Minimum Site Assessment and Reporting Requirements Checklist

NCDEQ Brownfields Redevelopment Section – May 2025

Instructional Page

All references to Prospective Developers include follow-on owners who may be conducting work in accordance with a recorded Brownfields Agreement.

To increase predictability and more efficiently assess Brownfields Properties and the redevelopment timing requirements of Prospective Developers or follow-on owners, the Brownfields Redevelopment Section (BRS) has standardized the required information for Brownfields Site Assessment submittals with this checklist. It is anticipated that the Prospective Developer team will complete an initial scoping meeting with BRS to include discussion of sample locations and analytical suites prior to initiating field work. Summary tables and figures will be submitted to BRS to confirm the scope of work. It is the responsibility of the qualified environmental consultant to follow BRS requirements and ensure that report submittals are in accordance with this checklist as well as all applicable State and Federal requirements. Utilizing environmental professionals experienced with BRS procedures and processes will facilitate the success of your project.

This checklist has been generated to allow for ease in submission by the Prospective Developer's consultant and for the BRS completeness review of submitted assessment reports. All assessment reports submitted to the BRS *must include this completed checklist* demonstrating the required information has been included.

These requirements are necessary to provide DEQ with complete and reliable data for risk-based decisions to facilitate the Brownfields Agreement in an expeditious manner. Note that if data gaps are identified during initial site assessment activities, further assessment in accordance with this checklist will be required. Any divergence from these requirements will place the project on pause until corrected to DEQs written satisfaction, resulting in the reprioritization of the project manager's queue. Redevelopment Now (RN) projects will be managed based on public benefit, their place in the queue, and program capacity. Any alterations to the checklist on a site-specific basis must be **reviewed and approved** by BRS prior to implementation. In order to respect the schedule of all projects in house and keep the BRS's entire project pipeline moving, we strongly recommend against seeking changes to the checklist.

Baseline assessment requirements for all projects, do not deviate unless approved in writing in advance by the BRS:

1. For ALL residential reuses: sub-slab vapor assessment (full list EPA TO-15) is required, regardless of whether existing structures will be removed. If no structures or slabs exist on the Brownfields Property, exterior soil gas assessment is required within all proposed enclosed structure footprints.
2. ALL properties require current groundwater data (VOCs, SVOCs and RCRA Metals at a minimum) from a minimum of three sample locations (potentially more depending on property size), including depth to groundwater and a resulting potentiometric map.
3. Soil shall be assessed for VOCs, SVOCs, and RCRA metals including hexavalent chromium at a minimum; additional analytes will be based on areas of concern and historical operations/uses. Soil sample locations will be based on areas of concern and redevelopment plans, including the depth interval of the cut/grading plan.

Environmental Site Assessment
Scope and Report Checklist

Reports shall be submitted through the DEQ Brownfields Access Portal: https://portal.deq.nc.gov/login

Reviewed and checked by (Name): _____

Title Page

The title page should include the following information. Letter style reports are acceptable, as long as this information is included on the first page.

- ☐ Title of Work Plan
- ☐ Brownfields Project Name (not the development name)
- ☐ Brownfields Project Number
- ☐ Date (updated with each revision)
- ☐ Revision Number
- ☐ Firm NC PE/PG License Number
- ☐ Individual NC PE/PG seal & signature

Section 1 – Introduction

- ☐ Provide the site location, address, and acreage.
- ☐ Provide a BRIEF summary of the history of the property and its history in the Section. The site history must include a summary of known or potential contaminant source area locations. For example: reiterate RECs from a Phase I ESA, indicate if the scope of work was agreed upon during a Data Gap or Scoping Meeting, etc.
- ☐ Briefly list and describe the scope the assessment is attempting to fill.
- ☐ Indicate if the assessment data is for the use of any other DEQ programs in addition to the Brownfields Redevelopment Section (i.e. the site is a regulated UST, IHSB, etc.).

Section 2 – Scope of Work

- ☐ Provide a general description of the scope of work the report covers (i.e. 3 monitoring wells and groundwater samples, 5 exterior soil gas sampling points and 6 soil borings).
- ☐ Discuss samples collected by media and source area/location. Generally, the reasoning for the sample locations selected. This can be summarized in a table.
- ☐ Describe depths of samples collected (Reference Table 1).
- ☐ Summarize what each sample was analyzed for, briefly. Reference Table 1.

Note: For all residential reuses, sub slab vapor is required, if no slabs exist, exterior soil gas is required within all proposed footprints.

Section 3 – Sampling Methodology

- ☐ Reference the guidance documents used. Note deviations or methodology completed that is not covered by such guidance (e.g., multi-increment sampling, passive air samplers, mobile labs, Hapsite, simultaneous indoor/outdoor radon, high-volume sub-slab vapor testing, PFAS sampling).
- ☐ Describe what was installed (soil boring, temporary well, permanent well, sub-slab vapor, exterior soil gas, etc.). Include construction logs, boring logs, well logs.
- ☐ Discuss installation methodology used (Hand Auger, DPT, etc.)
  Discuss Equilibration Times and document with field notes in the appendix.
  - Monitoring wells (equilibration time prior to development and equilibration post well development should be 24 hours, per EPA standard protocols).

- Vapor:
  a. Sub slab vapor with minimally invasive points (e.g. Vapor Pins): Manufacturer's guidelines generally suggest 20 minutes may be sufficient with an airtight cap installed; or
  b. Sub slab vapor points (other than minimally invasive points) or exterior soil gas points: at least 24 hours (to be purged at installation and at time of sampling with an air-tight cap in place in the interim).

NOTE: If the 20x rule is exceeded for any soil analyte with an applicable standard, TCLP is required. (Typically for lead).

☐ Discuss sample collection procedures used. Include the following, at a minimum:
- Equipment used
- Purging methods and volumes
- Stabilization parameters for groundwater sampling
- Field screening methods and notes
- Leak check procedures for sub-slab vapor and exterior soil gas samples (Note that full sample train including Summa canister envelopment leak checks are **required**)
- For Summa canisters provide the initial vacuum reading, the end vacuum reading and have the lab include the lab receipt vacuum of each cannister. NOTE: Loss of more than 10% of initial vacuum or allowing canisters to reach 0 pressure during the sampling event shall result in resampling for that location.
- Submission of the samples to the laboratory within 48 hours of collection and/or written documentation of temperature maintenance if the situation requires extension beyond 48 hours prior to lab submittal.

☐ Discuss sample point abandonment

Section 4 – Laboratory Analyses

☐ Discuss the analyses conducted (include method number, preparation method, if there are concerns with short hold times, etc).

☐ Discuss any limitations for the contaminants of concern, if any, and the reason for such limitation (sufficient previous data, indoor air interferences, etc).

☐ Provide NC laboratory certifications. Please note, NC does not certify labs for air samples. Specify what certification the air lab holds.

☐ Indicate that the Reporting Limits/Method Detection Limits have met applicable screening criteria (to the extent feasible). Include reporting of J-Flags to meet criteria. Discuss any laboratory QA/QC issues negatively impacting Reporting Limits/Detection Limits.

☐ Provide the QA/QC Level reported by the laboratory. Level II QA/QC is typical.

☐ Validated laboratory analytical data will be submitted to the appropriate DEQ Brownfields Project Manager or Brownfields Property Management Branch contact as an Electronic Data Deliverable (EDD) compatible with the DEQ's Environmental Quality Information System (EQuIS) format. Refer to the DEQ's EQuIS web page [Environmental Quality Information System - EQuIS | NC DEQ] for the latest EDD format instructions. EDDs that are incompatible with DEQ's EQuIS format will be rejected. Laboratory reports must also be submitted with the corresponding environmental report to DEQ BRS.

Section 5 – QA/QC

☐ Discuss the duplicate sample frequency. Minimum requirement: 1 duplicate per 20 samples, per media, per method, per sampling event.

☐ Discuss Trip Blank; 1 Trip Blank per cooler/shipment of groundwater VOC analyses is required.

☐ Discuss how the lab had sufficient sample volume for MS/MSD analyses.

☐ Discuss chain of custody and shipping.

Section 6 – Investigation Derived Waste (IDW) Management

☐ Discuss how IDW was properly managed. Management should be in accordance with 15A NCAC 02T.1503 and 15A NCAC 02H. 0106. Generally, if the Brownfields Property has not previously been assessed, then all IDW must be containerized and characterized prior to management. Previous assessment data that indicate no Hazardous Waste (listed or characteristic) is likely to be encountered in the area of proposed assessment is required before thin spreading of IDW on-site is permitted.

Section 7 – Summary, Tables, Figures, and Appendices

☐ Summary of findings and possible recommendations.

☐ All applicable tables and figures (shall include at a minimum the items below)

- ☐ Tables for tabulated analytical data per media sampled and analyzed, compared against applicable screening levels, sample depths and depth to groundwater. The data tables will list all compounds detected and present non-detect data as <MDL with J-flag and other qualifiers included.
- ☐ Figure depicting actual sample locations collected, with each media depicted in the legend, graphic scale and north arrow.
- ☐ Groundwater potentiometric map, with graphic scale and north arrow.

☐ Appendices shall include (as applicable):

- ☐ Copies of all field notes.
- ☐ Boring logs for all soil borings, newly constructed monitoring wells, and exterior soil gas locations.
- ☐ Well and exterior soil gas point construction and abandonment records.
- ☐ Laboratory reports, including the chain of custody.
- ☐ DEQ Risk Calculator data input/output, if DEQ Risk Calculator Results are referenced in the report
- ☐ Miscellaneous data, such as ground penetrating radar, etc.

NOTE: Reports shall be submitted via the DEQ Brownfields Access portal, see above for link.

Report Attachments

- ☐ Table 1 – Sample Locations and Analyses on a Summary Table that includes:
  - ☐ Sample ID
  - ☐ Sample Date
  - ☐ Sample Objective
  - ☐ Sample Depth(s)
  - ☐ Analytical Method(s)
  - ☐ QA/QC Samples
  - ☐ Background Samples

- ☐ Figure 1 – Site Location Map
  - ☐ Site location on a topographic map base
  - ☐ Graphic scale and north arrow

- ☐ Figure 2 – Site Map should include the following
  - ☐ Buildings
  - ☐ Historical sample locations
  - ☐ RECs or other areas of concern
  - ☐ Assessment sample locations
  - ☐ Sample identification labels
  - ☐ Background samples
  - ☐ QA/QC samples
  - ☐ Graphic scale and north arrow
  - ☐ High quality aerial suggested as the base map

- ☐ Figure 3 – Site Potentiometric Map that includes the following
  - ☐ Buildings
  - ☐ Groundwater sample locations and identification labels
  - ☐ Arrow noting direction of groundwater flow
  - ☐ Graphic scale and north arrow

- ☐ Figure 4 – Site Plume Maps (groundwater, soil vapor, etc.)

- ☐ Figure 5 – Proposed Development (if available)
  - ☐ Overlay of historical and current sample locations
  - ☐ Graphic scale and north arrow

- ☐ Appendix – Summary of Historical Analytical Data (if needed) – using tables and figures only.