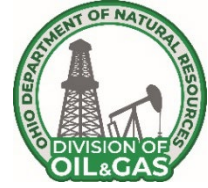




**SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Multiple Townships**



PROJECT DESCRIPTION

The Vinton #3 Project shall include the following wells:

<u>Well Name</u>	<u>API Number</u>	<u>County</u>	<u>Township</u>	<u>Ingress/Egress Latitude, Longitude</u>	<u>Wellhead Latitude Longitude</u>
T & G Wrightsel #1	34-163-6-0008-00-00	Vinton	Brown	39.342588,- 82.392594	39.342886,- 82.388290
Benedict Inc #2	34-163-2-0907-00-00	Vinton	Swan	39.345497,- 82.415438	39.334941,- 82.407115
Benedict Inc #1	34-163-2-0906-00-00	Vinton	Swan	39.348795,- 82.424185	39.349730,- 82.426785
C & G Gray #2	34-163-2-0499-00-00	Vinton	Jackson	39.303746,- 82.530102	39.303199,- 82.530503
Inez Ankrom #1	34-163-2-0493-00-00	Vinton	Jackson	39.301018,- 82.583747	39.301733,- 82.583762
Dessie Barnett #1	34-163-2-0496-00-00	Vinton	Jackson	39.293342,- 82.587844	39.294340,- 82.588211
W & W Appleman #1	34-163-2-0495-00-00	Vinton	Jackson	39.316045,- 82.603108	39.317672,- 82.611204
T & L Scanlan #1	34-163-2-0489-00-00	Vinton	Jackson	39.351935,- 82.576779	39.352553,- 82.575614
CE & R Fout #1	34-163-2-0491-00-00	Vinton	Jackson	39.352743,- 82.547406	39.352567,- 82.546604

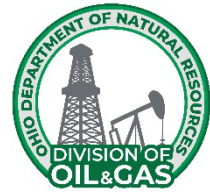
PROJECT SCOPE OF WORK:

This project includes mobilization, access and well site development, drilling or cleaning out of and plugging of these Orphan Wells, storage and disposal of all materials generated during the plugging of the wells, decommissioning, removal, storage and disposal of all casing, tubing, well and production equipment and affiliated lines and restoration of all areas disturbed during this project.

This project shall also include all labor, equipment, and material necessary to excavate, cutoff, and plate the plugged Orphan Wells that were discovered within the proximity of this project.



SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Multiple Townships



GENERAL SCOPE OF WORK

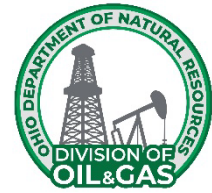
The Contractor, the Contractor's agents, representatives, and subcontractors shall perform this Plugging Project in accordance with Ohio Revised Code 1509, Ohio Administrative Code Chap. 1501:9-11 and 1501:9-12, the Agreement, and in accordance with the following documents that are attached hereto and made a part hereof:

1. Project Description;
2. General Scope of Work;
3. General Conditions;
4. General Specifications;
5. Sequence of Work;
6. Well Description;
7. Plugging Plan;
8. Detailed Specifications;
9. Appendix I – Ohio One-Call;
10. Appendix II – Well Records;
11. Quantity Sheet;
12. & Drawing Plan Set.

Subject to the Contractor's compliance with this Scope of Work, Contractor is solely responsible for and has control over all plugging and reclamation construction means, methods, manners, techniques, sequences, and procedures, for safety precautions and programs in connection with the Plugging Project, and for coordinating all portions of the Plugging Project.



**SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Multiple Townships**



GENERAL CONDITIONS

PART 1: OHIO DEPARTMENT OF TRANSPORTATION SPECIFICATIONS

This Vinton #3 Project (Project) references the Ohio Department of Transportation (ODOT) Construction and Material Specifications (ODOT CMS). Any reference to these specifications is to ODOT's most current version of the specifications. The ODOT CMS can be found at

<https://www.dot.state.oh.us/Divisions/ConstructionMgt/OnlineDocs/Pages/2023-Online-Spec-Book.aspx>

PART 2: PRE-SITE MEETING

The Contractor or Contractor's representative must attend the pre-site meeting. Failure to attend the pre-site meeting is grounds for the Division to reject the Contractor's Offer.

The Ohio Department of Natural Resources, Division of Oil & Gas Resources Management (Division) intends to begin the pre-site meeting on time. At the meeting, the Division will circulate and collect attendance sign-in forms to all contractors present. Only those contractors in attendance throughout the pre-site meeting, including the discussion of the Scope of Work, will be considered present for the pre-site meeting.

PART 3: MODIFICATIONS TO THE SCOPE OF WORK PRIOR TO AWARD

The Scope of Work may only be altered by written modification. The Division may issue an Amendment to the Scope of Work and will provide a notification of the Amendment by email to all Department of Administrative Services (DAS) pre-qualified contractors. Each contractor is responsible for logging into OhioBuys and submitting an offer that is responsive to all Amendments issued. All offers submitted prior to an amendment being issued shall become null/void and not consider in the opening. All Amendments shall become part of the Scope of Work.

Any interpretation or clarification of the Scope of Work made by any person other than the Division, or in any manner other than a written Amendment, is not binding and the Contractor cannot rely upon any such interpretation or clarification.

The Contractor cannot, at any time after the award of the Scope of Work be compensated for any issue with the Scope of Work, including alleging insufficient data, incomplete, ambiguous, conflicting, or erroneous language, or incorrectly assumed conditions regarding the nature or character of the work.

PART 4: PERMIT AND INSPECTION REQUIREMENTS

The Division will obtain and pay for all building and U.S. Army Corps of Engineers permits unless otherwise specified in the Detailed Specifications. However, the Contractor shall determine and include in his or her Offer Sheet the costs required to obtain and pay for all other requirements by the applicable governmental agencies; including but not limited to, all certificates of inspection/operation, guarantees, licenses, etc. required to complete the work as described within this document. The contractor shall follow

all applicable laws and permit requirements and the Division will not be held responsible for damages that result from violation of laws or permits.

PART 5: INSTRUCTIONS FOR PREPARING AN OFFER

A Contractor's offer must be submitted online through **OhioBuys**. (<https://procure.ohio.gov/bidders-and-suppliers>). **All offers submitted prior to an Amendment being issued shall automatically become null/void and not consider in the opening.**

Offers shall include labor, equipment, and material cost plus a proportionate share of the Contractor's overhead costs, other indirect costs, and anticipated profit. An offer must be mathematically and materially balanced. A "mathematically unbalanced offer" is an offer containing lump sum or unit price items that do not include reasonable labor, equipment, and material costs plus a reasonable proportionate share of the Contractor's overhead costs, other indirect costs, and anticipated profit. A mathematically unbalanced offer typically contains token prices (i.e. \$1 prices), front loadings, or prices with large variations from the engineer's estimate. A "materially unbalanced offer" is a mathematically unbalanced offer that will not result in the lowest ultimate cost to the Division.

During the Division's initial review of offers, if the Division finds an offer may be mathematically unbalanced, the Contractor may be required to submit proof of the mathematically unbalanced line items' proposed cost within 24 hours after notification from the Division. At a minimum, a Contractor may be required to submit copies of all material/rental quotes, intended labor costs (hours/rates), and contract agreements with subcontractors to support their offer. If the Contractor fails to submit the required proof, the Contractor's offer shall be deemed withdrawn from consideration. The Division shall evaluate the documentation and may verify quotes with vendors. After a review of the documentation, the Division will reject any offer it determines is mathematically and materially unbalanced.

A Contractor shall maintain an up-to-date schedule on file with the Division that sets forth dates by which the Contractor will plug each well that the Division previously awarded to the Contractor. A Contractor shall update their work schedule as often as necessary to maintain a current schedule with the Division. To be awarded new contracts, the Contractor must be able to complete all previously awarded work within the due dates set in each contract with the Division. Upon request, a Contractor shall provide an up-to-date schedule to the Division that reflects when all awarded work will be completed.

Please note that a Contractor's offer must be submitted online through OhioBuys.

1. Refer to the Scope of Work posted in OhioBuys with this solicitation.
2. **Only Contractors who are pre-qualified to offer this service on an existing State Contract beginning with CSP900-922 (DAS Index No. MAC110) may respond to this solicitation.** All CSP900922 Contract Terms & Conditions apply to this solicitation. No additional terms and conditions will be accepted. The Division will reject Offers from any Contractor that is not pre-qualified.
3. Completion of the grid is required and will be considered the response for evaluation. No outside or additional documentation will be considered.
4. Fixed prices will be automatically added to Contractor's proposals when shown. Contractors are not to enter pricing for fixed price items.
5. Confirm that your bid has been successfully imported into OhioBuys for all items before submitting. Incomplete bids and/or attachments will not be evaluated.
6. The most recent bid submitted in OhioBuys will be the bid that is evaluated, all prior bids submitted in the same solicitation will not be evaluated.
7. **The Contractor or Contractor's representative must attend the site meeting.** Failure to attend the site meeting is grounds for the Division to reject the Contractor's Offer.

PART 6: DIVISION'S OFFER SELECTION

Except when the Division rejects an offer, the Division will select the lowest offer submitted to the Division. The Division may reject an offer if any one of the following applies to the Contractor's offer:

- Is not submitted online through **OhioBuys**;
- Fixed reference prices and/or any other imported information is incorrectly and/or not imported into **OhioBuys**;
- Is conditional;
- Is a mathematically unbalanced offer and a materially unbalanced offer;
- Is behind schedule on other projects with the Division; or
- Is not able to schedule this project within the contract due dates.

PART 7: WITHDRAWAL OF OFFERS

At any time prior to the opening of the Offers, a Contractor may submit a written request to the Division, at the location where the Offers are received, to withdraw its offer. The request to withdraw the Offer must be signed by the person who executed the Offer.

PART 8: EFFECTIVE DATE AND TERM

The effective date of this Project is the date of the Letter to Proceed that is sent to the Contractor. The Contractor must start work at the project site within three (3) months of the end of the contract and the Contractor shall continue diligently working toward the completion of the project once work has commenced. The Project must be completed **one (1) year after the effective date** or by June 30, 2025, whichever is sooner. No work shall be permitted from **Oct. 1st through Jan. 31st** at the W&W Appleman #1, and no work shall be permitted from **Aug. 24th through Sept. 8th** at the CE&R Fout #1 site. If the Project terminates on June 30, 2025 and the Project is not completed, the Scope of Work may be renewed on the same terms if the Division sends written notice to the Contractor. Failure to complete work by the contract due dates may result in the suspension or termination of the contract and may result in the Division pursuing the Suspension and Termination and/or the Contract Remedies sections defined in the MAC 110 contract.

PART 9: TERMINATION AT WILL

The Division may terminate this Scope of Work without cause. Any payment due to the Contractor at the time of termination by the Division shall be paid to the Contractor on a pro rata basis.

PART 10: RELATIONSHIP BETWEEN COMPONENTS OF THE SCOPE OF WORK

This Scope of Work includes drawings that are duplicates of drawings on file with the Division. The Scope of Work documents are complementary. All sections of the Scope of Work are binding. The titles and headings in the Scope of Work are for reference and in no way affect the interpretation of the provisions of the Scope of Work. Further, if any part of this Scope of Work is found to be unenforceable, no such event will affect the enforceability or applicability of any other part of the Scope of Work.

If a conflict between the drawings and the specifications arises, the Contractor must notify the Division. In the event of a conflict of any provision in the Scope of Work the order of priority within the Scope of Work is as follows: Drawings, Detailed Specifications, General Specifications, Plugging Plan, and Sequence of Work.

PART 11: CONTRACTOR'S RESPONSIBILITY FOR SUBCONTRACTORS

The Contractor is responsible for the conduct of its subcontractors and for persons its subcontractors directly or indirectly employ.

PART 12: STANDARDS

If the Division identifies a "standard" by reference to manufacturer and/or model number, all offers will be evaluated to ensure that the identified standard is used. The Division will not consider an offer in which a substitution for the standard is offered. After the Letter to Proceed is issued, the Contractor may submit a written proposal for a substitution of a standard.

PART 13: SUBSTITUTIONS DURING THE PROJECT

After the Letter to Proceed is issued, the Contractor may offer substitutions for the standards set forth in the Scope of Work. The decision to allow substitution is solely within the discretion of the Division, which will consider, among other factors, availability, time of delivery, the aesthetic value of the proposed substitution, general differences in the knowledge of the product, service history, quality, efficiency, performance, and architectural, engineering, inspection, testing and administrative expenses. Any changes to the Offer price and/or Scope or Work must be memorialized by a Field Order or Change Order, as applicable. The savings in cost in allowing any substitutions during the Project will be solely to the benefit of the Division.

PART 14: QUANTITIES OF WORK

14.1 Unit Price Items

For items in the Offer that require a unit price, the quantities listed on the Offer Sheet are an approximation and are to be used only for the comparison of offers. The scheduled quantities may be increased or decreased without invalidating or altering the Offer and will be considered within the Scope of Work.

Payments for unit price items will be made to the Contractor for actual quantities of work performed and materials furnished in accordance with the Scope of Work; however, the Contractor may not exceed the unit quantities shown on the Offer Sheet without prior written approval of the Division through a Field Order. Even if the Contractor determines that additional unit priced quantities (above and beyond the original Offer Sheet quantity) are required to meet plan and/or specification dimensions, the Contractor must not exceed the Offer Sheet quantities without prior written approval of the Division. The Division will not pay for quantities above and beyond the Offer Sheet quantity without prior written approval of the Division.

14.2 Lump Sum Items

For items in the Offer Sheet that require a lump sum price, the Division will not pay for work, materials, or equipment that exceeds the amount provided by the Contractor on the Offer Sheet. The lump sum price on the Offer Sheet must include all work, materials, and equipment necessary to properly complete the Project.

14.3 Additional/Contingency Items

The contingency items set forth in the Offer Sheet are not projected as necessary to complete the Project. Rather, the contingency items will first be used when unforeseen work arises, and the

Division determines the contingency item is applicable. To be compensated for contingency items, the Contractor must have a written Field Order from the Division authorizing the contingency item in a specified quantity. Use of contingency items will not require the execution of a Change Order. The Contractor must be prepared to supply all items identified in the contingency specifications for use on this Project.

PART 15: OMISSIONS IN THE SCOPE OF WORK

If the Contractor notices an error or omission in the Scope of Work during performance of the Project, the Contractor shall immediately notify the Division of such omission or error and shall not proceed with the Project until directed by the Division. Any work performed by the Contractor prior to clarification by the Division may not be entitled to compensation.

PART 16: INTERPRETATIONS CONCERNING THE SCOPE OF WORK

During the Project, if a question arises on the Scope of Work, the labor or materials to be supplied, or costs potentially exceeding the Contractor's Offer, such questions must, prior to the work being performed, be submitted to the Division for a determination. A Division determination will be issued in writing and any work performed prior to such a determination will be performed at no cost to the Division. The Division will also begin executing a Change Order, when appropriate.

If the Division receives a written question concerning the Project, the Division will determine if the work must be performed by the Contractor at no increase in price to the Scope of Work. If so, the Division will issue a Field Order setting forth the Division's determination. Each Field Order issued must be signed by the Contractor acknowledging receipt. If the Contractor disagrees with the Division's interpretation in a Field Order, the Contractor may submit a protest by certified mail to the Chief within ten (10) days following the date of issuance of the protested Field Order. However, the Contractor must immediately proceed with the instructions given in the issued Field Order.

If, upon receipt of a written protest of a Field Order, the Division determines that the work referred to in the protest is outside the Scope of Work, the Division will not issue a Field Order and instead will issue a Change Order.

Field Orders, which are interpretations of the requirements of the Scope of Work, may be issued by the Division at any time during the performance of the work. The Contractor, at all times, is required to immediately execute the instructions of all issued Field Orders.

PART 17: CHANGES IN THE SCOPE OF WORK

17.1 The Division's Right to Require Change Orders

The Division may issue a Change Order directing the Contractor to immediately perform extra work that differs from the Scope of Work. The Contractor shall perform the work as directed. The changes in the work will consist of additions, deletions, or other revisions. When the Contractor performs the work, the Offer amount will be adjusted as described within this Scope of Work.

If the Contractor protests the issuance of the Change Order, any such protest has no bearing on any work requirements arising out of the Change Order in that the Contractor must immediately perform the work required in the Change Order so as not to delay the progress of the work at the Project.

17.2 Unauthorized Work

Only work performed under the Scope of Work or work authorized by a Field Order or a Change Order is eligible for compensation. If the Contractor performs any work or purchases any materials without an approved, applicable Field Order or Change Order, such work performed, and purchases made are within the Scope of Work at no additional cost to the Division.

17.3 Contractor's May Request Change Orders

If the Contractor determines that the Scope of Work does not address conditions at the Project, the Contractor may provide written notice to the Division of the conditions and request a Change Order. No oral communications will be acceptable as justification for a Change Order.

17.4 Determining Price of a Proposed Change Order

The following methods will be used to determine the price of a proposed Change Order:

- a. If a Change Order involves items not listed on the Offer Sheet, the Contractor must present the Division with labor and/or material price quotes for the proposed Change Order item(s). The Division may request these quotes either in unit prices or as lump sums; or
- b. If the work involved in the Change Order is not definable, the Division may request the work be performed on a time and material basis and include a maximum amount to be paid for the work. The method will be based on unit prices for both labor and materials agreed to by the Division prior to the Contractor commencing the work.

17.5 Disputes Regarding Change Order Prices

If the Contractor and the Division cannot agree on the cost of the work for a Change Order, using site-specific information including, but not limited to, Division historic public offer information, the Division will determine and set a fair price for the work and materials that are the subject of the Change Order.

PART 18: PAY ESTIMATES

18.1 General Information

Payments issued to the Contractor as the work progresses are not acceptance of any portion of the work not completed in accordance with the Scope of Work nor do such payments relieve the Contractor of liability with respect to any obligation or any expressed or implied warranties or responsibilities for faulty materials or workmanship.

18.2 Required Review by the Division

Prior to the submittal of each payment request, the Contractor and the Division must meet at the Project site to review the Project progress. The Contractor and the Division's Project Representative must mutually agree on quantity and percent of work completed for all offer items prior to submittal of each payment request. No payment request will be approved for work that has not been approved by the Division's Project Representative. Field verification of all lump sum quantities and weight slips for all unit price quantities invoiced must be submitted to the Division's Project Representative for review during the meeting.

The Contractor's payment request must be submitted to the Division via the Orphan Well Program email at OrphanWellProgram@dnr.ohio.gov. The payment request must include a form furnished by the Division along with all backup documentation. The Division will confirm in writing that the payment request is accurate.

Payment requests received by the Division containing errors or requesting amounts that cannot be approved will be returned to the Contractor. The Contractor may resubmit a payment request after correcting errors.

18.3 Documents to be Submitted for Payment

Once the Division confirms the payment request is accurate, the contractor may submit an invoice on company letterhead to Ohio Shared Services at invoices@ohio.gov. Refer to the instruction on the payment request form furnished by the Division for additional submittal details.

With each request for payment the Contractor certifies that:

- a. The request for payment is accurate as to materials and the work completed under the terms and conditions of the Scope of Work and any Change Order, as applicable, including full compliance with all labor provisions; and
- b. All subcontractors and material suppliers have been paid for the work or materials that are applicable to all previous payment requests. As certification, each request for payment, at the Division's request, may need to be accompanied with a properly executed "Waiver of Liens" from all subcontractors and material suppliers to show that all previous payments made by the Division to the Contractor have been applied to fulfill, in full, all of the Contractor's obligations reflected in prior requests for payment.

18.4 Effect of Liens on Payment Requests

All work, materials, and equipment covered by any request for payment, whether incorporated in the Project or not, will pass to the Division at the time of payment free and clear of all liens, claims, security interests and encumbrances.

If there is evidence of any lien or claim that is chargeable to the Contractor, the Division will withhold all payments due to the Contractor to secure such lien or claim. If there are any previous liens or claims after payments are made to the Contractor, the Contractor may be required to refund to the Division a sum of money equal to the sum of all monies that the Division may be compelled to pay in discharging any lien or claim as a result of the Contractor's default.

PART 19: RETAINAGE FOR FINAL STABILIZATION

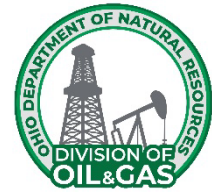
If the Scope of Work requires revegetation of disturbed area, the Division will retain five percent (5%) of the sum of (1) the Offer amount and (2) all approved Change Orders. The five percent (5%) amount retained shall be released once the Division completes a Final Stabilization Inspection and determines that vegetation has reached final stabilization. "Final stabilization" means vegetation established in a uniform perennial vegetative cover with at least a seventy percent (70%) grass cover. "Final stabilization" also means that no large barren areas exist, and the vegetation is of an equal or better condition than before the project started. The Contractor must remove all temporary erosion and sediment controls once final stabilization is achieved.

PART 20: REDUCED GAS EMISSIONS CREDITS

No one may directly or indirectly use the reduced gas emissions from wells plugged with State of Ohio funds or Infrastructure, Investment and Jobs Act funds, in whole or in part, to monetize, generate, or collect credits to include but not be limited to carbon, methane, or fugitive emissions, or otherwise use the plugging of wells funded with State of Ohio funds or with Infrastructure, Investment and Jobs Act funds to generate income of any type by offsetting their own or another party's gas emissions.



SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Multiple Townships



GENERAL SPECIFICATIONS

Unless there is a specific pay item in the Detailed Specifications, the work defined in the General Specification shall be incorporated into other items of work.

PART 1: HOURS OF WORK

The Contractor, the Contractor's agents, representatives, and subcontractors shall perform plugging projects during the days of Monday through Friday. Work will not be conducted on weekends or state/national holidays except with Division approval or during emergency situations. A workday is defined as eight (8) hours. However, additional hours may be worked with Division approval or during emergency situations.

PART 2: EQUIPMENT

The Contractor equipment shall pass all safety requirements of local, state, and federal agencies. The Ohio Department of Natural Resources, Division of Oil and Gas Resources Management reserves the right to inspect the equipment prior to the Recommendation of Award.

Unless otherwise noted, all equipment and materials required to complete the work described shall be provided by the Contractor.

PART 3: NOTIFICATIONS

3.1 Seven Working Day Notice

The Contractor, the Contractor's agents, representatives, subcontractors, or independent contractors shall contact the responsible Division Orphan Well Inspector (the "Inspector") no less than seven (7) working days prior to commencement of work. Notice may be written or oral. This notice will allow the appropriate Division staff time to mark the approved access route and any sensitive areas that need to be left undisturbed.

The Contractor, the Contractor's agents, representatives, and sub-contractors shall contact each utility company that has utilities that directly affect plugging activities at the well location(s).

3.2 Public 48 Hour Notice

Prior to initiating well plugging operations, the Contractor shall give a minimum of 48-hour notice to the local fire department. Confirmation of this notification shall also be made to the Inspector or the Division Regional Office.

3.3 Emergency Notification

When emergency conditions are encountered, such as a release of hydrogen sulfide gas (H₂S), natural gas, crude oil, condensate, or brine that threatens human health, safety or the environment, as described in Ohio Administrative Code 1501:9-08-02, the Contractor shall notify the local fire

department, the Local Emergency Planning Committee (LEPC) and call the 24/7 incident notification number: 1-844-OH-Call1 (1-844-642-2551) within 30 minutes of the occurrence.

3.4 Plugging Completion Notice

No sooner than three business days after emplacing the uppermost plug, the Division will review the well to determine if any additional plugging work shall be required at that time. If additional work is needed, a Field Order will be issued by the Division. The Field Order shall state what must be completed and what, if any, Change Orders shall be required. If additional work is not needed the contractor shall cut the casing as defined in the Plugging Plan and set the plugged well identification as outlined in these **General Specifications** and Ohio Administrative Code 1501-9-11-10.

PART 4: ACCESS AND PRESERVATION OF SITE

All costs for the adequate access to the well site for the plugging equipment shall be included in the Offer. Unless waived, placement of all tanks and equipment shall be subject to Division's approval. If requested by the Division, access roads will be chained or cabled to prevent unauthorized use.

Special attention shall be given to maintaining trees and other vegetation that have scenic value, provide shade, reduce erosion and runoff, or add to the aesthetics of the area. No trees three (3) inches or larger in diameter shall be removed without the Division's permission. Any alterations to the natural topography required to provide ingress and egress to the well site must be approved by the Division before work begins.

PART 5: DAMAGE CAUSED BY CONTRACTOR

All damage caused by the Contractor's negligence in carrying out of this scope of work to any public or private property of any nature whatsoever, including trees, shrubs, and crops, shall be corrected to Division's satisfaction at the expense of the Contractor. If crops are damaged and the Contractor, landowner, or tenant cannot reach a settlement, the County Cooperative Extension Service shall set a fair price for crop damages and the decision shall be final and binding upon all parties. All subsequent payments due the Contractor shall be withheld until the Contractor provides proof of payment of any such claim.

The Contractor shall be responsible for all costs of repairing or replacing any survey monument that is disturbed or destroyed by the Contractor. The Contractor shall utilize a professional surveyor who is licensed and registered by the State of Ohio to perform the re-establishment of said monuments according to the standards set forth by the governing body or law of said monument. For the purpose of this scope of work, the term survey monument shall apply to any property boundary marker, federal, state or county geodetic benchmark, state, or county right of way monument, FEMA benchmarks or flood elevation markers.

PART 6: SAFETY

The following safety protocols shall be completed for each well that is being plugged. The Division, at its discretion, may waive the requirement if all wells in the project are on the same lease/property.

6.1 Public Safety Coordination Meeting

The Contractor shall hold a safety meeting with the local fire department, Division Emergency Operations staff and Inspector, and other applicable contracting staff prior to commencement of plugging activities. The meeting shall review 1) the safety of the public during operations, 2) the safety of workers during operations, 3) emergency notifications of events, 4) site set up and layout, 5) general overview of operations, 6) nearest hospital's address and directions.

6.2 Daily Safety Meetings

The Contractor shall hold a daily safety meeting for all personnel on-site prior to the commencement of work. The Contractor shall provide and maintain a sign in/out sheet for all people on location. The Contractor shall immediately report any accidents and/or safety concerns to the Inspector.

6.3 Operational Standards

The Contractor shall follow the rules established by Occupational Safety and Health Administration (OSHA) Basic Construction Safety 29 CFR 1926 on all onsite project operations.

6.4 Excavation and Trenching Requirements

The Contractor shall follow the notification protocol as specified in Part 3 of the General Specifications before the start of any excavating activities. The Contractor will comply with OSHA Construction Standards for excavation and trenching under 29CFR 1926 Subpart P.

6.5 Hazardous Communications Requirements

The Contractor shall maintain Safety Data Sheets (SDS) for all chemicals stored and/or used on-site. A copy of all SDS will be supplied to the local Fire Department and to the Division.

6.6 Site Security

The Contractor shall provide and install protective barriers/fencing around the work area to prevent unauthorized access. Ingress and Egress access must be maintained at all times.

6.7 Wind Direction Indicator

The Contractor shall install a windsock in an open area of the well location where it is visible to all onsite personnel. It shall be constructed of high visibility material and deployed no less than six (6) feet above grade during the plugging operations.

6.8 Muster and Smoking Areas

The Contractor shall mark and assign a primary and a secondary muster area daily upwind of the well location. These are to be determined based on prevailing wind direction, as indicated by the windsock. The Contractor will post an emergency contact information sheet at each muster site. The Contractor will establish a safe location for a designated smoking area.

6.9 Ignition Sources and Parking Areas

The Contractor shall identify and mark all potential ignition sources within a 50-foot radius of the well. The designated parking area will be outside the 50-foot radius from the well.

6.10 Air Monitoring and Worker Safety

The Contractor shall supply and place a 4-gas monitor at the wellhead. The gas monitor must be calibrated and maintained to monitor Methane (CH₄), Oxygen (O₂), Carbon Monoxide (CO) and Hydrogen Sulfide (H₂S).

Stop work must be followed when any of the levels listed below occur:

- Methane - 1000 parts per million (PPM)/5% Lower Explosive Limit (LEL),
- Oxygen - saturation below 19.5% or above 23%,
- Carbon Monoxide – 50 PPM,
- Hydrogen Sulfide - 10 PPM.

The levels stated above are directly from the Occupational Safety and Health Administration (OSHA) and The National Institute for Occupational Safety and Health (NIOSH) and are standard for air monitoring procedures for safety and work environments. If any of the above levels are alarmed, all personnel will shut down ignition sources and report to the muster area. From the muster area, the Contractor will call 911 for assistance from the local Fire Department.

Division Emergency Operations personnel or the Inspector has the right to stop work if the actions are unsafe or the actions cause or are likely to cause danger to the workers, public, or the environment.

PART 7: MAINTENANCE OF TRAFFIC

The Contractor shall at all times install, maintain, and operate all traffic and traffic control devices in conformance with the requirements of the "Ohio Manual of Uniform Traffic Control Devices for Streets and Highways," hereinafter called The Ohio Manual.

The Contractor shall notify the appropriate public officials and the Division and shall obtain all required permits prior to any lane closure of a public road.

The Contractor shall maintain ingress/egress to all properties associated with the project at all times during the project unless agreed upon in writing by the Division and the landowner.

7.1 STREET CLEANING

The Contractor shall be required to provide street cleaning services in order to remove sediment/debris tracked from the construction site/access drive onto private or public roadways during all phases of the Project.

The Contractor shall work diligently to minimize the amount of sediment tracked onto roadway. The Contractor will conduct all construction and ingress/egress operations in conformance with Part 9: Erosion and Sediment Control of the General Specifications. Use of other erosion and sediment control measures to prevent sediment runoff during period of rains and non-working hours.

The Contractor will provide street cleaning, such as sweeping or vacuuming, at locations around the project ingress/egress where plugging operations has caused tracking of sediments onto roadways. Mechanical sweepers shall be vacuum-type or regenerative sweepers. Sweeping speed will not exceed 6 mph. A minimum of two passes shall be made. Streets must be cleaned daily before the end of the workday. If excess sediments have been tracked onto the streets or if rain is expected, the Division may direct the Contractor to clean the street as often as necessary to keep the street clean at all times.

The Contractor shall be required to remove and dispose of sediments properly. Removal of collected sediment deposits will be disposed on the project site. If sediment deposits cannot be disposed of on-site, an alternative location will be approved by the Division. No offsite disposal will be in or adjacent to a stream and/or floodplain. Sediments to be placed at the project site will

be in conjunction with site restoration and should be spread, compacted, covered, and stabilized in accordance with the site restoration line item. **Sediment will not be allowed to flush into stream or drainage way and washing or flushing of sediments into adjacent drainage systems is prohibited.** If sediment has been contaminated, it will be disposed of in accordance with the contaminated material disposal line item.

The cost of this work shall be included in Contract bid prices for items of which this work is a component.

PART 8: PROTECTION OF EXISTING UTILITIES

Before construction begins, the Contractor, acting as an agent for the Division, shall locate all utilities in the vicinity of the work. The Contractor shall be responsible for complying with the regulations pertaining to utilities in the State of Ohio. The Contractor shall assume all risk for all utilities located in the vicinity of the work, whether above or below the surface of the ground. The Contractor shall also be responsible for all damages and assume all expense for direct or indirect injury, caused by his work, to any of the utilities, or any person or property by reason of injury to them, whether such utilities are or are not shown on the drawings, once they have been uncovered by the work. **In compliance with Ohio Revised Code 3781, two working days before digging the Contractor shall contact the Ohio Utility Protection Service (OUPS) and Oil and Gas Producers Underground Protection Service (OGPUPS) using the Ohio811 one call service by calling 811 or by using the i-dig login found on the internet at OHIO811.org. The Contractor shall maintain a current OUPS/OGPUPS call ticket during the entire project.**

PART 9: EROSION AND SEDIMENT CONTROL

Temporary erosion control measures are required during the course of this project. These measures may consist of the installation of straw bale dikes, silt fence, filter socks, inlet protection structures, erosion control blankets, energy dissipation, and temporary seeding and mulching.

Once construction begins, the Contractor shall be solely responsible for all construction related to the control of off-site sedimentation. This sediment shall be removed by the Contractor at the Division's direction.

9.1 Temporary Measures

Temporary erosion control structures shown on the Drawing Plan Set, identified with these specifications, or as directed by the Division shall be placed as soon as construction starts and must be maintained during the course of the project. At the direction of the Division, the Contractor shall remove the temporary controls when they are no longer needed or when required permanent control measures have been completed.

If sediment escapes the site, accumulations must be removed at a frequency to minimize further negative effects, and whenever feasible, prior to the next rain event.

The contractor shall be responsible for revegetation of all areas in which sediment escapes the site. These areas shall be included in the final stabilization of the project and shall be at the cost of the contractor.

9.2 Maximum Exposed Areas

Stabilization measures must be initiated as soon as practicable in portions of the site where

construction activities have temporarily or permanently ceased, and except as provided below, must be initiated no more than seven (7) days after the construction activity in that portion of the site has temporarily or permanently ceased.

Where the initiation of stabilization measures by the seventh day after construction activity temporarily or permanently ceased is precluded by snow cover, or frozen ground conditions, stabilization measures must be initiated as soon as practicable.

Where construction activity on a portion of the site is temporarily ceased, and earth-disturbing activities will be resumed within fourteen (14) days, temporary stabilization measures do not have to be initiated on that portion of site.

The Division may limit the area of excavation, borrow and embankment operations in progress commensurate with the Contractor's capability and progress in keeping the finished grading, re-soiling, mulching, seeding and other such permanent control measures current in accordance with the acceptable schedule.

9.3 Winterization

When an incomplete project will be left exposed throughout the winter season, the Contractor shall furnish the Division a plan indicating the control measures to be installed and maintained until the next construction season.

If the winter period falls within the anticipated construction period of the Scope of Work and as indicated in the original approved construction schedule, control structures will be paid for by the Division at the unit prices in the Offer.

If the project is not substantially completed prior to the winter season due to the failure of the Contractor to meet the completion date, these necessary control structures will be installed and maintained by the Contractor at his expense and these items will not be paid for under the terms of the Scope of Work, except those that are permanent facilities to be left in place in accordance with the Drawing Plans Set and Specifications.

9.4 Other Controls

Off-site vehicle tracking of sediments and the generation of dust must be minimized, and any waste must be properly disposed.

9.5 Inspections

The Division Inspector shall conduct inspections to ensure that the control practices are functional and to evaluate whether the erosion and sediment control measures are adequate and properly implemented.

9.6 Enforcement

The Division shall take appropriate steps to ensure that sedimentation does not leave the project site. The Division shall require the removal of off-site sediment by the Contractor if such sediment resulted from the Contractor's negligence to place and maintain sediment control structures in accordance with the Drawing Plan Set and Specifications.

PART 10: SPILL PREVENTION AND REMEDIATION

The Contractor is expected to prevent and, if necessary, contain and remediate any spills that may occur at the site due to plugging activities. All stationary plugging equipment on well locations that are in tiled farm fields, residential neighborhoods, parks, or in/adjacent to areas determined by the Division to be environmentally sensitive, will be staged on an impermeable liner and berm. **The Contractor will have oil absorbent pads and booms available onsite during the plugging operations.**

PART 11: HYDROGEN SULFIDE

If the well that is being plugged is known to produce hydrogen sulfide (H₂S), the following considerations must be observed:

- A. The Contractor must provide the appropriate equipment, on-site, to properly detect and abate any H₂S emitted from the well. If the Contractor does not have the appropriate equipment to properly detect and abate any H₂S emitted from the well, they will utilize an appropriate party to provide these services.
- B. The Contractor will shut-in the well each night after the plugging operations have ceased, unless otherwise instructed by the Division. The Contractor will continue this process until the plugging operations are complete and there are no further signs of a gas release.

PART 12: CASING

The Division reserves the right to require the removal and or placement of any tubing, casing, or liners deemed necessary to properly plug and abandon the well. If a string of casing that would normally be pulled cannot be removed, the Contractor may be required to log the well and perforate the casing, in accordance with the Division's instructions, so that cement can be circulated behind the casing.

The Contractor shall run an operational string of casing when caving of the well prevents clean out to depth required in the scope of work.

PART 13: DEFINITIONS

13.1 Clean Out

The process in which the contractor would use a smaller diameter tubular to circulate out material from inside a larger diameter wellbore/tubular. This shall include removing mud-laden fluid, prepared clay, bridge plugs (e.g. brush and stone plugs, surface debris), and wellbore cave-in (e.g. swelling shales, red clays). Equipment needed includes, but is not limited to, tubing, a mud pump, a power swivel/power sub or a tubing swivel, a drill bit with the jets removed and/or a notched collar.

13.2 Drill Out

The process in which the contractor would use a drill string, associated fittings, and a bit to remove an obstruction from inside of the wellbore or casing. This shall include removing cement, grout, wood plugs, or other materials in which a cleanout operation failed to remove. Equipment needed includes, but is not limited to, a mud pump, power swivel/power sub, drill string (including collars and casing or tubing), cross over subs, bit sub, and drill bit.

13.3 Wash Over

A process in which the contractor would use an intermediate size working string of casing, usually equipped with a carbide coated collar on the bottom joint, to run down over the smaller well tubular and clean out the annular space between the well tubulars. This process would include utilizing a power swivel or power sub to rotate the working string of casing and a mud pump to circulate fluid down between the working string and the outside of the smaller well tubular to wash out the material in the annular space between the well tubulars. This shall include removing mud-laden fluid, prepared clay, cement, grout, field packers, and surface debris. When needed, a wash over bit shall be attached on the bottom of the larger casing to act as a cutting edge for the material on the backside of the tubular being washed over.

13.4 Milling

The process in which the contractor shall use a drill string and bit to remove a metal obstruction from inside of the wellbore or casing. Equipment needed includes, but is not limited to, a mud pump, power swivel/power sub, drill string (includes collars and casing or tubing), cross over subs, bit sub, and mill. The mill type would depend on the material encountered.

13.5 Fishing

The process in which the contractor shall use a specialized tools or fishing tool to eliminate an obstruction from inside of the wellbore or casing. Equipment needed includes, but is not limited to, a fishing tool(s) and fishing string.

13.6 Bail & Grout

The process the contractor shall use when determined that the wellbore can be bailed of all fluid, and grouted. Equipment needed includes, but is not limited to, tubing, a bailer, and a grout pump. Grout shall be gravity feed to the bottom. This can be done in one application or in stages, depending on the well depth and condition. If the well cannot be bailed completely dry the contractor shall use a siphon string/tremie tube to remove the water from the well during grout application.

PART 14: WELL OBSTRUCTION ASSESSMENT

If an obstruction is encountered in the well bore that prevents the Contractor from reaching total depth, the Contractor will attempt to identify/assess the nature of the obstruction and attempt to remove any obstruction deemed an impediment to the plugging operation. **The Contractor will supply impression blocks as part of their normal rig equipment.**

PART 15: REMOVAL OF AN OBSTRUCTION

The removal of an unknown obstruction that is encountered during the cleanout of a well may require the use of milling and/or fishing tooling and equipment. The Contractor will include the costs for these services on the appropriate line items in the contingency section of this offer unless these costs are part of a planned procedure. The Division will approve a method for the Contractor to remove the well obstruction. The Division will first utilize contingency specifications and line items to define this work. **The Division will not be responsible for milling or fishing charges that are due to Contractor negligence or Contractor equipment failure.**

PART 16: PLUGGED WELL IDENTIFICATION

In compliance with Ohio Administrative Code 1501:9-11-10, a steel plate, a minimum of ¼-inch thick, shall be tack welded on top of all plugged wells. The well's permit number and "ODNR" shall be welded on the plate in numbers/letters as large as practical. Letters shall have a minimum relief of 1/8-inch.

PART 17: TOILET FACILITIES

Where there are no readily accessible public toilet facilities, the Contractor will provide a portable field toilet on the location during plugging operations.

PART 18: COMPLETION, GUARANTEES AND WARRANTIES

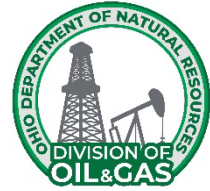
Upon completion of the work described in the Project SOW, the Contractor shall request a Project Completion Inspection be performed by the Division. The Division shall inspect the Project site(s) for completeness and acceptance against the Project SOW, and if the Division determines necessary, develop a list of incomplete and unacceptable work and conditions to be corrected by the Contractor. The Division will reinspect the Project site(s) until the Division determines all work described in the Project SOW is complete and acceptable.

The Contractor warrants (represents) that their work will be conducted in accordance with the standards described in the Project SOW (i.e., the SOW Detailed Drawings and Specifications) and that the Contractor's work be free of defects. Contractor guarantees their work and materials for a Warranty Period of one year, unless otherwise stated as a special provision of the SOW Detailed Specifications. The one-year Warranty Period commences on the date of inspection on the Project Completion Inspection form that accepted the work.

Should defects develop with the Contractor's work or materials within the Warranty Period, the Contractor shall, upon written notice of the Division, remedy the defects and any associated disturbance at their own expense. If the Contractor, after receiving the Division's notice, does not remedy the defects to the satisfaction of the Division, the Division may proceed against the Contractor as prescribed by the Department of Administrative Services (DAS), Index Number MAC110. All representations, warranties, and guarantees made in the DAS Index Number MAC110 contract and the Project SOW shall survive final payment and termination or completion of this Contract.



SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Multiple Townships



SEQUENCE OF WORK

General: Performance of all work shall be coordinated with the Division of Oil and Gas Resources Management (“Division”) Orphan Well Inspector (“Inspector”). The Sequence of Work shall be repeatable for all the project’s wells. The Sequence of Work for the Orphan Well Project shall be as follows:

Phase I:

- 1) Contact the Ohio Utility Protection Service and the Ohio Oil & Gas Producers Underground Protection Service.
- 2) Coordinate with the Orphan Well Inspector and the local authorities for the mobilization of equipment over the roads and bridges to the site as applicable.
- 3) Verify with the Orphan Well Inspector that the pre-construction staking (i.e. Construction Work Limits) has been completed by the Division. **The pre-construction staking must be completed prior to mobilization.**

Phase II:

- 1) Mobilize all necessary equipment to the site and develop the site access as shown on the **Drawing Plan Set**.
- 2) Implement site safety and secondary containment as described in the **Detailed Specifications**.
- 3) Install perimeter sediment controls as required by the Division.
- 4) Prepare the well for plugging as described in the **Detailed Specifications, “Well Head Control.”**
- 5) Upon successful installation and approval of the wellhead and establishment of well control, the Contractor shall begin to plug the well as described in the **Plugging Plan and Detailed Specifications, “Well Preparation & Plugging.”**
- 6) **No sooner than three (3) business days after placing the uppermost plug, the Division will inspect the well at surface to determine if any additional plugging work shall be required at that time. If additional work is not needed the Contractor shall cut the casing as defined in the Plugging Plan.**
- 7) The Contractor shall set the plugged well identification as outlined in the **General Specifications** and Ohio Administrative Code 1501-9-11-10.

Phase III:

- 1) Within three (3) working days after Division has determined the plugging operations are completed, the Contractor shall remove all well and well plugging-related equipment, fluids, and cuttings from the site. The Contractor shall also excavate and remove all contaminated soils present onsite if present.
- 2) Within fourteen (14) days after the completion of the plugging operations, the Contractor shall reseed as applicable, final grade, disc, fertilize, seed, and mulch all disturbed areas. **If work cannot be complete due to the season or weather conditions, the site shall be winterized per the General Specifications, Part 9 Erosion and Sediment Control and the site restoration shall be scheduled for completion.**
- 3) All reclamation shall be finished to an equal or better condition than what existed prior to construction. The Division shall give the final approval for the restoration of the site.



**SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Multiple Townships**



WELL DESCRIPTION

This Well Description is for:

T & G Wrightsel #1, 34-163-6-0008-00-00, Vinton County, Brown Township

Background: The T & G Wrightsel #1 is located on a 75.38-acre parcel (P# 0100044000) owned by T & D Properties LTD. The address is 0 State Route 328.

Division inspection of the T & G Wrightsel #1 found part of the 8-inch casing and wellhead had been separated at ground level most likely from a logging operation and casing degradation. There is an 8-inch homemade wellhead which has a side port that is equipped with a homemade swage. The wellhead is also equipped with a 3-inch swage that is reduced to a 2.38-inch T-joint. One port is equipped with a plug and the other is open. Flow lines are found in various locations.

A UPC work order was put in place to find the wellbore and casing below ground level. The contractor found the buried well and discovered two strings of casing. They welded a collar onto the 8-inch casing and attached a swage and ball valve. The inside string of casing was too degraded to get a diameter but appeared to be 7-inch. A depth meter was run into the wellbore and encountered a total depth of 1,414 feet and a fluid level around 50 feet.

Well records for the T & G Wrightsel #1 state this well was drilled in in 1919 to a total depth of 907 feet and produced from the Berea sandstone; however, a depth meter tagged total depth at 1,414 feet.

Formation data shows the following:

Formation	Top	Bottom	Remarks
Loam, shale, sandstone	0	25	
Sand & shells	25	460	
Big Injun sandstone	460	515	
Berea sandstone	904	907	
Total Depth		907	

Casing data for the T & G Wrightsel #1 show the following data:

- 8-inch diameter casing at 25 feet
- 6-inch casing at 683 feet
- 5-inch casing at 910

For the purposes of this scope of work, it is assumed that the T & G Wrightsel #1 was drilled to a total depth of 1,414 feet in the Ohio Shale and equipped with 25 feet of 8.63-inch diameter casing and 683 feet of 7-inch diameter casing.

The deepest underground source of drinking water (USDW) is mapped on the base of the Big Injun (Black Hand) Sandstone. Well records for the T & G Wrightsel #1 document the Big Injun from 460 to 515 feet

below ground surface (bgs). Based on local water well data, offset oil, and gas well records within the reviewed area, and published groundwater resources information for Vinton County, the principal aquifer is the Black Hand Sandstone and is present at greatly varying depths and yields range from 5 to 25 gallons per minute. Water well depths in this area range from 64 to 500 feet deep. There are no surface or deep mines within the area of review of the T & G Wrightsel #1.

Scope of Work: This project includes preparation of the site, plugging the orphan well, and regrading and revegetating all disturbed areas.

Designated Route: The Contractor shall utilize SR-328 to access these sites during all phases of the plugging operation.

It is the Contractor's responsibility to contact all County, Township, State and Municipal Officials having jurisdiction over all the roads that are intended to be utilized for this project. The Contractor shall provide written documentation to the Division of all road use notifications/approvals prior to mobilizing equipment to the site.



SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Multiple Townships



PLUGGING PLAN

This Plugging Plan is for:

T & G Wrightsel #1, 34-163-6-0008-00-00, Vinton County, Brown Township

For the purposes of this scope of work, it is assumed that the T & G Wrightsel #1 was drilled to a total depth of 1,414 feet in the Ohio Shale and equipped with 25 feet of 8.63-inch diameter casing and 683 feet of 7-inch diameter casing.

- 1) The Contractor will safely relieve any pressure that may be built up on this well prior to commencing plugging operations. The Contractor will give the property owner and local fire authorities a minimum of twenty-four (24) hour notice prior to blowing down the well.
- 2) The Contractor shall then install an appropriately sized and lined temporary cellar around the wellhead to capture any fluids generated during the plugging process.
- 3) The Contractor shall install an appropriate wellhead and an approved method of well control on the most appropriate casing string to insure there is control of any natural gas and/or fluids generated by the well. **The Contractor shall establish and maintain wellhead control throughout the entire plugging process** and shall maintain a minimum of 100 barrels of freshwater on location for use as well-control fluid.
- 4) The Contractor shall clean out the wellbore to its total depth of 1,414 feet or a depth approved by the division.
- 5) Once total depth has been reached, the Contractor will load the hole with freshwater and run a Gamma Ray/CCL/Bond log to verify lithology and the depth of the 7-inch diameter casing. All cement plug depths and thicknesses will be based on log data.
- 6) All cement plugs shall be set through a working string of 1.5-inch minimum inside diameter (ID) tubing using an approved cement with 2% Calcium Chloride, mixed at 15.6 pounds per gallon. **The well shall be in a static condition prior to beginning any cementing activities.** In addition, circulation must be established, and all free crude oil shall be circulated from the wellbore prior to setting any plug.
- 7) The Contractor will set a 450-foot bottom cement plug from 1,414 feet to 964 feet to cover the Ohio Shale. The Contractor will wait on cement a minimum of eight (8) hours and then run their tools into the well to verify the depth to the top of the plug. If the plug has dropped or it is determined that a competent plug has not been achieved, additional plugs may be required at the discretion of the Division.
- 8) The Contractor will set a 200-foot plug from 964 feet to 764 feet to cover the Berea Sandstone. The Contractor will wait on cement a minimum of eight (8) hours and then run their tools into the well to verify the depth to the top of the plug. If the plug has dropped or it is determined that a competent plug has not been achieved, additional plugs may be required at the discretion of the Division.

- 9) The Contractor will set a 300-foot plug from 764 feet to 464 feet to cover the bottom of the 7-inch casing. The Contractor will wait on cement a minimum of eight (8) hours and then run their tools into the well to verify the depth to the top of the plug. If the plug has dropped or it is determined that a competent plug has not been achieved, additional plugs may be required at the discretion of the Division.
- 10) The Contractor will then set a cement plug from 250 feet to within thirty (30) inches of ground level, wait on cement a minimum of eight (8) hours and top off with additional cement if necessary. Any open annular voids present at surface shall be filled with cement.
- 11) No sooner than three (3) business days after placing the uppermost plug, the Division will inspect the well at surface to determine if any additional plugging work shall be required at that time. If additional work is not needed the Contractor shall cut to a depth of 30 inches below the surface and the Contractor shall set the plugged well identification as outlined in the General Specifications and Ohio Administrative Code 1501-9-11-10.



**SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Multiple Townships**



WELL DESCRIPTION

This Well Description is for:

Benedict Inc #2, 34-163-2-0907-00-00, Vinton County, Swan Township

Background: The Benedict Inc #2 is located on a 369-acre parcel (P#14-00184.000) owned by Daniel Ervin. The address is 0 Waterloo Coal Company Road.

Division inspection of the Benedict Inc #2 found the well equipped with 4.5-inch diameter casing and 2.38-inch tubing. There is a 100 bbl tank associated with this well.

Well records for the Benedict Inc #2 state this well was drilled in in 1994 to a total depth of 4,859 feet and produced from the Beekmantown dolomite.

Formation data shows the following:

Formation	Top	Bottom	Remarks
Berea sandstone	957	994	*oil and gas
Ohio shale	994	2,034	
Big lime	2,034	2,772	
Packer shell	2,941	2,952	
Clinton sandstone	2,961	2,999	
Trenton limestone	4,253		
Black Liver group	4,344		
Gull Liver formation	4,738	4,798	
Beekmantown	4,802		*flare
Total Depth		4,865	

Casing data for the Benedict Inc #2 show the following data:

- 8.63-inch diameter casing at 1,037 feet with 255 sacks of cement
- 5.5-inch casing at 4,786 with 125 sacks of cement
- 2.38-inch tubing set to 4,786 feet

For the purposes of this scope of work, it is assumed that the Benedict Inc #2 was drilled to a total depth of 4,859 feet in the Beekmantown dolomite and is equipped with 1,037 feet of 8.63-inch diameter casing, 4,786 feet of 5.5-inch diameter casing, and 4,786 feet of 2.38-inch tubing.

The deepest underground source of drinking water (USDW) is mapped on the base of the Big Injun (Black Hand) Sandstone. Offset well records for the Benedict Inc #1 document the Big Injun from 362 to 457 feet below ground surface (bgs). Based on local water well data, offset oil, and gas well records within the reviewed area, and published groundwater resources information for Vinton County, the principal aquifer is the Black Hand Sandstone and is present at greatly varying depths and yields range from 5 to 25 gallons

per minute. Water well depths in this area range from 100 to 500 feet deep. The well location falls in an area that was previously surface mined. This mine was known as the Benedict Inc. and is currently inactive.

Scope of Work: This project includes preparation of the site, plugging the orphan well, and regrading and revegetating all disturbed areas.

Designated Route: The Contractor shall utilize Pumpkin Ridge Road to access these sites during all phases of the plugging operation.

It is the Contractor's responsibility to contact all County, Township, State and Municipal Officials having jurisdiction over all the roads that are intended to be utilized for this project. The Contractor shall provide written documentation to the Division of all road use notifications/approvals prior to mobilizing equipment to the site.



SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Multiple Townships



PLUGGING PLAN

This Plugging Plan is for:

Benedict Inc #2, 34-163-2-0907-00-00, Vinton County, Swan Township

For the purposes of this scope of work, it is assumed that the Benedict Inc #2 was drilled to a total depth of 4,859 feet in the Beekmantown dolomite and is equipped with 1,037 feet of 8.63-inch diameter casing, 4,786 feet of 5.5-inch diameter casing, and 4,786 feet of 2.38-inch tubing.

- 1) The Contractor will safely relieve any pressure that may be built up on this well prior to commencing plugging operations. The Contractor will give the property owner and local fire authorities a minimum of twenty-four (24) hour notice prior to blowing down the well.
- 2) The Contractor shall then install an appropriately sized and lined temporary cellar around the wellhead to capture any fluids generated during the plugging process.
- 3) The Contractor shall install an appropriate wellhead and an approved method of well control on the most appropriate casing string to insure there is control of any natural gas and/or fluids generated by the well. **The Contractor shall establish and maintain wellhead control throughout the entire plugging process** and shall maintain a minimum of 200 barrels of freshwater on location for use as well-control fluid.
- 4) The Contractor will remove the 2.38-inch diameter tubing and stage them on a bermed liner for further evaluation. The Contractor shall provide an accurate measurement of the amount of tubing retrieved from the wellbore.
- 5) All cement plugs shall be set through a working string of 1.5-inch minimum inside diameter (ID) tubing using an approved cement with 2% Calcium Chloride, mixed at 15.6 pounds per gallon. Circulation must be established, and all free crude oil shall be circulated from the wellbore prior to setting any plug.
- 6) The Contractor will set a 450-foot bottom cement plug from 4,859 feet to 4,409 feet to cover the Beekmantown Dolomite and the bottom of the 4.5-inch diameter casing. The Contractor will wait on cement a minimum of eight (8) hours and then run their tools into the well to verify the depth to the top of the plug. If the plug has dropped or it is determined that a competent plug has not been achieved, additional plugs may be required at the discretion of the Division.
- 7) The Contractor shall load the well bore with fresh water and run Gamma Ray, CCL, and Bond logs to determine the free point, and bond behind the 4.5-inch diameter casing and verify lithology.
- 8) The Contractor will then shoot the 4.5-inch diameter casing at the lowest free point and remove it from the wellbore. All casing removed from the well will be staged on a bermed liner for further evaluation. The Contractor will provide accurate measurements for tubing/casing retrieved from the wellbore.
- 9) The Contractor will set a 200-foot cement plug to isolate the parted 4.5-inch diameter casing.

- 10) The Contractor will set a 200-foot cement plug from 3,050 feet to 2,850 feet to cover the Clinton Sandstone. The Contractor will wait on cement a minimum of eight (8) hours and then run their tools into the well to verify the depth to the top of the plug. If the plug has dropped or it is determined that a competent plug has not been achieved, additional plugs may be required at the discretion of the Division.
- 11) The Contractor will set a 200-foot cement plug from 2,234 feet to 2,034 feet to cover the top of the Big Lime formation.
- 12) The Contractor will set a 250-foot cement plug from 1,187 feet to 937 feet to cover the bottom of the 8.63-inch diameter casing. The Contractor will wait on cement a minimum of eight (8) hours and then run their tools into the well to verify the depth to the top of the plug. If the plug has dropped or it is determined that a competent plug has not been achieved, additional plugs may be required at the discretion of the Division.
- 13) The Contractor will then set a cement plug from 200 feet to within thirty (30) inches of ground level and wait on cement a minimum of eight (8) hours and top off with additional cement if necessary. Any open annular voids present at surface shall be filled with cement.
- 14) No sooner than three (3) business days after placing the uppermost plug, the Division will inspect the well at surface to determine if any additional plugging work shall be required at that time. If additional work is not needed the Contractor shall cut to a depth of 30 inches below the surface and the Contractor shall set the plugged well identification as outlined in the General Specifications and Ohio Administrative Code 1501-9-11-10.



**SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Multiple Townships**



WELL DESCRIPTION

This Well Description is for:

Benedict Inc #1, 34-163-2-0906-00-00, Vinton County, Swan Township

Background: The Benedict Inc #1 is located on a 19.97-acre parcel (P# 14-00053.005) owned by John Burke. The address is 0 Pumpkis Ridge Road.

Division inspection of the Benedict Inc #1 found the well equipped with 8.63-inch diameter casing, 4.5-inch diameter casing, and 2.38-inch tubing.

Well records for the Benedict Inc #1 state this well was drilled in in 1994 to a total depth of 4,894 feet and produced from the Beekmantown dolomite.

Formation data shows the following:

Formation	Top	Bottom	Remarks
Berea sandstone	752		
Big lime	2,038		
Packer shell		2,778	
Clinton sandstone	2,965		
Trenton limestone	4,227		
Beekmantown	4,836		*small show of gas
Total Depth		4,894	

Casing data for the Benedict Inc #1 show the following data:

- 11.75-inc conductor set to 41 feet
- 8.63-inch diameter casing at 609 feet with 180 sacks of cement
- 4.5-inch casing at 4,887 with 125 sacks of cement

For the purposes of this scope of work, it is assumed that the Benedict Inc #1 was drilled to a total depth of 4,894 feet in the Beekmantown dolomite and is equipped with 41 feet of 11.75-inch conductor, 609 feet of 8.63-inch diameter casing, 4,887 feet of 4.5-inch diameter casing, and 2.38-inch tubing.

The deepest underground source of drinking water (USDW) is mapped on the base of the Big Injun (Black Hand) Sandstone. Offset well records for the Benedict Inc #1 document the Big Injun from 362 to 457 feet below ground surface (bgs). The majority of the water wells drilled along Pumpkin Ridge Road were drilled to the Big Injun around 450 feet. Based on local water well data, offset oil, and gas well records within the reviewed area, and published groundwater resources information for Vinton County, the principal aquifer is the Black Hand Sandstone and is present at greatly varying depths and yields range from 5 to 25 gallons per minute. Water well depths in this area range from 100 to 500 feet deep. The well location falls in an area that was previously surface mined. This mine was known as the Benedict Inc. and is currently inactive.

Scope of Work: This project includes preparation of the site, plugging the orphan well, and regrading and revegetating all disturbed areas.

Designated Route: The Contractor shall utilize Pumpkin Ridge Road to access these sites during all phases of the plugging operation.

It is the Contractor's responsibility to contact all County, Township, State and Municipal Officials having jurisdiction over all the roads that are intended to be utilized for this project. The Contractor shall provide written documentation to the Division of all road use notifications/approvals prior to mobilizing equipment to the site.



SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Multiple Townships



PLUGGING PLAN

This Plugging Plan is for:

Benedict Inc #1, 34-163-2-0906-00-00, Vinton County, Swan Township

For the purposes of this scope of work, it is assumed that the Benedict Inc #1 was drilled to a total depth of 4,894 feet in the Beekmantown dolomite and is equipped with 41 feet of 11.75-inch conductor, 609 feet of 8.63-inch diameter casing, 4,887 feet of 4.5-inch diameter casing, and 2.38-inch tubing.

- 1) The Contractor will safely relieve any pressure that may be built up on this well prior to commencing plugging operations. The Contractor will give the property owner and local fire authorities a minimum of twenty-four (24) hour notice prior to blowing down the well.
- 2) The Contractor shall then install an appropriately sized and lined temporary cellar around the wellhead to capture any fluids generated during the plugging process.
- 3) The Contractor shall install an appropriate wellhead and an approved method of well control on the most appropriate casing string to insure there is control of any natural gas and/or fluids generated by the well. **The Contractor shall establish and maintain wellhead control throughout the entire plugging process** and shall maintain a minimum of 200 barrels of freshwater on location for use as well-control fluid.
- 4) The Contractor will remove the 2.38-inch diameter tubing and stage it on a bermed liner for further evaluation. The Contractor shall provide an accurate measurement of the amount of tubing retrieved from the wellbore.
- 5) All cement plugs shall be set through a working string of 1.5-inch minimum inside diameter (ID) tubing using an approved cement with 2% Calcium Chloride, mixed at 15.6 pounds per gallon. Circulation must be established, and all free crude oil shall be circulated from the wellbore prior to setting any plug.
- 6) The Contractor will set a 450-foot bottom cement plug from 4,894 feet to 4,444 feet to cover the Beekmantown Dolomite and the bottom of the 4.5-inch diameter casing. The Contractor will wait on cement a minimum of eight (8) hours and then run their tools into the well to verify the depth to the top of the plug. If the plug has dropped or it is determined that a competent plug has not been achieved, additional plugs may be required at the discretion of the Division.
- 7) The Contractor shall load the well bore with fresh water and run Gamma Ray, CCL, and Bond logs to determine the free point, and bond behind the 4.5-inch diameter casing and verify lithology.
- 8) The Contractor will then shoot the 4.5-inch diameter casing at the lowest free point and remove it from the wellbore. All casing removed from the well will be staged on a bermed liner for further evaluation. The Contractor will provide accurate measurements for tubing/casing retrieved from the wellbore.
- 9) The Contractor will set a 200-foot cement plug to isolate the parted 4.5-inch diameter casing.

- 10) The Contractor will set a 200-foot cement plug from 3,030 feet to 2,830 feet to cover the Clinton Sandstone. The Contractor will wait on cement a minimum of eight (8) hours and then run their tools into the well to verify the depth to the top of the plug. If the plug has dropped or it is determined that a competent plug has not been achieved, additional plugs may be required at the discretion of the Division.
- 11) The Contractor will set a 200-foot cement plug from 2,238 feet to 2,038 feet to cover the top of the Big Lime formation.
- 12) The Contractor will set a 200-foot cement plug from 850 feet to 650 feet to cover the Berea Sandstone. The Contractor will wait on cement a minimum of eight (8) hours and then run their tools into the well to verify the depth to the top of the plug. If the plug has dropped or it is determined that a competent plug has not been achieved, additional plugs may be required at the discretion of the Division.
- 13) The Contractor will set a 250-foot cement plug from 650 feet to 400 feet to cover the bottom of the 8.63-inch diameter casing. The Contractor will wait on cement a minimum of eight (8) hours and then run their tools into the well to verify the depth to the top of the plug. If the plug has dropped or it is determined that a competent plug has not been achieved, additional plugs may be required at the discretion of the Division.
- 14) The Contractor will then set a cement plug from 200 feet to within thirty (30) inches of ground level and wait on cement a minimum of eight (8) hours and top off with additional cement if necessary. Any open annular voids present at surface shall be filled with cement.
- 15) No sooner than three (3) business days after placing the uppermost plug, the Division will inspect the well at surface to determine if any additional plugging work shall be required at that time. If additional work is not needed the Contractor shall cut to a depth of 30 inches below the surface and the Contractor shall set the plugged well identification as outlined in the General Specifications and Ohio Administrative Code 1501-9-11-10.



**SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Multiple Townships**



WELL DESCRIPTION

This Well Description is for:

C & G Gray #2, 34-163-2-0499-00-00, Vinton County, Jackson Township

Background: The C & G Gray #2 is located on a 10-acre parcel (P#08-00245.000) owned by Bill Marcum. The address is 30891 Goose Creek Road.

Division inspection of the C & G Gray #2 found the well equipped with 4.5-inch diameter casing, 2.38-inch tubing, and rods.

Well records for the C & G Gray #2 state this well was drilled in in 1981 to a total depth of 2,724 feet and produced from the Clinton sandstone.

Formation data shows the following:

Formation	Top	Bottom	Remarks
Berea sandstone	731	767	*Show of gas
Big lime	1,710	2,334	
Packer shell	2,555	2,566	
Clinton sandstone	2,566	2,592	*Show of gas
Total Depth		2,724	

Casing data for the C & G Gray #2 show the following data:

- 8.63-inch diameter casing at 762 feet with 175 sacks of cement
- 4.5-inch casing at 2,702 with 150 sacks of cement

For the purposes of this scope of work, it is assumed that the C & G Gray #2 was drilled to a total depth of 2,724 feet in the Clinton sandstone and equipped with 762 feet of 8.63-inch diameter casing, 2,702 feet of 4.5-inch diameter casing, and 2,576 feet of 2.38-inch tubing.

The deepest underground source of drinking water (USDW) is mapped on the base of the Big Injun (Black Hand) Sandstone. Offset well records document the Big Injun from 240 to 420 feet below ground surface (bgs). Based on local water well data, offset oil, and gas well records within the reviewed area, and published groundwater resources information for Vinton County, the principal aquifer is the Black Hand Sandstone and is present at greatly varying depths and yields range from 5 to 25 gallons per minute. Water well depths in this area range from 64 to 500 feet deep. There are no surface or deep mines within the area of review of the C & G Gray #2.

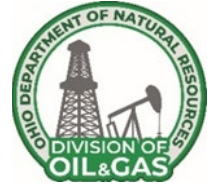
Scope of Work: This project includes preparation of the site, plugging the orphan well, and regrading and revegetating all disturbed areas.

Designated Route: The Contractor shall utilize Eggleston Road to access these sites during all phases of the plugging operation.

It is the Contractor's responsibility to contact all County, Township, State and Municipal Officials having jurisdiction over all the roads that are intended to be utilized for this project. The Contractor shall provide written documentation to the Division of all road use notifications/approvals prior to mobilizing equipment to the site.



SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Multiple Townships



PLUGGING PLAN

This Plugging Plan is for:

C & G Gray #2, 34-163-2-0499-00-00, Vinton County, Jackson Township

For the purposes of this scope of work, it is assumed that the C & G Gray #2 was drilled to a total depth of 2,724 feet in the Clinton sandstone and equipped with 762 feet of 8.63-inch diameter casing, 2,702 feet of 4.5-inch diameter casing, and 2,576 feet of 2.38-inch tubing.

- 1) The Contractor will safely relieve any pressure that may be built up on this well prior to commencing plugging operations. The Contractor will give the property owner and local fire authorities a minimum of twenty-four (24) hour notice prior to blowing down the well.
- 2) The Contractor shall then install an appropriately sized and lined temporary cellar around the wellhead to capture any fluids generated during the plugging process.
- 3) The Contractor shall install an appropriate wellhead and an approved method of well control on the most appropriate casing string to insure there is control of any natural gas and/or fluids generated by the well. **The Contractor shall establish and maintain wellhead control throughout the entire plugging process** and shall maintain a minimum of 200 barrels of freshwater on location for use as well-control fluid.
- 4) The Contractor will remove the 2.38-inch diameter tubing and rods and stage them on a bermed liner for further evaluation. The Contractor shall provide an accurate measurement of the amount of tubing retrieved from the wellbore.
- 5) All cement plugs shall be set through a working string of 1.5-inch minimum inside diameter (ID) tubing using an approved cement with 2% Calcium Chloride, mixed at 15.6 pounds per gallon. Circulation must be established, and all free crude oil shall be circulated from the wellbore prior to setting any plug.
- 6) The Contractor will set a 450-foot bottom cement plug from 2,724 feet to 2,274 feet to cover the Clinton Sandstone. The Contractor will wait on cement a minimum of eight (8) hours and then run their tools into the well to verify the depth to the top of the plug. If the plug has dropped or it is determined that a competent plug has not been achieved, additional plugs may be required at the discretion of the Division.
- 7) The Contractor shall load the well bore with fresh water and run Gamma Ray, CCL, and Bond logs to determine the free point and bond quality behind the 4.5-inch diameter casing and verify lithology.
- 8) The Contractor will then shoot the 4.5-inch diameter casing at the lowest free point and remove it from the wellbore. All casing removed from the well will be staged on a bermed liner for further evaluation. The Contractor will provide accurate measurements for tubing/casing retrieved from the wellbore.
- 9) The Contractor will set a 200-foot cement plug to isolate the parted 4.5-inch diameter casing.

- 10) The Contractor will set a 200-foot cement plug from 1,910 feet to 1,710 feet to cover the top of the Big Lime formation.
- 11) The Contractor will set a 250-foot cement plug from 912 feet to 662 feet to cover the Berea sandstone and the bottom of the 8.63-inch diameter surface casing. The Contractor will wait on cement a minimum of eight (8) hours and then run their tools into the well to verify the depth to the top of the plug. If the plug has dropped or it is determined that a competent plug has not been achieved, additional plugs may be required at the discretion of the Division.
- 12) The Contractor will then set a cement plug from 200 feet to within thirty (30) inches of ground level and wait on cement a minimum of eight (8) hours and top off with additional cement if necessary. Any open annular voids present at surface shall be filled with cement.
- 13) No sooner than three (3) business days after placing the uppermost plug, the Division will inspect the well at surface to determine if any additional plugging work shall be required at that time. If additional work is not needed the Contractor shall cut to a depth of 30 inches below the surface and the Contractor shall set the plugged well identification as outlined in the General Specifications and Ohio Administrative Code 1501-9-11-10.



**SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Multiple Townships**



WELL DESCRIPTION

This Well Description is for:

Ankrom Inez #1, 34-163-2-0493-00-00, Vinton County, Jackson Township

Background: The Ankrom Inez #1 is located on a 79-acre parcel (P08-00025.000) owned by Bart Ankrom. The address is 29871 Goose Creek Road.

Division inspection of the Ankrom Inez #1 found the well equipped with 4.5-inch diameter casing and 2.38-inch tubing and rods. The wellhead was hooked to a t-joint and valve as well as the tubing. The valves were closed during inspection.

Well records for the Ankrom Inez #1 state this well was drilled in in 1981 to a total depth of 2,454 feet in the Clinton sandstone but was subsequently plugged back to 666 feet to produce from the Berea sandstone.

Formation data shows the following:

Formation	Top	Bottom	Remarks
Berea sandstone	596	624	*(Elog) Show of oil
Big lime	1,480	2,124	
Packer shell	2,284	2,302	
Total Depth		2,454	

Casing data for the Ankrom Inez #1 show the following data:

- 8.63-inch diameter casing at 475 feet with 180 sacks of cement (Elog shows casing depth @ 487' KB)
- 4.5-inch casing at 666 feet with 45 sacks of 50/50 Poz cement

For the purposes of this scope of work, it is assumed that the Ankrom Inez #1 was drilled to a total depth of 2,454 feet in the Clinton sandstone and plugged back to 666 feet to produce from the Berea sandstone. The well is equipped with 475 feet of 8.63-inch diameter casing, 666 feet of 4.5-inch diameter casing, and 2.38-inch tubing and rods.

The deepest underground source of drinking water (USDW) is mapped on the base of the Big Injun (Black Hand) Sandstone. Well records for the Ankrom Inez #1 document the Big Injun from 460 to 515 feet below ground surface (bgs). Based on local water well data, offset oil, and gas well records within the reviewed area, and published groundwater resources information for Vinton County, the principal aquifer is the Black Hand Sandstone and is present at greatly varying depths and yields range from 5 to 25 gallons per minute. Water well depths in this area range from 64 to 500 feet deep. There are no surface or deep mines within the area of review of the Ankrom Inez #1.

Scope of Work: This project includes preparation of the site, plugging the orphan well, and regrading and revegetating all disturbed areas.

Designated Route: The Contractor shall utilize SR-328 to access these sites during all phases of the plugging operation.

It is the Contractor's responsibility to contact all County, Township, State and Municipal Officials having jurisdiction over all the roads that are intended to be utilized for this project. The Contractor shall provide written documentation to the Division of all road use notifications/approvals prior to mobilizing equipment to the site.



**SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Multiple Townships**



PLUGGING PLAN

This Plugging Plan is for:

Ankrom Inez #1, 34-163-2-0493-00-00, Vinton County, Jackson Township

For the purposes of this scope of work, it is assumed that the Ankrom Inez #1 was drilled to a total depth of 2,454 feet in the Clinton sandstone and plugged back to 666 feet to produce from the Berea sandstone. The well is equipped with 475 feet of 8.63-inch diameter casing, 666 feet of 4.5-inch diameter casing, and 2.38-inch tubing and rods.

- 1) The Contractor will safely relieve any pressure that may be built up on this well prior to commencing plugging operations. The Contractor will give the property owner and local fire authorities a minimum of twenty-four (24) hour notice prior to blowing down the well.
- 2) The Contractor shall then install an appropriately sized and lined temporary cellar around the wellhead to capture any fluids generated during the plugging process.
- 3) The Contractor shall install an appropriate wellhead and an approved method of well control on the most appropriate casing string to insure there is control of any natural gas and/or fluids generated by the well. **The Contractor shall establish and maintain wellhead control throughout the entire plugging process** and shall maintain a minimum of 200 barrels of freshwater on location for use as well-control fluid.
- 4) The Contractor will remove the 2.38-inch diameter tubing and rods and stage them on a bermed liner for further evaluation. The Contractor shall provide an accurate measurement of the amount of tubing retrieved from the wellbore.
- 5) All cement plugs shall be set through a working string of 1.5-inch minimum inside diameter (ID) tubing using an approved cement with 2% Calcium Chloride, mixed at 15.6 pounds per gallon. Circulation must be established, and all free crude oil shall be circulated from the wellbore prior to setting any plug.
- 6) The Contractor will set a 200-foot bottom cement plug from 666 feet to 466 feet to cover the Berea Sandstone and the bottom of the 8.63-inch diameter casing. The Contractor will wait on cement a minimum of eight (8) hours and then run their tools into the well to verify the depth to the top of the plug. If the plug has dropped or it is determined that a competent plug has not been achieved, additional plugs may be required at the discretion of the Division.
- 7) The Contractor will then shoot the 4.5-inch diameter casing at the lowest free point, estimated to be 450 feet, and remove it from the wellbore. All casing removed from the well will be staged on a bermed liner for further evaluation. The Contractor will provide accurate measurements for tubing/casing retrieved from the wellbore.
- 8) The Contractor will then set a cement plug from 450 feet to within thirty (30) inches of ground level and wait on cement a minimum of eight (8) hours and top off with additional cement if necessary. Any open annular voids present at surface shall be filled with cement.

- 9) No sooner than three (3) business days after placing the uppermost plug, the Division will inspect the well at surface to determine if any additional plugging work shall be required at that time. If additional work is not needed the Contractor shall cut to a depth of 30 inches below the surface and the Contractor shall set the plugged well identification as outlined in the General Specifications and Ohio Administrative Code 1501-9-11-10.



**SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Multiple Townships**



WELL DESCRIPTION

This Well Description is for:

Dessie Barnett #1, 34-163-2-0496-00-00, Vinton County, Jackson Township

Background: The Dessie Barnett #1 is located on a 10-acre parcel (P# 08-00052.000) owned by Bill Marcum. The address is 30891 Goose Creek Road.

Division inspection of the Dessie Barnett #1 found the well equipped with 4.5-inch diameter casing that was swaged up to an 8-inch wellhead with tubing extending from the well head. The tubing had a valve attached at the end which was in the closed position.

Well records for the Dessie Barnett #1 state this well was drilled in in 1981 to a total depth of 2,382 feet and produced from the Clinton sandstone.

Formation data shows the following:

Formation	Top	Bottom	Remarks
Berea sandstone	546	578	*Show of gas
Big lime	1,432	2,005	
Packer shell	2,225	2,232	
Clinton sandstone	2,242	2,248	*Show of gas
Total Depth		2,382	

Casing data for the Dessie Barnett #1 show the following data:

- 8.63-inch diameter casing at 512 feet with 175 sacks of cement
- 4.5-inch casing at 2,366 with 110 sacks of cement

For the purposes of this scope of work, it is assumed that the Dessie Barnett #1 was drilled to a total depth of 2,382 feet in the Clinton sandstone and equipped with 512 feet of 8.63-inch diameter casing, 2,366 feet of 4.5-inch diameter casing, and 2.38-inch tubing.

The deepest underground source of drinking water (USDW) is mapped on the base of the Big Injun (Black Hand) Sandstone. Well records for the Dessie Barnett #1 document the Big Injun from 460 to 515 feet below ground surface (bgs). Based on local water well data, offset oil, and gas well records within the reviewed area, and published groundwater resources information for Vinton County, the principal aquifer is the Black Hand Sandstone and is present at greatly varying depths and yields range from 5 to 25 gallons per minute. Water well depths in this area range from 64 to 500 feet deep. There are no surface or deep mines within the area of review of the Dessie Barnett #1.

Scope of Work: This project includes preparation of the site, plugging the orphan well, and regrading and revegetating all disturbed areas.

Designated Route: The Contractor shall utilize SR-328 to access these sites during all phases of the plugging operation.

It is the Contractor's responsibility to contact all County, Township, State and Municipal Officials having jurisdiction over all the roads that are intended to be utilized for this project. The Contractor shall provide written documentation to the Division of all road use notifications/approvals prior to mobilizing equipment to the site.



SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Brown, Jackson, & Swan Townships



PLUGGING PLAN

This Plugging Plan is for:

Dessie Barnett #1, 34-163-2-0496-00-00, Vinton County, Jackson Township

For the purposes of this scope of work, it is assumed that the Dessie Barnett #1 was drilled to a total depth of 2,382 feet in the Clinton sandstone and equipped with 512 feet of 8.63-inch diameter casing, 2,366 feet of 4.5-inch diameter casing, and 2.38-inch tubing.

- 1) The Contractor will safely relieve any pressure that may be built up on this well prior to commencing plugging operations. The Contractor will give the property owner and local fire authorities a minimum of twenty-four (24) hour notice prior to blowing down the well.
- 2) The Contractor shall then install an appropriately sized and lined temporary cellar around the wellhead to capture any fluids generated during the plugging process.
- 3) The Contractor shall install an appropriate wellhead and an approved method of well control on the most appropriate casing string to insure there is control of any natural gas and/or fluids generated by the well. **The Contractor shall establish and maintain wellhead control throughout the entire plugging process** and shall maintain a minimum of 200 barrels of freshwater on location for use as well-control fluid.
- 4) The Contractor will remove the 2.38-inch diameter tubing and stage it on a bermed liner for further evaluation. The Contractor shall provide an accurate measurement of the amount of tubing retrieved from the wellbore.
- 5) All cement plugs shall be set through a working string of 1.5-inch minimum inside diameter (ID) tubing using an approved cement with 2% Calcium Chloride, mixed at 15.6 pounds per gallon. Circulation must be established, and all free crude oil shall be circulated from the wellbore prior to setting any plug.
- 6) The Contractor will set a 450-foot bottom cement plug from 2,382 feet to 1,932 feet to cover the Clinton Sandstone. The Contractor will wait on cement a minimum of eight (8) hours and then run their tools into the well to verify the depth to the top of the plug. If the plug has dropped or it is determined that a competent plug has not been achieved, additional plugs may be required at the discretion of the Division.
- 7) The Contractor shall load the well bore with fresh water and run Gamma Ray, CCL, and Bond logs to determine the free point, and bond behind the 4.5-inch diameter casing and verify lithology.
- 8) The Contractor will then shoot the 4.5-inch diameter casing at the lowest free point, estimated from electric log at 2,070 feet, and remove it from the wellbore. All casing removed from the well will be staged on a bermed liner for further evaluation. The Contractor will provide accurate measurements for tubing/casing retrieved from the wellbore.
- 9) The Contractor will set a 200-foot cement plug to isolate the parted 4.5-inch diameter casing.

- 10) The Contractor will set a 200-foot cement plug from 1,632 feet to 1,432 feet to cover the top of the Big Lime formation.
- 11) The Contractor will set a 250-foot cement plug from 662 feet to 412 feet to cover the Berea sandstone and the bottom of the 8.63-inch diameter surface casing. The Contractor will wait on cement a minimum of eight (8) hours and then run their tools into the well to verify the depth to the top of the plug. If the plug has dropped or it is determined that a competent plug has not been achieved, additional plugs may be required at the discretion of the Division.
- 12) The Contractor will then set a cement plug from 200 feet to within thirty (30) inches of ground level and wait on cement a minimum of eight (8) hours and top off with additional cement if necessary. Any open annular voids present at surface shall be filled with cement.
- 13) No sooner than three (3) business days after placing the uppermost plug, the Division will inspect the well at surface to determine if any additional plugging work shall be required at that time. If additional work is not needed the Contractor shall cut to a depth of 30 inches below the surface and the Contractor shall set the plugged well identification as outlined in the General Specifications and Ohio Administrative Code 1501-9-11-10.



**SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Multiple Townships**



WELL DESCRIPTION

This Well Description is for:

W & W Appleman #1, 34-163-2-0495-00-00, Vinton County, Jackson Township

Background: The W & W Appleman #1 is located on a 44.44-acre parcel (08-00164.000) owned by Richard and Barbara Harwood Trustees. The address is 14660 Long Run Road.

Division inspection of the W & W Appleman #1 found the well equipped with 8.63-inch diameter casing and 2.38-inch tubing. The 8-inch casing was equipped with a swage and two-port tubing head. The two ports and the top of the tubing all had bull plugs.

Well records for the W & W Appleman #1 state this well was drilled in in 1981 to a total depth of 2,587 feet in the Clinton sandstone. Inspector casing records state the well was plugged back to the Big lime at 2,350 feet and the completion report states the well was plugged back to 846 feet and produced from the Berea sandstone through casing. There are no cement records to verify the well was plugged back to 846 feet.

Formation data shows the following:

Formation	Top	Bottom	Remarks
Berea sandstone	782	804	*Show of gas
Total Depth		2,587	

Casing data for the W & W Appleman #1 show the following data:

- 8.63-inch diameter casing set at 846 feet with 200 sacks of cement
- Berea was perfered from 782 to 804 feet.

For the purposes of this scope of work, it is assumed that the W & W Appleman #1 was drilled to a total depth of 2,587 feet in the Clinton sandstone and subsequently plugged back to 2,350 feet in the Big Lime and produced from the Berea Sandstone at 782 feet. The well is equipped with 846 feet of 8.63-inch diameter casing and 2.38-inch tubing.

The deepest underground source of drinking water (USDW) is mapped on the base of the Big Injun (Black Hand) Sandstone. Well records for the W & W Appleman #1 document the Big Injun from 460 to 515 feet below ground surface (bgs). Based on local water well data, offset oil, and gas well records within the reviewed area, and published groundwater resources information for Vinton County, the principal aquifer is the Black Hand Sandstone and is present at greatly varying depths and yields range from 5 to 25 gallons per minute. Water well depths in this area range from 44 to 420 feet deep. There are no surface or deep mines within the area of review of the W & W Appleman #1.

Scope of Work: This project includes preparation of the site, plugging the orphan well, and regrading and revegetating all disturbed areas.

Designated Route: The Contractor shall utilize SR-328 to access these sites during all phases of the plugging operation.

It is the Contractor's responsibility to contact all County, Township, State and Municipal Officials having jurisdiction over all the roads that are intended to be utilized for this project. The Contractor shall provide written documentation to the Division of all road use notifications/approvals prior to mobilizing equipment to the site.



**SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Multiple Townships**



PLUGGING PLAN

This Plugging Plan is for:

W & W Appleman #1, 34-163-2-0495-00-00, Vinton County, Jackson Township

For the purposes of this scope of work, it is assumed that the W & W Appleman #1 was drilled to a total depth of 2,587 feet in the Clinton sandstone and subsequently plugged back to 2,350 feet in the Big Lime and produced from the Berea Sandstone at 782 feet. The well is equipped with 846 feet of 8.63-inch diameter casing and 2.38-inch tubing.

- 1) The Contractor will safely relieve any pressure that may be built up on this well prior to commencing plugging operations. The Contractor will give the property owner and local fire authorities a minimum of twenty-four (24) hour notice prior to blowing down the well.
- 2) The Contractor shall then install an appropriately sized and lined temporary cellar around the wellhead to capture any fluids generated during the plugging process.
- 3) The Contractor shall install an appropriate wellhead and an approved method of well control on the most appropriate casing string to insure there is control of any natural gas and/or fluids generated by the well. **The Contractor shall establish and maintain wellhead control throughout the entire plugging process** and shall maintain a minimum of 200 barrels of freshwater on location for use as well-control fluid.
- 4) The Contractor will remove the 2.38-inch diameter tubing and stage them on a bermed liner for further evaluation. The Contractor shall provide an accurate measurement of the amount of tubing retrieved from the wellbore.
- 5) All cement plugs shall be set through a working string of 1.5-inch minimum inside diameter (ID) tubing using an approved cement with 2% Calcium Chloride, mixed at 15.6 pounds per gallon. Circulation must be established, and all free crude oil shall be circulated from the wellbore prior to setting any plug.
- 6) The Contractor will set a 450-foot bottom cement plug from 2,350 feet to 1,900 feet to cover the Big Lime. The Contractor will wait on cement a minimum of eight (8) hours and then run their tools into the well to verify the depth to the top of the plug. If the plug has dropped or it is determined that a competent plug has not been achieved, additional plugs may be required at the discretion of the Division.
- 7) The Contractor will set a 250-foot cement plug from 1,000 feet to 750 feet to cover the bottom of the 8.63-inch diameter surface casing. The Contractor will wait on cement a minimum of eight (8) hours and then run their tools into the well to verify the depth to the top of the plug. If the plug has dropped or it is determined that a competent plug has not been achieved, additional plugs may be required at the discretion of the Division.

- 8) The Contractor will then set a cement plug from 200 feet to within thirty (30) inches of ground level and wait on cement a minimum of eight (8) hours and top off with additional cement if necessary. Any open annular voids present at surface shall be filled with cement.
- 9) No sooner than three (3) business days after placing the uppermost plug, the Division will inspect the well at surface to determine if any additional plugging work shall be required at that time. If additional work is not needed the Contractor shall cut to a depth of 30 inches below the surface and the Contractor shall set the plugged well identification as outlined in the General Specifications and Ohio Administrative Code 1501-9-11-10.



**SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Multiple Townships**



WELL DESCRIPTION

This Well Description is for:

T & L Scanlan #1, 34-163-2-0489-00-00, Vinton County, Jackson Township

Background: The T & L Scanlan #1 is located on a 53-acre parcel (P# 08-00018.000) owned by Debbie Scanlan. The address is 26406 Goose Creek Road.

Division inspection of the T & L Scanlan #1 found the well equipped with 4.5-inch diameter casing and 2.38-inch tubing with a tubing head and ball valve. The well was shut in during inspection.

Well records for the T & L Scanlan #1 state this well was drilled in in 1981 to a total depth of 2,764 feet and produced from the Clinton sandstone.

Formation data shows the following:

Formation	Top	Bottom	Remarks
Berea sandstone	891	928	*Show of oil
Big lime	1,758	2,442	
Little lime	2,570	2,580	
Packer shell	2,592	2,599	
Clinton sandstone	2,605	2,623	*Show of gas
Total Depth		2,764	

Casing data for the T & L Scanlan #1 show the following data:

- 8.63-inch diameter casing at 634 feet with 150 sacks of cement
- 4.5-inch casing at 2,756 with 90 sacks of cement

For the purposes of this scope of work, it is assumed that the T & L Scanlan #1 was drilled to a total depth of 2,744 feet in the Clinton sandstone and equipped with 634 feet of 8.63-inch diameter casing and 2,756 feet of 4.5-inch diameter casing and 2.38-inch tubing.

The deepest underground source of drinking water (USDW) is mapped on the base of the Big Injun (Black Hand) Sandstone. Well records for the T & L Scanlan #1 document the Big Injun from 460 to 515 feet below ground surface (bgs). Based on local water well data, offset oil, and gas well records within the reviewed area, and published groundwater resources information for Vinton County, the principal aquifer is the Black Hand Sandstone and is present at greatly varying depths and yields range from 5 to 25 gallons per minute. Water well depths in this area range from 64 to 500 feet deep. There are no surface or deep mines within the area of review of the T & L Scanlan #1.

Scope of Work: This project includes preparation of the site, plugging the orphan well, and regrading and revegetating all disturbed areas.

Designated Route: The Contractor shall utilize SR-328 to access these sites during all phases of the plugging operation.

It is the Contractor's responsibility to contact all County, Township, State and Municipal Officials having jurisdiction over all the roads that are intended to be utilized for this project. The Contractor shall provide written documentation to the Division of all road use notifications/approvals prior to mobilizing equipment to the site.



**SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Multiple Townships**



PLUGGING PLAN

This Plugging Plan is for:

T & L Scanlan #1, 34-163-2-0489-00-00, Vinton County, Jackson Township

For the purposes of this scope of work, it is assumed that the T & L Scanlan #1 was drilled to a total depth of 2,764 feet in the Clinton sandstone and equipped with 634 feet of 8.63-inch diameter casing and 2,756 feet of 4.5-inch diameter casing and 2.38-inch tubing.

- 1) The Contractor will safely relieve any pressure that may be built up on this well prior to commencing plugging operations. The Contractor will give the property owner and local fire authorities a minimum of twenty-four (24) hour notice prior to blowing down the well.
- 2) The Contractor shall then install an appropriately sized and lined temporary cellar around the wellhead to capture any fluids generated during the plugging process.
- 3) The Contractor shall install an appropriate wellhead and an approved method of well control on the most appropriate casing string to insure there is control of any natural gas and/or fluids generated by the well. **The Contractor shall establish and maintain wellhead control throughout the entire plugging process** and shall maintain a minimum of 200 barrels of freshwater on location for use as well-control fluid.
- 4) The Contractor will remove the 2.38-inch diameter tubing and stage it on a bermed liner for further evaluation. The Contractor shall provide an accurate measurement of the amount of tubing retrieved from the wellbore.
- 5) All cement plugs shall be set through a working string of 1.5-inch minimum inside diameter (ID) tubing using an approved cement with 2% Calcium Chloride, mixed at 15.6 pounds per gallon. Circulation must be established, and all free crude oil shall be circulated from the wellbore prior to setting any plug.
- 6) The Contractor will set a 450-foot bottom cement plug from 2,764 feet to 2,314 feet to cover the Clinton Sandstone. The Contractor will wait on cement a minimum of eight (8) hours and then run their tools into the well to verify the depth to the top of the plug. If the plug has dropped or it is determined that a competent plug has not been achieved, additional plugs may be required at the discretion of the Division.
- 7) The Contractor shall load the well bore with fresh water and run Gamma Ray, CCL, and Bond logs to determine the free point, and bond behind the 4.5-inch diameter casing and verify lithology.
- 8) The Contractor will then shoot the 4.5-inch diameter casing at the lowest free point and remove it from the wellbore. All casing removed from the well will be staged on a bermed liner for further evaluation. The Contractor will provide accurate measurements for tubing/casing retrieved from the wellbore.
- 9) The Contractor will set a 200-foot cement plug to isolate the parted 4.5-inch diameter casing.

- 10) The Contractor will set a 200-foot cement plug from 1,958 feet to 1,758 feet to cover the top of the Big Lime formation.
- 11) The Contractor will set a 200-foot cement plug from 978 feet to 778 feet to cover the Berea Sandstone. The Contractor will wait on cement a minimum of eight (8) hours and then run their tools into the well to verify the depth to the top of the plug. If the plug has dropped or it is determined that a competent plug has not been achieved, additional plugs may be required at the discretion of the Division.
- 12) The Contractor will set a 250-foot cement plug from 734 feet to 484 feet to cover the bottom of the 8.63-inch diameter surface casing. The Contractor will wait on cement a minimum of eight (8) hours and then run their tools into the well to verify the depth to the top of the plug. If the plug has dropped or it is determined that a competent plug has not been achieved, additional plugs may be required at the discretion of the Division.
- 13) The Contractor will then set a cement plug from 200 feet to within thirty (30) inches of ground level and wait on cement a minimum of eight (8) hours and top off with additional cement if necessary. Any open annular voids present at surface shall be filled with cement.
- 14) No sooner than three (3) business days after placing the uppermost plug, the Division will inspect the well at surface to determine if any additional plugging work shall be required at that time. If additional work is not needed the Contractor shall cut to a depth of 30 inches below the surface and the Contractor shall set the plugged well identification as outlined in the General Specifications and Ohio Administrative Code 1501-9-11-10.



**SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Multiple Townships**



WELL DESCRIPTION

This Well Description is for:

CE & R Fout #1, 34-163-2-0491-00-00, Vinton County, Jackson Township

Background: The CE & R Fout #1 is located on a 19.38-acre parcel (P# 08-00217.000) owned by Steven Mills. The address is 26186 Locust Grove Road.

Division inspection of the CE & R Fout #1 found the well equipped with 4.5-inch diameter casing and well head, which was open to the atmosphere. A depth meter encountered an obstruction at 416 feet. A downhole camera was used to determine the nature of the obstruction but was unable to reach it due to welded string of 2-inch PVC located at 317 feet. The fluid level was at 318 feet.

Well records for the CE & R Fout #1 state this well was drilled in in 1981 to a total depth of 2,868 feet and produced from the Clinton sandstone.

Formation data shows the following:

Formation	Top	Bottom	Remarks
Berea sandstone	949	983	*Show of gas
Big lime	1,860	2,458	
Packer shell	2,695	2,704	
Clinton sandstone	2,721	2,726	*Show of gas
Total Depth		2,868	

Casing data for the CE & R Fout #1 show the following data:

- 8.63-inch diameter casing at 494 feet with 175 sacks of cement
- 4.5-inch casing at 2,800 feet with 80 sacks of cement
- 1.5-inch tubing at 2,735 feet

For the purposes of this scope of work, it is assumed that the CE & R Fout #1 was drilled to a total depth of 2,868 feet in the Clinton Sandstone and is equipped with 494 feet of 8.63-inch diameter casing, 2,800 feet of 4.5-inch diameter casing, and an unknown amount of 2-inch PVC tubing.

The deepest underground source of drinking water (USDW) is mapped on the base of the Big Injun (Black Hand) Sandstone. Based on local water well data, offset oil, and gas well records within the reviewed area, and published groundwater resources information for Vinton County, the principal aquifer is the Black Hand Sandstone and is present at greatly varying depths and yields range from 5 to 25 gallons per minute. Water well depths in this area range from 400 to 500 feet deep. Water well #934020, which is located across the road, was drilled to a total depth of 420 feet into sandstone. There are no surface or deep mines within the area of review of the CE & R Fout #1.

Scope of Work: This project includes preparation of the site, plugging the orphan well, and regrading and revegetating all disturbed areas.

Designated Route: The Contractor shall utilize Locust Grove Road to access these sites during all phases of the plugging operation.

It is the Contractor's responsibility to contact all County, Township, State and Municipal Officials having jurisdiction over all the roads that are intended to be utilized for this project. The Contractor shall provide written documentation to the Division of all road use notifications/approvals prior to mobilizing equipment to the site.



SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Multiple Townships



PLUGGING PLAN

This Plugging Plan is for:

CE & R Fout #1, 34-163-2-0491-00-00, Vinton County, Jackson Township

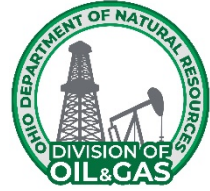
For the purposes of this scope of work, it is assumed that the CE & R Fout #1 was drilled to a total depth of 2,868 feet in the Clinton Sandstone and is equipped with 494 feet of 8.63-inch diameter casing, 2,800 feet of 4.5-inch diameter casing, and an unknown amount of 2-inch PVC tubing.

- 1) The Contractor shall install an appropriately sized and lined temporary cellar around the wellhead to capture any fluids generated during the plugging process.
- 2) The Contractor shall install an appropriate wellhead and an approved method of well control on the most appropriate casing string to insure there is control of any natural gas and/or fluids generated by the well. **The Contractor shall establish and maintain wellhead control throughout the entire plugging process** and shall maintain a minimum of 200 barrels of freshwater on location for use as well-control fluid.
- 3) The Contractor will remove the 2.38-inch diameter PVC tubing and stage it on a bermed liner for further evaluation. This will require the use of fishing tools to facilitate the removal of the tubing from the well. The Contractor shall provide an accurate measurement of the amount of tubing retrieved from the wellbore.
- 4) All cement plugs shall be set through a working string of 1.5-inch minimum inside diameter (ID) tubing using an approved cement with 2% Calcium Chloride, mixed at 15.6 pounds per gallon. Circulation must be established, and all free crude oil shall be circulated from the wellbore prior to setting any plug.
- 5) The Contractor will set a 450-foot bottom cement plug from 2,868 feet to 2,418 feet to cover the Clinton Sandstone. The Contractor will wait on cement a minimum of eight (8) hours and then run their tools into the well to verify the depth to the top of the plug. If the plug has dropped or it is determined that a competent plug has not been achieved, additional plugs may be required at the discretion of the Division.
- 6) The Contractor shall load the well bore with fresh water and run Gamma Ray, CCL, and Bond logs to determine the free point and bond quality behind the 4.5-inch diameter casing and verify lithology.
- 7) The Contractor will then shoot the 4.5-inch diameter casing at the lowest free point and remove it from the wellbore. All casing removed from the well will be staged on a bermed liner for further evaluation. The Contractor will provide accurate measurements for tubing/casing retrieved from the wellbore.
- 8) The Contractor will set a 200-foot cement plug to isolate the parted 4.5-inch diameter casing.
- 9) The Contractor will set a 200-foot cement plug from 2,060 feet to 1,860 feet to cover the top of the Big Lime formation.

- 10) The Contractor will set a 200-foot cement plug from 1,033 feet to 833 feet to cover the Berea sandstone. The Contractor will wait on cement a minimum of eight (8) hours and then run their tools into the well to verify the depth to the top of the plug. If the plug has dropped or it is determined that a competent plug has not been achieved, additional plugs may be required at the discretion of the Division.
- 11) The Contractor will set a 250-foot cement plug from 644 feet to 394 feet to cover the bottom of the 8.63-inch diameter surface casing. The Contractor will wait on cement a minimum of eight (8) hours and then run their tools into the well to verify the depth to the top of the plug. If the plug has dropped or it is determined that a competent plug has not been achieved, additional plugs may be required at the discretion of the Division.
- 12) The Contractor will then set a cement plug from 200 feet to within thirty (30) inches of ground level and wait on cement a minimum of eight (8) hours and top off with additional cement if necessary. Any open annular voids present at surface shall be filled with cement.
- 13) No sooner than three (3) business days after placing the uppermost plug, the Division will inspect the well at surface to determine if any additional plugging work shall be required at that time. If additional work is not needed the Contractor shall cut to a depth of 30 inches below the surface and the Contractor shall set the plugged well identification as outlined in the General Specifications and Ohio Administrative Code 1501-9-11-10.



**SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Multiple Townships**



DETAILED SPECIFICATIONS

The Contractor is reminded to review the Scope of Work documents carefully. Coordination, permission, or direction of the Division may be required for use of individual Detailed Specification line items. The Division shall only pay for quantities of items that are correctly installed and completed in accordance with the Detailed Specifications and Drawing Plan Set. The Division shall not guarantee payment of any work completed without or prior to following the conditions described herein of each line item.

MOBILIZATION

- A. Description: This work shall consist of the development of access and the mobilization of the Contractor's forces and equipment necessary for performing the required work under the Scope of Work for the well site.

This item shall include the transportation of personnel, equipment, and supplies to and from each site as well as the maintenance of all onsite access roads.

As part of this line item, the Contractor shall also include any maintenance of traffic required within the road right-of-way per Part 7 of the General Specifications.

Also, the Contractor shall be responsible for cleaning mud and dirt associated with construction from all roadway surfaces (public and private) as per Part 7.1 of the General Specification for the duration of the Project and as directed by the Division.

- B. Execution: No additional compensation shall be made to the Contractor for remobilization after his equipment has been removed from the site. If applicable, this shall include remobilization of equipment if removed due to winterization of the project.

Any damage to the road, drives, and/or culverts caused by the mobilization shall be repaired by the Contractor at the Contractor's expense. All repairs shall be done equal to or better to that which existed prior to construction activities.

- C. Measurement: Measurement for payment will be considered and measured as a unit satisfactorily completed and accepted by the Division.

If any portion of the item is non-performed to the satisfaction of the Division (i.e., the mud and dirt are not cleaned from the roadway, the proper signage is not used as detailed) this is considered unsatisfactory and shall be cause for the rejection of payment of this item.

- D. Payment: The cost of this work shall be included in the lump sum price for "**Mobilization.**"

EARTHWORK

- A. Description: This work consists of all work required to excavate, transport, and redeposit material

to the lines and grades in the areas indicated on the Drawing Plan Set. This line item shall include, but not be limited to, the excavation for development of access, work areas channels, drainage ditches, culverts, test pits, blending excess materials, general grading for sediment controls and final grading.

B. Definitions:

General Soils: Considered to be an unclassified soils unit. It is anticipated that the majority of the material to be removed will consist of a mixture of loose, unconsolidated soil, vegetative debris, and rock. Also, large seams of shale and/or boulders not designated for rock excavation may exist within the proposed excavation areas.

Rock: Rock shall be defined as material that cannot be removed by normal excavation methods and must be removed by means such as blasting, ripping, hoe ram or other methods used in the construction industry that are generally accepted practices.

C. Execution:

1. General:

Perform the required clearing and grubbing before starting the earthwork operations. Coordinate the amount of and limit the areas of the project that are cleared and grubbed with the quantity of erosion controls that are placed according to the Drawing Plan set and/or as advised by the Division.

Profiles, cross sections, and grading plans provided on the Drawing Plan Set are only approximate and are to be used as a guide during construction. Fixed elevations shall not be held to; however, the grades shall not be steeper than three to one (3:1) or **those shown on the Drawing Plan Set** or no less than one percent (1%) grade unless approved by the Division.

At the end of each day's work and throughout the earthwork operations, the work areas shall be graded to drain, and be compacted or re-compacted to a uniformed cross-section. All ruts and low spots that could potentially hold water shall be removed.

Positive drainage shall be provided (greater than one percent (1%) grade) for all areas during and after construction unless approved by the Division. No water shall be impounded during or after construction.

Areas not designated for sheet runoff shall be graded to drain into existing or proposed swale areas. This shall include the use of diversion swales and other measures to direct runoff into storm-water collection features. The Division must approve all additional drainage swales and ditches prior to revegetation.

Slope erosion shall be repaired up to the final acceptance of the project.

All areas that settle below final plan elevation or impound water before completion of the Project shall be filled in, regraded, and reseeded.

If earthwork operations encounter any abnormal material such as, but not limited to, drums, tanks, or stained earth or any unusual odors during operations, temporarily discontinue the work in this area, leave the equipment in place, cordon off the area, and notify the Division.

- a. Follow the requirements of the Ohio EPA when handling any contaminated material.
- b. Excavate the contaminated soils to a depth to be determined by the Division. Material hauled away under the item shall be paid separately and **is not to be included** in this item.

If damage occurs to the project site caused by improper excavation or embankment (fill) methods, the Division shall not pay for removing breakages beyond the limits of the planned finished work.

If the damage was caused by the lack of implementing erosion controls, the Division will not pay for reshaping shoulders, slopes and ditches damaged by erosion during construction.

With the approval of the Division either bury or break up existing boulders, not designated for rock excavation, lying within the reclamation area. A boulder shall be defined as any stone larger than 24-inches in diameter. The Contractor shall place the boulders in a stable manner so it will not move or cause future harm.

2. Excavation (Cut):

All “cut” areas shall be reclaimed to original contour upon completion of the project per line item “Approved Resoil”.

Utilize material removal techniques that are generally considered conducive to retaining stability. This includes, but is not limited to, working slopes from the top to the bottom in a manner as to preclude undermining and maintain the work areas in a fashion that will not induce instability.

All excess cut material shall be stockpiled and “tracked in” in the locations shown on the Drawing Plan Set. All cut shall be stockpiled on site and saved for use as designated by the Division

3. Approved Resoil:

Any encountered resoil shall be stockpiled on site and saved for use as designated by the Division.

Approved Resoil shall not be buried or used for general embankment.

4. Exploratory Excavation (Test Pits):

This shall consist of exploratory excavation to determine subsurface features and materials. The location, type, and size of the excavation shall be as directed by the Division.

Excess material, which is unsuitable for backfill, shall be disposed of on site as directed by the Division.

5. Embankment (Fill):

General Embankment (Fill) material shall be placed in uniform lifts not exceeding eighteen (18) inches in thickness and tracked-in using on-site excavation equipment not less than four (4) passes per lift.

The Division shall be notified a minimum of three (3) business days prior to commencement of embankment construction. The Contractor shall receive approval of the prepared sub grade prior

to placing any embankment or fill.

All areas of embankment shall be keyed into the existing ground. Placement of embankment shall only be made on scarified, moist surfaces. No embankment shall be placed on frozen soil, unstable soil, or soil where water is ponded.

No areas of the embankment shall be more than three (3) feet higher or lower than any other adjacent embankment areas during placement.

Rocks larger than six (6) inch diameter shall not be concentrated in any areas of the fill.

If precipitation saturates the embankment construction area, the Contractor shall stay off the embankment construction area until the embankment dries or stabilizes. Embankment construction may be expedited by removing the saturated embankment or drying the embankment by scarifying, plowing, disking, and re-compacting the embankment.

No side dumping of material on slopes shall be permitted. Dumped material in piles or windrows shall be moved and spread into uniformed lifts as described in these specifications or as detailed on the Drawing Plan Set.

Successive loads of material shall be dumped to the best distribution. The distribution throughout the areas of fill shall be such that the fill will be free from voids, pockets, and bridging of materials.

D. Measurement:

1. The approximate amount of earthwork has been listed on the drawings as a total cubic yardage of "cut". However, this figure shall only be used for estimating purposes. There shall be no final measurement.
2. The Division may use three-dimensional measurements where it is impractical to measure material by the cross-section method due to the erratic location of isolated deposits.

E. Payment: Payment for this work, which includes excavation and re-depositing material to the grades as indicated on the Drawing Plan Set, placement, construction of swales and ditches, construction of temporary erosion control measures, test pits, burial, disposal of boulders, segregation, stockpiling of resoil material and offsite disposal shall be made at the contract lump sum price for "**Earthwork**".

CLEARING & GRUBBING

- A. Description: This item covers the removal of the vegetation within the limits shown on the Drawing Plan Set to provide adequate space to maneuver equipment to complete the proposed work at each well.
- B. Execution: The Contractor shall only clear enough of the site within the limits shown on the Drawing Plan Set to provide adequate space to maneuver equipment to complete the proposed work. The Division shall exercise control over clearing and shall designate all trees, plants, shrubs, abandoned material, trash, etc., to be removed or to remain. This work shall also include the preservation from injury or defacement of all trees designated to remain.

If the Contractor clears and/or grubs beyond the construction work limits, whether knowingly or

accidentally, the Contractor shall replant and/or otherwise restore all areas outside of the limits to a condition equal to or better than what existed prior to beginning work. This shall be no at no additional expense to the Division.

All tree disturbance (trimming and/or removal) activities shall be coordinated with the Division as these trees may provide suitable roosting, foraging, or traveling habitat for Threatened & Endangered species. To prevent adverse impacts to Threatened & Endangered species, clearing of trees with a DBH (Diameter at Breast Height) greater than 3inches, **shall not take place between April 1st and September 30th.**

All removed vegetation shall be placed in a stable manner. **Brush and debris shall be stacked to the down slope side of the work, outside of the work limits.** The Division shall make the final determination as to the stability and location of the constructed piles. The log pile(s) shall not exceed four (4) feet in height or eight (8) feet in width, and thirty (30) feet in length. The Contractor shall be responsible for the repair/reconstruction of the piles, at the discretion of the Division, up to the final acceptance of the project.

As directed by the Division, Stumps shall be cut off flush with the existing ground surface prior to placement of material or grubbed, and holes graded to assure positive drainage. Approved resoil shall be used if the area can't be properly graded.

All logs and stumps not suitable for stacking shall be hauled off site. Proper disposal is the Contractor's responsibility. If necessary, logs/vegetation shall be hauled to an authorized OEPA landfill.

Burning of debris materials shall not be permitted on-site.

- C. Measurement: Measurement for payment will be considered and measured as a unit satisfactorily completed and accepted by the Division. This measurement shall be for the entire project as one unit.
- D. Payment: Payment shall be made at the contract lump sum price per "**Clearing & Grubbing.**"

SITE SAFETY

- A. Description: The work will include the installation and implementation of safety procedures for the plugging of the orphan well as described herein.
- B. Definitions & Installation: It is the Contractor's responsibility to properly maintain all of the latter mentioned throughout the duration of the project. Any damages shall be repaired or replaced at no additional cost to the Division. Site safety measures shall be removed prior to the demobilization of the Contractor's workforces.

Any release of materials into or onto the ground or surface waters outside of the primary and/or secondary containment shall follow the Ohio One-Call System as described in Appendix I, "One Call". The Ohio One-Call System shall be contacted at 1-844-OHCALL1 within 30-minutes of becoming aware of the occurrence.

- 1. Temporary Construction Fence & Posts: The temporary construction fencing shall be composite, orange mesh with a minimum overall height of four (4) feet. Fence posts are to be

steel five (5) feet t-posts. Fence materials shall meet the ODOT Construction and Materials Specifications (CMS) Item 710.11.

The posts shall be driven or set in holes to a minimum depth of one (1) foot and at intervals not to exceed ten (10) feet. The fence shall be stretched and securely fastened to each post using metal or plastic ties.

For the T&L Scanlan & CE&R Fout the temporary construction fencing shall be chain link fence with a minimum overall height of six (6) feet. Fence shall be constructed in panels. Each panel shall have a horizontal and vertical support. Each panel shall be held upright by a stand at the base of each side of the panel. All panels shall be locked together with saddle clamps, nuts, and bolts. The entrance gate shall be maintained in locked position when the site is unattended.

Upon installation of the temporary chain link fencing, a physical barrier will be required along the inside perimeter of the fence. The barrier must cover the entire surface area of the installed fence and be sufficient to prevent any fluid spray from rig floor connection/disconnections and any spray from flowback operations.

Fencing shall be placed around the entire work area. The Contractor shall work in conjunction with the Division for placement of the temporary fence. All fence shall be removed at the completion of the project.

2. Air Movers (Industrial Fans): The Contractor will also be required to have onsite industrial fans or air movers in the event natural gas is detected and found to be settling at ground level and not properly dissipating from the site.
3. Protective Barriers: During rig up and plugging operations, a physical barrier will be required between the operations and the occupied dwelling. The barrier must be of sufficient height, length and material to prevent any fluid spray from rig floor connection/disconnections and any spray from flowback operations from contacting the occupied dwelling. **Protective barrier shall only be required at the T&L Scanlan #1 and CE&R Fout #1 well sites.**
4. Temporary Shut-In: The Contractor will shut-in the well each night after the plugging operations have ceased, unless otherwise instructed by the Division. The Contractor will continue this process until the plugging operations are complete and there are no further signs of a gas release.
5. Power/Utility Lines Safety: Utility lines cross over the access route which will require warning signs to insure awareness.
6. Emergency Response Plan: The Contractor will assemble an Emergency Response Plan (ERP) with all contact information, emergency preventative measures, and for any well-related issues that may occur. ERPs shall be submitted to the Division via email to DOGARM.EMNOTIFY@dnr.ohio.gov for approval prior to beginning work.

The Contractor will be responsible for maintaining this ERP on site during the plugging operations. Ingress/Egress for evacuation and/or public safety will be discussed in the safety meeting to be held on location by the Contractor with local responders and Division personnel. These routes will be listed in the ERP. The Division will review with the Contractor prior to the start of plugging operations.

Well Name	Additional Safety Measures Required
CE & R Fout #1	Protective Barriers; Chain link Fence
T&L Scanlan #1	Protective Barriers; Chain link Fence

- C. Measurement: Measurement for payment will be considered and measured as a unit satisfactorily completed and accepted by the Division.
- D. Payment: Payment for this work, including labor, installation, materials and removal shall be made at the lump sum price for "Site Safety."

ROAD MATS

A. Description: This item shall consist of the transportation, delivery, installation, and removal of road mats as described. The placement of road mats within the limits of construction shall be at the discretion of the Division. This item shall be utilized to protect the existing utilities, driveways, roadway, curbs, sidewalks, and lawn space that will be traversed within the construction work limits.

B. Material: Road matting shall be non-permeable, composite mats. Non-permeable, composite mats shall be a minimum of four (4) inches thick with a minimum surface dimension of seven (7) feet wide and thirteen (13) feet long. Non-permeable, composite mats and associated components (i.e. ramps, berms, and fittings) shall be installed per the manufacturer's recommendations.

All materials delivered to the site must be in a shape to be able to cover the area properly and still have the strength and integrity to complete the required work. The Division may reject any mats determined to be damaged beyond useful life or remove square footage as measured from each individual mat.

C. Execution: Mats shall be kept clean throughout the project. If it is determined by the Division, the mats do not meet this requirement the Contractor shall have any sediment or mud removed immediately.

D. Measurement: Measurement for payment for the road mats shall be made by actual field measurements of quantities satisfactorily installed at the site. Each road mat shall be measured for a square foot installed.

Road mats shall be utilized for the duration required to plug the well at each site. Only one measurement and payment shall be made for "Road Mats" upon completion of the well site.

E. Payment: The cost of this work shall be included in the unit price per square foot for "**Road Mats.**"

ROAD/TIMBER MATS

A. Description: This item shall consist of the transportation, delivery, installation, and removal of road/timber mats as described. The placement of road/timber mats within the limits of construction shall be at the discretion of the Division. This item shall be utilized to protect the existing utilities,

driveways, roadway, curbs, sidewalks and lawn space that will be traversed within the construction work limits.

- B. Material: Contractor may choose which type of mat to use for the site. An estimated Square Footage based on the type of mat shown on the Drawing Plan Set shall be used for
1. Road mats: Non-permeable, composite mats shall be a minimum of four (4) inches thick with a minimum surface dimension of seven (7) feet wide and thirteen (13) feet long. Non-permeable, composite mats and associated components (i.e. ramps, berms, and fittings) shall be installed per the manufacturer's recommendations.
 2. Timber Mats: Timber matting shall be composed of dense hardwood, shall be a minimum of six (6) inches thick, four (4) feet wide, and sixteen (16) feet long, and shall have a minimum of 1-1/4-inch diameter lift bolts installed at each end and through the width of the mat. The size required will vary depending on the use, see details on the drawing plan sets for variations on these sizes.
 - a. **GRADE A** - Visually, Grade A mats look like new mats. The timbers are still square and in excellent condition and all the mat bolts are in place and fully intact. Mats must have all bolts and timbers fully intact. Mats are less than 9 months old. Very minimal wear, no chunks out of timbers missing.
 - b. **GRADE B** - Essentially, Grade B mats are less pretty versions of Grade A mats. They have no structural faults; they just look a bit worn. Edges of timbers are still square, and timbers are also sound and free of rot. If one or two of the bolts are bent, they qualify as Grade B mats. These mats might also be stained, but the discoloration is not enough to affect the durability of the mat. Typically, 10-18 months of age/usage makes the mat fall into a B grade. **(All mats used to bridge over anything shall be Grade B or better.**
 - c. **GRADE C** - Grade C mats are not quite up to the challenges that Grade A and B mats can handle, but they still have life left in them. Grade C Mats can have a missing or pulled rod on one end of the mat. The mat still has structural integrity inside 2' from each end though. Timbers may be broken within 2' of either end but no timbers are broken inside of the 2' of each end. No hanging timbers allowed in C grade mats. As you can imagine, these are not going to be the picture-perfect image of timber mats. They might be missing numerous bolts, incurred excessive repairs, or be slightly varied in shape. Grade C mats are less expensive, but they also have a shorter life expectancy. **Any mat meeting the Grade C rating shall be measured for square footage of acceptable usable area.**
- All materials delivered to the site must be in a shape to be able to cover the area properly and still have the strength and integrity to complete the required work. The Division may reject any mats determined to be damaged beyond useful life or remove square footage as measured from each individual mat.**
- C. Execution: Mats shall be kept clean throughout the project. If it is determined by the Division, the mats do not meet this requirement the Contractor shall have any sediment or mud removed immediately.
- D. Measurement: Measurement for payment for the road mats shall be made by actual field measurements of quantities satisfactorily installed at the site. Each road mat shall be measured for a square foot installed.

Road mats shall be utilized for the duration required to plug the well at each site. Only one measurement and payment shall be made for "Road Mats" upon completion of the well site.

- E. Payment: The cost of this work shall be included in the unit price per square foot for "Road/Timber Mats."

TIMBER MATS

- A. Description: This item shall consist of the transportation, delivery, installation, and removal of road mats as described. The placement of road mats within the limits of construction shall be at the discretion of the Division and/or as shown on the Drawing Plan Set in order to enhance the subgrade conditions and/or for overtop utility crossings.
- B. Material: Timber matting shall be composed of dense hardwood, shall be a minimum of six (6) inches thick, four (4) feet wide, and sixteen (16) feet long, and shall have a minimum of 1-1/4-inch diameter lift bolts installed at each end and through the width of the mat. The size required will vary depending on the use, see details on the drawing plan sets for variations on these sizes. **The size required will vary depending on the use (airbridge), see details on the Drawing Plan Set for variations on these sizes.**

All materials delivered to the site must be in a shape to be able to cover the area properly and still have the strength and integrity to complete the required work. The Division may reject any mats determined to be damaged beyond useful life. The following grade descriptions for used mats shall be used by the Division to determine if the materials are acceptable.

1. **GRADE A** - Visually, Grade A mats look like new mats. The timbers are still square and in excellent condition and all the mat bolts are in place and fully intact. Mats must have all bolts and timbers fully intact. Mats are less than 9 months old. Very minimal wear, no chunks out of timbers missing.
 2. **GRADE B** - Essentially, Grade B mats are less pretty versions of Grade A mats. They have no structural faults; they just look a bit worn. Edges of timbers are still square, and timbers are also sound and free of rot. If one or two of the bolts are bent, they qualify as Grade B mats. These mats might also be stained, but the discoloration is not enough to affect the durability of the mat. Typically, 10-18 months of age/usage makes the mat fall into a B grade. **(All mats used to bridge over anything shall be Grade B or better and shall be as detailed on the Drawing Plan Set.)**
 3. **GRADE C** - Grade C mats are not quite up to the challenges that Grade A and B mats can handle, but they still have life left in them. Grade C Mats can have a missing or pulled rod on one end of the mat. The mat still has structural integrity inside 2' from each end though. Timbers may be broken within 2' of either end but no timbers are broken inside of the 2' of each end. No hanging timbers allowed in C grade mats. As you can imagine, these are not going to be the picture-perfect image of timber mats. They might be missing numerous bolts, incurred excessive repairs, or be slightly varied in shape. Grade C mats are less expensive, but they also have a shorter life expectancy. **Any mat meeting the Grade C rating shall be measured for square footage of acceptable usable area.**
- C. Measurement: Measurement for payment for the road mats shall be made by actual field measurements of quantities satisfactorily installed at the site. Each road mat shall be measured for

a square foot installed.

- D. Payment: The cost of this work shall be included in the unit price per square foot for "**Timber Mats or**

SECONDARY CONTAINMENT

- A. Description: This item shall include all labor and materials required for the installation, maintenance, and deconstruction of the secondary containment. Onsite materials and equipment required to be stored within the secondary containment shall be as follows: containers that store liquid brine, oilfield waste, and/or fuels as well as any required pumps. In determining the method, design, and capacity for secondary containment, the Contractor shall address the typical failure mode, and the most likely quantity of brine or other oil field waste substance that would be discharged.
- B. Materials: The Contractor shall supply catchment basins or diversion structures to intercept and contain discharges of brine or other oilfield waste substances during the project. Materials shall consist of impermeable containers or liners made of a material that is compatible with the waste stored or used within the containment. Containment materials shall be impervious and have supporting documentation of the permeability, chemical compatibility, and other applicable QA/QC standards, is acceptable. **Use of a liner shall at a minimum be a 20-mil thickness.**

Materials shall be durable enough to support the weight of heavy equipment used for the plugging operations. Materials shall have sufficient strength and thickness to maintain the integrity of the container or liner. The container or liner shall be designed, constructed, and maintained so that the physical and chemical characteristics of the container or liner are not adversely affected by the waste and the container or liner is resistant to physical, chemical and other failure during transportation, handling, installation and use.

Liner walls shall consist of metal, wood, concrete, plastic, or approved equal. Wall materials shall be designed, constructed, and maintained to withstand the overtopping and sliding forces of secondary containment filled to capacity.

The Division shall determine the merit of the proposed materials compatibility, impermeability, integrity, and durability in determining if the material is sufficient for the project.

- C. Installation: Secondary containment shall be installed prior to any drilling or liquid storage at the project site.

Upon request of the Division, the Contractor shall provide calculations in tabular format of the containment providing both the secondary containment capacity and the on-site material storage. The Division can require that sections of a secondary containment be removed for inspection and sampling if a spill occurs during the project.

Installation of the containers or liners, including seams and pipe penetrations, shall be in accordance with the manufacturer's recommendations. All seams and non-seam area of the container or liner shall be inspected by the Division for defects, holes, and blisters.

Care shall be taken when operating equipment on or near the container or liner to prevent any damage to the secondary containment. If damage occurs, it shall be repaired by the Contractor at his/her expense prior to continuing the project.

The Contractor shall retain all ownership and responsibility for the secondary containment. All secondary containment shall be removed from the site and retained by the Contractor at the conclusion of the project.

- D. Measurement: Secondary containment, which includes all materials, labor, and equipment necessary to provide the required secondary containment, will be considered and measured as a unit satisfactorily completed and accepted by the Division. Secondary containment shall not be considered complete until all secondary containment has been removed from the site at the completion of the project.
- E. Payment: Payment for this work shall include all material, labor, and equipment necessary to complete the work and be made at the lump sum price for "**Secondary Containment.**"

SILT FENCE

- A. General: This item covers construction of the silt fences and/or straw bale dikes. The Division shall designate utilization of silt fence, straw bale dikes or a combination of both at locations selected for placement.

The placement of silt fence and straw bale dikes within the limits of construction shall be at the discretion of the Division.

During the life of the project, the Contractor shall maintain these silt and erosion-control structures. Accumulated silt shall be removed when it, in the Division's opinion, may damage or reduce the effectiveness of the structure.

- B. Straw Bale Dikes

1. Materials: Straw bale dikes shall be constructed with twine-bound square straw or hay bales, staked to remain in place.
2. Installation and Execution: The location of the dikes shall be as directed by the Division, at the time of construction. When the usefulness of the dikes has ended, they shall be removed and disposed. Dikes may remain in place upon completion of the project only when permitted by the Division.

- C. Silt Fence

1. Materials

- a. The silt fence fabric shall conform to the ODOT Item 712.09, Type C. The silt fence shall be installed in accordance with all manufacturers' instructions.

The fabric shall be free of any treatment that might significantly alter its physical properties. During shipment and storage, the fabric shall be wrapped in a heavy-duty protective covering to protect it from direct sunlight, dirt, and other debris.

The manufacturer shall submit certified test data to cover each shipment of material.

- b. The silt fence used shall be a prefabricated silt fence with fabric already attached to posts

or shall be assembled in the field according to the following installation guidelines.

The fabric shall be a pervious sheet composed of a strong, rot-proof polymeric yard or fiber oriented into a stable network, which retains its relative structure during handling, placement, and long-term service. It shall have excellent resistance to deterioration from ambient temperatures, acid, and alkaline conditions, and shall be indestructible to microorganisms and insects. The material shall be resistant to deterioration by ultraviolet light and protected until placement as recommended by the manufacturer such that no deterioration occurs. During shipment and storage, the rolls of fabric shall be protected against deterioration from the sun, mud, dirt, dust, and other harmful conditions at all times until their use.

2. Installation Guidelines for Silt Fence: Silt fence shall be installed in the following manner.

- a. First, a small toe-in trench shall be dug along the line where the silt fence is to be placed. The trench shall be a minimum of 6-inch deep and 6-inch wide. The excavated material shall be placed on the front or uphill side of the trench to facilitate backfilling later.
- b. Next, fence posts shall be driven into the back or downstream side of the trench. The posts shall be driven so that at least one-third (1/3) of the height of the post is in the ground. When installing a prefabricated silt fence with fabric attached to the posts, the posts shall be driven so that at least 6-inch of fabric shall be buried in the ground. Most prefabricated silt fences have posts spaced approximately 6 feet – 8 feet apart, which is usually adequate. If there is a low spot where most sediment tends to collect, the prefabricated silt fences can be backed up with bale backup. Posts shall be hardwood with sufficient strength to support a full load of deposited sediment.
- c. Finally, the trench shall be backfilled with the excavated material and tamped so that at least 6-inch of the fabric is securely toed into the ground to prevent under-mining.
- d. The silt fences shall be maintained throughout construction. The Contractor shall conduct regular inspections and after all heavy rains. Damaged fences must be repaired immediately.
- e. At the completion of construction and upon establishment of suitable vegetation as determined by the Division, all silt fence structures shall be removed. Areas disturbed by the removal operation including temporary access roads shall be revegetated. In general, this operation shall consist of regrading, re-fertilizing, reseeding, and mulching.

D. Measurement: Measurement for payment for the above-described work shall be made by actual field measurements of quantities satisfactorily installed and completed. When using silt fence with bale backup the measurement shall be the length of the silt fence installed, plus the length of the straw bale dike installed.

E. Payment for Silt Fence and Straw Bale Dikes: Payment for this item shall be made at the unit price per linear foot of "**Silt Fence**." The Division shall only pay for quantities of items that are completed.

12" CORRUGATED METAL CULVERT

A. Description: This item covers the quality, material placement and requirements for the installation of the culvert for the temporary stream crossing. This item shall also include the removal of the

pipe which shall become the property of the Contractor.

B. Materials:

1. Culvert Pipe: The culvert pipe shall be 12” corrugated N-12 HDPE smooth interior pipe or approved equal and shall meet the AASHTO M294 specification, except the average elongation shall not exceed 7.5 percent when tested as described in that specification. Manufacturer’s certification shall be furnished to the Division.
2. Backfill: Backfill material shall be placed around the pipe to as shown on the Drawing Plan Set. Backfill material shall be included in the unit price for "**No. 304 Aggregate**".

C. Installation: The Division shall verify locations prior to commencing installation. Installation shall be in compliance with all manufacturer’s specifications.

The temporary culvert shall be removed at the completion of the project. **The culvert shall become the property of the Contractor at the completion of the project and shall be removed and reused or disposed of at the Contractor’s expense.**

D. Measurement: Measurement of 12” Corrugated Metal Culvert shall be by actual linear feet of pipe installed as measured in the field.

E. Payment: The cost for work under this item, including HDPE pipe and installation, shall be at the unit price per linear foot for "**12” Corrugated Metal Culvert**".

FILTER FABRIC

A. General: This item shall include all material, labor, and equipment necessary for the installation of the filter fabric for the base of the entrance apron & access drive that will be temporary as specified on the Drawing Plan Set.

B. Materials: The filter fabric shall be composed of strong, rot-proof polymeric fibers formed into a fabric meeting Ohio Department of Transportation Specifications, Section 712.09, Type "D".

C. Installation: At the time of installation, fabric shall be rejected if it has defects, rips, holes, flaws, deterioration, or damage incurred during manufacture, transportation, or storage. It shall be laid smooth and free from tension, stress, folds, wrinkles, or creases. The strips shall be placed to provide a minimum width of 6 inches of overlap for each side or end. Any damage to the fabric during its installation or during placement of the stone shall be replaced or repaired by the Contractor at no cost to the Division. The filter fabric shall be protected from damage due to placement of the stone or other materials by limiting the height of the drop of the material.

The Contractor shall install the filter fabric once **the subgrade has been properly prepared and approved by the Division** and prior to the stone in the areas of the entrance apron & access drive that is required to be temporary as described on the Drawing Plan Set. The fabric shall be removed and properly disposed of by the contractor at the completion of this project and shall be part of line item "**Filter Fabric.**"

D. Measurement: Measurement shall be determined in the field by the Chief’s representative with no allowance for the overlap of 6-inch recommended above. Measurement shall be based on the length and height of the underdrain/stone drain as indicated on the Drawing Plan Set.

- E. Payment: Payment for all of the work specified above shall be made at the unit price per square yard for "**Filter Fabric**".

No. 4 STONE

- A. Description: This work covers the quality, material placement and requirements as a base course stone for the project access as shown in the Drawing Plan Set.
- B. Materials: The materials shall consist of sound and durable rock, gravel or stone of the proper gradation meeting ODOT specifications. The material shall be free from cracks, seams, and other defects, which tend to increase deterioration from natural causes. It shall be highly resistant to weathering and disintegration under freezing and thawing and wetting and drying as evidenced by laboratory tests and/or service records. The Division at any time during the project may reject any materials, at the source or job site, not meeting the requirements of these specifications.

Acceptability of material will be determined by laboratory tests, visual inspection and/or service records as required by the Division. Service records will include documentation to show the material has performed satisfactory on similar structures.

- C. Installation: Upon delivery of the material to the site the Contractor shall install the material in place as directed by the Division. The Contractor shall not stockpile materials at the site.

The Contractor shall remove the topsoil prior to installation of any access road or work area stone. Topsoil shall be stockpiled adjacent to the location it is removed from. At the conclusion of the project, all topsoil will be replaced it original location as part of the line item "**Site Restoration.**" **Existing drives upgraded for the purpose of this work shall be restored to a condition better than prior to construction.**

- D. Measurement: The material shall be measured for payment by the ton (2,000 pounds) for material acceptably placed in the work area as determined by certified scale weight tickets.

All material wasted or used by the Contractor for other purposes and any material not placed in the work area in accordance with the requirements of the work order and these specifications and drawings shall be measured and not included for payment by weight. A conversion factor of 1.5 ton per cubic yard of No. 4 Stone shall be used if necessary.

- E. Payment: Payment this work as specified above shall be made based on the unit price per ton for "**No. 4 Stone.**"

No. 57 STONE

- A. Description: This work covers the quality, material placement and requirements as a top course stone for the access drives as shown in the Drawing Plan Set. This material shall be placed within the current limits of the landowner's drive.
- B. Materials: The materials shall consist of sound and durable rock, gravel or stone of the proper gradation meeting ODOT specifications. The material shall be free from cracks, seams, and other defects, which tend to increase deterioration from natural causes. It shall be highly resistant to weathering and disintegration under freezing and thawing and wetting and drying as evidenced by laboratory tests and/or service records. The Division at any time during the project may reject any

materials, at the source or job site, not meeting the requirements of these specifications.

Acceptability of material will be determined by laboratory tests, visual inspection and/or service records as required by the Division. Service records will include documentation to show the material has performed satisfactory on similar structures.

- C. Installation: Upon delivery of the material to the site the Contractor shall install the material in place as shown on the Drawing Plan Set.
- D. Measurement: The material shall be measured for payment by the ton (2,000 pounds) for material acceptably placed in the work as determined by certified scale weight tickets.

All material wasted or used by the Contractor for other purposes and any material not placed in the work in accordance with the requirements of the work order and these specifications and drawings shall be measured and not included for payment by weight. A conversion factor of 1.5 ton per cubic yard of No. 57 Stone shall be used if necessary.

- E. Payment: Payment for this work as specified above shall be made based on the unit price per ton for "**No. 57 Stone.**"

No. 304 AGGREGATE BASE

- A. Description: This work covers the quality, material placement and requirements as an aggregate for the project access as shown in the Drawing Plan Set.
- B. Materials: The materials shall consist of sound and durable rock, gravel or stone of the proper gradation meeting ODOT specifications. The material shall be free from cracks, seams, and other defects, which tend to increase deterioration from natural causes. It shall be highly resistant to weathering and disintegration under freezing and thawing and wetting and drying as evidenced by laboratory tests and/or service records. The Division at any time during the project may reject any materials, at the source or job site, not meeting the requirements of these specifications.

Acceptability of material will be determined by laboratory tests, visual inspection and/or service records as required by the Division. Service records will include documentation to show the material has performed satisfactory on similar structures.

- C. Installation: Upon delivery of the material to the site the Contractor shall install the material in place as shown on the Drawing Plan Set.

The Contractor shall remove the topsoil prior to installation of any access road or work area stone. Topsoil shall be stockpiled adjacent to the location it is removed from. At the conclusion of the project, all topsoil will be replaced it original location as part of the line item "**Site Restoration.**"

- D. Measurement: The material shall be measured for payment by the ton (2,000 pounds) for material acceptably placed in the work as determined by certified scale weight tickets.

All material wasted or used by the Contractor for other purposes and any material not placed in the work in accordance with the requirements of the work order and these specifications and drawings shall be measured and not included for payment by weight. A conversion factor of 1.5 ton per cubic yard of No. 304 aggregate base shall be used if necessary.

- E. Payment: Payment this work as specified above shall be made based on the unit price per ton for "No. 304 Aggregate Base."

TYPE "C" ROCK CHANNEL PROTECTION

- A. Description: This work covers the quality, material placement and requirements energy dissipation stone for the temporary stream crossing as directed by the Division at the time of construction and as shown on the Drawing Plan Set.
- B. Materials: The materials shall consist of sound and durable rock, gravel or stone of the proper gradation meeting ODOT specifications. The material shall be free from cracks, seams, and other defects, which tend to increase deterioration from natural causes. It shall be highly resistant to weathering and disintegration under freezing and thawing and wetting and drying as evidenced by laboratory tests and/or service records. The Division at any time during the project may reject any materials, at the source or job site, not meeting the requirements of these specifications.

The Type "C" Material shall consist of sizes such that at least 85 percent of the total material by weight shall be larger than a 6-inch but less than an 18-inch square opening. At least 50 percent of the total material by weight shall be larger than a 12-inch square opening. The material smaller than a 3-inch square opening shall consist predominantly of rock spalls and rock fines and shall be free of soil.

Acceptability of material shall be determined by laboratory tests, visual inspection and/or service records as required by the Chief. Service records shall include documentation to show the material has performed satisfactory on similar structures.

Elongation (the ratio of the least dimension to the greatest dimension) shall be equal to or greater than one-half (1/2) for Type "C" material.

- C. Installation:
1. The Contractor shall mark the areas for the placement of the stone and gain approval of the Chief prior to placement. The Contractor shall use special care during placement. Minor excavation rehandling and rearranging of stones may be required to ensure that all rock is placed in a stable manner.
 2. Material shall be placed in a manner that shall permit the smaller rocks to fill the voids between the bigger rocks. Material shall be placed and worked so as to attain maximum density. No large voids or concentrations of similar size rocks shall be permitted.
- D. Measurement: The material shall be measured for payment by the ton (2,000 pounds) for material acceptably placed in the work as determined by certified scale weight tickets.

All material wasted or used by the Contractor for other purposes and any material not placed in the work in accordance with the requirements of the work order and these specifications and drawings shall be measured and not included for payment by weight. A conversion factor of 1.5 ton per cubic yard of Rock Channel Protection shall be used if necessary.

- E. Payment: Payment this work as specified above shall be made based on the unit price per ton for "Type "C" Rock Channel Protection."

WELL HEAD CONTROL

- A. Description: This work consists of all labor, equipment, and material necessary to establish control of the well. This item shall include the installation of a wellhead control device/flow diverter on the most appropriate well casing as described in the plugging plans.

In the event Division UPC work has been completed on the well, resulting in surface equipment (swages, fittings, valves, gauges, etc.) being installed, the Contractor shall coordinate with the inspector in returning this equipment to the Division for future use. At no point shall the Contractor assume ownership of any surface equipment associated with the well.

- B. Execution: The Contractor is responsible for installing, according to best management practices, a wellhead control device/flow diverter on the well casing.

The casing shall be free from any damages or defects. If required, the casing shall be cut and cleaned of any dirt, oils, and debris prior to welding extensions and/or installation of the diverter.

The Contractor shall supply a cellar with a cement base around the wellhead. This cellar shall be set around the well and extended up to working elevation, as the depressed area around the well head will be modified to establish workable base. This cellar shall be made of steel, concrete, or polyethylene pipe. **The cellar shall be a minimum of 48 inches in diameter. This work shall include a six (6) inch minimum of Approved Cement as specified or Portland Cement in the cellar base with a three (3) inch minimum port near the well. The port shall extend up to within three (3) inches of the well at working height and be used to monitor and contain any gas/oil escaping around the back side of the casing.**

Once a well head control device is installed, all fluids, gases and solids generated by the plugging process shall be diverted into a tank. This tank shall be set a minimum of twenty (20) feet from the well. The Contractor shall also maintain an adequate supply of freshwater at the well for possible well control emergencies, which shall be paid under the line item "**Well Control Fluid.**" The Contractor will install a two (2) inch diameter (minimum) kill line on the well. The injection point for the kill line will be a minimum of twenty (20) feet from the well.

No plugging operations shall begin until a satisfactory inspection of the prepared well has been completed by the Division.

- C. Measurement: Measurement for payment shall be made by field inspection of units satisfactorily completed and accepted by the Division.
- D. Payment: Payment for the above-described work, which includes all labor, materials, equipment necessary for the well head control shall be made at the cost proposal lump sum price for "**Well Head Control.**"

WELL CONTROL FLUID

- A. Description: The work covered by this section shall consist of furnishing all labor, equipment, and material necessary to provide and use water as a "kill" fluid for the drilling and plugging process of the well.
- B. Requirements: The Contractor shall receive prior approval from the Division before using any onsite waters for the plugging process (i.e. streams, lakes, or ponds). If approved, withdrawing waters of the

state shall not exceed 100,000 gallons per day from an individual water source.

The Division will require a minimum of 100-200 barrels of freshwater well control fluid be maintained on the site during the plugging project.

A mud pump (or equivalent) of sufficient size/capacity shall be required to be onsite at all times during plugging operations as means to pump well control fluid when required.

- C. Measurement: Measurement for payment for the above-described work shall be made by the actual quantity of barrels (bbls) of water used to successfully plug and/or drill the orphan as approval by the Division. The Division will at a minimum pay for the quantity required to be maintained on site.
- D. Payment: Payment for the above work shall be made at the unit price per barrel (bbls) for "**Well Control Fluid.**"

SHOOTING

- A. Description: This work consists of all labor, equipment, and material necessary to sever/shoot a casing or tubing at a determined depth for the purpose of removing the casing or tubing string by the means of shooting.
- B. Execution: The Contractor shall complete the shooting of the casing or tubing at a depth approved by the Division. The Contractor shall propose the material for shooting of the casing or tubing and shall be approved by the Division.
- C. Measurement: Measurement for payment shall be made by field inspection of units satisfactorily completed and accepted by the Division.
- D. Payment: Payment for the above-described work, which includes all labor, materials, equipment necessary for the shooting the casing or tubing made at the unit price per each for "**Shooting**".

LOGGING

- A. Description: This work consists of all labor, equipment, and material necessary to determine the total depth of the well and the casing, if a packer is present (along with its depth and thickness), determine bond quality behind the casing and the free point of the casing. The Log should also confirm zones of gas production and formation tops for cementing purposes. All cement plug depth and thicknesses will be based on log data of the first well plugged on the site.
- B. Execution: The contractor shall complete the logging of the well bore, casing, tubing, packer, and/or cement to the depth of the existing well bore, casing, tubing, packer, and/or cement. The methods of logging to be used shall be as indicated on the individual plugging plan and may include but not be limited to **gamma ray (GR), casing collar locator (CCL), bond**. Prior to use, the Contractor shall propose the method of logging and shall be approved by the Division.

A copy of the completed Log must be submitted to the Division via email at OrphanWellProgram@dnr.state.oh.us.

- C. Measurement: Measurement for payment shall be made by field inspection of units satisfactorily completed and accepted by the Division.

- E. Payment: Payment for the above-described work, which includes all labor, materials, equipment necessary for the investigation of the well shall be included at the per unit price per each for "**Logging**".

FISHING

- A. Description: This work consists of all labor, equipment, and material necessary to remove and/or clear the well bore as needed in order to reach total depth by the means of fishing the obstruction in the well bore.
- B. Execution: The Contractor shall supply the equipment needed to complete the fishing in an efficient manner that will be approved by the Division. This shall include but not be limited to the rig, impression blocks, and associated equipment. **This shall not include the fishing tools required to complete this work. The Division will develop a negotiated change order to deliver and use the appropriate fishing tools required based on the unforeseen conditions.** Appropriate fishing tools shall be provided for the circumstances encountered.
- C. Measurement: Measurement for payment shall be made by field inspection of the actual quantity of hours in which the drilling rig and other fishing equipment were diligently operating in a manner to remove the obstruction.
- D. Payment: Payment for the above-described work, which includes all labor, materials, equipment necessary for the obstruction removal shall be made at the unit price per hour for "**Fishing**".

WELL PREPARATION & PLUGGING

- A. Description: This work consists of all labor, equipment, and material necessary to prepare the well for plugging and complete all required plugs. This shall include cleanout, drillout, and washover of the well bore to the total depth of the well based on the well description(s) and plugging plan(s), circulating the well bore prior to each plug, setting all required plugs, and verification of each plug depth.
- B. Execution: The Contractor shall supply all equipment needed to complete the well preparation in an efficient manner that will be approved by the Division. This shall include but not be limited to the rig, drill pipe, collars, mud pump, circulating fluid, cementing equipment, mix water, and associated equipment.

Cable tool/spudding rigs shall not be permitted for use unless otherwise authorized by the Division as described under the General Conditions, Part 13 "Substitution During the Project".

Once well head control has been established, the Contractor will cleanout, drillout and/or washover and then circulate the well bore prior to setting any casing or well plugs. The Contractor shall be responsible for having a minimum of two (2) hole volumes of fluid available for circulation.

The Contractor shall identify the diameter of the well bore below the surface casing and cleanout or drillout with a full-size bit to total depth. **In addition to the full-sized bit, the contractor shall also supply a bore brush and/or casing scraper at the appropriate size to fully clean out any casing remaining per the plugging plan.** In any case where an obstruction is encountered and total depth cannot be achieved, the Contractor shall immediately notify the Division. The

Contractor shall propose a plan to assess the nature of the obstruction that shall be approved by the Division. Additional work associated with removal of the obstruction shall be described and paid for under the Contingency Specifications and as listed on the Quantity Sheet and agreed upon by the Division.

The Contractor shall trip out or up into the nearest competent cased string and secure all tools at the end of each workday or when work shall be paused for an extended time. Any tools left in the hole during such paused work time shall be at the Contractor's own risk. Any tools or tubing that are lost due to the Contractor's failure to complete the task of tripping out during paused work times shall be at their own expense as well as any work required to then prepare the hole to continue the plugging process (this shall include but not be limited to shooting, fishing, over drilling, lost or damaged tools, etc.). The tripping out of the tools during paused work times shall be incidental to this line item.

Formations within the well bore known to be producing H₂S gas will not be circulated prior to setting a plug.

Prior to setting any plugs the Contractor shall remove all free crude oil by **circulating the wellbore two-hole volumes or until the well is static; a minimum of ten (10) barrels of gel is required to be run ahead of each cement plug that may come into contact with open hole formation at the discretion of the Division.** This work shall be considered incidental to this line item. No additional payment shall be made for circumstances where the Contractor does not have the appropriate material on location.

Lost Circulation Material (LCM) may be used to aid in obtaining circulation, as approved by the Division. **Lost Circulation Material (LCM) shall NOT be used when tubing smaller than 1.5 inch inside diameter will be utilized. Circulation must be established prior to conducting cementing procedures.** Use of LCM shall be per the "Lost Circulation Material" specification included in the Contingency Specification. LCM shall be available at the site during the completion of this line item "Well Preparation & Plugging." **The well shall be in a static condition prior to beginning any cementing activities.**

The Contractor shall set all plugs as described in the **Plugging Plan** to the depths described with the materials described. This shall include setting the bottom plug, intermediate plugs, and the surface plug. All plugs shall be allowed to set for the periods described in the **Plugging Plan**. The Contractor shall determine with the required tools if any plug has dropped. **If a plug has dropped or is determined to not be a competent plug, then drill out of the plug or additional staged plugs may be required at the discretion of the Division as a part of this line item. The Division reserves the right to adjust the Plugging Plan during the plugging process based on site conditions.**

- C. Measurement: Measurement for payment shall be made by field inspection of units satisfactorily completed and accepted by the Division.
- D. Payment: Payment for the above-described work, which includes all labor, materials, equipment necessary for the well preparation and plugging shall be made at the lump sum price for "Well Preparation & Plugging."

TUBING

- A. Description: This item covers all labor, equipment, and material required to supply tubing at the

site for the purposes of placement of cement and spacers.

- B. Materials: The Contractor shall supply a 1.5-inch inside diameter (ID) or larger tubing in a condition that will allow for the pumping of cement for the purposes of plugging the well.

For this project the Contractor shall supply up to 4,894 feet of 1.5-inch ID or larger tubing to all the project wells.

- C. Installation: The Contractor will install and remove the tubing as necessary in order to complete the **Plugging Plan**. The Contractor shall maintain ownership at the conclusion of the project of all tubing that was brought to the site for these purposes.

- D. Measurement: Measurement for payment of the above-described work shall be made by actual field measurements per linear foot of tubing delivered to the site.

Tubing shall be measured as one use for the duration of the project.

- E. Payment: Payment for this item shall be made at the lump sum price for "**Tubing**."

APPROVED CEMENT

- A. Description: This item shall cover all labor, materials, and equipment necessary to plug the well as specified in the **Plugging Plan**.

- B. Materials: Cement materials shall be approved prior to placement. The cement must conform to the following options:

- a. API Class "A"
- b. API Class "L"
- c. ASTM C150 Type 1
- d. ASTM C595 Type 1L

(Note: These are the only material options that will be approved, any other materials may be submitted to the Division for review but will **not** be approved for this project)

The cement shall contain 2% Calcium Chloride, properly blended, **only if directed** by the Division in advance of placing the cement. **Coordinate with the Division prior to ordering cement.**

The cement shall not contain bentonite or extenders which delay set time or decrease the overall compressive strength unless otherwise noted.

Water used for cementing shall be free of any impurities that will adversely affect set time and compressive strength.

- C. Installation: **The Contractor shall notify the Division at least 24 hours in advance of placing the cement, including notification of the type of cement being used for approval.**

Additional wait times may be required for the type of cement used. This wait time shall be incidental to this line item. Upon approval of the type of cement the Division shall inform the Contractor of the required wait times for each staged plug.

Preparation of the well bore, including the running of gel flush ahead, shall be completed per line

item **“Well Preparation & Plugging”** prior to placement of the cement.

The cement slurry shall be mixed at the API recommendation, between 15.4 and 15.8 pounds per gallon.

The Cement shall be placed to the depths and intervals described in **Plugging Plan**.

It is the Contractor’s responsibility to provide a mud scale for weighing the cement slurry.

When using API Class “L” cement or ASTM C595 Type 1L cement, all the following conditions apply:

- Mill test information must be provided to the applicable Division inspector prior to utilization of API Class L cement or ASTM C595 Type 1L cement. The mill test information must be of a representative sample of the mixture of cement proposed to be used to plug the well. A person is not required to provide the mill test information if the Division already has the mill test information of the mixture of cement for a batch.

- Performance data shall be provided in compliance with Ohio Administrative Code 1501:9-11-07 prior to usage. To determine if Ohio Administrative Code 1501:9-11-07 is met, test results shall include at a minimum slurry density, composition, compressive strength, free fluids, thickening time, curing pressure, and curing temperature. The data also shall include percent limestone and percent pozzolan material.

- For blended cement containing limestone and pozzolanic material, the combination of the materials shall not exceed fifty per cent by volume.

- A sample of at least 20lbs representative of the of cement mixture proposed to be used in a well must be provided to the Division at the request of the Division.

- A person using API Class L cement or ASTM C595 Type 1L cement shall leave the plugged well in a manner that will allow for further inspection past the contract requirement of three days after the completion of the uppermost plug unless the applicable Division inspector determines that the contract requirement of three days is sufficient.

- D. Setting: Setting times shall be completed as described in the **Plugging Plan**. For the surface plug any void space between the top of the cement and the top of the casing shall be filled to achieve a level cement line with the top of the casing. This shall be done at no additional cost to the Division.

The cement must develop a minimum compressive strength of 500 PSI after 24 hours at well bore temperatures. The Division reserves the right to collect test cylinders throughout the duration of the cementing process.

- E. Measurement: Measurement for payment shall be based on the actual quantity of sacks of cement acceptably placed and shall be verified with delivery tickets. A sack shall be considered to be 94 pounds prior to mixing.
- F. Payment: The above-described work shall be paid for at the unit price per sack for **"Approved Cement."**

CEMENT MIXING & PUMPING

- A. Description: This item shall cover all labor, materials, and equipment necessary to mix and pump cement as specified in the **Plugging Plan**.
- B. Execution: Cementing equipment required on site to mix and pump casing cement and cement plugs shall be provided until each individual casing cementing or plug cementing is completed. This shall include but not be limited to pump truck, mud pump, and associated equipment.
- C. Measurement: Measurement for payment shall be for each trip to the project site in order to complete the plug(s) as described in the **Plugging Plan**. Payment for staged plugs shall be measured as one unit.
- D. Payment: Payment for the above-described work, which includes all labor, materials, equipment necessary for the mixing & pumping of cement into the well shall be made at the unit price per each for "**Cement Mixing & Pumping**."

FLUID DISPOSAL

- A. Description: This item shall consist of removing and disposing of the fluid generated from the well plugging process. Fluids to be removed shall be at the discretion of the Division and shall be injected at an approved Class II disposal well as provided by the Contractor prior to removal from the site.
- B. Material: Materials will be defined below as described for the purposes of this scope of work.

Contaminated Fluids: Contaminated fluid will be considered as all fluids used in the circulation of the well bore, fluids utilized as a "kill" substance and/or fluids generated from the well. The Division reserves the right to deem a fluid "contaminated" at its discretion.

Contaminated fluids are further defined as water that contains quantifiable concentrations of oil, natural gas(es), condensate, brine, plugging products, or other oil field waste substances.

Freshwaters: Water that has not been classified as a contaminated fluid and has been stored in an uncontaminated container shall be visually inspected for oil sheen, and field tested for pH and chlorides. The chloride concentration shall be less than 250 mg/L and the pH shall be within a range of 6.5-8.5 standard units (SU). If a water is deemed as freshwater based on these inspections and tests, the Contractor may discharge freshwater into or onto the land in an appropriate manner. Freshwater disposal shall not be paid for under this line item "**Fluid Disposal**."

- C. Off-Site Disposal: Fluids designated as "contaminated" shall be hauled to an appropriate Class II disposal well. Proof of disposal from the disposal well shall be furnished within three (3) days of acceptance to the Division.

No additional compensation shall be made for onsite fluid storage. If contaminated fluids remain onsite, proper containment shall be established meeting all requirements as described in line item "**Secondary Containment**" at no additional cost to the Division. Onsite storage time shall not exceed 72 hours after plugging activities have been completed.

- D. Measurement: Measurement for payment shall be verified based on documentation proof of a quantity of disposal from the disposal well utilized.
- E. Payment: Payment shall be made at the unit price per barrel for "**Fluid Disposal**."

CONTAMINATED MATERIAL DISPOSAL

A. Description: This item shall consist of removing contaminated soils and cuttings from the site for off-site disposal. Soils and cuttings to be removed shall be at the discretion of the Division and shall be disposed of at an approved EPA licensed landfill as provided by the Contractor prior to removal from the site.

B. Material:

Contaminated Soils/Cuttings: Contaminated soils and cuttings are defined as soils or cuttings in which oil, gas, condensate, brine, plugging products, or oil field waste substances have been released in or on the land.

The Contractor will excavate and properly dispose of all soils from the location that are visibly impacted with oilfield contaminants. The Contractor shall solidify any residual fluid associated with these soils with Portland Cement, prior to removal as a part of this line item. Prior to solidification of contaminated materials, the contractor shall use due diligence to remove fluids from the contaminated materials. Fluids removed from the contaminated materials shall be disposed of per line item "**Fluid Disposal.**"

Soils deemed "contaminated" as a result of Contractor negligence during the plugging process will be removed and disposed of at the Contractor's expense. Disposal procedures will conform to all requirements stated within this line item.

C. Off-Site Disposal: Soils designated as "contaminated" shall be hauled to an appropriate licensed landfill. Copies of truck weight tickets from the landfills shall be furnished within 3 days of acceptance to the Division.

Contaminated soils shall be loaded and hauled away as they are excavated.

No additional compensation shall be made for onsite contaminated soil storage. If excavated soils remain onsite, proper containment shall be established meeting all requirements as described in line item "**Secondary Containment**" at no additional cost to the Division. Onsite storage time shall not exceed 72 hours after plugging activities have been completed.

D. Measurement: Measurement for payment shall be verified based on weight tickets of quantities disposed at the approved EPA licensed landfill.

E. Payment: Payment shall be made at the unit price per ton for "**Contaminated Material Disposal.**"

SALVAGE MATERIAL DISPOSAL

A. Description: This item shall consist of preparing, removing, and salvaging all materials from the site that have a salvage value as shown on the Drawing Plan Set or as required by the Division. All items to be salvaged shall include all surface equipment, well casing, and production equipment. Salvage items shall also include any hydrocarbon materials (oil, condensate, etc.) that have a marketable value. Salvage items shall be stored onsite within the construction project limits until removed for salvage.

B. Off-Site Disposal: Prior to removal from the site the Contractor shall supply in writing to the Division an inventory of all materials to be salvaged. On the behalf of the Division the Contractor shall salvage materials inventoried. Once materials have been salvaged the contractor shall

reimburse the Division for the salvage value per the line item "**Salvage Material Reimbursement.**"

At the request of the Division, surface equipment deemed as reusable shall be forfeited directly to the Division's onsite representative. This shall include but not be limited to swages, wellheads, fittings, appurtenances, etc. At no time shall salvageable material become property of the Contractor.

Prior to disposal of any salvage materials from the project site, the Division will complete a radiological assessment of salvage materials that have been provided on an inventory to the Division. **The Division shall be given a minimum of two (2) working days notice to complete the assessment.** Salvage materials staged on the project site shall be staged on a pipe rack where determined applicable by the Division. Salvage materials shall be on an impervious liner that will collect any residual fluids or scale.

Prior to disposal of any salvage materials the Contractor shall prepare, including cleaning, the salvage materials for lawful salvage.

All salvageable material shall be cleaned onsite. The final product shall be non-hazardous and, in a condition, to not cause offsite pollution/contamination during transport and/or disposal.

- C. Execution: The Contractor shall include in this line item any expense incurred with the removal and the salvaging.
- D. Measurement: Measurement for payment shall be made by field inspection of units satisfactorily completed and accepted by the Division.
- E. Payment: Payment shall be made at the lump sum price for "**Salvage Material Disposal.**"

GAS LINE ABANDONMENT

- A. Description: The work covers all labor, equipment, and material required for abandoning the existing gas lines associated with the orphan well.
- B. Execution: The flushing of the line shall be accomplished by an approved method submitted to the Division prior to the initiation of work. The Contractor shall submit a plan to the Division, which fully details the proposed method for flushing the line. This plan shall include the following:
 - 1. Flushing equipment;
 - 2. Pumping equipment (if necessary);
 - 3. Size and capacities of holding sumps;
 - 4. Method for cementing or grouting in the ends of the line;
 - 5. Method for permanently capping the ends of the line

The Contractor shall excavate and expose the gas line at each end as shown on the Drawing Plan Set or as determined in the field. If it is determined that holding sumps will be used upon excavation, the Contractor shall sever the line and temporarily line the entire excavated area(s). Liner materials shall be impervious and have supporting documentation of the permeability, chemical compatibility, and other applicable QA/QC standards, is acceptable. Use of a liner shall at a minimum be a 20-mil thickness.

The Contractor shall notify the Division 24 hours in advance of flushing the line.

Once the liners are in place, the Contractor shall begin flushing line toward the well with freshwater. Freshwater shall be continually flushed through the line until fluid discharge is observed at the outlet end and no residual oil/gas waste is observed. All generated residuals and fluids shall be properly removed and disposed of per line item "Fluid Disposal" and/or "Contaminated Material Disposal."

If after several attempts the Contractor is unsuccessful in achieving fluid at the outlet end, the Division may authorize the Contractor to cease operations and cement/grout the ends of the line.

The cement or grout shall be included in the unit price line items "**Approved Cement**" or "**Nine Sack Grout**". **All other costs for pumping shall be incidental to this line item.** Care shall be taken to ensure the line is not over filled as to cause cement or grout to fill beyond the line itself. Once the end is cemented the Contractor shall cap the line. This shall be solely at the discretion of the Division.

- C. Measurement: Measurement for payment shall be made by field inspection of units satisfactorily completed and accepted by the Division.
- D. Payment: Payment for this work, including equipment, labor, installation, and materials shall be made at the lump sum price for "**Gas Line Abandonment**."

FENCE REPAIR

- A. Description: This work consists of all labor, equipment, and material necessary to remove, temporarily store and reconstruct the existing fencing to its original condition and to the size and dimensions shown on the Drawing Plan Set. The Division shall determine exact locations in the field.
- B. Materials:
 - 1. Barbwire Fence - The new posts, barbwire, ties, and other hardware shall match the existing barbwire fence construction. The existing mesh shall be reused. The posts, rails, ties, and other hardware shall be treated for continuous outdoor use. All hardware shall be of a minimum size and length to provide a secure connection as approved by the Division.
- C. Payment: Cost for this item, including posts, rails, ties, hardware and stretching the existing mesh shall be at the contract unit price per linear foot "**Fence Repair**".

APPROVED RESOIL

- A. Description: This work shall consist of furnishing all labor, material, and equipment necessary for the hauling, spreading, and grading of the resoil material for the replacement of the removed contaminated soils. This work shall also include shaping for positive drainage and matching the surrounding contours.
- B. Material: Material shall be a good quality resoil and **not** include rocks, stones, and objectionable material over three (3) inches in any one dimension. All resoil that will compose the top eighteen (18) inches of resoil at the ground surface shall be topsoil. Topsoil shall be defined as during excavation having a brown matrix color, less than 50% clay content, and enough organic materials to be generally

suitable for vegetative growth.

- C. Installation: Care shall be taken to keep heavy equipment off the surface material after it has been spread. If the resoiling material becomes compacted, the Contractor shall disc the material to a depth of four (4) inches at the Contractor's expense.
- D. Measurement: The material shall be measured for payment by the ton (2,000 pounds) for material acceptably placed in the work as determined by certified scale weight tickets.

All material wasted or used by the Contractor for other purposes and any material not placed in the work in accordance with the requirements of the work order and these specifications and drawings shall be measured and not included for payment by weight.

- E. Payment: Payment for this work shall be made at the unit price per ton for "**Approved Resoil.**"

SITE RESTORATION

- A. Description: This work shall cover all operations incidental to the establishment of grasses within the areas disturbed by the Contractor, including the furnishing and sowing of seed; and furnishing and applying of mulch materials, all in accordance with these specifications. Additionally, this work shall include, but not be limited to, repair of grounds and vegetation, including landscaping amenities, ornamental shrubs and trees damaged in any manner during the work operations. All areas shall be properly graded to a smooth final grade with topsoil and blended into adjoining areas at the most moderate slope possible. Seedbed preparation through the use of scarifying equipment is also required. All site restoration work is to be completed within **fourteen (14) days** of the completion of the construction activities. The Contractor may request in writing to the Division an extension for site restoration. Requests shall only be granted based on season or weather conditions.
- B. Materials: The materials to be used for restoration shall conform to the applicable requirements of these specifications.
 - 1. Lime: Pelletized lime shall be applied at a maximum rate of 400 pounds per acre. Rates may be adjusted by the Division at the time of application.
 - 2. Fertilizer: Fertilizer shall be commercial grade (19-19-19) and shall be applied at a rate up to a maximum of 20-lbs/1000 sq. ft. Rates may be adjusted by the Division at the time of application.
 - 3. Seed: The varieties of grass seed to be furnished to the project shall bear a tag on each bag of each species showing the lot number, grower's name, percent of purity, percent of germination, and weed content. Tags shall be provided to the Division.

All seeds shall be free from noxious weeds and under no condition shall the total weed content of any lot of seed or seed mixture exceed one-half of one percent by weight.

No seed shall be utilized which has a mix date older than one year. The Division reserves the right to test, reject, or approve all seed after delivery to the project.

Species Composition:

Food Plot: All area designated as food plot areas shall be seeded with Whitetail Institutes

(Imperial Whitetail-Edge) at a rate of 26 lbs/acre. The seed shall be sown to the entire disturbed area. See WhitetailInstitute.com for further details.

Yard seed shall be applied at a rate of 10 lbs/1000 sq. ft. and shall conform to the following seed mixture ratio:

98/85 Kentucky Bluegrass	50%
Perennial Ryegrass	50%

All areas not designated as yard, farm field, or food plot shall use the following seed mix, and shall be sown at the indicated rate. This mixture is listed by recommended planting season and for existing site conditions, and/or intended use. Further information may be found in the Agronomy Guide, Bulletin 472, Cooperative Extension Service, The Ohio State University.

<u>GENERAL SEED MIX</u>	<u>lbs/acre</u>
Orchardgrass (Dactylis glomerata)	15.0
98/85 Kentucky Bluegrass	12.0
Timothy (Phleum pratense)	12.0
Birdsfoot Trefoil (Lotus sp.)	9.0
Red Clover (Trifolium pratense)	8.0
White Clover (Trifolium repens)	7.0
Annual Ryegrass (Lolium multiflorum)	8.5
Perennial Ryegrass (Lolium perenne)	3.5
Total lbs/acre	75

Other types of seed may be substituted if requested by the property owner(s). If such substitutions are made, they are to be made at no additional cost to the Division.

4. Mulching Material: All mulch material shall be free from mature seed-bearing stalks or roots or prohibited or noxious weeds. Any type of hay is not acceptable. Mulch shall include baled wheat straw or oat straw. It shall be dry and reasonably free of weeds, stalks, or other foreign material.

For all required materials listed above, the Division reserves the right to request receipts, material specifications and/or weight tickets for verification.

C. Installation:

1. Start of Work: Site restoration work shall begin as soon as possible after the completion of construction. Final site restoration operations shall be completed within fourteen (14) working days of the final construction activities. The Contractor may request in writing to the Division an extension for site restoration. Requests shall only be granted based on **season or weather conditions**.
2. Area Preparation of Soil: Spread and grade available topsoil uniformly over all disturbed areas. All areas to be seeded shall be loosened by discing, harrowing, or other approved methods immediately prior to seeding. The soil shall be loosened to a depth of approximately three inches.

Hand raking shall be required in all areas where machines do not obtain the results desired by the Division.

Following tilling of the soil, the seedbed shall be allowed to firm up.

Final prepared surface shall have a smooth final grade and be appropriate for a residential yard, free from rocks, large dirt clumps and any other foreign debris.

Immediately following area preparation for seeding, materials shall be applied in the following order:

- Lime, as applicable
- Fertilizer, as applicable
- Seed, after broadcasting or otherwise applying the seed, the surface of the seedbed shall be loosely disturbed by hand raking, dragging, and/or cultipacking.

Lime, fertilizer and/or seed shall be sown by approved methods that provide for uniform distribution of the mixes as specified above.

3. Mulching: Apply the equivalent of 100 pounds per 1,000 square feet of clean straw mulch.

Apply mulch to the sown area within 24 hours of seeding at the rate per square feet as specified above and spread to a uniform depth.

The straw shall be placed in a moist condition or shall be moistened immediately after placement.

4. Maintenance and Repairs: The Contractor shall, during construction and prior to acceptance, properly care for all areas mulched and perform all mulching operations necessary to provide protection and establish growth of the seeded areas. Mulch that becomes displaced shall be reapplied at once, together with any necessary reseeded, all at no expense to the Division.

No additional payment shall be made for acts of God, i.e. fire, flood, drought, etc.

- D. Maintenance Period: The permanent planting of trees, shrubs, perennials, annuals, grasses and legumes, etc. shall be deemed to be acceptable if the species that were planted in accordance with the approved plans are established and maintained for one (1) "growing season" as defined below and meeting the following standards:

1. Growing Season: All landscaping shall be guaranteed for a period of one (1) summer growing season after planting. Planting material installed in the Fall shall be in full count and thrifty condition on the next succeeding September 15 at which time replacement shall be determined and scheduled for installation during the planting period of October 15 - December 1 of that same season. Planting material installed in the Spring shall be in full count and thrifty condition on the next succeeding May 15 at which time replacements shall be determined and scheduled for installation prior to June 1 of the same season. All plants installed in the summer shall be guaranteed for one (1) full summer and shall be in full count and thrifty condition the next succeeding September 15.
2. Acceptable Lawn/Turf Areas: A series of four (4) random line transects are to be laid out within the project boundaries. A string one hundred (100) feet long having one (1) foot graduation, shall be placed along the transect line. The person conducting the transect will then walk along the line counting only the markers which are in actual contact with the vegetation. The number of count points are to be recorded as subtotals. When the four transects are completed, the average of the four transects subtotals is then equal to the percent of vegetative cover for the project.

- a) Residential Lawns: At least one hundred percent (100%) of the land affected shall be judged to be of good quality, and “good” is defined as an area that has at least ninety percent (90%) cover.
 - i. All land affected and having less than ninety percent (90%) cover shall be judged poor and deemed unacceptable; and
 - ii. All areas judged to be good must have species diversity requirements of those recommended for planting.
 - b) Farm & Field Turf: At least ninety percent (90%) of the land affected shall be judged to be of good quality, and “good” is defined as an area that has at least seventy-five percent (75%) cover.
 - i. The remaining ten percent (10%) of the land affected shall be judged to be of fair quality, and “fair” is defined as an area that has at least fifty percent (50%) cover but less than seventy-five percent (75%) cover;
 - ii. All land affected and having less than fifty percent (50%) cover shall be judged poor and deemed unacceptable; and
 - iii. All areas judged to be good or fair must have species diversity requirements of those recommended for planting.
 - c) Severe Decline of a Tree or Shrub: Shall be defined as the death of a major leader or 50 percent of the crown of a tree or shrub or dieback of a plant to the ground, even if that plant is still alive.
- E. Measurement: Measurement for payment of site restoration, which includes seedbed preparation, lime, fertilizer as applicable, seeding, mulching, and replacement of landscape amenities (i.e. shrubs, trees, etc.) shall be considered and measured as a unit satisfactorily completed and accepted by the Division.
- F. Payment: Payment for this work, which includes seedbed preparation, liming, fertilizing, seeding, mulching, required replacement of all shrubs, trees and landscaping amenities, etc., and general cleanup shall be made at the lump sum price for "**Site Restoration.**"

DEMOBILIZATION

- A. Description: This work shall consist of the demobilization of all personnel, plugging related equipment and materials as well as the cleanup of all areas upon completing all other work required under the scope of work for the well site.
- B. Execution: Any damage to the road, drives, and/or culverts caused by the demobilization shall be repaired by the Contractor at the Contractor’s expense. All repairs shall be done equal to or better to that which existed prior to construction activities.

This item shall also include the continued and proper use of any maintenance of traffic required within the road right-of-way per Part 7 of the General Specifications.

Also, the Contractor shall be responsible for cleaning mud and dirt associated with construction from all roadway surfaces (public and private) as per Part 7.1 of the General Specification for the duration of the Project and as directed by the Division.

- C. Measurement: Measurement for payment will be considered and measured as a unit satisfactorily completed and accepted by the Division. **Demobilization of equipment from the well site to well site for this project shall be considered incidental to this line item.**

If any portion of the item is non-performed (i.e., the mud and dirt are not cleaned from the roadway, damaged items not restored to the satisfaction of the Division, etc.) this is considered unsatisfactory and shall be cause for the rejection of payment of this item.

- D. Payment: The cost of this work shall be included in the lump sum price for "**Demobilization.**"

DETAILED SPECIFICATIONS
FIXED PRICE ITEMS
(Values set by the Division.)

SALVAGE MATERIAL REIMBURSEMENT

- A. Description: This item shall consist of reimbursing the Division for all materials removed from the site for salvage including all surface equipment, well casing, tubing, production equipment, and marketable hydrocarbons.
- B. Reimbursement: The Contractor shall supply salvage receipts to the Division for materials inventoried and removed from the site for salvage. The Division shall use these receipts as deduction of payment that will be represented on the Offer for this line item for this project.
- C. Measurement: Measurement shall be made by salvage receipts amounts.
- D. Payment: Deduction shall be entered as an amount for "**Salvage Material Reimbursement.**"

CONTINGENCY SPECIFICATIONS

CONTINGENCY SPECIFICATIONS WILL ONLY BE DIRECTED VIA A FIELD ORDER FROM THE DIVISION. THE FIELD ORDER WILL DEFINE THE QUANTITY APPROVED. CONTINGENCY SPECIFICATION USE WILL BE DETERMINED BASED ON-SITE CONDITIONS THAT ARE DETERMINED BY THE DIVISION.

ALTERNATIVE WELL CONTROL FLUID

- A. Description: The work covered by this section shall consist of furnishing all labor, equipment, and material necessary to provide and use a weighted brine as a “kill” fluid for the plugging process of the well.
- B. Materials: The Contractor shall provide a ten (10) pound per gallon brine solution.

The Division will require a minimum of 200 of alternative well control fluid be maintained at required sites during the plugging project, as defined in the plugging plan.

A mud pump (or equivalent) of sufficient size/capacity shall be required to be onsite at all times during plugging operations as means to pump well control fluid when required.

- C. Measurement: Measurement for payment for the above-described work shall be made by the actual quantity of barrels (bbls) of kill fluid used to successfully plug and/or drill the orphan well. The Division will at a minimum pay for the quantity required to be maintained on site.
- D. Payment: Payment for the above work shall be made at the unit price per barrel (bbls) for "Alternative Well Control Fluid."

FISHING

- A. Description: This work consists of all labor, equipment, and material necessary to remove and/or clear the well bore as needed in order to reach total depth by the means of fishing the obstruction in the well bore.
- B. Execution: The Contractor shall supply the equipment needed to complete the fishing in an efficient manner that will be approved by the Division. This shall include but not be limited to the rig, impression blocks, and associated equipment. **This shall not include the fishing tools required to complete this work. The Division will develop a negotiated change order to deliver and use the appropriate fishing tools required based on the unforeseen conditions.** Appropriate fishing tools shall be provided for the circumstances encountered.
- C. Measurement: Measurement for payment shall be made by field inspection of the actual quantity of hours in which the drilling rig and other fishing equipment were diligently operating in a manner to remove the obstruction.
- D. Payment: Payment for the above-described work, which includes all labor, materials, equipment necessary for the obstruction removal shall be made at the unit price per hour for "Fishing".

MAGNET

- A. Description: This work consists of all labor, equipment, and material necessary to supply a magnet and the required subs as the fishing tool.
- B. Execution: The Contractor shall supply all equipment needed for a magnet fishing tool to be used for fishing out the well bore to the depth of the current obstruction and extracting it. This shall include but not be limited to the rig, subs, and associated equipment. Appropriate tools shall be provided for the circumstances encountered. The work to complete the fishing shall be per line item "**Fishing**".
- C. Measurement: Measurement for payment shall be made by the delivery of the magnet to extract the obstruction as satisfactorily completed and accepted by the Division.
- D. Payment: Payment for the above-described work, which includes all labor, materials, equipment necessary to supply the magnet to extract the obstruction shall be made at the per unit price per each for "**Magnet**".

MILLING

- A. Description: This work consists of all labor, equipment, and material necessary to remove and/or clear the well bore as needed in order to reach total depth by the means of milling the well bore.
- B. Execution: The Contractor shall supply the equipment needed to complete the milling in an efficient manner that will be approved by the Division. This shall include but not be limited to the rig, swivel, mud pump, and associated equipment. **This shall not include the milling bits required to complete this work. The Division will develop a negotiated change order to deliver and use the appropriate milling bits required based on the unforeseen conditions.** Appropriate milling bits shall be provided for the circumstances encountered. Milling bits shall be factory made unless approved otherwise in writing by the Division.
- C. Measurement: Measurement for payment shall be made by field inspection of the actual quantity of hours in which the drilling rig and other milling equipment were diligently operating in a manner to remove the obstruction.
- D. Payment: Payment for the above-described work, which includes all labor, materials, equipment necessary for the obstruction removal shall be made at the unit price per hour for "**Milling**".

SHOOTING

- A. Description: This work consists of all labor, equipment, and material necessary to sever/shoot a casing or tubing at a determined depth for the purpose of removing the casing or tubing string by the means of shooting.
- B. Execution: The Contractor shall complete the shooting of the casing or tubing at a depth approved by the Division. The Contractor shall propose the material for shooting of the casing or tubing and shall be approved by the Division.
- C. Measurement: Measurement for payment shall be made by field inspection of units satisfactorily completed and accepted by the Division.

- D. Payment: Payment for the above-described work, which includes all labor, materials, equipment necessary for the shooting the casing or tubing made at the unit price per each for "**Shooting**".

LOST CIRCULATION MATERIALS

- A. Description: This work shall include furnishing all labor, materials, equipment, and supplies necessary to expose portions of the well bore to lost circulation materials (LCM) as determined necessary. Lost circulation materials shall be implemented to aid in obtaining well bore circulation prior to any cementing operations.
- B. Materials: Lost circulation materials shall be selected by the Contractor based on site conditions encountered and proposed to the Division for approval.
- C. Measurement: Measurement for payment shall be based on the actual quantity of sacks of lost circulation materials satisfactorily placed and shall be verified with delivery tickets. For estimating purposes, it has been assumed that one (1) sack is equal to fifty (50) pounds.
- D. Payment: Payment for all the above-described work shall be made at the unit price per sack for "**Lost Circulation Materials**".

DRILLING MUD

- A. Description: The work covered by this section shall consist of furnishing all labor, equipment, and material necessary to provide and use a water-based drilling mud for the drilling and plugging process of the well.
- B. Materials: Based on the onsite conditions the Contractor shall propose a water-based drilling mud for approval from the Division. Once a material is approved the Division will require a minimum quantity be maintained at the site during the plugging project based on circumstances encountered.
- C. Measurement: Measurement for payment for the above-described work shall be made by the actual quantity of sacks (50 lbs) of additives for the water-based drilling mud used to successfully plug the orphan well.
- D. Payment: Payment for the above work shall be made at the unit price per sack for "Drilling Mud."

NINE SACK GROUT

- A. Description: This work shall include furnishing all labor, materials, equipment, and supplies necessary to plug the well as specified in the **Plugging Plan**.
- B. Materials: Nine Sack Grout shall consist of the following materials and requirements:

Constituent	SSD Weight (lbs.)	Volume (ft. ³)
Cement Type I-II	846.00	4.30
Sand	2550.00	15.54
Water	417.00	6.68

(SSD means saturated surface dry)

1. Cement Type I-II: Cement shall conform to ODOT CMS Item 701.02 and 701.04.
2. Sand: Sand shall be in accordance with ASTM C150.
3. Water: Water shall be in accordance with ASTM C1602.
The grout shall contain a maximum of 1% entrapped air.

Grout shall have a water to cement ratio (W/C) equal to 0.50 and an overall unit weight of 142.30 pounds per cubic foot.

Slump tests may be done at the discretion of the Division. Slump requirements shall be determined in the field at the time of construction.

The Division has accounted for excess materials due to loss in the wellbore in the quantities on the **Quantity Sheet**.

- C. **Installation:** **The Contractor shall notify the Division at least 24 hours in advance of placing grout.** The surface plug shall be grouted to the depth described in the **Plugging Plan**.

Well preparation and circulation shall be achieved as detailed in the "**Well Preparation & Plugging**" line item and the **Plugging Plan**.

- D. **Setting:** Setting times shall be completed as described in the **Plugging Plan**. For the casing any void space between the top of the grout and the top of the casing shall be filled to achieve a level grout line with the top of the casing. This shall be done at no additional cost to the Division.
- E. **Measurement:** Measurement for payment for the above-described work shall be based upon material quantities satisfactorily installed as well as delivery tickets furnished to the Division.
- F. **Payment:** Payment for all the above-described work shall be made at the unit price per cubic yard for "**Nine Sack Grout**."

DOWNHOLE VIDEOGRAPHY

- A. **Description:** This work consists of all labor, equipment, and material necessary to video record the well bore in order to assess a well bore obstruction.
- B. **Execution:** The Contractor shall supply all equipment needed and complete the videography recording of the well bore to the depth of the current obstruction. The Contractor shall supply the Division with an electronic copy of the videography recorded in a format viewable in readily available current software.
- C. **Measurement:** Measurement for payment shall be made by the delivery of an acceptable video and photos to the Division of the current obstruction. Measurement shall be per obstruction, not per video or photo.
- D. **Payment:** Payment for the above-described work, which includes all labor, materials, equipment necessary for the video recording of the current obstruction made at the per unit price per each for "**Downhole Videography**".

No. 4 STONE

- G. Description: This work covers the quality, material placement and requirements as a base course stone for the project access as shown in the Drawing Plan Set.
- B. Materials: The materials shall consist of sound and durable rock, gravel or stone of the proper gradation meeting ODOT specifications. The material shall be free from cracks, seams, and other defects, which tend to increase deterioration from natural causes. It shall be highly resistant to weathering and disintegration under freezing and thawing and wetting and drying as evidenced by laboratory tests and/or service records. The Division at any time during the project may reject any materials, at the source or job site, not meeting the requirements of these specifications.
- Acceptability of material will be determined by laboratory tests, visual inspection and/or service records as required by the Division. Service records will include documentation to show the material has performed satisfactory on similar structures.
- C. Installation: Upon delivery of the material to the site the Contractor shall install the material in place as directed by the Division. The Contractor shall not stockpile materials at the site.
- The Contractor shall remove the topsoil prior to installation of any access road or work area stone. Topsoil shall be stockpiled adjacent to the location it is removed from. At the conclusion of the project, all topsoil will be replaced it original location as part of the line item "**Site Restoration.**" **Existing drives upgraded for the purpose of this work shall be restored to a condition better than prior to construction.**
- D. Measurement: The material shall be measured for payment by the ton (2,000 pounds) for material acceptably placed in the work area as determined by certified scale weight tickets.
- All material wasted or used by the Contractor for other purposes and any material not placed in the work area in accordance with the requirements of the work order and these specifications and drawings shall be measured and not included for payment by weight. A conversion factor of 1.5 ton per cubic yard of No. 4 Stone shall be used if necessary.
- E. Payment: Payment this work as specified above shall be made based on the unit price per ton for "**No. 4 Stone.**"



SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Multiple Townships



APPENDIX I – OHIO ONE-CALL

THE FOLLOWING ARE REPORTABLE INCIDENTS: *(OAC 1501:9-8-02)*

TYPE OF INCIDENT <small>(All Incident types associated with production operation or other activity regulated under Chapter 1509)</small>	QUANTITY <small>(GAL, BBL, PPM)</small> NOTE: 1 Barrel = 42 US Gallons	ADDITIONAL FACTORS
Release of Gas	<u>Any</u> amount	Resulting from a Blow out; OR
		Uncontrolled Pop-off Valve (in Urban Area); OR
		Any gas release that is a threat to public safety
Release of Hydrogen Sulfide(H₂S) Gas <small>(within the Working Area)</small>	Exceeding 20 ppm (Sustained airborne concentration); For duration > 10 min	OR any H ₂ S release resulting in injury or death of person
Fire / Explosion	N/A	In which a reporting person has called an emergency responder (9-1-1 or Fire Dept)
Release of Oil, Condensate, or Materials Saturated with Oil or Condensate	> 210 US gallons in any 24-hr period (Estimated)	AND the release is OUTSIDE secondary containment & into the environment
Release of Oil, Condensate, or Materials Saturated with Oil or Condensate	> 25 US gallons in any 24-hr period (Estimated); AND the release is outside secondary containment and into the environment	In an urban area; OR
		In an Emergency Management Zone of a surface water public drinking supply; OR
		In a 5-year time of travel with a groundwater-based public drinking supply; OR
		In a 100-year flood hazard area as delineated on the federal emergency management agency's (FEMA) national flood insurance rate map
Release of Refined Oil Products <small>(EX: oil-based drilling fluid, petroleum distillate, spent or unused paraffin solvent, gasoline, fuel oil, diesel fuel, or lubricants)</small>	> 25 US gallons in any 24-hr period	AND the release is OUTSIDE secondary containment & into the environment
Release of Oil, Condensate, or Materials Saturated with Oil or Condensate; OR Refined Oil Products	<u>Any</u> amount	That enters waters of the state in an amount that causes a film or sheen on the surface of the water
Release of Brine or Semi-Solid Waste <small>(EX: drilling mud, sludge, or tank bottom sediments)</small>	> 42 US gallons in any 24-hr period	AND the release is OUTSIDE secondary containment & into the environment
Release of Brine from a Vehicle, Vessel, Railcar, or Container	> 42 US gallons	AND is operated by a person to whom a registration certificate has been issued (ORC 1509.222), or to whom a resolution has been issued (ORC 1509.226)
		AND enters the environment

<p>Release of Hazardous Substance (HS)/ Extremely Hazardous Substance (EHS); OR Mixture or Solution including a HS or EHS</p>	<p>An amount Equal to or > than applicable reportable quantities listed in 40CFR tables; in any 24-hr period</p> <p>If the amount of one or more HS or EHS released is in an unknown mixture or solution, notify when the total amount of the mixture or solution released is <u>equal to or > than</u> the reportable quantity for the HS or EHS with the lowest reportable quantity</p>	<p>List available at: http://oilandgas.ohiodnr.gov/portals/oilgas/pdf/emergency/list_of_lists.pdf</p> <p><i>Code of Federal Regulations (C.F.R.) References:</i> HS- Appendix A 40 CFR Part 302.4 EHS- Appendix A 40 CFR Part 355</p>
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THE FOLLOWING ARE NOT REPORTABLE INCIDENTS: (OAC 1501:9-8-02 (A)(7))

1. Controlled flaring or controlled burns authorized under Chapter 1509. of the Revised Code or under 1501:9 of the Administrative Code or authorized by the terms and conditions of a permit issued under Chapter 1509. of the Revised Code;
2. Properly functioning emission control devices authorized pursuant to Revised Code Section 3704.03;
3. Subsurface detonation of perforation-guns;
4. Seismic shots;
5. Controlled blasting for well site construction

Date Last Edited & Printed: 9/27/2018



SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Brown, Jackson, & Swan Townships

APPENDIX II: Photos
& Well Records

T & G Wrightsel #1
34-163-6-0008-00-00
Vinton County, Brown Township







60008

C-0080-5-53 GEOLOGICAL SURVEY OF OHIO

State Ohio OIL AND GAS WELL LOG

County Vinton Township Brown Quadrangle Zaleski

Lot _____ Quarter _____ Tract _____ Section 33 NW _____ NE _____ SW _____

Measured _____ Feet From _____ Line And _____ Feet From _____ Line Of _____

Land Owner G. F. & T. A. Wrightsel Well No. 1 Date Started 8-29-19

Operator O. F. G. (Preston #302) Well No. 4120 Date Completed 9-23-19

Elevation Bar _____ S. L. _____ Total Depth 907 Plugged Back _____

Formation Drilled To Berea sd. Producing Form Berea sd. Init. Prod. Nat. 339 M.

Shot or Acid Record _____ Prod. A. S. or Acid _____

Init. Rock Press. _____ Abandoned _____

Formation	Top	Bottom	Remarks	Formation	Top	Bottom	Remarks
loam & sh.	0	25					
sd. & ls. shells		460					
Inj.		515					
sl. & shells		879					
blk. sl.		904					
Berea sd.	904	907	gas T.D.				

Casing Record	8" 25	6" 683 $\frac{1}{2}$	5" 910'8"	 <table style="display: inline-table; border-collapse: collapse;"> <tr> <td style="border: 1px solid black; padding: 2px;">1</td> <td style="border: 1px solid black; padding: 2px;">2</td> <td style="border: 1px solid black; padding: 2px;">3</td> <td style="border: 1px solid black; padding: 2px;">4</td> <td style="border: 1px solid black; padding: 2px;">5</td> <td style="border: 1px solid black; padding: 2px;">10</td> </tr> <tr> <td style="border: 1px solid black; padding: 2px;">75</td> <td style="border: 1px solid black; padding: 2px;">110</td> <td style="border: 1px solid black; padding: 2px;">125</td> <td style="border: 1px solid black; padding: 2px;">135</td> <td style="border: 1px solid black; padding: 2px;">140</td> <td style="border: 1px solid black; padding: 2px;">150</td> </tr> </table> 	1	2	3	4	5	10	75	110	125	135	140	150
1	2	3	4	5	10											
75	110	125	135	140	150											

T & L Scanlan #1
34-163-2-0489-00-00
Vinton County, Jackson Township



Sep 21, 2023 at 1:33:56 PM
26406 Goose Creek Rd
McArthur OH 45651
United States

WELL COMPLETION RECORD
OHIO DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS

FORM 8: Revised 06/01/81

1. OWNER #: B0000239

2. OWNER NAME, ADDRESS: & TELEPHONE NUMBERS: Bay State Exploration Company, Inc.
P. O. Box 100, 250 Boylston Street
Chestnut Hill, Ma. 02167
1-617-332-4545

THIS REPORT IS DUE IN TRIPPLICATE 30 DAYS AFTER COMPLETION OF THE WELL. IF THE PERMIT HAS EXPIRED AND THE WELL WAS NOT DRILLED, CHECK HERE, SIGN ON REVERSE SIDE, AND RETURN TO OUR OFFICE WITHIN 30 DAYS AFTER EXPIRATION.

3. API #: 3-4-163-2-0489 ** 1-4

4. TYPE OF PERMIT: Drill Plug Back Convert Reopen Deepen

5. TYPE OF WELL:
 Oil & Gas Brine Artificial Brine Disposal Core Hole
 Storage of Injection Extraction Observation
 Secondary Recovery: Input Production Water Supply
Other: Explain _____

6. FOOTAGE LOCATION: 640' SL & 498' WL of NW 1/4 of Sec. 10

7. COUNTY: Vinton

8. CIVIL TOWNSHIP: Jackson

9. SECTION: 10 10. LOT: _____

11. FRACTION: NW 1/4 12. QTR TWP: _____

13. TRACT/ALLOT: _____

14. WELL #: 1

15. LEASE NAME: T & L Scanlan

16. VOLUME: 49 17. PAGE #: 364

18. MICROFICHE #: _____

19. DATE DRILLING COMMENCED: 5/10/81

20. DATE DRILLING COMPLETED: 5/15/81

21. DATE PUT INTO PRODUCTION: _____

22. DATE PLUGGED IF DRY: _____

23. PRODUCING FORMATION: Clinton

24. DEEPEST FORMATION: 2,689 Queenston?

25. DRILLER'S TOTAL DEPTH: 2,764

26. LOGGER'S TOTAL DEPTH: 2,744

27. TYPE OF TOOLS:
 Cable Air Rotary
 Fluid Rotary Air/Fluid Rotary
 Cable/Air Rotary
 Cable/Fluid Rotary
 Cable/Air Rotary/Fluid Rotary

29. ELEVATION: Ground Level 1065 Derrick Floor _____ Kelley Bushing 1075

30. PERFORATED INTERVALS & NUMBER OF SHOTS:
2,612 - 2,616 (8 Shots)

31. METHOD OF SHOT, ACID, OR FRACTURE TREATMENTS, PRODUCTION TESTS, PRESSURES, ETC.:
1500 Gals Mud Acid & 100 MCF Nitrogen

32. MOUSE HOLE PLUGGED: Yes No N/A Sacks _____ RAT HOLE PLUGGED: Yes No N/A Sacks _____

33. AMOUNT OF INITIAL PRODUCTION:
Natural: Gas 100MCF/D Oil _____ Water 10
After Treatment: Gas _____ Oil _____ Water _____
Lost Hole at _____ feet. Additional Data: _____

34. RECORD OF DISPOSAL OF WATER AND OTHER WASTE INCLUDING LIQUIDS USED IN FRACTURE TREATMENT:
a. Annular Disposal b. _____ Drilling _____
c. _____ Disposal Well: County _____ Permit # _____
d. _____ Dust/Ice Control: County _____ Township or Municipality _____
e. _____ Secondary Recovery: County _____
f. _____ Salt Water Haulers: (Name and telephone number) _____
1. _____
2. _____

35. CASING AND TUBING RECORD: Please indicate which is used (cement or mudding)

Size	Feet Used in Drilling	Amount of Cement or Mud	Feet Left in Well
8 5/8"	634'	150 sacks	
4 1/2"	2,756'	90 sacks	
1 1/2"	2,630'		

Comments: _____

36. NAME OF DRILLING CONTRACTOR: FWA Drilling Company, Inc.

37. TYPE OF ELECTRICAL AND/OR RADIOACTIVITY LOGS RUN: (All logs must be submitted)
GR-COMP DEN & NEU Cement Bond

38. NAME OF LOGGING COMPANY: Schlumberger Well Services

DIVISION USE ONLY: Log Submitted A/D

FORMATION	TOP	BASE	Shows of oil, gas, fresh water, or Brine--indicate depth or interval and amount	REMARKS
Fresh Water Strata				
Coal Seams				
1st Cow Run 321-6				
2nd Cow Run 324-1				
Maxton Sand 328-4				
Keener Sand 337-1				
Big Injun Sand 337-2				
Beren Sand 337-6	891	928	Oil show	
Ohio Shale 341-1				
Big Lime 344-4	1758	2442		
Oriskany 347-2				
Salina 351-2				
Newburg 351-3				
Lockport 354-1				
Little Lime 354-3	2570	2,580		
Packer Shell 354-5	2592	2,599		
Stray Clinton 357-2				
Red Clinton 357-3	2605	2623	6' Gas show	
White Clinton 357-4				
Medina 357-7				
Queenston 361-3				
Trenton lime 364-3				
Black River 364-4				
Gull River 364-5				
Glenwood Shale 364-6				
Rose Run 367-3				
Trempealeau 371-2				
Mt. Simon 377-3				
Granite wash 400-1				
Granite 400-2				

I (We) certify that the above information is true and correct, to the best of my knowledge.

SIGNATURE *F. A. Argos* DATE 8/14/81

NAME (TYPED OR PRINTED) F. A. Argos TITLE President

Bav State Exploration Company, Inc.

CE & R Fout #1
34-163-2-0491-00-00
Vinton County, Jackson Township



Shell: CCL, Sch 1: GRN, Cal, D		Bird: 3-DV		20491		Permit no. 491	
OHIO DIVISION OF GEOLOGICAL SURVEY						Permit issued 11-15-80	
County VINTON		Township JACKSON		Quadrangle Allensville		Twp. quarter	
Section 11		Lot		Tract			
Measured 1200' SL & 300' WL of NE 1/4 Sec. 11		40 Acres		"Clinton" - Pool - R.T.			
Land owner C.E. & R Fout		Well no. 1		Date commenced 6-6-81			
Operator F.A. Horgas, Bay State Exploration Co.		Well no.		Date completed 6-11-81			
Elevation bar 1050'		1060' KB		Total depth 2868'		Plugged back	
Formation drld. to Queenston		Prod. form. Clinton		Prod. nat.			
F/W 1500 gal. mud, 100MSCF N2; Pf. (20) 2721-2726				I.P. A.F. 100MCFG			
Init. rock press.							
Casing record 8 5/8" 494' 175sks, 4 1/2" 2800' 80sks				Abandoned			

Formation	Top	Bottom	Remarks	Formation	Top	Bottom	Remarks
COMPLETION 12-12-83				X=1,986,600			
Berea sand	949	983	s/gas	Y= 498,400			
Big lime	1860	2458					
Packer shell	2695	2704					
Clinton red	2721	2726	s/gas				
		2868	TD				

Inez Ankrom #1
34-163-2-0493-00-00
Vinton County, Jackson Township



Schl: GRN, Cal, D		OHIO DIVISION OF GEOLOGICAL SURVEY		20493	Permit no. 493
County	VINTON	Township	JACKSON	Permit issued	11-15-80
Section	28	Lot	Tract	Quadrangle	Allensville
Measured	400' SL & 300' EL of Sec. 28			Twp. quarter	
	40 Acres	"clinton" -Pool- R.T.			
Land owner	Inez Ankrom	Well no.	1-A	Date commenced	6-1-81
Operator	Bay State Exploration Company	Well no.		Date completed	6-5-81
Elevation bar	730'	740' KB	Total depth	2454'	Plugged back
Formation drld. to	Clinton	Prod. form.	Berea	Prod. nat.	
A/W 1500 gal. mud acid, 100MSCF N ₂ ; Pf. (8) 588-592; (32) 596-612 A.F. 580					
Init. rock press.					
Casing record	8 5/8" 491' 180sks, 4 1/2" 666' 50sks		Abandoned		

Formation	Top	Bottom	Remarks	Formation	Top	Bottom	Remarks
COMPLETION 12-12-83							
Berea sand	488	612	s/oil	X=1,976,350			
Big lime	1480	2124		Y= 473,980			
Packer shell	2284	2302					
		2454	LTD				
		2453	DTD				

W & W Appleman #1
34-163-2-0495-00-00
Vinton County, Jackson Township



OHIO DEPARTMENT OF NATURAL RESOURCES
 DIVISION OF OIL AND GAS
 ATTN: FIELD ENFORCEMENT SECTION
 FOUNTAIN SQUARE
 COLUMBUS, OHIO 43224
 FORM 52: REVISED 12-12-80

API WELL NUMBER

3 4 1 6 3 2 0 4 9 5 1 4
 Permit No.

RECORD OF CASING, CEMENTING AND MUDDING

Well Owner: Bay State Exploration Co.

Date Issued: 80 12 /31 Expiration Date: 81 06 /30

Lease Name: Appleman, W&W Well No. 1

Spud Date: Month: 06 Day 23 Year 81

County: Vinton Twp: Jackson

Type of Job: SURFACE PRODUCTION OTHER

Contractor: F.W.A. Drlg. Co.

Type of Cement: Halco Sacks 40

Type of Tools: ROTARY CABLE

Amount of Mud: plug back operation

Service Company: Haliburt on

Size of Hole: 7 7/8 DEPTH 2587 FT

Procedure: PRESSURE GRAVITY

Casing: SIZE none DEPTH N/A FT

Plugging of:

Float Equipment: SHOE COLLAR OTHER

Mouse hole YES NO SACKS

Special Equipment: N/A

Rat hole YES NO 23 SACKS

CASING RECORD

SIZE	SET	REMARKS

Cement/Mud Circulated to Surface: YES NO

Notification Received: YES NO

Job Witnessed by Inspector: YES NO

UIC: YES NO

DATE JOB COMPLETED 81/06/26

Formations: (if available) DL EL
 NAME TOP KB RT GL BOTTOM

Remarks:
 (attach cement/mud tickets if available)

			plugged back to line
			plug from 2557 to 2350

Signed: Jeffery
 OIL AND GAS WELL INSPECTOR

Date: 6/26/81

(To be submitted with Activity Report)

Dessie Barnett #1
34-163-2-0496-00-00
Vinton County, Jackson Township



Bird: GRN, Cal, D, GO: CB		OHIO DIVISION OF GEOLOGICAL SURVEY		20496	Permit No. 496
County	VINTON	Township	JACKSON	Permit Issued	12-31-80
Section	33	Lot		Quadrangle	Allensville
Measured	360' SL & 1500' EL of NEk of Sec. 33			Twp. Quarter	
	40 Acres		"Clinton" - Pool - AIRR.T.		
Land Owner	Dessie M. Barnett	Well No.	1	Date Commenced	6-14-81
Operator	Bay State Exploration Co.	Well No.		Date Completed	6-16-81
Elevation Bar	700'	740' d f	742' KB	Total Depth	2382' Plugged Back
Formation Drld. To	Queenston	Prod. Form.	Clinton	Prod. Nat.	
F/W	1,500 gal. mud acid & 100 MCF H ₂ O	PF(24)2242-2248		I.P.	A.F. 100 MCFG
Init. Rock Press.					
Casing Record	8 5/8" 512', 75 sks., 4 1/2" 2366', 110 sks.			Abandoned	

Formation	Top	Bottom	Remarks	Formation	Top	Bottom	Remarks
COMPLETION 6-15-88				X=1,975,050			
Berea sand	546	578	s/gas	Y= 471,200			
Big Lime	1432	2005					
Pkr. sh.	2225	2232					
Red Cl.	2242	2248	s/gas				
		2382	LTD				
		2340	DTD				

**C & G Gray #2
34-163-2-0499-00-00
Vinton County, Jackson Township**



Basin: GRN, Cal, D, Bird: 3-DV		20499	Permit No. 499
OHIO DIVISION OF GEOLOGICAL SURVEY			
County	VINTON	Township	JACKSON
Section	25	Lot	
Tract		Tract	
Measured	450' NL & 2000' EL of SE $\frac{1}{4}$ of Sec. 25		
Measured	40 Acres		
Land Owner	C & G Gray		
Operator	Bay State Exploration Co.		
Elevation Bar	820'	830' DF	831' KB
Formation Drl. To	Queenston	Prod. Form.	Clinton
F/W	1500 gal. mud Acid & 100 MCF	N ₂ : PF(32)2578-2592	Prod. Nat. I.P. A.F. 100 MCFG
Init. Rock Press.			
Casing Record	8 5/8" 762', 175 sks., 4 1/2" 2702', 150 sks.		
			Abandoned

Formation	Top	Bottom	Remarks	Formation	Top	Bottom	Remarks
COMPLETION 6-15-88				X=1,991,300			
Berea sand	731	767	s/gas	Y= 474,550			
Big Lime	1710	2334					
Pkr sh.	2555	2566					
Red Cl.	2566	2592	s/gas				
		2724	LTD				
		2712	DTD				

Benedict Inc. #1
34-163-2-0906-00-00
Vinton County, Swan Township





OHIO DIVISION OF GEOLOGICAL SURVEY
PB 4-15-95

Permit No. 906
Permit Issued 03/21/94

County VINTON Township SWAN Quad. ZALESKI 20906

Section 14 Lot _____ Tract _____ Twp. Qtr. _____ X Coord. 2020605 Y Coord. 491620

Measured 1231' NL & 815' EL OF SE QTR Proposed TD (5000) Class DPWC Tool RTAF

Acres 1.00 SEC 14 Trenton - DPWC - Air/Fluid RT

Landowner BENEDICT, INC Well No. 1 Date Commenced 3-31-94

Operator MFC DRILLING INC Well No. _____ Date Completed 4-8-94

GL 920 DF _____ KB _____ LTD _____ DTD 4894 PB Depth _____ Date PB _____

TD Formation Beekmantown Prod. Formation _____

Perforations (7) 4830-36; (7) 4864-70; IP Natural sm s/gas IP AT 580

Stimulation 500 gal FE 15% acid @300#; 3500 gal IC 28% acid @300#; Initial Rock Pressure _____

Casing Record 11 3/4" 41', 8 5/8" 609' 180sks, 4 1/2" 4887' 125sks Date Abandoned _____

FORMATION	TOP	BOTTOM	REMARKS	FORMATION	TOP	BOTTOM	REMARKS
COMPLETION 6-8-95							
*Notch @4860 w/500	gal 20%	FE acid;					
Berea sand	752						
Big lime	2038						
Packer shell		2778					
Clinton	2965						
Trenton lime	4227						
Glenwood shale	4808						
Beekmantown	4836						
		4894	ss/gas TD				

DNR 4808 (Rev. 5-92)

Benedict Inc. #2
34-163-2-0907-00-00
Vinton County, Swan Township



Tuesday, March 23, 2021 11:15AM
N 39.334988°, W 82.407124°
226° SW
United States



Well Completion Record

Ohio Department of Natural Resources

Division of Mineral Resources Management, 1855 Fountain Square CT. H-3, Columbus, OH 43224

1. Owner # <u>3059</u>		Form 8: Revised 1/97	
2. Owner name, address and telephone numbers: <u>MFC Drilling Inc</u>		This report is due in duplicate 30 days after completion of the well. If the permit has expired and the well was not drilled, check here sign on reverse side, and return to our office, within 30 days after expiration.	
4. Type of Permit: <u>DRILL</u>		3. API #: <u>31-163-28907</u>	
7. Type of well: <u>NEW WELL</u>		5. County: <u>VINTON</u> OCT 23 2002	
9. X: <u>2026200</u> Y: <u>486,220</u>		6. Civil Township: <u>SWAY</u>	
10. Quad: <u>ZALESKI</u>		8. Footage: <u>1808 SK & 280 EL</u>	
11. Section: <u>24</u> 12. Lot:		21. Date drilling commenced: <u>5-27-94</u>	
13. Fraction:		22. Date drilling completed: <u>6-3-94</u>	
14. Qtr. Twp:		23. Date put into production:	
15. Tract:		24. Date plugged if dry:	
16. Allot:		25. Producing formation: <u>Beekmantown</u>	
17. Well #: <u>2</u>		26. Deepest formation: <u>Beekmantown</u>	
18. Lease Name: <u>BENEDICT, INC</u>		27. Driller's total depth: <u>4868</u>	
19. PTD: <u>5000</u> 20. Drilling Unit: <u>100 AC</u>		28. Logger's total depth: <u>4859</u>	
29. Lost hole at feet:		29. Lost hole at feet:	
30. Type of tools: <input type="checkbox"/> Cable <input type="checkbox"/> Air Rotary <input type="checkbox"/> Fluid Rotary <input checked="" type="checkbox"/> Air/Fluid Rotary <input type="checkbox"/> Cable/Air rotary <input type="checkbox"/> Service Rig <input type="checkbox"/> Cable/Fluid Rotary <input type="checkbox"/> Cable/Air Rotary/Fluid Rotary		31. Type of completion: <input checked="" type="checkbox"/> Open Hole <input type="checkbox"/> Through Casing <input type="checkbox"/> Slotted Liner	
33. Perforated intervals and number of shots: <u>1/a</u>		32. Elevation: Ground Level <u>840</u> Derrick Floor <u>846</u> Kelly Bushing	
34. Method of shot, acid, or fracture treatments, production tests, pressures, etc.: <u>1/a</u>			
Shot: _____ lbs _____ qts _____ Type: _____			
Acid: _____ Gal. _____ Type: _____			
Fluid: _____ Gal. _____ Bbl. _____ Lb. _____ Sx. _____			
CO2: _____ ton _____ MCF			
Pressures: (psi) Breakdown: _____ ATP _____ ISIP _____ 5 MIN. SIP _____ AVG. RATE _____ BPM			
35. Mouse hole plugged: <input type="checkbox"/> Yes _____ Sacks <input type="checkbox"/> N <input type="checkbox"/> N/			
Rat hole plugged: <input type="checkbox"/> Yes _____ Sacks <input type="checkbox"/> N <input type="checkbox"/> N/			
36. Amount of initial production per day: _____ (MCF.) _____ (Bbls.) _____ (Bbls.)			
Natural: _____ Ga _____ Oil _____ Brine _____			
After Treatment: _____ Ga _____ Oil _____ Brine _____			
Additional Data: _____			
37. Casing and tubing record: Please indicate which is used (cement or mudding):			
Type	Size	Feet Used in Drilling	Amount of Cement or Mud
Conductor/Drive Pipe			
Surface	<u>8 5/8</u>		<u>255 SK</u>
Intermediate			
Production	<u>5 1/2</u>		<u>4786</u>
Tubing	<u>2 3/8</u>		<u>4786</u>
Comments:			
38. Name of drilling contractor: <u>PEE & ROWAN</u>			
39. Type of electrical and/or radioactivity logs run (all logs must be submitted): <u>GR-N-CD / MUD LOG BY AGS MUD LOGGING</u>			
40. Name of logging company: <u>HALLIWATON</u>			
DIVISION USE ONLY: Log Submitted: <input checked="" type="checkbox"/> N Well Class: <u>Bed</u> A/D: Confidential: <u>Y/N</u> <u>DPWC</u>			

Required by Section 1509.10, Ohio Revised Code.
DNR 5607 (Rev.1/97)

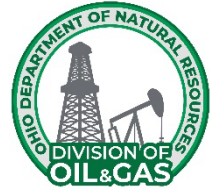
FORMATION	TOP	BASE	Shows of oil, gas, fresh water, or Brine-indicate depth or interval	REMARKS
Fresh water Strata				
Glacial Deposits				
Coal Seams				
1st Cow Run				
Buell Run				
2nd Cow Run (Peaker)				
Salt Sand				
Maxton Sand				
Keener Sand				
Big Injun Sand				
Snow Sand				
Mississippian Shale				
Berea Sand	957	994	oil, gas	
Bedford				
2nd Berea				
Ohio Shale				
Gantz				
Thirty Foot				
Gordon				
Cinnamon				
Big Lime	2034	2772		
Sylvania				
Oniskany				
Bass Island				
Salina				
Salt Section				
Newburg				
Lockport				
Little Lime				
Packer Shell	2941	2952		
Stray Clinton				
Red Clinton	2961			
White Clinton		2999		
Medina				
Queenston	3086			
Utica				
Trenton Lime	4253			
Black River	4344			
Gull River	4734	4794		
Glenwood Shale				
Knox Unconformity	4790	4802		
Beekmantown	4802	TD	FLAME	
Rose Run				
Trempealeau/Copper Ridge				
"B" Zone				
Krysk				
Kerbel FM				
Conasauga FM				
Rome FM				
Mt. Simon				
Granite wash				
Middle Run				
Granite				

I (We) certify that the above information is true and correct, to the best of my knowledge:

Signature _____ DATE _____
NAME (TYPED OR PRINTED) _____ TITLE _____
REPRESENTING _____



**SCOPE OF WORK
VINTON #3 PROJECT
Multiple Orphan Well Sites
Vinton County, Multiple Townships**



APPENDIX III: PERMITS & PERMIT CONDITIONS

IN ADDITION TO THE WORK REQUIRED UNDER THIS SCOPE OF WORK, ALL CONDITIONS DESCRIBED IN THE ASSOCIATED PERMITS SHALL BE MET BY THE CONTRACTOR DURING ALL PHASES OF THE PROJECT. ANY ADDITIONAL COSTS REQUIRED TO MEET THE PERMIT CONDITIONS SHALL BE DONE SO AT NO EXPENSE TO THE DIVISION.

MR 509
Permit No. 10-12336

Office Use Only

State of Ohio
Department of Transportation
Permit

County or Jurisdiction	VIN
Rte	SR328
Log Pt	4.54-6.8
Acc Cat	

[1] Subject to all terms, conditions, and restrictions printed, written below and on the reverse side hereof, or attached,

Name: Ohio Department of Natural Resources
Address: 2207 Reiser Ave SE New Philadelphia OH 44663
Company Phone: 220-465-2663

is hereby granted a permit under Section 5515.01 and 5515.02 of Ohio Revised Code, and permission to perform work necessary in the manner described and at the location indicated in the following or attached to this permit.

Temporarily use and maintain an existing 20ft standard BP-4.1 field drive to plug and orphan well. The driveway shall slope down and away from the pavement edge and shall be constructed so that no water or debris will drain onto the state roadway. A minimum 2:1 slope shall be maintained from the edge of the proposed access to the flow line of the ditch. Any and all costs for the construction and maintenance of this driveway shall be borne by the applicant or his successors in title. Work performed shall be as shown on plan submitted with application and approved by the Ohio Department of Transportation dated 3/19/2024. All disturbed areas within state right of way must be restored to original condition upon completion of work. There shall be no deviations in this permit without prior approval from the Ohio Department of Transportation.

Description of Work: ODNR is seeking to plug an orphan oil well that will require use of an existing drive.

[2] This permit shall be in the possession of employees /agents of permittee on site at all times who are in charge of the work and shall be shown, upon request, to any employee of the Department of Transportation.

Contact ODOT Representative 3 days before work begins, also contact ODOT Representative when work is completed for final inspection.
Failure to notify the ODOT Representative could result in work stoppage!

[3] No work authorized by this permit shall begin until the permittee has contacted and received instructions from

ODOT Representative	Mike Sickles
Phone	740-568-4412
Email Address:	Michael.sickles@dot.ohio.gov

NOTE: Any work performed by the permittee may be stopped if this requirement is not met.

[4] Prior to any excavation in the highway right-of-way, the Ohio811, <https://www.oups.org/excavators>, must be contacted in accordance with ORC Section 3781.25 to 3781.32. Ohio811 can be reached at 1-800-362-2764 or 811.

[5] If your utility is above ground in any way, you must mark your utility with a fluorescent colored marker that corresponds with the universal OUPS color code. The marker must be no shorter than six feet in height and you must maintain the marker. Guide wires must be marked a fluorescent yellow. Failure to mark as described, will result in the Department of Transportation being held harmless and no reimbursement for damage to your property.

[6] All work requiring persons or vehicles within ODOT right of way shall comply with all applicable requirements of the Ohio Manual of Uniform Traffic Control Devices and Item 614 (Maintaining Traffic) of the Construction and Material Specifications, latest editions. Failure to comply with these requirements will be cause for immediate revocation or suspension of the permit until the proper traffic control devices have been provided.

[7] The permittee accepts the conditions, terms, and requirements printed, written on, or attached to this permit and understands that failure to comply fully with those conditions, terms, and requirements or any change in the use of the permit inconsistent with its terms and conditions

will be considered a violation and cause for suspension, revocation, or annulment of the permit thereby rendering the permit illegal and subject to appropriate Department action, up to an including removal of the installation at the permittee's expense.

[8] Performance Bond Required? _____ Yes _____ No Company _____
Effective Date _____ Expiration Date _____ Amount \$ _____

[9] This permit shall be void if the work described herein does not comply with the conditions, terms, and requirements applicable to this permit, and if the work is not completed by 12/31/2024

Dated 03/19/2024

**General Provisions Applicable to All Permits
(Sections 5515.01 and 5515.02 of O.R.C.)**

[1] This permit is not a substitute for satisfying the rights or obligations of any other party who may have an interest in the underlying fee interest.

[2] The granting of this permit does not convey to the permittee or to the property served any rights, title, or interest in state highway rights of way or in the design or operation of the state highway; or in any way abridge the right of the Director of the Department of Transportation in his jurisdiction over state highways. If, in the process of any future work or for the benefit of the traveling public, it becomes necessary, in the opinion of the Director of Transportation to order the removal, reconstruction, relocation, or repair of any of the fixtures, or work performed under this permit, said removal, reconstruction, relocation, or repair shall be wholly at the expense of the owners thereof or the permittee and be made as directed by the Director of Transportation and within the time determined by the Director. Such changes in the state highway design or operation, necessary for improved safety and operation or for the benefit of the traveling public, shall not require a permit modification since the permit confers no private rights to the permittee over the control of the state highway.

[3] The District Deputy Director acts for and on behalf of the Director in issuing and carrying out the provisions of all permits. The District Deputy Director has full authority to ensure that all provisions of the permit are met and to reject any materials, design, and workmanship that do not meet applicable Department standards. The District Deputy Director, at his/her discretion, may require a performance bond or certified check as a prerequisite to the issuance of a permit.

[4] Failure on the part of the permittee to comply fully with the provisions and conditions of the permit will be cause for suspension, revocation, or annulment of the permit thereby rendering the permit illegal and subject to appropriate Departmental action. By accepting the permit, the permittee agrees to comply with all conditions, terms, and restrictions printed or written on or attached to the permit. If the permittee or its agent performs any work contrary to the conditions of the permit or to the instructions of the District Deputy Director and, after due notice, fails to correct the problem, the Department of Transportation may, with or without notice, correct or remove such work and the permittee shall reimburse the Department for the costs and shall hold the Department harmless for all results of such work.

[5] The permittee shall indemnify and hold harmless the State of Ohio, Department of Transportation, its officers, representatives and assigns, from any and all loss, liability, damages, litigation costs, and claims for injury or death to any person, property, or business caused by or resulting from any act, omission, event, consequence, or occurrence, negligent or otherwise of the permittee, its employees, agents, or assigns as a result of the issuance of this permit.

[6] All work authorized under the permit shall be performed to the Department's satisfaction, and the entire expense shall be borne by the permittee. No work shall be performed until the permittee has contacted the Department's appointed representative named on the permit and received instructions. The Department's representative may inspect all work covered by the permit, or the Department reserves the right, during the time any or all of the work is being performed, to appoint an inspector over the work who shall represent the interest of the State on the work and any compensation arranged for shall be paid wholly by the permit holder. Work not in compliance shall be halted and the District Deputy Director shall be notified of the cause. The permittee shall be notified of the Department's determination and given an opportunity to correct the problem. If the problem is not corrected timely or to the satisfaction of the Department, this permit will be revoked.

- [7] Failure to complete all work within the time specified on the permit shall void the permit, thereby making the permit illegal and subject to appropriate Departmental action. The permittee may request an extension in writing from the District Office, explaining why the extension is necessary and when the work is expected to be completed.
- [8] All work infringing on the pavement or shoulders shall comply with applicable standards and requirements regarding traffic control devices. Failure to comply will be cause for revocation or suspension of the permit. Any closure of lanes or shoulders shall be described in terms of location, duration, time of day, etc. Such work shall not begin until all traffic control devices are in place.
- [9] If any grading, sidewalk, or other work allowed by a permit interferes with the drainage of the highway in any way, such catch basins and outlets as necessary shall be constructed to take proper care of said drainage and any materials such as pipes and tiles damaged during any installation or repair by the permittee or its employees or agents shall be repaired immediately at the sole cost of the permittee . Permittee shall timely notify the Department of any such damage and repairs thereto. Failure of the permittee to immediately repair the damage after it is discovered shall result in the Department performing the repair and the permittee shall reimburse the Department for the costs and shall hold the Department harmless for all the results of such work which may include removal of the permittee's facilities.
- [10] Any damage to ODOT or another's property caused by the work shall be repaired by the permittee or permittee's agent or contractor in a timely manner and at the sole cost of permittee. If any emergency repairs to ODOT property are needed that cannot be performed by the permittee or permittee's agent or contractor, ODOT shall cause the repairs to be performed at the sole cost of permittee.
- [11] Upon completion of the work, the permittee shall leave the highway clean of all rubbish, excess materials, temporary structures and equipment, and all parts of the highway shall be left in a condition acceptable to the Department. Upon satisfactory completion of the work authorized by the permit, the Department's appointed representative shall complete the Permit Inspection Certificate, Form No. MR 678 certifying that the permittee has complied with the terms of the permit.
- [12] Except as herein authorized, no excavation shall be made or obstacle placed within the limits of the highway so as to interfere with the travel over the road.
- [13] All pole lines are to be built in accordance with Rule 4901:3-1-08 of Ohio Administrative Code promulgated and enforced by the Public Utilities Commission of Ohio.
- [14] All underground utilities shall be installed at a depth and horizontal distance from the road surface and any appurtenances in accordance with state and national safety standards and as pre-approved by the Department. After installation, the exact location of the utility shall be provided to the Department. The Department shall be held harmless for any damage to utilities due to insufficient or inaccurate installation or identification and all repairs shall be at the sole cost of the permittee.
- [15] The permittee shall comply with the Air Pollution requirements of Rule 3745-17-08 of the Ohio Administrative Code promulgated and enforced by the Ohio Environmental Protection Agency.
- [16] The permittee certifies that he or she is fully authorized to sign this permit. This permit shall apply to and be binding upon the permittee and any successors in interest. No change in ownership of the underlying property or of the facility owned by permittee shall in any way alter the permittee's obligations under this permit.
- [17] The permittee(s) for herself/himself/themselves/itself, her/his/their/its personal representatives, and her/his/their/its successors in interest and assigns, as a part of the consideration hereof, do/does hereby covenant and agree that:
- (1) No person on the grounds of race, color, or national origin, shall be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination in the use of the utility/facilities/ services of the permittee.

(2) In the construction of any improvements on, over, or under the above described property and the furnishing of services thereon, no person on the grounds of race, color, national origin, sex, age, or disability shall be excluded from the participation in, be denied the benefits of, or be otherwise subjected to discrimination.

(3) The above described property shall be used in a manner that at all times is in compliance with all other requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. DOT, Subtitle A, Office of the Secretary, Part 21, Non-discrimination in Federally-assisted programs of the U.S. DOT — Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations may be amended.

(4) In the event that this instrument grants a lease, license, or permit and any of the above non-discrimination covenants is breached, then the State of Ohio, Department of Transportation, shall have the unfettered right to terminate the lease, license or permit and to re-enter and repossess the above-described property and hold the same as if said lease, license or permit had never been made or issued.

This permit is granted subject to the following attached conditions:

(the remainder of this page is left blank intentionally)

District 10 Permit Specifications

The following requirements are valid for all permits issued by ODOT District 10:

1. Specific requirements that supersede the general requirements below will be described on the permit. If there is a conflict between the permit description and a general requirement, the permit description will always take precedence.
2. Any mud or debris that accumulates on the highway as a result of this project (tire tracks, equipment, etc.) is to be removed immediately.
3. There is to be NO parking of equipment, service vehicles, erecting of lights or placing of advertising devices within ODOT right of way and they are also not permitted to overhang the state highway.
4. All work requiring individuals or equipment on the pavement or shoulders shall comply fully with the Ohio Manual of Uniform Traffic Control Devices. Failure to comply with this requirement will be just cause for immediate suspension of this permit until such time as the proper traffic control is in place.
5. Work is not to be performed during inclement weather conditions (ice, snow, fog, heavy rainstorms, etc.). Additionally, work is not to start until one (1) hour after sunrise and is to cease one (1) hour before sunset.
6. The contractor must give property owners a minimum of 24 hours' notice before cutting any driveways and before trenching or cable plowing operations begin. Applicant must also contact OUPS prior to any excavation in state right-of-way.
7. It is the responsibility of the permittee to contact the ODOT Transportation Administrator or Transportation Manager 48 hours prior to starting any work and upon completion of work. Failure to comply with this requirement will be just cause for immediate suspension of this permit.
8. All areas where the vegetation has been disturbed by this installation will be restored within 30 days after completion of work.
9. Any environmental issues existing at this location are to be considered and addressed prior to performing any excavating within the state right-of-way.
10. All public and private property, including highway fence, that is disturbed by the contractor will be repaired to a condition equal to or better than the original condition, including sidewalks and driveways.
11. Permittee is required to call OUPS prior to any excavation within ODOT right of way.

Residential Driveway Specifications

- R-1 Driveway composition will be in accordance with the Location & Design Manual, Section 805.2
- R-2 Drive approaches shall slope down and away from the through pavement edge at the same rate of slope as the highway shoulder slope. The profile of the driveway must be a minimum of ½ inch per foot down and away from the pavement edge to the ditch line. Drive will be constructed so that no water will drain onto state roadway.
- R-3 A minimum 2:1 slope is to be maintained from the edge of the driveway to the flow line of the ditch. Construction of the drive must not interfere with the existing roadside drainage.
- R-4 Where curbing does not exist along the pavement, approach may be curbed at the option of the permittee and as per the Location & Design Manual. Where curbing does exist along the pavement, approach will be delineated by a similar curb through the arc of the radius.
- R-5 The top of the drive over the pipe will be a minimum 6 inches or more below the edge of the pavement. Sod will be removed from the bottom of the ditch to assure the new pipe is not above or below the existing flow line. The pipe will slope in such a manner that waters will flow freely through the tile and not be trapped inside.
 - Reinforced concrete pipe or corrugated metal pipe conforming to ODOT specification type D conduits may be used. These culvert pipes require a minimum of 6 inches bedding of aggregate type 304 and no less than 6 inches of aggregate cover over the pipe.
- R-6 All supports for rural mailboxes will be of breakaway type as specified in the Location and Design Manual, section 803.1.1
- R-7 The permittee is responsible for maintenance of the driveway, which includes maintenance of the drive pipe.

Field Driveway Specifications

- F-1 Driveway composition will be in accordance with the Location & Design Manual, Section 805.1
- F-2 Drive approaches shall slope down and away from the through pavement edge at the same rate of a slope as the highway shoulder slope. The profile of the driveway must be a minimum of ½ inch per foot down and away from the pavement edge to the ditch line. Drive will be constructed so that no water will drain onto the state roadway.
- F-3 A minimum 2:1 slope is to be maintained from the edge of the driveway to the flow line of the ditch. Construction of the drive must not interfere with the existing roadside drainage.
- F-4 The top of the driveway over the pipe will be a minimum 6 inches or more below the edge of pavement. Sod will be removed from the bottom of the ditch to assure the new pipe is not above or below the existing flow line. The pipe will slope in such a manner that water will flow freely and not be trapped inside.
 - Corrugated polyethylene pipe conforming to ODOT specification type D conduit may be used.
 - This type of culvert pipe requires a 6-inch bedding of aggregate type 304 and no less than 12 inches of cover over the pipe.
 - Reinforced concrete pipe or corrugated metal pipe conforming to ODOT specification type D conduits may also be used.
 - These culvert pipes require a minimum 6-inch bedding of aggregate type 304 and no less than 6 inches of cover over the pipe.
- F-5 The permittee and/or property owner is responsible and assumes all liability for maintenance of the driveway, which includes maintenance of the drive pipe and snow and ice removal.

Commercial Driveway Specifications

- C-1 Drive approaches shall slope down and away from the through pavement edge at the same rate of a slope as the highway shoulder slope. The profile of the driveway must be a minimum of ½ inch per foot down and away from the pavement edge to the ditch line. Drive will be constructed so that no water will drain onto the state roadway.
- C-2 A minimum 2:1 slope is to be maintained from the edge of the driveway to the flow line of the ditch. Construction of the drive must not interfere with the existing roadside drainage.
- C-3 The permittee and/or property owner is responsible and assumes all liability for maintenance of the driveway, which includes maintenance of the drive pipe; as well as snow and ice removal and the upkeep of any constructed sidewalks.
- C-4 Private drainage outlets, such as field tiles, disturbed by this operation shall be restored to working order to the satisfaction of the owner.
- C-5 Should the location and/or design and construction of the new access and turn lanes interfere with the safety of the traveling public, or drainage issues develop undermining the highway's foundation or cause neighboring properties to flood, ODOT reserves the right to require modification and/or realignment of these newly installed facilities.

Seismic Specifications

- GS-1 The maximum allowable caravan of vehicles to occupy the highway, in tandem, will not exceed 330 feet. Each vibrator shall have wooden planking approximately 3'x 8' to distribute and cushion impact on the pavement.
- GS-2 All cables shall be placed beyond the shoulder. No parking of vehicles on the pavement shall be permitted at any time other than the few seconds necessary for the vibrating sequences.
- GS-3 Hours of operation shall be limited to accommodate peak hour traffic volumes, as required by local conditions.
 - If necessary, operations shall be ceased periodically, and full flow of traffic restored to prevent excessive backup of motorists' vehicles.
 - Extreme caution is to be exercised during this project, so the travelling public is not inconvenienced or put in any danger due to this testing procedure.
 - The department reserves the right to prohibit or further restrict operations at any time due to unusual traffic conditions.
 - If required by ODOT, a uniformed police officer and car shall be provided by the permittee to accompany the operation and assist with the handling of traffic.
- GS-4 All work performed within corporation limits must be approved through the appropriate city, village, etc., as ODOT does not have jurisdiction within corporations.
- GS-5 Approval by the Ohio Department of Transportation for seismic exploration shall not relieve the permittee of the requirement to obtain necessary permission from the adjoining and/or underlying fee landowners.
- GS-6 Furthermore, the permittee shall save harmless the State of Ohio and all of its representatives from all suits, actions or claims brought on account of any injuries or damages sustained by any person or property in consequence of any neglect or an account of any act or omission as a result of the issuance of this permit.
- GS-7 The District Deputy Director shall have full authority to ensure the provisions of this permit are fully complied with. Failure on the part of the permittee to conform to the provisions of this permit will be cause for suspension, revocation or annulment of this permit as the District Deputy Director deems necessary.

Utility Specifications

- U-1 All underground and aerial facilities shall be placed as close to the right of way line as possible. It shall be the responsibility of the permittee to ensure the construction or placement of any poles will not obstruct the sight distance of any intersection or driveway.
- U-2 All aerial installations will have a minimum vertical clearance which is equal to or greater than that required by the National Electric Safety Code.
- U-3 All poles, anchors and guy wires shall be installed outside of the clear zone and will not be installed in the roadway ditch or the areas between the road and the ditch. Poles removed for replacement shall be removed in their entirety and holes backfilled.
- U-4 If installation is within 10ft of an existing strain pole, permanent or temporary anchoring may be required. The permittee shall notify the District 10 Traffic Department three working days prior to the installation within the area of the strain pole.
- U-5 If installation is within 10 feet of an existing strain pole, permanent or temporary anchoring may be required. The permittee shall notify the District 10
- U-6 Lines must either be bored / drilled / trenched, there will be no open cutting of pavement and they will not be permitted to be installed in culverts. The length of the bore shall be the width of the right-of-way on each side of the roadway, unless otherwise noted on the accepted permit.
- U-7 All lines shall be installed a minimum of 4 feet below any highway or ditch bottom.
- Lines are not to be installed in the areas between the road and the ditch or in the ditch lines.
 - Fire hydrants and valves are prohibited from being placed in the flow line of the ditch.
 - Tracer tape shall be installed and placed 1 foot above the proposed conduit and shall extend the full length of the work.
 - ODOT reserves the right to require casing.
 - Permanent location markers are to be placed on both sides of the roadway. Markers shall list contact information for the utility company, and they are to be located outside of the clear zone.
- U-8 Bore pits / excavation areas shall be located as close to the right of way line as possible and shall not be left open overnight or anytime work is not being performed.
- When the bore opening under the pavement exceeds by 2 inches the outside diameter of the pipe installed, the opening around the pipe shall be filled with grout in a manner suitable to the Ohio Department of Transportation.
 - All backfill shall be performed in accordance with the provisions set forth under Construction Specifications Item 602 and piling of earth over trench for future settlement will not be permitted. Backfilling shall follow completion of all work as closely as possible each day. ODOT reserves the right to request item 613 Low Strength Mortar Backfill.
- U-9 If equipment, vehicles, trench boxes, and material are stored or parked on highway right-of-way, locate them no less than 6 feet behind existing guardrail or no less than 30 feet from the edge of pavement. At night if any such material or equipment are stored within ODOT right of way (less than 30ft from the edge of pavement) they must have prior approval from the ODOT Design Engineer.
- U-10 **This requirement is for Gas Companies that are defined as a “public utility” by providing natural gas to the general public -** A gas pipeline or any size or pressure and made of any material (steel, iron, plastic, etc.), generally, will not need to be cased but the company must certify it meets all rules, regulations and pipeline inspection criteria contained in 49CFR192 and / or 49CFR195. If the pipeline installation is a crossing under an interstate or an interstate look-alike and is less than 12 feet in depth, the company must provide certification that the pipe design meets the “Class 4” requirements of 49CFR192, which establishes the thickness of pipe. If the installation depth is 12 feet or more, the company must meet the “Class 3” design requirements. All other “Class Thickness” requirements associated with longitudinal and crossing installations will be based on the location description outlined in the Federal Code. If the District has concerns about the physical location of a crossing installation, the “Class Thickness” can be established which meets the District’s concerns. In addition, if the pipeline installation will be located within any fill material around Mechanically Stabilized Earth (MSE) Walls or within two feet of any structure foundation (i.e. bridges, culverts, etc.), the pipeline must be encased. All other installation requirements, as outlined on the Permit or defined in the Department’s Utility Manual, must be met.

Utility Specifications (cont'd)

- U-11 **This requirement is for Oil and Gas Companies or Interstate / Intrastate Companies** - This gas and/or petroleum pipeline installation must meet all rules, regulations and pipeline inspection criteria contained in 49 CFR 192 and/or 49 CFR 195. If the pipeline installation is a crossing under an interstate or interstate look-alike, the pipeline design must meet the "Class 4" requirements of 49 CFR 192. The company's design plans of the pipeline installation must be certified as meeting 49 CFR 192 and/or 49 CFR 195 regulations with a Registered Engineer's review stamp and signature. Those design calculations must then be reviewed, stamped and signed by a second Registered Engineer that is either employed by the pipeline owner or is from an independent engineering firm. In addition, if the pipeline installation will be located within any fill material around Mechanically Stabilized Earth (MSE) Walls or within two feet of any structure foundation (i.e. bridges, culverts, etc.), the pipeline must be encased. All other installation requirements, as outlined in the Department's Utility Manual, must be met.
- U-12 Private drainage outlets, such as field tiles, disturbed by this operation shall be restored to working order to the satisfaction of the owner.
- U-13 If installation is within 10ft of an existing strain pole, permanent or temporary anchoring may be required. The permittee shall notify the District 10 Traffic Department three working days prior to the installation within the area of the strain pole.
- U-14 Stop signs shall not be disturbed, and if it becomes necessary to remove a stop sign, a portable stop sign shall be erected before the permanent sign is removed. The permanent sign shall be re-erected immediately after the installation is completed. All ODOT guide signs shall be re-erected the same day as they were removed.
- U-15 When removing monitoring wells, all components must be removed and excavated materials are not to be piles on the pavement, along the berm / shoulder or in the ditch line. Upon removal of the well, the hole shall be filled level to the surrounding ground elevation.

Sanitary Discharge Specifications

- W-1 All pipe shall be installed a minimum of 4ft below any highway or ditch bottom. Bore pits / excavation areas shall be located as close to the right of way line as possible and shall be protected or closed overnight or anytime work is not being performed.
- The length of the bore shall be the width of the right of way on each side of the roadway, unless otherwise noted on the permit.
 - There will be no open cutting of any pavement.
 - ODOT reserves the right to require casing.
- W-2 When the bore opening under the pavement exceeds by 2 inches or more the outside diameter of the pipe installed, the opening around the pipe shall be filled with grout in a manner suitable to the Ohio Department of Transportation.
- All backfill shall be performed in accordance with the provisions set forth under Construction Specifications Item 602 and piling of earth over trench for future settlement will not be permitted.
- W-3 No sink drains, basement drains, septic tank drains, or any other manmade water will be allowed to directly enter the state highway drainage system or to be directly connected to an outlet pipe.
- W-4 Drainage, clear water only, which naturally flows to the state's right-of-way, will be accepted at the predevelopment rate.
- W-5 All private drives cut by the contractor and/or permittee will be replaced to the complete satisfaction of the owner. The contractor must give property owners a minimum of 24 hours' notice before cutting any driveways.
- W-6 This permit is subject to special conditions as set forth in a letter of approval dated from the County Health Department. The County Health Department must also state that they will perform yearly inspections of the system for the absence of odor, color and suspended solids.
- W-7 The issuance of this permit does not imply that the existing drainage structure or tile is in satisfactory condition, nor of sufficient capacity to provide an adequate outlet.

Landscape Specifications

- L-1 Plantings listed below shall be located at least 4 feet behind the ditch line.
- Low maintenance flowers, ground covers, and other plants 18 inches or less in height at maturity may be located within this area, as long as adequate sight distance is provided.
- L-2 Trees and other plants taller than 18 inches shall not be located within a ditch, located on foreslopes or on a backslope within 10 feet of the ditch flowline. Trees and large shrubs shall not be planted within 30 feet of the edge of the traveled way on clear zone graded sections.
- Trees should be sufficiently placed apart, and shrubs should be grouped and mulched in beds to avoid excessive mower maneuvering and the need for hand trimming.
 - Wildflower sites should be composed of Ohio native perennial forbs and grasses. Other mixtures should be approved by the District Deputy Director (or his / her designee). Wildflower areas should be designated as “No Mow”.
- L-3 Evergreen seedlings should be planted from March to May. They may be used to create living snow fences and screenings. Locations include but are not limited to slopes, erosion prone areas and interchanges.
- L-4 Ponds / pools and other landscape water features shall not be built within ODOT right of way.
- L-5 Maintenance of all plants shall begin upon installation. Maintenance shall include, but not limited to, watering, replacement, weeding, fertilization, litter pick-up, pruning, mulching, insect control (by a licensed application when required), and herbicides (by a licensed applicator).
- L-6 Landscaping shall not reduce safety for the travelling public or maintenance crews.
- Since operational safety can be affected by the landscape, a continuous length of the highway must be visible to the driver (for adequate sight distance) and a lateral run out area (clear zone) must be traversable and free of physical obstructions.
- L-7 Plants shall be maintained by the permit holder for at least five years. Highway landscaping should result in hardy, natural vegetative designs that do not require extensive maintenance. At the end of the five-year maintenance period described in Section 6.1, landscaped areas should not require any more maintenance than the natural roadside. Plant materials native to the area should be used whenever practical. Highway plantings should be able to withstand roadside conditions including salt sprays and air pollutants. Plantings and other landscape elements should also be considerate of local community preferences for specific colors, materials, etc...
- L-8 Trees and shrubs should be placed in locations and trimmed to a size that does not hinder snow and ice removal. Removal or thinning of trees that shade the pavement creating icy spots should be considered. Some sections of the roadside should be kept open to allow sunlight to aid new tree growth.

Effective: August 22, 2007

Appendix C

Page 1 of 1

MR-696, Rev. 6/95
(Supplement to M&R 505, Revised, 6/95)

**STATE OF OHIO
DEPARTMENT OF TRANSPORTATION
Supplemental Specifications**

Spraying, Trimming, or Removal of Trees or Brush

Prior to starting any work, and on a monthly basis thereafter, the applicant shall notify the District Permits representative of the Ohio Department of Transportation, describe the extent of the area to be covered or treated, and the amount or intensity of work proposed. All work done under this permit shall be done to the satisfaction of authorized representatives of the Ohio Department of Transportation. (No unnecessary collateral damage will be permitted.)

The Applicant shall:

1. Save harmless the State of Ohio and all of its representatives from all suits, actions, or claims of any character, brought on account of any injuries or damages sustained by any person or property in consequence of any neglect or on account of any act of omission as a result of the issuance of this permit.
2. During the progress of the work, install and maintain all traffic control devices as required for the protection of the traveling public in accordance with the Ohio Manual of Uniform Traffic Control Devices for Streets and Highways, current edition.
3. Make cuts in branch tissue as close as possible to the parent limb or trunk, without cutting into the branch, bark ridge, collar, or leaving a stub; remove dead wood 2 inch or over in diameter, all in accordance with Standard Practices for Trees, Shrubs, and Other Woody Plant Maintenance, ANSI A300.
4. All stumps and stubble shall be cut flush with the ground so as not to interfere with mowing. All logs, limbs, branches, and rubbish generated by the operation shall be removed as the work progresses.
5. No foliar spray shall be permitted on trees or brush over 4 FT in height. Growth over that height shall be cut flush with the ground and the stump treated with herbicide.
6. Treated brush and trees shall be removed from the right-of-way as previously agreed upon with the District Permits representative.
7. No herbicide treatment shall be permitted on highway landscape plantings, trees, shrubs, or ground covers.
8. No burning shall be permitted within the right-of-way.
9. All pesticide applicators and operators shall be licensed as required by the Revised Code of Ohio.
10. Comply with Federal, State, or Local requirements applicable to said activities.
11. For longitudinal occupancy of highways within the jurisdiction of the Ohio Department of Transportation, the work limits for utility installations shall be defined as follows: 1) No greater than 15 FT left and right of the proposed center line but shall not extend beyond the right-of-way line. 2) Prior approval for additional work limits will be required.
12. Any spraying, trimming, or removal of trees or brush outside the 30 FT clear zone requires prior written approval by the District Horticulturist.
13. The permit shall be in possession of the permittee at all times and shall be shown upon request to any employee of the Department of Transportation or the State Highway Patrol.



**Scope of Work
Quantity Sheet
Vinton #3 Project
Vinton County, Multiple Townships**

**Well Name: Wrightsel GF & TA, Benedict Inc. #2, Benedict Inc. #1, C&G Gray #2, Inez Ankrom #1,
Dessie M Barnett #1, W&W Appleman #1, T&L Scanlan #1, CE&R Fout #1**

**Permit Number: 34-163-6-0008-00-00,34-163-2-0907-00-00,34-163-2-0906-00-00,34-163-2-0499-00-00,34-163-2-0493-00-00
34-163-2-0496-00-00,34-163-2-0495-00-00,34-163-2-0489-00-00,34-163-2-0491-00-00**

TD = 4,894

Line Number	Description	Quantity	Unit
1	Mobilization	9	Lump Sum
2	Earthwork	1	Lump Sum
3	Clearing & Grubbing (Wrightsel #1)	1	Lump Sum
4	Clearing & Grubbing (W&W Appleman #1)	1	Lump Sum
5	Site Safety	9	Lump Sum
6	Road Mats	3731	Sq. Ft.
7	Road/Timber Mats	17745	Sq. Ft.
8	Timber Mats	192	sq. Ft.
9	Secondary Containment	9	Lump Sum
10	Silt Fence	330	Linear Ft
11	12" PE/PVC Culvert	20	Linear Ft
12	12" Corrugated Metal Culvert	20	Linear Ft
13	Filter Fabric	144	Sq. Yd.
14	No. 4 Stone	380	Ton
15	No. 57 Stone	170	Ton
16	No. 304 Aggregate	150	Ton
17	"C" Rock	160	Ton
18	Well Head Control	9	Lump Sum
19	Well Control Fluid	1700	BBL
20	Shooting	7	Each
21	Logging (GR/CCL/Bond)	8	Each
22	Fishing	8	Hour
23	Well Preparation & Plugging (Wrightsel #1)	1	Lump Sum
24	Well Preparation & Plugging (Benedict Inc. #2)	1	Lump Sum
25	Well Preparation & Plugging (Benedict Inc. #1)	1	Lump Sum
26	Well Preparation & Plugging (C&G Gray #2)	1	Lump Sum
27	Well Preparation & Plugging (Inez Ankrom #1)	1	Lump Sum
28	Well Preparation & Plugging (Barnett #1)	1	Lump Sum
29	Well Preparation & Plugging (W&W Appleman #1)	1	Lump Sum
30	Well Preparation & Plugging (T&L Scanlan #1)	1	Lump Sum
31	Well Preparation & Plugging (CE&R Fout #1)	1	Lump Sum
32	Tubing	1	Lump Sum
33	Approved Cement	3444	Sack
34	Cement Mixing & Pumping	44	Each
35	Fluid Disposal	1710	BBL
36	Contaminated Material Disposal	10	Ton

37	Salvage Material Disposal		1	Lump Sum	
38	Gas line Abandonment		1	Lump Sum	
39	Fence Repair		22	Linear Ft.	
40	Approved Resoil		20	Ton	
41	Site Restoration (Wrightsel #1)		1	Lump Sum	
42	Site Restoration (Benedict Inc. #2)		1	Lump Sum	
43	Site Restoration (Benedict Inc. #1)		1	Lump Sum	
44	Site Restoration (C&G Gray #2)		1	Lump Sum	
45	Site Restoration (Inez Ankrom #1)		1	Lump Sum	
46	Site Restoration (Barnett #1)		1	Lump Sum	
47	Site Restoration (W&W Appleman #1)		1	Lump Sum	
48	Site Restoration (T&L Scanlan #1)		1	Lump Sum	
49	Site Restoration (CE&R Fout #1)		1	Lump Sum	
50	Demobilization		9	Lump Sum	

Fixed Price Items

51	Salvage Material Reimbursement	N/A	N/A	Each	N/A
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Additional/Contingency Services

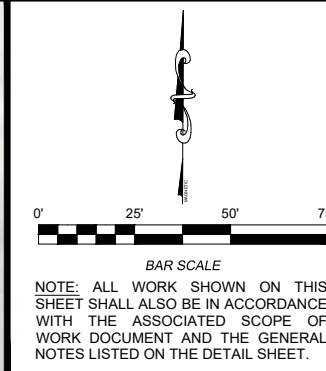
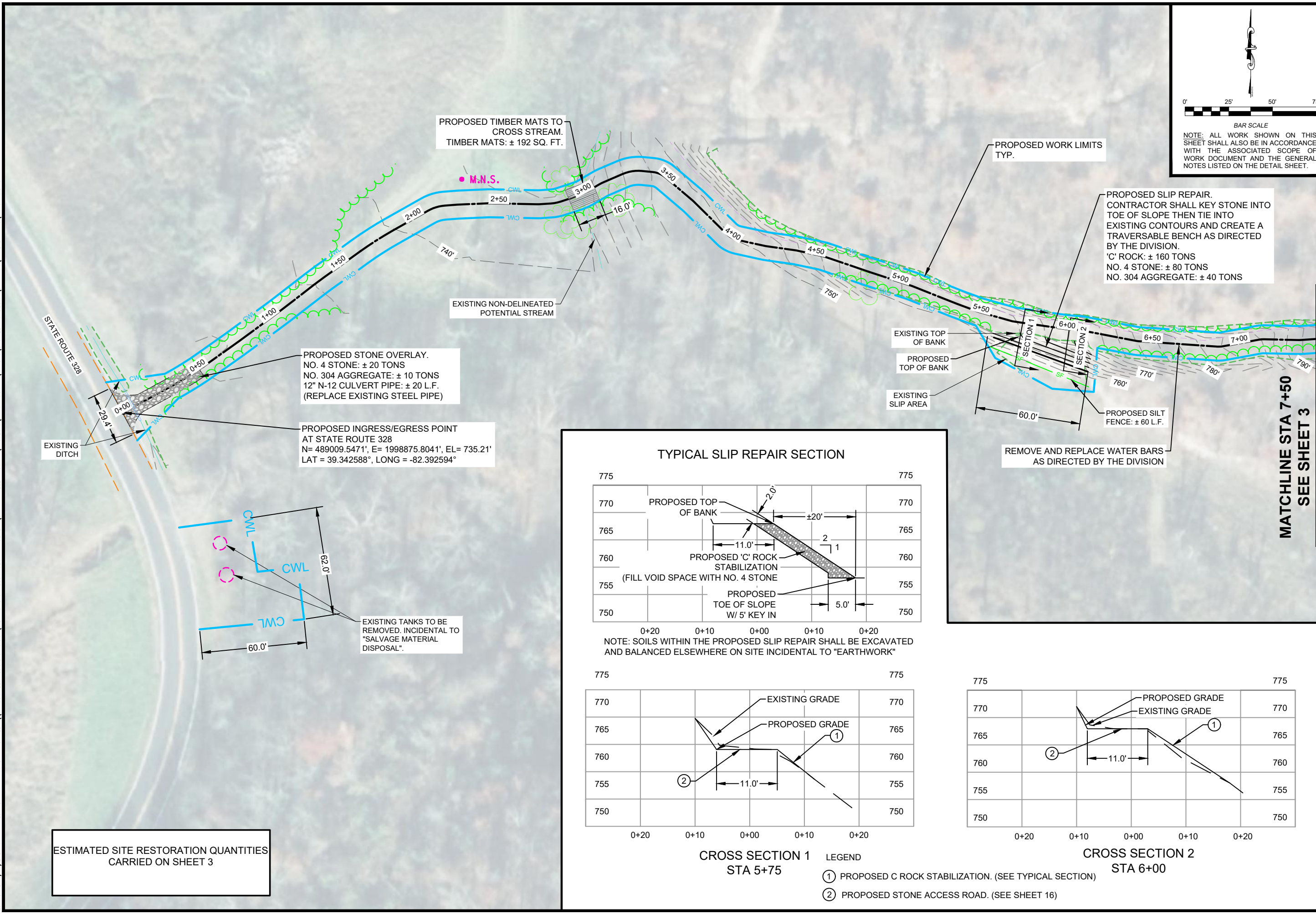
52	Alternative Well Control Fluid		250	BBL	
53	Fishing		24	Hour	
54	Magnet		1	Each	
55	Milling		24	Hour	
56	Shooting		2	Each	
57	Lost Circulation Materials		25	Sack	
58	Drilling Mud		25	Sack	
59	Nine Sack Grout		5	Cubic Yard	
60	Downhole Videography		1	Each	
61	No. 4 Stone		60	Ton	
62	Road/Timber Mats		5005	Sq. Ft.	

Note: This quantity sheet is provided for reference only. The Contractor's Offer must be submitted online through OhioBuys (<https://procure.ohio.gov/bidders-and-suppliers>). Quantities are only an estimate. Payment shall be based on quantities satisfactorily completed.

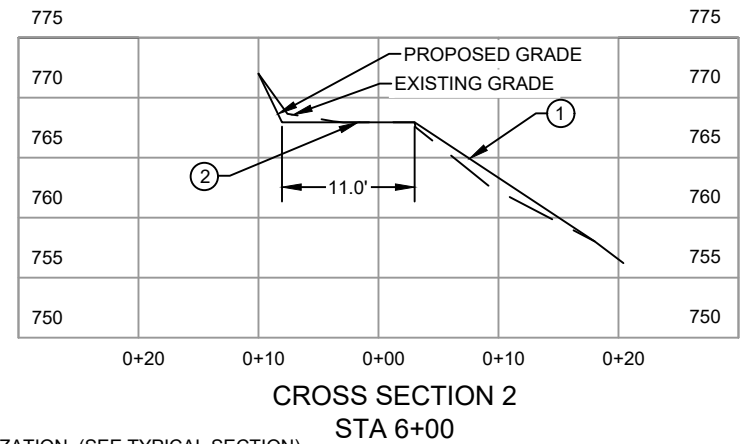
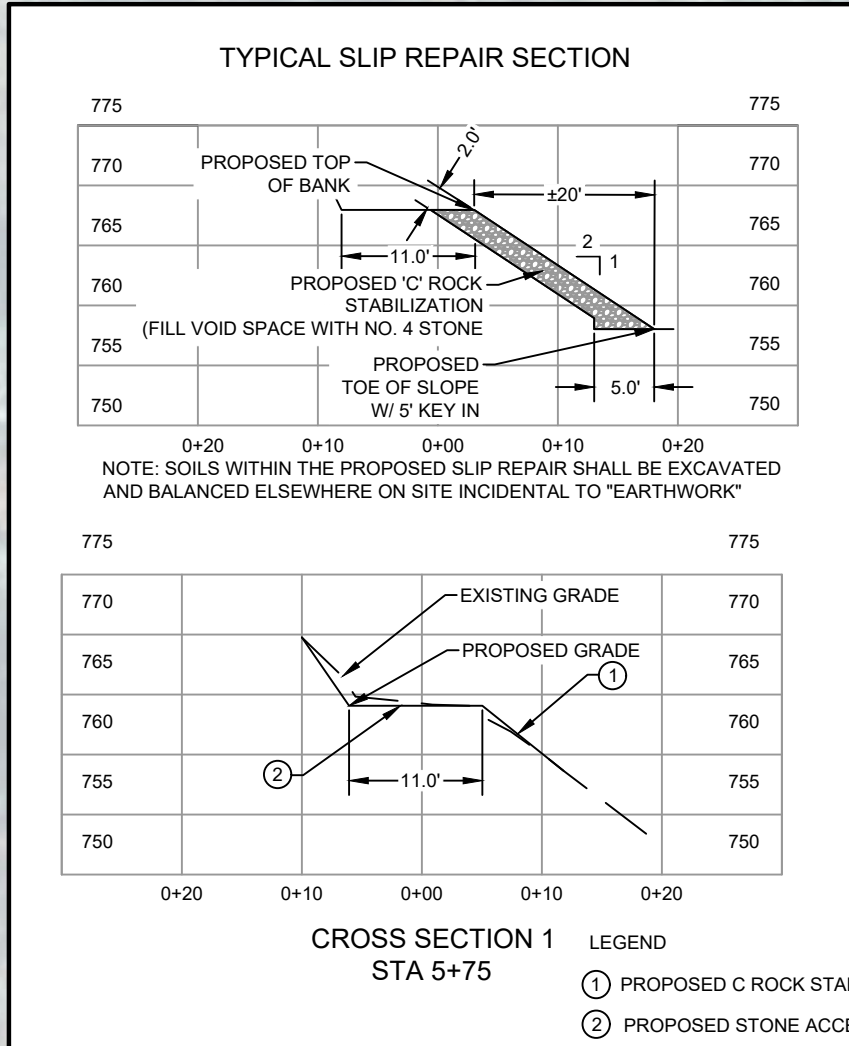
Each contractor is responsible for logging into OhioBuys and submitting an offer that is responsive to all amendments issued. All offers submitted prior to an amendment being issued shall become null/void and not considered in the opening. All amendments shall become part of the Scope of Work.

Offers must be fully submitted online through OhioBuys (<https://procure.ohio.gov/bidders-and-suppliers>) not later than, 12:00 PM on , 2024.

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MATCHLINE STA 7+50
SEE SHEET 3



ESTIMATED SITE RESTORATION QUANTITIES
CARRIED ON SHEET 3

REVISION	
DESIGN UNIT	O&G ENGINEERING
DRAWN BY:	A.D.K.
CHECKED BY:	P.G.M.
DATE:	01/23/2024
SHEET NO.	2 OF 17

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MATCHLINE STA 7+50
SEE SHEET 3



0' 25' 50' 75'

BAR SCALE

NOTE: ALL WORK SHOWN ON THIS SHEET SHALL ALSO BE IN ACCORDANCE WITH THE ASSOCIATED SCOPE OF WORK DOCUMENT AND THE GENERAL NOTES LISTED ON THE DETAIL SHEET.

DIVISION OF OIL & GAS
RESOURCES MANAGEMENT
IDLE & ORPHAN WELL PROGRAM
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WRIGHTSEL GF & TA
SITE PLAN

VINTON #3
MULTIPLE
ORPHAN WELL SITES

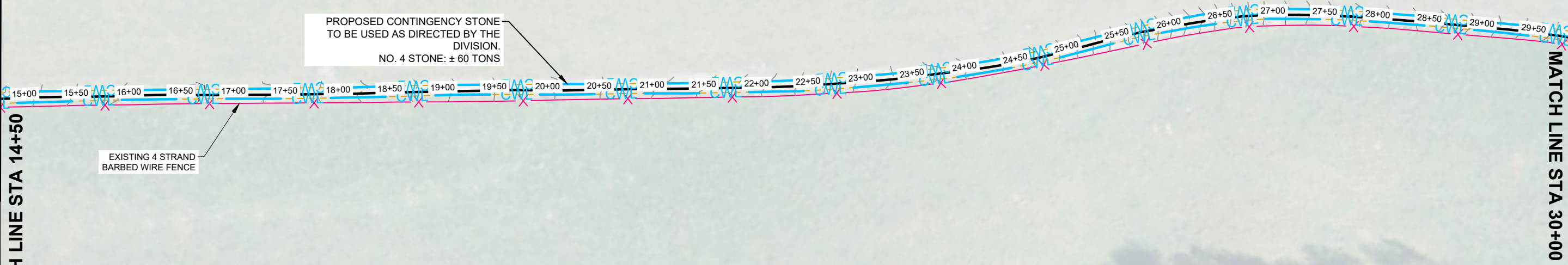
ESTIMATED SITE RESTORATION QUANTITIES		
COMPONENT	RATE	QUANTITY
FERTILIZER	20 LBS/1000 S.F.	596 LBS
SEED	75 LBS/1 ACRE	51 LBS
MULCH	100 LBS/1000 S.F.	60 BALES
PELLETIZED LIME	400 LBS/ACRE	272 LBS

REVISION

DESIGN UNIT
O&G ENGINEERING
DRAWN BY: A.D.K.
CHECKED BY: P.G.M.
DATE: 01/23/2024
SHEET NO.
3 OF 17

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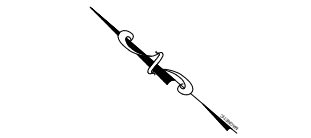
MATCH LINE STA 14+50



EXISTING 4 STRAND BARBED WIRE FENCE

PROPOSED CONTINGENCY STONE TO BE USED AS DIRECTED BY THE DIVISION. NO. 4 STONE: ± 60 TONS

MATCH LINE STA 30+00



BAR SCALE
NOTE: ALL WORK SHOWN ON THIS SHEET SHALL ALSO BE IN ACCORDANCE WITH THE ASSOCIATED SCOPE OF WORK DOCUMENT AND THE GENERAL NOTES LISTED ON THE DETAIL SHEET.



DIVISION OF OIL & GAS
RESOURCES MANAGEMENT
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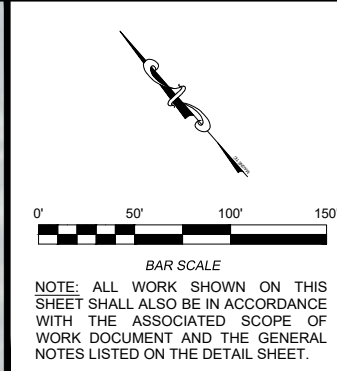
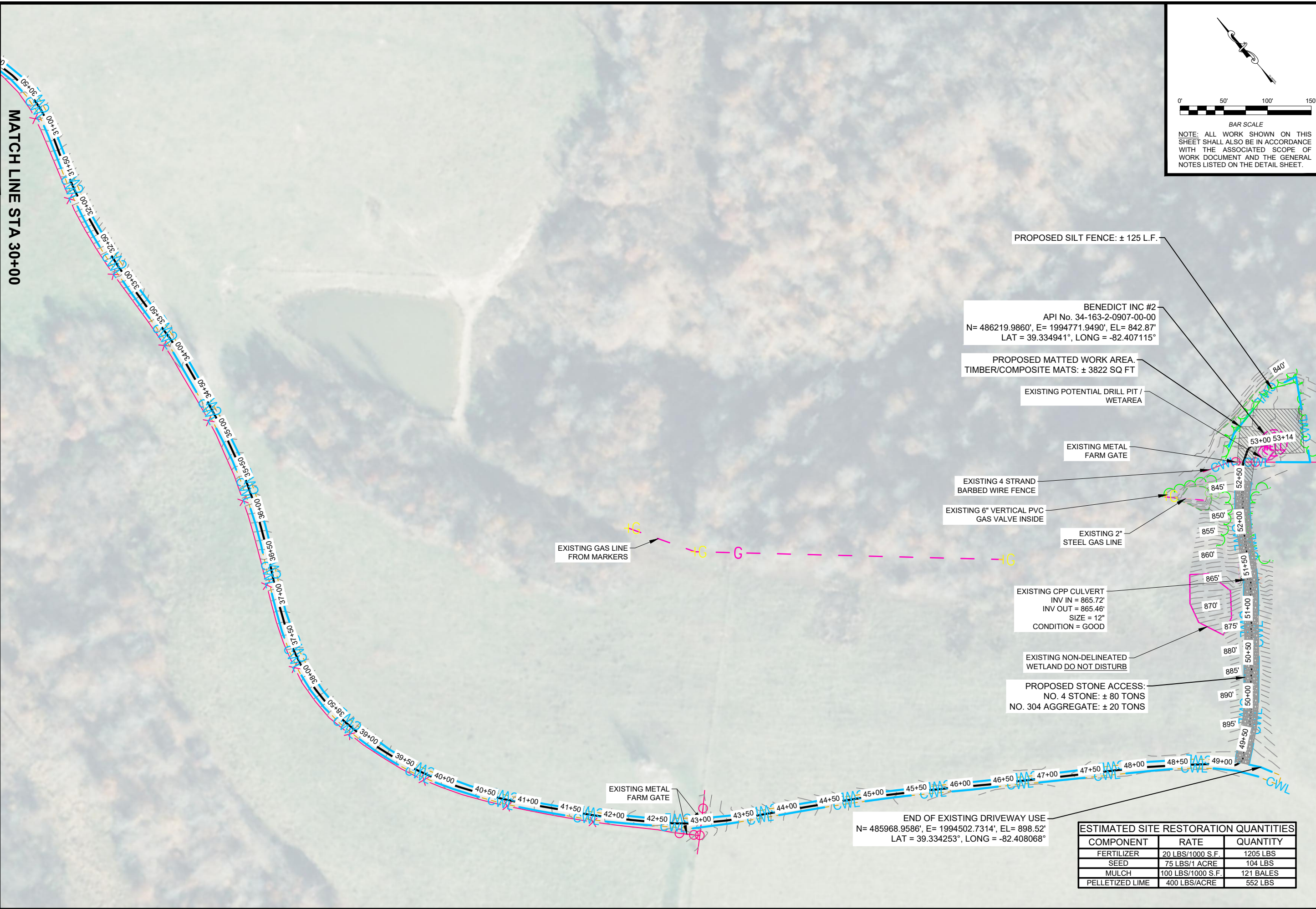
BENEDICT INC. #2
SITE PLAN

VINTON #3
MULTIPLE
ORPHAN WELL SITES

REVISION	
DESIGN UNIT	O&G ENGINEERING
DRAWN BY:	A.D.K.
CHECKED BY:	P.G.M.
DATE:	01/23/2024
SHEET NO.	5 OF 17

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MATCH LINE STA 30+00



NOTE: ALL WORK SHOWN ON THIS SHEET SHALL ALSO BE IN ACCORDANCE WITH THE ASSOCIATED SCOPE OF WORK DOCUMENT AND THE GENERAL NOTES LISTED ON THE DETAIL SHEET.

- PROPOSED SILT FENCE: ± 125 L.F.
- BENEDICT INC #2
API No. 34-163-2-0907-00-00
N= 486219.9860', E= 1994771.9490', EL= 842.87'
LAT = 39.334941°, LONG = -82.407115°
- PROPOSED MATTED WORK AREA.
TIMBER/COMPOSITE MATS: ± 3822 SQ FT
- EXISTING POTENTIAL DRILL PIT / WETAREA
- EXISTING METAL FARM GATE
- EXISTING 4 STRAND BARBED WIRE FENCE
- EXISTING 6" VERTICAL PVC GAS VALVE INSIDE
- EXISTING 2" STEEL GAS LINE
- EXISTING CPP CULVERT
INV IN = 865.72'
INV OUT = 865.46'
SIZE = 12"
CONDITION = GOOD
- EXISTING NON-DELINEATED WETLAND DO NOT DISTURB
- PROPOSED STONE ACCESS:
NO. 4 STONE: ± 80 TONS
NO. 304 AGGREGATE: ± 20 TONS

END OF EXISTING DRIVEWAY USE
N= 485968.9586', E= 1994502.7314', EL= 898.52'
LAT = 39.334253°, LONG = -82.408068°

COMPONENT	RATE	QUANTITY
FERTILIZER	20 LBS/1000 S.F.	1205 LBS
SEED	75 LBS/1 ACRE	104 LBS
MULCH	100 LBS/1000 S.F.	121 BALES
PELLETIZED LIME	400 LBS/ACRE	552 LBS



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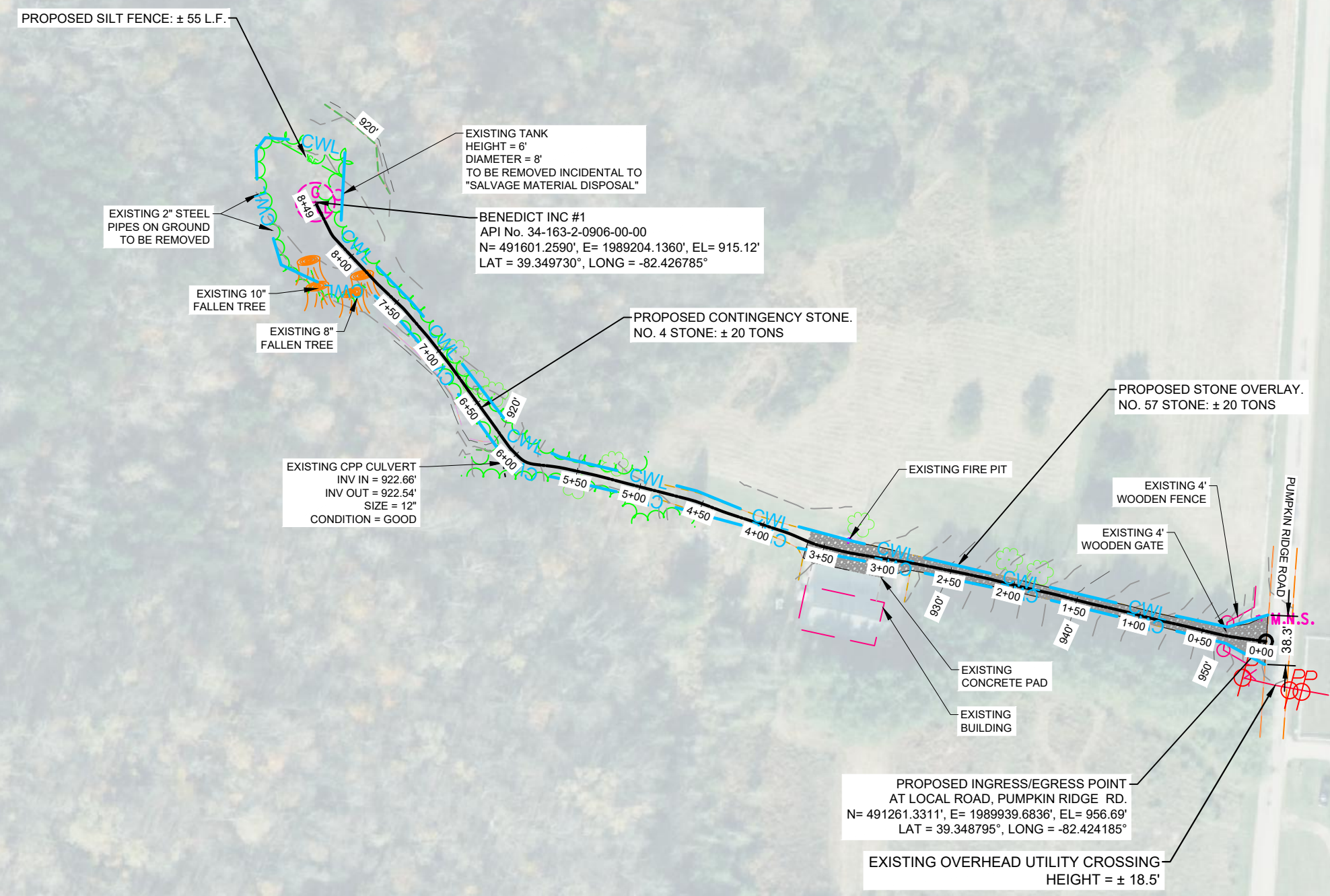
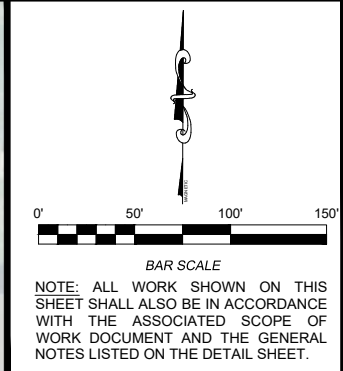
BENEDICT INC. #2
SITE PLAN

VINTON #3
MULTIPLE
ORPHAN WELL SITES

REVISION

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CHECKED BY: P.G.M.
DATE: 01/23/2024
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6 OF 17

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**DIVISION OF OIL & GAS
RESOURCES MANAGEMENT
IDLE & ORPHAN WELL PROGRAM**
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**BENEDICT INC. #1
SITE PLAN**

**VINTON #3
MULTIPLE
ORPHAN WELL SITES**

ESTIMATED SITE RESTORATION QUANTITIES		
COMPONENT	RATE	QUANTITY
FERTILIZER	20 LBS/1000 S.F.	273 LBS
SEED	75 LBS/1 ACRE	24 LBS
MULCH	100 LBS/1000 S.F.	28 BALES
PELLETIZED LIME	400 LBS/ACRE	124 LBS

REVISION

DESIGN UNIT
O&G ENGINEERING
DRAWN BY: A.D.K.
CHECKED BY: P.G.M.
DATE: 01/23/2024
SHEET NO.
7 OF 17

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PROPOSED INGRESS/EGRESS POINT
AT LOCAL ROAD, EGGLESTON RD.
N= 474845.8281', E= 1959982.1611', EL= 826.65'
LAT = 39.303746°, LONG = -82.530102°

C&G GRAY #2
API No. 34-163-2-0499-00-00
N= 474646.7220', E= 1959868.4860', EL= 822.20'
LAT = 39.303199°, LONG = -82.530503°

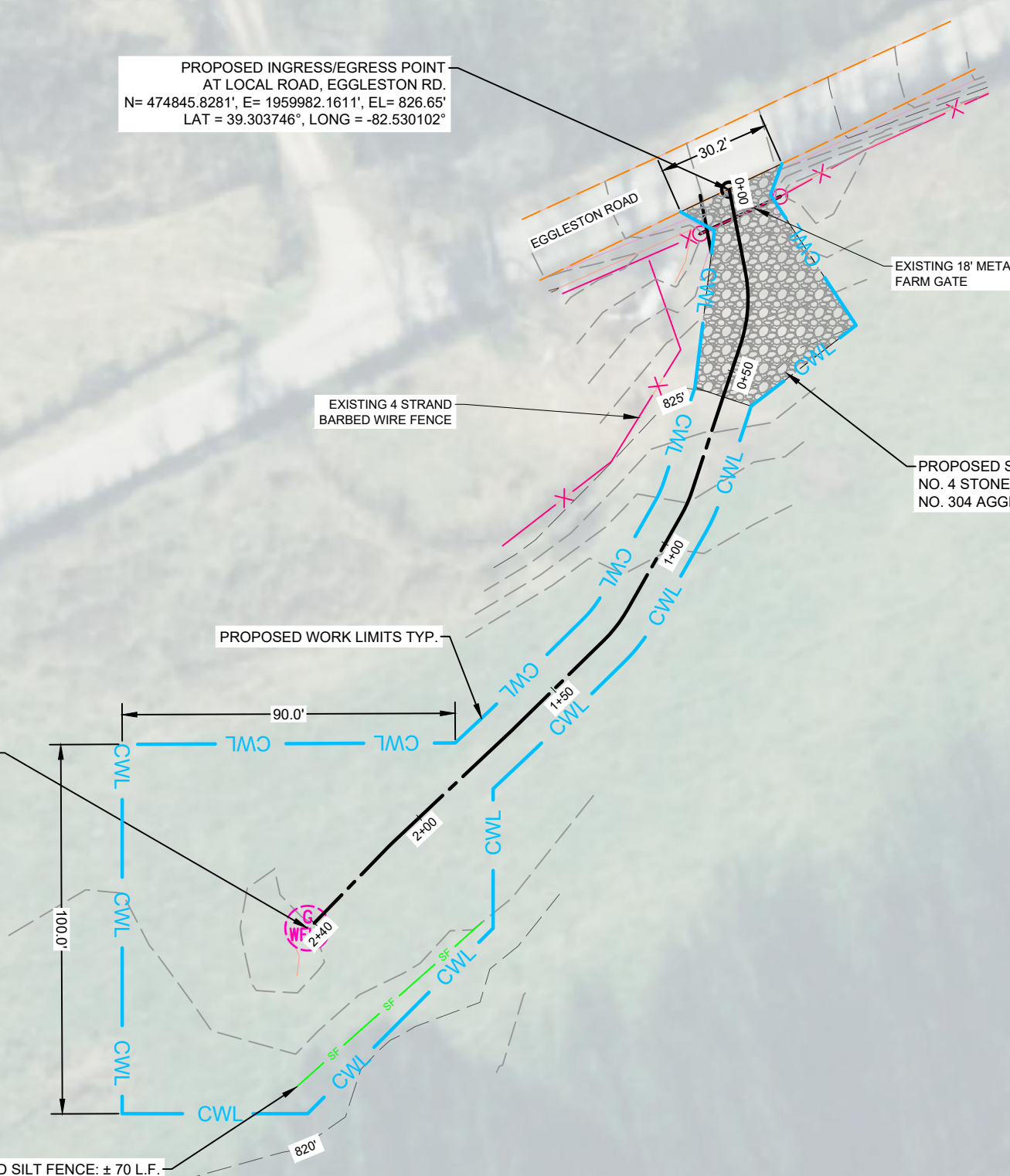
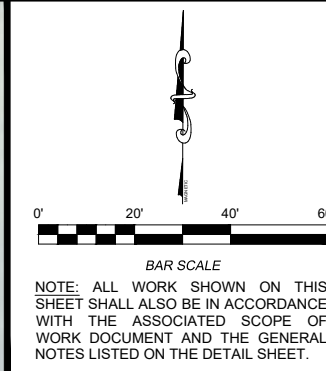
PROPOSED SILT FENCE: ± 70 L.F.

PROPOSED WORK LIMITS TYP.

EXISTING 4 STRAND
BARBED WIRE FENCE

EXISTING 18' METAL
FARM GATE

PROPOSED STONE ACCESS:
NO. 4 STONE: ± 40 TONS
NO. 304 AGGREGATE: ± 20 TONS



ESTIMATED SITE RESTORATION QUANTITIES		
COMPONENT	RATE	QUANTITY
FERTILIZER	20 LBS/1000 S.F.	246 LBS
SEED	75 LBS/1 ACRE	23 LBS
MULCH	100 LBS/1000 S.F.	25 BALES
PELLETIZED LIME	400 LBS/ACRE	120 LBS



DIVISION OF OIL & GAS
RESOURCES MANAGEMENT
IDLE & ORPHAN WELL PROGRAM
<http://oilandgas.ohiodnr.gov>



C&G GRAY #2
SITE PLAN

VINTON #3
MULTIPLE
ORPHAN WELL SITES

REVISION

DESIGN UNIT
O&G ENGINEERING
DRAWN BY: A.D.K.
CHECKED BY: P.G.M.
DATE: 01/23/2024
SHEET NO.
8 OF 17

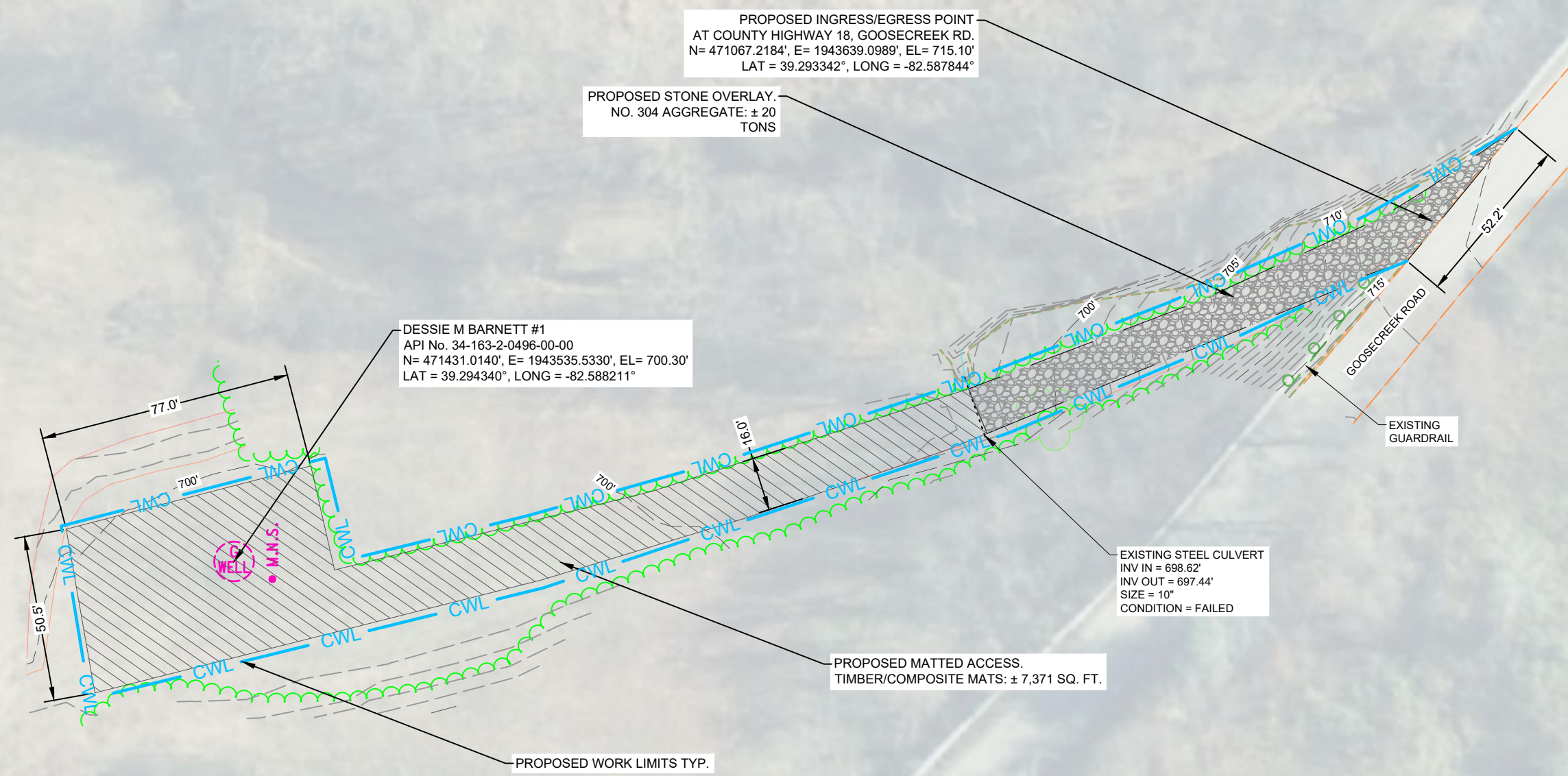
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BAR SCALE
 NOTE: ALL WORK SHOWN ON THIS SHEET SHALL ALSO BE IN ACCORDANCE WITH THE ASSOCIATED SCOPE OF WORK DOCUMENT AND THE GENERAL NOTES LISTED ON THE DETAIL SHEET.

DIVISION OF OIL & GAS
RESOURCES MANAGEMENT
IDLE & ORPHAN WELL PROGRAM
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DESSIE M BARNETT #1
SITE PLAN

VINTON #3
MULTIPLE
ORPHAN WELL SITES



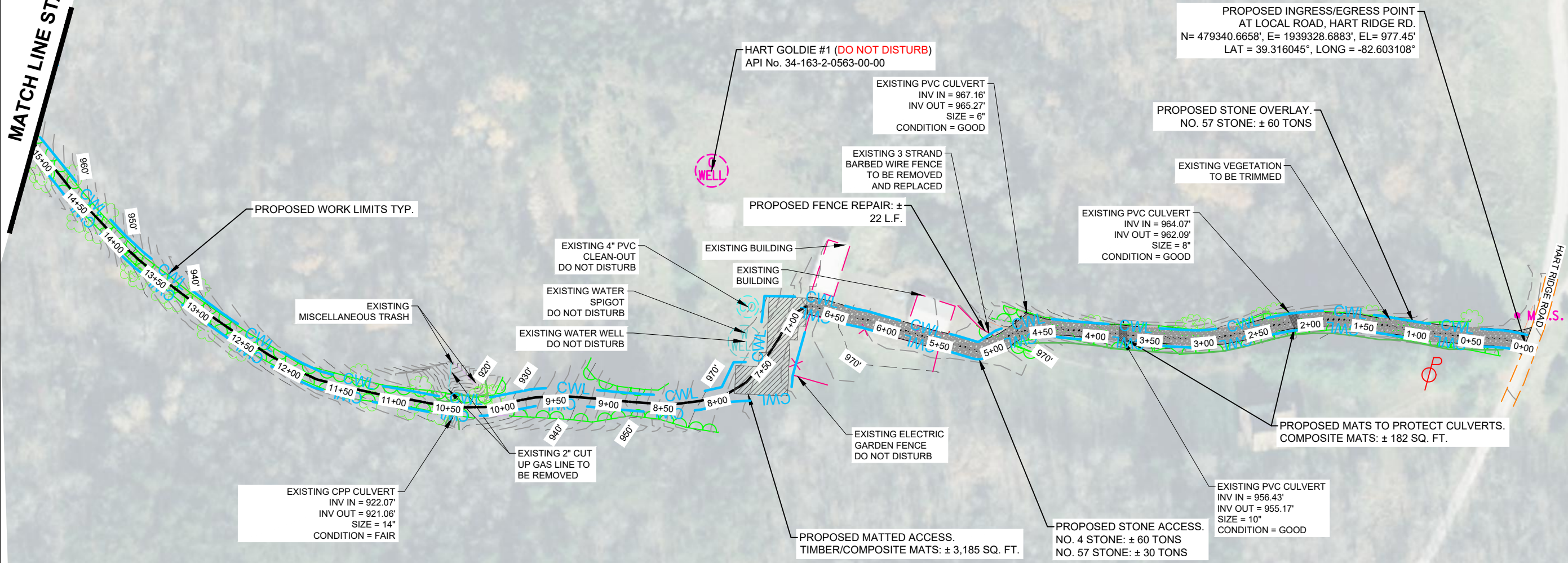
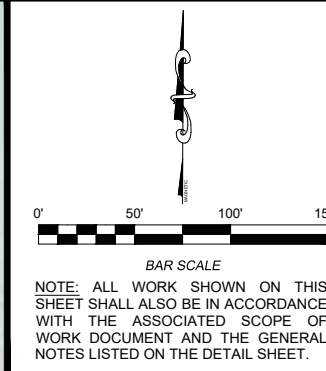
ESTIMATED SITE RESTORATION QUANTITIES		
COMPONENT	RATE	QUANTITY
FERTILIZER	20 LBS/1000 S.F.	230 LBS
SEED	75 LBS/1 ACRE	20 LBS
MULCH	100 LBS/1000 S.F.	24 BALES
PELLETIZED LIME	400 LBS/ACRE	104 LBS


REVISION

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10 OF 17

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MATCH LINE STA 15+00




 DIVISION OF OIL & GAS
 RESOURCES MANAGEMENT
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W & W APPELMAN #1
SITE PLAN

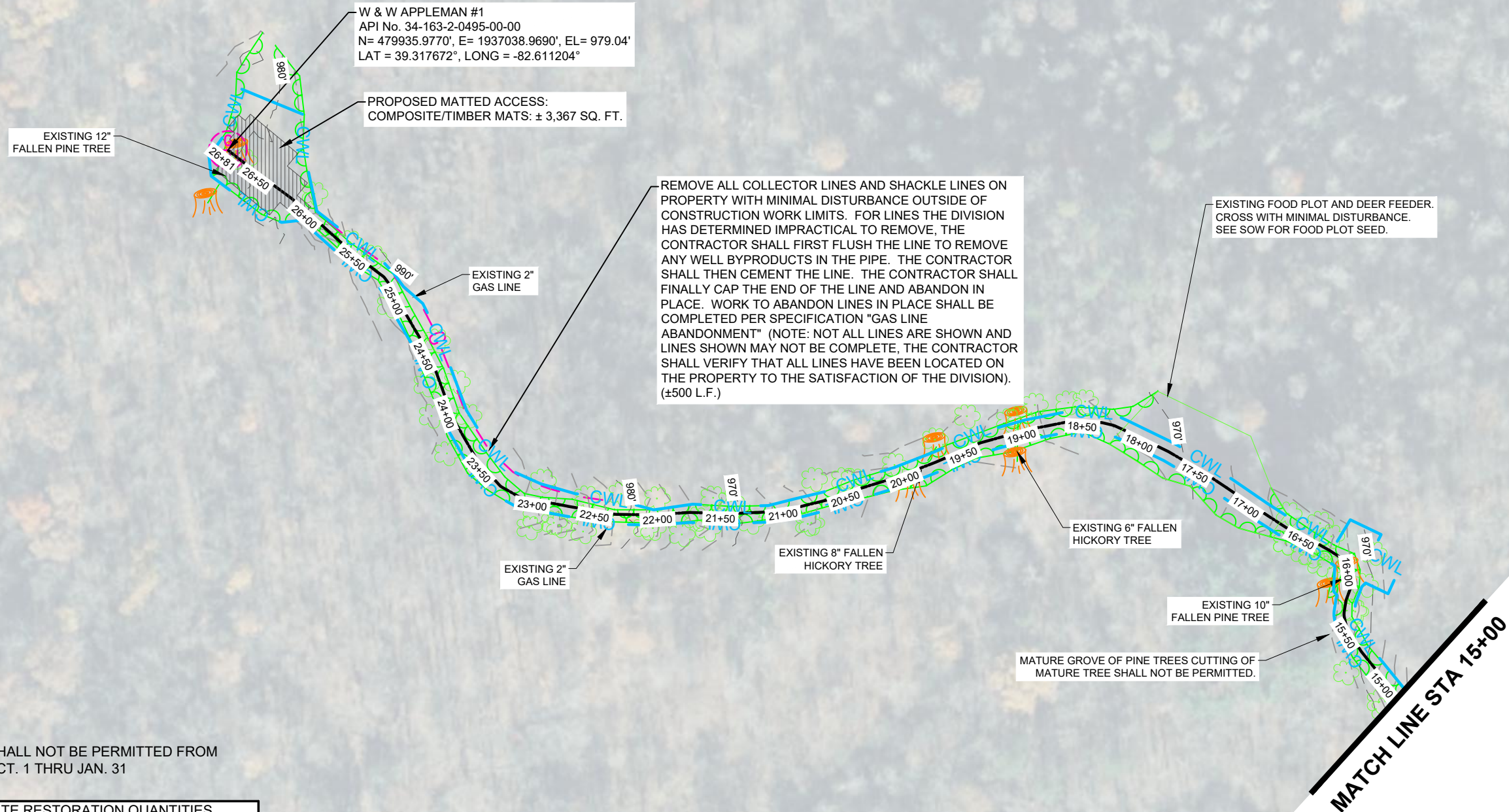
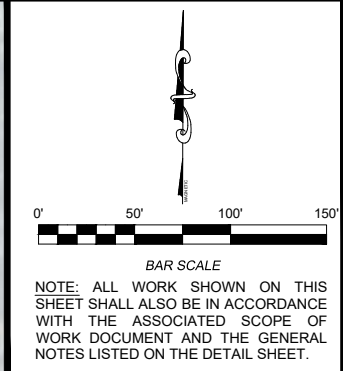
VINTON #3
MULTIPLE
ORPHAN WELL SITES

NOTE: WORK SHALL NOT BE PERMITTED FROM OCT. 1 THRU JAN. 31

ESTIMATED SITE RESTORATION QUANTITIES CARRIED ON SHEET

REVISION	
DESIGN UNIT	O&G ENGINEERING
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DATE:	01/23/2024
SHEET NO.	11 OF 17

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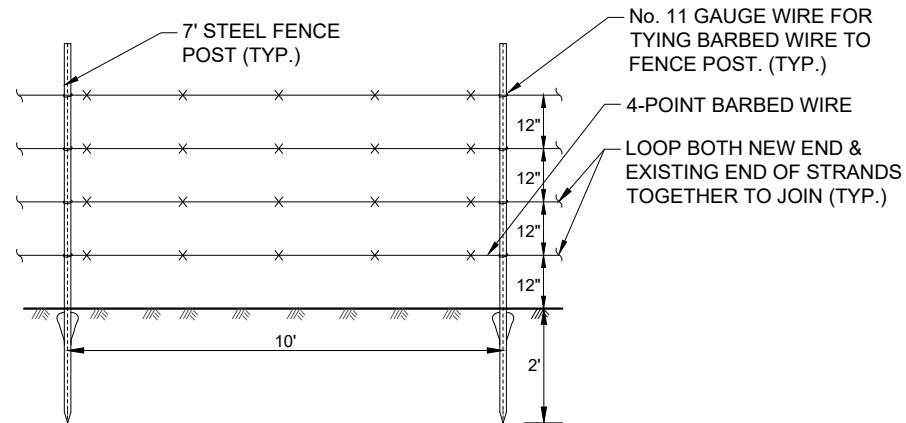


NOTE: WORK SHALL NOT BE PERMITTED FROM OCT. 1 THRU JAN. 31

ESTIMATED SITE RESTORATION QUANTITIES			
LOCATION	COMPONENT	RATE	QUANTITY
FOOD PLOT (IMPERIAL WHITETAIL-EDGE)	FERTILIZER	400 LBS/ACRE	72 LBS
	SEED	26 LBS/ACRE	6.5 LBS
	PELLETIZED LIME	4000 LBS/ACRE	720 LBS

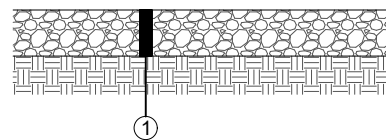
ESTIMATED SITE RESTORATION QUANTITIES		
COMPONENT	RATE	QUANTITY
FERTILIZER	20 LBS/1000 S.F.	700 LBS
SEED	75 LBS/1 ACRE	60 LBS
MULCH	100 LBS/1000 S.F.	70 BALES
PELLETIZED LIME	400 LBS/ACRE	320 LBS

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- NOTES:**
1. ALL WORK ASSOCIATED WITH THE REMOVAL, REINSTALLATION AND/OR REPAIR OF THE FENCE SHALL BE CONSIDERED INCIDENTAL TO LINE ITEM "FENCE REPAIR".
 2. ALL FENCE STRANDS SHALL BE PROPERLY STRETCHED UPON COMPLETION, NO PAYMENT FOR SITE RESTORATION WILL BE MADE UNTIL RECEIPT OF SATISFACTORY APPROVAL FROM THE DIVISION.

BARBED WIRE FENCE DETAIL
NOT TO SCALE



① No. 4 STONE BASE (3" MIN.)

- NOTES:**
1. STONE SHALL BE PLACED TO THE SATISFACTION OF THE DIVISION AND IN A MANNER TO ACHIEVE A GRADE SUITABLE FOR MOBILIZATION FROM ROAD ONTO THE PROJECT SITE.
 2. ALL CONTINGENCY STONE PLACED WILL BE LEFT IN PLACE.

CONTINGENCY STONE SECTION
NOT TO SCALE



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DETAILS

**VINTON #3
MULTIPLE
ORPHAN WELL SITES**

REVISION
DESIGN UNIT O&G ENGINEERING
DRAWN BY: A.D.K.
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