Pender County

Agenda

Board of County Commissioners Meeting
Monday, January 31, 2022 @ 4:00 PM
Pender County Public Assembly Room
805 S. Walker Street, Burgaw, NC

		Presenter	Page
1.	CALL TO ORDER		
2.	DISCUSSION AND ACTION ITEMS		
2.1.	Consideration of Awarding Contract Related to Decommissioning and Demolition of the Former BASF Property Contract Package and Letter - Pdf		3 - 263
3.	CLOSED SESSION (IF APPLICABLE).		
4.	ADJOURNMENT		

Pender County
Contract and Letter of Recommendation

TO:	Board of County Commissioners
FROM:	Chad McEwen
DATE:	January 31, 2022
SUBJECT:	Consideration of Awarding Contract Related to Decommissioning and Demolition of the Former BASF Property

SUMMARY:
Consideration of Awarding Contract Related to Decommissioning and Demolition of the Former BASF Property

ACTION REQUESTED:
Consideration of Awarding Contract Related to Decommissioning and Demolition of the Former BASF Property

Issued For Construction

SR&R ENVIRONMENTAL, INC.

Proposal File Wood 20220124 Pender County

Prepared For

Wood Environment & Infrastructure Solutions, Inc.

Pender County, NC

Request for Proposal 2021-0243

BROWNFIELD REDEVELOPMENT PROJECT
PENDER COUNTY, NORTH CAROLINA
Wood Environment & Infrastructure Solutions, Inc.
Request for Proposal 2021-0243
SR&R File: Wood 20220124 Pender County

PREFACE

The following discussion follows the information provided by Anthony Kellogg of Wood Environment & Infrastructure, Inc. (Wood) related to the redevelopment project at the site known as 101 Vitamin Drive in Pender County, NC. This proposal presents the position of SR&R Environmental (SR&R) as it relates to technical qualifications and capabilities.

This discussion is being prefaced with the following frank and concise statement:

> *SR&R has been a long-standing provider of professional services in the southeast. Since its founding in 1991 (originally operating under the name Southeast Response and Remediation), the primary business of SR&R Environmental has revolved around service requirements which are in close harmony to the requirements of the project needs. We cut our teeth on emergency response, initially providing spill response and containment for marine services in the Wilmington harbor area, migrating naturally to spill response, containment and disposal coordination for "on land" events, and then into the public and private sector markets, providing a broad diversity of industrial services including waste management programs, intensive cleaning programs for tanks, steam generators, marine vessels, and process areas, with a concentration on vacuum truck, excavation, and hydro and dry ice blasting techniques. Today our operations are centered in the eastern Carolinas, but effectively cover a four-state geography ranging from Virginia in the north to Georgia in the south.*
>
> *Under the managerial supervision of our President and CEO, William Murrell III, the Wood/Duke program will be directed by our Operations Manager, Richard Wareham, assisted by our Remediation Manager, Patrick Beccaria, and supervised in the field by one of our Senior Crew Leaders.*

4920 US 421 North, P.O. Box 221, Wilmington, NC 28402
Office: 800-310-6757 | Cell 910-515-9671 | Email patrick@srrenviro.com

SR&R Environmental has grown to be a major provider of environmental services in our region and is especially recognized in our local eastern North Carolina market area. Our partial list of satisfied clients in the local public and private sector include:

- Military installations at MCB Camp Lejeune, MCAS Cherry Point, MCAS New River, Seymour Johnson AFB, Shaw AFB, Ft Bragg, Ft Jackson, and Marine Ocean Terminal Sunny Point
- United States Coast Guard (multiple docking locations along the east coast), plus annual BOA for emergency response efforts
- North Carolina Department of Transportation (regional Hazardous Materials and Waste Services contractor)
- Consultants like Terracon, Weston, AECOM, TetraTech, Aptim, Woods, etc.
- North Carolina Department of Environmental Quality
- Major Industries like General Electric Hitachi, Stepan Company (formerly Invista), Archer Daniels Midland, Fortron div of Celanese, International Paper, Kinder Morgan, etc.
- Utilities like Duke Energy, Dominion Energy, Southeast Power Corporation. City of Raleigh, Cape Fear Public Utility Authority, etc.

With our work among high-profile and sophisticated clients, we are unique in our ability to secure broad professional insurance coverage which typically far exceeds the limits set by our market. A specimen copy of our coverage is included in the document appendices.

Finally, we pride ourselves in providing services professionally at competitive pricing, but will not sacrifice or cut corners on safety procedures. All personnel receive Hazardous Waste Operations and Emergency Response (HAZWOPER) training, and many personnel also hold a long list of other training credentials including, but not limited to, First Aid, CPR, Confined Space, Confined Space Rescue, Excavation Safety, Hydroblast fundamentals, and Commercial Driver Licensing. As a Company, we also are credentialed by both the ISNetWorld and Avetta safety compliance and monitoring programs, and have received the Five-Star Safety Award from the Greenpoint Group.

4920 US 421 North, P.O. Box 221, Wilmington, NC 28402
Office: 800-310-6757 | Cell 910-515-9671 | Email patrick@srrenviro.com

APPROACH TO PROJECT

A. Program Management

SR&R will approach this project with the same diligence and professionalism with which it approaches any project for its many satisfied clientele. Specifically, we would plan the services in the following manner after award:

- ✓ Conduct an in-house project kick-off meeting with senior management personnel [program development, operations manager, executive officer, administrative manager, and senior field supervisor(s)] to insure all the details of the client requirements are fully understood and implemented from Day One in the execution of the task.
    - o Review of technical requirements
    - o Equipment and staff assignments
    - o Health & Safety
    - o Administrative requirements
- ✓ From this point going forward, the Operations Manager will have primary responsibility for implementing the project requirements, including, but not necessarily limited to:
    - o Equipment scheduling
    - o Field Staff scheduling
    - o Directing invoice procedures

B. Understanding of the Program Requirements

In short summary, the objective of this task is to professionally manage the reclaiming of the property known as 101 Vitamin Drive and rehabilitate it by removing areas of environmental and subsurface concerns and demolish existing structures so that it can be repurposed for development.

C. Equipment and Staff Utilization

SR&R employs trained and certified personnel with normal and customary training related to the environmental concerns of our business. This includes, but not necessarily limited to, demolition, abatement, material loading and unloading techniques, industrial cleaning practices, spill prevention procedures, emergency response policies, record keeping, and above all, client service.

4920 US 421 North, P.O. Box 221, Wilmington, NC 28402
Office: 800-310-6757 | Cell 910-515-9671 | Email patrick@srrenviro.com

D. General Scope of Work

- Mobilization, Temp facilities & pre-work meeting with Wood Engineering. Confirmation of utility disconnect terminations
- Install Erosion & Sediment control features & Construction Entrance. Removal of woody vegetation around admin buildings, chip and remove from site.
- Bring equipment to the Western part of the property & start to drain & dismantle pond liners. While this work has begun, we will start to demo building's #18 & #16.
- Start backfilling ponds & compacting. Begin work on dismantling tank farm labeled #12 in photo journal, breaking up concrete base & remove for disposal. Perform the environmental waste removal of impacted soil, hydraulic oil and removal of Misc. debris (#7).
- Dismantle Waste water treatment settling basin and sump. Break up concrete and haul off site for disposal. (#1 & #2 on photo journal) Crew to go around and perform removal of light poles.
- Clean out and dismantle Waste water treatment plant items #4, 5 & 6 on photo journal. Consists of (3) RBC's, and 2 oxidation tanks. Start the removal of outer asphalt road & parking lot.
- Demo of Buildings #12, 13, fiberglass tank #14, and tank #15 with shed. Also demo building #16, and fiberglass shed #17.
- Remove all universal waste prior to demo of admin buildings. Start demo of admin buildings #21, 22 & 23. Dismantle former water tank (#19) and perform asbestos abatement on roof of small attached pump house.
- Continue with the demo of admin buildings and start to remove the balance of asphalt and begin with the removal of subsurface utilities.
- Finish with the removal of asphalt. Continue with the removal of subsurface utilities and backfill/compact as we proceed. Removal of #8 concrete containment with railing.
- Removal of Guard shack, truck scale, guard house, pedestrian turnstile, and chain link fencing. Finish with the removal/backfill of subsurface utilities.
- Final site restoration, clean up and demobilization.

Project Assumptions:

- The Client will provide free and unencumbered access to the work area and Wood work activities shall not delay the staging and loading of the contaminated soil materials.
- Relief facilities within the facility will be staged for the exclusive use of SR&R crews.

4920 US 421 North, P.O. Box 221, Wilmington, NC 28402
Office: 800-310-6757 | Cell 910-515-9671 | Email patrick@srrenviro.com

In keeping with a professional and easily understandable proposal presentation, it is our custom to restate each area of concern requested within the project specification so that the Client(s) can be assured of our understanding of the program requirements and the execution of the same.

THE SPECIFICATION REQUESTS…

Bid responses must include the following:

- *A statement of qualifications for the Contractor and lower tier sub-contractors proposed;*
    - SR&R will basically "self-perform" the entire site remediation program. A condensed statement of qualifications for federal program work, better known in military circles as the "slick sheet" has been included in the presentation as Appendix A.
    - The only significant subcontractor of note will be the New Hanover County solid waste disposal facility and perhaps a local trucking company to assist in material movements should our own trucking fleet already be committed to other contractual assignments.
    - Depending on economies and availabilities, we may elect to use a local heavy equipment rental operation like HERC or United rather than our own heavy equipment in Wilmington.
- *Completed Lump Sum/Unit Rate Proposal;*
    - The Bid Forms have been completed and are included in Appendix B to this presentation.
- *Proposed approach (draft work plan) to complete the scope of work;*

  Trying not to be too redundant or appearing to plagiarize the Wood specification, we condense and restate as follows at the draft Work Plan:

    - Mobilization, Temp facilities & pre-work meeting with Wood Engineering. Confirmation of utility disconnect terminations
    - Install Erosion & Sediment control features & Construction Entrance. Removal of woody vegetation around admin buildings, chip and remove from site.
    - Bring equipment to the Western part of the property & start to drain & dismantle pond liners. While this work has begun, we will start to demo building's #18 & #16.

4920 US 421 North, P.O. Box 221, Wilmington, NC 28402
Office: 800-310-6757 | Cell 910-515-9671 | Email patrick@srrenviro.com

- Start backfilling ponds & compacting. Begin work on dismantling tank farm labeled #12 in photo journal, breaking up concrete base & remove for disposal. Perform the environmental waste removal of impacted soil, hydraulic oil and removal of Misc. debris (#7).
- Dismantle Waste water treatment settling basin and sump. Break up concrete and haul off site for disposal. (#1 & #2 on photo journal) Crew to go around and perform removal of light poles.
- Clean out and dismantle Waste water treatment plant items #4, 5 & 6 on photo journal. Consists of (3) RBC's, and 2 oxidation tanks. Start the removal of outer asphalt road & parking lot.
- Demo of Buildings #12, 13, fiberglass tank #14, and tank #15 with shed. Also demo building #16, and fiberglass shed #17.
- Remove all universal waste prior to demo of admin buildings. Start demo of admin buildings #21, 22 & 23. Dismantle former water tank (#19) and perform asbestos abatement on roof of small attached pump house.
- Continue with the demo of admin buildings and start to remove the balance of asphalt and begin with the removal of subsurface utilities.
- Finish with the removal of asphalt. Continue with the removal of subsurface utilities and backfill/compact as we proceed. Removal of #8 concrete containment with railing.
- Removal of Guard shack, truck scale, guard house, pedestrian turnstile, and chain link fencing. Finish with the removal/backfill of subsurface utilities.
- Final site restoration, clean up and demobilization.

- *Schedule to complete the work, illustrating duration and completion of each task;*
    - This is somewhat out of order, but for purposes of the proposal a preliminary work completion schedule is presented at Appendix C, and a more detailed final graphic schedule document will be prepared after our internal Kick-Off event and the Pre-Construction Meeting.

- *Identification of proposed project team and qualifications/resumes of key office and field staff;*
    - A proposal team organization chart and capsule resumes of key staff are included in Appendix D. CVs for field staff are normally not compiled, but for the purposes of this proposal be assured that all personnel will be trained and certified in OSHA 40-hour HAZWOPER practices, be medically monitored, participate in a substance abuse monitor program, and be trained in the use of any heavy equipment utilized on the project.

- *Sample certificates of insurance demonstrating ability to meet project insurance requirement.*

4920 US 421 North, P.O. Box 221, Wilmington, NC 28402
Office: 800-310-6757 | Cell 910-515-9671 | Email patrick@srrenviro.com

- The sample certificate of insurance is presented in Appendix E.

- *Price (preference is to provide the lowest practical cost to Pender County);*
  - Completed Lump Sum/Unit Price Tables as required for the site work are presented in Appendix B. Hopefully you find them to be the lowest practical cost.

- *Availability to meet project schedules and deadlines;*
  - The field staff required for this project will only amount to about 17% of our total trained and credentialed field personnel, so based on the breadth of our staff we do not expect any concerns with the scheduling of this project to meet both Wood and Pender County anticipations. Please take not of the exceptions section of the proposal. If in-house heavy equipment is not available on the specific days we schedule for work we will be able to secure suitable equipment for any of a number of reputable rental companies. The sequence can be found in our draft schedule presented in Appendix C.

- Requested safety documentation is presented in with the Lump Sum/Unit Price summaries found in Appendix B. Our insurance certificate is presented in Appendix D.

- *List of regulatory notices of violation levied against the firm, if any, and an explanation of the occurrence and if resolutions were reached;*
  - This response is easy – **NONE**.

- *Safety (particularly staffing of Safety Professional[s] and how Safety is incentivized);*
  - Our corporate health and safety practices start at the top. Our president and CEO, William Murrell III, CHMM, is the designated corporate health and safety officer. Is is a trained and certified "Train the Trainer" professional and, speaking from experience, keep close control of the company activities on his watch. He is further assisted by Matthew Valles, a professional with a long history of construction safety compliance oversight. CVs for both Mr. Murrell and Mr. Valles are included in Appendix D.
  - The company does have an incentivized safety program which casts in a broad web to include every single daily professional activity. Quoting from the Corporate Handbook:

4920 US 421 North, P.O. Box 221, Wilmington, NC 28402
Office: 800-310-6757 | Cell 910-515-9671 | Email patrick@srrenviro.com

"SR&R ENVIRONMENTAL, INC. wishes to reward those employees who demonstrate **SAFE WORKING PRACTICES, ATTENDANCE AND REPORTING TO WORK ON TIME.** There will be two (2) bonuses, July and December, that are based on six-month periods. The bonus for each will be $500 (less payroll taxes). This bonus is for hourly technical employees **only.**

Bonus I:

a. An employee cannot miss more than three (3) days in a six (6) month period (excused or non-excused or reporting late). Scheduled vacation will not disqualify an employee.
b. An employee cannot have any reportable accidents in a six (6) month period. This includes accidents with machinery or equipment regardless of personal injury or injuries to fellow workers. An employee who operates machinery and/or equipment in a manner that could cause a fellow worker, customer or anyone else to be injured will not be eligible.
c. The employee has to have been on payroll for the entire six (6) month period.

Bonus II:

a. The employee cannot have missed more than five (5) days in a six-month period (excused, unexcused or reporting late). Scheduled vacation will not disqualify employee.
b. The employee may not have had any lost time or light duty due to a reported accident. This is to include accidents requiring medical attention beyond first aid, as well as damage to equipment and/or materials. An employee who operates machinery and/or equipment in a manner that could and/or causes a fellow worker, customer or anyone else to be injured will not be eligible.
c. The employee must be on the payroll for the entire six (6) month period."

- *Qualifications of onsite project management field leader, including Safety Professional;*

  - As presented in the project organization chart (see Appendix D), the project will be led by our Remediation Manager, Patrick Beccaria, with onsite presence is deemed necessary to accomplish a successful project. Mr. Beccaria will be supported onsite full time by of of our Senior Field Supervisors. Primary equipment operations could be staffed by any of a number of trained and experienced field technical staff employed by SR&R. Final

4920 US 421 North, P.O. Box 221, Wilmington, NC 28402
Office: 800-310-6757 | Cell 910-515-9671 | Email patrick@srrenviro.com

selection of the primary operator will be determined as the mobilization date approaches and the best available candidate is selected. Of significant importance though, will be the support of our lead EH&S Technician, Matthew Valles, who will direct the execution of field safety practices.

- Capsule CVs for both Messrs. Beccaria and Valles, among others, are included in Appendix D.

- *Technical experience/Previous work experience on similar scope and size projects.*

  - Similar work performed by SR&R includes:

    - MCB Camp Lejeune under contract with SEPI, Inc. to excavate, load, transport, and manage disposal of approximately 7000 CY of polyaromatic hydrocarbons (PAH) contaminated soils. The task was complicated mid-stream by the identification of unexploded ordnance (UXO) in the excavation area. While still working on the excavation, SR&R had to add armor protection to the heavy equipment and work with the Base UXO experts to safety continue work and maintain an exceptionally high level of safety protocols.
    - Multiple projects for Stepan (formerly Invista) at their plant in Wilmington. One significant program involved the cleanup and decommissioning of multiple large process vessels ("millions" of gallons capacities) in their operation. This project was led by Mr. Frank VanRyn of Koch Industries (parent of Invista) but Mr. VanRyn has since retired. One of our references, Ms. Elizabeth Meyer, can provide details and comments on our performance upon request.
    - Contracts with NCDOT consultants to locate, excavate, remove, and remediate contamination concerns "found" within the right-of-way for various state highway construction projects. Tasks were especially high-visibility since their quick resolution and execution directly impacted the progress of the highway project.
    - Under similar contracts with NCDEQ consultants, SR&R has been tasked to excavate, remove, and remediate environmental contaminants that were identified and not having accountable ownership to preserve the environmental integrity in areas of the installations.
    - Contracts under Wood and its acquisition, AMEC, on several brownfield redevelopment projects in Wilmington and Dunn.
    - Although the project does not involve excavation, SR&R is currently under contract with Barnhill Contracting for the management of staging, profiling, manifesting, transportation, and legal disposal of 46,500 CY of petroleum

4920 US 421 North, P.O. Box 221, Wilmington, NC 28402
Office: 800-310-6757 | Cell 910-515-9671 | Email patrick@srrenviro.com

contaminated soils with identified levels of Perfluoroalkyl and Polyfluoroalkyl Substances (a.k.a., PFAS) contaminants.

- In addition to contract assignments by SR&R, our remediation manager, Patrick Beccaria, has a life's history of work on remediation assignments. Mr. Beccaria was a licensed NYDEC & CTDEP remediation contractor for close to 20 years, performing remedies of many different types of soil & groundwater state-led projects. In capsule summary, these projects have included work for the following public sector entities:
  - Georgia Port Authority
  - Harnett County Schools

  And private sector clients in…
  - Greensboro NC, 2800T of impacted soils
  - Rocky Mount NC, 400T of impacted soils
  - Yonkers, NY, 800T of impacted soils
  - Richmond, VA, three (3) 10,000 gal USTs
  - Lumberton, NC, three (3) 10,000 gal USTs
  - Morrisville, NC, 1500T of impacted soils
  - Roanoke, VA, three (3) 10,000 gal USTs
  - Danbury, CT, 6,000T PCE/TCE contaminated soil remediation
  - Wilmington, NC, chemical spill, 1500T soil remediation
  - …and "tons" more.

FROM SPECIFICATION PARAGRAPH F.3

AN ITEMIZED LIST OF ANY AND ALL EXCEPTIONS, ASSUMPTIONS, OR CORRECTIONS NECESSARY TO ALLOW SUBMISSION OF THIS PROPOSAL

Exceptions:

- Section K, Liquidated damages in their entirety.
- The requested project schedule. SR&R will do its best to conduct all site work in an expeditious manner as presented in the draft project schedule (Appendix C) but in all professional conscience expect to complete the scope of work within the time constraints of the specifications.
- "Cost Plus" accounting shall not be applicable in this Lump Sum/Unit Cost proposal format.

4920 US 421 North, P.O. Box 221, Wilmington, NC 28402
Office: 800-310-6757 | Cell 910-515-9671 | Email patrick@srrenviro.com

Project Assumptions:

- Pender will provide free and unencumbered access to the work area and Wood consulting activities shall not delay the execution of the project scope.
- The normal workday at the site will involve weekday hours (excluding holidays) between sunrise to sunset to allow for the most efficient heavy equipment utilization and to keep the project schedule minimized.
- Relief facilities within the facility will be staged for the exclusive use of SR&R crews.
- We live and work in North Carolina. What more can we say? It is inevitable that work schedules can and will be occasionally interrupted by meteorological events. Over the course of this project there may be disabling rain or lightning that, especially from a safety standpoint, creates a cease-work situation. While the time of year in which this task is expected to be scheduled isn't in the teeth of hurricane season which could disrupt outdoor activities for days or weeks, we might still expect a day here or there that necessitates a work stand down. It happens, we live with it, and try not to let it have a major impact on costs or scheduling. If it does, we'll talk. Having dealt with the client base in the Wilmington area for decades we respect those professional relationship and recognize that we all are no unreasonable people, and like to think the work can be executed harmoniously between the County, Wood, and SR&R.
- Although supply chains are in the news and a popular topic of discussion, we have yet to see a situation in our other current business dealings that can't be handled and have not seen it impact our business except for a few price increases, and we wouldn't expect anything different on this project. We have taken into account material and labor costs and availability and they should have no impact on the Pender County project.
- The elephant in the room though is of course the Coronavirus situation. SR&R is an essential services provider in terms of the need for us to be able to respond to environmental emergencies and situations bearing health and safety consequences, and we will continue to honor those critical obligations. It is our intent, therefore, to honor the position of the CDC, Wood, and of course ultimately, Pender County in making reasonable and responsible decisions related to the health and welfare of contractors.

4920 US 421 North, P.O. Box 221, Wilmington, NC 28402
Office: 800-310-6757 | Cell 910-515-9671 | Email patrick@srrenviro.com

COMMERCIAL PROPOSAL

The details of our proposed commercial fees are outlined in the Lum Sum/Unit Rate response and included in Appendix B.

The time allotment for onsite activities in general would be as presented in the draft schedule exhibited in Appendix C.

Note that proposed fees are all-inclusive and you will not see any random or surprise fees such as fuel surcharges, environmental management fees, per diems, incidental materials, etc., etc., etc., as might be commonplace with others in our markets. What you see in our proposal will be what you see in our invoice.

POINTS OF CONTACT:

Proposal Q&A and Contract Negotiations

Patrick Beccaria
Cell 910-515-9671
Email patrick@srrenviro.com

James Shannon
Cell 910-777-9446
Email jshannon@srrenviro.com

Operations Management

Patrick Beccaria
Cell 910-515-9671
Email patrick@srrenviro.com

Richard Wareham
Cell 910-617-1490
Email richard@srrenviro.com

Waste Management and Disposal

Stephen Alexander
Cell 910-520-1915
Email stephen.alexander@srrenviro.com

Corporate Health & Safety Officer

William Murrell III, CHMM
Cell 910-622-3933
Email wmurrell@srrenviro.com

Administration and Documentation

Tammy Gurganus
Office 800-310-6757
Email tammy@srrenviro.com

PROPOSAL APPENDICES

APPENDIX A

CONDENSED STATEMENT OF QUALIFICATIONS

a.k.a. “SLICK SHEET”

Who we are:

SR&R Environmental, Inc. (SR&R) is a small business enterprise servicing both the public and private market sectors. Applicable NAICS Codes include 238910, 484230, 562112, 541620, 562211, 562219, 562910, and 562998.

SIC Code: 1629 CAGE code: 05QD8 DUNS Number: 78 391 0508

What we do:

In short summary, SR&R provides environmental cleanup and (heavy duty) industrial cleaning services.

For a "keyword detail summary" of our capabilities please see the flip side of this flyer.

Where we are:

With headquarters located in Wilmington NC, SR&R is primarily competitive in the arc starting in Virginia to the north and extending to Florida in the south.

Address:	4920 Highway 421 North, P.O. Box 221 Wilmington, NC 28402
24/7/365 Phone:	800-310-6757
Contact:	James P. ("Jim") Shannon, P.E. Vice President, Program Development email jshannon@srrenviro.com cell 910-777-9446

Keyword Details of What We Do:

- Remediation, abatement and demolition
- Coronavirus disinfection processes
- Drilling mud transportation, treatment, and disposal
- Dewatering
- Tank cleaning; Fuel polishing
- UST and AST cleaning and/or removal
- Contaminated material excavation, staging, transportation, and disposal, including roll-off trucks and debris container services.
- Contaminated water removal, staging, transportation, treatment and disposal
- Hydro-blasting & dry ice blasting
- Vacuum truck and tanker services
- “Combo truck” sewer jet sewer cleaning and CCTV inspection
- CIPP repairs (sectional & full length); Soil stabilization, sinkhole repair
- Lagoon dredging, dewatering, transportation, and disposal
- Core-drilling and potholing for utility location and hydro-excavation of sensitive areas
- Confined space entry tasks
- Confined space rescue service
- Hazardous and non-hazardous materials management, transportation, and disposal
- Company owned and operated centralized waste water treatment system in Wilmington
- Solidification and disposal
- Lab packs and “unknown” identifications
- Assistance with waste regulatory compliance
- Emergency spill response; Emergency spill clean-up
- Marine transfer facility
- OSRO services
- Onboard ship tank cleaning and maintenance; bilge cleaning
- Retention pond restoration and maintenance

APPENDIX B

PROPOSAL FORM

FROM THE WOOD "RFP" SECTION

AND

RATE COST PROPOSAL BREAKDOWNS, ETC

FROM SPEC SECTION I

FORMER INDUSTRIAL BROWNFIELDS PROPERTY

COMMERCE PARK

PENDER COUNTY, NORTH CAROLINA

- PROPOSAL FORM -

FIRM LUMP SUM/UNIT RATE PROPOSAL

SUBMITTED BY:
(CONTRACTOR)

SR&R Environmental, Inc.
4920 US 421 North, P.O. Box 221
Wilmington, NC 28402

FOR

Request For Proposal No. **Decommissioning and Demolition 2021-0243**

Decommissioning and Demolition of Former Brownfields Facility Structures 101 Vitamin Drive Hwy 421 Pender County, North Carolina

WOOD PROJECT NO. 6228-21-0243

DATED: 01/25/2022

IMPORTANT NOTE: PROPOSALS MUST BE SUBMITTED ON THIS FORM

A. Proposal

The undersigned Bidder submits to Pender County, North Carolina it's Proposal for furnishing all materials, supervision, labor, construction tools, and necessary equipment to perform all work and services necessary for, and reasonably incidental to, the proper completion of all the items of work in accordance with the provisions, terms and conditions of/and as shown, described and contained in either the Lump Sum Contract and supporting documents as listed in the Specifications.

Total Firm Lump Sum/Unit Rate Bid (see enclosed Forms)

This is a complete bid. There are no exceptions to Bid Specifications Agreement for Decommissioning and Demolition Services and/or Exhibit "A" Special Conditions.

This is a qualified Bid. Attach an itemized list of any and all exceptions, assumptions,and/or corrections necessary to allow submission of this Proposal.

B. Breakdown

1. Proposal shall be provided with breakdown as shown in the attached Line-Item Cost Proposal Breakdown, **Table I-1**. (Attachment I-1)

2. The following taxes as applicable, are included above on all materials and/or labor furnished by Bidder and will be paid by the Bidder:

	Check if Applicable	Rate (%)	Total Tax on Materials	Total Tax on Labor
State Sales Tax	X	4.75	TBD	0
Local Sales Tax	X	2.25	TBD	0
Use Tax				
Other				

(A proportionate share of the above taxes, in the event of an award, would be billed to Pender County on each invoice submitted by Bidder and would be shown on the Detail of Billing as tax).

3. Names of proposed Contractors and work performed will be as follows:

Lower Tier Contractor(s) Name(s) & Location(s)	Craft Involved or Work to Be Performed
New Hanover County, Wilmington NC	Landfill disposal service
Evergreen Clearing, Inc.	Demolition

4. Number of working days required to mobilize after Notice to Proceed: XX
Number of working days after mobilization to start site activities at jobsite: YY
Number of working days estimated for final completion: ZZ

5. Any work beyond that defined in the scope contained in the Bid Documents or any changes in the plans and specifications (or deletions with respect thereto) which are authorized by Pender County in writing prior to the commencement thereof shall be performedby Bidder and paid for by Pender County, (or shall be allowed by Bidder as a credit) on one ofthe following bases at Wood's option:

   a. LUMP SUM: To be agreed upon.

   b. UNIT PRICE: As may be agreed upon.

   c. COST PLUS: Including authorized sub-contracted work as follows: NA

      1. Direct cost of labor including fringes, taxes, and insurance, plus percent (%) for overhead, profit, small tools as shown in Exhibit , and expendable supplies as shown in Exhibit .

      2. Direct cost of materials including the minimum rental cost of construction equipment, plus percent (%) for overhead and profit. Equipment rentals shall not exceed current rates established by the Associated Equipment Distributors or standard rates for the area, whichever is the lower rate.

      3. Direct cost of lower tier subcontracted work, plus percent (%) for overhead and profit.

      4. Taxes, bonds, insurance, and premium time shall be at Bidder's actual cost.

6. No home office expense shall be permitted unless authorized.

7. Bidder will operate with:

   a. Union Labor b. Non-Union Labor c. Both

8. Alternate Proposal: Alternate proposals are solicited where Bidder could propose a reduced firm Lump Sum price based upon acceptance by Pender County of alternate material(s) or construction techniques thereby reducing the cost of demolition. Details of alternates are to be specified and attached to this proposal. NA

9. Pender County reserves the right to reject any or all bids.

10. Bidder shall designate one of the following:

   a. If Bidder is operating as an INDIVIDUAL:

      1. Name of Firm: _____

      2. Address of Firm: _____

      3. Name of Owner: _____

   b. If Bidder is operating as a PARTNERSHIP:

      1. Name of Firm: _____

      2. Address of Firm: _____

      3. Names of All Partners: _____

   c. If Bidder is operating as a CORPORATION:

1. Name of Firm: SR&R Environmental, Inc.

2. Address of Firm: 4920 US 421 North, P.O. Box 221, Wilmington, NC 28402

3. State in which INCORPORATED: North Carolina

****

This Proposal is submitted by the undersigned consistent with the requirements of the BidSpecification and the instructions contained herein.

Date 01/25/2022 Bidder Name SR&R Environmental, Inc., by

Representative Signature of Authorized

William Murrell III, President & CEO
Name Title

LUMP SUM/UNIT RATE PROPOSAL

SECTION I
BIDDER INFORMATION

ATTACHMENT I-1:

FORMER INDUSTRIAL BROWNFIELDS PROPERTY

Lump Sum/Unit Rate Cost Proposal Breakdown

TABLE I- 1
LUMP SUM/UNIT RATE COST PROPOSAL BREAKDOWN
DECOMMISSIONING and DEMOLITION
FORMER INDUSTRIAL BROWNFIELDS PROPERTY
COMMERCE PARK
PENDER COUNTY, NORTH CAROLINA

Bid Item	Cost Code	Bid Item Description	Estimated Quantity	Unit Rate	Lump Sum Cost
8.1		General Requirements	1 LS	/LS	$ 1,250
8.2		Mobilization, Site Setup, Work Plans, Submittals and Permits	1 LS	/LS	$ 13,750
8.3		Site Wide Woody Vegetation Grubbing/ Chipping and Rough-Cut Mowing, and Implementation of Erosion Control Measures per attached Erosion Control Plan	1 LS	/LS	$ 31,250
8.4		Confirmation of Utility Disconnects Termination(s)	1 LS	/LS	$ 1,250
8.5		Environmental Waste Removal (soil, water and sediment), Transportation and Disposal at Licensed Facility • 90 tons of petroleum containing soil and 300 gallons of hydraulic oil and used waste oil • 97,000 gallons of water from wastewater basins and secondary containment systems • 270 tons of sediments from wastewater and secondary containment areas	1 LS	/LS	$ 103,750
8.6		Universal Waste Removal, Transportation and Disposal Removal, Transportation and Disposal of Roof from Small Pump House Bldg with Asbestos Containing Roofing Material	1 LS	/LS	$ 45,000

8.7		Demolition, Transportation and Disposal/Recycling: All Buildings and their contents, Bldg Foundations and sumps, Light Poles/Foundations, Asphalt Paving and Concrete Curbing and Paving, Truck Scale and Chain-link Fence/ Gates, Guard House and Pedestrian Turnstile and Removal of all materials from boneyard areas	1 LS	/LS	$ 387,500
8.8		Above Ground Storage Tanks and ancillaries Decommissioning and Demolition Loading Transportation and Disposal	1 LS	/LS	$ 98,750
8.9		Above Ground Concrete Structures- Secondary Containment Structures, Foundations Demolition, Debris Loading and Disposal	1 LS	/LS	$ 97,500
8.10		Subgrade Utilities and Infrastructure Removal, Transportation and Disposal as Illustrated on Subsurface Utility Engineering (SUE) Report	1 LS	/LS	$ 135,000
8.11		Site Restoration, Soil Backfilling and Compaction of Two Firewater Ponds and Removal of Below Ground Structures	1 LS	/LS	$ 298,750
8.12		Demobilization, Project Closeout Submittal and Contract Closeout			$2,500
8.13		Performance Payment & Bond (2% of final contract value)	1 LS	/LS	$ 24,325
8.14		Recyclable Material Credit	1 LS	/LS	$ 0
		Base Bid Total (Bid Items 8.1 through 8.14)	----------	----------	$ 1,240,575

Notes:

1. Lump Sum Costs shall remain fixed for the life of the project. No provisions for escalation will be allowed.
2. LS = Lump Sum

Unit Price Items: the following unit price classification items may or may not have been specified a to quantity and technical requirements in the contract documents. These unit price items may be used in establishing additional costs due the contractor for site work to be done in addition to the scope of the work described in the contract documents and bid as part of the General Contractor's scope of work. These items will be at the discretion of the Owner and will be paid on actual quantities measured by the Owner or Owner's Representative.

These unit prices are to be submitted by the Contractor with the Bid.

Item	Description	Unit	Unit Price
1	Clearing and Grubbing	AC	$ 12,500
2	Topsoil Stripping, stockpile, redistribution	CY	$ 15
3	Silt Fence (Installed complete & in place)	LF	$ 4
4	#57 Stone	Ton	$ 69
5	Class "B" Rip-Rap	Ton	$ 81
6	On Site Suitable Material Excavation/Placement	CY	$ 11
7	Unsuitable Soil Removal/Disposal	CY	$ 13
8	Off-Site Topsoil Borrow	CY	$ 33
9	Removal, Transport and Disposal of Contaminated Water	Gallon	$ 38
10	Removal, Transport and Disposal of Contaminated Wastewater Sediment	Ton	$ 85
11	Removal, Transport and Disposal of Petroleum Contaminated Soil	Ton	$ 85

LUMP SUM/UNIT RATE PROPOSAL

SECTION I
BIDDER INFORMATION

ATTACHMENT I-2

Billing Schedule

ATTACHMENT I-2 BILLING SCHEDULE
FORMER INDUSTRIAL BROWNFIELDS PROPERTY
COMMERCE PARK
PENDER COUNTY, NC

Bid Item	Cost Code	Bid Item Description	MONTH1	MONTH 2	MONTH 3	MONTH 4	TOTAL
8.1		General Requirements	$1,250				$1,250
8.2		Mobilization, Site Setup, Work Plans, Submittals and Permits	$13,750				$13,750
8.3		Site Wide Woody Vegetation Grubbing/Chipping and Rough-Cut Mowing, Implementation of Erosion Control Measures Per Attached Erosion Control Plan	$31,250				$31,250
8.4		Utility Disconnects Termination(s) Confirmation	$1,250				$1,250
8.5		Environmental Waste Removal, Transportation and Disposal	$103,750				$103,750
8.6		Universal Waste Removal, Transportation and Disposal		$45,000			$45,000
8.7		Demolition, Transportation and Disposal/Recycling: All Buildings and their contents, Bldg Foundations and sumps, Light Poles/Foundations, Asphalt Paving and Concrete Curbing, Sidewalks and Paving, Truck Scale and Chain-link Fence/ Gates, Guard House and Pedestrian Turnstile Demolition, Transportation and Disposal/Recycling		$193,750	$193,750		$387,500
8.8		Above Ground Storage Tanks and Ancillaries Decommissioning and Demolition Loading Transportation and Disposal		$98,750			$98,750
8.9		Above Ground Concrete Structures- Secondary Containment Structures, Foundations Demolition, Debris Loading, Transportation and Disposal		$97,500			$97,500
8.10		Subgrade Utilities and Infrastructure Removal, Transportation and Disposal as Illustrated on Subsurface Utility			$135,000		$135,000

8.11		Site Restoration, Backfilling and Compaction of Two Ponds and Below Ground Utility Excavation	$102,000		$196,750		$298,750
8.12		Demobilization, Project Closeout Submittal and Contract Closeout			$2,500		$2,500
8.13		Performance Payment & Bond	$24,325				
8.14		Recyclable Material Credit					
		MONTHLY TOTAL - INVOICED	$277,575	$435,000	$528,000		$1,240,575
		CUMULATIVE TOTAL INVOICED	$277,575	$712,575	$1,240,575		
		MONTHLY PAYMENT					
		PAYMENT- CUMULATIVE					

NOTE: PAYMENT SCHEDULE BASED ON SUBCONTRACT TERMS

1

LUMP SUM/UNIT RATE PROPOSAL

SECTION I
BIDDER INFORMATION

ATTACHMENT I-3: FORMER INDUSTRIAL BROWNFIELDS PROPERTY

COMMERCE PARK

PENDER COUNTY, NC

Contractor Safety Evaluation Package

Health, Safety, Security and Environment Evaluation Form

Company Name: SR&R Environmental, Inc.

☒ **MASTER for all projects**

☐ **Proposal/Specific Project: ___**

This form is not required for supplies and low risk services. Low risk is defined as services where there is an absence of critical hazards (ground disturbances, work at heights, construction, confined spaces, operating equipment, electrical hazard, traffic control or proximity to traffic, toxic chemicals, proximity to overhead power lines, etc.) or as otherwise defined by Wood.

1. WORK ACTIVITIES

Check the type of general services you will provide

	Construction of Buildings (236)		Heavy and Civil Engineering Construction (237)
	Heavy and Civil Engineering Construction (237)		Construction Services - Specialty Trade (238)
	Drilling (238)		Consulting Services (541)
	Laboratory Services including Field Work (541)		Surveying Services (541)
X	Remediation Services (562)	X	Waste Transportation Services (562)

Number of employees in company: 48

2. EMR

List your firm's Experience Modification Rate (EMR) for the past five years.

2021	2020	2019	2018	2017
.95	.99	1.06	.85	.85

NOTE: All employers must have some form of Workers' Compensation Insurance which is tied to the EMR. Attach EMR letter from underwriter. If you do not have an EMR, please provide an explanation. _____

3. SAFETY PERFORMANCE

Use your OSHA's Form 300 to fill in safety statistics for the last five full years:

		2021	2020	2019	2018	2017
a.	Hours Worked					
b.	Number of Recordable cases	0	1	0	0	1
c.	Number of lost workday cases	0	0	0	0	0
d.	Number of restricted/transferred cases	0	0	0	0	0
e.	Number of fatalities	0	0	0	0	0

If you do not maintain an OSHA 300 Log, use OSHA's definitions as defined in 29 CFR 1904 associated with lost time, restricted duty and medical treatment beyond first aid to complete theabove table.

4. SAFETY MATURITY

4A. Do you have a written safety program/ manual?

No Yes X If yes, submit a copy of your Table of Contents

4B. Do you hold project-specific safety meetings, such as pre-job briefs, plan-of-the-day, toolbox, or tailgate?

No Yes x If yes, how often?

x Daily Weekly Bi-weekly Monthly Less often, as needed

4C. Do you conduct project safety inspections and audits to ensure compliance with your company's safety requirements? No Yes x

If yes, who conducts the inspections and audits?

NAME: Matthew Valles

TITLE: EH&S/ Trainer

HOW OFTEN? Daily

4E. Will you have a designated safety professional involved with the work?

No Yes X

5. SAFETY TRAINING PROGRAMS

What training do you provide for your employees?		Complete all training topics as either Yes, No or NA.	
a. Head Protection	yes	m. Fire Protection	yes
b. Eye Protection	yes	n. First Aid/CPR	yes
c. Hearing Protection	yes	o. Emergency Procedures	yes
d. Respiratory Protection	yes	p. Toxic Substances	yes
d. Fall Protection	yes	q. Trenching and Excavation	yes
e. Scaffolding	yes	r. Signs, Barricades, Flagging	yes
f. Drilling Operations	n/a	s. Electrical Safety	yes
g. Housekeeping	yes	t. Rigging and Crane Safety	n/a
h. Hot Work	yes	u. Vehicle Safety (Driving)	yes
i. Compressed Gas Cylinders	yes	v. Job Hazard Analysis Prep.	yes
j. Sandblasting Safety	yes	w. Confined Space Entry	yes
k. Asbestos Work Safety	yes	x. Incident Reporting	yes
l. HAZWOPER Training	yes		

6. OSHA COMPLIANCE

6A. Has your company received any OSHA citations from a state, or federal agency within the last five (5) years? No X Yes If yes, please provide copies of citations.

6B. Has your firm been cited within the last five (5) years for any environmental-related violations or other forms of Notices of Violation (NOVs)?
No X Yes If yes, please describe _____

7. REFERENCES

7A. List three (3) client references that could verify the quality and management commitment of your safety program.

	Company	Address	Phone #
1	Name: Stepan Contact: Elizabeth Meyer	Wilmington NC	910-341-5515
2	Name: Terracon Contact: Ethan Dinwiddie	Raleigh, NC	919-436-2965
3	Name: Barnhill @ Cherry Point Contact: Mark Collins	Havelock, NC	252-637-8923

COMPLETED BY:

Print Name: William W. Murrell III

Date: 1-24-22 Phone #: 910-622-3933

Signature _____ Title: CEO

ATTACHMENT I-4: FORMER INDUSTRIAL BROWNFIELDS PROPERTY

COMMERCE PARK

PENDER COUNTY, NC

Bidder Proposal Checklist

In preparation for submitting the Proposal the Bidder has verified that the followinginformation has been included:

X **Proposal Form**

X **Attachment I-1 Lump Sum/Unit Rate-Cost Proposal Breakdown**

X **Construction Schedule**

X **Draft "Summary Work Plan"**

X **Key On-Site Personnel**

X **Billing Schedule (Attachment I-2)**

X **Completed Contractor Safety Evaluation Package (Attachment I-3)**

X **Contractor Equipment Rate List**

X **List of Proposal Qualifications/Exceptions (As Required)**

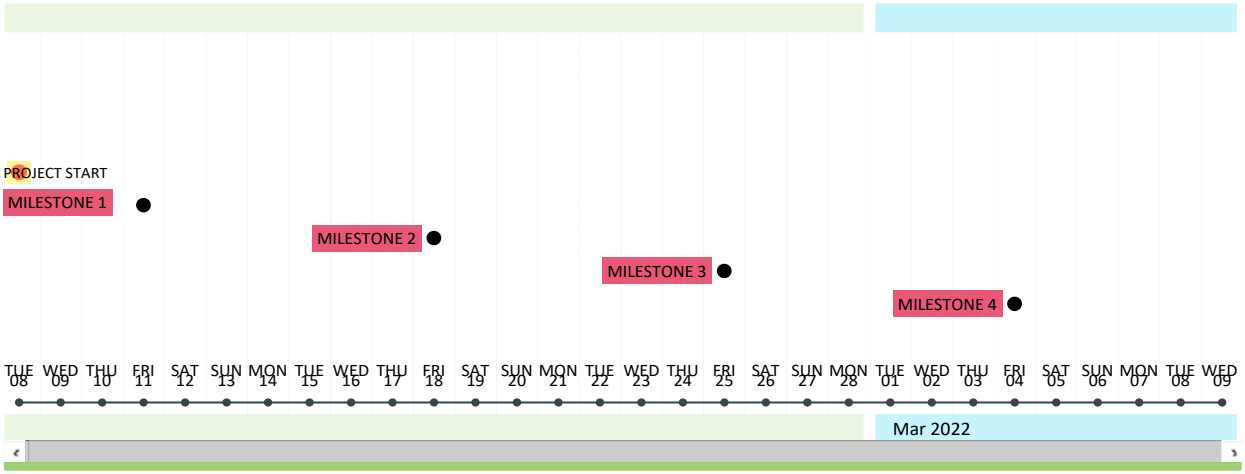
X **Signature of official signing the Proposal shall be accompanied by a certified copyof the resolution of the Board of Directors, or Partnership, authorizing the individual signing to bind the corporation or partnership.**

Note:

APPENDIX C

PRELIMINARY WORK COMPLETION SCHEDULE

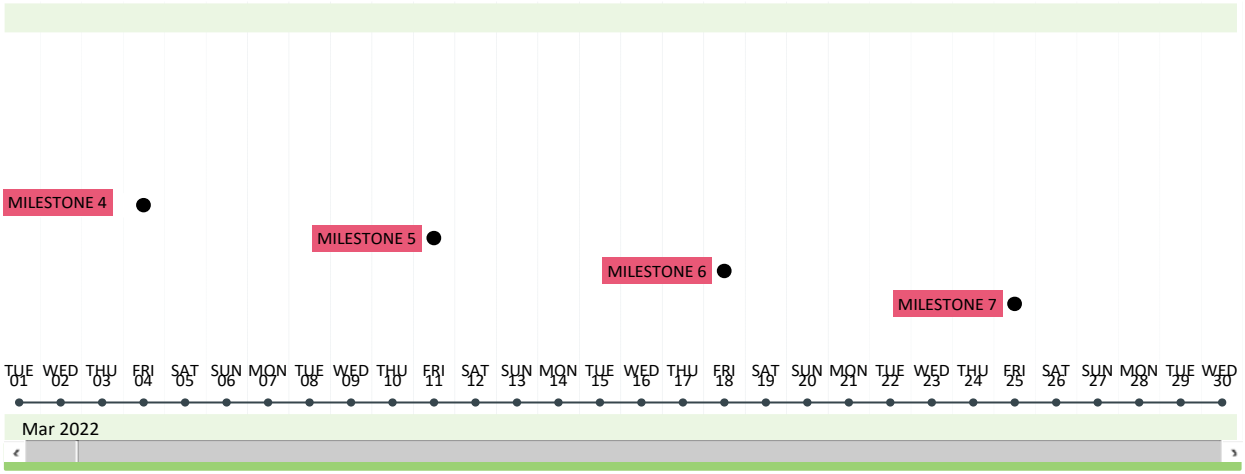
Vitamin Dr, Former Brownfield-Pender County



ENTER START DATE: 2/8/2022

ACTIVITY	START	END	NOTES
Project Start	2/8/2022	2/8/2022	Mobilization, Temp facilities & pre-work meeting with Wood Engineering. Confirmation of utility disconnect terminations
Milestone 1	2/9/2022	2/11/2022	Install Erosion & Sediment control features & Construction Entrance. Removal of woody vegetation around admin buildings, chip and remove from site.
Milestone 2	2/14/2022	2/18/2022	Bring equipment to the Western part of the property & start to drain & dismantle pond liners. While this work has begun, we will start to demo building's #18 & #16.
Milestone 3	2/21/2022	2/25/2022	Start backfilling ponds & compacting. Begin work on dismantling tank farm labeld #12 in photo journal, breaking up concrete base & remove for disposal. Perform the environmental waste removal of impacted soil, hydraulic oil and removal of Misc debris (#7).
Milestone 4	2/28/2022	3/4/2022	Dismantle Waste water treatment settling basin and sump. Break up concrete and haul off site for disposal. (#1 & #2 on photo journal) Crew to go around and perform remomval of light poles.
Milestone 5	3/7/2022	3/11/2022	Clean out and dismantle Waste water treatment plant items #4, 5 & 6 on photo journal. Consists of (3) RBC's, and 2 oxidation tanks. Start the remova of outer asphalt road & parking lot.
Milestone 6	3/14/2022	3/18/2022	Demo of Buildings #12, 13, fiberglass tank #14, and tank #15 with shed. Also demo building #16, and fiberglass shed #17.
Milestone 7	3/21/2022	3/25/2022	Remove all unversal waste prior to demo of admin buildings. Start demo of admin buildings #21, 22 & 23. Dismantle former water tank (#19) and perform asbestos abatement on roof of small attached pump house.
Milestone 8	3/28/2022	4/1/2022	Continue with the demo of admin buildings and start to remove the balance of asphalt and begin with the removal of subsurface utilities.
Milestone 9	4/4/2022	4/8/2022	Finish with the removal of asphalt. Continue with the removal of subsurface utilities and backfill/compact as we proceed. Removal of #8 concrete containment with railing.
Milestone 10	4/11/2022	4/15/2022	Removal of Guard shack, truck scale, guard house, pedestrian turnstile, and chain link fencing. Finish with the removal/backfill of subsurface utilities.
Project End	4/18/2022	4/22/2022	Final site resoration, clean up and demobilization.

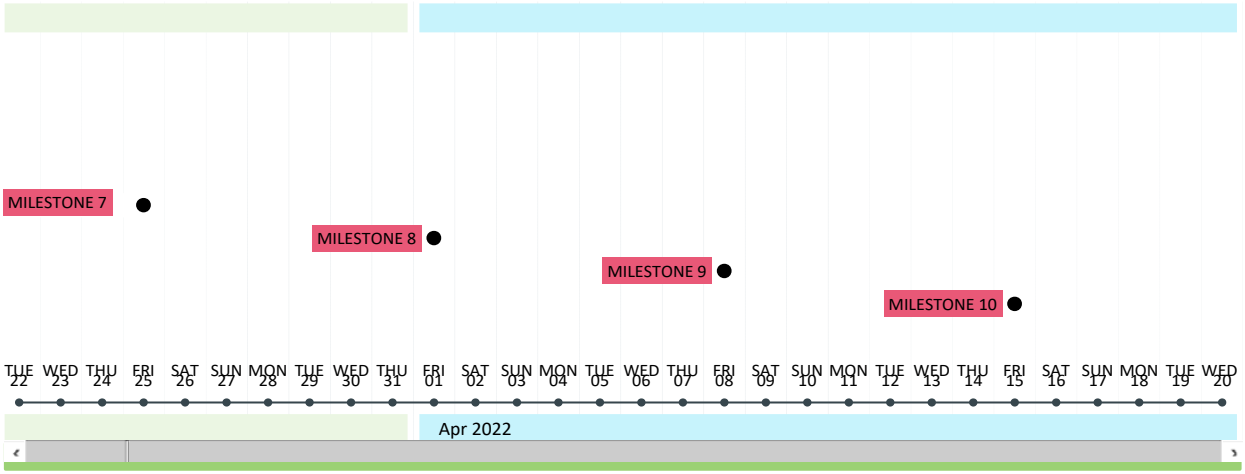
Vitamin Dr, Former Brownfield-Pender County



ENTER START DATE: 2/8/2022

ACTIVITY	START	END	NOTES
Project Start	2/8/2022	2/8/2022	Mobilization, Temp facilities & pre-work meeting with Wood Engineering. Confirmation of utility disconnect terminations
Milestone 1	2/9/2022	2/11/2022	Install Erosion & Sediment control features & Construction Entrance. Removal of woody vegetation around admin buildings, chip and remove from site.
Milestone 2	2/14/2022	2/18/2022	Bring equipment to the Western part of the property & start to drain & dismantle pond liners. While this work has begun, we will start to demo building's #18 & #16.
Milestone 3	2/21/2022	2/25/2022	Start backfilling ponds & compacting. Begin work on dismantling tank farm labeld #12 in photo journal, breaking up concrete base & remove for disposal. Perform the environmental waste removal of impacted soil, hydraulic oil and removal of Misc debris (#7).
Milestone 4	2/28/2022	3/4/2022	Dismantle Waste water treatment settling basin and sump. Break up concrete and haul off site for disposal. (#1 & #2 on photo journal) Crew to go around and perform remomval of light poles.
Milestone 5	3/7/2022	3/11/2022	Clean out and dismantle Waste water treatment plant items #4, 5 & 6 on photo journal. Consists of (3) RBC's, and 2 oxidation tanks. Start the remova of outer asphalt road & parking lot.
Milestone 6	3/14/2022	3/18/2022	Demo of Buildings #12, 13, fiberglass tank #14, and tank #15 with shed. Also demo building #16, and fiberglass shed #17.
Milestone 7	3/21/2022	3/25/2022	Remove all unversal waste prior to demo of admin buildings. Start demo of admin buildings #21, 22 & 23. Dismantle former water tank (#19) and perform asbestos abatement on roof of small attached pump house.
Milestone 8	3/28/2022	4/1/2022	Continue with the demo of admin buildings and start to remove the balance of asphalt and begin with the removal of subsurface utilities.
Milestone 9	4/4/2022	4/8/2022	Finish with the removal of asphalt. Continue with the removal of subsurface utilities and backfill/compact as we proceed. Removal of #8 concrete containment with railing.
Milestone 10	4/11/2022	4/15/2022	Removal of Guard shack, truck scale, guard house, pedestrian turnstile, and chain link fencing. Finish with the removal/backfill of subsurface utilities.
Project End	4/18/2022	4/22/2022	Final site resoration, clean up and demobilization.

Vitamin Dr, Former Brownfield-Pender County



ENTER START DATE: 2/8/2022

ACTIVITY	START	END	NOTES
Project Start	2/8/2022	2/8/2022	Mobilization, Temp facilities & pre-work meeting with Wood Engineering. Confirmation of utility disconnect terminations
Milestone 1	2/9/2022	2/11/2022	Install Erosion & Sediment control features & Construction Entrance. Removal of woody vegetation around admin buildings, chip and remove from site.
Milestone 2	2/14/2022	2/18/2022	Bring equipment to the Western part of the property & start to drain & dismantle pond liners. While this work has begun, we will start to demo building's #18 & #16.
Milestone 3	2/21/2022	2/25/2022	Start backfilling ponds & compacting. Begin work on dismantling tank farm labeld #12 in photo journal, breaking up concrete base & remove for disposal. Perform the environmental waste removal of impacted soil, hydraulic oil and removal of Misc debris (#7).
Milestone 4	2/28/2022	3/4/2022	Dismantle Waste water treatment settling basin and sump. Break up concrete and haul off site for disposal. (#1 & #2 on photo journal) Crew to go around and perform remomval of light poles.
Milestone 5	3/7/2022	3/11/2022	Clean out and dismantle Waste water treatment plant items #4, 5 & 6 on photo journal. Consists of (3) RBC's, and 2 oxidation tanks. Start the remova of outer asphalt road & parking lot.
Milestone 6	3/14/2022	3/18/2022	Demo of Buildings #12, 13, fiberglass tank #14, and tank #15 with shed. Also demo building #16, and fiberglass shed #17.
Milestone 7	3/21/2022	3/25/2022	Remove all unversal waste prior to demo of admin buildings. Start demo of admin buildings #21, 22 & 23. Dismantle former water tank (#19) and perform asbestos abatement on roof of small attached pump house.
Milestone 8	3/28/2022	4/1/2022	Continue with the demo of admin buildings and start to remove the balance of asphalt and begin with the removal of subsurface utilities.
Milestone 9	4/4/2022	4/8/2022	Finish with the removal of asphalt. Continue with the removal of subsurface utilities and backfill/compact as we proceed. Removal of #8 concrete containment with railing.
Milestone 10	4/11/2022	4/15/2022	Removal of Guard shack, truck scale, guard house, pedestrian turnstile, and chain link fencing. Finish with the removal/backfill of subsurface utilities.
Project End	4/18/2022	4/22/2022	Final site resoration, clean up and demobilization.

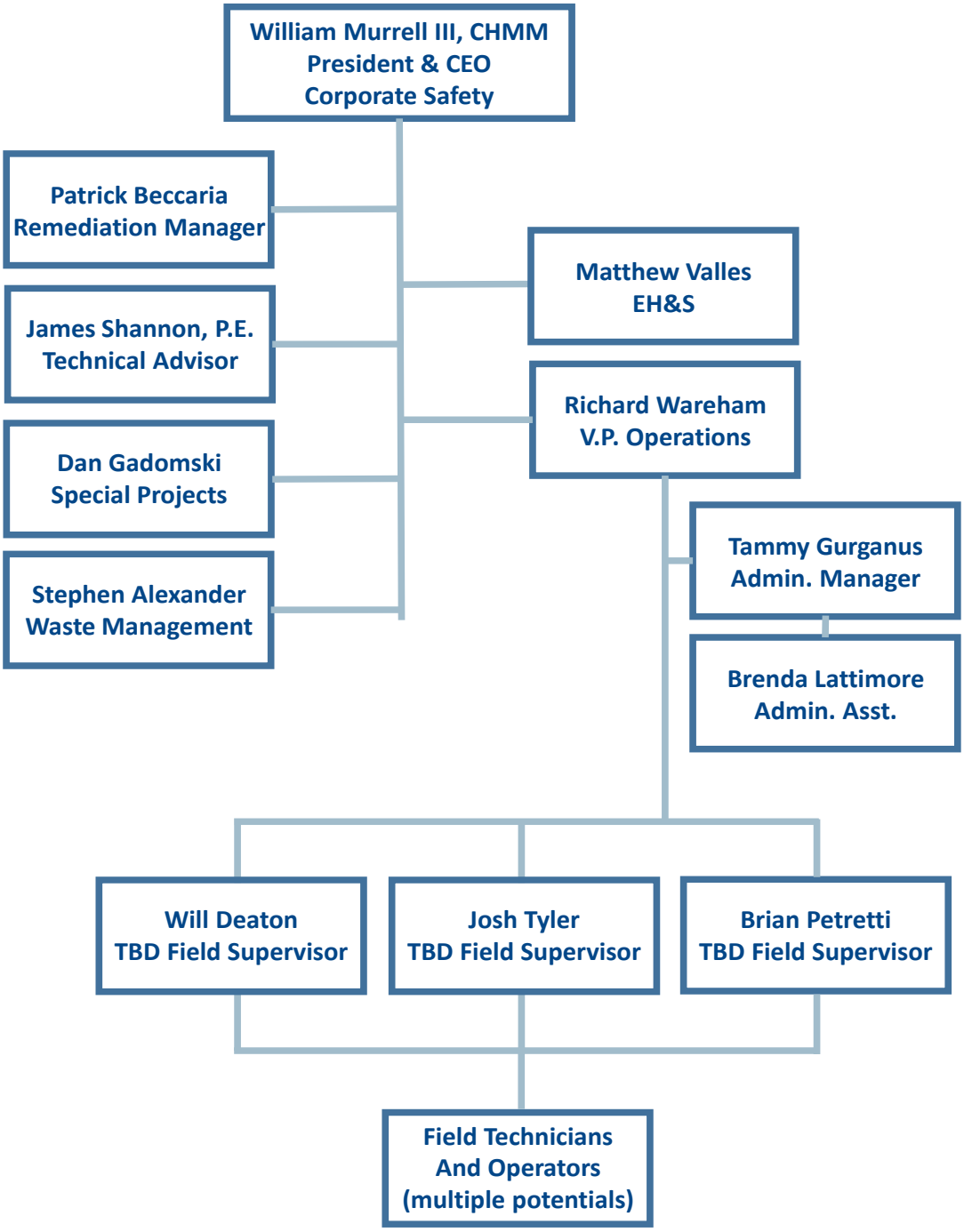
PROPOSAL APPENDICES

APPENDIX D

ORG CHART AND CAPSULE RESUMES

SR&R ENVIRONMENTAL

Project Organizational Chart
January 2022



Patrick Beccaria

Remediation and Closure Program Manager

CAREER SUMMARY

Mr. Beccaria has been a Senior Environmental Project Manager with over 24 years of environmental construction experience. In addition to management, oversight, and execution of a long list of underground and aboveground storage tank projects, he has managed a wide diversity of environmental concerns including pre-regulatory landfill remediation, spill clean-ups, emergency response actions, train derailments, lagoon management and solidification, and chemical neutralization projects. Specific remediation activities have included petroleum plumes, brownfield programs, PCE/TCE contaminated sites, coal ash clean-ups, and a sulfuric acid release remediation.

His project management expertise has developed in a constantly adaptive atmosphere covering nearly all construction trades. Pat is the consummate professional, equally as comfortable behind a computer determining technical designs and approaches as he is in field PPE determining best field management activities and practical application. Having almost 25 years of professional experience, with both "boots on the ground" work ethics and management, he brings a significant amount of remediation knowledge and project execution expertise to the Company.

PROFICIENT IN:

Microsoft Office
NetSuite Project Management

CERTIFICATIONS AND TRAINING IN:

- Licensed General Contractor (NC, SC)
- Hazardous Waste Certified, 40-hour HAZWOPER and Annual Refreshers
- Level 1A Certified Professional in Erosion and Sediment Control practices (GA)
- DOT Shipping Hazardous Materials certification for DOT 49CFR 172
- Registered Cleanup/Spill Response Contractor (NY, CT)
- Monitoring Well Drilling and Installation License (TN)
- CSX Tank Car Specialist Training
- General Safety and Client-Specific Safety Training Programs

EDUCATION:

Civil Engineering, Norwalk State Technical College
Business Administration, Western Connecticut State University

William W. Murrell, III, CHMM

Chief Executive Officer, and Corporate Health & Safety Officer

CAREER SUMMARY

Following the acquisition of the family business in 2011, Mr. Murrell has led the company into a period of growth and increased regional success. Under his direction, SR&R has added professional staff and equipment to the prior assets, including the installation and startup (and eventual expansion) of a major centralized water treatment facility which is the only one of its kind east of I-85 in North Carolina. He has almost twenty-two years of experience in oil and chemical spill deployment, containment, and recovery.

PROFICIENT IN:

Microsoft Office software
Quickbooks Pro

CERTIFIED TRAINER IN:

- HAZWOPER 8, 24 and 40 hour
- Confined Space Entry
- Confined Space Rescue
- HAZCOM
- Hydro-blasting Safety and Operation
- DOT HAZMAT
- General Safety

CERTIFICATIONS HELD IN:

- Certified Hazardous Materials Manager (CHMM)
- Highway Emergency Response Specialist
- Grade 1 Physical Chemical Wastewater Operator
- Stormwater Best Management Practices (BMP) Inspection and Maintenance
- Waterblast Fundamentals
- Scaffold Competent Person
- Trenching and Excavation Competent Person
- BOP and Site Specific Current for all local facilities

EDUCATION:

B.S., Management, Georgia Tech

James P. Shannon, P.E.

Vice President, Program Development & Technical Advisor

CAREER SUMMARY

Mr. Shannon has a broad career in the environmental disciplines, including application of air and water pollution control systems, environmental consulting with an emphasis on occupational health and safety and soil/groundwater contamination, analytical laboratory management (and ownership), research and development in support of contracts for the EPA, NIEHS, and NIH, and a wide variety of emergency response events. He has distinguished himself as a member of the Board of Directors of the National Association of Environmental Professionals (NAEP), president of his state's chapter of the NAEP, chair of his state's Environmental Laboratory Association, and board member and officer of the local Post of the Society of American Military Engineers (SAME). He was named his state's "Environmental Professional of the Year" in 2004 and the SAME Cape Fear Post "Member of the Year" in 2016, and was instrumental in having SR&R selected as the "Corporate Sustaining Member of the Year" in 2017 by the SAME Ft Bragg Post.

At various times over his career, Mr. Shannon has been involved in multiple emergency response events, including EPA Superfund Technical Assessment and Response Team ("START") contracts in support of prime contractors the likes of Weston Solutions and Tetra Tech.

PROFICIENT IN:

Microsoft Office software
ACT! CRMs

CERTIFICATIONS HELD IN:

- 40-hour HAZWOPER
- Certified Underground Storage Tank Professional
- Registered Professional Engineer. One the youngest to achieve licensing status in the history of his state's program.
- State of North Carolina, Certified Stormwater SCM Inspection & Maintenance (#3059)
- Contech Stormwater Certified Maintenance
- Certified Marketing Professional

EDUCATION:

B.S., Industrial Engineering, Pennsylvania State University

Richard Wareham

V.P. and Chief Operations Officer

CAREER SUMMARY

Mr. Wareham is an operations and business growth strategist and seasoned client relationship specialist, possessing an admirable reputation within the environmental and industrial services industries. His career has moved forward quickly and his skills recognized with ever-increasing responsibilities. He has implemented strategies to expand market share which consistently exceeded corporate expectations, profit margins and organizational growth targets. Richie (as he prefers) is a boots-on-the-ground leader and skilled relationship manager with a well-known commitment to operational, sales, and service excellence. He is always willing to learn new intellectual ways and processes to expand and improve sales and leadership skills.

Having over 23 years of professional experience, with both "hands-on" work, management, and administration, he brings an invaluable wealth of expertise to the Company's management team.

PROFICIENT IN:

Microsoft Office software Quickbooks Pro

CERTIFICATIONS AND TRAINING IN:

- Member, Institute of Management Accountants
- DOT Drug and Alcohol Reasonable Suspicion
- Class A CDL
- Certified Forklift Trainer
- Hazardous Waste Certified, 40-hour Hazwoper and Annual Refreshers
- HAZCOM
- DOT Regulations
- General Safety and Client-Specific Safety Training Programs.

EDUCATION:

Masters of Business Administration, University of Northwestern Ohio, Lima, OH
Bachelor of Science, Finance, University of North Carolina at Wilmington, NC
Bachelor of Science, Management, University of North Carolina at Wilmington, NC

Also completed independent coursework in OSHA Compliance, Sales, Coaching and Team Building, and Intermediate Excel 2013

Matthew A. Valles

EH&S Technician / Trainer

CAREER SUMMARY

Matthew Valles came to the company in 2018, after moving to southeast North Carolina area and working for a few years in local general construction management. Prior to moving to the area, Mr. Valles was employed for over five years as a Field Safety Supervisor for a large industrial demolition company based in Cleveland, Ohio. Beginning his work with us as one of our heavy equipment operators, his skills and experience in industrial and construction safety made him an ideal support candidate for promotion into our corporate Health and Safety Team.

Currently, Matthew is working as both the EH&S trainer and a field heavy equipment operator, and his ability to perform our work gives him ample experience in the safe work practices we employ.

CERTIFIED / TRAINED IN:

- Corporate Health & Safety Manual
- HAZCOM
- Heavy Equipment Operation
- Forklift/Rough Terrain Forklift
- CPR/First Aid
- Fall Protection – Competent Person
- Scaffold – Competent Person
- Trenching/Excavating – Competent Person
- OSHA 30-hour training for Construction
- AHERA – Asbestos Remediation, Supervisor in NC and SC
- Confined Space Attendant, Entrant and Rescue
- 40-hour HAZWOPER
- Aerial Work Platform Safety
- OSHA #510 – Construction Industry Health and Safety Standards
- OSHA #500 – Construction Industry Outreach Trainer Certification
- Transportation Worker Identification Credential (TWIC®)
- Mid Atlantic Safety Council (MASC) “Basic Orientation Plus” (BOP) Training and Client Site Specific Training – Current for all regional Client Facilities

EDUCATION:

- Diploma – Weir High School, Weirton, WV
- Coursework in English/Journalism – Fairmont State University, Fairmont, WV

Joshua Tyler

Field Supervisor

CAREER SUMMARY

Mr. Tyler has been an SR&R employee for most of his career. Following graduation from high school and a few short assignments with a home improvement company and a local news agency, he joined SR&R as a field technician trainee and progressed through the organization by stepping up to handle more and more complex equipment operation assignments. He has reached the point of proficiency in almost all our diverse capabilities to be promoted into the position of field supervisor, so that he can share and mentor other employees and motivate them to excel in the execution of field assignments like he has done.

In his current position with SR&R, Josh routinely supervises crews ranging in size from two to a dozen or more field technicians/operators. In addition to his high level of experience involving all of the Company's capabilities, Mr. Tyler is especially valued for maintaining a positive business relationship with the clients he services.

CERTIFIED/TRAINED IN:

- Pipeline Assessment Certification Program (PACP) licensed
- Highway Emergency Response Specialist
- Confine Space Entry & Rescue trained
- DOT Hazmat trained & certified
- 40-hour HAZWOPER certified
- CPR & First Aid
- Vacuum truck and other heavy equipment operational training
- Stormwater and Sanitary line jetting trained (manufacturer training)
- Pipe line repair
- Hydro-blasting techniques (internal training)

CREDENTIALS HELD:

- Class A Hazmat CDL license
- DOT Medical Clearance
- Transportation Worker Identification Credential (TWIC®)
- Defense Biometric Identification System (DBIDS) at various military installations

EDUCATION:

Diploma – South Brunswick High
Continuing Education – Brunswick Community College

Brian Petretti

Field Crew Supervisor

CAREER SUMMARY

Mr. Petretti has been involved with operations utilizing heavy equipment starting with receiving his CDL in 1996. One of his early career assignments was driving transports through the streets of New York to assist in the debris removal activities following the terrorist attack on the World Trade Center. Over the years since then, he has worked with a diverse cross-section of heavy equipment. He now serves as one of SR&R's primary field crew leaders, with a specialty in the cleaning and closed-circuit video inspection of sanitary and stormwater sewer systems. Other field duties have involved tank cleaning, emergency spill response, and environmental remediation programs.

Brian possesses a very client-oriented attitude, and frequently represents the company as the front-line interface with clients during field operations, to discuss progress of response activities, plan of actions, and addressing any concerns may arise as to the overall aspect of the field efforts.

CERTIFIED IN:

- Confined Space Rescue
- OSHA 10-hour Training for General & Construction
- Confined Space Entry

SPECIALIZED CAREER TRAINING:

- Class A operator's license
- Certified in R permit over 120,000# heavy transportation
- High steel structure lead containment
- Bridge rigging for scaffolding
- USPA C license parachute instructor
- Point pipe repairs for stormwater, sanitary sewer, and culverts
- Storm and sewer pipe jetting (manufacturer's training)
- Hydro-excavation operations and practices

William R. Deaton

Field Supervisor

CAREER SUMMARY

Following distinguished service to our country in the U.S. Marine Corp which included a tour in Iraq and assignments as a Line Non-Commissioned Officer, Quality Control Assistant, and Logistic Vehicle System Operator, Mr. Deaton took a brief position with a local property management company before joining SR&R in March of 2013. During his early years with the Company he quickly excelled in his understanding of heavy equipment operation and maintenance, and his willingness to be involved in the most demanding of assignments in a professional manner with attention to detail and, above all, workplace safety. The Company quickly recognized his expertise and moved him through the ranks and into the position of Field Supervisor in January, 2014.

In his current position with SR&R, Will routinely supervises crews ranging in size from two to a dozen or more field technicians/operators. In addition to his high level of experience involving all of the Company's capabilities, Mr. Deaton is especially valued for maintaining a positive business relationship with the clients he services.

CERTIFIED/TRAINED IN:

- HAZCOM
- RCRA
- Heavy Equipment Operation
- DOT HAZMAT
- Corporate Health & Safety Manual
- Cusco, Polar Vacuum Unit Operation
- CDL w/ hazmat and tanker endorsement

CERTIFICATIONS HELD IN:

- 40-hour HAZWOPER and annual 8-hour refreshers
- Confined Space Entry/ Rescue
- Highway Emergency Response Specialist
- CPR
- First Aid
- Hydro-blasting Safety and Operation

APPENDIX E

SAMPLE CERTIFICATE OF INSURANCE

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 11/29/2021

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Marsh & McLennan Agency LLC
3625 N. Elm Street
Suite 200
Greensboro NC 27455

CONTACT NAME: Elaine Gray, CIC, CPSR
PHONE (A/C, No, Ext): 336-346-1337 **FAX (A/C, No):** 336-346-1397
E-MAIL ADDRESS: Elaine.Gray@marshmma.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Great American Insurance Company	16691
INSURER B : Nautilus Insurance Company	17370
INSURER C : Great Divide Insurance Company	25224
INSURER D : Hanover Insurance Company	22292
INSURER E : American Interstate Insurance Company	31895
INSURER F :	

INSURED SR&RE-1
SR&R Environmental, Inc
P.O. Box 221
Wilmington NC 28402

COVERAGES **CERTIFICATE NUMBER:** 296283989 **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
B	X **COMMERCIAL GENERAL LIABILITY** [ ] CLAIMS-MADE [X] OCCUR X Cont Poll Liab X Professional GEN'L AGGREGATE LIMIT APPLIES PER: [ ] POLICY [X] PRO-JECT [ ] LOC OTHER:			ECP203357411	12/1/2021	12/1/2022	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG $	$ 1,000,000 $ 100,000 $ 5,000 $ 1,000,000 $ 2,000,000 $ 2,000,000 $
C	**AUTOMOBILE LIABILITY** X ANY AUTO [ ] OWNED AUTOS ONLY [ ] SCHEDULED AUTOS X HIRED AUTOS ONLY [X] NON-OWNED AUTOS ONLY			BAP203357311	12/1/2021	12/1/2022	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident) $	$ 1,000,000 $ $ $ $
B	[ ] **UMBRELLA LIAB** [X] OCCUR X **EXCESS LIAB** [ ] CLAIMS-MADE [ ] DED [X] RETENTION $ 0			FFX203357511	12/1/2021	12/1/2022	EACH OCCURRENCE AGGREGATE $	$ 10,000,000 $ 10,000,000 $
E	**WORKERS COMPENSATION AND EMPLOYERS' LIABILITY** Y / N ANYPROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? [ ] N / A **(Mandatory in NH)** If yes, describe under DESCRIPTION OF OPERATIONS below			AVWCNC3006812021	7/1/2021	7/1/2022	X PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ 1,000,000 $ 1,000,000 $ 1,000,000
D A	Rented/Leased Equip Ocean Marine			IH6943638811 OMH144154909	12/1/2021 7/1/2021	12/1/2022 7/1/2022	Limit/Ded P&I Limit	140,000/1,000 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

© 1988-2015 ACORD CORPORATION. All rights reserved.

The ACORD name and logo are registered marks of ACORD

FORMER INDUSTRIAL BROWNFIELDS PROPERTY

COMMERCE PARK

PENDER COUNTY, NORTH CAROLINA

DECOMISSIONING AND DEMOLITION LUMP SUM/UNIT RATE PROPOSAL

REQUEST FOR PROPOSAL

December 2021

Prepared By:
Wood Environment & Infrastructure Solutions, Inc.
5710 Oleander Drive Suite 110
Wilmington, NC 28403

LUMP SUM/UNIT RATE PROPOSAL
DECOMISSIONING AND DEMOLITION OF STRUCTURES, ROADS AND UNDERGROUND UTILTIES
Pender County, North Carolina Request for Proposal 2021-0243

INDEX

SECTION I BIDDER INFORMATION

- Instructions To BIDDERS
- Proposal Bid Forms
  - Attachment I-1- Lump Sum/Unit Rate Cost Proposal Breakdown
  - Attachment I-2- Billing Schedule
  - Attachment I-3- Contractor Safety Evaluation Package
  - Attachment I-4 -Bidder Proposal Checklist

SECTION II CONTRACT

- Pender County Purchase Order Terms and Conditions
- Exhibit A - Prime Agreement Special Conditions
  - Schedule A: Form of Contractor's Release, Waiver, and Affidavit
  - Schedule B: Form of Contractor's Final Release and Waiver of Claims
- Substance Abuse and Prevention Policy

SECTION III SCOPE OF WORK/GENERAL REQUIREMENTS

- **Specification No. 01 - Summary of Work**
  - Part 1 – General
  - Part 2 – Products
  - Part 3 – Execution
  - Part 4 – General Specifications
  - Part 5 – Intent
  - Part 6 – Work Not Included
  - Part 7 – Work Summary
  - Part 8 – Bid Items Included
    - 8.1 - General Requirements
    - 8.2 - Mobilization, Site Setup, Work Plans, Submittals and Permits
    - 8.3 – Implement Site Wide Erosion/Sedimentation Control Plan, Remove Woody Vegetation from Work Area: Grubbing/Chipping and Rough-Cut Mowing
    - 8.4 – Confirmation of Utility Disconnects Terminations Completed By Duke Energy
    - 8.5 – Environmental Waste Removal, Transportation and Disposal
    - 8.6 – Universal Waste Removal, Transportation and Disposal
    - 8.7 – Demolition, Transportation and Disposal/Recycling: Remove Roof from

One Small Pumphouse Building with Asbestos Containing Material, Remove All Site Buildings and Contents, All Light Poles and Foundations, All Asphalt Pavement and Concrete Curbing and Sidewalks, Truck Scale, Guard Shack and Chain-Link Fence / Gates and Pedestrian Turnstile
8.8 – Above Ground Storage Tanks (ASTs) and Ancillaries – Decommissioning and Demolition, Loading, Transportation and Disposal
8.9 – Above Ground Concrete Structures – Secondary Containment, Structures, Foundation Demolition, Debris Loading, Transportation and Disposal
8.10 – Subgrade Utilities and Infrastructure Removal, Transportation and Disposal as Illustrated on Subsurface Utility Drawings
8.11 – Raw Water Pond Water Drainage One Pond, Backfilling and Compaction of Two Ponds and Below Ground Utility Excavation, Site Restoration,
8.12 – Demobilization, Project Closeout Submittal and Contract Closeout
8.13 – Performance Payment and Bond
8.14 – Recyclable Material Credit
Part 9 – Valued Engineered Cost Proposal (VECP)
Part 10 - Drawing Index
Part 11 - Appendices
Appendix A – Photo Journal of Structures for Demolition
Appendix B – Regulated Building Materials Evaluation Report
Appendix C – Permit Applications
Appendix D – Survey Utility Engineering (SUE) Report

Specification No. 02 Decommissioning and Demolition Requirements

FORMER INDUSTRIAL BROWNFIELDS
DECOMMISIONING AND DEMOLITION
LUMP SUM/UNIT RATE PROPOSAL

SECTION I BIDDER INFORMATION

LUMP SUM/UNIT RATE PROPOSAL

SECTION I
BIDDER INFORMATION

Instructions to Bidders

A. Invitation to Bid

The Bidder is requested to submit a firm Lump Sum/Unit Rate Proposal for the decommissioning and demolition of the former industrial brownfields facility located at 101 Vitamin Drive off Hwy 421 in Pender County, North Carolina (Site) in accordance with all the requirements stipulated in the attached Bid Specification and documents.

The Successful Bidder shall furnish all the materials, equipment, labor, supervision, construction tools, equipment, temporary facilities to perform all work and render all services necessary for and incidental to the proper completion of the project contained inthese Bid Documents.

Pender County intends to award the entire scope of work as a result of this event, however, Pender County reserves the right to award all, a subset, or none of the requirements via the RFP or to conduct another event for the requirements at its sole discretion. Suppliers should bid accordingly during the RFP phase of this process. An overall schedule is presented below and is detailed in the following sections:

Deadline	Date	Time (EST)
Virtual Pre-bid meeting	January 6, 2022	9:00 AM
Site pre-bid meeting	January 11, 2022	10:00 AM
Last day for questions	January 17, 2022	5:00 PM
Response to questions	January 19, 2022	
Bids due	January 25, 2022	5:00 PM
Recommendation of award	January 28, 2022	
Anticipated Notice to Proceed	January 31, 2022	
Projected mobilization date	February 8, 2022	
Substantial Completion	March 31, 2022	
Final Completion	**April 4, 2022**	

B. Proposal Due Date

The complete Proposal submittal for this request is due on January 25, 2022, at 5:00 p.m. EST.

No bids may be withdrawn after the above date and time for a period of 30 days. Pricing shall remain valid for 90 days after the bid opening.

The right is reserved by the County to accept or to reject any proposal and to waive irregularities in proposals.

Should the Bidder observe or determine conditions at the site or in the bidding documentsthat would require a change in the project, this information shall be presented to the Contractor prior to the submission of bids.

C. Pre-Bid Meeting

A mandatory pre-bid meeting will be conducted at the subject site on January 11, 2022, at 10:00 a.m. EST. The meeting will begin at the automatic gate to the site located at **101 Vitamin Drive, Wilmington, North Carolina 28401.** As part of this meeting, a visit to the site will occur to point out areas of work and evaluate existing conditions, including access. The purpose of the pre-bid meeting is to discuss with prospective Bidders the work to be performed, allow them to ask questions arising from their review of the Contract Documents, and provide them with an opportunity to inspect the site. The pre-bid meeting will be informational only. Any answers furnished will be issued as an addendum and will not become official until verified in writing.

D. Site Examination

It is required that Bidders examine the site prior to the submission of its bid to familiarize itself with the area, access, utilities and existing surface conditions.

All follow-up visits shall be coordinated with Mr. Chris Pruneau (910) 231-2955 or via email at chris.pruneau@woodplc.com

Bidder shall provide a minimum notification period of at least 2 working days to schedule the site visit.

E. Scope of Work

The scope of work in general includes mobilization and site setup. The scope of work includes removal of all existing above ground and below ground structures from the subject property. This includes removal of woody vegetation with the

demolition project site and implementation of the attached erosion and sedimentation control plan. The contractor will confirm the final eletrical utility terminations by Duke Energy. Remove, transport and dispose of all environmental and universal waste and removal and disposal of one asbestos-containing roof. Removal and disposal of, demolition of all above ground site building and structures and their contents, remove all above ground storage tanks and concrete structures and underground structures including foundations, removal of piping and underground utilities, light pole removal, removal of all pavement, curbing and side walks, removal and disposal of all materials from bone yards, removal of existing chain link fencing, removal of all existing wastewater and water infrastructure, backfilling of two man-made ponds (one dry and one full of water), backfilling demolition excavations, backfilling of the post demolition loading rack area and site restoration. The scope of work includes transportation and disposal of construction debris, recycling of materials (e.g. metals, etc.).

The scope of the work to be performed is further defined, summarized, and otherwise set forth in Section III, and in various other documents and drawings that comprise this Request for Proposal. Further, the Bidder is held responsible for understanding the presentation of the included information contained in this Request for Proposal. It is the Bidder's responsibility to review the attached Bid Specification and documents in their entirety and obtain resolution of any questions or misunderstandings from the Contractor during the bid period.

The anticipated Notice to Proceed date is January 31, 2022. **Substantial Completion shall be accomplished on or before March 31, 2022 and Final Completion on or before April 4, 2022.**

F. General Instructions

1. The Successful Bidder will enter negotiation of a contract with Pender County to execute the project. A Work Order will be issued by Pender County to the Contractor for the specific work to be completed. The cost breakdown shall include applicable overhead, insurance, taxes (including Sales and/or Use Taxes), profit, etc. **SUBMISSION OF THE BIDDER'S PROPOSALS MUST BE IN THE FORM CONTAINED IN THIS RFP.**

2. Each Item of Work listed in the Lump Sum/Unit Rate Cost Proposal Breakdown is described and explained in detail in Section III, Scope of Work, and further specified in Section IV, Technical Specifications, of this Request for Proposal.

3. Bidder shall prepare and make part of its Proposal, **"AN ITEMIZED LIST OF ANY AND ALL EXCEPTIONS, ASSUMPTIONS, OR CORRECTIONS NECESSARY TO ALLOW SUBMISSION OF THIS PROPOSAL."** The omission of such a list will bethe Bidder's acknowledgment that it fully understands all phases of the specified workand

accepts the completeness of all documents transmitted with and made part ofthe Bid Documents. Where such a list is submitted, the Proposal shall be considereda qualified Proposal.

4. In any instance where the Drawings and other documents of the Bid Documents are not sufficiently complete to allow the Bidder to submit a complete Proposal without excessive contingencies being applied for indefinite items, or with major assumptions being made by the Bidder, Bidder shall contact the Pender County/Wood for clarification before submitting its proposal.

G. Additional Proposal Requirements

The following submittals will be required to complete the Proposal and facilitate a full proposal evaluation.

1. Construction Planning Schedule
   Bidder shall include a Preliminary Construction Planning Schedule with the bid andshall submit its bid based on that schedule. The planning schedule shall be formattedto include each work task contained as Bid Items in **Attachment I-1. Schedule is a very important consideration in the award of this contract. Pender County goal is to have the decommissioning and demolition scope of work in this demolition plan completed by April 1, 2022.**

2. Draft "Summary Work Plan"
   Bidder shall submit with its proposal a draft "Summary Work Plan (Plan)" for the construction work. Bidder's Plan shall be structured to correlate with the Lump Sum/Unit Rate Proposal work item structure. The plan shall be written to provide clear and concise descriptive summaries of Bidder's plan to approach andexecute all major work tasks contained in the Scope of Work. The Plan should not be longer than five (5) pages.

3. Experience and Key On-Site Personnel
   Bidder shall provide an organization chart and specify the name of its intended Project Manager, Field Superintendent, Site Health & Safety Officer and QA/QC Officer with its Summary Work Plan.
4. Billing Schedule
   Bidder shall submit a proposed payment/billing schedule for the project that coincides with the Bidder's Planning Schedule and Bidder's Proposal. The Bidder shall develop the Billing Schedule from the example form included in this Section as **ATTACHMENT I-2.**

5. List of Contractors/Safety Evaluation Packages
   A list of all the lower tier contractors that the Bidder anticipates will be working on the project, along with the craft or work that will be performed, shall be provided in the space on the Bid Form.

6. Equipment Rates
Bidder shall furnish the Contractor with its proposal a list of applicable equipment daily, weekly, and monthly rates. Bidder shall also provide a mobilization-demobilization cost. Rates included in this list will be the basis forany possible Cost Plus Construction Change Order.

H. Bidder Questions

The procedure for requesting supplemental information and responses to questions formulated during the bidding process shall be as follows:

1. **All questions to be directed to chris.pruneau@woodplc.com**
2. All questions will be answered directly to the Bidder that is requesting the clarification or information. A compilation of all Bidder's questions will be issued to all Bidders as an addendum at some time prior to the Proposal Due Date.
3. **All Bidders' questions must be submitted before 5:00 p.m. EST on January 17, 2022.**

I. Bidder's Proposal Checklist

In order to ensure that the Bidder has completed all the forms and submittals that will be required for a full and complete Proposal Submittal, the Bidder shall review and completethe Check List included **(ATTACHMENT I-4)** in this Section. Proposal will be rejected if anyof the required forms and submittals identified in this Section is not submitted with the Proposal.

J. Terms and Conditions

Work shall be completed under the provisions of Contract Agreement. The terms and conditions required for this project are detailed in the Contract Agreement (Attached Section II).

The Contractor shall provide performance and payment bonds equal to 100 percent of the work that are acceptable to Pender County.

K. Liquidated Damages

If the Contractor does not complete the work within the schedule noted below, the Contractor shall be subject to liquidated damages in the amount of $2,000.00 per calendar day until the Work is completed. Liquidated damages are not a penalty, are cumulative, and represent a reasonable estimate of Contractor's extra costs and damages,which are difficult to estimate with accuracy in advance.

FORMER INDUSTRIAL BROWNFIELDS PROPERTY

COMMERCE PARK

PENDER COUNTY, NORTH CAROLINA

- PROPOSAL FORM -

FIRM LUMP SUM/UNIT RATE PROPOSAL

SUBMITTED BY: _____
(CONTRACTOR) _____

_____

FOR

Request For Proposal No. **Decommissioning and Demolition 2021-0243**

Decommissioning and Demolition of Former Brownfields Facility Structures 101 Vitamin Drive Hwy 421 Pender County, North Carolina

_____

WOOD PROJECT NO. 6228-21-0243

DATED: _____

IMPORTANT NOTE: PROPOSALS MUST BE SUBMITTED ON THIS FORM

A. Proposal

The undersigned Bidder submits to Pender County, North Carolina it's Proposal for furnishing all materials, supervision, labor, construction tools, and necessary equipment to perform all work and services necessary for, and reasonably incidental to, the proper completion of all the items of work in accordance with the provisions, terms and conditions of/and as shown, described and contained in either the Lump Sum Contract and supporting documents as listed in the Specifications.

Total Firm Lump Sum/Unit Rate Bid

This is a complete bid. There are no exceptions to Bid Specifications Agreement for Decommissioning and Demolition Services and/or Exhibit "A" Special Conditions.

This is a qualified Bid. Attach an itemized list of any and all exceptions, assumptions,and/or corrections necessary to allow submission of this Proposal.

B. Breakdown

1. Proposal shall be provided with breakdown as shown in the attached Line-Item Cost Proposal Breakdown, **Table I-1**. (Attachment I-1)

2. The following taxes as applicable, are included above on all materials and/or labor furnished by Bidder and will be paid by the Bidder:

	Check if Applicable	Rate (%)	Total Tax on Materials	Total Tax on Labor
State Sales Tax				
Local Sales Tax				
Use Tax				
Other				

(A proportionate share of the above taxes, in the event of an award, would be billed to Pender County on each invoice submitted by Bidder and would be shown on the Detail of Billing as tax).

3. Names of proposed Contractors and work performed will be as follows:

Lower Tier Contractor(s) Name(s) & Location(s)	Craft Involved or Work to Be Performed

4. Number of working days required to mobilize after Notice to Proceed:
Number of working days after mobilization to start site activities at jobsite:
Number of working days estimated for final completion:

5. Any work beyond that defined in the scope contained in the Bid Documents or any changes in the plans and specifications (or deletions with respect thereto) which are authorized by Pender County in writing prior to the commencement thereof shall be performedby Bidder and paid for by Pender County, (or shall be allowed by Bidder as a credit) on one ofthe following bases at Wood's option:

   a. LUMP SUM: To be agreed upon.

   b. UNIT PRICE: As may be agreed upon.

   c. COST PLUS: Including authorized sub-contracted work as follows:

      1. Direct cost of labor including fringes, taxes, and insurance, plus percent (%) for overhead, profit, small tools as shown in Exhibit , and expendable supplies as shown in Exhibit .

      2. Direct cost of materials including the minimum rental cost of construction equipment, plus percent (%) for overhead and profit. Equipment rentals shall not exceed current rates established by the Associated Equipment Distributors or standard rates for the area, whichever is the lower rate.

      3. Direct cost of lower tier subcontracted work, plus percent (%) for overhead and profit.

      4. Taxes, bonds, insurance, and premium time shall be at Bidder's actual cost.

6. No home office expense shall be permitted unless authorized.

7. Bidder will operate with:

   a. Union Labor b. Non-Union Labor c. Both

8. Alternate Proposal: Alternate proposals are solicited where Bidder could propose a reduced firm Lump Sum price based upon acceptance by Pender County of alternate material(s) or construction techniques thereby reducing the cost of demolition. Details of alternates are to be specified and attached to this proposal.

9. Pender County reserves the right to reject any or all bids.

10. Bidder shall designate one of the following:

   a. If Bidder is operating as an INDIVIDUAL:

      1. Name of Firm: _____

      2. Address of Firm: _____

      3. Name of Owner: _____

   b. If Bidder is operating as a PARTNERSHIP:

      1. Name of Firm: _____

      2. Address of Firm: _____

      3. Names of All Partners: _____

   c. If Bidder is operating as a CORPORATION:

1. Name of Firm: _____

2. Address of Firm: _____

_____

3. State in which INCORPORATED: _____

****

This Proposal is submitted by the undersigned consistent with the requirements of the BidSpecification and the instructions contained herein.

Date Bidder Name

Signature of Authorized Representative

Name Title

LUMP SUM/UNIT RATE PROPOSAL

SECTION I
BIDDER INFORMATION

ATTACHMENT I-1:

FORMER INDUSTRIAL BROWNFIELDS PROPERTY

Lump Sum/Unit Rate Cost Proposal Breakdown

TABLE I- 1
LUMP SUM/UNIT RATE COST PROPOSAL BREAKDOWN
DECOMMISSIONING and DEMOLITION
FORMER INDUSTRIAL BROWNFIELDS PROPERTY
COMMERCE PARK
PENDER COUNTY, NORTH CAROLINA

Bid Item	Cost Code	Bid Item Description	Estimated Quantity	Unit Rate	Lump Sum Cost
8.1		General Requirements	1 LS	/LS	$ -
8.2		Mobilization, Site Setup, Work Plans, Submittals and Permits	1 LS	/LS	$ -
8.3		Site Wide Woody Vegetation Grubbing/ Chipping and Rough-Cut Mowing, and Implementation of Erosion Control Measures per attached Erosion Control Plan	1 LS	/LS	
8.4		Confirmation of Utility Disconnects Termination(s)	1 LS	/LS	$ -
8.5		Environmental Waste Removal (soil, water and sediment), Transportation and Disposal at Licensed Facility • 90 tons of petroleum containing soil and 300 gallons of hydraulic oil and used waste oil • 97,000 gallons of water from wastewater basins and secondary containment systems • 270 tons of sediments from wastewater and secondary containment areas	1 LS	/LS	$ -
8.6		Universal Waste Removal, Transportation and Disposal Removal, Transportation and Disposal of Roof from Small Pump House Bldg with Asbestos Containing Roofing Material	1 LS	/LS	$ -

8.7		Demolition, Transportation and Disposal/Recycling: All Buildings and their contents, Bldg Foundations and sumps, Light Poles/Foundations, Asphalt Paving and Concrete Curbing and Paving, Truck Scale and Chain-link Fence/ Gates, Guard House and Pedestrian Turnstile and Removal of all materials from boneyard areas	1 LS	/LS	$ -
8.8		Above Ground Storage Tanks and ancillaries Decommissioning and Demolition Loading Transportation and Disposal	1 LS	/LS	$ -
8.9		Above Ground Concrete Structures- Secondary Containment Structures, Foundations Demolition, Debris Loading and Disposal	1 LS	/LS	$ -
8.10		Subgrade Utilities and Infrastructure Removal, Transportation and Disposal as Illustrated on Subsurface Utility Engineering (SUE) Report	1 LS	/LS	$ -
8.11		Site Restoration, Soil Backfilling and Compaction of Two Firewater Ponds and Removal of Below Ground Structures	1 LS	/LS	$ -
8.12		Demobilization, Project Closeout Submittal and Contract Closeout			
8.13		Performance Payment & Bond	1 LS	/LS	$ -
8.14		Recyclable Material Credit	1 LS	/LS	$ -
		Base Bid Total (Bid Items 8.1 through 8.14)	----------	----------	$ -

Notes:

1. Lump Sum Costs shall remain fixed for the life of the project. No provisions for escalation will be allowed.
2. LS = Lump Sum

Unit Price Items: the following unit price classification items may or may not have been specified a to quantity and technical requirements in the contract documents. These unit price items may be used in establishing additional costs due the contractor for site work to be done in addition to the scope of the work described in the contract documents and bid as part of the General Contractor's scope of work. These items will be at the discretion of the Owner and will be paid on actual quantities measured by the Owner or Owner's Representative.

These unit prices are to be submitted by the Contractor with the Bid.

Item	Description	Unit	Unit Price
1	Clearing and Grubbing	AC	$
2	Topsoil Stripping, stockpile, redistribution	CY	$
3	Silt Fence (Installed complete & in place)	LF	$
4	#57 Stone	Ton	$
5	Class "B" Rip-Rap	Ton	$
6	On Site Suitable Material Excavation/Placement	CY	$
7	Unsuitable Soil Removal/Disposal	CY	$
8	Off-Site Topsoil Borrow	CY	$
9	Removal, Transport and Disposal of Contaminated Water	Gallon	$
10	Removal, Transport and Disposal of Contaminated Wastewater Sediment	Ton	$
11	Removal, Transport and Disposal of Petroleum Contaminated Soil	Ton	$

LUMP SUM/UNIT RATE PROPOSAL

SECTION I
BIDDER INFORMATION

ATTACHMENT I-2

Billing Schedule

ATTACHMENT I-2 BILLING SCHEDULE
FORMER INDUSTRIAL BROWNFIELDS PROPERTY
COMMERCE PARK
PENDER COUNTY, NC

Bid Item	Cost Code	Bid Item Description	MONTH1	MONTH 2	MONTH 3	MONTH 4	TOTAL
8.1		General Requirements					
8.2		Mobilization, Site Setup, Work Plans, Submittals and Permits					
8.3		Site Wide Woody Vegetation Grubbing/Chipping and Rough-Cut Mowing, Implementation of Erosion Control Measures Per Attached Erosion Control Plan					
8.4		Utility Disconnects Termination(s) Confirmation					
8.5		Environmental Waste Removal, Transportation and Disposal					
8.6		Universal Waste Removal, Transportation and Disposal					
8.7		Demolition, Transportation and Disposal/Recycling: All Buildings and their contents, Bldg Foundations and sumps, Light Poles/Foundations, Asphalt Paving and Concrete Curbing, Sidewalks and Paving, Truck Scale and Chain-link Fence/ Gates, Guard House and Pedestrian Turnstile Demolition, Transportation and Disposal/Recycling					
8.8		Above Ground Storage Tanks and Ancillaries Decommissioning and Demolition Loading Transportation and Disposal					
8.9		Above Ground Concrete Structures- Secondary Containment Structures, Foundations Demolition, Debris Loading, Transportation and Disposal					
8.10		Subgrade Utilities and Infrastructure Removal, Transportation and Disposal as Illustrated on Subsurface Utility					

8.11		Site Restoration, Backfilling and Compaction of Two Ponds and Below Ground Utility Excavation					
8.12		Demobilization, Project Closeout Submittal and Contract Closeout					
8.13		Performance Payment & Bond					
8.14		Recyclable Material Credit					
		MONTHLY TOTAL - INVOICED					
		CUMULATIVE TOTAL INVOICED					
		MONTHLY PAYMENT					
		PAYMENT- CUMULATIVE					

NOTE: PAYMENT SCHEDULE BASED ON SUBCONTRACT TERMS

1

LUMP SUM/UNIT RATE PROPOSAL

SECTION I
BIDDER INFORMATION

ATTACHMENT I-3: FORMER INDUSTRIAL BROWNFIELDS PROPERTY

COMMERCE PARK

PENDER COUNTY, NC

Contractor Safety Evaluation Package

Health, Safety, Security and Environment Evaluation Form

Company Name: ____

☐ **MASTER for all projects**

☐ **Proposal/Specific Project:** ___

This form is not required for supplies and low risk services. Low risk is defined as services where there is an absence of critical hazards (ground disturbances, work at heights, construction, confined spaces, operating equipment, electrical hazard, traffic control or proximity to traffic, toxic chemicals, proximity to overhead power lines, etc.) or as otherwise defined by Wood.

1. WORK ACTIVITIES

Check the type of general services you will provide

	Construction of Buildings (236)		Heavy and Civil Engineering Construction (237)
	Heavy and Civil Engineering Construction (237)		Construction Services - Specialty Trade (238)
	Drilling (238)		Consulting Services (541)
	Laboratory Services including Field Work (541)		Surveying Services (541)
	Remediation Services (562)		Waste Transportation Services (562)

Number of employees in company: _____ _____ _____ _____ _____

2. EMR

List your firm's Experience Modification Rate (EMR) for the past five years.

20___ 20___ 20___ 20___ 20___

_____ _____ _____ _____ _____

NOTE: All employers must have some form of Workers' Compensation Insurance which is tied to the EMR. Attach EMR letter from underwriter. If you do not have an EMR, please provide an explanation. _____

3. SAFETY PERFORMANCE

Use your OSHA's Form 300 to fill in safety statistics for the last five full years:

		20_	20___	20___	20___	20___
a.	Hours Worked					
b.	Number of Recordable cases					
c.	Number of lost workday cases					
d.	Number of restricted/transferred cases					
e.	Number of fatalities					

If you do not maintain an OSHA 300 Log, use OSHA's definitions as defined in 29 CFR 1904 associated with lost time, restricted duty and medical treatment beyond first aid to complete theabove table.

4. SAFETY MATURITY

4A. Do you have a written safety program/ manual?

No Yes If yes, submit a copy of your Table of Contents

4B. Do you hold project-specific safety meetings, such as pre-job briefs, plan-of-the-day, toolbox, or tailgate?

No Yes If yes, how often?

Daily Weekly Bi-weekly Monthly Less often, as needed

4C. Do you conduct project safety inspections and audits to ensure compliance with your company's safety requirements? No Yes

If yes, who conducts the inspections and audits?

NAME: _____ HOW OFTEN? _____

TITLE: _____

4E. Will you have a designated safety professional involved with the work?

No Yes

5. SAFETY TRAINING PROGRAMS

What training do you provide for your employees?	Complete all training topics as either Yes, No or NA.
a. Head Protection b. Eye Protection c. Hearing Protection d. Respiratory Protection d. Fall Protection e. Scaffolding f. Drilling Operations g. Housekeeping h. Hot Work i. Compressed Gas Cylinders j. Sandblasting Safety k. Asbestos Work Safety l. HAZWOPER Training	m. Fire Protection n. First Aid/CPR o. Emergency Procedures p. Toxic Substances q. Trenching and Excavation r. Signs, Barricades, Flagging s. Electrical Safety t. Rigging and Crane Safety u. Vehicle Safety (Driving) v. Job Hazard Analysis Prep. w. Confined Space Entry x. Incident Reporting

6. OSHA COMPLIANCE

6A. Has your company received any OSHA citations from a state, or federal agency within the last five (5) years? No Yes If yes, please provide copies of citations.

6B. Has your firm been cited within the last five (5) years for any environmental-related violations or other forms of Notices of Violation (NOVs)?
No Yes If yes, please describe _____

7. REFERENCES

7A. List three (3) client references that could verify the quality and management commitment of your safety program.

	Company	**Address**	**Phone #**
1	Name: _____ Contact: _____		
2	Name: _____ Contact: _____	_____ _____	_____ _____
3	Name: _____ Contact: _____	_____ _____	_____ _____

COMPLETED BY:

Print Name:_____

Date:_____Phone #: _____

Signature_____ Title:_____

ATTACHMENT I-4: FORMER INDUSTRIAL BROWNFIELDS PROPERTY

COMMERCE PARK

PENDER COUNTY, NC

Bidder Proposal Checklist

In preparation for submitting the Proposal the Bidder has verified that the followinginformation has been included:

_____ **Proposal Form**

_____ **Attachment I-1 Lump Sum/Unit Rate-Cost Proposal Breakdown**

_____ **Construction Schedule**

_____ **Draft "Summary Work Plan"**

_____ **Key On-Site Personnel**

_____ **Billing Schedule (Attachment I-2)**

_____ **Completed Contractor Safety Evaluation Package (Attachment I-3)**

_____ **Contractor Equipment Rate List**

_____ **List of Proposal Qualifications/Exceptions (As Required)**

_____ **Signature of official signing the Proposal shall be accompanied by a certified copyof the resolution of the Board of Directors, or Partnership, authorizing the individual signing to bind the corporation or partnership.**

Note:

DECOMMISSIONING AND DEMOLITION
FORMER INDUSTRIAL BROWNFIELDS PROPERTY
COMMERCE PARK
PENDER COUNTY, NC
LUMP SUM/UNIT RATE PROPOSAL

SECTION II CONTRACT

Pender County – Purchase Order TERMS AND CONDITIONS

In accepting this Purchase Order, from Pender County North Carolina (the "County), your company (the "Vendor"), acknowledges and agrees to abide by the Terms and Conditions set forth below. Additional terms and conditions stated on the face of this Purchase Order shall take precedence over any conflicting terms and conditions stated below. Any terms and conditions not stated on the face of this Purchase Order but incorporated by reference therein shall be binding only if provided or signed by the County and attached hereto. In the event that a binding written contract signed by both the Vendor and the County exists, the terms and conditions of that contract shall supersede any conflicting terms and conditions below or on the face of this Purchase Order as expressly stated.

1. **COUNTY RIGHT TO CANCEL OR RESCIND – The County reserves the right to cancel or otherwise rescind a Purchase Order based on the County's best interest.**

2. **PURCHASE ORDER REQUIRED – The County will not be responsible for any equipment, supplies, and/or services delivered without a Purchase Order and assumes no obligation for products or services shipped or delivered in excess of the quantity ordered. Any unauthorized products or services are subject to the County's rejection and shall be returned at the Vendor's expense.**

3. **VENDOR FAILURE TO DELIVER – In the event of Vendor's failure to deliver as and when specified, or to perform as and when specified, the County reserves the right to cancel this order, or any part thereof, without prejudice to its other rights, and Vendor agrees that the County may return part of any shipment so made and may charge Vendor with any loss expense sustained as a result of such failure to deliver or perform.**

4. **CHANGES – If Vendor refuses to accept this purchase order exactly as written, Vendor will return it at once with explanation. Any changes to this Purchase Order will be considered a 'Change Order' and requires the written acceptance of both parties to become effective. This will include product or service substitutions, cost changes, and delivery schedule changes.**

5. **INVOICES – Vendor will deliver invoices to the County at the address or electronically at website shown on the face of this Purchase Order. Vendor will send separate invoices for each purchase order number and invoices must be itemized in accordance with the items listed on the Purchase Order.**

6. **PRICE – The itemized price listed for products and services on the Vendor invoice must match that specified on the Purchase Order. No boxing, packing, cartage, or shipping charges will be allowed by the County unless specifically authorized on the face of this Purchase Order. Any cash discount period to County will date from County's receipt of the invoice or from the date of the receipt of goods, whichever is later.**

7. **TAXES – Vendor shall pay all sales or use taxes that are or become due in connection with any products or services provided hereunder and shall indemnify and save harmless the County from any damages, costs, fees, expenses, or penalties on account of such taxes. Vendor is required to list all applicable taxes as separate lines on the face of the invoice.**

8. **RIGHT OF INSPECTION AND REJECTION – Equipment, supplies, and services supplied by Vendor shall be received subject to the County's inspection and approval either during manufacturing or delivery (with prior arrangement), or within a reasonable time after delivery, notwithstanding prior payment. If specifications or warranties are not met, material and equipment may be returned at Vendor's expense. No material or equipment returned to Vendor as defective shall be replaced except upon the County's formal authorization.**

9. **DELIVERY/TITLE – Unless otherwise agreed, delivery shall be f.o.b. point of destination and title shall pass to County upon acceptance at the final delivery point. Risk of damages or loss following shipment and prior to acceptance by County shall be the responsibility of Vendor.**

10. **ASSIGNMENT – Neither this Purchase Order nor any interest therein nor shall any claim arising hereunder be transferred or assigned by Vendor without the**

prior written consent of the County. Vendor may transfer or assign the benefits of this agreement, in whole or in part, including without limitation the County's warranty, without the approval of County.

11. WARRANTY/PERFORMANCE – Vendor warrants that the products and services furnished pursuant to this Purchase Order shall: (a) comply with all federal, state and local laws applicable thereto; (b) satisfy all requirements set forth on the face of this purchase order and any applicable documentation incorporated herein; (c) meet industry standards and be suitable for the purpose intended; (d) be of merchantable quality; and (e) be free from defects in title, labor, material or fabrication.

12. INDEMIFICATION - INFRINGEMENT – Vendor will defend, indemnify, and save the County harmless from any and all loss, damages, costs, fees, and expenses incurred on account of any and all claims, suits, or judgments alleging that any product or service provided under this purchase order violates any patent, copyright, trade secret, trade name, or any other intellectual property right of any nature.

13. INDEMNIFICATION – DAMAGES – If any product provided hereunder is defective in any respect whatsoever, Vendor will defend, indemnify, and save County harmless from all loss, damages, costs, fees, and expenses incurred by reason of such defect, including without limitation all liability arising from any accidents, injuries, or damages to persons or property that may result in whole or in part from such product.

14. INDEMNIFICATION – CONSEQUENCES OF ACTIONS - If Vendor performs services or constructs, erects, inspects, or delivers hereunder, Vendor will indemnify and save harmless the County from all loss, damages, costs, fees, or expenses incurred in connection with any accidents, injuries, or damages to persons or property that may result in whole or in part from the performance thereof.

15. USE OF COUNTY NAME OR LOGO – Vendor agrees not to release any advertising or other materials using the County's trademark, quoting the opinion of any County employee or implying in any way that the County indorses Vendor or its products or services.

16. FEDERAL OR STATE STATUTE – Vendor represents and warrants that no federal

or state statute or regulation or municipal ordinance has been or will be violated in the manufacture, sale, or delivery of any product or service sold and delivered hereunder and if such violation has or does occur, Vendor will indemnify and save the County harmless from all loss, penalties, fees, costs, and expenses resulting in whole or in part from such violation.

17. **E-VERIFY REQUIREMENTS – As a condition for payment under this purchase order, Vendor shall: (i) comply with N.C. Gen. Stat. Sections 64-25 et seq. (the "EVerify Requirements"); and (ii) cause each subcontractor hereunder to comply with such requirements. Vendor will indemnify and save harmless the County from all losses, damages, fees, costs, expenses, fines, and other liabilities resulting from any failure by Vendor or any subcontractor to comply with the E-Verify Requirements.**

18. **INSURANCE – Vendor shall secure, before delivery of any goods or services hereunder, Commercial General Liability insurance in an amount not less than $1,000,000 bodily injury each occurrence/aggregate and $1,000,000 property damage each occurrence/aggregate, or $1,000,000 bodily injury and property damage combined single limits each occurrence/ aggregate, with the County as additional insured. Vendor shall produce an insurance certificate evidencing such coverage upon request by the County.**

19. **STRICT COMPLIANCE – The County may at any time insist upon strict compliance with these terms and conditions notwithstanding any previous custom, practice, or course of dealing.**

20. **MATERIAL SAFETY DATA SHEETS – Current Material Safety Data Sheets, when applicable to the order, shall be provided by Vendor in accordance with all regulations.**

21. **VENUE FOR LEGAL ACTIONS – This purchase order is governed by North Carolina law without regard to its conflicts of law principles. Any legal actions arising from this purchase order shall be brought in Pender County, North Carolina.**

DECOMMISSIONING AND DEMOLITION
FORMER INDUSTRIAL BROWNFIELDS PROPERTY
COMMERCE PARK
PENDER COUNTY, NC
LUMP SUM/UNIT RATE PROPOSAL

SECTION III SPECIFICATION NO. 01 – SCOPE OF WORK

PART 1 - GENERAL

1.1 The Contractor shall provide all procurement, and construction services including all manpower, materials, facilities, equipment, tools, services, and incidentals required to complete the decommissioning and demolition as described in this Scope of Work.

The Scope of Work for Decommissioning and Demolition at the site for the Identified and illustrated structures located at the Former Industrial Brownfields Property located at 101 Vitamin Drive in Pender County, North Carolina generally includes:

- Demolition approach and sequence
- Preparation of Basic Work Plans/Sequence
- Mobilization
- Temporary Site Facilities and Controls
- Site Housekeeping
- Site Fencing and Signage
- Erosion and Sedimentation Controls
- Asbestos Containing Materials Removal, Transportation and Disposal
- Environmental Waste Removal, Transportation and Disposal (e.g. petroleum containing soils, waster from wastewater systems)
- Universal Waste (e.g. fluorescent light ballast, potentially mercury-containing emergency lighting switches) Removal, Transportation and Disposal
- Vertical/Horizontal Demolition of all structures from the site
- Removal of all paved roads, parking lots and side walks
- Removal of all materials from boneyards on the site
- Subsurface structures and utility removal
- Recycling and Reuse of Recyclable Materials
- Segregation, Staging and Loading of All Waste Materials
- Transportation and disposal of Waste Materials
- Site Restoration including backfilling of two ponds
- Demobilization

1.2 Schedule

The Construction Progress Schedule shall be prepared utilizing Critical Path Method in the form

of a horizontal bar chart with activity dependencies shown. The Schedule is to be used as the Contractor's baseline/target schedule. The complete sequence shall be shown of construction by activity by identifying work of separate stages and other logically grouped activities.

The Construction Progress Schedule shall be revised as required to indicate anticipated and actual durations and sequence of activities. Copies of revised schedules shall be provided for review and comment. Any inability to comply shall be reported and detailed explanation shall be provided with suggested remedies.

Schedule is a very important consideration in the award of this contract. Pender County goal is to have the decommissioning and demolition scope of work in this demolition plan completed by April 1, 2022.

PART 2 - PRODUCTS

2.1 Drawings

Project drawings are attached to this document. Any drawings transmitted with and made part of this Request for Proposal are as listed on the Drawing Index of this Specification. The drawings are for information only and location of any utilities or existing site features shall be field verified. The drawings include the following:

- Figure 1 - Site Location Map
- Figure 2 – Site Map
- Figures 3- a, b, c and d – Survey Maps of Underground Utilities to be Removed

PART 3 - EXECUTION

3.1 Federal, State, and Local Requirements

The Contractor shall be responsible for executing the Work in compliance with the requirements of this document and with relevant standards, regulations,and specifications including but not limited to:

- Preparation of a basic Demolition Work Plan (including asbestos) ; Site-specific Health and Safety Plan; and Traffic Control Plan
- Applicable state and local permits obtained by Contractor, (Erosion/Sedimentation Control Plan has been prepared)
- Applicable federal regulations
- Occupational Safety and Health Administration (OSHA), National Institute for Occupational Safety and Health (NIOSH), National Fire Protection Association (NFPA), and Environmental Protection Agency (EPA) standards
- State of North Carolina requirements
- Other local government authority requirements

- Industry standard practices
- Manufacturer's requirements or recommendations

Where a compliance requirement conflicts with another, then the more stringent requirement shall take precedence. Noncompliant work shall be repaired or replaced to the Owner's satisfaction at no cost to the Owner.

PART 4 - GENERAL SPECIFICATIONS

4.1 Specifications transmitted with and made part of this Request for Proposal are as listed on the Specification Index.

PART 5 - INTENT

5.1 The intent of this Specification is to provide the Contractor with sufficient and adequate definition of the Scope of Work to enable the Bidder to submit its proposal; including approach to be taken to remove the structure(s) while addressing surrounding obstacles, cost(s) to furnish all labor and supervision and to provide all materials, except those specified as being furnished by Pender County, all construction tools, equipment, and services as required and reasonably incidental to the proper completion of all Work as called for on the Drawings and/orBills of Material, and Specifications transmitted with and made part of this Request for Proposal.

5.2 Work called for or implied on one document but omitted on others shall not be considered a valid basis for claim of omission by Contractor in bidding or in performing work. Any such conflict is the responsibility of Contractor alone to call to the attention of Wood for resolution.

PART 6 - WORK NOT INCLUDED

6.1 The following Sections of Specification 01100 are not included in the work required to be done in this RFP.

6.1.1. Summary Items 6 and 7
6.1.2. Shop Drawings
6.1.3. Record Drawings
6.1.4. Pre-Bid meeting - part of RFP
6.1.5. Meeting Agenda
6.1.6. Meeting Attendees requirements shall be limited toContractor, Contractor and Pender County/AP CM
6.1.7. Quality Assurance/Quality Control Plan
6.1.8. Quality Preparation
6.1.9. Quality Installation

6.1.10. Quality Inspection, Materials and Environmental Testing and Sampling
6.1.11. Problem or Work Deficiency Meeting
6.1.12. Surveying
6.1.13. Survey Control Points

PART 7 - WORK SUMMARY

7.1 Description of Structure Decommissioning and Demolition (D&D):

The following summary outlines the D&D of site components and structures. A Photo Journal of Structures and Drawing for Demolition is presented in **Appendix A**:

Area ID	Descriptions
1	Former wastewater treatment infrastructure (WWTI) – round concrete setting basin with steel catwalk and misc. equipment
2	WWTI – Two approximately 4-foot diameter concrete sumps
3	WWTI – Two Lined wastewater treatment ponds
4	WWTI – Three rotating biological contactors
5	WWTI - Rectangular concrete oxidation treatment tank
6	WWTI - Round concrete containment/vessel
7	WWTI – Misc. debris staged south of Area 5 & 6
8	Rectangular concrete containment with fiberglass railing
9	WWTI – Approximately 8’ diameter concrete sump located between the wastewate treatment ponds
10	Corrugated metal building
11	Electrical transformer
12	Concrete containment and tank farm with 3 steel insulated tanks
13	Corrugated metal building
14	Brown fiberglass Raven tank
15	Sealed fiberglass tank and operator shed
16	Corrugated metal building
17	Fiberglass shed
18	Corrugated metal building
19	Former fire water tank and attached pump building
20	Streetlights typical
21	Administration building warehouse
22	Main administration building
23	Auxiliary administration building
24	Truck scale
25	Contractor parking area power pole typical
26	Turnstile
27	Guard shack

28	All paved roads and parking lots and associated curbing and sidewalks
29	All designated underground utilities shown on Drawings 3a, 3b, 3c

D&D shall consist of removal of all designated environmental and universal wastes, equipment/contents, structures, concrete, foundations, maintenance pads and pedestals. Foundations shall be removed including below grade features, and any sumps. Excavations shall be backfilled to existing surrounding grade. Contractor shall remove all underground utilities as specified on Drawings 3 (a, b, and c). Remove pavement within the specified areas. Larger pieces of concrete, asphalt or other building materials have to be removed from the site,

7.2 **Pre-Demolition Work**

KICKOFF MEETING
The Pender County Construction Representative (*Construction Manager*) will schedule a pre-construction kickoff meeting at the site or other convenient location before Work starts. The meeting will provide an overview of the following project requirements: Project Scope, Schedule, Invoicing Procedure, CCO Procedure, Contractor Submittals, Working in Operating Facilities, Site Access and Security, Health and Safety, Temporary Facilities, Coordination of Work, Permit Requirements, Materials Management, QA/QC, Managing Waste.

MOBILIZATION & SITE PREPARATION

MOBILIZATION

7.2.1 Provide and setup field office(s), office supplies, sanitary facilities, change trailers, First Aid andPPE supplies, temporary power, small tools and equipment.

7.2.2 Coordinate with Pender County Construction Manager (Wood) the following mobilization activities:

A. Location of field offices, sanitary facilities, lay-down areas and temporary storage facilities.

B. The agreed to location for construction field offices, storage, site access, parking and employee entry to Facility shall be as identified in the Construction Documents and will be reaffirmed at the kickoff meeting.

7.3 Scope of Work

7.3.1 General

A. The Scope of Work consists of removal and abatement of regulated materials as practical to minimize comingled demolition debris, demolition of the facility and recycling of materials. The Contractor's approach to the abatement, segregation and

demolition of the buildings is performance based to reduce the volumes of asbestos containing material (ACM) versus Construction and Demolition waste, thereby reducing overall T&D costs, while addressing adjacent issues identified below. Currently there is only one identified asbestos containing feature, which is the roof of a small pump house discussed further in these bid package (see Appendix B).

B. These plans and specifications describe the technical requirements for removal of asbestos containing materials, universal and environmental wastes and demolition work. Demolition work includes the removal of asbestos-containing materials, universal wastes (e.g. fluorescent light ballast, potentially mercury-containing emergency lighting switches) environmental waste and offsite disposal of demolition debris, demolition and offsite recycling/disposal of building, and partial site restoration at this facility. The environmental wastes and asbestos containing materials are discussed in detail in this bid package.

C. Universal Waste: Waste streams present, includes fluorescent light bulbs, fluorescent light ballasts, circuit boards, thermostats, mercury vaporlight fixtures, fire extinguishers, lead-acid batteries, mercury switches,refrigerants, polychlorinated biphenyls (PCBs), shall be removed, containerized, and transported to proper offsite disposal facilities by the Contractor. For planning purposes, the Contractor shall provide Pender County with quantity estimates of these materials the Contractor expects to generate if other than noted inthe pre-demolition assessment report (**See Appendix B – Regulated Building Materials Evaluation Report Former Industrial Brownfields Property)**. Approval by Pender Engineering Consultant Wood of disposal sites(s) for waste streams must be obtained prior to shipment of universal or environmental wastes from the project site.

D. The Contractor shall be responsible for segregation, staging and loading of asbestos containing materials, universal waste, designated waters and sediments and petroleum waste.Disposal of asbestos containing materials, universal waste and environmental non-hazardous demolition debris shall only be at an appropriately licensed waste facility location.

7.4 Removal of Asbestos Containing Materials (Refer to **Section 01070 - Collection, Removal andOffsite Disposal of Asbestos**)

7.5 Demolition (Refer to Section 02 - Demolition)

7.5.1 General

A. Prior to start of demolition activities for a specific building that requires removal of asbestos containing materials, the Contractor shall issue to Wood written certification that all collection, removal and offsite disposal of asbestos work under this Agreement and is complete and performed in accordance with the specifications.

B. The Contractor shall remove, containerize, and stage all waste streams listed in 7.3.1.C prior to demolition of structures containing these materials as practical. Due to the condition of the building(s), for planning purposes, the Contractor shall identify the methods used for collection and segregation, as indicated in their Demolition Work Plan.

7.5.2 Job Conditions

A. The Contractor is advised that the facilities contain hazards, for instance lead paint on outdoor light poles as identified in **Appendix B: Regulated Building Materials Evaluation Report Former Industrial Brownfields Property**. In addition, the Contractor may encounter liquid and solid residues within portions of structures, sumps and underground utilities that were either inaccessible during building decommissioning or were not addressed under that scope of work. The Contractor shall serve as an independent Contractor with the responsibility for communicating hazards to appropriate employees and other representatives and taking appropriate safeguards to protect such persons. The Contractor shall establish and maintain a full-time Site Health and Safety Officer, whose only responsibility onsite shall be to ensure the safety and health of Contractor and Contractor personnel for the duration of the project.

B. The Contractor is advised that lead-based painted surfaces may be encountered during implementation of the Work. The Contractor shall be responsible for taking all necessary precautions and comply with all applicable laws and regulations to protect the health and safety of the workers and the environment. Such lead paint do not require remediation or special waste handling, but contractor is herein informed lead paints exist with certain areas of the facility as outlined in **Appendix B**.

C. The Contractor assumes the risk of any loss to Contractor due to theft, destruction, disappearance of, or damage to the structures or portions thereof, to be demolished, whether occurring before or after the submission of the Bid or execution of the Contract Agreement, arising from any cause what so ever excepting only affirmative, willful acts of Pender County.

D. Pender County assumes no responsibility for security of the facility either before or after the Contractor is given access there to and does not guarantee that the facility's condition will remain the same after the submission of the Bid as before.

E. Items of salvage value such as scrap metal shall be disassembled. Contractor shall promptly remove from the site for transportation to a scrap processing or reuse/resale facility all metals intended for salvage or reuse.

F. Contractor is responsible for dusts and other airborne debris generated as a result of demolition activities and shall be required to have a Dust/Debris Management Plan that articulates Contractorunderstanding of this issue. Contractor shall wet down the adjacent site and areas as required to prevent dust from rising. The Contractor shall provide water trucks or water lines, and hoses forthe purpose of dust management. Surface runoff resulting from dust management operations shall be contained and managed by Contractor.

G. The Contractor shall not use or permit the use of the structures to be demolished for any purpose other than for actual demolition without the written permission of Pender County.

H. The Contractor may encounter liquids and solid chemical residuals in buildings, building components, vessels, tanks, pipelines and, as such, shall be prepared to identify, contain, cleanup, and/or dispose ofsuch materials in accordance with all applicable spill response criteria. The contractor will notify Wood's onsite manager of any discovered waste materials for assistance in proper identification and characterization of such waste materials.

I. The Contractor shall verify that all utilities in the work area have been disconnected prior to the start of Work. Written certifications by properly qualified personnel shall be issued to Wood prior to start of Work. The utilities shall be disconnected in accordance with the specifications outlined in Section 02075 – Utility Termination.

J. Contractor is responsible for securing materials and equipment scheduled for disposal from theft. As stated before, no equipment left in the facility is to be reused for its intended manufactured purpose, unless the Contractor secures a release of ownership from Pender County, indemnifying Pender County against any and all deficiencies inequipment performance.

7.5.3 Materials

Contractor shall submit manufacturer information; safety data sheets (SDS), and other appropriate information about chemicals proposed for use, to Wood for acceptance, prior to use onsite. Contractor shall take all precautions to safeguard files, documents, chemicals and materials stored onsite from vandalism and theft.

7.5.4 Submittals

Completed copies of all disposal paperwork shall be maintained by the Contractor in an onsite project file. The Contractor shall furnish completed copies of all waste disposal paperwork to Wood's field representative within five (5) working days of the date of disposal. Any paper copies of disposal paperwork(manifest) shall be

delivered to Wood within 45 days of date of disposal.

7.5.5 Execution

A. The Work shall be performed by the Contractor on all buildings, equipment, materials, and structures at the facility as described in these Contract Documents, and as specified.

B. All specified structures and associated appurtenances shall be demolished as described in Section 7.1. All piping and conduits shall be removed, and water, sewer, electrical, fiber optic, sanitary, and natural gas lines designated on the attached Drawings shall be removed. All demolition rubble, debris, machinery and equipment, piping, electrical, instrumentation, metal, wood, glass, paper, plastic, fabric, rubber, wood and each and every item of debris shall be removed by Contractor from the facility and reused or recycled or disposed of offsite.

C. Permanent storage onsite of any material, rubbish, dirt, debris, or waste of any sort resulting from the demolition operations by the Contractor is prohibited.

D. During the progress of the Work, all trenches, holes, openings, or voids shall be filled, covered, enclosed by fencing, or otherwise protected by the Contractor in such a manner that conforms to all applicable Federal, State, and local safety rules and regulations.

7.5.6 Temporary Fencing

A. The majority of the project is enclosed by a chain link fencing. Contractor shall install and maintain temporary fencing or other temporary barriers, if necessary in addition to the existing property fence, to minimize unauthorized or unknowing access to demolition areas.

B. In areas that require temporary fencing, temporary fencing or barrier shall be construction type fencing, constructed of steel chain link fence,removable or portable (or equivalent), and a minimum 6 feet in height. If portable, sections must be connected to mitigate intrusion. Fence shall be durable and resistant to normal and gusty wind events.

7.5.8 Work within Public Roadways and Onsite Roadways

A. The use and protection of all public roadways involved in this Contract shall be in accordance with all applicable state, county, and local requirements.

B. The Contractor shall prepare and submit a Traffic Control Plan prior to commencement of work.

C. All transportation of equipment and materials along public roadways shall be preceded by the application and issuance of all necessary road and bridge crossing permits from the appropriate city, county, and state transportation authorities. The Contractor shall be responsible for all permits and associated fees.

D. Any damages to existing roadways or bridges shall be repaired (to its original or better condition) by the Contractor, at no expense to Pender County. In the event that part of the roadway requires barriers for pedestrian or vehicular safety, as identified in the Traffic Control Plan,the roadways shall be repaired to prior condition as the barriers are removed at the conclusion of demolition activities.

E. The Contractor shall maintain the public roadways free of debris accumulations. The Contractor shall inspect and remove all debris from the roadway resulting from the Work on a daily basis to mitigate any vehicle or pedestrian obstructions.

7.5.9 Protection of Existing Utilities

A. Contractor shall be responsible for coordinating with Pender County representatives to ensure that existing utilities, not designated to be terminated nor abandoned, are protected during the performance ofthe work. Utilities that are to be demolished will be designated on surveyed drawings that are included in this report.

B. Any damage to utilities not designated for removal shall be repaired at the Contractor's expense.

7.5.10 Field Quality Control

A. All Work conducted pursuant to this Contract shall be conducted by persons qualified to produce workmanship of specified quality.

B. Workers designated to operate equipment shall have received training and have experience in the operation of such equipment.

C. Preventive Maintenance and Calibration

1. The Contractor shall establish a preventive maintenance program for equipment and systems that would otherwise be subject to breakdown when the breakdown could lead to safety hazards, waste release, work delays, or other adverse impact upon the performance or the Work, or loss of completeness and accuracy in data. The preventive maintenance schedule will be developed based on the appropriate manufacturer'srecommendations.

D. Inspections

1. Wood will be onsite during the duration of the Work to oversee activities outlined in these Contract Documents. Oversight by Wood shall not relieve the Contractor of any responsibility for the accuracy or completeness of his/her work.

2. The Contractor shall verify that Site activities are being performed efficiently in conformance with approved plans, standards, federal and state regulatory requirements, sound scientific and construction practices, and the Contract requirements.

E. Corrective Action

The need for corrective action may be identified by system or performance audits or by standard quality assurance procedures. In addition, all technical staff shall be responsible for reporting questionable technical or quality control nonconformance to the appropriate Site manager. When the Contractor identifies a nonconformance or deficiency, the Contractor shall promptly notify Wood. Wood shall review the deficiency and consult with the contractor regarding appropriate corrective action. The Contractor shall undertake corrective procedures at no cost to Pender County.

7.6 Site Restoration

7.6.1 General

All types of surfaces, roadways, parking lots, sidewalks, curbs, gutters, culverts, fencing, and vegetation disturbed, damaged, or destroyed during the performance of the work under or as a result of the operations performed under this Contract, shall be left in an orderly state. The performance of work used in the restoration shall produce a surface or feature equal to or of equivalent value of the condition of each before the work began and as approved by Wood. This means that the area can be left as barren soils.

7.6.2 Restoration and Cleanup

A. Concrete slabs and foundations and subsurface features such as sumps are to be removed and the area leveled out to surrounding grade.

B. Waste, surplus materials, rubbish, and temporary construction facilities shall be removed from the Site.

PART 8 - BID ITEMS INCLUDED

The following listed items are general descriptions of work to be performed under this contract and are not to be misconstrued by Contractor as being a complete descriptionof all work. The Contractor is responsible for reading all portions of this Bid Specification including the General Requirements, Specifications, Attachments and Drawings. Contractor will be responsible to include all costs for incidental items required to complete construction tasks, although not specifically referenced in the general description of the work item. The work items described below and presented in the Bid Form shall constitute all items to be specifically paid under this Contract.

Summary of Items included in Bid

Measurement. This Work will be measured on a Lump Sum Basis, unless noted in the descriptions.

Payment. Payment will be made on approval and acceptance by the Owner's Site representative for the total value listed on the Schedule of Values.

BID ITEM 8.1- General Requirements

8.1.1 Work for this Item includes providing project management, construction support, and full time Site Superintendent, and support supervision and construction management for the duration of the project. This item also includes maintenance of temporary facilities and site controls (signage, temporary office space/ utilities, site safety, etc. of the work).

8.1.2 Payment for General Requirements will be made in accordance with the contract and Specification 01.

BID ITEM 8.2 - Mobilization, Site Setup, Work Plans, Submittals and Permits

8.2.1 Mobilizing all necessary equipment, supplies, materials, and personnel to the site. Determine needs for mobilizationand set up for all of the equipment as necessary for the general plan including construction equipment, shops, storage areas, offices, construction and clean-up equipment, all utilities, power, and other facilities and temporary services including traffic barriers, fencing and security. This bid item includes providing the required labor, materials and equipment for protection of structures to remain. Obtain all necessary permits required by Federal, State, or local law.

- Apply for, pay fees for and obtain all permits for the work.
- Control storm water, as necessary, during demolition and restoration and cleaning

of site including installation/maintenance of Soil Erosion and Sedimentation Controls as required by local codes and described in the approved attached Soil Erosion and Sedimentation Control Plan.

8.2.2 Preparation and submission of the following work plans and submittals, prior to hazardous materials removal or structure demolition:

- Demolition Health and Safety Plan. Contractor's plan shall conform to the site-specific HASP and other applicable safety standards governing the work. The Plan shall cover all Contractor and sub employees performing work on the site. Contractor's plan shall summarize all employee training and personnel protection, and air monitoring to be performed for safe and legal demolition loading.
- Preparation, development, and submission of a Work Plan for removal of all the one roof structure identified in **Appendix B: Regulated Building Materials Evaluation Former Industrial Brownfields Property.**
- Demolition Work Plan, indicating the means and methods to be used for execution of the hazardous materials staging, segregation and removal, and structure demolition work, including methods for waste and debris handling, material recycling, and dust control.
- Transportation and Disposal Plan including means and methods for containment and loading of hazardous materials, truck staging, truck traffic and transportation, handling and disposal of demolition debris.
- Environmental Control Plan (dust control, storm water control, equipment decontamination, etc.).
- Certification of Regulated Material Removal. Certify that regulated materials discovered have been removed and properly disposed of prior to structure demolition.
- Proposes sources and certifications, virgin source documentation for materials proposed for job site laydown, filling of pits and contractor disturbed areas requiring restoration.

8.2.3 Contractor must obtain all other permits/approvals that may berequired under state and local jurisdictions. These permits/approvals include, without limitation, those related to building deconstruction, work within public roadways, asbestos notifications, hoisting licenses, and zoning regulations. Prior to submittal to the appropriate agency, all permit applications must be presented to Owner for review and approval ten (10) days before submitted to allow time forreview as Technical Submittals. Contractor shall not submit any Project-related permit application without prior Owner approval.

8.2.4 Payment for Mobilization, Site Setup, Work Plans Submittals and Permits will be measured as a single item, completed and Wood has approved all work plan submittals and received copies of permits in accordance with the Contract and Specification 01.

BID ITEM 8.3 – Implementation of Site Erosion and Sedimentation Plan and Site Wide Woody Vegetation Grubbing/Chipping and Rough-Cut Mowing

8.3.1 Work for this item includes implementation of the Site Erosion and Sedimentation Plan and removal of woody vegetation and ground cover as necessary to access work areas. Trees, shrubs and vegetation shall be removed for the entire project site area.

8.3.2 Performance of all implementation of the erosion control plan, vegetation grubbing, chipping and mowing shall be measured as a single item, complete after Pender County approval.

8.3.3 Payment for the implementation of the erosion control plan, vegetation, grubbing, chipping and mowing work will made in accordance with the contract and Specification 01.

BID ITEM 8.4 – Utility Disconnects Terminations Verification

8.4.1 Work includes the verification that all power has been terminated to the site by Duke Energy. Arrangements have been made in advance for Duke Energy to terminate power to the site and remove their power infrastructure.

8.4.2 This task will be measured as a single item.

8.4.3 Payment for utility disconnects and terminations verification will be made in accordance with Specification 01.

BID ITEM 8.5 – Environmental Waste Removal, Transportation and Disposal

8.5.1 Work includes the removal and disposal of all designated wastewater liquids and solids and petroleum waste removal and disposal and petroleum containing wastes from the facilities. These wastes including lab testing results and volumes are identified and discussed in **Appendix B: Regulated Building Materials Evaluation Former Industrial Brownfields Property.** Work for this item also includes removal, transportation, and disposal of all the identified waste from selected secondary containment sumps, old wastewater infrastructure and from buildings to be demolished. This item includes removal of petroleum-containing soils and used oil in containers from the areas designated in **Appendix B**. The Report identified above included in the bid package are for reference only. All disposal facilities shall be approved by Pender County.

8.5.2 Environmental Waste, Wastewater liquids and solids and Petroleum Waste Removal

and Disposal will be measured as a single item, but quantities of disposal for each specific waste must be provided by the contractor (e.g. waste manifest with quantities).

8.5.3 Payment for Environmental Waste will be made in accordance with the Specification 01.

BID ITEM 8.6 – Universal Waste Removal, Transportation and Disposal

8.6.1 Work for this item includes the disposal of Universal Waste: Waste streams present, includes fluorescent light bulbs, fluorescent light ballasts, circuit boards, thermostats, mercury vapor light fixtures, fire extinguishers, lead-acid batteries, mercury switches, refrigerants, polychlorinated biphenyls (PCBs), shall be removed, containerized, and transported to proper offsite disposal facilities by the Contractor. For planning purposes, the Contractor shall provide Pender County with quantity estimates of these materials the Contractor expects to generate if other than noted in the pre-demolition assessment report. Approval by Pender Engineering Consultant Wood of disposal sites for waste streams must be obtained prior to shipment of any waste from the project site.

8.6.2 Universal Waste will be measured as a single item.

8.6.3 Payment for Universal Waste removal, transportation and disposal will be made in accordance with the contract and Specification 01.

BID ITEM 8.7 – Demolition, Transportation and Disposal/Recycling:
Buildings with Limited Regulated Asbestos Containing Material, Light Poles, Foundations, Asphalt Paving and Concrete Curbing and Paving. Truck Scale and Chain-link Fence/Gates and Turnstile

8.7.1 Work for this item includes the complete decommissioning and demolition of buildings, foundations, paving and concrete including below grade structures as illustrated in **Appendix A** and shown on the underground utility drawings. Underground structures associated with the buildings and secondary containment systems are to be demolished and removed from the site.

8.7.2 Decommissioning and demolition of buildings, light poles, foundations, asphalt paving and concrete curbing and paving, debris segregation and staging, and loading will be measured as a single item.

8.7.3 Payment for structure demolition and debris disposal will be made inaccordance with the contract and Specification 01.

BID ITEM 8.8 — Above Ground Storage Tanks (ASTs) and Ancillaries

Decommissioning and Demolition Loading, Transportation and Disposal

8.8.1 Work for this item includes the complete decommissioning/demolition of the former tanks and concrete pads, secondary containment strutures and foundations including below grade structures associated with tanks. All secondary containment systems whether currently around a tanks system or not are to be demolished and removed. Tanks need to be checked for residuals/heal and cleaned if necessary prior to demolition. If rinseate or decon water is generated it shall be containerized and disposed of. Also any liquids and sludge-like materials contained within the secondary containment systems will be containerized for off-site disposal. Wood will utilize previous environmental testing results to consult with the Contractor to determine how liquids and solids should be disposed. Wood will conduct additional lab testing for characterization of the waste as needed.

Segregation of clean recyclable materials, and the transportation and disposal of demolition debris shall be in accordance with all rules, regulations, and codes. All trash, rubbish, equipment, etc. shall be disposed offsite. Include all supplies including first aid and PPE. All disposal facilities shall be Pender County approved.

8.8.2 Decommissioning and demolition of tanks, debris segregation and staging, and loading will be measured as a single item.

8.8.3 Payment for Decommissioning and demolition of tanks, debris segregation and staging, and loading will be made in accordance with the contract and Specification 01.

BID ITEM 8.9 - Above Ground Concrete Structures, Foundations Demolition, Debris Loading, Transportation and Disposal

8.9.1 Work for this item includes the complete decommissioning/demolition and recycling as appropriate of the former wastewater infrastructure including concrete structures, wet wells, sumps, connective piping systems, associate equipment, pipe racks and trestles including associated support structures. The removal of water and sediments/residues from the waste water systems will be in accordance with the report provided in **Appendix B**. This includes below grade piping and structures (subsurface demolition) as shown on drawings and **Appendix A and the underground utility maps in the drawings**. Piping being removed will need to be checked for residuals and cleaned if necessary prior to demolition. **All residual liquids and solids removed from piping and sump systems as well as all wash water will be containerized.** Wood will use previous environmental testing results and additional testing as necessary to consult with the Contractor to determine how the liquids and solids should be disposed. Segregation of recyclable materials, and the transportation and disposal of demolition debris will be in accordance with

all rules, regulations, and codes. Segregation of recyclable materials and transportation and disposal of demolition debris in accordance with all rules, regulations, and codes. All trash, rubbish, equipment, etc. shall be disposed offsite. Include all supplies including first aid and PPE. All disposal facilities shall be Pender County approved.

8.9.2 Payment for decommissioning and demolition of the former wastewater treatment infrastructure including concrete structures, secondary containment structures and foundations transportation and disposal will be made in accordance with the Contract and Specification 01.

BID ITEM 8.10- Subgrade Utilities and Infrastructure Removal, Transportation and Disposal as Illustrated on Subsurface Utility Drawings.

8.10.1 Work for this item includes the removal of the underground utilities shown on the attached drawings. These utilities have been located and sized as shown on the attached drawings. The utilities include but are not limited to the stormwater system (stormwater drop inlets, collection boxes and associated underground piping), fire water lines, industrial process sewer lines, water lines, sanitary waste lines, electrical banks (concrete and metal conduits). Subsurface structures associated with the utilities such as wet wells and collection boxes will be removed as well. Segregation of recyclable materials and transportation and disposal of demolition debris in accordance with all rules, regulations and codes. All trash, rubbish, equipment, etc. shall be disposed of offsite.

If utility trenches or other excavations extend to or **beyond a depth of 5 feet** below construction grade, the **Contractor shall be required to develop a trench safety plan to protect personnel entering the trench or trench vicinity**. The collection of specific geotechnical data and the development of such a plan, which could include designs for sloping and benching or various types of temporary shoring, is beyond the scope of this specification. Any such designs and safety plans shall be developed in accordance with current OSHA guidelines and other applicable industry standards.

To assist in preparing an excavation safety plan, we have classified the soils encountered at this site based on the data collected during previous studies. The project site is underlain by shallow Coastal Plain deposits and with depth, by Marine deposits common to the Pee Dee Formation. The upper-most soils (where excavations are likely to occur), are anticipated to consist of non-cohesive, granular soils and may be classified as Type "C" soils under current OSHA regulations pertaining to excavations (see CFR 1926, Subpart P). This classification is based on the observed non-cohesive nature of the soil. In excavations penetrating these soils, the sloping and benching schemes specified for Type "C" soils under the OSHA regulations require that the excavation sidewalls be sloped no steeper than 2:1 (horizontal:vertical). For additional details, please refer to CVR 1926, Subpart P, Appendix B.

8.10.2 Piping being removed will need to be checked for residuals and cleaned if necessary prior to demolition. All residual liquids and solids removed from piping and sump systems as well as all wash water will be containerized. If soils are impacted by liquids from underground utilities then these soils will need to placed in a roll off box until Wood can conduct additional testing as necessary to consult with the Contractor to determine how the solids should be disposed. The waste will then be removed off site by the contractor and properly disposed of.

8.10.3 Subgrade utilities and infrastructure removal, transportation and disposal will be measured as a single item.

8.10.4 Payment for subgrade utilities and infrastructure removal, transportation and disposal will be made in accordance with the contract and Specification 01.

BID ITEM 8.11 –Removal of Surface Water from One Raw Water Pond, Removal of Plastic Liner and Associated Pond Infrastructure, Backfilling and Compaction of the Two Ponds, Site Restoration,

8.11.1 Work for this item includes the drainage of a raw water pond, backfilling of two raw water/fire water ponds and removal of plastic liner materials and all associated pond infrastructure including subgrade piping. This work also include pumping the water from the raw water pond to the land surface nearby for infiltration into the soil.

Following drainage of the pond and removal of the liners both ponds will be backfill and soil will be compacted. Fill materials for backfilling the ponds and other excavations will be provided on the site. Prior to placing any fill, the following guidelines should be followed. Existing vegetation, stock piles, debris piles, gravel, coal, rock fragments, pavements, and structures planned for demolition should be stripped and removed from the site. Obstructions that extend below finish grade, if any, should be removed and the resulting holes filled with structural fill that is placed and compacted as recommended herein. Root balls from tree removal operations should be removed and the resulting voids be filled with structural fill that is placed and compacted as recommended herein. Existing below-grade utilities, such as underground storm water pipes, should also be removed or re-routed as required by the drawings. Voids left from removing underground utilities or storm water structures should be filled with fill that is placed and compacted as recommended herein. After stripping, clearing, grubbing, and root raking is performed and prior to placement of any fill soils, the exposed subgrade should be evaluated by proof rolling. Any soft or weak areas, or areas which deflect, rut or pump excessively during proof rolling should be removed and replaced with structural fill that is placed and compacted as recommended herein. Proof rolling should be accomplished with a pneumatic-tired roller, a loaded dump truck, or similar equipment weighing approximately 20 tons and observed by an

experienced engineering technician working under the supervision of the Geotechnical Engineer-of-Record. Proofrolling should be performed after a suitable period of dry weather to avoid degrading an otherwise acceptable subgrade. The proofroller should make at least four passes over each location, with the last two passes perpendicular to the first two.

If utility trenches or other excavations extend to or beyond a depth of 5 feet below construction grade, the **Contractor shall be required to develop a trench safety plan to protect personnel entering the trench or trench vicinity**. The collection of specific geotechnical data and the development of such a plan, which could include designs for sloping and benching or various types of temporary shoring, is beyond the scope of this specification. Any such designs and safety plans shall be developed in accordance with current OSHA guidelines and other applicable industry standards.

To assist in preparing an excavation safety plan, we have classified the soils encountered at this site based on the data collected during previous studies. The project site is underlain by shallow Coastal Plain deposits and with depth, by Marine deposits common to the Pee Dee Formation. The upper-most soils (where excavations are likely to occur), are anticipated to consist of non-cohesive, granular soils and may be classified as Type "C" soils under current OSHA regulations pertaining to excavations (see CFR 1926, Subpart P). This classification is based on the observed non-cohesive nature of the soil. In excavations penetrating these soils, the sloping and benching schemes specified for Type "C" soils under the OSHA regulations require that the excavation sidewalls be sloped no steeper than 2:1 (horizontal:vertical). For additional details, please refer to CVR 1926, Subpart P, Appendix B.

8.11.2 Site restoration, backfilling and compaction of two ponds and below grade utility excavation will be measured as a single item.

8.11.3 Payment for site restoration, backfilling and compaction of two ponds and below grade utility excavation will be made in accordance with the Contract and Specification 01.

BID ITEM 8.12 – Demobilization, Project Closeout Submittal and Contract Closeout

8.12.1 Work for this item includes removal of all temporary support systems and equipment, clearing of site and removal of residual materials resulting from demolition activities, and submittal of documentation including copies of disposal documentation and permit closeout. In addition, any specific action items that are required per the issued Erosion and Sedimentation Control Plan shall be addressed under this bid item.

8.12.2 Demobilization, Project Closeout Submittal and Contract Closeout will be measured

as a single item.

8.12.3 Payment for demobilization, project closeout submittal and contract closeout will be made in accordance with the Contract and Specification 01.

BID ITEM 8.13 – Performance Payment and Bond

8.13.1 Performance payment and Bonds for 100% of the Contract Value shall be provided at the lump sum amount provided on the bid form at Pender County's sole discretion.

BID ITEM 8.14 – Recyclable Material Credit

8.14.1 Work for this item will comprise a credit to be issued to Pender County for a Contractor determined percentage of the value of recycled materials.

8.14.2 Recyclable Material Credit will be measured as a single item.

8.14.3 Payment will be as a credit on the bid form that will reduce the total contract value.

Unit pricing following the section and table below is to provided with the bid.

Unit Price Items: the following unit price classification items may or may not have been specified a to quantity and technical requirements in the contract documents. These unit price items may be used in establishing additional costs due the contractor for site work to be done in addition to the scope of the work described in the contract documents and bid as part of the General Contractor's scope of work. These items will be at the discretion of the Owner and will be paid on actual quantities measured by the Owner or Owner's Representative.

These unit prices are to be submitted by the Contractor with the Bid.

Item	Description	Unit	Unit Price
1	Clearing and Grubbing	AC	$
2	Topsoil Stripping, stockpile, redistribution	CY	$
3	Silt Fence (Installed complete & in place)	LF	$
4	#57 Stone	Ton	$
5	Class "B" Rip-Rap	Ton	$
6	On Site Suitable Material Excavation/Placement	CY	$
7	Unsuitable Soil Removal/Disposal	CY	$
8	Off-Site Topsoil Borrow	CY	$
9	Removal, Transport and Disposal of Contaminated Water	Gallon	$
10	Removal, Transport and Disposal of Contaminated Wastewater Sediment	Ton	$
11	Removal, Transport and Disposal of Petroleum Contaminated Soil	Ton	

PART 9 - VALUE ENGINEERED COST PROPOSAL (VECP)

9.1 Bidder is encouraged to develop, prepare, and submit proposals to use different than specified materials, equipment, or methods which, in the Bidder's opinion, would improve the operation specified, or to carry out the Work under contract conditions different from those specified in the Bid Documents, in the form of a VECP.

9.2 A VECP is a technique by which the Bidder may, voluntarily and at their own expense, develop methods for performing contract requirements more economically. The objective of the VECP evaluation is to determine that the Bidder's proposal is applied to contract areas which offer considerable opportunities for savings while being consistent with the functional requirements of the Bid Documents. However, the Bidder shall:

Prepare a Base Bid consistent with the exact requirements of the Bid Documents.

Submit with their Bid, any additional VECP describing in full detail the different materials, equipment, methods, or conditions which they propose as follows:

9.3 A description of the difference between the existing Contract requirement and the proposed requirement and the advantages or disadvantages of each, including any objective test data;

9.4 A list of the Contract requirements which must be changed including Specification changes;

9.5 Identification as to the Bid Item for which the VECP applies;

9.6 A description and estimate of costs Wood /Pender County may incur in implementation of the VECP such as testing, evaluation, or operation and maintenance costs;

9.7 An evaluation utilizing Contract stipulated scheduling methods which a Contract modification accepting the VECP would have on the Contract required period of performance; and

9.8 Any actions or scheduling which must be implemented in order to achieve maximum cost reduction related to the VECP.

Wood may accept or reject in whole or in part any such VECP, without explanation or consideration at Wood's sole discretion. Additionally, VECPs resulting in less than $10,000 savings will not be considered.

PART 10 - DRAWING INDEX

Drawing 1. Site Location Map
Drawing 2. Site Map
Drawings 3a, 3b, 3c and 3d Underground Utility Maps

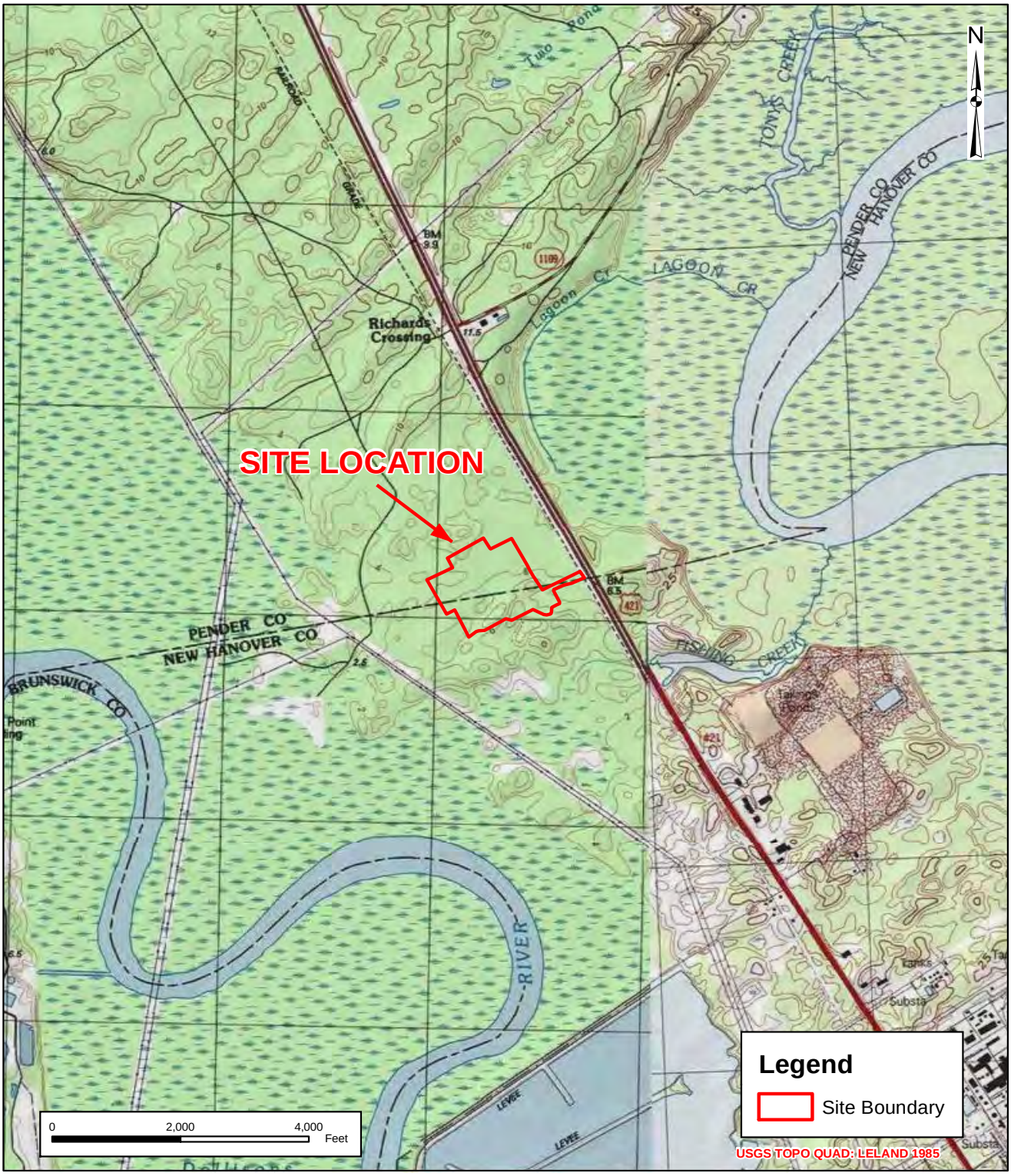
PART 11 - APPENDICES

Appendix A: Photo Journal of Structures for Demolition with Corresponding Map/Aerial Photo of Photograph Locations

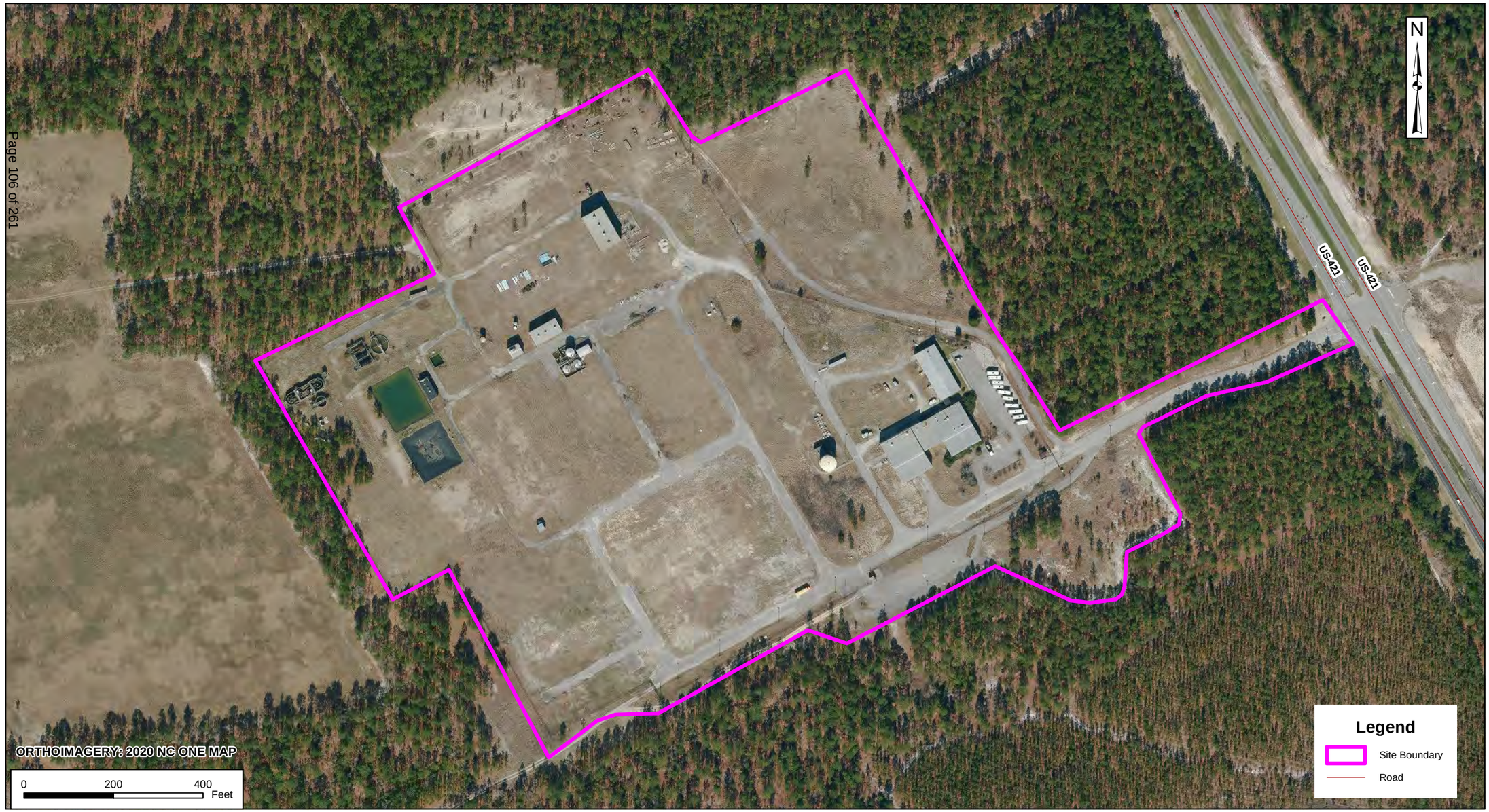
Appendix B: Regulated Materials Evaluation Reports – Former Industrial Brownfields Property, 101 Vitamin Drive Wilmington, North Carolina, 28401 (Reports includes Asbestos and Lead Paint Reports and Environmental Reports of Wastewater Residuals and Soils)

Appendix C: Erosion and Sedimentation Control Plan

Appendix D: Subsurface Utility Drawings



Wood Environment & Infrastructure Solutions, Inc. 4720 Oleander Drive, Suite 110 Wilmington, NC 28403 (910) 452-1185	**TITLE:** SITE LOCATION MAP	**CLIENT:** PENDER COUNTY	**FIGURE** 1
wood	**SITE:** FORMER INDUSTRIAL BROWNFIELDS PROPERTY HIGHWAY 421 PENDER COUNTY, NORTH CAROLINA	**SCALE:** AS SHOWN **DATE:** 12/20/2021 **PROJECT:** 6228210243 **DRAWN BY:** WBM **CHECKED BY:** JCP **LOCATION:** P:\Projects\CLIENTS\Pender County\Demolition Management\Figures, CAD Files\GIS\mxd	



Wood Environment & Infrastructure Solutions, Inc. 5710 Oleander Drive, Suite 110 Wilmington, NC 28403 (910) 452-1185	**TITLE:** SITE MAP **SITE:** FORMER INDUSTRIAL BROWNFIELDS PROPERTY HIGHWAY 421 PENDER COUNTY, NORTH CAROLINA	wood.	**CLIENT:** PENDER COUNTY **DATE:** 12-20-2021 **SCALE:** AS SHOWN **PROJ.:** 6228210243 **DR:** WMN **CHK:** JCP **LOCATION:** P:\Projects\CLIENTS\Pender County\Demolition Management\Figures, CAD Files\GIS\mxd\Site Map.mxd	**Figure** 2

PRELIMINARY PLAT

NOT FOR RECORDATION, CONVEYANCE, OR SALES

811

UTILITY LEGEND

CO	CLEAN OUT
DI	DROP INLET
SSMH	SANITARY SEWER MANHOLE
SDMH	STORM DRAIN MANHOLE
AGM	AS PER UTILITY RECORD
EOIR	END OF RECORD INFORMATION
FDC	FIRE DEPARTMENT CONNECTION
BOV	BLOW OFF VALVE
GV	GAS VALVE
ICV	IRRIGATION CONTROL VALVE
PIV	POST INDICATOR VALVE
PP	POWER POLE
(R)	AS PER UTILITY RECORD
WM	WATER METER
WV	WATER VALVE
FH	FIRE HYDRANT
EOI	END OF INFORMATION
LP	LIGHT POLE
EB	ELECTRIC BOX
TR	TRANSFORMER
THH	TELEPHONE HAND HOLE
TP	TELEPHONE PEDESTAL
WM	WATER MANHOLE
SM	SEWER MANHOLE
STM	STORM MANHOLE
RECORD NITROGEN LINE	
NITROGEN LINE	
AIR LINE	
ELECTRIC LINE	
RECORD ELECTRIC LINE	
FORCE MAIN LINE	
RECORD FORCE MAIN LINE	
GAS LINE	
RECORD GAS LINE	
STORM DRAIN LINE	
RECORD STORM DRAIN LINE	
SANITARY SEWER LINE	
RECORD SANITARY SEWER LINE	
TELEPHONE LINE	
RECORD TELEPHONE LINE	
TELEPHONE FIBER OPTIC LINE	
UNKNOWN LINE	
WATER LINE	
RECORD WATER LINE	

UTILITY NOTE:

THE HORIZONTAL UNDERGROUND UTILITY LINES SHOWN REPRESENT QUALITY LEVEL B SUBSURFACE UTILITY ENGINEERING SERVICES. UTILITY MARKS PLACED ON THE GROUND BY MCKIM & CREED ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES. USE OF THIS INFORMATION DOES NOT RELIEVE ANY PARTY FROM THEIR OBLIGATION TO CONTACT THE UTILITY DAMAGE PREVENTION SYSTEM BEFORE DIGGING BEGINS. THIS QUALITY LEVEL B UTILITY INVENTORY DOES NOT GUARANTEE THE EXISTENCE OF EACH UTILITY OF THAT ALL THE UNDERGROUND UTILITIES HAVE BEEN ACCOUNTED FOR. EXACT HORIZONTAL AND VERTICAL POSITIONS CAN ONLY BE VERIFIED WHERE QUALITY LEVEL A (EXPOSURES) HAVE BEEN PERFORMED. SERVICES WERE PROVIDED IN ACCORDANCE WITH THE STANDARD OF PRACTICE FOR THE SUBSURFACE UTILITY ENGINEERING PROFESSION, AMERICAN SOCIETY OF CIVIL ENGINEERS STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA (CI/ASCE 38-02).

DATE	REVISION	INITIAL

McKIM&CREED
1730 Varsity Drive Suite 500
Raleigh, North Carolina 27606
Phone: (919)233-8091, Fax: (919)233-8031
NC FIRM # F-1222
Internet Site: http://www.mckimcreed.com

DATE:_____

UTILITY MAP
OF
BASF SITE
FOR
WOOD GROUP
DATE: 12,17,2021 SCALE: 1" = 50'
WILMINGTON PENDER COUNTY NORTH CAROLINA

PROJECT # : 040820134
PROJ. SVYR :
DRAWN BY : ZNG
FIELD BK. :
COMP. FILE : w101-040820134
SHEET # : OVERVIEW

Figure 3A

PRELIMINARY PLAT

NOT FOR RECORDATION, CONVEYANCE, OR SALES

811 Know what's below. Call before you dig.

UTILITY LEGEND

CO	CLEAN OUT
DI	DROP INLET
SSMH	SANITARY SEWER MANHOLE
SDMH	STORM DRAIN MANHOLE
AGP	ABOVE GRADE PIPE
EORI	END OF RECORD INFORMATION
FDC	FIRE DEPARTMENT CONNECTION
BOV	BLOW OFF VALVE
GV	GAS VALVE
ICV	IRRIGATION CONTROL VALVE
PIV	POST INDICATOR VALVE
PP	POWER POLE
(R)	AS PER UTILITY RECORD
WM	WATER METER
WV	WATER VALVE
FH	FIRE HYDRANT
	END OF INFORMATION
	LIGHT POLE
	ELECTRIC BOX
	TRANSFORMER
	TELEPHONE HAND HOLE
	TELEPHONE PEDESTAL
	WATER MANHOLE
	SEWER MANHOLE
	STORM MANHOLE
W/G	RECORD NITROGEN LINE
N	NITROGEN LINE
A	AIR LINE
E	ELECTRIC LINE
E(R)	RECORD ELECTRIC LINE
FM	FORCE MAIN LINE
FM(R)	RECORD FORCE MAIN LINE
G	GAS LINE
G(R)	RECORD GAS LINE
W	STORM DRAIN LINE
W(R)	RECORD STORM DRAIN LINE
SS	SANITARY SEWER LINE
SS(R)	RECORD SANITARY SEWER LINE
T	TELEPHONE LINE
T(R)	RECORD TELEPHONE LINE
TFO	TELEPHONE FIBER OPTIC LINE
U	UNKNOWN LINE
W	WATER LINE
W(R)	RECORD WATER LINE

UTILITY NOTE:

THE HORIZONTAL UNDERGROUND UTILITY LINES SHOWN REPRESENT QUALITY LEVEL B SUBSURFACE UTILITY ENGINEERING SERVICES. UTILITY MARKS PLACED ON THE GROUND BY MCKIM & CREED ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES. USE OF THIS INFORMATION DOES NOT RELIEVE ANY PARTY FROM THEIR OBLIGATION TO CONTACT THE UTILITY DAMAGE PREVENTION SYSTEM BEFORE DIGGING BEGINS. THIS QUALITY LEVEL B UTILITY INVENTORY DOES NOT GUARANTEE THE EXISTENCE OF EACH UTILITY OR THAT ALL THE UNDERGROUND UTILITIES HAVE BEEN ACCOUNTED FOR. EXACT HORIZONTAL AND VERTICAL POSITIONS CAN ONLY BE VERIFIED WHERE QUALITY LEVEL A (CONFIRMED) UTILITIES ARE PRESENT. SERVICES PROVIDED IN ACCORDANCE WITH THE LATEST EDITION OF PROFESSIONAL SERVICES PUBLISHED BY THE ENGINEERING PROFESSION, AMERICAN SOCIETY OF CIVIL ENGINEERS STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA (CI/ASCE 38-02).

DATE	REVISION	INITIAL

McKIM&CREED
1730 Varsity Drive Suite 500
Raleigh, North Carolina 27606
Phone: (919)233-8091, Fax: (919)233-8031
NC FIRM # F-1222
Internet Site: http://www.mckimcreed.com

DATE:_____

UTILITY MAP
OF
BASF SITE
FOR
WOOD GROUP
DATE: 12.17.2021 SCALE: 1" = 50'
WILMINGTON PENDER COUNTY NORTH CAROLINA

PROJECT # : 040820134
PROJ. SVYR : ZNG
DRAWN BY : ZNG
FIELD BK. :
COMP. FILE : wl01-040820134
SHEET # : 1 OF 3

Figure 3B

PRELIMINARY PLAT

NOT FOR RECORDATION, CONVEYANCE, OR SALES

811 Know what's below. Call before you dig.

UTILITY LEGEND

CO	CLEAN OUT
DI	DROP INLET
SSMH	SANITARY SEWER MANHOLE
SDMH	STORM DRAIN MANHOLE
AGP	ABOVE GRADE PIPE
EOR	END OF RECORD INFORMATION
FDC	FIRE DEPARTMENT CONNECTION
BOV	BLOW OFF VALVE
GV	GAS VALVE
ICV	IRRIGATION CONTROL VALVE
PIV	POST INDICATOR VALVE
PP	POWER POLE
(R)	AS PER UTILITY RECORD
WM	WATER METER
WV	WATER VALVE
FH	FIRE HYDRANT
●	END OF INFORMATION
☼	LIGHT POLE
⊡	ELECTRIC BOX
⊡	TRANSFORMER
⊡	TELEPHONE HAND HOLE
⊡	TELEPHONE PEDESTAL
⊡	WATER MANHOLE
⊡	SEWER MANHOLE
⊡	STORM MANHOLE
RECORD NITROGEN LINE	
N	NITROGEN LINE
A	AIR LINE
E	ELECTRIC LINE
RECORD ELECTRIC LINE	
FM	FORCE MAIN LINE
RECORD FORCE MAIN LINE	
G	GAS LINE
RECORD GAS LINE	
SD	STORM DRAIN LINE
RECORD STORM DRAIN LINE	
SS	SANITARY SEWER LINE
RECORD SANITARY SEWER LINE	
T	TELEPHONE LINE
RECORD TELEPHONE LINE	
FO	TELEPHONE FIBER OPTIC LINE
U	UNKNOWN LINE
W	WATER LINE
RECORD WATER LINE	

UTILITY NOTE:

THE HORIZONTAL UNDERGROUND UTILITY LINES SHOWN REPRESENT QUALITY LEVEL B SUBSURFACE UTILITY ENGINEERING SERVICES. UTILITY MARKS PLACED ON THE GROUND BY MCKIM & CREED ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES. USE OF THIS INFORMATION DOES NOT RELIEVE ANY PARTY FROM THEIR OBLIGATION TO CONTACT THE UTILITY DAMAGE PREVENTION SYSTEM BEFORE DIGGING BEGINS. THIS QUALITY LEVEL B UTILITY INVENTORY DOES NOT GUARANTEE THE EXISTENCE OF EACH UTILITY LINE SHOWN, NOR DOES IT GUARANTEE THAT ALL UTILITY LINES ARE SHOWN. EXACT HORIZONTAL AND VERTICAL POSITIONS CAN ONLY BE VERIFIED WHERE QUALITY LEVEL A (EXPOSURES) HAVE BEEN PERFORMED. SERVICES WERE PROVIDED IN ACCORDANCE WITH THE STANDARD OF PRACTICE FOR THE SUBSURFACE UTILITY ENGINEERING PROFESSION, AMERICAN SOCIETY OF CIVIL ENGINEERS STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA (CI/ASCE 38-02).

SCALE: 1" =50'
0 25 50 100 150

DATE	REVISION	INITIAL

McKIM&CREED
1730 Varsity Drive Suite 500
Raleigh, North Carolina 27606
Phone: (919)233-8091, Fax: (919)233-8031
NC FIRM # F-1222
Internet Site: http://www.mckimcreed.com

DATE:_____

UTILITY MAP
OF
BASF SITE
FOR
WOOD GROUP
DATE: 12.17.2021 SCALE: 1" = 50'
WILMINGTON PENDER COUNTY NORTH CAROLINA

PROJECT # : 040820134
PROJ. SVYR :
DRAWN BY : ZNG
FIELD BK. :
COMP. FILE : wu101-040820134
SHEET # : 2 OF 3

Figure 3C

PRELIMINARY PLAT

NOT FOR RECORDATION, CONVEYANCE, OR SALES

811

UTILITY LEGEND

CO	CLEAN OUT
DI	DROP INLET
SSMH	SANITARY SEWER MANHOLE
SDMH	STORM DRAIN MANHOLE
AGP	ABOVE GRADE PIPE
EOR	END OF RECORD INFORMATION
FDC	FIRE DEPARTMENT CONNECTION
BOV	BLOW OFF VALVE
GV	GAS VALVE
ICV	IRRIGATION CONTROL VALVE
PIV	POST INDICATOR VALVE
PP	POWER POLE
(R)	AS PER UTILITY RECORD
WM	WATER METER
WV	WATER VALVE
FH	FIRE HYDRANT
EOI	END OF INFORMATION
LP	LIGHT POLE
EB	ELECTRIC BOX
TRANS	TRANSFORMER
THH	TELEPHONE HAND HOLE
TP	TELEPHONE PEDESTAL
WMH	WATER MANHOLE
SMH	SEWER MANHOLE
STMH	STORM MANHOLE
RECORD NITROGEN LINE	
NITROGEN LINE	
AIR LINE	
ELECTRIC LINE	
RECORD ELECTRIC LINE	
FORCE MAIN LINE	
RECORD FORCE MAIN LINE	
GAS LINE	
RECORD GAS LINE	
STORM DRAIN LINE	
RECORD STORM DRAIN LINE	
SANITARY SEWER LINE	
RECORD SANITARY SEWER LINE	
TELEPHONE LINE	
RECORD TELEPHONE LINE	
TELEPHONE FIBER OPTIC LINE	
UNKNOWN LINE	
WATER LINE	
RECORD WATER LINE	

UTILITY NOTE:

THE HORIZONTAL UNDERGROUND UTILITY LINES SHOWN REPRESENT QUALITY LEVEL B SUBSURFACE UTILITY ENGINEERING SERVICES. UTILITY MARKS PLACED ON THE GROUND BY MCKIM & CREED ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES. USE OF THIS QUALITY LEVEL DOES NOT RELIEVE ANY PARTY OF THEIR OBLIGATION TO CONTACT THE UTILITY MARKET PRIOR TO ANY EXCAVATIONS. THIS QUALITY LEVEL B UTILITY INVENTORY DOES NOT GUARANTEE THE EXISTENCE OF EACH UTILITY OR THAT ALL THE UNDERGROUND UTILITIES HAVE BEEN ACCOUNTED FOR. EXACT HORIZONTAL AND VERTICAL POSITIONS CAN ONLY BE VERIFIED WHERE QUALITY LEVEL A (EXPOSURES) HAVE BEEN PERFORMED. SERVICES WERE PROVIDED IN ACCORDANCE WITH THE STANDARD OF PRACTICE FOR THE SUBSURFACE UTILITY ENGINEERING PROFESSION, AMERICAN SOCIETY OF CIVIL ENGINEERS STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA (CI/ASCE 38-02).

SCALE: 1" =50'

0 25 50 100 150

DATE	REVISION	INITIAL

McKIM&CREED
1730 Varsity Drive Suite 500
Raleigh, North Carolina 27606
Phone: (919)233-8091, Fax: (919)233-8031
NC FIRM # F-1222
Internet Site: http://www.mckimcreed.com

DATE:_____

UTILITY MAP
OF
BASF SITE
FOR
WOOD GROUP
DATE: 12,17,2021 SCALE: 1" = 50'
WILMINGTON PENDER COUNTY NORTH CAROLINA

PROJECT # : 040820134
PROJ. SVYR :
DRAWN BY : ZNG
FIELD BK. :
COMP. FILE : wl01-040820134
SHEET # : 3 OF 3

Figure 3D

Appendix A

Photo Journal of Structures for Demolition with Corresponding Map/ Aerial Photo of Photograph Locations



Wood Environment & Infrastructure Solutions, Inc. 5710 Oleander Drive, Suite 110 Wilmington, NC 28403 (910) 452-1185	**TITLE:** DEMO STRUCTURES PHOTO NUMBERS **SITE:** FORMER INDUSTRIAL BROWNFIELDS PROPERTY HIGHWAY 421 PENDER COUNTY, NORTH CAROLINA	wood.	**CLIENT:** PENDER COUNTY **DATE:** 12-20-2021 **SCALE:** AS SHOWN **PROJ.:** 6228210243 **DR:** WMN **CHK:** JCP **LOCATION:** P:\Projects\CLIENTS\Pender County\Demolition Management\Figures, CAD Files\GIS\mxd\Demo Map For Photo Log.mxd	**Appendix** A



No.1 – WWTI Round Concrete Settling Basin – Entire structure and associated equipment to be removed.



No.2 – WWTI – Approximately 4' Diameter Concrete Sump. Entire structure and associated piping to be removed.



No.3 – WWTI – Two Lined Wastewater Treatment Ponds - Liners and associated equipment to be removed.



No.4 – WWTI – Three Rotating Biological Contactors (RBCs) - RBCs entire structure, concrete containment and supporting equipment to be removed.



No.5 & 6 WWTI - Rectangular Concrete Oxidation Treatment Tank and Round Concrete Vessel
Looking northwest, entire structures and associated equipment to be removed.



No.5 – WWTI – Rectangular Concrete Oxidation Treatment Tank Looking southwest entire structure, ancillary concrete structure and associated equipment to be removed.



No.7 – WWTI – Miscellaneous Debris Staged South of Areas 5 & 6 - All to be removed.



No.8 – Rectangular Concrete Containment with Fiberglass Railing – Entire concrete structure and associated equipment to be removed.



No.9 – WWTI - Approximately 8' Diameter Concrete Sump Located Between the Wastewater Treatment Ponds - Structure and associated equipment to be removed.



No.10 – Corrugated Metal Building - Entire structure and concrete slab to be removed.



No.11 – Electrical Transformer – Transformer and concrete pad to be removed.



No.12 – Concrete Containment and Tank Farm with Three Steel Insulated Tanks - Entire containment and associated tanks and equipment to be removed.



No.13-Corrugated Metal Building- Entire building, associated equipment and concrete pad to be removed.



No.14 -Brown Fiberglass Raven Tank – Tank and associated pad to be removed.



No.15 - Looking Northwest, Sealed Fiberglass Tank and Operators Shed Tank, shed, associated equipment and concrete pad and apron to be removed.



No.15 - Looking East, Sealed Fiberglass Tank and Operators Shed All to be removed.



No.16 Corrugated Metal Building – Entire structure, associated equipment and concrete slab to be removed.



No. 17 - Fiberglass Shed - Entire structure, associated equipment asphalt and concrete to be removed.



No.18 - Corrugated Metal Building Entire building and ancillary structures and concrete slabs to be removed.



No. 19 - Former Fire Water Tank and Concrete Block Building Entire structure associated equipment, tank and concrete slab to be removed.



No.20 - Streetlight Typical – 27 to be removed.



No.21- Administration Building Warehouse – Entire structure and foundation to be removed.



No.22 - Main Administration Building – Entire structure and foundation to be removed.



No.23 - Auxiliary Admin Building – Entire Structure and foundation to be removed.



No.24 – Truck Scale – Entire structure and associated components to be removed.



No.25 – Turnstile – Entire structure to be removed.



No.26 – Guard Shack – Entire structure and foundation to be removed.

Appendix B

Regulated Materials Evaluation Reports

Wood Environment & Infrastructure Solutions, Inc.
104 Corporate Boulevard, Suite 407
West Columbia, South Carolina 29169
T: 803-798-1200
www.woodplc.com

December 14, 2021

Mr. Chad McEwen
Pender County Manager
Pender County
805 South Walker Street
Burgaw, North Carolina 28425

Subject: **Regulated Building Materials Evaluation Report**
Former Industrial Brownfields Property
Commerce Park, Pender County, North Carolina
Wood Project: 6228-21-0243.02

Mr. McEwen:

Wood Environment & Infrastructure Solutions, Inc. (Wood) is pleased to present our Regulated Building Materials Report for the above-referenced site, located in Pender County, North Carolina. This report presents relevant background information, our findings, conclusions, and corresponding recommendations.

Background Information

Wood was retained by Pender County to perform a regulated building materials evaluation for the existing structures associated with the former industrial brownfields property located within the Pender Commerce Park at 101 Vitamin Drive in Pender County, North Carolina. The survey and screening were conducted in accordance with Wood's *Proposal for Demolition Management*, dated October 5, 2021 (Wood Proposal PROP21CARO394).

Based on our understanding of your request, Pender County is planning to demolish the existing structures at the site. Wood understands that the site was developed as a vitamin manufacturing operation in the 1980s.

Review of Existing Data

It is our understanding that no documentation of previous asbestos or lead based paint surveys or sampling was available for the site.

Asbestos-Containing Material Survey

Wood was retained to perform an asbestos survey of the existing structures at the site. The existing structures consisted of the Administrative Building, Administrative Annex, Guard House, Warehouse, Pump House, Northeast Building, Wastewater System RBC Area, Electrical Buildings, and Tank Farm. The purpose of the survey was to meet the asbestos sampling and reporting

requirements of the United States (US) Occupational Safety and Health Administration (OSHA), US Environmental Protection Agency's (EPA) National Emissions Standards for Hazardous Air Pollutants (NESHAP), and North Carolina Department of Health and Human Services (NCDHHS) regulations. The scope of the Asbestos Containing Material (ACM) survey did not include destructive techniques as an attempt to locate suspect concealed ACM. The purpose of the survey was to provide information related to ACM for planning purposes related to anticipated demolition of the on-site structures.

The US EPA, OSHA, and NCDHHS have published regulations, guidelines, and recommendations regarding inspection and sampling for ACM, which were adhered to as appropriate during our field efforts.

Our services began with Wood personnel, Mr. Shaun Rankin (a NCDHHS licensed Asbestos accredited Building Inspector), conducting a visual survey on November 11 and 12, 2021. A copy of Mr. Rankin's NCDHHS license is provided in **Appendix A**. A visual survey was performed to locate and inventory materials suspected to contain asbestos (suspect materials). Suspect materials were grouped based on material homogeneity. A homogeneous material is one that appears to be uniform in texture and color and appears to have been applied or installed during the same general time period. Accessible friable and nonfriable suspect ACM were considered during the survey. Friable materials are those materials that can be pulverized or reduced to powder by hand pressure. A sampling plan was determined, and bulk samples of suspect materials were obtained.

The US EPA, OSHA, and NCDHHS allow accredited AHERA Building Inspectors to visually determine that certain materials (i.e. fiberglass, wood, metal, etc.) are not suspected to contain asbestos. As such, Wood did not inventory, sample, or otherwise assess these non-suspect materials. We did not disassemble equipment or personal property to access materials that may have been concealed. Additional materials may be present within these inaccessible areas.

The sample locations were generally chosen at random, and sampling was performed in general accordance with sampling requirements of the US EPA AHERA regulation [40 CFR 763.86] for each homogeneous material. A total of sixty-one (61) bulk samples from twenty-four (24) separate homogenous areas were collected from the buildings during the survey. The samples were submitted to EMSL's National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory (NVLAP No. 200671-0) in Kernersville, North Carolina for analysis by Polarized Light Microscopy (PLM) coupled with dispersion staining using the test method included in Appendix E to Subpart E of 40 Code of Federal Regulations (CFR) Part 763 and EPA/600/R-93/116. A signed chain-of-custody form is maintained with the samples until they are returned or disposed of. The laboratory results of the PLM analyses and chain-of-custody forms are presented in **Appendix B.** Table 1 below summarizes the results of our asbestos survey.

Table 1: Summary of Suspect ACM Located

HA	Sample Numbers	Suspect Asbestos Containing Material Description	Sample Location(s)	Sample Analytical Results
1	AS-1	White Patch Caulk	Administration Building Roof	ND
	AS-2			
2	AS-3	Black Flashing	Administration Building Roof	ND
	AS-4			
3	AS-5	Grey Caulk	Administration Building Roof	ND
	AS-6			
4	AS-7	Black Flashing AHU	Administration Building Roof	ND
	AS-8			
5	AS-9	Blue/Green Patch Caulk	Administration Building Roof	ND
	AS-10			
6	AS-11	Tan Sheet Vinyl	Guard House	ND
	AS-12			
7	AS-13	White Window Caulk	Guard House	ND
	AS-14			
8	AS-15	Brown Covebase Molding/Mastic	Guard House	ND
	AS-16			
9	AS-17	Asphalt Shingle	Guard House Roof	ND
	AS-18			
10	AS-19	Grey w/White Streaks 12" x 12" VFT/Mastic	Administration Building	ND
	AS-20			
11	AS-21	Tan Covebase Molding/Mastic	Administration Building	ND
	AS-22			
12	AS-23	2' x 4' ACT	Administration Building	ND
	AS-24			
13	AS-25	Tan w/White Streaks 12" x 12" VFT/Mastic	Administration Building	ND
	AS-26			
14	AS-27	White w/Gray Streaks 12" x 12" VFT/Mastic	Administration Building	ND
	AS-28			
15	AS-29	Wallboard/Joint Compound	Administration Building	ND
	AS-30			
	AS-31			
	AS-32			
	AS-33			
	AS-34			
	AS-35			
16	AS-36	Beige 12" x 12" VFT/Mastic	Administrative Annex	ND

HA	Sample Numbers	Suspect Asbestos Containing Material Description	Sample Location(s)	Sample Analytical Results
	AS-37			
17	AS-38	Tan Covebase Molding/Mastic	Administrative Annex	ND
	AS-39			
18	AS-40	Brown Covebase Molding/Mastic	Administrative Annex	ND
	AS-41			
19	AS-42	2′ x 4′ ACT	Administrative Annex	ND
	AS-43			
20	AS-44	Wallboard/Joint Compound	Administrative Annex	ND
	AS-45			
	AS-46			
	AS-47			
	AS-48			
	AS-49			
	AS-50			
21	**AS-51**	**Asphaltic Roof Layer**	**Pump House**	**8% Chrysotile**
	AS-52			**PS**
22	AS-53	Pipe TSI	NE Building	ND
	AS-54			
	AS-55			
23	AS-56	Pipe TSI	Wastewater System RBC Area	ND
	AS-57			
	AS-58			
24	AS-59	Tank Insulation - Top	Tank Farm	ND
	AS-60			
	AS-61			

HA: Homogenous Area VFT – Vinyl Floor Tile PS – Positive Stop
ND: None Detected ACT – Acoustical Ceiling Tile
No suspect materials were identified or sampled from the Warehouse or Electrical Buildings.

Findings

As per the laboratory analytical results, ACMs were identified in the asphaltic roof layer of the pump house. No ACM was identified in the other samples collected for this survey.

Lead Paint Screening

Wood's scope of work included screening for lead paint. Thirteen paint chip samples were collected from various surface areas associated with the on-site buildings and associated improvements.

The samples were collected from each component by removing a representative sample of the coating (paint chip) from the base component until the substrate was visible. The paint chip samples were submitted to EMSL's Kernersville, North Carolina for analysis utilizing Flame Atomic

Absorption Spectroscopy using the US EPA Method SW846-3050B/7000B. The analytical reports are included in **Appendix C**. The painted components sampled, along with corresponding lead content (percent by weight), are summarized in the following table. The United States federal government definition of lead-based paint (LBP) is a paint containing lead levels greater than or equal to 0.5% by weight. Lead-containing paint is currently defined by the federal government as concentrations of lead above the laboratory detection limits. LBP was identified in brown paint collected from a light pole; and lead-containing paint was identified in white paint collected from the oxidation system walkway, white paint collected from the West Electrical Building, cream paint collected from the Main Water Tank, and red paint from the Fire System Fuel Tank. Lead was not detected above the reporting limit for the other samples collected for this survey.

Table 2: Lead-in Paint Analytical Data Summary

Sample ID	***Material Description***	***Sample Location***	***Sample Analytical Results (Percent Weight)****
P-1	Tan	Walkway Oxidation System	0.023%
P-2	White	Walkway Oxidation System	<0.0080%
P-3	White	RBC Tank 1	<0.0080%
P-4	Grey	Settling Basin Walkway	<0.0080%
P-5	Red	Fire Water Pump	<0.0080%
P-6	White	West Electrical Building	0.016%
P-7	Cream	Tank Farm	<0.0080%
P-8	White	NE Building	<0.0080%
P-9	Brown	Light Pole	0.76%
P-10	Cream	Main Water Tank	0.045%
P-11	Red	Fire System Fuel Tank	0.23%
P-12	White	Annex Building Wall	<0.0080%
P-13	White	Warehouse Wall	<0.0080%

* The reporting limit for the lead paint chip sample is reported in percent lead by weight and is based on the weight of the sample. EMSL's reporting limit was 0.0080 percent by weight based on the individual sample weights.

Conclusions and Recommendations

Based on our site observations, sampling, and analysis, we offer the following conclusions and Recommendations:

US OSHA requires the Building Owner to inform contractors of the known or suspected hazardous or potentially hazardous materials that may be impacted during disturbance or demolition. Wood recommends contractors or employees performing work to include contact, damage or disturbance of the materials summarized in this report be informed of the findings in this report. While Wood made reasonable efforts to access suspect ACM and lead based paint that could be present at the subject site, additional ACM or lead paint may be present in areas that were not readily accessed during our site work.

Asbestos-Containing Materials Survey

1. Wood has performed an asbestos survey of the subject building. The asbestos survey met the US EPA NESHAP inspection requirements for the areas surveyed. The results of the survey identified ACM at the site.

   Asbestos was detected at eight percent Chrysotile (8% Chrysotile) in the asphaltic roof layer of the Pump House in HA-21. The approximate 450-foot square (450 ft^2) of asbestos-containing roofing material was in poor condition at the time of the site survey.

2. It is the Building Owner's responsibility to inform contractors of the known or suspected hazardous or potentially hazardous materials that may be impacted during renovation or demolition.

3. Current NESHAP regulations, as well as the State of North Carolina, require that ACM be removed and properly disposed of prior to demolition or renovation activities that will render ACM friable. NESHAP regulations also require a notification to be submitted 10 working days prior to any demolition project, regardless of the presence or absence of ACM. The OSHA Construction Standard and the EPA-NESHAP require that contractors have a "Competent Person" on site to identify and properly address unreported suspect asbestos-containing materials that may be discovered during renovation or demolition activities. Current NESHAP regulations require that all RACM be disposed of in landfills approved to accept asbestos waste and that proper waste manifest documentation be prepared and maintained.

4. Although our asbestos survey attempted to locate suspect ACM present within the subject structures, additional unreported suspect ACM may be present in concealed or hidden areas of the building. Should suspect materials in addition to those reported herein be uncovered, Wood recommends that work activities be immediately halted until the materials can be sampled and analyzed to confirm or rebut the presence of asbestos.

Lead Paint Screening

1. Detectable concentrations of lead were reported above laboratory detection limits in five of the thirteen samples of paint collected during the screening.

2. There are no current regulations that require the removal of painted coatings containing lead. Issues associated with demolition of buildings that have components with paints containing lead include the protection of workers during the demolition work efforts and the disposal of the demolition debris.

3. While Wood made reasonable efforts to access suspect lead coatings that could be present in the subject building, additional coatings are likely to present in areas that may be concealed or hidden and were not accessed during our site work or in coatings that did not encompass a large surface area.

Qualifications

This report summarizes Wood's evaluation of the conditions observed at the site during the survey. Our findings are based upon our observations at the subject property and analyses of the samples obtained at the time of this survey. Only materials that were accessible and visible at the time of the inspection were evaluated, there is the potential that additional concealed materials may exist. Any suspect ACM or lead paint encountered that is not addressed in this survey should be treated as ACM or lead paint until sampled and analyzed. Any conditions discovered which deviate from the data contained in this report should be presented to us for our evaluation.

Limitations of the Assessment

This survey was conducted to reflect materials that would be impacted by the planned demolition at the site. Destructive access was not used to attempt to sample any materials hidden in wall cavities, and all samples were collected from areas where they could be seen. Any materials not identified in this report, or previous reports, must be sampled and identified to ensure that ACMs are not improperly disturbed.

The conclusions of the report are professional opinions based solely upon visual site observations, and interpretations of analyses as described in this report. The opinions presented herein apply to the site conditions existing at the time of the investigation and interpretation of current regulations pertaining to regulated ACMs. Therefore, opinions and recommendations provided herein might not apply to future conditions at the site. The current regulations should always be verified prior to any work involving asbestos or other regulated materials. This limited survey is not intended to be used as an abatement design document. All existing conditions, quantities, and locations should be verified prior to abatement.

It should be noted that no survey can be comprehensive or exhaustive enough to eliminate the possibility of asbestos or lead paint being present at the site. Therefore, the completion of this or any survey for asbestos and lead should not be considered a warranty or guarantee that these materials do not exist, even if they are not detected through a survey.

Closing

Wood appreciates the opportunity to continue to provide our services to you. If you have questions, please contact the undersigned at your convenience.

Sincerely,

Wood Environment & Infrastructure Solutions, Inc.

Shaun C. Rankin, CHMM
Principal Scientist

Michael J. Ebel
Vice President/Principal Scientist

Figure

Appendices

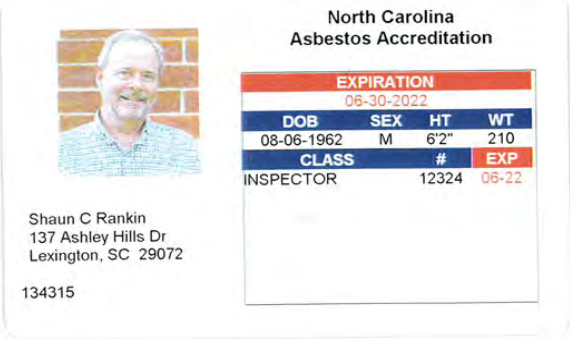
Appendix A: Inspector License
Appendix B: Laboratory Results of Bulk Samples - Asbestos
Appendix C: Laboratory Results of Paint Chip Samples

Former BASF


Northeast Building
Wastewater System RBC Area
Electrical Buildings
Administrative Annex
Tank Farm
Takeda Dr
421
Vitamin Dr
Pump House
Administrative Building
Warehouse

APPENDIX A

INSPECTOR ACCREDITATION



North Carolina
Asbestos Accreditation

EXPIRATION			
06-30-2022			
DOB	SEX	HT	WT
08-06-1962	M	6'2"	210
CLASS		#	EXP
INSPECTOR		12324	06-22

Shaun C Rankin
137 Ashley Hills Dr
Lexington, SC 29072

134315

APPENDIX B

LABORATORY RESULTS OF BULK SAMPLES - ASBESTOS

EMSL Analytical, Inc.
706 Gralin Street Kernersville, NC 27284
Tel/Fax: (336) 992-1025 / (336) 992-4175
http://www.EMSL.com / greensborolab@emsl.com

EMSL Order: 022108344
Customer ID: AMECTT25
Customer PO: 6228210243.02
Project ID:

Attention: Shaun Rankin
Wood Env. & Infrastructure Solutions
104 Corporate Boulevard, Suite 407
West Columbia, SC 29169

Project: 6228210243.02

Phone:
Fax: (803) 750-1303
Received Date: 11/16/2021 9:45 AM
Analysis Date: 11/17/2021 - 11/18/2021
Collected Date: 11/12/2021

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
AS-1 *022108344-0001*	White Patch Caulk	White Non-Fibrous Homogeneous		10% Ca Carbonate 90% Non-fibrous (Other)	None Detected
AS-2 *022108344-0002*	White Patch Caulk	White Non-Fibrous Homogeneous		10% Ca Carbonate 90% Non-fibrous (Other)	None Detected
AS-3 *022108344-0003*	Black Flashing	Gray/White Fibrous Homogeneous	35% Synthetic	65% Non-fibrous (Other)	None Detected
AS-4 *022108344-0004*	Black Flashing	Gray/White Fibrous Homogeneous	90% Synthetic	10% Non-fibrous (Other)	None Detected
AS-5 *022108344-0005*	Grey Caulk	White/Clear Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
AS-6 *022108344-0006*	Grey Caulk	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
AS-7 *022108344-0007*	Black Flashing AHU	Tan/Silver/Rust Non-Fibrous Heterogeneous	8% Glass	92% Non-fibrous (Other)	None Detected
AS-8 *022108344-0008*	Black Flashing AHU	Tan/White/Silver Non-Fibrous Heterogeneous		100% Non-fibrous (Other)	None Detected
AS-9 *022108344-0009*	Blue/ Green Patch Caulk	Green Fibrous Homogeneous	25% Synthetic	75% Non-fibrous (Other)	None Detected
AS-10 *022108344-0010*	Blue/ Green Patch Caulk	Blue/Green Fibrous Homogeneous	80% Synthetic	20% Non-fibrous (Other)	None Detected
AS-11-Flooring *022108344-0011*	Tan Sheet Vinyl	Brown/Gray Fibrous Heterogeneous	5% Synthetic	95% Non-fibrous (Other)	None Detected
AS-11-Mastic *022108344-0011A*	Tan Sheet Vinyl	Brown/Tan Non-Fibrous Homogeneous	<1% Cellulose <1% Synthetic	100% Non-fibrous (Other)	None Detected
AS-12-Flooring *022108344-0012*	Tan Sheet Vinyl	Beige Fibrous Heterogeneous	15% Cellulose 3% Synthetic	82% Non-fibrous (Other)	None Detected
AS-12-Mastic *022108344-0012A*	Tan Sheet Vinyl	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
AS-13 *022108344-0013*	White Window Caulk	Gray/Clear Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
AS-14 *022108344-0014*	White Window Caulk	Clear Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 11/19/2021 08:38:12

EMSL Analytical, Inc.
706 Gralin Street Kernersville, NC 27284
Tel/Fax: (336) 992-1025 / (336) 992-4175
http://www.EMSL.com / greensborolab@emsl.com

EMSL Order: 022108344
Customer ID: AMECTT25
Customer PO: 6228210243.02
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
AS-15-Cove Base *022108344-0015*	Brown Covebase Molding/ Mastic	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
AS-15-Mastic *022108344-0015A*	Brown Covebase Molding/ Mastic	Clear/Orange Non-Fibrous Homogeneous	<1% Cellulose 1% Fibrous (Other)	99% Non-fibrous (Other)	None Detected
AS-16-Cove Base *022108344-0016*	Brown Covebase Molding/ Mastic	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
AS-16-Mastic *022108344-0016A*	Brown Covebase Molding/ Mastic	Yellow/Clear Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
AS-17 *022108344-0017*	Asphalt Shingle	Black Fibrous Heterogeneous	5% Glass	95% Non-fibrous (Other)	None Detected
AS-18 *022108344-0018*	Asphalt Shingle	Black Fibrous Heterogeneous	5% Glass	95% Non-fibrous (Other)	None Detected
AS-19-Floor Tile *022108344-0019*	Grey w/ White Streaks 12x12 FT/ Mastic	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
AS-19-Mastic *022108344-0019A*	Grey w/ White Streaks 12x12 FT/ Mastic	Black Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
AS-20-Floor Tile *022108344-0020*	Grey w/ White Streaks 12x12 FT/ Mastic	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
AS-20-Mastic *022108344-0020A*	Grey w/ White Streaks 12x12 FT/ Mastic	Black Non-Fibrous Homogeneous	5% Cellulose	95% Non-fibrous (Other)	None Detected
AS-21-Cove Base *022108344-0021*	Tan Covebase Molding/ Mastic	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
AS-21-Mastic *022108344-0021A*	Tan Covebase Molding/ Mastic	Tan/Yellow Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
AS-22-Cove Base *022108344-0022*	Tan Covebase Molding/ Mastic	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
AS-22-Mastic *022108344-0022A*	Tan Covebase Molding/ Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
AS-23 *022108344-0023*	2x4 Ceiling Tile	Tan Fibrous Heterogeneous	45% Cellulose 15% Glass	35% Perlite 5% Non-fibrous (Other)	None Detected
AS-24 *022108344-0024*	2x4 Ceiling Tile	Tan/White Fibrous Homogeneous	45% Cellulose 15% Glass	35% Perlite 5% Non-fibrous (Other)	None Detected
AS-25-Floor Tile *022108344-0025*	Tan w/ White Streaks 12x12 FT/ Mastic	Tan Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
AS-25-Mastic *022108344-0025A*	Tan w/ White Streaks 12x12 FT/ Mastic	Brown/Yellow Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
AS-26-Floor Tile *022108344-0026*	Tan w/ White Streaks 12x12 FT/ Mastic	Tan Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected

Initial report from: 11/19/2021 08:38:12

EMSL Analytical, Inc.
706 Gralin Street Kernersville, NC 27284
Tel/Fax: (336) 992-1025 / (336) 992-4175
http://www.EMSL.com / greensborolab@emsl.com

EMSL Order: 022108344
Customer ID: AMECTT25
Customer PO: 6228210243.02
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
AS-26-Mastic *022108344-0026A*	Tan w/ White Streaks 12x12 FT/ Mastic	Black Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
AS-27-Floor Tile *022108344-0027*	White w/ Grey Streaks 12x12 FT/ Mastic	Tan/White Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
AS-27-Mastic *022108344-0027A*	White w/ Grey Streaks 12x12 FT/ Mastic	Brown/Black Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
AS-28-Floor Tile *022108344-0028*	White w/ Grey Streaks 12x12 FT/ Mastic	White Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
AS-28-Mastic *022108344-0028A*	White w/ Grey Streaks 12x12 FT/ Mastic	Black Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
AS-29-Wallboard *022108344-0029*	Wallboard/ Joint Compound	Gray Fibrous Heterogeneous	6% Cellulose <1% Glass	94% Non-fibrous (Other)	None Detected
AS-29-Joint Compound *022108344-0029A*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (Other)	None Detected
AS-29-Tape *022108344-0029B*	Wallboard/ Joint Compound	Tan Fibrous Homogeneous	98% Cellulose	2% Non-fibrous (Other)	None Detected
AS-30-Wallboard *022108344-0030*	Wallboard/ Joint Compound	Gray Fibrous Heterogeneous	5% Cellulose 1% Glass	94% Non-fibrous (Other)	None Detected
AS-30-Joint Compound *022108344-0030A*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (Other)	None Detected
AS-31-Wallboard *022108344-0031*	Wallboard/ Joint Compound	Gray Fibrous Heterogeneous	8% Cellulose <1% Glass	92% Non-fibrous (Other)	None Detected
AS-31-Joint Compound *022108344-0031A*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (Other)	None Detected
AS-31-Tape *022108344-0031B*	Wallboard/ Joint Compound	Tan Fibrous Homogeneous	98% Cellulose	2% Non-fibrous (Other)	None Detected
AS-32-Wallboard *022108344-0032*	Wallboard/ Joint Compound	Gray Fibrous Heterogeneous	8% Cellulose <1% Glass	92% Non-fibrous (Other)	None Detected
AS-32-Joint Compound *022108344-0032A*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous		30% Ca Carbonate 70% Non-fibrous (Other)	None Detected
AS-32-Tape *022108344-0032B*	Wallboard/ Joint Compound	Tan Fibrous Homogeneous	98% Cellulose	2% Non-fibrous (Other)	None Detected
AS-33-Wallboard *022108344-0033*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
AS-33-Joint Compound *022108344-0033A*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
AS-33-Tape *022108344-0033B*	Wallboard/ Joint Compound	Beige Fibrous Homogeneous	98% Cellulose	2% Non-fibrous (Other)	None Detected

Initial report from: 11/19/2021 08:38:12

EMSL Analytical, Inc.
706 Gralin Street Kernersville, NC 27284
Tel/Fax: (336) 992-1025 / (336) 992-4175
http://www.EMSL.com / greensborolab@emsl.com

EMSL Order: 022108344
Customer ID: AMECTT25
Customer PO: 6228210243.02
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
AS-33-Texture *022108344-0033C*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
AS-34-Wallboard *022108344-0034*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous	5% Cellulose 3% Glass	92% Non-fibrous (Other)	None Detected
AS-34-Joint Compound *022108344-0034A*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
AS-34-Tape *022108344-0034B*	Wallboard/ Joint Compound	Beige Fibrous Homogeneous	98% Cellulose	2% Non-fibrous (Other)	None Detected
AS-34-Texture *022108344-0034C*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
AS-35-Wallboard *022108344-0035*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous	5% Cellulose 3% Glass	92% Non-fibrous (Other)	None Detected
AS-35-Joint Compound *022108344-0035A*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
AS-35-Tape *022108344-0035B*	Wallboard/ Joint Compound	Beige Fibrous Homogeneous	98% Cellulose	2% Non-fibrous (Other)	None Detected
AS-36-Floor Tile *022108344-0036*	Beige 12x12 FT/ Mastic	Tan Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
AS-36-Mastic *022108344-0036A*	Beige 12x12 FT/ Mastic	Tan/Yellow Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
AS-37-Floor Tile *022108344-0037*	Beige 12x12 FT/ Mastic	Tan Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
AS-37-Mastic *022108344-0037A*	Beige 12x12 FT/ Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
AS-37-Leveler *022108344-0037B*	Beige 12x12 FT/ Mastic	Gray Non-Fibrous Homogeneous		10% Ca Carbonate 90% Non-fibrous (Other)	None Detected
AS-38-Cove Base *022108344-0038*	Tan Covebase Molding/ Mastic	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
AS-38-Mastic *022108344-0038A*	Tan Covebase Molding/ Mastic	Beige Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected
AS-39-Cove Base *022108344-0039*	Tan Covebase Molding/ Mastic	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
AS-39-Mastic *022108344-0039A*	Tan Covebase Molding/ Mastic	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
AS-40-Cove Base *022108344-0040*	Brown Covebase Molding/ Mastic	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
AS-40-Mastic *022108344-0040A*	Brown Covebase Molding/ Mastic	Yellow Non-Fibrous Homogeneous	<1% Cellulose	100% Non-fibrous (Other)	None Detected

Initial report from: 11/19/2021 08:38:12

EMSL Analytical, Inc.
706 Gralin Street Kernersville, NC 27284
Tel/Fax: (336) 992-1025 / (336) 992-4175
http://www.EMSL.com / greensborolab@emsl.com

EMSL Order: 022108344
Customer ID: AMECTT25
Customer PO: 6228210243.02
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
AS-41-Cove Base *022108344-0041*	Brown Covebase Molding/ Mastic	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
AS-41-Mastic *022108344-0041A*	Brown Covebase Molding/ Mastic	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
AS-42 *022108344-0042*	2x4 Ceiling Tile	Gray/White Fibrous Homogeneous	50% Cellulose 10% Glass	25% Perlite 15% Non-fibrous (Other)	None Detected
AS-43 *022108344-0043*	2x4 Ceiling Tile	White/Beige Fibrous Homogeneous	60% Cellulose 5% Min. Wool	30% Perlite 5% Non-fibrous (Other)	None Detected
AS-44-Wallboard *022108344-0044*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous	10% Cellulose 3% Glass	87% Non-fibrous (Other)	None Detected
AS-44-Joint Compound *022108344-0044A*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
AS-44-Tape *022108344-0044B*	Wallboard/ Joint Compound	Beige Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
AS-44-Texture *022108344-0044C*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
AS-45-Wallboard *022108344-0045*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous	10% Cellulose 3% Glass	87% Non-fibrous (Other)	None Detected
AS-45-Joint Compound *022108344-0045A*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
AS-45-Tape *022108344-0045B*	Wallboard/ Joint Compound	Beige Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
AS-45-Texture *022108344-0045C*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
AS-46-Wallboard *022108344-0046*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous	10% Cellulose 3% Glass	87% Non-fibrous (Other)	None Detected
AS-46-Joint Compound *022108344-0046A*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
AS-46-Tape *022108344-0046B*	Wallboard/ Joint Compound	Beige Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
AS-46-Texture *022108344-0046C*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected
AS-47-Wallboard *022108344-0047* *Joint Compound not present*	Wallboard/ Joint Compound	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
AS-47-Texture *022108344-0047A*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous		20% Ca Carbonate 80% Non-fibrous (Other)	None Detected

Initial report from: 11/19/2021 08:38:12

EMSL Analytical, Inc.
706 Gralin Street Kernersville, NC 27284
Tel/Fax: (336) 992-1025 / (336) 992-4175
http://www.EMSL.com / greensborolab@emsl.com

EMSL Order: 022108344
Customer ID: AMECTT25
Customer PO: 6228210243.02
Project ID:

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
AS-48-Wallboard *022108344-0048*	Wallboard/ Joint Compound	Brown/White Fibrous Heterogeneous	8% Cellulose	92% Non-fibrous (Other)	None Detected
AS-48-Texture *022108344-0048A*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous		25% Ca Carbonate 75% Non-fibrous (Other)	None Detected
AS-49-Wallboard *022108344-0049*	Wallboard/ Joint Compound	Brown/White Fibrous Heterogeneous	8% Cellulose	92% Non-fibrous (Other)	None Detected
AS-49-Joint Compound *022108344-0049A*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous		25% Ca Carbonate 75% Non-fibrous (Other)	None Detected
AS-49-Tape *022108344-0049B*	Wallboard/ Joint Compound	Beige Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
AS-49-Texture *022108344-0049C*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous		25% Ca Carbonate 75% Non-fibrous (Other)	None Detected
AS-50-Wallboard *022108344-0050*	Wallboard/ Joint Compound	Brown/White Fibrous Heterogeneous	8% Cellulose	92% Non-fibrous (Other)	None Detected
AS-50-Joint Compound *022108344-0050A*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous		25% Ca Carbonate 75% Non-fibrous (Other)	None Detected
AS-50-Tape *022108344-0050B*	Wallboard/ Joint Compound	Beige Fibrous Homogeneous	99% Cellulose	1% Non-fibrous (Other)	None Detected
AS-50-Texture *022108344-0050C*	Wallboard/ Joint Compound	White Non-Fibrous Homogeneous		25% Ca Carbonate 75% Non-fibrous (Other)	None Detected
AS-51 *022108344-0051*	Asphaltic Roof Layer	Gray/Black Non-Fibrous Homogeneous		92% Non-fibrous (Other)	8% Chrysotile
AS-52 *022108344-0052*	Asphaltic Roof Layer				Positive Stop (Not Analyzed)
AS-53 *022108344-0053*	Pipe TSI	Tan Fibrous Homogeneous	5% Synthetic 5% Glass	90% Non-fibrous (Other)	None Detected
AS-54 *022108344-0054*	Pipe TSI	Tan Fibrous Homogeneous	5% Synthetic 5% Glass	90% Non-fibrous (Other)	None Detected
AS-55 *022108344-0055*	Pipe TSI	Peach Fibrous Heterogeneous	6% Synthetic 3% Glass	20% Ca Carbonate 71% Non-fibrous (Other)	None Detected
AS-56 *022108344-0056*	Pipe TSI	Beige Non-Fibrous Homogeneous	8% Cellulose	92% Non-fibrous (Other)	None Detected
AS-57 *022108344-0057*	Pipe TSI	Beige Non-Fibrous Homogeneous	3% Cellulose	97% Non-fibrous (Other)	None Detected
AS-58 *022108344-0058*	Pipe TSI	Beige Non-Fibrous Homogeneous	3% Cellulose	20% Ca Carbonate 77% Non-fibrous (Other)	None Detected
AS-59 *022108344-0059*	Tank Insulation- Top	Blue Fibrous Homogeneous	10% Synthetic 5% Glass	85% Non-fibrous (Other)	None Detected

Initial report from: 11/19/2021 08:38:12

Page 148 of 263

EMSL Analytical, Inc.
706 Gralin Street Kernersville, NC 27284
Tel/Fax: (336) 992-1025 / (336) 992-4175
http://www.EMSL.com / greensborolab@emsl.com

EMSL Order:	022108344
Customer ID:	AMECTT25
Customer PO:	6228210243.02
Project ID:	

Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy

			Non-Asbestos		Asbestos
Sample	**Description**	**Appearance**	**% Fibrous**	**% Non-Fibrous**	**% Type**
AS-60 *022108344-0060*	Tank Insulation- Top	Blue Fibrous Homogeneous	10% Synthetic 5% Glass	85% Non-fibrous (Other)	None Detected
AS-61 *022108344-0061*	Tank Insulation- Top	Blue Fibrous Homogeneous	10% Synthetic	20% Ca Carbonate 70% Non-fibrous (Other)	None Detected

Analyst(s)
Bobby Wheatley (13)
Cameron Evans (24)
Jurnee West (47)
Ryan Rains (27)

Stephen Bennett, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method") but augmented with procedures outlined in the 1993 ("final") version of the method. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. Non-friable organically bound materials present a problem matrix and therefore EMSL recommends gravimetric reduction prior to analysis. Unless requested by the client, building materials manufactured with multiple layers (i.e. linoleum, wallboard, etc.) are reported as a single sample. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Kernersville, NC NVLAP Lab Code 102104-0, Virginia 3333-000228, West Virginia LT000321

Initial report from: 11/19/2021 08:38:12

OrderID: 022108344

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Materials - Chain of Custody

EMSL Order Number / Lab Use Only: 8344

EMSL Analytical, Inc
706 Gralin Street
Kernersville, NC 27284
Phone: (336) 992-1025
Email: greensborolab@emsl.com

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Wood E&I	Company Name:	Wood E&I
Contact Name:	Shaun Rankin	Billing Contact:	Shaun Rankin
Street Address:	104 Corporate Boulevard, Suite 407	Street Address:	104 Corporate Boulevard, Suite 407
City, State, Zip:	West Columbia SC 29169 Country: US	City, State, Zip:	West Columbia SC Country: US
Phone:	8037981200	Phone:	8037981200
Email(s) for Report:	shaun.rankin@woodplc.com	Email(s) for Invoice:	

Project Information

Project Name/No:	6228210243.02	Purchase Order:	6228210243.02
EMSL LIMS Project ID (If applicable, EMSL will provide)		US State where samples collected:	NC
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)		
Sampled By Name:	Shaun Rankin	Sampled By Signature:	
Date Sampled:	11/12/2021	No. of Samples in Shipment:	61

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☑ 72 Hour ☐ 96 Hour ☐ 1 Week ☐ 2 Week

Please call ahead for large projects and/or turnaround times 6 Hours or Less. *32 Hour TAT available for select tests only, samples must be submitted by 11:30am.

Test Selection

PLM - Bulk (reporting limit)

- ☑ PLM EPA 600/R-93/116 (<1%)
- ☐ PLM EPA NOB (<1%)
- ☐ POINT COUNT
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ POINT COUNT w/ GRAVIMETRIC
  - ☐ 400 (<0.25%) ☐ 1,000 (<0.1%)
- ☐ NIOSH 9002 (<1%)
- ☐ NYS 198.1 (Friable - NY)
- ☐ NYS 198.6 NOB (Non-Friable - NY)
- ☐ NYS 198 8 (Vermiculite SM-V)

TEM - Bulk

- ☐ TEM EPA NOB
- ☐ NYS NOB 198 4 (Non-Friable - NY)
- ☐ TEM EPA 600/R-93/116 w Milling Prep (0.1%)

Other Tests (please specify)

☑ Positive Stop - Clearly Identified Homogeneous Areas (HA)

Sample Number	HA Number	Sample Location	Material Description
AS-1	1	Admin Roof	White Patch Caulk
AS-2	1	Admin Roof	White Patch Caulk
AS-3	2	Admin Roof	Black Flashing
AS-4	2	Admin Roof	Black Flashing
AS-5	3	Admin Roof	Grey Caulk
AS-6	3	Admin Roof	Grey Caulk
AS-7	4	Admin Roof	Black Flashing AHU
AS-8	4	Admin Roof	Black Flashing AHU
AS-9	5	Annex Roof	Blue/Green Patch Caulk
AS-10	5	Annex Roof	Blue/Green Patch Caulk

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

(2) EMSL FedEx (Airbill # 796261523957)

Method of Shipment:		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time: 11/15/21 1630	Received by: NS	Date/Time: 11/16/21 9:45
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - Asbestos Bulk R7 9/14/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc 's Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer

OrderID: 022108344

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Materials - Chain of Custody

EMSL Order Number - Lab Use Only

8344

EMSL Analytical, Inc
706 Gralin Street
Kernersville, NC 27284
(336) 992-1025
greensborolab@emsl.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	HA Number	Sample Location	Material Description
AS-11	6	Guard House	Tan Sheet Vinyl
AS-12	6	Guard House	Tan Sheet Vinyl
AS-13	7	Guard House	White Window Caulk
AS-14	7	Guard House	White Window Caulk
AS-15	8	Guard House	Brown Covebase Molding/Mastic
AS-16	8	Guard House	Brown Covebase Molding/Mastic
AS-17	9	Guard House	Asphalt Shingle
AS-18	9	Guard House	Asphalt Shingle
AS-19	10	Admin Building	Grey w/ White Steaks 12x12 FT/mastic
AS-20	10	Admin Building	Grey w/ White Steaks 12x12 FT/mastic
AS-21	11	Admin Building	Tan Covebase Molding/Mastic
AS-22	11	Admin Building	Tan Covebase Molding/Mastic
AS-23	12	Admin Building	2x4 Ceiling Tile
AS-24	12	Admin Building	2x4 Ceiling Tile
AS-25	13	Admin Building	Tan w/ White Steaks 12x12 FT/mastic
AS-26	13	Admin Building	Tan w/ White Steaks 12x12 FT/mastic
AS-27	14	Admin Building	White w/ Grey Steaks 12x12 FT/mastic
AS-28	14	Admin Building	White w/ Grey Steaks 12x12 FT/mastic
AS-29	15	Admin Building	Wallboard/Joint Compound
AS-30	15	Admin Building	Wallboard/Joint Compound
AS-31	15	Admin Building	Wallboard/Joint Compound
AS-32	15	Admin Building	Wallboard/Joint Compound
AS-33	15	Admin Building	Wallboard/Joint Compound
AS-34	15	Admin Building	Wallboard/Joint Compound
AS-35	15	Admin Building	Wallboard/Joint Compound

Method of Shipment:		Sample Condition Upon Receipt:	
Relinquished by: SEE PG 1	Date/Time:	Received by:	Date/Time
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - Asbestos Bulk R7 09/14/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety Submission of samples to EMSL Analytical, Inc constitutes acceptance and acknowledgment of all terms and conditions by Customer

OrderID: 022108344

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Materials - Chain of Custody

EMSL Order Number - Lab Use Only

8344

EMSL Analytical, Inc
706 Gralin Street
Kernersville, NC 27284
(336) 992-1025
greensborolab@emsl.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	HA Number	Sample Location	Material Description
AS-36	16	Annex Building	Beige 12x12 FT/mastic
AS-37	16	~~Guard House~~	Beige 12x12 FT/mastic
AS-38	17	~~Guard House~~	Tan Covebase Molding/Mastic
AS-39	17	~~Guard House~~	Tan Covebase Molding/Mastic
AS-40	18	~~Guard House~~	Brown Covebase Molding/Mastic
AS-41	18	~~Guard House~~	Brown Covebase Molding/Mastic
AS-42	19	~~Guard House~~	2x4 Ceiling Tile
AS-43	19	~~Guard House~~	2x4 Ceiling Tile
AS-44	20	~~Admin Building~~	Wallboard/Joint Compound
AS-45	20	~~Admin Building~~	Wallboard/Joint Compound
AS-46	20	~~Admin Building~~	Wallboard/Joint Compound
AS-47	20	~~Admin Building~~	Wallboard/Joint Compound
AS-48	20	~~Admin Building~~	Wallboard/Joint Compound
AS-49	20	~~Admin Building~~	Wallboard/Joint Compound
AS-50	20	~~Admin Building~~	Wallboard/Joint Compound
AS-51	21	Pump House Roof	Asphaltic Roof Layer
AS-52	21	Pump House Roof	Asphaltic Roof Layer
AS-53	22	NE Building	Pipe TSI
AS-54	22	NE Building	Pipe TSI
AS-55	22	NE Building	Pipe TSI
AS-56	23	Wastewater System RBC Area	Pipe TSI
AS-57	23	Wastewater System RBC Area	Pipe TSI
AS-58	23	Wastewater System RBC Area	Pipe TSI
AS-59	24	Tank Farm	Tank Insulation - Top
AS-60	24	Tank Farm	Tank Insulation - Top

Method of Shipment:		Sample Condition Upon Receipt:	
Relinquished by: SEE PAGE 1	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Controlled Document - Asbestos Bulk R7 09/14/2021

☐ I AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer

OrderID: 022108344

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Asbestos Bulk Building Materials - Chain of Custody

EMSL Order Number / Lab Use Only

8344

EMSL Analytical, Inc.
706 Gralin Street
Kernersville, NC 27284
(336) 992-1025
greensborolab@emsl.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	HA Number	Sample Location	Material Description
AS-61	24	Tank Farm	Tank Insulation - Top

Method of Shipment:		Sample Condition Upon Receipt:	
Relinquished by: SEE PAGE 1	Date/Time	Received by:	Date/Time
Relinquished by:	Date/Time	Received by:	Date/Time

Controlled Document - Asbestos Bulk R7 09/14/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer

APPENDIX C

LABORATORY RESULTS OF PAINT CHIP SAMPLES

EMSL Analytical, Inc.
706 Gralin Street, Kernersville, NC 27284
Phone/Fax: (336) 992-1025 / (336) 992-4175
http://www.EMSL.com greensborolab@emsl.com

EMSL Order:	022108349
CustomerID:	AMECTT25
CustomerPO:	6228210243.02
ProjectID:	

Attn: **Shaun Rankin**
Wood Env. & Infrastructure Solutions
104 Corporate Boulevard, Suite 407
West Columbia, SC 29169

Phone:	(803) 798-1200
Fax:	(803) 750-1303
Received:	11/16/2021 09:45 AM
Collected:	11/11/2021

Project: **6228210243.02**

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

Client Sample Description	*Lab ID*	*Collected*	*Analyzed*	*Weight*	*Lead* ***Concentration***
P-1	*022108349-0001*	11/11/2021	11/17/2021	.2611 g	0.023 % wt
P-2	*022108349-0002*	11/11/2021	11/17/2021	.291 g	<0.0080 % wt
P-3	*022108349-0003*	11/11/2021	11/17/2021	.2877 g	<0.0080 % wt
P-4	*022108349-0004*	11/11/2021	11/17/2021	.2881 g	<0.0080 % wt
P-5	*022108349-0005*	11/11/2021	11/17/2021	.2937 g	<0.0080 % wt
P-6	*022108349-0006*	11/11/2021	11/17/2021	.2507 g	0.16 % wt
P-7	*022108349-0007*	11/11/2021	11/17/2021	.2528 g	<0.0080 % wt
P-8	*022108349-0008*	11/11/2021	11/17/2021	.2735 g	<0.0080 % wt
P-9	*022108349-0009*	11/11/2021	11/17/2021	.2534 g	0.76 % wt
P-10	*022108349-0010*	11/11/2021	11/17/2021	.2512 g	0.045 % wt
P-11	*022108349-0011*	11/11/2021	11/17/2021	.2879 g	0.23 % wt
P-12	*022108349-0012*	11/11/2021	11/17/2021	.2805 g	<0.0080 % wt
P-13	*022108349-0013*	11/11/2021	11/17/2021	.266 g	<0.0080 % wt

James Cole

James Cole, Laboratory Manager
or other approved signatory

EMSL maintains liability limited to cost of analysis. Interpretation and use of test results are the responsibility of the client. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. The report reflects the samples as received. Results are generated from the field sampling data (sampling volumes and areas, locations, etc.) provided by the client on the Chain of Custody. Samples are within quality control criteria and met method specifications unless otherwise noted.
Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.008% wt based on the minimum sample weight per our SOP. "<" (less than) result signifies the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. Definitions of modifications are available upon request.
Samples analyzed by EMSL Analytical, Inc. Kernersville, NC EMSL Lab ID 102564 is accredited by the AIHA Laboratory Accreditation Program (AIHA-LAP), LLC in the Environmental Lead accreditation program for Lead in Paint Chips.

Initial report from 11/19/2021 08:04:55

OrderID: 022108349

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Lead Chain of Custody

EMSL Order Number / Lab Use Only: 8349

EMSL Analytical, Inc
706 Gralin Street
Kernersville, NC 27284
(336) 992-1025
greensborolab@emsl.com

Customer Information		Billing Information	
Customer ID:		Billing ID:	
Company Name:	Wood E&I	Company Name:	Wood E&I
Contact Name:	Shaun Rankin	Billing Contact:	Shaun Rankin
Street Address:	104 Corporate Boulevard, Suite 407	Street Address:	104 Corporate Boulevard, Suite 407
City, State, Zip:	West Columbia SC 29169 Country: US	City, State, Zip:	West Columbia SC 29169 Country: US
Phone:	8037981200	Phone:	8037981200
Email(s) for Report:	shaun.rankin@woodplc.com	Email(s) for Invoice:	

Project Information

Project Name/No:	6228210243.02	Purchase Order:	6228210243.02
EMSL LIMS Project ID: (If applicable, EMSL will provide)		US State where samples collected:	NC
State of Connecticut (CT) must select project location:	☐ Commercial (Taxable) ☐ Residential (Non-Taxable)		
Sampled By Name:	Shaun Rankin	Sampled By Signature:	
No. of Samples in Shipment	13		

Turn-Around-Time (TAT)

☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 32 Hour ☐ 48 Hour ☑ 72 Hour ☐ 96 Hour ☐ 1 Week ☐ 2 Week

Please call ahead for large projects and for turnaround times 8 Hours or Less. *32 Hour TAT available for select tests only; samples must be submitted by 11:30am

MATRIX	METHOD	INSTRUMENT	REPORTING LIMIT	SELECTION
CHIPS ☑ % by wt. ☐ ppm (mg/kg) ☐ mg/cm²	SW 846-7000B	Flame Atomic Absorption	0.008% (80ppm)	☑
*Reporting Limit based on a minimum 0.25g sample weight	SW 846-6010D*	ICP-OES	0.0004% (4ppm)	☐
	NIOSH 7082	Flame Atomic Absorption	4µg/filter	☐
AIR	NIOSH 7300M / NIOSH 7303M	ICP-OES	0.5µg/filter	☐
	NIOSH 7300M / NIOSH 7303M	ICP-MS	0.05µg/filter	☐
WIPE ☐ ASTM ☐ NON-ASTM	SW 846-7000B	Flame Atomic Absorption	10µg/wipe	☐
*If no box is checked, non-ASTM Wipe is assumed	SW 846-6010D*	ICP-OES	1.0µg/wipe	☐
TCLP	SW 846-1311 / 7000B / SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	*SW 846-1311 / SW 846-6010D**	*ICP-OES*	*0.1 mg/L (ppm)*	☐
SPLP	SW 846-1312 / 7000B SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	SW 846-1312 / SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	☐
TTLC	22 CCR App. II. 7000B	Flame Atomic Absorption	40mg/kg (ppm)	☐
	22 CCR App. II. SW 846-6010D*	ICP-OES	2mg/kg (ppm)	☐
STLC	22 CCR App. II. 7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	22 CCR App. II. SW 846-6010D*	ICP-OES	0.1 mg/L (ppm)	☐
Soil	SW 846-7000B	Flame Atomic Absorption	40mg/kg (ppm)	☐
	*SW 846-6010D**	*ICP-OES*	*2mg/kg (ppm)*	☐
Wastewater	SM 3111B / SW 846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
Unpreserved ☐ / Preserved with HNO3 ☐ PH<2	EPA 200.7	ICP-OES	0.020 mg/L (ppm)	☐
Drinking Water	EPA 200.5	ICP-OES	0.003 mg/L (ppm)	☐
Unpreserved ☐ / Preserved with HNO3 ☐ PH<2	EPA 200.8	ICP-MS	0.001 mg/L (ppm)	☐
TSP/SPM Filter	40 CFR Part 50	ICP-OES	12 µg/filter	☐
Other				☐

Sample Number	Sample Location	Volume / Area	Date / Time Sampled
P-1	Walkway Oxidation System #1 - Tan		11/11/2021
P-2	Walkway Oxidation System #2 - White		11/11/2021
P-3	RBC Tank 1 - White		11/11/2021
P-4	Settling Basin Walkway - Grey		11/11/2021
P-5	Fire Water Pump - Red		11/11/2021

Method of Shipment: 2 EMSL FedEx (Airbill # 796261523957) Sample Condition Upon Receipt:

Relinquished by:	Date/Time:	Received by:	Date/Time:
	11/15/21 1630	NS	11/16/21 9:45
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-25 Lead R16 4/19/2021

*6010C Available Upon Request

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc.'s Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc. constitutes acceptance and acknowledgment of all terms and conditions by Customer

OrderID: 022108349

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Lead Chain of Custody

EMSL Order Number: Lab Use Only

83409

EMSL Analytical, Inc.
706 Gralin Street

Kernersville, NC 27284
(336) 992-1025
greensborolab@emsl.com

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Special Instructions and/or Regulatory Requirements (Sample Specifications, Processing Methods, Limits of Detection, etc.)

Sample Number	Sample Location	Volume / Area	Date / Time Sampled
P-6	West Electrical Building - White		11/11/2021
P-7	Tank Rarm - Cream		11/11/2021
P-8	NE Building - White		11/11/2021
P-9	Light Pole - Brown		11/11/2021
P-10	Main Water Tank - Cream		11/11/2021
P-11	Fire System Fuel Tank - Red		11/11/2021
P-12	Annex Building Wall - White		11/11/2021
P-13	Warehouse Wall - White		11/11/2021

Method of Shipment:		Sample Condition Upon Receipt:	
Relinquished by:	Date/Time:	Received by:	Date/Time
Relinquished by:	Date/Time:	Received by:	Date/Time

Controlled Document - COC-25 Lead R*6 4.19/2021

☐ AGREE TO ELECTRONIC SIGNATURE (By checking, I consent to signing this Chain of Custody document by electronic signature.)

EMSL Analytical, Inc 's Laboratory Terms and Conditions are incorporated into this Chain of Custody by reference in their entirety. Submission of samples to EMSL Analytical, Inc constitutes acceptance and acknowledgment of all terms and conditions by Customer.

Specification No. 02 Decommissioning and Demolition Requirements

1 PRE-CONSTRUCTION WORK

1.1 KICKOFF MEETING

1.1.1 The Pender County Construction Representative (*Construction Manager*) will schedule a pre-construction kickoff meeting at the site or other convenient location before Work starts.

1.1.2 The meeting will provide an overview of the following project requirements:

1.1.2.1 Project Scope, Schedule, Invoicing Procedure, CCO Procedure, Contractor Submittals, Workingin Operating Facilities, Site Access and Security, Health and Safety, Temporary Facilities, Coordination of Work, Permit Requirements, Materials Management, QA/QC, Managing Waste.

2 MOBILIZATION & SITE PREPARATION

2.1 MOBILIZATION

2.1.1 Provide and setup field office(s), office supplies, sanitary facilities, change trailers, First Aid andPPE supplies, temporary power, small tools and equipment.

2.1.2 Coordinate with Pender County Construction Manager (Wood) the following mobilization activities:

2.1.2.1 Location of field offices, sanitary facilities, lay-down areas and temporary storage facilities.

2.1.2.2 The agreed to location for construction field offices, storage, site access, parking and employee entry to Facility shall be as identified in the Construction Documents and will be reaffirmed at the kickoff meeting.

3 CONSTRUCTION WORK

3.1 GENERAL

3.1.1 When minimum requirements for projects having minor site, mechanical or electrical scope and where more detailed technical specifications are not provided. For more complex construction work and when detailed technical specifications are provided, refer to theTechnical Specifications of the Contract. If there is a conflict between these general requirements and the technical specifications, the technical specifications shall govern.

3.2 CIVIL WORK

3.2.1 Storm Water Management, Soil Erosion and Sedimentation Control

3.2.1.1 When required by the Specification 01, Summary of Work or the Technical Specifications of the RFP, provide necessary Storm Water, Erosion Control, and SedimentationControl Plan and measures.

3.2.1.2 Storm Water Management, Soil Erosion and Sedimentation Control Plan

1. Implement and Adhere to the requirements of the Soil Erosion and Sedimentation Control Plan that is part of this RFP for construction.
2. Maintain copy of this plan at the site
3. At a minimum, the plan shall include:

- Chronological completion dates for each temporary (and permanent) measure for controlling stormwater, erosion and sediment.
- Location, type and purpose for each temporary measure to be undertaken.
- Dates when those temporary measures will be removed.
- Materials and equipment to be used.

3.2.1.3 Soil Erosion Control and Sedimentation Control Requirements:

1. Install erosion and sedimentation control measures in accordance with the attached Erosion and Sedimentation Control Plan prior to all construction activities.
2. Maintain control measures during earthwork activities.
3. Keep land disturbance to a minimum and schedule re-stabilization immediately after anydisturbance, as is practicable.
4. Repair any failed control measure immediately. Perform maintenance as needed.
5. Remove all sedimentation and erosion control barriers after completion of construction and permanent control measures are installed.
6. Conform to all State, County and Local erosion and sedimentation control measures and as specified in the Soil Erosion, and Sedimentation Control Plan.
7. Immediately adjust or institute additional control measures if planned control measures are not effective or satisfactory to the regulatory agencies having jurisdiction.

3.2.1.4 Soil Erosion Control Measures: Measures shall include temporary berms, diversions or other barriers including hay or straw bales, stone, silt fences or other agreed to materials that are constructed to retain sediment on-site by retarding and filtering storm runoff and prevent migration of silts and sediment to receiving waters.

1. Anchor all topsoil stockpiles with straw mulch and encircle with hay bales.
2. Silt fences or hay bales shall be installed at the toe of all critical cut and fill slopes.
3. Grade surfaces per the Contract Documents and manufacturer guidelines, prior to installation of erosion control fabric.
4. Diversion terraces shall be installed on the uphill side of disturbed areas to divert surface runoff away from unstable slopes and the project area, as may be required.
5. Interceptor channels shall be used across disturbed areas where the slope is running parallel to direction of trenches to divert runoff to outlets on lower side of disturbed area and shall be arranged to minimize erosion impact, as may be required.
6. Trench barriers of earth-filled sacks or piled stone, stacked to top of trench shall be constructed to prevent trench washout after installation of piping, if backfill operations aredelayed, as may be required. Trench shall be sloped in the

direction of piping.

3.2.1.5 Sediment Control Measures

1. Periodically remove sediment from temporary control structures and permanent drainagefacilities as needed.
2. Dispose of sediment per the Contract Documents. Prevent additional erosion or pollution.

3.2.2 Earthwork

3.2.2.1 Conduct all earthwork activities to mitigate dispersion of volatile organic emissions and fugitive dust beyond the Work Area.

3.2.2.2 Comply with all requirements of the Soil Erosion and Sedimentation Control Plan for the duration specified in the Plan.

3.3 MECHANICAL WORK

3.3.1 Equipment

3.3.1.1 Installation of Machinery and materials

1. Use certified shop drawings, installation drawings and manufacturer instructions when installing Machinery.
2. Mechanics shall be competent, experienced and skilled in handling, setting, aligning, levelingand adjusting the Products and shall install Products in accordance with manufacturer recommendations.
3. Use proper tools, equipment and materials to rig and assemble Products to prevent deforming or marring the surface of shafts, drive components, mating surfaces, threadedparts, etc.
4. Do not force or drive couplings, gears, sheaves, etc. on machinery shafts nor subject them toan open flame or torch. Use only oil bath heater or similar method.
5. Products shall not be altered or repaired, and no burning or welding will be permitted on anyparts having machined surfaces, except by written permission of Pender County.
6. No rigging shall be done from any structure without the permission of Pender County.

3.3.1.2 Alignment & Leveling of Equipment

1. Equipment shall be carefully set and aligned on foundations to proper orientation and elevation and shimmed to true level.
2. Equipment baseframe shall be tightened to bear against shims.
3. Equipment shall be checked after securing to foundations and, after confirmation of level andelevation, shall be grouted in place.
4. Rotating equipment shall be initially aligned using stainless steel shims while equipment isfree from any external loads.
5. Correctly align piping to associated equipment to prevent stress at pipe connections.Springing of pipe to align with mating equipment flanges is not permitted.
6. Misaligned holes shall be reamed. "Driving" of fasteners or keys is not permitted.
7. Check rotating equipment angular and parallel alignment and adjust to

manufacturer'sspecifications before testing or placing any Machinery into service.

4 SITE RESTORATION & DEMOBILIZATION

4.1 SITE RESTORATION

4.1.1 Complete site restoration in accordance with the Technical Specifications of the RFP.If not specifically specified, restore to current (or better) conditions.

4.2 DEMOBILIZATION

4.2.1 Submit an inventory listing all surplus materials.

4.2.2 Unless otherwise directed by Pender County (*or Wood*), remove all Temporary Work, tools and equipmentat Work completion.

4.2.3 Properly decontaminate all tools and equipment before removal from site.

4.2.4 Properly decontaminate all supplies and materials before removal from site, or manage as waste materials in accordance with the requirements of this specification.

4.2.5 Remove all Temporary Facilities at the conclusion of the project.

5 CONTRACT CLOSEOUT

5.1 CLOSEOUT PROCEDURE

5.1.1 Notify Pender County and Facility Operations (*and AP*) when Work is Substantially Complete.

5.1.1.1 Project Summary highlighting project objectives were achieved

5.1.1.2 Health and Safety Closeout Documentation

5.1.1.3 Off-site disposal Record

5.1.1.4 Project Photographs

5.1.1.5 An assessment of the project schedule and cost variance

5.1.2 Rectify all Punch List items.

5.1.2.1 Submit detailed written resolution for each Punch List item.

5.1.3 Submit to Pender County and Wood written certification of Substantial Completion that addresses the following:

5.1.3.1 Contract Documents reviewed and updated or markups provided.

5.1.3.2 Work is complete, inspected and in accordance with Contract Documents.

5.1.3.3 Work is ready for Pender County and Wood Final inspection.

5.1.4 Accompany Pender County and Facility Operations and Wood on Final inspection and verify all Punch List items have been rectified to Pender County's and Wood's satisfaction.

5.1.5 Repeat Punch List and final inspection processes until there are no items to be addressed.

5.2 SURPLUS MATERIAL

5.2.1 Upon completion of the project, inventory surplus materials.

5.2.2 Surplus materials purchased by contractor via Lump Sum contract remains the property of the contractor and must be removed from the site.

Wood Environment & Infrastructure Solutions, Inc.
5710 Oleander Dr. Suite 110
Wilmington, North Carolina, 28403
T: 910-452-1185
www.woodplc.com

REPORT OF
REGULATED MATERIALS SURVEY
FORMER BROWNFIELDS PROPERTY
HIGHWAY 421 PENDER COUNTY
WILMINGTON, NORTH CAROLINA

Prepared for:

Pender County

Prepared by:

Wood Environment & Infrastructure Solutions, Inc.
5710 Oleander Drive, Suite 110
Wilmington, North Carolina

December 2021

Wood Environment & Infrastructure Solutions, Inc.
5710 Oleander Drive, Suite 110
Wilmington, NC 28403
Licensure: NC Engineering F-1253; NC Geology C-247

Tel – (910) 452-1185
Fax – (910) 791-1338

www.woodplc.com

December 9, 2021

Mr. Chad McEwen
Pender County Manager
Pender County
805 South Walker Street
Burgaw, North Carolina 28425

Subject: Report of Regulated Materials Survey
Former BASF/Takeda Property
Highway 421 Pender County, Wilmington, North Carolina
Wood Project No. 6228210243

Dear Mr. McEwen:

Wood Environment & Infrastructure Solutions, Inc. (Wood) is pleased to present this Report of the Regulated Materials Survey for the property referenced above. Please do not hesitate to contact us if you have questions about this proposal.

Sincerely,
Wood Environment & Infrastructure Solutions, Inc.



J. Chris Pruneau, LG
Senior Project Manager

Wood Environment & Infrastructure Solutions, Inc.
5710 Oleander Drive, Suite 110
Wilmington, NC 28403
Licensure: NC Engineering F-1253; NC Geology C-247

Tel – (910) 452-1185
Fax – (910) 791-1338

www.woodplc.com

TABLE OF CONTENTS

1.0 INTRODUCTION 1
2.0 BACKGROUND INFORMATION.....1
3.0 RESULTS OF ANALYSIS.....1
4.0 DECOMMISSIONING ACTION 2

TABLES

Table 1 Results of Analyses Oil and Grease and pH
Table 2 Results of VOC's and Metals

FIGURES

Figure 1 Sample Location Map

1.0 INTRODUCTION

Wood Environment & Infrastructure Solutions, Inc. (Wood) conducted a Regulated Materials Survey of the former BASF/Takeda brownfields property located off Highway 421 in Pender County, Wilmington, North Carolina (the Site). Asbestos and lead paint sampling and survey is provided in this bid package under a separate report. The Site is predominantly former industrial areas associated with a former Vitamin C manufacturing facility. A Site Vicinity Map identifying the site location and surrounding areas is provided in **Figure 1**.

The purpose of this work was to evaluate and characterize surface waters and residual sediments that remain in wastewater structures and secondary containment structures at the Site. In addition we tested soils in several small surface stained areas of the area known that we refer to as the northeast bone yard (see Figure 1). These activities were completed to provide guidance on removal and disposal of these soils, surface water and sediments prior to demolition and future redevelopment of the property. An asbestos survey of the site was also completed, and that report is provided with this demolition plan under separate cover.

2.0 BACKGROUND INFORMATION, MATERIAL SAMPLING

Wood has assessed the following areas so that these areas can be addressed during the decommissioning of the site. Each of the locations are shown on a drawing attached to this report.

- **Above ground waste oil tank** (approximately 500 gallon) was overturned with observed spillage of oils to surrounding to soils,
- **Approximately 15 5-gallon plastic containers of hydraulic oil** with some spillage to surface soils,
- **Four 55-gallon blue drums of hypochlorite solution** (used in wastewater treatment). Wood has confirmed through sampling that there is impact to surrounding soils.
- **Wastewater and Water System (liquid and solid residuals)** wastewater and water infrastructure and secondary containment systems from past operations are still present on the property. Some of the various infrastructure contains standing water and sediment. Examples of the these include clarification/settling concrete basins and secondary containment sumps.

Wood has conducted sampling of the soils, liquids and sediments in the above areas. Those results are included in this report. We have used the results of the testing to determine the final disposition of these materials including the need for off-site disposal. We have estimated quantities to allow for a contractor to provide a cost estimate to remove, transport and responsibly dispose of these materials as needed. This decommissioning work is required prior to the large-scale demolition of the remainder of the facility.

3.0 RESULTS OF ANALYSIS

The area names and the sampling locations for the regulated materials survey are provided on the attached Figure 1. The laboratory results of the testing conducted is summarized in the attached **Tables 1 and 2**. The laboratory reports are appended to this report.

The following areas were sampled. The areas are identified on the attached drawing by the following acronyms.

- SRB-South Rectangular Basin-surface water sampled, minimal sediment present, no sediment sample,
- RP- Retention Pond-surface water and sediment sampled,
- SB-1 Settling Basin No. 1- surface water and sediment sampled,
- SB-2 Settling Basin No. 2- surface water, minimal sediment present, no sediment sample,
- SB-3 Settling Basin No. 3- surface water and sediment sampled
- RBC-Rotating Biological Contactor Basin, surface water and sediment sampled
- CTFS- Chemical Tank Farm Sump-surface water and sediment sampled
- NEBMHS- NE Building Manhole Sump-Surface water and sediment sampled
- NEBY-NE Boneyard-soil sampling only
- ADA-Hypochlorite Drums Area- soil sampling only

4.0 DECOMMISSIONING ACTION FOR REGUALTED MATERIALS

South Rectangular Basin (SRB)

The SRB system contains accumulated rainwater. There were no regulated compounds or constituents detected so surface water can be pumped to nearby soils for infiltration.

- Any remaining sediments will be solidified sufficiently to pass an EPA Paint Filter test and combined with sediments from other basins and removed and transported off site for disposal. These sediment wastes contain low level of various VOC's (e.g. acetone and toluene). A Wood field representative will be present during all of the removal actions to provide consulting assistance in the removal action.

Retention Pond

The retention pond was used for raw water storage for the plant fire water system. The past use and results of laboratory testing indicate the surface water can be pumped to nearby soils for infiltration. Any remaining sediments to be combined with sediments from other basins and removed and transported off site for disposal. A Wood field representative will be present during all of the removal actions to provide consulting assistance in the removal action.

- Summary of Action For Retention Pond Surface water can pumped to the land surface in the areas approximately 200 to 400 feet west of the pond. This water will rapidly infiltrate to the subsurface. Approximately 30 tons of sediment will need to be removed from the site and disposed of offsite as a waste containing low levels of volatile organic compounds. Sediments will be solidified sufficiently to pass an EPA Paint Filter test and combined with sediments from other basins and removed and transported off site for disposal.

Settling Basin No. 1

The surface water and sediment in SB-1 will have to removed and disposed of off site due to low levels of volatile organic compounds. A Wood field representative will be present during all of the removal actions to provide consulting assistance in the removal action.

- Approximately 45,000 gallons of water and 30 tons of sediment will need to removed and hauled off site for disposal as a waste containing low concentrations of volatiles organic compounds.

Settling Basin No. 2

There were no regulated compounds or constituents detected in surface water so surface water can be pumped to the land surface to the west for infiltration. Any remaining sediments to be combined with sediments from other basins and removed and transported off site for disposal. A Wood field representative will be present during all of the removal actions to provide consulting assistance in the removal action.

- Summary of Removal Action For SB-2. Surface water can pumped to the land surface in the areas approximately 200 to 400 feet west of the retention pond. This water will rapidly infiltrate to the subsurface.
- Approximately 20 tons of sediment will need to be removed from the SB-2 and disposed of off site as a waste containing low levels of volatile organic compounds. Sediments will have to be solidified sufficiently to pass an EPA Paint Filter test and combined with sediments from other basins and removed and transported off site for disposal.

Settling Basin No. 3

The surface water and sediment in SB-3 will have to removed and disposed of off site due to low levels of mercury (0.108 mg/L) and volatile organic compounds. The mercury concentration 0.108 mg/L may require specific handling and disposal requirements for both sediment and surface water from SB-3. A Wood field representative will be present during all of the removal actions to provide consulting assistance in the removal action.

- Approximately 38,000 gallons of water and 45 tons of sediment will need to removed and hauled off site for disposal as a waste containing low concentrations of volatiles organic compounds. The material will also contain low level of mercury and will to be disposed of accordingly. Sediments will have to be solidified sufficiently to pass an EPA Paint Filter test and combined with sediments from other basins and removed and transported off site for disposal.

Rotating Biological Contactor

The surface water and sediment in the RBC will have to removed and disposed of off site due to low levels of volatile organic compounds. There is equipment in the RBC unit that will likely have to be removed or partially removed to access the wastewater waste materials below.

- Approximately 10,000 gallons of water and 40 tons of sediment will have to be removed and disposed of offsite. A Wood field representative will be present during the removal actions to provide consulting assistance in the removal action.
- Sediments will have to be solidified sufficiently to pass an EPA Paint Filter test and combined with sediments from other basins and removed and transported off site for disposal.

Chemical Tank Farm Containment Area

The former Chemical Tank Farm has a concrete secondary containment system that contains a sump. The surface water and sediments in this secondary containment and in the sump will need

to be removed and disposed of due to elevated acetone and lower levels of various volatile organic compounds. A Wood field representative will be present during all of the removal actions to provide consulting assistance in the removal action.

- Approximately 2,000 gallons of water and 5 tons of sediment will need to removed and hauled off site for disposal as a waste containing low concentrations of volatiles organic compounds.
- Sediments will have to be solidified sufficiently to pass an EPA Paint Filter test and combined with sediments from other basins and removed and transported off site for disposal.

Northeast Building Manhole Sump

This area is a concrete secondary The surface water and sediments in the secondary containment and the in the sump will need to be removed and disposed of due to elevated acetone and lower levels of various volatile organic compounds. A Wood field representative will be present during all of the removal actions to provide consulting assistance in the removal action.

- Approximately 2,000 gallons of water and 5 tons of sediment will need to removed and hauled off site for disposal as a waste containing low concentrations of volatiles organic compounds.
- Sediments will have to be solidified sufficiently to pass an EPA Paint Filter test and combined with sediments from other basins and removed and transported off site for disposal.

Summary of Water and Sediment to Be Removed By Location

AREA	AREA (SQFT)	WATER DEPTH (FT)	Gallons To Be Removed for Disposal	SEDIMENT VOL (Tons)
RBC	1843	1	10,000	40
SB-1	1318	4	45,000	30
SB-2	476	5	NA	20
SB-3	2144	2	38,000*	45
SRB	542	3	NA	10
CFTFS	NA	4	2,000	5
RP	NA	NA	NA	40
NEDBMS	NA	NA	2,000	5
		Totals	**97,000**	**270***

Notes: Water from SB-3 Contains low concentrations of mercury (0.100 mg/liter), sediment and water from SB-3 will have to be disposed of accordingly. Other waters and sediments being disposed of off site contain low concentrations of several VOC's. See Attached Lab Summary Tables 1 and 2.

*Amount of sediment increased by 40% to account for addition of solidification admixture.

Northeast Boneyard (Soils and Used Oil Removal and Disposal)
Soils in several smaller areas of the northeast boneyard as shown on the attached figure, have been impacted by releases of hydraulic oils stored in 5-gallon containers and around a former used oil tank. The contractor will have to excavate and remove from the site for off-site disposal an estimated 90 tons of oil impacted soil. A Wood field representative will be present during all of the removal actions to direct the excavation locations and conduct and necessary sampling to confirm completion of excavation.

- **Approximately 90 tons of oil containing soils will have to be excavated and disposed of at an off site facility. The oil sources is hydraulic oil and used oil.**
- **In addition there will be approximately 300 gallons of used oils and hydraulic oils to be removed and disposed of off-site.** The waste oil tank and secondary containment steel structure will also have to be removed from the property.

The information from this regulated materials assessment report is to be used by the contractor in bidding the decommissioning and demolition of the subject facility.

Table 1: BASF Regulated Materials Survey Oil & Grease and pH Results
Former Brownfields Property
Pender Commerce Park
Wilmington, North Carolina
Wood Project: 6228-21-0243

Field Area	Sample ID	Date Sampled	Oil & Grease	pH
Northeast Boneyeard (NEBY)	SS-1(0-1)	11/2/2021	**12600**	NS
	SS-2(0-1)	11/2/2021	**20300 V**	NS
	SS-3(0-1)	11/2/2021	**22600 J3 V**	NS
	SS-4(0-1)	11/2/2021	**7180**	NS
	SS-4A(1-2)	11/2/2021	41.7 J	NS
	SS-4B(1-2)	11/2/2021	**168**	NS
	SS-4C(1-2)	11/2/2021	ND	NS
	SS-4D(1-2)	11/2/2021	**152**	NS
	SS-4E(3-4)	11/2/2021	**331**	NS
	SS-5(0-1)	11/2/2021	**31100**	NS
Hydrochlorite Drum Area (HDA)	SS-1(0-1)	11/2/2021	NS	**8.82**
	SS-2(0-1)	11/2/2021	NS	8.40
	SS-3(0-1)	11/2/2021	NS	**8.66**
Chemical Tank Farm Sump	SW-1	11/2/2021	ND	NS
	SED_SS-1	11/3/2021	**676 J**	7.06
Retention Pond (RP)	SW-1	12/2/2021	ND	6.81
	SED_SS-1	11/4/2021	ND	6.81
Settling Basin 1 (SB-1)	SW-1	11/3/2021	ND	NS
	SED_SS-1	11/4/2021	**659**	7.51
Settling Basin 2 (SB-2)	SW-1	11/3/2021	ND	NS
Settling Basin 3 (SB-3)	SW-1	11/3/2021	ND	NS
	SED_SS-1	11/4/2021	**1460**	7.39
RBC	SW-1	11/3/2021	ND	NS
	SED-SS-1	11/4/2021	**1190**	7.07
NE. Building Manhole Sump (NEBMNS)	SW-1	11/2/2021	ND	NS
South Rectangle Basin (SRB)	SW-1	11/3/2021	ND	NS

Notes: Created by: NEB 12/2/2021
Checked by: AMS 12/6/2021

Oil & grease results reported in mg/kg
pH reported in Standard Units (S.U.)
All pH results have T8 qualifier
NS: Not sampled e.g. insufficient sediment to sample
ND: Analyte was not detected above the laboratory reportable detection limit (RDL)
SED: Sediment
SS: Soil Sample
SW: Surface Water Sample
J qualifier: the identification of the analyte is acceptable; the reported value is an estimate
V qualifier: the sample concentration is too high to evaluate accurate spike recoveries
J3 qualifier: the associated batch QC was outside the established quality control range for precision
T8 qualifier: Sample received past/too close to holding time expiration
B qualifier: The same analyte is found in associated blank
Oil & Grease analyzed by EPA Method 9071 B
pH analyzed by EPA Method 9045 D
NC Action Level -100 mg/kg for Oil & Grease

Table 2: Water, Sediment Soils VOCs, PCB's and Metals Results
Former Brownfields Property
Pender Commerce Park
Wilmington, North Carolina
Wood Project: 6228-21-0243

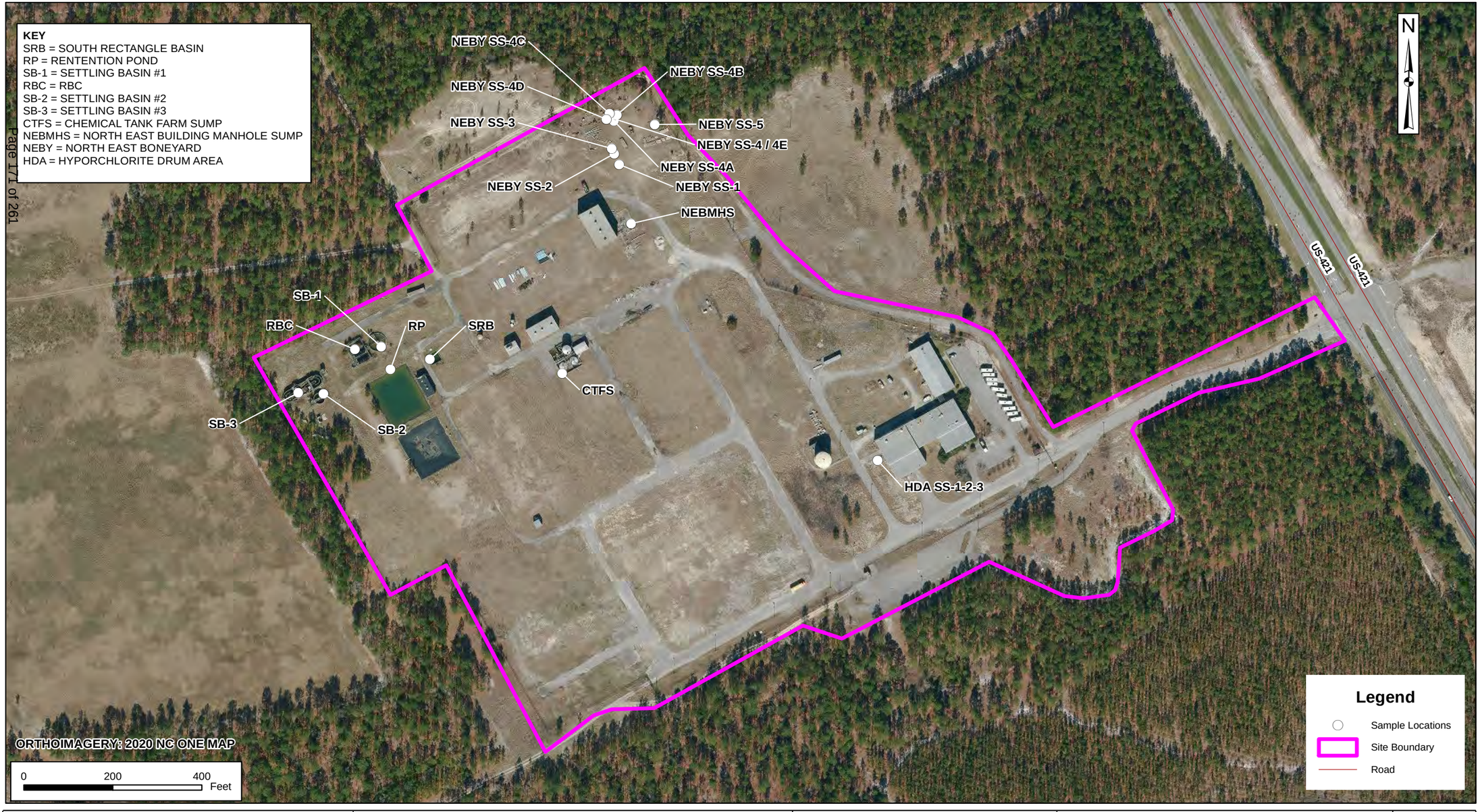
Field Area	NC 2L Standard (mg/L)	Chemical tank Farm Sump (CTFS)		Retention Pond (RP)		Settling Basin-1 (SB-1)		Settling Basin-2 (SB-2)	Settling Basin-3 (SB-3)		RBC		NE. Building Manhole Sump (NEBMNS)	South Rectangle Basin (SRB)
Sample ID		**SW-1**	**SED_SS-1**	**SW-1**	**SED_SS-1**	**SW-1**	**SED_SS-1**	**SW-1**	**SW-1**	**SED_SS-1**	**SW-1**	**SED_SS-1**	**SW-1**	**SW-1**
Constituent (mg/kg)	**Date Sampled**	11/2/2021	11/3/2021	11/3/2021	11/4/2021	11/3/2021	11/4/2021	11/3/2021	11/3/2021	11/4/2021	11/3/2021	11/4/2021	11/2/2021	11/3/2021
Volatile Organic Compounds (8260D)														
Acetone	6	**695**	2.23	ND	ND	**26.1 J**	ND	ND	**14.6 J**	ND	ND	0.498 J	**26.1 J**	ND
Benzene	1	ND	0.0514	ND	ND	ND	0.0684	ND	ND	0.0206	ND	ND	ND	ND
1,2-Dichloropropane	0.6	ND	0.108	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	600	ND	0.0424 J	ND	ND	ND	0.0467	ND	ND	ND	ND	0.00858 J	ND	ND
Isopropylbenzene	70	ND	0.0115 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone (MEK)	4*	ND	1.59 B J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl 2-pentanone (MIBK)	0.1*	ND	ND	ND	ND	ND	0.0562 J	ND	ND	ND	ND	ND	ND	ND
Styrene	70	ND	0.0115 J	ND	ND	ND	0.0165 J	ND	ND	ND	ND	0.00721 J	ND	ND
Toluene	600	ND	0.111	ND	0.103 J	ND	1.76	ND	ND	0.435	ND	0.0216 J	ND	ND
Trichloroethene	3	ND	ND	ND	ND	ND	0.00887	ND	ND	ND	ND	ND	ND	ND
Trichlorofluoromethane	2	ND	1.86	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,4-Trimethylbenzene	400	ND	0.0382 J	ND	ND	ND	0.0215 J	ND	ND	ND	ND	ND	ND	ND
1,3,5-Tricmethylbenzene	400	ND	0.0445 J	ND	ND	ND	0.388	ND	ND	0.215	ND	ND	ND	ND
Xylenes, Total	500	ND	0.103 J	ND	0.0796 J	ND	0.0789	ND	ND	0.0140 J	ND	0.0149 J	ND	ND
Metals (6010D)														
Arsenic	10	ND	NS	ND	NS	ND	NS	ND	ND	NS	ND	NS	ND	ND
Barium	700	46.1	NS	5.33	NS	284	NS	180	196	NS	8.29	NS	30.9	36.0
Chromium	10	1.51 J	NS	ND	NS	ND	NS	ND	ND	NS	ND	NS	ND	ND
Polychlorinated Biphenyls (8082A)	0.09*	NS	ND	ND	NS	NS	ND	NS	NS	ND	NS	ND	NS	NS
Mercury (7470A)	1	ND	NS	ND	ND	ND	NS	ND	0.108 J	NS	ND	NS	ND	ND

Notes:

Created by: NEB 12/3/2021
Checked by: AMS 12/6/2021

Results reported in mg/kg
Bold values indicate concentrations above the respective 2L Standard
NS: Not sampled
ND: Analyte was not detected above the laboratory reportable detection limit (RDL)
SED: Sediment
SS: Soil Sample
SW: Surface Water Sample
J qualifier: The identification of the analyte is acceptable; the reported value is an estimate
V qualifier: The sample concentration is too high to evaluate accurate spike recoveries
J3 qualifier: The associated batch QC was outside the established quality control range for precision
T8 qualifier: Sample received past/too close to holding time expiration
B qualifier: The same analyte is found in associated blank
Volatile Organic Compounds analyzed by EPA Method 8260D
Metals analyzed by EPA Method 6010D
Polychlorinated Biphenyls analyzed by EPA Method 8082A

Mercury analyzed by EPA Method 7470A



Wood Environment & Infrastructure Solutions, Inc. 5710 Oleander Drive, Suite 110 Wilmington, NC 28403 (910) 452-1185	**TITLE:** FORMER BASF **SITE:** HIGHWAY 421 PENDER COUNTY, NORTH CAROLINA	wood.	**CLIENT:** PENDER COUNTY **DATE:** 11-09-2021 **SCALE:** AS SHOWN **PROJ.:** 6228210243 **DR:** WBM **CHK:** JCP **LOCATION:** \\wlm-fs1\projects\Projects\CLIENTS\Pender County\Demolition Management\Figures, CAD Files\GIS\mxd\Former BASF.mxd	**Figure** 1

envirochem
ANALYTICAL & CONSULTING CHEMISTS

Environmental Chemists, Inc.

6602 Windmill Way, Wilmington, NC 28405 • 910.392.0223 Lab • 910.392.4424 Fax
710 Bowsertown Road, Manteo, NC 27954 • 252.473.5702 Lab/Fax
255-A Wilmington Highway, Jacksonville, NC 28540 • 910.347.5843 Lab/Fax

info@environmentalchemists.com

Wood -AMEC
5710 Oleander Drive , Suite 110
Wilmington NC 28405
Attention:

Date of Report: Dec 15, 2021
Customer PO #:
Customer ID: 11070019
Report #: 2021-21368
Project ID: Pender Demo

Lab ID	Sample ID:	Collect Date/Time	Matrix	Sampled by
21-53542	**Site:** RP-1	12/2/2021 2:36 PM	Water	Client

Test	Method	Results	Date Analyzed
Oil & Grease (O&G)	EPA 1664 Rev. B	<5.0 mg/L	12/10/2021
DRO	SW-846 8015 C	<0.1 mg/L	12/06/2021

Lab ID	Sample ID:	Collect Date/Time	Matrix	Sampled by
21-53542A	**Site:** RP-1	12/2/2021 2:36 PM	Water	Client

Test	Method	Results	Date Analyzed
Oil & Grease (O&G)	EPA 1664 With Silica Gel	42 mg/L	12/13/2021

Lab ID	Sample ID:	Collect Date/Time	Matrix	Sampled by
21-53543	**Site:** SB-1	12/2/2021 3:05 PM	Water	Client

Test	Method	Results	Date Analyzed
Oil & Grease (O&G)	EPA 1664 Rev. B	<5.0 mg/L	12/10/2021
DRO	SW-846 8015 C	0.254 mg/L	12/06/2021

Lab ID	Sample ID:	Collect Date/Time	Matrix	Sampled by
21-53543A	**Site:** SB-1	12/2/2021 3:05 PM	Water	Client

Test	Method	Results	Date Analyzed
Oil & Grease (O&G)	EPA 1664 With Silica Gel	<5.0 mg/L	12/13/2021

Comment:
Reviewed by:

ANALYTICAL REPORT

November 30, 2021

Wood E&I Solutions Inc. - Wilmington, NC

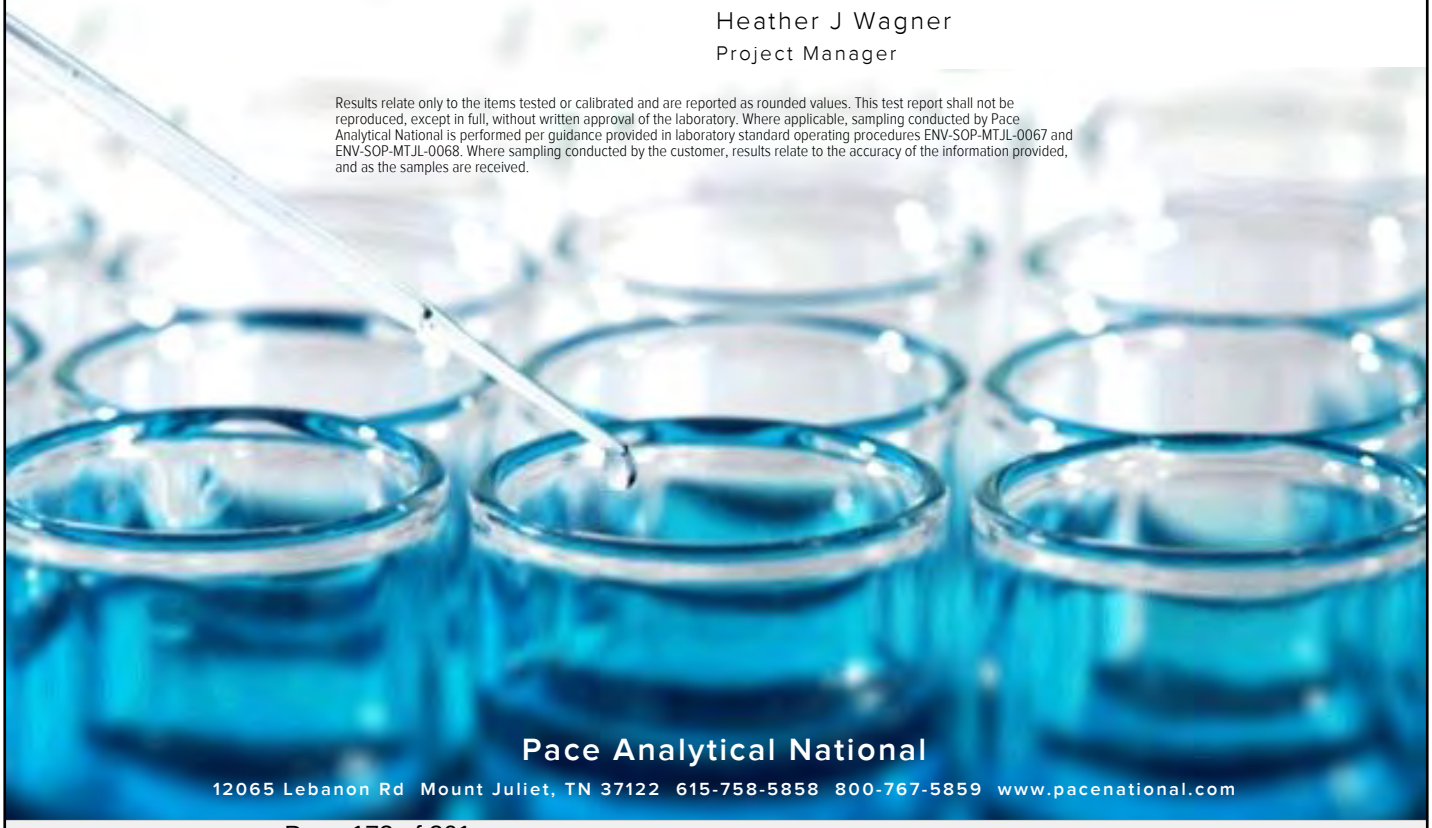
Sample Delivery Group:	L1427990
Samples Received:	11/06/2021
Project Number:	
Description:	Former BASF
Site:	PENDER COUNTY
Report To:	Chris Pruneau 5710 Oleander Drive, Suite 110 Wilmington, NC 28403

Entire Report Reviewed By:

[Preliminary Report]

Heather J Wagner
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

Cp: Cover Page 1
Tc: Table of Contents 2
Ss: Sample Summary 3
Cn: Case Narrative 8
Sr: Sample Results 9
NEB-1_SS-1_0-1 L1427990-01 9
NEB-1_SS-2_0-1 L1427990-02 10
NEB-1_SS-3_0-1 L1427990-03 11
NEB-1_SS-4_0-1 L1427990-04 12
NEB-1_SS-4A_1-2 L1427990-05 13
NEB-1_SS-4B_1-2 L1427990-06 14
NEB-1_SS-4C_1-2 L1427990-07 15
NEB-1_SS-4D_1-2 L1427990-08 16
NEB-1_SS-4E_3-4 L1427990-09 17
NEB-1_SS-5_0-1 L1427990-10 18
HDA_SS-1_0-1 L1427990-11 19
HDA_SS-2_0-1 L1427990-12 20
HDA_SS-3_0-1 L1427990-13 21
CTFS_SED_SS-1 L1427990-14 22
RP_SED_SS-1 L1427990-16 24
SB-1_SED_SS-1 L1427990-18 26
RBC_SED_SS-1 L1427990-20 28
SB-3_SED_SS-1 L1427990-22 30
NEBMHS_SW-1 L1427990-25 32
CTFS_SW-1 L1427990-26 34
SKB_SW-1 L1427990-27 36
RP_SW-1 L1427990-28 38
SB-1_SW-1 L1427990-29 40
RBC_SW-1 L1427990-30 42
SB-2_SW-1 L1427990-31 44
SB-3_SW-1 L1427990-32 46
Qc: Quality Control Summary 48
Total Solids by Method 2540 G-2011 48
Wet Chemistry by Method 1664B 50
Wet Chemistry by Method 9071B 52
Metals (ICP) by Method 6010D 54
Gl: Glossary of Terms 55
Al: Accreditations & Locations 57
Sc: Sample Chain of Custody 58

NEB-1_SS-1_0-1 L1427990-01 Solid

Collected by: B. Mabie | Collected date/time: 11/02/21 11:15 | Received date/time: 11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1771086	1	11/10/21 15:54	11/10/21 16:10	CMK	Mt. Juliet, TN
Wet Chemistry by Method 9071B	WG1769339	1	11/08/21 19:07	11/09/21 01:42	WAW	Mt. Juliet, TN

NEB-1_SS-2_0-1 L1427990-02 Solid

Collected by: B. Mabie | Collected date/time: 11/02/21 11:30 | Received date/time: 11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1771086	1	11/10/21 15:54	11/10/21 16:10	CMK	Mt. Juliet, TN
Wet Chemistry by Method 9071B	WG1769339	1	11/08/21 19:07	11/09/21 01:42	WAW	Mt. Juliet, TN

NEB-1_SS-3_0-1 L1427990-03 Solid

Collected by: B. Mabie | Collected date/time: 11/02/21 11:40 | Received date/time: 11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1771086	1	11/10/21 15:54	11/10/21 16:10	CMK	Mt. Juliet, TN
Wet Chemistry by Method 9071B	WG1771465	1	11/10/21 07:16	11/10/21 15:38	ERK	Mt. Juliet, TN

NEB-1_SS-4_0-1 L1427990-04 Solid

Collected by: B. Mabie | Collected date/time: 11/02/21 11:50 | Received date/time: 11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1771086	1	11/10/21 15:54	11/10/21 16:10	CMK	Mt. Juliet, TN
Wet Chemistry by Method 9071B	WG1771465	1	11/10/21 07:16	11/10/21 15:38	ERK	Mt. Juliet, TN

NEB-1_SS-4A_1-2 L1427990-05 Solid

Collected by: B. Mabie | Collected date/time: 11/02/21 12:00 | Received date/time: 11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1771086	1	11/10/21 15:54	11/10/21 16:10	CMK	Mt. Juliet, TN
Wet Chemistry by Method 9071B	WG1771465	1	11/10/21 07:16	11/10/21 15:38	ERK	Mt. Juliet, TN

NEB-1_SS-4B_1-2 L1427990-06 Solid

Collected by: B. Mabie | Collected date/time: 11/02/21 12:15 | Received date/time: 11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1771086	1	11/10/21 15:54	11/10/21 16:10	CMK	Mt. Juliet, TN
Wet Chemistry by Method 9071B	WG1771465	1	11/10/21 07:16	11/10/21 15:38	ERK	Mt. Juliet, TN

NEB-1_SS-4C_1-2 L1427990-07 Solid

Collected by: B. Mabie | Collected date/time: 11/02/21 12:30 | Received date/time: 11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1771087	1	11/10/21 17:13	11/10/21 17:32	CMK	Mt. Juliet, TN
Wet Chemistry by Method 9071B	WG1771465	1	11/10/21 07:16	11/10/21 15:38	ERK	Mt. Juliet, TN

1 Cp 2 Tc 3 Ss 4 Cn 5 Sr 6 Qc 7 Gl 8 Al 9 Sc

NEB-1_SS-4D_1-2 L1427990-08 Solid

Collected by: B. Mabie | Collected date/time: 11/02/21 12:40 | Received date/time: 11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1771087	1	11/10/21 17:13	11/10/21 17:32	CMK	Mt. Juliet, TN
Wet Chemistry by Method 9071B	WG1771465	1	11/10/21 07:16	11/10/21 15:38	ERK	Mt. Juliet, TN

NEB-1_SS-4E_3-4 L1427990-09 Solid

Collected by: B. Mabie | Collected date/time: 11/02/21 12:50 | Received date/time: 11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1771087	1	11/10/21 17:13	11/10/21 17:32	CMK	Mt. Juliet, TN
Wet Chemistry by Method 9071B	WG1771465	1	11/10/21 07:16	11/10/21 15:38	ERK	Mt. Juliet, TN

NEB-1_SS-5_0-1 L1427990-10 Solid

Collected by: B. Mabie | Collected date/time: 11/02/21 13:00 | Received date/time: 11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1771087	1	11/10/21 17:13	11/10/21 17:32	CMK	Mt. Juliet, TN
Wet Chemistry by Method 9071B	WG1771465	1	11/10/21 07:16	11/10/21 15:38	ERK	Mt. Juliet, TN

HDA_SS-1_0-1 L1427990-11 Solid

Collected by: B. Mabie | Collected date/time: 11/02/21 14:40 | Received date/time: 11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1771087	1	11/10/21 17:13	11/10/21 17:32	CMK	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1771257	1	11/09/21 14:00	11/09/21 14:00	PSN	Mt. Juliet, TN

HDA_SS-2_0-1 L1427990-12 Solid

Collected by: B. Mabie | Collected date/time: 11/02/21 14:50 | Received date/time: 11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1771087	1	11/10/21 17:13	11/10/21 17:32	CMK	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1771257	1	11/09/21 14:00	11/09/21 14:00	PSN	Mt. Juliet, TN

HDA_SS-3_0-1 L1427990-13 Solid

Collected by: B. Mabie | Collected date/time: 11/02/21 15:00 | Received date/time: 11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1771087	1	11/10/21 17:13	11/10/21 17:32	CMK	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1771257	1	11/09/21 14:00	11/09/21 14:00	PSN	Mt. Juliet, TN

CTFS_SED_SS-1 L1427990-14 Solid

Collected by: B. Mabie | Collected date/time: 11/03/21 14:40 | Received date/time: 11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1771087	1	11/10/21 17:13	11/10/21 17:32	CMK	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1771257	1	11/09/21 14:00	11/09/21 14:00	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9071B	WG1771465	1	11/10/21 07:16	11/10/21 15:38	ERK	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1774458	1.5	11/03/21 14:40	11/15/21 15:27	ADM	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method 8082 A	WG1772854	1	11/15/21 23:22	11/16/21 20:46	JMB	Mt. Juliet, TN

RP_SED_SS-1 L1427990-16 Solid

Collected by: B. Mabie | Collected date/time: 11/04/21 09:30 | Received date/time: 11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1771087	1	11/10/21 17:13	11/10/21 17:32	CMK	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1771257	1	11/09/21 14:00	11/09/21 14:00	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9071B	WG1771465	1	11/10/21 07:16	11/10/21 15:38	ERK	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1774458	1.38	11/04/21 09:30	11/15/21 15:46	ADM	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method 8082 A	WG1772854	1	11/15/21 23:22	11/16/21 20:56	JMB	Mt. Juliet, TN

SB-1_SED_SS-1 L1427990-18 Solid

Collected by: B. Mabie | Collected date/time: 11/04/21 10:40 | Received date/time: 11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1771087	1	11/10/21 17:13	11/10/21 17:32	CMK	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1771257	1	11/09/21 14:00	11/09/21 14:00	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9071B	WG1771465	1	11/10/21 07:16	11/10/21 15:38	ERK	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1771934	1.32	11/04/21 10:40	11/10/21 13:19	JHH	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method 8082 A	WG1772854	1	11/15/21 23:22	11/17/21 20:37	AMM	Mt. Juliet, TN

RBC_SED_SS-1 L1427990-20 Solid

Collected by: B. Mabie | Collected date/time: 11/04/21 11:30 | Received date/time: 11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1771166	1	11/10/21 13:02	11/10/21 13:28	CMK	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1771257	1	11/09/21 14:00	11/09/21 14:00	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9071B	WG1771465	1	11/10/21 07:16	11/10/21 16:23	ERK	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1774458	1.07	11/04/21 11:30	11/15/21 16:05	ADM	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method 8082 A	WG1772854	1	11/15/21 23:22	11/16/21 21:15	JMB	Mt. Juliet, TN

SB-3_SED_SS-1 L1427990-22 Solid

Collected by: B. Mabie | Collected date/time: 11/04/21 14:00 | Received date/time: 11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Total Solids by Method 2540 G-2011	WG1771166	1	11/10/21 13:02	11/10/21 13:28	CMK	Mt. Juliet, TN
Wet Chemistry by Method 9045D	WG1771257	1	11/09/21 14:00	11/09/21 14:00	PSN	Mt. Juliet, TN
Wet Chemistry by Method 9071B	WG1771465	1	11/10/21 07:16	11/10/21 16:23	ERK	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1771934	1.32	11/04/21 14:00	11/10/21 13:38	JHH	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method 8082 A	WG1772854	1	11/15/21 23:22	11/17/21 20:45	AMM	Mt. Juliet, TN

NEBMHS_SW-1 L1427990-25 GW

Collected by: B. Mabie | Collected date/time: 11/02/21 15:30 | Received date/time: 11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 1664B	WG1772765	1	11/11/21 17:45	11/12/21 08:22	ERK	Mt. Juliet, TN
Mercury by Method 7470A	WG1772646	1	11/12/21 08:35	11/14/21 15:09	MRW	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1778865	1	11/23/21 08:30	11/23/21 23:11	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1773047	1	11/12/21 00:55	11/12/21 00:55	JHH	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

CTFS_SW-1 L1427990-26 GW

Collected by: B. Mabie | Collected date/time: 11/02/21 15:50 | Received date/time: 11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 1664B	WG1772765	1	11/11/21 17:45	11/12/21 08:22	ERK	Mt. Juliet, TN
Mercury by Method 7470A	WG1772646	1	11/12/21 08:35	11/14/21 15:11	MRW	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1778865	1	11/23/21 08:30	11/23/21 23:28	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1773047	1	11/12/21 01:15	11/12/21 01:15	JHH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1774720	10	11/16/21 14:58	11/16/21 14:58	ACG	Mt. Juliet, TN

SKB_SW-1 L1427990-27 GW

Collected by: B. Mabie | Collected date/time: 11/03/21 10:30 | Received date/time: 11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 1664B	WG1772765	1	11/11/21 17:45	11/12/21 08:22	ERK	Mt. Juliet, TN
Mercury by Method 7470A	WG1772646	1	11/12/21 08:35	11/14/21 15:13	MRW	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1778865	1	11/23/21 08:30	11/23/21 23:31	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1773075	1	11/12/21 10:10	11/12/21 10:10	JAH	Mt. Juliet, TN

RP_SW-1 L1427990-28 GW

Collected by: B. Mabie | Collected date/time: 11/03/21 10:50 | Received date/time: 11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 1664B	WG1772765	1	11/11/21 17:45	11/12/21 08:22	ERK	Mt. Juliet, TN
Mercury by Method 7470A	WG1772646	1	11/12/21 08:35	11/14/21 15:15	MRW	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1778865	1	11/23/21 08:30	11/23/21 23:39	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1773185	1	11/12/21 04:42	11/12/21 04:42	BMB	Mt. Juliet, TN

SB-1_SW-1 L1427990-29 GW

Collected by: B. Mabie | Collected date/time: 11/03/21 11:00 | Received date/time: 11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 1664B	WG1773481	1	11/12/21 16:32	11/15/21 15:49	ERK	Mt. Juliet, TN
Mercury by Method 7470A	WG1772646	1	11/12/21 08:35	11/14/21 15:17	MRW	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1778865	1	11/23/21 08:30	11/23/21 23:42	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1773185	1	11/12/21 05:02	11/12/21 05:02	BMB	Mt. Juliet, TN

RBC_SW-1 L1427990-30 GW

Collected by: B. Mabie | Collected date/time: 11/03/21 11:20 | Received date/time: 11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 1664B	WG1772766	1	11/11/21 17:59	11/12/21 08:33	ERK	Mt. Juliet, TN
Mercury by Method 7470A	WG1772646	1	11/12/21 08:35	11/14/21 15:19	MRW	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1778865	1	11/23/21 08:30	11/23/21 23:44	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1773185	1	11/12/21 05:50	11/12/21 05:50	BMB	Mt. Juliet, TN

SB-2_SW-1 L1427990-31 GW

Collected by: B. Mabie | Collected date/time: 11/03/21 13:10 | Received date/time: 11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 1664B	WG1772766	1	11/11/21 17:59	11/12/21 08:33	ERK	Mt. Juliet, TN
Mercury by Method 7470A	WG1772646	1	11/12/21 08:35	11/14/21 15:25	MRW	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1778865	1	11/23/21 08:30	11/23/21 23:47	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1773185	1	11/12/21 06:11	11/12/21 06:11	BMB	Mt. Juliet, TN

SB-3_SW-1 L1427990-32 GW

Collected by	Collected date/time	Received date/time
B. Mabie	11/03/21 13:20	11/06/21 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 1664B	WG1773481	1	11/12/21 16:32	11/15/21 15:49	ERK	Mt. Juliet, TN
Mercury by Method 7470A	WG1772646	1	11/12/21 08:35	11/14/21 15:27	MRW	Mt. Juliet, TN
Metals (ICP) by Method 6010D	WG1778865	1	11/23/21 08:30	11/23/21 23:50	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260D	WG1773185	1	11/12/21 06:31	11/12/21 06:31	BMB	Mt. Juliet, TN

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

[Preliminary Report]

Heather J Wagner
Project Manager

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	78.8		1	11/10/2021 16:10	WG1771086

Wet Chemistry by Method 9071B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Oil & Grease (Hexane Extr)	12600		41.9	127	1	11/09/2021 01:42	WG1769339

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	90.6		1	11/10/2021 16:10	WG1771086

Wet Chemistry by Method 9071B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Oil & Grease (Hexane Extr)	20300	V	33.0	100	1	11/09/2021 01:42	WG1769339

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	92.3		1	11/10/2021 16:10	WG1771086

Wet Chemistry by Method 9071B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Oil & Grease (Hexane Extr)	22600	J3 V	33.0	100	1	11/10/2021 15:38	WG1771465

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	87.7		1	11/10/2021 16:10	WG1771086

Wet Chemistry by Method 9071B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Oil & Grease (Hexane Extr)	7180		37.6	114	1	11/10/2021 15:38	WG1771465

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.6		1	11/10/2021 16:10	WG1771086

Wet Chemistry by Method 9071B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Oil & Grease (Hexane Extr)	41.7	J	34.5	105	1	11/10/2021 15:38	WG1771465

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.0		1	11/10/2021 16:10	WG1771086

Wet Chemistry by Method 9071B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Oil & Grease (Hexane Extr)	168		35.5	107	1	11/10/2021 15:38	WG1771465

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	97.9		1	11/10/2021 17:32	WG1771087

Wet Chemistry by Method 9071B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Oil & Grease (Hexane Extr)	U		33.7	102	1	11/10/2021 15:38	WG1771465

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	91.5		1	11/10/2021 17:32	WG1771087

Wet Chemistry by Method 9071B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Oil & Grease (Hexane Extr)	152		36.1	109	1	11/10/2021 15:38	WG1771465

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	81.3		1	11/10/2021 17:32	WG1771087

Wet Chemistry by Method 9071B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Oil & Grease (Hexane Extr)	331		40.6	123	1	11/10/2021 15:38	WG1771465

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	93.6		1	11/10/2021 17:32	WG1771087

Wet Chemistry by Method 9071B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Oil & Grease (Hexane Extr)	31100		35.2	107	1	11/10/2021 15:38	WG1771465

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	98.2		1	11/10/2021 17:32	WG1771087

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.82	T8	1	11/09/2021 14:00	WG1771257

Sample Narrative:

L1427990-11 WG1771257: 8.82 at 19.9C

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	97.9		1	11/10/2021 17:32	WG1771087

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.40	T8	1	11/09/2021 14:00	WG1771257

Sample Narrative:

L1427990-12 WG1771257: 8.4 at 19.7C

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.3		1	11/10/2021 17:32	WG1771087

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.66	T8	1	11/09/2021 14:00	WG1771257

Sample Narrative:

L1427990-13 WG1771257: 8.66 at 19.7C

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	11.4		1	11/10/2021 17:32	WG1771087

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.06	T8	1	11/09/2021 14:00	WG1771257

Sample Narrative:

L1427990-14 WG1771257: 7.06 at 19.6C

Wet Chemistry by Method 9071B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Oil & Grease (Hexane Extr)	676	J	290	878	1	11/10/2021 15:38	WG1771465

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	2.23		0.763	1.05	1.5	11/15/2021 15:27	WG1774458
Acrylonitrile	U		0.0756	0.262	1.5	11/15/2021 15:27	WG1774458
Benzene	0.0514		0.00978	0.0209	1.5	11/15/2021 15:27	WG1774458
Bromobenzene	U		0.0188	0.262	1.5	11/15/2021 15:27	WG1774458
Bromodichloromethane	U		0.0152	0.0523	1.5	11/15/2021 15:27	WG1774458
Bromoform	U		0.0246	0.523	1.5	11/15/2021 15:27	WG1774458
Bromomethane	U		0.0413	0.262	1.5	11/15/2021 15:27	WG1774458
n-Butylbenzene	U		0.110	0.262	1.5	11/15/2021 15:27	WG1774458
sec-Butylbenzene	U		0.0603	0.262	1.5	11/15/2021 15:27	WG1774458
tert-Butylbenzene	U		0.0409	0.105	1.5	11/15/2021 15:27	WG1774458
Carbon tetrachloride	U		0.0188	0.105	1.5	11/15/2021 15:27	WG1774458
Chlorobenzene	U		0.00440	0.0523	1.5	11/15/2021 15:27	WG1774458
Chlorodibromomethane	U		0.0128	0.0523	1.5	11/15/2021 15:27	WG1774458
Chloroethane	U		0.0356	0.105	1.5	11/15/2021 15:27	WG1774458
Chloroform	U		0.0216	0.0523	1.5	11/15/2021 15:27	WG1774458
Chloromethane	U		0.0911	0.262	1.5	11/15/2021 15:27	WG1774458
2-Chlorotoluene	U		0.0181	0.0523	1.5	11/15/2021 15:27	WG1774458
4-Chlorotoluene	U		0.00942	0.105	1.5	11/15/2021 15:27	WG1774458
1,2-Dibromo-3-Chloropropane	U		0.0816	0.523	1.5	11/15/2021 15:27	WG1774458
1,2-Dibromoethane	U		0.0136	0.0523	1.5	11/15/2021 15:27	WG1774458
Dibromomethane	U		0.0158	0.105	1.5	11/15/2021 15:27	WG1774458
1,2-Dichlorobenzene	U		0.00890	0.105	1.5	11/15/2021 15:27	WG1774458
1,3-Dichlorobenzene	U		0.0126	0.105	1.5	11/15/2021 15:27	WG1774458
1,4-Dichlorobenzene	U		0.0147	0.105	1.5	11/15/2021 15:27	WG1774458
Dichlorodifluoromethane	U		0.0338	0.0523	1.5	11/15/2021 15:27	WG1774458
1,1-Dichloroethane	U		0.0103	0.0523	1.5	11/15/2021 15:27	WG1774458
1,2-Dichloroethane	U		0.0136	0.0523	1.5	11/15/2021 15:27	WG1774458
1,1-Dichloroethene	U		0.0127	0.0523	1.5	11/15/2021 15:27	WG1774458
cis-1,2-Dichloroethene	U		0.0153	0.0523	1.5	11/15/2021 15:27	WG1774458
trans-1,2-Dichloroethene	U		0.0218	0.105	1.5	11/15/2021 15:27	WG1774458
1,2-Dichloropropane	0.108		0.0297	0.105	1.5	11/15/2021 15:27	WG1774458
1,1-Dichloropropene	U		0.0169	0.0523	1.5	11/15/2021 15:27	WG1774458
1,3-Dichloropropane	U		0.0105	0.105	1.5	11/15/2021 15:27	WG1774458
cis-1,3-Dichloropropene	U		0.0159	0.0523	1.5	11/15/2021 15:27	WG1774458
trans-1,3-Dichloropropene	U		0.0239	0.105	1.5	11/15/2021 15:27	WG1774458
2,2-Dichloropropane	U		0.0289	0.0523	1.5	11/15/2021 15:27	WG1774458

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Di-isopropyl ether	U		0.00858	0.0209	1.5	11/15/2021 15:27	WG1774458
Ethylbenzene	0.0424	J	0.0155	0.0523	1.5	11/15/2021 15:27	WG1774458
Hexachloro-1,3-butadiene	U		0.126	0.523	1.5	11/15/2021 15:27	WG1774458
Isopropylbenzene	0.0115	J	0.00890	0.0523	1.5	11/15/2021 15:27	WG1774458
p-Isopropyltoluene	U		0.0534	0.105	1.5	11/15/2021 15:27	WG1774458
2-Butanone (MEK)	1.59	B J	1.33	2.09	1.5	11/15/2021 15:27	WG1774458
Methylene Chloride	U		0.139	0.523	1.5	11/15/2021 15:27	WG1774458
4-Methyl-2-pentanone (MIBK)	U		0.0477	0.523	1.5	11/15/2021 15:27	WG1774458
Methyl tert-butyl ether	U		0.00733	0.0209	1.5	11/15/2021 15:27	WG1774458
Naphthalene	U		0.102	0.262	1.5	11/15/2021 15:27	WG1774458
n-Propylbenzene	U		0.0200	0.105	1.5	11/15/2021 15:27	WG1774458
Styrene	0.0115	J	0.00479	0.262	1.5	11/15/2021 15:27	WG1774458
1,1,1,2-Tetrachloroethane	U		0.0198	0.0523	1.5	11/15/2021 15:27	WG1774458
1,1,2,2-Tetrachloroethane	U		0.0145	0.0523	1.5	11/15/2021 15:27	WG1774458
1,1,2-Trichlorotrifluoroethane	U		0.0158	0.0523	1.5	11/15/2021 15:27	WG1774458
Tetrachloroethene	U		0.0187	0.0523	1.5	11/15/2021 15:27	WG1774458
Toluene	0.111		0.0272	0.105	1.5	11/15/2021 15:27	WG1774458
1,2,3-Trichlorobenzene	U	C4	0.153	0.262	1.5	11/15/2021 15:27	WG1774458
1,2,4-Trichlorobenzene	U		0.0921	0.262	1.5	11/15/2021 15:27	WG1774458
1,1,1-Trichloroethane	U		0.0193	0.0523	1.5	11/15/2021 15:27	WG1774458
1,1,2-Trichloroethane	U		0.0125	0.0523	1.5	11/15/2021 15:27	WG1774458
Trichloroethene	U		0.0122	0.0209	1.5	11/15/2021 15:27	WG1774458
Trichlorofluoromethane	1.86		0.0173	0.0523	1.5	11/15/2021 15:27	WG1774458
1,2,3-Trichloropropane	U		0.0339	0.262	1.5	11/15/2021 15:27	WG1774458
1,2,4-Trimethylbenzene	0.0382	J	0.0331	0.105	1.5	11/15/2021 15:27	WG1774458
1,2,3-Trimethylbenzene	U		0.0331	0.105	1.5	11/15/2021 15:27	WG1774458
1,3,5-Trimethylbenzene	0.0445	J	0.0419	0.105	1.5	11/15/2021 15:27	WG1774458
Vinyl chloride	U		0.0243	0.0523	1.5	11/15/2021 15:27	WG1774458
Xylenes, Total	0.103	J	0.0184	0.136	1.5	11/15/2021 15:27	WG1774458
(S) Toluene-d8	*115*			*75.0-131*		*11/15/2021 15:27*	WG1774458
(S) 4-Bromofluorobenzene	*106*			*67.0-138*		*11/15/2021 15:27*	WG1774458
(S) 1,2-Dichloroethane-d4	*97.2*			*70.0-130*		*11/15/2021 15:27*	WG1774458

Polychlorinated Biphenyls (GC) by Method 8082 A

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
PCB 1016	U		0.104	0.298	1	11/16/2021 20:46	WG1772854
PCB 1221	U		0.104	0.298	1	11/16/2021 20:46	WG1772854
PCB 1232	U		0.104	0.298	1	11/16/2021 20:46	WG1772854
PCB 1242	U		0.104	0.298	1	11/16/2021 20:46	WG1772854
PCB 1248	U		0.0648	0.149	1	11/16/2021 20:46	WG1772854
PCB 1254	U		0.0648	0.149	1	11/16/2021 20:46	WG1772854
PCB 1260	U		0.0648	0.149	1	11/16/2021 20:46	WG1772854
(S) Decachlorobiphenyl	*66.3*			*10.0-135*		*11/16/2021 20:46*	WG1772854
(S) Tetrachloro-m-xylene	*79.8*			*10.0-139*		*11/16/2021 20:46*	WG1772854

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	3.54		1	11/10/2021 17:32	WG1771087

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	6.81	T8	1	11/09/2021 14:00	WG1771257

Sample Narrative:

L1427990-16 WG1771257: 6.81 at 19.4C

Wet Chemistry by Method 9071B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Oil & Grease (Hexane Extr)	U		932	2820	1	11/10/2021 15:38	WG1771465

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		2.42	3.31	1.38	11/15/2021 15:46	WG1774458
Acrylonitrile	U		0.239	0.830	1.38	11/15/2021 15:46	WG1774458
Benzene	U		0.0309	0.0662	1.38	11/15/2021 15:46	WG1774458
Bromobenzene	U		0.0595	0.830	1.38	11/15/2021 15:46	WG1774458
Bromodichloromethane	U		0.0479	0.165	1.38	11/15/2021 15:46	WG1774458
Bromoform	U		0.0772	1.65	1.38	11/15/2021 15:46	WG1774458
Bromomethane	U		0.130	0.830	1.38	11/15/2021 15:46	WG1774458
n-Butylbenzene	U		0.348	0.830	1.38	11/15/2021 15:46	WG1774458
sec-Butylbenzene	U		0.190	0.830	1.38	11/15/2021 15:46	WG1774458
tert-Butylbenzene	U		0.129	0.331	1.38	11/15/2021 15:46	WG1774458
Carbon tetrachloride	U		0.0595	0.331	1.38	11/15/2021 15:46	WG1774458
Chlorobenzene	U		0.0139	0.165	1.38	11/15/2021 15:46	WG1774458
Chlorodibromomethane	U		0.0405	0.165	1.38	11/15/2021 15:46	WG1774458
Chloroethane	U		0.113	0.331	1.38	11/15/2021 15:46	WG1774458
Chloroform	U		0.0681	0.165	1.38	11/15/2021 15:46	WG1774458
Chloromethane	U		0.288	0.830	1.38	11/15/2021 15:46	WG1774458
2-Chlorotoluene	U		0.0571	0.165	1.38	11/15/2021 15:46	WG1774458
4-Chlorotoluene	U		0.0298	0.331	1.38	11/15/2021 15:46	WG1774458
1,2-Dibromo-3-Chloropropane	U		0.258	1.65	1.38	11/15/2021 15:46	WG1774458
1,2-Dibromoethane	U		0.0429	0.165	1.38	11/15/2021 15:46	WG1774458
Dibromomethane	U		0.0499	0.331	1.38	11/15/2021 15:46	WG1774458
1,2-Dichlorobenzene	U		0.0281	0.331	1.38	11/15/2021 15:46	WG1774458
1,3-Dichlorobenzene	U		0.0397	0.331	1.38	11/15/2021 15:46	WG1774458
1,4-Dichlorobenzene	U		0.0463	0.331	1.38	11/15/2021 15:46	WG1774458
Dichlorodifluoromethane	U		0.106	0.165	1.38	11/15/2021 15:46	WG1774458
1,1-Dichloroethane	U		0.0325	0.165	1.38	11/15/2021 15:46	WG1774458
1,2-Dichloroethane	U		0.0430	0.165	1.38	11/15/2021 15:46	WG1774458
1,1-Dichloroethene	U		0.0401	0.165	1.38	11/15/2021 15:46	WG1774458
cis-1,2-Dichloroethene	U		0.0484	0.165	1.38	11/15/2021 15:46	WG1774458
trans-1,2-Dichloroethene	U		0.0690	0.331	1.38	11/15/2021 15:46	WG1774458
1,2-Dichloropropane	U		0.0940	0.331	1.38	11/15/2021 15:46	WG1774458
1,1-Dichloropropene	U		0.0537	0.165	1.38	11/15/2021 15:46	WG1774458
1,3-Dichloropropane	U		0.0331	0.331	1.38	11/15/2021 15:46	WG1774458
cis-1,3-Dichloropropene	U		0.0499	0.165	1.38	11/15/2021 15:46	WG1774458
trans-1,3-Dichloropropene	U		0.0753	0.331	1.38	11/15/2021 15:46	WG1774458
2,2-Dichloropropane	U		0.0911	0.165	1.38	11/15/2021 15:46	WG1774458

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Di-isopropyl ether	U		0.0271	0.0662	1.38	11/15/2021 15:46	WG1774458
Ethylbenzene	U		0.0489	0.165	1.38	11/15/2021 15:46	WG1774458
Hexachloro-1,3-butadiene	U		0.397	1.65	1.38	11/15/2021 15:46	WG1774458
Isopropylbenzene	U		0.0281	0.165	1.38	11/15/2021 15:46	WG1774458
p-Isopropyltoluene	U		0.169	0.331	1.38	11/15/2021 15:46	WG1774458
2-Butanone (MEK)	U		4.20	6.62	1.38	11/15/2021 15:46	WG1774458
Methylene Chloride	U		0.439	1.65	1.38	11/15/2021 15:46	WG1774458
4-Methyl-2-pentanone (MIBK)	U		0.151	1.65	1.38	11/15/2021 15:46	WG1774458
Methyl tert-butyl ether	U		0.0232	0.0662	1.38	11/15/2021 15:46	WG1774458
Naphthalene	U		0.323	0.830	1.38	11/15/2021 15:46	WG1774458
n-Propylbenzene	U		0.0628	0.331	1.38	11/15/2021 15:46	WG1774458
Styrene	U		0.0152	0.830	1.38	11/15/2021 15:46	WG1774458
1,1,1,2-Tetrachloroethane	U		0.0628	0.165	1.38	11/15/2021 15:46	WG1774458
1,1,2,2-Tetrachloroethane	U		0.0460	0.165	1.38	11/15/2021 15:46	WG1774458
1,1,2-Trichlorotrifluoroethane	U		0.0499	0.165	1.38	11/15/2021 15:46	WG1774458
Tetrachloroethene	U		0.0595	0.165	1.38	11/15/2021 15:46	WG1774458
Toluene	0.103	J	0.0858	0.331	1.38	11/15/2021 15:46	WG1774458
1,2,3-Trichlorobenzene	U	C4	0.484	0.830	1.38	11/15/2021 15:46	WG1774458
1,2,4-Trichlorobenzene	U		0.291	0.830	1.38	11/15/2021 15:46	WG1774458
1,1,1-Trichloroethane	U		0.0609	0.165	1.38	11/15/2021 15:46	WG1774458
1,1,2-Trichloroethane	U		0.0395	0.165	1.38	11/15/2021 15:46	WG1774458
Trichloroethene	U		0.0386	0.0662	1.38	11/15/2021 15:46	WG1774458
Trichlorofluoromethane	U		0.0547	0.165	1.38	11/15/2021 15:46	WG1774458
1,2,3-Trichloropropane	U		0.107	0.830	1.38	11/15/2021 15:46	WG1774458
1,2,4-Trimethylbenzene	U		0.105	0.331	1.38	11/15/2021 15:46	WG1774458
1,2,3-Trimethylbenzene	U		0.105	0.331	1.38	11/15/2021 15:46	WG1774458
1,3,5-Trimethylbenzene	U		0.132	0.331	1.38	11/15/2021 15:46	WG1774458
Vinyl chloride	U		0.0767	0.165	1.38	11/15/2021 15:46	WG1774458
Xylenes, Total	0.0796	J	0.0580	0.430	1.38	11/15/2021 15:46	WG1774458
(S) Toluene-d8	*114*			*75.0-131*		*11/15/2021 15:46*	WG1774458
(S) 4-Bromofluorobenzene	*104*			*67.0-138*		*11/15/2021 15:46*	WG1774458
(S) 1,2-Dichloroethane-d4	*95.3*			*70.0-130*		*11/15/2021 15:46*	WG1774458

Polychlorinated Biphenyls (GC) by Method 8082 A

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
PCB 1016	U		0.333	0.960	1	11/16/2021 20:56	WG1772854
PCB 1221	U		0.333	0.960	1	11/16/2021 20:56	WG1772854
PCB 1232	U		0.333	0.960	1	11/16/2021 20:56	WG1772854
PCB 1242	U		0.333	0.960	1	11/16/2021 20:56	WG1772854
PCB 1248	U		0.208	0.480	1	11/16/2021 20:56	WG1772854
PCB 1254	U		0.208	0.480	1	11/16/2021 20:56	WG1772854
PCB 1260	U		0.208	0.480	1	11/16/2021 20:56	WG1772854
(S) Decachlorobiphenyl	*70.0*			*10.0-135*		*11/16/2021 20:56*	WG1772854
(S) Tetrachloro-m-xylene	*89.0*			*10.0-139*		*11/16/2021 20:56*	WG1772854

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	24.0		1	11/10/2021 17:32	WG1771087

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.51	T8	1	11/09/2021 14:00	WG1771257

Sample Narrative:
L1427990-18 WG1771257: 7.51 at 19.3C

Wet Chemistry by Method 9071B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Oil & Grease (Hexane Extr)	659		138	417	1	11/10/2021 15:38	WG1771465

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		0.317	0.434	1.32	11/10/2021 13:19	WG1771934
Acrylonitrile	U		0.0314	0.108	1.32	11/10/2021 13:19	WG1771934
Benzene	0.0684		0.00405	0.00868	1.32	11/10/2021 13:19	WG1771934
Bromobenzene	U		0.00782	0.108	1.32	11/10/2021 13:19	WG1771934
Bromodichloromethane	U		0.00629	0.0217	1.32	11/10/2021 13:19	WG1771934
Bromoform	U	C3	0.0101	0.217	1.32	11/10/2021 13:19	WG1771934
Bromomethane	U		0.0171	0.108	1.32	11/10/2021 13:19	WG1771934
n-Butylbenzene	U		0.0456	0.108	1.32	11/10/2021 13:19	WG1771934
sec-Butylbenzene	U		0.0250	0.108	1.32	11/10/2021 13:19	WG1771934
tert-Butylbenzene	U		0.0169	0.0434	1.32	11/10/2021 13:19	WG1771934
Carbon tetrachloride	U		0.00782	0.0434	1.32	11/10/2021 13:19	WG1771934
Chlorobenzene	U		0.00182	0.0217	1.32	11/10/2021 13:19	WG1771934
Chlorodibromomethane	U		0.00531	0.0217	1.32	11/10/2021 13:19	WG1771934
Chloroethane	U		0.0147	0.0434	1.32	11/10/2021 13:19	WG1771934
Chloroform	U		0.00894	0.0217	1.32	11/10/2021 13:19	WG1771934
Chloromethane	U		0.0377	0.108	1.32	11/10/2021 13:19	WG1771934
2-Chlorotoluene	U		0.00749	0.0217	1.32	11/10/2021 13:19	WG1771934
4-Chlorotoluene	U		0.00390	0.0434	1.32	11/10/2021 13:19	WG1771934
1,2-Dibromo-3-Chloropropane	U		0.0339	0.217	1.32	11/10/2021 13:19	WG1771934
1,2-Dibromoethane	U		0.00562	0.0217	1.32	11/10/2021 13:19	WG1771934
Dibromomethane	U		0.00651	0.0434	1.32	11/10/2021 13:19	WG1771934
1,2-Dichlorobenzene	U		0.00369	0.0434	1.32	11/10/2021 13:19	WG1771934
1,3-Dichlorobenzene	U		0.00521	0.0434	1.32	11/10/2021 13:19	WG1771934
1,4-Dichlorobenzene	U		0.00607	0.0434	1.32	11/10/2021 13:19	WG1771934
Dichlorodifluoromethane	U		0.0140	0.0217	1.32	11/10/2021 13:19	WG1771934
1,1-Dichloroethane	U		0.00426	0.0217	1.32	11/10/2021 13:19	WG1771934
1,2-Dichloroethane	U		0.00563	0.0217	1.32	11/10/2021 13:19	WG1771934
1,1-Dichloroethene	U		0.00526	0.0217	1.32	11/10/2021 13:19	WG1771934
cis-1,2-Dichloroethene	U		0.00637	0.0217	1.32	11/10/2021 13:19	WG1771934
trans-1,2-Dichloroethene	U		0.00901	0.0434	1.32	11/10/2021 13:19	WG1771934
1,2-Dichloropropane	U		0.0123	0.0434	1.32	11/10/2021 13:19	WG1771934
1,1-Dichloropropene	U		0.00703	0.0217	1.32	11/10/2021 13:19	WG1771934
1,3-Dichloropropane	U		0.00434	0.0434	1.32	11/10/2021 13:19	WG1771934
cis-1,3-Dichloropropene	U		0.00657	0.0217	1.32	11/10/2021 13:19	WG1771934
trans-1,3-Dichloropropene	U		0.00986	0.0434	1.32	11/10/2021 13:19	WG1771934
2,2-Dichloropropane	U		0.0120	0.0217	1.32	11/10/2021 13:19	WG1771934

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Di-isopropyl ether	U		0.00356	0.00868	1.32	11/10/2021 13:19	WG1771934
Ethylbenzene	0.0467		0.00640	0.0217	1.32	11/10/2021 13:19	WG1771934
Hexachloro-1,3-butadiene	U		0.0521	0.217	1.32	11/10/2021 13:19	WG1771934
Isopropylbenzene	U		0.00369	0.0217	1.32	11/10/2021 13:19	WG1771934
p-Isopropyltoluene	U		0.0222	0.0434	1.32	11/10/2021 13:19	WG1771934
2-Butanone (MEK)	U		0.551	0.868	1.32	11/10/2021 13:19	WG1771934
Methylene Chloride	U		0.0576	0.217	1.32	11/10/2021 13:19	WG1771934
4-Methyl-2-pentanone (MIBK)	0.0562	J	0.0198	0.217	1.32	11/10/2021 13:19	WG1771934
Methyl tert-butyl ether	U		0.00304	0.00868	1.32	11/10/2021 13:19	WG1771934
Naphthalene	U		0.0423	0.108	1.32	11/10/2021 13:19	WG1771934
n-Propylbenzene	U		0.00822	0.0434	1.32	11/10/2021 13:19	WG1771934
Styrene	0.0165	J	0.00199	0.108	1.32	11/10/2021 13:19	WG1771934
1,1,1,2-Tetrachloroethane	U		0.00822	0.0217	1.32	11/10/2021 13:19	WG1771934
1,1,2,2-Tetrachloroethane	U		0.00603	0.0217	1.32	11/10/2021 13:19	WG1771934
1,1,2-Trichlorotrifluoroethane	U		0.00654	0.0217	1.32	11/10/2021 13:19	WG1771934
Tetrachloroethene	U		0.00776	0.0217	1.32	11/10/2021 13:19	WG1771934
Toluene	1.76		0.0113	0.0434	1.32	11/10/2021 13:19	WG1771934
1,2,3-Trichlorobenzene	U		0.0636	0.108	1.32	11/10/2021 13:19	WG1771934
1,2,4-Trichlorobenzene	U		0.0382	0.108	1.32	11/10/2021 13:19	WG1771934
1,1,1-Trichloroethane	U		0.00802	0.0217	1.32	11/10/2021 13:19	WG1771934
1,1,2-Trichloroethane	U		0.00518	0.0217	1.32	11/10/2021 13:19	WG1771934
Trichloroethene	0.00887		0.00507	0.00868	1.32	11/10/2021 13:19	WG1771934
Trichlorofluoromethane	U		0.00716	0.0217	1.32	11/10/2021 13:19	WG1771934
1,2,3-Trichloropropane	U		0.0141	0.108	1.32	11/10/2021 13:19	WG1771934
1,2,4-Trimethylbenzene	0.0215	J	0.0137	0.0434	1.32	11/10/2021 13:19	WG1771934
1,2,3-Trimethylbenzene	U		0.0137	0.0434	1.32	11/10/2021 13:19	WG1771934
1,3,5-Trimethylbenzene	0.388		0.0174	0.0434	1.32	11/10/2021 13:19	WG1771934
Vinyl chloride	U		0.0101	0.0217	1.32	11/10/2021 13:19	WG1771934
Xylenes, Total	0.0789		0.00762	0.0564	1.32	11/10/2021 13:19	WG1771934
(S) Toluene-d8	*110*			*75.0-131*		*11/10/2021 13:19*	WG1771934
(S) 4-Bromofluorobenzene	*91.4*			*67.0-138*		*11/10/2021 13:19*	WG1771934
(S) 1,2-Dichloroethane-d4	*97.9*			*70.0-130*		*11/10/2021 13:19*	WG1771934

Polychlorinated Biphenyls (GC) by Method 8082 A

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
PCB 1016	U		0.0492	0.142	1	11/17/2021 20:37	WG1772854
PCB 1221	U		0.0492	0.142	1	11/17/2021 20:37	WG1772854
PCB 1232	U		0.0492	0.142	1	11/17/2021 20:37	WG1772854
PCB 1242	U		0.0492	0.142	1	11/17/2021 20:37	WG1772854
PCB 1248	U		0.0308	0.0709	1	11/17/2021 20:37	WG1772854
PCB 1254	U		0.0308	0.0709	1	11/17/2021 20:37	WG1772854
PCB 1260	U		0.0308	0.0709	1	11/17/2021 20:37	WG1772854
(S) Decachlorobiphenyl	*68.0*			*10.0-135*		*11/17/2021 20:37*	WG1772854
(S) Tetrachloro-m-xylene	*73.9*			*10.0-139*		*11/17/2021 20:37*	WG1772854

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	17.2		1	11/10/2021 13:28	WG1771166

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.07	T8	1	11/09/2021 14:00	WG1771257

Sample Narrative:

L1427990-20 WG1771257: 7.07 at 19.2C

Wet Chemistry by Method 9071B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Oil & Grease (Hexane Extr)	1190		196	595	1	11/10/2021 16:23	WG1771465

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	0.498	J	0.405	0.554	1.07	11/15/2021 16:05	WG1774458
Acrylonitrile	U		0.0400	0.139	1.07	11/15/2021 16:05	WG1774458
Benzene	U		0.00518	0.0111	1.07	11/15/2021 16:05	WG1774458
Bromobenzene	U		0.00997	0.139	1.07	11/15/2021 16:05	WG1774458
Bromodichloromethane	U		0.00803	0.0277	1.07	11/15/2021 16:05	WG1774458
Bromoform	U		0.0129	0.277	1.07	11/15/2021 16:05	WG1774458
Bromomethane	U		0.0218	0.139	1.07	11/15/2021 16:05	WG1774458
n-Butylbenzene	U		0.0582	0.139	1.07	11/15/2021 16:05	WG1774458
sec-Butylbenzene	U		0.0319	0.139	1.07	11/15/2021 16:05	WG1774458
tert-Butylbenzene	U		0.0216	0.0554	1.07	11/15/2021 16:05	WG1774458
Carbon tetrachloride	U		0.00995	0.0554	1.07	11/15/2021 16:05	WG1774458
Chlorobenzene	U		0.00233	0.0277	1.07	11/15/2021 16:05	WG1774458
Chlorodibromomethane	U		0.00678	0.0277	1.07	11/15/2021 16:05	WG1774458
Chloroethane	U		0.0188	0.0554	1.07	11/15/2021 16:05	WG1774458
Chloroform	U		0.0114	0.0277	1.07	11/15/2021 16:05	WG1774458
Chloromethane	U		0.0481	0.139	1.07	11/15/2021 16:05	WG1774458
2-Chlorotoluene	U		0.00959	0.0277	1.07	11/15/2021 16:05	WG1774458
4-Chlorotoluene	U		0.00498	0.0554	1.07	11/15/2021 16:05	WG1774458
1,2-Dibromo-3-Chloropropane	U		0.0432	0.277	1.07	11/15/2021 16:05	WG1774458
1,2-Dibromoethane	U		0.00717	0.0277	1.07	11/15/2021 16:05	WG1774458
Dibromomethane	U		0.00831	0.0554	1.07	11/15/2021 16:05	WG1774458
1,2-Dichlorobenzene	U		0.00471	0.0554	1.07	11/15/2021 16:05	WG1774458
1,3-Dichlorobenzene	U		0.00665	0.0554	1.07	11/15/2021 16:05	WG1774458
1,4-Dichlorobenzene	U		0.00775	0.0554	1.07	11/15/2021 16:05	WG1774458
Dichlorodifluoromethane	U		0.0178	0.0277	1.07	11/15/2021 16:05	WG1774458
1,1-Dichloroethane	U		0.00544	0.0277	1.07	11/15/2021 16:05	WG1774458
1,2-Dichloroethane	U		0.00719	0.0277	1.07	11/15/2021 16:05	WG1774458
1,1-Dichloroethene	U		0.00671	0.0277	1.07	11/15/2021 16:05	WG1774458
cis-1,2-Dichloroethene	U		0.00813	0.0277	1.07	11/15/2021 16:05	WG1774458
trans-1,2-Dichloroethene	U		0.0115	0.0554	1.07	11/15/2021 16:05	WG1774458
1,2-Dichloropropane	U		0.0157	0.0554	1.07	11/15/2021 16:05	WG1774458
1,1-Dichloropropene	U		0.00897	0.0277	1.07	11/15/2021 16:05	WG1774458
1,3-Dichloropropane	U		0.00555	0.0554	1.07	11/15/2021 16:05	WG1774458
cis-1,3-Dichloropropene	U		0.00839	0.0277	1.07	11/15/2021 16:05	WG1774458
trans-1,3-Dichloropropene	U		0.0126	0.0554	1.07	11/15/2021 16:05	WG1774458
2,2-Dichloropropane	U		0.0153	0.0277	1.07	11/15/2021 16:05	WG1774458

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Di-isopropyl ether	U		0.00455	0.0111	1.07	11/15/2021 16:05	WG1774458
Ethylbenzene	0.00858	J	0.00817	0.0277	1.07	11/15/2021 16:05	WG1774458
Hexachloro-1,3-butadiene	U		0.0665	0.277	1.07	11/15/2021 16:05	WG1774458
Isopropylbenzene	U		0.00471	0.0277	1.07	11/15/2021 16:05	WG1774458
p-Isopropyltoluene	U		0.0283	0.0554	1.07	11/15/2021 16:05	WG1774458
2-Butanone (MEK)	U		0.703	1.11	1.07	11/15/2021 16:05	WG1774458
Methylene Chloride	U		0.0735	0.277	1.07	11/15/2021 16:05	WG1774458
4-Methyl-2-pentanone (MIBK)	U		0.0253	0.277	1.07	11/15/2021 16:05	WG1774458
Methyl tert-butyl ether	U		0.00387	0.0111	1.07	11/15/2021 16:05	WG1774458
Naphthalene	U		0.0540	0.139	1.07	11/15/2021 16:05	WG1774458
n-Propylbenzene	U		0.0106	0.0554	1.07	11/15/2021 16:05	WG1774458
Styrene	0.00721	J	0.00254	0.139	1.07	11/15/2021 16:05	WG1774458
1,1,1,2-Tetrachloroethane	U		0.0105	0.0277	1.07	11/15/2021 16:05	WG1774458
1,1,2,2-Tetrachloroethane	U		0.00770	0.0277	1.07	11/15/2021 16:05	WG1774458
1,1,2-Trichlorotrifluoroethane	U		0.00836	0.0277	1.07	11/15/2021 16:05	WG1774458
Tetrachloroethene	U		0.00993	0.0277	1.07	11/15/2021 16:05	WG1774458
Toluene	0.0216	J	0.0144	0.0554	1.07	11/15/2021 16:05	WG1774458
1,2,3-Trichlorobenzene	U	C4	0.0812	0.139	1.07	11/15/2021 16:05	WG1774458
1,2,4-Trichlorobenzene	U		0.0488	0.139	1.07	11/15/2021 16:05	WG1774458
1,1,1-Trichloroethane	U		0.0102	0.0277	1.07	11/15/2021 16:05	WG1774458
1,1,2-Trichloroethane	U		0.00662	0.0277	1.07	11/15/2021 16:05	WG1774458
Trichloroethene	U		0.00647	0.0111	1.07	11/15/2021 16:05	WG1774458
Trichlorofluoromethane	U		0.00916	0.0277	1.07	11/15/2021 16:05	WG1774458
1,2,3-Trichloropropane	U		0.0179	0.139	1.07	11/15/2021 16:05	WG1774458
1,2,4-Trimethylbenzene	U		0.0175	0.0554	1.07	11/15/2021 16:05	WG1774458
1,2,3-Trimethylbenzene	U		0.0175	0.0554	1.07	11/15/2021 16:05	WG1774458
1,3,5-Trimethylbenzene	U		0.0222	0.0554	1.07	11/15/2021 16:05	WG1774458
Vinyl chloride	U		0.0128	0.0277	1.07	11/15/2021 16:05	WG1774458
Xylenes, Total	0.0149	J	0.00975	0.0721	1.07	11/15/2021 16:05	WG1774458
(S) Toluene-d8	*116*			*75.0-131*		*11/15/2021 16:05*	WG1774458
(S) 4-Bromofluorobenzene	*104*			*67.0-138*		*11/15/2021 16:05*	WG1774458
(S) 1,2-Dichloroethane-d4	*93.7*			*70.0-130*		*11/15/2021 16:05*	WG1774458

Polychlorinated Biphenyls (GC) by Method 8082 A

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
PCB 1016	U		0.0688	0.198	1	11/16/2021 21:15	WG1772854
PCB 1221	U		0.0688	0.198	1	11/16/2021 21:15	WG1772854
PCB 1232	U		0.0688	0.198	1	11/16/2021 21:15	WG1772854
PCB 1242	U		0.0688	0.198	1	11/16/2021 21:15	WG1772854
PCB 1248	U		0.0430	0.0991	1	11/16/2021 21:15	WG1772854
PCB 1254	U		0.0430	0.0991	1	11/16/2021 21:15	WG1772854
PCB 1260	U		0.0430	0.0991	1	11/16/2021 21:15	WG1772854
(S) Decachlorobiphenyl	*71.1*			*10.0-135*		*11/16/2021 21:15*	WG1772854
(S) Tetrachloro-m-xylene	*83.0*			*10.0-139*		*11/16/2021 21:15*	WG1772854

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	17.6		1	11/10/2021 13:28	WG1771166

Wet Chemistry by Method 9045D

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.39	T8	1	11/09/2021 14:00	WG1771257

Sample Narrative:

L1427990-22 WG1771257: 7.39 at 19.1C

Wet Chemistry by Method 9071B

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Oil & Grease (Hexane Extr)	1460		187	567	1	11/10/2021 16:23	WG1771465

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry)	Qualifier	MDL (dry)	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg	mg/kg		date / time	
Acetone	U		0.444	0.608	1.32	11/10/2021 13:38	WG1771934
Acrylonitrile	U		0.0439	0.152	1.32	11/10/2021 13:38	WG1771934
Benzene	0.0206		0.00567	0.0122	1.32	11/10/2021 13:38	WG1771934
Bromobenzene	U		0.0110	0.152	1.32	11/10/2021 13:38	WG1771934
Bromodichloromethane	U		0.00881	0.0304	1.32	11/10/2021 13:38	WG1771934
Bromoform	U	C3	0.0142	0.304	1.32	11/10/2021 13:38	WG1771934
Bromomethane	U		0.0239	0.152	1.32	11/10/2021 13:38	WG1771934
n-Butylbenzene	U		0.0638	0.152	1.32	11/10/2021 13:38	WG1771934
sec-Butylbenzene	U		0.0350	0.152	1.32	11/10/2021 13:38	WG1771934
tert-Butylbenzene	U		0.0237	0.0608	1.32	11/10/2021 13:38	WG1771934
Carbon tetrachloride	U		0.0110	0.0608	1.32	11/10/2021 13:38	WG1771934
Chlorobenzene	U		0.00255	0.0304	1.32	11/10/2021 13:38	WG1771934
Chlorodibromomethane	U		0.00744	0.0304	1.32	11/10/2021 13:38	WG1771934
Chloroethane	U		0.0206	0.0608	1.32	11/10/2021 13:38	WG1771934
Chloroform	U		0.0125	0.0304	1.32	11/10/2021 13:38	WG1771934
Chloromethane	U		0.0529	0.152	1.32	11/10/2021 13:38	WG1771934
2-Chlorotoluene	U		0.0105	0.0304	1.32	11/10/2021 13:38	WG1771934
4-Chlorotoluene	U		0.00547	0.0608	1.32	11/10/2021 13:38	WG1771934
1,2-Dibromo-3-Chloropropane	U		0.0474	0.304	1.32	11/10/2021 13:38	WG1771934
1,2-Dibromoethane	U		0.00787	0.0304	1.32	11/10/2021 13:38	WG1771934
Dibromomethane	U		0.00912	0.0608	1.32	11/10/2021 13:38	WG1771934
1,2-Dichlorobenzene	U		0.00517	0.0608	1.32	11/10/2021 13:38	WG1771934
1,3-Dichlorobenzene	U		0.00729	0.0608	1.32	11/10/2021 13:38	WG1771934
1,4-Dichlorobenzene	U		0.00851	0.0608	1.32	11/10/2021 13:38	WG1771934
Dichlorodifluoromethane	U		0.0196	0.0304	1.32	11/10/2021 13:38	WG1771934
1,1-Dichloroethane	U		0.00597	0.0304	1.32	11/10/2021 13:38	WG1771934
1,2-Dichloroethane	U		0.00789	0.0304	1.32	11/10/2021 13:38	WG1771934
1,1-Dichloroethene	U		0.00737	0.0304	1.32	11/10/2021 13:38	WG1771934
cis-1,2-Dichloroethene	U		0.00892	0.0304	1.32	11/10/2021 13:38	WG1771934
trans-1,2-Dichloroethene	U		0.0126	0.0608	1.32	11/10/2021 13:38	WG1771934
1,2-Dichloropropane	U		0.0172	0.0608	1.32	11/10/2021 13:38	WG1771934
1,1-Dichloropropene	U		0.00985	0.0304	1.32	11/10/2021 13:38	WG1771934
1,3-Dichloropropane	U		0.00609	0.0608	1.32	11/10/2021 13:38	WG1771934
cis-1,3-Dichloropropene	U		0.00920	0.0304	1.32	11/10/2021 13:38	WG1771934
trans-1,3-Dichloropropene	U		0.0138	0.0608	1.32	11/10/2021 13:38	WG1771934
2,2-Dichloropropane	U		0.0168	0.0304	1.32	11/10/2021 13:38	WG1771934

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
Di-isopropyl ether	U		0.00498	0.0122	1.32	11/10/2021 13:38	WG1771934
Ethylbenzene	U		0.00896	0.0304	1.32	11/10/2021 13:38	WG1771934
Hexachloro-1,3-butadiene	U		0.0729	0.304	1.32	11/10/2021 13:38	WG1771934
Isopropylbenzene	U		0.00517	0.0304	1.32	11/10/2021 13:38	WG1771934
p-Isopropyltoluene	U		0.0310	0.0608	1.32	11/10/2021 13:38	WG1771934
2-Butanone (MEK)	U		0.772	1.22	1.32	11/10/2021 13:38	WG1771934
Methylene Chloride	U		0.0807	0.304	1.32	11/10/2021 13:38	WG1771934
4-Methyl-2-pentanone (MIBK)	U		0.0277	0.304	1.32	11/10/2021 13:38	WG1771934
Methyl tert-butyl ether	U		0.00426	0.0122	1.32	11/10/2021 13:38	WG1771934
Naphthalene	U		0.0593	0.152	1.32	11/10/2021 13:38	WG1771934
n-Propylbenzene	U		0.0115	0.0608	1.32	11/10/2021 13:38	WG1771934
Styrene	U		0.00278	0.152	1.32	11/10/2021 13:38	WG1771934
1,1,1,2-Tetrachloroethane	U		0.0115	0.0304	1.32	11/10/2021 13:38	WG1771934
1,1,2,2-Tetrachloroethane	U		0.00845	0.0304	1.32	11/10/2021 13:38	WG1771934
1,1,2-Trichlorotrifluoroethane	U		0.00916	0.0304	1.32	11/10/2021 13:38	WG1771934
Tetrachloroethene	U		0.0109	0.0304	1.32	11/10/2021 13:38	WG1771934
Toluene	0.435		0.0158	0.0608	1.32	11/10/2021 13:38	WG1771934
1,2,3-Trichlorobenzene	U		0.0892	0.152	1.32	11/10/2021 13:38	WG1771934
1,2,4-Trichlorobenzene	U		0.0535	0.152	1.32	11/10/2021 13:38	WG1771934
1,1,1-Trichloroethane	U		0.0112	0.0304	1.32	11/10/2021 13:38	WG1771934
1,1,2-Trichloroethane	U		0.00726	0.0304	1.32	11/10/2021 13:38	WG1771934
Trichloroethene	U		0.00710	0.0122	1.32	11/10/2021 13:38	WG1771934
Trichlorofluoromethane	U		0.0100	0.0304	1.32	11/10/2021 13:38	WG1771934
1,2,3-Trichloropropane	U		0.0197	0.152	1.32	11/10/2021 13:38	WG1771934
1,2,4-Trimethylbenzene	U		0.0192	0.0608	1.32	11/10/2021 13:38	WG1771934
1,2,3-Trimethylbenzene	U		0.0192	0.0608	1.32	11/10/2021 13:38	WG1771934
1,3,5-Trimethylbenzene	0.215		0.0243	0.0608	1.32	11/10/2021 13:38	WG1771934
Vinyl chloride	U		0.0141	0.0304	1.32	11/10/2021 13:38	WG1771934
Xylenes, Total	0.0140	J	0.0107	0.0790	1.32	11/10/2021 13:38	WG1771934
(S) Toluene-d8	*111*			*75.0-131*		*11/10/2021 13:38*	WG1771934
(S) 4-Bromofluorobenzene	*90.2*			*67.0-138*		*11/10/2021 13:38*	WG1771934
(S) 1,2-Dichloroethane-d4	*103*			*70.0-130*		*11/10/2021 13:38*	WG1771934

Polychlorinated Biphenyls (GC) by Method 8082 A

Analyte	Result (dry) mg/kg	Qualifier	MDL (dry) mg/kg	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
PCB 1016	U		0.0669	0.193	1	11/17/2021 20:45	WG1772854
PCB 1221	U		0.0669	0.193	1	11/17/2021 20:45	WG1772854
PCB 1232	U		0.0669	0.193	1	11/17/2021 20:45	WG1772854
PCB 1242	U		0.0669	0.193	1	11/17/2021 20:45	WG1772854
PCB 1248	U		0.0418	0.0963	1	11/17/2021 20:45	WG1772854
PCB 1254	U		0.0418	0.0963	1	11/17/2021 20:45	WG1772854
PCB 1260	U		0.0418	0.0963	1	11/17/2021 20:45	WG1772854
(S) Decachlorobiphenyl	*74.7*			*10.0-135*		*11/17/2021 20:45*	WG1772854
(S) Tetrachloro-m-xylene	*80.5*			*10.0-139*		*11/17/2021 20:45*	WG1772854

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Oil & Grease (Hexane Extr)	U		1220	5260	1	11/12/2021 08:22	WG1772765

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	U		0.100	0.200	1	11/14/2021 15:09	WG1772646

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Arsenic	U		4.40	10.0	1	11/23/2021 23:11	WG1778865
Barium	30.9		0.736	5.00	1	11/23/2021 23:11	WG1778865
Cadmium	U		0.479	2.00	1	11/23/2021 23:11	WG1778865
Chromium	U		1.40	10.0	1	11/23/2021 23:11	WG1778865
Lead	U		2.99	6.00	1	11/23/2021 23:11	WG1778865
Selenium	U		7.35	10.0	1	11/23/2021 23:11	WG1778865
Silver	U		1.54	5.00	1	11/23/2021 23:11	WG1778865

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	26.1	J	11.3	50.0	1	11/12/2021 00:55	WG1773047
Acrolein	U		2.54	50.0	1	11/12/2021 00:55	WG1773047
Acrylonitrile	U		0.671	10.0	1	11/12/2021 00:55	WG1773047
Benzene	U		0.0941	1.00	1	11/12/2021 00:55	WG1773047
Bromobenzene	U		0.118	1.00	1	11/12/2021 00:55	WG1773047
Bromodichloromethane	U		0.136	1.00	1	11/12/2021 00:55	WG1773047
Bromoform	U	C3	0.129	1.00	1	11/12/2021 00:55	WG1773047
Bromomethane	U		0.605	5.00	1	11/12/2021 00:55	WG1773047
n-Butylbenzene	U	J4	0.157	1.00	1	11/12/2021 00:55	WG1773047
sec-Butylbenzene	U	J4	0.125	1.00	1	11/12/2021 00:55	WG1773047
tert-Butylbenzene	U	J4	0.127	1.00	1	11/12/2021 00:55	WG1773047
Carbon tetrachloride	U		0.128	1.00	1	11/12/2021 00:55	WG1773047
Chlorobenzene	U		0.116	1.00	1	11/12/2021 00:55	WG1773047
Chlorodibromomethane	U		0.140	1.00	1	11/12/2021 00:55	WG1773047
Chloroethane	U		0.192	5.00	1	11/12/2021 00:55	WG1773047
Chloroform	U		0.111	5.00	1	11/12/2021 00:55	WG1773047
Chloromethane	U	J4	0.960	2.50	1	11/12/2021 00:55	WG1773047
2-Chlorotoluene	U		0.106	1.00	1	11/12/2021 00:55	WG1773047
4-Chlorotoluene	U	J4	0.114	1.00	1	11/12/2021 00:55	WG1773047
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	11/12/2021 00:55	WG1773047
1,2-Dibromoethane	U		0.126	1.00	1	11/12/2021 00:55	WG1773047
Dibromomethane	U		0.122	1.00	1	11/12/2021 00:55	WG1773047
1,2-Dichlorobenzene	U		0.107	1.00	1	11/12/2021 00:55	WG1773047
1,3-Dichlorobenzene	U		0.110	1.00	1	11/12/2021 00:55	WG1773047
1,4-Dichlorobenzene	U		0.120	1.00	1	11/12/2021 00:55	WG1773047
Dichlorodifluoromethane	U		0.374	5.00	1	11/12/2021 00:55	WG1773047
1,1-Dichloroethane	U		0.100	1.00	1	11/12/2021 00:55	WG1773047
1,2-Dichloroethane	U		0.0819	1.00	1	11/12/2021 00:55	WG1773047
1,1-Dichloroethene	U		0.188	1.00	1	11/12/2021 00:55	WG1773047
cis-1,2-Dichloroethene	U		0.126	1.00	1	11/12/2021 00:55	WG1773047
trans-1,2-Dichloroethene	U		0.149	1.00	1	11/12/2021 00:55	WG1773047
1,2-Dichloropropane	U		0.149	1.00	1	11/12/2021 00:55	WG1773047
1,1-Dichloropropene	U		0.142	1.00	1	11/12/2021 00:55	WG1773047

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,3-Dichloropropane	U		0.110	1.00	1	11/12/2021 00:55	WG1773047
cis-1,3-Dichloropropene	U		0.111	1.00	1	11/12/2021 00:55	WG1773047
trans-1,3-Dichloropropene	U		0.118	1.00	1	11/12/2021 00:55	WG1773047
2,2-Dichloropropane	U		0.161	1.00	1	11/12/2021 00:55	WG1773047
Di-isopropyl ether	U		0.105	1.00	1	11/12/2021 00:55	WG1773047
Ethylbenzene	U		0.137	1.00	1	11/12/2021 00:55	WG1773047
Hexachloro-1,3-butadiene	U		0.337	1.00	1	11/12/2021 00:55	WG1773047
Isopropylbenzene	U		0.105	1.00	1	11/12/2021 00:55	WG1773047
p-Isopropyltoluene	U		0.120	1.00	1	11/12/2021 00:55	WG1773047
2-Butanone (MEK)	U		1.19	10.0	1	11/12/2021 00:55	WG1773047
Methylene Chloride	U		0.430	5.00	1	11/12/2021 00:55	WG1773047
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	11/12/2021 00:55	WG1773047
Methyl tert-butyl ether	U		0.101	1.00	1	11/12/2021 00:55	WG1773047
Naphthalene	U		1.00	5.00	1	11/12/2021 00:55	WG1773047
n-Propylbenzene	U	J4	0.0993	1.00	1	11/12/2021 00:55	WG1773047
Styrene	U		0.118	1.00	1	11/12/2021 00:55	WG1773047
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	11/12/2021 00:55	WG1773047
1,1,2,2-Tetrachloroethane	U	J4	0.133	1.00	1	11/12/2021 00:55	WG1773047
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	11/12/2021 00:55	WG1773047
Tetrachloroethene	U		0.300	1.00	1	11/12/2021 00:55	WG1773047
Toluene	U		0.278	1.00	1	11/12/2021 00:55	WG1773047
1,2,3-Trichlorobenzene	U		0.230	1.00	1	11/12/2021 00:55	WG1773047
1,2,4-Trichlorobenzene	U		0.481	1.00	1	11/12/2021 00:55	WG1773047
1,1,1-Trichloroethane	U		0.149	1.00	1	11/12/2021 00:55	WG1773047
1,1,2-Trichloroethane	U		0.158	1.00	1	11/12/2021 00:55	WG1773047
Trichloroethene	U		0.190	1.00	1	11/12/2021 00:55	WG1773047
Trichlorofluoromethane	U		0.160	5.00	1	11/12/2021 00:55	WG1773047
1,2,3-Trichloropropane	U		0.237	2.50	1	11/12/2021 00:55	WG1773047
1,2,4-Trimethylbenzene	U		0.322	1.00	1	11/12/2021 00:55	WG1773047
1,2,3-Trimethylbenzene	U		0.104	1.00	1	11/12/2021 00:55	WG1773047
1,3,5-Trimethylbenzene	U	J4	0.104	1.00	1	11/12/2021 00:55	WG1773047
Vinyl chloride	U		0.234	1.00	1	11/12/2021 00:55	WG1773047
Xylenes, Total	U		0.174	3.00	1	11/12/2021 00:55	WG1773047
(S) Toluene-d8	*110*			*80.0-120*		*11/12/2021 00:55*	WG1773047
(S) 4-Bromofluorobenzene	*82.6*			*77.0-126*		*11/12/2021 00:55*	WG1773047
(S) 1,2-Dichloroethane-d4	*117*			*70.0-130*		*11/12/2021 00:55*	WG1773047

Wet Chemistry by Method 1664B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Oil & Grease (Hexane Extr)	U	J6	1220	5260	1	11/12/2021 08:22	WG1772765

Mercury by Method 7470A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Mercury	U		0.100	0.200	1	11/14/2021 15:11	WG1772646

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic	U		4.40	10.0	1	11/23/2021 23:28	WG1778865
Barium	46.1		0.736	5.00	1	11/23/2021 23:28	WG1778865
Cadmium	U		0.479	2.00	1	11/23/2021 23:28	WG1778865
Chromium	1.51	J	1.40	10.0	1	11/23/2021 23:28	WG1778865
Lead	U		2.99	6.00	1	11/23/2021 23:28	WG1778865
Selenium	U		7.35	10.0	1	11/23/2021 23:28	WG1778865
Silver	U		1.54	5.00	1	11/23/2021 23:28	WG1778865

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	695		113	500	10	11/16/2021 14:58	WG1774720
Acrolein	U		2.54	50.0	1	11/12/2021 01:15	WG1773047
Acrylonitrile	U		0.671	10.0	1	11/12/2021 01:15	WG1773047
Benzene	U		0.0941	1.00	1	11/12/2021 01:15	WG1773047
Bromobenzene	U		0.118	1.00	1	11/12/2021 01:15	WG1773047
Bromodichloromethane	U		0.136	1.00	1	11/12/2021 01:15	WG1773047
Bromoform	U	C3	0.129	1.00	1	11/12/2021 01:15	WG1773047
Bromomethane	U		0.605	5.00	1	11/12/2021 01:15	WG1773047
n-Butylbenzene	U	J4	0.157	1.00	1	11/12/2021 01:15	WG1773047
sec-Butylbenzene	U	J4	0.125	1.00	1	11/12/2021 01:15	WG1773047
tert-Butylbenzene	U	J4	0.127	1.00	1	11/12/2021 01:15	WG1773047
Carbon tetrachloride	U		0.128	1.00	1	11/12/2021 01:15	WG1773047
Chlorobenzene	U		0.116	1.00	1	11/12/2021 01:15	WG1773047
Chlorodibromomethane	U		0.140	1.00	1	11/12/2021 01:15	WG1773047
Chloroethane	U		0.192	5.00	1	11/12/2021 01:15	WG1773047
Chloroform	U		0.111	5.00	1	11/12/2021 01:15	WG1773047
Chloromethane	U	J4	0.960	2.50	1	11/12/2021 01:15	WG1773047
2-Chlorotoluene	U		0.106	1.00	1	11/12/2021 01:15	WG1773047
4-Chlorotoluene	U	J4	0.114	1.00	1	11/12/2021 01:15	WG1773047
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	11/12/2021 01:15	WG1773047
1,2-Dibromoethane	U		0.126	1.00	1	11/12/2021 01:15	WG1773047
Dibromomethane	U		0.122	1.00	1	11/12/2021 01:15	WG1773047
1,2-Dichlorobenzene	U		0.107	1.00	1	11/12/2021 01:15	WG1773047
1,3-Dichlorobenzene	U		0.110	1.00	1	11/12/2021 01:15	WG1773047
1,4-Dichlorobenzene	U		0.120	1.00	1	11/12/2021 01:15	WG1773047
Dichlorodifluoromethane	U		0.374	5.00	1	11/12/2021 01:15	WG1773047
1,1-Dichloroethane	U		0.100	1.00	1	11/12/2021 01:15	WG1773047
1,2-Dichloroethane	U		0.0819	1.00	1	11/12/2021 01:15	WG1773047
1,1-Dichloroethene	U		0.188	1.00	1	11/12/2021 01:15	WG1773047
cis-1,2-Dichloroethene	U		0.126	1.00	1	11/12/2021 01:15	WG1773047
trans-1,2-Dichloroethene	U		0.149	1.00	1	11/12/2021 01:15	WG1773047
1,2-Dichloropropane	U		0.149	1.00	1	11/12/2021 01:15	WG1773047
1,1-Dichloropropene	U		0.142	1.00	1	11/12/2021 01:15	WG1773047

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,3-Dichloropropane	U		0.110	1.00	1	11/12/2021 01:15	WG1773047
cis-1,3-Dichloropropene	U		0.111	1.00	1	11/12/2021 01:15	WG1773047
trans-1,3-Dichloropropene	U		0.118	1.00	1	11/12/2021 01:15	WG1773047
2,2-Dichloropropane	U		0.161	1.00	1	11/12/2021 01:15	WG1773047
Di-isopropyl ether	U		0.105	1.00	1	11/12/2021 01:15	WG1773047
Ethylbenzene	U		0.137	1.00	1	11/12/2021 01:15	WG1773047
Hexachloro-1,3-butadiene	U		0.337	1.00	1	11/12/2021 01:15	WG1773047
Isopropylbenzene	U		0.105	1.00	1	11/12/2021 01:15	WG1773047
p-Isopropyltoluene	U		0.120	1.00	1	11/12/2021 01:15	WG1773047
2-Butanone (MEK)	U		1.19	10.0	1	11/12/2021 01:15	WG1773047
Methylene Chloride	U		0.430	5.00	1	11/12/2021 01:15	WG1773047
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	11/12/2021 01:15	WG1773047
Methyl tert-butyl ether	U		0.101	1.00	1	11/12/2021 01:15	WG1773047
Naphthalene	U		1.00	5.00	1	11/12/2021 01:15	WG1773047
n-Propylbenzene	U	J4	0.0993	1.00	1	11/12/2021 01:15	WG1773047
Styrene	U		0.118	1.00	1	11/12/2021 01:15	WG1773047
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	11/12/2021 01:15	WG1773047
1,1,2,2-Tetrachloroethane	U	J4	0.133	1.00	1	11/12/2021 01:15	WG1773047
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	11/12/2021 01:15	WG1773047
Tetrachloroethene	U		0.300	1.00	1	11/12/2021 01:15	WG1773047
Toluene	U		0.278	1.00	1	11/12/2021 01:15	WG1773047
1,2,3-Trichlorobenzene	U		0.230	1.00	1	11/12/2021 01:15	WG1773047
1,2,4-Trichlorobenzene	U		0.481	1.00	1	11/12/2021 01:15	WG1773047
1,1,1-Trichloroethane	U		0.149	1.00	1	11/12/2021 01:15	WG1773047
1,1,2-Trichloroethane	U		0.158	1.00	1	11/12/2021 01:15	WG1773047
Trichloroethene	U		0.190	1.00	1	11/12/2021 01:15	WG1773047
Trichlorofluoromethane	U		0.160	5.00	1	11/12/2021 01:15	WG1773047
1,2,3-Trichloropropane	U		0.237	2.50	1	11/12/2021 01:15	WG1773047
1,2,4-Trimethylbenzene	U		0.322	1.00	1	11/12/2021 01:15	WG1773047
1,2,3-Trimethylbenzene	U		0.104	1.00	1	11/12/2021 01:15	WG1773047
1,3,5-Trimethylbenzene	U	J4	0.104	1.00	1	11/12/2021 01:15	WG1773047
Vinyl chloride	U		0.234	1.00	1	11/12/2021 01:15	WG1773047
Xylenes, Total	U		0.174	3.00	1	11/12/2021 01:15	WG1773047
(S) Toluene-d8	*110*			*80.0-120*		*11/12/2021 01:15*	WG1773047
(S) Toluene-d8	*99.8*			*80.0-120*		*11/16/2021 14:58*	WG1774720
(S) 4-Bromofluorobenzene	*85.2*			*77.0-126*		*11/12/2021 01:15*	WG1773047
(S) 4-Bromofluorobenzene	*97.4*			*77.0-126*		*11/16/2021 14:58*	WG1774720
(S) 1,2-Dichloroethane-d4	*112*			*70.0-130*		*11/12/2021 01:15*	WG1773047
(S) 1,2-Dichloroethane-d4	*138*	J1		*70.0-130*		*11/16/2021 14:58*	WG1774720

Wet Chemistry by Method 1664B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Oil & Grease (Hexane Extr)	U		1160	5000	1	11/12/2021 08:22	WG1772765

Mercury by Method 7470A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Mercury	U		0.100	0.200	1	11/14/2021 15:13	WG1772646

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic	U		4.40	10.0	1	11/23/2021 23:31	WG1778865
Barium	36.0		0.736	5.00	1	11/23/2021 23:31	WG1778865
Cadmium	U		0.479	2.00	1	11/23/2021 23:31	WG1778865
Chromium	U		1.40	10.0	1	11/23/2021 23:31	WG1778865
Lead	U		2.99	6.00	1	11/23/2021 23:31	WG1778865
Selenium	U		7.35	10.0	1	11/23/2021 23:31	WG1778865
Silver	U		1.54	5.00	1	11/23/2021 23:31	WG1778865

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	50.0	1	11/12/2021 10:10	WG1773075
Acrolein	U		2.54	50.0	1	11/12/2021 10:10	WG1773075
Acrylonitrile	U		0.671	10.0	1	11/12/2021 10:10	WG1773075
Benzene	U		0.0941	1.00	1	11/12/2021 10:10	WG1773075
Bromobenzene	U		0.118	1.00	1	11/12/2021 10:10	WG1773075
Bromodichloromethane	U		0.136	1.00	1	11/12/2021 10:10	WG1773075
Bromoform	U	C3	0.129	1.00	1	11/12/2021 10:10	WG1773075
Bromomethane	U	C3	0.605	5.00	1	11/12/2021 10:10	WG1773075
n-Butylbenzene	U		0.157	1.00	1	11/12/2021 10:10	WG1773075
sec-Butylbenzene	U		0.125	1.00	1	11/12/2021 10:10	WG1773075
tert-Butylbenzene	U		0.127	1.00	1	11/12/2021 10:10	WG1773075
Carbon tetrachloride	U	C3	0.128	1.00	1	11/12/2021 10:10	WG1773075
Chlorobenzene	U		0.116	1.00	1	11/12/2021 10:10	WG1773075
Chlorodibromomethane	U		0.140	1.00	1	11/12/2021 10:10	WG1773075
Chloroethane	U		0.192	5.00	1	11/12/2021 10:10	WG1773075
Chloroform	U		0.111	5.00	1	11/12/2021 10:10	WG1773075
Chloromethane	U	J4	0.960	2.50	1	11/12/2021 10:10	WG1773075
2-Chlorotoluene	U		0.106	1.00	1	11/12/2021 10:10	WG1773075
4-Chlorotoluene	U		0.114	1.00	1	11/12/2021 10:10	WG1773075
1,2-Dibromo-3-Chloropropane	U	C3	0.276	5.00	1	11/12/2021 10:10	WG1773075
1,2-Dibromoethane	U		0.126	1.00	1	11/12/2021 10:10	WG1773075
Dibromomethane	U		0.122	1.00	1	11/12/2021 10:10	WG1773075
1,2-Dichlorobenzene	U		0.107	1.00	1	11/12/2021 10:10	WG1773075
1,3-Dichlorobenzene	U		0.110	1.00	1	11/12/2021 10:10	WG1773075
1,4-Dichlorobenzene	U		0.120	1.00	1	11/12/2021 10:10	WG1773075
Dichlorodifluoromethane	U		0.374	5.00	1	11/12/2021 10:10	WG1773075
1,1-Dichloroethane	U		0.100	1.00	1	11/12/2021 10:10	WG1773075
1,2-Dichloroethane	U		0.0819	1.00	1	11/12/2021 10:10	WG1773075
1,1-Dichloroethene	U		0.188	1.00	1	11/12/2021 10:10	WG1773075
cis-1,2-Dichloroethene	U		0.126	1.00	1	11/12/2021 10:10	WG1773075
trans-1,2-Dichloroethene	U		0.149	1.00	1	11/12/2021 10:10	WG1773075
1,2-Dichloropropane	U		0.149	1.00	1	11/12/2021 10:10	WG1773075
1,1-Dichloropropene	U		0.142	1.00	1	11/12/2021 10:10	WG1773075

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,3-Dichloropropane	U		0.110	1.00	1	11/12/2021 10:10	WG1773075
cis-1,3-Dichloropropene	U		0.111	1.00	1	11/12/2021 10:10	WG1773075
trans-1,3-Dichloropropene	U		0.118	1.00	1	11/12/2021 10:10	WG1773075
2,2-Dichloropropane	U		0.161	1.00	1	11/12/2021 10:10	WG1773075
Di-isopropyl ether	U		0.105	1.00	1	11/12/2021 10:10	WG1773075
Ethylbenzene	U		0.137	1.00	1	11/12/2021 10:10	WG1773075
Hexachloro-1,3-butadiene	U	C3	0.337	1.00	1	11/12/2021 10:10	WG1773075
Isopropylbenzene	U		0.105	1.00	1	11/12/2021 10:10	WG1773075
p-Isopropyltoluene	U		0.120	1.00	1	11/12/2021 10:10	WG1773075
2-Butanone (MEK)	U		1.19	10.0	1	11/12/2021 10:10	WG1773075
Methylene Chloride	U		0.430	5.00	1	11/12/2021 10:10	WG1773075
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	11/12/2021 10:10	WG1773075
Methyl tert-butyl ether	U		0.101	1.00	1	11/12/2021 10:10	WG1773075
Naphthalene	U	C3 J4	1.00	5.00	1	11/12/2021 10:10	WG1773075
n-Propylbenzene	U		0.0993	1.00	1	11/12/2021 10:10	WG1773075
Styrene	U		0.118	1.00	1	11/12/2021 10:10	WG1773075
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	11/12/2021 10:10	WG1773075
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	11/12/2021 10:10	WG1773075
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	11/12/2021 10:10	WG1773075
Tetrachloroethene	U		0.300	1.00	1	11/12/2021 10:10	WG1773075
Toluene	U		0.278	1.00	1	11/12/2021 10:10	WG1773075
1,2,3-Trichlorobenzene	U	C4 J4	0.230	1.00	1	11/12/2021 10:10	WG1773075
1,2,4-Trichlorobenzene	U	C3	0.481	1.00	1	11/12/2021 10:10	WG1773075
1,1,1-Trichloroethane	U		0.149	1.00	1	11/12/2021 10:10	WG1773075
1,1,2-Trichloroethane	U		0.158	1.00	1	11/12/2021 10:10	WG1773075
Trichloroethene	U		0.190	1.00	1	11/12/2021 10:10	WG1773075
Trichlorofluoromethane	U		0.160	5.00	1	11/12/2021 10:10	WG1773075
1,2,3-Trichloropropane	U		0.237	2.50	1	11/12/2021 10:10	WG1773075
1,2,4-Trimethylbenzene	U		0.322	1.00	1	11/12/2021 10:10	WG1773075
1,2,3-Trimethylbenzene	U		0.104	1.00	1	11/12/2021 10:10	WG1773075
1,3,5-Trimethylbenzene	U		0.104	1.00	1	11/12/2021 10:10	WG1773075
Vinyl chloride	U		0.234	1.00	1	11/12/2021 10:10	WG1773075
Xylenes, Total	U		0.174	3.00	1	11/12/2021 10:10	WG1773075
(S) Toluene-d8	*103*			*80.0-120*		*11/12/2021 10:10*	WG1773075
(S) 4-Bromofluorobenzene	*93.6*			*77.0-126*		*11/12/2021 10:10*	WG1773075
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*		*11/12/2021 10:10*	WG1773075

Wet Chemistry by Method 1664B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Oil & Grease (Hexane Extr)	2000	J	1290	5560	1	11/12/2021 08:22	WG1772765

Mercury by Method 7470A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Mercury	U		0.100	0.200	1	11/14/2021 15:15	WG1772646

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic	U		4.40	10.0	1	11/23/2021 23:39	WG1778865
Barium	5.33		0.736	5.00	1	11/23/2021 23:39	WG1778865
Cadmium	U		0.479	2.00	1	11/23/2021 23:39	WG1778865
Chromium	U		1.40	10.0	1	11/23/2021 23:39	WG1778865
Lead	U		2.99	6.00	1	11/23/2021 23:39	WG1778865
Selenium	U		7.35	10.0	1	11/23/2021 23:39	WG1778865
Silver	U		1.54	5.00	1	11/23/2021 23:39	WG1778865

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	50.0	1	11/12/2021 04:42	WG1773185
Acrolein	U	C3	2.54	50.0	1	11/12/2021 04:42	WG1773185
Acrylonitrile	U		0.671	10.0	1	11/12/2021 04:42	WG1773185
Benzene	U		0.0941	1.00	1	11/12/2021 04:42	WG1773185
Bromobenzene	U		0.118	1.00	1	11/12/2021 04:42	WG1773185
Bromodichloromethane	U		0.136	1.00	1	11/12/2021 04:42	WG1773185
Bromoform	U		0.129	1.00	1	11/12/2021 04:42	WG1773185
Bromomethane	U		0.605	5.00	1	11/12/2021 04:42	WG1773185
n-Butylbenzene	U		0.157	1.00	1	11/12/2021 04:42	WG1773185
sec-Butylbenzene	U		0.125	1.00	1	11/12/2021 04:42	WG1773185
tert-Butylbenzene	U		0.127	1.00	1	11/12/2021 04:42	WG1773185
Carbon tetrachloride	U		0.128	1.00	1	11/12/2021 04:42	WG1773185
Chlorobenzene	U		0.116	1.00	1	11/12/2021 04:42	WG1773185
Chlorodibromomethane	U		0.140	1.00	1	11/12/2021 04:42	WG1773185
Chloroethane	U		0.192	5.00	1	11/12/2021 04:42	WG1773185
Chloroform	U		0.111	5.00	1	11/12/2021 04:42	WG1773185
Chloromethane	U		0.960	2.50	1	11/12/2021 04:42	WG1773185
2-Chlorotoluene	U		0.106	1.00	1	11/12/2021 04:42	WG1773185
4-Chlorotoluene	U		0.114	1.00	1	11/12/2021 04:42	WG1773185
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	11/12/2021 04:42	WG1773185
1,2-Dibromoethane	U		0.126	1.00	1	11/12/2021 04:42	WG1773185
Dibromomethane	U		0.122	1.00	1	11/12/2021 04:42	WG1773185
1,2-Dichlorobenzene	U		0.107	1.00	1	11/12/2021 04:42	WG1773185
1,3-Dichlorobenzene	U		0.110	1.00	1	11/12/2021 04:42	WG1773185
1,4-Dichlorobenzene	U		0.120	1.00	1	11/12/2021 04:42	WG1773185
Dichlorodifluoromethane	U		0.374	5.00	1	11/12/2021 04:42	WG1773185
1,1-Dichloroethane	U		0.100	1.00	1	11/12/2021 04:42	WG1773185
1,2-Dichloroethane	U		0.0819	1.00	1	11/12/2021 04:42	WG1773185
1,1-Dichloroethene	U		0.188	1.00	1	11/12/2021 04:42	WG1773185
cis-1,2-Dichloroethene	U		0.126	1.00	1	11/12/2021 04:42	WG1773185
trans-1,2-Dichloroethene	U		0.149	1.00	1	11/12/2021 04:42	WG1773185
1,2-Dichloropropane	U		0.149	1.00	1	11/12/2021 04:42	WG1773185
1,1-Dichloropropene	U		0.142	1.00	1	11/12/2021 04:42	WG1773185

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,3-Dichloropropane	U		0.110	1.00	1	11/12/2021 04:42	WG1773185
cis-1,3-Dichloropropene	U		0.111	1.00	1	11/12/2021 04:42	WG1773185
trans-1,3-Dichloropropene	U		0.118	1.00	1	11/12/2021 04:42	WG1773185
2,2-Dichloropropane	U		0.161	1.00	1	11/12/2021 04:42	WG1773185
Di-isopropyl ether	U		0.105	1.00	1	11/12/2021 04:42	WG1773185
Ethylbenzene	U		0.137	1.00	1	11/12/2021 04:42	WG1773185
Hexachloro-1,3-butadiene	U		0.337	1.00	1	11/12/2021 04:42	WG1773185
Isopropylbenzene	U		0.105	1.00	1	11/12/2021 04:42	WG1773185
p-Isopropyltoluene	U		0.120	1.00	1	11/12/2021 04:42	WG1773185
2-Butanone (MEK)	U		1.19	10.0	1	11/12/2021 04:42	WG1773185
Methylene Chloride	U	J4	0.430	5.00	1	11/12/2021 04:42	WG1773185
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	11/12/2021 04:42	WG1773185
Methyl tert-butyl ether	U		0.101	1.00	1	11/12/2021 04:42	WG1773185
Naphthalene	U		1.00	5.00	1	11/12/2021 04:42	WG1773185
n-Propylbenzene	U		0.0993	1.00	1	11/12/2021 04:42	WG1773185
Styrene	U		0.118	1.00	1	11/12/2021 04:42	WG1773185
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	11/12/2021 04:42	WG1773185
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	11/12/2021 04:42	WG1773185
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	11/12/2021 04:42	WG1773185
Tetrachloroethene	U		0.300	1.00	1	11/12/2021 04:42	WG1773185
Toluene	U		0.278	1.00	1	11/12/2021 04:42	WG1773185
1,2,3-Trichlorobenzene	U		0.230	1.00	1	11/12/2021 04:42	WG1773185
1,2,4-Trichlorobenzene	U		0.481	1.00	1	11/12/2021 04:42	WG1773185
1,1,1-Trichloroethane	U		0.149	1.00	1	11/12/2021 04:42	WG1773185
1,1,2-Trichloroethane	U		0.158	1.00	1	11/12/2021 04:42	WG1773185
Trichloroethene	U		0.190	1.00	1	11/12/2021 04:42	WG1773185
Trichlorofluoromethane	U		0.160	5.00	1	11/12/2021 04:42	WG1773185
1,2,3-Trichloropropane	U		0.237	2.50	1	11/12/2021 04:42	WG1773185
1,2,4-Trimethylbenzene	U		0.322	1.00	1	11/12/2021 04:42	WG1773185
1,2,3-Trimethylbenzene	U		0.104	1.00	1	11/12/2021 04:42	WG1773185
1,3,5-Trimethylbenzene	U		0.104	1.00	1	11/12/2021 04:42	WG1773185
Vinyl chloride	U		0.234	1.00	1	11/12/2021 04:42	WG1773185
Xylenes, Total	U		0.174	3.00	1	11/12/2021 04:42	WG1773185
(S) Toluene-d8	*98.8*			*80.0-120*		*11/12/2021 04:42*	WG1773185
(S) 4-Bromofluorobenzene	*94.8*			*77.0-126*		*11/12/2021 04:42*	WG1773185
(S) 1,2-Dichloroethane-d4	*101*			*70.0-130*		*11/12/2021 04:42*	WG1773185

Wet Chemistry by Method 1664B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Oil & Grease (Hexane Extr)	1890	J	1220	5260	1	11/15/2021 15:49	WG1773481

Mercury by Method 7470A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Mercury	U		0.100	0.200	1	11/14/2021 15:17	WG1772646

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic	U		4.40	10.0	1	11/23/2021 23:42	WG1778865
Barium	284		0.736	5.00	1	11/23/2021 23:42	WG1778865
Cadmium	U		0.479	2.00	1	11/23/2021 23:42	WG1778865
Chromium	U		1.40	10.0	1	11/23/2021 23:42	WG1778865
Lead	U		2.99	6.00	1	11/23/2021 23:42	WG1778865
Selenium	U		7.35	10.0	1	11/23/2021 23:42	WG1778865
Silver	U		1.54	5.00	1	11/23/2021 23:42	WG1778865

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	26.1	J	11.3	50.0	1	11/12/2021 05:02	WG1773185
Acrolein	U	C3	2.54	50.0	1	11/12/2021 05:02	WG1773185
Acrylonitrile	U		0.671	10.0	1	11/12/2021 05:02	WG1773185
Benzene	U		0.0941	1.00	1	11/12/2021 05:02	WG1773185
Bromobenzene	U		0.118	1.00	1	11/12/2021 05:02	WG1773185
Bromodichloromethane	U		0.136	1.00	1	11/12/2021 05:02	WG1773185
Bromoform	U		0.129	1.00	1	11/12/2021 05:02	WG1773185
Bromomethane	U		0.605	5.00	1	11/12/2021 05:02	WG1773185
n-Butylbenzene	U		0.157	1.00	1	11/12/2021 05:02	WG1773185
sec-Butylbenzene	U		0.125	1.00	1	11/12/2021 05:02	WG1773185
tert-Butylbenzene	U		0.127	1.00	1	11/12/2021 05:02	WG1773185
Carbon tetrachloride	U		0.128	1.00	1	11/12/2021 05:02	WG1773185
Chlorobenzene	U		0.116	1.00	1	11/12/2021 05:02	WG1773185
Chlorodibromomethane	U		0.140	1.00	1	11/12/2021 05:02	WG1773185
Chloroethane	U		0.192	5.00	1	11/12/2021 05:02	WG1773185
Chloroform	U		0.111	5.00	1	11/12/2021 05:02	WG1773185
Chloromethane	U		0.960	2.50	1	11/12/2021 05:02	WG1773185
2-Chlorotoluene	U		0.106	1.00	1	11/12/2021 05:02	WG1773185
4-Chlorotoluene	U		0.114	1.00	1	11/12/2021 05:02	WG1773185
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	11/12/2021 05:02	WG1773185
1,2-Dibromoethane	U		0.126	1.00	1	11/12/2021 05:02	WG1773185
Dibromomethane	U		0.122	1.00	1	11/12/2021 05:02	WG1773185
1,2-Dichlorobenzene	U		0.107	1.00	1	11/12/2021 05:02	WG1773185
1,3-Dichlorobenzene	U		0.110	1.00	1	11/12/2021 05:02	WG1773185
1,4-Dichlorobenzene	U		0.120	1.00	1	11/12/2021 05:02	WG1773185
Dichlorodifluoromethane	U		0.374	5.00	1	11/12/2021 05:02	WG1773185
1,1-Dichloroethane	U		0.100	1.00	1	11/12/2021 05:02	WG1773185
1,2-Dichloroethane	U		0.0819	1.00	1	11/12/2021 05:02	WG1773185
1,1-Dichloroethene	U		0.188	1.00	1	11/12/2021 05:02	WG1773185
cis-1,2-Dichloroethene	U		0.126	1.00	1	11/12/2021 05:02	WG1773185
trans-1,2-Dichloroethene	U		0.149	1.00	1	11/12/2021 05:02	WG1773185
1,2-Dichloropropane	U		0.149	1.00	1	11/12/2021 05:02	WG1773185
1,1-Dichloropropene	U		0.142	1.00	1	11/12/2021 05:02	WG1773185

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
1,3-Dichloropropane	U		0.110	1.00	1	11/12/2021 05:02	WG1773185
cis-1,3-Dichloropropene	U		0.111	1.00	1	11/12/2021 05:02	WG1773185
trans-1,3-Dichloropropene	U		0.118	1.00	1	11/12/2021 05:02	WG1773185
2,2-Dichloropropane	U		0.161	1.00	1	11/12/2021 05:02	WG1773185
Di-isopropyl ether	U		0.105	1.00	1	11/12/2021 05:02	WG1773185
Ethylbenzene	U		0.137	1.00	1	11/12/2021 05:02	WG1773185
Hexachloro-1,3-butadiene	U		0.337	1.00	1	11/12/2021 05:02	WG1773185
Isopropylbenzene	U		0.105	1.00	1	11/12/2021 05:02	WG1773185
p-Isopropyltoluene	U		0.120	1.00	1	11/12/2021 05:02	WG1773185
2-Butanone (MEK)	U		1.19	10.0	1	11/12/2021 05:02	WG1773185
Methylene Chloride	U	J4	0.430	5.00	1	11/12/2021 05:02	WG1773185
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	11/12/2021 05:02	WG1773185
Methyl tert-butyl ether	U		0.101	1.00	1	11/12/2021 05:02	WG1773185
Naphthalene	U		1.00	5.00	1	11/12/2021 05:02	WG1773185
n-Propylbenzene	U		0.0993	1.00	1	11/12/2021 05:02	WG1773185
Styrene	U		0.118	1.00	1	11/12/2021 05:02	WG1773185
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	11/12/2021 05:02	WG1773185
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	11/12/2021 05:02	WG1773185
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	11/12/2021 05:02	WG1773185
Tetrachloroethene	U		0.300	1.00	1	11/12/2021 05:02	WG1773185
Toluene	U		0.278	1.00	1	11/12/2021 05:02	WG1773185
1,2,3-Trichlorobenzene	U		0.230	1.00	1	11/12/2021 05:02	WG1773185
1,2,4-Trichlorobenzene	U		0.481	1.00	1	11/12/2021 05:02	WG1773185
1,1,1-Trichloroethane	U		0.149	1.00	1	11/12/2021 05:02	WG1773185
1,1,2-Trichloroethane	U		0.158	1.00	1	11/12/2021 05:02	WG1773185
Trichloroethene	U		0.190	1.00	1	11/12/2021 05:02	WG1773185
Trichlorofluoromethane	U		0.160	5.00	1	11/12/2021 05:02	WG1773185
1,2,3-Trichloropropane	U		0.237	2.50	1	11/12/2021 05:02	WG1773185
1,2,4-Trimethylbenzene	U		0.322	1.00	1	11/12/2021 05:02	WG1773185
1,2,3-Trimethylbenzene	U		0.104	1.00	1	11/12/2021 05:02	WG1773185
1,3,5-Trimethylbenzene	U		0.104	1.00	1	11/12/2021 05:02	WG1773185
Vinyl chloride	U		0.234	1.00	1	11/12/2021 05:02	WG1773185
Xylenes, Total	U		0.174	3.00	1	11/12/2021 05:02	WG1773185
(S) Toluene-d8	*98.6*			*80.0-120*		*11/12/2021 05:02*	WG1773185
(S) 4-Bromofluorobenzene	*92.3*			*77.0-126*		*11/12/2021 05:02*	WG1773185
(S) 1,2-Dichloroethane-d4	*103*			*70.0-130*		*11/12/2021 05:02*	WG1773185

Wet Chemistry by Method 1664B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Oil & Grease (Hexane Extr)	U	J6	1220	5260	1	11/12/2021 08:33	WG1772766

Mercury by Method 7470A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Mercury	U		0.100	0.200	1	11/14/2021 15:19	WG1772646

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic	U		4.40	10.0	1	11/23/2021 23:44	WG1778865
Barium	8.29		0.736	5.00	1	11/23/2021 23:44	WG1778865
Cadmium	U		0.479	2.00	1	11/23/2021 23:44	WG1778865
Chromium	U		1.40	10.0	1	11/23/2021 23:44	WG1778865
Lead	U		2.99	6.00	1	11/23/2021 23:44	WG1778865
Selenium	U		7.35	10.0	1	11/23/2021 23:44	WG1778865
Silver	U		1.54	5.00	1	11/23/2021 23:44	WG1778865

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	50.0	1	11/12/2021 05:50	WG1773185
Acrolein	U	C3	2.54	50.0	1	11/12/2021 05:50	WG1773185
Acrylonitrile	U		0.671	10.0	1	11/12/2021 05:50	WG1773185
Benzene	U		0.0941	1.00	1	11/12/2021 05:50	WG1773185
Bromobenzene	U		0.118	1.00	1	11/12/2021 05:50	WG1773185
Bromodichloromethane	U		0.136	1.00	1	11/12/2021 05:50	WG1773185
Bromoform	U		0.129	1.00	1	11/12/2021 05:50	WG1773185
Bromomethane	U		0.605	5.00	1	11/12/2021 05:50	WG1773185
n-Butylbenzene	U		0.157	1.00	1	11/12/2021 05:50	WG1773185
sec-Butylbenzene	U		0.125	1.00	1	11/12/2021 05:50	WG1773185
tert-Butylbenzene	U		0.127	1.00	1	11/12/2021 05:50	WG1773185
Carbon tetrachloride	U		0.128	1.00	1	11/12/2021 05:50	WG1773185
Chlorobenzene	U		0.116	1.00	1	11/12/2021 05:50	WG1773185
Chlorodibromomethane	U		0.140	1.00	1	11/12/2021 05:50	WG1773185
Chloroethane	U		0.192	5.00	1	11/12/2021 05:50	WG1773185
Chloroform	U		0.111	5.00	1	11/12/2021 05:50	WG1773185
Chloromethane	U		0.960	2.50	1	11/12/2021 05:50	WG1773185
2-Chlorotoluene	U		0.106	1.00	1	11/12/2021 05:50	WG1773185
4-Chlorotoluene	U		0.114	1.00	1	11/12/2021 05:50	WG1773185
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	11/12/2021 05:50	WG1773185
1,2-Dibromoethane	U		0.126	1.00	1	11/12/2021 05:50	WG1773185
Dibromomethane	U		0.122	1.00	1	11/12/2021 05:50	WG1773185
1,2-Dichlorobenzene	U		0.107	1.00	1	11/12/2021 05:50	WG1773185
1,3-Dichlorobenzene	U		0.110	1.00	1	11/12/2021 05:50	WG1773185
1,4-Dichlorobenzene	U		0.120	1.00	1	11/12/2021 05:50	WG1773185
Dichlorodifluoromethane	U		0.374	5.00	1	11/12/2021 05:50	WG1773185
1,1-Dichloroethane	U		0.100	1.00	1	11/12/2021 05:50	WG1773185
1,2-Dichloroethane	U		0.0819	1.00	1	11/12/2021 05:50	WG1773185
1,1-Dichloroethene	U		0.188	1.00	1	11/12/2021 05:50	WG1773185
cis-1,2-Dichloroethene	U		0.126	1.00	1	11/12/2021 05:50	WG1773185
trans-1,2-Dichloroethene	U		0.149	1.00	1	11/12/2021 05:50	WG1773185
1,2-Dichloropropane	U		0.149	1.00	1	11/12/2021 05:50	WG1773185
1,1-Dichloropropene	U		0.142	1.00	1	11/12/2021 05:50	WG1773185

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,3-Dichloropropane	U		0.110	1.00	1	11/12/2021 05:50	WG1773185
cis-1,3-Dichloropropene	U		0.111	1.00	1	11/12/2021 05:50	WG1773185
trans-1,3-Dichloropropene	U		0.118	1.00	1	11/12/2021 05:50	WG1773185
2,2-Dichloropropane	U		0.161	1.00	1	11/12/2021 05:50	WG1773185
Di-isopropyl ether	U		0.105	1.00	1	11/12/2021 05:50	WG1773185
Ethylbenzene	U		0.137	1.00	1	11/12/2021 05:50	WG1773185
Hexachloro-1,3-butadiene	U		0.337	1.00	1	11/12/2021 05:50	WG1773185
Isopropylbenzene	U		0.105	1.00	1	11/12/2021 05:50	WG1773185
p-Isopropyltoluene	U		0.120	1.00	1	11/12/2021 05:50	WG1773185
2-Butanone (MEK)	U		1.19	10.0	1	11/12/2021 05:50	WG1773185
Methylene Chloride	U	J4	0.430	5.00	1	11/12/2021 05:50	WG1773185
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	11/12/2021 05:50	WG1773185
Methyl tert-butyl ether	U		0.101	1.00	1	11/12/2021 05:50	WG1773185
Naphthalene	U		1.00	5.00	1	11/12/2021 05:50	WG1773185
n-Propylbenzene	U		0.0993	1.00	1	11/12/2021 05:50	WG1773185
Styrene	U		0.118	1.00	1	11/12/2021 05:50	WG1773185
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	11/12/2021 05:50	WG1773185
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	11/12/2021 05:50	WG1773185
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	11/12/2021 05:50	WG1773185
Tetrachloroethene	U		0.300	1.00	1	11/12/2021 05:50	WG1773185
Toluene	U		0.278	1.00	1	11/12/2021 05:50	WG1773185
1,2,3-Trichlorobenzene	U		0.230	1.00	1	11/12/2021 05:50	WG1773185
1,2,4-Trichlorobenzene	U		0.481	1.00	1	11/12/2021 05:50	WG1773185
1,1,1-Trichloroethane	U		0.149	1.00	1	11/12/2021 05:50	WG1773185
1,1,2-Trichloroethane	U		0.158	1.00	1	11/12/2021 05:50	WG1773185
Trichloroethene	U		0.190	1.00	1	11/12/2021 05:50	WG1773185
Trichlorofluoromethane	U		0.160	5.00	1	11/12/2021 05:50	WG1773185
1,2,3-Trichloropropane	U		0.237	2.50	1	11/12/2021 05:50	WG1773185
1,2,4-Trimethylbenzene	U		0.322	1.00	1	11/12/2021 05:50	WG1773185
1,2,3-Trimethylbenzene	U		0.104	1.00	1	11/12/2021 05:50	WG1773185
1,3,5-Trimethylbenzene	U		0.104	1.00	1	11/12/2021 05:50	WG1773185
Vinyl chloride	U		0.234	1.00	1	11/12/2021 05:50	WG1773185
Xylenes, Total	U		0.174	3.00	1	11/12/2021 05:50	WG1773185
(S) Toluene-d8	*100*			*80.0-120*		*11/12/2021 05:50*	WG1773185
(S) 4-Bromofluorobenzene	*96.2*			*77.0-126*		*11/12/2021 05:50*	WG1773185
(S) 1,2-Dichloroethane-d4	*104*			*70.0-130*		*11/12/2021 05:50*	WG1773185

Wet Chemistry by Method 1664B

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Oil & Grease (Hexane Extr)	U		1360	5880	1	11/12/2021 08:33	WG1772766

Mercury by Method 7470A

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Mercury	U		0.100	0.200	1	11/14/2021 15:25	WG1772646

Metals (ICP) by Method 6010D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Arsenic	U		4.40	10.0	1	11/23/2021 23:47	WG1778865
Barium	180		0.736	5.00	1	11/23/2021 23:47	WG1778865
Cadmium	U		0.479	2.00	1	11/23/2021 23:47	WG1778865
Chromium	U		1.40	10.0	1	11/23/2021 23:47	WG1778865
Lead	U		2.99	6.00	1	11/23/2021 23:47	WG1778865
Selenium	U		7.35	10.0	1	11/23/2021 23:47	WG1778865
Silver	U		1.54	5.00	1	11/23/2021 23:47	WG1778865

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
Acetone	U		11.3	50.0	1	11/12/2021 06:11	WG1773185
Acrolein	U	C3	2.54	50.0	1	11/12/2021 06:11	WG1773185
Acrylonitrile	U		0.671	10.0	1	11/12/2021 06:11	WG1773185
Benzene	U		0.0941	1.00	1	11/12/2021 06:11	WG1773185
Bromobenzene	U		0.118	1.00	1	11/12/2021 06:11	WG1773185
Bromodichloromethane	U		0.136	1.00	1	11/12/2021 06:11	WG1773185
Bromoform	U		0.129	1.00	1	11/12/2021 06:11	WG1773185
Bromomethane	U		0.605	5.00	1	11/12/2021 06:11	WG1773185
n-Butylbenzene	U		0.157	1.00	1	11/12/2021 06:11	WG1773185
sec-Butylbenzene	U		0.125	1.00	1	11/12/2021 06:11	WG1773185
tert-Butylbenzene	U		0.127	1.00	1	11/12/2021 06:11	WG1773185
Carbon tetrachloride	U		0.128	1.00	1	11/12/2021 06:11	WG1773185
Chlorobenzene	U		0.116	1.00	1	11/12/2021 06:11	WG1773185
Chlorodibromomethane	U		0.140	1.00	1	11/12/2021 06:11	WG1773185
Chloroethane	U		0.192	5.00	1	11/12/2021 06:11	WG1773185
Chloroform	U		0.111	5.00	1	11/12/2021 06:11	WG1773185
Chloromethane	U		0.960	2.50	1	11/12/2021 06:11	WG1773185
2-Chlorotoluene	U		0.106	1.00	1	11/12/2021 06:11	WG1773185
4-Chlorotoluene	U		0.114	1.00	1	11/12/2021 06:11	WG1773185
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	11/12/2021 06:11	WG1773185
1,2-Dibromoethane	U		0.126	1.00	1	11/12/2021 06:11	WG1773185
Dibromomethane	U		0.122	1.00	1	11/12/2021 06:11	WG1773185
1,2-Dichlorobenzene	U		0.107	1.00	1	11/12/2021 06:11	WG1773185
1,3-Dichlorobenzene	U		0.110	1.00	1	11/12/2021 06:11	WG1773185
1,4-Dichlorobenzene	U		0.120	1.00	1	11/12/2021 06:11	WG1773185
Dichlorodifluoromethane	U		0.374	5.00	1	11/12/2021 06:11	WG1773185
1,1-Dichloroethane	U		0.100	1.00	1	11/12/2021 06:11	WG1773185
1,2-Dichloroethane	U		0.0819	1.00	1	11/12/2021 06:11	WG1773185
1,1-Dichloroethene	U		0.188	1.00	1	11/12/2021 06:11	WG1773185
cis-1,2-Dichloroethene	U		0.126	1.00	1	11/12/2021 06:11	WG1773185
trans-1,2-Dichloroethene	U		0.149	1.00	1	11/12/2021 06:11	WG1773185
1,2-Dichloropropane	U		0.149	1.00	1	11/12/2021 06:11	WG1773185
1,1-Dichloropropene	U		0.142	1.00	1	11/12/2021 06:11	WG1773185

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,3-Dichloropropane	U		0.110	1.00	1	11/12/2021 06:11	WG1773185
cis-1,3-Dichloropropene	U		0.111	1.00	1	11/12/2021 06:11	WG1773185
trans-1,3-Dichloropropene	U		0.118	1.00	1	11/12/2021 06:11	WG1773185
2,2-Dichloropropane	U		0.161	1.00	1	11/12/2021 06:11	WG1773185
Di-isopropyl ether	U		0.105	1.00	1	11/12/2021 06:11	WG1773185
Ethylbenzene	U		0.137	1.00	1	11/12/2021 06:11	WG1773185
Hexachloro-1,3-butadiene	U		0.337	1.00	1	11/12/2021 06:11	WG1773185
Isopropylbenzene	U		0.105	1.00	1	11/12/2021 06:11	WG1773185
p-Isopropyltoluene	U		0.120	1.00	1	11/12/2021 06:11	WG1773185
2-Butanone (MEK)	U		1.19	10.0	1	11/12/2021 06:11	WG1773185
Methylene Chloride	U	J4	0.430	5.00	1	11/12/2021 06:11	WG1773185
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	11/12/2021 06:11	WG1773185
Methyl tert-butyl ether	U		0.101	1.00	1	11/12/2021 06:11	WG1773185
Naphthalene	U		1.00	5.00	1	11/12/2021 06:11	WG1773185
n-Propylbenzene	U		0.0993	1.00	1	11/12/2021 06:11	WG1773185
Styrene	U		0.118	1.00	1	11/12/2021 06:11	WG1773185
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	11/12/2021 06:11	WG1773185
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	11/12/2021 06:11	WG1773185
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	11/12/2021 06:11	WG1773185
Tetrachloroethene	U		0.300	1.00	1	11/12/2021 06:11	WG1773185
Toluene	U		0.278	1.00	1	11/12/2021 06:11	WG1773185
1,2,3-Trichlorobenzene	U		0.230	1.00	1	11/12/2021 06:11	WG1773185
1,2,4-Trichlorobenzene	U		0.481	1.00	1	11/12/2021 06:11	WG1773185
1,1,1-Trichloroethane	U		0.149	1.00	1	11/12/2021 06:11	WG1773185
1,1,2-Trichloroethane	U		0.158	1.00	1	11/12/2021 06:11	WG1773185
Trichloroethene	U		0.190	1.00	1	11/12/2021 06:11	WG1773185
Trichlorofluoromethane	U		0.160	5.00	1	11/12/2021 06:11	WG1773185
1,2,3-Trichloropropane	U		0.237	2.50	1	11/12/2021 06:11	WG1773185
1,2,4-Trimethylbenzene	U		0.322	1.00	1	11/12/2021 06:11	WG1773185
1,2,3-Trimethylbenzene	U		0.104	1.00	1	11/12/2021 06:11	WG1773185
1,3,5-Trimethylbenzene	U		0.104	1.00	1	11/12/2021 06:11	WG1773185
Vinyl chloride	U		0.234	1.00	1	11/12/2021 06:11	WG1773185
Xylenes, Total	U		0.174	3.00	1	11/12/2021 06:11	WG1773185
(S) Toluene-d8	*98.0*			*80.0-120*		*11/12/2021 06:11*	WG1773185
(S) 4-Bromofluorobenzene	*98.3*			*77.0-126*		*11/12/2021 06:11*	WG1773185
(S) 1,2-Dichloroethane-d4	*99.6*			*70.0-130*		*11/12/2021 06:11*	WG1773185

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Oil & Grease (Hexane Extr)	U		1160	5000	1	11/15/2021 15:49	WG1773481

Mercury by Method 7470A

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Mercury	0.108	J	0.100	0.200	1	11/14/2021 15:27	WG1772646

Metals (ICP) by Method 6010D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Arsenic	U		4.40	10.0	1	11/23/2021 23:50	WG1778865
Barium	196		0.736	5.00	1	11/23/2021 23:50	WG1778865
Cadmium	U		0.479	2.00	1	11/23/2021 23:50	WG1778865
Chromium	U		1.40	10.0	1	11/23/2021 23:50	WG1778865
Lead	U		2.99	6.00	1	11/23/2021 23:50	WG1778865
Selenium	U		7.35	10.0	1	11/23/2021 23:50	WG1778865
Silver	U		1.54	5.00	1	11/23/2021 23:50	WG1778865

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result	Qualifier	MDL	RDL	Dilution	Analysis	Batch
	ug/l		ug/l	ug/l		date / time	
Acetone	14.6	J	11.3	50.0	1	11/12/2021 06:31	WG1773185
Acrolein	U	C3	2.54	50.0	1	11/12/2021 06:31	WG1773185
Acrylonitrile	U		0.671	10.0	1	11/12/2021 06:31	WG1773185
Benzene	U		0.0941	1.00	1	11/12/2021 06:31	WG1773185
Bromobenzene	U		0.118	1.00	1	11/12/2021 06:31	WG1773185
Bromodichloromethane	U		0.136	1.00	1	11/12/2021 06:31	WG1773185
Bromoform	U		0.129	1.00	1	11/12/2021 06:31	WG1773185
Bromomethane	U		0.605	5.00	1	11/12/2021 06:31	WG1773185
n-Butylbenzene	U		0.157	1.00	1	11/12/2021 06:31	WG1773185
sec-Butylbenzene	U		0.125	1.00	1	11/12/2021 06:31	WG1773185
tert-Butylbenzene	U		0.127	1.00	1	11/12/2021 06:31	WG1773185
Carbon tetrachloride	U		0.128	1.00	1	11/12/2021 06:31	WG1773185
Chlorobenzene	U		0.116	1.00	1	11/12/2021 06:31	WG1773185
Chlorodibromomethane	U		0.140	1.00	1	11/12/2021 06:31	WG1773185
Chloroethane	U		0.192	5.00	1	11/12/2021 06:31	WG1773185
Chloroform	U		0.111	5.00	1	11/12/2021 06:31	WG1773185
Chloromethane	U		0.960	2.50	1	11/12/2021 06:31	WG1773185
2-Chlorotoluene	U		0.106	1.00	1	11/12/2021 06:31	WG1773185
4-Chlorotoluene	U		0.114	1.00	1	11/12/2021 06:31	WG1773185
1,2-Dibromo-3-Chloropropane	U		0.276	5.00	1	11/12/2021 06:31	WG1773185
1,2-Dibromoethane	U		0.126	1.00	1	11/12/2021 06:31	WG1773185
Dibromomethane	U		0.122	1.00	1	11/12/2021 06:31	WG1773185
1,2-Dichlorobenzene	U		0.107	1.00	1	11/12/2021 06:31	WG1773185
1,3-Dichlorobenzene	U		0.110	1.00	1	11/12/2021 06:31	WG1773185
1,4-Dichlorobenzene	U		0.120	1.00	1	11/12/2021 06:31	WG1773185
Dichlorodifluoromethane	U		0.374	5.00	1	11/12/2021 06:31	WG1773185
1,1-Dichloroethane	U		0.100	1.00	1	11/12/2021 06:31	WG1773185
1,2-Dichloroethane	U		0.0819	1.00	1	11/12/2021 06:31	WG1773185
1,1-Dichloroethene	U		0.188	1.00	1	11/12/2021 06:31	WG1773185
cis-1,2-Dichloroethene	U		0.126	1.00	1	11/12/2021 06:31	WG1773185
trans-1,2-Dichloroethene	U		0.149	1.00	1	11/12/2021 06:31	WG1773185
1,2-Dichloropropane	U		0.149	1.00	1	11/12/2021 06:31	WG1773185
1,1-Dichloropropene	U		0.142	1.00	1	11/12/2021 06:31	WG1773185

Volatile Organic Compounds (GC/MS) by Method 8260D

Analyte	Result ug/l	Qualifier	MDL ug/l	RDL ug/l	Dilution	Analysis date / time	Batch
1,3-Dichloropropane	U		0.110	1.00	1	11/12/2021 06:31	WG1773185
cis-1,3-Dichloropropene	U		0.111	1.00	1	11/12/2021 06:31	WG1773185
trans-1,3-Dichloropropene	U		0.118	1.00	1	11/12/2021 06:31	WG1773185
2,2-Dichloropropane	U		0.161	1.00	1	11/12/2021 06:31	WG1773185
Di-isopropyl ether	U		0.105	1.00	1	11/12/2021 06:31	WG1773185
Ethylbenzene	U		0.137	1.00	1	11/12/2021 06:31	WG1773185
Hexachloro-1,3-butadiene	U		0.337	1.00	1	11/12/2021 06:31	WG1773185
Isopropylbenzene	U		0.105	1.00	1	11/12/2021 06:31	WG1773185
p-Isopropyltoluene	U		0.120	1.00	1	11/12/2021 06:31	WG1773185
2-Butanone (MEK)	U		1.19	10.0	1	11/12/2021 06:31	WG1773185
Methylene Chloride	U	J4	0.430	5.00	1	11/12/2021 06:31	WG1773185
4-Methyl-2-pentanone (MIBK)	U		0.478	10.0	1	11/12/2021 06:31	WG1773185
Methyl tert-butyl ether	U		0.101	1.00	1	11/12/2021 06:31	WG1773185
Naphthalene	U		1.00	5.00	1	11/12/2021 06:31	WG1773185
n-Propylbenzene	U		0.0993	1.00	1	11/12/2021 06:31	WG1773185
Styrene	U		0.118	1.00	1	11/12/2021 06:31	WG1773185
1,1,1,2-Tetrachloroethane	U		0.147	1.00	1	11/12/2021 06:31	WG1773185
1,1,2,2-Tetrachloroethane	U		0.133	1.00	1	11/12/2021 06:31	WG1773185
1,1,2-Trichlorotrifluoroethane	U		0.180	1.00	1	11/12/2021 06:31	WG1773185
Tetrachloroethene	U		0.300	1.00	1	11/12/2021 06:31	WG1773185
Toluene	U		0.278	1.00	1	11/12/2021 06:31	WG1773185
1,2,3-Trichlorobenzene	U		0.230	1.00	1	11/12/2021 06:31	WG1773185
1,2,4-Trichlorobenzene	U		0.481	1.00	1	11/12/2021 06:31	WG1773185
1,1,1-Trichloroethane	U		0.149	1.00	1	11/12/2021 06:31	WG1773185
1,1,2-Trichloroethane	U		0.158	1.00	1	11/12/2021 06:31	WG1773185
Trichloroethene	U		0.190	1.00	1	11/12/2021 06:31	WG1773185
Trichlorofluoromethane	U		0.160	5.00	1	11/12/2021 06:31	WG1773185
1,2,3-Trichloropropane	U		0.237	2.50	1	11/12/2021 06:31	WG1773185
1,2,4-Trimethylbenzene	U		0.322	1.00	1	11/12/2021 06:31	WG1773185
1,2,3-Trimethylbenzene	U		0.104	1.00	1	11/12/2021 06:31	WG1773185
1,3,5-Trimethylbenzene	U		0.104	1.00	1	11/12/2021 06:31	WG1773185
Vinyl chloride	U		0.234	1.00	1	11/12/2021 06:31	WG1773185
Xylenes, Total	U		0.174	3.00	1	11/12/2021 06:31	WG1773185
(S) Toluene-d8	*98.1*			*80.0-120*		*11/12/2021 06:31*	WG1773185
(S) 4-Bromofluorobenzene	*93.4*			*77.0-126*		*11/12/2021 06:31*	WG1773185
(S) 1,2-Dichloroethane-d4	*101*			*70.0-130*		*11/12/2021 06:31*	WG1773185

L1427990-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1427990-06 11/10/21 16:10 • (DUP) R3728306-3 11/10/21 16:10

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	93.0	92.8	1	0.284		10

L1427990-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1427990-07 11/10/21 17:32 • (DUP) R3728340-3 11/10/21 17:32

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	97.9	98.1	1	0.202		10

L1427990-26 Original Sample (OS) • Matrix Spike (MS)

(OS) L1427990-26 11/12/21 08:22 • (MS) R3728634-4 11/12/21 08:22

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Oil & Grease (Hexane Extr)	40000	U	12200	30.5	1	78.0-114	J6

L1427990-30 Original Sample (OS) • Matrix Spike (MS)

(OS) L1427990-30 11/12/21 08:33 • (MS) R3728674-4 11/12/21 08:33

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Oil & Grease (Hexane Extr)	40000	U	18000	45.0	1	78.0-114	J6

L1427990-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1427990-02 11/09/21 01:42 • (DUP) R3727069-4 11/09/21 01:42

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Oil & Grease (Hexane Extr)	20300	22400	1	10.1		20

L1427990-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1427990-02 11/09/21 01:42 • (MS) R3727069-5 11/09/21 01:42 • (MSD) R3727069-6 11/09/21 01:42

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Oil & Grease (Hexane Extr)	4000	20300	22300	22500	52.3	57.1	1	80.0-120	V	V	0.851	20

L1427990-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1427990-03 11/10/21 15:38 • (DUP) R3727987-4 11/10/21 15:38

Analyte	Original Result mg/kg	DUP Result mg/kg	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Oil & Grease (Hexane Extr)	22600	29800	1	27.5	J3	20

L1427990-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1427990-03 11/10/21 15:38 • (MS) R3727987-5 11/10/21 15:38 • (MSD) R3727987-6 11/10/21 15:38

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Oil & Grease (Hexane Extr)	4000	22600	18500	37000	0.000	362	1	80.0-120	V	J3 V	66.7	20

QUALITY CONTROL SUMMARY

L1427990-25,26,27,28,29,30,31,32

L1427990-25 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1427990-25 11/23/21 23:11 • (MS) R3733348-4 11/23/21 23:16 • (MSD) R3733348-5 11/23/21 23:19

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic	1000	U	966	961	96.6	96.1	1	75.0-125			0.577	20
Barium	1000	30.9	1060	1050	103	102	1	75.0-125			1.26	20
Cadmium	1000	U	985	974	98.5	97.4	1	75.0-125			1.11	20
Chromium	1000	U	983	981	98.3	98.1	1	75.0-125			0.192	20
Lead	1000	U	1000	985	100	98.5	1	75.0-125			1.64	20
Selenium	1000	U	979	969	97.9	96.9	1	75.0-125			1.06	20
Silver	200	U	178	177	89.0	88.3	1	75.0-125			0.829	20

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
MDL	Method Detection Limit.
MDL (dry)	Method Detection Limit.
RDL	Reported Detection Limit.
RDL (dry)	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Reporting Limit (or MDL where applicable).
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
B	The same analyte is found in the associated blank.
C3	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.
C4	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Data is likely to show a low bias concerning the result.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

GLOSSARY OF TERMS

Qualifier	Description
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address: **Wood E&I Solutions Inc. - Wilmington, NC**
5710 Oleander Drive, Suite 110

Billing Information: **Amanda Huff**
5710 Oleander Dr., Ste.110
Wilmington, NC 28403

Pres Chk

Report to: **Chris Pruneau**

Email To: william.mabie@woodplc.com;chris.pruneau@w

Project Description: **Former BASF**

City/State Collected: Wilmington, NC

Please Circle: PT MT CT ET

Phone: **910-452-1185**

Client Project #

Lab Project # **LAWENGWN-BASF**

Collected by (print): B. Mabie

Site/Facility ID # **PENDER COUNTY**

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Quote #

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	8082 100ml Amb-NoPres	CHLORINE 250mlHDPE-NoPres	DRO, TS 4ozClr-NoPres	GRO 40mlAmb/MeOH10ml/Syr	OGHEX 1L-Clr-WT-HCl	PX. OGHEX 4ozClr-NoPres	RCRA Metals 250mlHDPE-HNO3	SV8082 4ozClr-NoPres	TCLP RCRA Metals 1L-Clr-NoPres	V8260 40mlAmb-HCl	Remarks	Sample # (lab only)
NEBY_SS-1_0-1	Grab	SS	0-1	11.2.21	1115	1						X						-01
NEBY_SS-2_0-1		SS	0-1		1130	1						X						-02
NEBY_SS-3_0-1		SS	0-1		1140	1						X						-03
NEBY_SS-4_0-1		SS	0-1		1150	1						X						-04
NEBY_SS-4A_1-2		SS	1-2		1200	1						X						-05
NEBY_SS-4B_1-2		SS	1-2		1215	1						X						-06
NEBY_SS-4C_1-2		SS	1-2		1230	1						X						-07
NEBY_SS-4D_1-2		SS	1-2		1240	1						X						-08
NEBY_SS-4E_3-4		SS	3-4		1250	1						X						-09
NEBY_SS-5_0-1		SS	0-1		1300	1						X						-10

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking # 543383800 1227

Chain of Custody Page ___ of ___

Pace Analytical®

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 142790
K004

Acctnum: LAWENGWN
Template: T198443
Prelogin: P884492
PM: 873 - Heather J Wagner
PB:
Shipped Via: FedEX Ground

Sample Receipt Checklist
COC Seal Present/Intact: __NP __Y __N
COC Signed/Accurate: __Y __N
Bottles arrive intact: __Y __N
Correct bottles used: __Y __N
Sufficient volume sent: __Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: __Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	11.5.21	1700		3
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 0.3 °C Bottles Received: 3
				If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 11/6/21 Time: 0900
				Hold: Condition: NCF / OK

Company Name/Address:
Wood E&I Solutions Inc. - Wilmington, NC
5710 Oleander Drive, Suite 110

Billing Information:
Amanda Huff
5710 Oleander Dr., Ste.110
Wilmington, NC 28403

Report to: Chris Pruneau
Email To: william.mabie@woodplc.com;chris.pruneau@w

Project Description: Former BASF
City/State Collected: Wilmington, NC
Please Circle: PT MT CT ET

Phone: 910-452-1185
Client Project #
Lab Project # LAWENGWN-BASF

Collected by (print): P. Mabie
Site/Facility ID # PENDER COUNTY
P.O. #

Collected by (signature):
Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day
Date Results Needed
Quote #

Pres Chk

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	8082 100ml Amb-NoPres	CHLORINE 250mlHDPE-NoPres	DRO, TS 4ozClr-NoPres	~~GRO~~ 40mlAmb/MeOH10ml/Syr 8260	OGHEX 1L-Clr-WT-HCl	PH, OGHEX 4ozClr-NoPres	RCRA Metals 250mlHDPE-HNO3	SV8082 4ozClr-NoPres	TCLP RCRA Metals 1L-Clr-NoPres	V8260 40mlAmb-HCl	Remarks	Sample # (lab only)
HDA_SS-1_0-1	Grab	SS	0-1	11-2-21	1440	1						X					plt only	-11
HDA_SS-2_0-1		SS	0-1	11-2-21	1450	1						X					plt only	-12
HDA_SS-3_0-1		SS	0-1	11-2-21	1500	1						X					plt only	-13
CTFS_SED_SS-1		SS	—	11-3-21	1440	4				X		X		X	X			-14/15
~~SAB_SED_SS-1~~		SS																
RP_SED_SS-1		SS		11-4-21	0930	4				X		X		X	X			-15/16/17
SB-1_SED_SS-1		SS			1040	4				X		X		X	X			-16/18/19
RBC_SED_SS-1		SS			1130	4				X		X		X	X			-18/20/21
SB-3_SED_SS-1		SS			1400	4				X		X		X	X			-18/22/23
All TRIP BLANKS		SS				3												-19/24

Chain of Custody Page ___ of ___

Pace Analytical®

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 192790
Table #
Acctnum: LAWENGWN
Template: T198443
Prelogin: P884492
PM: 873 - Heather J Wagner
PB: 10/28/21 ted
Shipped Via: FedEX Ground

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:
pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____
Tracking # 5433 8380 1205

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	11-5-21	1700		3	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 0.3+0=0.3 °C Bottles Received: 83	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 11/6/21 Time: 0900	Hold: Condition: NCF / OK

Company Name/Address: **Wood E&I Solutions Inc. - Wilmington, NC**
5710 Oleander Drive, Suite 110

Billing Information: **Amanda Huff**
5710 Oleander Dr., Ste.110
Wilmington, NC 28403

Pres Chk

Report to: **Chris Pruneau**

Email To: william.mabie@woodplc.com;chris.pruneau@w

Project Description: **Former BASF**

City/State Collected: Wilmington, NC

Please Circle: PT MT CT ET

Phone: **910-452-1185**

Client Project #

Lab Project # **LAWENGWN-BASF**

Collected by (print): B. Mabie

Site/Facility ID # **PENDER COUNTY**

P.O. #

Collected by (signature): [signature]

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Quote #

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	8082 100ml Amb-NoPres	CHLORINE 250mlHDPE-NoPres	DRO, TS 4ozClr-NoPres	GRO 40mlAmb/MeOH10ml/Syr	OGHEX 1L-Clr-WT-HCl	PH, OGHEX 4ozClr-NoPres	RCRA Metals 250mlHDPE-HNO3	SV8082 4ozClr-NoPres	TCLP RCRA Metals 1L-Clr-NoPres	V8260 40mlAmb-HCl	Remarks	Sample # (lab only)
NEBMHS_SW-1	Grab	GW	—	11-2-21	1530	6					X		X			X		-25
CTFS_SW-1		GW	—	11-2-21	1550	6					X		X			X		-26
SKB_SW-1		GW	—	11-3-21	1030	6					X		X			X		-27
RP_SW-1		GW	—		1050	6					X		X			X		-28
SB-1_SW-1		GW	—		1100	5					X		X			X		-29
RDC_SW-1		GW	—		1120	6					X		X			X		-30
SB-2_SW-1		GW	—		1310	6					X		X			X		-31
SB-3_SW-1		GW	—		1320	6					X		X			X		-32
		GW																
		GW																

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking # 5433 8380 1216

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
[signature]	11-5-21	1700	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) [signature] 11/6/21 0400

Trip Blank Received: Yes / No HCl / MeoH TBR

Temp: A 1.0°C Bottles Received: 83
0.3 to -0.3

Date: Time:

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Chain of Custody Page ___ of ___

Pace Analytical®

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 142790

Table #

Acctnum: LAWENGWN

Template: T198443

Prelogin: P884492

PM: 873 - Heather J Wagner

PB: 10/28/21

Shipped Via: FedEx Ground

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

11/06-NCF-L1427990-LAWENGWN PM

R5

Time estimate: oh **Time spent:** oh **Grouping date:** 6 November 2c

Members

Paul Minnich (responsible)

- [ ] Parameter(s) past holding time
- [ ] Temperature not in range
- [ ] Improper container type
- [ ] pH not in range
- [ ] Insufficient sample volume
- [ ] Sample is biphasic
- [ ] Vials received with headspace
- [x] Broken container
- [x] Sufficient sample remains
- [ ] If broken container: Insufficient packing material around container
- [ ] If broken container: Insufficient packing material inside cooler
- [ ] If broken container: Improper handling by carrier:_____
- [ ] If broken container: Sample was frozen
- [ ] If broken container: Container lid not intact
- [ ] Client informed by Call
- [ ] Client informed by Email
- [ ] Client informed by Voicemail
- [ ] Date/Time:_____
- [ ] PM initials:_____
- [ ] Client Contact:_____

Comments

Paul Minnich *6 November 2021 6:50 PM*

One OGHEX container for SB-1_SW-1 received broken

envirochem
ANALYTICAL & CONSULTING CHEMISTS

Environmental Chemists, Inc.

6602 Windmill Way, Wilmington, NC 28405 • 910.392.0223 Lab • 910.392.4424 Fax
710 Bowsertown Road, Manteo, NC 27954 • 252.473.5702 Lab/Fax
255-A Wilmington Highway, Jacksonville, NC 28540 • 910.347.5843 Lab/Fax

info@environmentalchemists.com

Wood-Amec QC - 2021-21368

LCS

Parameter	*True Value mg/L*	*Result mg/L*	*% Recovery*	*Limits %*
O & G (OPR)	40.0	31.3	78	78-114
O & G (OPR)	40.0	33.4	84	78-114

MS/MSD

Parameter	*True Value mg/L*	*Recovery mg/L*	*% Recovery*	*% Difference*	*Limits % Recovery*	*Limits % Difference*
O & G	40.0	32.1	80	N/A	78-114	≤ 18
O & G	40.0	36.9	92	N/A	78-114	≤ 18

DUPLICATE SAMPLES

Parameter	*Results mg/L*		*% Difference*	*Limits %*
O & G	N/A	N/A	N/A	N/A
O & G	N/A	N/A	N/A	N/A

BLANK

Parameter	*Results mg/L*	*Limit mg/L*
O & G	<5.0	5
O & G	<5.0	5

Environmental Chemist, Inc., Wilmington, NC Lab #94

6602 Windmill Way
Wilmington, NC 28405
910.392.0223

Sample Receipt Checklist

Client: Wood Date: 12/2/21 Report Number: 2021-21368

Receipt of sample:	ECHEM Pickup ☐	Client Delivery ☒	UPS ☐ FedEx ☐ Other ☐
☐ YES	☐ NO	☒ N/A	1. Were custody seals present on the cooler?
☐ YES	☐ NO	☒ N/A	2. If custody seals were present, were they intact/unbroken?
Original temperature upon receipt _____ °C			Corrected temperature upon receipt _____ °C
How temperature taken:	☐ Temperature Blank	☒ Against Bottles	
IR Gun ID: Thomas Traceable S/N 192511657		IR Gun Correction Factor °C: 0.0	
☒ YES	☐ NO	3. If temperature of cooler exceeded 6°C, was Project Mgr./QA notified?	
☒ YES	☐ NO	4. Were proper custody procedures (relinquished/received) followed?	
☒ YES	☐ NO	5. Were sample ID's listed on the COC?	
☒ YES	☐ NO	6. Were samples ID's listed on sample containers?	
☒ YES	☐ NO	7. Were collection date and time listed on the COC?	
☒ YES	☐ NO	8. Were tests to be performed listed on the COC?	
☒ YES	☐ NO	9. Did samples arrive in proper containers for each test?	
☒ YES	☐ NO	10. Did samples arrive in good condition for each test?	
☒ YES	☐ NO	11. Was adequate sample volume available?'	
☒ YES	☐ NO	12. Were samples received within proper holding time for requested tests?	
☒ YES	☐ NO	13. Were acid preserved samples received at a pH of <2? *	
☐ YES	☐ NO	14. Were cyanide samples received at a pH >12?	
☐ YES	☐ NO	15. Were sulfide samples received at a pH >9?	
☐ YES	☐ NO	16. Were NH3/TKN/Phenol received at a chlorine residual of <0.5 m/L? **	
☐ YES	☐ NO	17. Were Sulfide/Cyanide received at a chlorine residual of <0.5 m/L?	
☐ YES	☐ NO	18. Were orthophosphate samples filtered in the field within 15 minutes?	

* TOC/Volatiles are pH checked at time of analysis and recorded on the benchsheet.
** Bacteria samples are checked for Chlorine at time of analysis and recorded on the benchsheet.

Sample Preservation: (Must be completed for any sample(s) incorrectly preserved or with headspace)
Sample(s) _____ were received incorrectly preserved and were adjusted accordingly
by adding (circle one): H_2SO_4 HNO_3 HCl NaOH
Time of preservation: _____ If more than one preservative is needed, notate in comments below

Note: Notify customer service immediately for incorrectly preserved samples. Obtain a new sample or notify the state lab if directed to analyzed by the customer. Who was notified, date and time: _____

Volatiles Sample(s) _____ were received with headspace

COMMENTS:

DOC. QA.002 Rev 1

envirochem
Analytical & Consulting Chemists

ENVIRONMENTAL CHEMISTS, INC

NCDENR: DWQ CERTIFICATION # 94 NCDHHS: DLS CERTIFICATION # 37729

6602 Windmill Way Wilmington, NC 28405
OFFICE: 910-392-0223 FAX 910-392-4424
info@environmentalchemists.com

COLLECTION AND CHAIN OF CUSTODY

Client: Wood Env & Infra	PROJECT NAME: Pender Demo	REPORT NO: 21-21368
ADDRESS: 5710 Oleander Dr. Wilmington, NC	CONTACT NAME: Chris Prunean	PO NO:
	REPORT TO: Chris Prunean	PHONE/FAX:
	COPY TO:	email:

Sampled By:

SAMPLE TYPE: I = Influent, E = Effluent, W = Well, ST = Stream, SO = Soil, SL = Sludge, Other:

Sample Identification	Collection Date	Collection Time	Temp	Sample Type	Composite or Grab	Container (P or G)	Chlorine mg/L	pH of bottle	LAB ID NUMBER	PRESERVATION NONE	HCL	H2SO4	HNO3	NAOH	THIO	FILTERED	OTHER	ANALYSIS REQUESTED
RP-1	12/2/21	2:36		W	C	P		2	53342									DRO
					G	G												
RP-1	12/2/21	2:36		W	C	P		2	1									OIG w/w/o Silica
					G	G												
SB-1	12/2/21	3:05		W	C	P		2	53343									DRO
					G	G												
SD-1	12/2/21	3:05		W	C	P		2	1									OIG w/w/o Silica GEL
					G	G												
					C	P												
					G	G												
					C	P												
					G	G												
					C	P												
					G	G												
					C	P												
					G	G												

NOTICE - DECHLORINATION: Samples for Ammonia, TKN, Cyanide, Phenol and Bacteria must be dechlorinated (0.5 ppm or less) in the field at the time of collection. See reverse for instructions

Transfer	Relinquished By:	Date/Time	Received By:	Date/Time
1.		12/2/21 4:09		12-2-21 909
2.				

Temperature when Received °C: _____ Accepted: ✓ Rejected: _____ Resample Requested: _____

Delivered By: _____ Received By: _____ Date: 12/2/21 Time: 1615

Comments: _____ TURNAROUND: _____

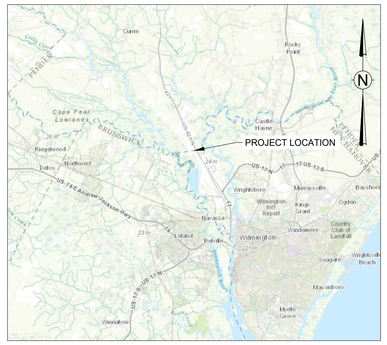
report to: Chris Prunean Wood EI
chris.prunean@woodplc.com
910 731.2955

Appendix C

Erosion and Sedimentation Control Plan

FORMER BASF PLANT SITE: DEMOLITION EROSION AND SEDIMENT CONTROL PLAN
NEW HANOVER AND PENDER COUNTY, NORTH CAROLINA

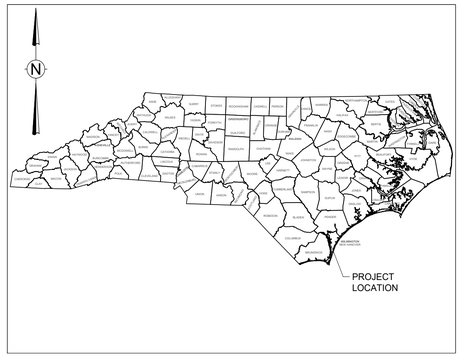
Latitude: 34.33476389° N, Longitude 78.00523056° W



SITE VICINITY MAP - 1" = 5 MILES
MAP SOURCE: ESRI WORLD TOPOGRAPHIC BASEMAP



SITE VICINITY MAP - 1" = 500'
MAP SOURCE: NC ONEMAP: https://nconemap.maps.arcgis.com/



SITE LOCATION MAP
NOT TO SCALE



SITE VICINITY MAP - 1" = 5000'
MAP SOURCE: ESRI WORLD TOPOGRAPHIC BASEMAP

Sheet List Table	
Sheet Number	Sheet Title
SHEET 001	COVER SHEET
SHEET 002	GENERAL NOTES
SHEET 003	EXISTING CONDITIONS
SHEET 004	DEMOLITION PLAN
SHEET 005	E&SC DETAILS
SHEET 006	NCG01 NOTES

CONTACT INFORMATION

OWNER:	PENDER COUNTY	ENGINEERING FIRM:	WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS
ADDRESS:	805 SOUTH WALKER STREET BURGAW, NC 28425	ADDRESS:	5710 OLEANDER DR, SUITE 110 WILMINGTON, NC 28403
CONTACT:	CHAD MCEWEN, COUNTY MANAGER	ENGINEER:	GREGORY THOMPSON
PHONE:	(910) 259-1200	PHONE:	(910) 228-4743
EMAIL:	CMCEWEN@PENDERCOUNTYNC.GOV	EMAIL:	GREGORY.THOMPSON@WOODPLC.COM

REV	DATE	JOB NO.	PROJECT TYPE	DES	DFTR	CHKD	ENGR	APPD	DESCRIPTION
0	12/08/2021	6228210243	CIVIL	WMN	WMN	GT	GT	CP	ISSUED FOR PERMIT

wood.

Environment & Infrastructure Solutions
5710 OLEANDER DRIVE, SUITE 110
WILMINGTON, NC 28403
TEL: (910) 452-1185
FAX: (844) 648-9591
LICENSURE:
NC ENG: F-1253
NC GEOLOGY: C-247

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 21155 ENGINEER GREGORY R. THOMPSON
12/08/21

TITLE: FORMER BASF PLANT SITE: DEMOLITION EROSION AND SEDIMENT CONTROL PLAN

COVER SHEET

FOR: ISSUED FOR PERMIT

PENDER COUNTY

SCALE: AS SHOWN		DES:	WMN
DWG TYPE: DWG		DFTR:	WMN
JOB NO: 6228210243		CHKD:	GT
DATE: 12/08/2021		ENGR:	GT
FILENAME: SHEET 001 COVER SHEET.dwg		APPD:	CP
DWG SIZE	DRAWING NO.		REVISION
ANSI D 22"x34"	SHEET 001		0

SHEET 001 REV. 0

PROJECT DESCRIPTION:

THE INTENT OF THIS PROJECT IS TO DECOMMISSION AND DEMOLISH EXISTING STRUCTURES, ROADS AND UNDERGROUND UTILITIES AT THE FORMER BASF PLANT LOCATED IN NEW HANOVER AND PENDER COUNTIES, NC. THIS DEISN PLAN PROVIDES EROSION AND SEDIMENT CONTROL MEASURES FOR THE DEMOLITION PLAN.

LIMITS OF DISTURBANCE = 75 ACRES

PARCEL INFORMATION:
ADDRESS: 101 VITAMIN DRIVE, WILMINGTON, NC 28401
PIN: 2291-84-9960-0000
DB/PG: 3859/338
MB/PG: 53/19

STORMWATER RUNOFF FROM THE SITE DISCHARGES TO CAPE FEAR RIVER (WATER SURFACE CLASSIFICATION C;SW) WHICH IS LOCATED WITHIN THE CAPE FEAR RIVER BASIN.

SCHEDULE:

THE PROJECT IS SCHEDULED TO BEGIN IN DECEMBER OF 2021.

EROSION AND SEDIMENTATION CONTROL NARRATIVE:

THE EROSION AND SEDIMENT CONTROL MEASURES FOR THIS PROJECT INVOLVE THE PLACEMENT OF A VARIETY OF EROSION AND SEDIMENT CONTROL DEVICES AT STRATEGIC LOCATIONS THROUGHOUT THE AREA. THESE MEASURES INCLUDE:

1. CONSTRUCTION ENTRANCE
2. TEMPORARY/PERMANENT SEEDING
3. SILT FENCE
4. TEMPORARY ROCK CHECK DAMS

THESE DEVICES ARE TO BE INSTALLED PER THE CONSTRUCTION SEQUENCE PRIOR TO CONSTRUCTION ACTIVITIES. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING THE DEMOLITION WORK TO CONTROL EROSION AND/OR OFF-SITE SEDIMENTATION AS NEEDED. CONTRACTOR IS ENCOURAGED TO LIMIT THE DISTURBED AREAS TO MINIMIZE EROSION AND SEDIMENTATION AND TO STABILIZE DISTURBED AREAS AS QUICKLY AS POSSIBLE. THE OWNER OR OWNER'S REPRESENTATIVE WILL CONDUCT INSPECTION AND MAINTENANCE ACTIVITIES DURING THE SERVICE LIFE OF THE MEASURES. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.

GENERAL EROSION CONTROL NOTES:

1. CONSTRUCTION ACTIVITIES THAT HAVE AN EROSION AND SEDIMENT CONTROL PLAN APPROVED ON OR AFTER APRIL 1, 2019 ARE REQUIRED TO FILL OUT AND SUBMIT AN ELECTRONIC NOTICE OF INTENT (e-NOI) FORM. ALL CONSTRUCTION ACTIVITIES ARE REQUIRED TO FOLLOW THE NEW NCGOI PERMIT REGARDLESS OF WHEN THEY WERE APPROVED.

2. EROSION AND SEDIMENT CONTROL (E&SC) PERMIT AND A CERTIFICATE OF COVERAGE (COC) MUST BE OBTAINED BEFORE ANY LAND DISTURBING ACTIVITIES OCCUR. THE COC CAN BE OBTAINED BY FILLING OUT THE ELECTRONIC NOTICE OF INTENT (e-NOI) FORM AT deq.nc.gov/NCGOI. PLEASE NOTE, THE e-NOI FORM MAY ONLY BE FILLED OUT ONCE THE PLANS HAVE BEEN APPROVED. A COPY OF THE E&SC PERMIT, THE COC, AND A HARD COPY OF THE PLAN MUST BE KEPT ON SITE, PREFERABLY IN A PERMITS BOX, AND ACCESSIBLE DURING INSPECTION.

3. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING WORK UNTIL THE COMPLETION OF ACTIVITIES AND DISTURBED AREAS HAVE BEEN STABILIZED. TEMPORARY EROSION CONTROL DEVICES SHALL BE REMOVED ONCE WORK IS COMPLETE AND THE SITE IS STABILIZED.

4. SEDIMENT AND EROSION CONTROL DEVICES AND PLANTED AREAS SHALL BE INSPECTED BY THE OWNER OR THEIR REPRESENTATIVE EVERY SEVEN (7) CALENDAR DAYS AND AFTER EACH RAINFALL OCCURRENCE THAT EXCEEDS ONE INCH IN A 24-HOUR PERIOD. DAMAGED OR INEFFECTIVE DEVICES SHALL BE REPAIRED OR REPLACED, AS NECESSARY, AS SOON AS PRACTICAL.

5. SEEDED AREAS SHALL BE FERTILIZED, RESEEDED AS NECESSARY AND MULCHED ACCORDING TO THE SEEDING PLAN TO MAINTAIN A VIGOROUS, DENSE VEGETATIVE COVER. SEEDED AREAS SHALL BE INSPECTED PERIODICALLY BY OWNER UNTIL FINAL GROUND COVER HAS BEEN ESTABLISHED. THE CONTRACTOR IS RESPONSIBLE FOR RESTORING VEGETATION TO ITS ORIGINAL CONDITION, OR BETTER, FOR UP TO A YEAR.

6. THE OWNER OR THEIR AGENT SHOULD ADHERE TO THE SELF-INSPECTION PROGRAM FOR EROSION AND SEDIMENT CONTROL (EFFECTIVE OCTOBER 1, 2010). DETAILS OF THE PROGRAM AND RECOMMENDED INSPECTION FORMS CAN BE FOUND AT THE FOLLOWING WEBSITE: HTTPS://DEQ.NC.GOV/ABOUT/DIVISIONS/ENERGY-MINERAL-LAND-RESOURCES/EROSION-SEDIMENT-CONTROL/FORMS

7. THE OWNER'S CONTRACTOR IS RESPONSIBLE FOR NOTIFYING UTILITY COMPANIES TO LOCATE ALL UNDERGROUND UTILITIES PRIOR TO ANY DISTURBANCE.

8. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN SEVEN (7) DAYS FOR PERIMETER AREAS, SLOPES STEEPER THAN 3H : 1V, AND SLOPES BETWEEN 3H : 1V AND 4H : 1V HAVING A LENGTH GREATER HAN 50 FEET; NO MORE THAN FOURTEEN (14) DAYS FOR OTHER AREAS AFTER WORK HAS CEASED.

9. PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING WORK. DISTURBED AREAS SHALL BE CLEANED, GRADED, AND STABILIZED WITH GRASSING, AS SOON AS PRACTICABLE.

10. WHEN THE PROJECT IS COMPLETE, THE PERMITTEE SHALL CONTACT DEMLR TO CLOSE OUT THE E&SC PLAN. AFTER DEMLR INFORMS THE PERMITTEE OF THE PROJECT CLOSE OUT, VIA INSPECTION REPORT, THE PERMITTEE SHALL VISIT deq.nc.gov/NCGOI TO SUBMIT AN ELECTRONIC NOTICE OF TERMINATION (e-NOT). A $100 ANNUAL GENERAL PERMIT FEE WILL BE CHARGED UNTIL THE e-NOT HAS BEEN FILLED OUT.

STANDARDS:

ALL EROSION AND SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE NORTH CAROLINA SEDIMENTATION POLLUTION CONTROL ACT OF 1973. CONSTRUCTION DETAILS AND SPECIFICATIONS WITHIN THIS PLAN WERE DERIVED FROM THE EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL DATED MAY, 2013, PREPARED BY THE NORTH CAROLINA SEDIMENTATION CONTROL COMMISSION, NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY (NCDEQ) AND NORTH CAROLINA AGRICULTURAL EXTENSION SERVICE (NCAES).

CONSTRUCTION AND EROSION CONTROL SEQUENCE:

PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN ANY PROJECT AREA THE CONTRACTOR SHALL COMPLETE THE FOLLOWING:

PERMITTING SEQUENCE:

1. OBTAIN ALL RELEVANT PERMITS INCLUDING BUT NOT LIMITED TO THE E&SC PERMIT AND COC.
2. FILL OUT AND SUBMIT AN ELECTRONIC NOTICE OF INTENT (E-NOI) FORM TO DEMLR.
3. 48 HOURS PRIOR TO BEGINNING WORK, CONTACT NCDEQ LAND QUALITY AT 910-796-7215 TO NOTIFY OF PROJECT START DATE.
4. CONTRACTOR MOBILIZATION TO SITE.
5. HOLD PRE-CONSTRUCTION MEETING WITH THE OWNER, ENGINEER OF RECORD, AND ALL CONTRACTORS AND SUBCONTRACTORS INVOLVED WITH LAND DISTURBANCE.
6. EROSION AND SEDIMENT CONTROL (E&SC) PERMIT AND A CERTIFICATE OF COVERAGE (COC) MUST BE OBTAINED BEFORE ANY LAND DISTURBING ACTIVITIES OCCUR. A COPY OF THE E&SC PERMIT, THE COC, AND A HARD COPY OF THE PLAN MUST BE KEPT ON SITE, PREFERABLY IN A PERMITS BOX, AND ACCESSIBLE DURING INSPECTION. THE COC CAN BE OBTAINED BY FILLING OUT THE ELECTRONIC NOTICE OF INTENT (e-NOI) FORM AT deq.nc.gov/NCG01. PLEASE NOTE, THE E-NOI FORM MAY ONLY BE FILLED OUT ONCE THE PLANS HAVE BEEN APPROVED.
7. THE CONTRACTOR SHALL LOCATE AND VERIFY ALL UNDERGROUND UTILITIES PRIOR TO COMMENCEMENT TO ANY LAND DISTURBANCE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OR REPLACEMENT OF ANY UTILITIES, CABLES, PIPES, OR OTHER UNDERGROUND CONVEYANCES SCHEDULED TO REMAIN THAT ARE DESTROYED OR DAMAGED BY THE CONTRACTOR, INCLUDING ANY SUBCONTRACTORS, DURING THE PROJECT.
8. THE CONTRACTOR SHALL CONDUCT SELF-INSPECTIONS OF THE EROSION AND SEDIMENTATION CONTROL MEASURES FOLLOWING COMBINED SELF-INSPECTION FORM FOUND ON THE DEMLR WEBSITE: HTTPS://DEQ.NC.GOV/ABOUT/DIVISIONS/ENERGY-MINERAL-LAND-RESOURCES/EROSION-SEDIMENT CONTROL FORMS.
9. SELF-INSPECTIONS FOR EROSION AND SEDIMENTATION CONTROL MEASURES ARE TO BE PERFORMED AT LEAST ONCE EVERY SEVEN CALENDAR DAYS AND WITHIN 24 HOURS OF EVERY RAIN EVENT OF GREATER THAN 1-INCH. ANY NEEDED REPAIRS SHALL BE MADE IMMEDIATELY TO MAINTAIN AS SPECIFIED IN THE CONSTRUCTION DETAILS ON THIS PLAN. A RAIN GAUGE SHALL BE INSTALLED AT THE PROJECT SITE FOR MONITORING.
10. ALL CONTROL DEVICES SHALL BE MAINTAINED AS SPECIFIED IN THE NCDEQ EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL. A RAIN GAUGE SHALL BE INSTALLED AT THE PROJECT SITE TO FACILITATE RAINFALL MONITORING. THE CONTRACTOR SHALL MAINTAIN THESE RECORDS IN THE PERMIT BOX FOR AUDIT BY REGULATORY AGENCIES.

EROSION AND SEDIMENT CONTROL SEQUENCE:

11. INSTALL CONSTRUCTION ENTRANCE(S).
12. THE CONTRACTOR SHALL CLEARLY DEMARCATE THE LIMITS OF DISTURBANCE. THE LIMITS SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS, OR OTHER APPROPRIATE VISUAL MARKING DEVICES. THE LIMITS OF DISTURBANCE SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. NO LAND DISTURBANCE SHALL OCCUR OUTSIDE THE APPROVED LIMITS OF DISTURBANCE INDICATED ON THE DRAWINGS WITHOUT APPROVAL BY THE OWNER.
13. INSTALL PERIMETER EROSION CONTROL MEASURES, CLEARING ONLY THE AREA NECESSARY TO INSTALL THE MEASURES. MEASURES TO BE INSTALLED MAY INCLUDE SILT FENCE AND ROCK CHECK DAMS AS SHOWN ON THE DRAWINGS.
14. VERIFY THROUGHOUT CONSTRUCTION THAT ALL EROSION CONTROL MEASURES ARE IN PLACE AND NO ADDITIONAL MEASURES ARE NECESSARY.
15. STABILIZATION SHALL BE ESTABLISHED ON ALL DISTURBED AREAS WITHIN 7 OR 14 DAYS OF COMPLETION OF ANY PHASE OF GRADING ACTIVITIES OR WHERE CONSTRUCTION WILL TEMPORARILY CEASE FOR MORE THAN 7-14 CALENDAR DAYS. SEE THE STABILIZATION TIME FRAME ON SHEET.
16. AFTER SITE IS PERMANENTLY STABILIZED, CONTACT THE DEMLR EROSION CONTROL INSPECTOR PRIOR TO REMOVAL OR MODIFICATION OF EROSION CONTROL DEVICES.
17. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES AND PROVIDE PERMANENT SEEDING WHERE TEMPORARY MEASURES HAVE BEEN REMOVED AND GROUND COVER IS NOT ADEQUATE.
18. CONTACT DEMLR FOR A CLOSE OUT INSPECTION ONCE ALL EROSION CONTROL MEASURES HAVE BEEN REMOVED AND THE SITE HAS BEEN PERMANENTLY STABILIZED. CONTRACTOR DEMOBILIZES FROM SITE.
19. WHEN THE PROJECT IS COMPLETE, THE PERMITTEES SHALL CONTACT DEMLR TO CLOSE OUT THE E&SC PLAN. AFTER THE DEMLR INFORMS THE PERMITTEE OF THE PROJECT CLOSE OUT, VIA INSPECTION REPORT, THE PERMITTEE SHALL VISIT DEQ.NC.GOV/NCG01 TO SUBMIT AND ELECTRONIC NOTICE OF TERMINATION (E-NOT). A $100 ANNUAL GENERAL PERMIT FEE WILL BE CHARGED UNTIL THE E-NOT HAS BEEN FILLED OUT.

GENERAL NOTES:

1. ALL WORK AND MATERIALS SHALL COMPLY WITH ALL COUNTY, STATE AND FEDERAL REGULATIONS AND CODES AND O.S.H.A. STANDARDS.
2. THE CONTRACTOR SHALL PROTECT ALL MONUMENTS, IRON PINS, AND PROPERTY CORNERS DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR REPLACEMENT OF ANY PROPERTY MARKERS DISTURBED DURING CONSTRUCTION.
3. STOCKPILES CONTAINED TO WORKING PAD AREAS. STOCKPILES SHALL BE LOCATED UP-GRADIENT OF EROSION AND SEDIMENT CONTROL FEATURES. ADDITIONALLY, ALL STOCKPILES SHALL HAVE SILT FENCE OR COMPOST STOCK INSTALLED ON THE DOWN-GRADIENT SIDE OF THE STOCKPILE.
4. THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND IS NOT LIMITED TO NORMAL WORKING HOURS.
5. THE CONTRACTOR SHALL MAINTAIN AN ON-GOING DUST CONTROL PROGRAM, INCLUDING WATERING OF DISTURBED AREAS AS NEEDED, IN ORDER TO CONFORM WITH THE LATEST STATE AND FEDERAL AIR POLLUTION REGULATIONS.
6. THE CONTRACTORS SHALL HAVE ALL REQUIRED PERMITS PRIOR TO COMMENCEMENT OF ANY WORK.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DAILY REMOVAL OF ALL CONSTRUCTION MATERIALS SPILLED ON PAVED STREETS, ONSITE, AND OFFSITE.
8. THE CONTRACTOR SHALL PURSUE THE WORK IN A CONTINUOUS AND DILIGENT MANNER, CONFORMING TO ALL THE PERTINENT SAFETY REGULATIONS, TO INSURE A TIMELY COMPLETION OF THE PROJECT.
9. ALL EXISTING UTILITY LOCATIONS, SIZES, AND DESCRIPTIONS AS SHOWN ON THESE DRAWINGS ARE FROM SURFACE OBSERVATIONS USED IN CONJUNCTION WITH AVAILABLE RECORDS, DRAWINGS, AND WRITTEN OR VERBAL STATEMENTS SUPPLIED BY OTHERS, AND MAY NOT BE WHOLLY ACCURATE OR RELIABLE. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL UTILITY LOCATIONS AND SIZES.
10. THE WORK IN THIS CONTRACT INCLUDES ALL WORK SHOWN ON THESE DRAWINGS, DESCRIBED IN THE SPECIFICATIONS, OR REASONABLY IMPLIED.
11. THE CONTRACTOR SHALL AT ALL TIMES DURING CONSTRUCTION, PROTECT FROM DAMAGE EXISTING IMPROVEMENTS ON AND AROUND THE SITE, INCLUDING, BUT NOT LIMITED TO, ASPHALT PAVEMENTS, SIGNAGE, SANITARY SEWERS, WATER MAINS, OVERHEAD POWER LINES AND OTHER UTILITIES WITHIN THE PROJECT AREA. CONTRACTOR SHALL AVOID GOING OUTSIDE THE CONSTRUCTION LIMITS SO AS TO MINIMIZE DISTURBANCE OF EXISTING VEGETATION.
12. THE CONTRACTOR SHALL ASSUME SOLE RESPONSIBILITY FOR THE REPAIR OF ANY IMPROVEMENTS (EXISTING OR PROPOSED) DAMAGED THROUGHOUT THE COURSE OF CONSTRUCTION.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION SIGNING, BARRICADING, MAINTENANCE OF TRAFFIC AND TRAFFIC DELINEATION AND SHALL CONFORM TO ALL STATE AND FEDERAL REGULATIONS.
14. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH NCDEQ REGULATIONS.
15. ATTENTION IS DRAWN TO THE FACT THAT THE SCALE OF THESE DRAWINGS MAY HAVE BEEN DISTORTED DURING REPRODUCTION PROCESS.
16. THIS DOCUMENT, TOGETHER WITH THE CONCEPTS AND DESIGNS PRESENTED HEREIN, AS AN INSTRUMENT OF SERVICE, IS INTENDED ONLY FOR THE SPECIFIC PURPOSE AND CLIENT FOR WHICH IT WAS PREPARED. REUSE OF, OR IMPROPER RELIANCE ON, THIS DOCUMENT WITHOUT WRITTEN AUTHORIZATION AND ADAPTATION BY WOOD ENVIRONMENT AND INFRASTRUCTURE SOLUTIONS SHALL BE WITHOUT LIABILITY TO WOOD ENVIRONMENT AND INFRASTRUCTURE SOLUTIONS.

REFERENCE NOTES:

1. EXISTING TOPOGRAPHY DATA AND AERIAL IMAGERY WERE OBTAINED FROM NC ONEMAP .
2. SUE SURVEY PROVIDED BY MCKIM & CREED DATED DECEMBER 2021.

REV	DATE	JOB NO.	PROJECT TYPE	DES	DFTR	CHKD	ENGR	APPD	DESCRIPTION
0	12/08/2021	6228210243	CIVIL	WMN	WMN	GT	GT	CP	ISSUED FOR PERMIT

wood.
Environment & Infrastructure Solutions
5710 OLEANDER DRIVE, SUITE 110
WILMINGTON, NC 28403
TEL: (910) 452-1185
FAX: (844) 648-9591
LICENSURE:
NC ENG: F-1253
NC GEOLOGY: C-247

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 21155 ENGINEER GREGORY R. THOMPSON
12/08/21

TITLE
FORMER BASF PLANT SITE:
DEMOLITION EROSION
AND SEDIMENT CONTROL PLAN

GENERAL NOTES

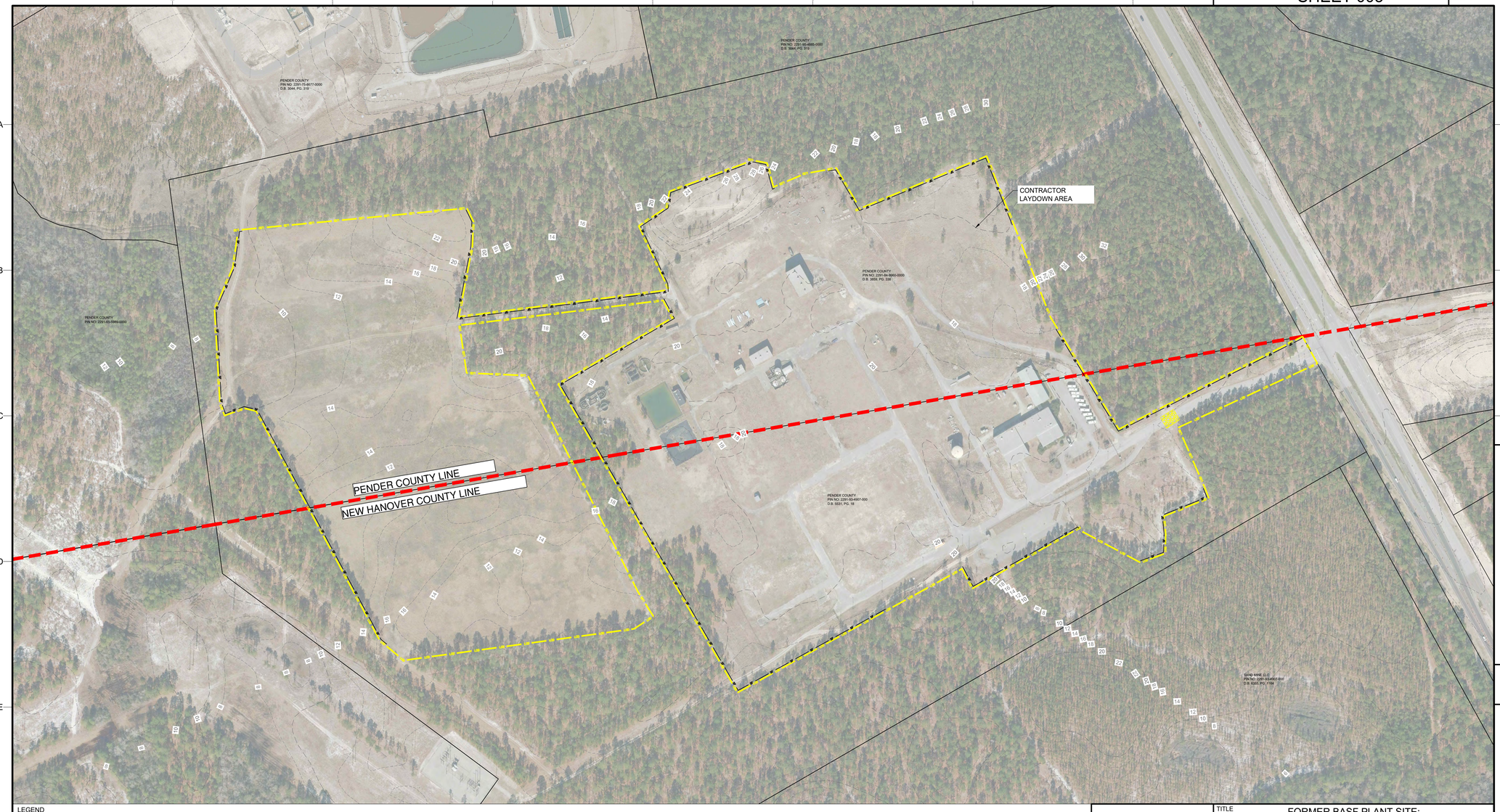
FOR
ISSUED FOR PERMIT

PENDER COUNTY

SCALE: AS SHOWN	DES: WMN		
DWG TYPE: DWG	DFTR: WMN		
JOB NO: 6228210243	CHKD: GT		
DATE: 12/08/2021	ENGR: GT		
FILENAME: SHEET 002 GENERAL NOTES.dwg	APPD: CP		
DWG SIZE	DRAWING NO.	REVISION	
ANSI D 22"x34"	SHEET 002	0	

INCHES 1 2 3 TENTHS 10 20 30

SHEET 003 REV. 0



LEGEND

- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- PROPERTY BOUNDARY
- LOD — LIMIT OF DISTURBANCE
- CONSTRUCTION ENTRANCE
- SILT FENCE

REFERENCES:

1. EXISTING TOPOGRAPHY DATA AND AERIAL IMAGERY WERE OBTAINED FROM NC ONEMAP.
2. SUE SURVEY PROVIDED BY MCKIM & CREED DATED DECEMBER 2021.
3. DATUM VALUES ARE BASED ON NADV88.

EXISTING CONDITIONS
SCALE: 1"=150'

150 0 150 300 FT

INCHES 1 2 3 TENTHS 10 20 30

REV	DATE	JOB NO.	PROJECT TYPE	DES	DFTR	CHKD	ENGR	APPD	DESCRIPTION
0	12/08/2021	6228210243	CIVIL	WMN	WMN	GT	GT	CP	ISSUED FOR PERMIT

wood.
Environment & Infrastructure Solutions
5710 OLEANDER DRIVE, SUITE 110
WILMINGTON, NC 28403
TEL: (910) 452-1185
FAX: (844) 648-6591
LICENSURE:
NC ENG: F-1253
NC GEOLOGY: C-247

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 21155 ENGINEER GREGORY R. THOMPSON
12/08/21

TITLE
FORMER BASF PLANT SITE:
DEMOLITION EROSION
AND SEDIMENT CONTROL PLAN

EXISTING CONDITIONS

FOR
ISSUED FOR PERMIT

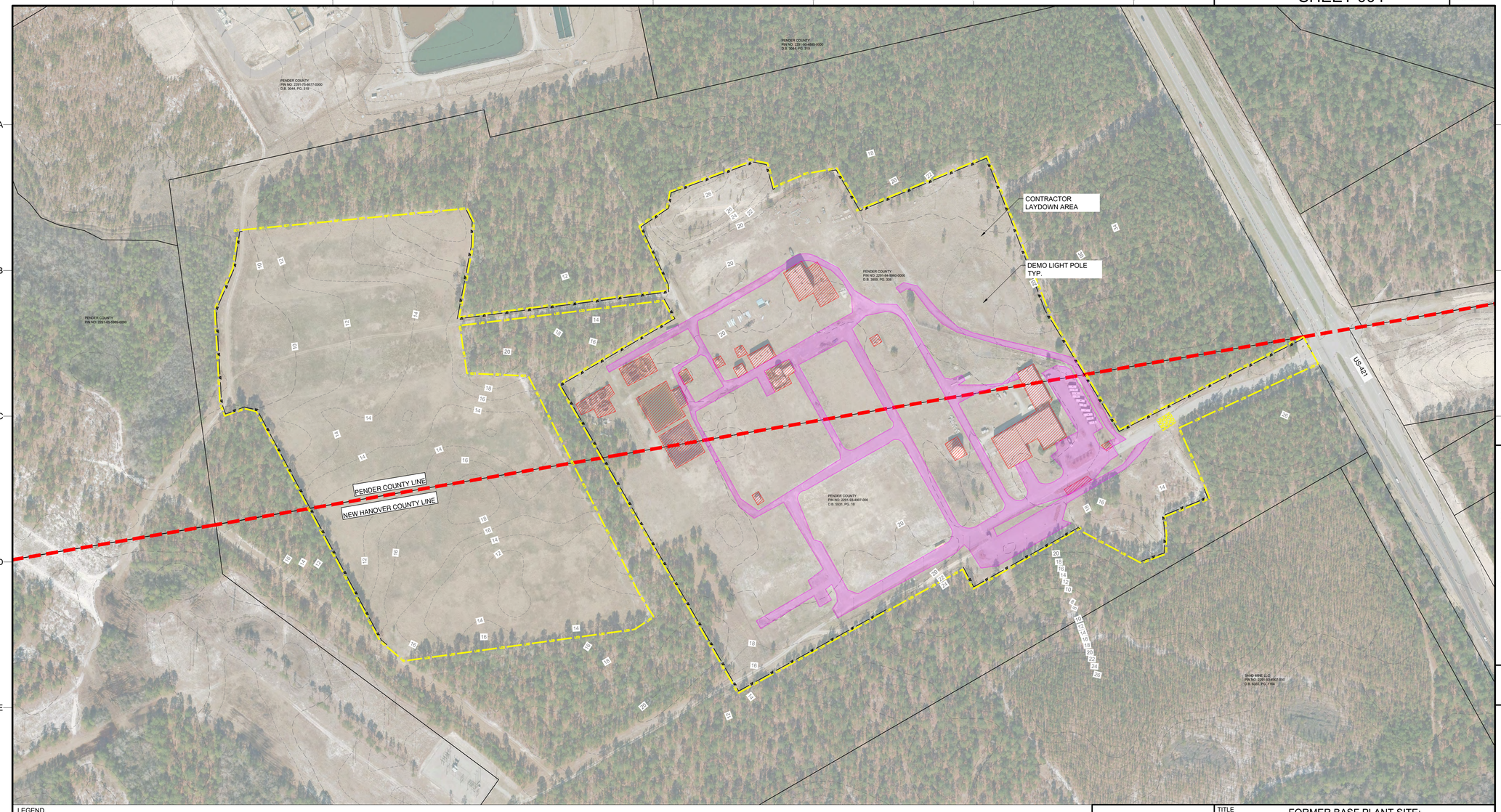
PENDER COUNTY

SCALE: AS SHOWN	DES: WMN
DWG TYPE: DWG	DFTR: WMN
JOB NO: 6228210243	CHKD: GT
DATE: 12/08/2021	ENGR: GT
FILENAME: SHEET 003 EXISTING CONDITIONS.dwg	APPD: CP

DWG SIZE	DRAWING NO.	REVISION
ANSI D 22"x34"	SHEET 003	0

Plotted By:Nichols, William Sheet Set:Former BASF Demolition E&SC Plan Layout:SHEET 003 EXISTING CONDITIONS December 08, 2021 11:37:59am G:\BASF_6228210243 Demolition Management Former BASF\Plansheets\Issued for Review\SHEET 003 EXISTING CONDITIONS.dwg

SHEET 004 REV. 0



LEGEND

- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- PROPERTY BOUNDARY
- LIMIT OF DISTURBANCE
- CONSTRUCTION ENTRANCE
- SILT FENCE
- DEMO STRUCTURES
- DEMO ROADS

DEMOLITION PLAN
SCALE: 1"=150'
150 0 150 300 FT

REFERENCES:

1. EXISTING TOPOGRAPHY DATA AND AERIAL IMAGERY WERE OBTAINED FROM NC ONEMAP
2. SUE SURVEY PROVIDED BY MCKIM & CREED DATED DECEMBER 2021.
3. DATUM VALUES ARE BASED ON NADV88.

REV	DATE	JOB NO.	PROJECT TYPE	DES	DFTR	CHKD	ENGR	APPD	DESCRIPTION
0	12/08/2021	6228210243	CIVIL	WMN	WMN	GT	GT	CP	ISSUED FOR PERMIT

wood.
Environment & Infrastructure Solutions
5710 OLEANDER DRIVE, SUITE 110
WILMINGTON, NC 28403
TEL: (910) 452-1185
FAX: (844) 648-6591
LICENSURE:
NC ENG: F-1253
NC GEOLOGY: C-247

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 21155 ENGINEER GREGORY R. THOMPSON
12/08/21

TITLE
FORMER BASF PLANT SITE:
DEMOLITION EROSION
AND SEDIMENT CONTROL PLAN

DEMOLITION PLAN

FOR
ISSUED FOR PERMIT

PENDER COUNTY

SCALE: AS SHOWN	DES:	WMN
DWG TYPE: DWG	DFTR:	WMN
JOB NO: 6228210243	CHKD:	GT
DATE: 12/08/2021	ENGR:	GT
FILENAME: DEMO PLAN.dwg	APPD:	CP

DWG SIZE	DRAWING NO.	REVISION
ANSI D 22"x34"	SHEET 004	0

INCHES 1 2 3 TENTHS 10 20 30

DEFINITION - VEGETATIVE STABILIZATION
CONTROLLING RUNOFF AND EROSION ON DISTURBED AREAS BY ESTABLISHING PERENNIAL VEGETATIVE COVER WITH SEED.

PURPOSE
TO STABILIZE DISTURBED AREAS IN A MANNER THAT IS ECONOMICAL, ADAPTS TO SITE CONDITIONS, AND ALLOWS SELECTION OF THE MOST APPROPRIATE PLANT MATERIALS.

SPECIFICATIONS

SEEDBED REQUIREMENTS
ESTABLISHMENT OF VEGETATION SHOULD NOT BE ATTEMPTED ON SITES THAT ARE UNSUITABLE DUE TO EXCESSIVE SOIL COMPACTION, INAPPROPRIATE SOIL TEXTURE, POOR DRAINAGE, CONCENTRATED OVERLAND FLOW, OR STEEPNESS OF SLOPE UNTIL MEASURES HAVE BEEN TAKEN TO CORRECT THESE PROBLEMS.

TO MAINTAIN A GOOD STAND OF VEGETATION, THE SOIL MUST MEET CERTAIN MINIMUM REQUIREMENTS AS A GROWTH MEDIUM. THE EXISTING SOIL SHOULD HAVE THESE CRITERIA:

- ENOUGH FINE-GRAINED (SILT AND CLAY) MATERIAL TO MAINTAIN ADEQUATE MOISTURE AND NUTRIENT SUPPLY (AVAILABLE WATER CAPACITY OF AT LEAST .05 INCHES WATER TO 1 INCH OF SOIL).
- SUFFICIENT PORE SPACE TO PERMIT ROOT PENETRATION.
- SUFFICIENT DEPTH OF SOIL TO PROVIDE AN ADEQUATE ROOT ZONE. THE DEPTH TO ROCK OR IMPERMEABLE LAYERS SUCH AS HARDPANS SHOULD BE 12 INCHES OR MORE, EXCEPT ON SLOPES STEEPER THAN 2:1 WHERE THE ADDITION OF SOIL IS NOT FEASIBLE.
- A FAVORABLE PH RANGE FOR PLANT GROWTH, USUALLY 6.0 - 6.5.
- FREE FROM LARGE ROOTS, BRANCHES, STONES, LARGE CLODS OF EARTH, OR TRASH OF ANY KIND. CLODS AND STONES MAY BE LEFT ON SLOPES STEEPER THAN 3:1 IF THEY ARE TO BE HYDRO SEEDED.

IF ANY OF THE ABOVE CRITERIA ARE NOT MET - I.E., IF EXISTING SOIL IS TOO COARSE, DENSE, SHALLOW OR ACIDIC TO FOSTER VEGETATION - SPECIAL AMENDMENTS ARE REQUIRED. THE SOIL CONDITIONERS DESCRIBED BELOW MAY BE BENEFICIAL OR, PREFERABLY, TOPSOIL MAY BE APPLIED.

SEEDBED PREPARATION
INSTALL NECESSARY MECHANICAL EROSION AND SEDIMENTATION CONTROL PRACTICES BEFORE SEEDING, AND COMPLETE GRADING ACCORDING TO THE APPROVED PLAN.

LIME AND FERTILIZER NEEDS SHOULD BE DETERMINED BY SOIL TESTS. DIRECTIONS, SAMPLE CARTONS, AND INFORMATION SHEETS ARE AVAILABLE THROUGH COUNTY AGRICULTURAL EXTENSION OFFICES. TESTING IS ALSO DONE BY COMMERCIAL LABORATORIES.

WHEN SOIL TEST RESULTS ARE NOT AVAILABLE FOR TEMPORARY SEEDBED PREPARATION FOLLOW RATES SUGGESTED IN THE SEEDING SPECIFICATIONS SHOWN AT RIGHT. APPLICATION RATES USUALLY FALL INTO THE FOLLOWING RANGES:

- GROUND AGRICULTURAL LIMESTONE: LIGHT-TEXTURED, SANDY SOILS: 1 TO 1-1/2 TONS/ACRE. HEAVY-TEXTURED, CLAYEY SOILS: 2-3 TONS/ACRE
- FERTILIZER: 700-1000 LB/ACRE OF 10-10-10 (OR THE EQUIVALENT)

APPLY LIME AND FERTILIZER EVENLY AND INCORPORATE INTO THE TOP 4-6 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. OPERATE MACHINERY ON THE CONTOUR. WHEN USING A HYDRO SEEDER, APPLY LIME AND FERTILIZER TO A ROUGH, LOOSE SURFACE.

ROUGHEN SURFACES PRIOR TO SEEDING.

COMPLETE SEEDBED PREPARATION BY BREAKING UP LARGE CLODS AND RAKING INTO A SMOOTH, UNIFORM SURFACE (SLOPES LESS THAN 3:1). FILL IN OR LEVEL DEPRESSIONS THAT CAN COLLECT WATER. BROADCAST SEED INTO A FRESHLY LOOSENED SEEDBED THAT HAS NOT BEEN SEALED BY RAINFALL.

SEEDING
SEEDING DATES GIVEN IN THE SEEDING MIXTURE SPECIFICATIONS ARE DESIGNATED AS "BEST" OR "POSSIBLE". SEEDINGS PROPERLY CARRIED OUT WITHIN THE "BEST" DATES HAVE A HIGH PROBABILITY OF SUCCESS. IT IS ALSO POSSIBLE TO HAVE SATISFACTORY ESTABLISHMENT WHEN SEEDING OUTSIDE THESE DATES. HOWEVER, AS YOU DEVIATE FROM THEM, THE PROBABILITY OF FAILURE INCREASES RAPIDLY. SEEDING ON THE LAST DATE SHOWN UNDER "POSSIBLE" MAY REDUCE CHANGES OF SUCCESS BY 30-50%. ALWAYS TAKE THIS INTO ACCOUNT IN SCHEDULING LAND-DISTURBING ACTIVITIES.

LABELING OF NON-CERTIFIED SEED IS ALSO REQUIRED BY LAW. LABELS CONTAIN IMPORTANT INFORMATION ON SEED PURITY, GERMINATION, AND PRESENCE OF WOOD SEEDS. SEEDS MUST MEET STATE STANDARDS FOR CONTENT OF NOXIOUS WEEDS. DO NO ACCEPT SEED CONTAINING "PROHIBITED" NOXIOUS WEED SEED.

INOCULATE LEGUME SEED WITH THE RHIZOBIUM BACTERIA APPROPRIATE TO THE SPECIES OF LEGUME.

APPLY SEED UNIFORMLY WITH A CYCLONE SEEDER, DROP-TYPE SPREADER, DRILL, CULTIPACKER SEEDER, OR HYDRO SEEDER ON A FIRM, FRIABLE SEEDBED.

WHEN USING A DRILL OR CULTIPACKER SEEDER, PLANT SMALL GRAINS NO MORE THAN 1 INCH DEEP. GRASSES AND LEGUMES NO MORE THAN 1/2 INCH. EQUIPMENT SHOULD BE CALIBRATED IN THE FIELD FOR THE DESIRED SEEDING RATE.

WHEN USING BROADCAST-SEEDING METHODS, SUBDIVIDE THE AREA INTO WORKABLE SECTIONS AND DETERMINE THE AMOUNT OF SEED NEEDED FOR EACH SECTION. APPLY ONE-HALF THE SEED WHILE MOVING BACK AND FORTH ACROSS THE AREA, MAKING A UNIFORM PATTERN. THEN APPLY THE SECOND HALF IN THE SAME WAY, BUT MOVING AT RIGHT ANGLES TO THE FIRST PASS.

MULCH ALL PLANTINGS IMMEDIATELY AFTER SEEDING.

HYDRO SEEDING
SURFACE ROUGHENING IS PARTICULARLY IMPORTANT WHEN HYDRO SEEDING, AS A ROUGHENED SLOPE WILL PROVIDE SOME NATURAL COVERAGE FOR LIME, FERTILIZER, AND SEED. THE SURFACE SHOULD NOT BE COMPACTED OR SMOOTH. FINE SEEDBED PREPARATION IS NOT NECESSARY FOR HYDRO SEEDING OPERATIONS: LARGE CLODS, STONES, AND IRREGULARITIES PROVIDE CAVITIES IN WHICH SEEDS CAN LODGE.

RATE OF WOOD FIBER (CELLULOSE) APPLICATION SHALL BE 1,000 - 2,000 LB/ACRE.

APPLY LEGUME INOCULANTS AT FOUR TIMES THE RECOMMENDED RATE WHEN ADDING INOCULANT TO A HYDRO SEEDER SLURRY.

IF A MACHINERY BREAKDOWN OF 1/2 TO 2 HOURS OCCURS, ADD 50% MORE SEED TO THE TANK, BASED ON THE PROPORTION OF THE SLURRY REMAINING. THIS SHOULD COMPENSATE FOR DAMAGE TO SEED. BEYOND 2 HOURS, A FULL RATE OF NEW SEED MAY BE NECESSARY.

LIME IS NOT NORMALLY APPLIED WITH A HYDRAULIC SEEDER BECAUSE IT IS ABRASIVE. IT CAN BE BLOWN ONTO STEEP SLOPES IN DRY FORM.

MAINTENANCE
GENERALLY, A STAND OF VEGETATION CANNOT BE DETERMINED TO BE FULLY ESTABLISHED UNTIL IT HAS BEEN MAINTAINED FOR ONE FULL YEAR FROM PLANTING. INSPECT SEEDED AREAS FOR FAILURE AND MAKE NECESSARY REPAIRS AND RESEEDINGS WITHIN THE SAME SEASON, IF POSSIBLE.

RESEEDING--IF A STAND HAS INADEQUATE COVER, RE-EVALUATE CHOICE OF PLANT MATERIALS AND QUANTITIES OF LIME AND FERTILIZER. RE-ESTABLISH THE STAND AFTER SEEDBED PREPARATION OR OVER- SEED THE STAND. CONSIDER SEEDING TEMPORARY, ANNUAL SPECIES IF THE TIME OF YEAR IS NOT APPROPRIATE FOR PERMANENT SEEDING.

IF VEGETATION FAILS TO GROW, SOIL MUST BE TESTED TO DETERMINE IF ACIDITY OR NUTRIENT IMBALANCE IS RESPONSIBLE.

FERTILIZATION--ON THE TYPICAL DISTURBED SITE, FULL ESTABLISHMENT USUALLY REQUIRES RE-FERTILIZATION IN THE SECOND GROWING SEASON. FINE TURF REQUIRES ANNUAL MAINTENANCE FERTILIZATION. USE SOIL TESTS IF POSSIBLE OR FOLLOW THE GUIDELINES GIVEN FOR THE SPECIFIC SEEDING MIXTURE.

TEMPORARY SEEDING SPECIFICATIONS

SEEDING MIXTURE (FALL)

SPECIES*	RATE (LB/ACRE)
RYE GRAIN (SECALE CEREALE)	120

SEEDING MIXTURE (LATE WINTER EARLY SPRING)

SPECIES*	RATE (LB/ACRE)
RYE GRAIN (SECALE CEREALE)	120

SEEDING MIXTURE (SUMMER)

SPECIES*	RATE (LB/ACRE)
GERMAN MILLET (SETARIA ITALICA)	40

SEEDING DATES (PIEDMONT)

FALL:	AUG. 15 - DEC. 30
LATE WINTER (EARLY SPRING):	JAN. 1 - MAY 1 LATE
SUMMER:	MAY 1 - AUG. 15

SOIL AMENDMENTS
FOLLOW RECOMMENDATIONS OF SOIL TESTS OR APPLY 2,000 LB/ACRE GROUND AGRICULTURAL LIMESTONE AND 1,000 LB/ACRE 10-10-10 FERTILIZER.

MULCH
APPLY 4,000 LB/ACRE STRAW. ANCHOR MULCH BY TACKING WITH ASPHALT, ROVING OR A MULCH ANCHORING TOOL. A DISK WITH BLADES SET NEARLY STRAIGHT CAN BE USED AS A MULCH ANCHORING. TOOL.

MAINTENANCE
RE-FERTILIZE IF GROWTH IS NOT FULLY ADEQUATE. RESEED, RE-FERTILIZE AND MULCH IMMEDIATELY FOLLOWING EROSION OR OTHER DAMAGE.

PURSUANT TO G.S. 113A-57(2), THE ANGLE FOR GRADED SLOPES AND FILLS SHALL BE NO GREATER THAN THE ANGLE THAT CAN BE RETAINED BY VEGETATIVE COVER OR OTHER ADEQUATE EROSION-CONTROL DEVICES OR STRUCTURES. IN ANY EVENT, 3H:1V OR GREATER SLOPES LEFT EXPOSED WILL, WITHIN 7 CALENDAR DAYS OF COMPLETION OF ANY PHASE OF GRADING, BE PLANTED OR OTHERWISE PROVIDED WITH TEMPORARY OR PERMANENT GROUND COVER, DEVICES, OR STRUCTURES SUFFICIENT TO RESTRAIN EROSION.

PURSUANT TO G.S. 113A-57(3), PROVISIONS FOR PERMANENT GROUNDCOVER SUFFICIENT TO RESTRAIN EROSION MUST BE ACCOMPLISHED FOR ALL DISTURBED AREAS WITHIN 14 WORKING DAYS FOLLOWING COMPLETION OF CONSTRUCTION OR DEVELOPMENT.

*REF: 6.10 A,B AND C, NC EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL, 2013.

PERMANENT SEEDING SPECIFICATIONS

SEEDING MIXTURE

SPECIES*	RATE (LB/ACRE)
TALL FESCUE (FESTUCA ARUNDINACEA) (GRASS LINED CHANNELS)	200
TALL FESCUE (FESTUCA ARUNDINACEA) (OTHER AREAS)	100

LESPEDEZA SHALL NOT BE USED.

NURSE PLANTS
BETWEEN MAY 1 AND AUG. 15, ADD 10 LB/ACRE GERMAN MILLET (SETARIA ITALICA) OR 15 LB/ACRE SUDAN GRASS. PRIOR TO MAY 1 OR AFTER AUG. 15, ADD 40 LB/ACRE RYE GRAIN (SECALE CEREALE).

SEEDING DATES

	BEST	POSSIBLE
FALL:	AUG. 25 - SEPT. 15	AUG. 20 - OCT. 25
LATE WINTER:	FEB. 15 - MAR. 21	FEB. 1 -APR. 15

SOIL AMENDMENTS
A NORTH CAROLINA DEPARTMENT OF AGRICULTURE SOILS TEST (OR EQUAL) SHALL BE OBTAINED FOR ALL AREAS TO BE SEEDED, SPRIGGED, SODDED OR PLANTED. RECOMMENDED FERTILIZER AND PH ADJUSTING PRODUCTS SHALL BE INCORPORATED INTO THE PREPARED AREAS AND BACKFILL MATERIAL PER TESTS TAKEN PRIOR TO, DURING AND AFTER CONSTRUCTION.

MULCH
APPLY 4,000-5,000 LB/ACRE GRAIN STRAW OR EQUIVALENT COVER OF ANOTHER SUITABLE MULCHING MATERIAL. ANCHOR MULCH BY TACKING WITH ASPHALT, ROVING, OR NETTING. NETTING IS THE PREFERRED ANCHORING METHOD ON STEEP SLOPES.

MAINTENANCE
RE-FERTILIZE IN THE SECOND YEAR UNLESS GROWTH IS FULLY ADEQUATE. MAY BE MOWED ONCE OR TWICE A YEAR, BUT MOWING IS NOT NECESSARY. RESEED, FERTILIZE, AND MULCH DAMAGED AREAS IMMEDIATELY.

PURSUANT TO G.S. 113A-57(3), PROVISIONS FOR PERMANENT GROUNDCOVER SUFFICIENT TO RESTRAIN EROSION MUST BE ACCOMPLISHED FOR ALL DISTURBED AREAS WITHIN 14 WORKING DAYS.

*REF: 6.11 NC EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL, 2013.

NPDES Stormwater Discharge Permit for Construction Activities (NCGO1) NCDENR/Division of Energy, Mineral and Land Resources

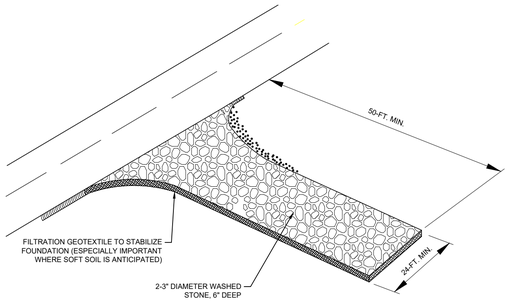
STABILIZATION TIMEFRAMES
(Effective Aug. 3, 2011)

SITE AREA DESCRIPTION	STABILIZATION	TIMEFRAME EXCEPTIONS
Perimeter dikes, swales, ditches, slopes	7 days	None
High Quality Water (HQW) Zones	7 days	None
Slopes steeper than 3:1	7 days	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed.
Slopes 3:1 or flatter	14 days	7 days for slopes greater than 50' in length.
All other areas with slopes flatter than 4:1	14 days	None, except for perimeters and HQW Zones.

SOIL STABILIZATION NOTES:

SOIL STABILIZATION SHALL BE ACHIEVED ON ANY AREA OF A SITE WHERE LAND-DISTURBING ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED ACCORDING TO THE FOLLOWING SCHEDULE:

1. ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1) SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 7 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.
2. ALL OTHER DISTURBED AREAS SHALL BE PROVIDED TEMPORARY OR PERMANENT STABILIZATION WITH GROUND COVER AS SOON AS PRACTICABLE BUT IN ANY EVENT WITHIN 14 CALENDAR DAYS FROM THE LAST LAND-DISTURBING ACTIVITY.



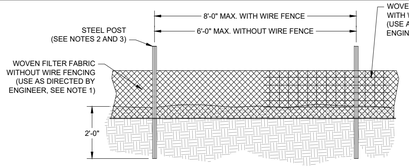
PERSPECTIVE VIEW

INSTALLATION NOTES:

1. AGGREGATE SIZE: 2-3" DIAMETER WASHED STONE
2. PAD THICKNESS: 6" MINIMUM
3. PAD WIDTH: 24' MINIMUM
4. PAD LENGTH: 50' MINIMUM
5. PAD LOCATION: LOCATE CONSTRUCTION ENTRANCES AND EXITS TO LIMIT SEDIMENT FROM LEAVING THE SITE AND TO PROVIDE A MAXIMUM UTILITY BY ALL CONSTRUCTION VEHICLES. AVOID STEEP GRADES AND ENTRANCES AT CURVES IN PUBLIC ROADS.

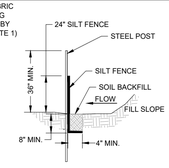
MAINTENANCE NOTES:

1. MONITOR DAILY TO SUPPLEMENT STONE TO ENSURE ENTRANCE FUNCTIONS PROPERLY.
2. CLEAN ANY MATERIAL TRACKED ONTO PUBLIC ROADWAY IMMEDIATELY.
3. SCHEDULE ROUTINE SWEEPING AT THE END OF EACH WORK DAY.
4. WASHING: IF CONDITIONS AT THE SITE ARE SUCH THAT MOST OF THE MUD AND SEDIMENT ARE NOT REMOVED BY VEHICLES TRAVELING OVER THE GRAVEL, THE TIRES SHOULD BE WASHED. WASHING SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO A SEDIMENT TRAP OR OTHER SUITABLE DISPOSAL AREA. A WASH RACK MAY BE USED TO MAKE WASHING STONE MORE CONVENIENT AND EFFECTIVE.



WOVEN FILTER FABRIC WITH WIRE FENCING GENERAL NOTES:

1. WOVEN FILTER FABRIC SHALL COMPLY WITH THE REQUIREMENTS OF TABLE 6.62B BELOW.
2. WIRE FENCING SHALL BE A MINIMUM OF 36" IN WIDTH, AT LEAST #10 GAGE, AND SHALL HAVE A MINIMUM OF 6 LINE WIRES WITH 12" MAXIMUM STAY SPACING.
3. STEEL POSTS SHALL BE 5'-0" IN LENGTH AND BE OF THE SELF-FASTENER ANGLE STEEL TYPE.
4. INSTALL SAFETY CAPS ON SILT FENCE STEEL POSTS.
5. TURN SILT FENCE UP SLOPE AT TERMINATION POINTS TO CONTAIN FLOW OF RUNOFF.
6. DO NOT INSTALL SEDIMENT FENCE ACROSS STREAMS, DITCHES, WATERWAYS OR OTHER AREAS OF CONCENTRATED FLOW.



WOVEN FILTER FABRIC WITHOUT WIRE FENCING GENERAL NOTES:

1. WOVEN FILTER FABRIC SHALL COMPLY WITH THE REQUIREMENTS OF TABLE 6.62B BELOW.
2. STEEL POSTS SHALL BE 5'-0" IN LENGTH AND BE OF THE SELF-FASTENER ANGLE STEEL TYPE.
3. INSTALL SAFETY CAPS ON SILT FENCE STEEL POSTS.
4. TURN SILT FENCE UP SLOPE AT TERMINATION POINTS TO CONTAIN FLOW OF RUNOFF.
5. DO NOT INSTALL SEDIMENT FENCE ACROSS STREAMS, DITCHES, WATERWAYS OR OTHER AREAS OF CONCENTRATED FLOW.

MAINTENANCE NOTES:

1. SILT FENCE SHALL BE MAINTAINED FOR THE DURATION OF THE PROJECT. SILT FENCE SHALL BE REPLACED IF RIPPED, DETERIORATED, OR BECOMES OTHERWISE INEFFECTIVE, FULLY FUNCTIONAL, OR DOES NOT MEET DESIGN INTENT.
2. SEDIMENT DEPOSITS SHOULD BE REMOVED WHEN DEPOSITS REACH ONE-THIRD THE HEIGHT OF THE BARRIER. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS REMOVED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

Table 6.62b Specifications For Sediment Fence Fabric

Temporary Silt Fence Material Property Requirements					
	Test Material	Units	Supported[1] Silt Fence	Un-Supported[1] Silt Fence	Type of Value
Grab Strength	ASTM D 4632	N (lbs)			
Machine Direction			400	550	MARV
			(90)	(90)	
X-Machine Direction			400	450	MARV
			(90)	(90)	
Permittivity[2]	ASTM D 4491	sec-1	0.05	0.05	MARV
Apparent Opening Size[2]	ASTM D 4751	mm	0.60	0.60	Max. ARV[3]
		(US Sieve #)	(30)	(30)	
Ultraviolet Stability	ASTM D 4355	% Retained Strength	70% after 500h of exposure	70% after 500h of exposure	Typical

[1] Silt Fence support shall consist of 14 gage steel wire with a mesh spacing of 150 mm (6 inches), or prefabricated polymer mesh of equivalent strength.
[2] These default values are based on empirical evidence with a variety of sediment. For environmentally sensitive areas, a review of previous experience and/or site or regionally specific geotextile tests in accordance with Test Method D 5141 should be performed by the agency to confirm suitability of these requirements.
[3] As measured in accordance with Test Method D 4632.

REV	DATE	JOB NO.	PROJECT TYPE	DES	DFTR	CHKD	ENGR	APPD	DESCRIPTION
0	12/08/2021	6228210243	CIVIL	WMN	WMN	GT	GT	CP	ISSUED FOR PERMIT

wood.
Environment & Infrastructure Solutions
5710 OLEANDER DRIVE, SUITE 110
WILMINGTON, NC 28403
TEL: (910) 452-1185
FAX: (844) 648-9591
LICENSURE:
NC ENG: F-1253
NC GEOLOGY: C-247

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 21155 ENGINEER GREGORY R. THOMPSON
12/08/21

TITLE
FORMER BASF PLANT SITE:
DEMOLITION EROSION
AND SEDIMENT CONTROL PLAN

E&SC DETAILS

FOR
ISSUED FOR PERMIT

PENDER COUNTY

SCALE: AS SHOWN	DES: WMN
DWG TYPE: DWG	DFTR: WMN
JOB NO: 6228210243	CHKD: GT
DATE: 12/08/2021	ENGR: GT
FILENAME: SHEET 005 E&SC DETAILS.dwg	APPD: CP

DWG SIZE	DRAWING NO.	REVISION
ANSI D 22"x34"	SHEET 005	0

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those un-attended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

EQUIPMENT AND VEHICLE MAINTENANCE

1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
5. Remove leaking vehicles and construction equipment from service until the problem has been corrected.
6. Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

1. Never bury or burn waste. Place litter and debris in approved waste containers.
2. Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
3. Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
4. Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
5. Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
6. Anchor all lightweight items in waste containers during times of high winds.
7. Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
8. Dispose waste off-site at an approved disposal facility.
9. On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

1. Do not dump paint and other liquid waste into storm drains, streams or wetlands.
2. Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
3. Contain liquid wastes in a controlled area.
4. Containment must be labeled, sized and placed appropriately for the needs of site.
5. Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be documented in the manner described:

Item to Document	Documentation Requirements
(a) Each E&SC Measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC Plan.	Initial and date each E&SC Measure on a copy of the approved E&SC Plan or complete, date and sign an inspection report that lists each E&SC Measure shown on the approved E&SC Plan. This documentation is required upon the initial installation of the E&SC Measures or if the E&SC Measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC Plan.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC Measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC Measures.	Initial and date a copy of the approved E&SC Plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation

In addition to the E&SC Plan documents above, the following items shall be kept on the site and available for agency inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

(a) This general permit as well as the certificate of coverage, after it is received.

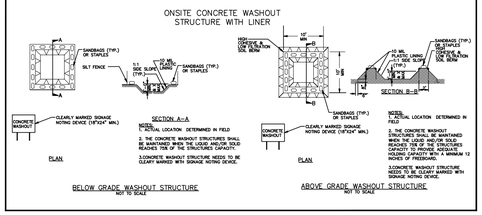
(b) Records of inspections made during the previous 30 days. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

(c) All data used to complete the Notice of Intent and older inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

CONCRETE WASHOUTS

1. Do not discharge concrete or cement slurry from the site.
2. Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
3. Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
4. Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
5. Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
6. Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
7. Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
8. Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
9. Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
10. At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

ONSITE CONCRETE WASHOUT STRUCTURE WITH LINER



SECTION C: REPORTING

1. Occurrences that must be reported

Permittees shall report the following occurrences:

(a) Visible sediment deposition in a stream or wetland.

(b) Oil spills if:

- They are 25 gallons or more,
- They are less than 25 gallons but cannot be cleaned up within 24 hours,
- They cause sheen on surface waters (regardless of volume), or
- They are within 100 feet of surface waters (regardless of volume).

(a) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(b) Anticipated bypasses and unanticipated bypasses.

(c) Noncompliance with the conditions of this permit that may endanger health or the environment.

2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Division's Emergency Response personnel at (800) 662-7956, (800) 858-0368 or (919) 733-3300.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis. • If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	• ***Within 24 hours***, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	• ***A report at least ten days before the date of the bypass, if possible***. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days,*** a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment[40 CFR 122.41(l)(7)]	• ***Within 24 hours***, an oral or electronic notification. • ***Within 7 calendar days***, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6). • Division staff may waive the requirement for a written report on a case-by-case basis.

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

1. Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
2. Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
3. Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
4. Provide ponding area for containment of treated Stormwater before discharging offsite.
5. Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

PORTABLE TOILETS

1. Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
2. Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
3. Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

1. Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
2. Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
3. Provide stable stone access point when feasible.
4. Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes		
Site Area Description	**Stabilize within this many calendar days after ceasing land disturbance**	**Timeframe variations**
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
• Temporary grass seed covered with straw or other mulches and tackifiers • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting	• Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

HERBICIDES, PESTICIDES AND RODENTICIDES

1. Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
2. Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
3. Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
4. Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

1. Create designated hazardous waste collection areas on-site.
2. Place hazardous waste containers under cover or in secondary containment.
3. Do not store hazardous chemicals, drums or bagged materials directly on the ground.

REV	DATE	JOB NO.	PROJECT TYPE	DES	DFTR	CHKD	ENGR	APPD	DESCRIPTION
0	12/08/2021	6228210243	CIVIL	WMN	WMN	GT	GT	CP	ISSUED FOR PERMIT

wood.
Environment & Infrastructure Solutions
5710 OLEANDER DRIVE, SUITE 110
WILMINGTON, NC 28403
TEL: (910) 452-1185
FAX: (844) 648-6591
LICENSURE:
NC ENG: F-1253
NC GEOLOGY: C-247

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 21155 ENGINEER GREGORY R. THOMPSON

12/08/21

TITLE: FORMER BASF PLANT SITE: DEMOLITION EROSION AND SEDIMENT CONTROL PLAN

NCG01 NOTES

FOR: ISSUED FOR PERMIT

PENDER COUNTY

SCALE: AS SHOWN	DES: WMN		
DWG TYPE: DWG	DFTR: WMN		
JOB NO: 6228210243	CHKD: GT		
DATE: 12/08/2021	ENGR: GT		
FILENAME: SHEET 006 NCG01 NOTES.dwg	APPD: CP		
DWG SIZE: ANSI D 22"x34"	DRAWING NO.: SHEET 006	REVISION: 0	

Appendix D

Subsurface Utility Drawings

PRELIMINARY PLAT

NOT FOR RECORDATION, CONVEYANCE, OR SALES

811 Know what's below. Call before you dig.

UTILITY LEGEND

CO	CLEAN OUT
DI	DROP INLET
SSMH	SANITARY SEWER MANHOLE
SDMH	STORM DRAIN MANHOLE
AGP	AS PER UTILITY RECORD
EOIR	END OF RECORD INFORMATION
FDC	FIRE DEPARTMENT CONNECTION
BOV	BLOW OFF VALVE
GV	GAS VALVE
ICV	IRRIGATION CONTROL VALVE
PIV	POST INDICATOR VALVE
PP	POWER POLE
(R)	AS PER UTILITY RECORD
WM	WATER METER
WV	WATER VALVE
FH	FIRE HYDRANT
EOI	END OF INFORMATION
LP	LIGHT POLE
EB	ELECTRIC BOX
TRANS	TRANSFORMER
THH	TELEPHONE HAND HOLE
TP	TELEPHONE PEDESTAL
WM	WATER MANHOLE
SMH	SEWER MANHOLE
STMH	STORM MANHOLE
NOG	RECORD NITROGEN LINE
N	NITROGEN LINE
A	AIR LINE
E	ELECTRIC LINE
E(R)	RECORD ELECTRIC LINE
FM	FORCE MAIN LINE
FM(R)	RECORD FORCE MAIN LINE
G	GAS LINE
G(R)	RECORD GAS LINE
SD	STORM DRAIN LINE
SD(R)	RECORD STORM DRAIN LINE
SS	SANITARY SEWER LINE
SS(R)	RECORD SANITARY SEWER LINE
T	TELEPHONE LINE
T(R)	RECORD TELEPHONE LINE
FO	TELEPHONE FIBER OPTIC LINE
U	UNKNOWN LINE
W	WATER LINE
W(R)	RECORD WATER LINE

UTILITY NOTE:

THE HORIZONTAL UNDERGROUND UTILITY LINES SHOWN REPRESENT QUALITY LEVEL B SUBSURFACE UTILITY ENGINEERING SERVICES. UTILITY MARKS PLACED ON THE GROUND BY MCKIM & CREED ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES. USE OF THIS INFORMATION DOES NOT RELIEVE ANY PARTY FROM THEIR OBLIGATION TO CONTACT THE UTILITY DAMAGE PREVENTION SYSTEM BEFORE DIGGING BEGINS. THIS QUALITY LEVEL B UTILITY INVENTORY DOES NOT GUARANTEE THE EXISTENCE OF EACH UTILITY OF THAT ALL THE UNDERGROUND UTILITIES HAVE BEEN ACCOUNTED FOR. EXACT HORIZONTAL AND VERTICAL POSITIONS CAN ONLY BE VERIFIED WHERE QUALITY LEVEL A (EXPOSURES) HAVE BEEN PERFORMED. SERVICES WERE PROVIDED IN ACCORDANCE WITH THE STANDARD OF PRACTICE FOR THE SUBSURFACE UTILITY ENGINEERING PROFESSION, AMERICAN SOCIETY OF CIVIL ENGINEERS STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA (CI/ASCE 38-02).

DATE	REVISION	INITIAL

McKIM&CREED
1730 Varsity Drive Suite 500
Raleigh, North Carolina 27606
Phone: (919)233-8091, Fax: (919)233-8031
NC FIRM # F-1222
Internet Site: http://www.mckimcreed.com

DATE:_____

UTILITY MAP
OF
BASF SITE
FOR
WOOD GROUP
DATE: 12,17,2021 SCALE: 1" = 50'
WILMINGTON PENDER COUNTY NORTH CAROLINA

PROJECT # : 040820134
PROJ. SVYR :
DRAWN BY : ZNG
FIELD BK. :
COMP. FILE : w101-040820134
SHEET # : OVERVIEW

Figure 3A

PRELIMINARY PLAT

NOT FOR RECORDATION, CONVEYANCE, OR SALES

811 Know what's below. Call before you dig.

UTILITY LEGEND

CO	CLEAN OUT
DI	DROP INLET
SSMH	SANITARY SEWER MANHOLE
SDMH	STORM DRAIN MANHOLE
AGP	ABOVE GRADE PIPE
EORI	END OF RECORD INFORMATION
FDC	FIRE DEPARTMENT CONNECTION
BOV	BLOW OFF VALVE
GV	GAS VALVE
ICV	IRRIGATION CONTROL VALVE
PIV	POST INDICATOR VALVE
PP	POWER POLE
(R)	AS PER UTILITY RECORD
WM	WATER METER
WV	WATER VALVE
FH	FIRE HYDRANT
●	END OF INFORMATION
○	LIGHT POLE
▭	ELECTRIC BOX
▭	TRANSFORMER
▭	TELEPHONE HAND HOLE
▭	TELEPHONE PEDESTAL
◉	WATER MANHOLE
◉	SEWER MANHOLE
◉	STORM MANHOLE
W/N	RECORD NITROGEN LINE
N	NITROGEN LINE
A	AIR LINE
E	ELECTRIC LINE
E(R)	RECORD ELECTRIC LINE
FM	FORCE MAIN LINE
FM(R)	RECORD FORCE MAIN LINE
G	GAS LINE
G(R)	RECORD GAS LINE
W	STORM DRAIN LINE
W(R)	RECORD STORM DRAIN LINE
SS	SANITARY SEWER LINE
SS(R)	RECORD SANITARY SEWER LINE
T	TELEPHONE LINE
T(R)	RECORD TELEPHONE LINE
TFO	TELEPHONE FIBER OPTIC LINE
W	UNKNOWN LINE
W	WATER LINE
W(R)	RECORD WATER LINE

UTILITY NOTE:

THE HORIZONTAL UNDERGROUND UTILITY LINES SHOWN REPRESENT QUALITY LEVEL B SUBSURFACE UTILITY ENGINEERING SERVICES. UTILITY MARKS PLACED ON THE GROUND BY MCKIM & CREED ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES. USE OF THIS INFORMATION DOES NOT RELIEVE ANY PARTY FROM THEIR OBLIGATION TO CONTACT THE UTILITY DAMAGE PREVENTION SYSTEM BEFORE DIGGING BEGINS. THIS QUALITY LEVEL B UTILITY INVENTORY DOES NOT GUARANTEE THE EXISTENCE OF EACH UTILITY OR THAT ALL THE UNDERGROUND UTILITIES HAVE BEEN ACCOUNTED FOR. EXACT HORIZONTAL AND VERTICAL POSITIONS CAN ONLY BE VERIFIED WHERE QUALITY LEVEL A (CONFIRMED) UTILITIES ARE PRESENT. SERVICES PROVIDED IN ACCORDANCE WITH THE LATEST EDITION OF THE CI/ASCE 38 PUBLICATION, 38-11, ENGINEERING PROFESSION, AMERICAN SOCIETY OF CIVIL ENGINEERS STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA (CI/ASCE 38-02).

DATE	REVISION	INITIAL

McKIM&CREED
1730 Varsity Drive Suite 500
Raleigh, North Carolina 27606
Phone: (919)233-8091, Fax: (919)233-8031
NC FIRM # F-1222
Internet Site: http://www.mckimcreed.com

DATE:_____

UTILITY MAP
OF
BASF SITE
FOR
WOOD GROUP
DATE: 12.17.2021 SCALE: 1" = 50'
WILMINGTON PENDER COUNTY NORTH CAROLINA

PROJECT # : 040820134
PROJ. SVYR : ZNG
DRAWN BY : ZNG
FIELD BK. :
COMP. FILE : wl01-040820134
SHEET # : 1 OF 3

Figure 3B

PRELIMINARY PLAT

NOT FOR RECORDATION, CONVEYANCE, OR SALES

811 Know what's below. Call before you dig.

UTILITY LEGEND

CO	CLEAN OUT
DI	DROP INLET
SSMH	SANITARY SEWER MANHOLE
SDMH	STORM DRAIN MANHOLE
AGP	ABOVE GRADE PIPE
EOR	END OF RECORD INFORMATION
FDC	FIRE DEPARTMENT CONNECTION
BOV	BLOW OFF VALVE
GV	GAS VALVE
ICV	IRRIGATION CONTROL VALVE
PIV	POST INDICATOR VALVE
PP	POWER POLE
(R)	AS PER UTILITY RECORD
WM	WATER METER
WV	WATER VALVE
FH	FIRE HYDRANT
EOI	END OF INFORMATION
LP	LIGHT POLE
EB	ELECTRIC BOX
TF	TRANSFORMER
THH	TELEPHONE HAND HOLE
TP	TELEPHONE PEDESTAL
WMH	WATER MANHOLE
SMH	SEWER MANHOLE
DMH	STORM MANHOLE
RNG	RECORD NITROGEN LINE
N	NITROGEN LINE
A	AIR LINE
E	ELECTRIC LINE
REL	RECORD ELECTRIC LINE
FM	FORCE MAIN LINE
RFM	RECORD FORCE MAIN LINE
G	GAS LINE
RG	RECORD GAS LINE
SD	STORM DRAIN LINE
RSD	RECORD STORM DRAIN LINE
SS	SANITARY SEWER LINE
RSS	RECORD SANITARY SEWER LINE
T	TELEPHONE LINE
RTL	RECORD TELEPHONE LINE
FO	TELEPHONE FIBER OPTIC LINE
U	UNKNOWN LINE
W	WATER LINE
RW	RECORD WATER LINE

UTILITY NOTE:

THE HORIZONTAL UNDERGROUND UTILITY LINES SHOWN REPRESENT QUALITY LEVEL B SUBSURFACE UTILITY ENGINEERING SERVICES. UTILITY MARKS PLACED ON THE GROUND BY MCKIM & CREED ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES. USE OF THIS INFORMATION DOES NOT RELIEVE ANY PARTY FROM THEIR OBLIGATION TO CONTACT THE UTILITY DAMAGE PREVENTION SYSTEM BEFORE DIGGING BEGINS. THIS QUALITY LEVEL B UTILITY INVENTORY DOES NOT GUARANTEE THE EXISTENCE OF EACH UTILITY LINE SHOWN, NOR DOES IT GUARANTEE THAT ALL UTILITY LINES ARE SHOWN. EXACT HORIZONTAL AND VERTICAL POSITIONS CAN ONLY BE VERIFIED WHERE QUALITY LEVEL A (EXPOSURES) HAVE BEEN PERFORMED. SERVICES WERE PROVIDED IN ACCORDANCE WITH THE STANDARD OF PRACTICE FOR THE SUBSURFACE UTILITY ENGINEERING PROFESSION, AMERICAN SOCIETY OF CIVIL ENGINEERS STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA (CI/ASCE 38-02).

SCALE: 1" =50'
0 25 50 100 150

DATE	REVISION	INITIAL

McKIM&CREED
1730 Varsity Drive Suite 500
Raleigh, North Carolina 27606
Phone: (919)233-8091, Fax: (919)233-8031
NC FIRM # F-1222
Internet Site: http://www.mckimcreed.com

DATE:_____

UTILITY MAP
OF
BASF SITE
FOR
WOOD GROUP
DATE: 12.17.2021 SCALE: 1" = 50'
WILMINGTON PENDER COUNTY NORTH CAROLINA

PROJECT # : 040820134
PROJ. SVYR :
DRAWN BY : ZNG
FIELD BK. :
COMP. FILE : wu101-040820134
SHEET # : 2 OF 3

Figure 3C

PRELIMINARY PLAT

NOT FOR RECORDATION, CONVEYANCE, OR SALES

811

UTILITY LEGEND

CO	CLEAN OUT
DI	DROP INLET
SSMH	SANITARY SEWER MANHOLE
SDMH	STORM DRAIN MANHOLE
AGP	ABOVE GRADE PIPE
EOR(I)	END OF RECORD INFORMATION
FDC	FIRE DEPARTMENT CONNECTION
BOV	BLOW OFF VALVE
GV	GAS VALVE
ICV	IRRIGATION CONTROL VALVE
PIV	POST INDICATOR VALVE
PP	POWER POLE
(R)	AS PER UTILITY RECORD
WM	WATER METER
WV	WATER VALVE
FH	FIRE HYDRANT
EOI	END OF INFORMATION
LP	LIGHT POLE
EB	ELECTRIC BOX
TRANS	TRANSFORMER
THH	TELEPHONE HAND HOLE
TP	TELEPHONE PEDESTAL
WMH	WATER MANHOLE
SMH	SEWER MANHOLE
STMH	STORM MANHOLE
NTO	RECORD NITROGEN LINE
N	NITROGEN LINE
A	AIR LINE
E	ELECTRIC LINE
E(R)	RECORD ELECTRIC LINE
FM	FORCE MAIN LINE
FM(R)	RECORD FORCE MAIN LINE
G	GAS LINE
G(R)	RECORD GAS LINE
SD	STORM DRAIN LINE
SD(R)	RECORD STORM DRAIN LINE
SS	SANITARY SEWER LINE
SS(R)	RECORD SANITARY SEWER LINE
T	TELEPHONE LINE
T(R)	RECORD TELEPHONE LINE
TFO	TELEPHONE FIBER OPTIC LINE
U	UNKNOWN LINE
W	WATER LINE
W(R)	RECORD WATER LINE

UTILITY NOTE:

THE HORIZONTAL UNDERGROUND UTILITY LINES SHOWN REPRESENT QUALITY LEVEL B SUBSURFACE UTILITY ENGINEERING SERVICES. UTILITY MARKS PLACED ON THE GROUND BY MCKIM & CREED ARE NOT TO BE USED FOR CONSTRUCTION PURPOSES. USE OF THIS QUALITY LEVEL DATA DOES NOT RELIEVE ANY PARTIES THEIR OBLIGATION TO CONTACT THE UTILITY MARKING PROGRAM PRIOR TO EXCAVATIONS. THIS QUALITY LEVEL B UTILITY INVENTORY DOES NOT GUARANTEE THE EXISTENCE OF EACH UTILITY OR THAT ALL THE UNDERGROUND UTILITIES HAVE BEEN ACCOUNTED FOR. EXACT HORIZONTAL AND VERTICAL POSITIONS CAN ONLY BE VERIFIED WHERE QUALITY LEVEL A (EXPOSURES) HAVE BEEN PERFORMED. SERVICES WERE PROVIDED IN ACCORDANCE WITH THE STANDARD OF PRACTICE FOR THE SUBSURFACE UTILITY ENGINEERING PROFESSION, AMERICAN SOCIETY OF CIVIL ENGINEERS STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA (CI/ASCE 38-02).

SCALE: 1" =50'

0 25 50 100 150

DATE	REVISION	INITIAL

McKIM&CREED
1730 Varsity Drive Suite 500
Raleigh, North Carolina 27606
Phone: (919)233-8091, Fax: (919)233-8031
NC FIRM # F-1222
Internet Site: http://www.mckimcreed.com

DATE:_____

UTILITY MAP
OF
BASF SITE
FOR
WOOD GROUP
DATE: 12,17,2021 SCALE: 1" = 50'
WILMINGTON PENDER COUNTY NORTH CAROLINA

PROJECT # : 040820134
PROJ. SYR# :
DRAWN BY : ZNG
FIELD BK. :
COMP. FILE : wl01-040820134
SHEET # : 3 OF 3

Figure 3D

LUMP SUM/UNIT RATE PROPOSAL
SECTION III GENERAL REQUIREMENTS

Specification No. 02 Decommissioning and Demolition Requirements

1 PRE-CONSTRUCTION WORK

1.1 KICKOFF MEETING

1.1.1 The Pender County Construction Representative (*Construction Manager*) will schedule a pre-construction kickoff meeting at the site or other convenient location before Work starts.

1.1.2 The meeting will provide an overview of the following project requirements:

1.1.2.1 Project Scope, Schedule, Invoicing Procedure, CCO Procedure, Contractor Submittals, Workingin Operating Facilities, Site Access and Security, Health and Safety, Temporary Facilities, Coordination of Work, Permit Requirements, Materials Management, QA/QC, Managing Waste.

2 MOBILIZATION & SITE PREPARATION

2.1 MOBILIZATION

2.1.1 Provide and setup field office(s), office supplies, sanitary facilities, change trailers, First Aid andPPE supplies, temporary power, small tools and equipment.

2.1.2 Coordinate with Pender County Construction Manager (Wood) the following mobilization activities:

2.1.2.1 Location of field offices, sanitary facilities, lay-down areas and temporary storage facilities.

2.1.2.2 The agreed to location for construction field offices, storage, site access, parking and employee entry to Facility shall be as identified in the Construction Documents and will be reaffirmed at the kickoff meeting.

3 CONSTRUCTION WORK

3.1 GENERAL

3.1.1 When minimum requirements for projects having minor site, mechanical or electrical scope and where more detailed technical specifications are not provided. For more complex construction work and when detailed technical specifications are provided, refer to theTechnical Specifications of the Contract. If there is a conflict between these general requirements and the technical specifications, the technical specifications shall govern.

3.2 CIVIL WORK

3.2.1 Storm Water Management, Soil Erosion and Sedimentation Control

3.2.1.1 When required by the Specification 01, Summary of Work or the Technical Specifications of the RFP, provide necessary Storm Water, Erosion Control, and SedimentationControl Plan and measures.

3.2.1.2 Storm Water Management, Soil Erosion and Sedimentation Control Plan

1. Implement and Adhere to the requirements of the Soil Erosion and Sedimentation Control Plan that is part of this RFP for construction.
2. Maintain copy of this plan at the site
3. At a minimum, the plan shall include:

- Chronological completion dates for each temporary (and permanent) measure for controlling stormwater, erosion and sediment.
- Location, type and purpose for each temporary measure to be undertaken.
- Dates when those temporary measures will be removed.
- Materials and equipment to be used.

3.2.1.3 Soil Erosion Control and Sedimentation Control Requirements:

1. Install erosion and sedimentation control measures in accordance with the attached Erosion and Sedimentation Control Plan prior to all construction activities.
2. Maintain control measures during earthwork activities.
3. Keep land disturbance to a minimum and schedule re-stabilization immediately after anydisturbance, as is practicable.
4. Repair any failed control measure immediately. Perform maintenance as needed.
5. Remove all sedimentation and erosion control barriers after completion of construction and permanent control measures are installed.
6. Conform to all State, County and Local erosion and sedimentation control measures and as specified in the Soil Erosion, and Sedimentation Control Plan.
7. Immediately adjust or institute additional control measures if planned control measures are not effective or satisfactory to the regulatory agencies having jurisdiction.

3.2.1.4 Soil Erosion Control Measures: Measures shall include temporary berms, diversions or other barriers including hay or straw bales, stone, silt fences or other agreed to materials that are constructed to retain sediment on-site by retarding and filtering storm runoff and prevent migration of silts and sediment to receiving waters.

1. Anchor all topsoil stockpiles with straw mulch and encircle with hay bales.
2. Silt fences or hay bales shall be installed at the toe of all critical cut and fill slopes.
3. Grade surfaces per the Contract Documents and manufacturer guidelines, prior to installation of erosion control fabric.
4. Diversion terraces shall be installed on the uphill side of disturbed areas to divert surface runoff away from unstable slopes and the project area, as may be required.
5. Interceptor channels shall be used across disturbed areas where the slope is running parallel to direction of trenches to divert runoff to outlets on lower side of disturbed area and shall be arranged to minimize erosion impact, as may be required.
6. Trench barriers of earth-filled sacks or piled stone, stacked to top of trench shall be constructed to prevent trench washout after installation of piping, if backfill operations aredelayed, as may be required. Trench shall be sloped in the

direction of piping.

3.2.1.5 Sediment Control Measures

1. Periodically remove sediment from temporary control structures and permanent drainagefacilities as needed.
2. Dispose of sediment per the Contract Documents. Prevent additional erosion or pollution.

3.2.2 Earthwork

3.2.2.1 Conduct all earthwork activities to mitigate dispersion of volatile organic emissions and fugitive dust beyond the Work Area.

3.2.2.2 Comply with all requirements of the Soil Erosion and Sedimentation Control Plan for the duration specified in the Plan.

3.3 MECHANICAL WORK

3.3.1 Equipment

3.3.1.1 Installation of Machinery and materials

1. Use certified shop drawings, installation drawings and manufacturer instructions when installing Machinery.
2. Mechanics shall be competent, experienced and skilled in handling, setting, aligning, levelingand adjusting the Products and shall install Products in accordance with manufacturer recommendations.
3. Use proper tools, equipment and materials to rig and assemble Products to prevent deforming or marring the surface of shafts, drive components, mating surfaces, threadedparts, etc.
4. Do not force or drive couplings, gears, sheaves, etc. on machinery shafts nor subject them toan open flame or torch. Use only oil bath heater or similar method.
5. Products shall not be altered or repaired, and no burning or welding will be permitted on anyparts having machined surfaces, except by written permission of Pender County.
6. No rigging shall be done from any structure without the permission of Pender County.

3.3.1.2 Alignment & Leveling of Equipment

1. Equipment shall be carefully set and aligned on foundations to proper orientation and elevation and shimmed to true level.
2. Equipment baseframe shall be tightened to bear against shims.
3. Equipment shall be checked after securing to foundations and, after confirmation of level andelevation, shall be grouted in place.
4. Rotating equipment shall be initially aligned using stainless steel shims while equipment isfree from any external loads.
5. Correctly align piping to associated equipment to prevent stress at pipe connections.Springing of pipe to align with mating equipment flanges is not permitted.
6. Misaligned holes shall be reamed. "Driving" of fasteners or keys is not permitted.
7. Check rotating equipment angular and parallel alignment and adjust to

manufacturer'sspecifications before testing or placing any Machinery into service.

4 SITE RESTORATION & DEMOBILIZATION

4.1 SITE RESTORATION

4.1.1 Complete site restoration in accordance with the Technical Specifications of the RFP.If not specifically specified, restore to current (or better) conditions.

4.2 DEMOBILIZATION

4.2.1 Submit an inventory listing all surplus materials.

4.2.2 Unless otherwise directed by Pender County (*or Wood*), remove all Temporary Work, tools and equipmentat Work completion.

4.2.3 Properly decontaminate all tools and equipment before removal from site.

4.2.4 Properly decontaminate all supplies and materials before removal from site, or manage as waste materials in accordance with the requirements of this specification.

4.2.5 Remove all Temporary Facilities at the conclusion of the project.

5 CONTRACT CLOSEOUT

5.1 CLOSEOUT PROCEDURE

5.1.1 Notify Pender County and Facility Operations (*and AP*) when Work is Substantially Complete.

5.1.1.1 Project Summary highlighting project objectives were achieved

5.1.1.2 Health and Safety Closeout Documentation

5.1.1.3 Off-site disposal Record

5.1.1.4 Project Photographs

5.1.1.5 An assessment of the project schedule and cost variance

5.1.2 Rectify all Punch List items.

5.1.2.1 Submit detailed written resolution for each Punch List item.

5.1.3 Submit to Pender County and Wood written certification of Substantial Completion that addresses the following:

5.1.3.1 Contract Documents reviewed and updated or markups provided.

5.1.3.2 Work is complete, inspected and in accordance with Contract Documents.

5.1.3.3 Work is ready for Pender County and Wood Final inspection.

5.1.4 Accompany Pender County and Facility Operations and Wood on Final inspection and verify all Punch List items have been rectified to Pender County's and Wood's satisfaction.

5.1.5 Repeat Punch List and final inspection processes until there are no items to be addressed.

5.2 SURPLUS MATERIAL

5.2.1 Upon completion of the project, inventory surplus materials.

5.2.2 Surplus materials purchased by contractor via Lump Sum contract remains the property of the contractor and must be removed from the site.

5.3 CLOSEOUT MEETING

5.3.1 Attend Project Closeout Meeting

5.3.2 Project Closeout Meeting shall be scheduled within eight (4) weeks of project completion.

ISSUED FOR CONTRACT

Wood Environment & Infrastructure Solutions, Inc.
5710 Oleander Drive
Wilmington, North Carolina 28403

Date Issued: January 19, 2022

Project Name: Former Brownfields Site Demolition 101 Vitamin Drive Pender County, NC

Subject: Notifications and Response to Questions

Project #: 6228210243

ADDENDUM NO. 1

To: All Bidders

SUBJECT: Post Pre-bid notifications and responses to questions for the **Lump Sum/Unit Rate Proposal for the decommissioning and demolition of the Former Brownfields Facility 101 Vitamin Drive Pender County, NC (Site).**

INTENT: This addendum is issued for bidder's knowledge and use in preparation of proposal submission. This addendum and all future addenda shall only be distributed to eligible bidders. It is the eligible bidders' responsibility to ensure that any potential subcontractors or suppliers that have the original version of the Contract Documents are aware of the contents of all addenda.

Attachments

1. Site pre-bid sign in sheet
2. 01/12/22 email to bidders

Response to Questions

1. Can solid waste be taken to the New Hanover County landfill? This question was asked because the project site sits partly in Pender and New Hanover counties.
   - **Answer is Yes.** New Hanover County landfill will accept waste from this demolition project as appropriate to their rules.
2. Can work be done on weekends and anytime between sunrise and sunset.
   - **Answer is Yes.**

3. Will Wood/Pender be able to obtain the demolition permit/ asbestos-NESHAPS notification permit ahead of the bid award.

    - **Answer is No.** Contractor awarded project will have to file this immediately upon winning the project because you have to identify the asbestos removal contractor and dates of asbestos removal. Wood could not do this at this time. There will a great deal of project work to do ahead of the removal of asbestos and demolition of buildings, so we anticipate no impact to the overall schedule due to time required (10 days or less) to obtain the demolition permit.
4. Can you provide the volume of fill needed to backfill the two retention ponds. These are the two side by side ponds, one is wet and one is dry. If there is an estimate in the Demo plan bid package use these volume amounts.
    - **Pond 1: 3,204 Cubic Yards**
    - **Pond 2: 2,622 Cubic Yards**
5. For Unit price items 4,5,& 8 - do we include placement for these items?
    - **Answer is Yes, per the bid package.**
6. For removal of asphalt road and parking areas do we have to remove the unconsolidated subgrade material from beneath the pavement.
    - **Answer is No. The subgrade material remains in place.**
7. Do you have to remove the large green transformer behind the office annex.
    - **Answer is No.** Duke Energy will remove the transformer, but you do have to remove the concrete pad that it sits on. Duke Energy is removing the electrical utility poles. You will have to remove the old light poles per the bid package.
8. Some of the process wastewater manholes appear to have been grouted up. Are all of the underground lines grouted up
    - Process wastewater manholes are often grouted up due to the fact that at one time they contained wastewater with VOC's so part of the closure of the system was to grout these manholes. It is unlikely that the horizontal lines are grouted up. Other utilities line such as water and stormwater do not appear to have been grouted.
9. Does the vegetation around the buildings and above the wastewater leach field need to be removed
    - **Answer is yes**
10. Does all of the contents of the buildings have to be removed.
    - **Answer is yes.**
11. How does the recyclable material value get included in the bid.
    - **There is a line item (last line) in the bid table where the bidder will include a credit (negative value) for the value of the recyclable material at their discretion.**
12. How will inclement weather days be addressed in the schedule? Will the deadline be pushed to accommodate the lost time?
    - **There are no plans for extension on deadlines due to weather delays.**
13. Please confirm that soil testing and compaction of the backfill will be completed by the engineering firm at no cost to the contractor?
    - **Engineering firm for the Pender will provide the soil testing. There is no cost to the contractor.**

14. Will other utilities (water, gas, sewer, etc..) be properly disconnected and capped by the owner prior to demolition?
    - **Answer is yes, Contractor will still need to confirm that these are done.**
15. Will there be an onsite water source for dust control?
    -
16. Section 7.2.1 states "provide and set up field offices" is this required if the contractor deems it unnecessary to perform the scope of work?
    - **Answer is that you will need to follow the requirements of the demolition bid package.**
17. Can the concrete be processed/crushed onsite to 4" to 6" diameter and smaller and used for backfill in the two ponds and other areas?
    - **Answer is no.** Concrete would have to be crushed to below 3inch diameter maimum to be used as fill on site
18. Can the awarded contractor work 2 shifts? 7am to 6pm and 6pm to 4am?
    - **Answer is yes as long as lighting is sufficient for safe operation.**
19. Are SDS for former products use in the metal and fiberglass tanks available?
    - **Answer is no at this time. If this SDS are identified they will be sent to the bidders**.
20. Can we get as built drawing for water treatment structures and administration/warehouse buildings?
    - **Answer is No.**

Sincerely,
Wood Environment & Infrastructure Solutions, Inc.



J. Chris Pruneau
Project Manager

ISSUED FOR CONTRACT

Wood Environment & Infrastructure Solutions, Inc.
5710 Oleander Drive
Wilmington, North Carolina 28403

Date Issued: January 21, 2022

Project Name: Former Brownfields Site Demolition 101 Vitamin Drive Pender County, NC

Subject: Notifications and Response to Questions

Project #: 6228210243

ADDENDUM NO. 3

To: All Bidders

SUBJECT: Post Pre-bid notifications and responses to questions for the **Lump Sum/Unit Rate Proposal for the decommissioning and demolition of the Former Brownfields Facility 101 Vitamin Drive Pender County, NC (Site).**

INTENT: This addendum is issued for bidder's knowledge and use in preparation of proposal submission. This addendum and all future addenda shall only be distributed to eligible bidders. It is the eligible bidders' responsibility to ensure that any potential subcontractors or suppliers that have the original version of the Contract Documents are aware of the contents of all addenda.

Clarifications To Responses and Additional Clarifications 1/21/2022

Clarification to the Need for an Onsite Job Trailer. Section 7.2.1 states "provide and set up field offices" is this required if the contractor deems it unnecessary to perform the scope of work?

The contract/project does not require an office trailer or a changing trailer. You will need to provide some form of enclosure to hold field meetings in and you do have to provide portable toilets for your employees.

Clarification on role requirements

The bid package states the need for a project manager, field superintendent, site health and safety officer and QA/QC role. These can be combined. You will need to provide a job superintendent and a project manager.

Clarification on Project Performance Bond Requirement

The contract requires a 100 % performance bond.

Clarification

The project is to be awarded to one contractor not broken up and awarded as could be indicated in the bid document.

Response to Questions

1. Can solid waste be taken to the New Hanover County landfill? This question was asked because the project site sits partly in Pender and New Hanover counties.
   - **Answer is Yes.** New Hanover County landfill will accept waste from this demolition project as appropriate to their rules.
2. Can work be done on weekends and anytime between sunrise and sunset.
   - **Answer is Yes.**
3. Will Wood/Pender be able to obtain the demolition permit/ asbestos-NESHAPS notification permit ahead of the bid award.

   - **Answer is No.** Contractor awarded project will have to file this immediately upon winning the project because you have to identify the asbestos removal contractor and dates of asbestos removal. Wood could not do this at this time. There will a great deal of project work to do ahead of the removal of asbestos and demolition of buildings, so we anticipate no impact to the overall schedule due to time required (10 days or less) to obtain the demolition permit.
4. Can you provide the volume of fill needed to backfill the two retention ponds. These are the two side by side ponds, one is wet and one is dry. If there is an estimate in the Demo plan bid package use these volume amounts.
   - **Pond 1: 3,204 Cubic Yards**
   - **Pond 2: 2,622 Cubic Yards**
5. For Unit price items 4,5,& 8 - do we include placement for these items?
   - **Answer is Yes, per the bid package.**
6. For removal of asphalt road and parking areas do we have to remove the unconsolidated subgrade material from beneath the pavement.
   - **Answer is No. The subgrade material remains in place.**
7. Do you have to remove the large green transformer behind the office annex.
   - **Answer is No.** Duke Energy will remove the transformer, but you do have to remove the concrete pad that it sits on. Duke Energy is removing the electrical utility poles. You will have to remove the old light poles per the bid package.
8. Some of the process wastewater manholes appear to have been grouted up. Are all of the underground lines grouted up

- Process wastewater manholes are often grouted up due to the fact that at one time they contained wastewater with VOC's so part of the closure of the system was to grout these manholes. It is unlikely that the horizontal lines are grouted up. Other utilities line such as water and stormwater do not appear to have been grouted.

9. Does the vegetation around the buildings and above the wastewater leach field need to be removed
   - **Answer is yes**

10. Does all of the contents of the buildings have to be removed.
    - **Answer is yes.**
11. How does the recyclable material value get included in the bid.
    - **There is a line item (last line) in the bid table where the bidder will include a credit (negative value) for the value of the recyclable material at their discretion.**
12. How will inclement weather days be addressed in the schedule? Will the deadline be pushed to accommodate the lost time?
    - **There are no plans for extension on deadlines due to weather delays.**
13. Please confirm that soil testing and compaction of the backfill will be completed by the engineering firm at no cost to the contractor?
    - **Engineering firm for Pender County will provide the soil testing. There is no cost to the contractor.**
14. Will other utilities (water, gas, sewer, etc..) be properly disconnected and capped by the owner prior to demolition?
    - **Answer is yes, Contractor will still need to confirm that these are done.**
15. Will there be an onsite water source for dust control?
    - **Answer is no.**
16. Section 7.2.1 states "provide and set up field offices" is this required if the contractor deems it unnecessary to perform the scope of work?
    - **Refer to clarification above.**
17. Can the concrete be processed/crushed onsite to 4" to 6" diameter and smaller and used for backfill in the two ponds and other areas?
    - Crushed concrete generated on the site can be used as fill but has to be crushed to below 1-inch diameter maximum and be free of reinforcing steel to be used as fill. None of the concrete from the secondary containment areas can be used. The 4-6 inch diameter per your question would not be acceptable.
18. Can the awarded contractor work 2 shifts? 7am to 6pm and 6pm to 4am?
    - **Answer is yes as long as lighting is sufficient for safe operation. Work can be done on weekends as well.**
19. Are SDS for former products use in the metal and fiberglass tanks available?
    - **Answer is no at this time. If this SDS are identified they will be sent to the bidders**.
20. Can we get as built drawing for water treatment structures and administration/warehouse buildings?
    - **Answer is No.**

Sincerely,

Wood Environment & Infrastructure Solutions, Inc.



J. Chris Pruneau
Project Manager

January 28, 2022

Chad McEwen
Pender County Manager
Pender County
805 South Walker Street,
Burgaw, North Carolina 28425

Subject: **Recommendation of Contract Award**
Decommissioning and Demolition
Former Brownfields Industrial Property Owned by Pender County
Pender Commerce Park, Wilmington, North Carolina
Wood Project No. 6228 21 0243

Dear Mr. McEwen:

Wood Environment & Infrastructure Solutions, Inc. (Wood) is pleased to provide this letter of recommendation of contract award for the decommissioning and demolition of the former Brownfields Industrial Property on US Highway 421 in Pender County, North Carolina.

Based on the evaluation criteria including but not limited to bid price and qualifications, Wood recommends the above project be awarded to SR&R Environmental, Inc. with an address of 4920 US Highway 421, Wilmington, NC 28401.

Wood appreciates the opportunity to continue providing our services to Pender County for this project. Please call at (910) 231-2955 or email chris.pruneau@woodplc.com if you have any questions concerning this recommendation.

Sincerely,

Wood Environment and Infrastructure Solutions, Inc.



J. Chris Pruneau, P.G.
Principal