part of the approved NPDES Erosion and Sediment Control Plan.

5.3.4.5.1 After the project area is stabilized and with the approval of the Engineer, straw wattles installed in constructed ditch lines shall be removed and discarded in accordance with **Specification**

4.2.11. Other installed straw wattles shall remain in-place with the approval of the Engineer.

5.3.4.5.2 The Contractor shall exercise great caution not to disturb or damage ditch linings (erosion control blankets) during straw wattle removal operations. Some hand removal/excavation operations may be required.

5.3.4.5.3 Accumulated sediment shall be removed and buried on-site beneath 12" of soil cover in an area approved by the Engineer. The Contractor will be required to revegetate the accumulated sediment burial site as well as the excavation footprint in the affected ditch in accordance with **Specification 6.0**.

5.3.5 Stone Construction Entrances shall be built to the lines and grades designated by the Engineer or as required by other permits/regulations.

5.3.5.1 Prior to fabric and stone installation, the subgrade shall be prepared by removing all objectionable material to the satisfaction of the Owner. In the event coal or coal refuse is encountered such material will be undercut a minimum of 12" and replaced with onsite suitable compacted material prior to placing fabric and stone. The subgrade shall then be proof rolled to insure compaction has been achieved to the satisfaction of the Owner.

5.3.5.2 If in the opinion of the Owner the subgrade is unsuitable, the Contractor will be required to excavate the objectionable material and fill the excavation with onsite select borrow material to bring the subgrade to proper elevations to the satisfaction of the Engineer.

5.3.5.3 Subgrade fill material shall be placed in six inch (6") compacted lifts and compacted to at least 95% of Standard Proctor maximum dry density at a moisture content of not less than 2% below nor greater than 3% above optimum. Testing frequency and locations shall be directed and approved by the Owner.

5.3.5.4 Stone Construction Entrances will require excavating constructed/existing grades 3", minimum, as shown on the plans. Excavated material shall be taken to an onsite disposal area approved by the Engineer. Once excavation is complete to the satisfaction of the Owner, separation fabric meeting the requirements of **Specification 5.2.5** shall be placed in the excavation. Fabric shall be placed the full length and width of the excavation.

5.3.5.5 Six inches (6") of 3" to 6" stone meeting the requirements of **Specification 5.2.4** shall be installed in the excavation atop the fabric. If

in the opinion of the Owner, 3" to 6" stone placement has caused displacement or damage to the underlying separation fabric or sub-base, the Contractor shall remove the 3" to 6" stone and prepare the subgrade and repair the displacement or damage and/or replace the fabric and 3" to 6" stone to the satisfaction of the Owner. All costs associated with the removal of 3" to 6" stone and necessary repair work shall be borne by the Contractor and at no cost to the Owner.

5.3.5.6 Either a pipe or berm mound shall be installed at each Stone Construction Entrance not shown on the plans but constructed for this project by the Contractor.

5.3.5.6.1 Berm mounds shall be 0.7 ft., minimum, above the placed 6" layer of 3" to 6" stone with a 3.0 foot, minimum, level top and 5 horizontal to 1 vertical slopes coming into and out of the berm mound as shown on the plans.

5.3.5.6.2 Pipes meeting the requirements of **Specification 5.2.6** shall be excavated, installed, and backfilled in accordance with **Section 604** of the **WVDOH Standard Specifications Roads and Bridges**, Adopted 2010. Pipes are usually installed in the public road ditch line.

5.4 **MAINTENANCE**

5.4.1 During the course of the project, sediment and erosion control structures shall be maintained in sound condition and accumulations of silt that may threaten the effectiveness of the structure shall be removed. Silt removed from the sediment and erosion control structures shall be taken to a disposal area approved by the Engineer.

5.4.2 Erosion and sediment control facilities, including silt fence, super silt fence, straw wattles, etc. shall be inspected at a minimum once every seven calendar days and within 24 hours after any storm event greater than 0.5 inches per 24 hour period. Check to see if water has flowed around the edges of the structure. Replace and repair erosion and sediment control devices as necessary to maintain the correct height and configuration. Sediment should be removed from behind the erosion and sediment control devices when it has accumulated to one half of the original height of the structure.

5.4.3 Close attention shall be paid to the repair of damaged silt fence resulting from end runs and undercutting. If the fence is not installed on the contour (perpendicular to the flow of the water) both of these conditions can occur.

- 5.4.4** Should the fabric on a silt fence decompose or become ineffective prior to the end of the project and the barrier still is necessary, the fabric shall be replaced promptly.
- 5.4.5** Sediment deposits should be removed after each storm event. Deposits must be removed when deposits reach approximately one-half the height of the barrier. If any section of a sediment control structure is knocked down during a rain event (because it was installed in an area of concentrated flow), then other measures such as a sediment trap and diversion, or super silt fence must be installed.
- 5.4.6** Stone Construction Entrances 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.
- 5.4.7** Stone Construction Entrance inspection and necessary maintenance should be provided daily but at a minimum every seven days and after every rain of 0.5 inches or greater.
- 5.4.8** 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.

5.5 REMOVAL

Straw wattles installed in construction ditches shall be removed in accordance with **Specification 5.3.4.5**. All other sediment control facilities installed for this project except for other straw wattles and other installations designated to remain by the Engineer, shall be removed when the project area is stabilized (75% vegetative cover achieved) or as directed by the Engineer. Removed fabric, fencing, and posts shall be discarded in accordance with **Specification 4.2.11**. Accumulated sediment shall be deposited and revegetated in areas designated by the Engineer. Accumulated sediment excavation footprints shall also be revegetated in accordance with **Specification 6.0**. Stone Construction Entrances shall be removed or left in place at the discretion of the Engineer.

- 5.5.1** Prior to demobilization operations, the Contractor will be required to regrade and repair the Stone Construction Entrance constructed near the intersection of Access Road Number One with Lewis County Route 9, to the satisfaction of the Engineer. Topping of the 3" to 6" stone with crusher run stone, meeting the requirements of **Specification 4.1.3**, will be required to provide a smooth traveled way for the landowner.

- 5.5.2** The Contractor will be required to remove and discard all accumulated sediment, stone, and fabric from Stone Construction Entrances designated for removal by the Engineer. Installed pipes may or may not be removed and discarded at the direction of the Engineer. All disturbed areas shall be regraded to original contours and revegetated in accordance with **Specification 6.0** of these specifications.

5.6 METHOD OF MEASUREMENT

- 5.6.1** The method of measurement for Stone Construction Entrances shall be per each bid for **Item 5.1 "Stone Construction Entrance"** installed and approved by the Engineer. The unit price bid per each shall be full compensation for constructing the Stone Construction Entrances as shown on the plans and herein specified, including excavation; discarding excavated material; compaction; undercutting, filling, and compaction (if required); fabric; stone; pipes; maintenance; and removal and discarding components; all as specified herein and shown on the plans. Regrading the Stone Construction Entrance located near the intersection of Access Road Number One and Lewis County Route 9 and placing crusher run stone prior to demobilization operations to provide a smooth traveled surface for the landowner shall be measured and submitted for payment under **Item 4.2 "Access Road Number One"**.
- 5.6.2** The method of measurement for Silt Fence installation and maintenance in conformance with the specifications and accepted by the Owner shall be a "one-time" basis per linear foot bid for **Item 5.2 "Silt Fence"** to include fabric, posts, ties or staples, trenching, backfilling, maintenance, and structure installation and removal including all necessary materials, supplies, labor and equipment for installation, maintenance, and removal including accumulated sediment removal and disposal.
- 5.6.3** The method of measurement for Straw Wattle installation and maintenance in conformance with the specifications and accepted by the Owner shall be on a "one-time" basis per linear foot bid for **Item 5.3 "Straw Wattles"** to include all straw wattles, stakes, construction, and maintenance including all necessary materials, supplies, labor and equipment for installation and maintenance, including sediment removal and disposal.
- 5.6.4** Silt Fence, Super Silt Fence, and Straw Wattles displaced, destroyed, or removed by the Contractor, accumulated sediment, or flowing water shall be reinstalled in their original location and effectiveness and at the expense of the Contractor. No measurement is required for these reinstalled components.
- 5.6.5** There is no method of measurement for checking, maintaining, and keeping records for erosion and sediment control devices after storm events, during

construction operations and during vegetation warranty periods. All costs associated with sediment built-up removal as well as sediment disposal operations shall be included in and considered incidental to all other costs associated with this project.

- 5.6.6** Any additional sediment control, i.e. silt fence, super silt fence, straw wattles, stone check dams, 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.

5.7 BASIS OF PAYMENT

The quantity of work completed will be paid at the contract unit price bid, which price and payment shall be full compensation for all materials, labor, equipment, and incidentals necessary to install the components and perform the work. Additionally, payments shall constitute full compensation for any required maintenance, sediment or erosion control replacement, sediment removal, and disposal.

5.8 PAY ITEM

Item 5.1, "Stone Construction Entrance", per each

Item 5.2, "Silt Fence", per linear foot

Item 5.3, "Straw Wattles", per linear foot

6.0 REVEGETATION

6.1 DESCRIPTION

This work shall include all operations incidental to the establishment of vegetation cover within the limits of construction as shown on the plans and any other areas directed and approved by the Owner. 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 Owner in order to ensure that right-of-entry has been obtained.

Any areas disturbed by the Contractor outside the limits of construction shall be revegetated with all costs attributed to the Contractor and at no expense to the Owner.

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 Limestone

The lime to be used will be an agricultural grade pulverized limestone containing a minimum of 10% MgCO_3 and not less than 75% total carbonates. Fineness will be such that no less than 75% will pass through a #100 sieve and 100% will pass through a #10 sieve.

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

Lime shall be applied immediately to all areas requiring seeding and reaching final grade by one of the two methods listed in **Specification 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 that 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 hydroseeding 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 three (3) weeks or longer shall be vegetated according to the following guidelines.

TEMPORARY SEED MIXTURE				
	SPRING 3/15 – 5/15	SUMMER 5/15 – 8/15	FALL 8/15 – 10/15	WINTER 10/15 – 11/15
Variety of Seed	----- 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 that 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 **Specification 6.2.1**. Lime shall be applied according to **Specification 6.2.2** and mulch applied according to **Specification 6.2.4**. *Outside the designated seeding season, permanent seed mixture, meeting the requirements of Specification 6.2.3.2, may be substituted for Temporary Seed Mixture on areas that have reached final grade and will not be disturbed again, but only with the approval of the Engineer. Provided that any area failing to establish vegetation, as determined by the Engineer, shall be re-seeded (with permanent seed mixture), re-limed, re-fertilized, and re-mulched at no additional cost to the WVDEP and approved by the Engineer.*

6.2.3.2 Permanent Seed Mixture:

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

PERMANENT SEED MIXTURE		
	SPRING 3/15 – 5/15	FALL 8/15 – 10/15
Variety of Seed *	----- lbs. / acre -----	
Orchardgrass (<i>Dactylis glomerata</i>)	30	30
Birdsfoot Trefoil ¹ . (<i>Lotus corniculatus</i>)	15	15
Red Clover (<i>Trifolium pretense</i>)	10	10
Annual Ryegrass ² . (<i>Lolium multiflorum</i>)	25	25
Rye Grain	35	0
Or		
Winter Wheat	0	90
¹ . Herbaceous legumes must be treated with the appropriate bacterium before seeding. <i>On areas that are steeply sloping (steeper than 1.7:1), slide prone, swales, or drainage conveyance structures substitute Crownvetch (<i>Coronilla varia</i>) at 20 lbs./acre for Birdsfoot Trefoil.</i>		
² . Use Annual Ryegrass only in mixtures seeded after August 15 and before May 15.		
* Use only certified "blue tag" seed. Seed-rate suggested is for pure live seed (PLS) in lbs/acre.		

6.2.3.3 Lawn Seed Mixtures.

Lawn seed mixtures and hand raking will be required on this Project. At a minimum, all areas located downhill from the centerline of Bench Ditch Numbers Three, Four, and Five as shown on the plans shall be reseeded with the lawn seed mixture. In addition existing lawn or mowed areas, including the mowed hillside above the house (located at Baseline Station 9+56 offset 184 feet right), shall be hand raked and reseeded using the lawn seed mixture. This area may need to be surveyed prior to disturbance and re-established by survey prior to seed and nutrient application. The Engineer shall be the sole judge where permanent seed mixture or lawn seed mixture shall be used on this project. The Contractor shall obtain approval as to what seed mixture is required prior to applying any seed mixture.

LAWN SEED MIXTURE			
Rate of Application ---lbs. / 1,000 ft. ² ----	Seed Variety	Minimum Specifications	
		% Purity	% Total Germination
0.45	Red Fescue (Pennlawn)	98	98
0.90	Kentucky Bluegrass	85	75
0.70	Merion Bluegrass	90	75
0.20	Annual Ryegrass*	95	85
* Use Annual Ryegrass only in mixtures seeded after August 15 and May 15.			

6.2.4 Mulch Material

Mulching procedures shall take place immediately following seeding operations. Mulch material shall consist of baled straw mulch or wood cellulose fiber. However, wood cellulose fiber may be used only on slopes steeper than 2H:1V at a rate of 1,500 lbs/acre.

6.2.4.1 Straw

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

6.2.4.2 Wood Cellulose Fiber

Wood cellulose fiber may be used only on slopes steeper than 2H:1V at a rate of 1,500 lbs/acre. The appropriate 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 that:

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 and will allow rainfall to percolate to the underlying soil.

Wood cellulose shall only be used on areas that have been approved by Owner. 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.

6.2.5 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 Owner.

6.3 METHOD OF CONSTRUCTION

- 6.3.1 All revegetation activities shall be conducted immediately following completion of final grading so as to utilize the fine soil material as a seedbed before this material is lost via subsequent rainfall.
- 6.3.2 On sites where appropriate equipment can operate, the seedbed shall be prepared by breaking up surface crusts and loosening the soil material to a minimum of three (3) inches. 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 or scarifying by other approved methods. Rocks larger than six (6) inches in diameter, weeds, and other debris that will interfere with seeding or maintenance shall be removed or disposed of as directed and approved by the Owner. Seedbed preparation shall be suspended when soil moisture conditions are not suitable for the preparation of a satisfactory seedbed as determined by Owner.
- 6.3.3 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.
- 6.3.4 Seedbed preparation and seeding shall take place progressively as various regraded areas are brought to final grade.

- 6.3.5 All seeding operations shall be performed immediately following seedbed preparation in such a manner that the seed is applied in the specified quantities uniformly on the designated areas.
- 6.3.6 Seed Application shall consist of approved hydroseeding methods where feasible. Any seed left in hydroseeder 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 Owner.
- 6.3.7 Any area failing to establish a vegetative cover stand due to weather or adverse soil conditions shall be reseeded, re-limed, re-fertilized and re-mulched as directed and approved by the Owner.
- 6.3.8 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, reseeding, and re-mulching erosion gullies and all bare areas.
- 6.3.9 A second and third seeding will be applied as needed, or as directed and approved by the Owner.

6.3.9.1 Second Step Seeding

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

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

6.3.9.2 Third Step Seeding

The third step seeding process 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 in **Specification 6.3.10.1**.

6.4 METHOD OF MEASUREMENT

There shall be no distinction made for measurement or payment between lawn seed mixture application areas and permanent seed mixture application areas as determined by the Engineer. The method of measurement for **Item 6.0 "Revegetation"** shall be per "Plan View" acre calculated in accordance with **Specification 2.3.6.5**. Delineation between Permanent Seed Mixture and Lawn Seed Mixture areas shall be in accordance with **Specification 2.3.6.6**. The Engineer shall approve the areal extent of revegetation prior to field survey operations necessary to outline the area where vegetation, lime, fertilizer, and mulch were placed.

6.5 BASIS OF PAYMENT

6.5.1 Payment will be made at the Contract unit price 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. To include payment for all seeding (i.e. – temporary, first and second seeding). No additional payment will be made for second or third step seeding.

6.5.2 Temporary seeding will be considered incidental to this Specification 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.

6.6 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 drainage structures shown on the drawings. Drainage structures shown include but are not limited to drainage ditches, splash pads, pipes, drop inlets, and associated appurtenances.

7.2 MATERIALS

7.2.1 Vegetated lined ditches shall comply with fertilizer; liming, seeding and mulching requirements set forth in **Specification 6.0** and **Specification 6.2.3.3, Permanent Seed Mixture Table, Note1.**

7.2.2 Erosion control blanket lining will be required for Bench Ditch Numbers Three, Four, Five, and Groin Ditch Number Seven as shown on the plans. The blanket shall be 8.0 feet wide, minimum, and shall be Curlex® Type I as manufactured by American Excelsior Company or approved equal. Also required will be all necessary accessories including 8" staples, etc. to install the blanket in accordance with the manufacture's recommendations.

7.2.3 Two (2) different sizes of rock will be required on this project. All rock shall consist of hard durable commercially purchased limestone. Stone for the Splash Pad associated with Pipe Numbers One and Three installation shall be 3" to 6" stone. The stone shall range in size from 3-inches minimum to 6-inches maximum diameter with no more than 10% by weight less than 3 inches and no more than 50% by weight greater than 4 inches. Rock riprap for Ditch Number One, Ditch Number Two, Ditch Number Six, and Groin Ditch Number Seven shall have a d_{50} of 12-inches. The rock shall range in size from 3-inches minimum to 18-inches maximum diameter with no more than 10% by weight less than 2 inches and no more than 50% by weight greater than 12".

7.2.3.1 The Contractor should be aware that no provisions have been made to obtain rock on site. All rock used throughout the project site shall consist of locally available, commercially purchased, calcareous stone (except as noted otherwise) meeting the following requirements. The stone and rock riprap shall have a calcium carbonate equivalency of 70%, or greater, such as limestone rock. The stone shall have a maximum weighted loss of twelve percent (12%) when subjected to five (5) cycles of the Sodium Sulfate Soundness Test and the rock riprap shall have a maximum weighted loss of thirty percent (30%) when subjected to five (5) cycles of the Sodium Sulfate Soundness Test – **ASTM C88 (ASTM C88-99a 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 may be permitted with prior approval from the WVDEP in special circumstances. In order to be considered for use as stone or riprap, the rock shall be subjected to laboratory testing and is required to be certified by the testing laboratory as calcareous and non-acid producing. A certification on calcium carbonate equivalency and sodium sulfate soundness test shall be submitted to the WVDEP prior to use or delivery.

7.2.3.2 There are no provisions for obtaining rock on-site. All borrow (disposal) areas for rock must be approved by WVDEP and shall meet the quality requirements of **Specification 7.2.3.1**. 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), 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 the Owner and OSMRE for inspection purposes. The said rights of entry agreement must state that the property owner(s) indemnify and hold harmless the Owner and OSMRE for Contractor's action for any injury or damages whatsoever resulting from the use of the property. The Contractor also shall submit borrow or waste area reclamation plans for prior approval by the Owner. The Contractor shall observe the NEPA compliance schedule outlined in **Section 7** of the **Special Provisions** relative to selecting and utilizing any off site borrow areas and or any waste disposal areas.

7.2.4 Grout to be used in the grouted riprap ditches shall consist of a mixture of one part Type II sulfate resistant Portland cement and three parts sand, using water to produce a workable consistency. The amount of water shall be as approved or as designated by the WVDEP. Admixtures and/or pozzolan may be used with the approval of the WVDEP. The grout shall exhibit a compressive strength of 2,000 pounds per square inch at 28 days with specimens made and tested according to the provisions of ASTM C 31 and C 39 and **Section 3.0** of these Specifications. Three (3) specimens are required for each concrete or grout test in accordance with **Section 601.4.4** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010. Grout mix designs to be used by the Contractor shall be submitted to the Owner for review and approval. The proposed design mix and sufficient test data using proposed sources of the mix components to verify strength parameters shall be supplied to the Owner for approval prior to use in the Project. All testing shall be the responsibility of the Contractor.

7.2.4.1 Riprap used for construction of grouted riprap ditches shall comply with **Specification 7.2.3**.

7.2.4.2 Grouted Rock Riprap will be required in the construction and installation

of Ditch Number One, Ditch Number Two, Ditch Number Six, and Groin Ditch Number Seven, and the Splash Pads associated with Pipe Number One and Three installations.

7.2.5 The pipes to be used on this project consist of highway grade high-density polyethylene 12" and 18" diameter pipes (HDPE) with corrugated exterior and smooth interior walls such as N12 pipes manufactured by Advanced Drainage Systems, Inc., or approved equal and 15" diameter PVC SDR35 grade pipes or approved equal.

7.2.5.1 4 foot by 8 foot by 1 inch thick Grade 50 steel plates will be required to span the open-cut of Lewis County Route 9 until the Controlled Low Strength Material cures and to allow passage of traffic.

7.2.5.2 One and one-half inches (1½") of Wearing 1 Coarse hot mix asphalt (HMA) and four and one-half inches (4 ½") of Base Course Type I will be required to repair the open-cut of Lewis County Route 9. The HMA shall comply with **Specification Section 401** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010. The HMA shall be compacted and placed to blend into existing asphalt grades surrounding the repair area.

7.2.6 An Inline Clean-out shall be installed in the "straight ahead" component of the upstream reach in Pipe Number Three installation as shown on the plans. Inline cleanouts shall consist of a 15" by 15" by 15" 45° wye connector, a 15" by 8" increaser brushing, solid 8" diameter PVC SDR 35 grade pipes, two (2) 8" 45° bends, East Jordan Iron Works 1564 frame and cover and 4,000 psi concrete to be placed around the frame and cover as shown on the plans. The clean-out shall extend from Pipe Number Three to final grades as shown on the plans. 4,000 psi concrete shall meet the requirements of **Specification 4.1.3.3**.

7.2.7 Select aggregate for bedding and backfilling of pipes, drop inlets, and concrete slabs shall be 1 ½" crusher run stone meeting the gradation and quality requirements of Class 1 Aggregate in Table 704.6.2A of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010; Class "B" Bedding in accordance with **Section 604.5** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010; or Controlled Low Strength Material (Flowable Fill) in accordance with **Section 219** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010. Backfilling operations shall comply with **Section 604.8** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010.

7.2.7.1 Class 1 Aggregate may be crushed limestone or sandstone.

7.2.7.2 All stone shall consist of particles of clean, hard, tough, durable rock and

free from adherent coating and meet the requirements of **Section 703.1** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010. Stone shall have a maximum weighted loss of twelve percent (12%) when subjected to five (5) cycles of the Sodium Sulfate Soundness Test – **ASTM C88** (ASTM C88-99a 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.

7.2.7.3 Select backfill material shall be free of particles greater than 3” in any direction, readily compactable, and free from coal, coal refuse, organic debris, and approved by the Engineer prior to use.

7.2.7.4 The Contractor will be required to supply a Controlled Low Strength Material (CLSM) mix design to the Engineer for approval prior to use. The mix design shall include a listing of all components as well as unconfined compressive strength tests, pH, and flow. Cement used in the mixture shall be Type II sulfate resistant Portland cement meeting the requirements of **ASTM C150** (Type II cement not Type I cement). The CLSM shall exhibit a compressive strength of 50 pounds per square inch at 28 days with specimens made and tested according to the provisions of **ASTM C 31 and C 39**. Three (3) specimens are required for each concrete or grout test in accordance with **Section 601.4.4** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010.

7.2.8 A Type “G” inlet and Type 1 grate shall be installed at the intersection of Bench Ditch Number Four with Bench Ditch Number Five and at the beginning of Pipe Number Three. The Drop Inlet shall be pre-manufactured or poured in-place and comply with **Specification Section 605 and 715.19** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010, and installed at the location and to the grade shown on the plans.

7.2.8.1 The pre-cast manufacturer shall be an approved source provider by the West Virginia Department of Highways. The State Department of Transportation has a web site listing all approved sources and products at: www.transportation.wv.gov/highways/pages/listings

7.2.8.2 4,000 psi concrete meeting the requirements of **Specification Section 601** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010, shall be used for all poured in place concrete. Cement used in the mixture shall be Type II sulfate resistant Portland cement meeting the requirements of **ASTM C150** (Type II cement not Type I cement). All concrete mix designs to be used by the Contractor shall be submitted to the Engineer for review and approval. The proposed design mix and sufficient test data using proposed sources of the mix components to

verify strength parameters shall be supplied to the Engineer for approval prior to use in the Project.

7.2.8.3 Deformed bars used for reinforcing concrete shall be epoxy coated and meet the requirements of **Section 709** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010 and **Supplemental Specifications** Dated January 1, 2003.

7.2.8.4 All poured in place concrete be placed, formed, finished, and cured in accordance with **Section 601** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010.

7.2.9 Filter Fabric used for drainage structures shall be non-woven and as specified in **Section 715.11.4** of the WVDOH **Standard Specifications for Roads and Bridges**, Adopted 2010 for subsurface drainage such as Geotex 401 manufactured by Advanced Drainage Systems, Inc. or approved equal. The State Department of Transportation has a web site listing all approved sources and products at: www.transportation.wv.gov/highways/pages/listings.

7.3 METHOD OF CONSTRUCTION

7.3.1 The Contractor shall comply with **Special Provision 5 “Schedule of Work”** and **Special Provision 23 “NPDES Stormwater Permit Guidelines”**. The sequence of operations shall be at the discretion of the Contractor. However, at a minimum, water shall not be allowed to enter into or pool in constructed ditches, installed pipes, drop inlets, subsurface drains, toe drains, box culverts, or wet mine seal installations until all components have been installed and are operational, curing times have been achieved, and the constructions have been approved by the Owner. Work shall proceed downstream to upstream, bringing the site to grade and installing drainage control structures.

7.3.2 Prior to installing drainage facility linings, the sub-grade/sub-base of the drainage facility shall be inspected and approved by the Engineer.

7.3.2.1 Some drainage facilities (ditches or drop inlets) will be constructed in designed Contractor constructed fill areas. In these areas, the fill shall be compacted in accordance with **Specification 8.5.3** and brought to final grade elevations shown on the Plans and in the cross sections. The subgrade of the facility shall then be excavated into the compacted fill to template dimensions and to accept required lining components.

7.3.2.2 Some drainage facilities (ditches or drop inlets) will be constructed across unconsolidated mine spoil areas or along existing drainage ditches or streams.

7.3.2.2.1 Prior to drainage facility component (leveling stone, erosion control blanket lining, rock riprap, or grouted rock riprap) installation, the subgrade shall be prepared by removing all objectionable material (including existing riprap, iron precipitate and soft, unconsolidated material) to the satisfaction of the Owner. In the event coal or coal refuse is encountered such material will be undercut a minimum of 12" and replaced with onsite suitable compacted material meeting the requirements of **Specification 7.2.7** and approved by the Owner prior to installing the lining. The Pittsburgh coal seam may be encountered in the construction and installation of Ditch Numbers One and Two. Excavated coal or coal refuse shall be deposited onsite in an area approved by the Engineer and beneath 12", minimum, of select onsite material. All subgrade areas shall be proof rolled to insure compaction has been achieved to the satisfaction of the Owner.

7.3.2.2.2 If in the opinion of the Owner the subgrade is unsuitable, the Contractor will be required to undercut the subgrade a minimum of 2.0 feet and place compacted suitable on-site fill material meeting the requirements of **Specification 7.2.7** and approved by the Owner in 6" compacted lifts back to subgrade elevations. In addition, some filling may be required after removing all objectionable material (including existing riprap, iron precipitate and soft, unconsolidated material) to bring the subgrade to proper elevations depicted on the Plans.

7.3.2.2.3 Subgrade fill material shall be compacted to at least 95% of Standard Proctor maximum dry density at a moisture content of not less than 2% below or greater than 3% above optimum. Testing frequency and locations shall be directed and approved by the Owner.

7.3.3 The ditches shall be constructed to the lines, grades, and templates shown on the plans or as directed and approved by the Owner. Ditches shall be vegetation and erosion control blanket lined or grouted rock riprap lined as shown on the plans.

7.3.3.1 Ditches that receive vegetative lining shall be constructed to the lines and grades shown on the plan. Seed bed preparation and other revegetation requirements shall meet the requirements set forth in **Specification 6.0** and **Specification 6.2.3.2, Permanent Seed Mixture Table, Note 1**. In the event coal or coal refuse is encountered such material will be undercut a minimum of 12" and replaced with onsite suitable compacted material capable of supporting vegetation prior to ditch lining installation. Erosion Control Blanket lining shall comply with **Specification 7.2.2**. Erosion

control blanket lining may be found in Bench Ditch Number Three, Bench Ditch Number Four, Bench Ditch Number Five, and Groin Ditch Number Seven.

7.3.3.1.1 Prior to erosion control blanket placement, the Contractor will be required to prepare the soil by removing all organic and objectionable material to the satisfaction of the Engineer.

7.3.3.1.2 The Contractor will be required to prepare the subgrade in accordance with **Specification 7.3.2.**

7.3.3.1.3 Lime, fertilizer, and seed shall be applied in accordance with **Specification 7.2.1** prior to erosion control blanket installation meeting the requirements of **Specification 7.2.2.**

7.3.3.1.4 Erosion control blanket installation shall begin at the upstream end of each ditch and work downstream. Begin by constructing a 6" wide by 6" deep trench. Place the blanket in the trench with 12" of the blanket extending upstream of the trench excavation. Anchor the blanket in the trench by placing staples 12" on center through the blanket into the bottom of the excavated trench. Fill and compact the trench after stapling. Apply lime, fertilizer, and seed to the backfill area. Fold the 12" upstream portion of the blanket across the compacted, seeded trench area and install staples at 12" center to center.

7.3.3.1.5 Roll the erosion control blanket in the direction of water flow down the ditch. The blanket shall be rolled out flat, even, and smooth without stretching the blanket. Align the blanket in accordance with the dimensions shown on the plans. Staple the blanket at the spacing shown on the plans.

7.3.3.1.6 The uphill, top edge of the erosion control blanket shall be installed in a 6" deep trench as shown on the plans. Excavate a 6" deep trench along the edge of the blanket approximately 6" downhill from the uphill edge of the unrolled blanket. Install the blanket in the excavated trench and staple the blanket 12" on centers into the trench wall. Backfill and compact the trench after stapling. Apply lime, fertilizer, and seed to the backfill area.

7.3.3.1.7 Downstream erosion control blankets shall be placed in a similar manner with a 6" overlap at each blanket end. Provide two rows of staples 4" apart stapled on 4" centers with the adjacent rows staggered at each overlap.

7.3.3.1.8 In Ditch Number Two and Groin Ditch Number Seven, the Contractor will be required to provide a 2.0 foot, minimum, overlap extending over the grouted riprap reach of Ditch Number Two and Groin Ditch Seven as shown on the plans.

7.3.3.2 Drainage facilities that receive grouted rock riprap lining include Ditch Number One, Ditch Number Two, Ditch Number Six, Groin Ditch Number Seven, and the Splash Pads associated with Pipe Number One and Pipe Number Three installations. Grouted riprap shall be applied and comply with **Section 218.3 and Section 501.14** of the WVDOT **Standard Specifications for Roads and Bridges**, Adopted 2010.

7.3.3.2.1 Where drainage facilities are to receive grouted rock riprap, the subgrade shall be excavated so that the final grades, grouted riprap size and thickness, and dimensions will agree with those on the plans. Grouted riprap linings shall be placed so top of grouted riprap in drainage facilities blend to adjacent, final grades. Grouted riprap linings shall not be indiscriminately placed atop final grades. Grouted riprap drainage facilities subgrade shall be prepared in accordance with **Specification 7.3.2**. Where coal or coal refuse is encountered, the ditch subgrade shall be undercut 12", minimum, with compacted select material approved by the Engineer placed in the excavation to achieve subgrade elevations. The Pittsburgh coal seam may be encountered during construction and installation of Ditch Numbers One and Two.

7.3.3.2.2 Riprap shall be placed to its required thickness without damaging or displacing the underlying subgrade. Some hand placing of riprap may be required around pipes and other encountered obstructions.

7.3.3.2.3 Grouted riprap shall be installed at an elevation 1.0 foot, minimum, above the top of all pipes (either installed or existing) and on both the inlet (upstream) and outlet (downstream) ends of the pipes. The 1.0 foot, minimum, cover requirement shall transition to normal ditch depths ten feet (10') from the upstream and downstream ends of the pipe as

shown on the plan profiles.

7.3.3.2.4 Prior to grout placement the riprap shall be free of trash, debris, dirt, sticks, limbs, leaves or other objectionable material as determined by the Engineer. The Engineer shall approve the riprap prior to grout application. Grout, where required to be placed on riprap, shall be applied as soon as possible after placement of riprap. The stone shall be thoroughly wet immediately before grout is applied. As soon as grout is deposited on the surface it shall be thoroughly worked into the joints to achieve 100 percent penetration. The stones shall then be brushed so that the top surfaces are exposed. The grout shall be protected from running water to prevent damage until sufficiently cured.

7.3.3.2.5 Curing shall be accomplished by one of two means. A liquid membrane-forming compound for curing concrete may be sprayed on the brushed grouted surface. Curing compounds shall conform to the requirements of **Section 707.9 of the WVDOH Standard Specifications for Roads and Bridges, Adopted 2010**. Alternately, the grouted surface may be covered with white polyethylene sheeting (film) for curing concrete immediately after the stones have been brushed. The sheeting shall conform to the requirements of **Section 707.10 of the WVDOH Standard Specifications for Roads and Bridges, Adopted 2010**. Grouting of drainage facilities shall not be initiated unless adequate materials for curing the grouted drainage facilities are available on-site. Curing by liquid membrane-forming compound shall be left for 72 hours prior to introduction of water. Likewise, grouted riprap shall remain covered for 72 hours prior to sheeting removal and introduction of water.

7.3.3.3 A grout key will be required at the intersection of the erosion control blanket lining with the grouted riprap lining in Ditch Number Two and Groin Ditch Number Seven.

7.3.3.3.1 The grouted riprap key shall be as dimensioned on the Plans, shall extend 3.0 feet, minimum from the downstream bottom of the proposed ditch lining at the downstream edge of the key, and installed to the lines and grades and at the locations shown on the plans.

7.3.3.3.2 After excavating the Grout Key to the dimensions shown on the plans, place grout in the excavation to the channel subgrade

prior to placing the riprap. Riprap shall then be placed into the grout to the lines and grades shown on the plans.

7.3.3.3 Grout keys excavated in coal refuse shall be undercut a minimum of 12" and replaced with 12" of onsite suitable compacted material, approved by the Owner, prior to installing the grout key components.

7.3.3.4 The Contractor shall prepare one set of cylinders for every twenty (20) cubic yards of grout applied to ditches for compressive testing in accordance with **Specification 7.2.4**. For ditches that receive less than twenty (20) cubic yards of grout, prepare one set of cylinders, minimum, per ditch. Three (3) specimens are considered one set of cylinders in accordance with **Section 601.4.4** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010.

7.3.3.5 Excess material from ditch excavation shall be disposed of on-site. Sections of ditches that are cut to rock shall not require rock riprap lining or grouted rock riprap lining.

7.3.3.6 Ditches that intercept existing drain pipes (existing road drains, subsurface drains, etc.) shall provide outlets for those intercepted drains. Outlets shall consist of compatible piping materials as exists and the Contractor shall ensure water emanating from these pipes safely and completely enters the constructed ditch and to the satisfaction of the Owner.

7.3.4 HDPE and SDR35 PVC pipe assemblies shall be watertight and located and constructed to the lines and grades shown on the Drawings. The pipes shall be installed in accordance with **Section 604** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010 and as detailed in these Specifications and on the construction plans. Trenches for pipes shall comply with dimensions depicted on the plans.

7.3.4.1 Class 1 stone in accordance with **Specification 7.2.7** shall be used for leveling and bedding of HDPE and SDR35 PVC pipes. Class 1 stone, Class "B" bedding, and Controlled Low Strength Material (flowable fill) shall be placed to the depths shown on the Plans and placed under, around, or over pipes as shown on the Plans. The subgrade shall be prepared by proof-rolling, and shall be satisfactory to the WVDEP prior to placement of the bedding or pipe.

7.3.4.1.1 Prior to leveling stone placement, the subgrade of the pipe trench shall be prepared in accordance with **Specification 7.3.2**. If in the opinion of the Engineer the subgrade is unsuitable, the Contractor will be required to undercut the

subgrade a minimum of 2.0 feet and place compacted suitable fill material, as approved by the Engineer, in 6" lifts back to subgrade elevations.

7.3.4.1.2 Subgrade fill material shall be compacted to at least 95% of Standard Proctor maximum dry density at a moisture content of not less than 2% below nor greater than 3% above optimum. Testing frequency and locations shall be directed and approved by the WVDEP.

7.3.4.2 Pipe backfill operations shall comply with **Section 604.8** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010. Backfill material shall meet the requirements of **Specification 7.2.7**. Backfill material shall be placed in six inch (6") loose lifts and compacted to at least 95% of Standard Proctor maximum dry density at a moisture content of not less than 2% below nor greater than 3% above optimum. Testing shall be at a frequency approved by the WVDEP. At a minimum, one compaction test lot per pipe will be required at locations designated by the Engineer. A lot consists of five (5) compaction tests in accordance with **Specification 3.3.3**.

7.3.4.3 Trench excavation exceeding five (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 2226** 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 with backfilling of the trench.

7.3.4.4 Excess excavated unclassified material from pipe trench construction shall be disposed of onsite at locations approved by the Engineer. Asphalt excavated from Pipe One installation shall be broken and buried in accordance with **Specification 4.2.14**. Excess excavated unclassified excavated material shall be buried beneath 12", minimum, of material capable of supporting vegetation. Vegetation shall be reestablished in accordance with **Specification 6.0**.

7.3.4.5 Pipe Number One installation consists of an 18" diameter HDPE corrugated-exterior, smooth-interior walled pipe meeting the requirements of **Specification 7.2.5**. Pipe Number One conveys Ditch Number One drainage beneath Lewis County Route 9 to a Splash Pad and into an unnamed tributary of the Left Fork of Freemans Creek.

7.3.4.5.1 Prior to Pipe Number One installation, the Contractor shall install and implement the approved traffic control plan. The

Contractor shall keep one lane of traffic open to the public at all times. All pits, trenches, and other excavations shall be closed at the end of the days work to allow two-way traffic to flow as normal. In no instance shall the Contractor work at dusk, dawn, night, or other low or limited visibility time frames.

7.3.4.5.2 The Contractor will be required to saw-cut Lewis County Route 9 along the pipe alignment and to the trench dimensions shown on the Plans. The Engineer shall approve the saw-cut layout prior to any cutting operations.

7.3.4.5.3 The alignment of Pipe Number One may conflict with the alignment of the West Virginia American Water Public Service District buried water line. The depth of the water line is reported to be 30" and the alignment is along the east pavement edge or just off the east pavement edge. The Contractor will be required to notify the utility two (2) weeks in advance prior to beginning excavation operations for Pipe Number One. The location of the buried utility shall be determined by the utility owner upon notification from the Contractor. The Plans assume a depth and alignment for the affected water line that will require field verification. The Contractor shall determine the exact alignment and depth of the water line and avoid the buried water line by raising or lowering the vertical alignment of Pipe One to the satisfaction of the Engineer and the utility. The Contractor will be required to provide a larger diameter conduit, as approved by the Engineer, to convey the water line through the backfill area, so the utility will not have to disturb Pipe Number One backfill for future repairs. The Contractor shall develop a plan to fabricate the installation of the larger size conduit around the existing 6" water line. The plan shall be submitted to the Engineer for approval prior to use.

7.3.4.5.4 In addition, the alignment of Pipe Number One may conflict with the alignment of 2" diameter gas line. A local landowner testified to the existence of the 2" gas line whose owner is unknown. The depth and alignment of the gas line is not known. The Contractor shall exhaust all sources for the owner of the gas line. Should the owner be determined, the Contractor will be required to notify the utility two (2) weeks in advance prior to beginning excavation operations for Pipe Number One. The location of the buried utility shall be determined by the utility owner upon notification from the Contractor. If the Owner cannot be determined, the Contractor will be

responsible for locating the existence and location of the gas line. The Plans assume a depth and alignment for the affected gas line that will require field verification. The Contractor shall determine the exact alignment and depth of the gas line and avoid the buried gas line by raising or lowering the vertical alignment of Pipe One to the satisfaction of the Engineer and the utility (if available). The Contractor will be required to provide a larger diameter conduit, as approved by the Engineer, to convey the gas line through the backfill area, so the gas line will not have to be disturbed for future repairs. The Contractor shall develop a plan to fabricate the installation of the larger size conduit around the gas line. The plan shall be submitted to the Engineer for approval prior to use.

- 7.3.4.5.5** Backfill for Pipe Number One extending beneath Lewis County Route 9 shall be Controlled Low Strength Material meeting the requirements of **Specification Section 7.2.5**. The Controlled Low Strength Material backfill shall extend 2.0 feet, minimum, upstream and downstream from the existing edge of pavements and then at angle of repose down to the excavated trench bottom and from trench wall to trench wall as shown on the plans and approved by the Engineer.
- 7.3.4.5.6** The Controlled Low Strength Material backfill shall be placed at a time to allow the material to cure for a minimum of 3 hours prior to trench closure for nighttime two way traffic. Curing time for the Controlled Low Strength Material is 8 hours, minimum. After 3 hours have elapsed, the Contractor will install 4 foot by 8 foot by 1 inch thick steel plates over the trench prior to reestablishment of two way traffic. After the 8 hours cure time has been met, the Contractor may place the 1½" of Wearing Course Type 1 and 4½" of Base Course Type 1 HMA meeting the requirements of **Specification 7.2.5.2** and as shown on the plans.
- 7.3.4.5.7** For every ten (10) cubic yards of Controlled Low-Strength Material placed to backfill Pipe Number One, a cylindrical sample shall be prepared for unconfined compression testing according to **AASHTO T-22** and determination of the flow mixture shall be made. At a minimum, one flow mixture and sample will be prepared for Controlled Low-Strength Material placed on each side of the pipe regardless of the backfill quantity. The samples shall be field cured in accordance with **AASHTO T-23** and shall meet or exceed a 28 day break of 50 psi.

7.3.4.5.8 Drop height of the Controlled Low-Strength Material shall be limited to the minimum necessary by using chutes or other devices. The Controlled Low-Strength Material shall be placed equally along both sides of the pipe to avoid pipe displacement. The Contractor may have to hold down the pipe to prevent floatation. Prior to placement of successive lifts, the Controlled Low-Strength Material shall be allowed to cure until self-supporting. If in the opinion of the Engineer, controlled low strength material placement has damaged or dislodged Pipe Number One from its designed elevation or alignment, the Contractor, at his own expense, shall cease operations and remove the low strength material and replace, adjust, or re-align Pipe Number One and its bedding and resume backfilling operations with new materials to the satisfaction of the Engineer. Controlled Low-Strength Material shall be placed to within 6" of the existing road pavement elevations on each side of the trench.

7.3.4.5.9 Asphalt shall be placed, compacted, and cooled in accordance with **Section 401** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010. A minimum of 1½" of Wearing Course Type 1 and 4½" of Base Course Type 1 Hot Mix Asphalt, meeting the requirements of **Specification 7.2.5.2**, will be required to repair Lewis County Route 9 after curing of the low strength material. The repair area may be opened to traffic after the asphalt has sufficiently cooled.

7.3.4.5.9.1 Asphalt repairs shall be conducted when weather conditions are favorable. Occasional light sprinkles should not be cause to shut down operations. However, a steady downpour, either light or heavy, should result in cessation of paving activities.

7.3.4.5.9.2 Four and one-half inches (4½") of HMA Base Course Type 1 and one and one-half inches (1½") of Wearing 1 Course Type 1 shall be placed and compacted in the repair area to match surrounding pavement grades to the satisfaction of the Engineer.

7.3.4.5.9.3 Apply a tack coat of asphalt to the vertical sides of the repair to assure a good bond and seal between old and new pavements. The tack rate should be 0.2 to 0.8 gallon per square yard of applied tack.

7.3.4.5.9.4 The HMA Base 1 Course shall be placed in two lifts and compacted. The 1 ½" of Wearing Course 1 shall be placed atop the base coarse to blend into surrounding grade elevations to the satisfaction of the Engineer. Asphalt mixes must be placed and compacted before they cool to 185° F. After the intermediate lifts of the patch have been compacted sufficiently, the surface lift can be completed. Take special care to ensure that it is compacted to be even and flush with the surrounding surface, so it provides a smooth riding surface.

7.3.4.5.9.5 Should the repaired asphalt area stick-up from surrounding shoulder grades, the Contractor will be required to place shoulder stone, meeting the requirements of **Specification 7.2.7**, to the satisfaction of the Engineer to provide access onto and off of the placed asphalt repair area.

7.3.4.5.10 The remaining portions of Pipe Number One shall be backfilled with compacted 1½" crusher run stone and compacted select Class "B" Backfill meeting the requirements of **Specification 7.2.7** and as shown on the plans.

7.3.4.6 Pipe Number Two shall be installed to the lines and grades shown on the plans. Pipe Number Two consists of the installation of a 12" diameter HDPE corrugated exterior, smooth interior lined pipe and is constructed across Access Road Number One and conveys drainage from Ditch Number Two to Ditch Number One.

7.3.4.6.1 Prior to pipe installation, the subgrade shall be prepared in accordance with **Specification 7.3.4.1**.

7.3.4.6.2 Backfill for Pipe Two shall be 1½" crusher run stone meeting the requirements of **Specification 7.2.7** from the excavated pipe trench bottom to the finished travel elevation of Access Road Number One as shown on the plans.

7.3.4.7 Pipe Number Three begins at the outlet of the Drop Inlet located at the intersection of Bench Ditch Number Four with Bench Ditch Number Five. Pipe Number Three consists of the installation of a 15" diameter SD35 PVC Pipe with a 45° bend, inline cleanout, and outlets to a Splash Pad as shown on the plans. All SDR 35 PVC pipes and components shall meet the requirements of **Specification 7.2.5**.

- 7.3.4.7.1** The Contractor is also advised excavation operations for installation of Pipe Number Three may impede on the drip edge of an existing 24" diameter tree. If so, this tree may need to be removed and replaced with compatible nursery stock.
- 7.3.4.7.2** The alignment of the Splash Pad associated with Pipe Number One may conflict with the alignment of the West Virginia American Water Public Service District buried water line. The depth of the water line is reported to be 30" and the alignment is just off the east edge of the concrete headwall located near the end of the Splash Pad. The Contractor will be required to notify the utility two (2) weeks in advance prior to beginning excavation operations for Pipe Number Three and Splash Pad. The location of the buried utility shall be determined by the utility owner upon notification from the Contractor. The Plans assume a depth and alignment for the affected water line that will require field verification. The Contractor shall determine the exact alignment and depth to the water line and avoid the buried utility by raising or lowering the vertical alignment of Pipe Number Three and associated Splash Pad to the satisfaction of the Engineer and the utility.
- 7.3.4.7.3** In addition, the alignment of Pipe Number Three and associated Splash Pad may conflict with the alignment of 2" diameter gas line. A local landowner testified to the existence of the 2" gas line whose owner is unknown. The depth and alignment of the gas line is not known. The Contractor shall exhaust all sources for the owner of the gas line. Should the owner be determined, the Contractor will be required to notify the utility two (2) weeks in advance prior to beginning excavation operations for Pipe Number Three and associated Splash Pad. The location of these buried utility shall be determined by the utility owner upon notification from the Contractor. If the Owner cannot be determined, the Contractor will be responsible for locating the existence and location of the gas line. The Plans assume a depth and alignment for the affected gas line that will require field verification. The Contractor shall determine the exact alignment and depth of the gas line and avoid the buried gas line by raising or lowering the vertical alignment of Pipe Number Three and associated Splash Pad to the satisfaction of the Engineer and the utility (if available).
- 7.3.4.7.4** Several buried pipes, septic system field lines, a concrete pad, and concrete headwall are shown on the plans near and within

the excavation limits of Pipe Number Three and the associated Splash Pad. The exact bounds of the septic system field lines and the origins of the buried pipes are not known.

- 7.3.4.7.5** The Contractor shall use extreme caution while performing excavation operations for the installation of Pipe Number Three and the associated Splash Pad. Buried steel and flexible HDPE pipes encountered shall be left in-place and supported, set aside, or cut-off during installation/construction of these facilities.
- 7.3.4.7.6** The Contractor will be required to obtain the approval of the Engineer for how he intends to handle these pipes prior to excavation operations.
- 7.3.4.7.7** All encountered pipes shall be replaced in their original locations and at their original alignments and elevations. Cut-off pipes shall be re-connected with compatible piping as exists and extended to their original location and grade all to the satisfaction and approval of the Engineer.
- 7.3.4.7.8** Should the Contractor impede upon the septic system field lines, he shall reconstruct the field lines to the lines, stone thickness and size, fabric (if required), and grades with compatible materials that existed prior to excavation, and replace/ reconnect, repair any piping encountered and damaged or removed all to the satisfaction and approval of the Engineer and the landowner.
- 7.3.4.7.9** The Contractor is advised there is an existing concrete pad located near the end of the Splash Pad for Pipe Number Three. Any damage to the existing concrete pad caused by the installation and construction of the Splash Pad shall be repaired with materials meeting the requirements of **Specification 4.1.3** to the satisfaction and approval of the Engineer and the landowner.
- 7.3.4.7.10** The Contractor is advised there is a concrete headwall and a 15" Ø RCP pipe located near the end of the Splash Pad that conveys drainage under Lewis County Route 9. The Contractor shall avoid damaging or displacing the concrete headwall and pipe. Should the Contractor damage or displace the concrete headwall or pipe he shall notify the Engineer immediately and make or have made all necessary repairs and bear the expense thereof and resulting damage caused thereby.

7.3.4.7.11 The Contractor is advised there is a (landowner reported) 2" Ø gas line and a 6" Ø water line buried near the end of Pipe Number Three and associated Splash Pad. The exact location of the lines is unknown. It shall be the responsibility of the Contractor to correctly locate these utilities and avoid damaging or displacing them. Should the Contractor damage or displace the buried utilities he shall notify the Utility Owner and the Engineer immediately and make or have made all necessary repairs and bear the expense thereof and resulting damage caused thereby.

7.3.4.7.12 All costs associated with handling these encountered pipes, septic field lines, concrete pads, concrete headwall and pipe, and utilities shall be included in and considered incidental to **Item 4.1 "Site Preparation"**.

7.3.4.7.13 An Inline Clean-out meeting the requirements of **Specification 7.2.6** shall be installed in the "straight ahead" component of the upstream reach of Pipe Number Three as shown on the plans. The inline cleanout shall project from Pipe Number Three to finished grades and capped with an 8" diameter SDR35 screw cap, frame, cover, and concrete as shown on the plans and herein specified.

7.3.5 A Type "G" drop inlet and Type 1 grate meeting the requirements of **Specification 7.2.8** shall be installed at the intersection of Bench Ditch Number Four with Bench Ditch Number Five and the Beginning of Pipe Number Three installation. The drop inlet and grate shall comply with **Section 605 and 715.19** of the **WVDOH Standard Specifications for Roads and Bridges**, Adopted 2010.

7.3.5.1 The subgrade for the drop inlet shall be prepared in accordance with **Specification 7.3.2**.

7.3.5.2 The drop inlet shall be pre-manufactured or poured in-place or any combination of the two.

7.3.5.2.1 Should the Contractor decide to form and pour the drop inlet in-place, a copy of the drop inlet design shall be submitted to the Owner for approval prior to starting the work. The design shall include load calculations; epoxy coated reinforcing bar spacing and size designs; bottom and side wall designs; and plans of sufficient detail to depict the installation.

7.3.5.2.2 Cast in place concrete shall be formed, poured, finished, and cured in accordance with the requirements of **Specification 7.2.8**.

7.3.5.3 Pipe sections shall be flush on the inside of the structure wall of the drop inlet and project outside sufficiently for proper connection with the next pipe joint. Masonry shall fit neatly and water-tight around the pipe. The flow line of the outlet pipe section shall match the bottom elevation of the inlet. Pre-manufactured pipe connections to the wall of the inlet shall also be water-tight. Sufficient mortar shall be placed in the Inlet bottom to create a smooth flow line from the inlet side to the outlet pipes.

7.3.5.4 Backfilling around the pre-manufactured or cast in-place drop inlet shall comply with **Section 212** of the WVDOT **Standard Specifications for Roads and Bridges**, Adopted 2010. Backfill material shall be select, suitable on-site material meeting the requirements of **Specification 7.2.7** and resulting from excavation operations and as directed and approved by the Engineer. Care shall be taken not to displace or disturb the drop inlet from the intended installation site or elevation. Backfilling shall be brought up uniformly around the structure to avoid distortional stress. If in the opinion of the Engineer backfilling operations have caused damage or displaced the drainage structure, the Contractor shall remove the drainage structure, re-prepare the subgrade, and reset the structure and complete backfilling operations to the satisfaction of the Engineer and at no cost to the State. The drop inlet shall be set flush with the flow line intersection of Bench Ditch Number Four with Bench Ditch Number Five.

7.4 METHOD OF MEASUREMENT

7.4.1 There is no method of measurement for vegetation lined ditches as quantities for construction and installation are paid elsewhere in these specifications. Forming of the required ditch dimensions (in cut), as shown on the plans, shall be included in the unit price bid for **Item 8.0 Unclassified Excavation**. Forming of the required ditch dimensions in fill areas, as shown on the plans, shall be considered incidental to the unit price bid for **Item 8.0 Unclassified Excavation**. Revegetation of the ditches shall be included in the unit price bid for **Item 6.0 Revegetation**.

7.4.2 The method of measurement for erosion control blanket lined ditches shall be per linear foot bid for **Item 7.1 "Erosion Control Blanket Ditch"** measured along the flow line of the ditch. Where two ditches intersect, the lineal footage of the intersecting ditch shall end at the first top encountered edge of the intersected ditch to eliminate double measurements of installed components. The unit price shall include excavation of any and all nature, subgrade preparation, purchase and placement of erosion control blanket lining, stapling, required anchor trench

excavation and compacting, and all equipment and labor necessary for satisfactory installation as shown on the plans and detailed in these specifications.

- 7.4.3** The method of measurement for grouted riprap lined ditches shall be per linear foot bid for **Item 7.2 "2.0 Ft. Deep "Vee" Shaped Grouted Riprap Ditch"** measured along the flow line of the constructed ditch and approved by the Engineer. The method of measurement for grouted riprap splash pads shall be per linear foot bid for **Item 7.3 "Splash Pad"** measured along the flow line of the constructed pad and approved by the Engineer. Where two ditches or pads intersect, the lineal footage of the intersecting ditch/pad shall end at the first top encountered edge of the intersected ditch/pad to eliminate double measurements of installed components. The unit price bid shall include excavation of any and all nature including necessary sub-grade preparations, purchase and placement of rock riprap lining, grouted riprap lining, curing, and "pump-around" or other diversion to achieve curing times, and all equipment and labor necessary for satisfactory installation as shown on the plans and detailed in these specifications.
- 7.4.4** There is no method of measurement for grouted riprap keys. Grout key excavation and installation as shown on the plans and herein specified shall be considered incidental to the grouted portion of the ditch where it is located and constructed.
- 7.4.5** The method of measurement for installation of the HDPE and SDR35 Grade PVC pipes shall be on a linear foot basis measured along the top of the pipe. The length of inline cleanouts shall not be included in this measurement or included for payment. The unit price shall include the cost of trench excavation and subgrade preparation; furnishing and placement of leveling stone; furnishing and placement of the pipes and necessary connections, bends, and other essentials; backfilling with crushed stone, select backfill, and controlled low strength material (CLSM); required compaction and CLSM testing; Base Course Type 1 and Wearing Course Type 1 hot mix asphalt for repair of Lewis County Route 9 during Pipe One installation; plan development and implementation for providing and installing larger conduit pipes around the 6" water line and 2" gas line running through the CLSM backfill for Pipe Number One; and other incidentals required for installation of the pipes as shown on the Plans and detailed in these Specifications. Traffic control operations shall be considered incidental to and included in bid **Item 4.1 "Site Preparation"**.
- 7.4.6** The method of measurement for the inline cleanout to be installed in Pipe Number Three alignment shall be paid at the unit price bid per each for **Item 7.8 "Pipe Number Three Inline Cleanout"**. The unit price bid shall include excavation, furnishing and placement of the pipe and fittings as detailed on the plans, placing and concreting the frame and cover, compacted on-site backfill, and minor grading, including all ancillary materials or operations required to construct the cleanouts as shown on the plans and herein specified.

7.4.7 Removal/replacement of buried pipes and reconstruction of septic system field lines encountered (if required) during the excavation and installation of Pipe Number Three and associated Splash Pad as directed and approved by the Engineer shall be included in and considered incidental to the lump sum bid for **Item 4.1 “Site Preparation”**.

7.4.8 The method of measurement for the Type “G” Drop Inlet and Type 1 Grate shall be paid at the unit price bid per each for **Item 7.10 “Drop Inlet and Grate”**. The unit price bid shall include excavation, subgrade preparation, furnishing and placement of the drop inlet and grate as detailed on the plans, and backfilling the drop inlet and grate to the lines and grade shown on the plans, including all ancillary materials or operations required to purchase, place, construct and backfill the drop inlet and grate as shown on the plans and herein specified.

7.4.9 There is no method of measurement for replacing landowner plants, shrubs, trees, landscape constructions, or other landowner constructions/facilities damaged during construction operations as all costs associated with these tasks shall be included in and considered incidental to **Item 4.1 “Site Preparation”**.

7.5 BASIS OF PAYMENT.

Payment shall be full compensation for doing all the work herein prescribed in a workmanlike and acceptable manner, including the furnishing of all labor, materials, tools, equipment, supplies, and incidentals necessary to complete the work as specified and shown on the plans.

7.6 PAY ITEMS

Item 7.1 “Erosion Control Blanket Lined Ditch”, per linear foot

Item 7.2 “2.0 Ft. Deep “Vee” Shaped Grouted Riprap Ditch”, per linear foot

Item 7.3 “Splash Pad”, per linear foot

Item 7.4 “18” Ø HDPE Pipe Number One”, per linear foot

Item 7.5 “12” Ø HDPE Pipe Number Two”, per linear foot

Item 7.6 “15” Ø SDR35 PVC Pipe Number Three”, per linear foot

Item 7.7 “Pipe Number Three Inline Cleanout”, per each

Item 7.8 “Drop Inlet and Grate”, per each

8.0 UNCLASSIFIED EXCAVATION

8.1 DESCRIPTION

This work shall consist of excavating, transporting, stockpiling, placing and compacting refuse, soil, rock or other materials encountered in the grading of the project area and any other indicated incidental work.

8.2 MATERIALS

Fill material for embankments shall be considered a mixture of soil or rock or soil and rock commingled with coal refuse encountered during excavation operations. For purposes of payment only, no distinction shall be made between soil, rock, refuse, or other material encountered, as all shall be deemed Unclassified Excavation. Top soil encountered during clearing and grubbing operations or in excavation operations shall be stockpiled and used as a final cover at final grades.

8.3 BORROW/DISPOSAL AREA

There are no designated disposal areas shown on the plans. There are no designated soil borrow areas shown on the plans. Soil cover shall be obtained as detailed in **Section 8.4** of this **Specification**. No separate payment or measurement shall be made for soil cover required unless off-site borrow areas become necessary, in which case payment shall be included in “**Unclassified Excavation**” quantities, 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 in the project area. However, if off-site borrow/disposal areas should be necessary to provide for material shortages or if excess material disposal is other than an approved landfill, then the Contractor is responsible for locating these areas and obtaining right-of-entry agreements in which the property owner indemnifies and holds the Owner and OSMRE harmless from any injury or damage whatsoever resulting from the Contractor’s use of the property. All prospective Contractors and Bidders must obtain their own permission from the landowner for any subsurface tests, borings, or pits. The Contractor shall be held responsible for compliance with all NEPA requirements and shall provide proof of such compliance to the Owner. The Contractor shall submit a reclamation plan to the Owner and must obtain approval for said plan prior to any disturbance to the disposal/borrow site. The regrading depicted on the construction plans provides a balanced cut and fill earthwork construction project. Generally the material required to backfill highwalls and construct fills to the lines and grades shown on the plans is located directly adjacent to the fill area in the cast-over-the-hill mine spoil. In no instance is it necessary for the Contractor to move material from one balanced area to another balanced area without the express written consent of the Engineer.

8.4 **SOIL COVER**

This work consists of covering all areas reaching final grade with a one foot (1') thick layer of suitable soil material capable of supporting vegetation. The soil cover material shall be obtained in conjunction with clearing and grubbing operations, regrading and/or drainage feature and other planned excavations and as directed and approved by the Owner. It is imperative that topsoil encountered during excavation operations shall be stockpiled and used as a general cover of the site at final grade and a soil cover for encountered coal refuse, exposed coal seams, bedrock, and buried materials at final grade elevations. Areas reaching final grade in exposed coal or coal refuse shall be undercut a minimum of 12 inches with a minimum of 12" of soil material placed over the exposed coal or refuse to the lines and grades shown on the plans. Excavation of soil cover shall be as per **Specification 8.5.2**. It is anticipated an adequate amount of soil cover will be available to cover the site. The Contractor is responsible for securing a borrow area outside the Contractor's Work Limits in the event that adequate soil material is not available on site and at no additional cost to Owner. If, during the course of construction, the need for off-site borrow areas becomes evident, the Contractor shall obtain prior approval from the Owner for such borrowing and the borrow area must comply with NEPA regulations and **Special Provision Number 7** of these specifications. The Contractor shall obtain Right-of-Entry Agreements for any soil, clay, or rock borrow areas outside the construction limits that also provide for entry by the Owner and OSM for inspection purposes, and with such agreements stating that the property owner(s) indemnifies and holds the Owner and OSM harmless from injury or damage whatsoever resulting from the use of the property.

8.5 **METHOD OF CONSTRUCTION**

8.5.1 The Contractor shall comply with all special provisions, with particular attention to **Special Provision 5 "Schedule of Work"** and **Special Provision 10 "Safety"**.

8.5.1.1 The Contractor shall maintain and protect traffic, protect the work in progress, protect adjacent property from excess dust resulting from the construction and maintain traffic through, around, or adjacent to the construction area. The Contractor shall comply with **OSHA Regulation 29CFR1926 Subpart P** for excavation of trenches associated with pipe, culvert, subsurface drains, toe drains, wet mine seal constructions, and similar constructions. The Contractor shall also protect pedestrian and vehicular traffic around excavations and trenches in compliance with the **U.S. Federal Highway Administration Manual of Uniform Traffic Control Devices** and the **WVDOT "Manual on Traffic Control for Streets and Highway"** 2006 edition, dated March 2006. In addition, the Contractor will be required to comply with all WVDOT rules, regulations, weight limits, and speed limits associated with and posted on Lewis County Routes 9 and 9/4 as well as other public roads used by the Contractor to access the project. The Contractor will be required to

coordinate his operations with landowners and provide unrestricted access to them at all times. At the discretion of the Engineer, the Contractor will be required to employ flag persons along Lewis County Routes 9 and 9/4 to direct traffic while hauling materials on and off site and other constructions. The Contractor will be required to adhere to the approved MM109 traffic control permit while installing Pipe Number One beneath Lewis County Route 9 constructing Access Road Number One, and the Proposed Temporary Access Road. The Contractor will also be required to keep Lewis County Routes 9, 9/4, Access Road Number One (as shown on the plans), and other existing access roads used during construction of the project free of fugitive dust and clean of mud and other debris from the job site deposited by construction and other vehicles entering or leaving the project area.

8.5.1.2 The Contractor's work hours for this project shall be from 7:00 a.m. to 7:00 p.m. Monday through Saturday. Work on Sunday and major holidays, as defined by the Engineer, will not be allowed on this project.

8.5.1.3 The sequence of operations shall be at the discretion of the Contractor. However, at a minimum, water shall not be allowed to enter into or pool in constructed ditches, pipes, toe drains, or subsurface drains until all components have been installed and are operational and the construction has been approved by the Owner. Work shall proceed downstream to upstream, bringing the site to grade and installing drainage control structures. The Contractor shall comply with sequence of operations outlined in **Special Provision 23 "Erosion and Sediment Control Guidelines"** in regards to controlling sediment and erosion from the project and to protect the local environment.

8.5.2 EXCAVATION

8.5.2.1 Material excavation shall consist of the required removal of materials from areas shown and the sloping and finishing of the areas to the required lines and grades depicted on the construction drawings. The slopes may be varied only by permission of the Owner. Any excavation beyond planned grades will not be paid for unless prior authorization is obtained from the Owner. 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 existing ground. Areas cut to grade in exposed coal refuse or coal shall be undercut one foot (1.0') below final grades shown on the reclamation plans with final grades achieved by placing one foot (1.0') of soil cover atop the undercut areas.

8.5.2.2 The Contractor is advised that the Pittsburgh coal seam may be encountered during excavation operations for Access Road Number One. Should the Pittsburgh coal be encountered, excavated coal shall be placed in the deepest portions of the fill areas located on the Redstone coal seam bench as shown on the plans in an area approved by the Engineer. At a minimum, **excavated** coal shall be placed beneath a minimum of 12" of onsite soil material capable of supporting vegetation. And **encountered** coal shall be undercut a minimum of 12" with onsite soil material capable of supporting vegetation placed in the excavation to bring the area to the lines and grades shown on the plans. Likewise, coal encountered at the subgrade (bottom of ditch lining elevation) of Ditch Number One and Ditch Number Two shall be undercut a minimum of 12" with onsite soil material approved by the Engineer placed in the excavation to bring the area to the subgrade of the ditches shown on the plans

8.5.2.3 The regrading depicted on the construction plans provides a balanced cut and fill earthwork construction project. Generally the material required to backfill highwalls and construct fills to the lines and grades shown on the plans is located directly adjacent to the fill area in the cast-over-the-hill mine spoil. In no instance is it necessary for the Contractor to move material from one balanced area to another balanced area without prior authorization from and the express written consent of the Engineer.

8.5.2.3 The reclamation approach described in these construction specifications and shown on the plans 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 particularly when excavating cast-over-the-hill material located directly above and adjacent to nearby homes and landowner constructions. The Contractor shall be responsible for protecting homes, businesses and their constructions from damage. 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 **Specification 6.0, "Revegetation"**.

8.5.2.4 The Contractor will be required to excavate the cast-over-the-hill mine spoil to the lines and grades shown on the plans and place the excavated material against the Redstone coal seam highwall located directly adjacent to the excavation area.

8.5.2.4.1 A baseline and cross sections are shown on the construction plans. The Contractor will be required to develop existing ground cross sections and final grade cross sections and submit

the volumetric difference to the WVDEP for payment under **Item 8.0 "Unclassified Excavation"**.

8.5.2.4.2 The Contractor will be required to excavate a trench to install a gas line service drop, as shown on the plans, upon completion of all rough/fine grading operations. Excavation/filling costs for the gas line service drop shall not be submitted for payment under **Item 8.0 "Unclassified Excavation"** but shall be included in and considered incidental to **Item 11.2 "Permanent Gas Line Relocation"**.

8.5.2.4.3 Please refer to **Specification 4.2.21**, **Specification 7.3.4.7**, and **Specification 7.3.4.7** for cautionary notes regarding excavation operations for Pipe Number One and Pipe Number Three and associated Splash Pad.

8.5.3 MATERIAL PLACEMENT

8.5.3.1 All excavated materials shall be moved and deposited as shown on the plans and detailed in these specifications. Off-site disposal areas (if necessary) shall comply with **Specification 8.3** and **Special Provision 7**. Every effort has been made to estimate quantities as accurately as possible, however, the amount of earthwork estimated is for information purposes only and the Owner in no way guarantees the quantities listed. Field adjustments to elevations, lines, and grades may be required to correctly construct this project as shown on the plans. Such adjustments shall be made by the Contractor at no additional costs to the Owner. The Owner reserves the right to increase or decrease any or all of the quantities of work or to omit any of them, as it may deem necessary.

8.5.3.2 Boulders are apparent on the surface of the Project area and may be encountered during excavation operations. Boulders to be incorporated into the fill shall be of size less than 2 feet in any dimension, segregated and not concentrated in any fill location, and shall be buried at least twelve inches (12") below finished grade.

8.5.3.3 Depositing and compacting fill in layers shall be started at the lowest point in the fill below grade, at the bottom of ravines and at the toe of the slope on side hill fills. Prior to fill placement, existing foundations for the embankment placement will be proof-rolled and approved by the Owner, with all unsuitable material, as determined by the Owner, removed.

8.5.3.4 Excavated material shall be placed in embankments in successive layers not to exceed one foot (1') 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 Owner. Each layer, before starting the next, shall be compacted.

8.5.3.5 Fill materials to be used in any area of embankment or fill placement shall be free from trash, debris, frozen soil, organic material or other foreign material. No burning refuse (defined as greater than 140° F) and/or combustible material shall be placed in fill areas. No burning refuse was observed during initial investigations.

8.5.3.6 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. Testing shall be at a frequency of 1 lot per 5,000 cubic yards placed, with 1 lot per day per fill serving as a minimum. A lot consists of five (5) compaction tests in accordance with **Specification 3.3.3**. Testing frequency and locations shall be directed and approved by the Owner.

8.5.3.7 Embankment fill material that 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 that is to be compacted. Embankment fill material that contains excess moisture shall be dried prior to compaction. Sufficient discing equipment shall be continuously available at the site and shall be used to add water or remove excess moisture from fill materials.

8.5.3.8 If in the opinion of the WVDEP the hauling equipment causes horizontal shears or slickensides, rutting, quaking, heaving, cracking, or excessive deformation where material is placed, the Contractor shall limit the type, load or travel speed of the hauling equipment on areas where the material is placed. During material placement, the Contractor shall remove from the areas of fill any material the Owner considers objectionable and shall dispose of such material and refill the area as directed and at no additional cost to the Owner. The Contractor shall select compaction equipment that will produce the specified density. Compaction equipment that produces a sealed, slick surface will not be allowed in fill areas. Should fill areas become sealed with a slick surface, the Contractor will be required to scarify the surface to a depth of four inches (4") prior to placement of the next lift.

8.5.3.9 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 Owner. If, after a prolonged rainfall, the surface of embankments is 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.

8.5.3.10 The regrading plan shall be conducted in a manner such that topsoil encountered and stockpiled shall be uniformly spread over the entire final graded area. 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 in **Specification 6.0 "Revegetation"**. 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 Owner may require that the soil cover be scarified prior to seeding if compaction is considered excessive or if rills develop. All disturbed areas will be revegetated according to **Specification 6.0, "Revegetation"**.

8.5.3.11 Coal, coal refuse, and black or dark gray shales, acidic materials, and other potentially toxic materials were not observed, but may be encountered during excavation operations. The Contractor is advised that the Pittsburgh coal seam may be encountered during excavation operations for Access Road Number One, Ditch Number One, and Ditch Number Two. Should the Pittsburgh coal be encountered, excavated coal shall be placed in the deepest portions of the fill areas located on the Redstone coal seam bench as shown on the plans in an area approved by the Engineer.

8.5.3.11.1 Areas cut to grade in exposed coal or coal refuse shall be undercut one foot (1.0') below final grades shown on the reclamation plans with final grades achieved by placing one foot (1.0') of soil cover atop the undercut areas.

8.5.3.11.2 Coal and coal refuse, black or dark gray shales, acidic material, and other on-site similar materials to be buried shall not be placed within one foot (1'), minimum, vertically of any coal seam and shall be compacted and placed beneath a cap of twelve inches (12"), minimum, of soil cover (capable of supporting vegetation) and proposed final grades depicted on the plans.

8.5.3.11.3 Should the Contractor decide to place coal, coal refuse,

black or dark gray shale, acid producing material, and other on-site similar materials above the coal pavement against the highwall, this potentially toxic material shall be compacted and entombed as shown on the plans.

8.5.3.11.3.1 First, the Contractor shall seal the existing coal pavement and coal seam located at the bottom of the highwall by placing onsite compacted clayey material to an elevation of 2.0 feet, minimum, above the top of the coal seam. The 2.0 foot elevation above the top of the coal seam shall continue across the width and length of the exposed coal pavement.

8.5.3.11.3.2 Next, the potentially toxic material may be placed in compacted 1.0 foot lifts in accordance with **Specification 8.5.3.6**.

8.5.3.11.3.3 Potentially toxic materials placed above the coal pavement may extend to 3.0 feet below the final grades depicted on the plans with a cap of three foot (3.0') of soil cover (capable of supporting vegetation) to final grade lines shown on the plans and revegetated.

8.5.3.11.4 Coal and coal refuse, black or dark gray shales, acidic material, and other on-site similar materials shall not be buried or placed beneath or within twenty five feet (25.0') of constructed or existing drainage conveyances.

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 8.0 "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, in which case

payment shall be included in **Item 8.0 “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 8.0, “Unclassified Excavation”**.

8.6.4 Excavation of materials required to place and install ditch lining materials shall not be included for payment, but shall be considered incidental to the construction of the ditch.

8.6.5 Excavation of unclassified materials for ditch, pipe, and inlet installations shall not be included for payment, but shall be included in **Specification 7.0 Drainage Structures** in the unit price bid for the drainage ditch, pipe, or inlet. Disposal of excess material from ditch, pipe, or inlet installations shall be considered incidental to and included in the unit price bid for the drainage ditch, pipe, or inlet found in **Specification 7.0 Drainage Structures**. Excavation and placement of materials for undercutting and placing compacted backfill beneath drainage ditches, pipes or inlets shall not be included for payment, but shall be included in **Specification 7.0 Drainage Structures** in the unit price bid for the drainage ditch, pipe, or inlet.

8.6.6 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

8.7.1 Payment for material excavated (cut) to achieve final grades will be paid by the unit price bid for **Item 8.0 “Unclassified Excavation”** which shall include regrading and filling of excavated materials as well as off-site disposal (if required) as shown on the plans and herein specified.

8.7.2 Soil cover shall be obtained as detailed in **Specification Section 8.4** of these **Specifications**. No separate payment shall be required unless borrow areas become necessary, in which case payment shall be included in **Item 8.0 “Unclassified Excavation”**. It is anticipated that material encountered during excavation operations shall produce sufficient suitable soil material for use as soil cover.

8.8 PAY ITEM:

Item 8.0, “Unclassified Excavation”, per cubic yard.

10.0 SUBSURFACE DRAINS

10.1 DESCRIPTION

The Contractor may be required to construct Subsurface Drains dimensioned on the plans and as located by the Owner as field conditions warrant. Materials shall conform to those listed below. The length of the 12-inch diameter pipes and associated clean-outs may vary based on the conditions encountered at the time of construction excavation and final grades that are achieved. The maximum run allowable of conveyance pipe from a mine seal, along a toe drain, or along a subsurface drain without installation of a cleanout shall be 100 feet.

10.2 MATERIALS

10.2.1 Stone. Stone for subsurface drains shall have a d_{50} of 4-inches. The non-calcareous d_{50} stone shall be durable and range in size from 3-inches minimum to 6-inches maximum diameter with no more than 10% by weight less than 3 inches and no more than 50% by weight greater than 4". The stone shall consist of non-calcareous crushed sandstone such as that commercially available from Cranesville Stone, Inc. (304) 789-6516, Stanley Industries (304) 478-2111, or Sharon Coal (304) 864-6514, or approved equal. Crushed stone shall consist of particles of clean, hard, tough, durable rock, free from adherent coating and meeting the requirements of **Section 703.1 of the WVDOH Standard Specifications**. Stone shall have a maximum weighted loss of twelve percent (12%) when subjected to five (5) cycles of the Sodium Sulfate Soundness Test – **ASTM C88 (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 exhibit a fizz of 0 when subjected to dilute hydrochloric acid. A laboratory certification of soundness and fizz shall be submitted to the Owner prior to delivery.

10.2.2 Drain pipes shall consist of custom perforated (as shown on the plans) and solid 12 inch diameter SDR35 PVC pipes and necessary 12 inch diameter connectors, bends, and caps as required to complete the installations or as deemed necessary by the Owner.

10.2.2.1 Clean-outs, if required, shall extend from the subsurface drain pipe to final grades shown on the plans and shall be spaced every 100 feet along the alignment of the drain or as shown on the plans. Inline Cleanouts shall consist of PVC SDR 35 grade 12" by 12" by 8" 45° wye fitting, solid 8" diameter pipe, two (2) each 8" 45° bends per cleanout, East Jordan Iron Works 1564 frame and cover, and 4,000 psi concrete to be placed around the frame and cover as shown on the

plans. 4,000 psi concrete shall meet the requirements of **Specification 4.1.3**.

10.2.2.2 Animal guards consisting of 3/8" stainless steel rods, nuts, and bolts as dimensioned on the plans shall be constructed and installed the same day as the pipe is placed and on the downstream end of the outlet pipe as detailed on the plans.

10.2.3 Filter Fabric used for drains shall be non-woven and as specified in **Section 715.11.4** of the WVDOT **Standard Specifications for Roads and Bridges**, Adopted 2010, for subsurface drainage such as Geotex® 401 manufactured by Advanced Drainage Systems, Inc. or approved equal.

10.2.4 The "best clayey material available" is defined as on-site material having the most clay content, highest plasticity index, and free from rocks larger than 2" in any dimension as determined by visual examination and approved by the Engineer.

10.3 METHOD OF CONSTRUCTION

10.3.1 The Contractor may be required to construct and install Subsurface Drains as dimensioned on the plans as conditions warrant during excavation operations to collect and divert encountered groundwater to constructed or existing drainage structures as designated and approved by the Owner.

10.3.1.1 Trench width for the subsurface drains shall be as indicated on the typical details provided in the plans. Trenching will involve excavation of in-place material including soil and rock.

10.3.1.2 Trenches exceeding five (5) feet in depth shall be supported in compliance with OSHA requirements. The Contractor shall adhere to **OSHA Regulation 29 CFR Part 1926** during all excavation and trenching activities. Trench bottoms shall be cleared of any loose debris and any standing water.

10.3.1.3 Prior to component placement, the trench subgrade shall be prepared in accordance with **Specification 7.3.2**. Once the trench is excavated and prepared for component placement to the satisfaction of the Owner, filter fabric meeting the requirements of **Specification 10.2.3** shall be placed in the trench bottom and along the trench side opposite the seep inflow. Sufficient fabric shall be placed to fully cover the trench bottom width, downhill side of the trench, and the trench top width to include overlap dimensions shown on the plans.

10.3.1.4 Four inches (4") of 3" to 6" stone meeting the requirements of **Specification 10.2.1** shall be installed in the trench atop the fabric.

Perforated pipes meeting the requirements of **Specification 10.2.2** shall be installed atop the 4" layer of 3" to 6" stone. A 12" diameter custom perforated end cap shall be installed on the upstream end of the piping system. If in the opinion of the Owner, 3" to 6" stone placement or pipe placement has caused displacement or damage to the underlying filter fabric or sub-base, the Contractor shall remove the pipe and 3" to 6" stone and repair the displacement or damage and/or replace the fabric and 3" to 6" stone or pipe to the satisfaction of the Owner. All costs associated with the removal of 3" to 6" stone and pipe and necessary repair work shall be borne by the Contractor and at no cost to the Owner.

- 10.3.1.5** 3" to 6" stone meeting **Specification 10.2.1** shall be installed in the trench atop the pipe to the dimensions shown on the Plans. If in the opinion of the Owner, stone placement has caused displacement or damage to the underlying sub-base, filter fabric or pipe, the Contractor shall remove the stone and repair the displacement or damage and/or replace the fabric, pipe, and stone to the satisfaction of the Owner. All costs associated with the removal of stone, pipe, and fabric and necessary repair work shall be borne by the Contractor and at no cost to the Owner.
- 10.3.1.6** After the subsurface drain thickness has been achieved, the Contractor shall wrap the filter fabric across the top of the installed stone with overlaps of 12", minimum, at every joint.
- 10.3.1.7** The Contractor will then place sufficient compacted fill material on top of the subsurface drain to elevations and grades shown on the Plans or as directed by the Owner. At a minimum, a 1.5 foot clearance shall be maintained between the top of the subsurface drain and revegetated final grades. The top six inches (6") of the drain cover shall not be compacted but shall be prepared for vegetation in accordance with **Specification 6.3**.
- 10.3.1.8** For subsurface drains longer than 100 feet, or as shown on the plans or at the direction of the Owner, the Contractor will be required to install a cleanout along the drain alignment. Cleanouts shall consist of 45° "wyes" extending from the perforated subsurface drain pipe to finished grades. The "wye" alignment shall project along the flow of the pipe so cleaning operations will be concentrated at the downstream end of any potential plug. Cleanouts shall meet the requirements of **Specification 10.2.2**, project from the subsurface drain pipe to finished grades, and as shown on the plans.
- 10.3.1.9** Perforated pipe shall end 5.0 feet, minimum, from the downstream end

of 3" to 6" stone placement. From this point to the drainage structure receiving the subsurface drain discharge, solid 12" SDR35 PVC conveyance pipe shall be installed and backfilled with the "best on-site clayey material" available in accordance with **Specification 10.2.4**. The outlet elevation of the pipe shall be 1.0 foot, minimum, above the flow line of the receiving drainage structure.

10.3.2 Animal guards conforming to **Specification 10.2.2** shall be installed on the outlet pipe the same day as the pipe is placed and as shown on the Plans.

10.4 METHOD OF MEASUREMENT

10.4.1 The method of measurement for Subsurface Drains shall be per linear foot for **Item 10.1, "Subsurface Drain"** measured along the top centerline of the installed drain for payment, which shall include all excavation, subgrade preparation, and backfilling (with stone or soil), stone, filter fabric, custom perforated 12" diameter SDR345 PVC piping and five feet (5.0') of solid 12" diameter SDR35 PVC piping extending to the end of stone placement as shown on the plans, herein specified, and as direct by the Owner. Where two Subsurface Drains intersect, the lineal footage of the intersecting Subsurface Drain shall end at the first edge encountered of the intersected Subsurface Drain to eliminate double measurements of installed components. Trench excavation, furnishing and placement of the pipe and fittings, any necessary cleanouts, compacted on-site backfill, and minor grading, including all ancillary materials and operations required to construct the subsurface drains, will not be measured, but shall be considered incidental to this construction.

10.4.2 The method of measurement for 12" diameter solid SDR35 PVC Conveyance Pipe shall be measured from the end of installed stone in the subsurface drain to the proposed outfall at the receiving drainage structure and paid at the linear foot bid for **Item 10.2 "12" Ø Solid SDR35 PVC Conveyance Pipe"**. Animal guards shall be included in and considered incidental to the unit price bid for **Item 10.2 "12" Ø Solid SDR35 PVC Conveyance Pipe"**. Costs shall include trench excavation of any and all nature, leveling stone, furnishing and placement of the pipe and fittings, compacted on-site backfill, and minor grading to blend into surrounding grades, animal guards, and all ancillary materials and operations required to construct the drain pipes, will not be measured, but shall be considered incidental to this construction. The contractor is advised the estimate of conveyance pipes may change as conditions encountered in the field dictate

10.4.3 The method of measurement for 12" Inline Cleanouts shall be paid at the unit price bid for **Item 10.3, "12" Inline Cleanouts"** installed and approved by the Engineer. The unit price bid shall include excavation, furnishing and placement of the pipe and fittings as detailed on the plans, placing and concreting the frame and

cover, compacted on-site backfill, and minor grading, including all ancillary materials or operations required to construct the cleanouts as shown on the plans and herein specified.

10.5 BASIS OF PAYMENT

Payment shall be full compensation for doing all the work as shown on the plans and herein specified to the satisfaction of the Engineer and in a workmanlike and acceptable manner, including the furnishing of all labor, materials, tools, equipment, supplies, and incidentals necessary to complete the work.

10.6 PAY ITEM

Item 10.1 "Subsurface Drain", per linear foot

Item 10.2 "12" Ø SDR35 PVC Conveyance Pipe", per linear foot

Item 10.3 "12" In Line Cleanout", per each

11.0 UTILITIES

11.1 DESCRIPTION

The Contractor will be required to work in close proximity to existing buried, on-ground, and overhead private and public utilities as shown on the plans. The locations of utilities shown on the plans are approximate and based on the best information available to the Owner. The Contractor shall be solely responsible for properly locating and identifying buried, un-buried, and overhead utilities, both private and public, shown on the plans or not, prior to commencement of work. The Contractor shall comply with all regulations pertaining to utilities in the State of West Virginia.

Dominion Hope has a service drop gas line and there is reportedly a 2" Ø gas line (unknown owner) that parallels Lewis County Route 9 through the project area. In addition, West Virginia American Water has a 6" Ø water line that also runs parallel to Lewis County Route 9 through the project area. The service drop gas line runs through the cast-over-the-hill mine spoil and will be encountered during excavation operations. The (reported) 2" Ø gas line and 6" Ø water line that parallels Lewis County Route 9 encroaches upon the excavation and installation of Pipe Number One and Pipe Number Three and associated Splash Pad.

11.2 MATERIALS

11.2.1 Materials used for utility repairs shall be as specified by the affected utility and approved by the Owner.

11.2.2 Materials required for the service drop gas line relocation are: 1 ¼" cts 0.121 wall PE 3408 plastic pipe; anodeless meter riser outlet to match meter set, inlet to match 1 ¼" service line, steel encased, two (2) pre-bent risers with plastic carrier pipe and two (2) brackets for post attachment; solid copper, yellow thermoplastic coated 12 gauge tracer wire; 6" wide yellow plastic warning tape marked "Caution Buried Gas Pipe"; approved post supports; and 4,000 psi concrete meeting the requirements of **Specification 4.1.3**.

11.2.3 Steel Pipe conduits larger than the 6" Ø water line and the 2" Ø gas line to convey the buried utilities through the Controlled Low Strength Material (CLSM) backfill for Pipe Number One. The Contractor will be required to develop and submit a plan to fabricate the installation of the larger size conduits around the existing 6" Ø water line and the 2" Ø gas line to the Engineer for approval prior to its implementation.

11.3 METHOD OF CONSTRUCTION

11.3.1 All costs associated with delays caused by utility companies shall be borne by the Contractor and at no cost to the Owner.

11.3.2 The Contractor shall assume the risks for all utilities located about his work, whether public or private or above the surface, on the surface, or below the surface of the ground. The Contractor shall be solely responsible to correctly locate all existing exposed, underground, and overhead utilities, both public and private, whether shown on the plans or not. The Contractor shall notify the utility companies likely to be effected well in advance and before beginning any work within the project sites. Likewise, the contractor will be required to obtain private utility locations from affected residents within and adjacent to the project sites.

11.3.2.1 Buried gas line utilities requiring location include the 2" (?) Ø service drop gas line running through the cast-over-the-hill mine spoil and the 2" (?) Ø gas line running parallel to Lewis County Route 9 near the installation of Pipe Number One and Pipe Number Three and associated Splash Pad. A buried gas line is also located along the access road to the log lay-down yard. This line will also need to be located by the utility and will require protective measures as outlined in **Specification 4.2.7.3** prior to crossing with heavy equipment and loaded timber trucks.

11.3.2.2 Buried water line utilities requiring location include the 6" (?) Ø water line running parallel to Lewis County Route 9 near the installation of Pipe Number One and Pipe Number Three and associated Splash Pad.

11.3.2.3 Private utilities to be located include the septic system field lines, 4" plastic HDPE lines, and 3" steel pipe located along the alignment of Pipe Number Three and associated Splash Pad and the 4" PVC line running across the alignment of the proposed temporary access road. A buried 4" PVC pipe will be crossed under low cover when constructing the proposed temporary access road. This line will also require protective measures as outlined in **Specification 4.2.17** prior to filling operations and crossing.

11.3.3 A buried 6" Ø water line owned by West Virginia American Water will be encountered and a (reported) 2" Ø gas line may be encountered during the installation of Pipe Number One and Pipe Number Three and associated Splash Pad. During initial investigations, a landowner recalled that a gas line (2"?) was installed along the east edge of Lewis County Route 9 and may be encountered during pipe/splash pad excavation operations.

11.3.3.1 The Contractor shall use extreme caution when excavating for Pipe Number One and Pipe Number Three and associated Splash Pad installations. The Contractor will be required to notify West Virginia American Water two (2) weeks in advance prior to beginning excavation operations for Pipe Number One and Pipe Number Three

and associated Splash Pad. A representative of West Virginia American Water shall be present during excavation operations to ensure their buried utility is not damaged.

- 11.3.3.2** The Contractor shall exhaust available sources to determine if the (2'') gas line exists and who owns it. If the utility owner can be found, the Contractor shall notify the owner two (2) weeks in advance prior to beginning excavation operations for Pipe Number One and Pipe Number Three and associated Splash Pad. An owner representative shall be present during excavation operations to ensure their buried utility is not damaged. If an owner cannot be determined, the Contractor shall proceed as if the line is present and use extreme caution when excavating for Pipe Number One and Pipe Number Three and associated Splash Pad installations. The contractor shall probe for the buried gas line with metal detectors and other applicable methods as the excavation for the pipe/splash pad proceeds.
- 11.3.3.3** Should the buried utilities be damaged, the Contractor shall make repairs or have repairs made to the satisfaction of the utility owner and the Engineer and bear the expense thereof and resulting damage caused thereby.
- 11.3.3.4** The location of the buried water line utility shall be determined by the utility owner upon notification from the Contractor. The Plans assume a depth and alignment for affected water lines that will require field verification. The Contractor shall determine the exact alignment and depth of the water lines and avoid the buried water lines by raising or lowering the vertical alignment of Pipe One and Pipe Number Three and associated Splash Pad to the satisfaction of the Engineer and the utility. The Contractor will be required to provide a larger diameter conduit, as approved by the Engineer, to convey the water line through the CLSM backfill area of Pipe One, so the utility will not have to disturb the backfill for future repairs. The Contractor shall develop a plan to fabricate the installation of the larger size conduit around the existing 6" water line. The plan shall be submitted to the utility owner for approval and then to the Engineer for approval prior to use.
- 11.3.3.5** The Plans assume a depth and alignment for the affected (2'') gas line that will require field verification. The Contractor shall determine the exact alignment and depth of the gas lines and avoid the buried gas line by raising or lowering the vertical alignment of Pipe One and Pipe Number Three and associated Splash Pad to the satisfaction of the Engineer and the utility (if available). The Contractor will be required to provide a larger diameter conduit, as approved by the Engineer, to convey the gas line through the backfill area so the CLSM backfill will

not have to be disturbed for future gas line repairs. The Contractor shall develop a plan to fabricate the installation of the larger size conduit around the gas line. The plan shall be submitted to the utility owner (if available) and then to the Engineer for approval prior to use.

11.3.4 The Contractor will also be required to call Miss Utility of West Virginia, Inc. (MUWV) 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. As a point of reference, the MUWV Confirmation Number for the preliminary site investigation was 1321054931. The phone number for WVMIS is (800) 245-4848, or dial 811.

11.3.5 The contractor shall be responsible for all damages and assume all expenses for direct or indirect injury caused by his work near or on any utility whether shown on the plans or existing in the field. In the event of damage to existing utilities or other facilities, the Contractor shall notify the affected utility owner(s) and the Owner immediately and make, or have made, all necessary repairs and bear the expense thereof and resulting damaged caused thereby. It shall be the responsibility of the Contractor to arrange for relocating the utility lines, where required and as directed by the Owner, 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. Prior to any utility relocation work, the Contractor shall submit a cost estimate of work to be accomplished to the Owner for approval. Utilities located within the project limits that may be affected include, but may not be limited to:

UTILITY LISTING		
Name / Address		Telephone Number
Dominion Hope (Gas) 445 West main Street Clarksburg, WV	26301	(304) 625-6460
Chesapeake Energy Corporation (Gas) 179 Chesapeake Drive, Jane Lew, WV	26378	(304) 517-1416
Consol Energy (Gas) 1 Dominion Drive, Jane Lew, WV	26378	(304) 884-7881
First Energy Corporation (Gas) 1310 Fairmont Avenue Fairmont, WV	26554	(304) 366-3000
Frontier Communications (Phone and TV) 300 Bland Street Bluefield, WV	24701	(888) 535-4421
West Virginia American Water (Water) 1600 Pennsylvania Avenue Charleston, WV	25302	(304) 353-6300

11.3.6 Dominion Hope has a service drop gas line that runs through the cast-over-the-hill mine spoil and will be encountered during excavation operations.

11.3.6.1 The Contractor will be required to obtain and follow the "Requirements for Installing or Replacing Your Gas Service" pamphlet from Dominion Hope by contacting Mr. Tim Barnes at (304) 625-6460. The pamphlet contains procedures for installing gas service lines and lists approved component manufacturers. The Contractor shall adhere to these and the pamphlet specifications.

11.3.6.2 The Contractor will be required to lay a flexible plastic gas line from the gas meter located at Baseline Station 11+48 offset 58 feet right along the lower Contractor's Work Limits to the affected home at Baseline Station 3+61 offset 200 feet right. The Contractor will be required to develop a "Temporary Gas Line Relocation Plan" (hereafter called the "Plan") and submit it to the Engineer for approval prior to relocating the existing service drop gas line running through the project area.

11.3.6.2.1 The plastic line shall meet the requirements of **Specification 11.2.2** and shall be laid on the ground, a distance of approximately 900 feet, without any drastic bends or twists. The proposed alignment shall be drawn on

a copy of the Final Design Construction Plan Sheet Number 3, inserted in the "Plan" and have the alignment approved by the Engineer prior to temporarily relocating the existing service gas line that runs through the project area.

- 11.3.6.2.2** The Contractor will be required to employ a licensed Plumber who shall be on call 24 hours a day, 7 days a week to address and repair/replace all temporary gas line relocation concerns as well as all permanent gas line relocation concerns until the permanent gas line has been installed, approved by the utility and the Engineer, and gas service has been permanently restored to the affected resident, and the line buried. The name, address, telephone number, and a copy of the Plumber's license shall be included in the "Plan".
- 11.3.6.2.3** The Plumber shall ensure all valves/pilot lights/other gas consuming fixtures valves are closed in the house prior to disconnection of the existing gas line.
- 11.3.6.2.4** The Contractor shall be required to excavate a hole 12" by 12" by 18" deep directly below the backside center of the existing gas meter located at Baseline Station 11+48 offset 58 feet right. Hand excavation will be required to ensure the existing gas line constructions are not damaged or destroyed. A 2" diameter steel pipe shall be driven into the center of the hole and project up and level with the top center of the existing gas meter. Concrete meeting the requirements of **Specification 11.2.2** shall be placed in the hole level with surrounding grades. Finish the top of the concrete so the concrete at the base of the support posts are higher than the outermost limits of the concrete and water will runoff the concrete. The Contractor will be required to install a post bracket attached to the center support post and to the existing gas line just below the existing regulator.
- 11.3.6.2.5** The Contractor shall contact Dominion Hope at (877) 587-8570 to disconnect and connect the gas line at the meter. The Contractor will be required to coordinate the laying of the temporary plastic gas line, the efforts of the Plumber, and the work to be performed by Dominion Hope so that gas service interruption to the affected home shall be limited to one (1) hour or less.

- 11.3.6.2.6** The licensed Plumber will be required to connect the temporary line at the house and ensure that all valves/pilot lights/other gas consuming fixtures valves closed out are opened and pilots lit after restoration of the gas flow.
- 11.3.6.2.7** Laying the temporary plastic gas line on the ground leaves the line vulnerable to vandalism or accidental damage by humans or from animals. The Plumber shall be available 24 hours a day, 7 days a week to repair/replace the temporary plastic gas line, if required, for as long as the line is in use. The "Plan" shall detail how the Contractor intends to inspect the line at regular intervals to ensure its integrity.
- 11.3.6.2.8** If for whatever reason a leak occurs between the meter and the house during the temporary or permanent gas line relocations up until the permanent gas line is inspected, approved by the utility and the Engineer, and buried that results in a higher than normal gas bill for the affected resident, the Contractor will be required to enter into an agreement to compensate the home owner. The agreement and compensation will require the approval of the Engineer.
- 11.3.6.2.9** The Contractor will be required to work in close proximity and beneath the alignment of the temporary installed gas line while Installing Pipe Number Three. The Contractor shall develop a plan for moving the plastic gas line around excavation and material placement operations. Moving of the plastic gas line around constructions shall be a part of the "Plan" submitted to the Engineer for approval prior to implementation.
- 11.3.6.3** The Contractor will be required to permanently relocate the service drop gas line after all excavation/filling and fine grade operations are complete.
- 11.3.6.3.1** The Contractor will be required to field survey the alignment of the existing service drop gas line as it becomes exposed in accordance with **Specification 2.3.5**.
- 11.3.6.3.2** The Contractor will be required to excavate a trench to the dimensions shown on the construction plans and along the surveyed alignment of the original right-of-way. The trench shall be 18", minimum, deep and 18" wide as shown on the plans along the entire relocation alignment. The trench

bottom shall be smooth and prepared in accordance with **Specification 7.3.2.**

11.3.6.3.3 The Contractor will be required to purchase and place 1 ¼" plastic gas line, meeting the requirements of **Specification 11.3.2**, in the trench from the gas meter located at Baseline Station 11+48 offset 58 feet right to the affected home located at Baseline Station 3+61 offset 200 feet right. In addition, the steel encased, pre-bent riser with plastic carrier pipe shall be connected to the meter end and the home end of the installed 1 ¼" plastic gas line.

11.3.6.3.4 The Contractor shall contact Dominion Hope at (877) 587-8570 to disconnect the temporary gas line and connect the permanent gas line at the meter. The Contractor will be required to coordinate the inspection of the trench and laid permanent plastic gas line, the efforts of the Plumber, and the work to be performed by Dominion Hope so that gas service interruption to the home shall be limited to one (1) hour or less. This task shall be included in the "Plan" as described in **Specification 11.3.5.2**. Dominion Hope will inspect and approve the gas line trench and disconnect the temporary gas line and connect the permanent gas line at the meter. The Contractor shall have an anodeless meter riser cut to length and post bracket available for the gas line representative to complete the connection. The Contractor shall also have sufficient tracer wire and warning tape meeting the requirements of **Specification 11.2.2** on hand.

11.3.6.3.5 The licensed Plumber will be required to connect the permanent gas line at the house and ensure that all valves/pilot lights/other gas consuming fixtures valves closed out are opened and pilots lit after reconnection of the gas flow. This task shall be included in the "Plan" as described in **Specification 11.3.5.2**.

11.3.6.3.6 After the permanent gas line has been connected and gas service restored to the affected home, the Contractor shall backfill the open trench with select onsite material meeting the requirements of **Specification 7.2.7**.

11.3.6.3.6.1 The Contractor shall use extreme caution when backfilling the gas company inspected and approved gas line. The fill shall be compacted so as not to damage the

underlying pipe and to the satisfaction of the Engineer. If in the opinion of the Owner, fill placement has caused displacement or damage to the installed gas line, the Contractor shall remove the fill and repair or replace the pipe and the damage caused thereby, including additional gas company involvement charges, reimbursing the affected resident for gas lost, all necessary components and Plumber work required to repair/replace the damaged line to the satisfaction of the gas company, affected resident, and the Engineer, and re-backfill the trench. All costs associated with the removal of damaged gas line and necessary repair work and associated costs shall be borne by the Contractor and at no cost to the Owner.

11.3.6.3.6.2 The Contractor shall place six inches (6") of fill atop the inspected and approved gas line. Tracer wire meeting the requirements of **Specification 11.2.2** shall be placed at the six inch (6") backfill level above the top and along the centerline of the installed gas line. The tracer wire shall extend from the affected home to the gas meter with sufficient wire protruding from the trench at each end above existing ground levels and wrapped around the meter and house support posts. Should the Contractor have to splice the tracer wire, the yellow thermoplastic coating shall be peeled back approximately 1" exposing the inside copper wire. The two ends shall be twisted together and the splice covered with plastic electrical tape to the satisfaction of the Utility Owner and the Engineer.

11.3.6.3.6.3 After tracer wire installation and with the approval of the Engineer, the Contractor shall continue to backfill and compact the trench to within 6" of the downhill regraded surface. The Contractor shall place the yellow plastic warning tape, meeting the requirements of **Specification 11.2.2**, along the entire trench from the affected home to the gas meter with

the labeling facing up. The tape installation and trench shall be approved by the Engineer prior to filling the trench and blending the fill into the surrounding regraded areas. The area shall then be revegetated in accordance with **Specification 6.0**.

11.4 METHOD OF MEASUREMENT

There is no method of measurement for Utilities as the Contractor will be reimbursed for actual charges invoiced by the Utility Company. In the event of damage to other existing utilities or other facilities not scheduled for relocation or crossing, the Contractor shall notify the affected utility owner(s) and the Owner immediately and make, or have made, all necessary repairs and bear the expense thereof and resulting damaged caused thereby. It shall be the responsibility of the Contractor to arrange for relocating the utility lines, where required and as directed by the Owner, 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. Prior to any utility relocation work, the Contractor shall submit a cost estimate of work to be accomplished to the Owner for approval.

11.4.1 All costs associated with meeting specifications and other requirements including plans, permits, safety requirements, etc. of the utility companies shall be included in and considered incidental to all other costs associated with this project.

11.4.2 The Contractor will be responsible for all costs associated with faulty work, rework, and affected resident reimbursement as described in these specifications. All costs associated with delays caused by utility companies or landowner shall be borne by the Contractor and at no cost to the Owner.

11.4.3 The method of measurement for the permanent service gas line relocation shall be per linear foot measured along the top of the newly installed permanent 1 ¼" service gas line at the unit price bid for **Item 11.2 "Permanent Gas Line Relocation"** installed and approved. The unit price bid shall include trench and other excavation and filling required to relocate these gas lines; purchase and installation of 1 ¼" temporary gas line; licensed Plumber employment and development of the "Temporary Gas Line Relocation Plan"; purchase and placement of the permanent 1 ¼" service gas line; tracer wire; warning tape; and other essentials necessary to disconnect/reconnect the service gas lines to the affected home and the meter as shown on the plans and herein specified. Only the permanent service gas line shall be measured and submitted for payment with all other costs considered incidental to and included in the unit price bid per linear foot for **Item 11.2 "Permanent Gas Line Relocation"**.

11.4.4 There is no method of measurement for determining the owner of the (2'") gas

line reported to be present through the installation area of Pipe Number One and Pipe Number Three and associated Splash Pad. There is no method of measurement for probing for the reported (2"?) gas line. There is no method of measurement for providing buried line protection for the gas line located along the access road to the log lay-down yard or the landowner 4" PVC pipe located along the alignment of the proposed temporary access road. All these tasks shall be included in and considered incidental to and included in the unit price bid per linear foot for **Item 4.1 "Site Preparation"**.

11.4.5 There is no method of measurement for supplying larger diameter conduits to convey buried utilities through the CLSM backfill of Pipe One or for developing and submitting a plan to fabricate the installation of the larger size conduits around the existing 6" Ø water line and the (2"?) gas line. All these tasks shall be included in and considered incidental to and included in the unit price bid per linear foot for the installation of the associated drainage facility as outlined in **Specification 7.4**.

11.4.6 There is no method of measurement for having utility representatives on hand for inspection, connecting utilities, locating utilities or other necessary tasks as all costs associated with these tasks if invoiced to the Contractor shall be directly submitted for payment in accordance with **Specification 11.3.5** for **Item 11.1 "Utilities"**.

11.5 BASIS OF PAYMENT.

Payment shall be full compensation for doing all the work herein prescribed in a workmanlike and acceptable manner, including the furnishing of all labor, materials, tools, equipment, supplies, and incidentals necessary to complete the work as specified and shown on the plans.

11.6 PAY ITEM

Item 11.1 "Utilities", "No Bid Item"

Item 11.2 "Permanent Gas Line Relocation", per linear foot

12.0 BORING LOGS



Project Name: **Camden (Hartley) Slide
Lewis County, West Virginia**

Project Number: **W13136**

BORING NO.

B-1

Elevation	Depth, feet	Sample Type	Symbol / USCS	Location: Surface El.: --	Offset:	Recovery %	RQD	Penetration Blows / 6 inches	HCSI	Moisture %	Silt and Clay %	Sand %	Liquid Limit	Plasticity Index
				<input type="checkbox"/> Split Spoon	<input type="checkbox"/> Shelby Tube									
				<input type="checkbox"/> Rock Core	<input type="checkbox"/> Bag Sample									
				MATERIAL DESCRIPTION										
				Brown and gray SILTY CLAY with rock fragments, moist, medium stiff to very stiff				2-3-3						
								6-9-9						
	5							8-22-24						
				Brown and gray CLAYSTONE , very soft to soft, weathered				44-50/3"						
								37-50/6"						
	10													
						96	33							
				COAL										
	15													
						96	26							
				Gray CLAYSTONE , soft										
	20													
						92	76							
				Gray SILTY to SANDY SHALE , medium hard										
	25													
						100	78							
				Gray CLAYSTONE , soft										
				Gray SANDSTONE , medium hard to hard, fine grained										
	30													
				Bottom of Test Boring @ 28.0 ft.										

WV DOT LOG W13136 BORING LOGS.GPJ NGELOG.GDT 8/11/13

Completion Depth: **28.0 ft.**

Date Boring Started: **7/31/13**

Date Boring Completed: **7/31/13**

Engineer/Geologist: **CEM**

Driller: **NGE**

Remarks: **Boring was noted to be dry during SPT operations. Water was noted at 4.7 ft. at boring completion.**

Depth to Water @ 24 hrs.: **--**



Project Name: **Camden (Hartley) Slide
Lewis County, West Virginia**

BORING NO.

Project Number: **W13136**

B-2

Elevation	Depth, feet	Sample Type	Symbol / USCS	Location:	Offset:	Recovery %	RQD	Penetration Blows / 6 inches	HCSI	Moisture %	Silt and Clay %	Sand %	Liquid Limit	Plasticity Index
				Surface El.: —										
				<div> <div>⊗</div> Split Spoon <div>⊗</div> Shelby Tube </div> <div> <div>■</div> Rock Core <div>ⓑ</div> Bag Sample </div>										
MATERIAL DESCRIPTION														
				TOPSOIL 0.3										
				Brown and gray SILTY CLAY , moist, soft to very stiff										
				- w/rock fragments from 5.0 ft.										
	5													
				7.5										
				Gray CLAYSTONE , very soft and weathered										
	10			- w/coal @ 10.0 ft.										
				10.7										
				Bottom of Test Boring @ 10.7 ft.										
	15													
	20													
	25													
	30													

Completion Depth: **10.7 ft.**

Date Boring Started: **7/31/13**

Date Boring Completed: **7/31/13**

Engineer/Geologist: **CEM**

Driller: **NGE**

Remarks: **Boring was noted to be dry during drilling operations and at boring completion.**

Depth to Water @ 24 hrs.: **—**

Novel Geo-Environmental

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

WV DOT LOG W13136 BORING LOGS.GPJ NGELOG.GDT 9/11/13







Project Name: **Camden (Hartley) Slide
Lewis County, West Virginia**

BORING NO.

Project Number: **W13136**

B-3

Elevation	Depth, feet	Sample Type	Symbol / USCS	Location:	Offset:	Recovery %	RQD	Penetration Blows / 6 inches	HCSI	Moisture %	Silt and Clay %	Sand %	Liquid Limit	Plasticity Index
				Surface El.: --										
				 Split Spoon	 Shelby Tube									
				 Rock Core	 Bag Sample									
MATERIAL DESCRIPTION														
				Brown SANDY CLAY with rock and coal fragments, moist, medium stiff				2-3-2						
				- FILL -	2.5									
				Brown and gray SILTY to SANDY CLAY , moist, very stiff to hard				3-8-11						
	5			- w/rock fragments (2.5 - 4.0 ft.)										
					7.5									
				Gray CLAYSTONE , soft and weathered				20-38-50/5"						
	10				10.8			22-50/4"						
				COAL		92	0							
	15				16.0	65	36							
				Gray CLAYSTONE , soft										
					19.0									
	20			Gray SILTY to SANDY SHALE , medium hard	20.0									
				Gray SANDSTONE with shale laminations, medium hard to hard, fine to medium grained	22.0	94	66							
				Gray SILTY SHALE , medium hard	23.0									
				Bottom of Test Boring @ 23.0 ft.										
	25													
	30													

Completion Depth: **23.0 ft.**

Date Boring Started: **7/31/13**

Date Boring Completed: **7/31/13**

Engineer/Geologist: **CEM**

Driller: **NGE**

Remarks: **Boring was noted to be dry during SPT operations. Water was noted at 8.0 ft. at boring completion.**

Depth to Water @ 24 hrs.: **—**

Novel Geo-Environmental

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

WV DOT LOG W13136 BORING LOGS.GPJ NGELOG.GDT 8/11/13







Project Name: **Camden (Hartley) Slide
Lewis County, West Virginia**

BORING NO.

Project Number: **W13136**

B-4

Elevation	Depth, feet	Sample Type	Symbol / USCS	Location:	Offset:	Recovery %	RQD	Penetration Blows / 6 inches	HCSI	Moisture %	Silt and Clay %	Sand %	Liquid Limit	Plasticity Index
				Surface El.: --										
				 Split Spoon	 Shelby Tube									
				 Rock Core	 Bag Sample									
MATERIAL DESCRIPTION														
				Brown SANDY CLAY with rock fragments, moist, soft to very stiff				2-2-2						
				- brown and gray from 2.5 ft.										
	5							3-3-4						
								4-6-8						
								4-5-6						
	10			- w/residual shale from 10.0 ft.										
								9-13-12						
				Gray SHALE , very soft		13.0		9-11-50/3"						
						13.8								
	15			Bottom of Test Boring @ 13.8 ft.										
	20													
	25													
	30													

Completion Depth: **13.8 ft.**

Date Boring Started: **8/1/13**

Date Boring Completed: **8/1/13**

Engineer/Geologist: **CEM**

Driller: **NGE**

Remarks: **Boring was noted to be dry during drilling operations and at boring completion.**

Depth to Water @ 24 hrs.: **--**

Novel Geo-Environmental

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.

WV DOT LOG W13136 BORING LOGS.GPJ NGELOG.GDT 8/11/13



Project Name: **Camden (Hartley) Slide
Lewis County, West Virginia**

BORING NO.

Project Number: **W13136**

B-5

Elevation	Depth, feet	Sample Type	Symbol / USCS	Location:	Offset:	Recovery %	RQD	Penetration Blows / 6 inches	HCSI	Moisture %	Silt and Clay %	Sand %	Liquid Limit	Plasticity Index
				Surface El.: ---										
				<input checked="" type="checkbox"/> Split Spoon	<input checked="" type="checkbox"/> Shelby Tube									
				<input type="checkbox"/> Rock Core	<input type="checkbox"/> Bag Sample									
MATERIAL DESCRIPTION														
				Brown SANDY CLAY with rock fragments, moist, soft to very stiff - brown and gray from 2.5 ft. - w/residual shale from 5.0 ft.				3-2-2						
								4-7-10						
								7-9-9						
								6-7-9						
								7-12-13						
					13.5			12-16-23						
				Gray CLAYSTONE , very soft and weathered	15.0									
				COAL				25-50/4"						
					17.5									
				Gray CLAYSTONE , very soft				25-25-43						
					22.5	96	75							
				Gray SILTY to SANDY SHALE , medium hard										
					26.5	95	80							
				Gray SANDSTONE , hard, fine grained	28.0									
				Gray SILTY SHALE , medium hard	29.0									
				Gray SANDSTONE with interbedded shale, medium hard to hard, fine grained		100	96							
					33.0									
				Bottom of Test Boring @ 33.0 ft.										

Completion Depth: **33.0 ft.**

Date Boring Started: **7/31/13**

Date Boring Completed: **7/31/13**

Engineer/Geologist: **CEM**

Driller: **NGE**

Remarks: **Water was first noted at a depth of 15.0 ft. during drilling operations.**

Depth to Water @ 24 hrs.: ---

Novel Geo-Environmental

The stratification lines represent approximate strata boundaries. In situations, the transition may be gradual.

WV DOT LOG W13136 BORING LOGS.GPJ NGELOG.GDT 8/11/13



Project Name: **Camden (Hartley) Slide**
Lewis County, West Virginia

Project Number: **W13136**

BORING NO.

B-6

Elevation	Depth, feet	Sample Type	Symbol / USCS	Location:	Offset:	Recovery %	RQD	Penetration Blows / 6 inches	HCSI	Moisture %	Silt and Clay %	Sand %	Liquid Limit	Plasticity Index
				Surface El.: --										
				<div> <div>⊗</div> Split Spoon <div>⊗</div> Shelby Tube </div> <div> <div>■</div> Rock Core <div>ⓑ</div> Bag Sample </div>										
				MATERIAL DESCRIPTION										
				Brown SILTY to SANDY CLAY with rock fragments, moist, medium stiff to stiff										
	5													
	10													
	15			- brown and gray from 15.0 ft.										
	20													
	21.0													
				Brown SANDY SHALE , very soft and weathered										
	25													
	30													
	30.4													
				Bottom of Test Boring @ 30.4 ft.										

WV DOT LOG W13136 BORING LOGS.GPJ NGELOG.GDT 8/11/13

Completion Depth: **30.4 ft.**
Date Boring Started: **8/1/13**
Date Boring Completed: **8/1/13**
Engineer/Geologist: **CEM**
Driller: **NGE**

Remarks: **Water was first noted at a depth of 30.0 ft. during drilling operations.**

Depth to Water @ 24 hrs.: **--**

Novel Geo-Environmental

The stratification lines represent approximate strata boundaries.
In situations, the transition may be gradual.



Project Name: **Camden (Hartley) Slide
Lewis County, West Virginia**

Project Number: **W13136**

BORING NO.

B-7

Elevation	Depth, feet	Sample Type	Symbol / USCS	Location:	Offset:	Recovery %	RQD	Penetration Blows / 6 inches	HCSI	Moisture %	Silt and Clay %	Sand %	Liquid Limit	Plasticity Index
				Surface El.: --										
				Split Spoon	Shelby Tube									
				Rock Core	Bag Sample									
MATERIAL DESCRIPTION														
				Brown and gray SANDY CLAY with rock fragments										
	5													
	10													
	15													
	20													
	21.0													
				Gray SHALE										
	25													
	28.0													
				COAL										
	30													
	30.0													
				Gray SHALE										
	35													
	40													
	40.0													
				Bottom of Test Boring @ 40.0 ft.										

Completion Depth: **40.0 ft.**
 Date Boring Started: **8/1/13**
 Date Boring Completed: **8/1/13**
 Engineer/Geologist: **CEM**
 Driller: **NGE**

Remarks: **Boring was noted to be dry during drilling operations and at boring completion.**

Depth to Water @ 24 hrs.: **--**

Novel Geo-Environmental

The stratification lines represent approximate strata boundaries.
 In situations, the transition may be gradual.

WV DOT LOG W13136 BORING LOGS.GPJ NGE LOG.GDT 8/1/13



Project Name: **Camden (Hartley) Slide**
Lewis County, West Virginia

Project Number: **W13136**

BORING NO.

B-8

Elevation	Depth, feet	Sample Type	Symbol / USCS	Location:	Offset:	Recovery %	ROD	Penetration Blows / 6 inches	HCSI	Moisture %	Silt and Clay %	Sand %	Liquid Limit	Plasticity Index
				Surface El.: --										
				<input type="checkbox"/> Split Spoon	<input type="checkbox"/> Shelby Tube									
				<input type="checkbox"/> Rock Core	<input type="checkbox"/> Bag Sample									
MATERIAL DESCRIPTION														
	5			Brown SANDY CLAY with rock fragments										
				8.0										
	10			Gray SHALE										
	15			15.0										
				Bottom of Test Boring @ 15.0 ft.										
	20													
	25													
	30													

Completion Depth: **15.0 ft.**

Date Boring Started: **8/1/13**

Date Boring Completed: **8/1/13**

Engineer/Geologist: **CEM**

Driller: **NGE**

Remarks: **Boring was noted to be dry during drilling operations and at boring completion.**

Depth to Water @ 24 hrs.: **--**

Novel Geo-Environmental

The stratification lines represent approximate strata boundaries.
 In situations, the transition may be gradual.

WV DOT LOG W13136 BORING LOGS.GPJ NGE LOG.GBT 8/11/13

Camden (Hartley) Dangerous LS

DEP17127

Contractor's Bid Sheet

Company Name: _____

Address: _____

The DEP reserves the right to request additional information and supporting documentation regarding Unit Prices, when the Unit Price appears to be unreasonable.

ITEM NO.	QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT
1.0	Lump Sum	Mobilization and Demobilization (Cannot be more than 5% of TOTAL AMOUNT BID)	\$	\$
2.0	Lump Sum	Construction Layout Stakes (Cannot be more than 3% of TOTAL AMOUNT BID)	\$	\$
3.0	Lump Sum	Quality Control (Cannot be more than 2% of TOTAL AMOUNT BID)	\$	\$
4.1	Lump Sum	Site Preparation (Cannot be more than 8% of TOTAL AMOUNT BID)	\$	\$
4.2	550 LF	Access Road Number One	\$	\$
4.3	30 TN	Incidental Stone	\$	\$
4.4	1 EA	Cable Gate	\$	\$
5.1	1 EA	Stone Construction Entrance	\$	\$
5.2	2,250 LF	Silt Fence	\$	\$
5.3	4,000 LF	Straw Wattles	\$	\$
6.0	10 AC	Revegetation (Plan View)	\$	\$
7.1	1,250 LF	Erosion Control Blanket Lined Ditch	\$	\$
7.2	1,600 LF	2.0 Ft. Deep "Vee" Shaped Grouted Riprap Ditch	\$	\$
7.3	40 LF	Splash Pad	\$	\$
7.4	58 LF	18" Ø HDPE Pipe Number One	\$	\$
7.5	27 LF	12" Ø HDPE Pipe Number Two	\$	\$
7.6	125 LF	15" Ø SDR35 PVC Pipe Number Three	\$	\$
7.7	1 EA	Pipe Number Three Inline Cleanout	\$	\$
7.8	1 EA	Drop Inlet and Grate	\$	\$
8.0	65,000 CY	Unclassified Excavation	\$	\$
10.1	500 LF	Subsurface Drain	\$	\$
10.2	50 LF	12" Ø SDR35 PVC Conveyance Pipe	\$	\$
10.3	5 EA	12" Inline Cleanout	\$	\$
11.2	925 LF	Permanent Gas Line Relocation	\$	\$
TOTAL:			\$	

Bidders Authorized Signature: _____

Date: _____