Environmental Management Plan
Revision 3

Chapel Hill Police Department
Brownfields Project No. 23022-19-068

828 Martin Luther King Jr., Blvd.
Chapel Hill, North Carolina

H&H Job No. TCH-009
Original Date: October 8, 2019
Revision Date: March 19, 2024

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NORTH CAROLINA BROWNFIELDS REDEVELOPMENT SECTION
ENVIRONMENTAL MANAGEMENT PLAN

This form is to be used to prepare an Environmental Management Plan (EMP) for projects in the North Carolina Brownfields Redevelopment Section at the direction of a Brownfields project manager.

The EMP is a standard requirement of a Brownfields Agreement (BFA). Its purpose is to clarify actions to be taken during demolition and construction at Brownfields properties in an effort to avoid delays in the event of the discovery of new contamination sources or other environmental conditions. The EMP provides a means to document redevelopment plans and environmental data for each applicable environmental medium to inform regulatory-compliant decision-making at the site. As much detail as possible should be included in the EMP, including contingency planning for unknowns. Consult your project manager if you have questions.

Prospective Developers and/or their consultants must complete and submit this form and all pertinent attachments, see checklist below, to their Brownfields project manager prior to any earthmoving or other development-related activities that have the potential to disturb soil at the Brownfields Property, including demolition. For the EMP to be valid for use, it must be completed, reviewed by the Section, signed by all parties working on the project, and approved by the Brownfields project manager. Failure to comply with the requirements of the EMP could jeopardize project eligibility, or in the event of a recorded agreement, be cause for a reopener.

The EMP is valid only for the scope of work described herein and must be updated to be applicable for new phases of redevelopment or after significant changes in applicable regulatory guidance. Risk characterization of a Brownfields Property to DEQ's written satisfaction is required prior to EMP approval.

Voluntary Metrics Tab

The NC Brownfields Redevelopment Section updates estimated capital investment (from the Brownfields Property Application) and estimated jobs created (from the Brownfields Agreement) whenever possible. As a voluntary measure, you may opt to complete the below information for capital investment and jobs created as estimated by your final redevelopment plans for the Brownfields Property:

1. Estimated capital investment in redevelopment project: TBD
2. Estimated jobs created:
    a. Construction Jobs: TBD
    b. Full Time Post-Redevelopment Jobs: TBD

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So that the EMP provides value in protecting Brownfields eligibility and public health, the preparer shall ensure that the following steps have been completed prior to submitting the EMP for review. **Any EMP prepared without completing all of the following is premature and may be returned without comment.**

☒ Site sampling and assessment that meets Brownfields' objectives is complete and has been reviewed and approved by the Brownfields project manager. Note: Sampling complete except for vapor intrusion evaluation in area of multi-family building, which will be completed before construction begins in that area of the site. If the vapor intrusion evaluation indicates the recommendations in this EMP are no longer valid, a revised EMP will be submitted prior to construction in the multi-family area.

☒ Specific redevelopment plans, even if conceptual, have been developed for the project, submitted and reviewed by the Brownfields project manager.

Please submit, along with the completed EMP form, the following attachments, as relevant and applicable to the proposed redevelopment:

☐ A set of redevelopment plans, including architectural/engineering plans, if available; if not, conceptual plans may suffice if updated when detailed plans are drafted.

☐ A figure overlaying redevelopment plans on a map of the extent of contamination for each media.

☐ Site grading plans that include a cut and fill analysis.

☐ A figure showing the proposed location and depth of impacted soil that would remain onsite after construction grading.

☐ Any necessary permits for redevelopment (i.e. demolition, etc.).

☐ A detailed construction schedule that includes timing and phases of construction.

☒ Tabulated data summaries for each impacted media (i.e. soil, groundwater, soil gas, etc.) applicable to the proposed redevelopment.

☒ Figures with the sampling locations and contamination extents for each impacted media applicable to the proposed redevelopment.

☐ A full final grade sampling and analysis plan, if the redevelopment plan is final.

☐ If known, information about each proposed potential borrow soil source, such as aerial photos, historic site maps, historic Sanborn maps, a site history, necessary for

Brownfields approval.

☐ Information and, analytical data if required, for quarries, or other borrow sources, detailing the type of material proposed for import to the Brownfields Property.

☐ A work plan for the sampling and analysis of soil to be brought onto the Brownfields Property. Refer to Issue Resolution 15 in Brownfields Redevelopment Section Guidelines.

☐ A map of the Brownfields Property showing the location of soils proposed for export and sampling data from those areas.

☐ If a Vapor Intrusion Mitigation System (VIMS) is required by the Brownfields Redevelopment Section, the VIMS plan will be signed and sealed by a NC Professional Engineer. The VIMS Plan may also be submitted under separate cover.

GENERAL INFORMATION

Date: 10/8/2018 **Revision Date (if applicable)**: 3/19/2024

Brownfields Assigned Project Name: Chapel Hill Police Department

Brownfields Project Number: 22047-18-068

Brownfields Property Address: 828 Martin Luther King Jr., Blvd., Chapel Hill, Orange County, North Carolina

Brownfields Property Area (acres): The Brownfields property is approximately 10.24 acres and consists of one parcel. The property is generally divided into an elevated portion in the north and a lower portion in the south that are separated by a steep embankment. The elevated portion is developed with an approximately 21,100 square foot (sq ft) two-story building that is currently occupied by the Town of Chapel Hill Police Department. The lower portion is vegetated with the exception of an approximately 800 linear feet segment of Bolin Creek Trail which is a local greenway trail. Bolin Creek is located along the southern site boundary. This Environmental Management Plan has been prepared to address repair and maintenance of interim remedial measures previously completed in areas of erosional coal combustion products (CCPs) near portions of the Bolin Creek Trail.

Is Brownfields Property Subject to RCRA Permit?.....☐ **Yes** ☒ **No**
If yes enter Permit No.: Click or tap here to enter text.
Is Brownfields Property Subject to a Solid Waste Permit.....☐ **Yes** ☒ **No**
If yes, enter Permit No.:

COMMUNICATIONS

A copy of this EMP shall be distributed to all the parties below as well as any contractors or site workers that may be exposed to site vapors, soil, groundwater, and/or surface water. Additionally, a copy of the

EMP shall be maintained at the Brownfields Property during redevelopment activities in an area that is prominently accessible to site workers. NOTE, THE EMP DOES NOT TAKE THE PLACE OF A SITE-SPECIFIC HEALTH AND SAFETY PLAN.

Prospective Developer (PD): Town of Chapel Hill
Contact Person: John Richardson
Phone Numbers: Office: (919) 969-5075 **Mobile:** (919)-801-8225
Email: jrichardson@townofchapelhill.org

Contractor for PD: Contaminant Control Inc. (CCI)
Contact Person: Keith Burch
Phone Numbers: Office: (704) 273-1500 **Mobile:** (704) 650-1298
Email: keith.burch@cci-env.com

Environmental Consultant: Hart & Hickman, PC
Contact Person: Justin Ballard, PG
Phone Numbers: Office: (919) 723-2507 **Mobile:** (252) 548-9191
Email: jballard@harthickman.com

Brownfields Redevelopment Section Project Manager: Sharon Poissant Eckard, PG
Phone Numbers: Office: (919) 707-8379 **Mobile:** (919) 609-2617
Email: sharon.eckard@deq.nc.gov

Other DEQ Program Contacts (if applicable, i.e., UST Section, Inactive Hazardous Site Branch, Hazardous Waste, Solid Waste):
Amy Axon – Inactive Hazardous Sites Branch (amy.axon@ncdenr.gov; 919-707-8371)

NOTIFICATIONS TO THE BROWNFIELDS REDEVELOPMENT SECTION

Written advance Notification Times to Brownfields project manager: Check each box to accept minimum advance notice periods (in calendar days) for each type of onsite task:

On-site assessment or remedial activities:..... **10 days Prior** ☒

Construction or grading start:..... **10 days Prior** ☒

Discovery of stained soil, odors, USTs, buried drums or waste, landfill, or other signs of previously unknown contamination: ..... **Within 48 hours** ☒

Implementation of emergency actions (e.g. dewatering, flood or soil erosion control measures in area of contamination, ventilation of work zones):..... **Within 48 hours** ☒

Installation of mitigation systems:..... **10 days Prior** ☐

Other notifications as required by local, state or federal agencies to implement redevelopment activities: (as applicable): ..... **Within 30 days** ☒

REDEVELOPMENT PLANS

1) **Type of Redevelopment (check all that apply):**
☐Residential ☐Townhomes (Prior written DEQ approval REQUIRED regardless of ownership structure) ☒Recreational ☐Institutional ☐Commercial ☒Office ☒Retail ☐Industrial ☒Other specify:
Parking, transit, municipal service center

2) **Check the following activities that will be conducted prior to commencing earth-moving activities at the site:**
☐ Review of historic maps (Sanborn Maps, facility maps)
☐ Conducting geophysical surveys to evaluate the location of suspect UST, fuel lines, utility lines, etc.
☒ Interviews with employees/former employees/facility managers/neighbors

3) **Summary of Redevelopment Plans (MANDATORY: attach detailed plans or conceptual plans, if detailed plans are not available. EMP review without such information would be premature)**: **Provide <u>brief</u> summary of redevelopment plans, including demolition, removal of building slabs/pavement, grading plans and planned construction of new structures:**
The original EMP included implementation of interim remedial activities related to the presence of exposed CCPs which migrated over time from certain portions of the embankment separating the upper and lower portions of the Brownfields property. This revised EMP (Revision No. 3) includes the following activities, which are to be completed within the work area indicated in Figures 3 and 4:

-Repairs and upgrades to an existing storm diversion channel adjacent to the police department parking lot;
-Limited vegetation clearing of the embankment north of Bolin Creek Trail (Area F);
-On-Site relocation of suspect CCPs from the base of the embankment to within the super silt fence of Area F and post-excavation soil sampling;
-Hydroseeding of the embankment and relocated suspect CCPs;
-Installation of a silt fence outlet and repairs to existing silt fencing; and
-Installation of mulch at the base of the embankment.

4) **Do plans include demolition of structure(s)?:**
☐ Yes ☒ No ☐ Unknown
☐ **<u>If yes</u>**, please check here to confirm that demolition will be conducted in accordance with applicable legal requirements, including without limitation those related to lead and asbestos abatement that are administered by the Health Hazards Control Unit within the Division of Public

Health of the North Carolina Department of Health and Human Services. If available, please provide a copy of your demolition permit.

5) **Are sediment and erosion control measures required by federal, state, or local regulations?** S&EC requirements can be found at: https://deq.nc.gov/about/divisions/energy-mineral-and-land-resources/erosion-and-sediment-control/erosion-and-sediment-control-laws-and-rules

☐ **Yes** ☒ **No** ☐ **Unknown**

☐ **If yes**, please check here to confirm that earth-work will be conducted in accordance with applicable legal requirements. If soil disturbance is necessary to install sediment and erosion control measures, they may not begin until this EMP is approved.

6) **Which category of risk-based screening level is used or is anticipated to be specified in the Brownfields Agreement?** Note: If children frequent the property, residential screening levels shall be cited in the Brownfields Agreement for comparison purposes.

☐ **Residential** ☒ **Non-Residential or Industrial/Commercial**

7) **Schedule for Redevelopment (attach construction schedule):**

a) **Construction start date: 4/1/2024**

b) **Anticipated duration (specify activities during each phase):**

Repair and maintenance of interim remedial measures are expected to take approximately one week.

c) **Additional phases planned?** ☐ **Yes** ☒ **No**

If yes, specify the start date and/or activities if known**:**

Start Date:
Planned Activity:
Click or tap here to enter text.

Start Date: Click or tap to enter a date.
Planned Activity:
Click or tap here to enter text.

Start Date: Click or tap to enter a date.
Planned Activity:
Click or tap here to enter text.

d) **Provide the planned date of occupancy for new buildings:**
Planned occupancy for retail Buildings 2 and 3 and Chase Bank is approximately Q3 2024.

CONTAMINATED MEDIA

Please fill out the sections below, using detailed site plans, if available, or estimate using known areas of

contaminated soil and a conceptual redevelopment plan. Provide a figure overlaying new construction onto figure showing contaminated soil and groundwater locations.

1) <u>Contaminated Media on the Brownfields Property</u>

Part 1. Soil:	☒ **Yes**	☐ **No**	☐ **Suspected**	☐ **Unknown**	
Part 2. Groundwater:	☒ **Yes**	☐ **No**	☐ **Suspected**	☐ **Unknown**	
Part 3. Surface Water:	☐ **Yes**	☒ **No**	☐ **Suspected**	☐ **Unknown**	☐ **N/A**
Part 4. Sediment:	☐ **Yes**	☒ **No**	☐ **Suspected**	☐ **Unknown**	☐ **N/A**
Part 5. Soil Vapor:	☐ **Yes**	☒ **No**	☐ **Suspected**	☐ **Unknown**	
Part 6. Sub-Slab Soil Vapor:	☐ **Yes**	☒ **No**	☐ **Suspected**	☐ **Unknown**	
Part 7. Indoor Air:	☐ **Yes**	☒ **No**	☐ **Suspected**	☐ **Unknown**	

2) For the <u>Area of Proposed Redevelopment</u> on the Brownfields Property, attach tabulated data summaries for each impacted media and figure(s) with sample locations.

PART 1. SOIL

1) Known or suspected contaminants in soil (list general groups of contaminants):

Multiple soil sampling events have been completed at the Brownfields property dating back to 2013. The soil assessments have indicated that the primary compounds of concern at the Brownfields property are metals from the historical placement of CCPs. A tabular summary of historical soil analytical data in comparison to DEQ's July 2022 Preliminary Soil Remediation Goals (PSRGs) and Site-specific background levels is included as Table 1 and soil sample locations are shown in Figure 4. In the initial phases of the investigation, some samples were collected for analysis of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs) and petroleum hydrocarbon fractions are those data are summarized in Appendix A.

Soil assessment activities conducted at the Brownfields property have identified arsenic above the Industrial/Commercial PSRG.

As documented in a Risk Assessment Report dated October 7, 2021, H&H completed a human health and ecological risk assessment for the Brownfields property. For the purpose of risk characterization, the Site was divided into three exposure units (EU #1 through EU #3 [upper level, lower level, and embankment, respectively]) that represent areas of similar land use and potential receptors. Human-health risk was evaluated for possible current or future non-residential workers in the areas of EU #1 (upper level) and EU #3 (embankment). The results of the risk evaluation indicated acceptable risk levels for a non-residential worker in both units. Therefore, the site is considered safe for non-residential workers under both current and future use scenarios.

Human-health risk was evaluated for possible future construction workers in the areas of EU #1 through EU #3 (upper level, lower level, and embankment). The results of the risk evaluation

indicated acceptable risk levels were exceeded for a construction worker in all three units. If background concentrations are removed, acceptable risk levels were exceeded for a construction worker in EU #1 (upper level) and EU #3 (embankment).

2) Depth of known or suspected contaminants (feet):

CCPs are present on the surface of the embankment (Area F, Figure 3) and at variable depths below the ground surface. Elevated levels of metals are located in and in close proximity to the proposed soil disturbance areas adjacent to the embankment.

3) Area of soil disturbed by redevelopment (square feet):

Up to approximately 100 square feet of soil is expected to be disturbed during repair and maintenance of interim remedial measures.

4) Depths of soil to be excavated (feet):

Approximately 1 feet below ground surface (ft bgs)

5) Estimated volume of soil (cubic yards) to be excavated (attach grading plan):

Approximately 3 to 5 cubic yards

6) Estimated volume of excavated soil (cubic yards) anticipated to be impacted by contaminants:

Approximately 3 to 5 cubic yards of CCPs and/or soil will be excavated and relocated to within the super silt fence of Area F (Figure 3).

7) Estimated volume of contaminated soil expected to be disposed of offsite, if applicable:

Off-Site disposal of soil and/or CCPs is not anticipated.

PART 1.A. MANAGING ONSITE SOIL

If soil is anticipated to be excavated from the Brownfield Property, relocated on the Brownfields Property, or otherwise disturbed during site grading or other redevelopment activities, please provide a grading plan that clearly illustrates areas of cut and fill (approximate areas & volumes are acceptable, if only preliminary data available).

1) HAZARDOUS WASTE DETERMINATION:

a) Does the soil contain a LISTED WASTE as defined in the North Carolina Hazardous Waste Section under 40 CFR Part 261.31-261.35?..... ☐**Yes** ☒**No**

☐ **If yes, explain why below, including the level of knowledge regarding processes generating the waste (include pertinent analytical results as needed).**

☐ **If yes, do the soils exceed the "Contained-Out" levels in Attachment 1 of the North Carolina Contained-In Policy?**..... ☐ **Yes** ☐ **No**

b) NOTE: IF SOIL MEETS THE DEFINITION OF A LISTED HAZARDOUS WASTE AND EXCEEDS

THE CONTAINED-OUT LEVELS IN ATTACHMENT 1 TO THE NORTH CAROLINA CONTAINED-IN POLICY, THE SOIL MAY NOT BE RE-USED ONSITE AND MUST BE DISPOSED OF IN ACCORDANCE WITH DEQ HAZARDOUS WASTE SECTION RULES AND REGULATIONS.

c) Does the soil contain a CHARACTERISTIC WASTE?..... ☐ **Yes** ☒ **No**

☐ **If yes**, mark reason(s) why below (and include pertinent analytical results).

☐ **Ignitability** Click or tap here to enter text.

☐ **Corrosivity** Click or tap here to enter text.

☐ **Reactivity** Click or tap here to enter text.

☐ **Toxicity** Click or tap here to enter text.

☐ **TCLP results** Click or tap here to enter text.

☐ **Rule of 20 results** (20 times total analytical results for an individual hazardous constituent on TCLP list cannot, by test method, exceed regulatory TCLP standard)

Click or tap here to enter text.

☒ **If no,** explain rationale:

Toxicity characteristic leaching procedure (TCLP) investigative derived waste (IDW) characterization of soil and CCPs samples were collected at the Brownfields property during assessment activities completed in 2016 and 2019. Based on the sampling results, soil and CCPs generated during the 2016 and 2019 assessment activities did not exceed toxicity characteristic levels. Composite samples of the erosional CCPs were collected for TCLP metals analysis in advance of interim remedial measures completed in 2019, which were characterized as non-hazardous.

d) NOTE: IF SOIL MEETS THE DEFINITION OF A CHARACTERISTIC HAZARDOUS WASTE, THE SOIL MAY NOT BE RE-USED ONSITE AND MUST BE DISPOSED OF IN ACCORDANCE WITH DEQ HAZARDOUS WASTE SECTION RULES AND REGULATIONS.

2) Screening criteria by which soil disposition decisions will be made (e.g., left in place, capped in place with low permeability barrier, removed to onsite location and capped, removed offsite):

☐ **Preliminary Health-Based Residential SRGs**

☒ **Preliminary Health-Based Industrial/Commercial SRGs**

☒ **Division of Waste Management Risk Calculator (For Brownfields Properties Only)**

☐ **Site-specific risk-based cleanup level. Please provide details of methods used for determination/explanation.**

Click or tap here to enter text.

Additional comments:
Click or tap here to enter text.

3) **If known impacted soil is proposed to be reused within the Brownfields Property boundary, please check the measures that will be utilized to ensure safe placement and documentation of same. Please attach a proposed location diagram/site map.**

☐ **Provide documentation of analytical report(s) to Brownfields project manager.**

☒ **Provide documentation of final location, thickness and depth of relocated soil onsite map to Brownfields project manager once known.**

☐ **Geotextile to mark depth of fill material.**
Provide description of material:
Click or tap here to enter text.

☐ **Manage soil under impervious cap ☐ or clean fill ☐**

☐ **Describe cap or fill:**

☐ **Confer with NC BF project manager if Brownfield Plat must be revised (or re-recorded if actions are Post-Recordation).**

☒ **GPS the location and provide site map with final location.**

☐ **Other. Please provide a description of the measure**:
Click or tap here to enter text.

4) **Please describe the following action(s) to be taken during and following excavation and management of site soils:**

☒ **Check to confirm that management of fugitive dust from site activities will be handled in accordance with applicable local, state, and federal requirements.**

Field screening of site soil
At a minimum, contractors shall be made aware of protocols should impacted soils (e.g. staining, unusual odors, fill materials) be identified.

Describe the field screening method, frequency of field screening, person conducting field screening:

In 2020, perimeter and work-area monitoring for dust was performed during grading and excavation activities. As reported in the Interim Remedial Measures Report dated April 19, 2021, dust was not measured at levels significantly above background levels during this time. However, particular attention will be paid by contractors to implement dust control measures as needed based on Site and atmospheric conditions (i.e., by controlled water application, hydro-seeding, and/or mulch, stone, or plastic cover). Potentially impacted soil

and/or CCPs will be managed as described below. During soil disturbance at the Site, H&H, workers, and/or contractors will observe soils for evidence of CCPs and potentially impacted soil, such as a distinct unnatural color, strong odor, or filled or previously disposed materials of concerns (i.e., chemicals, tanks, drums, etc.). Should the above be noted during Site work, the contractor will contact the project environmental professional to observe the suspect condition. If the project environmental professional confirms that the material may be impacted, then the procedures below will be implemented. In addition, the environmental professional will contact the DEQ Brownfields project manager within two business days to advise that person of the condition

Soil sample collection

☐ **Yes**

☒ **Not anticipated - In order to avoid delays in construction, a plan shall be in place for sampling of suspect soils should they be encountered during redevelopment. If soil sample collection is not anticipated but the need to do so is identified during redevelopment, notify the Brownfields project manager of the anticipated sample and report dates for scheduling purposes.**

Describe the sampling method (e.g., in-situ grab, composite, stockpile, etc.) and confirm that all procedures outlined in applicable DEQ guidance for assessment shall be followed Typically, at least one representative sample (per 500 yd^3 for residential and 1,000 yd^3 for commercial) consisting of a 3 to 5-point composite sample with grab sample for VOCs based on the highest PID reading is required to determine soil management options**:**

Collection of additional soil and/or CCP samples is not anticipated based on results of previous Site assessment activities. Suspect CCPs will be excavated and relocated to within the super silt fence of Area F (Figure 3). If significant non-CCP soil impact is encountered during grading and/or installation or removal of utilities, excavation will proceed only as far as needed to allow grading and/or construction of the utility to continue and/or only as far as needed to allow alternate corrective measures described below. Suspect significantly impacted soil excavated during grading and/or utility line installation or removal may be stockpiled and covered in a secure area to allow construction to progress. Suspect impacted soil will be underlain by and covered with minimum 10-mil plastic sheeting. Specifically, one representative sample of the soil will be collected for analysis of VOCs, SVOCs, and Resource Conservation and Recovery Act (RCRA) metals at a frequency of one sample per approximately 1,000 cy. If the results of analysis indicate that the soil could potentially exceed toxicity characteristic hazardous waste criteria, then the soil will also be analyzed by TCLP for those compounds that could exceed the toxicity characteristic hazardous waste criteria. Impacted non-CCP soil will be handled in the manner described below based upon the laboratory analyses:

i. If no organic compounds are detected in a sample (other than those attributable to sampling or laboratory artifacts) and metals are below Residential PSRGs or are consistent with Site-specific and/or published background ranges for North Carolina soils, then the soil will be deemed suitable for use as on-Site fill or as off-Site fill. The proposed location(s) for off-Site placement of soil (other than a permitted facility), other applicable

off-Site information (i.e., sampling results from receiving facility), and the receiving facility's written approval for acceptance of the soil will be provided to DEQ for approval prior to taking the soil off-Site.

ii. If detectable levels of compounds are found which do not exceed the DEQ Industrial/Commercial PSRGs (other than which are attributable to sampling or laboratory artifacts or which are consistent with Site-specific and/or published background ranges for metals in North Carolina soils) and the TCLP concentrations are below hazardous waste criteria, then the soil may be used on-Site as fill without conditions.

iii. If detectable levels of compounds are found which exceed the DEQ Industrial/Commercial PSRGs (other than which are attributable to sampling or laboratory artifacts or which are consistent with Site-specific and/or published background ranges for metals in North Carolina soils) and the TCLP concentrations are below hazardous waste criteria, then the soil, with DEQ's written approval, may be used on-Site as fill below an impervious surface, or at least 2 ft of compacted clean soil. If the impacted soil with concentrations above Industrial/Commercial PSRGs is moved to an on-Site location, its location and depth will be documented, covered with a geotextile fabric so that its location can be identified if encountered in the future, and its location will be provided to DEQ and identified on the Brownfields plat (if not already recorded with the executed Brownfields Agreement).

iv. Impacted soil may be transported to a permitted facility such as a landfill provided that the soil is accepted at the disposal facility. If soil is transported to a permitted facility, the permitted facility's written approval to dispose of soil from the Site will be included with the final EMP report. In the unlikely event that the sample data indicates concentrations above TCLP hazardous waste criteria, then the soil must be transported off-Site to a permitted disposal facility that can accept or treat hazardous waste.

v. If soil export is necessary, the procedure(s) in Part 1.c. Export Soils will be followed.

Check applicable chemical analytes for soil samples:

☒ **Minimum Sample Requirements:** Volatile organic compounds (VOCs) by EPA Method 8260*;* Semi-volatile organic compounds (SVOCs) by EPA Method 8270; and Metals RCRA List + Hexavalent Chromium by EPA Method 6020/7199

☐ **Pesticides:** Specify Analytical Method Number(s):
Click or tap here to enter text.

☐ **PCBs:** Specify Analytical Method Number(s):
Click or tap here to enter text.

☒ **Other Constituents & Respective Analytical Method(s)** (e.g. Herbicides):
TCLP RCRA metals and additional analyses if warranted.

☒ **Check to confirm that by the owner's signature and the North Carolina Professional Engineer/Geologist sealing this EMP the consultant understands that no work plan for suspect soil sample collection will be submitted beyond this EMP, and that it is the responsibility of the sealing professional and property owner to ensure that all applicable guidelines and methodologies are**

followed and reported to DEQ for determination and approval of soil placement prior to final relocation.

If impacted soils above applicable PSRGs and/or site specific risk thresholds are proposed to be relocated on-site, prior to final placement on-site, the following shall be submitted for DEQ review/approval

- Analytical data that has been sampled in accordance with the above referenced frequency and following procedures outlined in the most recent Brownfields Redevelopment Section *Environmental Site Assessment Work Plan Minimum Requirements Checklist (Checklist)* and in accordance with DEQ IHSB *Guidelines for Assessment and Cleanup of Contaminated Sites (Guidelines)*
- Figure outlining planned soil placement and any future site features including buildings/hardscape/open areas
- A North Carolina PE/PG recommendation of placement

Impacts	Options	
	Onsite Placement without conditions	**Onsite placement under 2 ft of cap or clean fill[1, 2]**
All Constituents below applicable PSRGs	**X**	
Constituents[3] below applicable PSRGs; Metals below background but above PSRGs	**X**	
Constituents[3] below applicable PSRGs; Metals above Background /PSRGs		**X**
Constituents above Applicable PSRGs		**X**

1: Requires Prior Written DEQ Approval
2: VOC impacted soils above applicable PSRGs shall not be placed directly beneath building footprints without prior written DEQ approval.
3: Constituents indicate any samples evaluated for other than metals.

☒ **Check to confirm that stockpiling of known or suspected impacted soils will be conducted in accordance with Figure 1 of this EMP. Stockpile methodology should provide erosion control, prohibiting contact between surface water/precipitation and contaminated soil, and preventing contaminated runoff. Explain any variances or provide additional details as needed:**

Click or tap here to enter text.

☐ **Final grade sampling of exposed native soil (i.e., soil that will not be under buildings or permanent hardscape).** Select chemical analyses for final grade samples with check boxes below (Check all thatapply):

☒ **Minimum Sample Requirements:** Volatile organic compounds (VOCs) by EPA Method 8260*;* Semi-volatile organic compounds (SVOCs) by EPA Method 8270; and Metals RCRA List + Hexavalent Chromium by EPA Method 6020/7199

☐ **Pesticides:** Specify Analytical Method Number(s):
Click or tap here to enter text.

☐ **PCBs:** Specify Analytical Method Number(s):
Click or tap here to enter text.

☐ **Other Constituents & Respective Analytical Method(s)** (e.g. Herbicides):
TCLP RCRA metals and additional analyses if warranted.

Please provide a scope of work for final grade sampling, including a diagram of soil sampling locations, number of samples to be collected, and brief sampling methodology. Samples should be collected from 0-2 ft below ground surface, with the exception of VOCs which should be taken from 1-2 ft below ground surface. Alternatively, indicate if a work plan for final grade sampling may be submitted under separate cover.
Click or tap here to enter text.

☒ ***If final grade sampling was <u>NOT</u> selected, please explain rationale:***
Based on the scope of work, final grade sampling is not proposed at this time.

PART 1.B. IMPORTED FILL SOIL

<u>NO SOIL MAY BE BROUGHT ONTO THE BROWNFIELDS PROPERTY WITHOUT PRIOR APPROVAL FROM THE BROWNFIELDS REDEVELOPMENT SECTION.</u> According to the Brownfields IR 15, "Documenting imported soil (by sampling, analysis, and reporting in accordance with review and written approval in advance by the Brownfields Redevelopment Section), will safeguard the liability protections provided by the brownfields agreement and is in the best interest of the prospective developer/property owner."

<u>Requirements for importing fill</u>:
☒ **Check to confirm that the import volumes outlined below have been confirmed based on <u>geotechnical</u> evaluations.**

1) **Will fill soil be imported to the site?**..... ☐ **Yes** ☒ **No** ☐ **Unknown**

2) **If yes, what is the estimated volume of fill soil to be imported?**
The need for off-Site import of fill soil is not anticipated at this time; however, should off-Site import of fill soil be warranted, see No. 3 Special Considerations below for details outlining the proposed plan to demonstrate import soil meets acceptable standards for the Site.

3) **If yes, what is the anticipated depth that fill soil will be placed at the property? (*If a range of depths, list the range*.)**

PRIOR TO SOIL PLACEMENT AT THE BROWNFIELDS PROPERTY, a *Soil Import Request* must be submitted for DEQ Brownfields review and approval. The request shall consist of a data package that details:

- Fill source location/history (Phase I if available, current aerials, etc.)

- Analytical data that has been sampled in accordance with the below frequency and following procedures outlined in the most recent Brownfields Redevelopment Section *Environmental Site Assessment Work Plan Minimum Requirements Checklist (Checklist)* and in accordance with DEQ IHSB *Guidelines for Assessment and Cleanup of Contaminated Sites (Guidelines)*
- A table comparing the import soil to existing site concentrations
- A PE/PG recommendation of import
- All relevant attachments listed in the *Checklist*

Soil Import Sampling Requirements:

Source	Sample Frequency	Sample Analysis
Virgin Material from DEQ Brownfields Pre-approved Quarry	None (Contact Brownfields project manager for list of pre-approved Quarries	
DEQ Permitted Quarry (Not Brownfields Pre-approved)	At least one representative sample from area of planned import	VOCs, SVOCs, RCRA Metals, any site specific COCs (e.g. pesticides, PCBs, etc.)
Other NC DEQ Brownfields Property	At least one representative sample per 1,000 yd^3 consisting of a 3-point composite sample with grab sample for VOCs based on the highest PID reading	VOCs, SVOCs, RCRA Metals, any site specific COCs (e.g. pesticides, PCBs, etc.)
Off-site unpermitted/regulated property		
Bulk Landscape Material from Commercial Vendor (i.e. topsoil)	No Sampling Required	

If other special considerations apply, discuss:

The PD may import limited amounts of organic rich topsoil from a commercial landscape material vendor for use in proposed landscaped areas. The PD does not plan to collect samples of landscaping materials prior to placement at the Site. See No. 7 below for details outlining the proposed plan to demonstrate import soil (not topsoil) meets acceptable standards to the Site.

If import soil is determined to be required, the PD will follow the procedures outlined below to demonstrate import soil meets acceptable criteria for Site use.

If the PD plans to import virgin fill material from a DEQ Brownfields pre-approved borrow source (such as the Wake Stone Corporation quarry located in Knightdale, North Carolina), no samples of the import material will be collected because adequate analytical data is available in the DEQ Brownfields database to demonstrate material from these facilities is suitable for use as structural fill at a Brownfields property.

If fill soil (other than topsoil) is obtained from an off-Site property that is not a known permitted quarry or is recycled material from a DEQ Brownfields pre-approved borrow source, the borrow

source will be sampled in general accordance with the most recent versions of the U.S. Environmental Protection Agency (EPA) Region IV Science and Ecosystem Support Division (SESD) Field Branches Quality System and Technical Procedures guidance. If the proposed borrow material is a byproduct of crushing stone (referred to as "fines") from a permitted quarry, no samples will be collected for laboratory analysis. If the proposed borrow source is soil from a permitted quarry, one soil sample will be collected for laboratory analysis. If the proposed borrow source has not been previously developed (i.e., virgin land), soil samples will be collected for laboratory analysis at a general rate of approximately one per 1,000 cubic yards. If the borrow source property has been previously developed, soil samples will be collected for laboratory analysis at a general rate of approximately one per 500 cubic yards.

Specifically, soil samples for the above scenarios will be collected using a hand auger. For metals and SVOC analyses, a composite sample will be comprised of soil from four grab sample locations (i.e., aliquots). The composite soil samples will be collected directly into dedicated laboratory supplied sample containers and submitted to a North Carolina certified laboratory under standard chain of custody protocols for analysis of SVOCs by EPA Method 8270 and RCRA metals plus hexavalent chromium by EPA Methods 6020/7471/7199. For VOC analysis, one representative grab soil sample will also be collected. The grab soil samples will be collected from undisturbed portions of soil directly into laboratory-supplied glassware for laboratory analysis of VOCs by EPA Method 8260.

The DEQ Brownfields project manager will be contacted should an alternate sampling frequency be sought for either type of borrow source property. In addition, if borrow source sampling is performed, the DEQ Brownfields project manager will be contacted for the purpose of obtaining final approval for the aforementioned sampling procedures.

Fill soil will be considered suitable for use at the Site if it does not contain compound concentrations above DEQ Industrial/Commercial PSRGs, DEQ Risk Calculator risk thresholds in conjunction with existing data for the Site, or typical metals concentrations which are consistent with published background ranges for metals in regional soils and/or Site-specific background ranges. DEQ approval of the analytical results will be obtained prior to transporting import soil to the Site.

☒ **Check to confirm that by the owner's signature and the North Carolina Professional Engineer/Geologist sealing this EMP the consultant understands that no work plan for suspect soil sample collection will be submitted beyond this EMP, and that it is the responsibility of the sealing professional and property owner to ensure that all applicable guidelines are followed and reported in the *Soil Import Request* for DEQ approval. Failure to meet these requirements could result in resampling and/or failure to approve import.**

PART 1.C. SOIL EXPORT

NO SOIL MAY LEAVE THE BROWNFIELDS PROPERTY WITHOUT APPROVAL FROM THE

BROWNFIELDS REDEVELOPMENT SECTION. Failure to obtain approval may violate a brownfields agreement causing a reopener or jeopardizing eligibility in the Section, endangering liability protections and making said action possibly subject to enforcement. Justifications provided below must be approved by the Section in writing prior to completing transport activities. Refer to Brownfields IR 15 for additional details.

1) **If export from the Brownfields Property is anticipated, export soil must be sampled at a frequency of one sample per 1,000 yd^3 consisting of a 3-point composite sample with a grab sample for VOCs based on the highest PID reading. Samples shall be analyzed at a minimum for VOCs, SVOCs, and RCRA metals plus any site specific COCs.**

PRIOR TO EXPORT FROM THE BROWNFIELDS PROPERTY, a *Soil Export Request* must be submitted for DEQ Brownfields review and approval. The request shall consist of a Data Package that details:

- Proposed Receiving Facility
- Analytical data that has been sampled in accordance with the above referenced frequency and following procedures outlined in the most recent Brownfields Redevelopment Section *Environmental Site Assessment Work Plan Minimum Requirements Checklist (Checklist)* and in accordance with DEQ IHSB *Guidelines for Assessment and Cleanup of Contaminated Sites (Guidelines)*
- A table comparing the export soil to concentrations on the receiving site concentrations including risk comparison (Note that calculated risk cannot be increased on the receiving site)
- A North Carolina PE/PG recommendation of export
- Written approval from the receiving site property owner representative for export
- All relevant attachments listed in the *Checklist*

Soil Export Options

Impacts	**Options**			
	Use as Beneficial Fill	**Off-site disposal at other Brownfields Property[2,6,7]**	**Off-site disposal at LCID/CD Landfill[1, 3]**	**Off-site disposal at Subtitle D MSW/Permitted Landfarm[4]**
All Constituents below applicable PSRGs	**X**	**X**	**X**	**X**
Constituents[5] below applicable PSRGs; Metals below background but above PSRGs		**X**	**X**	**X**
Constituents[5] below applicable PSRGs; Metals above Background /PSRGs		**X**	**X**	**X**
Constituents above Applicable PSRGs		**X**		**X**

1: Requires Prior Written DEQ Approval

2: VOC impacted soils above applicable PSRGs shall not be placed directly beneath building footprints without prior written DEQ approval.
3: Requires comparison to site specific metals concentrations.
4: Facility to determine if they can accept soil within their permit.
5: Constituents indicate any samples evaluated for other than metals.
6: Requires written approval from receiving site property owner representative.
7. Site COCs must be in comparable concentrations to receiving site and not significantly raise risk of the receiving site.

☒ **Check to confirm that by the owner's signature and the North Carolina Professional Engineer/Geologist sealing this EMP the consultant understands that no work plan for suspect soil sample collection will be submitted beyond this EMP, and that it is the responsibility of the sealing professional and property owner to ensure that all applicable guidelines are followed and reported in the *Soil Export Request* for DEQ approval. Failure to meet these requirements could result in resampling and/or failure to approve export.**

If other special considerations apply, discuss:

Export of soil and/or CCPs is not anticipated at this time. However, should soil and/or CCPs need to be exported from the Brownfields property during redevelopment, the materials will be sampled in general accordance with the most recent versions of the EPA Region IV SESD Field Branches Quality System and Technical Procedures guidance.

Samples will be collected from export materials at a rate of one sample for every approximately 1,000 cubic yards of export for laboratory analysis of VOCs by EPA Method 8260, SVOCs by EPA Method 8270, and RCRA metals plus hexavalent chromium by EPA Methods 6020/7471/7199. SVOCs and metals will be collected as composite samples using a decontaminated stainless-steel hand auger.

For each materials sample, three individual sample aliquots will be collected and be combined to form one sample for laboratory analysis of metals and SVOCs. The aliquots will also be field screened for the presence of VOCs using a calibrated photoionization detector (PID). In the general area of the aliquot which exhibits the highest indication of impact during field screening, a grab sample will be collected using a decontaminated stainless-steel hand auger for analysis of VOCs. The materials samples will be placed in dedicated laboratory-supplied sample containers, covered with ice, and shipped to a North Carolina-certified laboratory under standard chain of custody protocols.

DEQ approval of the analytical results will be obtained prior to transporting export materials from the Site. Based on analytical results of materials samples collected, and if applicable, other applicable off-Site information (i.e., sampling results, if available), the soil will be transported off-Site to a suitable location. The PD will notify DEQ Brownfields of the location receiving the export materials. If not a permitted facility, DEQ Brownfields approval and written approval from the receiving facility will be obtained prior to transporting the materials off-Site.

PART 1.D. MANAGEMENT OF UTILITY TRENCHES

☐ **Install liner between native impacted soils and base of utility trench before filling with clean fill (Preferred)**

☐ **Last out, first in principle for impacted soils (if soil can safely be reused onsite and is not a hazardous waste), i.e., impacted soils are placed back at approximately the depths they were removed from such that impacted soil is not placed at a greater depth than the original depth from which it was excavated.**

☐ **Evaluate whether necessary to install barriers in conduits to prevent soil vapor transport, and/or degradation of conduit materials due to direct impact with contaminants.**

☐ **If yes,** provide specifications on barrier materials or provide the results of this evaluation in the Vapor Mitigation Plan. **Note** that if vapor mitigation is planned for site buildings, utility corridors will need to be evaluated as part of mitigation designs:

Click or tap here to enter text.

☐ **If no**, include rationale here:

☐ **Unknown**, details to be provided in the Vapor Mitigation Plan for site buildings

Other comments regarding managing impacted soil in utility trenches:

Click or tap here to enter text.

PART 2. GROUNDWATER

1) **What is the depth to groundwater at the Brownfields Property?**

Based on depth to groundwater information collected by H&H in August 2022 (see Table 2), depth to groundwater in the northern portion of the Site (see well MW-5) was approximately 10 ft bgs and approximately 5 ft bgs in the southern portion of the Site (see well MW-3A).

2) **What is the maximum depth of soil disturbance onsite?**

Excavation activities are generally expected to include depths up to approximately 1 ft bgs for removal of suspect CCPs.

3) **Is groundwater known to be contaminated by ☒onsite ☐offsite ☐both or ☐unknown sources? Describe source(s)**:

Historical groundwater assessment activities conducted at the Brownfields property have identified the presence of arsenic, barium, cobalt, manganese, and selenium, thallium, and vanadium at concentrations above the DEQ 2L Groundwater Quality Standards (2L Standards). No VOCs and no SVOCs have been detected above the 2L Standards. A tabular summary of historical groundwater analytical data in comparison to the 2L Standards is included as Table 3 and groundwater sample locations are shown in Figure 4.

4) **What is the direction of groundwater flow at the Brownfields Property?**

Groundwater flow direction mimics topography and flows towards Bolin Creek to the south-southeast.

5) **Will groundwater likely be encountered during planned redevelopment activities (e.g. footer/utility construction or helical pilings?)**

☐**Yes** ☒**No**

If yes, describe these activities:

Groundwater is not expected to be encountered during redevelopment activities. However, if groundwater is encountered, the PD or the PD's contractor will contact the project environmental professional. The environmental professional will update the DEQ Brownfields project manager within two business days.

In the event that groundwater is encountered during redevelopment activities (even if no is checked above), list activities for contingent management of groundwater (e.g., dewatering of groundwater from excavations or foundations, containerizing, offsite disposal, discharge to sanitary sewer, NPDES permit, or sampling procedures).

Although not anticipated at this time, appropriate worker safety measures will be undertaken if groundwater gathers in an open excavation within an area determined to be impacted (based on strong odor, unnatural color, sheen, etc.) during construction activities. The contractor will contact the environmental professional to observe the suspected condition. The accumulated water will be allowed to evaporate/infiltrate to the extent time for dissipation does not disrupt the construction schedule. Should the time needed for natural dissipation of accumulated water be deemed inadequate, the water will be tested for the presence of VOCs, SVOCs, and RCRA metals and disposed off-Site (if impacted), or tested and discharged to the storm sewer (if not impacted above Title 15A NCAC 2B Surface Water Standards [2B Standards] in accordance with applicable municipal and State regulations for erosion control and construction stormwater control.

6) **Are monitoring wells currently present on the Brownfields Property?**.....☒**Yes** ☐**No**
<u>If yes</u>, are any monitoring wells routinely monitored through DEQ or other agencies?.....☒**Yes** ☐**No**

7) **Please check methods to be utilized in the management of known and previously unidentified wells.**

☐ **Abandonment of site monitoring wells in accordance with all applicable regulations. It is the Brownfields Redevelopment Section's intent to allow proper abandonment of well(s) as specified in the Brownfields Agreement, except if required for active monitoring through another section of DEQ or the EPA.**

☒ **Location of existing monitoring wells marked**

☒ **Existing monitoring wells protected from disturbance**

☐ **Newly identified monitoring wells will be marked and protected from further disturbance until notification to DEQ Brownfields can be made and approval for abandonment is given.**

8) **Please provide additional details as needed:**

Click or tap here to enter text.

Please note, disturbance of existing site monitoring wells without approval by DEQ is not permissible. If monitoring wells are damaged and/or destroyed, DEQ may require that the PD be responsible for replacement of the well.

PART 3. SURFACE WATER

1) **Is surface water present at the property? ☐ Yes ☒ No**
2) **If yes, attach a map showing the location of surface water at the Brownfields Property**
3) **Is surface water at the property known to be contaminated? ☐ Yes ☒ No ☐ Unknown**
4) **Will workers or the public be in contact with surface water during planned redevelopment activities or as part of the final redevelopment? ☐ Yes ☒ No**
5) **In the event that contaminated surface water is encountered during redevelopment activities, or clean surface water enters open excavations, list activities for management of such events (e.g. flooding, contaminated surface water run-off, stormwater impacts):**

If surface water run-off gathers in an open excavation within an area determined to be impacted during construction activities, appropriate worker safety measures will be undertaken. The accumulated water will be allowed to evaporate/infiltrate to the extent time for dissipation does not disrupt the construction schedule. Should the time be needed for natural dissipation of accumulated water be deemed inadequate, the water will be tested and disposed off-Site (if impacted), or tested and discharged to the storm sewer (if not impacted above 2B Standards and not considered listed hazardous waste) in accordance with applicable municipal and State regulations for erosion control and construction stormwater control.

PART 4. SEDIMENT

1) **Are sediment sources present on the property? ☐ Yes ☒ No**
2) **If yes, is sediment at the property known to be contaminated? ☐ Yes ☐ No ☐ Unknown**
3) **Will workers or the public be in contact with sediment during planned redevelopment activities? ☐ Yes ☒ No**
4) **Attach a map showing the location of known contaminated sediment at the property.**
5) **In the event that contaminated sediment is encountered during redevelopment activities, list activities for management of such events (stream bed disturbance):**

Not applicable.

PART 5. SOIL VAPOR

NOTE: Soil vapor assessment is currently planned in the multi-family area. If the assessment indicates revised conclusions and recommendations from those presented in this section, a revised EMP will be submitted.

1) **Do concentrations of volatile organic compounds at the Brownfields property exceed the**

vapor intrusion screening levels (current version) in the following media:

	Groundwater	Exterior Soil Vapor	Sub-Slab Soil Vapor
Residential	☐ Yes ☐ No ☐ Unknown	☐ Yes ☐ No ☐ Unknown	☐ Yes ☐ No ☐ Unknown
Commercial	☐ Yes ☒ No ☐ Unknown	☐ Yes ☒ No ☐ Unknown	☐ Yes ☒ No ☐ Unknown

2) Attach a map showing the locations of all soil vapor samples including any soil vapor contaminants that exceeds screening levels and overlays planned site development features.

3) If applicable, at what depth(s) is exterior soil vapor known to be contaminated?

Click or tap here to enter text.

4) If applicable, at what depth(s) is sub-slab soil vapor known to be contaminated?

☐0-6 inches ☐Other, please describe:

5) Will workers encounter contaminated exterior or sub-slab soil vapor during planned redevelopment activities? ☐ Yes ☒ No ☐ Unknown

In the event that apparent contaminated soil vapor is encountered (based on elevated PID readings, unusual odors, etc.) during redevelopment activities (trenches, manways, basements or other subsurface work,) list activities for management of such contact, INCLUDING notification to DEQ within 48 hours of identification of the issue for determination of additional requirements:

In the unlikely event impacted soil vapors are encountered during repair and maintenance activities, worker breathing zone will be monitored using a calibrated PID detector. If results indicate further action is warranted, appropriate engineering controls (such as use of industrial fans) will be implemented.

A tabular summary of sub-slab vapor and soil gas analytical data is included as Table 4.

PART 6. INDOOR AIR

1) Are indoor air data available for the Brownfields Property? ☒ Yes ☐ No

2) If applicable, attach a map showing the location(s) where indoor air contaminants exceed site screening levels.

3) If the structures where indoor air has been documented to exceed risk-based screening levels will not be demolished as part of redevelopment activities, will workers encounter contaminated indoor air during planned redevelopment activities? ☐ Yes ☐ No ☐ Unknown ☒ N/A

☐ **If no**, include rationale here:

Click or tap here to enter text.

4) In the event that contaminated indoor air is encountered during redevelopment activities, list activities for management of such contact:

Click or tap here to enter text.

VAPOR INTRUSION MITIGATION SYSTEM

1) Is a vapor intrusion mitigation system (VIMS) proposed for this Brownfields Property?
☐ Yes ☒ No ☐ Unknown

☒ **If no or unknown**, include rationale here as well as plans for pre-occupancy sampling, as necessary:

Previous indoor samples were collected from the police station building in April 2019 for radon as a screening for radionuclides potentially associated with coal ash. The results did not indicate radon above the EPA guidance level of 4 Pico Curies per liter (pCi/l). No buildings are located or planned in the southern portion of the Brownfields property. Additionally, VOCs are not compounds of concern at the property.

If yes, ☐ VIMS Plan Attached or ☐ VIMS Plan to be submitted separately
If submitted separately provide date:
Click or tap here to enter text.

VIMS Plan shall be signed and sealed by a NC Professional Engineer and follow the DEQ Brownfields Redevelopment Section's *Vapor Intrusion Mitigation System Design Submittal Requirements*.

Note that approval of this EMP does not imply approval with any vapor intrusion mitigation land use restrictions or requirements of the recorded or draft Brownfields Agreement and that separate approval of mitigation measures will be required.

CONTINGENCY PLAN

In this section, please provide actions that will be taken to identify or manage unknown potential new sources of contamination. During redevelopment activities, it is not uncommon that unknown tanks, drums, fuel lines, landfills, or other waste materials are encountered. Notification to DEQ Brownfields project manager, UST Section, Fire Department, and/or other officials, as necessary and appropriate, is required when new potential source(s) of contamination are discovered. These Notification Requirements were outlined on Page 1 of this EMP.

Should potentially impacted materials be identified that are inconsistent with known site impacts, the DEQ Brownfields project manager will be notified, and a sampling plan will be prepared based on the EMP requirements and site-specific factors. Samples will generally be collected to document the location of the potential impacts.

Check the following chemical analysis that are to be conducted on newly identified releases:

☒ **Minimum Sample Requirements:** Volatile organic compounds (VOCs) by EPA Method 8260; Semi-volatile organic compounds (SVOCs) by EPA Method 8270; and Metals RCRA List + Hexavalent Chromium by EPA Method 6020/7199

☐ **Pesticides:** Specify Analytical Method Number(s):
Click or tap here to enter text.

☐ **PCBs:** Specify Analytical Method Number(s):
Click or tap here to enter text.

☒ **Other Constituents & Analytical Method(s)** (e.g. Herbicides)
Please note, if field observations indicate the need for additional analyses, they should be conducted, even if not listed here.
Click or tap here to enter text.

Please provide details on the proposed methods of managing the following commonly encountered issues during redevelopment of Brownfields Properties.
During construction activities, contractors may encounter unknown subsurface environmental conditions (i.e., tanks, drums, or waste materials) that if encountered, will require proper management. Prior to beginning Site work, H&H will attend a pre-construction meeting with the PD and the redevelopment contractors to discuss the DEQ approved EMP and various scenarios when it would be appropriate and necessary to notify H&H of the discovery of unknown subsurface features or potentially impacted media at the Site.

In the event that such conditions are encountered during Site development activities, the environmental actions noted below will be used to direct environmental actions to be taken during these activities, and sampling data for potentially impacted soil and the disposition of impacted soil will be provided to DEQ when the data becomes available.

<u>Underground Storage Tanks –</u> Note that UST Section guidelines must be followed for sample frequency during UST closure. Unless damage to onsite structures to remain as part of redevelopment would occur, USTs shall be removed from the Brownfields Property:

In the event a UST or impacts associated with a UST release are discovered at the Site during redevelopment activities, the UST and/or UST related impacts will be addressed through the Brownfields Redevelopment Section.

If a UST is encountered, the UST will be removed and transported off-Site for disposal at a suitable facility. If the UST contains residual fluids, the fluids will be sampled for VOCs, SVOCs, and RCRA metals, and transported off-Site for disposal at a suitable facility based on the laboratory analytical results prior to removing the UST from the ground. If a UST is encountered that cannot be removed or does not require removal for geotechnical or construction purposes, with DEQ prior approval it will be abandoned in-place and construction will proceed. Impacted soil in the vicinity of the UST will be managed in accordance with the Managing On-Site Soil section outlined above in the EMP. If a UST will be left in-place, DEQ Brownfields will be notified.

<u>Sub-Grade Feature/Pit:</u>

If a sub-grade feature or pit is encountered and does not require removal for geotechnical or construction purposes, DEQ Brownfields will be notified and the feature or pit will be filled with soil

or suitable fill and construction will proceed. Where appropriate, the bottom may be penetrated before back filling to prevent fluid accumulation. If the pit has waste in it, the waste may be set aside in a secure area and will be sampled for waste disposal purposes for TCLP VOCs, TCLP SVOCs, and TCLP metals and disposed off-Site at a permitted facility or the waste will be managed in accordance with the Managing On-Site Soil section outlined above in the EMP, whichever is most applicable based on the type of waste present. If the pit must be removed and the observed waste characteristics indicate the concrete may potentially be contaminated, the concrete will be sampled and analyzed by methods specified by the disposal facility.

Buried Waste Material – Note that if buried waste, non-native fill, or any obviously filled materials is encountered, the DEQ Brownfields Redevelopment Section must be notified to determine if investigation of landfill gases is required:

If excavation into buried wastes or impacted soils occurs, the contractor is instructed to stop work in that location and notify the environmental consultant, who will then notify the DEQ Brownfields Program. The environmental consultant will review the materials and collect samples if warranted. In this event, confirmation sampling will be conducted at representative locations in the base and the sidewalls of the excavation after the waste or impacted soil is removed. The confirmation samples will be analyzed for VOCs, SVOCs, and RCRA metals. Areas of suspected contaminated soil that remain at the Site after excavation is complete above the DEQ IHSB Residential PSRGs will be managed pursuant to this plan.

Re-Use of Impacted Soils Onsite:

Please refer to description outlined in the Managing On-Site Soil section of the EMP above.

If unknown, impacted soil is identified onsite, management onsite can be considered after the project team provides the necessary information, outlined in Part 1.A. Item 11, for Brownfields project manager approval prior to final placement onsite.

If other potential contingency plans are pertinent, please provide other details or scenarios as needed below:

Click or tap here to enter text.

POST-REDEVELOPMENT REPORTING

☒ Check this box to acknowledge that a Redevelopment Summary Report will be required for the project. If the project duration is longer than one year, an annual update is required and will be due by January 31 of each year, or 30 days after each one-year anniversary of the effective date of this EMP (as agreed upon with the project manager). These reports will be required for as long as physical redevelopment of the Brownfields Property continues, except that the final Redevelopment Summary Report will be submitted within 90 days after completion of redevelopment. Based on the estimated construction schedule, the first Redevelopment Summary Report is anticipated to be submitted on 1/31/2025

The Redevelopment Summary Report shall include environment-related activities since the last report, with a summary and drawings, that describes:

1. actions taken on the Brownfields Property;
2. soil grading and cut and fill actions;
3. methodology(ies) employed for field screening, sampling and laboratory analysis of environmental media;
4. stockpiling, containerizing, decontaminating, treating, handling, laboratory analysis and ultimate disposition of any soil, groundwater or other materials suspected or confirmed to be contaminated with regulated substances; and
5. removal of any contaminated soil, water or other contaminated materials (for example, concrete, demolition debris) from the Brownfields Property (copies of all legally required manifests shall be included).

☒ Check box to acknowledge consent to provide a NC licensed P.G. or P.E. sealed, Redevelopment Summary Report in compliance with the site's Brownfields Agreement.

APPROVAL SIGNATURES

Brownfields Project Number: 23022-19-068

Brownfields Project Name: Chapel Hill Police Department

3/20/2024

Prospective Developer: Town of Chapel Hill **Date**
Printed Name/Title/Company: Mr. Christopher Blue/Town Manager/Town of Chapel Hill

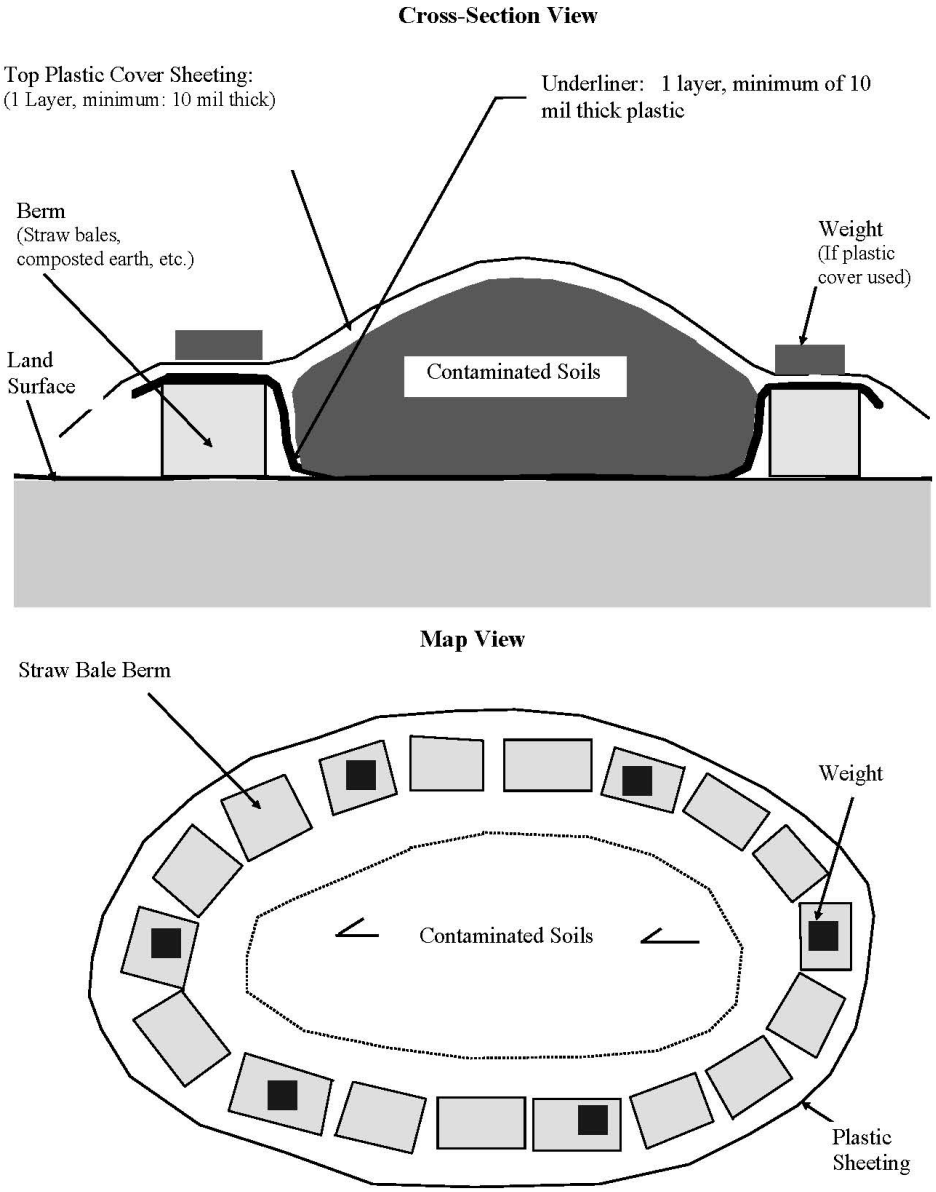
3/20/2024

Consultant: Hart & Hickman, PC **Date**
Printed Name/Title/Company: Justin Ballard, P.G./Project Manager/Hart & Hickman, PC
PE/PG Professional License #: 2419
Firm PE/PG License #: #C-1269 Engineering/#C-245 Geology

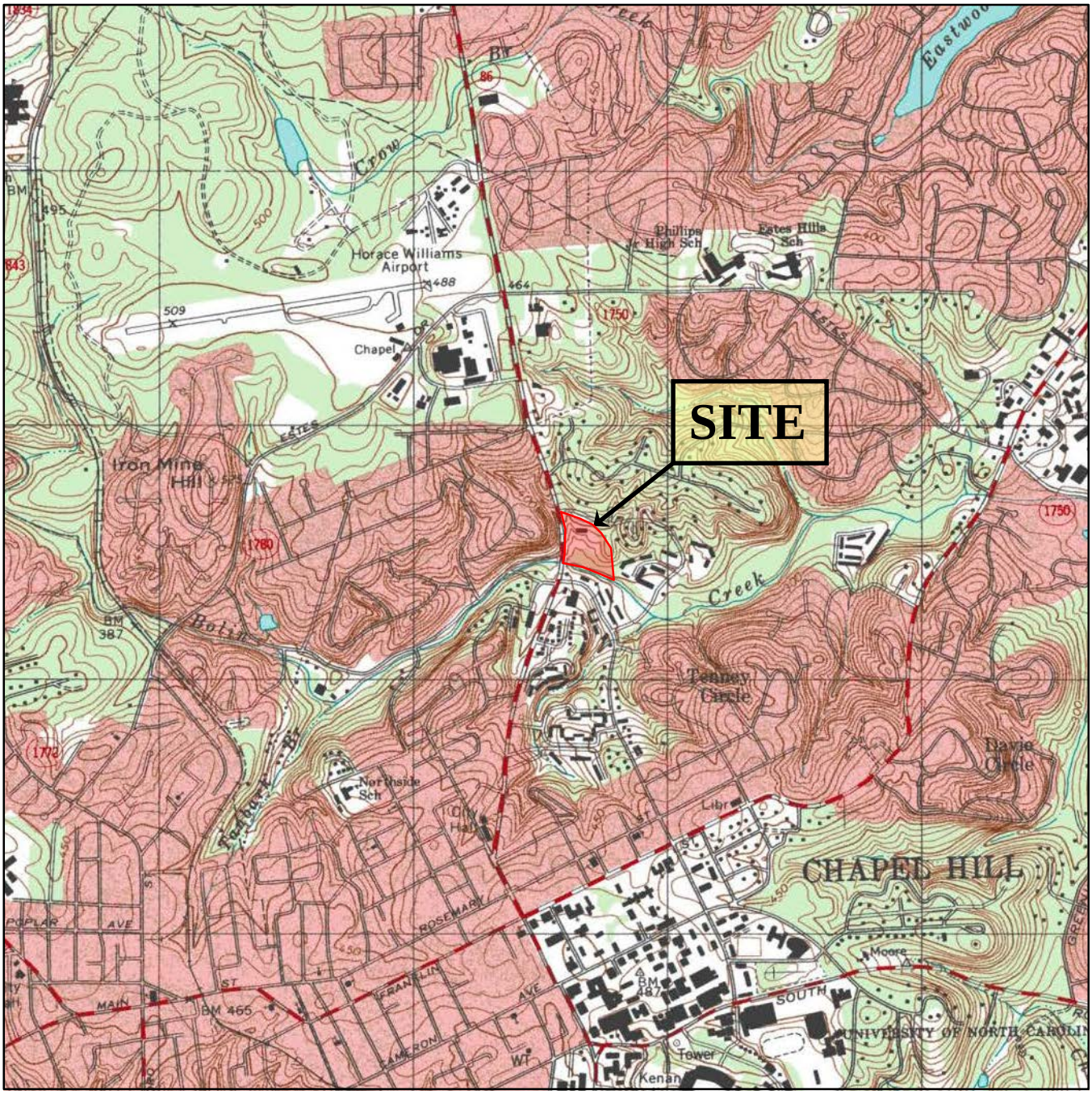
Sharon Poissant Eckard 3/20/2024

Brownfields Project Manager: Sharon Eckard, P.G. **Date**

Figure 1
NCBP Diagram for Temporary Containment of Impacted or Potentially Impacted Soil



Note: Adapted from NC DEQ UST Section "Guidelines for Ex Situ Petroleum Contaminated Soil Remediation" dated December, 1, 2013



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APPROXIMATE

0 2000 4000

SCALE IN FEET

U.S.G.S. QUADRANGLE MAP

CHAPEL HILL, NORTH CAROLINA, 2002

QUADRANGLE
7.5 MINUTE SERIES (TOPOGRAPHIC)

TITLE

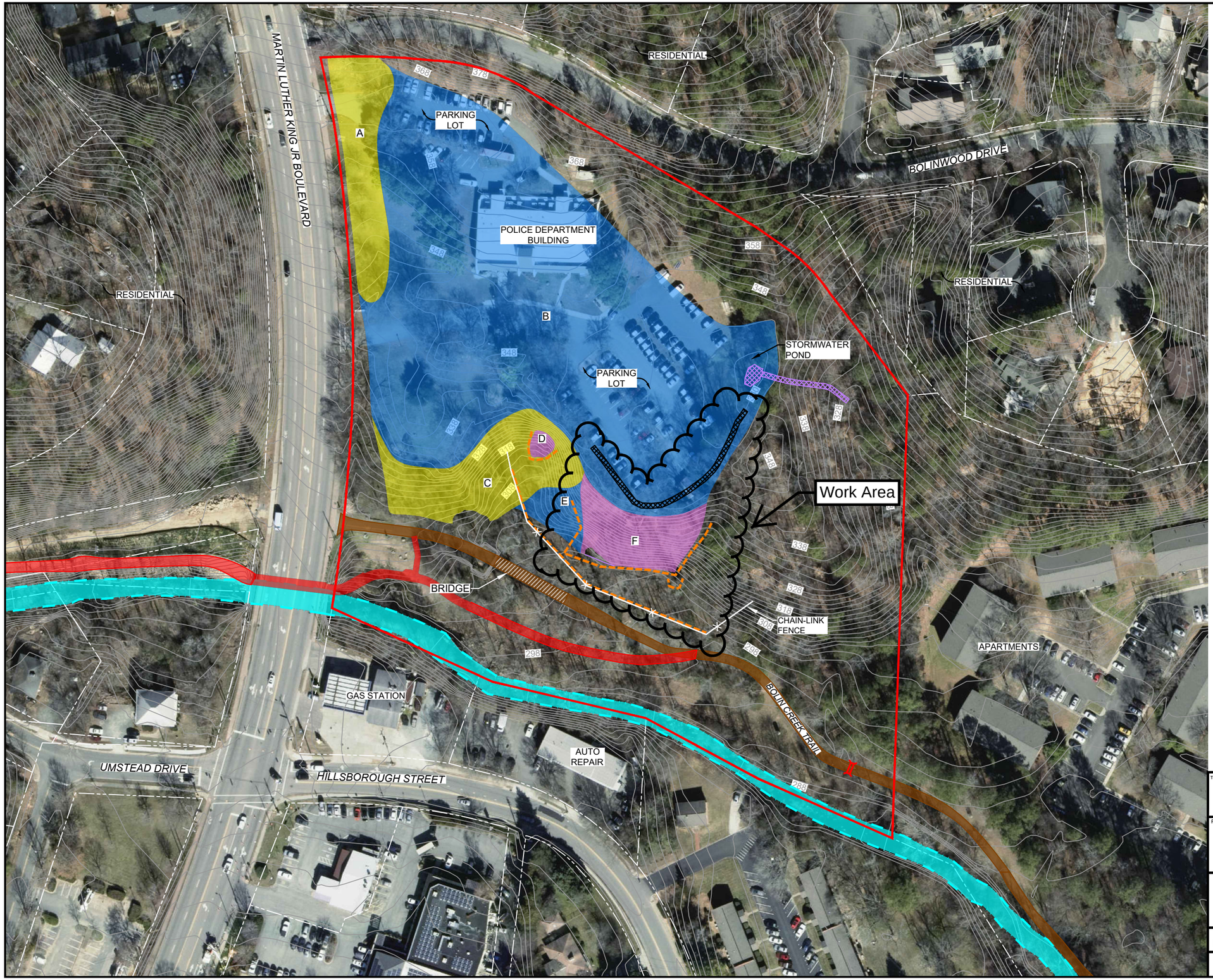
SITE LOCATION MAP

PROJECT

TOWN OF CHAPEL HILL
828 MARTIN LUTHER KING JR. BOULEVARD
CHAPEL HILL, NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS
2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007 (p) 704-586-0373 (f)

DATE:	10-7-19	REVISION NO:	0
JOB NO:	TCH-009	FIGURE:	2



LEGEND

- SITE PROPERTY BOUNDARY
- BOLIN CREEK
- 328 TOPOGRAPHIC CONTOUR ELEVATION (FT MSL)
- CCP UNDER > 2 FT COVER
- CCP UNDER < 2 FT COVER
- CCP EXPOSED AT GROUND SURFACE (HYDROSEEDED)
- EXISTING BOLIN CREEK TRAIL
- NEW BOLIN CREEK TRAIL SECTION
- EXISTING SILT FENCE
- STORM DIVERSION CHANNEL
- STORM OUTFALL CHANNEL
- STORMWATER CULVERT
- A CCP AREA DESIGNATION

N

APPROXIMATE
0 115 230
SCALE IN FEET

TITLE

SITE MAP

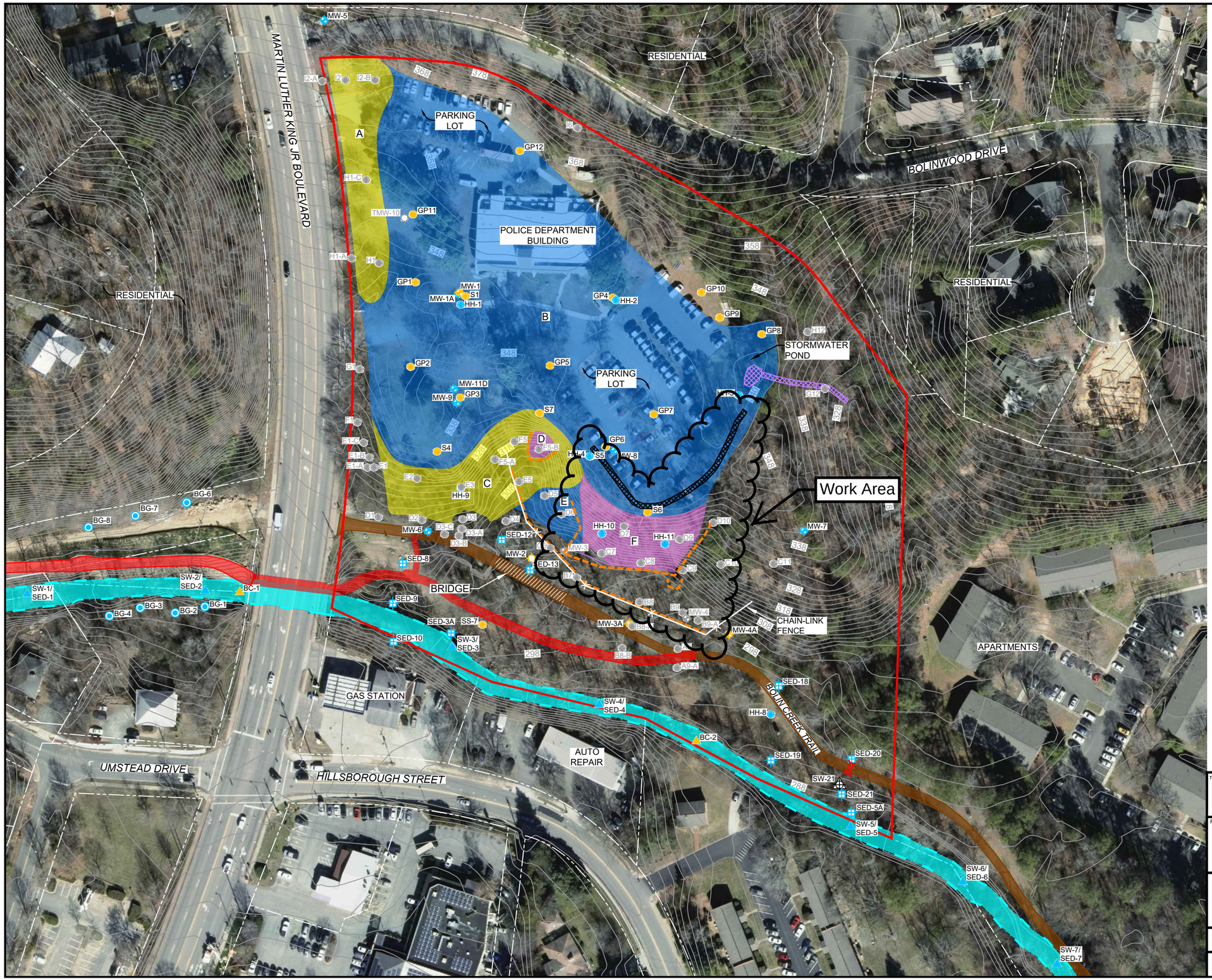
PROJECT

TOWN OF CHAPEL HILL
828 MARTIN LUTHER KING JR. BOULEVARD
CHAPEL HILL, NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS
2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007(p) 704-586-0373(f)
License # C-1269 / #C-245 Geology

DATE: 10-17-22	REVISION NO. 0
JOB NO. TCH-009	FIGURE NO. 3

S:\AAA-Master Projects\Town of Chapel Hill (TCH)\TCH-009 - Police Station - Remedial Services\EMP\Figures\TCH.009 20221017-FIG2.dwg, FIG 3, 10/17/2022 2:48:36 PM, shaynes



LEGEND

- SITE PROPERTY BOUNDARY
- BOLIN CREEK
- 101 TOPOGRAPHIC CONTOUR ELEVATION (FT MSL)
- MONITORING WELL LOCATION (FALCON ENGINEERING)
- TEMPORARY MONITORING WELL LOCATION (FALCON ENGINEERING)
- SOIL BORING LOCATION (FALCON ENGINEERING)
- SURFACE WATER SAMPLE LOCATION (FALCON ENGINEERING)
- ABANDONED MONITORING WELL LOCATION
- ABANDONED TEMPORARY MONITORING WELL LOCATION (H&H)
- MONITORING WELL LOCATION (H&H)
- SOIL BORING LOCATION (H&H)
- BACKGROUND SOIL BORING LOCATION (H&H)
- SURFACE WATER/SEDIMENT SAMPLE LOCATION (H&H)
- DRAINAGE PATHWAY SOIL SAMPLE LOCATION (H&H)
- DRAINAGE PATHWAY SURFACE WATER SAMPLE LOCATION (H&H)
- COVER EVALUATION BORING LOCATION
- CCP UNDER > 2 FT COVER
- CCP UNDER < 2 FT COVER
- CCP EXPOSED AT GROUND SURFACE
- STORMWATER CULVERT
- STORM OUTFALL CHANNEL
- BOLIN CREEK TRAIL
- EXISTING SILT FENCE

N

APPROXIMATE
0 115 230
SCALE IN FEET

TITLE

SAMPLE LOCATION MAP

PROJECT

TOWN OF CHAPEL HILL
828 MARTIN LUTHER KING JR. BOULEVARD
CHAPEL HILL, NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS
2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007(p) 704-586-0373(f)
License # C-1269 / #C-245 Geology

DATE: 10-17-22 | REVISION NO. 0

JOB NO. TCH-009 | FIGURE NO. 4

S:\AAA-Master Projects\Town of Chapel Hill (TCH)\TCH-009 - Police Station - Remedial Services\EMP\Figures\TCH.009 20221017-FIG2.dwg, FIG 4, 10/17/2022 3:21:25 PM, shaynes

Table 1A (Page 1 of 2)
Summary of Soil Analytical Data For Metals
828 Martin Luther King, Jr. Blvd.
Chapel Hill, North Carolina
H&H Job No. TCH-009

Sample ID	Sample Date	Material Sampled (Soil or CCPs)	Sample Depth (ft or in bgs)	aluminum	antimony	arsenic	barium	beryllium	boron	cadmium	calcium	hexavalent chromium	trivalent chromium	total chromium	cobalt	copper	iron	lead	magnesium	manganese	mercury	molybdenum	nickel	potassium	selenium	silver	sodium	strontium	thallium	vanadium	zinc
Site-Specific BSV[1]				--	--	3.015	87.86	0.929	--	0.313	--	5.725	70.2	70.2	36.31	77.3	--	59.11	--	1,149	0.256	--	19.49	--	2.503	--	--	43.19	0.981*	227	230
PSRG - Protection of Groundwater[2]				110,000	0.90	5.8	580	63	45	3.0	NS	3.8	360,000	NS	0.90	700	150	270	NS	65	1.0	7.1	130	NS	2.1	3.4	NS	1,400	2.8	140	1,200
PSRG - Industrial/Commercial Health-Based[2]				230,000	93	3.0	47,000	470	47,000	20	NS	6.5	350,000	NS	70	9,300	160,000	800	NS	5,600	9.7	1,200	4,700	NS	1,200	1,200	NS	140,000	2.3	1,200	70,000
Upper Level Samples																															
S-4	04/29/13	CCPs	1 ft	23,000	ND	**14**	24	ND	NA	1.5	9,900	NA	NA	22	30	65	59,000	20	9,000	**1,500**	0.011	NA	43	680	ND	ND	150	NA	ND	21	120
S-5	01/31/14	CCPs	0-4 ft	NA	NA	**37**	**2,800**	NA	NA	ND	NA	1.3	19.7	21	NA	NA	NA	10	NA	NA	0.30	NA	NA	NA	**3.2**	ND	NA	NA	NA	NA	NA
S-6	01/31/14	CCPs	0-4 ft	NA	NA	**43**	**3,200**	NA	NA	ND	NA	2.7	19.3	22	NA	NA	NA	12	NA	NA	0.42	NA	NA	NA	**6.1**	ND	NA	NA	NA	NA	NA
GP-1	02/03/14	CCPs	8-12 ft	NA	NA	3.5	86	NA	NA	ND	NA	ND	8.8	8.8	NA	NA	NA	26	NA	NA	0.083	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA
GP-2	02/03/14	CCPs	26-28 ft	NA	NA	**41**	**1,100**	NA	NA	ND	NA	ND	19	19	NA	NA	NA	11	NA	NA	0.24	NA	NA	NA	**4.0**	ND	NA	NA	NA	NA	NA
GP-3	02/03/14	CCPs	10-12 ft	NA	NA	**48**	**1,200**	NA	NA	ND	NA	0.53	22.47	23	NA	NA	NA	39	NA	NA	0.42	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA
GP-4	02/04/14	CCPs	10-12 ft	NA	NA	**59**	**2,900**	NA	NA	ND	NA	ND	20	20	NA	NA	NA	11	NA	NA	0.51	NA	NA	NA	**5.8**	ND	NA	NA	NA	NA	NA
GP-5	02/04/14	CCPs	4-6 ft	NA	NA	**72**	**2,800**	NA	NA	ND	NA	ND	19	19	NA	NA	NA	9.5	NA	NA	0.33	NA	NA	NA	**2.6**	ND	NA	NA	NA	NA	NA
	04/03/19	CCPs	4-6 ft	NA	NA	**95.9**	**2,350**	5.46	NA	<0.956	NA	0.836 J	12.3	13.1	7.05	50.9	NA	NA	NA	34.7	**1.2**	NA	11.1	NA	**12**	NA	NA	325	NA	NA	NA
	04/03/19[3]	CCPs	4-6 ft	NA	NA	**95.9**	**2,630**	6.99	NA	<0.931	NA	0.712 J	16.2	16.9	10.3	62.5	NA	NA	NA	53.4	0.39	NA	17.1	NA	**13**	NA	NA	308	NA	NA	NA
GP-6	02/04/14	CCPs	9-11 ft	NA	NA	**65**	**850**	NA	NA	ND	NA	ND	19	19	NA	NA	NA	27	NA	NA	**11**	NA	NA	NA	**4.1**	ND	NA	NA	NA	NA	NA
	04/04/19	CCPs	9-10 ft	NA	NA	**6.73**	178	0.758	NA	0.118 J	NA	<1.11	10.0	10	5.18	11	NA	NA	NA	687	0.050	NA	6.24	NA	0.88	NA	NA	21.7	NA	NA	NA
GP-7	02/04/14	CCPs	10-12 ft	NA	NA	**55**	**1,700**	NA	NA	ND	NA	ND	19	19	NA	NA	NA	11	NA	NA	0.26	NA	NA	NA	**4.3**	ND	NA	NA	NA	NA	NA
GP-8	02/04/14	CCPs	11-15 ft	NA	NA	**54**	**4,100**	NA	NA	ND	NA	ND	20	20	NA	NA	NA	9.2	NA	NA	0.29	NA	NA	NA	**4.5**	ND	NA	NA	NA	NA	NA
GP-11	02/04/14	CCPs	4-6 ft	NA	NA	**16**	450	NA	NA	ND	NA	ND	16	16	NA	NA	NA	23	NA	NA	0.35	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA
GP-12	02/04/14	CCPs	2-4 ft	NA	NA	**52**	**2,000**	NA	NA	ND	NA	ND	19	19	NA	NA	NA	14	NA	NA	0.28	NA	NA	NA	2.1	ND	NA	NA	NA	NA	NA
HH-1	11/03/16	Soil	0-1 ft	NA	<0.29	**5.9**	120	1.00	NA	<0.29	NA	0.45	20.55	21	7.9	25	NA	27	NA	350	0.052	NA	8.8	NA	0.69	NA	NA	31	<0.58	48	50
	11/03/16[3]	Soil	0-1 ft	NA	<0.35	3.4	110	0.79	NA	<0.35	NA	0.54	19.46	20	8.4	17	NA	18	NA	360 BH	0.067	NA	12	NA	<0.71	NA	NA	30	<0.71	41	35
HH-2	11/03/16	Soil	0-1 ft	NA	<0.29	4.9	140	0.93	NA	<0.29	NA	0.43	13.57	14	12	21	NA	30	NA	260	0.085	NA	5.9	NA	1.0	NA	NA	25	<0.58	48	43
HH-3	11/03/16	Soil	0-1 ft	NA	<0.33	**9.9**	200	1.30	NA	<0.33	NA	0.46 J	17.54	18	7.8	31	NA	24	NA	350	0.076	NA	8.9	NA	2.4	NA	NA	36	<0.65	53	100
HH-4	11/03/16	Soil	0-1 ft	NA	<0.28	2.4	72	1.00	NA	<0.28	NA	0.50	44.5	45	16	37	NA	2.3	NA	630	<0.023	NA	33	NA	<0.56	NA	NA	42	0.60	73	70
HH-5	11/03/16	Soil	0-1 ft	NA	<0.30	2.4	73	0.75	NA	<0.30	NA	<0.14	23	23	8.4	19	NA	9.3	NA	410	<0.025	NA	14	NA	1.2	NA	NA	23	<0.60	39	51
MW-7	11/01/16	Soil	0-1 ft	NA	<0.30	2.6	67	0.87	NA	<0.30	NA	0.89	9.11	10	3.9	180	NA	7.6	NA	100	0.030	NA	2.9	NA	<0.59	NA	NA	6.7	<0.59	61	46
HH-12	09/06/22	Soil	4-5 ft	NA	NA	1.6	65.6	0.72	NA	0.045 J	NA	0.583 J	10.3	10.9	13.1	26.6	NA	NA	NA	94.8	<0.0041	NA	17.1	NA	0.28 J	NA	NA	21.8	<0.044	59.3	NA
HH-13	09/06/22	Soil	0-2 ft	NA	NA	1.0	19.8	0.37	NA	<0.030	NA	<0.280	15.4	15.4	3.9	13.8	NA	NA	NA	368	0.025	NA	4.1	NA	0.19 J	NA	NA	15.2	<0.039	32.6	NA
HH-14	09/06/22	Soil	0-2 ft	NA	NA	2.0	51.6	0.42	NA	<0.035	NA	0.356 J	7.1	7.5	2.3	9.5	NA	NA	NA	32.9	0.041	NA	2.1	NA	0.64	NA	NA	2.5	0.096 J	22.2	NA
	09/06/22[3]	Soil	0-2 ft	NA	NA	1.4	38.7	0.34	NA	<0.032	NA	0.537 J	3.9	4.4	1.6	5.3	NA	NA	NA	48.3	0.016	NA	1.2	NA	0.33 J	NA	NA	2.0	0.056 J	14.7	NA
HH-15	09/06/22	Soil	0-2 ft	NA	NA	0.76	31.0	0.27	NA	<0.031	NA	<0.313	1.6 J	1.6 J	1.6	6.6	NA	NA	NA	105	0.021	NA	1.0	NA	0.20 J	NA	NA	9.1	0.043 J	15.9	NA
Embankment Samples																															
S-7	01/31/14	CCPs	0-4 ft	NA	NA	**44**	**2,500**	NA	NA	ND	NA	1.4	27.6	29	NA	NA	NA	11	NA	NA	0.44	NA	NA	NA	**4.5**	ND	NA	NA	NA	NA	NA
HH-9	04/03/19	CCPs	0-1 ft	NA	NA	3.37	131	0.398 J	NA	0.178 J	NA	<1.29	12.7	12.7	5.97	14.5	NA	NA	NA	260	0.31	NA	3.59	NA	0.722	NA	NA	33.2	NA	NA	NA
HH-10	04/03/19	CCPs	0-1 ft	NA	NA	**60.3**	**2,970**	5.14	NA	0.162 J	NA	<1.60	13.8	13.8	9.84	51.3	NA	NA	NA	73.3	0.22	NA	17.1	NA	**5.04**	NA	NA	269	NA	NA	NA
HH-11	04/03/19	CCPs	0-1 ft	NA	NA	**42.5**	**3,260**	5.9	NA	0.220 J	NA	0.467 J	18.7	19.2	13.4	55.3	NA	NA	NA	113	0.43	NA	23.5	NA	**9.05**	NA	NA	234	NA	NA	NA
Lower Level Samples																															
SS-7	02/18/16	Soil	2-12 in	NA	ND	3.1	84	0.60	ND	ND	NA	NA	NA	14	6.9	15	NA	13	NA	500	0.038	ND	5.9	NA	ND	ND	NA	31	ND	37	37
HH-8	10/27/16	Soil	0-1 ft	NA	<0.30	3.6	100	1.00	NA	<0.30	NA	<0.35	19	19	12	29	NA	18	NA	570	0.036	NA	9.0	NA	<0.60	NA	NA	28	<0.60	52	54
MW-6	11/02/16	Soil	0-1 ft	NA	<0.26	2.9	38	0.61	NA	<0.26	NA	0.21 J	9.79	10	9.5	23	NA	12	NA	570	0.082	NA	8.2	NA	1.0	NA	NA	22	0.81	31	77
SED-3A	04/05/19	Soil	0-1 ft	NA	NA	3.45	33.9	0.418 J	NA	<0.582	NA	<1.16	17.4	17.4	16.5	6.97	NA	NA	NA	560	<0.0054	NA	5.82	NA	0.237 J	NA	NA	9.6	NA	NA	NA
SED-5A	04/04/19	Soil	0-1 ft	NA	NA	1.25	13.5	0.156 J	NA	<0.571	NA	0.352 J	13.2	13.6	5.95	39.1	NA	NA	NA	243	0.0071	NA	4.38	NA	<0.571	NA	NA	10.9	NA	NA	NA
SED-8	04/05/19	Drainage Pathway Soil	2-6 in	NA	NA	2.41	49.1	0.313 J	NA	0.122 J	NA	<1.25	12.0	12	7.01	14.3	NA	NA	NA	423	0.063	NA	4.66	NA	1.01	NA	NA	15.2	NA	NA	NA
SED-9	04/05/19	Drainage Pathway Soil	2-6 in	NA	NA	1.16	33.8	0.199 J	NA	<0.660	NA	0.461 J	21.6	22.1	9.11	10.1	NA	NA	NA	431	0.013	NA	6.68	NA	<0.660	NA	NA	16.7	NA	NA	NA
SED-10	04/05/19	Drainage Pathway Soil	2-6 in	NA	NA	1.29	24.4	0.118 J	NA	0.221 J	NA	0.418 J	12.0	12.4	4.43	10.8	NA	NA	NA	195	0.037	NA	4.03	NA	0.273 J	NA	NA	8.1	NA	NA	NA
SED-12	08/27/19	Drainage Pathway Soil	0-2 in	NA	NA	4.73	102	0.765 J	NA	0.214 J	NA	<1.68	27.6	27.6	6.17	23.1	NA	NA	NA	341	0.042	NA	7.69	NA	0.961	NA	NA	25.4	NA	NA	NA
	04/05/19	Drainage Pathway Soil	2-6 in	NA	NA	3.97	122	0.499 J	NA	0.204 J	NA	<1.74	9.45	9.45 B	6.04	19.7	NA	NA	NA	319	0.077	NA	4.95	NA	1.36	NA	NA	32.8	NA	NA	NA
SED-13	08/27/19	Drainage Pathway Soil	0-2 in	NA	NA	**12.4**	**958**	1.56	NA	0.284 J	NA	<2.03	29.4	29.4	13.9	38.9	NA	NA	NA	538	0.12	NA	19.2	NA	**3.07**	NA	NA	125	NA	NA	NA
	04/05/19	Drainage Pathway Soil	2-6 in	NA	NA	**14.5**	**724**	1.1	NA	0.171 J	NA	<1.58	14.0	14	7.58	27.1	NA	NA	NA	563	0.075	NA	8.73	NA	1.69	NA	NA	70.5	NA	NA	NA
SED-18	04/05/19	Drainage Pathway Soil	2-6 in	NA	NA	4.53	137	0.534 J	NA	<0.689	NA	<1.38	18.7	18.7	11.1	28.2	NA	NA	NA	464	0.051	NA	9	NA	1.85	NA	NA	32.6	NA	NA	NA
SED-19	04/05/19	Drainage Pathway Soil	2-6 in	NA	NA	1.55	20.0	0.161 J	NA	<0.588	NA	0.435 J	21.7	22.1	7.98	8.38	NA	NA	NA	266	0.0073	NA	4.94	NA	0.334 J	NA	NA	15	NA	NA	NA
SED-20	04/05/19	Drainage Pathway Soil	2-6 in	NA	NA	0.792	31.4	0.152 J	NA	<0.687	NA	<1.37	5.76	5.76 B	4.5	9.1	NA	NA	NA	360	0.012	NA	2.19	NA	0.263 J	NA	NA	11.5	NA	NA	NA
SED-21	04/05/19	Drainage Pathway Soil	2-6 in	NA	NA	1.12	25.9	0.149 J	NA	<0.591	NA	<1.18	20.9	20.9	4.44	6.58	NA	NA	NA	221	0.011	NA	2.7	NA	0.286 J	NA	NA	12.8	NA	NA	NA
Excavation G-1	04/16/20	Soil	2-3 ft	NA	NA	3.68	58.8	<3.08	NA	<1.23	NA	0.478 J	20.0	20.5	5.73	14.5	NA	NA	NA	193	0.052	NA	6.94	NA	<3.08	NA	NA	6.2	NA	NA	NA
Excavation H-1	05/11/20	Soil	1-2 ft	NA	NA	1.16	37.2	<2.76	NA	<1.10	NA	<1.10	20.1	20.1	10.7	15.3	NA	NA	NA	412	<0.0442	NA	5.80	NA	<2.76	NA	NA	29.3	NA	NA	NA
Excavation H-2	05/11/20	Soil	1-2 ft	NA	NA	1.93	100	<3.25	NA	<1.30	NA	0.578 J	43.8	44.4	19.1	59.2	NA	NA	NA	265	0.0494 J	NA	16.2	NA	1.58 J	NA	NA	56.8	NA	NA	NA
Excavation H-3	05/11/20	Soil	1-2 ft	NA	NA	2.41	71.0	<3.28	NA	<1.31	NA	0.410 J	40.2	40.6	14.1	43.4	NA	NA	NA	251	0.0485 J	NA	12.5	NA	1.46 J	NA	NA	58.1	NA	NA	NA
Excavation H-4	05/11/20	Soil	2-3 ft	NA	NA	2.03	67.1	<3.04	NA	<1.22	NA	0.388 J	25.8	26.2	20.8	24.0	NA	NA	NA	**1,480**	0.0237 J	NA	7.81	NA	<3.04	NA	NA	38.1	NA	NA	NA
Excavation H-5	05/11/20	Soil	1-2 ft	NA	NA	1.10 J	74.5	<3.04	NA	<1.22	NA	0.497 J	21.1	21.6	8.25	16.9	NA	NA	NA	558	<0.0486	NA	6.77	NA	<3.04	NA	NA	32.2	NA	NA	NA
Excavation H-6	05/11/20	Soil	1-2 ft	NA	NA	1.02 J	96.0	<2.97	NA	<1.19	NA	<1.19	14.9	14.9	7.57	10.7	NA	NA	NA	557	0.0222 J	NA	4.03	NA	<2.97	NA	NA	20.5	NA	NA	NA
Excavation H-7	11/09/20	Soil	0-1 ft	NA	NA	1.10 J	73.7	0.767 J	NA	<1.22	NA	<1.22	8.04	8.04	3.68	15.0	NA	NA	NA	233	0.022	NA	4.63	NA	0.479 J	NA	NA	9.6	NA	NA	NA
Excavation I-1	04/08/20	Soil	1-2 ft	NA	NA	2.91	67.2	<2.77	NA	<1.11	NA	0.457 J	26.2	26.7	13.0	18.3	NA	NA	NA	594	0.042	NA	8.25	NA	<2.77	NA	NA	26.3	NA	NA	NA
Excavation I-2	04/08/20	Soil	1-2 ft	NA	NA	3.65	74.1	<2.85	NA	<1.14	NA	0.313 J	23.3	23.6	12.0	21.4	NA	NA	NA	544	0.022	NA	8.70	NA	<2.85	NA	NA	17.2	NA	NA	NA
Excavation I-3	04/08/20	Soil	1-2 ft	NA	NA	2.18	61.5	<2.88	NA	<1.15	NA	0.387 J	13.1	13.5	9.23	19.5	NA	NA	NA	419	0.019	NA	6.02	NA	<2.88	NA	NA	13.3	NA	NA	NA

Table 1A (Page 2 of 2)
Summary of Soil Analytical Data For Metals
828 Martin Luther King, Jr. Blvd.
Chapel Hill, North Carolina
H&H Job No. TCH-009

Sample ID	Sample Date	Material Sampled (Soil or CCPs)	Sample Depth (ft or in bgs)	aluminum	antimony	arsenic	barium	beryllium	boron	cadmium	calcium	hexavalent chromium	trivalent chromium	total chromium	cobalt	copper	iron	lead	magnesium	manganese	mercury	molybdenum	nickel	potassium	selenium	silver	sodium	strontium	thallium	vanadium	zinc
Site-Specific BSV[1]				--	--	3.015	87.86	0.929	--	0.313	--	5.725	70.2	70.2	36.31	77.3	--	59.11	--	1,149	0.256	--	19.49	--	2.503	--	--	43.19	0.981*	227	230
PSRG - Protection of Groundwater[2]				110,000	0.90	5.8	580	63	45	3.0	NS	3.8	360,000	NS	0.90	700	150	270	NS	65	1.0	7.1	130	NS	2.1	3.4	NS	1,400	2.8	140	1,200
PSRG - Industrial/Commercial Health-Based[2]				230,000	93	3.0	47,000	470	47,000	20	NS	6.5	350,000	NS	70	9,300	160,000	800	NS	5,600	9.7	1,200	4,700	NS	1,200	1,200	NS	140,000	2.3	1,200	70,000
Background Samples																															
MW-5 (background)	11/02/16	Soil	0-1 ft	NA	<0.30	2.1	76	0.99	NA	<0.30	NA	0.43 J	17.57	18	27	49	NA	4.0	NA	710	<0.023	NA	5.0	NA	<0.59	NA	NA	25	<0.59	190	47
	11/02/16	Soil	6-7 ft	NA	<0.27	1.4	61	0.60	NA	<0.27	NA	0.81	38.19	39	19	18	NA	0.55	NA	940	<0.020	NA	20	NA	<0.53	NA	NA	29	2.3	67	75
BG-1 (background)	11/03/16	Soil	0-1 ft	NA	<0.28	1.9	36	0.39	NA	<0.28	NA	0.87	17.13	18	6.3	16	NA	25	NA	310	0.033	NA	5.4	NA	1.6	NA	NA	15	<0.57	34	43
	11/03/16	Soil	2-3 ft	NA	<0.29	2.3	45	0.48	NA	<0.29	NA	<0.12	19	19	7.3	18	NA	43	NA	440	0.280	NA	6.2	NA	1.6	NA	NA	15	<0.57	35	49
BG-2 (background)	11/03/16	Soil	0-1 ft	NA	<0.28	1.9	45	0.50	NA	<0.28	NA	0.84	16.16	17	7.4	18	NA	32	NA	410	0.045	NA	4.9	NA	1.1	NA	NA	14	<0.56	35	44
	11/03/16	Soil	2-3 ft	NA	<0.27	1.9	52	0.53	NA	<0.27	NA	0.70	23.3	24	7.5	20	NA	26	NA	450	0.038	NA	7.9	NA	1.7	NA	NA	19	<0.55	37	45
BG-3 (background)	11/03/16	Soil	0-1 ft	NA	<0.30	1.7	44	0.43	NA	<0.30	NA	0.21 J	23.3	16	7.5	15	NA	25	NA	410	0.024	NA	5.1	NA	1.4	NA	NA	46	<0.60	37	40
	11/03/16	Soil	2-3 ft	NA	<0.27	2.2	56	0.54	NA	<0.27	NA	0.88	21.12	22	7.5	18	NA	29	NA	410	0.040	NA	5.2	NA	1.2	NA	NA	19	<0.53	40	46
BG-4 (background)	11/03/16	Soil	0-1 ft	NA	<0.29	1.7	50	0.50	NA	<0.29	NA	<0.13	19	19	9.5	16	NA	22	NA	450 BH	0.026	NA	6.0	NA	<0.59	NA	NA	16 A	<0.59	53	50
	11/03/16	Soil	2-3 ft	NA	<0.33	2.0	53	0.52	NA	0.38	NA	0.50 J	22.5	23	11	23	NA	21	NA	460 BH	0.054	NA	8.5	NA	<0.65	NA	NA	19	<0.65	51	230
BG-6 (background)	04/03/19	Soil	0-1 ft	NA	NA	2.05 O1	64.4	0.625	NA	0.177 J	NA	5.34	39.4	44.7	14.4	26.4	NA	NA	NA	448 J6	0.022	NA	12.8	NA	0.562 J	NA	NA	17	NA	NA	NA
	04/04/19	Soil	2-3 ft	NA	NA	2.29	66.3	0.507 J	NA	0.139 J	NA	<1.19	22.9	22.9	14.7	32.3	NA	NA	NA	467	0.032	NA	7.78	NA	0.828	NA	NA	16.8	NA	NA	NA
BG-7 (background)	04/03/19	Soil	0-1 ft	NA	NA	1.97	52.7	0.410 J	NA	0.136 J	NA	<1.16	70.2	70.2	18.9	36.4	NA	NA	NA	813	0.025	NA	12.8	NA	0.543 J	NA	NA	22.6	NA	NA	NA
	04/04/19	Soil	2-3 ft	NA	NA	3.08	77.9	0.430 J	NA	0.108 J	NA	<1.16	27	27	16.3	32.5	NA	NA	NA	548	0.023	NA	6.2	NA	0.502 J	NA	NA	24.3	NA	NA	NA
BG-8 (background)	04/03/19	Soil	0-1 ft	NA	NA	1.8	52.4	0.370 J	NA	0.0951 J	NA	<1.14	24.5	24.5	21.8	62.8	NA	NA	NA	759	0.0072	NA	9.04	NA	0.485 J	NA	NA	24.4	NA	NA	NA
	04/04/19	Soil	2-3 ft	NA	NA	1.66	47.6	0.293 J	NA	0.0918 J	NA	<1.14	21.7	21.7	23.5	60.2	NA	NA	NA	732	<0.0067	NA	7.86	NA	0.306 J	NA	NA	25.1	NA	NA	NA

Notes:
Concentrations reported in milligrams per kilogram (mg/kg).
Yellow highlighting indicates samples collected as part of September 2022 sampling.
1) Site-Specific Background Screening Value (BSV) represents 95% upper threshold level (UTL) with 95% coverage calculated using EPA ProUCL 5.1.
*Insufficient data to calculate 95% UTL; therefore, site-specific BSV indicates 2x mean concentration with non-detect concentrations calculated as half the reporting limit.
2) North Carolina Department of Environmental Quality (DEQ) Preliminary Soil Remediation Goals (PSRGs) (July 2022)
3) Duplicate sample results.
Concentrations reported in milligrams per kilogram (mg/kg).
Bold indicates concentration above or equal to Protection of Groundwater PSRG and site-specific BSV.
Shading indicates concentration above or equal to Industrial/Commercial PSRG and site-specific BSV.
CCPs = Coal Combustion Products
ND = Not Detected; NA = Not Analyzed; NS = Not Specified; NC = Not Calculated
-- = Statistical test not applicable to data set
J = Detected above method detection limit but below laboratory reporting limit; therefore, result is an estimated concentration.
O1 = Analyte failed the method required serial dilution test and/or subsequent post-spike criteria. These failures indicate matrix interference.
J6 = The sample matrix interfered with the ability to make any accurate determination; spike value is low.
BH = Method blank greater than one-half laboratory reporting limit, but sample concentration greater than 10x the method blank.
A = Continuing Calibration Verification standard recovery (82%) is less than the lower control limit (90%). Result has possible low bias.
Excavated sample locations are not shown in table.
Analytical Methods
Metals by EPA Method 6010C or 6020B
Hexavalent Chromium by EPA Method 7196 or 7199 (Phase II RI, April 2019 Data Gap, and September 2022 Samples)
Mercury by EPA Method 7471B

Table 1B (Page 1 of 1)
Summary of Soil Analytical Data for VOCs and SVOCs
828 Martin Luther King, Jr. Blvd.
Chapel Hill, North Carolina
H&H Job No. TCH-009

Sample ID	Sample Date	Material Sampled (Soil or CCPs)	Sample Depth (ft bgs)	VOCs (EPA Method 8260D)						SVOCs (EPA Method 8270E)
				acetone	chlorobenzene	ethylbenzene	p-isopropyltoluene	toluene	xylenes (total)	
PSRG - Protection of Groundwater[1]				25	0.68	13	NS	8.3	9.9	--
PSRG - Industrial/Commercial Health-Based[1]				210,000	280	27	NS	9,700	530	--
HH-12	09/06/22	Soil	4-5 ft	<0.045	0.0037 J	0.0045 J	<0.0034	0.0063 J	0.018	ALL BDL
HH-13	09/06/22	Soil	0-2 ft	<0.040	0.0036 J	0.0047 J	<0.0030	0.0063	0.017	ALL BDL
HH-14	09/06/22	Soil	0-2 ft	0.067 J	0.0042 J	<0.0035	0.0065 J	0.011	0.017	ALL BDL
	09/06/22[2]	Soil	0-2 ft	<0.053	0.0047 J	0.0057 J	<0.0040	0.0083	0.021	ALL BDL
HH-15	09/06/22	Soil	0-2 ft	0.056 J	0.0044 J	0.0056 J	<0.0038	0.0072 J	0.019	ALL BDL

Notes:
Concentrations reported in milligrams per kilogram (mg/kg).
1) North Carolina Department of Environmental Quality (DEQ) Preliminary Soil Remediation Goals (PSRGs) (July 2022)
2) Duplicate sample results.
CCPs = Coal Combustion Products
NS = Not Specified; BDL = Below Detection Limit
ft bgs = feet below ground surface
J = Detected above method detection limit but below laboratory reporting limit; therefore, result is a laboratory estimated concentration.
Analytical Methods
Volatile Organic Compounds (VOCs) by EPA Method 8260D
Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270E

Table 2 (Page 1 of 1)
Summary of Well Construction Details and Depth to Water Measurements
828 Martin Luther King, Jr. Blvd.
Chapel Hill, North Carolina
H&H Job No. TCH-009

Well ID	Permanent or Temporary	Date Installed	Date Abandoned	Drilling Method	Well Material	Screen Slot Size (in)	Total Depth (ft bls)	Screened Interval (ft bls)	TOC Elevation (ft)	November 9, 2016		April 3, 2019		Sepember 26, 2019		February 12, 2020		August 29, 2022	
										Depth to Water (ft bls)	Elevation (ft)	Depth to Water (ft bls)	Elevation (ft)	Depth to Water (ft bls)	Elevation (ft)	Depth to Water (ft bls)	Elevation (ft)	Depth to Water (ft bls)	Elevation (ft)
MW-1	Permanent	4/29/2013	N/A	DPT	2" PVC	0.01	40	30-40	346.12	35.48	310.64	30.90	315.22	35.67	310.45	35.22	310.90	37.65	308.47
MW-1A	Permanent	9/24/2019	N/A	Sonic	2" PVC	0.01	40	25-40	345.96	--	--	--	--	31.43	314.53	30.27	315.69	32.29	313.67
MW-2	Temporary	6/20/2013	6/20/2013	HA	Unknown	Unknown	8	Unknown	--	--	--	--	--	--	--	--	--	--	--
MW-3	Permanent	1/27/2014	1/7/2015	Auger	2" PVC	0.01	11	6-11	--	--	--	--	--	--	--	--	--	--	--
MW-4	Permanent	1/27/2014	1/6/2015	Auger	2" PVC	0.01	9.2	4.2-9.2	--	--	--	--	--	--	--	--	--	--	--
MW-3A	Permanent	5/12/2015	N/A	Air Rotary	2" PVC	0.01	16	1-16	298.10	5.91	292.19	2.79	295.31	7.14	290.96	1.34	296.76	4.83	293.27
MW-4A	Permanent	5/14/2015	N/A	Air Rotary	2" PVC	0.01	19	4-19	298.00	6.72	291.28	3.20	294.80	7.83	290.17	2.22	295.78	6.48	291.52
MW-5	Permanent	11/2/2016	N/A	Air Rotary	2" PVC	0.01	27.5	17.5 - 27.5	369.33	9.27	360.06	7.03	362.30	10.24	359.09	9.67	359.66	9.83	359.50
MW-6	Permanent	11/2/2016	N/A	HSA	2" PVC	0.01	17.5	7.5 - 17.5	315.39	9.92	305.47	7.42	307.97	10.54	304.85	6.87	308.52	8.21	307.18
MW-7	Permanent	11/2/2016	N/A	Air Rotary	2" PVC	0.01	69.5	59.5 - 69.5	339.54	46.97	292.57	43.58	295.96	47.05	292.49	45.09	294.45	47.64	291.90
MW-8	Permanent	9/24/2019	N/A	Sonic	2" PVC	0.01	44.5	29.5-44.5	343.89	--	--	--	--	40.16	303.73	38.21	305.68	40.73	303.16
MW-9	Permanent	9/24/2019	N/A	Sonic	2" PVC	0.01	45.0	30-45	339.04	--	--	--	--	26.92	312.12	25.47	313.57	28.32	310.72
TMW-10	Temporary	9/24/2019	9/24/2019	Sonic	2" PVC	0.01	40.0	25-40	349.35	--	--	--	--	27.23*	322.12*	--	--	--	--
MW-11D	Permanent	2/11/2020	N/A	HSA / Air Rotary	2" PVC	0.01	56.0	46-56	339.29	--	--	--	--	--	--	31.85	307.44	33.96	305.33

Notes:

MW-1, MW-3A, MW-4A, MW-5, MW-6, and MW-7 were surveyed by CE Group on December 8, 2016.

MW-1A, MW-8, MW-9, and TMW-10 were surveyed by H&H on September 26, 2019.

MW-11D was surveyed by H&H on March 3, 2020.

ft = feet; bls = below land surface; in = inches

DPT = Direct Push Technology; HA = Hand Auger; HSA = Hollow Stem Auger

TOC = Top of Casing; -- = Not Specified; N/A = Not Applicable

* = Depth to water gauged on September 24, 2019.

Table 3 (Page 1 of 1)
Summary of Perched Water and Groundwater Analytical Data
828 Martin Luther King, Jr. Blvd.
Chapel Hill, North Carolina
H&H Job No. TCH-009

Monitoring Well ID	Sample Date	turbidity	alkalinity	aluminum	antimony*	arsenic	barium	beryllium	boron	cadmium	calcium	hexavalent chromium	trivalent chromium[6]	Total chromium	cobalt*	copper	iron	lead	lithium	magnesium	manganese	mercury	molybdenum	nickel	potassium	selenium	silver	sodium	strontium	thallium*	vanadium*	zinc	TDS	chloride	fluoride	nitrate	sulfate	VOCs	SVOCs
2L Standard		NS	NS	NS	1	10	700	4	700	2	NS	NS	NS	10	1	1,000	300	15	NS	NS	50	1	NS	100	NS	20	20	NS	NS	2	7	1,000	500,000	250,000	2,000	10,000	250,000	--	--
MW-5 (Background)	11/9/2016	3.8	NA	NA	<0.5	<10	51	<2.0	NA	<1.0	NA	NA	NA	<5.0	0.27 J	<10	NA	<5.0	NA	NA	**580**	<0.2	NA	<10	NA	**23**	NA	NA	190	<2.5	0.39 J	<30	NA	NA	NA	NA	NA	NA	NA
	4/3/2017	8.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4.8	NA	<10.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/30/2022	7.30	NA	NA	<0.20	0.25 J	80.2	<0.10	<50.0	<0.20	NA	<0.10	NA	<1.0	0.49 J	<2.0	NA	NA	2.0 J	NA	**614**	<0.20	0.18 J	<1.0	NA	<2.0	NA	NA	273	<0.050	<0.25	<10.0	482,000	89,000	100	<100	43,900	All BDL	All BDL
MW-1	5/3/2013	NA	NA	5,600	**5.4**	**85**	**1,100**	1.6	NA	0.17	110,000	NA	NA	**15**	**15**	25	**6,500**	5.8	NA	25,000	**7,600**	ND	NA	12	7,600	2.5	ND	34,000	NA	1.0	**38**	52	NA	NA	NA	NA	NA	NA	NA
	2/18/2016	NS	NA	NA	ND	**67**	**1,300**	**11.0**	ND	ND	NA	NA	NA	**100**	**78**	170	NA	**36**	NA	NA	**9,600**	0.26	ND	58	NA	ND	ND	NA	2,900	ND	**260**	330	NA	NA	NA	NA	NA	NA	NA
	2/18/2016[4]	NS	NA	NA	ND	**52**	**1,100**	**8.8**	ND	ND	NA	NA	NA	**86**	**61**	130	NA	**29**	NA	NA	**9,000**	0.21	ND	46	NA	ND	ND	NA	2,700	ND	**200**	260	NA	NA	NA	NA	NA	NA	NA
	11/10/2016	475.0	NA	NA	<0.5	**19**	470	**4.1**	NA	0.15 J	NA	NA	NA	**31**	**32**	57	NA	10	NA	NA	**8,600**	<0.2	NA	21	NA	**23**	NA	NA	2,200	<2.5	**92**	99	NA	NA	NA	NA	NA	NA	NA
	11/10/2016[4]	NA	NA	NA	<0.5	<10	160	0.53 J	NA	<1.0	NA	NA	NA	<5.0	**6.0**	<10	NA	<5.0	NA	NA	**8,000**	<0.2	NA	2.3 J	NA	<20	NA	NA	2,100	<2.5	1.2 J	<30	NA	NA	NA	NA	NA	NA	NA
	4/3/2019	7.76	NA	NA	NA	**22.9**	**1,730**	<0.10	NA	<0.080	NA	NA	NA	<0.50	**1.8**	0.33 J	NA	NA	NA	NA	**3,090**	<0.20	NA	0.60	NA	<0.50	NA	NA	4,710	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-1A	9/26/2019	6.63	NA	NA	NA	**10**	**1,040**	<0.50	NA	<0.40	NA	NA	NA	<2.5	**1.2**	<2.5	NA	NA	NA	NA	**2,420**	<0.20	NA	0.82 J	NA	<2.5	NA	NA	6,360	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/31/2022	9.01	NA	NA	<0.20	**37.0**	**852**	<0.10	332	<0.20	NA	<0.50	0.97	0.97 J	0.40 J	<2.0	NA	NA	110	NA	**1,380**	0.14 J	0.79 J	<1.0	NA	0.12 J	NA	NA	2,500	<0.050	1.7	<10.0	**774,000**	74,000	210	<100	55,000	All BDL	All BDL
MW-2	6/20/2013[1]	NA	NA	16,000	0.61	8.3	**1,100**	**5.5**	NA	0.93	260,000	NA	NA	8.4	**23**	**1,200**	**13,000**	**27**	NA	47,000	**1,200**	0.18	NA	70	42,000	18	0.27	52,000	NA	0.48	**71**	**2,200**	NA	NA	NA	NA	NA	NA	NA
MW-3	2/5/2014	NA	NA	NA	NA	ND	160	NA	NA	ND	NA	ND	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/5/2014[2]	NA	NA	NA	NA	ND	250	NA	NA	ND	NA	ND	NA	**24**	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/15/2014[3]	1,500	NA	NA	NA	**51**	**830**	NA	NA	ND	NA	30	NA	**78**	NA	NA	NA	**30**	NA	NA	NA	ND	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/20/2014[4]	13.0	NA	NA	NA	ND	220	NA	NA	ND	NA	23	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-3A	7/21/2015	5.7	NA	NA	NA	ND	67	NA	520	ND	NA	ND	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/17/2016	1.3	NA	NA	ND	ND	89	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	ND	NA	NA	ND	ND	ND	ND	NA	**23**	ND	NA	2,400	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
	2/17/2016[2]	1.3	NA	NA	ND	ND	80	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	ND	NA	NA	23	ND	ND	ND	NA	**26**	ND	NA	2,100	ND	ND	ND	NA	NA	NA	NA	NA	NA	NA
	11/9/2016	1.2	NA	NA	<0.5	<10	53	<2.0	NA	<1.0	NA	NA	NA	<5.0	<0.11	<10	NA	<5.0	NA	NA	14	<0.2	NA	<10	NA	**50**	NA	NA	2,400	**5.4 J**	0.94 J	12 J	NA	NA	NA	NA	NA	NA	NA
	11/9/2016[2]	1.2	NA	NA	<0.5	<10	53	<2.0	NA	<1.0	NA	NA	NA	<5.0	<0.11	<10	NA	<5.0	NA	NA	15	<0.2	NA	<10	NA	**52**	NA	NA	2,400	**5.3 J**	0.95 J	<30	NA	NA	NA	NA	NA	NA	NA
	4/4/2019	0.00	NA	NA	NA	0.15	68.2	<0.10	NA	<0.080	NA	NA	NA	<0.50	0.21	0.55	NA	NA	NA	NA	5.8	<0.20	NA	0.50 J	NA	**34.2**	NA	NA	2,950	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/30/2022	2.52	NA	NA	<0.20	0.38 J	67.5	<0.10	625	<0.20	NA	<0.10	NA	<1.0	0.38 J	<2.0	NA	NA	20.3	NA	**664**	<0.20	0.83 J	0.77 J	NA	7.0	NA	NA	2,530	<0.050	2.5	<10.0	**952,000**	42,300	130	<100	290,000	All BDL	All BDL
MW-4	2/5/2014	NA	NA	NA	NA	**140**	**6,500**	NA	NA	1.7	NA	ND	NA	**930**	NA	NA	NA	**250**	NA	NA	NA	**1.4**	NA	NA	NA	**99**	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/20/2014[4,5]	<10	NA	NA	NA	ND	75	NA	NA	ND	NA	ND	NA	ND	NA	NA	NA	ND	NA	NA	NA	NA	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-4A	7/21/2015	24.7	NA	NA	NA	ND	64	NA	ND	ND	NA	ND	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	7/21/2015[4]	24.7	NA	NA	NA	ND	61	NA	ND	ND	NA	ND	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	NA	NA	NA	ND	ND	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/18/2016	189.0	NA	NA	ND	ND	26	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	7.8	NA	NA	49	ND	ND	ND	NA	ND	ND	NA	110	ND	ND	34	NA	NA	NA	NA	NA	NA	NA
	2/18/2016[4]	189.0	NA	NA	ND	ND	33	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	8.4	NA	NA	41	ND	ND	ND	NA	ND	ND	NA	78	ND	ND	48	NA	NA	NA	NA	NA	NA	NA
	11/9/2016	4.8	NA	NA	<0.5	<10	36	<2.0	NA	<1.0	NA	NA	NA	1.2 J	<0.11	<10	NA	<5.0	NA	NA	140	<0.2	NA	<10	NA	7.2 J	NA	NA	170	<2.5	<0.15	17 J	NA	NA	NA	NA	NA	NA	NA
	4/4/2019	9.43	NA	NA	NA	<0.10	22.5	0.070 J	NA	<0.080	NA	NA	NA	<0.50	0.063 J	0.63	NA	NA	NA	NA	6.0	<0.20	NA	1.5	NA	0.82	NA	NA	73	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/31/2022	8.55	NA	NA	<0.20	0.18 J	60.6	<0.10	89.7	<0.20	NA	0.303	0.217	0.52 J	<0.050	<2.0	NA	NA	0.58 J	NA	102	<0.20	0.21 J	0.90 J	NA	0.081J	NA	NA	393	<0.050	<0.25	<10.0	294,000	21,800	97.0J	<100	83,600	All BDL	All BDL
MW-6	11/9/2016	2.5	NA	NA	<0.5	<10	340	<2.0	NA	<1.0	NA	NA	NA	**29**	<0.11	1.9 J	NA	<5.0	NA	NA	**2,500**	<0.2	NA	22	NA	20	NA	NA	690	<2.5	1.2 J	<30	NA	NA	NA	NA	NA	NA	NA
	4/3/2017	7.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	<4.8	NA	<10.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4/4/2019	4.48	NA	NA	NA	0.14	283	<0.10	NA	<0.080	NA	NA	NA	<0.50	0.33	<0.50	NA	NA	NA	NA	**2,210**	<0.20	NA	0.20 J	NA	0.12 J	NA	NA	752	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	4/4/2019[2]	4.48	NA	NA	NA	0.14	279	<0.10	NA	<0.080	NA	NA	NA	<0.50	0.32	0.50 J	NA	NA	NA	NA	**2,160**	<0.20	NA	0.19 J	NA	0.11 J	NA	NA	736	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/30/2022	1.03	NA	NA	<0.20	<1.0	214	<0.10	34.7 J	<0.20	NA	<0.10	0.58	0.58 J	0.10 J	<2.0	NA	NA	1.7 J	NA	**1,430**	<0.20	<1.0	<1.0	NA	<2.0	NA	NA	459	<0.050	1.3	<10.0	322,000	35,700	120	<100	<1000	All BDL	All BDL
MW-7	11/14/2016	8.9	NA	NA	<0.5	<10	10	<2.0	NA	<1.0	NA	NA	NA	1.3 J	0.17 J	1.6 J	NA	<5.0	NA	NA	140	<0.2	NA	1.6 J	NA	<20	NA	NA	42	<2.5	1.1 J	26 J	NA	NA	NA	NA	NA	NA	NA
	4/3/2019	8.95	NA	NA	NA	0.13	4.5	<0.10	NA	<0.080	NA	NA	NA	<0.50	<0.050	0.72	NA	NA	NA	NA	20.5	<0.20	NA	0.43 J	NA	0.10 J	NA	NA	44.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/31/2022	9.79	NA	NA	<0.20	0.18 J	4.3 J	<0.10	<32.4	<0.20	NA	<0.50	0.70	0.70 J	0.073 J	<2.0	NA	NA	2.1 J	NA	12.8	<0.20	0.18 J	<1.0	NA	0.15 J	NA	NA	52.9	<0.050	0.69 J	11.4	117,000	4,000	140	87	6,000	All BDL	All BDL
MW-8	9/26/2019	7.95	NA	NA	NA	6.1	219	<0.10	NA	<0.080	NA	NA	NA	0.51	**4.0**	0.98	NA	NA	NA	NA	**4,880**	<0.20	NA	4.1	NA	<0.50	NA	NA	750	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/31/2022	4.13	NA	NA	<0.20	5.1	315	<0.10	51.0	<0.20	NA	<0.50	0.51	0.51 J	**2.7**	<2.0	NA	NA	2.8	NA	**3,610**	<0.20	0.90 J	0.84 J	NA	<2.0	NA	NA	852	<0.050	0.29 J	<10.0	390,000	35,400	140	<100	15,400	All BDL	All BDL
	8/31/2022[2]	4.13	NA	NA	<0.20	5.2	318	<0.10	51.4	<0.20	NA	<0.50	0.52	0.52 J	**2.7**	<2.0	NA	NA	2.8	NA	**3,720**	<0.20	0.82 J	0.82 J	NA	<2.0	NA	NA	860	<0.050	0.31 J	<10.0	389,000	35,400	140	<100	15,400	All BDL	All BDL
MW-9	9/26/2019	1.74	NA	NA	NA	0.75	394	<0.20	NA	<0.16	NA	NA	NA	<1.0	**1.5**	2.1	NA	NA	NA	NA	**5,060**	<0.20	NA	0.41 J	NA	<1.0	NA	NA	2,160	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/12/2020	1.10	377,000	NA	NA	0.78J	369	<0.10	NA	<0.10	118,000	NA	NA	<1.0	**2.3**	1	NA	NA	NA	26,100	**5,430**	<0.20	NA	<1.0	12,400	<1.0	NA	24,900	2,380	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2/12/2020[2]	1.10	377,000	NA	NA	0.74J	338	<0.10	NA	<0.10	113,000	NA	NA	<1.0	**2.5**	1.1	NA	NA	NA	25,600	**5,170**	<0.20	NA	<1.0	12,100	<1.0	NA	24,100	2,310	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/31/2022	0.11	NA	NA	<0.20	0.84 J	580	<0.10	207	<0.20	NA	<0.10	NA	<1.0	**5.3**	1.3 J	NA	NA	10.5	NA	**5,220**	<0.20	0.33 J	<1.0	NA	<2.0	NA	NA	2,730	<0.050	0.30 J	<10.0	**530,000**	51,700	130	<100	3,200	All BDL	All BDL
MW-11D	2/13/2020	8.59	413,000	NA	NA	1.5	24.1	<0.10	NA	<0.10	45,100	NA	NA	1.7	<1.0	2.2	NA	NA	NA	30,300	14.7	<0.20	NA	5.5	145,000	0.74J	NA	65,400	604	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	8/30/2022	3.61	NA	NA	<0.20	0.55 J	19.6	<0.10	157	<0.20	NA	<0.10	NA	<1.0	0.15 J	<2.0	NA	NA	51.6	NA	48.6	<0.20	4.8	5.3	NA	<0.20	NA	NA	580	<0.050	1.2	<10.0	408,000	61,800	68	<100	21,400	All BDL	All BDL

Notes:
Yellow highlighting indicates samples collected as part of August 2022 groundwater sampling
Concentrations reported in micrograms per liter (µg/L), except turbidity which is reported in Nephelometric Turbidity Units (NTUs).
2L Standard = North Carolina Department of Environmental Quality (DEQ) 15A NCAC 02L.0202 Groundwater Standards (April 2022).
Bold and Shading indicates concentration above or equal to the 2L Standard and background levels
ND = Not Detected; NA = Not Analyzed; NS = Not Specified; BDL = Below Laboratory Reporting Limit; -- = Not Applicable
J = Detected above method detection limit but below laboratory reporting limit; therefore, result is an estimated concentration.
*Reported to the method detection limit instead of laboratory reporting limit.
1) Denotes sample labeled as "Well #1" in the lab report associated with the Limited Phase II ESA prepared by Falcon.
2) Denotes duplicate sample results.
3) Denotes sample labeled as "Well 1" in the lab report associated with the October 3, 2014 letter prepared by Falcon.
4) Denotes filtered sample.
5) An unfiltered sample was also collected from MW-4 on August 20, 2014 and the results were reported in mg/kg-wet, presumably because of the high sediment load. These data are not included in this table.
6) Trivalent chromium concentrations were calculated by subtracting hexavalent chromium from total chromium concentrations.
Analytical Methods:
Metals by EPA Method 6010C, 6020A, or 6020B
Hexavalent Chromium by EPA Method 7196A / SM3500
Mercury by 7470A/245.1
Total Dissovled Solids (TDS) by SM 2540C
Anions by EPA Method 9056A
Volatile Organic Compounds (VOCs) by EPA Method 8260D
Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270E

Table 4 (Page 1 of 1)
Summary of Sub-Slab Vapor and Soil Gas Analytical Data
828 Martin Luther King, Jr. Blvd.
Chapel Hill, North Carolina
H&H Job No. TCH-009

Sample Location	Screening Criteria	Conceptual Commercial/Office Space		Conceptual Parking Garage		Conceptual Commercial/Office Space				Existing Police Department Building	
Sample ID	Non-Residential SGSLs [1]	SG-1	SG-2	SG-3	SG-4	SG-5	SG-6	SG-7/SG-DUP		SSV-1	SSV-2
Sample Date		9/2/2022	9/1/2022	9/1/2022	9/1/2022	9/2/2022	9/1/2022	9/1/2022	9/1/2022	9/2/2022	9/2/2022
Sample Type		Exterior Soil Gas								Interior Sub-Slab Gas	
Units		µg/m^3									
VOCs (TO-15)											
1,1,1-Trichloroethane	440,000	<0.82	<0.82	<0.82	<0.82	212	<0.82	<0.82	<0.82	<0.82	<0.82
1,1-Dichloroethane	770	<0.93	<0.93	<0.93	<0.93	46.5	<0.93	<0.93	<0.93	<0.93	<0.93
1,1-Dichloroethylene	18,000	<0.95	<0.95	<0.95	<0.95	6.7	<0.95	<0.95	<0.95	<0.95	<0.95
1,2,4-Trimethylbenzene	5300	2.5 J	3.0 J	6.9	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7	2.6 J
1,2-Dichloroethane	47	<1.1	<1.1	<1.1	<1.1	6.1	<1.1	<1.1	<1.1	<1.1	<1.1
1,3,5-Trimethylbenzene	5,300	<1.6	<1.6	2.7 J	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6
2-Hexanone	2,600	<2.4	<2.4	9.0	5.7	<2.4	<2.4	5.7	<2.4	7.8	<2.4
4-Ethyltoluene	NE	<1.9	<1.9	2.1 J	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9	<1.9
Acetone	NE	48.9	14	152	23	14	17	18	35.4	207	19
Benzene	160	2.0 J	<0.80	3.1	<0.80	<0.80	<0.80	<0.80	<0.80	<0.80	2.3 J
Bromodichloromethane	33	<0.80	<0.80	<0.80	<0.80	2.8 J	8.0	<0.80	<0.80	<0.80	<0.80
Bromomethane	440	<1.1	<1.1	3.0 J	<1.1	<1.1	<1.1	<1.1	2.1 J	<1.1	<1.1
Carbon disulfide	61,000	2.1 J	1.7 J	124	<0.56	2.4 J	5.3	4.4	3.7	<0.56	<0.56
Carbon tetrachloride	200	<1.0	<1.0	<1.0	<1.0	3.5 J	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane (Ethyl Chloride)	350,000	<0.71	<0.71	<0.71	<0.71	1.0 J	<0.71	<0.71	<0.71	<0.71	<0.71
Chloroform	53	<0.73	<0.73	13	<0.73	25	45	13	11	<0.73	<0.73
Chloromethane	7,900	1.3 J	<0.74	1.4 J	<0.74	<0.74	0.83 J	<0.74	1.8	<0.74	<0.74
cis-1,2-Dichloroethene	NE	<1.2	<1.2	4.4	2.4 J	347	1.5 J	<1.2	<1.2	<1.2	<1.2
Cyclohexane	530,000	18	33	24	17	8.3	26	10	10	13	6.9
Dichlorodifluoromethane	8,800	2.6 J	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	<0.64	2.2 J	2.0 J
Ethyl Acetate	6,100	525	25	5.4	5.4	124	9.0	4.0	2.7 J	10	114
Ethylbenzene	490	<1.0	1.7 J	18	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.7
Heptane	35,000	<1.5	<1.5	5.7	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Hexane	61,000	<1.6	<1.6	12	<1.6	<1.6	4.6	<1.6	<1.6	<1.6	<1.6
Isopropanol	18,000	<1.4	108	22	26.1	130	118	45	30	89	226
m,p-Xylene	8,800	2.9 J	6.1	37	<2.4	<2.4	3.3 J	2.8 J	<2.4	<2.4	13
Methyl ethyl ketone	440,000	6.5	2.4	36	4.1	1.3 J	4.4	3.8	9.1	33	2.0 J
Methyl Isobutyl Ketone	260,000	<1.2	<1.2	2.7 J	<1.2	<1.2	2.9 J	<1.2	<1.2	25	<1.2
Methylene chloride	53,000	5.9	4.5	4.9	3.5	10	<0.76	<0.76	<0.76	<0.76	<0.76
o-Xylene	8,800	<1.3	3.3 J	9.6	<1.3	<1.3	<1.3	<1.3	<1.3	<1.3	3.3 J
Propylene	260,000	3.3 J	2.2 J	222	2.6 J	1.7 J	3.8	2.1 J	2.4 J	<0.98	<0.98
Styrene	88,000	<2.0	<2.0	2.2 J	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Tetrachloroethylene	3,500	1.3	4.1	7.5	1.1	7.5	81.4	5.3	6.4	<0.38	<0.38
Tetrahydrofuran	180,000	2.9	1.8 J	2.9	<1.1	2.9	<1.1	<1.1	<1.1	<1.1	<1.1
Toluene	440,000	12	5.3	124	<0.87	3.5	5.7	2.4 J	2.4 J	<0.87	6.4
Trichloroethylene	180	7.0	19	39	11	7.0	2.1	1.3	<0.41	<0.41	<0.41
Trichlorofluoromethane	NE	3.0 J	3.1 J	3.0 J	2.5 J	2.5 J	<0.79	<0.79	<0.79	<0.79	<0.79
Vinyl Acetate	18,000	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	<1.6	4.6	<1.6	<1.6
Vinyl Chloride	280	<0.72	<0.72	<0.72	<0.72	5.1	<0.72	<0.72	<0.72	<0.72	<0.72
Xylenes (total)	8,800	2.9 J	9.1	46.9	<1.3	<1.3	3.3 J	2.8 J	<1.3	<1.3	16
Mercury (NIOSH 6009)											
Mercury	26	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Risk Evaluation (Soil Gas to Indoor Air)[2]											
Non-Residential Carcinogenic Risk	1.0E-04	1.5E-06									
Non-Residential Hazard Index	1.0	0.077									

Notes:
1) North Carolina Department of Environmental Quality (DEQ) Division of Waste Management (DWM) Vapor Intrusion Sub-Slab & Exterior Soil Gas Screening Levels (SGSLs) dated July 2022.
2) Risk evaluation performed using the highest soil gas contaminant concentrations observed site-wide, which were then entered into the July 2022 DEQ Risk Calculator for determination of hypothetical "worst case" cumulative carcinogenic risk and cumulative hazard index for the non-residential soil gas to indoor air vapor intrusion risk pathway.
Concentrations are reported in micrograms per cubic meter (µg/m^3).
Compound concentrations are reported to the laboratory method detection limits.
Laboratory analytical method is shown in parentheses.
Only compounds detected in at least one sample are shown in the table above.
VOCs = volatile organic compounds; NE = not established
J = Compound was detected above the laboratory method detection limit, but below the laboratory reporting limit resulting in a laboratory estimated concentration.